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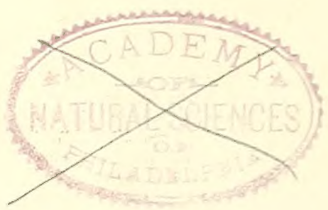
THE

GARDENERS' CHRONICLE

AND

AGRICULTURAL GAZETTE

FOR



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For 1848.

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THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 1.—1848.] SATURDAY, JANUARY 1. [PRICE 6*d*.

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UNIVERSITY COLLEGE, LONDON.—Junior School, under the Government of the Council of the College. Head Master, THOMAS H. KEY, A.M. The School will RE-OPEN for the next term on Thursday, 13th of January, 1848. The hours of attendance are from quarter past 9 to three quarters past 3. The afternoons of Wednesday and Saturday are devoted to Drawing. The subjects taught are Reading, Writing, the English, Latin, Greek, French and German Languages, Ancient and English History, Geography, both Physical and Political, Arithmetic and Bookkeeping, the Elements of Mathematics and Natural Philosophy, and Drawing. Fee for the Term, 5*l*. Prospectuses and further particulars may be obtained at the Office of the College.—CHAS. C. ATKINSON, Secretary to the Council, December 29, 1847.

GOOSE, GOOSE, GOOSEBERRY.—As the plants have now shed their foliage, and the season is extremely favourable for planting, W. DENNIS and Co. beg to recommend their extensive and carefully selected stock of all the finest prize GOOSEBERRIES, and those of most approved flavour, in very healthy well-grown plants, one or two years bedded, and many of the sorts strong transplanted trees, in full bearing if required. A list containing the names of above 180 selected kinds, with price and colours, may be had on application, post free, enclosing 2 postage stamps, or a descriptive catalogue of above 300 kinds by enclosing 4 stamps.—Opposite Cremorne Gardens, King's-road, Chelsea.

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YOUELL AND CO. having a fine and clean stock of the above, beg to offer it at the following prices :—
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Great Yarmouth Nursery.

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Duc d'Aumale,	Comte [illegible]
Louis Buonaparte,	Ibrahim,
Lady Alice Peel,	Princess Teresa,
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Madame Laffay,	Princess, blush,
Melanie Comet,	Princess, [illegible]

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Common	Laneii,	[illegible]
Celina	Luxembourg	[illegible]
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Eclatante	[illegible]	[illegible]

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Seeds carefully packed for exportation.
WM. JAS. EPPS, F.H.S., High-street, and Bower Nursery, Maidstone.

MYATT'S LINNEUS RHUBARB.—The numerous applications from those who have used this superior variety, and from the London Trade [illegible] have induced Messrs. MYATT to offer it to the public. The universally acknowledged excellence of MYATT'S [illegible] is a sufficient recommendation for the LINNEUS; this is the principal sort grown by them for the London market for several years, being remarkably early and productive, and is preferred by purchasers to every other variety for its delicious flavour. The stalks have large and fine [illegible] filaments, it is admirably adapted for preserving, and for other culinary purposes. For early forcing it is the best variety known. The superior flavour, large size, [illegible] tenderness, and extremely handsome bright red [illegible] render it alike desirable and profitable. One-year [illegible] will be ready the end of October, price 3*s*. 6*d*.; also Myatt's "Royal Albert" Rhubarb, 3*s*. 6*d*., and Myatt's "[illegible]" 1*s*.
Manor Farm, Deptford, Jan. 1.

JACKSON'S IMPROVED ASH-LEAVED KIDNEY POTATO.

THOMAS JACKSON AND SON have much pleasure in offering an improved variety of the well-known and highly esteemed Ash-leaved Kidney Potato.
T. J. and Son being anxious to prove it their variety, and that its own merits alone should recommend it, have, through the kindness of their friends, had samples grown at the Horticultural Gardens, Chiswick; Dalkeith Palace [illegible] near Edinburgh; and the Royal Botanic Garden, Glasgow. The following are the abridged reports upon it from the three gardeners of these establishments :—

"Your new Potato is very satisfactory as regards produce and appearance, but I cannot state its merits in point of quality till further trial, as it [illegible] with us not free from disease."—ROBERT THOMPSON, *Horticultural Society's Gardens, Chiswick.*

"Your new Potato is a decided improvement, being fully 10 days earlier than the common Ash-leaved Kidney, more productive and greatly superior in flavour, and from its dwarf habit will admit of being planted much closer in the rows, and in my opinion, is well adapted for early forcing."—DANIEL FERGUSON, *Royal Botanic Garden, Dalkeith.*

"The new Potatoes you sent me were the first that showed disease in the stems; but this may have been owing to their ripening earlier before the others. They are very clean and thin in the skin."—CHARLES MCINTOSH, *Dalkeith Palace Gardens, Jan. 1st, 1848.*

After these commendations, it is perhaps needless for us to speak of its merits. We recommend it as being certain of giving satisfaction. It bears a much greater crop than the Ash-leaved, the tubers are much more handsome, it boils white, and has excellent flavour.

We are now sending out good pure seed, free from disease, grown and harvested expressly for planting—
1 peck, including bag or hamper [illegible] £1 1*s*. 6
1 bushel [illegible] 3 3 0
To ensure them against frost, all distant orders will be forwarded in hampers or cases, free of carriage, to London.
Nurseries, Kingston, Surrey, Jan. 1.

NEW PEARS.

RENE LANGELLIER has the honour to offer the following new kinds, which will prove to be first rate, and should be in every collection:—

BEURRÉ ROBIN, a very large-sized fruit, forming a fine pyramid; ripe in October, perfectly melting, and of superior flavour. 1s. 6d. each tree.

BEURRÉ DUMONS, also very large; ripe in January or February, of first-rate merit, trees vigorous, and forms a fine pyramid; succeeds in any cold climate. 1s. 6d. each tree.

BEURRÉ DUHAMEL, ripe in February, first-rate quality, perfectly melting, adapted both for standard or wall trees. 7s. 6d. each.

The above three varieties R. L. can with confidence recommend as being of first-rate quality. Besides the above, R. L. can well supply from 50,000 to 60,000 trees, all worked by himself, and warranted to be true to sort. All orders are requested to be as forcible as possible. A Post-office order will be requested from unknown correspondents.

Clarendon Nursery, St. Helier, Jersey.

SEEDS.—CORNER OF HALF-MOON-STREET, THOMAS GIBBS AND CO.,

(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND," Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

Priced Lists of Agricultural Seeds are always ready, and may be had on application.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

GLASS FOR CONSERVATORIES, GREENHOUSES, PIT FRAMES, &c.

HETLEY AND CO. are supplying the above articles, packed in boxes containing 100 square feet each, of BRITISH Manufacture, at the following reduced prices for cash. A reduction on 1,000 feet.

Sizes. Inches.			Inches.			Per feet.	Per 100 feet.
From 6 by 4	to		8 by 6	at		2½d. is	£1 0 10
8 „ 6	„		10 „ 8	„		2¾d. „	1 2 11
10 „ 8	„		14 „ 10	„		3d. „	1 5 0
14 „ 10	„		20 „ 12	„		3¾d. „	1 7 1
20 „ 12	„		40 „ 14	„		3½d. „	1 9 2

21 oz. from 3d. to 5½d., per square foot, according to size.
26 oz. „ 3¾d. „ 7d. „ „ „
32 oz. „ 4d. „ 9½d. „ „ „

GLASS TILES AND SLATES made to pattern any thickness.
PROPAGATING, FLOWER, FRUIT, AND VEGETABLE GLASSES of every size and description.
BEE HIVE GLASSES from 4 to 12 in. diameter.
GLASS MILK PANS, from 12 to 26 in. diameter.
GLASS SHADES, as ornamental to, and for the preservation of every description of goods susceptible of injury by exposure. Prices, since the removal of the Excise duty, reduced one-half. List of Prices forwarded on application to JAMES HETLEY and Co., Glass Shade, Sheet, Crown, and Patent Plate Glass Warehouse, 35, Soho-square, London.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND CO., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS FOR CONSERVATORIES.

SIZES UP TO 10 INCHES LONG.			SMALL SQUARES of SHEET.	
16 oz. to the foot	3½d. per foot.		4 by 3 and 4½ by 3½..1½d. per ft.	
21 „	5 „		5 „ 3 „ 5½ „ 3¾..2	„
			6 „ 4 „ 6½ „ 4½..2¼	„
26 „	7½ „		7 „ 5 „ 7½ „ 5¼..2¼	„
			8 „ 6 „ 8½ „ 6½..2¾	„
32 „	10 „		Not above 10 „ 8 „ 3	„

GLASS MILK PANS, PROPAGATING GLASSES, AND BEE HIVE GLASSES, carefully packed in Baskets, and sent to any part of the kingdom.

GLASS TILES AND SLATES.

16 oz. ..	0s. 8d.	....	0s. 10d.	26 oz. ..	1 0	....	1s. 4d.
21 oz. ..	0 10	....	1 0	32 oz. ..	1 4	....	1 8

Made to any dimensions.

LACTOMETERS.

For trying the quality of Milk, 4 tubes 7s. 6d., 6 tubes 10s.

PATENT ROUGH PLATE GLASS, about 30 oz. to the foot, from 4d. to 7d. per foot, according to size; well adapted for Conservatories, Offices, and Warehouses, and an excellent substitute for Ground Glass.

THE COLD WEATHER.

SELF REGISTERING SIXIS THERMOMETERS, for Heat and Cold, of the best construction, and not liable to get out of order.

14-inch, 1l. and 1l. 1s.; 10-inch do. do., 15s.

Day and Night Thermometers for Heat and Cold, 10s. 6d.

Night Thermometers for cold only, 4s. 6d.

8-inch Boxwood Thermometers for Greenhouses, 2s. each.

Hydrometers for ascertaining the quality of Sulphuric Acid, 6s.

No purchaser of sulphuric acid should be without one, as it is often sold highly diluted. Lactometers, by which the quality of milk may be shown, whether for curd or cream, with instructions how to use it, and also the results of experiments on different milks, 7s. 6d. Lactometers for showing the amount of cream in milk, consisting of 4 graduated tubes, 7s. 6d. Mason's Hygrometers for showing the humidity of the air, with tables, &c., 15s. This is an invaluable instrument in hothouses, sick-chambers, &c. It was described in this Paper of March 6, 1847.

All kinds of Barometers, Thermometers, and Philosophical Instruments made by HENRY BAKER, 90, Hatton-garden, London, will be sent on receipt of a Post-office order for the amount. Boxes are charged extra.

HOT-WATER APPARATUS AND HORTICULTURAL BUILDINGS.

DANIEL AND EDWARD BAILEY, of 272, Holborn, construct and erect Hot-water Apparatus for Warming Horticultural Buildings, Dwelling-houses, Churches, and Manufactories, in a simple and efficient manner, at moderate charges. They have erected Apparatus in England, Scotland, and Ireland for many Noblemen and Gentlemen. They had the honour to be employed in heating the ranges of Hothouses and Pits in HER MAJESTY'S NEW GARDENS AT FROGMORE, and in executing the works of the splendid Conservatory erected by the Horticultural Society of London in their gardens at Chiswick, and also in the erection of the Conservatory attached to the Pantheon Bazaar.

D. and E. BAILEY, who were the first to introduce Metallic Curvilinear Hothouses to Horticulturists, erect various descriptions of Horticultural Buildings, and execute all kinds of metal work at their Manufactory, 272, Holborn.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory in New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire Work, &c.

CUCUMBER AND MELON BOXES AND LIGHTS.—One hundred 1, 2, and 3-light Boxes and Lights of all sizes ready for immediate use. Warranted best materials, packed and sent to all parts of the kingdom; 2-light Boxes and Lights from 1l. 6s. Garden Lights of every description, Conservatories, Green and Hot-houses made and fixed in all parts of the kingdom. References given to the Nobility, Gentry, and the Trade, in most of the counties of England.

JAMES WATTS, Hothouse Builder, Claremont-place, Old Kent-road, London.

CLARK'S METALLIC HOTHOUSE WORKS, 55, Lionel-street, Birmingham.—Proprietor, Mr. THOMAS CLARK; Manager, Mr. JOHN JONES.

Mr. CLARK presents his grateful thanks to the Nobility and Gentry for their liberal patronage of the above Establishment, during a period of thirty years, and begs to state that the repeal of the duty on Glass enables him to offer his METALLIC HOTHOUSES at a greatly reduced price. These Houses are glazed with British Sheet Glass, in panes of from 24 to 30 inches in length, and of such thickness as to preclude all danger of accidental breakage, whilst that which arises from the action of frost is effectually prevented by the peculiar mode of glazing adopted. As a sample of his Metallic Hothouses, in which all the most recent improvements are happily combined, Mr. CLARK refers to the magnificent range erected by him in the new Royal Gardens at Windsor, admitted by competent judges to be the most complete of its kind in the world.

POLMAISE.

DOME COVER IN LIEU OF CAST IRON PLATE.

COMPLETE SET OF IRON WORK, greatly improved, for Heating on this Plan, with full descriptions and drawings, which are also sent with the apparatus, by which any country bricklayer can easily and effectually fix it without the least difficulty. This is the best and most complete plan yet introduced. It is perfect in every respect, and will be found to answer the most sanguine expectations. Hot Water Apparatus Tanks, 18 inches wide, 6s. per foot, fitted ready for fixing; Do. 12 do. 3s. do. The trade supplied.

DOORS AND FRONT FOR POLMAISE STOVES.

These doors are fitted with wrought iron hinges and latches, and are attached to a strong iron frame, which forms the front of the fireplace; the top firedoor is lined inside with a stout fire quarry, and the ashpit door has a brass ventilator for admitting air and regulating the fire. No damper is required with these fronts, and no smoke or gas can escape through any cracks in the brickwork. They are strong and well fitted, and in one season will more than save their first cost in fuel. Price 1l. 6s. 6d.

SMITH, SMITH, and JAMES, Eagle Foundry, Leamington.

A. AND C. SEWARD, BRASS FOUNDERS, PLUMBERS and GLAZIERS, and SMITHS, Lancaster, beg to call the attention of the Public to their REGISTERED APPARATUS FOR POLMAISE HEATING, which they have applied with success in various parts of the country, both to Greenhouses and Churches, more particularly the latter. The apparatus is almost wholly composed of wrought iron, and therefore not liable to crack. It presents a heating surface from 30 to 50 square feet, and is so constructed that the whole of this surface becomes equally heated. A. and C. S. will be glad to furnish Architects and others with Estimates for warming of Churches and Conservatories. This will be found one of the most efficient and economical plans of carrying out the beautifully simple and natural principle known by the name of Polmaise heating.

MR. J. C. NESBIT'S CHEMICAL MANURES.

MR. J. C. NESBIT begs to inform his Friends that the various Manures recommended by him will in future be exclusively manufactured and sold by the London Manure Company, No. 49, Bridge-street, Blackfriars. The following Manures are now ready. NESBIT'S WHEAT MANURE:—

No. 1, For Heavy Land, at ... ... £14 per ton.
No. 2, For Light Land, at ... ... 7 „
Nesbit's Clover and Grass Manure, at ... 14 „

The Hop and Turnip Manures, and Superphosphate of Lime, will be ready in due season. A Pamphlet on "Artificial Manures," by J. C. Nesbit, F.G.S., &c., may be had on application to the Company.

Agricultural and Scientific School, Kennington, Jan. 1.

LIQUID MANURE.

ENGLAND INDEPENDENT OF THE WORLD FOR CORN.

THE attention of the Agricultural Interest, at this momentous crisis, is requested to the great importance of LIQUID MANURE, and the ease with which it may be appropriated by the use of FOWLER'S PUMPS, made expressly for the purpose, either portable or fixed; Garden, Ship, and Barge Pumps; also those for Distillers, Brewers, Soap Boilers, and Tanners, for hot and cold liquor. Pumps kept for hire, for Excavations and Wells. Buildings heated by Hot Water, for Horticulture, and every variety of manufacturing purposes.

The Trade supplied on advantageous terms, by BENJAMIN FOWLER, Engineer, &c., 63, Dorset-street, Fleet-street, London.

FOR WHEAT, RYE, TARES, &c.

THE URATE OF THE LONDON MANURE COMPANY, Four Guineas per Ton.—After seven years' experience in the manufacture of the above MANURE, the Company confidently recommend it as one of the cheapest and most permanent of all artificial dressings. Availing themselves of the many improvements in the science of artificial Manures, the URATE is now so adapted that the food requisite for a rotation of crops is fully maintained. The Urate will be found most valuable at the present season, either drilled or sown broadcast for Wheat, Rye, Tares, &c. The London Manure Company also supply genuine Peruvian Guano, Gypsum, Sulphuric Acid, Superphosphate of Lime, Bone Sawdust, and every article of artificial manure. E. PURSER, Sec.

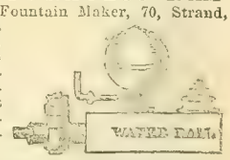
No. 49, Bridge-street, Blackfriars.

PERUVIAN AND BOLIVIAN GUANO ON SALE, BY THE ONLY IMPORTERS,

ANTONY GIBBS AND SONS, LONDON;
WM. JOSEPH MYERS AND CO., LIVERPOOL;
And by their Agents,
GIBBS, BRIGHT, AND CO., LIVERPOOL and BRISTOL;
COTESWORTH, POWELL, AND PRYCE, LONDON.

To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named Importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

THE IMPROVED HYDRAULIC RAM fixed by FREEMAN ROE, Fountain Maker, 70, Strand, London, can be worked by a small stream of half-an-inch, where a fall of two feet can be obtained. The same RAM, without the aid of a Tank or Cistern, arranged to throw a Jet of Water constituting a Fountain with the head of water beneath.



ENGINES FOR DEEP WELLS OF ALL KINDS. DOUCHE AND OTHER BATHS. BUILDINGS HEATED BY HOT WATER. WATER WHEELS to work Small Pumps, from 15l.

Estimates given for the supply of Towns, &c.

A newly invented PORTABLE VAPOUR BATH, all complete for 4l.

WATER POWER.

W. AND J. GALLOWAY, ENGINEERS, &c., Manchester, beg to intimate to the Proprietors of Waterfalls and others, that they Manufacture WHITELAW'S PATENT SELF-REGULATING TURBINE, or Horizontal Water-wheel, and for simplicity, cheapness, and efficiency, cannot be surpassed by any other kind of Hydraulic Motor hitherto in use, as is proved by those already in operation. Parties wishing to examine these Machines at work, may apply as above.

TO BRICK AND TILE MAKERS.

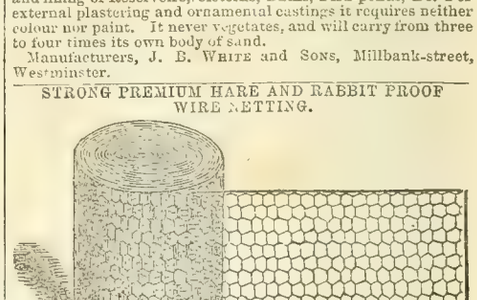
THE AINSLIE BRICK AND TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their IMPROVED BRICK and TILE MACHINES, which are to be seen at work at Alperton, and at the Company's Office, 193A, Piccadilly, from 10 A.M. to 5 P.M. Mr. Robert Scrivener, who has been appointed Manager in the room of Mr. John Ainslie, will show the Machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the Office of the Company, 193A, Piccadilly, London.

These Machines may also be seen at Mr. Slight's, Leithwalk, Edinburgh; Mr. Lawrence Hill, 135, Buchanan-street, Glasgow; Mr. Robert Charles, Mill-hill, Leeds; Messrs. Penny and Finch, Penkeridge, Staffordshire; and Messrs. Drummond and Son, Dublin.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as building and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

STRONG PREMIUM HARE AND RABBIT PROOF WIRE NETTING.



CHARLES D. YOUNG AND COMPANY, (LATE W. AND C. YOUNG),

MANUFACTURERS OF IRON AND WIRE WORK, &c., 128, HIGH-STREET, EDINBURGH; and 32, ST. ENOCH-SQUARE, GLASGOW,

Beg respectfully to call the attention of Landed Proprietors and others to their strong Wire-Net Fence, for excluding Hares and Rabbits from Gardens, young Plantations, Nurseries, &c.

This Net was exhibited at the Show of the Highland and Agricultural Society of Scotland, held lately at Inverness, where its Efficiency, Great Strength, and Exceeding Cheapness attracted general attention, and had awarded from the Judges the Society's Silver Medals, with high commendations.

The immense damage done by Hares and Rabbits in Gardens and Young Plantations, is often so great, that in the course of a year or two it will amount to more than the entire cost of protecting them with this Net. It is so durable, that when Plantations are sufficiently advanced to be independent of its protection, it can be removed to other exposed situations with the greatest facility, by any labourer. As a Fence against Hares and Rabbits, it is of itself quite sufficient, having only to be unrolled and attached, with small wire sent for that purpose, to wooden stakes driven into the ground, about every six or seven feet apart. It is, besides, peculiarly adapted for rendering Hedges, Paling, or other existing Fences, *completely impervious* to such vermin: and by being cut up into small pieces of three or more feet, as required, it forms a most efficient guard, at little expense, for individual Plants and Shrubs.

PRICES.

18 ins. high, 9d.; 24 ins., 1s.; 30 ins., 1s. 3d.; and 36 ins., 1s. 6d. per lineal yard.

Or a web of 100 yards, 18 ins. wide, will cost	...	...	£3 15 0
Do. of 100 yards, 24 ins. wide	...	...	5 0 0
Do. of 100 yards, 30 ins. wide	...	...	6 5 0
Do. of 100 yards, 36 ins. wide	...	...	7 10 0

If more or less than a web is required, it would be charged at the same rate per yard.

This Netting is also admirably adapted for Pheasantries and Poultry-yards, and is charged at the same rate. As carriage has, in many instances, been an obstacle to parties at a distance requiring this Net, C. D. Y. and Co. have made arrangements by which they will undertake to deliver it at any of the principal ports of Scotland, England, and Ireland, for One Halfpenny per lineal yard.

C. D. YOUNG and Co. cannot give a better idea of the great strength of their Premium Wire Netting than by stating that the weight of one yard of their 24-inch at 1s. is equal to 2¼ yards of another article in the market, the same width, at 9d. per yard. Samples for inspection sent free of expense.

C. D. YOUNG & Co. manufacture every description of IRON and WIRE WORK required for this and foreign countries.

Workmen sent to all parts of Scotland, England, and Ireland

NEW AND GENUINE SEEDS
OF FINE GROWING QUALITY.

WILLIAM E. RENDLE AND CO., Plymouth, are now in a position to offer the following varieties of SEED, which have been harvested with the greatest care from true and selected plants.

		s.	d.
WHITE BELGIAN CARROT	per lb.	2	0
LONG RED ALTRINGHAM DO.	„	1	9
LARGE GUERNSEY CATTLE PARSNIP	„	2	0
WHITE SILESIAN BEET	„	2	0
KOHL RABI	„	3	6
LARGE DRUMHEAD CABBAGE	„	2	6
MANGOLD WURZEL LONG RED ..	„	1	9
„ „ RED & YELLOW GLOBE	„	1	9

All other seeds equally moderate.

Early purchases are recommended, as prices may probably advance, the same as last season.

Sample packages containing ½ an ounce of each of the above kinds, to prove their quality, will be sent postage free on receipt of 36 penny postage stamps.

⁎ Orders above £5 will be delivered (hamper and carriage free) to London, Bristol, Exeter, Barnstaple, or Falmouth, or to any station on the Great Western Railway.

A general Catalogue of Agricultural, Kitchen Garden, and Flower Seeds can be had GRATIS on application. Cash payments or reference in London is desired from unknown correspondents. WM. E. RENDLE & Co., Plymouth.

ROSES.

THOMAS CRIPPS, NURSERYMAN, Tunbridge Wells, has great pleasure in announcing his stock of ROSES this season as being unusually fine and healthy, comprising every known, new, and good variety worthy of cultivation, and which are offered at the following prices, the selection being left to T. C., *viz.*

Fine selected Standards	24s. per doz.	
Extra fine do. do.	30s.	„
Fine Dwarfs	12s.	„
Superior do.	18s.	„
Fine do., on their own roots ..	6s. to 12s.	„
Good do. do., without names ..	4s.	„
Tea-scented Chinas and Bourbons, in pots,	12s. to 24s.	„

⁎ A remittance or reference is expected.

Agent in London, Mr. CHARLWOOD, Seedsman, &c., 14, Tavistock-row, Covent-garden.

The Gardeners' Chronicle.

SATURDAY, JANUARY 1, 1848.

MEETINGS FOR THE FOLLOWING WEEK.

MONDAY,	Jan. 3—Entomological	....	8 P.M.
FRIDAY	— 7—Botanical	....	8 P.M.

SOMETHING more than two years since we mentioned (vol. 1845, p. 703) a case in which the scales of a Hyacinth had been compelled by art to produce a brood of young BUDS WHICH BECAME BULBS. The introduction of a most beautiful and, in a horticultural point of view, valuable, hardy border plant, called the Japan Anemone (*Anemone japonica*), leads us to return to the subject.

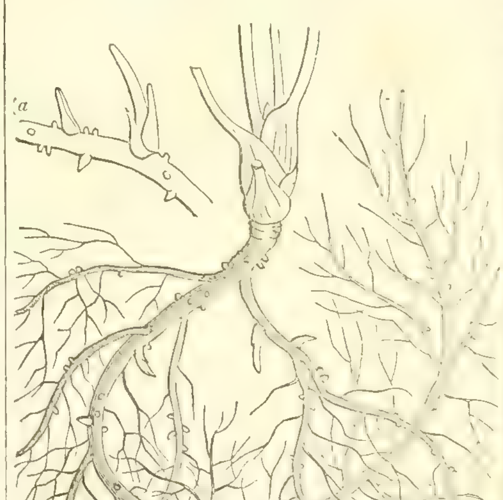
The Japan Anemone produces its large purple semi-double blossoms in the months of October and November, at that moment when the gay border flowers of summer begin to shrink from the cold and damp nights which the autumn brings in its train to England. A native of damp woods on the mountains of Japan, this hardy Asiatic disregards the chilly night air of Great Britain, and all such rigour as it may meet with there in winter. We have no frost that will harm it, no spring easterly winds capable of pinching it, no summer heat with power to scorch it; on the contrary our climate is like its own, and it is as certain to throw up its tufts of broad green leaves and autumnal flowers in England as on Mount Kifune. The plant is inferior to few of the Verbenas, and to none of the Petunias, as a border flower; it is superior in foliage; there is a long succession of its large purple blossoms; and as it produces seed without difficulty, it may be expected to sport into as many varieties, and to become as much improved by art, as the gay spring Anemones of Mesopotamia. To all this is to be added a surprizing readiness to multiply independently of seed: so that whoever acquires one plant may in a few months, with a modicum of skill, obtain young ones sufficient to cover square yards of ground.

It owes this property to an extraordinary power of forming buds upon its roots. In general the roots of plants are, under natural circumstances, destitute of this power; and instances to the contrary are regarded as curious exceptions to a common law. Such exceptions are found in the Moutan Pæony, a plant of the same natural order, in the Plum tree, the Pyrus japonica, and others; but in none of them, nor in any other species with which we are acquainted, does the power reside in the same degree as in the Japan Anemone.

If a root of this plant be taken from the ground after flowering, it will be found to resemble brown cord, divided into a great number of ramifications, as is represented in the accompanying cut. Upon its surface will be perceived a great multitude of little white conical projections, sometimes growing singly, sometimes springing up in clusters, and occasionally producing small scales upon their sides. A magnified view of these bodies is shown at fig. *a*. They are young buds, every one of which, if cut from its parent, will grow and form a strong young plant in a few weeks. These buds are not confined to the main trunk of the root, but extend even towards its extremities; so that every fragment of the plant is reproductive.

Such being the case, he who possesses an Anemone japonica has nothing to do but to turn it out of its pot, when at rest, clean its roots, chop them to pieces about half an inch long, and then place them in some light fibrous soil near the surface, in a gentle hotbed, and in a few weeks he will have as many healthy young plants as he may have chopped the root into pieces. Such is the wonderful power of reproduction in this plant, to which indeed we have few parallels. It may be regarded as a real, not fabulous, Hydra.

We mention this circumstance at the present early season in order that everybody may set about making ample provision for their flower borders next autumn; for it is obvious that the sooner the young plants are obtained in the summer, the stronger will they flower in the autumn. We have also another reason. We should like to see gardeners making experiments upon propagating other plants by their roots. It is certain that wherever cellular tissue exists it is capable, *per se*, of forming buds, which will become young plants, provided its vitality is strong enough, or provided it can be kept alive long enough to increase its vital force. Where such a property is not found to exist, the cause is to be sought in the perishable nature of the cellular tissue itself. Thus leaves and petals are both cellular, but leaves are permanent organs, and petals very perishable: the consequence is that leaves may be compelled to form buds—while petals cannot. It is certain that vitality is stronger in the roots than in any other part of a plant. Live roots have been found in land many years after the trunks to which they belonged had been destroyed. We have ourselves seen live Whitethorn roots taken out of a field on the London clay where no one could recollect having seen a Whitethorn hedge. This fact was long since pointed out by Mr. KNIGHT, who, in his experiments with fruit trees, found continual evidence, as he has stated, of the roots of such trees possessing far more constitutional vigour than the branches. (See more especially his "Physiological Papers," pp. 83 and 325.)



Who, then, shall say that such plants as Chimonanthus, Daphnes, Viburnums, and a variety of other shrubs, either very rare or very difficult to multiply, may not be readily propagated if pieces of their roots are placed in a fitting situation. It seems to us that this is a question well worth solution, and assuredly there are no persons so capable of answering it as the intelligent gardeners of this country. In order to guide them in the attempt, we will only suggest that where unexpected difficulty is found to exist, it may be worth consideration whether the best way of proceeding would not be to place the cuttings of roots *on* damp sand, pressed half way into it, covered close with a bell glass, exposed to moderate light, and kept at a temperature of from 60° to 65°. There is every reason to believe that moderate light contributes greatly to the excitement of vital action, and consequently to the formation of buds.

LET us again listen to the voice of the American Landscape Gardener. He is on the subject of "WOOD AND PLANTATIONS." He has of course to deal with the characteristics of his own country; [illegible] United States, are equal [illegible].

[illegible] n for [illegible]

[illegible] limits of [illegible] ING, [illegible] lised [illegible] concerned [illegible]."

While we [illegible] D[illegible] think that [illegible] emotionally. [illegible] beautiful as to *command* [illegible] end of the question: [illegible] apprehend, however, [illegible] strongly in [illegible] that contrast—[illegible] plies beauty. The [illegible] Grecian women [illegible]: [illegible] follow that the flat-nosed, copper-coloured creature is equally and [illegible] the contrast is complete. At all events, the doctrine of the beauty of contrasts would go very little to reconcile us to the idea of [illegible], copper-coloured partner for l[illegible].

How does DOWNING meet the [illegible]? Very curiously indeed. He speaks [illegible] would be requisite for a [illegible] would be to employ rare and foreign [illegible] trees: *as, for example, the Horse Chestnut and the Linden*, in situations where the Maple and the Sycamore are the principal trees—elegant flowering shrubs and beautiful creepers, [illegible] and Hazels—and to have his place kept *in high and polished order*, instead of [illegible] general nature." There seems to be some mystification in his mind at this point. For "the high and polished order" which he himself here advocates, does not appear to differ very much in principle from the exact formality of arrangement which he condemns, even though it "command admiration." Let us hear him, however, as he goes on.

"On the contrary, were a person to desire a residence newly laid out and planted, in a district where all around is in a high state of polished cultivation, as in the suburbs of a city, a species of pleasure would result from the imitation of scenery of a more spirited natural character—as the picturesque—in his grounds. His plantations are made in irregular groups, composed chiefly of picturesque trees, as the Larch, the Oak, &c.:—his walks would lead through varied scenes—sometimes bordered with groups of rocks overrun with [illegible] and Vines: sometimes with thickets [illegible] shrubs and flowering plants, sometimes through wild and comparatively neglected portions: the whole interspersed with open glades of turf."

We are sorely tempted to go on and lay before our readers DOWNING's views as to the best principles on which (in the United States) grounds from "five to some hundred acres" should be laid out. We have quoted enough for the present to enable the Englishman to judge whether, under all the circumstances, he is approached, rivalled, or surpassed, by his Landscape-Gardening brother of the United States. DOWNING, it will be observed, speaks as freely of [illegible] natural scenery as of [illegible] the borders of a city. In the former case he would avoid extreme formality, while he would introduce enough of [illegible] art (at least that seems to us to be his meaning): in the latter [illegible] down the otherwise overpowering influences of [illegible] turesque beauties of Nature.

Is [illegible] It is a [illegible] will soon settle the question.

CONTRIBUTIONS TOWARDS THE CHEMICAL HISTORY OF VEGETABLES AND FRUITS.

By Dr. THOMAS RICHARDSON.

Natural Order, according to Dr. Lindley's arrangement	Vegetable and Fruit analysed.	Composition in 100 parts in the natural state.			Composition of the organic portion in 100 parts, after deducting the ash.			Composition of the Ash left by incineration in 100 parts.															Composition of the Ash in 100 parts, after deducting the Carbonic Acid, Charcoal, Sand, &c.	
		Organic matter.	Ash.	Water.	Carbon.	Hydrogen.	Nitrogen.	Oxygen.	Potash.	Soda.	Lime.	Magnesia.	Phosphate of Iron.	Phosphoric Acid.	Sulphuric Acid.	Chlorine.	Silica.	Oxide of Manganese.	Sand, Charcoal, &c.	Carbonic Acid.	Potash.	Soda.	Lime.	Magnesia.	Phosphate of Iron.	Phosphoric Acid.	Sulphuric Acid.	Chloride of Sodium.	Chloride of Potassium.	Silica.	Oxide of Manganese.
Bromeliaceæ	Pine-apple ..... Whole Fruit	...	...	...	...	...	...	...	42.64	7.75	10.36	7.51	2.50	3.48	trace	9.06	4.02	...	0.50	13.51	19.42	...	12.15	8.80	2.93	1.08	17.01	0.38	4.02	...
	Ditto ..... Top	...	...	...	...	...	...	...	34.99	1.06	17.53	5.61	6.96	...	4.34	13.34	5.02	...	3.01	13.66	12.66	...	21.28	6.81	7.35	31.11	2.12	...	6.69	...
Liliaceæ	Asparagus ..... Whole	6.26	0.47	93.27	49.02	6.09	1.02	43.27	4.83	33.05	3.53	2.44	2.66	12.00	8.32	6.25	10.93	...	16.66	0.27	6.01	84.01	4.39	3.03	3.51	...	12.01	...	13.47	...
	Onion ..... Bulb	11.40	0.46	88.05	29.21	4.41	2.69	49.27	29.21	11.43	11.49	2.44	18.62	12.00	7.53	2.46	2.75	...	4.75	4.93	12.55	8.04	12.06	2.79	12.29	...	4.49	15.00	8.04	...
	Ditto ..... Stalks	5.63	0.84	93.53	10.60	6.52	2.69	40.55	10.60	10.95	19.04	trace	5.04	...	12.21	trace	15.00	...	20.50	1.75	14.98	11.33	25.10	9.21	10.61	...	...	...	10.24	...
Moraceæ	Fig ..... Whole fruit	...	...	...	...	...	...	...	23.11	21.41	13.41	7.51	2.25	...	5.49	1.97	4.75	...	1.50	13.25	28.56	24.14	18.91	9.21	2.76	...	...	...	4.02	...
Juglandaceæ	Walnut ..... Kernel	...	...	...	...	...	...	...	30.65	2.22	8.46	12.84	2.46	41.91	13.56	trace	...	...	1.63	...	31.11	2.25	13.03	2.49	...	...	...	...	...	...
	Ditto ..... Shell	...	...	...	...	...	...	...	20.04	2.48	27.71	3.74	0.12	...	3.41	...	13.08	...	4.41	5.41	23.10	2.74	39.57	4.13	10.07	...	...	...	14.13	...
Cucurbitaceæ	Cucumber ..... Whole	1.59	0.63	97.78	46.01	4.43	3.91	...	27.71	13.76	5.80	3.91	1.87	13.76	4.23	6.94	6.55	...	1.67	4.39	47.42	...	6.31	4.26	2.06	4.19	9.06	11.97	7.12	...
Brassicaceæ	Broccoli ..... Heart	11.03	1.01	87.96	48.33	...	...	...	24.71	9.79	4.45	3.72	2.00	23.49	9.79	2.80	6.66	...	1.84	4.00	47.16	...	4.70	3.93	2.12	6.22	24.83	10.25	0.69	...
	Ditto ..... Leaves	10.88	1.70	87.42	20.56	6.78	5.80	...	24.71	15.63	15.05	3.21	5.80	15.63	15.05	...	1.71	...	1.28	5.21	22.10	7.55	29.14	3.43	6.21	...	16.62	16.10	1.83	...
	Cauliflower ..... Heart	6.81	0.71	92.48	33.75	15.92	2.33	...	33.75	15.92	2.90	2.33	1.87	25.29	10.92	1.65	1.93	...	1.54	3.29	31.30	14.79	2.06	2.38	2.78	...	25.84	11.16	1.92	...
	Radish ..... Root	28.37	6.43	65.20	49.06	8.20	7.49	...	49.06	8.20	7.49	3.01	1.87	34.20	6.53	4.42	6.97	...	2.21	12.94	21.16	...	8.75	6.53	2.19	1.29	10.00	7.71	8.17	...
	Ditto ..... Top	9.74	2.76	88.10	3.66	11.00	1.39	...	3.66	11.00	19.63	trace	11.60	4.28	6.80	3.04	5.99	5.02	...	31.20	2.51	...	27.99	7.08	16.15	...	8.40	6.07	8.52	...
Saxifrageæ	Chestnut ..... Whole fruit	44.49	0.99	54.61	46.70	5.66	1.39	47.25	36.09	10.92	7.10	7.19	1.79	6.72	3.56	2.69	2.13	...	...	9.25	39.96	19.18	7.41	7.84	1.05	...	4.62	7.33	3.88	2.52	...
Ericeæ	Strawberries ..... Whole fruit	9.37	0.41	90.22	46.94	6.22	0.86	45.94	17.95	23.05	11.50	trace	9.00	6.95	2.55	1.33	0.75	...	6.75	12.43	21.07	27.01	14.21	...	11.12	...	trace	14.17	2.95	5.24
Aurantiaceæ	Oranges ..... Ditto	...	...	...	...	...	...	...	32.61	6.44	19.36	5.52	1.47	11.93	2.15	trace	4.11	...	1.54	15.38	38.72	7.64	11.99	6.55	1.74	...	trace	8.84	1.80	2.77
Polygonaceæ	Rhubarb ..... Stalk	8.59	0.69	90.72	51.61	3.36	2.49	...	24.71	11.12	9.40	...	2.49	11.12	1.64	4.60	2.10	...	1.61	17.93	59.59	0.46	10.04	...	2.77	...	...	20.04	9.52	2.33
Ctenophoraceæ	Spinach ..... Leaves	12.87	1.23	85.90	13.26	...	...	...	13.26	27.53	9.40	3.62	2.13	27.53	8.73	trace	4.68	...	4.41	14.47	31.77	3.95	5.59	5.29	8.67	...	7.89	9.39	3.16	4.00
Fabaceæ	Kidney Beans ..... Whole fruit	7.14	2.03	90.83	7.04	5.20	1.39	47.25	29.45	17.25	9.62	3.84	4.55	12.67	6.76	3.43	2.31	...	11.80	10.53	34.06	18.40	7.75	6.33	3.24	...	8.21	9.39	3.06	4.00
	Pea Pod ..... Whole fruit	12.20	0.68	87.12	31.95	17.25	6.72	43.24	31.95	17.25	6.72	5.49	4.55	12.67	3.43	1.48	3.55	...	2.50	18.60	36.83	18.40	7.75	6.33	3.24	...	8.21	9.39	3.06	4.00
	Pea Pod ..... Whole fruit	9.81	0.69	89.50	19.55	15.55	8.24	48.66	19.55	15.55	26.85	8.24	1.00	9.15	6.01	trace	0.55	...	2.50	12.13	22.31	17.99	31.05	9.54	1.16	...	trace	10.50	6.90	0.29
Dryopaceæ	Greengages ..... Whole fruit	15.83	0.40	83.77	44.06	0.40	7.47	4.03	4.49	9.12	2.85	1.00	trace	2.85	1.97	...	4.02	...	14.49	11.49	30.21	0.04	10.04	5.46	6.04	...	trace	12.25	3.83	2.66
	Orleans Plum ..... Skin of fruit	30.06	0.89	69.05	47.93	2.86	6.72	7.56	6.06	8.02	1.00	trace	0.66	...	4.02	...	12.50	...	13.25	13.15	54.59	3.32	8.25	9.29	7.45	...	trace	9.85	1.96	0.31
	Ditto ..... Pulp of ditto	9.44	0.31	90.25	55.12	5.17	0.93	38.73	43.57	5.75	3.68	2.92	3.05	9.81	2.05	0.24	2.60	...	13.25	13.15	54.59	6.72	4.85	4.69	4.80	...	0.62	15.44	3.23	3.15
	Ditto ..... Kernel	39.80	1.64	61.56	24.36	8.38	4.31	27.39	24.36	2.02	7.77	14.79	3.51	20.23	6.50	0.27	2.13	...	0.42	3.69	26.52	1.04	8.19	16.17	3.83	...	0.49	33.65	7.11	2.98
	Ditto ..... Shell	70.72	0.24	29.04	50.42	5.84	0.41	43.33	19.50	6.91	25.22	3.39	3.93	22.68	5.91	trace	2.31	...	5.01	8.29	21.69	7.69	38.06	3.77	4.37	...	trace	25.24	2.57	2.64
	Cherry ..... Whole fruit	17.09	0.43	82.48	47.39	2.02	...	...	37.39	2.02	6.83	4.99	3.42	12.99	4.65	1.11	8.26	...	0.94	9.12	51.85	1.12	7.47	5.46	3.74	...	2.02	14.21	5.09	9.04
	Ditto ..... Stalks of ditto	38.57	2.37	59.06	37.13	6.33	0.83	...	18.93	2.41	2.00	12.66	2.53	11.71	4.17	trace	1.86	...	5.91	16.33	42.66	6.17	22.96	2.71	2.25	...	2.39	14.39	2.93	1.19
Pomaceæ	Pear ..... Whole fruit	16.04	0.41	83.55	44.39	7.49	6.55	4.28	6.55	4.28	1.04	11.71	4.17	trace	0.83	4.99	...	...	5.91	11.06	54.69	8.52	7.93	5.22	1.96	...	trace	11.28	5.69	4.52
	Apples ..... Whole fruit	15.72	0.27	84.01	29.21	21.36	3.34	7.17	3.34	7.17	2.17	10.10	4.99	...	0.83	14.43	35.68	26.09	4.08	14.43	35.68	26.09	4.08	8.75	2.65	...	...	12.24	6.09	4.52
Asteraceæ	Artichoke ..... Ditto	17.75	1.17	81.08	46.91	6.49	3.63	8.37	3.63	4.35	31.74	4.53	2.00	11.31	21.04	5.92	9.56	4.14	4.74	...	3.57	36.23	5.13	9.20	20.23				
	Lettuce	5.17	0.87	93.96	51.33	6.16	2.55	39.98	42.65	8.77	5.61	2.01	trace	7.90	3.61	4.39	16.75	...	3.50	3.37	46.01	5.29	6.05	2.17	7.82	8.52	3.89	20.23	...	...
	Endive	6.15	1.37	92.48	...	...	...	...	33.57	10.74	10.66	1.37	5.64	...	4.62	trace	21.82	...	6.67	5.13	37.87	12.12	12.03	1.77	6.36	...	trace	5.21	21.62	...
Grossulariaceæ	Gooseberry	9.35	0.39	90.26	50.01	...	1.53	43.10	32.61	13.73	10.65	5.10	7.55	13.60	5.15	0.65	2.25	...	4.50	10.70	38.65	9.27	12.99	5.85	8.65	...	1.23	15.58	5.89	2.93
Apiaceæ	Celery	7.43	1.07	91.50	47.75	7.61	2.49	42.15	38.73	9.44	11.76	5.22	2.39	10.38	5.01	14.25	4.94	1.73	4.24	8.03	22.07	...	12.11	5.82	2.66	33.41	11.58	5.58	3.85	1.92
	Carrot	11.96	0.79	87.25	47.59	6.60	2.33	43.48	33.21	12.74	5.92	3.12	10.73	3.97	6.03	4.94	trace	3.29	10.30	trace	12.31	5.00	12.31	5.73	3.02	...	9.62	10.29	3.26	4.78	trace
	Parsnip	22.05	1.49	75.86	45.31	6.84	1.15	46.70	30.28	5.07	9.58	8.33	3.11	15.64	5.45	2.82	3.14	0.75	3.76	11.23	36.12	3.11	11.43	9.94	3.71	...	5.54	18.66	6.50	4.10	0.89
			P			P							P												P.					

VILLA GARDENING.

THE encouragement given in your Leading Article of the 4th of December to remarks on villa gardening may, as you seem to anticipate, bring upon you much that is at discord with true taste, but as the standard of this is by no means fixed, it leaves an opening of which some, like myself, who have no claim for attention, may take advantage to offer a few notes on a favourite subject.

Landscape gardening is one of those things for which, unfortunately, too many think it is not essential to go through a regular course of education. With a good eye, some general ideas of what is supposed to be taste, a supply of proper phrases expressive of the same, and a certain reliance on the self-creating power of beauty in vegetation, many start as capable men. A witty judge says he could point out many nearly ready to take this degree, alluding to those who have spent their means in good fellowship, and in their peregrinations from house to house have picked up some ideas on the picturesque, but whose intellects are not now such as to suit them for professional pursuits. The true landscape gardener, like the painter, requires much study and practice, and to have carefully considered the best examples, and, first and foremost, Nature in her varied forms, before he can be fitted to produce a landscape which will come up to the negative standard of there being nothing glaringly out of taste. Short of this creative power of forming a pleasing landscape where previously there was none, there is space enough for the less initiated to venture an opinion.

In a public park, or in any park on a large scale, such a combination must be aimed at as shall generally be declared to be in good taste; but to attempt to lay down rules which will acquire general approval in villa gardens, would be a difficult task, nor is it very necessary—each garden is private property, not thrown open for public inspection, but to be laid out to suit individual tastes, which have in most instances their own peculiarities; all, therefore, that can be hoped to be accomplished is to point out how, in the indulgence of one's own taste, we may avoid offending that of others. The love of the country, in distinction from town, is the peculiar and delightful characteristic of Englishmen. The country house is the beau ideal of everything enjoyable; "the happy homes of England" is not a mere poetic vision—the old associations, the friends, the scenery, the sports, the thousand other ideas connected with some country spot, all rush into the mind of an Englishman; to be named to be town born is nearly a reproach; every one is anxious to possess some country place, be it ever so small; and with the increase of this taste a better feeling prevails as to the suitableness of the house to the situation, and of the grounds to the house. The extent which constitutes a villa, or rather when it ceases to be one, requires some definition, to which the situation of the legitimate villa will help us. The outward verge of pavement and gas lamps is the nearest point where the villa can be placed, yet it has so close a connection with town that it cannot be far removed, as it is the temporary retirement from the city bustle which forms a great charm, while a more distant residence implies a larger extent, and partakes more of the country place. The suburban villa, then, implies a small extent, and as it cannot, therefore, aspire to a park, its greatest space is to be treated as lawn.

The idea of villa is inseparable from flowers and gardens; while snugness most aptly characterises the house—its general impression is retirement, comfort with elegance, inviting by its neatness, tapestried with evergreens, and scented with flowers; unpretending in its appearance, yet on inspection it should surprise by its extent, and not point out its narrow limits by an ostentatious display. In this, as in everything else, the variety of taste is great. On hurrying home for the short interval from business, one wishes to have the greatest appearance of country his limited extent will admit, while another, after the busy gaze of the city, wishes to shut in his retirement with evergreens and trees, to the exclusion of both outward and inward views. Another is a florist; his garden, his pots, his greenhouse, are endless sources of enjoyment, and he is not without an honest pride in the display of these; while his neighbour is great in his Melons, and the size and quantity of his vegetables, and the aspect and height of his walls is his chief concern. These all require very different rules for proper and pleasing distribution, and a degree of taste is quite compatible with each. This is best effected by the blending together of the different styles, so that the trees and shrubs break the formal lines of walls, hide what is more useful than ornamental, while flowers decorate and give a variety to the whole. In this combination there is room for much display of that taste which is after Nature, while in a more rigid adherence to laying out the grounds for a specific purpose, taste is of a more mechanical kind, and is shown by a fitness and appropriateness to the purpose intended.
—*Forester.* *(To be continued.)*

CAPE HEATHS.—No. I.

Introductory Observations.

VAIN would it be to search for a more lovely genus of plants than Erica—a beautiful genus of a beautiful family. Professor Lindley, writing of the natural order of which it is the type, justly observes, "every genus is eminently beautiful, and worthy of the most assiduous cultivation. Some are famous for their colour, some for their fragrance, and many for their foliage. The Heaths are the glory of the Cape, the Arbutus of Europe,

the Andromedas of America, and the Clethras of the Canaries;" and the late Mr. Loudon, when descanting on the individual genus at present under attention, observes:—"If an individual had the penance imposed upon him of being forbidden to cultivate but one genus of ornamental plants, is there one he could make choice of at all to be compared to the Ericas, perpetually green, perpetually in flower, of all colours, of all sizes, and of many shapes."

Yet, beautiful as they are, how few good collections are to be met with. This is to be attributed to the trouble (a word often made synonymous with difficulty) required in their cultivation. Certainly, for a collection of Heaths to present an appearance above mediocrity, assiduous and unremitting attention is necessary. I know of no genus of plants upon which neglect is so soon apparent and irreparable; but, antagonist to this, nothing in the way of plants, generally speaking, is more beautiful than a collection of well-grown Heaths, and well may any cultivator be proud of the possession of such a one, exhibiting as it does a devoted attachment to their cultivation. A prominent and attractive feature of the genus is the great diversity of form and colour of their flowers. The varieties of habit and foliage, too, how varied and beautiful! In the flowers, how lovely the waxy, pendant globose flowers of the section of which the golden-flowered vernix may be considered the type—glowing vermilion in ardens, paler in vernix coccinea, and pink in Scotia. What a contrast with these is afforded in the tubular-flowered section. Here we have the elegant Massoni, the noble Cavendishi, and its compeer Patersoni, and the somewhat scantily blooming depressa. As representatives of a curious and dissimilar section, may be instanced the quaint melastoma and picta, their protuding anthers having the appearance of camel-hair pencils loaded with colour. Nor must we forget the singular blooming, though beautiful aristata. In the limbate section is the delicate looking Aitoni and jasminoides, the noble ampullacea, aristata, and the beautiful varieties of ventricosa, Russelliana, hyacinthoides, the pretty fastigiata, mirabilis, the elegant and not to be described trossula, with retorta and moschata. Selecting a few at random, dilecta is conspicuous, both for its compact and singular habit, and its curious star-like flowers; umbellata, for its beautiful purple protruding anthers; Linnæoides, for its delicate beauty; Thunbergii and togata, for their singularity; campanulata and propendens, for their pretty bell-like flowers and neat foliage; with a host of others, alike beautiful and equally deserving attention.

Nor in fragrance is this genus altogether deficient. Odore rosæ, which blooms for weeks at a time, emits an agreeable and lasting perfume; regerminans smells like honey; denticulata, and moschata as its name implies, belong to the class of fragrant Heaths, and in a house wholly devoted to Heaths a peculiar grateful odour is perceptible. Another powerful inducement in favour of this flower, as an universal favourite, is that in the whole circle of the seasons some of them may be found in blossom. Verticillata and glandulosa may be considered the connecting links—the one being in bloom at the close of the year, the other in the beginning, both remaining in beauty for many months. Princeps, again, is putting forth its delicate flesh-coloured tubes at times the whole year, and Scotia is never or seldom out of bloom. Independent, too, of blossoms, the general contour of the plants affords an endless source of admiration; an interest in them, therefore, can never flag. There are, indeed, many disappointments to be endured in their cultivation, even by the most attentive cultivators. But recollecting that in all earthly things ill is but a component part of good, and that disappointments serve but to render success more grateful, the trifling loss that cannot be prevented will never be regretted, when weighed against the gratification experienced in the pursuit of Heath culture. I trust to be able to render this familiar to everybody.—*G.*

HINTS TO PLANTERS.

In rambling through the New Forest, I have been much struck by observing how much the beauty of natural woods depends upon the open glades, or intervals bare of trees, which there so frequently occur; and have often wondered why the landscape gardener so seldom imitates Nature in this respect. In the disposition of the open and the wooded spots, it may be observed that Nature commonly fills up the valleys with wood and leaves most of the brows and eminences bare, and in an undulating country, nothing is more pleasing to the eye than thus to see the woods creeping up the hollows, and gradually feathering off, and disappearing as they approach the summits of the hills, which rise bare of trees above them. The landscape gardener almost invariably does the reverse. He commonly plants all the eminences (probably from the notion of making a more conspicuous show at a distance), leaving his vacant spaces in the valleys and lower grounds. By this means (putting appearance out of the question) he subjects his trees to the double disadvantage of a more exposed situation, and a shallower soil; consequently his trees grow incomparably slower than they would do in the deeper soil and more sheltered situation of the lower grounds.

Trees differ so much in the soil and situation suitable to the different kinds, that it is of the utmost consequence to the planter that the one should be adapted to the other; and if planters could be induced to look after these things themselves, instead of entrusting them to the nurseryman, one would not so often see plantations filled with such worthless trees as Beech and Sycamore, where more valuable sorts, such as Elm, Ash, and Chestnut, would flourish equally well. With this view, I have thrown together a few observations on the sorts of trees commonly planted.

The Larch would, no doubt, be the most valuable tree that can be planted, were it not unfortunately subject to that peculiar disease, called the heart-rot, which, I believe, is not known to affect any other kind of tree. After growing vigorously for 20 or more years, the heart of the tree up to a considerable height becomes entirely rotten, without any apparent external decay. The cause of this singular disease is as yet unknown. I am myself inclined to believe that it usually arises from too great dryness in the soil. In Switzerland the native habitat of the Larch is in situations abounding in moisture, viz., the sides of slaty and granite mountains; and the plantations in which, in this kingdom, it seems to flourish best, are in similar situations in Scotland and Wales. In England it has principally been planted on dry sandy heaths—a situation which affords the greatest contrast to its native habitat, and which the prevalence of the heart-rot shows to be uncongenial to its nature. In point of beauty little can be said in favour of the Larch; it never forms a handsome mass of foliage; and the spiky outline even of the best woods always has a poor, unpleasing effect. It must, however, be acknowledged that a single tree of Larch often has an elegant appearance.

The Scotch Fir is of so hardy a nature that it will flourish in almost any soil or situation. It is in very bad repute as a timber tree when grown in England, which is a very singular fact, as it is well known that the same species of Pine, when grown in the north of Europe and the highlands of Scotland produces that excellent timber known as the red deal. Different causes are assigned for this extraordinary difference in the timber grown in England and grown abroad. Some persons suppose that the home and foreign grown Fir are different varieties of the same species, one of which always produces hard and the other soft wood; some suppose that the colder climate and slower growth of the Baltic timber is the cause of its superiority, and any one who will take the trouble of counting the number of annual rings in Baltic timber must see that its growth is in general excessively slow; others consider that age alone is wanting to render the timber good, and that if we were to allow English grown Fir to attain the age of one or two centuries, as is the case with the Baltic grown, our timber would be equally valuable. That English Fir timber does improve as the trees grow older, is a fact well known to timber merchants; and I can instance the roof of the house in which I am now writing, which was framed of English Fir, of very large scantling, about 40 years ago, and which to all appearance is now as sound as the day it was put up. It must also be observed that the English Fir is commonly cut down of small dimensions, and full of sap wood, while most of the sap wood is cut away from the Baltic balks before we get them.

But there is still one point, which I have never seen noticed, which, perhaps, may go far to account for the difference of quality. I mean the season in which the timber is felled. It has never yet been ascertained that resinous trees ought to be felled in winter, as is the universal practice in England, and it is not unlikely that the resinous juices with which Firs abound in summer may tend to increase the durability of the timber felled in that season. I would strongly impress on those who have the opportunity, how desirable it would be to institute experiments on this point. It is stated, on what appears to be good authority, that both in Norway and the rest of the north of Europe Fir trees are always felled in summer. In Switzerland, as in England, the timber of the Scotch Fir is reckoned of very little value.

As an ornamental tree the Scotch Fir is gone much out of fashion, yet when allowed to attain a sufficient age its rounded top and red-coloured bark and contorted limbs produce a grand and picturesque effect in the landscape which scarcely any kind of tree can surpass.

The Spruce Fir delights in a light soil and a very moist situation. In such situations, when not crowded by other trees, so as to have plenty of light, it forms a beautiful mass of thick foliage, towering to a great height. It is quite useless to plant it in very dry, shallow, or rocky soils. I have seen young Spruce Firs flourishing in stiff clay, though I believe ultimately such soils do not suit it. It often deceives the planter by growing vigorously for 15 or 20 years, and afterwards becoming stunted, exhibiting nothing but a few ragged leaves on the ends of the branches, being then one of the most unsightly objects in nature. It is singular that a native of Norway should seem in our climate not patient of wind or frost. It affords a soft wood, useful for many purposes, but always very full of knots, unless it has either been severely pruned, or grown in such close woods as to lose its side branches by natural process of decay from want of light.

The Silver Fir flourishes in stiff wet clays, and throws up its tall head quite perpendicularly, even in the most exposed situations, apparently uninjured by the utmost fury of the wind. It is a tree which the landscape painter never thinks of introducing in a picture; yet it is not without a peculiar beauty of its own, and often produces a grand effect, either in the stiff formal avenue, or when seen towering above other trees. Its timber is much like that of the Spruce Fir, but of rather better quality.—*Bedfordshire.*

Home Correspondence.

Economical Plan for Heating Hot-houses.—There is a contrivance, at once [illegible] for heating one apartment from another [illegible] cottage, which [illegible] a number of [illegible] observable in the late Sir Charles [illegible] Barn, Dorsetshire; and, some 20 years [illegible] introduced by him into Scotland. It consists of [illegible] for the purpose of [illegible] apartments, [illegible] pipes in a perpendicular [illegible] are in front; and that it is communicated, by radiation, to the air in the [illegible] when communication [illegible] apparent [illegible] other objects for [illegible] effect [illegible] by [illegible] to be [illegible] for the time, [illegible] action of the [illegible] to get a heated [illegible] into the apartment [illegible] care that the [illegible] is sufficient to [illegible] It does not appear that the heat [illegible] manner [illegible] fire in the room in which the fire-place must, as I [illegible] the design is the diffusion of heat [illegible] arrangement will, at times, [illegible] advantage, by allowing the door to be in the [illegible] with the fire, and opening towards it:—[illegible] the strong current of air, which, entering [illegible] apartment, is sure to flow from the [illegible] of the fire, when they are situated [illegible] to each other.—*D., Mid-Lothian.*

Raising Seeds.—I have often found it difficult to raise seeds in a tropical climate, and having at last invented a plan by which I became much [illegible] ful, I here detail it for the benefit of the [illegible] scribers to the *Chronicle*. The plan may [illegible] occasionally useful in England; but [illegible] hothouses can always be placed quite near [illegible] it can never be of the value I have found it [illegible] more scorching suns. The causes of difficulty are as follows. If the seeds are placed near the surface, the heat of the soil, which often reaches to 140° or, during sunshine, kills them when they [illegible] germinate. On the other hand, if they are put 3 or 4 inches deep, they will not grow, because [illegible] cannot have access to them. To meet both difficulties, I made an artificially open soil by first sifting a quantity of earth through a sieve which would pass fragments of the size of No. 3 shot, and then sifting off all the finer parts with a coarse meal sieve. The seeds may be covered with 4 inches of this loose matter without injury, and may be watered at any time without any danger of being killed, or of the soil [illegible] them caking, and thereby impeding their growth by obstructing the passage of air. I am convinced that seeds whose vitality is impaired may be often made to grow by this treatment, when by almost any other they would rot in the soil.—*H. Bidwill, Sydney.*

Acid of Ants.—In Ray's "Wisdom of God in the Creation," we are told that, "it is an experiment I have met with in some books and made myself, that if you put blue-bottles or other blue flowers into an ant-hill, they will presently be stained with red. The reason (which these authors render not) is because the ants thrust in their stings into the flowers, and melt into or drop upon them a small mite of their stinging liquor, which has the same effect that oil of vitriol would have in changing their colour, which is a sign that both liquors are of the same nature," Is the stinging liquor formic acid, or has the experiment noticed by Ray been made by any of your correspondents?—*Peter Mackenzie.* [Formic acid is obtained from ants; and it is said that the Swiss mountaineers prepare a soothing beverage, which marvellously allays pain, by pounding red ants in water and straining it off.]

Diseased Fish.—I shall be glad to know how minnows and dace are to be kept through the winter. I turned about 50 of each of the above into a basin in the flower garden in May last; I fed them through the summer with bread and worms, and they were very healthy till November, when they showed symptoms of disease, they appeared to be covered over with [illegible] spots, and 1 or 2 died every day; what could be the cause? They have a dirty mouldy appearance, and on the back of some of them rises a tuft of fine looking hairs, which when removed brings the skin off with them.—*Thomas Roberts, Haughton Gardens, Stirling, Aug.* [Your fish are evidently attacked by the disease Achlya prolifera, figured in our vol. for 1845, p. 8. Why they are attacked we know not. Perhaps some fisherman can say.]

Question for Vine Growers (see p. 7[illegible].—We have received a letter on this subject from Mr. Robert Elliott, of Horncastle, in which he denies having made any allusion to Mr. Roberts or the Vines at Raby Castle.

Forest-tree Pruning.—The principles of forest pruning, advocated in a late *Chronicle* by Mr. Cree, appear to me sound, and according to those of vegetable physiology. They are similar to those I have myself practised for above 30 years, with very satisfactory results. In the common practice of the country, [illegible] the ends of trees, and [illegible] the [illegible] it [illegible]

branches, often passes as "pruning." I have long been convinced that a proper system of pruning ought to be gradual, and carried on during a series of years, and should consist not of lopping, but of dwarfing, by a gradual shortening, the branches destined to be eventually removed. The *rationale* of the practice appears to be this. The main energy of the vital action of plants is directed to the longitudinal extension of the part — the limb or the top—each terminating in an annual shoot of greater length and vigour than the rest. The excision of this shoot and of a portion below it arrests this tendency to extension, represses the vigour of the flow of sap to the branch, distributing it in a feebler and scantier current among its lateral twigs, thus checking its tendency, not only to extension, but to increase of size. All trees are not equally affected by equal degrees of shortening; a small degree of shortening dwarfs the Oak, and if carried too far at once, a portion below the amputation dies. The Lime and Horse Chestnut sustain bold pruning with impunity. The Birch is, of all others, the most impatient of the knife. The branch thus dwarfed by one or more successive shortenings, continues to afford nourishment to the stem, itself increasing very slowly in size, until the skilful pruner, perceiving that the tree, by the growth of the head and enlargement of the stem, is independent of its aid, finally removes it. The proper period of pruning is a point on which I have come to a decided opinion. That period I conceive to be the beginning of autumn (from the middle of July to the end of August), when the sap, having pervaded the whole structure of the tree, and been elaborated in the leaves, is just beginning to descend, and to deposit the materials of the growth of the succeeding year. When pruning is performed in winter, the tree is, as it were, taken by surprise. Its vital action, during the past season, has been directed to the maintenance and extension of its entire structure; and it cannot, previous to the renewal of its growth, change the direction of the vessels of the amputated branch, and send them to the reinforcement of those that remain. When the amputation is performed in autumn, the tree adapts its powers and resources to its altered condition, and makes provision only for the growth of its existing structure, turning the amputated sap-vessels into new channels. In pruning Spruce and other resinous evergreens, a gradual dwarfing process, continued during several years, to dry up the exuberant flow of sap, is particularly important; and I have found the months of August and September the period in which there is least tendency to bleed. It is no small recommendation to the practice of pruning in autumn in place of delaying to the following winter,—that as the healing process commences immediately, a whole year's growth is saved in the closing of the wound. Nor is this all; for, as the enlargement of the branch commences at the same time, the wound would in the following winter be larger by a whole years' growth, and, consequently, take two years longer in healing, so that autumnal pruning actually saves two years' growth in the closing of the wound. The judicious pruner varies his plan according to the position and intended purpose of the tree. In hedgerow trees the object will be to elongate the stem and confine the exuberance of the head. He will, therefore, dwarf all branches that tend to undue enlargement, with a view to ultimate removal, and shorten such as become too much elongated. In park trees his attention will be directed chiefly to a due balance of the head, and the formation of a moderately symmetrical but picturesque outline. In plantation trees, the object being to produce timber, he will encourage the increase of the head, to provide abundant atmospherical nutrition; checking, however, the undue enlargement of particular branches, or their elongation to such a degree as to interfere with adjoining trees. In all trees he will remove all cross-growing branches, or such as, shooting into the heart of the tree, impede the free circulation of air. It is surprising what may be made of the most unpromising subject by judicious pruning. I have seen a tree that looked much like a Furze bush on the top of a pole, by selecting a leading shoot, and making everything else subordinate to it, reared into a fine straight-stemmed Oak. I strongly incline to the belief that the period indicated for pruning, will be found also the best for felling timber. According to Liebig the autumnal months are employed in depositing in the sapwood the starch and sugar for the nourishment of the germs of next year's vegetation: and these being the pabulum furnishing subsistence to the insects and fungi which cause premature decay, it is probable that the timber of trees felled before this deposition takes place, will prove more sound and durable. It is known that carpenters prefer autumn-felled Ash and Elm as more tough and durable than that felled in winter. I have some timber, felled at each period, now under comparative trial.—*J. S. Hepburn, Perthshire.*

The Season.—The season has been here so mild that my Potatoes, the Early Shaw and Ash-leaf, planted in the second week in October are nearly all up, many being from 1 to 4 inches in height. I have self-planted Potatoes from 1 to 2 feet in height, producing new Potatoes as big as nuts. In the open air I have also Fuchsias, Petunias, &c. in full bloom; the frost has not been severe enough to injure the foliage of Dahlias, Hibiscuses, and other tender flowers, which are rarely seen at this season.—*James Woods, Harwich, Essex, Dec. 27, 1847.*

Practical Gardeners.—I can well remember the time when you first made the attempt to render these gentlemen a little decent in their persons. In those days a man was supposed to be a good gardener because he had a long beard. A comb and brush were unknown to him. You would do well, while trying to correct this race of individuals, to mention a few facts which are not very generally known, and whose relation may, perhaps, benefit the honest, experienced gardener. When a situation becomes vacant, Mr. Strictly Practical goes and offers himself for much less money than the honest man can do, particularly if the place be near Covent garden market, in which he will be sure to make a few pounds, and through this circumstance, the upright, experienced gardener suffers in the nurseries. But, mark you! you will never see the others remain long in the nursery; if they are offered a place to go into the country, they generally refuse. The Covent-garden buyers know these gentlemen best; not a day passes but they see some of them: the best flowers, the earliest Strawberries, Melons, Cucumbers, Potatoes, Peas, and everything that will bring in a shilling, go to make up their wages, which become far above those asked by the honest man. I will venture to say that a gentleman is safer in the hands of a man who asks fair, remunerating wages than he is with a cheap man. And the sooner a stop is put to such base practice the the sooner will the honest man gain his rights. The whole of the good principled part of the gardening world ought to be thankful for the endeavours that you make to benefit them. Mr. Bailey surely does not know the extent of the injury which the men you are grappling with do to the respectable part of the profession, or he would not have written as he did. The men that you mean, and the men that I mean, are those above described; men of no improvement, men who hate reading, who condemn books, gardening papers, and, in short, everything that will tend to improve their minds or condition.—*An Old Gardener; but a Liberal.*

Wine Making.—This receipt has been given to me for a wine: "Pale malt, ground, 4 bushels; boiling water, 44 gallons; infuse and strain off while warm. Take 24 gallons, and sugar candy, 24 lbs.; when dissolved, add yeast, 2 lbs.; ferment. Keep scumming off the yeast, and when the fermentation is nearly finished, add raisin wine, 2½ gallons; brandy and Port wine, each 2 gallons; and bung down for 6 or 9 months." Now, can any one inform me what is to become of the 20 gallons over and above the 24 of the 44 gallons of wort? or whether any advantage results to the wort in point of body from the larger infusion?—*Promus.* [We have not yet received any answer to your question respecting Parsnip wine, printed at p. 799.]

Plantations.—I think you will agree with me that sufficient attention is not paid to the preservation of the woods, and their management, and it is highly probable that the next generation will suddenly find timber very scarce and dear. The waste of timber is everywhere very great in all the wooded regions, and the demand promises before many years to exceed the supply. For centuries past some of the largest fortunes have been derived from timber plantations, and the surest fortune which a man could leave to his children has been by preparing an extensive timber plantation (particularly in the "Wastes of Ireland,") which though returning him nothing during his life-time, has been in many instances a mine of wealth to his children. We believe many landowners could in no way more surely leave a valuable inheritance to their children than by purchasing some of the extensive wastes in the country accessible to railways, canals, and rivers, which would be attended with but trifling expense if the trees were annually and judiciously pruned. The demand for Larch in the country, the scarcity and high price of hard-wood timber, since the destruction of the Oak, Elm, Ash, &c. in hedge-rows, from the total ignorance of the right mode of increasing their growth, are well known. In other parts of the country, less bountifully supplied, the wastefulness is also going on. Great Britain is cutting off all the forests in Canada and New Brunswick; most of the western states are thinly wooded, and even western New York now depends upon Canada for a supply of building lumber. In the Peninsula of Michigan, the best Pine region of the whole west, the Buffalo papers inform us the waste is almost incredible. A dozen or more of saw-mills are there erected in the midst of the Government lands, and are there unmolested using up the Government timber astonishingly fast. In addition to all other uses the demand for fuel for the steamers of the west is making sad havoc with the forests along the rivers. If the hedge-row trees were trained to taper like the Larch or Cedar, we should hear of no complaint of their doing an injury to the tenantry.—*W. M. T.*

Societies.

STAMFORD HILL, CLAPTON, AND STOKE NEWINGTON GARDENERS' SOCIETY FOR MUTUAL INSTRUCTION.

Dec. 6th.—Mr. TANT in the chair.—Mr. KENDALL gave an essay *On the Art of Hybridising Flowers.* Although hybridising as an art, he said, was of but recent date, there is not the least doubt but that Nature herself practised it from time immemorial, the agents employed for the purpose being winds and insects, and of the latter more particularly the bee. But he stated that Nature in her wisdom had not only set bounds to the admixture of species; but she had also set up other barriers almost as insurmountable as the mixing of species themselves, for we find that a perfect hybrid, both in the animal and vegetable kingdom, is almost always incapable of propagating itself by natural means. In the animal kingdom the mule is a striking instance; and in the vegetable kingdom it is only by again crossing the true hybrid by one of its own parents that we can expect success, and after we have succeeded, the general tendency of the progeny is to return to one or other of the original parents. Thus it requires all the vigilance of the cultivator to mark, seize, and act upon every variation, however slight, that may present itself to his observation. After various allusions to the admixture of species in the animal kingdom, Mr. K. proceeded to state that in vegetables Brassicas freely mix with Brassicas in all their gradations. But who would think of crossing a Cabbage with an Oak! The general rule is that plants only which are nearly related are capable of producing crosses. There are some exceptions, however, to this rule, for the beautiful Pelargoniums and the Scarlet Geranium, though nearly allied, he had not been able to mix. Again, the Raspberry and Strawberry are first cousins, yet, after several attempts, they have not hybridised. The Gooseberry and the Currant are nearly related, yet their alliance seems invincible, though tried by skilful hands. Mr. K. then commented on the mixture of herbaceous and shrubby species of plants, particularly Calceolarias and semi-herbaceous Fuchsias. After alluding to the improvements that might be effected in culinary vegetables and fruits by hybridising, he proceeded to state that although hybridising had already produced important results, there is no telling what might yet be produced by the skilful application of the means which Nature has put into our hands. The existence of sexes in plants is now acknowledged by all, and hybridising, as well as cross breeding, is generally performed in the following manner: — Carefully select parents possessing the nearest approach to the properties desired, place them apart from plants of their kind, and pay particular attention to their cultivation, in order to obtain a healthy fructification. It may be discretionary which to select as the male and female; by all that is known, the progeny will take more after the males. When the plants are in flower, carefully extract the anthers from the flower you intend should produce seed, before they arrive at maturity, or your attempts will be of no avail, for Nature will have performed her part, and instead of a hybrid you will have a natural progeny. After extracting the anthers from the flower you wish to bear the seed, carefully watch the progress of the stigma, and as soon as you find it in a condition to receive the pollen, choose the matured anthers, and bring them in gentle contact with the stigma, to which sufficient pollen will adhere. In some plants there is no difficulty in ascertaining the precise time when the stigma is ready to receive the pollen, such are Pelargoniums, the stigma in which until perfectly matured is closed, and if not watched at its expansion, and fertilised, abortion will follow. It must be borne in mind that the stigma once fertilised is sufficient. Insects and strong currents of air should be excluded, whilst plants for hybridising are in flower. Mr. Beck, and other good growers, practise this plan by covering the places through which air is admitted with very fine gauze. Mr. K. admitted that most of the approved Pelargoniums, Fuchsias, &c., were not strictly hybrids but crosses of hybrids. Ornamental flowers and plants, when long and highly cultivated (continued Mr. Kendall), have a tendency to acquire a size and conformation of parts widely different from their natural state. The judicious cultivator will seize upon these indications and perpetuate them. That plants and flowers are much affected by seasons is evident from the fact that some plants produce double, semi-double, and single flowers alternately. Colour is also much affected by the same influences. Florists are opposed to the late Mr. Knight in their practice; for they recommend the weakest plants, and those that germinate last, to be taken the greatest care of, as they are sure to produce the most valuable flowers. Now both are right; for when a good fruit or vegetable is wanted, natural vigour is most requisite; but in a florist's flower, where chastity of form and beautiful marking are required, the weakest plants will be the most likely to produce the best, for they are evidently the production of Nature's weakest powers. Evident proofs of this are to be found in the Carnation and Dahlia. Give them a too rich soil, and consequently a too vigorous growth, and their boasted beauty is gone. And instead of a beautiful bizarred Carnation, and a fancy striped Dahlia, you will have the one a beautiful self with sometimes a dark stripe well defined, and the other self coloured and ugly enough to say you have been cheated. It may be asked what good is to be obtained by cross breeding. Look at the wild Cabbage of our shores changed to that most useful of all flowers the Cauliflower; and at the luscious Apples that have been produced from the Crab; and our Pears, Peaches, Cherries, and Plums, how different are they from their original state. Many of our finest flowers, too, from comparatively insignificant things, have put on forms as beautiful, and colours as splendid as the fancy can well conceive; and if such has already been the results, what may we not expect when this theory shall have become better known and put more extensively into practice?—*A. Laidlaw, Secretary.*

Books.

An Experimental Inquiry into the cause of the Ascent and Descent of the Sap, with some Observations upon

the Nutrition of Plants, and the cause of Endosmose and Exosmose. By G. Rainey, M.R.C.S.E. 12mo. Pamplin, London. Pp. 47, with two Plates.

We have twice read through this little book without discovering the author's object in publishing it; that is to say, without perceiving what novelty it contains. We are therefore only able to point out what it seems to us that Mr. Rainey is most desirous of making known.

He believes that there exists between all cell and tubes in plants an "intercellular tissue," which he also calls a solid substance, and which he believes to be the tissue along which crude sap flows. The rude anatomical figures in the two plates which accompany the work throw no light upon what is meant by this intercellular *tissue*, but from the context we gather that it is the mucilage of vegetation which has been examined, mensured, and described years ago, and which appears to be a natural secretion of plants, binding together their elementary parts. If so, then Mr. Rainey's statement amounts to this—that fluids pass along the intercellular passages of plants, a doctrine which we never heard denied, and had no idea required new proof. If, however, there be persons who doubt such a notorious fact, they will find Mr. Rainey's experimental proof irresistible.

Another point is that the "vessels" of plants, a term vaguely applied to spiral vessels and bothrenchyma, are formed by "the union of the external thickened wall of the surrounding cells;" in other words, are mere intertubular fistulæ or passages, an old notion entirely opposed to evidence, and in truth disproved by Mr. Rainey's own figures. It is very much to be regretted that a careful and ingenious experimentor, as Mr. Rainey undoubtedly is, should not read what others have done, especially in a department of science so peculiarly difficult as minute anatomy.

Perhaps the two best passages in the book are the following:—

"The 'intercellular tissue' being porous, and generally continuous, must of necessity, if deprived of its fluid in any one part, attract, in consequence of its capillarity, that which is contained in the tissue of the surrounding parts, and thereby cause the crude sap to move successively from one situation to another in a direction dependent upon the position of that portion of the intercellular tissue, which is being most rapidly exhausted; so that when the tissue situated between the cells in the leaves is rapidly being deprived of its crude sap, in consequence of the passage of this fluid, by endosmose from the exterior to the interior of the cells; this portion of tissue will attract the water from that situated around the cells in the petioles of these leaves, which becoming more or less exhausted, will attract in like manner the water from the intercellular tissue of the stem, and thus the crude sap will be drawn up successively from one part of the stem to another, until the intercellular tissue in the root, becoming deprived of a part of its water, will refill itself by attracting the water from the earth through the porous cuticle which covers the radicles; or, if it be a branch vegetating with its extremity placed in a solution of the bichloride of mercury, as in the experiment first related, the intercellular tissue at its cut extremity will attract the solution from the vessel in which it is placed.

"The intercellular tissue, besides serving for the ascent of the sap, will, from its universal existence, and general continuity, be the means also of its lateral diffusion, and thus remove a difficulty upon this subject complained of by the author of the article Botany in the 'Library of Useful Knowledge,' who observes, 'How we are to account for the lateral transfusion of the sap through the medullary rays is still unknown.' The medullary rays are composed of cells longest generally in their horizontal diameter, and like the cells of wood in other parts, surrounded by intercellular tissues.

"Undue distention of the cells is prevented by the constant evaporation which takes place from the leaves, and a larger quantity of fluid is by this means caused to pass through a plant to furnish it with a sufficient supply of those substances which it requires to obtain from the soil. This process, being thus accessory to the function of nutrition, is aided by the stomata, and also by the abundant pubescence present on most leaves, and especially on young leaf-buds. Although this evaporation, called sometimes transpiration, must aid indirectly the ascent of the sap, yet of itself it is altogether insufficient to cause it to ascend; the sap ceasing to ascend as soon as the cells lose their power of elaborating their contents, and thereby keeping up the physical conditions necessary for the continuance of endosmose."

"The experiments first described show that the ascending sap is attracted, and not propelled; and therefore the explanation of the cause of the ascent of the sap given by Dutrochet, as the consequence of the passage of fluid from the earth into the roots by endosmose, must, in these instances, fail. Nor is the explanation advanced by some physiologists, by whom it is supposed that the crude sap ascends from cell to cell by endosmose, assuming that the contents of the cell above are always more dense than those of the cell below, less at variance with the facts shown by these experiments. As in the stems whose vitality had been destroyed by the bichloride of mercury, along which the sap, or rather the fluid which furnishes the sap, has been shown to ascend with perfect facility, there could not possibly exist that difference in the density of the contents of the cell, at different parts of the stem, necessary to ensure the continued passage of the fluid of one cell into another by endosmose during a period of a fortnight or three weeks. For this imaginary state of progressive impletion of the contents of the cells, according to their relative distance from the roots, could only be the result of a vital process; and, therefore, if the ascent of the sap depended upon it, that ascent must immediately cease in any part of a stem, as soon as its vitality is destroyed."

Here we are agreed with Mr. Rainey, and rejoice in finding him recognising such a power as vitality in plants. For ourselves we much prefer the *nec deus absit* to the hackneyed *nec deus intersit* of many philosophers.

THE WHITE-LIPPED VACCINIUM.

(*Vaccinium* [illegible] Lindl.)

Sp. Char.—Evergreen, hairless. Branches erect, angular. Leaves oblong, nearly sessile, thick, slightly crenated, with indistinct veins. Flowers in short 3 or 4-flowered erect racemes, which are clustered in the axils of the leaves. Bracts fringed with hair. Corolla urceolato-campanulate, with a short erect (?) limb. Anthers, awnless.*

This new shrub has been raised from Peruvian seeds, received by Messrs. Veitch, of Exeter, from Mr. W. Lobb, who found it growing at the elevation of 8000 feet above the sea, at a place called Veto. It will probably require a greenhouse in the middle and northern counties of Great Britain, but may be expected to be hardy in the south-west.

It has not yet flowered, but Mr. Lobb states its flowers to be "scarlet tipped with white." It is perfectly distinct from any species in our gardens, but is nearly related to the close-headed Vaccinium (*V. confertum*, H.B.K.) of Mexico, differing in having

* For the meaning of these technical terms see Lindley's *Glossary*.

erect [illegible] of another form. [illegible] leaves of a [illegible]

If the flowers [illegible] Mr. L. [illegible] this must be a very pretty [illegible] bushes, [illegible] advantage any [illegible]

Garden Memoranda.

Horticultural Society's Garden, [illegible]

The Orchidaceous [illegible] the most [illegible] fascinating of the [illegible] to which they have been [illegible] jected. [illegible] were plants of [illegible] beautiful pair [illegible] year round [illegible] Orchids, for small [illegible] which [illegible] flow of its [illegible] blooms. [illegible] Cypripedium [illegible] when making purch[illegible] also in bloom the [illegible] nium, the [illegible] little orange-flowered Sophroni[illegible] ingue, and C. [illegible] mentioning in regard to [illegible] sheath from which one of the [illegible] another flower-bud had [illegible] would expand and [illegible] mass of L. [illegible] soon be in bloom. It [illegible] 1 to 5 [illegible] in length. It is [illegible] readily at that [illegible] Vriesia [illegible] the Pine-apple [illegible] which cultivators [illegible] ficient attention, [illegible] colours, and length of time they remain in beauty, [illegible] desiderata not to be overlooked. [illegible] also a useful plant at this season, [illegible] of its colour, was in flower; and [illegible] a new plant named Sprekelia [illegible] haps better known by the nursery name of [illegible] Gladiolus cruenta. It looks [illegible] flowering plant, producing [illegible] blooms from the axils of the [illegible] of a deep green, set them off to [illegible] Various other showy flowers [illegible] Gesnera zebrina, &c., were [illegible]

The new conservatory [illegible] Messrs. Hartley and C., was [illegible] in pots. Among those P. Russ[illegible] and filifolia were remarkable, with Juniperus tetragona, J. occidentalis, which smells like [illegible] J. Mexicana, &c. Intermixed with [illegible] plants of Cryptomeria japonica, about 7 feet in [illegible] and nicely feathered with branches [illegible]. It should be remarked, however, that [illegible] under glass, this fine Conifer has been proved to be quite hardy. In the large [illegible] just alluded to, was a box containing [illegible] Amherstia nobilis, of which mention was [illegible] page 939. These, being lately imported, were [illegible] to make new growths. The large [illegible] sanguinea in the large conservatory was [illegible] being the third time of blooming in the season. This has been effected by pruning it in [illegible] time of blooming, and withholding water, so as to give it a short season of rest—treatment which seems to suit it; for it bears it patiently and flowers well. Large bushes of Veronica speciosa have also been [illegible] some time past in this house, and the [illegible] Luculia gratissima is now in perfection, [illegible] of bloom being about as large as the [illegible] and perfuming the house with their fragrance. Upon this it would be difficult to name a [illegible] valuable conservatory shrub, blooming [illegible] season for several weeks in succession. The Camellias will also soon be in beauty, and a huge [illegible] flora was in full flower. This [illegible] other management may be made to [illegible] We may add, that lectures on the [illegible]

NEW GARDEN PLANTS, PUBLISHED IN BOOKS.

Name.	Where Published.	Name of Country.	Quality.	Natural Order.	Colour of Flowers.	Time of Flowering	When Intro.	Where.
Chœnēstes lanceolāta ..... *Lanceolate Chœnestes.*	B. M., 4338	Peru	G. ♄	Nightshades	Dark violet	Summer	1847	B. G., Kew.
Browallĭa speciōsa ..... *Showy Browallia.*	B. M., 4339	Peru	G. ♄	Figworts	Bright lilac	September	1847	B. G., Kew.
Exăcum tetragōnum β ..... *Square-stalked Exacum.*	B. M., 4340	Bombay	G. ♃	Gentianworts	Pale lilac	June	1847	B. G., Kew.
Gesnēra trifŏra ..... *Three-flowered Gesnera.*	B. M., 4342	N. Grenada	S. ♃	Gesnerads	Orange	Summer	1847	B. G., Kew.
Gardenĭa nitĭda ..... *Glossy Gardenia.*	B. M., 4343	Sierra Leone	S. ♄	Cinchonads	White	Oct. and Nov.	1847	Low[illegible] and Co.
Thibaudĭa Pichinchēnsis β ..... *Pichincha Thibaudia.*	B. M., 4344	Colombia	G. ♄	Heathworts	Rose	September	1847	Syon.
Coryānthes Feildingĭi ..... *Col. Feilding's Coryanth.*	Hort. Journ., 3, 16	?	S. ep.	Orchids	Yell. brown	August	1[illegible]	[illegible]
Solānum demissum ..... *Dwarf False Potato.*	Hort. Journ., 3, 69	Mexico	H. ♃	Nightshades	Violet	June and Sept.	1847	Hort. Soc.
Solānum cardiophyllum ..... *Heart-leaved False Potato.*	Hort. Journ., 3, 71	Mexico	H. ♃	Nightshades	White	June and Sept.	1847	Hort. Soc.

on heat, combustion, arithmetic, mechanics, and other subjects connected with gardening, are given to the young men in the garden every Monday evening, and that some admirable instructions in the art of plan-drawing, &c., have been occasionally given on other evenings of the week.

Calendar of Operations.

(For the ensuing Week.)

IN offering to remind our horticultural brethren of the principal duties which experience has told us belong to each recurring season, we beg it to be understood we assume the possession of no pre-eminent horticultural knowledge. The general operations belonging to the garden (with which few are unacquainted) are suggested as well by the development and decline of vegetable life, as by the periodical occurrence of the seasons. The art of gardening, in its present state of advancement, consists as much in varying the season of production as in procuring a perfect development of a plant in its accustomed season. A Calendar which, while it allows no omission of general hints having reference to accustomed duties, furnishes memoranda applicable to peculiarity of season, and relatively to plants, must always possess a value even to the most experienced. We trust that our humble endeavours in this regard will meet with the approbation and concurrence of all classes of horticultural readers. The able manner in which the Calendar has been conducted renders our task doubly onerous. We shall not permit the ambition of originating a new style or arrangement to influence us. We hope to profit by the precept of our predecessor in this work, with the correctness of whose views we concur, and for whose kind wishes we are deeply grateful.—*W.*

CONSERVATORY AND GREENHOUSE.

The nature of the weather at this season of the year usually demands particular caution on the part of the gardener, to avoid the ill effects of excess of the two antagonistic powers of heat (artificially created), and the cold of the external atmosphere, and to preserve in this department of his charge that happy medium of heat suited to the habits of his plants. The continuance of weather which may almost be termed mild, still allows the admission of abundance of air. The plants, when the opportunities afforded by the late favourable weather have been freely used, will exhibit in the deep healthy green of their leaves, and their frequent demand for water, the favourable effects of such treatment; and here it may with propriety be remarked, that attention to the fluctuations of the weather, and tact to employ such changes to the advantage of the plants, should be impressed on young gardeners as qualities that more frequently ensure success than following blindly prescribed rules that allow no discretionary license. Camellias will now be swelling their buds. Neglect in supplying water must be avoided, and attention should be given so that it is applied in proportion to the activity of the growth of the plants. This remark applies equally to other plants. *Stove.*—The season is not yet advanced sufficiently to allow an increase of temperature. A steady heat, ranging between 60° and 65°, may be sustained, if the weather contiuues open. The occurrence of frost will demand a reduction of temperature. Allow the thermometer to sink at night. Artificial heat, without light (as has often been clearly explained) is injurious to vegetation. Recollect always that stove plants, as well as others, require fresh air. The stove may still be gay with the beautiful Gesnera zebrina, Euphorbia, Begonias, which outvie the gayest plants of summer in brilliance and beauty. *Orchids.*—Some few will now be in active growth. These must be fed with moisture, supplied as opportunities allow.

FRUIT TREE FORCING.

Pines (succession) require attention in regard to the proper adjustment of temperature suited to the various requirements of the plants, which will be suggested by their age and health. This should be their season of rest, so that care should be taken to prevent an undue application of heat; 50° is a good maximum temperature for successional Pines at this season; give but little water; there is generally too much moisture from the linings in pits of common construction. *Pines (fruiting)*, are often in great demand at this festive season, and the cultivator is tempted to push his Pines towards maturity with unfair haste; he is fortunate if he avoids disfiguring his fruit, as well as spoiling their flavour; encourage a gentle growth of the plants showing fruit; damp the house frequently in fine weather, and water moderately with tepid water; 60° to 65° is a congenial temperature. *Early Vinery.*—We always regret devoting a house well furnished with plants to very early forcing. The Vines do not soon recover the injury they thus sustain. The mode we have seen practised with great success is that which employs young, "year old," plants for early work. A steady ascending temperature is required, and an atmosphere of considerable moisture as the Vines break, which must be changed for one of less humidity, as the Vines perfect their blossoms. Pruning may now be performed in later Vineries, the loose bark stripped from the stems, and the Vines painted over with a composition of sulphur, soft soap, and Tobacco, to destroy the scale, which too often annoys Vine growers. *Peach-house.*—Disbud with care as soon as the shoots are sufficiently forward, taking care not to disturb the blossom buds. Keep up a circulation of air in the house, remember that in the spring the dews are heavy, and imitate Nature by damping morning and evening; reduce the heat at night as much as you can consistently, and employ coverings of mats, to save the waste of fire at night—55° is a good mid-day heat, 40° is the minimum at night. *Cherry and Plum-house.*—Endeavour to imitate the warm and genial showers of spring, freely using the syringe for that purpose until the blossoms are fairly expanded. Let the plants benefit by a fine day by permitting abundance of air to enter the house—50° may be regarded as a maximum heat.

VEGETABLE FORCING.

Asparagus removed into warm beds will now afford frequent cuttings. Continue to supply your pits with roots according to the quantity likely to be required. Seakale not intended for early forcing should be sufficiently protected with a covering of sand and wood-ashes; fermenting materials may afterwards be applied without removing the sand. Successional sowings of French Beans must be made, and attention bestowed on those already advanced. Pits are infinitely preferable to large houses for early Beans.

KITCHEN GARDEN AND ORCHARD.

The works of trenching, draining, preparing borders for fruit-trees, pruning, nailing, and dressing the ground, may all be proceeded with. This should be a stirring season in the kitchen garden. We hope that our predecessor's instructions in regard to care necessary for the preservation of Broccoli, Lettuce, Endive, have been fully complied with. Artichokes must be carefully covered, in anticipation of frost; Celery should receive like attention. Fruit trees may be removed and planted, but take care to keep the frost from the roots of newly planted trees.

FLOWER GARDEN AND SHRUBBERIES.

The absence of frost from the ground has permitted, and possibly will continue to do so, a variety of works incidental to this department. Borders not cleaned and dressed should at once be finished; Fuchsias and recently moved plants should be protected. In the Pinetum a little protection may be afforded to Pines of doubtful hardihood. We repeat these instructions, assuming the weather has cheated some of us into forgetfulness of winter, whose approach is unusually delayed; we have still Verbenas in blossom and Pelargoniums uninjured in the open ground.

FLORISTS' FLOWERS.

Dahlia roots should be occasionally examined, in order to counteract the effects of damp, &c., and where a quantity of young plants are required, it will be requisite to put the roots to work by forcing them in a gentle hotbed or pit. Amongst the best varieties shown last season were Collison's Shylock, a splendid dark scarlet, Turville's Fire King, a deep reddish orange, inclining to scarlet, Oakley's Gem, a first-rate tipped variety, white, edged with lavender. These will, from their general good character, be much sought after next planting season. *Carnations and Picotees.*—Abundance of air is essentially necessary to these plants in frames, for when kept in a confined atmosphere, mildew, with its concomitants, is certain to be engendered. *Pansies* which during the past fine weather have began to move, should be carefully protected in the event of severe weather, being much more susceptible of injury. Of fine sorts worth adding to collections, are Thompson's Zabdii, Lakin's Yellow Standard, and Hooper's Blooming Girl; these should be inquired after. *Tulips.*—Carefully exclude frost from the beds, and attend to directions previously given. Prepare and sweeten some soil for receiving seed, which ought soon to be in the ground.

FORESTING.

Decayed limbs of large trees should be removed; a fine tree is often disfigured by neglect of this precaution. Felling timber may be proceeded with, and land trenched and prepared for planting. Prune with caution, but in removing large trees reduce the branches in proportion to the loss of roots sustained.

State of the Weather near London, for the Week ending Dec. 30, 1847, as observed at the Horticultural Garden, Chiswick.

Dec.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean.	Wind.	Rain.
Fri 24	16	30.045	29.786	40	35	37.5	N.E.	.00
Satur.. 25	17	30.185	30.158	41	35	38.0	N.E.	.00
Sun. .. 26	18	30.190	30.141	40	30	35.0	N.E.	.01
Mon. .. 27	19	30.255	30.204	37	30	33.5	N.W.	.00
Tues. .. 28	20	30.193	30.182	37	25	31.0	N.E.	.00
Wed. .. 29	(	30.094	29.740	38	35	36.5	S.E.	.17
Thurs.. 30	22	29.856	29.712	40	32	36.0	S.	.30
Average.		30.113	29.987	39.0	31.7	35.3		48

Dec. 24—Foggy: overcast at night.
— 25—Hazy: overcast throughout.
— 26—Overcast; drizzly; cold N.E. wind; overcast.
— 27—Overcast; cloudy and cold; densely overcast.
— 28—Overcast; clouoy; fro ty.
— 29—Foggy; cold; haze; overcast; rain at night.
— 30—Rain throughout; overcast at night.
Mean temperature of the week, 2 deg. below the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending Jan. 8, 1848.

Jan.	Aver. Highest Temp.	Aver. Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 2	41.4	28.8	35.1	7	0.21 in.	3	1	4	—	3	3	3	5
Mon. 3	41.3	29.9	35.8	12	0.30	1	1	4	—	4	5	3	4
Tues. 4	41.6	31.7	36.7	8	0.35	3	3	2	3	1	6	2	2
Wed. 5	41.1	31.7	36.4	8	0.30	6	1	5	—	1	1	1	1
Thurs. 6	41.3	31.0	36.1	9	0.33	1	5	2	2	3	7	2	—
Fri. 7	40.6	29.6	35.1	5	0.14	1	3	4	—	2	3	5	2
Satur. 8	38.1	30.4	34.2	3	0.26	3	2	7	—	—	6	1	1

The highest temperature during the above period occurred on the 5th, 1844, 6th and 7th, 1845—therm. 54 deg.; and the lowest on the 7th and 8th, 1841—therm. 6 deg.

Notices to Correspondents.

DRAYTON MANOR MEETING—The SPEECHES at the AGRICULTURAL MEETING at DRAYTON have been reprinted from the AGRICULTURAL GAZETTE for general distribution, at Two-pence each. They may be ordered of all Booksellers, and single copies will be sent free by post on three postage stamps being forwarded to the Publisher, 5, Upper Wellington-street, Covent-garden, London.

GRAFTING WAX—*S R*—Take four proportions by weight of pitch, four of resin, two of bees' wax, one of hog's lard, and one of turpentine, and melt and mix them well. Spread it on brown paper, which, when cut into slips, can be easily applied. We, however, prefer grafting clay. Our inquirer also asks if any of our readers can favour him with a good receipt for brewing bitter beer.‡

GREENHOUSES, &c.—In consequence of the great numbers of applications which are continually made to us for plans, &c., we are obliged to state that we *cannot furnish* them. It is impossible to do so in a newspaper. All that is practicable is to point out general principles. It is for professional men to work out their details.

HONEY—*Sub*—We see no "reason why honey in glass" should not be as eligible at exhibitions as honey-comb in anything else. We know of no apiarian society since the Oxford one ceased to exist. But in general, provincial horticultural societies award prizes to good honey; and if more encouragement were given the result might be advantageous to cottagers in districts favourable for bee keeping. *W.*

INSECTS—*Constant Reader*—We can hardly answer your queries without more precise information. If the insects you allude to be Aphides, they are not born in the ground. Most probably the Quinces are attacked by an insect like the Apple Saw-fly described in our last entomological article. Try hot-water, gas-tar, or a mixture of clay, lime, and common oil for the wall trees. *W.*——*M C*—Your Fern is covered with swarms of scales which look like brown turtles.

JERUSALEM ARTICHOKES.—*L.*—These fetch at present from 2*s* to 2*s* 6*d* per sieve of 8 gallons.

LARCH SEED—*A Subscriber* is anxious to know if any of our readers have ever tried sowing Larch seed broadcast; and, if they have, what quantity of seed per acre is required.

NAMES OF FRUITS—*J B K*—The drawing No. 1 is supposed to represent the old Colmar; 2, Passe Colmar; and 3, the Caillot rosat.‖

NAMES OF PLANTS—When plants are sent to be named, it is most particularly requested that they may be in flower, and as perfect as circumstances permit. Most especially is it requested that the country whence they have been received, and whether they are annuals, perennials, or shrubs, hardy, greenhouse, or stove plants may be stated; because specimens by post are generally bad and incomplete, and much valuable time, which such information would save, is needlessly wasted.——*A Lady*—Lastrea is a sub-genus of Bory de St. Vincent, made into a genus by Presl. We are unacquainted with the meaning of the word. Mr. Smith's classification is to be found in the 4th vol. of Hooker's "Journal of Botany," and the 1st vol. of the "London Journal of Botany," which is a mere continuation of the former work. No wild Roses exist south of the Line.——*L A L*—1, Asplenium Adiantum-nigrum; 2, A. trichomanes. *S.*——*M P J*—Cattleya guttata.——*L W*—1, Lastrea Felix-mas; 2, Lomaria Boreale. *S.*

NURSERYMEN—*Constant Reader*—We cannot—we have no right to interfere. Such things are mere matters of private bargain. They are unwise, and, if you are right they should be resisted by buyers; but *are* you right? We should not think that any nurseryman would charge for the carriage of a parcel which is delivered by his own people. It is unusual, at least.

ORANGE TREES—*Amicus*—Your leaves are attacked by a dirty parasite called Torula fumago. *Free ventilation* and frequent washing with clear lime water are the best cure.

PRACTICAL MEN—*G G*—We have failed to catch the point of your criticism. We cannot possibly object to any gardener being contented with the attainments of a labourer, if he wishes; we only object, in that case, to his receiving more than labourer's wages. What we desire is, that men should be valued according to their real merit, and not according to mere pretensions. The Duke of Wellington, in one of his despatches, observes, that it is a great mistake to suppose that a soldier's uniform always covers a hero; and we say that it would be as great a mistake to suppose that a blue apron always covers a gardener. Nor does it always follow that a man who receives 30*s*. a week is more worth it than the labourer who gets 14*s*. Intelligence and experience, not blind practice, make the difference.

PRUNING—*A Lancaster Sub*—You will do well by shortening the very long shoots of your standard Plum-trees. You may cut off one-third, or, in some cases, half their length; and where crowded, reduce them so as to form the bases of spurs. Leave none which you can foresee would grow into a strong branch so situated as to render it then necessary to be cut out. With regard to your Espalier-trees, the spurs should be ultimately kept as short as those of the Pear-tree. Reduce them by degrees; in the present season every alternate one to 3 or 4 inches.‖

SEEDS—*Beginner*—No, no. You will find it by reference to the Index of the "Vegetable Kingdom," at p. 421. It is a stove plant.

STRAWBERRIES—*H*—We know nothing of the Aberdeen Beehive. The best and only way of proving it to possess the merits ascribed to it is to send it to the public exhibitions, where it will find its true value in public estimation.

VINES—*T D*—The spongy appearance on your Vine leaves doubtless proceeds from want of sufficient ventilation; and this is a subject to which attention enough has not been paid.‖

WILLOWS—*Salix*—Willows are sometimes used for coppice work, but chiefly where wet soils are thought scarcely worth the expence of drainage. The Salix rubra, or Red Osier, is recommended, but we do not see why the large Huntingdon should not succeed. You do not state the condition of your peat moss. If well drained, and of a loose black character, there can be no doubt of Willows succeeding, but we would throw the land into raised beds, keeping a clear water-course between. Sand and marl would be excellent applications after the superfluous water has passed off, and lime would be beneficial if not too expensive. If the Moss is composed of a raw sphagnum, burning would be of immense benefit. The Alder is frequently blended with the Willow on moist soils, but care must be taken to keep it within moderate bounds, or it will overpower the Willows. *E.*

MISC—*A Subscriber*—We have not an Index left for 1846.——*J S H*—Keep your Yew berries in sand till spring; sow them then in drills 1½ inch deep.‡——*A M*—Dry your Salvia patens off and keep it in some dry place free from frost. Since you have no greenhouse, you had better winter your Verbenas and other things in the house windows; give them just sufficient water to keep them from flagging, and in frosty weather they had better be placed in the centre of the room at night.‡——*H J D*—Remove your Rhododendrons and large evergreens in November. The *modus operandi* can only be taught well on the spot. Remove with as many roots as you can.‡

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those numerous correspondents, the insertion of whose interesting contributions is still delayed.

GUANO.—Guano direct from Import Warehouse Superphosphate of Lime, Dry Night-soil, Gypsum, Salt, Bone-dust, Sulphuric Acid, Nitrates of Soda and Potash, and every other Manure of known value. Also Horticultural Glass of every description.—For Prices Current, apply to MARK FOTHERGILL, Office 201 A, Stores 40, Upper Thames-street.

The Agricultural Gazette.

SATURDAY, JANUARY 1, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY, Jan. 5—Highland and Agri. Society.
THURSDAY, — 6—Agricultural Imp. Soc. of Ireland.
THURSDAY, — 13—Agricultural Imp. Soc. of Ireland.

In taking a survey of what is called 'the progress of events' in any matter of important and growing interest to mankind, it can hardly escape the observer, that there occur at distant intervals, periods, apparently of conclusion and renewal, not unlike that suggested by the annual revolution which brings each year in turn to its completion. Courses of action, and courses of opinion, have each their epochs, and the changed views which gradually mature themselves throughout the bulk of Society, are not less marked in their climacterics than the events and causes by which they are influenced are themselves changeful and periodic.

Seldom perhaps has the observation more readily suggested itself than it does at the commencement of the present year to every mind that looks with interest upon the past and present, or anticipates the future position of Agriculture in this country. At no time since the termination of the Great European War, nor even in the preceding annals of the last century, can Agriculture be said to have ever accomplished a period, or reached a starting-point, at once so unamenable to precedent, or so essentially its own.

Regarded by nearly all nations as a subject of vital interest to the State, and always evincing quick susceptibility to every external influence, it has for these very causes been chequered in its course, by the State-efforts directed with more or less success to its supposed welfare or promotion. Unlike Arts of modern discovery and growth which have exacted from the inattention or ignorance of the cotemporary generation a development of their own, it has descended from hand to hand like an heir-loom, to be cherished with such regard and care as traditionary wisdom may have directed, or occasional policy might suggest. Its fitful and responsive sympathy with every national predicament, with every alternation of War and Peace, or of internal prosperity, not unaptly typified in its physical connection with the weather and the seasons, seemed to point it out as the especial object of that parental solicitude and supervision, to which it was considered as at once entitled, and subordinate.

In this, its importance was not over-estimated, but misunderstood. It was handled as a rudder instead of being watched like the compass: the very pains taken with it were an unacknowledgment of its place and operation as *a cause;* the prosperous direction of the ship was attempted to be fastened on it like a lashed steerage, instead of being derived from it as a free and influential index of the course to be pursued.

We have now lived to see the progress and the gradual abatement of this principle, dating from the prostration that followed the precarious stimulants of the war which ended in 1815, through a subsequent series of changes, to the present time. An almost sudden, and rarely witnessed combination of circumstances, rapidly supervening upon the last-made of these changes, has interrupted the gradual evolution of the problem, and hastened, though it can hardly be said to have completed, its final solution. A confluence of events such as that now so familiar to observation in the general scarcity of 1846, the additional demand to that of an increased population sprung up with the sudden extension of the Railroad-system, with a temporary diminution in one of the staple manufacturing exports, and this followed by the unprecedented expenditure of 33 millions sterling in foreign corn, aggravated in its pecuniary consequences by that panic, which must always be regarded as itself a distinct evil from the causes which produce it;—a confluence of events like this, may well be regarded as having completed an epoch. As a chain of causes it has a natural close with that of the year just ended: its results upon the future history of agriculture begin with the present.

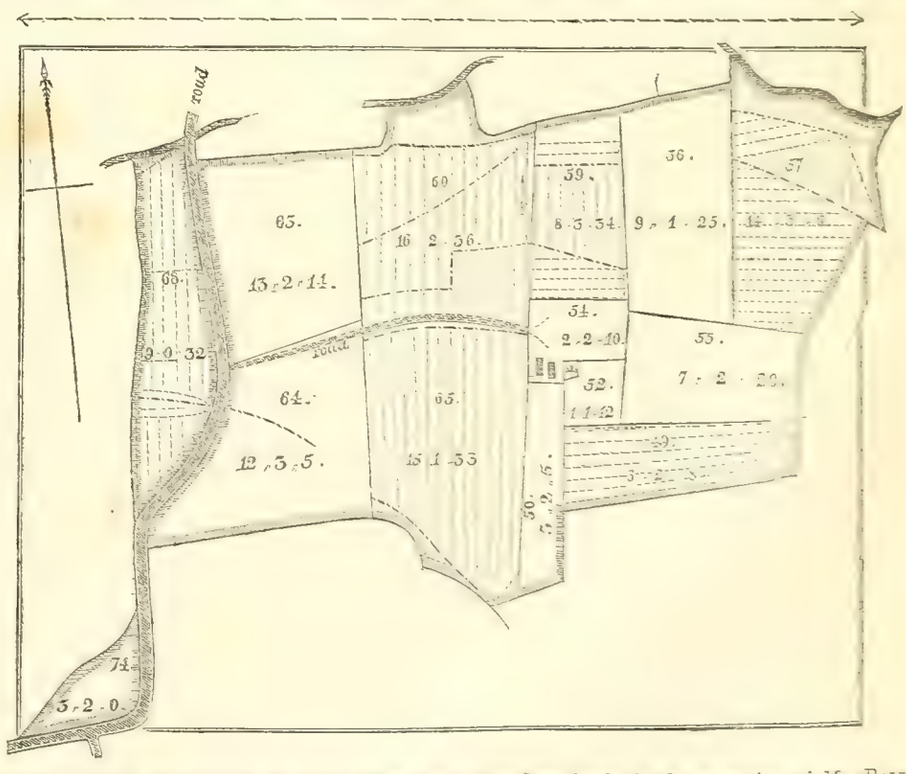
And on looking around, who can avoid being struck by the evidences of a great and influential movement in the direction of agriculture, growing up on every side, and in every aspect of the subject. The apprehensions of superabundant supply which once exhibited themselves in the combined action of the Landlord, the Tenant and the Legislature, to control and regulate the influx of foreign produce, have now yielded to a more healthful and powerfully directed effort as far as possible to supersede it. Every supposed impediment to the full development of the capabilities of our own soil, is being canvassed with a keenness of scrutiny, which however it may bring into reciprocal and independent questioning, the respective interests of each party, can only be based on a strong conviction in the minds of all, that every acre will be called upon for its utmost produce. The experience of the last three months, during which with open ports and an unexpectedly heavy importation, unrelieved by the ordinary speculative purchases made at this time of year, and in the teeth of commercial distress and unemployment in the manufacturing districts, the mere progress of a hand-to-mouth demand has exhibited a steady market, at fair prices, with every present prospect of firmness and an upward tendency, has brought a gradual conviction, more powerful than any words could produce, of the extent and immensity of the demand upon the soil. The demand has been answered by a variously expressed requirement on the part of the Farmer, for a fuller and more distinct recognition in his case, of the principle of security for the outlay of capital: by whatever name it may be called, the claim is for nothing more, than what always existed as a right, however ill understood or in some instances denied. By every law of national policy as well as individual justice, the right has always existed: it is the explicit and legal recognition of it only which is sought, in a particular branch of industry where a previous state of things has been such as to leave the question dormant. It has lain in embryo in the womb of the soil itself. The increased consumption of the nation has brought it only into light. If extra produce must be obtained, there must be extra capital expended. The security for the outlay is all that is required.

Here the occupation question ends: but not so that of the owner: to him a farther question is opened up, involving a view little heretofore considered, of his own relation both in point of permanence and extent, with the soil. As long as the most ordinary culture and outlay sufficed for the wants of the community, his task was easy; to see that its annual cultivation was carried on. But when the discoveries and appliances of science in aid of an increased demand, have raised the standard of cultivation from mere annual labour, to a thing of long and trustful investment, on the part of the occupier, the sponsorship of a system of investments thus enlarged, and pregnant with remote habilitations, [illegible] regards to an investigation of [illegible]: and the great consideration of Agricultural Improvement, of supplying from our [illegible] but half known or rendered [illegible] demand which otherwise must fall upon the soil and labour of other countries, [illegible] ourselves, reveals itself in the true light of a [illegible] question. As such it has been [illegible] by the Legislature in the issue of the Government grant for the drainage of [illegible]. How far the operation of a partial measure which rather seems to have discovered and attested than to have supplied an existing need, [illegible] be found adequate to meet the further [illegible] that awaits it; or whether there [illegible] competent to investigate and decide upon the questions which the progress of agriculture [illegible] commercial and social ramifications, [illegible] to offer, time alone can disclose.

In the meantime, while we look back upon a year of unexampled trial and disaster to other interests breaking out in the first instance in a commercial quarter the most connected with the agricultural demand and supply of the kingdom, we feel assured that it is impossible to overrate its instructive value upon the future. We regard, and shall continue to regard the question to which it has given rise, and to which it has drawn so great a share of public attention, solely in reference to their bearing upon Agriculture, viewed not only in regard to its own practical and scientific progress, but to the interests and relations of Landlord, Tenant, and Laborer, with which it is indissolubly bound up. The past two years have gone far to dissipate all doubt upon a question which impeded and stifled the independent discussion of many points in which they are each severally as well as reciprocally interested. Their final adjustment was impossible as long as an element of uncertainty existed which nothing but experiment could decide. This experiment has been made: and the decision if not complete, is at least satisfactory so far as it has gone. The rivalry of the foreign plough, if it remain as a stimulus to excite, exists no longer as a bugbear to terrify; and it will be the fault of the parties themselves if the general assurance that has been afforded upon this preliminary [illegible] not followed by whatever form of mutual arrangement shall furnish to Capital the fullest security, and to Skill and Enterprize the utmost freedom and self-reliance.

LAND-DRAINAGE REPORTS.—No. 1.

I HAVE hitherto been prevented from forwarding you the report on the draining done on the Streatham estate, belonging to John Bowes, Esq., but what I now send will, I hope, answer your purpose. As I understand your wishes, you merely want information to form a comparative tabular statement on the subject, and for that purpose I have taken one farm as a type of the whole draining done on this estate, premising that any remarks here made will apply to the whole where it has been followed up by equally good management, the same practice having been observed in executing the other



Bell House Farm, the property of JOHN BOWES, *Esq., Streatham Castle, in the occupation of Mr.* RALPH DENT, *containing* 126 *a.* 2 *r.* 15 *p.*

draining; nearly 800 acres are now completed. When the draining was first commenced with, tile-sheds and a kiln were erected, and a contract entered into with the maker to deliver the pipes and tiles at a certain price. Many farmers complain that draining has not answered all that was expected from it, entirely overlooking their own defective management. That you may more easily understand this, I enclose you a plan of the farm with all the draining hitherto laid down upon it. Bell House Farm, the property of John Bowes, Esq., Streatham Castle, in the occupation of Mr. Ralph Dent, containing 126 a. 2 r. 15 p.

Nearly the whole of this farm rests on a strong and retentive subsoil, and is what may be termed a good Wheat soil—a strong loam resting on a subsoil of clay, mixed with stones, and what we are here troubled with is surface water. In the spring of 1844 we commenced with field No. 68; it was ploughed in fallow, 22 inches deep, and in every other furrow about 16 or 17 feet apart; extent of field, 15 acres 1 r. 33 p.; total cost 65*l.* 13*s.* 4*d.*; cost per acre 4*l.* 5*s.* The next season it was in Wheat, and produced a good and increased crop, and as an experiment one half of it was laid flat and the other in ridges; that on the flat was much superior in quantity and quality, the sample being regular. The following year it was in Beans; the crop was short, from the drill used being too shallow, quality good, sold in January last at the rate of 62*s.* per quarter; and this year it is in Oats, with every promise of an abundant crop; it is close set, and the plant healthy and strong. The draining in this field has answered all that could be or was expected from it. The land is perfectly dry and sound in all times, and it is found in ploughing that the soil has deepened considerably by draining. The next field in rotation for draining was No. 68, and a most unpromising look it had; but here the improvement was great—so much so that every person acquainted with the land has noticed it. It was drained 22 inches deep up every other furrow, about 18 feet apart. Extent of the field 9 a. 0 r. 32 p.; total cost, 34*l.* 1*s.* 8*d.*; cost per acre, 3*l.* 14*s.* 1*d.* This field was drained in fallow, and worked for Turnips; immediately after draining it was ploughed with four horses as deep as possible. All the active or upper soil was turned over, and in many places part of the subsoil. The Turnip crop was not good, from the land being so poor to start with; the Wheat crop following was good, considering the general crop to have been below an average. On May 26 it sold at the rate of 100*s.* per quarter, and on June 2, at 100*s.*, weight 38 stones 4 lbs. per quarter (white Wheat). It was afterwards ploughed with four horses at an average depth of 12 inches, and the person who ploughed it considered that he was full 1½ inch below the former ploughing, but in no instance did he bring up any of the subsoil, thus showing that the soil must have deepened considerably, which it, no doubt, has, besides altering in colour and appearance. It is this year in Beans; and to secure the crop against too shallow sowing, the land was formed into rows, and the seed dropped into the rows (well manured) by women and afterwards furrowed in with a double mould board plough.* They have come up strong, with every promise of an excellent crop. The next field, No. 49, was drained in fallow, in January, 1845. It was in a sad, poverty-stricken state. This season it has been sown with Swedish Turnips, and manured with 15 loads of well-rotted dung and 3 cwt. of guano per acre. The total cost of draining this field was 25*l.* 12*s.* 6*d.*; extent, 6 a. 2 r. 8 p.; cost per acre, 3*l.* 18*s.* 2½*d.* The next field we come to is No. 57. This was drained twice, to suit the convenience of the tenant. Total cost of draining this field is 46*l.* 15*s.* 3*d.*; cost per acre, 3*l.* 5*s.* 3*d.* The north end of this field was trenched, ploughed, and sown with ½ acre of Carrots, 1 acre Mangold Wurzel, and ½ acre Kohl Rabi (the Kohl Rabi as an experiment). From what cause I cannot say, but the Carrots and Mangold Wurzel are a complete failure, although the land was in excellent condition, we have sent the Turnip drill through the rows, leaving the few plants that have come. The other part of the field was drained this winter 3 feet in depth, and 3 ridges apart, about 27 feet; it was afterwards deep ploughed (indeed, it was the deepest we have yet ploughed); it lay exposed to all the winter's frost, and, to use the expression of the person who stirred it, "it was like putting a plough into a meal tub." We are now working it for Turnips, intending to sow the whole with the Hybrid Turnip. The next field is No. 60, for the particulars of which I beg to refer you to the *Gazette* of March or April, 1844; it was accompanied with a sketch of the field and draining, signed "J. D., Streatham." You will find a difference in the cost there stated, owing to a mistake in the file accounts and the field being taken at 16 acres; but the exact quantity is 16 a. 2 r. 36 p.: total cost 89*l.* 11*s.* 8*d.*; cost per acre, 5*l.* 7*s.* 1½*d.* The Turnip crop on this field was good, thanks to Crosskill's clod-crusher; it is this year in Wheat and Barley, looking well, but, according to present appearance, it will be late. The last field is No. 59; it was drained at 2½ feet in depth and 20 feet apart; the quantity that required draining was about 7 a. 2 r. 0 p.: total cost, 35*l.* 1*s.* 8*d.*; cost per acre, 4*l.* 13*s.* 6*d.* This field is bare fallow for Wheat. Total amount expended on this farm in draining is 296*l.* 16*s.* 1*d.*, of which the tenant pays 7 per cent., making an increase in rental of 20*l.* 15*s.* 6*d.*, in addition to which the tenant leads the tiles and ploughs in the branch drains; the main drains are all filled in by the workman. On the above system the whole of the draining has been done; and the tenants are anxious to proceed, a sufficient voucher that the draining has been good; indeed, in some instances, they have acknowledged that the whole expenses of draining have been repaid by the first crop. I am firmly convinced that the principles of draining advocated by Mr. Smith, of Deanston, are the most correct and economical, and that it will be monstrously unjust if Government attempt to force Mr. Parkes' system down the throats of the parties who have applied for the Government loan. What I object the most in Mr. Parkes' system is, the distance apart at which the drains are placed. I think a 3-feet drain, and 27 feet apart, will in practice be found the most permanent, beneficial, and economical; with this, I send you the particulars of account for draining the above:—

PARTICULARS OF ACCOUNT FOR DRAINING BELL HOUSE FARM.

		£	s.	d.
	1845.—*March* 6.			
1	02½ Roods of tile drain, 22 in. deep, at 3*d.* per rood	12	10	7½
5	do. do. 2½ feet, at 6*d.* do.	0	4	6
7	13½ do. stone drain, 3 feet deep, at 11½*d.* do.	3	11	4¾
	6 Loads of stones, at 3*d.* per load	0	1	6
150	0 No. 1 drain tiles, at 24*s.* per 1000	1	10	1
500	No. 2 do. at 30*s.* do.	0	15	0
	21 Days at the stones, at 2*s.* 6*d.* per day	2	12	6
		£39	5	7
	June 29.			
	6½0 Roods of tile drain, 22 in. deep, at 3*d.* per rood	8	0	0
	20 Loads of stone, at 3*d.* per load	0	5	0
1350	No. 1 drain tiles, at 26*s.* per 1000	1	8	9
	No. of field, 65.			
		£65	13	4
	Dec. 5.			
	8½1 Roods of tile drain, 22 in. deep, at 3*d* per rood	10	7	9
	15 do. do. 2½ ft. deep, at 3*d.* per rood	0	19	0
	66 do. do. 2½ft. deep, at 6*d.* do.	1	13	0
	13½ do. stone drain, 3 ft. deep, at 11½*d.* do.	0	12	11
	12 do. do. 2½ ft. deep, at 10½*d* do.	0	10	6
	27 do. of open cut, laid with stone, at 1*s.* 10*d.* p.rd.	2	9	6
	16 Loads of stones, at 3*d.* per load	0	4	0
12000	No. 1 drain tiles, at 26*s.* per 1000	15	12	0
1400	No. 2 do. at 30*s.* per 1000	2	2	0
	No. of field, 68.			
		£34	1	8
	1845.—*Jan.* 25.			
	5½4 Roods of tile drain, 22 in. deep, at 3*d.* per rood	7	8	6
	22½ do. do. 2½ ft. deep, at 6*d.* do.	0	11	3
	33 do. do. 3 ft. deep, at 8*d.* do.	1	4	0
	15½ do. stone drain, 3 ft. deep, at 11½*d.* do.	0	14	10
	20 Loads of stone, at 3*d.* per load	0	5	0
1090	0 No. 1 drain tiles, at 26*s.* per 1000	14	3	5
850	No. 2 do. at 30*s.* per 1000	1	5	6
	No. of field, 49.			
		£25	12	6
	April 25.			
	47½ Roods of stone drain, 4 ft. deep, at 1*s.* 3½*d.* p.rd.	2	18	10
	9 do. large tile drain, 2½ ft. deep, at 6*d.* do.	0	4	6
	288 do. small do., 22 in deep, at 3*d.* per rood	3	12	0
	39 do. steh, laid with large tiles, and hedge levelled, at 1*s.* per rood	1	10	0
4150	No. 1 drain tiles, at 24*s.* per 1000	5	7	10
1770	No. 2 do. at 30*s.* do.	2	13	1
	570 Soles, at 10*s.* per 1000	0	5	11
	150 No. 2 drain tiles, at 30*s.* per 1000	0	4	6
	50 Soles, at 16*s.* per 1000	0	0	10
	No. of field, 57.			
		£16	17	6
	1846.—*Jan.* 31.			
	27 Roods of tile drain, 4 ft. dp., at 1*s.* 2*d.* p.rd., 3 tiles	1	11	6
	21 do. do. 3½ ft. dp., at 1*s.* do.	1	1	0
	28½ do. do. 3 ft. dp., at 10*d.* do.	1	3	9
	17 do. do. 3 ft. dp., at 9*d.* p. rd., 2 tiles	0	9	9
	18 do. do. 4 ft. dp., at 1*s.* p. rd., 1 tile	0	18	0
	100 do. do. 3 ft. dp., at 9*d.* do.	3	15	0
	13½ do. do. 2½ ft. dp., at 8*d.* do.	0	9	0
37440	Machine-made tiles, at 19*s.* per 1000	35	11	4
	360 Hand-made do., at 26*s.* per 1000	0	7	10
1440	No. 2 machine do., at 28*s.* per 1000	1	0	3
	250 No. 2 hand do., at 30*s.* per 1000	0	7	6
	470 Soles, at 16*s.* per 1000	0	7	6
	No. of field, 60.			
		£59	11	8
	Dec. 8.			
	3 Roods of large tile drain, 4 ft. deep, at 1*s.* p.rd.	0	3	0
	29½ do. do. 3½ ft. deep, at 10*d.* do.	1	4	7
	47 do. do. 3 ft. deep, at 9*d.* do.	1	15	3
	392 do. of small tile drain, 3 ft. deep, at 8*d.* do.	13	1	4
	38¼ do. do. 2½ ft. deep, at 6*d.* do.	0	19	3
	31½ do. do. 3½ ft. deep, at 10*d.* do.	1	6	3
2230	No. 2 drain tiles, at 28*s.* per 1000	3	2	5
7350	No. 1 do. at 19*s.* per 1000	7	3	5
900	do. do. at 18*s.* per 1000	0	16	3
500	Pipe tiles, at 12*s.* per 1000	0	6	0
	No. of field, 57.			
		£29	17	9
	1847.—*May* 14.			
	52½ Roods of dbl. tile drain, 3 ft. dp., at 10*d.* p.rd.	2	3	9
	44 do. single do. 2½ ft. dp., at 8*d.* do.	1	9	4
	625½ do. do. 2½ ft. dp., at 7*d.* do.	18	4	11
14650	No. 1 drain tiles, at 18*s.* per 1000	13	3	8
	No. of field, 59.			
		£35	1	8

—*John Dent, Streatham Castle, Barnard Castle.*

* The saving of seed in sowing the Beans more than paid the extra expense.

SCHEMES OF CULTIVATION FOR SMALL FARMS.

"T. E." has possessed himself of 17 acres of land, which he has laid out and cropped as follows:—

1 acre in an orchard.
1 ,, in forest trees, as a belt from the road.
1½ ,, in Lucerne, cut five times this year.
¼ ,, in a kitchen garden.
5 ,, arable—2 Rye-grass, 1 Wheat, 1 Oats, 1 Barley.
8 ,, Grass, partly laid down this year.

And his produce this year, at present prices, will be—

	£	s.	d.
3 Loads of hay, worth about	24	0	0
1 acre Oats, 6 quarters	8	5	0
1 ,, Wheat, 39¼ bushels, weight 61 lbs.	12	8	0
1 ,, Barley, 58 bushels, weight 56 lbs.	7	12	0
Butter from 2 cows, 131 lbs.	21	2	4
Pork, 160 lbs., worth, to buy, at 8*d.*	5	6	8
2 Calves sold produced	1	8	0
7 Lambs sold for	5	12	0
Fowls, eggs, rabbits, and milk, say	4	15	0
	£90	9	0

He has kept 4 goats, 47 sheep and lambs, the latter now reduced to 10, with 2 small horses, 2 cows, 1 heifer, 1 calf, and 7 pigs.

The Oats, Wheat, and Barley (3 acres) are now in Clover, and the Rye-grass in Wheat.

On comparing his labour account with the estimated value of his crops, he finds little left.

THE LABOUR ACCOUNT of such a farm ought not to exceed the amount of the following items:—

Cultivation of 2½ acres of Grain.

	£	s.	d.
Once digging, at 11*d.* per perch	£2	10	0
Hoeing twice	0	15	0
Harvesting grain	1	5	0
Threshing produce, &c.	2	10	0
Carried forward ..	7	0	0
Brought forward	£7	0	0

Cultivation of 2½ acres of Green Crop.

Twice digging, in all 4*d.* per perch	£6	13	4	
Deep hoeing, twice	1	0	0	
Harvesting	2	6	8	
				10 0 0
Lucerne—mowing five times	0	12	6	
Digging once between rows	1	7	6	
				2 0 0

Management of Stock.

⅓ of the time of a man				6 10 0

Grass-land.

8 acres				4 10 0
Total				£30 0 0

The labour bill need not exceed this upon that portion of the land from which the above produce was obtained. The other expenses would be—

Seed, say				£3 0 0
Manure, say				9 0 0
Annual value of the capital employed, say 200*l.*, at 5 per cent.				10 0 0
Rent of 14 acres, at 2*l.*				28 0 0
Making a total of				£80 0 0

Which leaves about 16*l.* of the above produce value as profit.

But the receipts stated above might be increased if the Rye-grass were given up. There is plenty of natural Grass without it; and the 2½ acres now devoted to it might be better employed in growing Carrots and Mangold Wurzel and Cabbages as food for an additional number of sheep or cows; or in growing Potatoes and other vegetables for sale.—*M. S.*

LIBERAL MANURING WILL NOT ALONE ENSURE A HEAVY WHEAT CROP.

THERE is an opinion often held by those unacquainted with practical agriculture that the productive powers of the soil increase in proportion to the amount of manure supplied to it; that is to say that the produce which can be obtained upon a given space may be calculated by the simple rule that if so much manure gives so much produce, twice as much will give double. A manufacturer looking at the very small proportion which the largest crop of corn when tied up bears to the space of ground upon which it was grown, is apt to draw erroneous conclusions respecting the powers of agriculture, and to assume that skill and capital are alone requisite to increase agricultural produce in the same proportion as similar means have effected in manufactures.

There are, however, in the production of vegetable matter certain elements over which the farmer has little or no control, and which render inadmissible in agriculture those calculations which are applicable to the manufactured articles of commerce. With regard to the amount of green produce which may be obtained by means of sewerage irrigation it is not very easy to assign a limit; but when dry grain, and more especially Wheat, is the object of cultivation, a point is soon arrived at, beyond which the mere supply of manure or material for growth often diminishes rather than increases the produce. At a time when the agriculturist is straining his energies to compete with the more favourable climate or less exhausted soils of distant or thinly populated countries, it may not be out of place to offer a few remarks upon the means which appear likely to aid him in attaining his desired object.

As the expression "heavy crop" of Wheat is rather indefinite, and the number of bushels per acre which different individuals would suppose it to imply would vary according to their preconceived notions, I may observe that what I mean by a heavy crop is any amount of produce greater than that which the mere supply by manure of all the ingredients required for the growth of the plant will yield, and which consequently could not be obtained by any increase in such supply. Thus, suppose a farmer feeds his Clover by sheep, and dungs his fallow, and in each case obtains 40 bushels of Wheat per acre, it by no means follows that if he had placed the dung upon the Clover lea in addition to the manure of the sheep, he would have obtained 80 bushels. In all probability he would not obtain 40 bushels. During the last four years I have obtained by means of artificial manures, the following produce of Wheat, in a field taken at random from my farm, and from which four corn crops had been previously grown and removed, without any further manure than that of the green crop which preceded them.

Harvest of 1844—26 bushels of dressed corn per acre.
,, 1845—34¾ ,, ,, ,,
,, 1846—33½ ,, ,, ,,
,, 1847—34½ ,, ,, ,,

Besides this dressed corn, which weighed from 61 to 62 lbs. per bushel, there was each year 2 or 3 bushels of seconds corn. As an ordinary crop upon land of the same description, cultivated according to the custom prevailing in the neighbourhood, would not exceed 22 or 23 bushels, it may perhaps be assumed that the greater portion of the soils of this country would yield once in two or once in four years a crop of Wheat averaging from 30 to 40 bushels, if all the necessary constituents of such a crop were provided in the soil, and that when less than this is obtained, a more liberal method of farming would be attended with an increase in the produce. There are, however, well authenticated instances recorded of the acreage produce of Wheat amounting to 60 or 70, even 80 bushels, but in my experiments, an increase beyond certain limits in the supply of the required constituents does not produce such effects as to justify the hope that soils of medium quality would, under such means alone, yield even from 50 to 60 bushels per acre.

An accurate knowledge of the composition of those soils which yield heavy crops might throw some light

† The rood is 7 yard .

upon this subject, but serious errors would arise if only a few analyses were relied upon; indeed, an extended series of standard results must be obtained at the cost of a considerable portion of the time and labour of men of science, before any important conclusions can be drawn from the results of the analysis of the soil. The mere knowledge of the component parts of a soil, as ascertained by analysis, helps us very little in determining its actual fertility. Of two soils, one of which would yield 20 bushels of Wheat annually without manure, and the other but 10, the latter might afford to the chemist, and might actually contain, the most fertilising ingredients of the two; but in the former the ingredients might be more loosely combined, more readily set free by annual decomposition, and consequently more easily assimilated by the plant. The labours of the chemist must, therefore, be directed, not so much to the actual per centage of ingredients in a soil—because his manipulations may set free substances which might not be available to the plant for centuries—as to the amount of those ingredients which will be set free annually under the influence of the rain that falls, the air that penetrates, and the implements which stir the soil. But, independently of the composition which analysis might show or manures might effect, common observation points to certain characters in those soils which are peculiarly adapted to the growth of Wheat, and in the plants themselves in such a soil, which ought to be particularly noticed. Thus, Wheat soils are generally stiff clays, through which neither the air nor the fine fibrous roots of the plant can penetrate with ease. On these soils the Wheat grows in detached bunches, tillering much, and having numerous ears to each plant; the straw is hard, stiff, and bright, with a very large diameter compared with its height, and the ear is well filled with grain. It would be very desirable to ascertain, by direct experiment, the comparative character of the root and its proportion to that part of the plant which is above ground, both in light and heavy soils, and also the exact circumstances which favour the tillering tendency of the plant. It may, however, be stated as a general fact, that the root of Wheat is much less inclined to tap, and has a much greater tendency to throw up fine fibrous roots towards the surface in a light soil than in one which is stiffer and more favourable to the growth of the plant. When Wheat is sown in autumn, we may suppose that although the growth above ground is arrested as soon as the winter frosts set in, the warmth which exists a few inches beneath the surface enables the root to continue its growth throughout the winter. The stiffness and solidity of the Wheat soil prevent the plant from throwing out roots laterally; its powers of growth are, therefore, more concentrated downwards, and when spring arrives the plant having a much stronger main root, with a range peculiarly adapted for mineral collection, tillers more, and forms a stronger stiffer straw. In a lighter soil the root being enabled to penetrate in all directions, a much less portion descends, and in severe winters we find that the plant often perishes, owing to this circumstance.

Treading by sheep and rolling are employed with evident advantage, for the purpose of securing the solidification of the soil, which is suited to the Wheat plant; and it is probable that considerable benefit would arise, were such processes adopted to a much greater extent than is usual; and, although modern practice is rather in favour of late sowing, we might expect that early autumnal sowing, if combined with sufficient checks to over luxuriance above ground, such as would be attained by the feeding and treading of sheep, followed perhaps by mowing also late in the season, would forward the development of the root during winter, and greatly conduce to tillering and to the strength of the plant in the spring.

The ideas suggested above seem, at any rate, to be borne out by the consideration of certain well-recognised facts, but the subject requires the test of direct experiment before important modifications, in common practice, can be recommended with any certainty of success. Accordingly, I sowed a field of 10 acres with Wheat in the beginning of last September, and the crop was fed off by sheep in the month of October, by which tillering has been greatly increased. If the weather is mild and tolerably dry, the feeding and treading process will be repeated before Christmas, and it will be continued as late in the spring as may be judged desirable; the plants will be carefully hoed out, so as to leave two or three in each square foot, and the use of the scythe will probably complete the operations. The result at harvest remains to be proved. All I wish to maintain at present is, that the ordinary treatment of the Wheat plant must be altered before very heavy crops of grain can be obtained with any certainty, even when all the essential materials of growth are provided by manure.—*J. B. Lawes, Rothamstead.*

TRIALS OF "ARTIFICIAL" MANURE.

On the 7th August, 1847, I instituted an experiment to test the relative value of several of the popular varieties of what are commonly called artificial manures in the production of a crop of green Rape or Cole. The field was 24 acres and had been depastured seeds up to June 24, when it was ploughed. After lying sufficiently long to allow the green in the furrow slice to decay, it was cross-scarified with Biddle's large scarifier. In a few days it was again scarified, transversely followed by harrows, rolls, &c. &c.; indeed all the force of the farm was brought to bear upon it; and a fine and beautiful filth was very expeditiously obtained. On the 1st of August I commenced ridging, and manuring the ridges 25 inches apart, and manuring from the fold yard at about eight good two-horse cartloads per acre, preached in, according to my invariable practice, the same hour in which it is deposited in the ridges, and rolled down, immediately followed by the drill, every alternate, by which I always, with the seed, deposit some variety of artificial manure, to the extent of at least 1*l.*, and occasionally to 1*l.* 10*s.* per acre; and, I may venture to say, with never failing success—any object being chiefly to aid or stimulate the plant in its early growth, and force it out of danger, taking care, never the less, not to apply too gross or too powerful a stimulant, lest it destroy the vegetating seed, as in the case of application of guano, nightsoil, &c. &c. In the past season my application of this kind has been about 12 bushels of prepared nightsoil, with good loam, roads-crapings, or other similar material, in the proportion of 2 bushels nightsoil to 10 bushels of other materials, and drilled upon ridges manured with fold-yard dung; and I think but few persons could show 70 acres of green food or equal luxuriance.

On the 7th August I procured the following varieties of artificial manures in quantities applicable to one-third of an acre, being six ridges, the length of the field. The manures I obtained from Mr. George Edwards (bone mills), Spalding, who has for many years been indefatigably engaged in supplying this neighbourhood with artificial manures, and who has during the past year undertaken the manufacture of guano on a large scale, from a great variety of substances, under the suggestion and advice of one of the professors of the Cirencester College, connected with the chemical department, and which bids fair to rival any artificial aid hitherto introduced into agricultural practice.

The result of my experiment is only by estimate. I have no very proper means of weighing, but from the best observations made by myself and other experienced farmers, I believe it to be correct. The observations were made at different periods and at various distances along and across the rows; and the collective result is only given. I have thrown the account of the experiment into a tabular form, which I hope yourself and readers will be able to make out and understand.

No.	Variety of Manure used.	Cost.	Sept. 21.	Oct. 5.	Oct. 20.	Nov. 1.	Comparative Value.
		s. d.					£ *s. d.*
A	3½ bushels of ½-in. bones	8 2	15	3	3	3	1 1 0
B	2 st. dissolved bones, 6 lbs. British guano	4 4	15	1	1	1	1 3 4
C	4 st. dissolved bones by sulph. acid	5 0	8	2	2	2	1 1 0
D	1 st. do., 1 st. foreign guano, 1 bush. ½-in. bones, 1½ st. urate, 1½ st. Rape-dust	7 7	12	6	6	6	1 0 0
E	1 cwt. Rape-dust	6 0	16	3	3	3	1 1 0
F	No manure of any kind	..	20	12	12	11	0 1 0
G	1 cwt. African guano	9 0	22	11	11	10½	0 13 4
H	1 cwt. London Company urate	5 0	11	8	8	5	0 10 6
I	2 st. dissolved bones, 6lbs. British guano	4 4	8	5	4	4	1 1 0
J	10 bush. prepared nightsoil (Edwards')	2 0	10	7	8	7	0 17 6
K	10 do. do., on opposite side of experiment	2 0	14	10	10	9	0 16 6

Observation.—It must be borne in mind that the quantity of land is one-third of an acre. The first column shows the six rows, A B C; the second the variety and quantity of manure used; the third the cost of each quantity; the fourth the four columns showing the appearance relatively at the time of examination; the lowest numbers denoting the greatest value; and the fifth column the value in money at this date, Dec. 1, 1847.

No.	Variety of Manure used.	Cost.	Value of Crop p. acre.
		£ *s. d.*	£ *s. d.*
A	1 acre, ½-inch bones	1 4 6	3 3 0
B	Do. dissolved bones and guano	10 13 0	3 10 0
C	Do. dissolved bones	0 15 0	3 3 0
D	Do. varieties	1 2 9	3 0 0
E	Do. Rape-dust	0 18 0	3 3 0
F	Do. no manure	..	1 10 0
G	Do. guano	1 7 0	2 0 0
H	Do. urate	0 15 0	2 17 0
I	Do. dissolved bones and guano	0 13 0	3 3 6
J	Do. prepared nightsoil	0 6 3	2 12 6
K	Do. do.	0 6 0	2 9 6

—*J. C.*

Home Correspondence.

Draining.—I have drained 80 acres 12 feet apart with pipes and stones at 32 inches deep, which answer well; but cost too much, say 10*l.* per acre. I have drained 40 acres subsequently of strong tenacious clay, at an average depth of 4 feet, and 33 to 40 feet apart, with 1-inch pipes. These answer admirably, produce good crops, and only cost 40*s.* to 50*s.* per acre. The drains are 5 feet deep on the hill, and about 3 feet at the ditch mouth. I have tapped strong springs at various depths, from 6 to 11 feet, and always find that where there is spring or bottom water shallow drains are of no use. Nothing less than 4 to 5 feet will answer in such cases, and in felty bogs you must go deeper. Many light friable soils are in their subsoils full of springs, although their owners do not see them.—*J. J. Mechi, Tiptree Hall Farm, Kelvedon, Essex, Dec.* 14.

White Chevalier Wheat after Mangel Wurzel.—What has been the result of the following grain waving on the farms, which took the lowest in the cradle and the highest on the table? Queen upon Queen like the rose and the roseate of her subjects? And has it escaped the notice of any that one [illegible]

Parsnips for Potatoes.—"Falcon's" query is most directly answered by Mr. Solly in your columns last summer, where he says that an acre produces, of

	Tons.	lbs.	Water.	Organic Matter.	Protein Compounds.	Ashes.
Parsnips	12 or	26,880	21,543	4642	561	333
Potatoes	8 „	17,920	14,228	3054	434	204

if he has not given the acreable produce rather too much in favour of the Parsnip. And to go more into particulars:—The analysis of the two roots is stated in Professor Johnston's "Lectures on Agricultural Chemistry," &c.*

In 100 parts of Parsnips:—		Potatoes:—	
Water	79 4	75.5	
Starch and Fibre	6.9	19	
Gum	6.1	0.8 (⅓ fat)	fattening.
Sugar	5.5	3.3	
Albumen	2 1	1.4	fleshening.

The fattening quality of sugar, of which the Parsnip contains so much, is now pretty generally acknowledged. The practical use of Parsnips in feeding is best understood in Guernsey and Jersey, and the following extract is from Quayle's "View of the Agriculture" of those islands. "An ox intended for fatting with Parsnips is put on good Grass or on Clover in June, and kept there till the root be sufficiently matured, usually in September, but occasionally at the end of August. The roots, if large, are always given sliced lengthways at three meals; between each meal hay. When first put to them, an ox will eat upwards of a hundred weight of roots, or even, as it is asserted, a hundred weight and a half in the day. Sometimes they cloy; Cabbage leaves or Potatoes then take the place of Parsnips for a few meals. Water is given once in 24 hours. In order to fat well an ox of 1000 lbs. or 1200 lbs. weight, in general rather more than the produce of a vergée in Parsnips is required, viz., 25 horse loads of 300 lbs. each = 7500 lbs. He also consumes a ton of hay before he is killed, which is usually about Christmas. Parsnips are also given to yearling cattle through the winter, and on this root their thriving is remarkable. This food applied to fatting pigs is at first given in September. In three or four weeks the animal growing dainty begins to refuse the heads and tails; these are then cut off with the small forked roots and given to the cows or yearling cattle; experience proves that the hog makes less waste of the root if cut across than if cut longitudinally. No grain is employed in fatting; if the animal does not thrive on raw Parsnip it is given boiled, for the last month or six weeks. In general, the quantity of pork produced is increased by giving the root boiled; but the quality is impaired, as the fat becomes flabby. Pigs of 20 months old, when killed at Christmas, weigh from 400 to 450 lbs." He says further that Parsnips given to milch cows increase the butter but not the milk, whilst Turnips, on the contrary, increase the milk and not the butter—another evidence of the fat-producing quality of Parsnips. I do not recollect any direct experiment between them and Potatoes, but the above cases seem to incline in favour of Parsnips. For human food Parsnips have the fault of being too pulpy when cooked, to satisfy the stomach comfortably; but this may be obviated by eating with it drier and more solid food; stale bread (for economy) does very well; or good bread may be made with two parts of flour to one of Parsnips; and for greater economy of flour, grated Parsnips, mixed with one-third their weight of any flour or meal, and boiled in a cloth as dumplings; or, still better, baked in a pie dish, where an oven is at hand, constitute a substantial mess, satisfactory to the stomach, and at once strengthening and fattening, and which may of course be flavoured to the palate.—*J. Prideaux.*

* Second edition.—The soundest and most valuable collection of facts, explanations, precepts, and suggestions, ever published on the subject in this or any other language, so far as has come to my knowledge.

Farmers' Clubs.

Shadwell, *Dec.* 3: *Draining.*—Mr. Snowden said: It is well known to you that at the commencement of our Society, two years since, one of the first subjects brought forward for discussion, was draining; the majority then present decided that there was no necessity for cutting drains deeper than 18 inches, placing a tile at the bottom and filling it with stones to within 8 inches of the top. I, as one of the minority, contended that drains cut no deeper than 18 inches would be unsuccessful, that in fact it was money thrown away, that I was assured to my cost, for some land to which I entered three years since had, five years prior to that time, been drained at my expense 18 inches deep and 6 yards apart, filled with stones, and treated in every respect agreeably to the practice pursued here from time immemorial; the land continued wet as ever, Rushes reared their heads as proudly as formerly, in short, it was a complete failure. As an experiment, I took up the leading drain, and sunk it to the depth of 3 feet, placed a sole at the bottom, upon which I put a large tile, filled it 12 inches above the tile with stones, upon which I put some brushwood, and lastly the soil and turf; the clay I carted on a heap, and made a compost of it with lime. I cut two drains into it of the same depth, six yards asunder, through a piece of land that before would not bear a horse in wet weather; now the land is as firm as any. Part of the field where coarse sour Grass used to be is now eaten quite close. I determined also on draining a piece of arable land which was nearly barren. The man whom I employed cut 2 feet deep, but there was no appearance of water, and he said we were not in the right place. I, however, told him to cut 15 inches deeper; he did so, and the water burst out at the bottom in a surprising manner, since then there has been abundance where before there was nothing. The first crop paid the whole expense. My land is strong on a stiff clay subsoil. Mr. Middleham, of this village, whose experience in draining has been considerable, recommends furrow draining, and not less than 3 feet deep. He has successfully drained a piece of land with one drain 3 feet deep, which before was wet with five 18 inches deep. With regard to filling clay into drains, as recommended by Smith, of Deanston, it has not yet been tried, neither would it be advisable where more porous materials can be had at a trifling increase of expense. I, however, intend to make a few drains on his plan, purposely to test it.

Mr. Taylor said that deep draining was only a waste of money, except where the land was wet from springs.—Mr. Whittenbury said he was fully convinced that 18-inch drains would neither take perfectly away top water nor bottom. He asked what top water was, where did it come from? Why it was at the top because it could not get to the bottom. Cut a drain 3 or 4 feet deep, and the superincumbent pressure would act with much greater force than when only 18 inches deep, and it is well known that water will always endeavour to find its own level; if, therefore, we make a way for the water to run off at the depth of 3 or 4 feet, the land will be free from superabundance to that depth.

Maidstone: *The Composition of Artificial Manure.* Mr. Whiting, in introducing the subject, stated that the great object of the farmer should be to ascertain what inorganic or mineral ingredients the crops took out of the soil, with a view to ascertain what ought to be put into the soil in order to grow them. Mr. Way, now the consulting chemist of the Royal Agricultural Society, had analysed about 50 specimens of different sorts of Wheat, and had come to a conclusion that an average crop of Wheat took out of the land the following inorganic substances:

84 lbs. of silica	6 lbs. of magnesia
20 lbs. of phosphoric acid	1 lb. of peroxide of iron
4 lbs. of sulphuric acid	23 lbs. of potash
8 lbs of lime	1½ lb. of soda.

It would be seen that the most important ingredients of Wheat were phosphoric acid, and the alkalies—potash and soda. If these were returned to the land in sufficient quantity, the minor mineral ingredients, such as silica, lime, magnesia, iron, &c., would in the greater number of cases be supplied by the soil. The phosphoric acid was most conveniently returned in bone-dust, which contained from 50 to 60 per cent. of the phosphates, or in the superphosphate lime, of the composition of which he should speak when he came to consider the best manure for Turnips. The alkalies might be supplied singly in the shape of nitrate of soda or nitrate of potash (saltpetre), both of which it was known to the members that Mr. Barnes had used with decided success. Guano was valuable, inasmuch as it comprised, not only a large proportion of phosphates and alkalies, but also what was of great importance, particularly to the young plant, a considerable portion of ammonia. This led him to speak of the organic ingredients of Wheat, which had not been mentioned in the enumeration of inorganic ingredients of Mr. Way. The principal of these organic substances were carbonic acid and nitrogen, both of which existed in the air; but it was from the ammonia of decaying animal and vegetable substances that plants derived their principal supply of nitrogen, ammonia being composed of nitrogen and hydrogen. When a plant was burned, the organic portions flew off into the air, whilst the ashes comprised the mineral or inorganic ingredients. Ammonia was essential to the growth of Wheat, and this might be supplied to lands which abounded in all the mineral ingredients, in the shape of sulphate of ammonia, which might be manufactured from the liquor obtained from the gas works of every town. Mr. W. then read the account of an experiment at Haveringatte-Bower, Essex, where 1¼ cwt. of sulphate of ammonia, at a cost of 1*l.* 1*s.* 9*d.*, had produced 586 lbs. of Wheat (over that produced on unmanured land), whilst 1 cwt. of nitrate of soda, costing 1*l.* 4*s.* 6*d.*, had produced 468¾ lbs. of Wheat, and 1 cwt. of nitrate of potash (saltpetre), at a cost of 1*l.* 7*s.* 6*d.*, had produced 453 lbs. of Wheat. In alluding to the best manure for Turnips, Mr. W. referred to the experiment tried by the Rev. Mr. Huxtable, in which that gentleman had grown 20 tons of Turnips and 5 tons of tops from an acre of the very poorest land on the side of a chalk hill, by the use of an artificial compound, which, with the cost for one acre, is thus described by the experimentalist.

	£	s.	d.
30 bushels of wood-ashes at 6*d.*	0	15	0
2 cwt. of Ichaboe guano at 7*s.* 6*d.*	0	15	0
50 lbs of burnt bones and 22 lbs. of sulphuric acid	0	7	0
30 bushels of sawdust	0	2	6
Labour account in hoeing, drill, dropping seed (the surface of the land being otherwise untouched)	0	19	6
10 lbs. of sulphuric acid poured over ashes	0	1	3
Rent 5*s.*, rates, &c., 2*s.*	0	7	0
Seed, 5 lbs. per acre	0	3	6
A pair of horses hauling the artificial manure to the summit of the hill	0	7	0
	£3	17	9

This showed the extent to which the constituents of a crop could be supplied by artificial means, if the farmer only studied the composition of the crops which he wanted to raise. The best mode of supplying the phosphate of lime, which he had mentioned as forming an essential ingredient in most crops, was in the shape of bone-dust, or sulphated bone-dust. Bone-dust comprised a large proportion of this substance, and to render it soluble and easily available to the young plant, a plan had recently been introduced of dissolving it in sulphuric acid, thus forming superphosphate of lime. Phosphoric acid was capable of combining with lime in two proportions. When mixed with sulphuric acid, that substance combined with a portion of lime (forming sulphate of lime, or gypsum), thus leaving a less quantity of lime than before combined with the same quantity of phosphoric acid, which formed what was called a superphosphate of lime. Mr. Spooner, in his prize essay on this subject, thus described the best mode of adding vitriol to bones:—"A very convenient and cheap vessel for manufacturing the mixture is a sugar hogshead, having its holes stopped with plaster of Paris. It is very desirable to avoid if possible any measuring or weighing of the acid, as it is so very dangerous a substance to handle. Many serious accidents occurred to my knowledge during the last year, and it is very difficult to impress farm servants with a sufficient degree of caution, or even to convince them that a liquid which appears so colourless will burn their skin and clothes. In emptying a carboy of acid, even into a tub, it is difficult to prevent a little slopping about and damaging the clothes of the attendants, as well as the basket, &c., which contains the carboy. To prevent these unpleasant consequences, I have adopted the following plan:—The carboy is placed on a stage or cask the same height as the sugar hogshead, into which is put the precise quantity of bone-dust we intend mixing with the carboy of acid. The water is now added with a watering-pot having a rose at the end, so as to disperse it thoroughly, and the carboy of acid is then emptied by means of a syphon. This syphon is formed of a piece of block-tin pipe, which can be bent into any form, about ¾ of an inch in calibre, and 4 feet in length. A brass cock is soldered to the long end of the syphon, on which the rose of a watering-pot may be placed. The syphon is now filled with water, and its long end closed with the cock, and the small end with the hand or finger. The latter is then quickly inserted into the mouth of the carboy, the cock turned on, and the acid will continue to flow till the vessel is nearly empty, without any assistance, so that the attendant has no occasion to expose himself to the injurious and offensive fumes which almost immediately begin to escape. He may, however, approach the windward side of the tub, and give the mixture a little stirring, which should be continued for some little time afterwards, so that the mixture may be complete. A convenient utensil for this purpose is a fork with two long teeth, bent at some distance from the grains nearly at right angles, and fixed in a wooden handle. On the same day a fresh lot of bones may be added, and the process repeated until the hogshead is nearly full. In two days afterwards the mixture may be shovelled into a heap, and either remain till wanted, or mixed at once with a certain portion of ashes. It should be shovelled over several times, and ashes added to it each time of turning, which will thus render the mixture fine and dry enough to pass through an ordinary drill. It must be evident that much of the value and economy of the manure depends on it being perfectly mixed, so that every particle of bone should be exposed to the action of the acid. In many cases I have no doubt this has not been sufficiently attended to, and the result has been either that more acid has been used than is really required, or that much of the advantageous effect has been lost. By the method which I have here recommended, and which I have adopted after many trials, the mixture can be readily and accurately manufactured, and with perfect safety to the attendants." Numerous trials (said Mr. W.) had established the efficacy of superphosphate of lime, by which the anticipations of Mr. Spooner had been completely borne out.

Galloway: *Sept.* 24.—Mr. Harkness introduced the subject—"*The most productive system of Agricultural Management, or how to raise the largest amount and value of produce at the least expense, keeping the land at same time in good heart.*"

The best Mechanical means of Improving the Soil.—1. Draining claims attention. 2. Subsoiling by means of the Deanston subsoil plough. 3. Cultivation by means of the ordinary plough—the harrow grubber—drill grubber—drill harrow—horse hoe, spade, and other agricultural implements, by which the complete pulverisation and tilth of the soil can be effected, and by which well made manure can be got advantageously worked into the soil. The introduction of the drainage question to the Club meeting of 30th June, 1845, was ably performed by Mr. M'Bryde, Balkerr, and much useful practical information was laid before the meeting, by North Dalrymple, Esq., of Fordel, by Lord Stair, and other members of the Club, on the subject of draining and improving both moss and hard lands. But since then the question has been much urged, whether a system different from the Deanston drainage should be practised instead of it. Mr. Parkes had propounded his view of soils, draining, &c., a considerable time ago, in articles published in the Journal of the Society alluded to, vols. 4 and 5, p. 119, and he followed it up more recently by reading to the annual meeting of the English Agricultural Society held at Newcastle in July, 1846, a paper, by which he endeavoured to show that a Captain Walter Blith, who wrote in 1652 was the inventor of deep and thorough, or parallel draining up and down the hill, or inclined plane. Old Blith, however, seems to have written exclusively on the drainage and irrigation of water meadows and mosses; "as for the drayning trench (says Blith) it must be made so deep that it goes to the bottom of the spewing moyst water that feeds the Flagg and the Rush." He says also, go down even four feet deep, so as to draw off the cold stagnant water. Again, as to bogs, he says—"But for these common and many trenches, ofttimes crooked too, that men usually make in their boggy grounds, some one foot, some two, never having respect to the cause or matter that maketh the bogs. I say away with these as a great piece of folly, lost labour, and spoyle." Now these directions are just such as have been long practised in draining meadows, mosses, and bogs,—the rule being to cut and level up from a point in the lowest portion of the ground to be drained so deep as to be capable of drawing away the stagnant water from the lowest stratum of the meadow or moss. This has been done for a number of years, in every county in Scotland, and the principle has been applied in Lincolnshire and many other English counties for 100 years bypast. As for the draining hard lands, Captain Blith repudiates all claim to the drainage improvement of those, as he himself says such an attempt would be attended with an "incredible expense." It was reserved for Mr. Smith, of Deanston, within the last quarter of a century, to systematise the drainage theory for hard land, and reduce it to successful practice—a system nationally known as thorough and parallel drainage of hard land and retentive subsoil, so as, with subsoiling, completely to change the soil, making it capable of growing most productive crops, though comparatively barren before. The truth is, however shrewd Captain Blith was, and however sensible his writings were, there is no originality in his system of draining, though his example of enterprise needed much to be imitated by the sluggards of his day, just as Mr. Smith's improved system requires to be followed up in a twenty-fold ratio of increase by the agriculturists even of the present enterprising age. But to proceed to Mr. Parkes' system and practice in draining: he gave his audience at Newcastle two instances of his practical success,—one at Strathfeldsaye, where he had been called in by the Duke of Wellington; the other occurred with another great personage—Sir Robert Peel, the field of operation being Drayton Manor. The case of the Duke of Wellington was that of a very wet lot of land. Some thousands of pounds had been previously spent on it in making drains, some "only a few inches down," whilst others of the drains were 2, 3, and 3½ feet deep. "The land was absolutely so wet that the horses passing over it sunk to their fetlocks." It was very deep clay. He put drains down 6 feet deep, with others directly above and in the same cut, but not so deep. Thus he drained this ground; but the number and form of his drains are not mentioned. He uses 1 inch pipe tiles. This is one case. But suppose this ground had been bored upon Elkington's principle, might it not have been more cheaply drained of its under water, and then it thorough drained with tile, say at 2 to 3 feet deep, would this clay field not have been more thoroughly drained? Had the Deanston drainage been tried previously and failed? Nothing is said as to this. As to the experiment made by Mr. Parkes for Sir Robert Peel, at Drayton Manor, it is explained to have been made in a mixed soil, with collared pipe tiles, and drains 6 feet deep; but how many of these per acre, or their distance from each other, or of their expense, nothing is said. But of this soil, too, who knows that borings on the Elkington principle would not have drained the ground at much less expense than 6 feet drains? At Tamworth, in Staffordshire, near the grounds of Sir Robert Peel, if not on his estate of Drayton Manor, Elkington personally drained long ago, by boring, with perfect success. The instance alluded to will be found in the excellent Essay on Draining by Mr. Johnston, published in the "General Report of the Board of Agriculture," vol. ii., p. 47, where Mr. Johnston says—"Mr. Elkington bored a hole 30 feet deep, near Tamworth, in Staffordshire, through which water issued at the rate of three hogsheads a minute, and laid dry a great extent of wet land in the neighbourhood." But though Mr. Parkes' address before alluded to contains little or no practical information as to the nature and depth of his drains, their expense and applicability to the various soils of the kingdom, we know from other sources what recommendations a

calculations he has submitted to the public, as the result of his engineering experience and that of his deep draining system friends; for example, we find Mr. Parkes reporting on the 16th April, 1845, to a committee meeting of the Royal Agricultural Society of England, as follows: 1st. Expense of pipe-tiles sufficient to drain water 4 and 5 feet below the surface in strong clay, *six shillings per thousand*. 2d. That such tile in clay land, at a depth of from 3 feet 6 inches to 4 feet, and 40 feet between the drains, would only cost for cutting, tile, and completing, 1*l*. 8*s*. 6*d*. per acre, and that similar 4 feet drains, 50 feet apart, would cost 1*l*. 11*s*. 9*d*., see *Agricultural Gazette*, p. 261, 1845. And Mr. Parkes' coadjutors in the deep draining system are equally definite. Take Mr. Mechi, for instance, who maintains stoutly that instead of following out the Deanston thorough drainage, it would be better and cheaper to make them 5 feet and 6 feet deep. Mr. Mechi's advocacy of this depth will be found reported as part of the proceedings of the Witham Annual Agricultural Meeting, Oct. 9, 1845, vol. 2 of *Agricultural Gazette*, p. 821; his words are, "He had endeavoured to stimulate inquiry into the subject, and he should feel obliged if, to gratify himself and them, they would try on their strong clays, where they could get a sufficient fall, the 4 feet, 5 feet, or 6 feet drains, &c." Now, I would seriously inquire what chance there would be of draining wet Kincardineshire or Ayrshire clay land, with 5 or 6 feet drains at 40 feet apart? and could 1*l*. 10*s*. or 2*l*. 10*s*. per acre do so? I have examined Tiptree-hall Farm as managed by Mr. Mechi, and though many excellent improvements are to be seen upon it, what I saw upon it as regards draining make me very cautious of adopting his views. Mr. Mechi has changed his system of drainage, and he is now a great advocate of drains double the usual depth. His soil, however, is of a chalky formation, mixed with sea sleech and heath, and is not generally a pure clay soil. That Elkington's plan could be applied with great advantage in many deep mixed clay soils, we believe, and that in meadows, bogs, and even mixed soils, deep cuts, or drains of 7 or 8 feet will be advantageous in particular localities, we are satisfied. We have frequently seen them effectively executed to that depth; that in many instances both the Elkington and Deanston plan should go hand in hand, we also consider to be beyond doubt. We have seen soils which would require both, from strong springs and from tenacious clay above supporting the surface water. But that, as a system wide spread, long tried, and much approved, the Deanston thorough drainage is the most generally applicable to the varied soils and circumstances of Great Britain and Ireland, we are perfectly assured; and it may be added that a vast preponderance of the most eminent drainers in these countries, both as regards science and practice, are in favour of draining on Mr. Smith's principle, from 2 to 3 feet deep. For example, when the evidence of many engineers and practical men was taken in session 1845, in Committee on the Entailed Estates Drainage Bill, we find Messrs. Mills, Rutland, Neeson, Reid, North, Smith, Deanston, Dickson, Pearson, Hutley, Ladner, Ogilvy (Scotland), Pusey, Burrell, and Bowes, all gave evidence from their practice in favour of drains from 2 to 3 feet deep; Messrs. Parkes, Thomson, Spencer, and Davis in favour of drains from 3 to 6 feet.—*Galloway Agriculturist*.

Farm Memoranda.

RECLAMATION OF LAND IN ABERDEENSHIRE.—Standing one day on the top of one of the hills near Haddo House, Lord Aberdeen pointed out to the Earl of Devon a wide expanse of cultivated land, observing, "that was heather—and that was moss;" "and that," added his lordship, pointing to a splendid field of yellow waving corn, "was stones." And then the farmer who accompanied them could tell how the heath was taken in—the moss improved—and the "blue heathens blown from their inheritance." Hear his story:—"When my father entered on this farm 50 years ago, he had only 50 out of nearly 300 acres under crop. This he called his infield, and his first care was to see this infield improved. It was his conviction, that the great thing to be gained was depth of soil; and for this end he used to dig large quantities of turf from the outfield, cutting it off so as to leave a plain surface; and this turf he put into a large hole near the byres, where it was mixed with the wash and stable dung. He thus formed a compost, which he spread over the infield, dug part of it over with the spade, and ploughed in the rest with a plough, which now-a-days would be considered a very rude implement. He next endeavoured to increase the breadth of his infield by trenching and the spade, using the stones which he gathered from the outfield to form fences as his park became enlarged. Then he cultivated the best of the outfield with a view, in the first place, to get more grazing, and ultimately to improve his green crops. In taking in the outfield, his plan was to collect all the moveable stones and put them into the hollows until they brought the hollow to within—say 2 feet of the surface, which was filled up with turf and moss, and covered over with the farm-yard compost. A course of cropping gradually suggested itself, and such was the effect of this system of farming, that when my father died, I succeeded to the farm under his lease, and with about 120 acres in an arable state. Since I entered on the farm, I have taken the whole of the outfield in, and added two or three crofts, the crofters having died out, except one, who lives in his little hut down on the hill side there, and is employed on the farm. The younger natives of these cottars' families are either farm servants or employed at some trade. The first improvement I conducted was draining the moss, which is now under a heavy crop of Oats. In conducting my draining operations I used up all the stones I could collect, and having assisted my father to fill up the hollows, as I have described, I now assisted myself by opening them up again, and taking the stones to make my drains. The next step was to clear the land of the 'heathens'—a name we apply to those large boulder stones which have no root, and which are yet to be seen in many parts of Scotland. These stones I blasted, and required them all to build fences and improve my farm steading. And then with trenching, draining, and plenty of compost, I got the outfield into good condition, and had very fine crops. But it was not until I applied lime to the clay soil that it became friable; nor until I got bone-dust for my green crops that my Turnips were such as induced me to turn my attention to the breeding of stock; and then it was only left for me to apply a fair proportion of guano in order to have a farm which I think cannot now be well excelled on his lordship's estates." To this the farmer might have added, "and but for the lease which was given to my father which has been renewed under liberal terms to the son, the farm would yet have been a barren moor; and the rent, instead of being 15*s*. and more, would have been too high at half-a-crown."—*W., in Scottish Farmer*.

Reviews.

Facts from Gweedore, compiled from notes by Lord George Hill, M.R.I.A. P. Dixon, Hardy, and Son, 23, Upper Sackville-street, Dublin. Hatchard and Sons, London.

Those of our readers who have read Mr. Gerald's papers on the present condition of the Irish people, will be prepared to receive the account given in this pamphlet of a successful attempt to improve that condition. Tullaghobegly, county Donegal, was one of the most miserable districts in Ireland, containing a population of near 9000 souls; there were not (1837), any swine, hogs, or pigs in it. There was, as stated in the memorial of a schoolmaster addressed to the Lord-Lieutenant of Ireland, no more than

"One cart, no wheel car, no coach, or any other vehicle, one plough, 16 barrows, [illegible] saddles, 2 pillions, 11 bridles, 20 shovels, 32 rakes, 7 table forks, 93 chairs, 243 stools, 10 iron grapes, no swine, hogs, or pigs, 27 geese, 3 turkeys, 2 feather beds, 8 chaff beds, 2 stables, 6 cow houses, one national school, no other school, one priest, no other resident gentleman, no bonnet, no clock, 3 watches, 8 brass candlesticks, no looking-glasses above 3*d*. in price, no boots, no spurs, no fruit trees, no Turnips, no Parsnips, no Carrots, no Clover, or any other garden vegetables but Potatoes and Cabbages, and not more than 10 square feet of glass in windows in the whole, with the exception of the chapel, the school house, the priest's house, Mr. Dombrain's house, and the constabulary barrack.

"None of their either married or unmarried women can afford more than one shift, and the fewest number cannot afford any, and more than one half of both men and women cannot afford shoes to their feet, nor can many of them afford a second bed, but whole families of sons and daughters of mature age indiscriminately lying together with their parents, and all in the bare buff. They have no means of harrowing their land, but with meadow rakes. Their farms are so small that from four to ten farms can be harrowed in a day with one rake. Their beds are straw—green or dried rushes or mountain bent: their bed clothes are either coarse sheets, or no sheets, and ragged filthy blankets. And worse than all that I have mentioned, there is a general prospect of starvation, at the present prevailing among them, and that originating from various causes, but the principal cause is a rot or failure of seed in the last year's crop, together with a scarcity of winter forage, in consequence of a long continuation of storm since October last, in this part of the country. So that they, the people, were under the necessity of cutting down their Potatoes and give them to their cattle to keep them alive. All these circumstances connected together, has brought hunger to reign among them to that degree, that the generality of the peasantry are on the small allowance of one meal a day, and many families cannot afford more than one meal in two days, and sometimes one meal in three days. Their children crying and fainting with hunger, and their parents weeping, being full of grief, hunger, debility and dejection, with glooming aspect, looking at their children likely to expire in the jaws of starvation."

We shall make some further extracts, in order still further to exhibit the details of this picture, and the causes from which they have arisen.

"This wild mountain district, prior to 1838, was divided into small properties: there were no resident proprietors. The estates were of such little value that no gentleman, or scarcely a respectable person, would, or could, act as agent for them. Rents were very small—almost nominal, and there was no regularity as to collecting them: trifling sums were taken at fairs, or whenever or wherever they could be got; often no receipt was given—no accurate accounts kept: consequently the greatest confusion prevailed, as to what was due upon the properties. There were arrears of 8, 10, and even 20 years' standing: some of the tenants not having paid rent for that period, and many lived on the estates quite unknown."—"The sea-weed is thrown on these shores in immense quantities after a storm; therefore, the people naturally conclude, that without a few good storms, 'the country would be lost!' and on this account it was, that the past winter was considered quite a failure and even an alarming one! For which reason the cordial chorus of these people, with an eye to agricultural results, would ever be—

'If a storm should come and awake the deep,
What matter, what matter, we shall dig and reap!'

The weed thus cast in is taken off by the country people to spread over their ground, and also on the unreclaimed moors, which yield good crops of Potatoes the first year, and Oats the next, though the land is perfectly undrained and badly laboured! In the summer season, when the cast-in sea-weed is not required for manure, kelp, in enormous quantities, is made of it along the shore. The people being totally ignorant of agriculture, some of them (there are many such instances), take much trouble in washing the shells and sand out of the sea-weed, before venturing to put it on their land, 'lest it should injure the bog!' The style of their farming implements and appointments was of a piece with their ignorance and errors; these things remaining in a state of much simplicity, particularly in the article of harness, as the land has been seen to be harrowed with the harrow made fast to the pony's tail!" "The wretched system of Rundale being here in full force and operation, all this district of country is held under what is known by that term, and which may be thus described:—In some instances, a tenant having any part of a townland (no matter how small), had his proportion in 30 or 40 different places, and without fences between them, it being utterly impossible to have any, as the proportions were so very numerous and frequently so small that not more than half a stone of Oats was required to sow one of such divisions. Thus every tenant considers himself entitled to a portion of each various quality of land in his townland; and the man who had some good land at one extremity, was sure to have some bad at the other, and a bit of middling in the centre, and bits of other quality in odd corners, each bounded by his neighbour's property, and without any fence or ditch between them. Under such circumstances as these, could any one wonder at the desperation of a poor man, who having his inheritance in 32 different places, abandoned them in utter despair of ever being able to make them out! Fights, trespasses, confusion, disputes, and assaults, were the natural and unavoidable consequences of this system, these evils, in their various forms, were endless, and caused great loss of time and expence to the people attending petty sessions; and, of course, continued disunion amongst neighbours, was perpetuated. The system, too, was a complete bar to any attempt at improvement; as, on a certain day, all the cattle belonging to the townland were brought from the mountains, and allowed to run indiscriminately over the arable land, and any that had not their Potatoes dug, or other crops off the ground, were much injured: neither could any one man venture to grow Turnips, Clover, or other green crops, [illegible]

[illegible]

These passages sufficiently illustrate the wretched condition of the people. [illegible] market for their grain except in the manufactured condition of [illegible] condition was [illegible]

As soon as Lord George Hill had purchased the Gweedore property, he [illegible] speaking the Irish tongue [illegible] acquainted with all his tenants.

[illegible] sures were immediately adopted to check the pernicious [illegible]

A general shop was then [illegible]—"The new shop was managed by the [illegible], under the superintendence of the agent, for [illegible] years, until the sales became so very extensive, that it was [illegible] advisable to entrust the concern to a more [illegible] person. To give some conception of the [illegible] of business, it may be mentioned that the first quarter's sales to the 19th of December, 1840, amounted to [illegible] 12*s*. 10*d*. The sales for the quarter ending [illegible] Dec. 1842, amounted to 260*l*. 6*s*. 1*d*., whilst the corresponding quarter for 1841 was 576."

The business at the grain store also rapidly increased—from 479*l*. 9*s*. 6½*d*., as the amount of purchases in 1839 to 1100*l*. in 1844.

"The next important step taken was to endeavour to obviate the old Rundale system by placing each tenant on his own farm, preparatory to which every tenant on the estate was served with 'notice to quit.' A surveyor was employed and maps were drawn: after six months had elapsed, a commencement was made upon one of the townlands. The tenants were all assembled, and although they advanced numerous objections, peaceably consented to allow the new allotments to be made. It having been at the time most fully explained and guaranteed that each tenant should have a just proportion of the townland, according to his rent; and that all bargains made previously should be strictly investigated and arranged, so that none should, as far as it was possible, suffer by the change. For this purpose they were allowed to choose and appoint a committee of themselves to accompany the agent and surveyor, and assist in laying out the new farm. After the townland was all divided by these persons, the tenants were allowed as many days as was thought necessary, in order that they might look over the new farms, before they cast lots for them, or were placed on them: and whenever a reasonable objection was made, the divisions were reconsidered and altered accordingly. It took about three years to accomplish the divisions, as upwards of 20,000 acres had to be thus arranged and distributed."

Thus was this capital point satisfactorily effected. The houses of the tenants then had to be removed to their respective localities, but this though a troublesome" was not an expensive affair; as the custom, on such occasions, is for the person who has the work to be done to hire a fiddler, upon which engagement all the neighbours joyously assemble, and carry, in an incredibly short time, the stones and timber upon their backs to the new site; men, women, and children alternately dancing and working while daylight lasts, at the termination of which they adjourn to some dwelling where they finish the night, often prolonging the dance to dawn of day, and with little other entertainment but that which a fiddler or two affords."

This step, however, was not forced upon the people until after long and vexatious opposition.

"The pleasure people feel in assembling and chatting together, made them consider the removal of their houses from the clusters or hamlets in which they were [illegible] to the separate farms, a great grievance, [illegible] suaded that these lonely dwellings would [illegible] them, as the following story will show:—[illegible] observed to a tenant that one of these [illegible] doing much better since he had removed [illegible] he could now attend more closely to his farm [illegible] and gossiping with his neighbours, [illegible] much mistaken, and that the man could not stand it very long, on account of the expense, as he was obliged to keep a servant-maid just to talk to his wife."

Lord George Hill next commenced the distribution of premiums for the encouragement of industry. A list was published—but it was not till after several years that they were generally competed for, as for long the people could not believe that a "gentleman would be so great a fool as to give his money merely to benefit others; no doubt they considered themselves very knowing in not being taken in."

In the 6th year (1844), "the number of competitors was 23[illegible], and the amount of premiums, 6[illegible]. Much assistance has been received by his lordship from the liberal grants made to him for the last three years [illegible]

he London Irish Peasantry Improvement Society, enabling him to continue a system of premiums which appear to have had so beneficial an effect."

We may conclude these descriptive quotations by one from the report of this society, regarding the locality.

"Until lately the people were crowded together in miserable villages, where want of cleanliness and the impure exhalations of dungpits, close to their dwellinghouses, generated disease and misery. Now we behold in all directions neat and comfortable cottages, attracting the eye by their well thatched roofs and whitewashed walls, giving an aspect of life, health, and cheerfulness: nor were we disappointed upon a closer inspection: we found that the interior of the houses fully realised the expectations raised by their exterior appearance, clean, orderly, and well ventilated rooms, comfortable and suitable beds and bedsteads, with a supply of bedclothing and furniture equal at least to the wants of the inmates, and in many instances showing a taste in the arrangement for which we were quite unprepared."

It is much to be regretted that so valuable a detail of successful efforts for the civilisation of Ireland is not published in a cheap form for the extensive circulation it deserves. The work is written in a most interesting and indeed amusing style; it is full of anecdote, illustrative of the condition, habits, humanity, and peculiarities of the people. It is a most readable performance; but apart from its literary merits, which are great, it is of immense value for the hope-inspiring tendency of its pages, wherein Irish landlords may read the rare tale of success attending efforts for the improvement of their country.

Miscellaneous.

Glass in Dairies.—The attention of dairists has of late been pretty much called to the advantages of glass as a non-conductor of electricity, in the preservation of milk in glass pans. It was only a short time since that we were shown a glass bottle full of milk that had been preserved in India and China, and when drawn after 18 months' preservation, was not only found to be perfectly sweet, but to contain, in a solid and cohesive state, a small quantity of excellent butter; while the milk preserved in a tin case, during the same voyage, had gone to acid. It now appears that glass milk pans produce almost equally remarkable results; and from an analysis we have seen of the cream which was thrown up on some of Harris's Compressed Register, it appears that the difference is in favour of the glass as compared with the wooden or Wedgware pan, by at least 10 per cent. The pans manufactured at the Islington glass works, Birmingham, are of *compressed*, and those by the Messrs. Cookson, Newcastle-on-Tyne, of *blown* glass; but, according to the analysis of the agricultural chemist, Dr. Piercy, the compressed glass throws up most milk.—*Scottish Farmer.*

Agricultural Insurances.—Cattle assurance has progressed rapidly within the last few years, and bids fair in a very short time to rival in amount that long practised in France and Belgium. All descriptions of live stock are now insured, and that to so great an extent, that the insurances effected in a single office amount to millions of pounds in a year; and no wonder, when we learn from that invaluable work, M'Queen's "Statistics of the British Empire," the enormous value of the live stock in the United Kingdom. It appears that there are 2,250,000 horses, of total value of 67,000,000*l.*, of which more than 1,500,000 are used in agriculture, and that their value is 45,000,000*l.* The number of black cattle in the kingdom is about 14,000,000 to 15,000,000, of the value of 216,000,000*l.*; the number of sheep 50,000,000, whose value is estimated at 67,000,000*l.*; and the extent of capital invested in swine is still more extraordinary, when we reflect how little it is thought upon or taken into account. The number of pigs of all ages, breeding and rearing, is calculated to be upwards of 18,000,000, which, taking one-third at 2*l.* each and the remainder at 10*s.* each, gives a value of 18,870,000*l.* as the capital invested in pigs alone, making the total amount of capital invested in the above species of agricultural stock 346,270,000*l.*—*Assurance Gazette.*

Calendar of Operations.

DECEMBER.

Amateur Farm, near Monmouth [90 acres], *Dec.* 28.—We have just finished setting our "seconds" Potatoes, 6 inches deep, and then earthed up. In the early spring we shall level the beds, to admit the sun and air. Our Ash-leaf Kidneys are now in lofts, undergoing the system recommended by Mr. Cuthill. This week we commence ploughing, subsoiling (with Reid's), and preparing 6 acres for Scotch Kidneys, an excellent Potato, which will be set as early as possible. Two men have been turning dung-heaps and two heaping head-ridges and hedge-butts. Within the last two years I have taken up five useless hedges, which has not only benefited the farm, and facilitated operations, but also improved the appearance of the estate. All our existing fences are neatly trimmed and kept as narrow as possible. The old barbarous plan of pleaching prevents our attaining perfection on this point, but some of our more recently grown hedges may vie with any in Belgium for narrow dimensions, close impervious substance, and complete fencing. To get a well formed hedge of this sort, early and constant trimming is essential. It then becomes thick at the bottom as well as at the top, and the head is nicely trimmed in a pyramidal form,—the whole being about 10 inches wide and 4 feet high. We have lots of "nicely trimmed" hedgerows in this neighbourhood, almost all of them made on wrong principle,—very narrow at the top and with trifling stem wood, between which any low natural mavourde a animal can see the cattle when passing to and fro.—*J. D.*

Lesmahagow Mains Farm [—— arable acres], *Dec.* 26.—Since last report, we have finished ploughing the stubble land that we limed, and are going on with our three-horse ploughs with the Grass land for Beans; three men with six single-horse carts one day at the ends: two men with three single-horse carts at the railway station with Barley: one man a day and a half leading corn to the barn; a woman forking the corn to him: one man and four women threshing with water-power; three women carrying away the straw: one man and three women a day and a half dressing: one man and nine women one day topping Turnips: one man with a single-horse cart leaving Turnips last a day: one man one day making a fence for the Turnips: one man one day with a single-horse cart carting for stock-yard, &c.: one man half a day assisting one man and a woman feeding the cattle: a woman one day with the shepherd picking Turnips for the sheep: one man cutting Thistles.—*J. F.*

Dorset Farm, *Dec.* 27.—Since last report, we have been employed ploughing for and sowing Wheat after Turnips, which have been by the most part eaten off by the sheep: ploughing for Beans, carting dung for next Turnip crop, harvesting Wheat, and preparing it for market: pulling and storing Turnips; and carting for the gardens. But the weather has been so wet that a good deal of our time has been necessarily employed indoors. For the last few days it has been inclined to frost. The young Wheat generally looks well, although some that was sown early is rather forward, and for the most part very thick.—*W. S.*

North Lincolnshire Farm.—Since last report two single-horse carts delivering Wheat four days; they carry 10 quarters at one time, and bring back a ton of coals on each cart; two four-horse ploughs at Wheat stubble; threshing Wheat four days, which has occupied all spare hands; three men attending the cattle; two men putting in a clamp of chalk to burn for lime.—*J. C.*

Stirlingshire Carse Farm [130 arable acres], *Dec.* 25.—We have been engaged this week for the most part in ploughing lea, intended to be sown with Oats. We have also been employed with some of the spare horses in carting Turnips, in advance, to serve the cattle and horses for a week or two, in case of frost, which at present it has all the appearance of.—*W. F.*

Sussex Farm, *Dec.* 27.—The weather is beautiful for getting on with farming work. Ploughing for Peas, subsoiling for Mangold, Carrots, and Potatoes, threshing Wheat and Oats for straw for cattle, pulling Turnips and storing them for cattle and sheep, cutting and carting litter to yards, carting stones and repairing roads and draining. We are now giving our cows Drumhead Cabbages; they do well with them.—*J. S.*

Notices to Correspondents.

Aldderneys—*J G*—We have no reason to doubt that their milk will make excellent cheese; the richer, doubtless, for the quantity of cream such milk contains. The lactometer will show whether more *profit* will be made by manufacturing butter or cheese from milk. For rich milk will yield a greater *value* of the former than of the latter, though not necessarily a better *quality*.

Analysis of Roots—*J Todd*—We know of no difference in the nutritiveness of the orange and white Belgian Carrot. Beet will suffice to keep pigs in store condition, and, with Barley-meal, to keep them fattening. The following are Mr. Way's analyses of the ash of certain of the plants to which you refer. [From the *English Agricultural Society's Journal.*] Specimen grown by the Rev. A. Huxtable:—

		Swedish Turnip		Com. turnips	M. Wurzel.		
		Sair-ving's.	Dale's.	Green top.	Yellow Globe.	Long Red.	White Carrot.
Silica		1.73	2.75	0.96	2.22	1.40	1.18
Phosph. acid		10.17	8.77	7.65	4.49	1.65	7.86
Sulph. acid		15.53	11.71	12.86	5.08	3.14	6.95
Carb. acid		11.9	12.66	14.82	18.14	15.23	17.72
Lime		14.35	6.46	6.73	1.78	1.90	8.26
Magnesia		3.27	2.51	2.26	1.75	1.79	3.20
Perox. Iron		0.61	0.14	0.66	0.74	0.52	1.66
Potash		26.88	36.93	48.59	23.54	21.68	28.00
Soda		13.31	8.01	0.00	19.08	3.13	17.53
Chloride Sodium		2.19	10.	5.44	24.54	49.51	7.65
Total		99.98	99.94	99.94	99.95	99.95	99.93

The following are the per centage of ash and of water in the bulbs and leaves:—

		Swedish Turnip		Com. turnips	M. Wurzel.		
		Sair-ving's.	Dale's.	Green top.	Yellow Globe.	Long Red.	White Carrot.
Water	Tops	85.	89.	88.	90.	90.	76.00
	Bulbs	89.	88.	92.	91.	91.	87.00
Ash	Tops	1.95	1.19	1.82	1.4	1.79	4.20
	Bulbs	0.76	1.01	0.59	1.02	.64	0.82

You had better read Mr. Way's paper in the 7th vol. of the Journal, to know of what use these Tables are to you.

Beer from Beet—*South* asks if any one can tell him how to brew it. "W.," in the *Gardeners' Chronicle*, lately gave the following receipt for Parsnip Wine:—"To 3 lbs. of Parsnips, when sliced, put 1 gallon of water; boil them till quite soft, then squeeze the liquid well out of them, and add 3 lbs. of sugar to every gallon: boil the whole three quarters of an hour; when nearly cold, add a little yeast on a piece of bread. Let it stand 10 days in a tub, stirring it up from the bottom every day; then put it into a cask for a twelvemonth. Be careful not to bung it down while there remains any fermentation."

Box-feeding—*Rusticus*—A milk cow can be kept in a box, the litter accumulating under her with perfect propriety. Pigs cannot be kept so well in this way, as rooting about in the litter, they soon induce fermentation, with its accompanying heat and gaseous exhalations. The straw is most economically used *long*, not cut.

Brewers' Grains—*L*—They are good food for horses.

Carrots—*C E F* need not be afraid of them. Our horses have during winter, for the last four years, had Carrots almost *ad lib.*, certainly to the extent of ½ cwt. daily each, with manifest advantage. They receive about a peck of Oats daily besides. The Carrots are eaten raw; they would probably be better if boiled, but they would not be so much relished — at least at first.

Cow Cabbage—*Highland Proprietor*—It *cabbages*, *i. e.* forms a head; whereas the Thousand-headed Cabbage is a mere mass of leaves. We should give more of these leaves to an ox than we should of Swedes. Both the sorts will stand a moderate frost.

Distemper in Sheep: leaving a tedious Cough—*E T W*—A seton in the neck will afford the best treatment for a chronic cough. In young animals it sometimes arises from the presence of worms in the bronchial passage. In such cases a few dozes of lime water should be given—a large table-spoonful being a dose. *W. C. S.*

Feeding—*Elizabeth*—All that we contend for is that there is not *so much* need for cutting hay into chaff, and in general of reducing the food of an animal that chews the cud as of one that does not; and this is especially the case when the animal, being small, takes but little into its mouth at a time. Thus we should consider kibbled Beans suitable for sheep, while we should give them as *meal* to pigs. No doubt, however, it is better thoroughly to reduce, and even to cook the food of all animals.

Folding of Pigs on Grass Land—*Idem* says, after cutting my Grass for hay last summer, which was very poor, I hurdled my pigs on the ground, shifting them once a day with moveable hurdles, and they ate with avidity and the refuse of the crop. The Grass improved wonderfully, and I obtained a rich bed of manure, spreading it upon a cold, tilthy piece of land about to be sown.

Ferns—*H J B*—The ferns will not be injured by the Ferns in the hay, except in so far as the hay is rendered of less nutritious.

Lambs—*G W Kelsey*—You will probably need about a stone of Linseed daily for 100 lambs, *i. e.* to make so much soup (with plenty of salt), as shall make a sufficient quantity of Oat and Pea straw sufficiently savoury. They will require water, unless you can find Cabbage-leaves, Turnip-tops, &c. enough for them.

Mangold Wurzel—*Green Crop*—We prefer the *Long* Red to the Globe. We should be inclined to attribute the stunted growth of 1847 to the weather. Saw late in April on a loamy, rather adhesive soil, which has been well worked and manured. Single the plants out to 14 or 16 inches apart in the rows. Horse-hoe frequently, and if you have a moist season, you *must* succeed.

Manure for Turnips—*Inquirer*—We should prefer 2 cwt. of Peruvian guano and 1 cwt. superphosphate of lime to 3 cwt. of Peruvian guano by itself. But we submit your question to our readers.

Moody's Turnip-crusher—Mr. Moody's address is "Maiden Bradley, Wilts."

Pigs—*J G*—It is not economical to feed pigs on what you call "concentrated" food by itself—Barley-meal alone. But certainly they will pay for a larger daily allowance of costly food, in proportion to their size than any other animal. They will increase more rapidly in weight: owing, no doubt, to greater power of digestion than the ox or sheep. We give the Barley as meal, mixed up with Swedish Turnips, cut and steamed, and water to make the whole sufficiently liquid. We cannot say whether Pea or Bean-meal has an injurious effect on the flavour of the bacon: but we know they are successful in promoting the rapidity of its growth.—*R B*—The expense of feeding pigs varies according to the produce in different localities; but, in general, the most profitable way is to feed weaned pigs awhile with fine pollard mixed with milk, or greasy slops from the kitchen, and then with Barley-meal. For large bacon, the pigs are best to have their growth in a farm-yard, where they cost but little, living on refuse corn, amongst the straw and Swedish Turnips, (which lean pigs are fond of), and fattened on any sort of grain meal. We have fattened pigs on boiled Potatoes and all sorts of vegetables, mixed with pollard or meal, but found the heaviest and best bacon from Barley-meal alone.—*W*.

Rent of Grass-land—*H S M*—We never heard of any system of rents based on hay averages. It would rarely be fair, as hay is rarely the *saleable* produce of a farm.—On feeding we know of no special work. You can pick up all the information you require in agricultural periodicals. See an article on stall feeding in a late vol. of the English Agricultural Society's Journal.

Roosters—*Rus*—"Roosters" we take to be cocks.

Salt—*An Old Sub*—It is not likely to injure the Clover; but we doubt if so small a quantity will kill the maggots. We should look more hopefully to a sharp frost. Crosskill's clod-crusher is the best implement of its kind. We sow 10 pecks of Barley per acre, in rows 9 inches apart.

Small Farm—*A B*—Soon.

Tartaric Acid—*P T O*—Has tartaric acid been used to hasten the fermentation of milk and cream for churning? *P T O* has tried it, and finds it quite successful, but cannot yet tell whether the production of butter is as great as without it? Can it be unwholesome? The butter-milk is excellent. If this process has been known to be tried by any correspondent, information will oblige as to the best time of putting it into the milk-crocks. May it with safety remain for two or three days in black-glazed earthen crocks?

Trenching Land—*R S P*—An arable field of strong brick earth, without stones, may be dug 18 inches deep at two spits for 6*d.* per perch of 5½ yards square, and able-bodied men will earn 3*d.* an hour at it. Let two work in concert—the one a man who shall earn 3*d.*, while the other, a lad, shall earn 2½*d.* Let the latter do the lower spit while the former does the upper, and let them clear successive widths of two feet at a time; the man digging the lower spit of the first trench a little in advance of the lad, who is throwing on the top of his finished work the top spit of No. 2.

Truss of Hay—*Rusticus*—The arithmetic books will tell you that 50 lbs. of old hay, or 60 lbs. of new, make 1 truss; 36 trusses, 1 load. Of straw, 36 lbs. make the truss; and 36 trusses the load.—A bushel of Potatoes is the third part of a sack; a sack should weigh 240 lbs. But whether London dealers act on these rules we do not know.

Turkeys—*G S R*—"D" is willing to oblige, but cannot at this moment point out where turkeys of the required copper colour are to be obtained. Though far from rare, they might take some time and trouble to hunt up. The *Gazette* very properly declines to recommend dealers. "D." has purchased of Messrs. Baker, 3, Half-moon-passage, Gracechurch-street, and should send to them again were he in want of anything. But the worst of giving a commission is that one is apt to get not exactly what one wants. Were "D." in need of any particular variety of Turkey for himself or for a friend, he would personally go round to those small farmers in his neighbourhood whom he knows to be in the habit of buying largely, from itinerant dealers, all sorts of miscellaneous birds to fat for market; and the chances are that one here and one there might be found to please the eye. But such persons and their wives would expect that the permission of such selection be considered as a favour, and the birds being now tat, a liberal price would be only just. The inquiry, it is feared, comes a fortnight too late; unless the search is made immediately most desirable specimens may be sent to market.

Tussac Grass—*T W H* had better apply to Messrs. Lawson, of Edinburgh.

⁂ Communications reaching town after Wednesday cannot be answered the same week.

Markets.

HOPS, Friday, December 31.

Messrs. Pattenden and Smith, Hop Factors, report that the market remains the same.

Mid. & East Kents, p.cwt.	80s to 112s	Yearling Kents, p. cwt.	50s to 60s
Weald of Kents	56 — 80	Yearling Sussex	45 — 63
Sussex	50 — 70	Old Hops	30 — 40
Farnhams	84 — 112		

POTATOES, Southwark, Waterside, Dec. 27.

In consequence of the contrary winds this market has been supplied sparingly, but the trade generally having sufficient by them of former shipments, there was but little demand, except for the best samples, which went off readily. The following are the present prices:—York Regents, 130s to 140s; secondary, 120s to 125s; Kent and Essex Regents, 100s to 140s; Shaws, 80s to 120; Blues, 120 to 130s; Kidneys, 110s to 140s; Wisbeach Regents, 100s to 120s; Shaws, 100s; Scotch Whites and Mixtures, 90s to 110s; Dutch, 70s to 80s; Hamburgh, 80s to 100s. Rich. Harris.

HAY.—Per Load of 36 Trusses.

Smithfield, December 30.

Prime Mead. Hay	65s to 72s	New Hay	—s to —s	New Clr.	— —
Inferior ditto	50 60	Clover	80 90	Straw	25s to 30s
Rowen	42 58				

John Cooper, Salesman.

Cumberland Market, December 30.

Fine Old Hay	70s to 74s	Old Clover	85s to 95s	Straw	28s to 32s
Inferior Hay	50 65	Inferior	70 —		
New Hay	— —	New Clover	— —		

Joshua Baker, Hay Salesman.

Whitechapel, December 30.

Prime Mead. Hay	65s to 72s	Old Clover	85s to 95s	Straw	24s to 28s
Inferior	50 60	Inferior ditto	70 80		
New Hay	63 68	New Clover	84 90		

COVENT GARDEN, JANUARY 1.

The market continues to be supplied with vegetables. Winter Fruit is also plentiful, but fresh fruit is scarce. Potatoes are abundant and cheap, and Apples are sufficient for the demand. Pears and Apples are mentioned as scarce this season. Of the former, [illegible] but only a few fine specimens; and Winter Apples are [illegible] to be had per bushel. Grapes continue to improve in [illegible] are still sent in the [illegible] fetch 6s. per lb. [illegible] are sufficient for the demand. [illegible] plentiful, and [illegible] prices. [illegible] prices. Lettuce and [illegible] rooms are [illegible] demand. Cauliflowers [illegible] demand.

FRUITS.

Pine Apple, per lb. [illegible]	Oranges, per dozen, 1s. to 2s.
Grapes, hothouse, per lb. [illegible]	per hund. to 12s.
— Portugal, [illegible]	Almonds, per [illegible]
Melons, [illegible]	Nuts, per bushel, [illegible]
Apples, cooking, per bushel [illegible]	Walnuts, per bush. 4s. to 6s.
— dessert, per lb., [illegible]	Filberts, per [illegible]
Pears, per bushel [illegible]	Filberts, per [illegible]
Oranges, per [illegible]	Cob, per [illegible]
— per hund. to 1	Brazil, per [illegible]
— bitter, per bushel [illegible]	Chestnuts, 1s. to 2s. per peck.

VEGETABLES.

Asparagus, per bdl. 3s. to 5s.	Potatoes, per lb., Cl. 2d.
Savoys, per doz. to 1s.	— per cwt. to 1s.
Cabbages, per doz. 1s. to 2s.	Turnips, per bush., 1s. to 1s. 6d.
— Red, per doz. [illegible]	— new, per dozen bunches 2s. to 3s.
Greens, per doz. bunches, 1s. to 2s. 6d.	Artichokes, Jerusalem, p. bush. 6d.
Cauliflowers, [illegible]	Celery, 1s. to 1s. 6d.
Broccoli, [illegible]	Lettuce, Cabs, per score, 1s. to 2s.
Brussels sprouts, per bush. 1s. to 6d.	— Cos, per score to 1s.
Sprouts, per half sieve, 1s. to 2s.	Endive, per score, 1s. to 2s.
Potatoes, per ton, 1 [illegible]	Radishes, per dozen bunches, 1s. to 2s.
— [illegible]	Shallots, per pottle, 1s. to 1s. 6d.
— [illegible]	Parsley, per bunch, 1d. to 2d.
— Kidney, per [illegible]	Sage, per bunch, 1d. to 2d.
Turnips, per dozen, 1s. to 2s. 6d.	Thyme, per bunch, 1d. to 2d.
Red Beet, per dozen, 9d. to 1s.	Onions, per bush. 2s. to 3s.
Horse Radish, per bundle, 1s. to 1s.	Savoys, per score, 2s. to 3s.
Cucumbers, each, 1s. to 2s.	Leeks, per bunch, 1d.
Leeks, per dozen, 6d. to 1s.	Vegetable Marrows, per dozen, 1s. to 2s.
Celery, per [illegible] to 1s.	Herbs, per bunch, 1d. to 2d.
Carrots, per dozen bunches, 1s. to 2s.	Mint, green, per bunch, 1d. to 2d.
Onions, per bush., 2s. to 3s.	Marjoram, per bunch, 1d. to 2d.
— Portugal, per doz., 1s. to 1s.	
— pickling, per [illegible] to 1s.	

SMITHFIELD, MONDAY, December 27.

We have again a good deal of foreign stock, both as regards supply and demand. There were heavier numbers than were expected, but the general quality is by no means good. The Irish trade remains entirely free trade, at about the same prices as last week, but on no account can it remain unsold. The supply of Scots is small, and quite equal to the demand; however, the [illegible] sold [illegible] with difficulty [illegible] Good [illegible] are rather dearer. Trade is steady for Pigs. From [illegible] were 1,400 beasts, 5,100 Sheep, and 3 Calves; and from Scotland 1,000 Beasts.

Per stone of 8 lbs.—s. d.	s. d.	Per stone of 8 lbs.—s. d.	s. d.
Best Scots, Herefords, &c. 4 0 to 5 0		Best Long Woods ..... 4 8 to 5 0	
Best Short Horns ..... 4 8 — 4 10		Ditto Shorts ..... —	
Second quality beasts.. 3 — — 4		Ewes and second quality 3 8 — 4 4	
Calves ..... 3 8 — 5 6		Ditto Shorts	
Best Downs & Half-breds 5 0 — 5 4		Lambs ..... 0 0 — 0 0	
Ditto Shorn ..... —		Pigs ..... 4 4 — 5 4	

Beasts—2347. Sheep and Lambs—13,810. Calves—50. Pigs—290.

FRIDAY, December 31.

We have rather a large supply of beasts to-day, and the damp weather is against the trade, so that only [illegible] sales are dull, and [illegible] per lb. lower in price is submitted to, more [illegible] effected [illegible] Several [illegible] are [illegible] unsold. About 250 Beasts from Holland, and 120 Milch Cows, on the [illegible] London, are included in the total number. The [illegible] of Sheep [illegible] not very large, quite adequate however to the [illegible] Calves [illegible] are with difficulty [illegible] over trade is dull, but prices cannot be quoted lower. Pigs are [illegible] cheaper than on Monday. Pigs are not plentiful, and prices are rather higher.

Per stone of 8 lbs.—s. d.	s. d.	Per stone of 8 lbs.—s. d.	s. d.
Best Scots, Herefords, &c. 4 — to 5 0		Best Downs & Half-breds 5 0 to 5 4	
Best Short Horns ..... 4 6 — 4 8		Best Long Woods ..... 4 8 — 5 0	
Second quality Beasts .. 3 4 — 3 6		Ditto Shorn ..... 0 0 — 0 0	
Calves ..... 3 10 — 5 8		Ewes and second quality 3 8 — 4 4	
Pigs ..... 4 8 — 5 6		Ditto Shorn ..... 0 0 — 0 0	
Best Downs & Half-breds 5 0 — 5 4		Lambs ..... 0 0 — 0 0	

Beasts—1109. Sheep and Lambs—3310. Calves—176. Pigs—220.

41, West Smithfield.

MARK LANE, MONDAY, December 27.

The supply of Wheat by land carriage samples from the near counties this morning was moderate, and sold at the prices of this day se'nnight. Foreign fully maintained its late value, but having a small attendance of buyers the business transacted was on a limited retail en tracter.—Barley mus. be written 1s. to 2s. per quarter cheaper.—Beans and Peas are unaltered in value. The Oat trade is dull, but prices cannot be quoted lower.—Flour is in fair request at our quotations.—Rye meal is slow in demand, and brings fully 5s. per ton advance upon the prices lately obtained.

BRITISH, PER IMPERIAL QUARTER.

	s.	s.		s.	s.
Wheat, Essex, Kent, and Suffolk..... White	52	61	Red	46	54
Norfolk, Lincolnshire, and Yorkshire.....	48	52	White ..	48	52
Barley, Malting and distilling.. 28s. to 29s	Chevalier	0	53	Grind ..	25	27
Oats, Lincolnshire, and Yorkshire.....	Polands	23	29	Feed....	21	23
Northumberland and Scotch.....	Feed	22	29	Potato..	25	30
Irish	Feed	20	27	Potato..	24	30
Malt, pale, ship.....		—	—			
Hertford and Essex.....		—	—			
Rye.....		28	32			
Beans, Mazagan, old and new....28s. to 40s		Tick..	30	42	Harrow.	32	44
Pigeon, Heligoland.....	34	50	Winds..	—	—	Longpod	—	—
Peas, White, ...	30	42	Maple	38	40	Grey ...	35	37

ARRIVALS IN THE RIVER LAST WEEK.

	Wheat.	Barley.	Malt.	Oats.	Rye.	Beans.	Peas
Flour, 4317 sks	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs
— — bls							
English.....	6717	12961	9704	317	—	707	184
Irish	—	—	70	120	—	—	—
Foreign.....	3905	—	—	28838	—	582	2108

FRIDAY, Dec. 31.

The arrivals during the week have been fair of all corn excepting foreign Wheat, of which the supply is large (25,100 quarters). Prices of this article are firmly maintained, and there was some inquiry this morning from the country, but the extent of business continues limited.—Barley is the turn lower.—Beans and Peas support our quotations.—The Oat trade is firm, as is also Flour.

ARRIVALS THIS WEEK.

	Wheat. Qrs.	Barley. Qrs.	Oats. Qrs.	Flour.
English	3350	7770	750	3710 Sacks
Irish	—	—	—	—
Foreign	25100	1500	12690	— Brls

IMPERIAL AVERAGES.

	Wheat. s. d.	Barley. s. d.	Oats. s. d.	Rye. s. d.	Beans. s. d.	Peas. s. d.
Nov. 20 per Quarter ..	54 3	32 0	22 11	32 10	45 11	49 0
— 27	52 11	31 6	22 10	32 10	44 6	48 5
Dec. 4	52 1	30 8	22 5	28 11	44 0	49 7
— 11	51 11	30 5	22 4	31 0	43 7	47 5
— 18	52 2	30 7	21 7	34 4	41 6	48 2
— 25	53 0	31 3	21 3	31 1	40 6	43 5
Aggregate Average	52 9	31 1	22 3	31 10	43 2	47 10

Duties on Foreign Grain ..... Free till March 1.

Fluctuations in the last Six Weeks' Corn Averages.

Price.	Nov. 20.	Nov. 27.	Dec. 4.	Dec. 11.	Dec. 18.	Dec. 25.
54s 3d	••	••	••	••	••	••
53 0	••	••	••	••	••	
52 11	••	••	••	••		
52 2	••	••	••	••	••	••
52 1	••	••		••	••	••
51 11	••	••	••		••	••

SEEDS, DECEMBER 31.

Canary..... per qr.	68s. to 73s.	Linseed-cakes, Foreign, p. ton	10l. to 11l.
Caraway..... per cwt.	50 — 57	Mustard, White, per bush	5s. 6d. to 6s. 9d.
Clover, Red, English	— —	Superfine, p. lb.	— —
— Foreign	— —	Brown, per bush.	— —
White, English	— —	Rapeseed, Eng., per last	28l. 10s.
— Foreign	— —	Rape-cakes ..... p. ton	5l. 10s. to 6l.
Coriander	14 20	Scanian	— —
Hempseed ..... per qr.	36 38	Tares, Essex, winter, p. bush.	7s. 0 — 8s. 0
Linseed ..... per qr.	55 56	Foreign, per bush..	4s. 6 — 5s. 0
— Baltic	51 52	Trefoil	17 0 21 0
— Cakes, Eng., p. ton	137 15s. to 141	Turnip (Old available for quotation)	

HANDSOME GIG FOR SALE.

HORTICULTURAL [illegible]

J. WEEKS AND CO., Engineers [illegible]

[illegible] and Pipes [illegible] whole apparatus, [illegible] their premises [illegible] dance [illegible]

J. WEEKS AND CO. [illegible] Horticultural [illegible] mental Nursery. [illegible] pared, and [illegible] complete [illegible] whole [illegible]

Three [illegible] and [illegible] Green-house Plant, [illegible]

ST. LIST [illegible] CATALOGUE [illegible]

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Our Weekly Gossip.—New Order of Merit at Brussels—Literary Curiosity proposed for publication by Camden Society—Money-order Office and Mr. Rowland Hill—Verification and Progress of New House of Commons—Bellerian Lecture at Royal Society—Shakspeare Memorial Night at Leeds Theatre—Literature in Italy—Archbishop Count L. de Pyrker—Colonisation of Nicobar Islands—Canal through Isthmus of Suez—American Exploring Expedition.

Societies.—Geological: Mr. Lyell on Fossil Remains of Mollusca, &c.—Institute of British Architects: Election of Officers; Mr. T'Anson, jun., on Building Sewers—Society of Arts.

Fine Arts.—New Publications—New Record Office—The Bargello of Florence.

Fine Art Gossip.—Meeting of Institute of Fine Arts—Hampstead Conversazione Society—Mr. Cockerell's Lectures at Royal Academy—Obituary of Mr. Flaxman—Monument to Joan of Arc at Paris.

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SPRUCE FIRS, HOLLIES, AND LAURELS for Sale, at JOHN CATTELL'S Nursery, Westerham, Kent.

7000 SPRUCE FIRS, 6 to 10 feet. 5000 HOLLIES, 3 to 4 feet.
4000 LAURELS, Common, 3 to 5 feet.
1000 Ditto Portugal, round and handsome, 3 to 4 feet.

All the above have been several times transplanted. Stout and good.

MESSRS. J. AND H. BROWN'S Descriptive Priced CATALOGUE for 1848 of Exotic and Herbaceous Plants, Roses, Camellias, Azaleas, New Geraniums, &c., can be had by post. They are also supplying the following desirable Hardy Shrubs, &c.

12	American plants in variety, with flower buds fit for forcing	*s* 10	*d* 0
6	Andromedas, of sorts including floribunda	8	0
25	Azaleas, New Hardy Belgian varieties on their own roots, with flower-buds, one of a sort by name	20	0
25	Azaleas, American varieties, ditto, ditto	15	0
12	Rhododendrons, including scarlet, white, and rose, hardy varieties	12	0
12	Hardy Berberis, one of a sort, by name	9	0
	Magnolia grandiflora and Exmouth, in pots, per doz.	18	0
	Thea, Bohea and Viridis, quite hardy, per dozen	15	0
100	Dwarf Roses, two of a sort, on their own roots	25	0
50	Ditto ditto one of a sort, ditto	15	0
	Standard and half-standard Roses, per doz., 12*s.* and	15	0
12	Climbing or Pillar Roses, one of a sort	8	0
	Rosa Anemoniflora, each	5	0
	Cloth of Gold Rose, each	2	6
	Camellias and Azaleas, blooming plants, per dozen	30	0
	Choice Ericas, one of a sort, by name, per dozen	12	0
	Complete collections of Kitchen Garden Seeds, of the newest and best kinds, for 10*s.*, 20*s.*, 30*s.*, or	40	0

Albion Nursery, Stoke Newington, London, Jan. 8.

SEEDLING PETUNIAS.

BASS AND BROWN have much pleasure in offering the following very superior and first-rate PETUNIAS, which they have selected from upwards of 2000 Seedlings, and which they can recommend with the strongest confidence. Blooms were submitted for Dr. LINDLEY'S opinion and were favourably noticed; see *Gardeners' Chronicle* for August 21 and Sept. 4, in reply to S. B.

EMPEROR, a rich dark flower, bold and very attractive, of excellent form, colour dark purple, shaded and frequently blotched with rich bluish lilac, 5*s.* each.

EMPRESS, a beautiful clear flower, of a white ground, shaded and prettily edged with lively pink, fine form, 5*s.* each.

DIOGENES, a dark flower, of stout substance, purplish crimson, with very dark veins, 5*s.* each.

CHANCELLOR, blush lilac, with purple throat, having a distinct purple stripe up the centre of each lobe of the corolla, very showy and fine, 5*s.* each.

PAINTED LADY, a very beautiful and attractive flower, of excellent form and constant, bright rosy crimson, finely bespangled all over with white spots, 5*s.* each.

ROSY CIRCLE, a pretty rosy pink, of excellent form and size, 3*s.* 6*d.* each.

COMUS, a large light flower, with very deep purple throat and veins, shaded with pink, 3*s.* 6*d.* each.

BLANCHE, a fine, large, and well-formed white, with a rich purple throat, 3*s.* 6*d.* each.

The Set Complete, which are all very distinct, 25*s.*

The usual allowance to the Trade by taking the set, or three plants of a sort. Plants will be sent out early in the season.

Seed and Horticultural Establishment, Sudbury, Suffolk.

UNDER THE PATRONAGE OF

JOSLING'S ST. ALBAN'S GRAPE.—The ... has been patronised by ... cultural Society of Scotland, Mr. ... of the Fruit Department in the ... Editor of the Gardeners' ... fleshy, rich, and superb, with a ... service of extensive ... 6-inch pots, true to ... 21*s.* Usual allowance to the ...

List of ... Names ...

1.	HER MAJESTY THE QUEEN	25
2.	His Grace the Duke of Sutherland, 2 plants	5
3.	Marquis of ..., N.B.	...
4.	Lord Rosebery, Dalmeny Park, N.B.	5
5.	Sir W. Prisco, Bart., Crofton Hall, Carnoie, 2 plants	5
6	R. Wood, Spalding	5
7.	Lord Bishop of Rochester	10
8	E. J. Hutchins, Esq., Glamorgan, 7 plants	1
9.	R. Miller, Newcastle-under-Lyne	2
10	G. Walker, Esq., Eastwood Hall	5
11	J. P. Willmott, Esq., Sherborne	5
12	Earl of Derby, Knowsley Hall, 2 plants	6
13	Whitley and Osborne, Fulham, 6 plants	7
14	Hugh Low and Co., Clapton, 15 plants	7
15	Gen. Carpas, Bowerhouse	7
16	Cutter and Shankie, Slough, 11 plants	7
17	J. B. Glegg, Esq., Chelford	7
18	— Leaf, Esq., Old Change, London	7
19	Gray, Adams, and Hogg, Brompton, 4 plants	7
20	— Schneider, Esq., Southgate	7
21	Rev. C. Parsisian, Haroingham	7
22	Ed. Lloyd, Esq., Cefn, 2 plants	7
23	A. Mackie, Norwich, 3 plants	7
24	W. Ivery, Peckham, 3 plants	7
25	Earl of Darnley, Cobham Hall	7
26	F. C. Ball, Taunton, 3 plants	8
27	H. I. Hare, Esq., Bramhope Hall	8
28	C. B. Lauton, Esq., Lauton Hall, 2 plants	8
29	C. Van Geert, Belgium	8
30	C. Kinnear, Esq., Cupar	8
31	T. Hughes, Esq., Hylton Cottage	8
32	H. L. Brown, Esq., Barton Lodge	8
33	H. Bevan, Esq., Cambridge House, 2 plants	8
34	Rivers, Sawbridgeworth, 3 plants	8
35	G. Thompson, Esq., Tadcaster	8
36	J. Gaskell, Esq., near Margate, 2 plants	8
37	Sir T. Cotton Sheppard, Bt., Uttoxeter	8
38	J. and C. Lee, Hammersmith, 16 plants	9
39	C. Castleman, St. Ive's House, Hants, 2 plants	9
40	J. R. Nearn, Esq., Rusbett	9
41	W. Davis, Esq., Woodgate	9
42	— Cartwright, Esq., Oswestry	9
43	Henderson and Co., London, 8 plants	9
44	F. & J. Dickson, Chester, 3 plants	9
45	A. Smith, Esq., Watton Wood Hall	9
46	W. Gregory, Cirencester, 3 plants	9
47	J. Bell, Norwich, 3 plants	9
48	G. Chivias, Chester, 2 plants	9
49	Austin and Co., Glasgow, 3 plants	9
50	G. Wheeler, Warminster, 4 plants	9
51	Paul, Cheshunt, 3 plants	9
52	White and Melville, 3 plants	9
53	P. Fitzpatrick, Esq., Begmer	9
54	J. Disney, Esq., Ingatestone, 2 plants	9

ROBERT JOSLING, Seedsman, St. Alban's, Jan. 8, 1847.

SEEDS.—CORNER OF HALF-MOON-STREET, THOMAS GIBBS AND CO.

(By Official Appointment the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND,"

Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

Priced Lists of Agricultural Seeds are always ready, and may be had on application.

NEW AND GENUINE SEEDS
OF FINE GROWING QUALITY.

WILLIAM E. RENDLE AND CO., Plymouth, are now in a position to offer the following varieties of SEED, which have been harvested with the greatest care from true and selected plants.

	s.	d.
WHITE BELGIAN CARROT .. .. per lb.	2	0
LONG RED ALTRINGHAM DO. .. .. ,,	1	9
LARGE GUERNSEY CATTLE PARSNIP ,,	2	0
WHITE SILESIAN BEET .. .. .. ,,	2	0
KOHL RABI .. .. ,,	3	6
LARGE DRUMHEAD CABBAGE .. .. ,,	2	6
MANGOLD WURZEL-LONG RED .. ,,	1	9
,, ,, RED & YELLOW GLOBE ,,	1	9

All other Seeds equally moderate.

Early purchases are recommended, as prices may probably advance, the same as last season.

Sample packages containing ½ an ounce of each of the above kinds, to prove their quality, will be sent postage free on receipt of 36 penny postage stamps.

NEW KITCHEN GARDEN SEEDS.

We have this season an excellent assortment of all the best varieties of KITCHEN GARDEN SEEDS, all of which have been saved from selected stocks with scrupulous care and attention, and which we can supply on the following terms:—

No. 1.—Complete collection consisting of 16 quarts of Peas, and all other seeds in proportion for one year's supply £2 10 0
No. 2.—Complete collection in smaller quantities .. 1 10 0
No. 3.— do. do. 1 0 0
No. 4.— do. do. 0 12 6

A LIST OF THE SORTS AND QUANTITIES FURNISHED FOR A No. 1. COLLECTION CAN BE OBTAINED.

*** *Upwards of a thousand purchasers are annually supplied from this Establishment. Every kind of seed is proved before sent out.*

*** Orders above £5 will be delivered (package and carriage free) to London, Bristol, Exeter, Barnstaple, Falmouth, or to any station on the Great Western Railway.

A general Catalogue of Agricultural, Kitchen Garden, and Flower Seeds can be had GRATIS on application. Cash payments or reference in London is desired from unknown correspondents. WM. E. RENDLE & Co., Plymouth.

ESTABLISHED 1786.

EARLY POTATOES.

ABRAHAM HARDY AND SON, POTATO and SEED GROWERS, Maldon, Essex, in returning thanks to Her Majesty, the King of France, and other distinguished personages, for the honour of their patronage and correspondence in the care of Potato culture, beg now to offer 10 selected varieties, which from their very early tendency have all escaped the disease.

Frame, 3*s.* per peck:—No. 1, Victoria Dwarfs; 2, Alberts. *Kidney*, 2*s.* 6*d.* per peck: 3, Ash-leaved; 4, Prolifics; 5, Defiance; 6, Keepers. *Round*, 2*s.* per peck: 7, Golden Clusters; 8, Cockneys; 9, Shaws; 10, Crimson Eyes. Or 1 peck of each of the above, with a cask, delivered at Witham Station, Eastern Counties Railway, on receipt of a post-office order for 20*s.* Early Seedlings, 1847, 5*s.* per peck.

SEEDS, post free, for cash or stamps.

POTATOES.	s.	d.	FLOWERS.	s.	d.
1 oz. selected	2	6	100 pkts. Annuals ..	15	0
1 packet do.	0	7	50 ,, ,, ..	10	0
MELONS.			20 ,, choice ditto ..	10	0
6 seeds Boa Constrictor	1	0	20 ,, Biennials ..	5	0
,, Beechwood ..	1	0	Wholesale Lists, if requested.		
,, Netted Green-flesh	1	0	Vegetable Seeds, &c.		

SEEDS OF SUPERIOR QUALITY.

SUTTON'S CATALOGUE OF NEW SEEDS for the present season is now ready, and will be forwarded, post paid, on application.

MESSRS. SUTTON and SONS having for many years made it their especial care to collect the newest and most choice stock of GARDEN SEEDS, and having now on hand a very extensive assortment of HOME GROWN SEEDS, can confidently recommend them, expecially their new early Champion and early Goliah Peas, Flack's Victory, British Queen, Champion of England, Fairbeard's Surprise, Dancer's Monastery, Waite's Queen of Dwarf, Early Grotto, Ringwood, Auvergne, Thompson's Dwarf and other Peas; the new Englefield, Negro Major, Mohawk, and other Dwarf Beans for forcing; the Berkshire Superb, Brown Cos, Adey's new large Cos, Imported Paris Cos, and Wellington Green Cos Lettuces; Sutton's Berkshire Champion, Cuthill's Black Spine, and other fine Cucumbers; true Beechwood, and Cuthill's Scarlet-flesh Melon; selected Scarlet Horn, and Long Surrey Carrot; fine dark crimson Beet; Beck's Superb, and Wood's early Radish; Reading Onion, and many other very desirable articles too numerous for an Advertisement. The FLOWER SEEDS consist of upwards of 500 species and varieties which may be had in packets of 3*d.* and 6*d.* each, or in well selected collections, either hardy or tender, at 5*s.*, 7*s.* 6*d.*, 10*s.*, 15*s.*, or 20*s.* each.

The following Bulbous Roots, &c., are also of first-rate quality:—

	s.	d.
Double Anemones, fine large, many colours, per 100 ..	6	0
Do. Ranunculuses, finest mixed	5	0
Do. do. large Scarlet	4	0
Fresh imported Italian Tuberoses, per dozen ..	4	6
Gladioluses, 6 choice sorts, by name	3	6
Carnations and Picotees, splendid sorts, per pair ..	2	6
Choice Perpetual Roses, dwarfs, per dozen	15	0
True Ash-leaf Kidney Potatoes, per peck	2	6

*** The Flower Seeds will be sent free by post, and all other articles by Railroad carriage paid to London, Oxford, Gloucester, Bristol, or Southampton.

Reading Nursery, Reading, Berks, Jan. 8.

KITCHEN GARDEN SEEDS.—No. 1.—A complete collection, consisting of 20 quarts of the best kinds of PEAS, and all other seeds in proportion, and of the best sorts, sufficient for one year's cropping of a large garden (the choicest Melons and Cucumbers inclusive)...£3 3*s.*

No. 2.—Complete collection, in smaller quantities, equally choice sorts ... ...£2 2*s.*

No. 3.—Ditto Ditto Ditto ...£1 1*s.*

No. 4.—Ditto (this is sufficient for a gentleman's small garden) ... ...12*s.* 6*d.*

No extra charge made for packing.

If there should be any sorts of seeds that would not be wanted in the collection, increased quantities of those most desired would be sent. References will be given if required to some of the principal families in England, Ireland, and Scotland, who purchased collections last season. All orders to be accompanied with a remittance or reference from unknown correspondents.

A General Catalogue of Horticultural and Agricultural Seeds may be had on application.

Seeds carefully packed for exportation.

WM. JAS. EPPS, F.H.S., High-street, and Bower Nursery, Maidstone.

TO CUCUMBER GROWERS.

EDWARD TILEY, NURSERYMAN and SEEDSMAN, begs to offer his superb and unequalled Cucumber, "VICTORY OF PATH." The advantages of this over others are—it is a very handsome fruit, the earliest and most productive bearer, and the quickest grower known; the average length of this Cucumber being from 24 to 30 inches long. It has been awarded more than 30 first prizes at the different Cucumber Shows within the last three years. It is worthy of remark this Cucumber has been successfully grown by Amateurs in the open air without frames against a wall, or trained to trellis, surpassing any of the hardy kinds this season. It will be sent out in packets, 7 seeds, 2*s.* 6*d.*, or 16 seeds, 5*s.*

E. T. has seeds of Hamilton Black Spine Cucumber, which he can highly recommend; this has also been very successful at a number of different Exhibitions, and taken many first prizes; length from 24 to 28 inches, and a very handsome fruit. Seven seeds, 2*s.*, or a packet of each of the above seeds, 4*s.*

The above Cucumbers will be found to be of excellent quality for table, the flesh being firm and of fine flavour.

Parties intending to show at the forthcoming Exhibitions should not delay their orders. It is unnecessary to enter into further properties of the above Cucumbers, having given every satisfaction to purchasers during the last three years.

Per packet—s. d.		Per packet—s. d.	
True Beechwood Melon..	1 0	Windsor Prize	1 0
Sweet Ispahan	1 0	True Walcheren Cauliflower Broccoli	1 0
Terry's Prize	1 0		
Emperor Green-flesh ..	1 0		

Sold at EDWARD TILEY'S General Seed Shop, 16, Pulteney Bridge, Bath. The above will be sent post free, on a remittance of a Post-office order, or the amount in postage stamps.

MYATT'S LINNÆUS RHUBARB.—The numerous applications from those who have seen this superior variety, and from the London Trade in particular, have induced Messrs. MYATT to offer it to the public. The universally acknowledged excellence of MYATT'S RHUBARB is a sufficient recommendation for the LINNÆUS; this being the principal sort grown by them for the London markets for several years, being remarkably early and unusually productive, and is preferred by purchasers to every other variety for its delicious flavour. The stalks being large and free from filaments, it is admirably adapted for preserving, and all other culinary purposes. For early forcing it is the best variety known. The superior flavour, large size, unusual productiveness, and extremely handsome bright red appearance, render it alike desirable and profitable. One-year planted roots will be ready the end of October, price 3*s.* 6*d.*; also Mitchell's "Royal Albert" Rhubarb, 3*s.* 6*d.*, and Myatt's "Victoria," 1*s.*

Manor Farm, Deptford, Jan. 8.

MESSRS. STANDISH AND NOBLE, NURSERYMEN, &c., Bagshot, Surrey, beg to offer the following PLANTS AND SEEDS:—

NEW PLANTS FROM CHINA.

ROSA ANEMONIFLORA, exactly the shape of a Double Anemone or Warratah Camellia, flowering in clusters, of a delicate blush, leaflets long and narrow, of a beautiful glaucous green, good grower, and quite distinct. Strong plants, 5*s.* each.

JASMINUM NUDIFLORUM, one of the greatest acquisitions to the greenhouse we have had for years; commencing to flower in December, and continues throughout the winter and early spring; flowers large and deep yellow; supposed to be hardy. Strong plants, 3*s.* 6*d.* each.

FORSYTHIA VIRIDISSIMA, a fine hardy shrub, with long pendant branches loaded with flowers, forming beautiful golden wreaths. Strong plants, 2*s.* 6*d.* each.

PLATYCODON GRANDIFLORA ALBA, very handsome Campanula, with large star-shaped flowers, of the purest white, 5*s.* each.

CAMPANULA NOBILIS, a fine hardy herbaceous plant, quite distinct, 2*s.* 6*d.* each.

AZALEA INDICA, fine bushy plants, 2 to 3 feet, well set for bloom, 2*s.* 6*d.* to 3*s.* 6*d.* each.

CALCEOLARIA ACME is also ready to send out, at 10*s.* 6*d.* per plant. It received the Seedling Prize at the Regent's-park, June, 1846, is of a fine dwarf habit, flowers white, with light plum-coloured spots, quite perfect in shape. In addition Messrs. S. and N. have a good collection, in fine health, from 18*s.* to 42*s.* per dozen; also a few Seedlings left, which are strong plants, 9*s.* per dozen.

SEEDS.

The following Melon Seeds are two years old, and true to name:—

Hampton Court Green-flesh ...	2*s.* 6*d.*	per packet.
Beechwood Ditto	1*s.* 0*d.*	,,
Ispahan, true	2*s.* 6*d.*	,,
Imogene	2*s.* 6*d.*	,,
Cuthill's Scarlet-flesh	1*s.* 0*d.*	,,

HECKFIELD COS LETTUCE.—This Lettuce is more crisp and sweet than the Bath Cos, turns in without tying, is beautifully white in the heart, good for winter or summer crop, has been grown by Mr. Elphinstone, gardener to the Right Hon. C. S. Lefevre several years, who has proved it to be superior to any of the old or new varieties, and altogether the finest Lettuce known. Packets, 1*s.*, 2*s.*, and 3*s.* each.

PHLOX DRUMMONDII, a very superior variety, 1*s.* p. pkt.

In addition, Messrs. S. and N. have a good collection of autumnal Roses, especially Dwarfs, in pots; also American plants, particularly Rhododendrons, with Shrubs, Trees, Garden and Agricultural Seeds, Catalogues of which can be had on application.

GARDENERS' REGISTER OFFICE.

HORTICULTURAL ESTABLISHMENT.

J. WEEKS AND CO., King's-road, Chelsea, Architects and Builders of Hothouses, Greenhouses, Conservatories, &c., beg to inform the Nobility and Gentry that they have erected, on their premises, for the purpose of inspection, a variety of Horticultural Buildings, showing all the various modern improvements of the day.

J. WEEKS AND CO.'S PATENT HOT-WATER APPARATUS is unrivalled for simplicity and efficiency. The whole apparatus, in various forms, may be seen in action on their premises. Boilers of all sizes, which only require attendance once in 12 hours.

J. WEEKS AND CO. have, in addition to their Horticultural Manufactory, established an extensive Ornamental Nursery. The buildings, which are now nearly completed, are allowed to be the finest in the country; as also the complete arrangements of the Heating Apparatuses. The whole combining economy with utility and elegance.

There is a rare and most esteemed Collection of Stove and Greenhouse Plants, Catalogues of which will be forwarded.

THEIR SEED CATALOGUE IS NOW READY.

The prices at this Establishment will be found considerably lower than those at any other. Plans, Estimates, and Catalogues furnished free.

A REGISTER OF EVERY CLASS OF GARDENERS requiring situations, classed according to their various qualifications, offers to the Nobility and Gentry an easy means of selecting those best adapted to their purpose.

GARDENERS in want of situations will be furnished with a printed form upon application.

CHOICE VEGETABLE AND FLOWER SEEDS.

BASS AND BROWN beg to offer the following, all carefully selected and grown from the best stock. Their Descriptive Catalogue of Seeds for 1848 will be sent on application. Packets of those marked * free by post, or any of the Flower Seeds.

PEAS, 10 quarts for succession, 1 quart of each with heights stated, including Fairbairn's new Champion of England and Surprise, British Queen, Hay's Mammoth, Queen of Dwarfs, and other very fine improved sorts, for 17*s.* 6*d.*; or 6 quarts do., 1 quart of each, 10*s.* 6*d.* One quart of each of eight fine and esteemed sorts, 6*s.* 6*d.*

BEANS, new Thick Windsor, per quart, 9*d.*; fine Longpods, 4*d.*; new early six weeks Dwarf Kidney, and new prolific Negro, each 2*s.* per quart.

*BEET, very fine Blood-red, per packet, 6*d.*; White's Dark, 6*d.*

*BROCCOLI, 10 superior sorts selected for succession, 4*s.* 6*d.*; or 6 ditto ditto for 3*s.*

CARROT, early Scarlet Horn and Long Red Surrey, each per oz, 3*d.*

*CELERY, Monster White, Wonder Red, Seymour's Superb White, and Manchester Red, each per packet, 4*d.*

*CABBAGE, Shilling's Queen, and other fine sorts, each per packet, 6*d.*

*CUCUMBER, 4 finest frame varieties for 3*s.*; fine prolific hand-glass, 6*d.* per packet.

*CAULIFLOWER, very fine, 6*d.* per packet.

CRESS, extra double curled, 1*s.* 6*d.* per quart.

*LETTUCE, 6 finest sorts, in packets, 3*s.*

*MELON, Cuthill's early Scarlet-flesh, and Passingham's Victoria Green-flesh, each 1*s.* per packet. Several other choice varieties, 6*d.* per packet.

ONION, best sorts, per oz. 6*d.*, pickling, 1*s.* per oz.

*PARSLEY, extra fine triple curled, 6*d.* per packet.

*POTATO SEED (with instructions for sowing), early and late varieties, each 1*s.* per packet.

RADISH, Wood's Early and Short-topped Salmon, 1*s.* per pint; Beck's Superb and Scarlet Olive-shape, each per oz., 3*d.*

*SAVOY, extra fine green curled, 6*d.* per packet.

SPINACH, round or prickly, each, 1*s.* per quart.

TURNIP, fine early Snowball and early Dutch, 1*s.* 6*d.* per lb.

And all other sorts of Vegetable Seeds of the best kinds.

A complete collection of Vegetable Seeds of the choicest selection, including the best and new varieties of Peas as above, making 20 quarts in quantity, with the finest Broccoli, Melon, Cucumber, and all other seeds, of the best and newest kinds in proportion, for 3*l.* 3*s.*

The above collection, in smaller quantities, 2*l.* 2*s.*

Ditto ditto ditto 1*l.* 5*s.*

A collection, complete, of esteemed and fine sorts for a small garden, 15*s.*

SELECT AND CHOICE FLOWER SEEDS sent free by post, with full directions for sowing, heights, colours, &c.

100 varieties, best and newest Annuals, including the finest Stocks, Asters, Zinnias, &c., 15*s.*

50 varieties ditto, 8*s.* 6*d.*; 30 ditto, 5*s.* 6*d.*; 20 ditto, 4*s.*

20 varieties best dwarf kinds in larger packets, suited for filling beds on lawns, 7*s.* 6*d.*; or 12 ditto, 5*s.*

20 varieties best Greenhouse Annuals, including very splendid Balsam, Phlox Drummondii, Martynia fragrans, Mesembryanthemum tricolor, Portulaca Thellusonii and splendens, Rhodanthe, Thunbergia, &c., 7*s.* 6*d.*

20 varieties choice Greenhouse Perennials, including choice Calceolaria, Cineraria, Fuchsia, Petunia, &c., 10*s.* 6*d.*

20 varieties choice Hardy Biennials and Perennials, 5*s.*

The following are each saved from large collections of new and first-rate varieties:—

Per packet—s. d.		Per packet—s. d.	
Antirrhinum	0 6	Hollyhock	0 6
Calceolarias	1 0	,, 30 vars. saved separate for ..	5 0
Carnations	2 6	,, 20 vars. ditto for..	3 6
Cineraria	1 0	Petunia	1 0
Fuchsia	1 0	Ranunculus	2 6
Geranium	2 6	Verbena	2 6
,, small packets ..	1 6	,, small packets ..	1 0
,, best Scarlets ..	1 0		
Heartsease	1 0		

Remittances are requested from unknown correspondents. Post-office orders must be made payable either to WILLIAM BASS or STEPHEN BROWN. Packages to London carriage free, and with orders of 40*s.* and upwards, extra articles sent gratis to defray expense of carriage.—Bass and BROWN, Seed and Horticultural Establishment, Sudbury, Suffolk.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND CO., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS FOR CONSERVATORIES.

SIZES UP TO 40 INCHES LONG.		SMALL SQUARES of SHEET.	
		4 by 3 and 4½ by 3½..	1½*d.* per ft.
16 oz. to the foot	3½*d.* per foot.	5 ,, 3 ,, 5½ ,, 3½..	2 ,,
21 ,,	5 ,,	6 ,, 4 ,, 6½ ,, 4½..	2½ ,,
26 ,,	7½ ,,	7 ,, 5 ,, 7½ ,, 5½..	2½ ,,
32 ,,	10 ,,	8 ,, 6 ,, 8½ ,, 6½..	2¾ ,,
		Not above 10 ,, 8 ..	3 ,,

GLASS MILK PANS, PROPAGATING GLASSES, AND BEE HIVE GLASSES, carefully packed in Baskets, and sent to any part of the kingdom.

GLASS TILES AND SLATES.

16 oz. ..	0*s.* 9*d.*	....	0*s.* 1*d.*	26 oz. ..	1 0	....	1*s.* 4*d.*
21 oz. ..	0 10	....	1 0	32 oz. ..	1 4	....	1 8

Made to any dimensions.

LACTOMETERS.

For trying the quality of Milk, 4 tubes 7*s.* 6*d.*, 6 tubes 10*s.*

PATENT ROUGH PLATE GLASS, about 30 oz. to the foot, from 4*d.* to 7*d.* per foot, according to size; well adapted for Conservatories, Offices, and Warehouses, and an excellent substitute for Ground Glass.

STRONG HORTICULTURAL 16-oz. SHEET GLASS FOR CONSERVATORIES, GREENHOUSES, PITS, FRAMES, &c.—FURTHER REDUCTION.

HETLEY AND CO. publish Prices in the *Gardeners' Chronicle* the first Saturday in every month. Wholesale and Retail Glass Shade, Sheet, Crown, and Patent Plate Glass Warehouse, 35, Soho-square, London.

GLASS DISHES FOR EARLY FLOWERING BULBS.

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181, High Holborn, London, January 8.

The Gardeners' Chronicle.

SATURDAY, JANUARY 8, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

TUESDAY, Jan. 18 { Horticultural ..... 11 A.M.
Linnean ..... 8 P.M.
SATURDAY — 22—Royal Botanic ..... 1 P.M.

It appears that we were not far wrong when we ventured to express a doubt as to the permanence of the vigour produced in VINES by the use of carrion (see p. 851, 1847). Mr. CHERRY, the gardener at Eshton Hall, himself objects to it, and although he describes the Vines there as still remaining in good condition, yet admits that the weight of the bunches does not now exceed 1 lb. on an average. Yet they have been out of Mr. ROBERTS' charge, for only three years. This is a sad falling off from 2¼ lbs. a bunch. That they are still in good health and very respectable Vines we fully believe, for they continue to be managed upon Mr. ROBERTS' plan, which we regard as excellent, with the single exception of the carrion.

What the effect of using carrion in Vine borders really is, appears pretty clearly from the following statement, which has just reached us.

"Some years since I took charge of a place where there was three large Vineries, the Grapes in which had entirely failed. The Vines had been planted about six years. Upon examination the borders proved to contain the carcases of 30 fat hogs which had died of a murrain, together with the bodies of other stock. They likewise contained three or four waggon loads of large bones, and an immense quantity of woollen rags saturated with oil. Upon digging into the border I found the soil more like stiff paste than anything else, and the stench was so dreadful that one of the men was taken ill from the effects of it. Throughout the whole of that border I found not one single fibre: the large roots were covered with canker, and several large ones were eaten completely through. The foliage was very large but sickly, the wood very long jointed and watery. I commenced forcing one house of Black Hamburghs early; the temperature was kept low with abundance of air; the Vines broke slowly and strong, but showed scarcely any fruit, generally throwing off a tendril instead of a bunch; the other houses were also indifferent both in flavour and colour, being watery and insipid to the taste. At that time I had not made the above examination. Afterwards I added one-third of old mortar and brick rubbish, and having well mingled the whole I replanted the Vines carefully; the result was that the following season the wood became firmer and shorter jointed, and the crop improved both in weight, flavour, and colour."—*E. F. G.*

With reference to manuring, a friend has lately communicated to us the following interesting memorandum.

"When I visited the Vineyards of Frontignan, I was much struck with the exceeding tenderness and crispness (if I may use the term) of the Grapes there grown, as compared with the Muscats of our forcing-houses; and when I tasted the *Nice* Grape of Raby Castle, of which you were so good as to send me a sample, the idea occurred to me that the hardness of the pulp might be owing to excessive manuring and forcing of the Vine; and I thought of writing to you to inquire if you were aware of any facts in the history of vegetation that would warrant such conclusion. I may mention, too, that this latter Grape, though magnificent to the eye, had to my taste a flavour different from the ordinary Nice kind, something like what the French call *gout de terroir* in wine, or the opposite quality of *franc de gout*. That this peculiarity may originate from the foul manure that had been given to the Vine, I think highly probable; and the following instance will show how easily the flavour of the fruit may be affected by substances less offensive than carrion. M. DE CHASSIROU has observed that the wines of the isles of Oleron and Ré, are of bad quality, and retain the odour peculiar to the sea-weeds with which the Vineyards there are manured.—*Observations sur les Vignobles, &c., par le Baron de Morogues.*

"In all wine countries, where we may suppose the culture of the Vine to be best understood, the opinion universally prevail that fresh manure ought not to be used, or if it be so, that it should be applied in the autumn after the vintage, so as to have a great measure decomposed and incorporated with the soil before the ascent of the sap in the spring. This practice is occasionally followed in the Rhenish, where a strong prejudice exists in favour of manuring the Vineyard with short and partial quantities of litter are spread around the root of the Vine; but the best authorities recommend that all the manure employed should be first duly fermented, at whatever time it may be used."

These facts should be borne in mind by all Grape growers.

While upon this subject we may refer to the original idea of a writer joining himself "T. D.," who maintain that close pruning will prevent what is called shanking. As we do not happen to believe in the assertion we should be grateful to Mr. "T. D.," and so would many others, if he would favour us with some *reasons* for his opinion. We confess to a great aversion to mere assertion.

The resumption of active operation by the NEW ZEALAND Company, and some recent discussions in Parliament, having again drawn attention to the actual condition of the islands which have not inaptly been named the Great Britain of the Southern Hemisphere, we think it desirable that no time should be lost in pointing out to those among our readers who are interested in emigration questions, what the actual condition of the colony is, and what the reasonable prospects of the settler.

For our former views upon this important subject we must refer our readers to previous articles in this Journal, and especially to one dated October 3, 1846. Our present purpose is to point out, from documents of unquestionable accuracy, how far the prospects of the colony now justify the opinion we have invariably held, that, with good government, New Zealand is destined to become the most valuable possession of the British Crown in the South, possessing as it does very fertile land, a fine climate, a native population admirably suited to the purposes of the settler, much mineral wealth, and a long sea-board peculiarly adapted to the habits of a maritime nation.

It is useless now to refer to the wretched governments which, as long as they were permitted by Providence to continue, rendered the British name a scorn and byword among the natives, and whose enormous imbecility struck down for a time the fairest hopes that ever cheered on the heart of a settler in a savage country. It is enough to know that the men are swept away, and their measures with them; that the strictest justice between man and man has replaced a system of cowardly unfairness; that the rights of her Majesty's subjects are not set aside because they have the misfortune to be British born; and that a strong, resolute will, great firmness tempered with admirable prudence, together with courage and power to act in the right way at the right time, have at last become the distinguishing features of the chief authority in New Zealand. What broken hopes, what wasted treasure, what misery, what bloodshed, would have been spared had common sense existed in its councils from the beginning.

The papers lately laid before Parliament show conclusively that, notwithstanding some unfortunate occurrences, the condition of the New Zealand settlers is rapidly improving. As these occurrences have obtained an absurdly false importance from the manner in which they have been treated by a portion of the daily press, we shall advert to them at once. It appears that an outlying settler named ANDREW BROWN was robbed by RANGIHEATA, a marauding native chief, who seems to be a sort of New Zealand ROB ROY, of his powder, shot, fire-arms, money and papers; no violence was used beyond the force required to obtain possession of the property; and shortly afterwards RANGIHEATA returned the money and papers to Governor GREY

"With a message, stating, that having found that the party who accompanied him had taken not only ammunition and arms from the house they plundered, but also this money and some apparently valuable papers, he had at once sent in the money and papers lest he should be regarded as a common thief, whereas his only object had been to obtain from the owner of the house which he had attacked, *gunpowder, which he had left in his care, and which had never been returned to him.*"

Governor GREY describes this as being, in fact,

"An ordinary New Zealand outrage, which indicated neither disaffection nor malice on the part of the natives, who were quietly employed at their villages in cultivating Wheat to a large extent, under the belief that there would, in the ensuing summer, be a large demand for this article in the Wellington market."

In a second case six natives made an attack upon

[illegible]

[illegible] hostile natives (the [illegible] were totally defeated, with [illegible] pal chiefs, and, after the [illegible] natives, finally dispersed.

However lamentable either of [illegible] may have been, it must be [illegible] mind that it is not [illegible] the risk which all [illegible] they belong to a class of [illegible] been committed in Middlesex, [illegible] every day even in our own highly [illegible]; take, for example, the late murders at Mirfield. They are, in fact, far less [illegible] almost daily in Ireland; for there is [illegible] difference, that the New Zealand [illegible] gusted by such offences, and are eager to [illegible] suppressing them, while Irish [illegible] crime, and do their best to abet and screen the perpetrators.

It is, moreover, by no means clear that [illegible] on the part of the New Zealanders is [illegible] provoked by settlers themselves, who, it [illegible], sometimes endeavour to cheat the natives out of their real rights, forgetting that they have to do with men as acute and more [illegible] than themselves.

"I must be permitted to say," writes the Governor to Earl GREY, "that the great majority of the native population can read and write their own language fluently; that they are a people quite equal in natural sense and ability to the mass of the European population; that they are jealous and suspicious; that they now own many vessels, horses, and cattle; that they have in some instances considerable sums of money at their disposal, and are doing their part to add a great amount of wealth and property in the country, of the value of which they are daily aware; that there is no nation in the world more sensitive upon the subject of money matters, or the disposal of their property; and no people, that I am acquainted with, less prone to sit down quietly under what they may regard as injustice."

And they are quite right. [illegible] submit quietly to [illegible] undoubted rights? We hope not. Yet we find one CHISHOLM, [illegible] treating, with what Lord GREY properly terms "most reprehensible violence and injustice," a native who had a claim to some land which this person had bought for a nominal sum [illegible] of conduct the more unjustifiable because the natives themselves exhibit a perfect willingness to submit their claims to the [illegible] appointed. It appears from the return from the resident magistrates' court at Auckland

"That natives have appeared as plaintiffs against Europeans in no less than 45 civil actions, whilst, on the other hand, natives have appeared in the same court as defendants in 16 civil actions. When it is remembered that before the establishment of these courts, the natives rarely (I believe in only three instances during a period of several years) resorted to our courts of justice, it must, I think, be admitted, not only that these courts have now been fully shown to be well suited to the circumstances of this country, but also that there is every disposition on the part of the natives

to resort, for the redress of their grievances, to legally constituted tribunals. Natives from the most remote part of the country, and where Europeans are but little known, have lately resorted to Auckland, to obtain redress for injuries which they have experienced from traders; and that they are neither unmindful nor ungrateful for the protection now afforded them by the Government, will be seen from the enclosed copy of a letter which was recently sent from some chiefs near the East Cape, which was accompanied by presents worth about 60*l.*, which they sent to the Government as a sign of their gratitude for the justice which had been rendered them in a case which they had brought into the resident magistrate's court. These presents were, of course, not received, and a proper explanation of the reasons why they could not be taken was given; but I think the fact of their being sent was a most interesting one, and shows clearly that the natives generally entertain no feelings of hostility or dislike to the Government."

It is well, indeed, that natives are thus wise and forbearing, for other documents show that the settlers sometimes give them cause enough to be otherwise, and fully prove that we should in this country be very cautious in believing all that the residents may choose to allege against the New Zealanders. Captain OTWAY, who was ordered to inquire into some grievances which had reached the ear of Government, reports that—

"The Chiefs TUPE and HURUROA at Wangaroa, and the Chief NOPERA at Manganui, spoke for some time on the subject of the cattle of the white people trespassing on their land, doing serious injury to their crops of Indian corn, &c.; they said the white people do not fence their land, nor do they consider that any fences that the natives could put up could resist such bulls and large cattle as are ranging through the country. The *chiefs spoke mildly on the subject, asking how they were to be remunerated for these damages*; they feared the young men would be violent on the subject, as the old chiefs were not able to control them, though, at the same time, they promised to do everything in their power to prevent breaches of the peace, hoping that his Excellency the Governor would support them in doing so; and each of these chiefs, as well as the white settlers at the meeting at Wangaroa, suggested the propriety of the various settlements in the north being frequently visited by persons having proper authority from his Excellency the Governor, to settle small differences between the white people and the natives, respecting trespasses, debts, &c."

Captain GRAHAM confirms this statement—

"I also learnt the same when I visited the native chief TAREHA, who told me that when his people complained of damage done by cattle belonging to white people, they were sometimes given as remuneration a small present of Tobacco; but he said that he, and his young men in particular, did not wish for such recompense, even if it were equivalent; *but rather they hoped for protection to their growing food*, as they asssert that it is impossible for them to fence off their cultivations, necessarily much scattered, against large cattle ranging wide and grazing without herds."

To our apprehension these sentiments are wholly incompatible with barbarians, and we firmly believe that they are the best security against the effects of Bishop SELWYN's uncalled-for zeal—a third supposed existing difficulty, to which it is to be hoped we may never again have occasion to refer; for we cannot suppose that his Lordship would desire to share in the disgraceful notoriety of Archbishop M'HALE.

And now let us look upon the other side of the picture.

It is in evidence that New Zealand abounds in limestone and coal, two most important elements of colonial prosperity. The former exists in abundance, the latter at Nelson, at Otago, at Mokau, and many places in both islands; and Captain HOSEASON reports that this coal has been proved by experiment on board the steamer under his command to be at least equal to the coal of Sydney.

"From about equal quantities of fuel, equal work has been obtained; but there is one peculiarity in the Nelson coal, which is, its being much slower in combustion than the Sydney coal, and therefore would not furnish steam for the cylinders with equal rapidity to enable the vessel to go at her *greatest* speed in *smooth* water; but it is far more economical when all weathers are considered; this would make it highly advantageous when mixed with Sydney coal, as the bad qualities of both would be counteracted. In justice, however, to the Nelson coal, I ought to observe that it is *mere surface coal, and not obtained from a pit like the coal of Sydney.*"

The fertility of the land, the salubrious climate, the abundance of grass and wood, are all admitted facts. The Wairau district alone is officially reported to contain—

"Eighty thousand acres of the finest agricultural land, and about 240,000 acres of the finest pastural land," exclusive of "the whole tract of country claimed by the Ngatitoa tribe, and extending about 100 miles to the southward of that valley, the greatest portion of which country is admirably adapted to European settlers, and is likely to be almost immediately occupied by sheep and cattle."

The most important part of the latter has since been acquired by the Government. It is also material to observe that Governor GREY himself entertains no doubt of the troublesome question of land claims having now reached the point of *security to the buyer.*

"As the great majority of the land questions which had formed subjects of dispute and discussion have now been disposed of, and as the natives have now become accustomed to Europeans, and understand that the laws and regulations of the Government must be respected and obeyed, I have no doubt that now the uniform system of purchasing from them such districts in their *bona fide* possession as may be required by the Government is adopted, that no further disputes or disturbances on the subject of land will take place throughout the southern portions of New Zealand."—(*Governor Grey to Earl Grey.*)

The aptitude and willingness of the natives for laborious employment has been decisively proved by Major MARLOW, the officer in command of the Royal Engineers in the Colony. This officer's reports enable Governor GREY to write thus—

"It appears that, on an average, about 70 natives are daily employed upon the works now in progress by the Royal Engineer Department; that many of these men are, in some kinds of skilled labour, already equal to European mechanics; that a party of Maories have, unassisted by European mechanics, already built a wall of considerable extent, in a most creditable manner, and that they have performed various other kinds of work under the superintendence of the officers of the Royal Engineer Department. But this report mentions other facts, still more interesting, in reference to the character of the native population; for it appears that out of 67 men who have been employed by Major MARLOW, on one work, *there was not one man who could not read his own language*, and only one who could not write it. It also appears that, during six months, *there has only been one case of drunkenness* amongst the natives employed by the Royal Engineer Department, and that many of them lay by a portion of their wages; that one of these men has purchased a filly from his savings, and that eight other natives have purchased 15 heifers between them, all of which they have sent into the interior for the purpose of breeding from them. Indeed, nothing can be more satisfactory than the testimony borne by Major MARLOW to the moral and religious character of the natives in employ."

As might be expected from this improved state of affairs, the prosperity of the Colony is now secured beyond any reasonable chance of injury. In the words of Captain GREY—

"Affairs, throughout the whole of these islands, are proceeding in a most satisfactory manner. Commerce and agriculture are rapidly extending the improved methods of cultivation adopted by the natives; the large quantities of Wheat they now produce, and the erection of mills throughout the country, some of which are their own property, are gradually rendering them an agricultural population, whose property will be too valuable to permit them to engage in war; and, although there are still some warlike spirits who may occasion partial disturbances, I do not see any probability of any extensive outbreak ever again taking place. The revenue, as might be expected, is rapidly increasing; indeed, so rapidly as to surpass my most sanguine expectations (6422*l.* from 36,000*l.* a year); and as the natives, under the present system of taxation, contribute largely to that revenue, every improvement in their condition will afford the means of providing more efficient protection for property, and for the future peace of the country. Her Majesty's subjects, both European and native, appear to appreciate fully the advantages of their present position, and not only evince the most gratifying contentment, but generally afford me the most cheerful and active assistance in carrying out my various measures. I need hardly add, that this assistance is most valuable to me, and that, in the case of the native chiefs, it has recently enabled me to arrange, in the most amicable and advantageous manner, the great mass of the land claims in the southern districts."

Can there be a more tempting prospect for a settler? No convict population, no forced labour, no periodical droughts, no regions of sterility; but a mild, moist Devonshire climate, a rich soil, an active, docile race of native labourers, and all the adjuncts which lead to and constitute colonial wealth. We trust we may now refer triumphantly to the assertion which we have ventured to make more than once, that New Zealand is the country WHERE THE EMIGRANT HAS MOST TO HOPE AND LEAST TO FEAR.

We had intended to add to these remarks some account of the important new settlement called Otago. Our limits are, however, already so much exceeded, that we must content ourselves with referring to an excellent account of it in No. 194 of "Chambers' Edinburgh Journal," where will be found a variety of highly interesting particulars, the accuracy of which we believe we may guarantee.

THE important charge of the OOTACAMUND GARDEN has been confided by the East India Company to Mr. MC IVOR, of the Royal Botanic Garden, Kew, who is already favourably known to the public by his very useful work on British Liverworts and Scalemosses. It is however to be observed that this distinction has not been conferred upon him because of his Botanical attainments only—although they gave him a decided advantage over other competitors. His appointment is that of a Gardener, and his duties are such as none but a Gardener can perform. His qualifications in that capacity are attested by the signatures of Mr. JAMES MC NAB of Edinburgh, Mr. WESTWOOD of Dollar, and Mr. SMITH of Kew; his scientific attainments are sufficiently evinced by his public reputation.

We trust that this and the still recent appointments of Mr. CHARLES MOORE to Sydney, and Mr. WM. WREN to Ascension, will act as a stimulus to young Gardeners, and teach them that industry, intelligence, and the possession of that knowledge which ignorant persons despise, are estimated at their true value by those who have the best opportunity of judging of capability, and the greatest power to reward real merit. Gardeners may depend upon this that employers are not among those who disregard the possession of attainments beyond those of a labourer; and that in these days wages are determined by what a man is found to know, and by nothing else, except good character.

WE would direct the attention of our readers to the very remarkable return of rain for 1847, as compared with the six previous years, which will be found to-day in another column.

ON THE CULTIVATION OF THE ONION.

THE Onion crop is admitted to be one of the principal crops of the kitchen garden, but as frequent complaints have been made of its destruction by insects, and from other causes, perhaps a few observations as to my mode of preparing the ground for, and cultivating this crop, may prove useful. In the rotation observed in cropping the kitchen garden, I have the Onion crop to succeed Celery. When any portion of the Celery is dug up, the soil which is moved is returned to the place which it formerly occupied, in order to expose it as much as possible to frost during winter. In the beginning of March, when the weather is fair and the ground sufficiently dry, I level the Celery ridges. I then take out what is called an "opening" along the centre of the first ridge. The first spit is chiefly composed of common soil, which I wheel to the opposite side of the quarter. The manure should be cleaned out and wheeled there also. As it is evident that a portion of each side of the ridge has been untouched during the previous season, the next operation is to dig both sides of the ridge by standing in the bottom of it and inserting the spade in an oblique direction. When the sides of the first ridge are loosened, take the first spit of the second ridge and throw it in the opening already made. Then take the manure out and spread it equally over the surface of the ground so prepared. Proceed in the like manner until the whole quarter is finished.

When the manure is spread on the surface, give it a slight dig in, and then commence to make drills from 7 to 10 inches apart, and sow the seeds. It is also a good plan, especially in wet seasons, to have the rows divided into beds so that they may be weeded from the alleys without treading on the beds. The ground between the rows should be properly hoed and stirred in dry weather, especially after rain, as ground so treated will absorb more moisture during the night, and radiate less during the day. I never water Onions, even in the driest season. It has been already shown by writers that land which contains the greatest quantity of moisture, and at the same time gives it off most gradually, produces the best crop. Now, land which has been trenched or deep worked is that from which this result may be expected. Therefore, by the system of deep working which I have pointed out, and frequent stirring of the surface during summer, I combine theory with practice, and render watering unnecessary. By the above mode of cultivation I have obtained good crops of Onions on various soils and situations in Scotland, England, and Wales.—*James Hutchison.*

VILLA GARDENING.

(*Continued from page* 4.)

THE whole character of the villa must be unpretending; too much must not be attempted; its chief praise must be that of the well dressed man, who is so that no part is so prominent as to attract undue attention, while the whole is in keeping. The proprietor is supposed to have a due regard to public taste, but in his small possession he cannot be expected to pay so much attention to the appearance of his villa from without as within. In this latter view, therefore, it will have to be principally considered. The first thing to be done is to shut out what is offensive, to shelter the most exposed points, and next to make the most of any pleasing objects; these are perhaps the exceptions, and that the views must be self-contained, the more general case. It has been well observed that the house and offices should be near one extremity of the ground, so that the most space is available for laying it out to advantage; yet if there is sufficient space for garden and other

grounds, placing the house more central will be better, especially for the windows of the house as well as the variety of outlook. If the space is very limited, it is best to make the entrance to the house at once from the road, and the first view of the ground has more effect as seen from the windows. If there is more extent, the lodge, the curves of the approach not too minute, with trees and shrubs alternately masking and showing the house, all become features of which advantage ought to be taken. If the style of a flower garden is intended, then the house may very properly be made to partake of this character by being placed central, with green-houses attached, as well as verandahs and trellis work. If a kitchen garden is the principal object, the house must be so placed as not to shade it too much, but, unlike the flower-garden, the windows must look away from it, as neither the sight nor smell of vegetables is particularly pleasing; a space must be reserved to be laid out in a different manner, unless the external view is sufficiently good. The placing of the offices is an important consideration in planning a villa; they must be convenient but not prominent; no thoroughfare should pass the house, nor must the windows look out on the offices. Proceeding on the plan of exclusion, a wall or a chimney which is too prominent may be covered with Ivy or suitable creepers, and a shrub or tree planted a little way out in advance, or they may be planted out altogether, selecting such of the Fir kind as will best suit the soil and object. If, for instance, it is high, and below there is nothing objectionable, the Scotch Fir may do; but in most cases the Spruce feathering to the ground is better, but there is no greater mistake than putting trees where evergreens should be planted, or the reverse. Then, again, a steeple or some building is worthy of being made a feature; trees or shrubs should be planted so as to lead the eye to it at the most favourable points, not leaving a vague general view.

As was stated before, the lawn is to be considered as the principal feature, and in general the channel through which the chief objects are to be viewed. It should have as spacious an appearance as possible, throwing its furthest part into the greatest apparent distance. Now this is done, not by making all open direct to the furthest point, but by some shading and filling in of detail; the greatest extent of vista is to be so arranged as to be opposite the principal window, from which all should not be disclosed at once, but trees and shrubs should be placed so that the main stream of Grass, as it were, winds in a gentle curve to the most extreme point; nor is the Grass to be formed of this shape, but to extend further on either side among the trees and shrubs, so that pleasing objects rather arrest the eye and almost unconsciously draw it into the flowing line which Nature is always found when left to herself to adopt; here the eye may seek repose in the deep shade of evergreens; further on the silver bark of the weeping Birch arrests it, while the graceful tendrils hanging over throw a light veil over the distance: if there is a bank, in one place run the Grass up a little way, in another bring the underwood down as if it would incline to trespass on the Grass, or if there can be collected any water, bring it among some rocks, and introduce suitable plants, but let these predominate over the rock: a pillar of Ivy festooned on an old tree is another agreeable device. In all proceedings study to follow nature. These last devices, for example, would look more suitable rising out of the rougher ground than springing up out of a well kept lawn, where artificial objects without disguise may be quite in place, for where artifice is evident attempts to look natural must fail, while taste may be shown in arranging these objects too. The eye may also be beguiled into some side lawn which runs up with some breadth till narrowed into a partial view of the garden, some distant object, or ending in a deep shade of trees. In such arrangements none of the detail should in itself be so prominent as to arrest the eye too much, unless it is some particularly fine tree or such like, which is the pride of the place, then it may be proper to work up the landscape to this object. Unless a mere summer residence, winter should be borne in mind, when evergreens are almost our only reliance. Summer-houses are but harbours for earwigs, and catch-cold traps, and always in need of repair; let movable seats be put out in summer at proper places, and, if need be, pitch a tent in a dry, sheltered spot, taking away the side hangings except on one side. It has sometimes a good effect to make the approach cross the lawn at some distance from the house, but keep the road low, so that it may not break the extent of view. Observe well the natural curves of the ground, and, unless determined utterly to obliterate these, it will be found most successful to follow them; in this the chief art of landscape gardening lies. Any attempt to go against these will be a failure. Avoid contrary curves and straight lines where there should be curves, as well as too many and too sudden bends; the surface curve also is of consequence. If looking up a lawn, the surface curve should be concave. In placing fences, these remarks on curves are particularly applicable, but the object should be that no fence should be visible. In placing a fence, even wire, across the line of view, by standing at the principal point from which the aspect is, it will be seen where the eye would naturally look over the height of the fence; that will be the proper place for it, if it is desired to give the greatest appearance of extent beyond the fence: if, on the contrary, it is wished to give the greate t extent possible on the near side, then put the fence out till the eye naturally falls upon the lowest rail. The application of this rule will alter beneficially the situation of many fences. The placing of the garden, if it is to be separate and distinct, is a matter also for consideration, as it is not in itself a picturesque object, but in most villas it will either, as far as vegetables are concerned, be dispensed with, or advantage be taken of one or more retired spots for the purpose; but guard against making it a principal object, while the transition from the more dressed ground to a piece of garden is an agreeable change, particularly if backed by the charms of Strawberry beds, Gooseberries, and Currants, which none can resist.—*Forester.*

(To be continued.)

ASPARAGUS FORCING.

At page 836 of last year's *Chronicle* occurs a description, by Mr. Ingram, of the Asparagus pits in the royal gardens at Frogmore. These pits seem well adapted to the end in view, and possess, perhaps, only one fault—too expensive. Where persons are indifferent as to the cost of production, there can be of course little to object to, and much to commend. As, however, economy is considered a great virtue with the mass of the public, I must urge that the old way of forcing Asparagus by means of the ordinary bed of fermenting materials is assuredly the best.

Now although the production of bottom-heat by means of the tank is I conceive one of our very best modern inventions, yet it does by no means follow that all fermenting materials must be for ever banished from our gardens. True, such a course would be very desirable as far as an orderly and systematic appearance is concerned; but is this all? This tempts me into a slight digression, to observe that it is a pity that those who have the extreme pleasure of laying out new gardens to their own mind would make a point of devoting an episodical plot of ground to the purpose of embodying all vegetable or other crops which require fermenting materials, or what is ordinarily termed "litter."

My object in offering these observations is to vindicate the poor old dung bed from the numerous aspersions which have been cast upon it, more especially as regards Asparagus forcing. Mr. I. is somewhat in error as to the quality of forced Asparagus in dung-beds. He says, "long, blanched, flavourless stems is the result." I beg to assure him that I cut several hundreds of as fine Asparagus, a week before Christmas, as is usually obtained from an out-door bed in June; not pale and flavourless, but stout, high-coloured, and well-flavoured. To be sure, if any one makes a point of keeping his Asparagus beds standing on the same spot for 12 or 14 years, cutting until they scarcely yield a blade, and then thinks to obtain a forced crop by means of the dung-bed, he will find himself miserably mistaken. It is not likely that exhausted beds, which could not (undisturbed) produce a stalk fit for the table, should bear a portion of their roots disturbed, and, in a hurry, produce good grass. The cultivation of Asparagus is still very imperfect in many places; few can see the propriety of making use of Asparagus as one of the most important preparers of ground, as connected with a judicious rotation of crops.

The frequent occurrence of crops of the Brassica family (being so various, and required in such constant succession) drives the gardener to the extreme of his wits, to provide anything like a change; hence the importance of not suffering Asparagus, Raspberries, Strawberries, and the various bush fruit, to remain too long on the ground; seeing they prepare so well for the Brassica tribes. Those who force Asparagus on the old dung-beds will do well to adopt a plan which I have had in practice for years. I plant every year as many beds as I break up; and always make a point of resting the bed or beds through the summer previous to their being forced; not a head is allowed to be cut. I think I may fairly venture to say, that I yearly cut as much first-rate Asparagus from a given space by these means, as any person whatever; and I make a point of using a Celery crop as a preparer for the Asparagus. When my old Celery-beds are levelled down in April, they are ready for Asparagus planting, without either manure or further cultivation.

A great mistake is made in some places in planting four or five rows in a bed. How is it possible that such should be large and succulent? It may be tolerable for a year or two at first, but soon dwindles into a kind of seed-bed appearance. Asparagus to be large and good must have room in the growing season; for like all other crops, the agency of light is essential to the formation of those lusty buds which are the reservoirs of the secretions which produce the future shoot; and, of course, the better they are filled with these rich secretions, the larger and finer flavoured will the produce be. If the hot-water pipes were worthy of general adoption, our great commercial gardeners would before now have extensively adopted them; such, however, is not, I conceive, the case. For my own part I make a point of feeding my Asparagus chiefly in alleys, and this I have proved for years to be of immense service. I therefore fear that hot-water piping would prove a serious obstacle to the carrying out this good point of practice. Nevertheless it must be admitted that where forcing of this kind must be carried out in central situations of gardens possessing some pretensions in point of display, that the hot-water forcing of Mr. Ingram would be far preferable to the dung-bed. Much Asparagus fails in the ordinary beds for want of a sufficient amount of sand in the natural soil. Although Asparagus requires a great deal of moisture at certain periods, yet stagnation of any kind is most inimical to success. Dryness in the soil, therefore, should occupy the primary attention of those who desire to cultivate highly. I need say little of the immense utility of liquid manure, this is now pretty well known. I consider June the most eligible month in which to apply it. *Robert Errington, Oulton Park, Jan 4.*

THE POTATO DISEASE.

We have much pleasure in publishing the following highly interesting letters on this subject. The enquiry, and we think increasing disposition to refer this question to the action of unexplained atmospheric phenomena,—a disposition which we cannot say that evidence does not justify—renders the correspondence of more than usual importance.

"January 24th, 1848.

"My Dear Sir,—You will recollect that at the meeting of the British Association at Oxford last June, the Chemical Section declined to read a paper transmitted to the Association through me by Mr. Adams, containing evidence which I thought sufficient to prove that one great cause of the blight of Potatoes in the last two years was the electrical state of the atmosphere. I felt convinced that this cause was a true (I will not say the only) cause of the malady that has affected so large a portion of the world in these two years. The suddenness of its arrival, and the capricious manner of its distribution over insulated spots in distant regions, accords with the theory, that in very many, if not in all, cases, the cause of sudden decay of the leaf, and of the diseases of the stalk, and roots, and tubers that followed the destruction of the leaves, was atmospheric electricity. I inclose two documents, that give strong confirmation of this opinion. The first, a letter to myself from Mr. Walter Wilkinson, of Porchester, which I think affords evidence from which there is no escape. The second is an extract from a dispatch of Sir Gaspard le Marchant to the Colonial Office, showing that in the year 1847 a general blight of the Potatoes in Newfoundland followed on the 9th of October, after a strong N.E. wind, bearing a heavy cloud charged apparently with electricity. Having permission to publish these documents, I shall be obliged if you will insert them in the *Gardeners' Chronicle*, together with this letter, my object being to recal attention to the paper sent to Oxford in June last by Mr. Adams.

"Mr. Milne's paper, 'On the Potato Blight in Scotland,' shows that the wind was the vehicle of poison to the Potato leaves in that region. The effects of the currents of wind drifting poison were like those of wind drifting cold. The plants that grew in the wake or lee-side of any obstacle received a less quantity of poison or of cold, because a less quantity of air passed over them than over the plants not so protected. So in 1845, in the cases mentioned by Omalius d'Halloy, whose fields of Potatoes near Namur escaped the blight only along the margin of a wood, and in other cases, where a tree, or bush, or tuft of Grass, or Fern, protected the Potatoes in the same fields, where those in the open and unprotected parts suffered—the wood, or tree, or tuft, which sheltered the plant from the current of poisonous air would thereby shelter it from any electricity with which that air may have been supersaturated. In the very wet summer of 1845, thunder storms were frequent. One near Rouen blew off the roof of a cotton mill, killing and wounding more than 60 persons. Meteorological tables for the summer of 1845 should be consulted. It does not follow because atmospheric electricity may be one cause of killing the leaves of Potatoes, that therefore it is the only cause. Summer frost is another cause, and if, as in Canada, frost kills the leaves before the tubers are fully formed, they never ripen, but become watery and suffer premature decay. Excessive cold rains in summer may be a third cause of the tubers not arriving at maturity, and rotting before they are ripe. It must not be argued that an excessive quantity of atmospheric electricity is no cause of the malady because it is not the only cause. It may be one of several causes, all producing the same imperfect growth of the tuber. A second cause is early frost, a third may be excessive cold rains in summer, all producing the same effect of premature decay of tubers which had never reached maturity. The lesson we learn from this addition to the uncertainties that attend the cultivation of every kind of vegetable, is not to discontinue the culture of the Potato, but not to trust exclusively to so tender an exotic plant for our only supply of the staff of life.

"Believe me, my dear Sir, yours very truly,

"Dr. Lindley." "W. Buckland."

"[illegible] March 1st, 1847.

"Sir,—Your favour of the 16th inst. did not reach me until this morning, the 21st. I attend to your request with the greatest pleasure, and the more readily as I do not entertain the slightest doubt that what is called the Potato blight is attributable, at least as far as this neighbourhood is concerned, to the agency of electricity. This conviction is founded on the following facts:—

"On the 4th of August, 1846, after a remarkably fine day, an unusual and gaseous smell pervaded the house and grounds which I occupy, which smell I hardly know how to describe, unless I liken it to that which arises from water thrown on fire or red hot metal. I and my family were rather alarmed, thinking spontaneous combustion might have taken place in an adjoining green Furze stack and faggot pile. We examined these and every part of our premises, but could find nothing

which would account for it. I then began to suspect that the smell had its origin in electrical causes. About this time (9 o'clock, P.M.), lightning in broad and vivid sheets issued from every quarter of the heavens, lighting up the horizon to the brightness of day, and so it continued for several hours, attended towards break of day by awful and frequent peals of thunder, and by heavy rain. During these hours the gaseous smell increased in intensity, but was more powerful without than within doors.

"On the morning of the 4th the Potatoes in my garden, and in the fields around it, presented a remarkably healthy appearance, the haulm being everywhere green and vigorous; but on the morning of the 5th all these appearances were changed. The haulm looked as if fire had passed over it. It had lost all its rigidity and greenness, and the leaves were speckled with black spots, effects which increased daily in intensity, until in a short time the haulm became entirely rotten, and gave out the usual fetid smell of decaying vegetables. These effects were not confined to my grounds: I observed the same in all the neighbouring fields, and by the 10th of the month a general Potato blight was announced as pervading the district. I should say that lightning occurred frequently for two or three days after the 4th; the same smell was also observable. It was not the Potato plant only that was stricken in this instance, but the Tomato plant was similarly affected, and in two cases, which came under my observation, the Apple-tree and the Vine. Some of the Tomato fruit turned black and rotted; others grew and ripened partially, presenting to the view, green, hard cores, intermingled with the red ones, as they advanced towards maturity. The Grapes and Apples on the two trees affected, appeared as if they had been frost-bitten. The blight in these two latter cases was, however, to a small extent.

"With regard to the blight of 1846, its effects on the Potato tuber differed in some respects from those of the blight of 1845. The season in the latter year was wet, and the effect of the blight upon the haulm was communicated immediately to the tubers, causing them to rot, and many of them were afterwards found to be filled with nests of small wireworms. But in the year 1846, which was a dry season, the general result produced by the blight in this neighbourhood was a cessation in the growth of the tubers, which were few in number, and, though small, generally sound and good, and this, too, in the fields which were most severely affected.

"With regard to the insect (Aphis vastator) supposed by some to originate the Potato blight, I observed, in this present year, that it inhabited very healthy plants, which did not appear to me to thrive the worse for its presence; for, on their coming to maturity, I found the Potatoes to be as fine and abundant as they are usually in favourable seasons.

"I am, Sir, your obedient servant,

"John Walter Wilkinson."

"The Very Rev. Dr. Buckland."

Extract.] "*St. John's, Newfoundland, Oct.* 18, 1847.

"On the 9th ult. (October), a strong wind blowing from the north east, bearing with it a heavy cloud, charged apparently with electric fluid, in its rapid course over the land, changed the luxuriant appearance of the crops to blighted stalks; and the opinion then entertained of its character, and the probable results, have been but too truly verified; for the same disease of the Potato, the cause of so much misery and distress in the last two years in Ireland, and which in the past year particularly attacked a few settlements in this colony, has now overspread the whole country."

"Gaspard Le Marchant."

Home Correspondence.

Eshton Hall Vines.—In last week's Paper you allude to Mr. Roberts' success in Vine-growing at Eshton Hall up to 1841. But Mr. Roberts did not leave Eshton Hall till May 16, 1844. I went on the 15th of the same month, and found the Vines in a good growing state, with plenty of Grapes on them, and they still remain in good condition. I have, on the rafters, 34 Vines, and on the back wall 30, making in all 64 Vines, each of which produces yearly 20 lbs. of Grapes. My plan is not to allow a Vine to bear more than 20 bunches of Grapes, which swell finely, and we might travel a long way ere we met with Vines to match those at Eshton. I have this year obtained 11 prizes for Grapes at three shows, and last year seven prizes at two shows. In 15 years I have received 64 prizes for Grapes in Lancashire and Yorkshire. Mr. Roberts and I do not essentially differ in the treatment of the Vine. I agree with the maxims laid down in his book, with one exception, viz., the carrion. For a border I like fresh sods and dung in a fresh state; say six cartloads of good sods, one cartload of leaf mould, and one cartload of horse droppings, in the same state as used for Mushroom beds. This mixed up together, and also applied as top dressing every year, will keep Vines in a flourishing condition. This compost is what I have used for new borders, and for top dressing old borders, for above 30 years, and I have always met with success.—*George Cherry, Eshton Hall, Dec.* 29.

Landscape Gardening.—I have watched the progress of your contributor's articles on this subject with much interest, simply because I am myself an admirer of the art. But however I may agree with him in the main principles laid down, I think that he sometimes offends grievously in the taste of his style and illustrations; and in these respects he assuredly does not always elevate the dignity of the subject. For I conceive that it is quite possible to write in a style sufficiently attractive from its purity and simple grace to rivet attention, without having recourse to the meretricious aids of broad humour and not the best of jesting. But *de gustibus non est disputandum.* I presume that the many are right and I am wrong. The style which I dislike may be enjoyed by others as the most delightful seasoning in the dish. But let us go to facts as to taste. Is your contributor correct in declaring Nature to be almost entirely paramount to art in landscape gardening? so much so as to exclude art nearly altogether? Is he right again in an almost equally exclusive advocacy of the curve in preference to straight lines and angles? He may ridicule the formal as he will; but can it be justly maintained, as he holds, that avenues, terraces, statues, columns, straight walks and angular beds, and rectangular pieces of water, should be utterly banished from our pleasure-grounds—as yielding no delight either intrinsically, or by contrast with the beautiful objects of Nature? I believe that great numbers would join with me in saying that he is wrong on all these points; at all events wrong in pushing his principles too far. The truth is that by taking one subject only for each article he either succeeds sometimes in artful mystification, o his errors of opinion are passed by simply because it is not worth our while to go into a paper war on each doctrine laid down. If he had put forth the same views in a connected treatise, he would have found it hard work to refute the severe and just commentaries which on very many points he would have called forth. That he has done some good in exposing charlatans and their deeds in these and other days I do not deny. But that he should call Loudon "a crotchety man" is a most admirable illustration of "the raven chiding blackness,' for he himself is far the more crotchety of the two. Look at his last crotchet. He puffs up Downing, the American landscape-gardener, as a perfect wonder. Have your readers seen and perused this much bepraised book? Your contributor has acted towards Downing for his praise exactly as Dr. Hampden's enemies have done towards *him* for his ruin. He has culled out for his own purpose detached portions—portions which, detached artfully from the context, and indeed from the whole work—seem to make out what he asserts. And assuredly he must be a very ill qualified writer on that or any subject who can put forth an octavo volume of 500 pages, without containing a few good sentences and undeniable truths. But it must have cost your correspondent infinite toil to extricate the bits which he parades, and disentangle them from the confused verbiage in which they are buried. The truth is, that a more clumsily composed and compiled work it has not often been my lot to see. He opens with "Historical Notices" of Landscape Gardening. In style this portion is crude and awkward; and the errors as to persons, dates, and facts are quite astonishing. He actually puts Milton before Bacon as to time—that is in the order of his so-called history. But *en uno disce omnes.* These historical notices are altogether contemptible. The second section, however, is intended to be the crack chapter; and in efficient hands it would have been. It is entitled "Beauties and Principles of the Art." I have tried very hard, but I confess that I have been sorely troubled to find any beauties or principles either in this said section. Take one delectable specimen of clear writing: "Where a taste for imitating an old and quaint style of residence exists, the symmetrical and knotted garden would be a proper accompaniment, and *pleached* alleys and *sheared* trees would be admired, like old armour, as curious specimens of antique taste and custom." Now what is the meaning of those mysterious words "pleached" and "sheared?" and as to the concluding simile, it is incomprehensible. I can understand a painting or a print of such a scene being admired like old armour, and in the same spirit; but if such gardens are to be brought into practical use, the simile, if it mean anything, implies that the owners and frequenters thereof must walk about in them armed *cap-a-pied.* Then he lays down a principle with such transparent accuracy. He says that there are "two species of beauty of which the art is capable. These are *general* and *picturesque* beauty." *Davus sum non Œdipus.* This oracle baffles me for one. But he goes on very considerately, "or to speak more definitely the beauty characterised by simple and flowing forms, and expressed by striking, irregular, spirited forms." Perhaps your contributor will enlighten us by a comment on this obscure passage. Now these are two short selections from one and the same page; and this is the writer who is held up to our admiration, a writer whose book abounds in such *beauties!!* But I must pause here. I have more yet to say on many points in the articles on Landscape Gardening, if you will give me space in your valuable Paper for it.—*A Professor of Taste in Landscape Gardening, Jan.* 4. [We shall be charmed.]

Gymnadenia conopsea.—Some years ago, during the course of a botanical ramble, I met with a quantity of this species growing in a small field in one of our midland counties. Having taken up some specimens, my attention was attracted by some of the plants having spikes of less highly-coloured flowers than their fellows growing around and beside them. On examination I was astonished, and not a little puzzled, to find them not (as is the case with this species wherever else I have met it) exhaling perfumes sweeter than "Cytherea's breath," but on the contrary a most disagreeable hircine odour, extremely like that found on smelling the flowers of an exotic but well known member of its tribe, Eria pubescens. Now the object of this communication is to elicit some information on this, to me, strange fact. In the first place I would like to know, from some of your botanical readers, whether any of them have observed this anomaly; if so, if of frequent occurrence in the sister isles. In this country (Ireland), neither I nor any I have spoken to, have met another instance. I would also feel obliged for your explanation of this curious fact. Tell me "et eris mihi magnus Apollo," how it is that plants of the same species—alike in all things, growing side by side in the same soil, the same exposure—subject to the same influences, should exhibit properties so diametrically opposite? Does the lesser quantity of colouring matter in the fœtid specimens afford any clue (as it was the only difference) to the explanation of this phenomenon, which appears to me to be somewhat difficult to solve.—*Hibernicus.* [Nescio.]

Close Pruning Vines a Preventive of Shanking.—In No. 50, "W. T." states that he agrees with me that the single rod and close spur system of pruning Vines is the best, but doubts if this mode of pruning will prevent shanking. He then goes on to give reasons for his doubts; they are, "that last year, in spring, he cut down some Vines which made good single rods, and that this year the fruit which he cut from them was spoiled by shanking as before; I am, therefore, convinced," he says, "that close pruning is no remedy for the evil." Has it occurred to this writer that he has not yet close spurred his Vines, that he has not had time to do it until now, and that the Grapes he obtained this autumn were not the product of spurs, but of the young rods of last year.—*T. D.*

Remarks on Planting and Management of Woods (see p. 787, 1846).—My employer, always intent upon following out the most approved system of managing woods, put into my hands an article copied from your Paper into one of our local ones, and which is, in my opinion, calculated to mislead proprietors who are planting high exposed grounds, as well as the inexperienced in the management of plantations. The article I allude to was contributed by Mr. Young, land-surveyor and land-valuer, Perth, and living in his neighbourhood I have some idea of his experience, which is not great as a wood forester. His mode of planting and managing young plantations is at variance with all practical experience, and every forester of any standing with whom I have conversed has condemned it in unmeasured terms; I am aware Mr. Young's mode of planting will meet with encouragement from those who take mere writers as their guides; and the operations of us foresters will be looked upon with suspicion by proprietors, inasmuch as they will imagine we put them to unnecessary expense in forming young plantations; for the saving of a few hundred plants per acre appears to Mr. Young to be a greater desideratum than the ultimate value of the timber to be raised, which by following his system is sure to be the result. I will now proceed to contrast Mr. Young's experience with that detailed in Brown's "Forester." With Mr. Young's remarks on the adaptation of trees to soil and climate I can find little fault; it is in the distance plant from plant that I consider Mr. Young's great error lies. Instead of planting at from 2 to 4 feet apart, the usual distance, Mr. Young plants at from 6 to 8 feet, if Firs, and if hard-wood, for permanent trees, he plants them at least 28 feet distant from each other, and fills in Larch, Spruce, or Scotch Firs, according to soil and situation, for nurses, till all stand at from 6 to 8 feet apart. What does the "Forester" say? (See pages 66, 69, 89, 148, and 175.) For Firs, he recommends planting them 3½ feet apart, and for hard-wood from 7 to 10 feet, according to the object in view, filling in Firs as nurses, so that the trees stand 3½ feet plant from plant. And for his reasons for planting thus thick, see page 135: "In all cases where Fir trees are raised for timber as well as shelter they should be kept rather closely together than otherwise, and upon observation the most advantageous distance to thin them out will be found to be about one-third of the height of the trees generally. When Firs are kept growing at a distance less than one-third of their height, they become tall, slender, and weakly, and if grown at a distance from one another greater than that mentioned, they become branchy, do not increase proportionally in height, and the timber is generally coarse. No pruning of Fir trees should be allowed. Pruning invariably injures the quality of the wood of Fir trees; and, besides, the health of Fir trees is much injured by pruning. If trees are kept as nearly as possible at the distance specified above, they naturally prune themselves as they advance in height, for as soon as the lower branches of the Fir and Pine tribe become confined, and a want of due air ensues in the body of the plantation, they gradually die and fall off without in the least injuring the quality of the timber." Every forester of any experience can bear testimony to the truth of the aforesaid; the shelter draws the tree up into a fine boll, improves the ultimate quality of the wood, and gives the plant the character of a tree. Now what is the result if Mr. Young's mode of planting is pursued? At 6 or 8 feet apart, the plants for several years cannot afford each other the necessary shelter; they grow branchy and scrubby, and when they do receive shelter from each other, they have become so coarse in their habit that they require assistance from pruning; and if Nature does it, the operation is done very inefficiently; the wood will be found so full of knots when cut up, that it will lose much of its marketable value. In my opinion, a plantation planted as Mr. Brown recommends, will, at the end of 15 or 20

years, be at least five years in advance of one planted according to Mr. Young's plan; and the trees will be both superior in size and in quality of timber, which will in a great measure repay the original outlay, whereas Mr. Young's woods will only be about ready to receive their first thinning; surely the saving of a few plants to begin with cannot be compared to the advantage of adding five years' growth to the plantation, besides putting something into the pocket of the proprietor. I believe Mr. Young's chief object is to reward neglected and mismanaged wood; the latter may be attributed to proprietors in many cases not keeping regularly bred foresters. In this they are penny wise and pound foolish.—*Pinus, Loggerahmond, Perth.*

Contributions towards the Chemical History of Vegetables and Fruits.—Allow me to call attention to what I consider to be a mistake in the table published at p. 4. In the column headed "Natural Order, according to Dr. Lindley's arrangement," occurs the word "Ericaceæ," and, on the same line, in the next column, headed "Vegetable and Fruit analysed," are the words "Strawberries—whole Fruit." Now surely the Strawberry tree (Arbutus), must be intended if the Natural Order is rightly stated; or if the Strawberry (Fragaria) is meant, the Natural Order should be "Rosaceæ."—*X. M. N.*

Wine Making (see p. 6).—In reply to your correspondent "Pomus," as to what becomes of the remaining 20 gallons of wort, he will find, when he strains from the 41 gallons of infusion, that the malt will have absorbed a large portion of it, and that he will have but little over the 21 gallons he requires for his wine; from the refuse he may make in the usual way of brewing 18 gallons of very wholesome table ale. I should think the receipt is a good one, and when fit for use, it will be as well to be careful as to the quantity consumed, as it is a strong wine. I have made a similar, or rather a wine called beer wine, from the following receipt, which has puzzled connoisseurs:—Sugar 30 lbs., boil half an hour with 10 gallons soft water, skim it quite clean, and when cold put to every gallon one quart of new strong beer; work in a tub 6 or 8 days, till fermentation is over, put it in the cask with 6 lbs. of raisins and 2 oz. of isinglass dissolved in some of the liquor; stop it close and let it remain in the cask 12 months before it is bottled.—*G. P., Melksham.*

Polmaise Heating.—The faults complained of in regard to this system of heating do not lie with the system itself so much as with the persons attempting to employ it either misunderstanding or misapplying a few simple laws of Nature. Those who intend to Polmaise successfully should study first the able letter of Mr. Whittle, published in your Number for Dec. 18th, especially as to the relative conducing powers of iron and brick stoves. "Polmaise will never be brought to perfection unless metal is employed instead of brick earth," as the medium of conducting the heat generated in the stove to the air in the chamber that surrounds it. One thing is certain, that much heat passes up the flue and is lost; where the plate is kept at a red heat quite half at least is lost. This waste of heat may be ascertained in a stove or hot water apparatus, by letting a thermometer down the flue 6 or 8 feet, taking the readings at different times and conditions of the fire; the waste will be so apparent as to convince any unprejudiced mind. Now a stove may be made which will not split or get red hot, but which will give out the whole of the heat generated, and till this is done we shall not even approximate perfectly Polmaising a house—a system with which no other can bear comparison either in expense of construction or economy of fuel.—*Thomas Moody, Dorchester.*

Societies.

STAMFORD HILL, CLAPTON, AND STOKE NEWINGTON GARDENERS' ASSOCIATION.

Dec. 9th.—On this occasion the members of this institution met to present Mr. Sherwood, their late Secretary, with a token of their esteem for his services. Mr. Kendall, having been called upon to preside, said he rejoiced in the opportunity he had of presenting Mr. Sherwood with the testimonial provided—(a large silver inkstand). He trusted Mr. Sherwood would receive it as a trifling acknowledgment of the obligation under which he had placed the Society. On receiving the memorial, Mr. Sherwood said that he had strongly supported the cause of mutual instruction from a conviction of its perfect adaptation to the requirements of mankind. Short as is the history of this system, he said it had developed the fact that with it, in the world ignorance need be no necessary concomitant of poverty, even if there existed no charitable institutions. After some remarks on the charity schools, and the nature of the instruction afforded by them, Mr. S. proceeded to state, that in a society where the members is a giver, the giver a receiver, obligations are mutual, advantages reciprocal, the instruction acquired must tend to elevate and dignify the recipient in his own estimation, and is eminently calculated to qualify him for an honest and fearless discharge of duty, while it may devolve upon him in life. And let it be remembered, he said, that the position of such a man will be only to please himself, but much rather than be one of those who ever looks beyond himself for a friend. When these remarks had preceded to touch the society for such a token of its regard as that in question, and to exhort its members to increased exertion in the useful cause in which it had embarked. Mr. Morrell said he entertained a lively impression of the importance of such societies; they had been instrumental in causing men to think, and to communicate their ideas to each other, who had hitherto lived too much to themselves. After some remarks from Mr. Cadwell, Mr. Fletcher, and others, Mr. Laidlaw said, that as the members were about to lose at once the original and secretary of the Society, in the person of Mr. Sherwood, and as they had elected him (Mr. L.) successor, he trusted they would give him every assistance in their power, in order that the work might not languish in his hands; adding, in conclusion, that it might be said, in reference to those who contented themselves with giving advice, what was once said by a learned divine to a similar class, viz.: "All the while you are deliberating on a plan for human reformation, the people in question are learning to lie, to swear, and to steal."—*A. Laidlaw, Secretary.*

THE SMALL-LEAVED THIBAUDIA.

(*Thibaudia microphylla*. Lindl.)

Sp. Char.—An evergreen shrub, with furrowed smooth branches. Leaves roundish oblong, blunt or retuse, coriaceous, veinless, nearly sessile, with a few minute scattered hairs on the underside. Pedunculus solitary, axillary, one-flowered, erect, much longer than the leaves. Corolla conical, with a very small 5-cleft orifice.

An evergreen shrub, now growing in the nursery of Messrs. Veitch, of Exeter, who have raised it from seeds gathered in Peru by Mr. William Lobb. It is said by him to have been found at an elevation of 12,000 feet, and to bear scarlet flowers. In his dried specimens they appear to be deep purple. The small leathery dark green leaves resemble those of the Box tree, and give the species a peculiarly neat appearance. It will probably prove to be a hardy greenhouse plant. The specimens at Exeter are at present too young to flower.

* For the meaning of these technical terms see Lindley's *Glossary.*

Miscellaneous.

New Camellias.—I have [illegible] to the [illegible] and [illegible] with the [illegible] and [illegible] are [illegible] from the [illegible] I could [illegible] I procured [illegible] the Botanical [illegible].

Testimonial to Mr. Cameron.—We [illegible] the [illegible] Botanic Garden, Mr. Cameron [illegible] the [illegible] the [illegible] and [illegible].

Fungi in Soil.—A [illegible] of [illegible] cause of the [illegible] at length, one [illegible] microscopic examination, [illegible] mind of naturalists [illegible] spots were owing [illegible] character of [illegible] Potato disease. The [illegible] decay had been [illegible] the dyer, he having [illegible] [illegible] stained Potatoes.—*Art-Union Journal.*

Death of Mr. C. Bird.—At [illegible] Woodlands, in Essex, on the night of the [illegible] Bird, well known in the [illegible] cultivator of the finer flowers. [illegible] he had long been [illegible] stock and hobby of the [illegible] he [illegible] 20 years [illegible] but neglected flower the Hollyhock, and [illegible] for the first in England; [illegible] we believe he had the [illegible] Chair, the [illegible], of the [illegible]. In growing Hollyhocks [illegible] never grew a known [illegible] seedling, [illegible] unique, and he [illegible] He was much esteemed by those who knew him, was a [illegible] councillor of the [illegible], and a [illegible] the charities of Saffron Walden.

Garden Walking.—Those [illegible] are inclined to imagine, intoxicating in having [illegible] to do with flowers and gardens. Possibly [illegible] and love may have [illegible] among the pleasures of the [illegible]; [illegible] set down as one of its first [illegible] this sentiment has a great [illegible] height, and to speak [illegible] sense. Of the flower [illegible] of the Tulip mania as [illegible]; and every [illegible], in addition, that [illegible] passion, have been known to [illegible] the, might feel their [illegible]—[illegible] love-sick gazing upon a lily [illegible] breathing over a fair [illegible]. We happen to have known a person in the [illegible] Tulips to such a pitch of frenzy [illegible] ruined his family, and [illegible] but this he [illegible] Tulips, tenderness, to keep [illegible] sun; having performed [illegible] in hand, and a few hours [illegible] the respectful time of his [illegible]. Cases of this [illegible] supply us with a strong presumption that a love for flowers is liable to run [illegible] The [illegible] gances of garden makers and lovers [illegible] years extremely curious and worthy [illegible].—*Chambers' Edinburgh Journal.*

NEW GARDEN PLANTS, PUBLISHED IN BOOKS.

Name.	Where Published.	Name of Country.	Quality.	Natural Order.	Colour of Flowers.	Time of Flowering	When first Figured.	Name.
Vaccinium leucostomum ..... † *White-lipped Vaccinium.*	Gard. Chron., 1848, 7	Peru	G. ♄	Bilberries	Red & white	.....	.....	.....
Spiræa expansa..... † *Spreading Spiræa.*	Hort. Journ., 3, 73	Nepal	H. ♄	Roseworts	Pink	July	1847	Hort. Soc.
Gilia pharnaceoides ..... ‡ *Thread-leaved Gilia.*	Hort. Journ., 3, 73	California	H. ☉	Polemoniads	Pale lilac	August	1847	Hort. Soc.
Hugelia lanata ..... † *Woolly Hugelia.*	Hort. Journ., 3, 74	California	H. ☉	Polemoniads	Light Blue	August	1847	Hort. Soc.
Arthrostemma fragile ..... † *Brittle Arthrostem.*	Hort. Journ., 3, 74	Mexico	S. ♄	Melastomads	Deep purple	August	1846	Hort. Soc.
Peperomia pallescens ..... ¶ *Pallid False Pepper.*	Hort. Journ., 3, 76	Guatemala	S. ♃	Pepperworts	Green	September	1846	Hort. Soc.

N.B.—* = Very handsome. † = Second rate. ‡ = Third rate. ¶ = Unimportant.

Calendar of Operations.

(For the ensuing Week.)

ANTICIPATING the approach of winter, with its usual inclement attributes, cautions have been given, and directions repeated, for the protection of plants liable to be affected by frost. The exercise of forethought is demanded of a gardener in every operation he undertakes; to avert, by precautionary measures, the ill consequences that accrue from unfavourable circumstances of climate, is a duty that our climate renders imperative. Where a little attention will secure from risk the plants which have long been the objects of care and expense, how censurable would be the error of forgetfulness! Many may regret, now that the time of frost and snow is passing by without a record of either, their solicitude in the protection cause, and think it misjudged kindness. In some cases, for instance where plants are not entirely at rest, and where our recommendations have been carried out, long exclusion from light will have an injurious effect; if the weather permits it, it will be well to allow them to enjoy the vivifying influence of light and air. Broccolies and other tender vegetables would be benefited by a similar exposure.

CONSERVATORY AND GREENHOUSE.

While the weather continues fine and mild allow the plants in these structures the full benefit of it by the admission of abundance of air during the day; fumigate on the first appearance of green fly; the late mild weather has proved particularly favourable to them, and encourages their increase. See that the worms do not remain in quiet possession of their pot lodgings; remedy any defects that exist in the drainage of plants in pots. We are inclined to recommend an increased and more general use of that sort of soil which is usually described as peat, the best of which is found in old woods, for general potting, in preference to strong loamy and rich soils, which we believe are too generally employed. In the majority of cases the object required is not a plant grown to a large size, but a small compact specimen exhibiting the best characteristics of the plant. Where a necessity exists for adopting this style of culture, attention, judiciously directed to the selection of the soil, may assist the cultivator in the attainment of the desired result. Continue to introduce flowering plants from the forcing-pit. Flowers often entice those generally unobservant of their beauty into admiration when they appear at a season of gloom. This should be an additional inducement to make the conservatory gay. The dwarf flowering Oranges might be more generally cultivated; we have some at this moment covered with fragrant blossoms. Azaleas, Rhododendrons, Kalmias, Daphnes, Epacrises, Roses, Lilies, Deutzias, Primulas, are all essential plants at this season where flowers are looked for. Let the forcing-pit be supplied as the plants are taken from it. Bottom-heat is of great assistance in advancing plants.

FRUIT FORCING.

Early Vinery.—This will require an increase of temperature as soon as the bunches expand their blossoms; the atmosphere of the house should be kept in motion, and an artificial fertilisation of the bunches, with the aid of a camel-hair brush, should be effected; every fruit branch should be, if possible, conducted to that position that will enable it to receive the full benefit (which is incalculable at this season) of solar light. If your Vines have roots outside the house, enable them to perform their functions effectually by preserving a suitable temperature in the borders. The house to succeed this should now be in action; follow, in a measure, the variations of the weather in the amount of heat administered, making 40° and 70° your extreme points. Introduce Strawberries, and place them where they will have opportunities of receiving plenty of light and air. Small Salad may be sown, and Mint, Marjoram, and other herbs introduced. *Pines (succession)* require still a steady temperature, and air on every favourable opportunity. *Pines (fruiting)* may be gently encouraged to growth. Solar light will increase daily; with that advance your temperature. We have found the Cayenne, Montserrat, and Antigua Queen, excellent Pines for fruiting in the winter season. *Peach-house.*—As the blossoms expand, procure a mid-day heat, with air, of 70°. This treatment will encourage and quicken the fertilising action of the pollen; reduce the temperature at night. In the successional house the trees should, after pruning, undergo a thorough inspection, and every endeavour used for the destruction of the scale, which is generally secreted at the base of the bud. *Cherry and Plum-houses.*—As soon as the buds begin to swell, apply a little tepid manure-water to the roots; syringe twice a day, and allow a day temperature of 50°. *Fig-house.*—If in action, pursue the same treatment recommended above for the Cherry-house. Introduce Strawberries in every favourable situation.

VEGETABLE FORCING.

The weather has materially assisted the early production of Asparagus and Seakale: the flavour of the first may be improved by exposure to the influence of the external atmosphere; we prefer blanching the second with coverings of sand. *Mushroom-house.*—Sustain a temperature of 50°; keep the house damp; collect horse-droppings; store them in a dry shed, and sweeten by turning and fermentation. Potatoes may be set in warm beds, and some potted. Early Cucumbers should be planted out in pits previously prepared. Caution is required to guard against and prevent the entrance of the rank steam from the linings.

KITCHEN GARDEN AND ORCHARD.

Proceed with the accustomed routine of trenching, draining, and all ground alterations suggested in a previous season. Old gardens are often crowded with fruit trees. As light and air are required more particularly for the important products of the garden than shade, take measures for removing all trees objectionable in this regard. Protect forward Peas; sawdust is a good material for the purpose. Give abundance of air to Cauliflowers under hand lights; also to Lettuce and Endive stored in frames. In the fruit-tree department pruning, training, and nailing should be proceeded with. Reflect well on the constitution and habit of the tree before you attack it with the knife. If the weather continues open, planting may still be performed.

FLOWER GARDEN AND SHRUBBERIES.

Alterations should be proceeded with vigorously if they are in hand, if they include the removal of trees especially. Severe weather, though long delayed, may yet be near, and of that nature to arrest all progress with the spade. Dig and supply flower beds with fresh soil. Attend to the edgings of your walks and beds, reset flints and repair Box edgings, rake wormcasts from your lawns with a Daisy-rake; where the Grass is killed under trees in the pleasure-ground, rake in strong manure, or apply manure-water, to prepare the soil for Grass seeds to be sown later in the season. Collect all sorts of soils, and store as many leaves as possible.

FLORISTS' FLOWERS.

Owing to the extreme mild weather hitherto experienced, Polyanthuses are throwing up trusses of flowers. In seedlings this is not a matter of so much importance as in the varieties retained for exhibition. Where the plant is strong, it often happens that several trusses will show themselves at once; it will be better to remove them, and run the chance of a side bloom, which will often (when all the energies of the plant are thrown into it) prove first-rate. Protect these flowers (if in frames) from severe frost; and those on the open border, though not so liable to suffer, will be better for a few small Fir branches, 12 or 18 inches long, stuck in the bed at intervals. Our old favourite, Pearson's Alexander, is now getting very scarce; and though rather deficient in form, the intensity of the body colour, the brightness of its golden lace, added to its bold style of trussing, renders it a universal favourite. A great field of improvement is open in this class of flowers, and we trust that our readers generally will endeavour during the coming spring to hybridise and seed those flowers which come nearest the standard of perfection—rotundity of outline, added to correctness of marking, and beauty of colour. Our continental friends have done much more than our own florists in raising fresh varieties, but their energies have been directed to the obtaining a diversity of colour, without reference to form, &c. &c.; in fact, the standards of perfection of the two countries, are as widely different as their language. *Auriculas.*—Keep these hardy plants free from drip. Alpine in its character, the close confinement of a frame is wholly at variance with its natural propensities, and it will, therefore, require all the air possible. Seed may be sown now, and put in a cold frame; it must, however, be covered very slightly, and when the frames are free from woodlice, we would advise a covering of clean and sweet Moss. This will keep the surface secure from the changes of temperature, and will be of service to the germinating plants; it may be gradually removed, as the young plants spring up. *Tulips* will only require keeping from severe frosts. *Carnations and Picotees* should have abundance of air, and the amateur will do well to secure some of the bed varieties early in the spring, in order that he may be enabled to raise seedlings worthy of his name. *Dahlias* may now be started in moist heat, where great stock is required.

FORESTING.

The probabilities are that the ensuing week will bring frosty weather. Felling and stacking can be continued; draining, both open and under-ground, should receive proper attention. Where requisite, prune young plantations; arrange your nursery quarters to receive young plants.

State of the weather near London, for the week ending Jan. 6, 1848, as observed at the Horticultural Garden, Chiswick.

Dec.		Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. ...	31	23	29.854	29.817	37	30	33.5	N.E.	.00
Jan.									
Satur..	1	24	29.846	29.807	42	29	35.5	S.E.	.22
Sun. ..	2	25	29.841	29.781	49	38	43.5	S.W.	.01
Mon...	3	26	29.919	29.815	51	41	46.0	S.	.00
Tues...	4	27	29.974	29.817	49	27	38.0	S.E.	.00
Wed...	5	28	29.661	29.542	46	24	35.0	S.W.	.08
Thurs.	6	☾	29.799	29.749	40	26	33.0	N.	.00
Average			29.832	29.761	44.8	30.7	37.7		.31

Dec. 31—Hazy and damp, densely overcast at night; slight frost.
Jan. 1—Foggy; hazy; sleet showers; slight frost.
— 2—Fine; very fine; partially overcast.
— 3—Densely overcast; cloudy and mild.
— 4—Fine; clear, and exceedingly fine; slight frost at night.
— 5—Overcast; rain; clear and frosty at night.
— 6—Frosty: clear; fine; lightly overcast.
Mean temperature of the week, 1½ deg. above the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending Jan. 15, 1848.

Jan.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 9	39.0	31.6	35.3	6	0.20 in.	1	4	3	3	4	3	1	
Mon. 10	40.7	29.5	35.1	8	0.40	1	3	2	4	4	2	2	2
Tues. 11	40.5	31.0	35.7	12	0.88	3	3	3	—	6	1	1	
Wed. 12	40.9	29.7	35.3	9	0.76	2	4	2	2	5	4	2	1
Thurs. 13	41.0	32.3	36.7	12	0.29	3	2	3	2	5	3	3	1
Fri. 14	41.2	30.2	35.7	11	0.80	4	4	2	2	2	3	1	3
Satur. 15	40.1	29.4	34.7	8	0.54	2	4	2	2	3	3	4	2

The highest temperature during the above period occurred on the 15th, 1834—therm. 56 deg.; and the lowest on the 14th, 1838—therm. 4.

MONTHLY DEPTH OF RAIN, in inches and hundred parts of an inch, which fell at Chiswick in the years 1841, 1842, 1843, 1844, 1845, 1846, and 1847.

	1841.	1842.	1843.	1844.	1845.	1846.	1847.
	In.	In.	In.	In.	In.	In.	In.
January.....	2.60	1.06	1.33	2.25	2.97	2.85	1.31
February....	0.76	1.32	2.35	2.27	0.93	1.47	0.94
March	1.32	1.81	0.47	2.44	1.25	1.09	0.41
April	1.58	0.15	1.62	0.33	0.95	3.93	0.92
May.....	2.16	1.73	5.26	0.25	2.89	1.35	1.59
June	2.45	1.58	1.62	0.97	1.36	0.80	1.31
July.....	3.56	1.52	1.67	2.10	2.31	1.78	0.79
August	2.69	2.81	3.28	1.84	2.79	4.50	1.50
September ..	3.71	3.39	0.98	1.31	1.77	1.76	1.66
October	4.61	1.71	4.19	4.13	1.39	5.54	1.75
November	3.41	4.47	2.13	3.06	2.11	1.43	2 26
December	2.12	0.76	0.58	0.39	2.61	1.21	1.81
Annualamount	30.97	22.31	25.48	21.34	23.33	27.71	16 25

From the above it appears that the amount of rain in 1847 was only 16¼ inches for the whole year. This is a less quantity than has fallen in any year since the commencement of the present century.‖

Notices to Correspondents.

DRAYTON MANOR MEETING—The SPEECHES at the AGRICULTURAL MEETING at DRAYTON have been reprinted from the AGRICULTURAL GAZETTE for general distribution, at Two-pence each. They may be ordered of all Booksellers, and single copies will be sent free by post on three postage stamps being forwarded to the Publisher, 5, Upper Wellington-street, Covent-garden, London.

BEES—*Spes*—For Salvia nemorosa, we beg to refer you to an advertisement in another column.

BOILERS—*Sub, Oldham*—Mr. Shewen, of Seven Oaks.

BOOKS—*W O*—"The Rose Amateurs' Guide."——*E E T*—Neill's "Fruit, Flower, and Kitchen Garden."

EDUCATION—*W M*—If your master is really one of the persons who dignify themselves with the name of practical men, and were described by us a few weeks since, your had better try to change him. At all events study the principles of your business, and have courage enough to withstand the ridicule or opposition of the idle and ignorant. Your reward may be slow, but will be sure. The first thing to do is to cultivate your reason. The mental faculties are like the bodily, they rapidly acquire strength when used; they as rapidly become paralytic when neglected. Read Euclid; work at him till you can demonstrate the first ten propositions in his first book, without help. Nothing teaches you to think, and to reason justly, like mathematics. Then study Vegetable Physiology, as you find it in Lindley's "Theory of Horticulture," and get acquainted with the first principles of simple mechanics. All the necessary books may be had for a small sum. Having done this, we will advise you further.

GLASS—*Cottager*—The sample sent us is 16 oz. glass, the price of which should be 3½*d.* per foot. *S.*

GREENHOUSES, &c.—In consequence of the great numbers of applications which are continually made to us for plans, &c., we are obliged to state that we *cannot furnish* them. It is impossible to do so in a newspaper. All that is practicable is to point out general principles. It is for professional men to work out their details.

HEATING—*Subscriber*—We regret to say that we cannot make out the intention of your enquiry. Certainly do not use wood where heated air enters your house. We do not comprehend what covering for a hot-air chamber you speak of.

INSECTS—*F H R*—The grub which eats off the Primulas, by biting through the roots just beneath the surface of the soil, is the larva of a weevil (Otiorhynchus vastator). We know no other means of preventing its ravages at this time, and in its present state, than to take up a plant as soon as it shows the slightest symptom of drooping, and destroy the grub. *W.*

NAMES OF FRUITS—*J H*—Some of the specimens were much decayed; 1, appeared to be Hacon's Incomparable; 2, Ramilies; 3, Winter Nelis; 4, Winter Orange; 2 and 4 are stewing Pears.——*C P M*—Probably Easter Beurré.‖——*D A*—Climate, soil, and other circumstances occasion great variations in the appearance and quality of fruit; and hence, in many cases, absolute certainty of the names is impossible. Specimens are occasionally sent that possess none of the distinguishing characters of the respective kinds when fairly grown. The particulars of the locality, the nature of soil, &c., should be sent, as you suggest, along with the fruit, and likewise the names under which the varieties have been received, or which are supposed to belong to them.‖

NAMES OF PLANTS—When plants are sent to be named, it is most particularly requested that they may be in flower, and as perfect as circumstances permit. Most especially is it requested that the country whence they have been received, and whether they are annuals, perennials, or shrubs, hardy, greenhouse, or stove plants may be stated; because specimens by post are generally bad and incomplete, and much valuable time, which such information would save, is needlessly wasted.——*A K*—All common varieties of Cyrtochilum maculatum.——*Carrey*—One of the many varieties of Magnolia grandiflora.——*Dakry*—Chimonanthus grandiflorus.——*Enquirer*—1, Quercus austriaca? 2, Fulham Oak; 3, Lucomb; 4, New Lucomb; 5, Tauzin; 6, Turneri, var.; 7, Australis; 8, Ilex latifolia; 9, Fontanesii?¶

ROOKS—*A Subscriber* would feel obliged to any of our correspondents who could inform him of the best preventative (excepting the gun) for securing bulbs in flower-gardens from rooks, which are very destructive to them.

SHELTER—*K*—We cannot commence private correspondence. As to the advice you seek, it can hardly be given well, except on the spot. The apparent course for you to pursue is to get up as fast as you can a screen of trees (no matter what) that grow quickly. Scotch Firs, Pinasters, Sycamores, Poplars, Hollies for undergrowth, Laurels, &c. &c., will soon make a stout belt if they are assisted at first in the manner shown at p. 419 of our volume for 1842. Your Chrysanthemum leaves are destroyed by damp, cold, and bad ventilation.

SULPHUR—*G J C*—We think not. You had better use flowers of sulphur. Mix it with white-wash, paint the flues or hot-water pipes with the mixture, put on fire, and close your house for the night.‡

VINES—*C B*—Train a foot from your sheet glass.‖

MISC—*T V*—The Cha-cha is the Sicyos edulis, *alias* Sechium edule. It scrambles like a Cucumber, and requires the same treatment.——*A Subscriber*—We are not forgetful of the subject referred to by you; but in our opinion it is desirable to wait. We have good reason to believe that something satisfactory is in contemplation, and we are not desirous to disturb good intentions. We have not received the letter to which you allude. In a part of your criticism we do not concur, but we cannot go into explanations in this place.——*G T C*—It is doubtful if you can procure it at all, as the Number has been long out of print.——*Planter*—A good tree guard, and a handsome one, will be found in our Volume for 1846, p. 136, to which we beg to refer you.‡——*J R*—Horncastle should have been Horns Castle. We know nothing more about the matter.‡

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those numerous correspondents, the insertion of whose interesting contributions is still delayed.

FOR WHEAT, RYE, TARES, &c.

THE URATE OF THE LONDON MANURE COMPANY, Four Guineas per Ton. After seven years' experience in the manufacture of the above MANURE, the Company confidently recommend it as one of the cheapest and most permanent of all artificial dressings. Availing themselves of the many improvements in the sciences of artificial Manures, the URATE is now so adapted that the food requisite for a rotation of crops is fully maintained. The Urate will be found most valuable at the present season, either drilled or sown broadcast for Wheat, Rye, Tares, &c. The London Manure Company also supply genuine Peruvian Guano, Gypsum, Sulphuric Acid, Superphosphate of Lime, Bone Dawdust, and every article of artificial manure. E. PURSER, Sec.
No. 10, Bridge-street, Blackfriars.

The Agricultural Gazette.

SATURDAY, JANUARY 8, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.
THURSDAY, Jan. 13—Agric. Hortic. Imp. Soc. of Ireland.
THURSDAY, — 20—Agricultural Imp. Soc. at Exeter.
FARMERS' CLUBS.—Jan. 21: Halesworth, Debenham.

WHAT is true ECONOMY in AGRICULTURE? When a man shall have learned the full answer to this question he will have reached the *ne plus ultra* of his agricultural education. For this is its proper object:—His instruction in the true economy of the art. Economy of system—to regulate the character of the farming by its circumstances; economy of material—keeping in mind that fertility is not a qualitative so much as a quantitative affair; economy of means—involving the whole subject of labour, capital, and land, with the relations among them from which the best results may be expected; and economy in detail under all these heads: these are the subjects proper for discussion in an Agricultural Journal—or for the lessons of an Agricultural School.

We do think it most desirable that Agricultural writings be well leavened with a full appreciation of the *material* character of Agriculture as an art, and of the economical bearings of this art not merely on national but on individual interests. The wonderful light which has been thrown upon the subject matter of such writings by the scientific men who have, of late, turned their attention to it, must not be allowed to dazzle us. The magnificent relations to the whole range of physical truth in which Agriculture has been shown to stand, must not be allowed to hide from us that the most important aspect which it presents is that of an art on whose profits the whole maintenance of very many depends—nor must the pleasant food which it supplies to the mind make us forgetful that its main object is the production of bread and cheese for the body.

Agriculture, properly speaking, is not a science—"it is no mere mental exercise." No doubt its facts, like all other truths, range themselves under one or other of the physical sciences; but the science of Agriculture, so called, has no existence. The practice of the farmer is related to *many* of the sciences—so much the more need for his liberal education: but Agriculture is an art, and bodily training is necessary for him as well as mental. The proceedings of the chemist, himself, will illustrate this: it is Science which indicates his process, but not a step in it can be taken without Skill; his manipulations may be guided by the one, but they must be conducted by the other; and both are necessary to a successful result. No doubt waste would arise in such a case from ignorance of the atomic theory which is at the foundation of chemical science; but so also would it follow the breakage of the apparatus which is contingent on the absence of skill. And, we contend, that in Agriculture also, the manual skill of the practitioner is as necessary to the successful prosecution of the art as are the mental resources of the theorist.

This will appear if we further consider the question:—What is true economy in Agriculture?

It is the skilful adaptation of the existing means to the best possible Agricultural result. Or, supposing money to be a correct expression of value—it is the Agricultural investment of a given money capital so that it shall yield the largest annual income. Of course we cannot condense the library which such a subject might fill, within the limits of a Leading Article; but it may serve a useful purpose, if, thus early this year, we enumerate some of the topics it involves, so as to exhibit—it may be, for the guidance of correspondents during the year—how practice and science must go hand in hand to the attainment of an economical result.

(1). In Agriculture, then, *as a manufacture*, involving considerations of raw material and its various paths of progress to the state of finished goods, the objects should be, Avoidance of waste—and Rapidity of process. And we shall find that their attainment, so far as it exists, has been a consequence of Practice *with* Science. Thus, Chemistry has taught the value of much that has hitherto been wasted—the liquid manure of our yards, and the rain-water which has generally been helped to run *off* our fields: and the practical skill of the mechanist and the farmer has devised methods of applying them to useful purposes. And in the processes of the manufacture itself (for Agriculture is a chemical manufacture), though the science has taught in what proportion the various ingredient of food for plants and food for animal ought to be supplied, it has not yet dispensed with the need of experience, for it does not yet profess to indicate *quantities* of each that are required. No doubt, here, as in other chemical manufactures, the Atomic theory must furnish the whole doctrine of waste—but when shall the chemist succeed in applying it to the rough processes of feeding and manuring?—On these points, no doubt, we shall, for many year to come, be left to the guidance of what is little better than guesswork.

As regards Rapidity of process, too, we have received the combined assistance of science and experience. The manufacture of (animal) machines, which shall convert the raw material most rapidly into the best description of goods—though now reduced to something like certainty—has been brought to that pitch by practical men alone, after a tedious history of various success: while the application of similar principles to the improvement of plants, which promises so much, though hitherto so neglected, has been the contribution of science.

(2). Consider, now, Agriculture *as a money investment*, and see how the skill, to be acquired by experience alone, still remains an essential. This appears in the work of selecting and valuing a farm, and determining the mode of its cultivation, with reference to markets for its produce: it appears also in the management of labourers, and in the acts of sale and purchase on which the profits of farming mainly depend: it appears, in fact, in the whole money transactions of the business, matters of which no science takes cognizance.

(3). Doubtless, it is in the *details* of Agriculture that science has thrown the most useful light on the economy of the art. We have not space to do more than merely refer to this subject: but our readers will immediately recur to the various new fertilisers whose qualities it has indicated, and to the sources of waste in the processes of animal and vegetable growth which it has pointed out. Here, however, as in all other departments of the art, skill and experience are needed to apply the suggestions of science so as to make them profitable.

We contend then for PRACTICE WITH SCIENCE as the proper motto, not only for Agricultural societies, but for all Agricultural writings and instructions whatsoever. The business character of the art, as the bread-winner of so many, lays a heavy responsibility on those who assume the position of Agricultural instructors—it renders the dogmatism of the mere theorist a most dangerous thing. We believe Agriculture to be one of the most intellectual occupations, but we also believe that it never yet was profitable to the man who had received for it an intellectual training *alone*.

LAND DRAINAGE REPORTS.—No. II.

MARLEY HALL, NEAR LEDBURY, HEREFORDSHIRE.—I have much pleasure in responding to your call on the land drainage question, as far as my experience goes, and hope that the following short history of my little farm will enable you to pick out something that may be useful.

In August, 1842, I bought a farm of about 130 acres, called as above. It was then all pasture but 15 acres, and so wet from spring water that, in that summer month, it soaked under foot on riding over it. Anxious to do a little (preparatory) to all as soon as possible, I got between 20 and 30 men together, and drained the whole farm by February, 1843, with 3-inch drainers, laid on flats 2 feet 6 ins. deep, mostly across the slope, 30 feet apart. In the year 1843 I cut more hay by nearly 50 tons off 70 acres than my predecessor had in 1842 off the whole of the pasture, viz., nearly 115 acres. It is true I used about 3 tons of guano (with fine soil mixed), for manure I had none.

My land is very deep, and naturally loamy, almost all with a marly bottom; hence the name of the place, I presume. My intention was, if necessary, last year to put in more drains within the 30 feet intervals; but till last autumn I saw no occasion; all was as sound and dry as could be wished, and a new character of herbage was fast appearing, the fruit and other trees were beginning to lose their mossy coverings, and that which remained readily yielded to the brush and scraper on the former, all of which were gone over.

I have now 80 acres under the plough all freed from hedgerows, superfluous ditches, and timber; indeed, except externally, all my arable divisions are ideal. The ground is perfectly dry now, but I found progressively that the transverse drains did not continue to serve their intended purpose, and that where the fall was not in duly regulated and deep proportion to the intervals, the water found its way very near, and in some instances above ground, between the two drains. This led to my removing most of them and relaying down the fall, and in other instances cutting drains down the fall into the transverse ones, making them mains, as it were. This has proved effectual, i.e. I may say that where I put in fresh drains at greater, I cut them from 3 to 4 feet deep, and kept them, as previously, 30 yards apart.

Tiles are unreasonably dear, [illegible] by no means first-rate. The cost I estimate at from [illegible] 3*l.* per acre, including everything, and I don't think I have now a wet spot on the farm. Though in 1842 it would have been difficult to find a dry one, and from being proverbially the poorest land in the parish I am (having kept plenty of well fed cattle, and used my liquid manure, ploughed deep, and cropped frequently) often told it is too good for corn crops, and that I may now challenge most of my neighbours; since I last autumn ventured to offer a prize for the best cultivated farm in the parish, and which was reserved to me for want, I may say, of a competitor.

I am satisfied that true and effectual draining must be with the fall of the land, and not as recommended that the occupier should be the best judge of the necessity, but that moderately deep, say from 3 to 4, or even 5 feet, are preferable to 2 feet 6 inches, and that the [illegible] are far more serviceable than [illegible] carrying away water quicker, but by far are they [illegible] in them during the summer months, extending among the furrows on each side the cutting, [illegible] them to set near freely every year, and that [illegible] and careful account to produce, taking everything into consideration, more particularly their [illegible] cost, diminished length, the necessary [illegible] number used, the additional carting and [illegible] the difference will be found not more than 5 or 7 per cent. in favour of the latter, in price of [illegible] of effect.—*Thomas France, Marley Hall, near Ledbury, and Ham hill, near Worcester.*

A TOUR IN ENGLAND.

SEVERAL centuries ago—on the [illegible] the Rose—the principal communication that existed between Scotland and England was by means of mail-clad warriors, for the per[illegible] burning towns and hamlets, and [illegible] and human beings. No doubt [illegible] occasionally adorn the pages of their history, but [illegible] the dark catalogue of events; but times have now changed, and if some incipient vestige of the olden state of things still exist, its [illegible] inhibited in an inky effusion from [illegible] traveller who having careered over [illegible] field with railway speed, making a [illegible] county, a dash at that one, a [illegible] and sailing along as many more, with [illegible] showers around his judgments in [illegible] murders more men than ever [illegible] self, believes more falsely than [illegible] our ancestors, and commits blunders innumerable; but the old reivers, even in their [illegible] acknowledged excellence in friend or foe, as [illegible] recollect of

"[illegible]
[illegible]
And said 'Each [illegible]
Would I had [illegible]"

No such magnanimity characterises [illegible]. [This refers to a "Tour in Scotland," by an English correspondent, published in last year's [illegible]. Whether the order of things has now [illegible] place as that no such thing as mark [illegible], I am not affirm, but as this state of feeling is [illegible] contagious, should the following remarks show any tendency to underrate or undervalue the exertions and merits of a particular branch of English agriculture, I must some allowance will be made for [illegible] example.

On Lammas last, before my own [illegible], I found myself journeying along at no [illegible] pace towards the south of England, where on [illegible] downy slopes, and in the balmy air of the Hampshire Downs, I meant to form an acquaintance with the [illegible] of matters on the great chalk formation. Having seen [illegible] in its application to the arts, and chalk in its [illegible] domestic economy, of course much [illegible] occurred to me. Entering Hampshire by the [illegible] south-western railway, I perambulated a great [illegible] the county, visiting Andover, and onwards [illegible] ing to Stockbridge, Winchester, and [illegible].

There is much sameness of outline in the appearance of the county, for as chalk forms the substratum [illegible] hills, no rugged eminences present themselves, but only rounded knolls, with gentle slopes and [illegible] and the hills may all be cultivated [illegible]. On many of these eminences, such as [illegible] are the remains of the Roman encampments. There is nothing grand or striking in the scenery, but there is beauty in many of the beautiful slopes that look green and [illegible]. The wild plants by the [illegible] the eye of the stranger, and many [illegible] luxuriate in their native air. The Clematis [illegible] elegant festoons from many a copse, and the [illegible] is trained along the house fronts: and these [illegible] farm-houses, with walls of clunch and massive [illegible] of thatch, latticed windows, and thin white smoke curling upwards from their roofs, look so picturesque: but the outlook from them being into the [illegible], and these huge bastilles of barns forming generally the opposite sides of the square, the association destroys the effect. There is surely much room for improvement in the formation of the buildings that form the farm offices. Yet I saw several new erections proceeding on the old plan.

Much better, surely, to employ the massive beams for railway sleepers, than send "out of Britain into Scotland" for them, as King Hudson has it, and put the grain crops into stacks, and with the addition of steam threshing machines, for which the size of the farms will compensate, much more benefit will be had from a less expenditure of money, although a high price be paid for coal thereafter.

The porous chalk affords a dry bottom to the roads, and the flint a first-rate material for making them; they are generally fine. The soil consists of disintegrated chalk, mixed with a light hazel vegetable mould, slightly sandy, dry, and porous, with less or more flints. There is some whitish coloured soil on this, the upper chalk, as well as on the lower formation, but on the lower there are few flints, and rather a stronger marly soil. On the down lands the soil may not be more than 4 inches deep, but it increases in the low land to six or more.

There is a great want of enclosures over this county, seemingly arising from the system of folding sheep, rendering less necessity for fences, and in this it resembles the outfield system pursued in Scotland 100 years ago, where the produce of the distant land was all consumed around the farm steading; here the sheep feed on the down during the day, and are folded on fallow at night, a practice which seems to have been handed down from the time of the Romans, as both Varro and Pliny allude to enclosing sheep with hurdles, to prevent them straying, and for the sake of their dung, a practice which, in most other districts, enclosures have superseded with manifest advantage to the land and animals also. Large stacks of Sainfoin adjoin mostly each farm. This appears to be a favourite plant, and to be worthy of the place it occupies; from 1½ to 2 tons is the produce per acre, and a good bite beside for sheep in the autumn; it is sown with a white crop, and pastured the first year, and should the land be clean it is cut for five years thereafter without top-dressing of any kind, the roots drawing largely from the chalky subsoil. The hay forms a welcome support for the sheep during winter, or it may be sold from the farm at about 3*l.* per ton, or rather more. The abundance of this hay as winter food for sheep seems to have acted as a sedative to their attempts at raising that most valuable root the Turnip. Nothing in the whole management of the district seemed so lamentably defective, broad tracts of friable soil admirably adapted for the culture of this plant, and on which in the Turnip season the seed had been sown, either broadcast or in narrow drills on the flat, presented but a few straggling plants, making one to exclaim

> "Shade of the mighty can it be
> That this is all remains of thee?"

Even to speak, however, of "shade" is out of the question, for it is not obtained. Still there are to be seen several instances of Swedes succeeding, a plain proof that it is not the land or the climate that is at fault, but the system. I saw in many instances where the Turnips had failed that dry fusionless manure was being spread from waggons (drawn by three or more horses) for the purpose of growing Wheat the next season. As much of this manure must have been lying withering in the yards when the Turnip was sowing, it certainly would have been far more economical to have had it turned over, watered from the pond in the corner, and applied to the land in ridgelets from 2 to 2 feet 6 inches apart, according to depth of soil, and with the addition of 1 or 2 cwt. of guano, or dissolved bones, and the Turnip seed deposited above it, a good crop would be obtained (and the Wheat besides), even one-half of the crop could be removed from the field to be consumed in the yards or cowhouses, with cattle, whereby the straw would be converted into far richer manure, and sufficiency of it procured to make an advance upon the breaking up out of pasture of the downs, the existence of which in their present state in such a climate, is certainly an anomaly. Nor would the extent of grain crop be diminished by so doing; instead of the partial fallowing, there would be Turnips, followed on the suitable soil by Wheat, or when it was rather thin, on the hill tops, by Barley, and then seeds; pastured for either two or three years; and, lastly, Oats; bringing the whole country under cultivation. Of course I say nothing of Sainfoin, as it would require a division of the farm for itself; but should the six shift course be adopted, a part of the farm could be sown with it each season, and the six-year-old portion ploughed up. Many advantages would attend this course. First, the barbarous practice of taking two white crops in succession would be abandoned; next the land that has been so often Wheat would gain a respite for a year or two longer: as many sheep could be kept as at present, and cattle in addition. Although a good many Oats are raised in many parts of the county, yet the general crop was very inferior; and as I am inclined to believe that the climate is rather dry for their profitable cultivation, another white crop might be substituted for them in the last year of the rotation. But whatever system may be pursued, the basis of it ought to be the Turnip crop and Swedes; once obtain full crops of these roots, and any change will be easier brought about. To do this, more labour must be applied to the proper singling out of the plants. The usual custom of a strong powerful fellow, with a serviceable hoe, walking along, striking here and there, leaving four or five plants in one spot, more in another, and knocking all out further on, won't do. The work must be carefully done, and youths will with much more ease acquire the practice of leaving such plant in the row at the proper distance from its fellow, than older people. Nothing can prove the folly of persevering longer in the broadcast or the 9 or 14-inch row plan of sowing Turnips than the experience of last year. On leaving the Lothians the crops (where Beans and Turnips are invariably drilled 28 or 30 inches wide, with the bulbs 10 inches apart in the row) were most luxuriant; and generally, until we reached Normanton they had a fair aspect, some broadcast spots excepted, but from this southward to the Watford station had a miserable appearance, and all broadcast. Between that station and London some fields of Swedes in wide drills looked well, as did also some I saw in Hampshire, Sussex, and Surrey.

It is perfectly obvious that unless an abundant supply of nutriment is within reach of the tender rootlets of the plant, that it languishes, becoming an easy prey to all sorts of insect life, or the vicissitudes of weather. Changes take place very slowly in agriculture; whether it is so ordered, because so many human lives are dependent on the consequences of the failure of any crop, it is hard to say; but sure enough the leading facts, which are the basis of modern improvements, were well ascertained 2000 years ago by the Romans, such as draining, liming, ploughing, hoeing, harrowing, sowing grain in rows, a rotation of crops, the use and application of manure, choosing and changing seed, steeping it in nitrous solutions, all our present species of grains, and others that now appear to be lost; even Turnips were cultivated by them—facts which, were some of our modern would-be discoverers to digest, they would have more patience with the immovability of others; but so it has always been.

> "We think our fathers fools, so wise we grow,
> Our wiser sons no doubt may think us so."

—*J. M. B., Mid-Lothian.*

BOX FEEDING.

In Summer.—Rye-grass and Clover or any other green crop cut into chaff of about an inch long, with the addition of ground Linseed made into compound.

In Winter.—Seven-eighths straw—one-eighth hay with Turnip tops or Wurzel leaves cut into chaff, with the addition of Linseed as above.

To Make the Compound.—Fill the furnace with water to within 6 inches, and when boiling strew by hand one-fifth Linseed meal to four-fifths of water, a boy stirring the meal in till it is well mixed (damp the fire); let the mucilage simmer about five or six minutes, when it will become a strong jelly. Into a large tub put about three bushels of the chaff, adding enough of the mucilage to wet it; mix and ram well down, then add more chaff &c., mixing and ramming down every three baskets. The compound is then covered over, and in about two hours, the mucilage being absorbed by the chaff, may be given to the cattle. If it is wished to push the cattle on, sprinkle a small proportion of the meal of Barley or other corn upon each layer of the chaff and mucilage; also Swedish Turnips, Carrots, or Wurzel cut small may be added to give the compound a flavour. Altogether the above compound will be found, at the present juncture, extremely economical for fattening, rearing, or maintaining store stock.

Directions for Feeding in Summer.—(At five in the morning and three in the afternoon.) Give each beast about half a bushel of the compound, feeding the remainder of the day with chaff. Water once a day. *In Winter*—(Morning five o'clock.) Begin with half a peck of the compound to each beast, continue this food till the beasts are nearly satisfied. (At seven and nine.) Feed with half a bushel of cut Swedes to each beast at twice. (Eleven.) A feed of the compound. (Afternoon, at one and three.) As many Swedes as the beasts will eat, a little at a time. (Six.) A good feed of compound, leaving for the night. The boxes must be well littered twice a day and cleaned out every three or four months. Food to be given a little at a time, the troughs to be cleared every meal, and well cleaned every week.

Utensils required.—An iron furnace to hold about 40 gallons, an iron stirrer (like a small mashing stick), an iron bowl with a handle, a Linseed crusher, tub or stone cistern of about 100 gallons, wooden rammer, a bushel basket, chaff cutter, Turnip cutter, a fork with four flat prongs, a common bucket with an iron handle, a skip or box to hold about a peck, a bin with partitions for Linseed before and after crushing. In fixing the boiler it should have a curb of wood six inches deep, sloping back; this will prevent the mucilage boiling over.

The undersigned having had the pleasure and privilege in July last of visiting the patriotic Mr. Warnes, and witnessing the very thriving condition of his cattle fed as described, is most anxious that his brother farmers should benefit by what he believes to be the most economical plan of cattle feeding; he therefore feels it his duty to make this system as public as possible. One of the great advantages of box feeding is the value of the manure, which should be carted direct from the boxes, and either ploughed into the land at once or made into compost hears by making a bottom of about one foot thick, of burnt clay, scouring of ditches, road scrapings, or any other mould; then lay on the dung about three feet thick, treading it well, to prevent fermentation, and cover the whole with earth about half a foot thick, in which state it may remain till within three weeks of the time it is wanted to lay on the land, when it should be turned, carefully mixing the whole together. He has also the gratification of stating that several members of farmers' clubs in this county are now following this plan, and that two members of the Monmouth Club have built regular boxes. The gentleman who has taken the lead is Colonel Scudamore, of Kentchurch-park, who has 20 boxes. Mr. Pride, of the Cwm, near Monmouth, has just completed 10 (which may be denominated tenants') boxes, at a sum not exceeding 20*l.*—*R. W. Purchas, Hon. Sec., Monmouth Farmers' Club.*

THE POULTRY FACTORY.

ALTHOUGH the hatching of eggs in ovens, hot sand, and by other means, is not quite novel, there is decided novelty in the manufacture of poultry by machinery and hot water. By these means I positively saw the other day upwards of 1200 cocks and hens, chickens and ducks, thriving admirably. The eggs were got from the farmers and dealers in the surrounding country, and were put by the inventor, a Mr. Cantelo, into his patent machine, which he calls the hydraulic incubator. Externally it resembles a shop counter, and has drawers inside, in which the eggs are placed in contact with a sheet of patent Macintosh cloth, over which there flows constantly a stream of warm water from a connected cistern, heated by a peculiar vessel full of charcoal to 105°, the natural warmth of the breast of a hen. The eggs being placed in the drawers, which have a perforated zinc bottom, are pressed by a wedge up against the waterproof cloth in such a way that the top of the egg only is buried in the warmth; thus exactly imitating the breast of a hen. Every day they are withdrawn for 20 or 30 minutes, as a hen leaves her nest for about that time to feed. At the lapse of 21 days after being set, the drawers full of eggs become animated, and hundreds and thousands of chickens in natural perfection appear. These are immediately removed into other drawers, filled with chaff, in a warm place to dry, when they are removed to another part of the machine called the mother, which is heated with warm-water pipes, and over which is laid a flap of baise to resemble the wing of a hen. There the little things nestle, pressing their half-fledged backs against the warm pipes for the first day, when they begin to show a disposition to seek food. That is suitably provided in a small open space, where they run out, take a few pecks, and then again nestle against their mother—the warm pipe. It is perfectly amazing to see how they grow. Departments are provided for chickens and fowls of every age, up to the coop in which they are fattened for the table.

The inventor has, I believe at great cost and labour, brought the principle to practical perfection, and in a superior manner to any that exists in either Turkey or Egypt, where it is carried to a great extent, and where chickens are positively sold by the bushel. Every minutia of nature is imitated; and by the care which is taken, much fewer eggs are lost than when left entirely to the care of the common hen. Poultry, produced in this way, will lay eggs all the year through, so that it is only necessary to have a stock to start with, that the affair may go on, *ad infinitum*, to give fresh-laid eggs and poultry for the million.

It has been estimated that there are 480,000 farmers in Great Britain; now, suppose these to send 20 head of fowls each on an average to market every year (some will send many more and others none), that will give 9½ millions per annum, which is only about one-third of a fowl to each member of the community. Many do not taste chicken all their lives. In Egypt it is estimated that 98 millions of poultry are reared every year for a population of only 10 or 12 million inhabitants, which would be about 8 or 10 chickens apiece annually to every person, which looks like luxury.

Now the cost of every commodity in this calculating country is the rub. To bring up an ox to 1200 lbs. weight may take five years, and it is a fair estimate to allow on an average the produce of an acre of land for a beast every year. For the sake of simplifying the calculation say that the crop every year was to be Barley, and allowing 5 quarters to the acre, that would be 25 quarters or 200 bushels, which, estimated at 30*s.* a quarter, makes the ox of 1200 lbs. weight to cost 37*l.* 10*s.*, or about 8*d.* a lb.; whereas it has been clearly, from actual experiment, calculated that 75 bushels of Barley will in 96 days produce by this patent process 1200 lbs. weight of poultry for 15*l.*, being within a fraction of 3*d.* a lb., not to speak of the large quantity of *guano* which remains. Truly we may exclaim, this is the age of invention! What I have stated may be seen in actual operation this day within a sixpenny ride of London. It is neither my wish nor intention to make this an advertisement, and I suppose the inventor does not require any, for he told me that he had secured his contrivance by patent over Great Britain and her colonies, the Continent, and America, and he sells the poultry as fast as he can produce them; but if you think it would instruct or amuse your readers, your insertion of these observations in your entertaining *Gazette* will oblige—*M. A. C., Nov.* 20.

Home Correspondence.

The "Tour in Scotland."—Since your correspondent, "Veritas," avows that "he is not to the least extent connected with agriculture himself," his bold contradictions of my assertions would not have been noticed; but since, fortunately, another of your correspondents, who does know what he writes about, has given him a flat contradiction, and confirmed my statements on two important particulars, I have extracted the passages from their answers, and placed them in juxta-position.

With respect to the draining, I gave you my reasons for condemning it; and my reason was that I saw a great deal laid in the Carse of Gowrie with horseshoe tiles without a sole. I say that this is a bad method; and the Scotch say so themselves, for they are now generally adopting the pipe-tiles, and very often putting a piece of a larger pipe for the two ends to fit into. Although "Veritas" knows nothing of farming, he might know something of the administration of the Poor-laws in Scotland, and he cannot gainsay the report of Lord Melville and Mr. Smythe, of Methvin, by which blue book we learn that the Scotch think 8s. 6d. per annum a sufficient allowance for an old woman totally unable to provide for herself; and lest he should say that that is now altered, I recommend him to read the reports, just published at Glasgow, of the society for asserting the rights of the poor, and then let him talk to us again about the poor-rates as a burden on Scotch farmers. I again repeat that the high rents paid by Scotch farmers are partly extracted out of the miseries of the poor. Now for the extracts:—

> We are told that our cottages are filthy in the extreme. A visitor of cottages, as I am, I meet the statement by declaring that at least in East and Mid-Lothian it is untrue. *Veritas.*

> "N. A. D. P." gives a strictly correct representation of the state of the cottages and houses of the middle classes, excepting that instead of the cottages having two apartments 10 feet square, they are more generally constructed as one large apartment about as many yards square, without any ceiling or partition of any kind, and a mud floor. Nothing can exceed the wretchedness and the total disregard to comfort and convenience of sort or kind which the cottages in Scotland present.—*One who has whistled at the Plough.*

> But we are ignorant of feeding! Be it so. We may be ignorant of its theory; somehow or other we have got acquainted with its practice, and though your correspondent denies us all the skill of which we boast, our markets prove that as finely fed oxen leave our stalls and cloves as England, famed for its roast beef, has ever produced. *Veritas.*

> "N. A. D. P." accuses the Scotch farmers with a total ignorance of the breeding, rearing, and fatting of stock, which is a part of agriculture that will not suit the purpose of the lowland farmers. Corn is what they hitherto depended on to pay their rents. The breeding and rearing of stock has been left almost entirely to the upland farmer, and as to fatting, there *is* no market for high-fed animals in Scotland. —*One who has whistled at the Plough.*

My tour was not a hurried one; I have known every acre of that district for 40 years. I knew Strathearn, when, besides a few Oats, it contained nothing but a little Flax and heather. The farmers of Scotland are intelligent, and have done well; but Scotch farming is not equal to Scotch boasting; and it is a curious proof of this that whilst Scotchmen fill gardens and every other department of industry, they are wise enough never to farm in England with their own money, though they will readily enough farm as bailiffs with the money of their masters.—*N. A. D. P.*

Flax Culture.—I beg to inclose you an extract from a provincial correspondent to the *Doncaster Chronicle*, on the cultivation of Flax. May I be permitted to request you to draw the public attention to the discrepancy there is between the statements here made and those contained in Mr. Warnes's book on the same subject. [The communication referred to, for which we have not room, is written by Mr. Wells, of Booth Ferry, near Goole, in answer to Mr. Dickson, who has frequently advocated Flax culture in our columns. Mr. Wells's experience is against the high profits which have in many instances attended the cultivation of this crop.] A person can scarcely read Mr. Warnes's detail of his own experience in the growth of Flax without deciding at once to follow in the same important and profitable track; but it should seem that the path is not yet so smooth, nor the course so direct, but that the traveller thereon may become sloughed by the way, and when he least suspects it. The matter is too important, nationally and individually, to be abandoned without just cause; at the same time the few who are willing to make experiment for the future good of the many have a right to expect that they should not unnecessarily be misled. Since Mr. Warnes's book was written (though it was reprinted in 1847), and the result of his own practice tested, free trade has been established, and prices have been generally reduced in consequence, so that Flax is not saleable now at much more than half its former price, and the best Russian Linseed is purchasable at 48s., weighing 30 stone (at 14 lbs. the stone) per quarter. At these prices will Mr. Warnes continue to advocate his practice as remunerative? It is important to the public to know this, and to be furnished with data thereon in sufficient detail to justify the undertaking in the present state of affairs. It is to be hoped the above observations may fall under Mr. Warnes's notice, and that he will favour us with some comment on the subject. It may be well also, if others competent, from their experience, on either side of the question, will give us their views. In two months' time the decision of many will have to be made as to their adoption or rejection of Flax, as one crop in their course. Many are desirous of the experiment, but are afraid public opinion is, in the main, against it: landlords are generally against it, and there is much prejudice in the way, without doubt, also. You have already said much on this subject, and much in its favour. We need a revival of it, and I think you cannot serve the agricultural interest better than by rendering your paper subservient to that revival for the elucidation of fact—fact that will sanction experiment in the year 1848. In this investigation not only either should the deep alluvial lands often found on our sea coasts, and the peculiar climate of the sea-side, be taken into consideration, but inland stations, and different characters of land, limestone as well as siliceous, and clay as well as sand. It is a shocking contemplation which many landholders never think certain, that the inferior lands of the country must gradually go out of cultivation, from ceasing to be remunerative. Every effort in the way of experiment to counteract so awful a lapse should be made by those who can: hard to make it, and all publicity given to the results. The consequences are too serious not to merit the deepest attention.—*A Midland Tenant Farmer.*

American Plough (p. 861, 1847.)—At the meeting of the Society of Arts, reported at p. 861 last year, the result of some experiments in draught of an American plough and two English ploughs were given. In that report the American plough-share was 5 inches deep and 11 wide; the other ploughs the same depth but less width by 3 inches, and the result decided in favour of the Staten implement. Now, we desire to know if these figures as to depth and width are correctly given, and if so, is there a farming society or a good piece of ploughing in England that would pronounce land well prepared for drilling or dibbling with such ploughing? P.S. Was the field under Grass?—*Agricola.* [We do not know. The figures we believe to have been correctly given; and we doubt not that there are many judges and some farmers' clubs that would pronounce the land well ploughed; but certainly we should differ from them.]

The Oil-gland in Birds.—Ridicule and harsh language seldom strengthen an argument. Therefore, in replying to your very able correspondent "D." I shall confine myself to plain words. The truth is, that the article he reasonably complains of, was not intended for publication. But having been accidentally written at the back of another article, both were sent together to take their chance of approval. An apology is, therefore, due, and hereby given by me for having misunderstood and misstated what was said. Nevertheless, permit me to point out that your correspondent has also misrepresented what I have said by misquoting my words. I, by no means follows that because I did "partially furnish information on caponising," having seen the easy and by no means cruel operation performed in several countries, in one single instance to oblige the editor of this Journal, that "D.'s" raillery is justifiable. Nor is he more correct in ridiculing me, for "one who seriously records, page 842, Sept. 25, 1847, that invalid fowls in very aggravated cases may derive benefit from a clyster." The above is a misquotation; my words are very different, and they are those of an eminent naturalist, and are as follows: "in very aggravated cases a little sweet oil has been said to be very effectual." Can "D." gainsay this recommendation? Why, indeed, should "D." laugh at any one who would give information upon a generally unknown though most lucrative practice, with which every farmer's and cottager's wife ought to be acquainted, by which they could easily add from 20*l.* to 200*l.* a-year to their incomes. I admit that few physiological subjects can be admitted into the columns of a newspaper; it is, therefore, a reasonable question whether the pages of this Journal be the best medium for imparting this information, but I cannot admit the justice of "D.'s" rebuke, on the false, artificial, and fastidious score of delicacy or cruelty, of any "one who furnishes this information" privately or publicly, when he himself daily encourages and sanctions this practice, much more cruel on calves, sheep, and pigs, than on fowls, if he eat meat, or is not a follower of Pythagoras, every day at his own dinner table. Therefore, to be consistent, it "D." disapprove of capons, he must eat no more ox beef or wether mutton, but only bulls', cows' and calves' meat, rams' and ewe mutton. I will also ask, why instance an operation or experiment which is outrageously cruel, unjustifiable, therefore impracticable? The exception is too often made the rule, therefore what he truly stated, by the general rule, as not justifiable, "amputating the rump of a duck or goose," is too liable to be essayed by the ennobling who would make it an exception, and justify the act on the score of necessity for the benefit of science. I therefore suggested a less cruel expedient, equally efficacious, the excision of the gland only, which is frequently absent accidentally. As "D." wishes, I will particularise the case before alluded to: a chick accidentally got under the kitchen range, when a small red hot ember falling upon the gland completely obliterated it. My poultry are well sheltered, and seldom allowed exposure to rain; this fowl was kept for about four years after the accident, and did as well in health and plumage as the rest. But I wish the result to be tested on water-birds, some fowl having two glands, whilst the common fowl has but one only. An array of great names, ancient or modern, does not settle a disputed point, being always found on both sides. A most pleasing statement of the facts in the controversy may be seen in last pretty "Monthly Volume" of the indefatigable Charles Knight, just published and illustrated with a neat engraving (among numerous others very artistically executed) of the Rumpkin, or Ceylon tailless fowl, probably indigenous to that hot climate, where the organ may not be so essential as in others. Another correspondent, J. Wighton, asserts that "D." has pretty clearly shown the absurdity of it: "the lubrication of feathers with oil, from the absence of the secreting organ in the one single variety above named. But the absence of it in one family only, goes no further than to prove, as says 'D.,' that [illegible] not perform the function [illegible] to produce it unless [illegible] opinion, that it must other species [illegible] for [illegible] may [illegible] from [illegible] feathers [illegible]. The purpose of [illegible] in the animal economy, no doubt [illegible], but—

[illegible]

—*D. S. E., Dec. 27, 1847.*

The Pig Stock.—[illegible] pigs are [illegible] to eat [illegible] Half a pound of [illegible] Mr. Harrison [illegible] for a fattening pig. We have long been in the habit of praising, but we confess we can not [illegible]. I [illegible] to [illegible] and [illegible] [illegible]; and [illegible] cannot be [illegible]. We used to feed our pigs upon [illegible], and the best [illegible] [illegible] as a [illegible]. In the case of [illegible] [illegible] Thompson. It is [illegible] for years, and [illegible] from this [illegible] and [illegible] [illegible] from grass, [illegible], and sweet [illegible]. A Durham man [illegible] [illegible] and Lymington and Cattlemarsh the best in the [illegible] of Lincoln.—*P. Q., Hants.*

General Direction for Draining.—All receiving ditches to be made [illegible] that the mouths of the drains may be 6 inches above the bottom. A clear outlet for all [illegible] carefully provided, that the water may run off with a current; 4 feet to be the minimum depth of the arable drains, and 3 feet of the pasture; in crossing all rises, the drains to be [illegible] accordingly. The drains [illegible] by the thickness of the bottom of the [illegible]; and, if it be [illegible] to [illegible] to insure their proper [illegible]. I think a covering of [illegible] or straw, or any matter, upon the [illegible], to prevent the earth from running into [illegible], and the [illegible] from getting [illegible] [illegible] falling in. These parts of the drains that are carried through live hedges, or near to trees, will [illegible] be checked with roots; they must then be taken up, cleared, and relaid: this may be necessary every fourth year. I prefer 1½ inch pipes [illegible] [illegible] master drains, for quantity of water [illegible], and the sizes [illegible] [illegible] [illegible] 2-inch ones. And [illegible] [illegible], I admit 1½ in. pipes, should be never on purpose to receive the side drains. In carrying drains through [illegible], or across running sands, they should be [illegible] as much at first being taken out as the state of [illegible] will admit; the drain should be left open a day or two before the next spit be taken, and so on, till the whole depth be obtained, so that the tides, as it were, precede, may gain solidity before [illegible]. These rules I have thought advisable to lay down for [illegible] of the drainers wherever draining is [illegible] my directions, and may be of service to others; I [illegible] refer them to your readers' notice.—*Hewitt Davis, 3, Fenchurch-buildings, Old Jewry, London.*

Allotments: Proposition.—The serious consideration of fully employing all classes of the community should be the first subject [illegible] New Parliament; [illegible] no better system can be carried out, if we may feel grateful for this assurance, than by so ameliorating the management of the poor, as to make their [illegible] or the constant [illegible] test of their relief. I mean not in the [illegible] only, but generally, in all places where an abundance of population exceeds the demand for labour. That plenty of waste and poor land can be procured for this object in every county, and almost every parish, by purchase or rental, no doubt can be entertained by any person; the employment of labour on the land is not only conducive to health and habits of industry, morality, and good conduct, and more closely unites the natural and essential ties between the rich and the poor and the old and young, but it also eventually raises the lowest classes of the poor from abject poverty and crime, to a flourishing and happy community. It would [illegible] consumers for our manufacturing productions, it enables the poor to purchase more comforts upon the fruits of their own exertions; if we want a greater abundance and variety of food to satisfy the cravings of hunger, or for an increased population, or to render cheap labour more useful to the manufacturers and others, we fall into [illegible] the numerous productions of that land that now brings us in aid or nothing, by the grand machinery of vegetation, that moves incessantly, as our will and said, and various purposes may please to direct; and if we want more trade and commerce, or accumulation of capital, they increase with our productions from the soil, in an accumulating ratio, that grows with our growth, and spreads wealth and happiness to every class of society, not in England alone, but to the Scotch and Irish also. P.S. It is a singular and important observation, that the productions from the well cultivated gardens and allotments often yield double the quantities of produce to the farmers lands adjoining, and this arises principally from the greater use of manual labour that attends the management of them; shewing the probable beneficial effects of forming horticultural schools of instruction for the young of classes

of the poor, and in spreading spade husbandry as much as possible.—*Humanitas, Oct.* 1847.

Salt.—A retired captain of the East India Company's navy, whom I saw in the autumn of 1820, was then mixing with the headland of a field lime slaked with water saturated with salt. He assured me that he had from it better crops of Potatoes, Wheat, and Clover than he had from stable dung or Cork town manure, and that he had 10 barrels of 2¼ cwt. each of Potatoes more to the acre. The Clover which he shewed me on the Wheat stubbles was excellent. The quantity applied to the acre was 40 barrels of lime (I believe 160 bushels), and sufficient water to slake it took up about 2 cwt. of salt.—*J. W. M. Goodiff.*——In reference to the article on common salt by Mr. Mechi, which you published on Saturday, will you allow me to ask of those experienced in the use of salt for cattle whether they consider Mr. Robinson's opinion borne out by their observations, that it is "highly prejudicial to breeding animals." In my bullock-yards, and in the bins also of those tied up for fatting, are placed lumps of rock-salt; the same is done in another yard where the year-lings and two year-olds are, and very much I am con-vinced it tends to keeping them in health; but I have also lately introduced the rock-salt into my cow-house, each cow having a lump to lick at her pleasure. Will this interfere with the filling the pail?—*R. P. Kemp.*

Common Salt as Manure.—In the month of April last I top-dressed a portion of a field of Wheat with salt at the rate of about 6 cwt. per acre. I inspected it very frequently during its growth, until it arrived at maturity, and never could perceive the least variation in the plant, neither in the colour of the straw, quality, or yield of grain differing from the other; it also ripened at the same time. I likewise top-dressed another por-tion of the same field with superphosphate of lime with similar results; both were hand-hoed immediately after the application.—*Wm. Pippet, Downside College.*

Extraordinary Instance of the Tillering of Barley.—A single grain of Barley was sown in the garden of Mr. Squires, of Cirencester, in the spring of this year; it produced 75 stems, 50 good ears, 20 indifferent ones, and 1795 grains of Barley. The plant and produce are carefully preserved, and presented to the Museum of the Royal Agricultural College.

The Tenantry of Badly Farmed Districts in England.—When Mr. Huxtable was asked if he would allow the tenants to remain on their farms around him, his reply was—None! Why? because they possessed neither capital nor skill. The same answer may be made of hundreds of tenants who are perfectly unfit to occupy farms. Many tenants have had the mortification to return to the condition of a labourer (though better for them), whilst others have obtained the situation of bailiffs, and at the same time very little fitted to be such. Tradesmen who have failed in business will take a farm, become ruined, and are again seeking more humble employment. Many farms in Hampshire, as well as in Dorset, are in the hands of men unfit to cul-tivate them. Where rents are moderate the tenant ploughs and sows his best fields, and leaves others over-run with weeds and Furze which might be very profitably cultivated. Again others occupy farms at a high rent which have been cropped and scourged by half a dozen bankrupt tenants before them, and can barely pay their rent and wages. In both these cases the tenants were badly selected, and the great fault lies with the proprietor or his agent in the letting of these farms. Land agents or stewards who have manors and farms to manage, demand rents where the estate cannot produce the rental; but they do this solely to gain favour with their employers, and in many instances deal very harshly with tenants. Lord Stanley very lately made some most judicious and practical observa-tions on the leasing of farms, and pointed out the injus-tice dealt out to tenants in general. Ladies of manors are well known to make very bad squires, but the real blame rests with their agents. If an owner of an estate takes it into his own hands, he is told he is depriving a class of men (*i.e.* tenants) of their livelihood—that they know nothing of the custom of the country—that any new system or experiment they may try or adopt are so many "maggots." And many farmers, who might derive great benefit by being spectators of these maggoty operations, join in the outcry that no gentleman ought to manage his own estate, still less to rent any land. They show a decided hostility to those who employ many hands, or pay more reasonable wages; abuse new implements, and endeavour to excite a prejudice against them. Some of the Hampshire tenantry are now dis-charging one and two labourers each from their farms; and, as a consequence, the poor-rates will be increased: and nothing can be so slovenly as the state of the hedges and ditches on these farms. We do not for one moment wish to condemn all these men; there are many good tenants. It is the chaff of the tenantry we would wish to winnow. The time is at hand when a different class of men will become tenants. Persons of superior education and intelligence, and also possessed of a larger amount of capital; and it is by such men as these we trust to see the land improved and its pro-ducts increased.—*X. Y. Z., Hants, Nov.* 6.

Waste of Manure.—A great benefit would be con-ferred on the agricultural community could you, through the columns of the *Gazette*, furnish some method of estimating the loss occasioned by the washing of farm-yard manure. An instance has come under my ob-servation during the late heavy rains, where the manure (which has been collecting for six months past, and which is intended for the green crops next spring) and the rain and water streaming from the eaves and gutters of two thatched barns, a range of cart-sheds and stabling for 10 horses, has been saturating the whole mass, and for three or four days there has been run-ning from the yard a continual stream of highly-coloured water, resembling in appearance "Barclay's London stout," and staining the water in the roadside ditches for a long distance; and thus the most valuable, because the most soluble, portion of the manure-heap has been wasted and lost. It is a most desirable thing in culti-vating the land that a proper course of cropping should be strictly observed, and that the land should be deeply ploughed, and, as far as possible, be kept free from weeds, that no unnecessary exhaustion may take place. But highly important as are the above points in main-taining the fertility of the soil, not less important is it to prevent the immense waste of manure by the drenching rains of winter. If, in the process of ale-brewing, we were first to saturate and wash the malt, and then commence brewing with the husks that were left; and, after duly fermenting the produce of the brew-ing, we were to find it deficient of the invigorating and stimulating property of alcohol, we would not be much surprised, and yet this is just what takes place with our farm-yard manure. We may cart it to the mixen in the field, and even though it be covered with earth, turned, fermented, and carefully covered again, and when drawn abroad for use it be immediately ploughed in, and the seed deposited in the soil, the seeds may vegetate, but if no soluble manure be at hand the plant is weak and grows tardy. And then we talk of the unkindness of the season, the unkindness of the soil, but that washing away, that wasting of the soluble food adapted for the digestion and nourishment of the plant, "that, that is the unkindest cut of all." The food that should invigorate and sustain the plant in its infant growth is miles away, deposited in the bottom of some unhappy ditch, or by some river has been carried away and lost in the sea. This is an evil that is unfortunately wide spread and deeply seated, and calls aloud for a remedy; and a step in the right direction would, perhaps, be gained if we knew how to estimate the loss in pounds, shillings, and pence.—*E. Curtis, Gatcombe, Newport, Isle of Wight.*

Swine Pens in the North of Portugal.—In answer to a correspondent about pigsties, I will endeavour to describe one I have seen upon a most extensive scale, near Mellagaço, in the north of Portugal. I never met with anything equal to it, except that of Messrs. Lescher, the great starch manufacturers of Whitechapel, London, for ingenuity, convenience, and cleanliness. It can be applied on any scale and number of pens, from 1 to 100. It was placed on a large piece of land on a gentle de-clivity of a rising ground. By this ingenious selection of the spot it could be irrigated in a few minutes, and washed in a very short time by means of a stream of clear spring water brought through a conduit from a neighbouring mountain. These conduits abound all over the Peninsula, are led into basins from jets and fountains on the road-sides, for the refreshment of cattle and travellers, at which I have often slaked my thirst, the source or spring being distant frequently 50 miles or more. The Portuguese and Spaniards no doubt borrowed their notions of agriculture, of which irrigation forms a part, by means of aqueducts, conduits, and tanks, stone being everywhere at hand, from the Moors or Arabs. These people overran the southern parts of those countries, and retained possession of the petty kingdoms and most fertile and salubrious provinces of Algarve, Andalusia, Granada, &c., for several centuries. The stupendous remains of their aqueducts, palaces, castles, and fortifications, to this day testify of their science and their wealth and powerful sway. They were then the greatest mathematicians, architects, horticulturists, and agriculturists. Many of our arts and sciences are derived from these infidel nations; many of our newly discovered implements and mecha-nism I have found recorded in old books, mills for grinding, threshing and sowing machines, and several others. . . . . Each of the sections contained 4, 8, 16, or 24 pens; each pen or yard was capable of contain-ing from 30 to 50 pigs. On one side of the yard of these pens was erected the day sty or shed, facing the S.W., and on the other side opposite, the night sty or shed, both neatly covered with pantiles, which exclude wet, but allow free circulation of air between them; the roofs leaned back from the yard, so that the wet from two roofs ran into one gutter (instead of spouts into the yards). By great ingenuity the floorings of both sties were removeable at any time, and being composed of strong (latticed) open woodwork, raised a few inches above the sloping tile-paved yards, little or no moisture could rest long on them. By this clever contrivance all was kept dry, sweet, and clean, with little or no comparative trouble, and few hands, as the yards could be washed while the pigs were in the sties. One section or oblong square of pens sloped one way, from left to right, while the contiguous one sloped from right to left, towards a path between them, in the centre of which ran a main drain, which led into a dung pit at some distance. Each yard also formed two de-clivities, with a gutter in the centre of them, into the main drains; so that every other path, all being parallel to each other, was the centre for a main drain. The whole ground-plan was therefore one grand slope, each section again sloped, and two other slopes in each yard, constructed on the nicest angle. Each pen had a gate opening into one of these parallel paths. The night sties had two strong doors, the day sties a strong lat-ticed front, with a wide folding gate in the centre; a portion of the latticed front also opened with hanging flaps, opening wide enough to allow the pigs to reach the troughs outside in wet weather. These troughs were supplied from the outside, from the paths, by means of spouts which led into them, and from carts, each drawn by two men. The dimensions, extent, and number I cannot find, but there must have been over 50, as the herd numbered over 2000.—*D. S. E., Nov.* 25.

Societies.

BLANDFORD AGRICULTURAL SOCIETY.

At the late annual meeting of this Society, Mr. HUX-TABLE entered into some details to defend the practice of shed-feeding sheep, which he had lately discussed at the Sturminster meeting.

He said:—One of the objections often made to my mode of fat-tening sheep is, that the expense of carting Turnips to their sheds, and the manure back, must eat up all the profits. Now, in order to remove vague objections and to state the conditions of the problem fairly, I beg to say that I am not speaking of a breeding flock, nor of fattening sheep in the summer or in the early autumn, when the pressure of their little feet is so much needed to consolidate the land for the Wheat crop; but of sheep that are to be fattened in the wet winter months on land 660 feet above the sea. And I shall consider it as proved by pre-vious experiments, that, in exposed situations without shelter, sheep will consume one-third more food than those protected from the weather. Let us, then, see what is the expense of carting their food. I will suppose all the Swedes to be half a mile distant from the buildings in the centre of the farm. Now, this would not be a small holding, if you remember that a square mile contains 630 acres of land. I assume all the Tur-nips to be half a mile distant, which of course could not be the case; but this greater distance assumed would compensate for the irregularities of draught in ascent and descent. It takes two men six minutes to load a one-horse cart with a ton of Swedes; they would, therefore, keep on five one-horse carts, and each cart would make two journeys, in an hour. The wages of the men are 3*s.* a day; the work of the horse and boy loading, I take at 3*s.* 6*d.* a-day; and the working hours to be eight. According to this calculation, each ton of Swedes deli-vered at the shed would cost less than 6*d.* And let us call the cost of carting back another 6*d.* Then the whole expense con-nected with the procedure is 1*s.* at the outside. But, by assump-tion, the sheep eat one-third less in the sheds; that is, two tons of Swedes thus consumed are equal in value to three eaten out of doors. Can anything, gentlemen, be more conclusive, that shed feeding sheep is far more profitable than grazing out of doors? But I have greatly understated my case; I deny the possibility in certain situations, and in wet winter seasons, of profitably fattening young sheep at all. I may mention another subject of criticism. Some object to my giving along with corn boiled mashed Swedes to fattening pigs, stating that they would do much better on meal alone. Now, if it be meant that pigs would fatten more quickly on meal only, I assent to the objection; but if it be added, and more profitably too, I join issue; for I know that all animals require bulk in their food, and that I can give them the starch they want more cheaply in boiled roots than I can in Barley or any other corn. Very many flattering things were kindly said just now by Mr. Bankes; but there was one little point from which I venture to dissent. Speaking of certain projectors who had a plan for amending the climate and superseding the sun, he added, "But Mr. Huxtable has been too busy with the soil to be able to attend to the sky." Gentlemen, I hope that this is not the case; my own conscience protests against the charge; and I hope that my Bishop won't believe it (Laughter.) Why this year I have sent a tall spire towards that said sky; and my crops grew as though they thought that they were to build the church. But I have a word also to say in defence of our much abused climate even as regards free trade. I know well enough that we have not the suns of Egypt to ripen our Wheat; but if the moisture we experience be bad for grain, it is good for Tur-nips for green crops, and therefore for stock; and it is a cer-tain law, gentlemen, that the farm which can keep most stock will ultimately grow the most corn. The nation that consumes the most meat will be able to do the most work. Thus it is that Englishmen have the stoutest hands and the stoutest hearts. In France they eat less and less animal food, and do not raise 14 bushels of Wheat per acre; and why? they have finer sun-shine, but they have little rain in summer, and so they cannot raise Turnips; and so likewise they cannot rear sheep and cattle as we do; and therefore they are compelled to eat less meat because it grows every year scarcer and scarcer. I must, therefore, repeat the language of confidence I held at Sturmin-ster. Even if our prospects were darker, I would still preach hope. It is ever wisest to do so.

"Sure, if looking well won't win her,
How can looking ill avail?" (Cheers.)

At the same time I cannot help thinking that under the banner of free trade, we, the agriculturists, have not fair play. We have many just causes of complaint. Nor do I think that the Government behaves justly to us. I do not speak of taxation, but of the present law of settlement, which is by far the greatest burden that presses on the agriculture of this country. So long as it lasts the labourer cannot take his labour to the best market, nor the farmer obtain the best labour for his money. As agriculture advances, the need will become greater of what I even now feel to be my greatest difficulty to obtain—skilful labour. Would it be possible for a manufacturer to carry on his delicate processes if he were compelled to employ only such skill as the parish in which his machinery worked could furnish? He would scoff at the very mention of such a law. And as capital is increasingly invested in the operations of husbandry, we must be permitted to cull from the labour market of the world the best hands we can get. I could illustrate the necessity of this, if my friend Mr. Seymer, had not anticipated me in his remarks on skilful labour. I believe that if the area of settlement were greatly enlarged, the labourer would have a better market for his capital; the landlord would not object to build sufficient residences for the workmen required in his parish; and above all, the farmer would no longer feel compelled to employ a man, perhaps the worst in the neighbourhood, merely because he has got a parochial settlement. Such a law depresses the energies and skill of a good labourer, lowers the rate of his wages, and takes away from his bosom the hope of bettering his condition. I feel confident that ere long the agricultural body will demand of Government to free them from the incubus of so unjust a law. We do not want protection, I humbly think), but we want justice and fair play, and then with the best staple of labour in the world, and with the increasing capital and skill of English agriculture, I know that in your hearts you do not and need not fear. There is yet one more matter in which Government may most essentially benefit the resources of England's soil. I have recently been reading the admirable report of the sanitary commission. One of the prin-cipal causes of disease, and grounds for apprehension of the ravages of cholera, is the miserably defective state of the sewer-age of our great towns; and the remedy suggested is, that every house should have a perpetual supply of water, and every house a water closet, and the whole sewerage of a district to be brought into one great outlet. The report says not what should be the ultimate destiny of that stream; but we, who know that in the order of nature, the refuse of the animal is the life of the vegetable kingdom, cannot doubt that the rich food is intended not to taint our rivers and then be wasted in

the ocean, but to restore to our fields the elements they have lost, and then that which, wasted or neglected, causes pestilential vapours, would, if properly diluted and restored to the lands be far more fertilising than the streams of the Nile. In this town alone, if the calculation of science be trusted, there are in the refuse of a population of 3400 persons, ingredients enough to raise 365 acres of Wheat every year. Gentlemen, by the use of resources thus placed at our feet, by converting that which, when neglected becomes, by a just judgment on human improvidence, the source of weakness, disease, and pestilence into the elements of fruitfulness and life; by reliance on Divine Providence, which no class of men in their earthly calling, not even they who "go down into the sea in ships," ought more deeply to feel than the farmer; by kindness to the labourer, and the employment of British skill and capital, I believe that with "Free Trade," we shall maintain and advance not only our national, but also our agricultural pre-eminence.

Farmers' Clubs.

HARLESTON, *Dec.* 15: *The Game Laws.*—Resolution: "The evils attending the excessive preservation of game as regards the owners, occupiers, and tillers of the soil, as well as the public in general, are now so well known and admitted that the Club feels it can offer nothing new upon that point. It is disposed, therefore, rather to turn its attention to a remedy for the present system; and with this view suggests that it is unjust in principle to raise a revenue from the permission to destroy property which cannot be identified; and thinks, therefore, that no license should be required for that purpose; but, considering all wild animals as the property of the owner of the soil on which they are fed or found, would recommend such a trespass law as would secure to those who maintained them the privilege of destroying them." The above old-established club held its annual dinner on the 22d of December, when a very agreeable evening was passed under the presidency (in the absence of the chairman, Mr. Gedney) of the Secretary, Mr. R. B. Harvey, the only alloy being the resignation by these two gentlemen, of the offices they have so long held. Mr. Harvey stated that his inability to give up sufficient time to the affairs of the club was the sole cause of his resignation, and expressed a hope that some younger member would now relieve him of its duties. He congratulated the club on its successful position at the termination of this, the tenth year of its existence, believing that during its course it had been instrumental in originating opinions both in the practice and principles of agriculture, which, by general consent, were now admitted as sound; and he trusted that as it had been one of the first in the field, it might be the last to expire, so long as there were practices to improve or principles to advance or defend. These sentiments were cordially responded to by succeeding speakers, and after a vote of thanks had been passed to Mr. Gedney for his long-continued and highly valued services in the chair, and to Mr. Harvey for those of the secretaryship, the club proceeded to the appointment of members to fill the vacant offices, selecting for the former George Durrant, Esq., of South Elmham Hall, and for the latter Mr. Francis Dix, of Dickleburgh.

STINCHAR AND DUISK, *Colmonell, 6th Oct.*: *The Improvement of Moor and Moss-land.*

Mr. ROTCH, of Drumlamford, said, the description of land prevailing in the high districts of that parish, did admit, in his opinion, of profitable improvement, by means of drains, lime, and culture, which operations have, according to his experience, converted such land, or rather barren moor, worth only from 2*s.* to 3*s.* per acre, into good grazing and fair cropping land, worth from 25*s.* to 30*s.* per acre when sown down. A common opinion used to prevail in this district, that moorland that had been ploughed and cropped, when laid down to graze, would not pay to plough again, and put through a rotation; in fact, that such land once broken up would naturally deteriorate. He had been told some years ago by experienced farmers, that this sort of land, with some 12 inches of black soil, or 12 or 15 inches of red soil, with a white till substratum, might produce heavy crops at the first going through, but that it would never crop well again. Now his whole experience of improving such soils went to disprove this notion. He had disproved that theory by numerous instances of improvement; but in one case in particular, he had purposely tested the matter, by selecting three acres on the side of a hill, which he ploughed without previously draining, and he had for the last eight years white cropped this piece of land alternately with green crops—the white crops being Oats and Bore, and the green crops Potatoes and Turnips—and what was the result? Had the land got worse, or become worked out? Quite the reverse; his last crops were his best, and the soil had yearly deepened and improved. Again, with other parts of his moorlands, which had been reclaimed from a waste state, he was, after draining and liming and sowing out, now in his second course of cropping, and obtaining better crops than he did on his first going over the ground. Now, how does this happen? How is this brought about? He explained the matter thus:—"The old plan followed when I came first into the district was, after liming, to crop the land as often in successive years as it would grow white crop, and until the black top, which the liming had converted into a productive compound, was rendered so thin and exhausted, that when the plough brought up the cold, inert, red subsoil to be mixed with the black matter, the till mixture overcame or poisoned any little remaining fertility in the supersoil, which then refused to yield further white crops; the ground was pronounced 'worn out,' and left to grow, or to graze as it best could—a monument of human ingratitude. How, under such a scourging and objectionable system of tillage, could our lands be expected to grow a succession of white and Grass crops? But what course do I follow, and how do I get such land to yield productive crops of grain, green crops, and Grasses? My system is to drain and lime thoroughly—say from 60 to 70 bolls per acre—take a white crop, then plough deep or trench-plough for a Potato crop to be put in beds. In this way I get up some of the best red stuff to mix in the Potato beds with the black earth and lime, while in full strength, and the consequence has always been a good crop of Potatoes. The red soil, by such admixture and exposure to the action of the lime and atmosphere, becomes itself a valuable and fertilising material. Following out such a system of management and cropping—draining and liming, white cropping, and ploughing deep for green crop—I always found the land and crops were better in the second going through; and I have allowed some of my sown out Grasses to lie out to graze for six years, and they are fresh, thick in the sole, clean, and good at the present moment." Such is Mr. Rotch's system of improving waste moor land. But it will be asked, will such improvement pay a tenant? Mr. Rotch's reply upon this head seems satisfactory as regards his own high lying soils. He stated that he had kept regular accounts of the expense of his farming operations, and could state that his whole average expense of executing such improvements would be covered by 12*l.* 10*s.* per acre; and that he had found himself repaid the principal and interest laid out at the end of the first five years, leaving his land which before was not worth more than 2*s.* 6*d.* per acre now worth from 25*s.* to 30*s.* per acre. Suppose a tenant of capital, with a lease of 19 years, to adopt such a course of improvement, would it not pay him well? To the landlord, of course, such improvements were doubly advantageous, as they were of the nature of permanent improvements, enhancing the value of the landlord's property. As he (Mr. Rotch) cut the drains and supplied the lime to his tenants, to encourage their following out such a system of improving, they would, of course, be in pocket all their own outlay sooner than the end of the five years.—The Chairman of the meeting having called upon Mr. Rotch to explain how, and in what soil, he had grown the Carrots which had that day carried off the first prize, he said.—"The ground (situate nearly 500 feet above the level of the sea, was a deep moss which had been wedge drained. It had been then limed heavily, and white cropped to pulverise the sodden surface. It was then green cropped with Potatoes, and limed again in the drills. It was again white cropped, growing 70 bushels (of 39 lbs.) per acre of Oats. When in stubble, and the ground firm, I carted out upon it from 35 to 40 cart loads of common farm-yard manure per acre. I then caused the land to be spade trenched 2 feet deep, the old pulverised surface being kept on the top, and the manure being put down about 15 inches. Before putting in the crop, I carted out my Melon-frame manure, and some of the best rotten dung I had, and dressed the Carrot ground again, say at the rate of 20 cart-loads per acre, worked under the pulverised surface, say from 6 to 8 inches. I then drilled the ground, putting in about 1 cwt. of guano per acre, and sowed my Carrot seed, which I got from Messrs. Gibbs and Co., seedsmen, London. My Carrots brairded well, and were perfectly wed, cleaned, and thinned. I kept an account of the expense of manure, seed, and weeding, which amounted to 13*l.* 15*s.* per acre, valuing my manure at 2*s.* per load, and paying 8*s.* per cwt. for the guano; and I was offered a few days ago 40*l.* per acre for the crop. The expense of working the land was not heavy, as the moss land was easily trenched with the spade. The ground was now in capital heart, and would yield a great quantity of Rye-grass and Clover for soiling in the offices, which were not a hundred yards off. From such facts, corroborated by my experience for a number of years, I am convinced that such a system of improvement, judiciously and energetically executed, will pay well—either landlord or tenant—or both."—Mr. M'CULLOCH of Glenduisk, had improved moss land similar to that spoken of by Mr. Rotch. 1. He drained before white cropping in hard land, putting the drains down 2½ feet; in moss land, 3 feet; and where these run toward a hill or knoll, he put the drains deeper into the rising ground; next, he sometimes limed, and took a white crop, following this with Potatoes, worked into beds, liming these before back-covering; the Potatoes were then followed with a white crop sown down. In some ground when improving he found it to answer well, first, to drain in the Grass—or natural state—then, to work the ground into order for Potato beds—manuring and planting, next liming, before back-covering—followed by white crop and Grasses. These operations were arduous and expensive, and would in many instances not remunerate a tenant, unless he was encouraged with a lease of 19 or 21 years, and received such aid as Mr. Rotch afforded to his tenants, viz., lime, and the expense of cutting the drains. Mr. M'Culloch said, that independent of the expense of the drains and lime, the expense of working such land into a productive tilth or state of pulverization was very heavy upon the tenant. It could not be accomplished, in fact, by the tenant without extra horse or hand labour, unless other departments of his farm operations were neglected. It was one thing for a landlord to improve, and very different for a tenant; and to effect improvements through the latter, landlords ought to give great encouragements indeed.—Sir CHARLES FERGUSSON remarked, that the question, properly considered, should not be viewed as either a landlord or a tenant question, but whether land, such as was condescended on by Mr. Rotch, and of which there were vast tracts in the district, could be profitably improved. If this were once settled in the affirmative, the landlord or the tenant, or both, would come to see their respective interests, and to co-operate in a fair and reasonable way in effecting the improvement of such waste land. He understood the soil in question to lie high, in a cold climate, and to be of a naturally moorish nature. If such a description of land would pay, surely there were many other unimproved tracts of superior site and circumstances, which would pay better. The length of lease, no doubt, entered into the question, so far as the tenant was concerned. First, then, what length of lease would be safe for a tenant to improve such lands upon? Next, would the Government drainage money, advanced to the tenant at 6½ per cent., with a long lease, be adequate encouragement for him? These were fair questions, still, as he remarked before, the main question was—could such and such land be profitably improved? If so, it could be so improved either by the landlord himself (as in Mr. Rotch's case, before detailed), or by the tenant from his own capital, drawing back his outlay, interest, and profit of excrescent rent, upon a lease of considerable endurance; or the improvements might be executed by the joint co-operation of landlord and tenant. He quite approved of such discussions as the present, but thought that both tenant and landlord should take an enlarged and liberal view of the matter, meet each other half way, and go heartily together in the accomplishment of improvement so beneficial to themselves, and to the community, wherever there was a reasonable prospect of effecting such obvious improvements as had been referred to that night.—*T. H., Wigton Free Press.*

Farm Memoranda.

TYWARNHAYLE, NEAR REDRUTH.—The following account of this farm was given by Mr. Karkeek, at the late annual meeting of the Cornwall Agricultural Society. Mr. Karkeek stated that Mr. Trethewy, Mr. Tresawna, and himself, went out to Messrs. Davey's farm, for the purpose of seeing the method of feeding cattle lately introduced there. The farm was taken in by the Messrs. Davey, but a few years since, from the common at Tywarnhayle. The plan consists in feeding cattle in loose boxes, on a compound of Linseed and Rye meal, prepared as follows:—23 lbs. of crushed Linseed is gradually mixed with 21 gallons of boiling water in a copper; after which, 84 lbs. of Rye meal and a handful of salt is added; the mixture, having been well stirred, is cast into moulds, forming cakes of 7 lbs. each. The quantities of ingredients above mentioned will make 36 cakes, and the whole can be manufactured by a man and two girls in about one hour. One of these cakes, with ¾ cwt. of Swede Turnips and a bushel of straw and hay chaff (which last is also mixed with Linseed mucilage), is given to an ox in six meals per day. The method of preparing the Linseed and chaff is by dissolving 12 lbs. of bruised Linseed in 240 lbs. of boiling water; this is poured on straw, chaff, and hay, equal to 50 bushels, in a shallow cistern; whilst one person gradually pours the boiling mixture over the chaff another person turns and tosses it with a beater till the liquid be perfectly absorbed. The expense of feeding an ox in the manner here described is about 1*s.* per day. The consumption of the compound is gradually increased in quantity. Some feeders give from 14 to 21 lbs. per day, being nearly in the same quantities that Linseed cake is given. The advantage derived from the use of the compound over the oil cake are very considerable. The oil-cake costs, on an average, from 10*l.* to 12*l.* per ton; whilst the Linseed compound can be manufactured with either Pea, Bean, Barley, Indian corn, or Rye meal, at from 6*l.* to 7*l.* per ton. Again, from the various trials which have been made by practical farmers, of the feeding qualities of the two articles, the advantages are in favour of the compound, weight for weight. The utensils required for manufacturing the compound are a 30 or 40 gallon copper, a hand mill for crushing the Linseed (cost 30*s.*), a half-hogshead or two, half a dozen moulds, a large cup, a three pronged fork, and a wooden rammer, the whole of which may be purchased for 3*l.* Mr. Karkeek next described the Messrs. Davey's system of box feeding. Their boxes are about 9 feet square, and 3 feet 6 deep; it is said is quite sufficient, below the surface of the continuous excavation, and having sliding bars between the boxes, and a sliding trough placed in the bars for holding food and water. The bars and troughs are made to slide upwards, as the manure accumulates underneath. Messrs. Davey's cattle had been placed in the boxes and fed in this manner for six weeks up to Saturday last; and there was scarcely the slightest effluvia arising from the dung. From the constant treading of the cattle, the dung becomes so consolidated that at the end of three months, when it is removed, it is generally cut with a hay knife into solid cakes about 2 feet square. The Messrs. Davey having tried the system only six weeks, cannot speak of its practical value; but from reports of practical farmers of the highest respectability, there is reason to believe that cattle may be easily fattened in this manner in four months; besides which there is the advantage of making a rich and valuable manure. Mr. Karkeek went on to say that, having some doubts respecting this method of feeding, he wrote to Mr. James Daubuz, of Offington, near Worthing, who had pursued the system for some time. Mr. Daubuz's reply was:—"I purchased eight Devon oxen at Barnet fair, on the 11th of September, 1846, at a cost, including expenses, of 98*l.* The cattle were examined by a Cornish friend of mine, who pronounced them to be a very indifferent lot; they were in very moderate condition. They had the run of the stubbles till the 11th of November, when they were put into the boxes and fed on the Linseed compound, manufactured from Linseed, tail Barley, and tail Peas; commencing with only half a cake per day for each ox, and finishing with three cakes—averaging two cakes per day. They consumed in this manner up to the 15th of March—

Tail Barley, 7½ qrs., at 24*s.*	£9	0	0
Tail Peas, 7½ qrs., at 36*s.*	13	10	0
Linseed, 3 qrs., at 56*s.*	8	8	0
	£30	18	0
Besides one bushel of steamed hay, half a cwt. of chaff, and one bushel of white Carrots or Swedes, each per day	10	2	0
	£41	0	0

They averaged on their sale, 21*l.* 6*s.* 3½*d.*, the total being 170*l.* 10*s.* 4*d.* Mr. Karkeek went on to observe that in using "compounds" of this kind, there was the additional advantage of being enabled to consume profitably on the farm, a large quantity of offal corn which would otherwise be forced into the market, depreciating the value of good corn. Mr. Daubuz, for instance, fed the eight bullocks entirely on offal Barley and Peas. In conclusion, Mr. Karkeek stated that Messrs. Davey had been growing their own Flax on some of the land lately reclaimed by them from St. Agnes' common. The fields were four acres, and put into Linseed and Clover in April last. The crop of Flax was a fair average, and that of Clover was abundant. But, leaving growing of Flax altogether out of the question (although there could be no doubt that it might be profitably cultivated, since it was found indigenous in the county), there could not be a question of the importance of preparing a cheap material for the manufacture of beef and mutton, whether by cultivating Linseed in this county, or by importing it, for the purpose of being formed into a compound with some of the farmers' home productions.

Reviews.

Pigs: their Origin and Varieties, and Treatment, &c. &c. By H. D. Richardson. J. M'Glashan, 21, D'Olier-street, Dublin.

This is a cheap little volume, giving the natural history of the hog, describing its varieties in the domesticated state, detailing its management as to breeding and feeding, and containing, besides, a chapter on the diseases to which the animal is subject. We extract the following from the chapter on feeding and general management:—

"Those who make pig-feeding a business, and consequently keep a number of these animals, should so manage as to be enabled to provide for their maintenance and fattening from the produce of their crops. They should, therefore, especially as there is now a general failure of the Potato crop, crop with Beans, Peas, Barley, Buckwheat, Flax, Parsnips, Carrots, Cab-

bage, Lettuce, Lucerne, Italian Rye-grass, Clover, Rape, Chicory, Vetches, Sow Thistle, a most nutritious article of diet for pigs, but so much neglected, that it is as yet scarcely ever to be met with in a state of cultivation, or in any condition but that of a weed. Nor are we to forget, perhaps, the most important articles of porcine dietary—I allude to Mangold and Swedish Turnips; the latter especially, as being an article that sad necessity has recently, for the first time, brought into the full degree of notice it has always deserved;—and an article that is now found to be no less valuable for human food than it is admitted to be for the food of cattle. I could adduce numerous testimonials of the value of Swedish Turnips, and their superiority over the Potato in fattening pigs, but space will not admit of my doing more than quoting one letter, which appeared in 'The Farmer's Gazette,' of November 23, 1844:—

"'Ballymore, near Arklow, Nov. 18, 1844. Sir,—A great deal has been advanced as to the best and cheapest food for pigs. I have been in the habit of feeding pigs, for the Liverpool and Dublin markets, for many years, and until this last year, was in the habit of giving them steamed Potatoes, with a portion of broken corn, and now and then Bean meal. The latter article I have used very little, as Beans are seldom grown in my district, except by the lauded proprietors, and a few extensive farmers. I resolved, this year, to try, for experiment, if pigs could be fattened on Swedish Turnips, and am happy to say, at present, my herd are fattening as well as they were this time last year, when they were consuming a great quantity of Potatoes. Hay being so scarce this year on my small farm, I would have been obliged to buy a considerable quantity if I did not change my mode of feeding. The Potatoes my pigs eat last year I am able to give to my horses and cows, thereby saving my hay; and, I have no doubt but pigs can be fattened as well, though not, perhaps, as quick, on steamed Swedish Turnips. I give them as much as they can eat of the Turnips, mixed with a little broken corn, Wheat chaff, and about a pint of buttermilk to every three pigs, and I have every reason to expect, judging from their present improvement, that they will be ready for market about a fortnight later than I had them at last year, and, at least, one-half the expense. I bought them, in the beginning of September, for about 2*l.* a head, and if they continue to improve as they are doing, I have no doubt but they will average from 4 cwt. to 4½ cwt. at Christmas,' &c. &c. (Signed) J. K.

"The best possible mode of feeding pigs is, with a mixture of two or more of the roots or plants that I have enumerated, well steamed, and a little meal or bran added, or, instead of meal or bran, add brewer's grains, wash, half malted Barley, Pollard, &c.,—let these be well boiled and given moderately cool, and in a moist state.

"The advantages derivable from the use of hay-tea in storefeeding pigs was, I think, for the first time demonstrated to the public, some years ago, by Mr. Saunders, of Stroud, in Gloucestershire. Mr. Saunders was induced to try this diet with pigs, from an observation of its efficacy in weaning calves; his experiments were attended with the most unqualified success, and their results were laid before the public in the columns of the 'Agricultural Magazine.' In the manufacture of his tea, Mr. Saunders employed various sorts and qualities of hay, the most suitable were found to be Clover, Sainfoin, Lucerne—the tea produced from an infusion of these plants was then thickened with grains, bran, Pollard, any kind of meal most plentiful at the time, boiled Cabbages, Potatoes,—he had no Carrots or he would have used them. Mr. Saunders generally combined several of these ingredients in a mess, and found that one sack of Potatoes, when thus combined with wash, no other ingredients being present, went as far in feeding as four or five bags given in an unmixed state, the expense also being a great deal reduced. Mr. Saunders gradually increased his stock of swine to the number of 400, and, in the course of his experiments, he used upwards of 1500 hogsheads of wash, or about five hogsheads daily. His swine were thus maintained at a rate somewhat under 1*d.* per day for each—were in excellent condition, and many, indeed, ripe and ready for the butcher. He had previously been feeding upon Potatoes alone, and after he resorted to the new method of feeding just described, he, within a week or fortnight, found his stock improved in coat and skin, showing in the smoothness of the former, and the glossy and cleanly appearance of the latter, a corresponding improvement in the animals' general health and condition. Mr. Saunders used to store his Potatoes, after having been steamed, in casks, carefully closed, and found that, thus stored, they kept sweet for 12 months; and fermenting, generated a sort of spirit, which, he seems to have thought, by promoting sleepiness on the part of the swine, conduced to their acquiring fat with more than ordinary rapidity, as well as gave to their pork a peculiarly rich and delicate flavour. One sack of meal was, in this system of management, found to go as far as two would do under the old system, and he found also that thickening the wash gradually with meal, formed the best introduction to what are generally known as the higher and last stages of the process of fattening. In Mr. Saunders' calculations, he did not take the manure into consideration at all, but had he done so, of course, even his estimate of 1*d.* per day for the feeding of one pig would have been considerably reduced.

"The use of Flax-seed, as an addition to the other food for fattening swine, has been recommended by some; but such as have adopted it have found it not to answer nearly so well in the crude state as in boll, previously kiln-dried, and well crushed, so as to crack the seed, otherwise the animal will pass a large proportion of the seed in a whole state; the whole seed also acts as a purgative and diuretic, qualities which will be seen to be opposed to the secretion of fat. To prepare the bolls for food, steep them for 12 hours in water, which may be poured on them in a tepid state, but not at boiling heat; and, prior to giving the mess, add as much lukewarm wash as will bring it to the consistence of gruel. This wash may be produced from brewer's grains, or simply from Mangold or Swedish Turnips, well boiled and mashed, and given with the water in which they have been boiled: the addition of a proportion of bran improves the mess, and when one has it, it should not be omitted.

"The adoption of hay tea as the vehicle for mixing these ingredients, will be found also advantageous. Do not boil the Flax bolls,—boiling will produce a coarse, tough, and not very digestible mass; but steeping, on the contrary, furnishes a rich and nutritious jelly. Linseed cake is a good substitute for the bolls, and is to be given in a proportion of a stone, substituted for 17 or 18 pounds of ground bolls. Neither the Linseed cake nor the bruised bolls should be given, except in combination with a large proportion of other substances, as they are of a very greasy nature, and are apt to impart a rank flavour to flesh, if given in an unmixed state, and are, besides, actually more efficacious in combination. If you happen to have plenty of meal, the addition of a little to one of the daily feeds will be found to tell well, especially towards the close of fattening, a few weeks previous to transferring your stock to the butcher. The refuse of mills form a very valuable item in swine food, when mixed with such boiled roots as I have enumerated;—as, what are called starch sounds, the refuse from the manufacture of that article; also the fibrous refuge remaining from the manufacture of Potato starch. The scarcity of that root has now, however, rendered this refuse so scarce as to be scarcely worth enumerating."

Knight's Farmer's Library, &c. C. Knight, London.

The treatises on the horse and ox, which it has hitherto been the object of this publication to present, are now completed; and very excellent and instructive sections of the work they will form. The sheep, dog, and hog have yet to be included along with the subjects of poultry and bees in the first portion of the work, and then the more important topics, as we regard those connected directly with the art of cultivation, will be discussed in a second volume.

Miscellaneous.

Death of Mr. Burness.—The model farm of his Grace the Duke of Bedford, Woburn Park, sustained a loss last week in the much lamented death of Mr. Charles Burness, who has for many years superintended and carried out the great agricultural schemes connected with that estate with credit to himself and satisfaction to his employer, to whom his loss will be very great; and we fear his Grace will have much difficulty, if ever he succeeds, in procuring his equal in a successor, his judgment as an agriculturist having been for many years highly appreciated, and on very frequent public occasions most advantageously made use of as a judge at the annual agricultural meetings, where his great experience and indefatigable exertions made him a valuable acquisition to the agricultural world. The constant visitors to Woburn Park Farm in search of information will in him lose a friend, as he at all times felt great pleasure in imparting his store of well-gleaned knowledge to others. We are sorry to add, he has left a widow and eight children to lament his loss, to whom, we trust, his Grace will follow the liberal examples of his noble ancestors. As poor Burness was well known to be a just steward, he has left to his family a lasting legacy in a good name, but not riches.

Calendar of Operations.

JANUARY.

BEDFORDSHIRE FARM, *Jan.* 3.—Our horses during the past month have been employed in ploughing and carting sundry manures. Two horses have ploughed the Turnip land 6 inches deep; two horses following in same furrow moved the subsoil to the depth of 6 inches more. Green manure has been carried from the yards upon the stubbles as soon as made, without fermentation, and laid on at the rate of from 15 to 25 tons per acre. The manured land, previously subsoiled, received a furrow 8 inches deep; where subsoiling had not taken place, the land was cultivated with two ploughs following each other, as previously described. Carting liquid manure has occupied a considerable time. The late rains increased the quantity but diminished the quality. The general method of saving liquid manure, where rain-water mixes with and forms from 90 to 98 hundred parts, is certainly unremunerative to the individual who pays for the labour, what ever benefit may accrue to the community. The labourers have been occupied in pulling up Turnips and putting them in heaps of about 30 bushels each, and covering with straw and earth. Hedging, draining, threshing, attending upon stock and digging up waste corners, have given employment to many hands. The fatting stock of beasts receive a daily allowance of meal, Turnips, and hay-chaff. The milking cows are fed upon hay and a proportion of roots. Store stock are fed and treated according to their age and requirements. Those animals which are found unthriving amongst others of the same age, with the same kind of food, are separated from the rest, and treated with attention to their wants. The store stock are generally allowed (weather permitting) to run out to the Grass fields for a few hours each day. Fatting sheep receive about a pound of corn a day, with as much chaff and Turnips as they can eat without waste. Breeding ewes run upon the pastures through the day, and are supplied with Bean-straw, &c., in yards at night. Wheat is healthy. Both Wheat and Winter Beans received a salutary check from the slight frosts in the beginning of December. Hay has been economised by the mild weather. Large quantities of straw have been turned into manure. The operations of the field are in a very forward state generally.—*R. V.*

BERWICKSHIRE MERSE FARM, *Dec.* 30.—Since last report we have finished ploughing the Grass field with three-horse ploughs, two men with three single-horse carts delivering Barley at Chirnside Mill; four men with eight single-horse carts one day leading tiles for drains; five men with ten carts a half a day, four men with eight carts one day leading Turnips to the store; six men with twelve carts one day and a half, one man with a single-horse cart half a day leading Wheat to the barn; a man forking one day, leading Barley; a woman forking, one man and four women one day and a half threshing with water power; three women carrying away the straw; a man with a single-horse cart two days cleaning the stack-yard; a man and a boy feeding the cattle; a woman three days with the shepherd picking Turnips; a man one day making a fence for the Turnips; two men cutting thorns by the road.—*J. B.*

EAST LOTHIAN FARM, *Jan.* 1.—Work upon the farm for the past two weeks has been ploughing lea and Turnip land, likewise carting off Turnips that were pulled and laid into heaps previous to the frost: also threshing for litter for cattle in feeding courts. We have now commenced feeding with Swedes, the remainder of Purple-top Yellow and Globe Turnips are kept for the ewes. We have also been employed in carting stones for drains and filling in the same. Cutting hedges and digging and cleaning, &c.—*S.*

GALLOWAY FARM [580 arable and 40 pasture acres], *Dec.* 27.—The weather during last week proving at length favourable, we commenced on Tuesday last to store the Swedish Turnips from the carse land, which had been all "sned" some time ago. With 14 single-horse carts we led off, in the first three days, 900 loads (about 10 cwt. each), storing them in a heap on the headridge of the adjoining field, alongside of a farm road (by which access to any part of the heap will be got, in any weather, without injuring the land.) On Friday, Saturday, and to-day, we have led off 600 loads more, partly to the same heap, but chiefly home to the stackyard and feeding houses. The journey, going and coming from the field to the heap, was, on an average, three-fourths of a mile; each horse made 22 journeys, equal to 16 miles, a day, for the first three days; each filler (stout lads and women) filled 36 loads a day; and the crop, which is a very good one, will average 30 tons per imperial acre over an extent of 30 imperial acres, with scarcely a rotten Turnip among them. The heap, which is about 12 feet broad and 5 feet high, was trimmed by two men and two women, and thatched by one man and one woman as the work proceeded. For this crop the field was manured with 6 cwt. of the best Peruvian guano, and 16 bushels of bone manure per acre, at a cost of 5*l.* per acre. The quality of the land may in some degree be indicated by the rent, which is 40*s.* an imperial acre. An account of the cost of this crop will stand very nearly as follows:—

Rent per imperial acre	£2	0	0
Poor and other rates	0	1	6
Manure, viz., 6 cwt. guano at 10*s.*, 3*l.*; 16 bushels of bones at 2*s.* 6*d.*, 2*l.*	5	0	0
4 ploughings (being carse land), at 7*s.* an acre	1	8	0
Harrowing and gathering weeds	0	10	0
Horse-hoeing and working with drill grubber	0	19	0
Hand-hoeing twice..	0	6	0
Topping and tailing, per acre	0	5	0
Filling, carting, and storing	0	16	0
	£10	16	6

The Turnips will thus cost the farmer 7*s.* 3*d.* a ton in a very favourable season, with more than an average crop. Our feeding cattle are getting each three basketsful of sliced Swedish Turnips a day (each 36 lbs. weight) being in all 1 cwt. a day per head, and a feed of steamed Turnips, chaff, and light grain, with which is intimately mixed bruised Linseed, at the rate of 1 lb. per head, boiled in the sap of the steamed Turnips. The first feed of Turnips is given at 5 A.M., the second of steamed food and Linseed at 10 A.M.; the third, of Turnips, at noon; the fourth, Turnips, at 5 P.M.; and the cattle are then foddered with a little Wheat straw at 8 P.M. As I am giving you detailed information, I may mention that we, this forenoon, threshed about 160 bushels of Wheat in four hours, the people employed being a man and boy forking and leading in the stack; a man and two women feeding the mill; a man pitching the straw from the shaker to a woman packing it in the straw-house; a man in the low barn superintending the different parts of the machinery, and supplying the bruising-machine with Oats, which is driven by the same water-wheel, and ground for the horses, 24 bushels during the time the Wheat was being threshed. The mill riddles and dresses the grain, and delivers it in the granary ready for sale without any manual labour after passing the feeding-board. The whole expense of threshing and dressing Wheat by this machine does not exceed three farthings a bushel.

SOMERSETSHIRE FARM, *Jan.* 3.—We have been employed in threshing and hauling away Wheat (sold), crushing corn and Flax-seed for sheep and cattle, hauling earth, and filling up useless ditches; hauling lime and stone for building a sheep shed; making and racking cider, &c.—*R. C.*

SUSSEX FARM, *Jan.* 4.—The weather at present is very changeable. We are ploughing and subsoiling, when land is in order, carting stones to repair roads and faggots to make a yard to shelter lambs through the winter; carting litter to yards and threshing Oats and Peas. We give the ewes the Pea-haulm when they come off the Rape and Turnips. Hedging and draining, &c.—*J. B.*

Notices to Correspondents.

CROWS—*S Cumbrian*—We do not see that your explanation calls for any alteration of our criticism. We grow 120 acres of Wheat close by a rookery, and are paying now 7*s.* 6*d.* a week for boys to keep the birds off. This will last perhaps 8 weeks; and we prefer paying the 3*l.* to trying your mode of avoiding the nuisance.

CULTIVATION AND MANURING—*J K*—No doubt it is possible to grow good crops on artificial manure alone, and that, year after year. The annual burning of a portion of the subsoil clay will be a great assistance. In manuring you should change the manure frequently; guano, town manure, soot, superphosphate of lime, salt, gypsum, &c. must be alternated.

DRAINAGE—*Tyro*—You appear to know very well what you are about. We have no improvement to suggest.

EGGS—*Chanticleer*—See a reference to this point in this section of last week's paper.

MOODY'S TURNIP CUTTER—*Mona's Isle*—It crushes to a pulp, which is the most easily incorporated with straw chaff. That is its merit. The address was given in last No. The drum of the Whitfield threshing machine is 4 feet long, 18 inches in diameter, and it revolves at the rate of about 900 revolutions per minute.

OATS — *Sub* — No doubt it is much cheaper at 2*s.* 4*d.* per bushel than Linseed is at 8*s.* 6*d.* It should be ground and boiled (whole meal) to a thin porridge, and thrown over plenty of straw chaff, and served up after the straw has absorbed much of it. It is heating when given in quantity equal to other meal. Commence with 2 or 3 lbs. a day to each beast, and gradually increase.

SEEDS—*Hantonicusis*—Your suggestions shall be attended to.

TEN AND 11 VICT., CAP. 38—*J B*—Thanks.

WILL SALT DESTROY WEEDS?—*A C W*—Can any one give us their experience of salt as a destroyer of vivacious weeds as in a compost with Couch, Dock-root, &c.?

Markets.

HOPS, FRIDAY, Jan. 7.

Messrs. PATTENDEN and SMITH, Hop Factors, report that the market continues the same.

Mid. & East Kents, p. cwt.	80s to 112s	Yearling Kents, p. cwt..	50s to 60s
Weald of Kents	56 — 80	Yearling Sussex	45 — 60
Sussex	50 — 70	Old Hops	40 — 40
Farnhams	84 — 112		

COVENT GARDEN, Jan. 3.

The market continues to be well supplied with Vegetables. Winter Fruit also is plentiful, but trade is dull. Pine apples are abundant and good, and Grapes, although scarcer, are sufficient for the demand. Pears and Apples are plentiful, considering the season. Of the latter, specimens of Golden Moreau, Ne Plus Meurie, and Winter Nelis may be bought at from 4s. to 6s. per doz. n. Oranges, though small in size, continue to improve in quality. Nuts are sufficient for the demand. Potatoes still display a great variety, and sell per 100 lbs. Walnuts are scarce. Chestnuts are pretty abundant. Leeks are sufficient for the demand. Of Vegetable Cauliflowers and Broccoli are plentiful, and Asparagus and Scotch kale may be obtained at low prices. Carrots and Turnips are good in quality. Potatoes are at low prices. Lettuces and other salading are sufficient for the demand. Roots and greens are the same. Cut Flowers consist of double Wallflowers, Double Chrysanthemums, Camellia, Daphnes, Azaleas, Mignonette and Roses.

FRUITS.

Pine Apple, per lb., 1s to 6s	Lemons, per 100s, 6s to 14s
Grapes, hothouse, per lb., 6s to 9s	Almonds, per sieve, 6s
— Portugal, per lb., 1s	— sweet, per lb., 2s to 3s
Apples, dessert, per bush., 3s to 6s	Walnuts, per bush., 12s to 16s
— kitchen, per bush., 2s 6d to 3s	Nuts, Barcelona, per bush., 4s to 5s
Pears, per half sieve, 2s to 4s	— Filbert, per bush., 4s to 5s
Oranges, per doz., 1s to 2s	— Cob, per bush., 4s to 5s
— per 100, 4s to 12s	— Brazil, per bush., 6s to 8s
— bitter, per 100, 4s to 10s	Chestnuts, per peck, 1s 6d to 2s
Lemons, per doz., 1s to 2s	

VEGETABLES.

Asparagus, per 100, 2s to 7s	Shallots, per lb., 6d to 9d
Savoys, per doz., 1d to 4s	Garlic, per lb., 6d to 1s
Cabbages, per doz., 6d to 1s	Spinach, per basket, 1s to 1s 6d
— Red, per doz., 1s to 3s	Seakale, per punnet, 1d to 3s 6d
Greens, per bushel, 1s 6d to 2s 6d	Artichokes, Jerusalem, per bushel sieve, 1s to 1s 6d
Cauliflowers, per doz., 3s to 8s	Lettuce, Cab., per score, 1d to 9d
Broccoli, per bundle, 3d to 3s	— Cos, per score, 1d to 1s
Brussels sprouts, p.bl. sieve, 1s to 1s 6d	Endive, per score, 1s to 2s
Sorrel, per half sieve, 6d to 9d	Radishes, per doz. bunch, 1s
Potatoes, per ton 120s to 140s	— Turnip, per doz. bunch, 9d to 1s
— per cwt., 6s to 8s	Mushrooms, per pottle, 1d to 6d
— per bush., 3s 6d to 4s	Rhubarb, per bundle, 1s 6d to 2s
— Kidney, per bush., 3s 6d to 4s	Small salads, per punnet, 1d to 3d
Turnips, p. doz. bunch., 1s 6d to 2s	Fennel, per bunch, 2d to 3d
Red Beet, per doz., 9d to 1s 6d	Savory, per bunch, 3d to 6d
Horse Radish, per bundle, 1s to 4s	Thyme, per bunch, 2d
Cucumbers each, 1s to 2s	Watercress, p. 12 small bun., 4d to 6d
Leeks, per doz., 9d to 1s	— Roots, per bundle, 1s to 1s 6d
Celery, per bundle, 6d to 1s 6d	Mint, green, per bunch, 2d to 3d
Carrots, per doz. bunches, 2s to 4s	Marjoram, per bunch, 2d to 3d
Onions, per bush., 2s to 3s	
— Portugal, p. doz., 1s to 1s	
— pickling, p. bl. sieve, 2s to 3s	

POTATOES, Southwark, Waterside, Jan. 3.

There were but few Potatoes in this market at the early part of the week, but at the close there were some arrivals from Yorkshire. The following are the present prices:—York Regents, 130s to 140s; secondary, 110s to 120s. Shaws, 110s to 120s; Kent Regents, 100s to 110s; Shaws, 100s to 120s; Kidneys, 100s to 120s; Blues, 120s to 130s; Wisbeach Regents, 110s; Dutch, 70s to 110s; Hamburgh, 90s to 110s. Rich. Harris.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Jan. 6.

Prime Mead. Hay	70s to 78s	New Hay	—s to —s	Straw	26s to 30s
Inferior ditto	55 62	Clover	65 90		
Rowen	50 55	New Clover	— —		

Trade better. John Cooper, Salesman.

CUMBERLAND MARKET, Jan. 6.

Prime Mead. Hay	70s to 78s	Old Clover	88s to 92s	Straw	28s to 32s
Inferior	50 63	Interior	70 80		
New Hay	— —	New Clover	— —		

Joshua Baker, Hay Salesman.

WHITECHAPEL, Jan. 6.

Fine Old Hay	68s to 72s	Old Clover	90s to 95s	Straw	24s to 28s
Inferior Hay	50 55	Inferior	70 75		
New Hay	63 68	New Clover	80 88		

SMITHFIELD, Monday, Jan. 3.

We have to-day rather a large supply of Beasts; the weather being mild, the demand has decreased, consequently we have a slow trade, but the choicest qualities do not make much less money, 4s. 2d. being realised in some instances. The number of Sheep is large; trade is not so good. Some of the best Downs make nearly as much as of late, but big Sheep are decidedly lower. Calves are still scarce, and choice ones dear. Friday's quotations are well supported. From Holland there are 157 Beasts and 716 Sheep. From Scotland, 2 0 Beasts, and Spain 92.

Per stone of 8 lbs.	s	d	s	d	Per stone of 8 lbs.	s	d	s	d
Best Scots, Herefords, &c.	4	8 to 5	0		Best Long Wools	4	6 to 4	10	
Best Short Horns	4	6 —	4	10	Ditto Shorn				
Second quality Beasts	3	6 —	4	2	Lambs, second quality	3	8 —	4	4
Calves	4	8 —	5	8	Ditto Shorn				
Best Downs & Half-breds	5	0 to 5	2		Lambs				
Ditto Shorn					Pigs	4	4 —	5	4

Beasts—3922. Sheep and Lambs—21,730. Calves—81. Pigs—300.

Friday, Jan. 7.

We have not an over supply of Beasts to-day. The best qualities are scarce, and indeed the general average may be quoted 2d. per 8lbs. dearer. For best Scots, &c., 5s. 2d. is freely given. There are rather more Sheep and the Friday's demand this time of year is very limited. Trade is very heavy. The best descriptions barely maintain Monday's quotations, and inferior qualities are with difficulty disposed of. Calves are dull, sorts lower, with dull sale. Trade is heavy for Pigs, at 4d. per 8lbs. decline. From Holland there are 96 Beasts, 580 Sheep, and 19 Calves; from Scotland, 140 Beasts; Ireland, 108; and 11s Milch Cows from the neighbourhood of London.

Per stone of 8 lbs.	s	d	s	d	Per stone of 8 lbs.	s	d	s	d
Best Scots, Herefords, &c.	4	10 to 5	0		Best Long Wools	4	6 —	4	10
Best Short Horns	4	6 —	4	10	Ditto Shorn				
Second quality Beasts	3	6 —	4	4	Lambs, second quality	3	8 —	4	4
Calves	4	6 —	5	4	Ditto Shorn				
Best Downs & Half-breds	5	0 —	5	2	Lambs				
Ditto Shorn					Pigs	4	0 —	5	0

Beasts—837. Sheep and Lambs—3270. Calves—168. Pigs—280.

MARK LANE, Monday, Jan. 3.

The supply of Wheat from Essex this morning was moderate, but good from Kent, the condition generally much affected by the weather. Fine dry samples met a ready sale last week's prices, but the dampness difficult of disposal, and barely supported its late value. Foreign is firm, with a limited demand.—Making Barley must be written 1s. per quarter cheaper.—Beans are inquired after, and sellers ask dear.—Peas still remain in best quoted.—Oats are held for an advance, which checks business.—Flour is in limited request, but commands full prices.

BRITISH PER IMPERIAL QUARTER.

	s	s		s	s
Wheat, Essex, Kent, and Suffolk	52	61	Rd.	46	54
Norfolk, Lincolnshire, and Yorkshire	48	52	White	48	52
Barley, Malting and distilling, 26s to 29s	0	0	Grinding	25	27
Oats, Lincolnshire and Yorkshire	23	25	Feed	21	23
Northumberland and Scotch	25	27	Potato	24	27
Irish	23	25	Feed	20	22
Malt, pale, ship	—	—			
Hertford and Essex	—	—			
Rye	28	32			
Beans, Mazagan, old and new	28s to 40s		Tick	30	44
Pigeon, Heligoland	34	50	Winds	46	54
Peas, White	40	42	Maple	38	40
			Grey	35	37

FRIDAY, Jan. 7.

The arrivals of all grain during the week have been moderate. The attendance at this day's market was limited, and prices of both English and foreign Wheat remain nominally the same as on Monday, which applies also to every other description of corn.

IMPERIAL AVERAGES.

	Wheat. s.	d.	Barley s.	d.	Oats. s.	d.	Rye s.	d.	Beans. s.	d.	Peas. s.	d.
Nov. 27	52	11	31	6	22	10	32	0	41	6	43	2
Dec. 4	52	1	30	8	22	5	28	11	40	0	42	7
— 11	51	11	30	9	22	4	31	0	42	7	43	5
— 18	52	2	30	7	21	7	31	4	41	6	43	2
— 25	53	0	31	8	21	3	31	1	40	6	41	5
Jan. 1	53	11	31	8	20	7	29	11	38	10	41	8
Aggregate Average	52	8	31	0	21	10	31	1	42	2	42	2

Duties on Foreign Grain.

Prices.	Nov. 27.	Dec. 4.	Dec. 11.	Dec. 18.	Dec 25	Jan. 1.
53s 11d	...	...	...	...	...	...
53 0	...	...	...	...	...	...
52 11	...	...	...	...	...	...
52 2	...	...	...	...	...	...
52 1	...	...	...	...	...	...
51 11	...	...	...	...	...	...

Free till March 1.

SEEDS, Jan. 7.

Canary	per qr.	68s to 68s	Linseed cakes, English	per 1000	11l
Caraway	per cwt.	35 37	Mustard, White	per bush., 5s to 6s 6d	
Clover, Red, English	— —		Superfine	per bush. — —	
— Foreign	— —		Brown, per bush.	— —	
White, English	— —		Rapeseed, English	per last 28l	30l
— Foreign	— —		Rapecakes	per ton 8l to 8l	10s
Coriander		19 20	Saunfoin	— —	— —
Hempseed	per qr.	34 36	Tares, Eng., winter, p. bush.	7s 0	8s 0
Linseed		45 46	Foreign, p. bush.	5s 6	5s 9
— Baltic		41 42	Trefoil	17s 0	21s 0
— Cakes, Eng. p. 1000,		17l 10s to 17l	Turnip—too variable for quotation.		

Kingsford and Lay.

Sales by Auction.

TO HOLLEMEN, GENTLEMEN, AND OTHERS.

MR. J. C. STEVENS is favoured with instructions from Messrs. Lodge, of Thame, in consequence of the near completion of the Lease of a part of the Farm, amounting to 1,000 Acres, by Auction, on Wednesday, the 19th day of January, 1848, at 12 o'clock precisely, in one lot, the Crops and Stock of Barley, Oats, and Beans, growing upon about 450 Acres of the Farm, and the Implements of Husbandry, Household Furniture, and other Effects. Particulars may be had of the Auctioneer, Thame; at the New Inn, Aylesbury; and Leaver's Hotel, Bicester. Herbert, Land Agent and Surveyor, Aylesbury.

MR. HUMBERT will Sell by Auction, at Whitefield Park Farm, on Wednesday, the 19th day of January, 1848, at 12 o'clock, 17 CAPITAL SHORT-HORN COWS and HEIFERS, in full calf and milk, and several fine Bulls, the property of Mr. Whitefield, who is giving up the Farm; also 1,000 CHOICE OF PRIZE TALLY STANDARD, 2000 FAGGOTS, and 1000 Hurdles and Iron Sheep Hurdles, being the produce of the Farm. The Cattle are of the first breed, and have been fed with the best Linseed Cake, and are in high condition. The Timber is of the first growth. May be viewed and Catalogues had at the New Inn, No. 7, Edgware-road, London; and of Mr. Humbert, Land Agent and Surveyor, Watford.

TO TURNERS AND OTHERS.

MR. HUMBERT will Sell by Auction, at the Red Lion and Crown Inn, Watford, on Friday, the 28th day of January, at 2 o'clock, 17 FINE ELM TREES, lying in Russell Farm Park, Watford, Herts, close to the Grand Junction Canal, at the 19th lock, and about a quarter of a mile from Lady Capel Wharf on the Grand Junction Canal, at the 18th lock, and about a half from King Langley and the Watford Stations on the London and South Western Railway; also 1000 FAGGOTS and about 20 FIR TREES. May be viewed, and Catalogues had at the Red Lion Inn, No. 7, Edgware-road, London; and of Mr. Humbert, Land Agent and Surveyor, Watford.

TO NURSERYMEN, SEEDSMEN, AND FLORISTS.

TO BE DISPOSED OF, a Share in an OLD ESTABLISHED BUSINESS in the above Line, doing a very large Trade, not many miles from London. Such an opportunity rarely occurs of entering into a first-rate Concern.—Letters addressed to A. B., 6, Beauvoir-terrace, Oaklord-road, De Beauvoir Town, will meet with immediate attention.

TO BE DISPOSED OF, a quantity of ONION SEED, warranted all to be grown in Oxfordshire, of the last year's growth, at 2s. 6d. per lb., or 12l. per cwt. All Orders, accompanied with a remittance, will be punctually attended to by Robert Aldred Sandy, near Biggleswade, Bedfordshire.

TO LAND AGENTS AND OTHERS.

WANTED to take on Lease about from 50 to 100 ACRES OF GOOD ARABLE AND PASTURE LAND, within from 15 to 25 miles of London. If near a Railway, a greater distance would not be objected to.—Direct to R. W., 23, Ann's-place, Bath-street, Old Kent-road, Surrey.

HOT-WATER APPARATUS AND HORTICULTURAL BUILDINGS.

DANIEL and EDWARD BAILEY, of 272, Holborn, construct and erect Hot-water Apparatus for Warming Horticultural Buildings, Dwelling-houses, Churches, and Manufactories, in a simple and efficient manner, at moderate charges. They have erected Apparatus in England, Scotland, and Ireland for many Noblemen and Gentlemen. They had the honour to be employed in heating the Pine-stove and Vine-houses and Pits in HER MAJESTY'S ROYAL GARDENS AT FROGMORE, and in executing the works of the Great Conservatory erected by the Horticultural Society of London in their gardens at Chiswick, and also in the erection of the Conservatory attached to the Cambridge Museum.

D. and E. Bailey, who were the first to introduce Wrought Curvilinear Hothouses for Horticulturists, erect various descriptions of Horticultural Buildings and execute the best-finished work at their Manufactory, 272, Holborn.

STEPHENSON and CO., 61, Grace-church-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank system to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom heat is secured to any required degree, without the aid of pipes. S. and Co. have also to state that at the request of numerous friends they are now making their Patent of Ironed Cast Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory in New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating on the tank system, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood, erected in the most approved manner on reasonable terms. Illustrated Catalogues, with Garden Fences, Wire-work, &c.

A. and C. SEWARD, Brass Founders, Plumbers and Glaziers, and Smiths, beg to call the particular attention of the Public to their EXTENSIVE STOCK OF PLUMBERS' GOODS, which they have proved by long experience to be the most suitable for warming Conservatories and Churches, more particularly the latter. The stock is almost wholly composed of wrought iron, and is therefore free from the objection to which cast iron is liable, that of cracking. It presents a handsome appearance, is soon heated, and is so constructed that the whole of the water becomes equally heated. A. and C. S. would call the attention of Architects and others with Designs for Warming Churches and Conservatories. Their well-known Cottage Stove is efficient and economical, and is on the same truly simple and natural principle known by the name of Polmaise heating.

LIQUID MANURE.

ENGLAND INDEPENDENT OF THE WORLD FOR CORN.

THE attention of the Agricultural Interest, at this momentous crisis, is requested to the great importance of LIQUID MANURE, and the ease with which it may be appropriated by the use of FOWLER'S PUMPS, made expressly for the purpose, either portable or fixed; Garden, Ship, and Barge Pumps; also those for Distillers, Brewers, Soap Boilers, and Tanners, for hot and cold liquor. Pumps kept for sale for Excavations and Wells. Fundings heated by Hot Water for Horticulture, and every variety of manufacturing purposes.

The Trade supplied on advantageous terms, by BENJAMIN FOWLER, Engineer, &c., 68, Dorset-street, Fleet-street, London.

GUANO. [illegible]

PERUVIAN AND BOLIVIAN GUANO FOR SALE.

[illegible]

SMALL PIGS.

[illegible]

FLEXIBLE PIPES.

THE PATENT VULCANIZED INDIA RUBBER PIPES AND HOSE [illegible] LIQUIDS WITHOUT TASTE OR SMELL. [illegible] Letters, Bees, [illegible] and Hose-pipe Repairs [illegible] Ply.

TO FARMERS AND MILK MERCHANTS.

THE AINSLIE LEVER CHURNING MACHINE COMPANY [illegible] MACHINES, which [illegible] at the Company's [illegible] 5 p.m. Mr. [illegible] in the [illegible] works at Alperton, which [illegible]

PORTLAND CEMENT.—[illegible]

CHEAP AND DURABLE ROOFING.

BY HER MAJESTY'S [illegible]

F. M'NEILL and Co. [illegible]

[illegible]

CUCUMBER PLANTS.

JAMES CUTHILL, Camberwell, near London, has Cucumber Plants always ready of his early BLACK SPINE; also a packet of Seed, with printed cultural directions, 2*s*. Fine Plants of LISIANTHUS RUSSELLIANUS, from 2*s*. 6*d*. to 5*s*. each; Seed of ditto, 1*s*., with printed cultural directions. Best CALCEOLARIA Seed, 2*s*. 6*d*. per packet.

Also Cuthill's Treatise on Early Potatoes, price 7*d*. by post.

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

Patron—His Royal Highness Prince Albert.
President of the Council—Right Hon. Earl Bathurst.
Vice President—Earl Ducie.

All persons desirous of becoming Students for the ensuing Session are requested to apply as early as possible to the Principal, who will forward the papers necessary for their admission.—PHILIP BOWES, Secretary.

London Office, 15, Duke-street, Adelphi.

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

Patron—His Royal Highness Prince Albert.
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Vice-President—Right Hon. Earl Ducie.
Principal—John Wilson, F.R.S.E., F.G.S., &c.
Chaplain and First Master—Rev. E. Sendall, B.A.
Second Master—Mr. E. Cockayne.

RESIDENT PROFESSORS.

Agriculture—John Wilson, F.R.S.E.
Chemistry—John Blyth, M.D.
Natural History, Botany, Geology—Jas. Buckman, F.G.S.
Mathematics and Natural Philosophy—Rev. E. Sendall, B.A.
Veterinary Practice—John Robinson, M.R.C.V.S.
Surveying and Farm Accountant—Mr. Cockayne.

OBJECTS.

The object of this Institution is to provide such a course of instruction as will be most useful to the practical Farmer. The benefits to be derived by the Agriculturists from a judicious application of scientific information are becoming more and more extensively acknowledged; while the means of obtaining that information, if, indeed, it can be obtained at all, without for the time sacrificing a due attention to the practical operations of husbandry, are so scattered and costly as to be within the reach of very few. The College course of instruction is conducted in such a manner that, while the student is well based in the principles of each science, its relation with Agriculture are specially touched upon and explained, and their practical application shown, as far as possible, in the operations of the College farm. The theoretical and practical teaching go hand in hand, and the whole is combined with the advantages of collegiate discipline.

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THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 3.—1848.] SATURDAY, JANUARY 15. [Price 6d.

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GARDENERS' BENEVOLENT INSTITUTION.—Notice is hereby given, that the ANNUAL GENERAL MEETING of the Subscribers to this Society will be held on Thursday, 27th January, at the London Coffee-house, Ludgate-hill, for the purpose of receiving the accounts of the Charity for the past year, and electing Officers for the ensuing year. The chair to be taken at 11 o'clock precisely. An election for TWO PENSIONERS on the Funds of this Charity will afterwards take place from among the following Candidates, whose Testimonials have been examined and approved of by the Committee.

Edward Marshall	aged 65	London	5th application.
Francis Chamberlain	,, 68	,,	4th ,,
Mary Brown	,, 80	,,	3d ,,
Henry Bursby	,, 71	Benenden	3d ,,
Andrew Elliott	,, 74	Lancashire	3d ,,
Martin Miller	,, 76	Exeter	3d ,,
John Skeates	,, 67	Brixton	2d ,,
Thomas Goodhall	,, 71	,,	2d ,,
Thomas Mills	,, 66	Wandsworth	2d ,,
Charles Ainslie	,, 82	Leyton	1st ,,
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Robert Duncan	,, 68	Highgate	1st ,,
Benjamin Hayter	,, 69	Dulwich	1st ,,
Ogilvie Neil	,, 79	Scone, near Perth,	1st ,,
Humphrey Taylor	,, 69	Clapham	1st ,,

The Ballot will commence at 12 o'clock, and close at 2 o'clock precisely.

The Subscribers and Friends of the Charity will afterwards celebrate the Fifth Anniversary Festival, at the London Coffee-house, Ludgate-hill.

The RIGHT HON. LORD ROBERT GROSVENOR, M.P., in the Chair.

STEWARDS.

Sir Charles Hulse, Bart.	William Goldsmith, Esq.
Sir William Middleton, Bart.	Henry Groom, Esq.
The Baron Rothschild, M.P.	Robert Hanbury, Esq.
John Angerstein, Esq.	Robert Steiner Holford, Esq.
Benj. Bond Cabbell, Esq., M.P.	John Lindley, Esq. (2d time).
William Alex. Coombe, Esq.	William Millsom, Esq.
Robert Wm. Dutton, Esq.	John Crace Stevens, Esq.
Wynn Ellis, Esq.	James Hamilton Story, Esq.
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The Rev. J. H. Fisk.	James Thomson, Esq.
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,, Pinaester	,, purple
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,, Austrian	Stone Pine (in pots)
,, Weymouth	,, transplanted, 1 foot
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Evergreen Privet	,, aurea
Arbutus	Snowberry
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Cotoneaster	Irish Yew, 3 to 7 feet.
Deutzia	
Double Furze	

OF LARGE GROWTH, 5 to 12 feet.

Beech	Lime	Pineaster
Birch	Poplar	Sea Pine
Elm	Hornbeam	Laburnum
Oak, English	Silver Fir	Laurel
,, Turkey	Spruce Fir	Portugal Laurel
Acacia	Scotch Fir	Bay
Chestnut	Larch Fir	Arbutus

AMERICAN PLANTS.

Rhododendron ponticum, 1, 4, and 5 inches, bedded 20s., 40s., and 80s. per 1000.
,, ,, 1 foot, 12s. 6d., 1½, 2, and 3 feet, 20s., 40s., and 75s. per 100.
,, roseum, 1 to 2 feet, 50s. to 75s. per 100.
,, hybrid Scarlet and Catawbiense, in many beautiful varieties, bedded, 2 to 6 inches, 6s. per doz., or 25s. per 100.
Epigæa repens, 12s. per doz.
Gaultheria procumbens, 25s. per 100.
Kalmia latifolia, small bedded, 12s. 6d. per 100.
,, ,, 1 to 2 feet, 50s. to 75s. per 100.

China Roses, 25s. per 100.
Rose stocks raised from cuttings of the Bourbon, admirably adapted for budding or grafting, 8s. per 100.
Roses, a selection of the finest sorts, mixed, 25s. per 100.
Aristolochia Sipho, 9s. per dozen.
Clematis azurea grandiflora, 42s. per 100 or 6s. per dozen.
Dutch Honeysuckle, 20s. per 100.
Irish Giant Ivy, 8s. to 25s. per 100.
Perpetual Tree Violet, 3s. per doz. or 20s. per 100.
,, New White, 6s. per doz.
Camellia Stocks (from pots), 42s. per 100.
,, ,, bedded, 25s. per 100.
Hollyhocks, 25 superb varieties, 50s. per 100.

FRUIT TREES.

Peaches, Nectarines, Apricots, Apples, Pears, Cherries (trained and untrained), Vines, Currants, Gooseberries, Filberts, Raspberries, and Strawberries of the most select kinds.

A most superb collection of the choicest Roses, including all the new introductions, of which, and their general catalogue of Nursery Stock, Priced Catalogues may be had on application at their Nurseries, Red Lodge, North Stoneham, near Southampton, or their Floricultural Gardens, High-st., Southampton.

SEEDS OF SUPERIOR QUALITY.

SUTTON'S CATALOGUE OF NEW SEEDS for the present season is now ready, and will be forwarded, post paid, on application.
Messrs. Sutton and Sons having for many years made it their especial care to collect the newest and most desirable kinds of GARDEN SEEDS, and having now on hand a most extensive assortment of HOME GROWN SEEDS, can confidently recommend them, especially their new and choice Peas, viz. early Golbah Peas, Black's Victors, British Queen, Champion of England, Fairbeard's Surprise, Dancer's Prolific, Dwarf Queen of Dwarf, Early Grotto, Ringleader, Dwarf Essex, Sutton's Dwarf and other Peas, the new Ringleader Runner Bean, Mohawk, and other Dwarf Beans for forcing, the extensive Superb, Brown Cos, Adey's new large Cos, Imperial Post Cos, and Wellington Green Cos Lettuce; Sutton's Nonpareil Champion, Cuthill's Black Spine, and other fine Cucumbers; true Beechwood, and Cuthill's Scarlet-cloth Manchester Scarlet Horn, and Long Surrey Carrot; the dark crimson Beet; Beck's Superb, and White Silver-skin Reading Onion, and many other very desirable sorts, too numerous for an Advertisement. Collections of KITCHEN GARDEN SEEDS may be had as hereafter, at 5s., 7s. 6d., 10s. 6d., 15s., or 20s. 6d., and the advantages connected with this mode are very considerable. The FLOWER SEEDS consist of upwards of 500 species and varieties, which may be had in packets of 3d. and 6d. each, or in well selected collections, either hardy or tender, at 5s., 7s. 6d., 10s., 15s., or 20s. each.
The following Bulbous Roots, &c., are also of first-rate quality:—

	s.	d.
Double Anemones, fine large, many colours, per 100	.. 2	0
Do. Ranunculuses, finest mixed	 5	0
Do. do. large scarlet	 4	0
Fresh imported Italian Tuberoses, per dozen	 4	6
Gladioluses, 6 choice sorts, by name	 3	6
Carnations and Picotees, splendid sorts, per pair	 2	6
Choice Perpetual Roses, dwarfs, per dozen	 15	0
True Ash-leaf Kidney Potatoes, per peck	 2	6

*** The Flower Seeds will be sent free by post, and all other articles by Railroad, carriage paid to London, Oxford, Gloucester, Bristol, or Southampton.
Reading Nursery, Reading, Berks, Jan. 15.

TO PLANTERS.

W. DRUMMOND AND SONS, Nursery and Seedsmen, Agricultural Museum, Stirling, have the season to offer a large and well-grown stock of FOREST TREES, &c.

TRANSPLANTED LEADING SORTS.

Oak and Beech, in sizes, 1½ to 3 feet,	per 1000		20s. to 70s.
Ash, Elm, and Plane	ditto	ditto	,,	15s. to 30s.
Spanish Chestnut	ditto	ditto	,,	20s. to 60s.
Larch Fir	ditto	1 to 2½ feet	,,	10s. 6d. to 15s.
Scotch Fir	ditto	9 to 18 inches	,,	8s. to 10s. 6d.
Norway Spruce	ditto	ditto	,,	12s. to 15s.
Thorns or Quicks,	ditto	2 and 3 years	,,	10s. 6d. to 12s. 6d.

Priced Lists, including Shrubs and Fruit trees, can be had on application.
The Nursery Grounds, consisting of sharp, gravelly soil, produce hardy fibrous-rooted trees, well suited for hill and moor planting. Orders above 5l. will be delivered free at the principal ports of Britain and Ireland.

DOUBLE ITALIAN TUBEROSE ROOTS, 4s. per dozen.—The importation of the above-named Roots has been just received at A. CORBETT'S Italian and Foreign Warehouse, 18, Pall Mall. Orders by post punctually attended to. Also some exceedingly moist Parmasan and Gruyere Cheese.

DOUBLE ITALIAN TUBEROSE ROOTS, 3s. per Dozen, With Directions for Planting.

ROBERT HALL begs to advise the arrival of his Annual Importation of the above-named Bulbs at his Foreign Warehouse, 63, South Audley-street, Grosvenor-square, facing the chapel. Orders by post punctually attended to, and remittances in postage stamps taken in payment.

FOREIGN WINES, CHAMPAGNE BRANDY, &c. &c.

ROBERT HALL begs to call attention to his curious old Pale

	per dozen—s.		per dozen—s.
Champagne Brandy	60	Marsala	28
Old Cordial Gin	28	Genuine Sherry, forwarded in strata, bruises, &c., per bottle	2s 6d
Port Wine	36		
Sherry	36		

Samples of which will be forwarded to any part on application, per post or otherwise, at 63, South Audley-street, Grosvenor-square, facing the chapel.

EARLY POTATOES.

ABRAHAM HARDY AND SON, Potato and Seed Growers, Maldon, Essex, in returning thanks to Her Majesty, the King of France, and other distinguished personages, for the honour of their patronage and correspondence in the care of Potato culture, beg now to offer the selected varieties, which from their very early tendency have all escaped the disease.
Frames, 3s. per peck:—No. 1, Victoria Dwarfs; 2, Alberts. *Kidneys*, 2s. 6d. per peck: 3, Ash-leaved; 4, Prolifics; 5, Defiance; 6, Nectars. *Rounds*, 2s. per peck: 7, Golden Clusters; 8, Cockneys; 9, Shaws; 10, Crimson Eyes. Or 1 peck of each of the above, with a cash, delivered at Witham Station, Eastern Counties Railway, on receipt of a post-office order for 20s. Early Seedlings, 1847, 5s. per peck.

SEEDS, post free, for cash or stamps.

Potatoes.	s.	d.	Flowers.	s.	d.
1 oz. selected	.. ..	2	6	100 pkts. Annuals	..	15	0
1 packet do.	.. ..	0	7	50 ,,	..	10	0
Melons.				20 ,, choice ditto	..	10	0
6 seeds Fine Constrictor	1	0		20 .. Biennials	..	5	0
.. Beechwood	..	1	0	Wholesale Lists, if requested.			
,, Netted Green-flesh	1	0		Vegetable Seeds, &c.			

MYATT'S LINNÆUS RHUBARB. — The numerous applications from those who have seen this superior variety, and from the London Trade in particular, have induced Messrs. MYATT to offer it to the public. The universally acknowledged excellence of MYATT'S RHUBARB is a sufficient recommendation for the LINNÆUS; this being the principal sort grown by them for the London markets for several years, being remarkably early and unusually productive, and is preferred by purchasers to every other variety for its delicious flavour. The stalks being large and free from filaments, it is admirably adapted for preserving, and all other culinary purposes. For early forcing it is the best variety known. The superior flavour, large size, unusual productiveness, and extremely handsome bright red appearance, render it alike desirable and profitable. One-year planted roots will be ready the end of October, price 3*s.* 6*d* ; also Mitchell's "Royal Albert" Rhubarb, 3*s.* 6*d.*, and Myatt's "Victoria," 1*s.*
Manor Farm, Deptford, Jan. 15.

TO CUCUMBER GROWERS.

EDWARD TILEY, NURSERYMAN and SEEDSMAN, begs to offer his superb and unequalled Cucumber, "VICTORY OF BATH." The advantages of this over others are—it is a very handsome fruit, the earliest and most productive bearer, and the quickest grower known; the average length of this Cucumber being from 24 to 30 inches long. It has been awarded more than 30 first prizes at the different Cucumber Shows within the last three years. It is worthy of remark this Cucumber has been successfully grown by Amateurs in the open air without frames against a wall, or trained to trellis, surpassing any of the hardy kinds this season. It will be sent out in packets, 7 seeds, 2*s.* 6*d.*, or 16 seeds, 5*s.*

E. T. has seeds of Hamilton Black Spine Cucumber, which he can highly recommend; this has also been very successful at a number of different Exhibitions, and taken many first prizes; length from 24 to 28 inches, and a very handsome fruit. Seven seeds, 2*s.*, or a packet of each of the above seeds, 4*s.*

The above Cucumbers will be found to be of excellent quality for table, the flesh being firm and of fine flavour.

Parties intending to show at the forthcoming Exhibitions should not delay their orders. It is unnecessary to enter into further properties of the above Cucumbers, having given every satisfaction to purchasers during the last three years.

Per packet—*s. d.*		Per packet—*s. d.*	
True Beechwood Melon..	1 0	Windsor Prize	1 0
Sweet Ispahan	1 0	True Walcheren Cauliflower Broccoli	1 0
Terry's Prize	1 0		
Emperor Green-flesh ..	1 0		

Sold at EDWARD TILEY'S General Seed Shop, 16, Pulteney Bridge, Bath. The above will be sent post free, on a remittance of a Post-office order, or the amount in postage stamps.

KITCHEN GARDEN SEEDS.—No. 1.—A complete collection, consisting of 20 quarts of the best kinds of PEAS, and all other seeds in proportion, and of the best sorts, sufficient for one year's cropping of a large garden (the choicest Melons and Cucumbers inclusive)...£3 3*s.*
No. 2.—Complete collection, in smaller quantities, equally choice sorts ... ...£2 2*s.*
No. 3.—Ditto Ditto Ditto ... ...£1 1*s.*
No. 4.—Ditto (this is sufficient for a gentleman's small garden) ... ...12*s.* 6*d.*
No extra charge made for packing.

If there should be any sorts of seeds that would not be wanted in the collection, increased quantities of those most desired would be sent. References will be given if required to some of the principal families in England, Ireland, and Scotland, who purchased collections last season. All orders to be accompanied with a remittance or reference from unknown correspondents.

A General Catalogue of Horticultural and Agricultural Seeds may be had on application.

Seeds carefully packed for exportation.

WM. JAS. EPPS, F.H.S., High-street, and Bower Nursery, Maidstone.

COOPER'S PATENT APPARATUS, for Preserving Fruits, by which process they are perfectly secured for many years, on sale, by JAMES COOPER, at No. 8, St. John's-street, Clerkenwell, London. Sample Hampers will be delivered at any part of London, for TEN SHILLINGS each, containing fruit in considerable variety, in half-pints, pints, and quart bottles, some in syrup, others plain.— Particulars and testimonials will be forwarded by post when requested.

CORNWELL'S VICTORIA RASPBERRY.—Prizes were awarded to it at the Horticultural Society's Garden, Chiswick; Royal Botanic Society's Garden, Regent's-park; and Surrey Zoological Gardens, as being the best for size, colour, and flavour. Plants to be had of GEORGE CORNWELL, Market-gardener, opposite to the Red Lion, Barnet; GEORGE CHARLWOOD, Covent-garden; and W. and J. NOBLE, 152, Fleet-street, at 2*l.* per 100, or 6*s.* per dozen. The Fruit in Covent-garden brought a higher price than any other.

BALSAMS.—The Subscriber begs most respectfully to call the attention of the Nobility, Gentry, and Public of England to his unrivalled collection of BALSAMS, to which he has devoted his attention for many years, and perfected regardless of expense. The flowers are of immense size, very double, and embrace all the known varieties of colours peculiar to that beautiful plant. Seeds can be furnished, mixed, at 2*s.* 6*d.* per packet.

Orders forwarded per post to all parts of the kingdom on receipt of postage stamps or money orders.

GEORGE IMMS, Bowater Nursery, Woolwich.

RANUNCULUSES, ANEMONES, LILIUM LANCIFOLIUM, AURICULAS, CARNATIONS, PICOTEES, AND GERANIUMS.

HENRY GROOM, Clapham-rise, near London, by Appointment, FLORIST to Her Majesty the QUEEN, and to His Majesty the KING OF SAXONY, begs to recommend to the attention of the Nobility, Gentry, and Amateurs, the above FLOWERS, which he can supply of the finest quality at the following prices:—

100 RANUNCULUSES, in 100 superfine sorts, named	£2	10*s.*	0*d.*
Superfine mixtures, per 100, from 6*s.* to 15*s.*			
100 ANEMONES, in 50 superfine sorts, named (new collection)	2	2	0
Superfine mixtures, per 100, 7*s.* to 10*s.* 6*d.*			
LILIUM LANCIFOLIUM ALBUM, fine bulbs, each, 1*s.* to	0	2	6
,, ,, PUNCTATUM, each .. 5*s.* to	0	10	6
,, SPECIOSUM (true), each .. .. 7*s.* 6*d.* to	1	11	6
A new collection of Hybrid Seedling LILIES, 6 sorts	1	1	0
25 AURICULAS, in 25 superfine sorts, named	2	10	0
12 pair CARNATIONS, in 12 sorts, named }			
13 ,, PICOTEES, in 13 sorts, named }	2	10	0
25 GERANIUMS, in 25 superfine sorts	3	3	0
Fine kinds from 12*s.* to 18*s.* per dozen.			

Foreign orders executed, and the trade supplied. Discount allowed for ready money.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

TO PLANTERS.—WHITETHORN OR QUICK.

YOUELL AND CO. having a fine and clean stock of the above beg to offer it at the following prices:—
2 years transplanted, very strong and bushy, 10*s.* per 1000.
1 ,, ,, fine, 6*s.* per 1000.
1 year seedling, fine, 1*s.* 6*d.* per 1000.
True Fastolff Raspberry, 10*s.* to 15*s.* per 100.
Fine large white do., 20*s.* per 100.
Standard and half-standard Roses of the finest sorts 12*s.* to 18*s.* per dozen.
Tobolsk Rhubarb, strong roots, fit for forcing, 9*s.* to 12*s.* p. doz.
Roots planted now will be ready for cutting in three weeks.
For particulars see Advertisement Nov. 27.
Improved Giant Rhubarb, a very fine variety, and well adapted for forcing, 6*s.* to 9*s.* per dozen.
Strong Giant Asparagus, 3 years old, 3*s.* 6*d.* per 100.
Do. do. 2 years old, 2*s.* 6*d.* per 100.
Strong Seakale for forcing, 2*s.* per dozen.
Potatoes: the following can be supplied free from disease, at 2*s.* 6*d.* per peck, viz., true Ash-leaved Kidney, Early Cockney, and Shilling's Early Frame.
Great Yarmouth Nursery.

SEEDLING PETUNIAS.

BASS AND BROWN have much pleasure in offering the following very superior and first-rate PETUNIAS, which they have selected from upwards of 2000 Seedlings, and which they can recommend with the strongest confidence. Blooms were submitted for Dr. LINDLEY'S opinion and were favourably noticed; see *Gardeners' Chronicle* for August 21 and Sept. 4, in reply to S. B.

EMPEROR, a rich dark flower, bold and very attractive, of excellent form, colour dark purple, shaded and frequently blotched with rich bluish lilac, 5*s.* each.

EMPRESS, a beautiful clear flower, of a white ground, shaded and prettily edged with lively pink, fine form, 5*s.* each.

DIOGENES, a dark flower, of stout substance, purplish crimson, with very dark veins, 5*s.* each.

CHANCELLOR, blush lilac, with purple throat, having a distinct purple stripe up the centre of each lobe of the corolla, very showy and fine, 5*s.* each.

PAINTED LADY, a very beautiful and attractive flower, of excellent form and constant, bright rosy crimson, finely bespangled all over with white spots, 5*s.* each.

ROSY CIRCLE, a pretty rosy pink, of excellent form and size, 3*s.* 6*d.* each.

COMUS, a large light flower, with very deep purple throat and veins, shaded with pink, 3*s.* 6*d.* each.

BLANCHE, a fine, large, and well-formed white, with a rich purple throat, 3*s.* 6*d.* each.

The Set Complete, which are all very distinct, 28*s.*

The usual allowance to the Trade by taking the set, or three plants of a sort. Plants will be sent out early in the season.

Seed and Horticultural Establishment, Sudbury, Suffolk.

MILLER'S SEEDLING GERANIUMS.

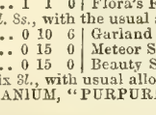
Scarlet Defiance	£1	11	6	Rosa Mundi ..	£1	11	6
Queen of Kent ..	1	1	0	Distinctus	1	11	6
Admiration	1	1	0	Valquis	1	1	0
Conspicabundus ..	1	1	0	Flora's Flag	1	1	0
The set 8*l.* 8*s.*, with the usual allowance.							
Fireblaze	0	10	6	Garland	0	15	0
Eclipse	0	15	0	Meteor Superb ..	0	10	6
Telegraph	0	15	0	Beauty Surpass ..	0	10	6
The six 3*l.*, with usual allowance.							

New Forcing GERANIUM, "PURPUREA MULTIFLORA," 10*s.* 6*d.* each.

N.B.—Good strong plants, with cuttings, are now ready to send out. The whole set of 15 distinct varieties a real bargain, 10*l.* 10*s.*, with usual allowance to the trade.

Providence Nursery, Ramsgate.

GARDENERS' REGISTER OFFICE.

HORTICULTURAL  ESTABLISHMENT.

J. WEEKS AND CO., King's-road, Chelsea, Architects and Builders of Hothouses, Greenhouses, Conservatories, &c., beg to inform the Nobility and Gentry that they have erected, on their premises, for the purpose of inspection, a variety of Horticultural Buildings, showing all the various modern improvements of the day.

J. WEEKS AND CO.'S PATENT HOT-WATER APPARATUS is unrivalled for simplicity and efficiency. The whole apparatus, in various forms, may be seen in action on their premises. Boilers of all sizes, which only require attendance once in 12 hours.

J. WEEKS AND CO. have, in addition to their Horticultural Manufactory, established an extensive Ornamental Nursery. The buildings, which are now nearly completed, are allowed to be the finest in the country; as also the complete arrangements of the Heating Apparatuses. The whole combining economy with utility and elegance.

There is a rare and most esteemed Collection of Stove and Greenhouse Plants, Catalogues of which will be forwarded.

THEIR SEED CATALOGUE IS NOW READY.

The prices at this Establishment will be found considerably lower than those at any other. Plans, Estimates, and Catalogues furnished free.

A REGISTER OF EVERY CLASS OF GARDENERS requiring situations, classed according to their various qualifications, offers to the Nobility and Gentry an easy means of selecting those best adapted to their purpose.

GARDENERS in want of situations will be furnished with a printed form upon application.

E. BECK informs the Public that the various Articles manufactured by him in Slate for Horticultural purposes, may be seen in use at Worton Cottage, Isleworth, upon application to the gardener (*Sundays excepted*).

CUCUMBER AND MELON BOXES AND LIGHTS.—One hundred 1, 2, and 3-light Boxes and Lights of all sizes ready for immediate use. Warranted best materials, packed and sent to all parts of the kingdom; 2-light Boxes and Lights from 1*l.* 6*s.* Garden Lights of every description, Conservatories, Green and Hot-houses made and fixed in all parts of the kingdom. References given to the Nobility, Gentry, and the Trade, in most of the counties of England.

JAMES WATTS, Hothouse Builder, Claremont-place, Old Kent-road, London.

SEEDS.—CORNER OF HALF-MOON-STREET.
THOMAS GIBBS AND Co.,
(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND,"
Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

Priced Lists of Agricultural Seeds are always ready, and may be had on application.

LAST ADVERTISEMENT OF

BECK'S SEEDLING PELARGONIUMS.—The following is the remaining stock of the above, and it will not be increased by E. BECK until the autumn:—

Cruenta, 5 plants ..	£1	11*s.*	6*d.*
Centurion, 7 do. ..	1	11	6
Cavalier, 6 do. ..	1	11	6
Cassandra, 3 do. ..	1	1	0
Gulielme, 8 plants	£1	11*s.*	6*d.*
Gustavus, 2 do. ..	1	11	6
Honora, 4 do. ..	1	1	0
Rosamond, 9 do. ..	1	11	6

Trade Flowers.

Blanche, 3 plants, 15*s.* Grandiflora, 6 plants, 15*s.*

For pre-payment only. Usual discount to the trade. Delivered carriage and package free in London. Post-office orders requested on Brentford.

N.B. A considerable portion of the 500 copies of E. B.'s Treatise on the Cultivation of the Pelargonium is sold, and, in answer to enquiries, E. B. informs the public that he has no intention of reprinting it in its present form.

Isleworth, Jan. 15.

TRAINED TREES.

JAMES LAKE, NURSERYMAN, &c., Bridgewater, has several thousand DWARF TRAINED TREES of the following kinds to dispose of this season at a very low rate, *viz.* Peaches, Nectarines, Apricots, Plums, Pears, and Apples; also a fine stock of Gooseberries, Currants, Raspberries, and Strawberries, of sorts, all true to name.

NEW SEED AND PLANT ESTABLISHMENT.

ROBERT M. STARK (late partner of Messrs. J. Dickson and Sons), begs to intimate that he has recently opened the commodious and central premises, 2, HOPE-STREET, EDINBURGH, in the above line; and having secured a choice supply of the most approved varieties of GARDEN, FARM, and FLOWER SEEDS, carefully selected by himself, he trusts to obtain a share of public patronage, which he will use his best endeavours to merit.

A full and descriptive Catalogue of these has just been published, and may be had on application. Extensive assortments of Implements and Botanical Apparatus.—Edinburgh, Jan. 15.

CHINESE PIGS FOR SALE.—A nice lot of pure Chinese Pigs for sale, about three months old.—Enquire of MR. JAMES DRINKWATER, Enstone, Oxfordshire.

CUCUMBERS. — HOLDWORTH'S IMPERIAL FRAME is the best show and finest flavoured CUCUMBER in existence; average length about 18 inches, remarkably handsome, growing near alike; they pair well, a point indispensable in competition. Small packets, 2*s.* 6*d.* each; which may be remitted in postage stamps.

S. WALTERS, Hilperton, Trowbridge, Wilts.

STRONG HORTICULTURAL 16-oz. SHEET GLASS FOR CONSERVATORIES, GREENHOUSES, PITS, FRAMES, &c.—FURTHER REDUCTION.

HETLEY AND CO. publish Prices in the *Gardeners' Chronicle* the first Saturday in every month. Wholesale and Retail Glass Shade, Sheet, Crown, and Patent Plate Glass Warehouse, 35, Soho-square, London.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND CO., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS FOR CONSERVATORIES.			SMALL SQUARES of SHEET.	
SIZES UP TO 40 INCHES LONG.			4 by 3 and 4½ by 3½..1½*d.* per ft.	
16 oz. to the foot	3½*d.* per foot.		5 ,, 3 ,, 5½ ,, 3½..2	,,
21 ,,	5 ,,		6 ,, 4 ,, 6½ ,, 4½..2½	,,
26 ,,	7½ ,,		7 ,, 5 ,, 7½ ,, 5½..2½	,,
32 ,,	10 ,,		8 ,, 6 ,, 8½ ,, 6½..2¾	,,
			Not above 10 ,, 8 ..3	,,

GLASS MILK PANS, PROPAGATING GLASSES, AND BEE HIVE GLASSES, carefully packed in Baskets, and sent to any part of the kingdom.

GLASS TILES AND SLATES.

16 oz. ..	0*s.* 8*d.*	....	0*s.* 10*d.*	26 oz. ..	1	0	.... 1*s.* 4*d.*
21 oz. ..	0 10	....	1 0	32 oz. ..	1	4	.... 1 8

Made to any dimensions.

LACTOMETERS.

For trying the quality of Milk, 4 tubes 7*s.* 6*d.*, 6 tubes 10*s.*

PATENT ROUGH PLATE GLASS, about 30 oz. to the foot, from 4*d.* to 7*d.* per foot, according to size; well adapted for Conservatories, Offices, and Warehouses, and an excellent substitute for Ground Glass.

HOT-WATER APPARATUS AND HORTICULTURAL BUILDINGS.

DANIEL AND EDWARD BAILEY, of 272, Holborn, construct and erect Hot-water Apparatus for Warming Horticultural Buildings, Dwelling-houses, Churches, and Manufactories, in a simple and efficient manner, at moderate charges. They have erected Apparatus in England, Scotland, and Ireland for many Noblemen and Gentlemen. They had the honour to be employed in heating the ranges of Hothouses and Pits in HER MAJESTY'S NEW GARDENS AT FROGMORE, and in executing the works of the splendid Conservatory erected by the Horticultural Society of London in their gardens at Chiswick, and also in the erection of the Conservatory attached to the Pantheon Bazaar.

D. and E. BAILEY, who were the first to introduce Metallic Curvilinear Hothouses to Horticulturists, erect various descriptions of Horticultural Buildings, and execute all kinds of metal work at their Manufactory, 272, Holborn.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors, and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory in New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

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	s.	d.
WHITE BELGIAN CARROT .. .. per lb.	2	0
LONG RED ALTRINGHAM DO. .. .. ,,	1	9
LARGE GUERNSEY CATTLE PARSNIP ,,	2	0
WHITE SILESIAN BEET .. .. .. ,,	2	0
KOHL RABI .. .. ,,	3	6
LARGE DRUMHEAD CABBAGE .. .. ,,	2	6
MANGOLD WURZEL—LONG RED .. ,,	1	9
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All other Seeds equally moderate.

Early purchasers are recommended, as prices may probably advance, the same as last season.

Sample packages containing ½ an ounce of each of the above kinds, to prove their quality, will be sent postage free on receipt of 36 penny postage stamps.

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No. 1.—Complete collection consisting of 16 quarts of Peas, and all other seeds in proportion for one year's supply £2 10 0
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WM. E. RENDLE & Co., Plymouth.
ESTABLISHED 1786.

The Gardeners' Chronicle.
SATURDAY, JANUARY 15, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

TUESDAY,	Jan. 18	Horticultural	2 P.M.
		Linnean	8 P.M.
SATURDAY	— 22	Royal Botanic	4 P.M.
MONDAY,	— 24	Entomological (Anniversary)..	8 P.M.
WEDNESDAY	— 26	Microscopical	8 P.M.

DR. BUCKLAND's letter on the POTATO DISEASE, together with those of Mr. WILKINSON and Sir GASPARD LE MARCHANT, has revived the vexed question of how the disaster was produced. It reminds us of stories current in Ireland in October and November, 1845, when it was firmly believed by many persons that the mischief was produced by lightning. There was one case in particular of a field sloping to the sea-shore, on the north-east coast, the whole of which was blighted in a night, and fishermen who were lying off the coast that night declared that the surface of the field seemed alive with gleams and coruscations.

We are far from venturing to assert that some peculiar electrical condition of the atmosphere has been the real cause of this scourge; but we are equally far from denying it. We think, too, that evidence of the disease being connected with some peculiar atmospheric condition of a deleterious nature, acquires more and more force, as time wears on, while at the same time the arguments to the contrary become weaker and weaker. The peculiar affection of the Tomato in 1846, which, as far as we saw, was confined to the side of the fruit freely exposed to view, and consequently to direct atmospheric influence, seems to corroborate the views of Dr. BUCKLAND and Mr. MILNE.

At all events it appears certain that unless this visitation is removed by Providence, it is not likely to disappear; for the skill of man has been directed in vain, not merely to its removal, but even to its mitigation. If it proved to be last year less destructive than in 1845 and 1846, the change can hardly be referred to any human cause. Time has now permitted a trial of the various remedies which have from time to time been proposed in different countries, and the result is that all, without a single exception, have failed.

The most complete series of experiments hitherto made public is that tried last year in the Garden of the Horticultural Society, and reported upon in the Society's "Journal" just published. In the absence of a clue to the first cause of the disease experiments are necessarily empirical; and therefore every kind of remedy, probable or improbable, which had been heard of was put to the test, from charcoal up to soap jelly. The results must, we imagine, show the hopelessness of dealing with an enemy so capricious in its attacks that a result obtained in one place is directly reversed in another place only a yard or two off—there being no appreciable difference in soil or situation or circumstance. For example the per centage of diseased Potatoes found where *nothing* had been used in the soil was as high as 32.50, and as low as 5.74. And although in the cases of some applications no disease whatever was found when the crop was taken up—nevertheless in many instances the very same applications were found connected with above 30 per cent. of disease. The following tables, abridged from Mr. THOMPSON's report, will make this still clearer.

	Treatment Recorded.	Rate per cent. Diseased.
1	Lime and charcoal	15.24
2	Do. do.	5.85
3	Do. do.	1.4
	Average of the above three rows	17.4
4	*Nothing*	29.00
b	Do.	23.50
6	Do.	32.50
	Average of the above three rows	31.00
7	Salt, lime, and charcoal	22.1
8	Do. do.	1.75
9	Do. do.	2.53
	Average of the above three rows	2.00
10	*Nothing*	24.00
11	Ash-leaved kidney, young tubers grown in 1847 planted	24.00
12	*Nothing*	2.50
13	Watered with weak chloride of lime ..	17.52
15	Do. do.	19.28
16	*Nothing*	32.50
17	Salt, potash, and fat	12.17
18	Sulphuric acid, diluted (half row)	5.10
19	Powdered charcoal (half row)	7.75
20	Salt	3.50
21	Coal-tar sprinkled over the sets	3.70
22	*Nothing*	6.65
23	Chalk, salt, and charcoal	4.45
24	Do. do.	6.50
	Average of the above two rows	5.67
25	Sulphate of soda and nitrate of soda ..	11.61
26	Salt successively applied	6.44
27	Do. do.	7.50
	Average of the above two rows	6.97
28	Sulphur	6.63
29	Salt and sulphate of magnesia	9.35
30	Do. do.	7.36
	Average of the above two rows	8.27
31	Moberly's sulphate of magnesia	12.26
32	Sets dipped in lime	7.70
33	Sets sprinkled with quick-lime	17.27
34	Soot	16.21
35	Oil-cake (half row	9.23
36	*Nothing* (half-row)	11.52
37	Powdered charcoal (half row)	12.43
38	*Nothing* (half row)	14.71
39	Sets dipped in boiling water	7.39
40	Sets dipped in lime and dung water ..	11.90
41	Do. do.	15.02
42	Do. do.	8.94
43	Planted alternately with Beans	11.90
44	Crushed oil-seed (half row)	10.51
45	*Nothing* (half row)	5.74
46	Powdered oil-cake (half row)	3.48
47	*Nothing* (half-row)	8.30
48	Shaded by Indian corn	14.12
	Average of all the rows to which *Nothing* was applied	18.11
49	Potash, salt, fat, and water	53.03
50	Do. do.	1.38
51	Do. do.	0.0
52	Sulphuric acid .. .. .. 0 to	12.28
53	Sulphate of magnesia .. .. 0 to	4.19
54	Chloride of lime.. .. .. 0.23 to	4.27

In some cases where sulphuric acid was used the disease disappeared, but the crop was nearly destroyed.

The most remarkable result was that of the application of a soap jelly, a mixture of potash, fat, salt and water, an American remedy mentioned in our columns for 1847, p. 267. When applied to plants set whole in hills, layered, and earthed up repeatedly, the Potatoes treated with this mixture were in some cases free from disease, but in other cases the per centage of tainted tubers amounted to as much as 24·44, and *when they were not earthed up* to even 53·03, or to an average of 21·32 in 30 experiments. It is therefore a question whether the advantage which in some cases appeared to belong to the soap jelly was not in reality attributable to the mode of treatment.

Seedlings, concerning which so much obviously unfounded expectation was entertained, proved no more exempt from disease than old and long cultivated varieties, as is shown in the following Table.

		Rate per cent. Diseased.
1	German seed, from Baden, sown in gentle heat April 3; planted out April 30 ..	9·64
2	Ditto	15·84
3	Seed from Mussooree, sown in the open ground March 18	25.00
4	Seed from Mussooree, sown in gentle heat April 3; planted out April 30	18.42
5	Seed from Poland, sown in gentle heat May 24; planted out June 16	13.94
6	Seed from Poland, sown in the open ground May 24	47.36
7	Ditto	72.82
8	Ditto	47.01
9	Seed from Maldon, Essex, sown in the open ground March 18	29.44

Neither did the wild Potato escape; on the contrary, a perfectly wild form of the root, fresh from its native mountains, is reported to have "exhibited the characteristic blotches in a worse degree than any other sort in the Garden." In short, the conclusion which has been arrived at from the Horticultural Society's experiments is "that there is no known preventive of the disease; that neither renewal by seed, nor introduction from foreign countries, nor treatment in the earth, afford any guarantee against its attacks; and that its progress cannot, in the present state of our knowledge, be resisted with such success as to justify the recommendation to the public of any of the remedies hitherto proposed."

[illegible] facts clearly point more [illegible] as a remedy to the [illegible] of the Potato, except as an [illegible] in it is [illegible] and [illegible] from those diseased [illegible] by the very able and [illegible] of the "Irish Crop" in the [illegible] produced no fewer than [illegible] famine in Ireland [illegible] 1845-6-7-8, and 1849, or one [illegible] four years. If the [illegible] would [illegible] must be the [illegible]

We repeat, then, that [illegible] Potato, by the poor, [illegible] should be discouraged in all [illegible] that on the other hand, the [illegible] of food should be the [illegible] of all humane persons [illegible] dom, for there is not the [illegible] present disease, when it [illegible] will not be exceeded by one quite as [illegible]

FEW events have yielded so much of true satisfaction to the enlightened observer as the recent opening of the Museum at Ipswich. Certainly, if there be such a passion as [illegible] we should feel it as we contemplate this [illegible] successful effort on behalf of the working classes, made by Mr. G. RANSOME, a member of the Society of Friends, and one peculiarly distinguished for the exercise of their quiet yet zealous benevolence.

The history of the whole proceeding is very instructive. Mr. RANSOME and his relations employ about 1000 men in the manufacture of agricultural implements. This is a vast number of persons congregated together for good or for evil; and it is manifest that it must depend very much on the spirit of the employers which should be the result in the main: and it was from this consideration that these gentlemen were led to form the Ipswich Museum. Mr. ALLEN RANSOME speaks simple truth in simple words: "Much as speakers had dwelt on the facilities to be thus afforded to the working classes, I may perhaps venture to express the great rejoicing which I feel that among the privileges and pleasures and gratifications which *we* enjoy in the highest degree, we are in this instance bringing those pleasures and gratifications within the reach of those who have much fewer than ourselves. It has been my lot for a long period of my life to have been associated with working men. Working by their side at the early period of my life, and having had the management of them from that hour to this, I know their habits, I know their feelings, I know their faults, and I know the course which we may take to amend them. Among the most prominent is the *healthful recreation of the mind.*" Mr. G. RANSOME speaks with honest exultation: "Little did I expect that within so short a space as barely more than twelve months from the commencement of the project, we should have had cause to congratulate each other on the establishment of an institution which I firmly believe to be, perhaps, one of the first ever established in this kingdom for the *elevation of the character* of the working classes."

It would have been difficult to express so concisely bitter condemnation of the past, and hopeful prospects for the future, to our national and individual, as well as social, treatment of the working classes. The truth cannot and must not be concealed. Not only has the education which they have been allowed to receive been most wretchedly limited, but until very recently there has been an engrossing fear of giving them in useful instruction before they emerge into youth, or more extended mental cultivation when they have reached that most dangerous neutral ground, on the ultimate possession of which, by good or by evil principles and knowledge, must depend the happiness or the misery of their future lives; and so far as such vast numbers are concerned—the healthfulness of the whole social system. The delusion has worked fearfully indeed. The low state of mental expansion everywhere prevailing among these classes—their consequent addiction to degrading amusements, simply because sound knowledge has and can have no attraction for their uncultivated minds—calendars of crime swelling in numbers year after year, these are melancholy witnesses whose testimony cannot be silenced. The delusion has been to *keep the working classes in their proper place*—that is, TO KEEP THEM IN UTTER IGNORANCE OF ALL KNOWLEDGE BUT THAT OF THEIR OWN PARTICULAR

OCCUPATION. And none (if they could see the truth) have suffered from this delusion more than the promoters of it themselves.

For what is such a principle but the result of wretched cant, or of blind groundless alarm? To say that a man must perform his own peculiar craft, or work at his own labour less efficiently because his mind is more enlightened, is a manifest absurdity on the face of it. There is no profession (and we emphatically include GARDENERS in this remark) which a man will not be enabled to carry out far more successfully if his mind be enlightened on other branches of knowledge besides his own. To deny this would be to say that "PHIDIAS could not execute the drapery of his own statue." "Hewers of wood and drawers of water" there ever must be. But the hewer of wood will not assuredly do his work less rapidly or easily if he understood the principles of Mechanics; nor will the drawer of water fall short if he add to Mechanics a knowledge of Hydraulics as well. But the beneficial effects of such enlightenment on the physical frame by producing improved habits is palpable to all but those who will not see. The truth is that a healthy, enlightened state of mind and healthy habit of life react mutually to the increasing benefit both of body and mind.

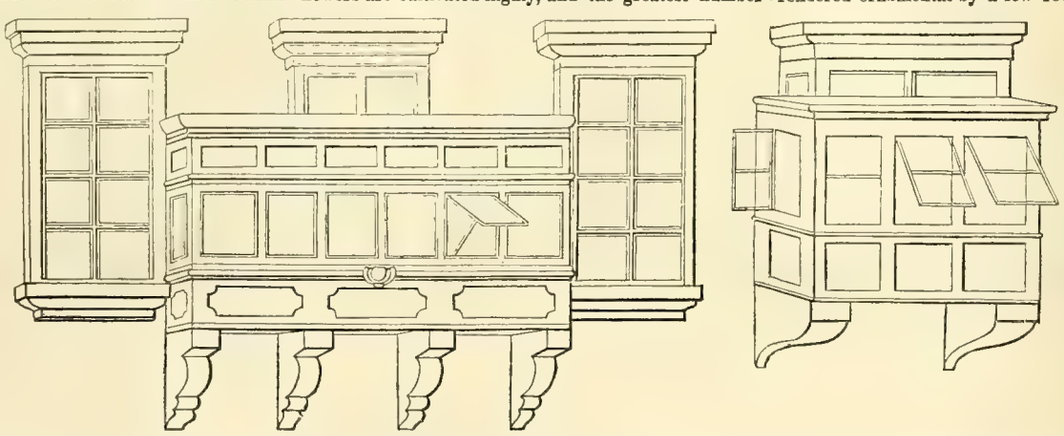
This is the high and elevating principle on which Mr. G. RANSOME has acted for the best interests of the hundreds for whose welfare he and his entertain the concern which every employer ought to feel, and for which every employer is morally responsible. A Museum is now opened, convenient in all its accommodations, and abounding already in specimens of ornithology, entomology, and geology: and many of these have been contributed, at a personal sacrifice, by the working classes themselves. But it is not intended to confine the effort within these limits. Lectures are to be given on scientific subjects: and when we mention Professors AIREY and HENSLOW as among those who have promised lectures on their respective branches of science, we not only show a guarantee for future and extended mental improvement, but we publish the best possible instances that they who are the most eminent for knowledge are the last to withhold from others the blessings which they enjoy and appreciate themselves. May the increasing prosperity of this noble effort yield to Mr. RANSOME and his relations that true pleasure which their benevolence and determination so richly deserve!

There is one omission apparently, and, having had some experience on the subject, we may be allowed to point to it. There seems to be, as yet, no provision made for Instruction through the formation of CLASSES. From our own past knowledge, and the evidence yielded by all similar Institutions—we can state that without classes—and classes, too, instructed by *paid* Teachers—the good done will be extremely limited, both as to extent and duration. A lecture lays down principles: but not one hearer in fifty can carry them out without a helper and guide. In one word—classes well worked may do almost everything, even without lectures. Lectures to large bodies of men, without classes, will fail to accomplish much beyond creating an interest in the subject, unless the lecturer has a full knowledge of the manner of applying his principles, which seldom occurs.

VILLA GARDENING.

(*Continued from p.* 21.)

THESE remarks have already extended beyond due bounds, and, it will be said, have left untouched the most common kind of villa garden; but much of the feeling, if it may be so called, should enter into the arrangement of all kinds of villa gardens. The florist's villa was one of those mentioned. Much might be said on the style of architecture suitable to different kinds of villas, as well as on the arrangement of the house and offices; but the subject is already too extended. But in connection with flowers, the Italian does seem most appropriate. What can be more charming than terraces? A whole book might be written on them. What endless opportunities they afford for the display of flowers and of taste! It is supposed that the florist takes little or no aid from trees in decorating his villa, unless for shelter or a partial shade, depending on a combination of architectural design with his floral arrangements. There is a great want about most houses of some basement, or sort of area, on which to stand, so as to avoid the appearance of springing unmeaningly out of the ground. The terrace comes in here to our aid, breaking the change from the house to the garden, and forming a link between them. The greenhouse attached to the drawing-room, and opening on to the terrace covered with flowers, leads one in a most agreeable manner through a succession of flowers, and gives a unity of design to the whole. The great advantages of terraces consist in being at all times the best and driest walk, in giving so many opportunities of sheltered corners and dwarf walls for flowers, as well as places for pots and stands. Pilasters supporting a vase, with its appropriate flowers; arches covered with creepers; flights of steps covered with well-filled pots, leaving but room to pass to another terrace varied in its shape and flowers, which, looking down a flower-garden, extends in a favourable position. There should be a principal terrace in connection with the house, for the purposes of walking as well as the display of flowers. This is also to be the chief access to the rest of the grounds. The extent of decorative ornaments which may be used is unbounded; but good taste will never overload, and have a constant regard to suitableness both of purpose and climate. If the situation of the house is sufficiently elevated, the flower-garden may be so extended below the windows as to show in figures; which, again, may each be made of some elegant form in itself, or the whole may be made into one or more figures, while each flower-bed forms a part: and the effect may be carried still further, by making masses of flowers of one colour in each bed; so that the whole composes one intricate design. There is great room for the display of taste in the appropriate arrangement of flowers and shrubs, both in regard to size and succession of flowering, so that one succeeds the other, and in their several gradations; instead of the more aspiring overpowering its humbler neighbour, it is so placed as to be a support and a suitable back-ground. Where flowers are cultivated highly, and the greatest number possible kept in constant succession, it is necessary to have a very considerable extent of forcing and retarding houses, as well as sheds for potting, for tools, &c., where much work can be done on wet days. There must also be space for heaps of mould and composts. All these are best out of sight, being the manufactory where interesting operations are carried on; but it is only desirable to show the result, not (except to amateurs) the detail. A retired part ought, therefore, to be selected, and means taken to plant it out. The Grecian style is also well adapted to this kind of villa: the verandah, the greenhouse, and flowers are all in character. The porch filled with flowers, or the entrance through the greenhouse, have both a pleasing effect. Flowers and creepers trained on the walls, are pretty; but they do not improve the house. It will be found better to train them on and about the verandahs; and some dwarf walls a little way from the house, covered with creepers and flowers, have a good effect.



A few more words on terraces. They should have an ample spacious appearance; make them broad and straight and terminating with an octagon, or some such figure, or a balustrade. Avoid going off into a narrower in the same line; if that is necessary, terminate the terrace and descend by steps, or go off at one side and go round. Terraces have best effect when rather elevated above the ground on one side; if curved let the curve be long and gentle, and here also it must not run counter to the natural lie of the ground; if an occasional deviation from this rule is necessary, the ground must be made up to cover the infringement. Instead of one continued curve it will generally have a better effect to make two straight ends and a bold curve swelling out or retiring in the centre; the eye will thus look along the whole length of straight. Terraces must be level, and change must be done by steps, as a slope would injure the whole character. Flights of steps must be broad and easy of ascent; balustrades and pilasters, and vases, are great additions, but delightful terraces can be formed without them; indeed in some places the plain, unornamented, is more suitable than the more costly; it is almost unnecessary to add that proper drains, a deep bottoming of stones or other suitable material, are all essential; and where fine white gravel can be obtained, that it adds very much to the appearance. A foreign garden, belonging to a great amateur in flowers, came under my observation, in which there were many things worthy of imitation, but more especially the plan adopted for flower-beds. About 3 feet from the wall was built a retaining wall 2½ feet high, the space being filled in with a few stones and then proper mould. The flowers were thus close for examination, and within easy reach without stooping, while any degree of moisture would be given by carrying a water-pipe along, with cocks every here and there, with a hose and rose attached. There were light wooden frames over which canvas could be drawn for shade from the sun, or shelter from cold at night; in some parts a glazed frame might be made to fold up against the wall, so that more tender plants could also be trained. In this garden there was a court arranged in this way for select flowers, in the centre of which stood a fine tree, which served for shade and broke the formality; around its stem was rather an elevated seat, so that the whole flowers could be viewed from it to great advantage. The amateur of a more practical garden cannot be supposed to be so blinded by his pursuits as to disregard the more elegant part of his craft, and that he will combine with his garden some ornamental ground allotted to lawn and flowers, showing his friends that his tastes are not unrefined, though he prefers the pleasure and healthy glow of a good work with spade and barrow. He will place his garden out of the direct view of his windows opening to it from his lawn, and approaching it among some beds of flowers of the more simple kinds according to his tastes.

The practical working of the garden is not quite part of my subject, but connected with it I may add a few words on irrigation. Liquid manure is particularly favourable for vegetables, as it supplies the manure in the most easily appropriatable form. The garden is generally so well supplied with manure that a slight addition rouses the soil into additional productiveness. In foreign gardens there is placed at an elevated part an open brick tank, lined with cement, and rendered ornamental by a few rough pillars, on which Vines are trained, and carried from one to another by wood spars. This tank, a little before sunset, the gardener fills with his simple balance pole and bucket, from the well close at hand; he then opens the sluice and directs the current down channels for the purpose to his several vegetable beds, changing the direction as required with a spadeful of earth: an astonishing succession of vegetables is thus produced. In this country force-pumps on the natural level might give the supply, while the addition of guano or some such fertilizer enriched the liquid, either by mixture or by sprinkling the beds previous to watering. There is little doubt but that this process would have a great effect, and repay any expenditure by saving of manure.

Parting with my out-doors acquaintance with this friendly advice, I will conclude by mentioning an adaptation suitable for window gardening. Any one who has been at Malta will recollect the innumerable window balconies extending along the side of a house and turning the corner, or the tiny one outside a small window, in which instead of a blushing rose is a bright-eyed brunette. I annex a sketch of this kind of covered glass balcony which might be easily adapted to flowers without taking from the size of the room. It is to be noticed that they do not go up the whole height of the window, so that the space above is left for lighting and ventilation of the room.—*Forester.*

CAPE HEATHS.—No. II.

PROPAGATION.

IN describing the general routine of cultivation adapted to the Heath, something must necessarily be said in reference to propagation. Not that I would advise the amateur or other cultivator, not having profit in view, to adopt the practice extensively; yet for the perpetuation and increase of choice species by cuttings, or raising new varieties by seed, it is advisable sometimes to adopt the practice. Opportunities of selecting young plants in a state capable of being moulded to the cultivator's own style of treatment are afforded at the principal nurseries; and as most of the species and varieties can be obtained at reasonable prices, it is by far the more economical plan to purchase. Select such plants as are symmetrical in form, short in the stem, and healthy and robust in foliage, reference of course being had to the different species, as in this particular they vary much in appearance.

But to return to propagation: if by seeds select wide-mouthed cutting-pots, or what is better, pans provided with holes for drainage. Fill them half their depth with potsherds, the finer particles being placed as a top layer, immediately above this put a layer of coarse mould, filling the pot or pan to within three-quarters of an inch

with fine sandy peat, pressing all moderately firm and perfectly level. The latter is most essential, as the seeds are so minute that an uneven surface greatly retards the growth of the young plants. The seeds being deposited, with a very fine sieve scatter a slight covering of white sand, or very sandy peat, on them—barely enough to cover them; damp the surface and keep it so till the tiny plants appear. And here arises a difficulty or, I should rather write, a troublesome case. I have seen it recommended in books (and put in practice, too), to cover the surface of the mould in which small seeds are sown with chopped Moss, to keep the surface moist—a practice which experience bids me say is very bad. It induces a weakly and etiolated growth, at the time when all the elements furnished individually by, and in the combination of air and light, should exert all their influence on the advancing plant. And should the unlucky cultivator leave his delicate charges reposing under the influence of the protecting Moss a few days without his immediate superintendence, the young plants, struggling for light and liberty, will have become entangled in their fostering canopy, which on being removed carries with it the greater portion of the plants, leaving the remainder weakly and deformed. A mode which will succeed well is this:—Sow your seeds in spring, as above described, place the pots in a cool and shady situation, protected from rains, but having free benefit of a circulating atmosphere. If you have only a few pots, under a hand-glass raised at the corners, behind a north wall is an excellent situation. When the young plants appear, gradually inure them to the full atmospheric and solar influence. If your seed is sown early, the plants will of course be sufficiently strong to be potted off the same season; but if late and the plants are small and weak at the end of the summer, they had better remain in their seed pots, occupying, during winter, a light cool shelf in the Heathery or greenhouse, potting them off early the ensuing season.

The usual mode of propagation is by cuttings, and as the shoots adapted for the purpose are suitable at different seasons, according as the plants are early or late blooming, no season can be recommended in preference to another for carrying out the operation. Thus, most of the ventricosas are late bloomers, the growth therefore is proceeding during autumn; in fact, they continue to grow the whole of the winter. Fully organised wood adapted for cuttings may therefore be procured early in spring. The same may be said of verticillata and others easily recognised. The winter blooming Heaths, as Scotia, vernix, hirta, costata, ardens, vernix coccinea, gracilis, &c., will consequently produce cuttings later in the year, and so of others in succession. As a rule, to prevent unnecessary trouble and disappointment, never select cuttings till the wood is ripe (fully organised). This term cannot be rendered intelligible by words or drawings, or indeed in any way short of experience. The best explanation that can be given is this—select your cuttings from wood of the current season's growth, and let that portion at which you intend roots to be formed, neither be too soft (cellular) nor too woody; if the former, damp will quickly destroy it; if the latter, no roots (or if any very feeble) will be emitted: but the cutting, by absorbing moisture through the medium of the sand in which it is planted, and losing little by being protected by the bell-glass, will remain green and healthy-looking for months,

> "Holding the word of promise to the eye,
> But breaking it to the hope."

It would require an elaborate treatise to show when and why a particular shoot is in a fit state for the purpose of propagation, and even then the subject could not be so well explained as by a few practical investigations under the assistance of a proficient. As it has been observed that the cuttings from a collection of Heaths are obtained progressively, it follows that the propagator's operations must be regulated thereby. The earliest struck plants, like the early sown seeds, will be fit for potting off the same season, and by giving them a liberal shift early in the following season, beautiful plants will be produced by the autumn; whereas cuttings inserted later in the season had better remain in their cutting pots during winter, as by potting off late in the autumn no advance will be gained, and a risk incurred of losing them in the winter, from their not being established in their pots.

In preparing cuttings, select pots like those described for seed, and prepare them in a similar manner, with this exception—on the top of the fine sandy peat place about half an inch of white sand, clean and sharp, leaving a $\frac{1}{4}$ of an inch of the pot not filled. Then press the whole moderately firm, water with a fine rose, and place the pot aside during the preparation of the cuttings. Having selected them as previously described, with a sharp knife or pair of thin-bladed scissors cut away the foliage from the base of the shoot upwards, till you have arrived half an inch above the part intended to be the base of the cutting; then with your knife separate the cutting from the other part by a diagonal incision, which is less liable to injure the tissues of the cutting than separating it horizontally.

A perfectly smooth and uninjured base is essential to success. With a small dibble insert your cuttings to the depth of the sand; place over the whole a bell glass, having previously, previous to the insertion of the cuttings, given the whole a slight watering; plunge the pot in a cool shady situation, and wipe the moisture from the glass often. If in a month or so after the insertion of the cuttings you could give them the assistance of a gentle bottom-heat the emission of roots will be accelerated. As the periods of rooting of the different species vary much—from five or six weeks to as many months—the quick growing kinds and those of an opposite character should have separate pots.—*E.*

Home Correspondence.

Asparagus Forcing.—I took up half a bed of Asparagus for forcing on the 10th of November, 1846, and forced it on dung beds. The bed, I was informed by the man who planted it, was made in March 1836; it is therefore one of 12 years' standing. I am now forcing the remainder of this bed in my Cucumber house, the pit in which is 25 feet by 4; 18 feet of this is taken up with the Asparagus, and the remainder with Rhubarb, &c. I had cut 200 heads by Christmas day; I have cut 700 since, and the bed still looks promising. It has been seen by several gardeners and gentlemen, some of whom have pronounced the Grass to be as good as July Grass both in size and colour. This is not the first time I have forced Asparagus in a house heated by hot water, nor was last year the first with hot dung, but I must say I have found the hot water to be preferable to dung, both as regards economy of management and quantity of produce. I consider that the Grass cost last year its full value in labour alone; certainly the weather this season has not been so trying till within these last few days. I have Vines planted inside my house which require a gentle heat to break them; a fire is therefore lighted the first thing in the morning and allowed to burn out, say by 3 P.M., and that heat I find to be quite sufficient to force my Asparagus.—*T. Farrant, Page Green, Tottenham.*

Early Blooming of Chrysanthemums.—It has been asked if the Chrysanthemum can be induced to bloom earlier than its usual season. Mr. Hawes, gardener at Brandon-lodge, perhaps will give the information asked for. He had a frame full of these beautiful plants in bloom in the first week in July last.—*A Constant Reader, Coventry.*

Reading for Gardeners.—Excellent advice as to the course of study to be pursued by gardeners was given in the Notices to Correspondents for January 8. I may perhaps be permitted to recommend to them, without being considered obtrusive, that most delightful and admirably reasoned book, Paley's "Natural Theology." I do this in the hope that some of those persons who have vegetation in every stage of progress daily and hourly under their eyes, may have their minds excited to watch for the creative design of many phænomena which are at present barren of information to us. Gardeners have more opportunities than most scientific men of tracing the mysteries of final causes in vegetable physiology; that is, the end for which a certain structure, &c., has been given to plants; and though they have as yet aided little in building up a much desired system of natural theology founded on facts connected with botany and horticulture, it may fairly be expected that as gardeners become better informed and better trained in the use of their reasoning powers, they will make discoveries commensurate with what, indeed, is justly expected of them as a profession. No doubt there are many little "wrinkles" that are lost to the world in general, either because the possessor of them is deficient of the literary ability to put them clearly upon paper, or sometimes, perhaps, through the want of sufficient liberality to impart what are believed to be secrets of the craft. But it is only by means of these fragments of knowledge that any system, whether of horticulture, physiology, or philosophy can be erected; and hence, therefore, arises the great value of the *Gardeners' Chronicle* as a record of many isolated facts, and even minutiæ, which, however trifling they may at the first glance appear, are useful, sometimes necessary, to furnish proofs, indications, corrections or contradictions of general principles in natural history. The "Bridgewater Treatises" of Dr. Buckland and Dr. Roget also show the train of thought which I should like to see pursued by gardeners who are anxious to advance their art in a higher as well as a more extended direction. Though somewhat expensive to buy, they are very easy to borrow from book clubs and public libraries. Many masters, I am sure, would assist a studious servant in this matter. Paley's "Natural Theology" may be bought second-hand for a mere trifle, and will occupy and improve many a dull winter's evening. Let it not be supposed that such knowledge is valueless in a practical point of view: on the contrary, it would be of the highest practical use.—*D.*

Tenant Right occupies so much of public attention that I am surprised that nurserymen, market gardeners, and others (who are as much, perhaps more interested in the matter than farmers) are never mentioned. If it is a question of justice long delayed to the agriculturist, it is equally so to all connected with the tenure of land, and no time should be lost in arousing those whom it most concerns to get themselves incorporated in the provisions of the bill or bills expected shortly to come before Parliament.—*A Market Gardener.*

Vine Borders and Carrion.—The custom of introducing carcases into Vine borders, for the purpose of obtaining monster bunches of flavourless Grapes, has prevailed for a considerable length of time in the neighbourhood of Leeds and Wakefield; but the Vines have always in a few years become feeble and unproductive, in consequence of the dense mass of putrified matter being unsuitable to the growth of fibrous roots.—*G.*

Notions of a Market Gardener.—The drainage of the market garden grounds round London consists not in pipes or tiles, but in alternately deep digging and trenching an active soil of from 12 inches to 2 feet in depth. This effects the speedy escape of rain in winter, and makes the soil warm and early in spring. The market gardener knows nothing of what farmers call a pan, nor would he allow drains to be put down 5 feet deep, which have a tendency to destroy a grand provision of Nature, for has not Nature herself to a great extent provided for the next year's consumption? Every corner of the earth's cellars is full, and to tap the store laid up there is, to say the least of it, a mistake. It brings me in mind of a man who has just returned from a teetotal meeting at which he has become a convert. He had an unfortunate nine-gallon cask in the cellar; up it was brought, and the good liquid, intended to be used as it was wanted, was at once discharged in the street, no remit, of course, accruing from the proceeding. My celebrated friend, Mr. Smith, of Deanston, by draining from 2 feet 6 inches to 3 feet deep, has kept in view just to be below the active soil, not to increase expense, or destroy springs. Have deep drainers considered from whence moisture is to come during hot parching summers? not from above; it must be continually rising from below. Do we not find after a dry summer all the wells nearly exhausted? every drop almost evaporated to supply crops, and to form dews? Why, some of our deep drainers would actually dispel the very rain clouds if they could. Have not the rivers of England, Scotland, and Ireland, fallen several feet on account of the destruction of timber? have not some of the large rivers in America fallen from 6 to 8 feet from the same cause? and I am inclined, on this account, to think that it is wrong to destroy those beautiful hedgerows of trees which inclose the fields of the farms of this country; they cool the hot air of summer as it passes through them, afford protection to cattle, and break the cold east wind in spring. They are also, in some measure, a preventive against the laying of the ripening corn, by warding off our south-westers; and, lastly, they form a conspicuous feature in our landscapes. But, be it remembered, I have not been speaking against draining—I am altogether for draining; but I am not for unnecessary draining. Who has to pay for other people's folly in this respect? why, the public in the baker's shop, and often those who can ill afford it.—*James Cuthill, Camberwell.*

Disbudding Wall Trees.—In the garden I lately had the management of, there was an old Apricot tree which had for years been allowed to produce spurs, which projected upwards of 7 inches from the wall, giving the tree an unsightly appearance; and in order to correct this and bring it into a bearing state, as soon as it commenced breaking in spring, every bud on the spurs was rubbed off as fast as they appeared, except one, which was left at the extremity of each spur; and by this mode of treatment in a short time the tree threw out shoots in all directions. I still continued disbudding the spurs till I had secured a sufficient quantity of young bearing shoots to replace the spurs, and as wood was made it was laid in, and all shoots discarded that were not in their proper places. I then commenced cutting away the spurs close to the tree, but they were not all cut away at once; the largest were taken out first, and so on. Little more was done until the following February, when the tree was pruned and nailed, and out of an unsightly and comparatively barren object I had a handsome and prolific tree, extending upwards of 20 feet right and left from the boll, which I judged to be between 60 and 70 years old. In the spring of the following year after this treatment the tree was covered with blossoms, 100 dozen of which set, and out of these about 30 dozen were allowed to ripen fruit.—*J. Duncan, late Gardener to J. Rogers, Esq., Seven Oaks, Kent.*

Uses to which Polmaise Heating may be Applied.—The great merit of this method of heating hothouses is now very generally admitted; it consists in its nearer approach to the natural system in its simplicity, and in the fact that (while we are obliged to confine all other heating substances, as hot water, steam, smoke, &c., in pipes or flues) we can use the hot air in both the free and confined methods, although the former is to be preferred in most cases. One can hardly imagine a more simple and effective system than the Polmaise: and wherever difficulties occur, they must arise from mistakes in its application, and not from the system itself. It appears equally applicable to the growth of plants requiring a damp or cold atmosphere, and would probably answer well for the growth of Alpine plants in our climate, or for those of our country in the East Indies and other hot climates—the cold air being drawn (by means of pipes open at both ends through a flowing stream of cold spring water, or between numerous jets of a fountain. But the system of air currents has been applied, and is equally suited to many other objects besides hothouses; and, no doubt, each of these modes of application might afford reciprocal hints for the others: thus, 1. Hot currents of air have been used for heating houses; for instance, in the new House of Lords, the fresh air is admitted direct from the river, and is purified by passing over a finely perforated zinc screen over cold water: it then passes through cokes heated by one of Lord Dundonald's steam-boilers. The air, thus purified and warmed, passes through bulls' eyes into the diffusing chamber, thence through apertures in the beams of the ceiling down into the House; and, when vitiated, it is carried by the aid of a steam jet into the chimney of the steam-engine, and passes off along with the smoke of the latter. The temperature is regulated by the doors of flues, by hot water, &c. No draught is perceptible; the flames of a

hundred large wax candles, unprotected by any glass, being as steady as if they were burnt in a small sitting-room, and yet the air is constantly being changed—air, perfumed in a chamber at one end of the house, has in four or five minutes been detected by its scent, and in 15 or 16 minutes all traces of perfume have passed off. Here the air is, we see, heated by steam or hot water, and cooled by cold water.—2. Hot-air currents have been used in Hop drying. Mr. Knight, of Maidstone, finding it important to get rid of the reek in this process, did so by admitting hot air from below into the kiln, without going through the Hops on the "hair." At a late meeting, in Kent, one William Knell obtained the third prize for Hop drying, by using a simple modification of this plan: his apparatus was an old water-shoot, 8 inches diameter, covering the top with a tile, to regulate the current of air.—3. Hot-air currents have been used in malt-kilns. A Mr. Stead, of Halesworth, Suffolk, has lately obtained a patent for making malt by a new process, and has erected a large kiln in the form of a tower, 50 feet high, divided into five stories, and heated by steam-pipes and a hot-air blast. The green malt is first placed on the top floor, and is moved a story lower every day, and the heat of each floor increasing as it descends, it is dried off, and ready for the market in the fourth or fifth day. There is also a contrivance for regulating the temperature of the "steep" as well as the drying floors. Another application of the Polmaise principle might be as follows. If we were to give our exotic plants, just before perfecting seed or tubers, a few days or weeks, according to circumstances, of the same temperature they would naturally have in their original country, we should not only secure the seed in better order for keeping, &c., but the plants produced from this seed would most likely grow much stronger, and be free from many diseases to which they are now liable. Take Wheat, for instance; probably this, in its native clime, would have a continued heat of 100°. Now it is well known that the Wheat of hot countries keeps much better, and is of finer quality. In Tull's "Husbandry" an instance is mentioned of a farmer making a large fortune by so drying Wheat, which enabled him to keep it for higher markets, and was also more liked by bakers and millers. Potatoes again: if we gave them for a few days the same hot dry heat as they would have naturally in their sandy plains, with a burning sun over them, is it not likely that they would keep much better, and be less liable to disease in their future growth. So much for plants which arrive at their full seeding or growth in this country, but there are others for which either our summer is too short, or the latter part of it is not hot enough to enable them to perfect the seed or tuber. For the same rules will hold good of both these, but especially of the first. In plants propagating by tubers, all the substance digested by the leaves goes into the stalk, and from thence into the tuber, or in plants propagating more by seeds into the seeds. Now in our climate the heat will be sufficient to form the flower and fecundate the seed and gather its future supply in the stalk, but there it will stop. The summer's heat so suddenly decreasing will either wholly put a stop to, or will take away so much energy from the plant, that the tuber and seed will be nothing but poor shrivelled-up abortions. Thus compare the Jerusalem Artichoke tubers of this year with last, and also many kinds of seeds. Again, though leaves in assimilating food require much aid from sun and light, as do also flowers, yet seeds and tubers it is probable do not require this; they only seem to require heat to draw out all the nourishment from the stalk. For tubers are always in the dark in the earth, and nearly all seeds equally in the dark beneath their husks. That the leaves are not necessary to the final operation of ripening fruits is plain, as they are often all fallen off or dying before this happens. I make these remarks under the idea that our hothouses might in very many cases be used merely for the first growth and the final perfection of vegetables, tubers, and seeds, leaving all the intermediate stages of growth to be performed in the outer air. Thus when the decrease of heat prevents any further ripening of fruit or seed, it should be gathered with a proportion of stalk varying according to the ripeness, and placed in a kiln with several perforated floors heated from below on the Polmaise principle. It is not improbable but that many kinds of seeds might be thus made to ripen thoroughly, and that if the process was carried on for some little time as good samples of dried fruits (as Raisins, Plums, &c.) might be produced in this country as in any other: at all events, it is worth a trial. Even if such kilns only dried the seeds or grain, they would be useful, as improving it in value, and enabling it to keep better. An apparatus for circulating hot air fixed to our granaries would soon destroy the weevils and other insects which infect the grain, and which cannot bear great variations in temperature. An apparatus might also, if required, be easily applied to our winnowing machines, to enable us to use hot air instead of cold, and thus, while freeing it from chaff, effect at the same time these purposes, viz., the destruction of insects and drying damp corn. Steam or hot water would in all cases be the best medium through which the air-tubes should pass, as this would prevent the heat rising to a scorching or burning degree.—*Suffolciensis.*

Rain in 1847.—The quantity of rain at Chiswick this year is very remarkable, from its being so much less than any previous year, and it is still more so to us in this mountainous district, from the contrast it affords to what has fallen here. Up to the beginning of October very much less than the usual average had fallen, since then the enormous quantity of 29·092 inches in the three months of October, November, and December has fallen — October, 9·713; November, 10·726; December, 8·653. August and September were dry months, comparatively; during these there fell in August, 3·886; September, 4·788, being less than half the following months. July, which is usually our wettest month, shows this year only 1.013. We certainly pay rather a heavy price for our beautiful scenery in this enormous quantity of rain, but the nature of the soil, which is for the most part stony, gravelly, and dry, requires a great deal; and as little of it lies flat, most of it being steep sloping banks, hill sides, and very broken undulating ground, the water runs off as rapidly as it falls. With even the large fall of the last three months, less than the yearly average has fallen.—*Thomas Sabine Pasley, the Craig, Bowness, Windermere, Jan.* 10.——The fall of rain during the past year (1847) has been unusually small in this part of the kingdom (Witham). The following is the amount as indicated by my rain guage in this place:—

January	1.14	August	1.68
February	1.46	September ..	1.10
March	1.25	October	1.56
April	1.35	November ..	1.55
May	1.21	December ..	2.36
June	2.61		
July	0.33	Total inches	17.60

A dry and hot summer is favourable to the cereal crops when land is well cultivated, and the seed put in early; and early harvests are commonly abundant. As far as my observation extends, we never have had a larger yield than from the crop of Wheat and Barley which is now being threshed. The condition of the Wheat, from being hastily harvested, is complained of, as much of it was carried too soon after a heavy fall of rain in the midst of harvest operations. Our Turnip cultivation has not been successful generally, but here again the provident farmer has the advantage; for such land as was prepared for this crop early in the preceding autumn being deeply ploughed and in fine tilth has produced a fair if not an abundant crop. The varieties of Mangold Wurzel, principally the Long Red and the Yellow Globe —the former adapted to the heavier and the latter to the lighter soils—are cultivated here to a great extent. A dry summer suits this root, and we have a full crop of excellent quality, and it has rarely happened that this root is injured by the larvæ of insects. Pipe-draining is our system here. We make the drains deeper than formerly—in some cases 40 inches, and from 24 to 32 feet apart. I have never been able to discover any advantage from deeper drains further apart; the evidence is rather against than in favour of the latter practice for surface draining. Many parties who were induced to use 1-inch pipes (so highly advocated by some writers) have now abandoned them as dangerous and insufficient, except for very short drains. Two-inch pipes are very generally used, and even these have been found to be too small in heavy rains beyond 200 yards in length.—*H. Dixon, Witham, Jan.* 10.—— The following shows the amount of rain which has fallen at Fornham Hall, Bury St. Edmund's, between the 12th of January and the end of December, 1847.

January	.88	August..	3.40
February	.41	September	2.20
March	.91	October	2.29
April	1.37	November	2.34
May	2.30	December	2.16
June	2.93		
July	1.69	Total ..	22.88

The number of wet days during the year was 150, and of dry 215.—*John Halliday, Fornham Hall, Bury St. Edmund's, Jan.* 10.

Societies.

ROYAL DUBLIN SOCIETY.

Extracts from Mr. D. Moore's Report on the state of the Society's Botanic Garden.

The Conservatory Department.—To combine effect with economy of fuel being the principal objects to aim at acquiring, I have, on being requested by the Committee to report on the method I thought advisable to heat on, *unhesitatingly recommended warm air with flues*, the plan on which the large octagon house has been heated during the last eight years. This is what is now called "Polmaise heating," only that the advocates of the principle do not include the flue, which I consider a most important adjunct, particularly as both can be worked with the same fire, without any additional fuel, or trouble otherwise. A proper supply of water has been conveyed from the hydraulic ram through all the plant-houses, including the octagon or Palm-house. Metal pipes have been put down for this purpose, and cisterns supplied for the reception of the water. This will effect a considerable saving of labour, besides affording a good supply of water, which has hitherto been so deficient, and obtained with great trouble and expense.

The Economical and Experimental Departments.—At an early period of the season I was directed by the Honorary Secretary, Mr. Foot, and also by the Committee of Botany, to institute several experiments on the Potato crop, principally with a view of testing the remedies recommended as preventatives for the prevailing disease. These were,

1st. The placing of *tractors of electricity* at distances capable of attracting it, and conveying it into the earth, without it being possible that the plants growing within the influence of these tractors could be effected by any electricity which might occur. 2d. The steeping of the tubers in tar and in brine before they were planted. 3d. The growing of Potatoes from seed. The tractors used were copper wires cut in lengths, and raised on poles, varying from 12 to 16 feet in length, which were placed about 12 yards apart, according with the suggestions of Mr. Cooper, of Markree. These, when erected, presented a circle of points of wire, which extended about a foot or so beyond the tops of the poles; and one of the lengths extended down the whole length of the pole, and was buried in the earth. The result of this experiment was, that in the piece of low ground called the "Mill Field," where the disease became quite as general as it was last year, though not so violent, the plants growing quite close to the bases of the poles, and over the buried wire, were affected to an equal extent with those which were removed at the greatest distance from them. *The tractors had not the slightest effect one way or other.* The *steeping* of the seed tubers was performed on early sorts, which ripened before they were affected with disease; consequently, nothing was ascertained of the effects of the steeps. The *seedlings* were grown from German seeds, presented by His Grace the Archbishop of Dublin, and William Hogan, Esq. Doctor Royle, of the East India Company's House, London, also sent a package of Potato seeds, which were collected in the Nepaul District, where the disease, which has proved so destructive in Europe, has not yet appeared. The seeds were sown in pans of earth and placed on hot-beds on the 25th March, where they vegetated freely on the 3d of April, and were transplanted in the open ground on 24th May. The crop was raised on 19th November. Many of the tubers from the German seeds arrived at what may be considered full average size. The Nepaul seedlings were more prolific than the German, but the tubers were much smaller. The largest produce from one plant of the German seedlings was four pounds, and the number of tubers which produced that weight 30. The disease appeared very partially on the haulm of both the German and Nepaul seedlings in July, but did not make much visible progress before October, when it became rather general; and on the crop being raised, a considerable number of the tubers have been found diseased. It would not, from these facts, appear that the growing of Potatoes from seed has much effect in preventing the disease. This subject is, however, one of very great interest, as no doubt exists that immense improvement will yet be made on the quality, form, and produce of this important esculent.

A fourth experiment was made, with a view of proving whether, as many suppose, the *vitality* of the whole stock of Potatoes has become affected, and the vegetable as a whole wearing out. It would, I believe, be impossible to make any conclusive, or even convincing experiment, to prove either the truth or falsity of this theory. Ours was the following: A parcel of tubers (part of a crop which was mostly destroyed by the disease of last year) were placed in a cellar, where they pushed long watery shoots early in January, which were then removed. By the middle of March they had pushed a second time, which shoots were also removed, and the tubers were then suffered to remain until the beginning of July, at which period they were one mass of growths, some of them nearly a yard long, and the small tubers as soft as fine leather. The shoots were then a third time removed, and the tubers planted, on the first day of July; after which they soon vegetated, without scarcely one missing, in the couple of perches, or nearly so, which were planted. They soon made vigorous plants as could be desired, and continued to grow luxuriantly until they were attacked with the disease in October, which much retarded their further growth. The crop was raised the first week in November, which proved to be of fair average quality, and the tubers, in general, fully grown. The treatment these tubers were subjected to might be supposed such as would be calculated to affect their vitality, even if they had been in pristine vigour, in place of being weak and not half-grown when they were attacked with the virulent disease of the previous year. This, it will be observed, was not the case, which, to a considerable extent, affords evidence that the vitality of the plant is not weakened. The room containing the garden library has been furnished with suitable tables, seats, and otherwise fitted up for being used as a study room for the assistant pupils resident in the garden; but the series of geological specimens illustrative of the principal geological formations of the country, *which I suggested should be supplied for the use of the young men, has not yet been done.*

A considerable number of young plants of the Falkland Island Tussac Grass were propagated last spring, and given to persons residing in various parts of the country, where its true value for agricultural purposes can be ascertained.

For the purposes of painting and modelling flowers in wax, there has been a much greater demand for specimens this year than is usually experienced, which leads me to observe, that among the many advantages the Botanic Garden is found to supply to the country, the facilities afforded to the artist are very considerable.—*Botanic Gardens, Glasnevin, Nov.*, 1847.

Reviews.

Supplement to English Botany.

(Continued from p. 271 of our volume for 1847.)

Since our last notice of this work, three numbers, each containing six plates (70, 71, 72), have appeared at regular intervals of three months; and as the present proprietor has thus shown that the promise of regularity in the publication, made in his prospectus, is likely to be kept, we hope that he will derive benefit from it by a large increase of subscribers. We need

scarcely say that the work is quite essential to all botanical libraries. The contents of the numbers before us are as follows:—

Pl. 2922. *Lysimachia ciliata* (Linn.).—It may well be doubted if this is really a true native of England, having only occurred in one place in Cumberland, and being indigenous to North America. It is a beautiful plant, which may often be seen in old gardens. Described by Mr. Babington, Bab. Man., ed. 2, 259.

Pl. 2923. *Carex Grahami* (Boott).—A sedge of much botanical but no agricultural interest. It is named in honour of our lamented friend Dr. Robert Graham, Professor of Botany in the University of Edinburgh. Described by Dr. Boott. Bab. Man., ed. 2, 363.

Pl. 2924. *Carex montana* (Linn.).—An interesting addition to the British Flora, which will probably prove not an unfrequent plant. In addition to Mr. Mitten's locality, near Tunbridge Wells, it has been found plentifully by Mr. W. H. Purchas, near the Wynd Cliff, in Monmouthshire. Described by Dr. Boott. Bab. Man., ed. 2, 368.

Pl. 2925. *Gymnomitrium adustum* (Nees).—A new scale Moss, described by Mr. W. Mitten.

Pl. 2926. *Lyngbya speciosa* (Harv.)

Pl. 2927. *Lyngbya Carmichaelii* (Harv.), and *Lyngbya ferruginea* (Agardh).—These Confervas described by the Rev. M. J. Berkeley.

Pl. 2928. *Armeria plantaginea* (Willd.).—This is a beautiful plant, probably well deserving of cultivation. We believe that at present it is only to be found in "curious" gardens. It is a native of Jersey, inhabiting sandy places. Unfortunately the hairs at the base of the styles are omitted in this otherwise excellent figure. Described by Mr. Babington. Hook. Brit. Fl., ed. 5,270. Bab. Man., ed. 2, 261.

Pl. 2929. *Crepis taraxacifolia* (Thuil).—A beautiful figure of a plant not represented (we believe) in any other work. Until recently it has been confounded with C. biennis in England. It is a troublesome, although beautiful, weed in some parts of Kent. We once saw it in the utmost profusion in cultivated land near Hythe. Described by Mr. Babington, Bab. Man. ed. 2, 191.

Pl. 2930. *Ranunculus Lenormandi* (F. W. Schultz).—A curious aquatic plant, which has usually been taken for R. hederaceus, from which it is here carefully distinguished. It has been noticed in many parts of England, and is probably common. Described by Mr. Babington, Bab. Man., ed. 2, 6.

Pl. 2931. *Zostera nana* (Roth.).—A native of muddy estuaries, which Mr. Borrer has had the good fortune to find in plenty in Poole harbour, Dorsetshire. It was previously supposed to be a British plant solely from a scrap picked up accidentally among stranded sea-weeds. We understand that Mr. Borrer has found it in several places in the west of Sussex, and Dr. Bromfield, in the Isle of Wight. Described by Mr. Borrer. Bab. Man., ed. 2, 349.

Pl. 2932. *Phascum crassinervium* (Schwaegr.).—A little Moss, described by Mr. W. Wilson.

Pl. 2933. *Scapania aldquatica* (Linn.).—A little Brittlewort, described by the Rev. M. J. Berkeley.

Pl. 2934. *Atrichum Sabricum* (Linn.).—Mr. Borrer has [illegible] Borrer.

Pl. [illegible] *Hypnum sylvaticum* [illegible]).—A [illegible] Wilson.

Pl. [illegible] *Conferva [illegible]* Ag.) and Pl. [illegible] *Conferva [illegible]*.—Two [illegible] of Roscoff, described by the Rev. M. J. Berkeley.

THE LARGE FLOWERED PHALÆNOPSIS.

(*Phalænopsis grandiflora*, Lind.)

Sp. Char. Leaves long. Petals not overlapping the upper sepal, without a point. Lip much shorter than the lateral lanceolate sepals, linear-ha[illegible]tate, with the chief lateral lobes [illegible] obtuse, [illegible] keeled, the angles [illegible] (Fig. 1, [illegible].

A small plant of this noble Epiphyte was exhibited on the 7th of September in the last year, before the Horticultural Society, by J. H. Schröder, Esq., of Stratford-green, when it received the Silver Banksian Medal. It was not supposed at that time to be a distinct species from the well-known Phalænopsis amabilis, but was regarded merely as a fine variety. Upon a comparison of it with the Manila species, it proves, however, to possess so many points of difference that no doubt can be entertained of its being really distinct. Its flowers are four times as large; the petals do not overlap the back sepal, nor have they the small point which is invariably present in Phalænopsis amabilis; the lip is very narrow, much shorter than the lanceolate sepals, and its chief lateral lobes are somewhat wedge-shaped, with the angles rounded off. The distribution of colour, too, is different; there is a large stain of deep yellow on the front edge of the chief lateral lobes of the lip, and the cirrhi are yellow, not white.

The old Phalænopsis may be distinguished thus—

Fig. 1.

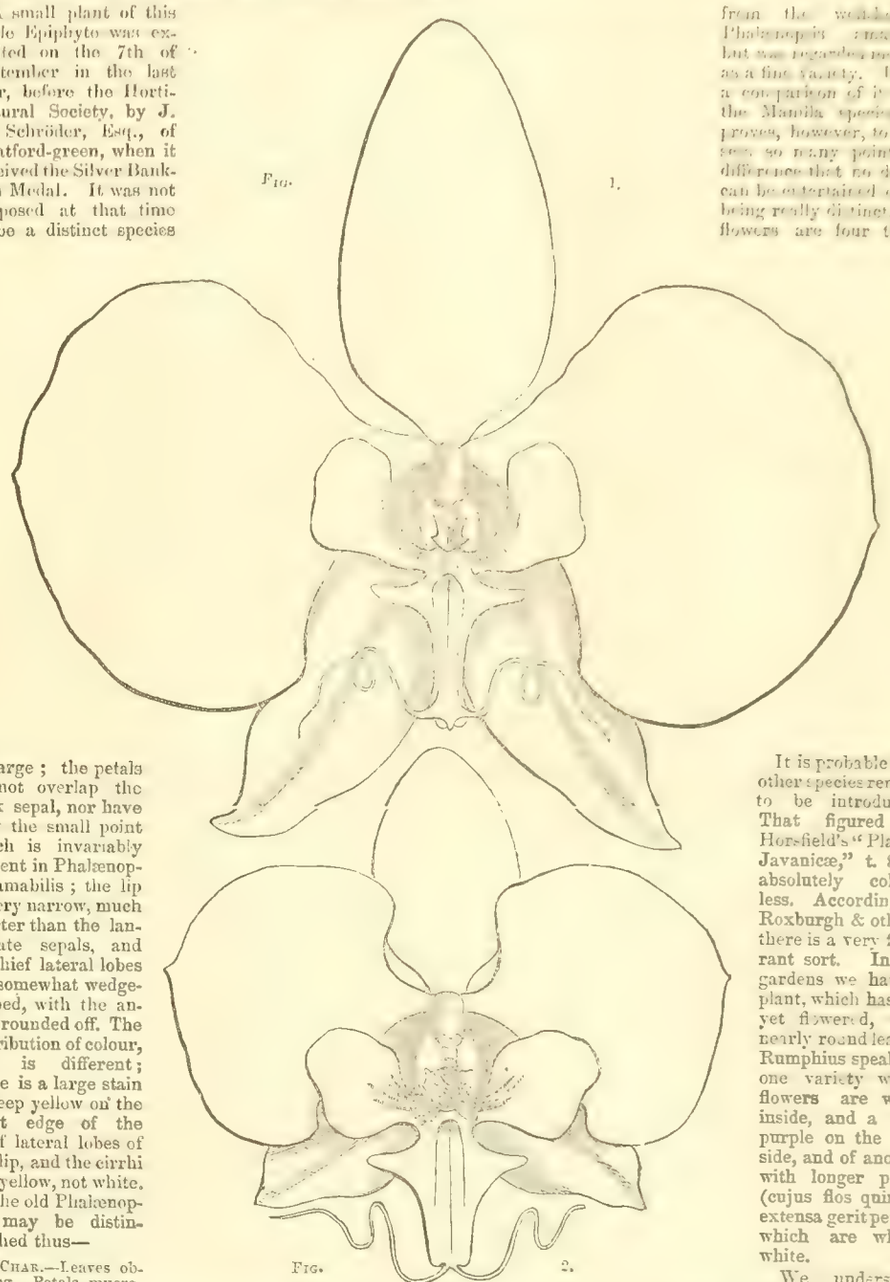
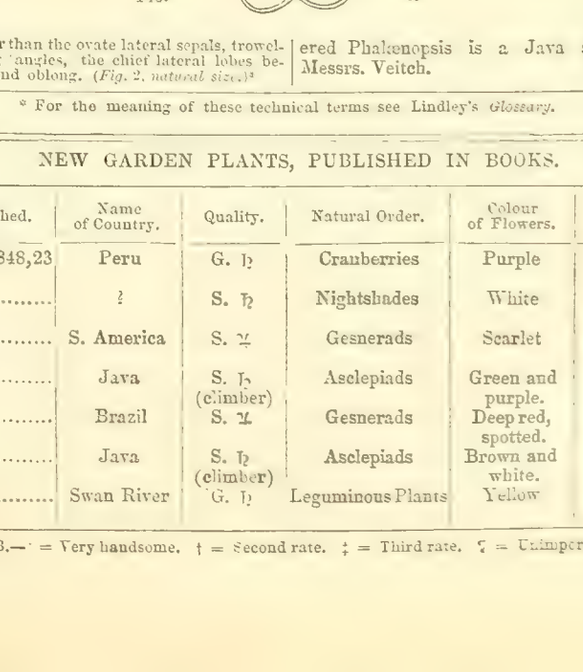


Fig. 2.



Sp. Char.—Leaves oblong. Petals mucronate, overlapping the upper sepal. Lip longer than the ovate lateral sepals, trowel-shaped with projecting angles, the chief lateral lobes between lozenge-shaped and oblong. (*Fig. 2, natural size.*)*

It is probable that other species remain to be introduced. That figured in Horsfield's "Plantæ Javanicæ," t. 8, is absolutely colourless. According to Roxburgh & others, there is a very fragrant sort. In the gardens we have a plant, which has not yet flowered, with nearly round leaves. Rumphius speaks of one variety whose flowers are white inside, and a rich purple on the outside, and of another with longer petals (cujus flos quinque extensa gerit petala) which are wholly white.

We understand that the large-flowered Phalænopsis is a Java species, imported by Messrs. Veitch.

* For the meaning of these technical terms see Lindley's *Glossary*.

The Midland Florist. By J. F. W[illegible], Coppice, Northampton. The [illegible] of this cheap and well-conducted [illegible] now finished, and a new one commences for 1848. That just completed is filled with interesting matter, and contains some [illegible] from experienced [illegible]: we would [illegible] those on the [illegible] form in the Tulip by Mr. Harris, as [illegible] for discussion upon such subjects. We wish it every success.—

Miscellaneous.

The Bread-fruit Tree.—A few of these trees are scattered over the province, but they are considered rather as ornamental than useful. In appearance it is one of the most beautiful of trees, having a large wide-spreading top, profusely hung with many-lobed leaves, nearly two feet in length and of a bright green. The fruit is nearly spherical, six inches in diameter, green

NEW GARDEN PLANTS, PUBLISHED IN BOOKS.

Name.	Where Published.	Name of Country.	Quality.	Natural Order.	Colour of Flowers.	Time of Flowering	When first Flowered.	Where.
Thibaudia microphylla	Gard.Chron.,1848,23	Peru	G. ♄	Cranberries	Purple	.....	.....	Veitch and Son.
† *Small-leaved Thibaudia.*								
Solandra lævis	B. M. 4345	?	S. ♄	Nightshades	White	November	1847	Lucombe and Co.
* *Smooth Solandra.*								
Hypocyrta glabra	B. M. 4346	S. America	S. ♃	Gesnerads	Scarlet	.....	1847	B. G., Kew.
† *Shining Hypocyrt.*								
Hoya cinnamomifolia	B. M. 4347	Java	S. ♄ (climber)	Asclepiads	Green and purple.	July	1847	Veitch and Son.
† *Cinnamon-leaved Hoya.*								
Gesnera pardina	B. M. 4348	Brazil	S. ♃	Gesnerads	Deep red, spotted.	October	1847	B. G., Kew.
† *Leopard-spotted Gesnera.*								
Ceropegia Cumingiana	B. M. 4349	Java	S. ♄ (climber)	Asclepiads	Brown and white.	August	1847	Veitch and Son.
‡ *Cuming's Ceropegia.*								
Acacia leptocarpa	B. M. 4350	Swan River	G. ♄	Leguminous Plants	Yellow	April	1847	B. G., Kew.
† *Slender-podded Wattle.*								

N.B.— * = Very handsome. † = Second rate. ‡ = Third rate. ? = Unimportant.

in colour, and curiously warted upon the surface. Within it is yellowish and fibrous, and contains a number of seeds, which are eaten roasted. There is a superior variety that is seedless, and the whole of which is eaten.—*Voyage up the Amazon.*

Cheap Planting.—A statement that 140,000 trees had been planted at Applecross for 58*l.* having excited some surprise, a "forester" has come forward with a still greater feat in planting. Mr. Murdo Campbell says to the *Inverness Courier* :—I planted, this year, Saint Patrick's Hill, on the estate of C. Lyon Mackenzie, Esq., of St. Martin's, 260,000 trees for 35*l.* 18*s.* 10⅔*d.*, the price of the trees and labour included in this sum. From this statement, you will see that I have planted 120,000 trees more than Mr. Macrae, at a less expense of 22*l.* 1*s.* 1½*d.* I send you herewith an account of the various items paid for the trees, and a copy of the pay-sheet, which make up this sum of 35*l.* 18*s.* 10½*d.*—*Daily News.*

Calendar of Operations.

(For the ensuing Week.)

THERE is no inconsiderable amount of experience and no little judgment required to carry the gardener of the floral world happily through the forcing season. As forcing is a branch of the gardeners' art which is attended with considerable uncertainty and anxiety, it is a consolation to believe that success generally procures proportionate commendation. It would be well entering on the critical season to recal past experience, and if some failures belong to the record, to carefully review the circumstances and endeavour to find out the causes that led to disappointment, with a view to avert their unfavourable influence for the future. The considerations involved in the practice of exciting plants to unaccustomed growth are manifold. The mere application of the common principles of cultivation is not sufficient ; a discriminating skill is demanded to apply those principles modified to suit the changing condition of the plants. The required nicety of the various operations is manifest when we recollect that we have to obtain by them what naturally is produced by the gentle smiles of spring and the genial warmth of summer.

CONSERVATORY AND GREENHOUSE.

The change of weather which has occurred and thrown another aspect over things exposed to its effect, must be allowed to have an influence in a milder degree on plants artificially protected ; while cold cutting winds continue and gloomy weather prevails but little air can be given by the usual means. Let the temperature sink to 40° on frosty nights, and allow it to rise to 55° during the day. Stagnant air will prove unfavourable to the plants blooming in the conservatory ; water settling on the flowers will soon destroy them—adopt measures to avert these possible evils ; water sparingly, and damp the house as moderately as possible. Do not allow bulbs to remain in the forcing pit after they have developed their blossoms ; they may be preserved much longer in the conservatory, which may now receive from many sources valuable floral contributions. Luculia gratissima should have the favoured place in every conservatory ; Cinerarias will now for some time to come add to the gaiety of the house. In the greenhouse Pelargoniums will soon require additional pot room. See that your specimen plants are not too closely placed ; it is extremely difficult to keep plants of this sort inactive ; repress very active growth by all reasonable means. Calceolarias may be slightly encouraged to growth. The ill effects of a confined atmosphere and diminished sunlight will soon be observed on plants of succulent habit. Use every opportunity of favourable circumstances of weather to obviate these disadvantages. In the stove a slight reduction may with propriety be allowed to follow the increased cold without ; humidity must accompany heat in this house. The Orchids in bloom may, if desirable, be exhibited here ; the Orchid house is seldom calculated to receive visitors. Several Orchids seem to thrive in the common stove ; we believe many more will ultimately be found to succeed well with less heat and humidity than is usually given them. Take care lest injury be inflicted on tender plants by currents of cold air admitted on entering the stove. Gesnera zebrina will soon lose its proud position. The Begonias, particularly manicata and nitida, will fill its place, with less brilliance but certainly more elegance. Pleroma Benthamiana is a striking plant amongst the most beautiful of this season's floral objects. The forcing-pit must necessarily be kept close ; let a good bottom-heat be kept up, and a moist atmosphere preserved. The instructions given in the early part of the season in regard to bulbs should be strictly followed.

FRUIT FORCING.

Peach-house.—Adjust your temperature to the state of development your trees have arrived at ; regulate that again by the variations of the external atmosphere: 45° is a fair night temperature. Trees just setting their fruit require cautious treatment ; once fairly set, encourage the free growth of leaves by warmth and genial showers of soft tepid water. Disbud occasionally and cautiously. Cherry trees in bloom must constantly be supplied with air ; it is only safe in frosty weather to admit it near the pipes, so that in passing over their heated surface its frigidity is destroyed. *Early Vinery.*—When the fruit is securely set, an increased amount of heat and humidity may be given. Thin with care, leaving the largest and healthiest berries. Defects are seen early in the fruit. Damp the house two or three times each day in cool places, but avoid throwing water on heated surfaces, and creating steam. Heat 55° to 70°. Raspberries, Currants, and Gooseberries may be introduced ; they should be associated with Apricots in treatment, requiring rather less heat than is given in the early Peach-house. *Fruiting Pines* will bear a high temperature : apply tepid water in proportion to the ascertained requirements of the plant. In the successional pits sustain an uniform temperature ; checks though not immediately perceived are not the less injurious. In severe weather keep the mats on ; we prefer the straw-mat, similar to that so generally used on the continent under the name of *paillassons.*

VEGETABLE FORCING.

Attend assiduously to the linings of Cucumber-pits, and sow for successional planting ; put in some Melon seeds also. Allow no declension of heat in the Mushroom-house, and collect droppings regularly. Sow French Beans in small pots, and arrange for a regular supply of Asparagus, Seakale, and Rhubarb.

KITCHEN GARDEN AND ORCHARD.

No serious impediment has been as yet presented by the weather to check the progress of operations connected with this department. The ground has not been frozen to any depth. If the weather continues frosty wheel the manure required for the ground on at once ; it can be done more expeditiously and with less injury to walks. See that Lettuces, Endive, Celery, and Broccoli, are sufficiently protected. Globe Artichokes in the north of Germany, and even in France, are removed from their beds to the protection of a cellar or greenhouse ; performed with care it is said this operation produces an earlier development of the flower-stalk. Throw up wet and heavy ground into ridges. Pruning fruit trees should not be delayed until late in the season. The trees undoubtedly suffer when the operation is performed after the sap is excited ; the reason probably is that the regulated action of the sap is disturbed, and the roots possessing an excess of sap are unable to act with the same energy they otherwise would.

FLOWER GARDEN AND SHRUBBERIES.

Any alterations that require the soil to be removed should be carried on forthwith. Walks will greatly be spared if they continue hardened by frost ; avoid wheeling on Grass ; where beds have been stocked many years with the same sort of plant, a little change of soil is desirable ; fresh virgin mould is infinitely preferable to manure ; rich dressings are not to be recommended for flower beds, as blossom, not luxuriant growth, is looked for. See that the common Laurel in the shrubberies is confined within due limits, it is apt to engross an unfair share of space ; now that new stakes can be obtained, substitute them for the old ones when required ; take precautions to protect plants from the depredations of rabbits.

FLORISTS' FLOWERS.

So many plants are now brought into competition at floral exhibitions, and cultivated under the above title, that our range is considerably enlarged. Perhaps few are more beautiful in collection, or more diversified in colour, than the Verbena, and certainly none have more admirers ; adapted as they are for the greenhouse or flower border, for which latter purpose their style of growth and facility of culture render them peculiarly eligible. Amongst the really good sorts of this pretty flower we may mention Robinson's Defiance as likely to occupy a prominent position in public favour during the coming season. Verbenas at this time of the year require keeping tolerably dry, as they are more susceptible of damp than cold ; and if stock is required they may be put into a gentle heat, and the young shoots struck either in a hotbed or propagating house. *Dahlias* should now be forced, in order to get young plants well established and strong ; for amateurs who only require a few plants this is not yet necessary. *Ranunculuses.*—The beds should be well turned and sweetened during frosty weather, and where necessary renovated with fresh soil or compost. One of the most successful growers of this most beautiful flower that we know lives in the vicinity of a canal ; his subsoil is moist, and in summer time he is in the habit of watering between the rows of his plants with water from the canal. *Tulips.*—It is now a critical period ; for, to ensure a good bloom, the beds ought to be carefully covered during severe frost, and also from heavy rains, which at this season are very prejudicial. We should be glad of the lineage of a rose Tulip called Headley's Magnificent, said to be new and first-rate ; several correspondents are anxious to ascertain what it was raised from, height, &c.

FORESTING.

Clear away the spray and coppice wood in timber plantations ; continue felling and stacking ; prune when required. Young trees liable to be attacked by rabbits should be coated to a height beyond their reach by a mixture of soot, lime, and strong manure water. Severe weather will often drive the cattle to bark large trees ; prevent them if possible by similar precautionary means.

State of the weather near London, for the week ending Jan. 13, 1848, as observed at the Horticultural Garden, Chiswick.

Jan.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 7	1	29.591	29.478	40	27	33.5	S.W.	.21
Satur.. 8	2	29.724	29.570	38	29	33.5	S.W.	.02
Sun. .. 9	3	30.190	30.005	33	28	30.5	N.E.	.00
Mon... 10	4	30.277	30.219	32	29	30.5	E.	.00
Tues... 11	5	30.461	30.268	37	24	30.5	N.E.	.00
Wed. .. 12	6	30.433	30.331	44	29	36.5	S.W.	.01
Thurs. 13	)	30.311	30.293	42	39	40.5	N.	.08
Average ...		30.126	30.023	38.0	29.3	33.6		.32

Jan. 7—Slight frosty haze; heavy rain; clear.
— 8—Hazy throughout; overcast at night.
— 9—Frosty; overcast.
— 10—Overcast; dusky clouds and cold; overcast.
— 11—Cold haze; uniformly overcast; dusky haze: frosty.
— 12—Overcast; slight rain at night.
— 13—Cloudy; wind north, yet mild; rain at night.

Mean temperature of the week, 1½ deg. below the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending Jan. 22, 1848.

Jan.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 16	40.5	30.6	35.5	11	0.34 in.	1	6	3	1	2	5	2	2
Mon. 17	41.3	31.0	36.1	7	0.11	2	5	2	1	2	4	2	2
Tues. 18	41.8	31.4	36.6	11	0.45	1	3	1	1	3	6	4	3
Wed. 19	41.3	27.7	35.4	11	0.88	4	2	3	—	3	5	4	1
Thurs. 20	40.6	29.8	35.2	7	0.65	4	4	1	1	2	7	2	1
Fri. 21	43.0	33.3	38.2	10	0.48	2	2	1	3	5	3	4	1
Satur. 22	44.0	34.0	39.0	11	0.57	1	1	3	4	2	8	1	2

The highest temperature during the above period occurred on the 19th, 1828—therm. 60 deg.; and the lowest on the night of the 19th and morning of the 20th—therm. 4½ deg. below zero.

Notices to Correspondents.

DRAYTON MANOR MEETING—The SPEECHES at the AGRICULTURAL MEETING at DRAYTON have been reprinted from the AGRICULTURAL GAZETTE for general distribution, at Two-pence each. They may be ordered of all Booksellers, and single copies will be sent free by post on three postage stamps being forwarded to the Publisher, 5, Upper Wellington-street, Covent-garden, London.

BOOKS—*G*—Lindley's "Synopsis," or Babington's "Manual," or Hooker's "British Flora."——*A Z, A B*—Hamilton's book on the Pine Apple, and Roberts on the Vine, may be had of all booksellers.‡

FIGS—*T B*—The Brown Turkey.‖

FININGS—*Promus*—You may buy for a trifle at the brewers a preparation which they use for fining their beer ; but we fear that wine cannot be fined without isinglass. Thanks for the hint ; it would be more convenient to adopt your advice than to neglect it. But, should we be acting fairly by our old subscribers ?

GARDENERS—*L My*—You may rely upon it that the advice you have received is bad. The labourer is worthy of his hire. It is a great mistake to suppose that there is a saving in paying a servant less than he is worth. If it is done because a man is needy, that is to take an unfair and unchristian advantage of the necessity of the poor, which we are certain is not your ladyship's intention. Experience teaches us that it is more advantageous to pay all men as much as they are really worth, and thus to make it worth their while to hold their places. —*Henry*—We agree with you that they are very wrong in not stating in their advertisements what wages they expect. It is not to be supposed that persons in want of gardeners can answer advertisements in the absence of this information. Such a person as you appear to want would, we imagine, expect a guinea a week. It is impossible, however, for him to manage such a place single-handed. He would certainly need one labourer constantly, or else two occasionally.

HEATING—*Beta*—We are sorry to say we cannot understand your plan. According to the drawing, one horizontal flue is to be near the ridge of the roof, and the other rather more than half way down. We cannot comprehend how such flues are to be supported, nor how their heat is to be made to go downwards.

INSECTS—*W D*—The grubs you have sent are the real wire-worms. They may be collected in great numbers by laying patches of damp hay or Grass on exposed parts of the ground, and examining them every morning. *W.*

NAMES OF PLANTS—When plants are sent to be named, it is most particularly requested that they may be in flower, and as perfect as circumstances permit. Most especially is it requested that the country whence they have been received, and whether they are annuals, perennials, or shrubs, hardy, greenhouse, or stove plants may be stated ; because specimens by post are generally bad and incomplete, and much valuable time, which such information would save, is needlessly wasted.——*P B*—Some Lopezia, and apparently L. racemosa.——*K M M G*—The small Celandine is really Ranunculus Ficaria. Poets amplify and beautify at discretion. —*G H N*—A bad variety of Oncidium Cavendishianum.——*A Kenrick*—One of the numerous varieties of Oncidium Cavendishianum, and Brasavola cordata.

NAMES OF FRUITS—*Fyrus*—In No. 49, Dec. 4, you will find the names of your fruits.‖

PINE APPLES—*X Y*—The bottom heat, 90° or 100°, is too high by at least 10°.‖

POLMAISE.—*R P*—Your objections are speculative. The comparisons you make are not between things similar, but dissimilar ; and the conclusive reply to your doubts, as to church heating, consists in the fact that numerous churches have been thus heated and well. See our columns some months ago.——*Jas R*—We quite believe you. We can also point out at this moment several hot-water apparatuses which are so many failures.——*R B C* inquires whether there is any place in the vicinity of York where the Polmaise system is in operation, either in church or greenhouse.

VINE BORDERS—*G*—We do not perceive the great advantage of your plan. As to peat we have never seen it used for Vines, and have some doubt of their liking it. If they do not, it is clear that you lose as much space in the border as the peat occupies. If you are in a flag-stone country why not make your border as at Castle Malgwyn, described at p. 651 for 1847 ?

WEEDS—*C E J*—It is said that hedgehogs will consume Plantain, but we doubt the fact. The best way is to cut through the crown of each plant about 2 inches below the surface, and to put a pinch of salt on the wound. We should not drain a lawn more than 2 feet deep, and would use collared 1½ or 2 inch pipes ; if the collars are omitted the pipes will choke with the roots of the Grass. We prefer Grass seeds to chopped turf for relaying the lawn, because it is a long time before the spotty appearance of the lawn, produced by "inoculation," disappears. We believe one kind of ice-house to be much the same as another, provided there is perfec drainage for water, *and no ingress of air.* We suspect your to admit air through the drains ; that is fatal to its success.

WORMS—*J G*—The best remedy for killing and removing worm from Grass lawns is lime water.‡

MISC—*A Subscriber, Rochester*—The Stamp-office authoriti will not permit it.——*A G*—It is best to line an icehouse wi straw when it is filled. On no account use salt.‡——*Be ington*—See an advertisement in p. 32 of our last wee Paper.‡——*M P*—Seeds or roots of Anemone japonica m be obtained in any respectable nursery.‡——*G*—Your Al manda should succeed where Stephanotis and Combret thrive. We would advise you to see that the roots are rig to prune it well in, to encourage it to make wood early, a we will warrant you successful in blooming it.‡——*E V S* —Loudon's "Encyclopædia of Plants" is out of date r novelties. Æschynanthus grandiflorus is a stove pl, handsome and easy to manage. It likes heat and mois e during the growing and flowering season ; but afterwar it should be rested by letting it gradually become dryer It may, however, be still kept in the same temperature.— *W E W*—In making a new plantation of Asparagus is better to sow than to plant. The beds may be made same as for plants, and the seeds dropped in in lines, ering about an inch deep. When about 6 inches high thin plants, leaving the strongest say 9 or 10 inches apart.‡

*** As usual, many communications have been receiv too late, and others are unavoidably detained till the necary inquiries can be made. We must also beg for the indu ce of those numerous correspondents, the insertion of ose interesting contributions is still delayed.

GUANO—Guano, direct from Import Warehouse, Superphosphate of Lime, Dry Night-soil, Gypsum, Salt, Bone-dust, Sulphuric Acid, Nitrates of Soda and Potash, and every other Manure of known value. Also Horticultural Glass of every description.—For Prices Current, apply to MARK FOTHERGILL, Office 201 A, Stores 40, Upper Thames-street.

PERUVIAN AND BOLIVIAN GUANO ON SALE,
By the only Importers,
ANTONY GIBBS AND SONS, LONDON;
WM. JOSEPH MYERS AND Co., LIVERPOOL;
And by their Agents,
GIBBS, BRIGHT, AND Co., LIVERPOOL and BRISTOL;
COTESWORTH, POWELL, AND PRYOR, LONDON.
To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named Importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

The Agricultural Gazette.

SATURDAY, JANUARY 15, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.
THURSDAY, Jan. 20—Agricultural Imp. Soc. of Ireland.
THURSDAY, — 27—Agricultural Imp. Soc. of Ireland.
FARMERS' CLUBS.—Jan. 21: Halesworth, Debenham.

OUR readers will find in another column an interesting report by a Deputation of the LONDON SEWAGE MANURE COMPANY on the proceedings of a similar society established in the neighbourhood of Manchester.

The great point is that the Manchester Manure Company are making money; and that their customers are well pleased with their charges, notwithstanding their excessive character, compared with those which a cheaper transit for their goods would justify them in making. The liquid manure is conveyed in barges by canal from the town, and by means of a steam-engine and hose is distributed over fields within half a mile of the boat, according to the will of the farmers. Twenty tons of the liquid are spread over an acre of land for 20 shillings, and 6*d.* additional is charged per mile of distance from town. The consequent fertility repays the tenant, and the charge more than repays the expense, so that all parties are pleased.

The inference is matter for high self gratulation to the London Sewage Manure Company, who, when they shall have established the much cheaper mode of distribution which they contemplate, may easily drive a most profitable trade at much less cost to their customers.

WE commend the first annual report, just issued, of the EAST OF BERWICKSHIRE FARMERS' CLUB to the consideration of all other provincial societies. It gives, among other things, the details of a project for the collection and publication of the agricultural statistics of its locality. We respectfully submit to other Farmers' Clubs whether this be not a scheme worthy of general adoption. Let it go only to the extent of ascertaining the productiveness of the district, the amount of grain and meat manufactured within it, and its success would be most useful. If information existed on such points in reference to the whole country, it would make the business of the farmer less precarious than it is: his relations with his customers would be more certain.

The following is the report of the committee appointed on the subject by the Berwickshire Society:

"1st. We are unanimous in considering this a suitable object to be prosecuted by such a Society as ours, and also that we possess considerable advantages for doing so.

"2d. In attempting it, we beg to recommend that our first endeavour be directed to the obtaining of an accurate return of the area in each parish available for agricultural purposes, as this obviously forms the ground-work for any after proceedings.

"3d. This being obtained, we further recommend that two or more members of the Club be appointed for each parish, who shall ascertain, as accurately as possible, in each year, the proportions in which the area of said parish is occupied by the different kinds of grain and green crop.

"4th. These data being obtained, the same parties shall be requested, about the month of October in each year, to report their *estimation* of the produce per acre of the various kinds of crop, in their respective parishes.

"5th. It also appears to us very desirable to have ascertained the extent of thorough draining executed in each parish, and also

"6th. If practicable, the quantities of live stock kept in the district.

"7th. An exact return of the rental of the district, of the rate of wages given for the various descriptions of labour, and perhaps also of the public burdens on the land, would be of much interest. (Signed) JNO. WILSON,
Convener of Sub-Committee."

No doubt the business of the farmer involves a relationship with the landowner as well as with consumers of agricultural produce: and it is fear on account of the former of these which hinders the general adoption of a scheme such as this committee has recommended. In short, it is feared that the profits of farming will not bear publication. If people only knew how great they are, rents would rise; not, perhaps, by any greater demand for land in the general market, but by a simple act of selfishness on the part of those to whom it belongs! We believe nothing of the kind. We believe that hitherto, and on the average, capital invested in Agriculture has yielded poorer annual returns than those of any other trade we know. And if evidence of this be asked for, we are sure it will be found in every page of the first full statistical report on the subject. The reasons no doubt are that, in the very nature of the circumstances attending its sale, the market is always fully up to the *intrinsic* value of land, and that the outlay of capital on it has not on the average been seconded by that degree of intelligence which has guided investments in other manufactures. But where shall we find better witnesses for our purpose than landowners themselves. We do not fear to assert that not 5 per cent. of the amateur farmers among them drive a profitable business. The reason is obvious; the business of farming includes more than the art; and it is the latter alone with which they are likely now to be acquainted. We do think there is far more of the bugbear than of any real difficulty in what hinders our Farmers' Clubs from embarking in the collection of their respective Agricultural statistics.

Surely they cannot do harm in making the modest beginning recommended by the committee of the Berwickshire Society. We do hope that the idea expressed in the following extract may fully be realised.

"The committee are aware that such returns would require to be obtained from a large portion of the kingdom, before their full value could be realised. But still, much useful information may be obtained even from partial returns, *and an example would be set which other Agricultural Societies, if it was made known to them, might be induced to follow.*"

LAND DRAINAGE REPORTS.—No. III.

GROVE, EAST RETFORD.—I hasten to answer to your appeal as to my experience in the practice of drainage. My estate here is about 4000 acres, situated in the clay district of the red sandstone formation in north Nottinghamshire. You will perceive how little progress its cultivators have made in this direction when I say that I know of no other maker of pipe tiles but myself within the Hundred of Bassetlaw, which includes one-third of the area of Notts. Mr. Denison, of Ossington, was the first person who introduced machines for that purpose into the county two years ago, and he has long laboured to promote the art of draining on his estate, and among his neighbours, as its successive theories and practices have become in vogue elsewhere. Neither have we been without the help of practical success in the district calculated to have stimulated the farmers to the use of tiles; for Mr. Parkinson, of Ley-fields, rendered some of the stiffest clays on Lord Scarborough's estate capable of growing Turnips profitably, and his brother, Mr. R. Parkinson, of Knosthorp, practised and preached, with his intelligent zeal, the same views of its benefit. Moreover, those gentlemen were at that period agents to the two largest proprietors of land which required draining, viz.: the Duke of Newcastle and Lord Scarborough. Yet very few tenants have cared to avail themselves of the facilities which in most cases hereabouts have been offered by the landlords. I have on my own farm been for the last 20 years occupied in doing something, but it is only of late that I have become sensible of the importance of drainage to arable culture, as well as to my pastures. As to the latter, I observed the benefit forthwith. The Carex, the Aira cæspitosa, and the Moss disappeared within a year or two after the removal of the water, and the good Grass came much earlier in the spring, for the trampling of horses in fox-hunting and of the heavy stock had so ploughed into the wet Grass as to protract for a fortnight at least the growth of a fruitful sward. Moreover, it was obvious to the eye in the subsequent season that in drought the land cracked less into wide fissures, and after rain it became more rapidly impregnated with the moisture at its roots, instead of keeping it on the surface, chilling it by evaporation, and losing much also thereby of that which, on this eastern side of the island, is in average years deficient for the vegetation of all green crops. On the other hand, the benefit of drainage, where it had been partially applied to arable land, was not so apparent. In many parts we find at the depth of from 1 to 2 feet a white indurated clay, which assumes in many cases the form of schistous stone, and lying in laminated strata gives intermediate passage to water in some directions where it creeps out, while in its usual state of subsoil it makes drainage very expensive, by the labour of cutting into it. Nothing therefore had been practised except very shallow drainage, unless in some spots where diluvium or drift had overlaid our clay in occasional patches of gravelly sand, and it was deemed sufficient by myself if the roots of the Grass or crops were freed from stagnating water, as well as their surface. Mr. R. Parkinson inculcated and Mr. Denison, under his auspices, had adopted, 15 years ago, a plan of very deep cuttings across the descent of [illegible] in order to clear the sides and bottoms of swamps from the water which falling on the table land above broke out below, having been conducted thither chiefly by the partial consolidation of clay and porous strata which I have already described. I adopted partially the method, but as it left the land unmade by excavating the deep drains as wet as before, and its operation was very uncertain in its results, I abandoned it. I had always allowed my tenants to have any tiles which they chose to use from the tile yards at my expense, but the distance from which they had to fetch them being on the average three miles proved a bar to their use. In some cases where the ground has been obviously swampy for want of drainage, and I have found every promise on my tenant acceptance and application of tiles, I have drained the land for him and charged him 5 per cent. interest on the whole cost thereof. In 1842 I erected a tile yard in the centre of the estate on the high ground of it, in order to obviate any excuse for not using tiles on the score of the labour of fetching them. I have made about 100,000 in each of the 14 years since, which I have used or given to my tenants. Last year I commenced in it the use of Hancock's pipe machine, but I found that the prejudice of the tenants not occasioned a continued demand for the old tile, and about 5,000 only of pipes were made, which I have now exclusively on land in my own occupation. I now adopt the practice of ploughing out a furrow, and of cutting my drains about 2 feet below its bottom. For the reason which I have mentioned, I think this quite as deep as is useful here; for there is no bottom water, and the indurated clay which forms the subsoil, is usually quite dry, not appearing to have that porous structure which, however invisibly, causes in the red clay on the surface a gradual soaking or communication of moisture. I believe that the mode in which drainage operates chiefly on our soil is by the process of evaporation through exposure to air. There is comparatively very little flow of water. As 23 inches is the average fall of rain here, there would be no very great surplus to be drawn away after supply to the roots of pastures and meadows as rich as those of this district, when properly drained. We see on the sides of deep ditches, at a certain depth, a constant moisture, though no flow of water in the ditch. The wet is continually oozing to the perpendicular cut, where there is vent for it, and is evaporated from that surface. This is, doubtless, the main operation of many of our drains, though they cannot act to the same extent as open ditches, on account of the immobility of the air in their interior. However, if the drains are not too deep, the cracks caused by drought in summer, and frost in winter, and that invaluable cultivator, the earthworm, give such access to air from above into the drain as must cause some movement of it throughout its course, aided by the current produced by the occasional passage through it of running water after heavy rain. I have found the chief value of drainage in arable land to consist in the greater facility of working it in all weathers, and the improved state of tilth which it acquires; for the soil must remain too sticky to bear the treading of sheep in wet weather, or to be fit for them to lie on. I should add that the supply of water to our ponds was an important item in the benefits which I contemplated in the drainage of my pastures. I have no doubt also that the average temperature of the whole estate has been raised by the diminished evaporation from its surface. I shall be glad if the materials which I have furnished shall aid you in your useful scheme of tabulating the influence and progress of drainage.—*G. Harcourt Vernon.*

MR. LAWES ON THE PRODUCE OF WHEAT.

I LIKE to read such articles as that on the culture of the Wheat crop inserted by Mr. Lawes in your *Gazette* of the 1st instant; it puts the ability of the agriculturist to obtain a crop returning him in proportion to the skill and capital employed, in its true and proper light; it contains the combined results of scientific and practical farming, cautiously put before the public, with the view of aiding and assisting, and not for the purpose of flattering hopes by raising unreasonable expectations of success. If writers would imitate Mr. Lawes in the careful way in which he has put forward his own practical results, the ordinary reader might not perhaps be so much pleased with the perusal of such results, but he would not be led into error by being induced to attach an undue influence to scientific knowledge, which is too frequently the effect of what is published in the present day by many men of scientific repute in agricultural matters. Although I approve of such part of the subject as refers to Mr. Lawes' own experience, I must beg to dissent from that part of it in which he refers to the experience of others as to what is the greatest amount of acreage produce of Wheat which can be obtained on any land: on this point it appears to me that he has been led to an erroneous conclusion, and as it is of the greatest importance in its results to that true criterion of good and proper farming, viz., the balance sheet, it would be well if our notions were more definite as to what is a heavy crop of Wheat. Mr. Lawes informs us that in four years he obtained, by means of artificial manures, the following produce of Wheat:—Harvest of 1844, 26 bushels of dressed corn per acre; 1845, 34½ do.; 1846, 38½ do.; 1847, 34½ do.

Besides this dressed corn, which weighed from 61 to 62 lbs. per bushel, there was each year two or three

bushels of seconds corn. After giving these, his practical results, he says—"There are, however, well authenticated instances recorded of the acreage produce of Wheat amounting to 60, 70, or even 80 bushels; but in my experiments an increase beyond certain limits in the supply of the required constituents does not produce such effects as to justify the hope that soils of medium quality would, under such means alone, yield even from 50 to 60 bushels per acre." I ask, where are such well authenticated instances recorded of such acreage produce of Wheat? It is true that assertions have been made by scientific persons leading one to suppose that very extraordinary crops have been obtained by their superior skill and knowledge; but I maintain that such assertions are not to be taken as instances on record of such crops having been produced. My own experience tells me that I ought very much to doubt that any soils have ever yielded such crops of Wheat as 80, 70, 60, or even 50 bushels per acre. The greatest crop that Mr. Lawes produced in the four years was 34⅝ bushels per acre; adding 3 bushels seconds would make it 37¼ bushels; and yet Mr. Lawes possesses skill and knowledge, and was aided by artificial manures. But is there not a very wide difference between 37¼ bushels per acre and 80, 70, 60, or even 50 bushels per acre? I find on my own land, well adapted for the growth of Wheat, I have never much exceeded the amount of 37¼ bushels per acre grown by Mr. Lawes, and I consider 40 bushels per acre an extraordinary crop. I agree with Mr. Lawes that "when dry grain, and more especially Wheat is the object of cultivation, a point is soon arrived at beyond which the mere supply of manure or material for growth often diminishes rather than increases the produce." How, then, can he reconcile this fact, gained by his own experience, with such statements as those he seems to credit, viz., that 50, 60, or 70 or even 80 bushels of Wheat per acre have been grown?—*G. R. W.*

[We venture to add a sentence. The fault, in our opinion, lies not in the amount specified in certain instances, so much as in misunderstanding the extreme rarity of those instances—and the small influence they therefore exert on the averages, which alone can be the basis of sound reasoning. A farmers' club in Norfolk came to the—we believe—correct conclusion that a small field in their neighbourhood had yielded 90 bushels of Wheat per acre in 1845. But we have not heard that the case has been paralleled before or since. So—we have grown Swedes 17 lbs. weight; but that does not hinder us from asserting that 5 lbs. is a great average weight. Nor have the few that have reached our maximum weight raised our average crop beyond 20 tons per acre. The large Wheat crop to which we allude we believe to have been reaped, but what effect had it on the average of Norfolk? Or, let us ask, did it even much increase the average produce of the farm on which it was grown? If any one asks why the exception of fields may not be made the rule of fields, we must profess our ignorance; *i. e.*, we do not know any cause why the circumstances which the farmer has under his control should not be universal; though whether they can be created cheaply enough is another thing. But if we are asked if the exception of *years* may not be made the rule of *years*, then our answer must plainly be negative—for agricultural produce depends more upon the influence of the heat, light, and moisture of our varying seasons than upon any of the causes which the farmer can control. No one has more satisfactorily illustrated this than Mr. Lawes. We heartily second our correspondent's request for information; and shall be glad of an answer from any of our readers to the question—What is the largest acreable produce of any of our crops that has come under your personal observation? its date and circumstances]

APPLICATION OF LIQUID MANURE NEAR MANCHESTER.

[The following is an abridgment of the report by Professor Guy and Mr. Sherborn on the proceedings of the Manchester Liquid Manure Company—presented last month to the Metropolitan Sewage Manure Company.]

In pursuance of the desire expressed by our colleagues in the direction, we proceeded to Manchester on the 16th day of September, and on the following day had the satisfaction of witnessing the application of liquid manure by hose. * * *

I. *Sept.* 17. — We first went to the Bridgewater Canal, to inspect the tank in which the liquid manure is collected and preserved for use, and having obtained much valuable information (presently to be detailed), embarked in a swift canal boat for Lymm, 15 miles from Manchester, where the application of the manure was to take place, and where we found everything in readiness. The apparatus consisted of a barge containing a pumping-engine of 8-horse power, and a tank to hold the liquid manure, brought from Manchester; of a second carrying barge, containing an additional supply of manure; and of main and branch hoses of considerable length. The staff, in addition to the men employed in navigating the barges and working the engines, consists of a superintendent and six men. The piece of land which happened at the time to require irrigation, is a narrow, irregularly-shaped meadow, of about 4 statute acres in extent, of which the right side is nearly straight, while the left forms at the further end a considerable curve. Its length is between 300 and 400 yards, and to the end of the curved portion, upwards of 400 yards. The canal at this point is raised about 30 feet, so that the hose, after being taken across the towing-path, had to be carried down a steep bank, and across a narrow road into the field. The first part of the operation consisted in attaching the main hose to the engine, in conveying into the field the main and branch hoses, divided into lengths of 20 and 40 yards, placing them in the required positions, and coupling them. The main hose, which was carried through the centre of the field to about one-fourth of its length, terminated in a branch of smaller dimensions, continued in the same direction; a second branch, attached close to it, was carried to the right; and a third, joined to the main hose, about 40 yards from its extremity, was carried to the left into the bulging portion of the field. From the barge to the extremity of this last-named branch was about 400 yards, or nearly a quarter of a mile. The three branch hoses terminated in tin tubes, about 2 feet long and 2 inches in diameter, with spouts shaped like a fan, or the flattened rose of a watering-pot, about 4 inches wide and ⅛ of an inch deep. The hose and its branches having been arranged, the engine was set in motion, and in the course of a few minutes the liquid flowed from the tubes.

The application of the liquid was easily and expeditiously effected, one man guiding each tube, and another dragging the hose over the field. The men who guided the tubes scattered the liquid in a half circle from side to side, as if they had been sowing Wheat, moving slowly backwards from spot to spot till the whole field had been irrigated. In order to enable the men to distribute the liquid with regularity, and not to leave any portion of the surface unirrigated, the field is marked out by small stakes, which guide men in their work. This precaution is absolutely necessary when the Grass is wet with rain. In dry weather it is not required; nor would it be required on arable land in regular stetches. The whole operation, though more than once interrupted by the traffic on the towing-path, and by other causes which it is not necessary to specify, occupied from a quarter past 11, A.M., to a quarter past 2, P.M., or exactly three hours, being three-quarters of an hour for each acre. The safety-valve of the forcing-pump is loaded with 40 lbs. on the square inch, being equal to a pressure of about 89 feet, which pressure cannot therefore be exceeded with this apparatus, and is rarely attained. The liquid issued from pipes in a full and uninterrupted jet, of from 1 to 2 yards in length. On this occasion, as the Grass was already saturated with moisture, the liquid was applied in the proportion of one part of the manure and three parts of water, the quantity of manure bring 3 tons to the acre. In dry weather the same quantity of manure is diluted by more than six times its bulk of water. The arrangement for mixing the manure with the water, and for measuring the quantity delivered, are so exclusively adapted to this particular mode of application, that your reporters do not deem it necessary to describe them.

The manure employed by the Liquid Manure Irrigation Company is the more liquid part of night-soil unmixed with other refuse matter, and as concentrated as it can be procured. It is brought to the store tanks on the banks of the canal, in large water-casks mounted on wheels, at an average cost of 3*s.* a ton. The price varies with the quality, which is determined by its specific gravity. The higher the specific gravity of the liquid the higher the price given for it. It is absolutely necessary to apply some test, as attempts have been made to adulterate even this article of commerce. The manure is stored in uncovered tanks, and is therefore liable to be diluted by the rain which falls on its surface or drains into it. With a view to fix the ammonia, gypsum is added in the proportion of about ½ cwt. to from 20 to 40 tons. The contents of the tank are transferred to the barges by means of a syphon. The quantity of this liquid applied to an acre of ground is 3 tons, diluted, according to the state of the soil, with from three to six times its bulk of water. The contents of the tank are by no means so offensive as might be expected, though covered with a scum, and emitting bubbles of gas; and the same remark applies to the liquid when transferred to the barge and shaken by the motion of the vessel.

When diluted with three times its bulk of water, as on the day on which we witnessed the application, the odour is very perceptible, but neither very offensive nor very enduring, and certainly much less offensive than that of many manures in common use. We are informed that it disappears in about three hours, and that cattle will eat the Grass on the following day, or even on the same day. When diluted with six times its bulk of water, the smell is but very slightly perceptible half an hour after its application, and in no case is any annoyance occasioned to the neighbourhood.

The time required to irrigate an acre of ground, in the manner already described, is three quarters of an hour; but when the many causes of delay incident to this mode of application in its present state are taken into account, your reporters feel warranted in stating that an acre of ground could be very effectually irrigated from the pipes proposed to be laid down by the Metropolitan Sewage Manure Company in half an hour at the outside, and that by a well organised and practised staff of six men, and a superintendent, 20 acres, provided the fields to be manured lay contiguous to each other, might easily be irrigated in one day. The cost of the application, on the supposition that the men receive 2*s.* 6*d.*, and the superintendent 5*s.* a day, and that the same number of acres were irrigated every day in the year, would amount to 1*s.* an acre; the cost would, of course, be increased, if the men, being permanently engaged, were only occasionally employed, or manured a smaller number than 20 acres. The greatest distance from the source of supply, or, in other words, the greatest length of hose which has been at any time employed, is 970 yards, or 90 yards over half a mile.

The hose is made of the best canvas which can be procured, ("Navy No. 1 Extra," 47 lbs. to the bolt of 40 yards, 24 inches wide,) which, previous to being sewed, is saturated with a composition of the consistence of tar, and after being made up, is repeatedly coated with the same. Leather has been found too expensive, India-rubber has entirely failed, and double canvas is objected to, inasmuch as when any defect exists in the inner layer, the liquid gets between the two layers, and rots the hose. The hose is made into lengths of 40 and 20 yards. The main hose, 300 yards in length, with joints at intervals of about 40 yards for the attachment of the branch hoses, is about 4½ inches in diameter; the branch hose, of which 340 yards were in use on the 17th September, is about half the diameter. The cost of the smaller hose is 1*s.* 3*d.* per yard, inclusive of fittings; that of the larger is more than twice that sum. When the canvas is of the best quality, and properly seasoned by the repeated application of the composition above referred to, it will last two years. This is the result of the experience of Mr. Patterson prior to his undertaking the superintendence of the works of the "Liquid Manure Irrigation Company." The hose now employed has been in use nine months, subject to a pressure of about 80 feet, and is still in good order. Holes are drawn together, and strongly darned, and those which are formed during the application of the manure are bandaged with canvas, and secured with rope, which answers pretty well as a temporary expedient. After every application, the hose is washed with water. There is no oozing of water, except where the canvas is defective, or where the joints are not properly secured. The liquid flows freely, and there is no deposit in the hose.

The charge for a single application of 20 tons to the acre is 1*l.*, and 6*d.* additional is charged for each mile the apparatus and manure have to be carried from Manchester. The charge at first was 10*s.* an acre, for 10 tons per acre; but the same parties who originally paid that sum now willingly pay the higher price. Nor does the increased charge prevent the application, almost daily, of new customers. The application that we witnessed on the 17th was the second on that day, and we were informed that as many as 15 acres have been manured on one day, but the quantity rarely exceeds 10. It is expected, however, that with improved apparatus, and especially with a more easily moved barge, the average daily performance will be 15 acres. The wages paid to the men are 15*s.* a week, or 2*s.* 6*d.* a day. With regard to the frequency of the application, there has not yet been time to collect much information, as the company has only been in operation nine months; in five instances the manure has been applied a second time.

The demand for the liquid manure is on the increase. Already 300 acres have been manured for the Earl of Ellesmere and his tenants, and several hundred acres for other parties. As a financial operation, we have reason to believe, from the information afforded us, that it will prove eventually successful, but we have not thought it proper to enter into any particulars on that subject. A report of the operations of the company may shortly be looked for. The manure has been applied chiefly to Grass land. It has also been used on garden ground, with very marked effects, especially in the case of the more esculent vegetables. Mr. Holland, under whose general direction and the patronage of Lord Ellesmere, the affairs of the company have been conducted, reports that the results upon meadow land have been much less beneficial than they would have been had the farming of the district been in a more advanced position. Most of the fields which have been irrigated are very imperfectly drained, and are crowded with weeds and with Grasses of inferior quality. But even upon such land, not only has the quantity of Grass been largely increased, but its quality has been very decidedly improved. Were these fields brought into a proper state of cultivation, the beneficial effects of liquid manure irrigation would doubtless be much more apparent. In this opinion Mr. Patterson, the superintendent, who has had great experience in the use of liquid manure, both on uncultivated and highly cultivated land, perfectly coincides. * * *

In one instance, a fair comparative experiment was made of the effect of liquid manure and guano. One hundred-weight of the Peruvian guano, dissolved in water, was substituted for a ton of the undiluted manure, and applied to a different part of the field. The superior effect of the liquid manure was pointed out by the proprietor of the ground, who was ignorant of the substitution. The machinery of the company has been used for irrigation with water. * * *

(Signed) Francis Sherborn.
Sept. 20, 1847. William A. Guy, M.D.

Further Report by Mr. Sherborn.—I visited Mr. Smith, a farmer at Barton, to whose land it was stated that manure had been applied with decided success. Mr. Smith was not at home, but would send a report to the office. I then went to Lord Ellesmere's, at Worsley, on whose estate 300 acres had been manured. I saw Mr. Fletcher, the agent, who went over part of the land. There was one field of 40 acres, one half of which was manured with liquid, the remainder in the usual way, with dung. The irrigated part was decidedly the best in colour, and Mr. Fletcher stated the crop of hay on the part treated with liquid manure, at the cost of 1*l.*, was quite equal to that grown on the part manured in the usual way, at a much larger expense, but the crop was not weighed. I saw another piece of

70 acres that had been irrigated at 14s. 6d. per acre, being 10s. added to 4s. 6d. per acre, the place being nine miles distant from Manchester. An excellent crop of hay was mown; and a second application after mowing was made at 2l. 6d. per acre; the after pasture is most abundant and most luxuriant. I then visited the gardens where the liquid had been applied, and where all the vegetables were extraordinarily fine, but from the lateness of the season, I could not perceive much difference where the manure had been applied, all being good; but Mr. Mitchell, the head gardener, said, that after the application to Asparagus, Peas, Beans, Celery, and Cabbages, the growth was quickened and the produce larger; that there could be no doubt of its advantages for garden purposes, and he should continue to use it. This was confirmed by the under gardeners; but the season of the year the effect are not so visible as to enable a stranger to determine its value for garden purposes; but the report of those who witnessed the application and saw its effects is perfectly satisfactory. The last observation will apply more or less to the Grass lands. I had no opportunity of witnessing its effect on arable land, nearly the whole of this district being in pasture. *Francis Skirrow.*

Report of Mr. Smith.—Having had on the 21st and 22d July, 1847, 13 acres of Grass land manured by the Manchester Irrigation Company with liquid, and having, by the request of Mr. Patterson, their manager, studied the result between those manured by him and that part that was not; and upon the former there was double the quantity, and of a much better quality. Also, there was some liquid fell upon the Willows accidentally, and increased their growth a foot above the others. The result is so satisfactory to me, that I will apply it again when I can get it. Any one that doubts my statement, they are at liberty to call upon me and I will show them the result.—*J. Smith, Barton, Sept. 22, 1847.*

STALL FEEDING ON PREPARED FOOD.

MANY of your readers will doubtless remember that in the "Transactions of the Yorkshire Agricultural Society for 1846," a prize essay or report was published on the Feeding of Stock with Prepared Food. The straightforward manner in which Mr. Marshall treated the subject in his report, and the high character of the gentlemen by whose evidence he supported his statement, attracted a great deal of attention then, and much anxiety has since been felt to ascertain if longer experience confirm the favourable opinions expressed respecting this novel system.

With a view to make the subject fully known, Mr. Hutton, of Sowber-hill, near Northallerton, invited a large party of intelligent and influential agriculturists to visit him on Thursday last, and spend the whole of the day in examining his stock, and in witnessing the process of preparing and serving the food. To parties at a distance, it may here be necessary to state, that Mr. Hutton farms his own property to the extent of 1400 acres, and occupies a leading position among the agriculturists of his neighbourhood.

Being kindly invited to join this party, I arrived at Sowber-hill about 10 o'clock on Thursday morning, and was immediately shown through the various farm offices by Mr. Hutton. We first went to the houses containing the fat cattle, where there were 50 heifers tied up, all looking very healthy, exceedingly clean, and nearly ready for the butcher. They had finished their first foddering of cooked food, and I think only one heifer out of the 50 was standing when we went round; and for the restlessness of this animal a sufficient reason was given. We then went to the boiler house, and I saw the boiled Linseed mixed with the chaff for the horses at noon. We next proceeded to the house where the straw is cut into chaff. A powerful straw cutter, made by Crosskill, was at work, drawn by two horses. Barley straw was being cut in the rough state in which it came from the threshing machine; the machine was cutting at a great rate, and, considering the state of the straw, made good work. In the same building, but in a story over the straw cutter, one of Clyburn's bruising machines is fixed; and, at a later period in the day, we saw it bruise, very satisfactorily, both Linseed and Oats. This building is entirely separate from the threshing barn; for this immense establishment keeps two horses constantly at work, cutting straw or bruising corn, and the straw of nearly four large corn stacks is required each week at this season of the year, for chopping or for bedding. We then went through the fold yards containing the lean stock.

The rest of the party now arriving, I quietly walked back to the steaming house, in order to examine more thoroughly the house, and the apparatus it contained. The house is a plain building of one story, open to the roof. It is 24 feet in length, 15 feet in breadth, and about 15 feet to the eave. The floor is paved with brick. There are three moderate-sized windows in the walls, and a small ventilator in the roof. The furnace and steam boiler are placed in one corner of the room, and sunk about three feet below the floor. Closely adjoining the steam boiler, but on a level with the floor, the boilers, three in number, for holding the Linseed, are placed in a row against the wall. The metal of these boilers is double, and the steam which boils the Linseed is conducted by pipes into the space between the inner and outer case of the boilers. A force-pump stands in the corner of the house, and water is thrown by it into a large cistern, from which, by bale taps, the steam boiler is supplied. The chopped straw and bruised Linseed and corn is all weighed before it is brought into the steaming house, and no more is taken there than is wanted each time. The cost of the steaming apparatus, I understand, was about 50*l.* The house could not have cost much if built new; but it appears to have been an old house, perhaps a hind's cottage, applied to its present purpose.

About 1 o'clock we had lunch, and at half-past went to the steaming house, where we saw the food mixed for the 4 o'clock feed of the 50 fat cattle. The chopped straw, in due proportion, was first spread upon the floor about 2 feet thick, and with this the proper quantity of Bean-meal was well mixed. About 5 stone of bruised Linseed, with 120 gallons of water, had been put into the boilers three hours before (that time being necessary for cooking it properly), and was now a thick oily kind of broth. The liquid was laved out of the boilers into pails, and thrown boiling hot upon the heap of chopped straw and meal, with which, by rapid turning it was at length thoroughly blended. It was then shovelled into a tidy heap in a corner, and smoothed down by pressing it with the back of the shovel. In two hours it was cool for an hour and a half, and in the meantime we went over the Farm. It were easy to write of many things that interested me during this walk, especially the draining and fencing, but respect for your space induces me to confine my remarks to the mode of feeding, a point intimately connected with the subject of this article.

One of the fields through which we passed was cropped last year with Linseed on one part, and Oats on the other. I was very anxious to see the effect of the Linseed crop upon the land, as to its encouraging the growth of Couch Grass, a point held in much apprehension by many farmers. I was accompanied by a practical man of close observation, and after examining this field with great attention, we were both of opinion that the land—about six acres—on which the Linseed had grown, was quite as clear as that which had been cropped with Oats; but as the latter had been mown, and the former pulled, one stubble seemed more foul than the other. The Linseed appeared a good bright sample, and Mr. Hutton calculated the crop to average 21 bushels per acre.

A little before 4 o'clock we returned to the homestead, and saw all the fat cattle receive their last meal of the cooked food we had seen prepared before we walked into the fields; an ordinary feeding basketful was given, in its warm state, to each animal, and it seemed to be eaten very greedily. The boiler-house is not very near the feeding-houses; but eight baskets filled with this food were placed at one time on a sort of long barrow, and wheeled to each house; thus the whole 50 cattle were fed by two men in about 20 minutes.

We now adjourned to the house where the whole party, about 25 in number, sat down to an excellent dinner. After the usual loyal toasts, Mr. Hutton produced a carefully prepared statement of the cost of this method of feeding. The following is a copy of that part which related to fat cattle.

For One Beast.

13 lbs. of Linseed bruised, or 2 lbs. per day for six days, and 1 lb. for Sunday	... ...	£0	1 9
32½ lbs. of ground Corn, or 5 lbs. per day for six days, and 2½ lbs. for Sunday, at 1*d.* per lb.	...	0	2 8
35 lbs. of Hybrid Turnips, given thrice a day, and thrice on Sundays	... ...	0	1 6
Coals, 1½*d.*; labour on each Beast, 6*d.*	... ...	0	0 7½
Total cost of each Beast per week	... ...	£0	6 6½

The horses, cows, and young stock, also get some of the cooked food, evidently with great advantage; but I do not think it necessary to state the calculation of the cost.

In conclusion, as Mr. Hutton remarked, it is now satisfactorily proved that fat cattle, of the best quality, may be produced on farms where no hay is grown; that double the usual number of cattle may, by this method, be fattened on the same quantity of Turnips, and that abundance of the richest manure may consequently be made at home. Some modifications of this method of feeding would be required on ordinary small holdings; but, to occupiers of large farms, I strongly recommend it for immediate adoption.

I much regret that urgent business called me away directly after dinner, and I thus lost the advantage of hearing the valuable remarks which I feel sure would be made by many of the experienced gentlemen present. —*H. J. Turner, Richmond, Dec. 27, 1847.*

SHED-FEEDING SHEEP.

SHED-FEEDING of sheep has been very much discussed in your columns of late, and has had its opponents as well as advocates, although the latter no doubt preponderate. I think there can be little doubt that shed-feeding is superior to keeping them in the open fields. Every one knows that what will fat a beast in the house will barely keep them in the open fields. I know there are some who have tried shed-feeding, and have not found it to answer their expectations, and have therefore abandoned the system and condemned it as impracticable. But I fear that the failure has arisen more from mismanagement than from any real defect in itself. They have run up a hovel after calculating the exact room in which a sheep can turn itself, with a low roof and dark sides, excluding both light and air. Then they box up a number of sheep, and for a few weeks all looks well, and they feel sure that their outlay will soon be repaid; but by and bye things do not do so well. The stock which have been all along breathing an unhealthy atmosphere now begin to show it. The shed which was at first new, and consequently pure, is now become saturated with dung, which, fermenting as it accumulates, sends out unhealthy vapours, and these inhaled by the sheep, must produce their natural consequences—disease. This might all be prevented would we only study Nature's laws, for however we may assist her operations we must never cross them. And let us think what would be the consequences to us, placed under the same circumstances, breathing such an impure air. What is the cause of so much disease as prevails in the crowded parts of our cities? Does it not spring from the noxious vapours that rise from the filthy mud-holes

[illegible]

Home Correspondence.

Tithe Commutation.—[illegible] agricultural readers may feel [illegible] result of the averages of the seven years Corn[illegible] last, which have been published in the *London Gazette* of last evening, viz.—

Wheat	.. ..	[illegible] per quarter.
Barley	.. ..	[illegible]
Oats	.. ..	2 9½ do.

I beg to state that each 100*l.* of rent-charge will, for the year 1848, amount to [illegible] more than two per cent. beyond the average for the seven years. The following statement from my annual Tithe Commutation Tables will show the averages from year to year since the passing of the Tithe Commutation Act:—

AVERAGE PRICES FOR SEVEN YEARS.

To Christmas	The London Gazette	Wheat per Quarter	Barley per Quarter	Oats per Quarter	Rye per Quarter	Beans per Quarter	Peas per Quarter
1837	On Dec. 6, [illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1838	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1839	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1840	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1841	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1842	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1843	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1844	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1845	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1846	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1847	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

—*Charles M. Willich, 23, Southampton Street, Pentonville, Jan. 8.*

Agriculture, Ancient and Modern.—Although, from the want of agricultural statistics, our means are very limited for judging the comparative skill in farming to which the great nations of antiquity had attained, as compared with its present state in Britain, we must be certain that the practice had reached a high degree of perfection, when we take into account the many large cities existing in early times, whose numerous populations drew their subsistence from comparatively narrow circles: and we have positive evidence, in the remains of canals and artificial means of irrigation at this day found intersecting the now desert plains of Syria and Egypt, of extraordinary pains and skill having been resorted to, in early times, to fertilise sandy wastes. I cannot think the great masses of mankind, in early times, so closely collected, and whose resources were so narrow and circumscribed, could have been fed, or that the gigantic works alluded to would have been formed, under a practice that did not return a much larger amount of produce per acre than is now obtained. In fact, I am far from thinking, with all our modern improvements, we have yet brought our cultivation to return such fine crops as my readings of ancient history lead me to believe must have been grown more than 3000 years ago. In contrasting the agriculture of the ancients, as we learn it from the works handed down

to us, with that of the present day, as given in modern works on farming, I am struck with the fact that whilst formerly the application of dressings for raising of corn appears to have been scarcely ever practised, and fertility was sought from good tillage and working the land (and hence the derivation of the term agriculture, from colo and ager, to till the field, and the adoption of the plough as its emblem), attention at the present day should be so much diverted to manures. The object of modern writers on farming appears to me to impress too much their farther use and value, leading farmers, I fear, to depend rather on them than on better cultivation. I will confess, as my experience has extended, and my practice has improved, I have discovered the heavy cost of manure, and more particularly of that which is raised artificially on the farm, and have learnt to lean much more on deeper and finer tillage. I am aware I am broaching ideas which are not in accordance with modern opinions; but it was my fortune at an early period of my farming to have invested my capital in the cultivation of some of the poorest land I ever saw under the plough; the failure of my crops led me at first to resort to frequent dressings as the best means to improve them, but I early noticed the uncertainty that attends corn crops so raised, and the heavy expense soon caused me to seek improvement rather from more perfect tillage, and I have frequently felt inclined, from my success, to take up my pen and hold up the better working of land as the first desideratum at the present day, but reflecting on the difficulty I should have to combat the prejudices against deep tillage, and in appearing to oppose the course taking for the improvement of agriculture, I abandoned the attempt, and it is now only from the perusal of Mr. Hoskyns' very able letters in the *Gazette* of Dec. 18 that I have gained courage to make public thus far my singular views. One of the successful means I have resorted to for increasing the fertility of my land has been deeper tillage, with an improved and deeper set Kentish turnwrest plough, a plough unknown to the greater part of Britain, and evidently so to Mr. Hoskyns; but as an article of mine has already appeared in the papers describing its different action to all other ploughs, in breaking up, instead of cutting the soil, and showing how much more it exposes the earth to the atmosphere, as well as the difference in the season it forms, and its nigher approach to the spade in its work: I must not go into further explanation. I think it was the Roman Columella who, when asked 2000 years ago what constituted good farming, replied, first, good ploughing; and on being again asked what came next, again replied good ploughing. Thus strongly impressing the occasion for good tillage over every other consideration. The value of deep tillage appears to have been well known in an earlier age. Æsop inculcates it in his fable of the Dying Husbandman, who tells his sons he leaves them a treasure buried in his fields to induce them more effectually to move the soil in search of it, and in this way to improve their land so as to gain an additional fertility which should prove to them a treasure, although not the one they expected he had bequeathed them. In the instruction thus beautifully conveyed to us I fully agree, for my labours have proved its correctness.—*Hewitt Davis, 3, Frederick's-place, Old Jewry, London.*

Antiquity of Thorough Draining.—As the antiquity of thorough or frequent draining is still by some doubted, I send you an extract from Salmon's History of Hertfordshire, published in 1728. Until tiles were used the practice through Essex and the neighbouring counties has remained as Salmon describes it at its commencement 40 years ago. This is the oldest account I am acquainted with, but I have reason to think the mode of draining is older than Salmon's time, but perhaps not in common use. Should you think this worth publishing, I will give you an account of draining as practised on this farm about 80 years ago, from memoranda of my grandfather, a brother of Gilbert White, of Selborne.—*A. Holt White, Servald's Hall, Harlow, Essex, Jan. 3. Extract from Salmon's History of Hertfordshire:*—"The cold and wet lands have been within 20 years greatly improved by draining off the rain-water, which stagnated in the clay surface, as in a cup, and chilled the roots of the corn. This is done by an invention that first appeared upon the borders of Essex, which they call dry-ditching. Drains of about 30 inches deep are carried across and athwart which have communication, and carry off the water where there is a declivity. These are narrower at bottom, into which were formerly thrown stones or bushes, with straw scattered over them, then they filled up again with the same earth, and ploughed over, so that none of the surface of the field is lost, as must be where the ditches are open. They have since contented themselves with stubble at the bottom to save stones and bushes, and find their work durable enough. And some only draw a long piece of wood through the drain as they fill it up, which preserves the hollowness they aim at."

Tenant right.—The past year has been one of so much interest to every owner and occupier of the soil, that I am induced to make a few remarks on it. On referring to authority, I find that the imports during the year have been increased—cattle 100 per cent.; butter 35; cheese 15; and corn 300 per cent. For all this we have paid in hard cash 33 millions, leaving the country in a condition so deplorable, that it seems the paramount duty of every owner of the soil to ask himself these questions:—1. Are my farms at present well cultivated? 2. Are my soils generally capable of further development? and 3. Are there any old customs or barriers to improvement that I can assist in removing, for the benefit of my country, without injuring myself? With respect to the first of these questions, I assert simply and briefly that the land at present under the plough in Northamptonshire is not well cultivated, nor ever will be under a six months' notice to quit, and the law or custom which now prevails in this county. In answer to the second question, are the soils capable of further development? I reply, yes; to such an extent that every parish which contains 2,000 acres of Grass land (and there are many such in this county) after allowing one-fourth to remain as it now is for purposes which I will hereafter explain—is capable of keeping an equal or even a larger quantity of cattle than it now does, and 7,000*l.* a year additional on the average of years be improvingly extracted from it. The effect of this would be that the labourer would cease to be an incubus on the occupier, and the demand for labour would be so increased as to render it doubtful whether it would not exceed the supply, instead of falling, as it now does, lamentably short of it. Assuming then, as I do, that the only true principles upon which really productive farming can hinge are, the breeding, rearing, and feeding cattle, for which this country is peculiarly calculated; that just so many acres of corn as a man grows, just so many acres should he have in Clover, Turnips, Mangold Wurzel, &c.; that the only Grass land a man requires (except he has some good meadow land, which is always an advantage) is just so much as his cows and heifers, his ewes and theaves can ruminate upon at certain periods of the year; that every bullock from the moment it is calved until it is fat, should be kept under cover; that the making of good manure is the main object to which every farmer should look, and which every custom and law should encourage—assuming these as true and incontrovertible principles, I proceed to ask what reason can be given for retaining so much land in Grass, which, of all the plants a farmer cultivates, stands the lowest in money value? I would fain hope the eyes of the landlords and of my brother farmers are open to the fact (and if they are not, I entreat them to foster the delusion no longer), that they will not continue to find any class of men to breed beasts for them to feed, excepting in the mountain districts, which are incapable of improvement, unless they, as graziers, can give more for them than the London butchers. I cite the remarkable case of the Earl of Radnor's heifer, to which was awarded the gold medal this year, at the Smithfield exhibition, which had never been out of doors, which at 2 years and 8 months old was worth 40*l.*, and which if it had been kept on Grass land alone would not have been worth 20*l.* This is a fact which will strike home to every thinking man. To the third question—Are there any customs or barriers to improvement which I can assist in removing for the public good without injuring myself?—I answer by asking how are the principles which I have described as the basis of all good farming affected by the custom or law of the country as it now stands? The reply cannot be other than this—injuriously. The manure becoming the property of the landlord instead of the outgoing tenant, the latter is led into a parsimoniousness in making manure, which is felt throughout the whole course of his farming, and the mischievous consequences of which are visited upon the farmer first, and upon the country in the long run. In order to show what I mean by inferior manure, I quote the following article from an able Journal:—"In order to understand the truth of this, the first thing to be done is to disabuse our minds of the absurd notion that the manure has any fertilising properties that were not contained in the food which the animal consumes. A common idea it is; but ignorant, and mischievous in its effects upon farming practice, beyond what would be readily imagined. Far from having become richer, the food has become considerably poorer, by the loss of what has been taken up to supply animal heat (which is the greatest because the most unseen robbery of all): secondly what has gone to create fat; thirdly, what has become flesh, and supplied the waste of muscular action; and fourthly, the mineral part which has gone to produce bone, horn, hair, milk, &c." Listen to this, ye straw-yard farmers, who living under a six months' notice to quit, nay, hardly six hours in the case of church lands, are compelled in self-defence to follow this barbarous practice, at the same time inflicting injury on all around you. Do not these facts prove that you had better put your straw upon the land at once than deteriorate it by passing it through beasts, which are not themselves made profitable by the process. The Lincolnshire adage is completely out Heroded, that beasts that eat straw dung straw, and the beasts and the owner are straw altogether. Need I say more? This surely is enough for every man who occupies with a view to business. I trust the owners of the soil and guardians of our interests will assist in passing a law simply to secure the property of the tenant as it now does their own; but let it be worked by arbitration; by men who possess the highest character for honesty and intelligence. The effect of such a law would, I conceive, be this; that the landlord would have farms to let in condition; the in-coming tenant would willingly pay for the unexhausted capital invested therein, and which cannot profitably to all parties be taken away, because it would be cheaper to him to pay for existing advantages than to undertake them himself. At present, in nine cases out of ten, a landlord has to lay out money to restore his land to fertility. Let not the absurd notion deter the landlord from acting decisively in this matter, that he will have to pay a considerable sum for the whim of an extravagant farmer. No man with a grain of common sense, even to avenge himself upon his landlord, would lay out money with a view to recover it by tenant-right, and no men likely to be called upon to act as arbitrators, would award compensation for extravagant or fancy farming. In an article in the *Times* a few days since I read that America is rejoiced to see England dependent upon her for corn and cotton. Shall this continue to be the case so far as corn is concerned? By the hearty co-operation of the owners and the occupiers of the soil, I trust it shall not.—*Wm. Shaw, Far Cotten.*

Salt.—In sending you some remarks on the use of salt, a few weeks since, I informed you of a curious circumstance respecting my Mangold Wurzels on which I hoped some of your correspondents would have ventured an explanation. The case was this: In 1845 I received from Messrs. Gibbs, through a country seedsman, 8 lbs. of Long Red Mangold seed, which produced a perfect crop, without any variation of root: in the spring of 1846 I planted a dozen or more of these roots in my garden for seed, and in the autumn I gathered about 6 gallons, or 12 lbs. of seed, which I sowed in the spring of 1847; this seed I would have warranted to any person for the true Long Red Mangold Wurzel—but to my great surprize the chief of the crop turned out Yellow and Red Globes, neither of which had I ever seen. I understand they are grown in the neighbourhood; but will you, or any of your readers, inform me whether the inoculation of bees is sufficient to explain this change of plant [No], or to what am I to account it? You may depend on the perfect accuracy of my statement.—*Clericus.*—P.S. In your answers to "Rusticus" your reply may be right as to London quantities, but in the country a truss of hay weighs 56 lbs. and 66 of new hay, which lasts only to Michaelmas; 40 trusses a ton. We do not know what a load of hay is in the country. The same with straw; only on account of the bulk we put the 112 lbs. into 3 trusses instead of 2. Potatoes are sold by measure not weight, but once I bought a load of them at 200 lbs. the sack, which exactly made the measure of 3 bushels to the sack: the London gardeners guarantee only 185 lbs. to the sack—you say 240 lbs. I took the weight from a London advertisement some years since.

Poison for Rats.—Having at different times tried many nostrums for the destruction of rats with very indifferent success, owing to the sagacity of the rats preventing them from eating poison, I have adopted a plan which may not be generally known; its simplicity (and as I have always found), its infallibility, being its recommendation. If you should think it worthy of insertion in your valuable Paper, I think its use will be attended with success. Take a red herring, and having opened it along the belly, rub the inside with arsenic, then sew it up, taking care that there is none of the poison on the outside, place it in the barn or other place infected, and you will find it quickly disappear, as also the rats. Perhaps if you were to allow a herring unpoisoned to be first consumed, it would give the vermin more confidence.—*Benjamin Thomas Ellis, Pwllheli, Carnarvonshire, Jan. 3.*

Salt.—The Rev. W. D. T. dressed a portion of his Potato ground with salt: the difference was most remarkable whilst the plant was growing, and when they were dug not a single unsound Potato was found in the dressed portion.—*F. P. B. M., Jan. 7.*

Drilled Wheat versus Broadcast.—"I will pit my broadcast against your drilled" said Mr. Shaw, to Mr. Hillyard, at the Northampton meeting. Will those gentlemen inform your readers how the Wheat turned out, which really was the best?—*W.*

Plantations.—Mr. Hepburn and "W. H. T." seem to think that hedge-row timber does no harm to the farmer if well trimmed. If they would trim the roots as short as they do the branches, and the top to go in a man's hat, I will agree with them; I think that they have not broken many ploughs through hedge-row timber, and a furze-like top for hedge-row timber (which ought to be ornamental), how brutish they look, if I may say so.—*W. W.*

On the Fecundation of the Eggs of Poultry.—I was not aware, until very recently, that the mode and precise time of the impregnation of the eggs of poultry, was a "vexed question," but so it appears to be. Conversing, of late, with some "knowing breeders," I was by them attempted to be enlightened on a point which, in my own mind, I had considered settled; viz., the actual necessity for the constant presence of the male among the hens in the poultry-yard, to ensure the fertilisation of each separate egg as laid by the hen. This, in the course of conversation, I insisted upon as being a *sine qua non*, but I was gravely informed that I erred exceedingly. My stock of poultry being somewhat considerable, I sat an attentive listener, and heard a number of instances cited to prove me wrong; wherein hens, long after the death of the cock, had laid eggs which had been duly hatched. The ovarium of the hen they stated to be like that of the bee, which, once rendered fruitful, continues so for a period of three years. In the case of poultry, however, they admitted that the time of fruitfulness is limited to one season only. Thus, in few words, if the cock has associated with the hens for a single month, or less, his death, subsequently, becomes a matter of no import. To combat this, to me, strange doctrine, I urged the results of my own observation; remarking, *inter alia*, that I had frequently found eggs to be quite fresh after having gone through the usual period of incubation, thus clearly proving the absence of an embryo. The latter may be easily accounted for by the well-known fact of there being "favouritism" in the farm-yard.

Other eggs, from the very same hens, have, at subsequent times, proved fruitful. How is this? That hens will lay eggs, without the presence of their lord and master, I readily grant, but are the eggs impregnated after his death? As this query involves some considerable interest, perhaps some of your agricultural readers will be able and willing to throw a light on the real facts of the case?—*William Kidd, Sanders' Cottage, New-road, Hammersmith, Jan. 3.*

Harrison's Pills.—These pills for killing rats and mice are the best destroyers of these vermin ever invented. I have cleared my barn and ricks by the use of 3 or 4 dozen. I have given them to poor cottagers, who could not rest at night for the noise of rats in the roof: now they are rid of them, and their nights peaceful. They have exterminated these vermin also from their piggeries. The best way we find to give these pills, is to lay them, say half a dozen on a tile or slate near their holes, and, as fast as they disappear, to replenish their dish. Mr. Harrison has most fully our testimony as to their efficacy.—*P. Q., Hants.*

Societies.

NORTHAMPTON AGRICULTURAL BOOK CLUB.

The annual dinner of this club lately took place; Mr. Shaw presided. In the course of the evening the chairman gave the results of his experience of Linseed feeding for stock. For 70 head of cattle he formerly used one ton of cake per week, at a cost of 11*l.* 15*s.* He now uses a mixture of Linseed, Barley-flour, cut hay, &c., at a cost of 7*l.* 14*s.*, thus effecting a clear saving of 4*l.* per week. And the cattle do better upon it—they milk better and dung better. He could also use a coarser kind of food with advantage. Another question on which he wished to touch was the breaking up of Grass land. He was satisfied that, ere long, all land would come to the money question, and that all notion of land lying in Grass would speedily be done away with. He spoke of some Grass land belonging to the Marquis of Northampton, not long since not worth more than 7*s.* 6*d.* an acre, which now produced 30 tons of white Carrots per acre. He then read a paper on the subject of breaking up Grass lands, and the advantages of irrigation, in which he declared his conviction of the mischievous effects of water-mills, &c., and the advantages to be gained to the land generally by their destruction. He also read a letter from the Duke of Bedford's agent, confirmatory of his own view. Mr. Shaw also touched upon another subject—the making of beef. It was his opinion that, in a few years, beef would cease to be made out of doors, and that none but breeding cattle would lie out. The whole process of beef-making was artificial.

Farmers' Clubs.

DARLINGTON, *December Meeting:* "*On the Use of Boiled or Steamed Food for Cattle, with the mode of preparing and using it, and the advantages to be derived thereby, in comparison with other modes of feeding.*

GEORGE COATES, Esq., of Norton, said: I shall feel happy to give you what practical information on this subject some years of experience has taught me, being perfectly satisfied that it is only by interchange of opinion, and by discussing those opinions, that the truth can be arrived at. I was certainly much struck with the system of using boiled Linseed mixed with chaff and other matters, as described by Mr. Warnes, and at once made up my mind to try it. I was also induced to try the system of steaming food, as practised by some others, and in order that I might compare the difference of the two methods, I used the steamed food on one of my farms and adopted Mr. Warnes' system on another. In the result I must say that I was forcibly struck with the decided superiority of steaming over boiling, as shown by the difference in the appearance and improvement of the cattle, for although they were not weighed, the superiority of those fed with steamed food was quite apparent, proving that the system of steaming the food was much better than boiling it, the cattle having had in each case equal quantities of the compound. I do not mean to assert that Mr. Warnes' plan does not answer well, and is superior to the old system of feeding; but as far as my experience has gone, the process of steaming the food has answered better. The system is also economical, as by cutting my straw into chaff, steaming it and mixing with a little Linseed, I can keep double the number of stock on the same quantity of fodder that I could have done under the old method of feeding. I prepare the food every day, but on Saturday a double quantity, to serve over Sunday, and find that on Monday morning it still remains perfectly sweet, and the cattle devour it with the same avidity as when first made. I would not, however, advise any one to keep it longer, as I feel pretty certain if kept above 48 hours fermentation will take place, and the compound be spoiled. The cost of the compound entirely depends on the quantity of corn and Linseed. I consider that for a draught horse 1½ lb. per day is quite sufficient to maintain them in a good thriving condition; if this quantity is exceeded it affects the kidneys, and instead of improving they are weaker for it. Young horses, and those that are not at regular work, may have a little more. I give my feeding cattle in their compound as much as 3 lbs. per day of Linseed, and to my holding stock a feed of the compound of from 1 lb. to 1½ lb. of Linseed; this keeps them thriving, and makes them grow well when turned out to Grass. Another advantage in this system over the old method will be found in seasons when your Turnips are all done, and oilcake dear, you are obliged to dispose of your feeding cattle at a time when you would consider it an advantage to have kept them on a little longer. To my feeding cattle I give Turnips along with the compound when I have them, and if I have none, then they require to be watered; they do not however drink much when fed on steamed food. It is also much better to pursue this system of feeding cattle than to force Turnips on land not adapted to their growth. In preparing the compound the crushed Linseed is boiled in the usual way; the cut straw, hay, or chaff, being first well moistened with water, is put into the steamer, which has a false bottom, with holes to admit the steam from the steam chamber, or cavity below, into which it is brought by pipes from a boiler of one or two horse power. In mixing the compound a layer of cut hay or straw about five inches thick is put, then the mucilage or jelly of boiled Linseed is thrown upon it with a little salt, and the whole well mixed together; when mixed it is well trodden or beaten down. The same apparatus answers for steaming Potatoes, Turnips, or other food; when used for Potatoes there is a grate, from it which takes away the superfluous moisture, which otherwise would be injurious. Mr. PARRINGTON said: I have long been convinced that the system of feeding cattle on boiled or steamed food would and did answer well in large establishments, and the only difficulty appeared to be, to render the system suitable to small farms. This difficulty I have endeavoured to overcome, and I consider that I have hit upon a plan which for simplicity and economy deserves recommendation; as by following it, the system of feeding cattle on boiling or steamed food may be carried out by the keeper of a single cow. I have followed this plan for some time, and will now describe it: first merely observing that it is materially different from any I have ever heard of. In preparing the food I have a common iron furnace pot that contains 64 gallons of water, into which, when boiling, one peck of ground Linseed is well stirred, and allowed to boil for 10 minutes, when nine pecks of ground corn is gradually thrown in by one person and stirred in by another, until the whole mass is of a stiff consistency, it is then put into troughs and well beaten, and rammed down; afterwards it is cut out with a spade as wanted for the cattle. It cuts just like moist bread, and will keep for eight days; it is therefore unnecessary to prepare it oftener than once a week in small establishments. It requires some care in the boiling, and the fire should be slackened, to prevent the Linseed boiling over, and the meal burning to the bottom; from 5 to 10 minutes is sufficient for mixing in the ground corn. The whole of the process from the beginning, supposing the water to be boiling, does not occupy more than 30 minutes. I do not mix any cut straw or chaff in my compound, but I give the straw to the cattle in its natural state. Perhaps it might be an advantage in some places it cut straw were used, but the principal recommendation of this method, is its economy and simplicity. I give 6 lbs. of the compound in two feeds of 3 lbs. each per day per head, to my feeding stock, which cost 6*d.* per head per day; along with this I give two feeds of Turnips, and a little straw at night. To my holding cattle at straw I give 3 lbs. per day at a cost of 1*s.* 9*d.* per head per week; and it is a fact worthy of notice, that since I began to give them this compound, they eat at least one-third more straw. This does them a great deal of good, but it I gave them a greater quantity, the benefit derived would not be in proportion to the extra outlay. I also give it to my milk cows, and it has the effect of both keeping up their condition and making them milk longer and more regularly than other food. —Mr. HOWELL, of Brough-park, near Catterick, said: Gentlemen, having been kindly invited by Mr. Dixon to attend your meeting to-day, and although not a member of your club, yet feeling as I do a great interest in this matter, I have come here more from a desire to gain information from the experience of others than to become a teacher myself. I shall, however, be glad to give a detail of the little experience I have had in the use of cooked food for cattle, in the hope that it may lead to further inquiry, and thereby have its uses. My practice in this system has been on a farm of Sir William Lawson's, at Brough-park, which he has in hand. The Grass land lying in the park is a good deal shaded by trees, which in wet or unsettled seasons make the hay more tedious to win, and thereby it is sometimes unavoidably of very poor quality, and consequently a considerable waste was frequently an inevitable consequence. It was principally with a view to remedy this evil, and by using up our bad hay, do away with the waste which was a necessary consequence in pursuing the old system, that I was led to adopt the method of steaming cattle food. This occurred about three years ago. I then got a straw cutter, cut the hay into chaff, and mixed boiled Linseed with it, and gave it in this way; but I found that the cattle picked out the Linseed and left the hay. I then got Ducie's crusher and crushed the Linseed, and after boiling the water, the Linseed is stirred in and simmered for 20 minutes; the cut hay is then put into a large tub, and the Linseed jelly thrown over it, when it is well stirred up with a fork until thoroughly mixed, after which it is levelled down, and a little dry hay chaff thrown over the top, to keep in the steam, and when it has steamed until reduced to about blood-heat, it is then given to the cattle. I not only give this to my feeding cattle, but to the cows and draught-horses; they consume about 2 lbs. of Linseed per head per day, and do remarkably well upon it; but what is most gratifying, there is now not the least waste of hay, if even it be ever so bad in quality; for by cutting it into chaff and steaming it, it is rendered so palatable that the cattle devour it greedily. I may here remark that I consider the utmost cleanliness requisite in following this mode of feeding stock; consequently I have the vessels regularly cleaned and scalded, and the feeding troughs washed out. I used also to have the pavement washed regularly, but I found that it washed out the sand betwixt the stones, and rendered it more difficult to keep clean. I, therefore, now have clean sand applied at regular intervals, which answers very well. The feeding cattle are fed in the morning at 6 o'clock with cut Turnips, then again at 8 with the Turnips, then at 10 o'clock a feed of the compound is given, and at 1 o'clock a feed of Turnips; at 3 a feed of the compound, and at 6 o'clock another feed of the Turnips. The cattle thrive splendidly upon it, and fatten much more rapidly than under the old system: and by economising the food, together with the improvement in the manure, both liquid and solid, the system is also much more profitable. When I feed with the steamed food and Turnips, as I have described, each beast consumes per week—

14 lbs. of Linseed, at 8*s.* per bushel	..	..	£0 2 0
3 st. of hay, at 6*d.* per stone	..	..	0 1 6
56 st. of yellow Bullock Turnips, 10*s.* per ton	..	..	0 3 6
Attendance	..	..	0 0 5
Fire	..	..	0 0 1
Labour	..	..	0 0 2
Total per head per week	..	..	£0 7 8

This, gentlemen, may seem to you a heavy cost; but you will at once perceive that I have gone to the full market price for each material. The cost would be no less if fed on Turnips, &c., and the process would be much slower, which, of course, must deduct from the profits. When Turnips are scarce, or altogether wanting, I substitute Bean-meal; and for every stone of Turnips less than the quantity I have named, per head per week, I add to the compound half a pound of Bean-meal. In preparing the compound, 2½ gallons of water are required for 2 lbs. of Linseed and 6 lbs. of hay or straw chaff.—Mr. DIXON, the Secretary, said: I have been led to believe, and every day's experience goes to prove, that Linseed is of all other substances when crushed the one which produces the greatest quantity of fat in the least time, and perhaps Bean-meal is the best adapted for supplying muscle; this we know of the Bean from the effect it has on the work-horses and in feeding pigs. Therefore I think that Mr. Howell's system of occasionally using Bean-meal along with Linseed is certainly a judicious one. In support of this opinion I beg leave to quote an extract from a standard authority, viz., from a lecture delivered at Stirling some time ago by Professor Johnson. He says as follows:—"Now in fattening cattle, as in everything else, using the proper means produces the proper effect: if they wanted to lay on muscle they would feed with food containing the largest amount of gluten: and if they wanted to lay on fat they would give starch and oily substance, and only a small proportion of the other ingredient. Selecting food in any other way would not serve the purpose they had in view in the most economical way. Wheat contained two per cent. of fat, and sometimes a little more, but Oats contained sometimes from four to five per cent., or about double the amount of Wheat. Oats was next to Indian corn in this respect, for it contained a large amount of fat. Gluten was the matter out of which muscle is produced, and there was more of that in the Bean and the Pea than in the Oat; but the Oat was better than Wheat. But there was another kind of food for fattening cattle, namely oilcake, which contains a great amount of fat, than the same weight of any other kind of food. The oil from which oilcake was made, differed from other [illegible] of grain in containing a greater amount of fat and a larger amount of gluten [illegible] the [illegible] of the bean. Now practical men had formed great advantages from feeding their cattle on oil cake, but food, from [illegible] composition, laying on fat and muscle at the [illegible] cake, however, was the best food only [illegible] amount of fat was required, and according [illegible] which they had in view. Farmers would [illegible] other descriptions of food. It was a [illegible] that the Bean and Pea [illegible] wheels of the animal system [illegible] of grain would not serve for that purpose [illegible] tained what made muscle. Although the [illegible] good food, yet they were not good as the [illegible] Besides they would require [illegible] tuents, partly of oil cake [illegible] be far more profitable [illegible] singly. That was the principle upon which [illegible] food was founded, to give all the [illegible] required, and to give them at the [illegible] direction said that very much depended [illegible] the animal to lay on fat or to produce [illegible] quently found that on the same land one [illegible] to lay on fat, whilst at the same time another [illegible] produces muscle, and in this was supported by Mr. [illegible] Mr. DIXON. No doubt many instances [illegible] rence, but we must look upon them as the exception [illegible] the rule, as this did not at present [illegible] portance of the use of mixed food. Mr. [illegible] one thing which I may name very [illegible] subject, and one in which I [illegible] always like to keep the [illegible] them in houses with doors [illegible] recommend; there are cattle which [illegible] open and shut as occasion may require [illegible] perature, but on the whole I [illegible] portance.—Mr. WILSON, as a practical [illegible] warmth, read an extract from Professor [illegible] the subject, showing that warmth [illegible] —Henry Pease, Esq., Mr. Johnson, Mr. [illegible] man, and several other members took part in the [illegible] which was kept up until [illegible]

Farm Memoranda.

THE ISLAND OF LEWIS.—When James Matheson of Achany, now Member of Parliament for Ross-shire, purchased the island of Lewis for a million, most people imagined that he had made a bad bargain. The improvements which Mr. Matheson has effected, however, afford abundant reason not only to hope that the purchase will turn out a profitable one, but that the experiments that have been made, and are in progress in the island, will be attended with great benefit to agriculture in every part of the country. It was our privilege not long since to visit the island—to examine the various plans prepared by Mr. Smith of Deanston, with a view to its improvement, and to note the results of that gentleman's labours during the three years he has been conducting, perhaps, the most gigantic experiment that has yet been made on the barren and mossy soils of Scotland. The island of Lewis contains a surface of 600 square miles—one-fourth of which is mountainous and wet, the other being almost entirely composed of moss, with here and there some undulating surface of blue clay on a rocky bottom. Three years ago Mr. Matheson requested Mr. Smith of Deanston to go over the uncultivated wastes of this territory, and suggest what he considered the best means for bringing it under profitable cultivation. Mr. Smith proposed to lay out a farm in the centre of the island, selecting as the best field for experiment a large tract of moss, bounded on the west by a mountainous range, and on the north flanked by a hill which contained a good supply of clay. Here he measured off 200 acres: divided the space into ten fields or parks, each to be fenced in by substantial turf dykes, and thoroughly drained without either tiles or stones. He employed a practical farmer from Inverness to conduct his scheme; had a few good hedgers and ditchers imported from Argyle, and engaged a number of the fishermen crofters of the island, to cut the drains on a plan which would not cost the proprietor more than 1*l.* to 1*l.* 5*s.* an acre. This farm Mr. Smith called Little Deanston; and should the project succeed, Mr. Smith calculated, that farms thus cleared, and in various sizes, might be let by the proprietor on terms which would induce spirited agriculturists from the mainland to settle on the island. At the time of our visit the experiment was in most hopeful progress. About 100 acres had been farmed and drained, 50 acres lay under crop, and fine Oats, Potatoes, and Turnips could not be desired. Bear had actually been raised which weighed 50 to 51 lbs. a bushel; Oats, 40 to 42 lbs.; the Potatoes were free of disease, and the Turnips would yield from 11 to 15 tons an acre. All this had been done by the simple process of draining, ploughing down a top-dressing of blue clay and shell sand, and sprinkling a small quantity of guano on the soil, or laying it on with the crops. Such has been the result of this and other experiments carried out in different parts of the island, that Mr. Scobie, at a public dinner given to Mr. Smith the other day, in congratulation of his triumph, said, "We now have only to look across in this neighbourhood and see the heavy crop of Turnips on the new drained land. The Tussac Grass is also flourishing here and has cast seed, being the first, if not the only place in Britain, I believe, where the seed has come to perfection. The rapid growth of our Timothy Grass is the wonder of all who visit the island, a specimen of which may be seen immediately behind the lodge, and for the last two years has produced a crop in weight and luxuriance of nature, second to none." The capabilities of moss lands were, to a great extent, demonstrated by the cultivation of Chat-moss, in Lancashire, under the spirited improvements of Mr. Thomas Baines, of Leeds: but it remained for Mr. Smith to show that the moss of the highlands and islands of Scotland may now be turned [illegible] account and that the proprietors of our high-

land wastes might soon enrich themselves, and better the condition of their present miserable tenantry, by following the example which Mr. Matheson has thus set before them.—*W., in the Scottish Farmer.*

Calendar of Operations.

JANUARY.

AMATEUR FARM, NEAR MONMOUTH [90 Acres], *Jan.* 5.—Rainy weather has suspended all operations with the soil. Nearly all the hands, regular and auxiliary, laid up with the influenza; the weakest frames and the most robust are cut down alike. Neither out-of-doors or in-doors occupations make any difference. The last beeves of a lot of 22 go to the butcher's this week, and we shall immediately buy 20 others to put up in the boxes and stalls. We find the Russian Rye-meal an excellent and cheap feeding article, both for cattle and pigs. The outlets to the tile-drains and watercourses on the arable lands have been looked to, and have been found "all right."—*T. D.*

EAST LOTHIAN FARM, *Jan.* 8.—Work upon the farm this week has been much as the preceding, that is, in ploughing lea, &c. In ploughing lea, it ought to have been noticed in a former report, one plough cuts the turf about two or three inches deep and lays it over, another plough follows in the same furrow, about 4 or 5 inches deep in the soil, which is turned over upon the turf; this is a little tedious, but makes sufficient mould for covering the seed, and less work is required with the harrows at the time of sowing.—*S.*

LAMMERMOOR SHEEP FARM.—With the exception of a few heavy gales, accompanied with snow, rain, and sleet, which were of short duration, the weather during the past month has been highly favourable for sheep stock. They have accordingly kept their condition well, and have been remarkably free from disease of any kind. There has been almost no loss among the hogs this autumn from "sickness," which in some seasons carries off great numbers. It is generally alleged that they are most subject to this disease when they are in best condition. This year seems to bear out this idea, as hill hogs are certainly not in such good condition as usual. About the middle of the month the weakest of the hogs were drove out, and put on better keep elsewhere, and will be put on Turnips immediately. Those ewes which have been confined in the parks, and crossed with Leicester tups, are getting one cart-load of Turnips to each 100 daily. This treatment must be continued to them, as they have had the murrain, and we are afraid to turn them among the hill stock, lest they convey the disease to them. Some of the tups were removed from the ewes about three weeks ago, and were immediately put on Turnips to be fed. The rest will be removed next week. The past has been a very favourable tupping season, so that, with a good spring, we may expect a good crop of lambs. The horses have been engaged in ploughing Oat stubble for Turnips, supplying the sheep with Turnips, and carting accumulations of earth and weeds from the sides of fences into heaps, to be afterwards mixed with lime. We have recently constructed two pits to receive the urine from the byres, &c., and filled them with peat ashes, which, after being thoroughly soaked, will be applied to Grass intended for hay, and mixed with guano for Turnips. The cows and young cattle receive an allowance of Turnips daily, and as much Oat straw as they can consume. By and by, they will get hay instead of straw, but we never like to break up the haystacks till the winter is so far gone that there will be little danger of its being required for the sheep in the event of a snow storm.—*A Lammermoor Farmer, Dec.* 31.

NORTH LINCOLNSHIRE FARM, *Jan.* 8.—The men and horses have been occupied since last report as under: Six pair of horses at plough one day, nine pair four days, and seven one day; two single-horse carts at Grimsby for coals and coke; two men wheeling out manure; three boys cutting Turnips for sheep in the field, and one cutting for fourscore put into the pens.—*J. U.*

SOUTH HAMPSHIRE FARM, *Jan.* 6.—The weather still continuing open and mild, we have been enabled to sow Wheat when the weather was favourable. Jan. 1st and 4th we were engaged ploughing, with three two-horse ploughs, for Wheat, where the Turnips had been fed off, and sowing four bushels per acre, which quantity of seed we do not consider too much at this season of the year, as we know of an instance where four bushels per acre of Wheat, sown in January, 1846, produced the great quantity of 56 bushels per acre of threshed corn. Our chief reason for advocating so large a quantity of seed at this period of the season is, because the Wheat leaves the ground quicker in the spring, and proceeds towards maturity much earlier, producing more grain, of better quality, and not so liable to blight and mildew, as, when sown thin, the plant has to make an unusual effort, in the way of tillering, which so much weakens the plant, and so far delays the harvest, that we have seldom seen Wheat sown late and thin of plant, produce a good sample of miller's corn. Some of our horses have been employed in carting cottage manure for the pastures; at intervals they have been ploughing the Wheat stubbles, which operation is now almost completed, and also ploughing after Turnips fed off, as preparation for the Barley crop. Some of our men are still employed in threshing Oats and Barley, which work is more in arrear than usual, the weather having been so favourable for out-door work. Other men are employed cutting underwood, banking, planting quicks, and burning manure heaps, in readiness to apply to the Grass land as soon as frost or dry weather sets in. Our shepherds are still busy with the lambing season, although our horn ewes finished lambing in the month of December, yet in our flock of Southdown ewes we have at least a moiety which have not lambed, indeed we consider ourselves warranted in saying that the Southdown ewes of the best and early lambing flocks are at least from 10 to 14 days later to lamb this year as compared with the year 1846. We employ occasionally 9 horses and carts to carry Swedes to the pastures for Southdown ewes which have not lambed. The Swedes are spread regularly over the land to be consumed, and we have found in former seasons excellent crops of Grass produced by feeding in this way, as where the Turnips are produced by bones, guano, &c., a considerable portion of the manure is attached to the fibrous roots, and the manure taken from the arable land in this way can be very well spared where a full crop of Turnips is produced, and the remaining portion fed off with corn or cake, which is our practice, particularly where a part of the crop of Turnips has been carried away.—*J. B.*

STIRLINGSHIRE CARSE FARM, *Jan.* 8.—We have been employed this week at threshing; carting Turnips for cows and horses; and putting in some door-cleanings to the dung-hill, and such things; the weather being so changeable that we could get little done to the plough, or other out-door work.—*W. F.*

SUSSEX FARM, *Jan.* 10.—Ploughing for Peas and Swedes and subsoiling for Carrots; threshing Oats and Peas; carting stones to repair roads and road-scrapings to cover dung-heaps; Cabbages to cows and Turnips to sheep and cattle; planting Quick and cutting those planted last year; draining, &c. Our young cattle thrive well on cut chaff and a few Swede tops.—*J. B.*

Notices to Correspondents.

AGRICULTURAL GAZETTE—*R, Clonmel*—Many thanks to you; but cannot accept your MS. on your terms. It appears to be a very interesting paper so far as we have read. But we cannot think of inserting what we are not allowed to edit. Your meaning shall remain untouched (what more can you wish?) but we have the communications of too many waiting correspondents now in type to allow of its being published in ten words when two would suffice.

APPLICATION OF LIME—*S G M*—We should have no hesitation in preferring to apply the lime on the Clover before working it for the winter Bean to any other time of your course. The Beans would be greatly the better of it. We never saw lime applied on young Clover; but if it could be applied safely, broadcast, on the Barley stubble—*that* would be the time. Have the winter Beans succeeded in Yorkshire?

CHRONICLES OF A CLAY FARM—*Fodder*—We understand they will be published in a separate form. Our horses eat about 12 lbs. of hay each daily. Does your remaining question refer to hogs?—if so, they will eat from 18 to 24 lbs. of Swedes daily, besides the oilcake.

CHURNS—*H M*—We use for the house a small churn made of *tin*. And we have had them of wood and zinc; and with all, the casualty of the butter "not coming" has been experienced. Temperature has a good deal to do with it, we believe.

DAIRY FARMS—*C O*—We shall be happy to give what information we have or can procure.

EXPENSES—*Amateur*—Low's "Elements of Practical Agriculture" contains details of the cultivation of all ordinarily cultivated crops; and at 2*s.* 6*d.* a day for a horse, 2*s.* a day for a man, and 10*d.* a day for a woman, with 3*s.* 6*d.* per cubic yard for manure, you can easily calculate their cost.

FIXERS OF AMMONIA—*R W*—The sulphate of iron may be applied to the liquid in a tank by placing it in a basket, and every other day or so letting the basket to the bottom and pulling it up again once or twice. Perhaps the best way of applying it to the dung heap would be to pump the tank water over the heap, having first dissolved in it an *excess* of the sulphate.

GAS LIME—*Gas Lime*—You should turn it over and over and make it in a compost with that which will keep it loose, and let the air have free access to it. It will ultimately become chalk, carbonate of magnesia, gypsum, and Epsom salts. It is now along with the pure earths and their carbonates, a compound of lime and magnesia with sulphur and sulphuretted hydrogen and sulphurous acid, and by exposure to air it will absorb oxygen, and all these sulphurs become sulphuric acid, which, uniting with the earths, form gypsum and Epsom salts. By spreading it on the land a month before ploughing it in, you insure its loss of all injurious causticity.

GREAVES—*Amateur*—They are the refuse of the tallow used by the candle-makers.

KOHL RABI—*J Sutton and Sons* of Reading have furnished us with specimens weighing nearly 7 lbs. each. We never doubted the existence of such weights as maxima, but they were put forward as averages, and then we repeat that they are enormous: so far exceeding that of the Swede, except in the case of extraordinary crops, that we must repeat the expression of a doubt.

LINSEED BRUISER—Bond and Co., Ipswich; and Clyburn, Dursley, both have machines which we know to answer.

MR. MECHI'S PUBLISHER—*Lanark*—Longman and Co. Mr. Parkes' Essays, if they are to be had separately from the Journal, may probably be had from Murray.

PATENT INCUBATOR—*D*—Mr. Cantelo, Chiswick, near London. We have no further information. He should advertise.

PIG SECRET—*Old Sub*—We believe it consists in furnishing the pigs with animal matter, grease, greaves, &c.

POND-MUD—*A Lady* need not fear applying it as a dressing to Grass-land. But it would be better allowed to drain and partially dry in a heap, and then mixed with lime at the rate of 30 or 40 bushels to the quantity which it may be intended to apply per acre.

PORK—*R Austin*—The following are the only facts within our experience on the relative weights, live and dead, of *fat* pigs.

	Live weight. per Pig.	Carcase.	Offal.	Proportion of offal to Live weight.
Feb. 1846, Fat sow	640	494	146	9-40ths.
Jan. 1847. 7 Pigs	108	69	39	14-40ths.

Your own case is somewhere between these. You may probably assume that of the 300 lbs. live weight, 100 are offal.

RABBITS—*R N* would be obliged by information in detail on their management.

RIGHT OF ROAD—*Surveyor*—We do not know the law of the subject, and cannot give legal information, but the justice of it plainly is the right of room for one cart to pass another. Any bookseller can obtain a copy of the Highway Act for you if he chooses.

SALT A DESTROYER OF WEEDS—In the winter of 1846-7 I cleaned half an acre of very foul ground, which was very full of weed roots, comprising Dandelion, Dock, Couch, and that abominable nuisance, the wild white Convolvulus. I picked out all the roots and wheeled them into a heap, with the Grass, dead leaves, &c. There were about four one-horse cart-loads. With this I mixed 1 cwt. of black hide salt and 2 cwt. of unslaked lime. I turned the heap twice during the summer. In December, 1847, this was a valuable compost heap. The largest roots were completely destroyed and might be rubbed between the fingers into a rich black mould. This will be excellent manure for Potatoes. I like Cobbett's advice, "Burn nothing." *William E. Bannan, Exeter, Jan.* 8.

SCOUR IN LAMBS—*A Sub*—Your attention must rather be directed to the removal of the cause than the effect. The pasture must be at fault, and requires a change. It may be prudent to commence the treatment by a dose of sulphate of magnesia, about 2 drachms for the age you mention. Cold bathing has been recommended by a writer in the Journal of the Royal Agricultural Society of England for the disease in question. *W. C. S.*

SMALL FARM—*Four years' Reader*—No doubt you may make a profitable thing of it. We farmers in the country should be glad to know of those around London how it is that they are not all as rich as Nabobs. We shall answer in detail as soon as possible.

THRESHING MACHINES—Will any of our readers who are in the habit of using hand threshing machines—say Barrett and Exall's and others—be kind enough to state what quantity of Wheat, Oats, and Barley, of ordinary yield, they actually thresh with them, in a winter's day, say of eight hours, with four men and a boy, and if the men complain of the work being particularly severe. Also to state the price paid to the men for threshing with these machines, per stone or bushel.

MISC—*W D F*—Thanks. As to the Cow-headed Cabbage, our experience of it has only been as a crop to be removed bodily from the land at once—that is, a portion of the field at a time—but we understand that in the South of England and in the Channel Islands it will yield leaves for two or three seasons running. And as to Gorse, there can be no doubt that it *will* grow again, though cut so as only to leave stumps in the land. We were not aware that the spring shoots were bitter. Our advice was to the effect, that the crop might be cut as soon as worth cutting.

*** Communications reaching town after Wednesday cannot be answered the same week.

Markets.

POTATOES, SOUTHWARK, WATERSIDE, Jan. 10.

In consequence of a change of wind these last few days the arrivals from Yorkshire and Wisbeach have been more than usual, but they arrived principally on Saturday, yesterday, and to-day, therefore the effect they will have on the market cannot be ascertained for this report. The following are the present prices:—York Regents, 150s to 160s; secondary, 125s to 130s; Kent and Essex Regents, 110s to 140s; Shaws, 100s to 120s; Kidneys, 120s to 130s; Blues, 110s to 120s; Scotch Reds, 120s; Blues, 110s to 115s; Buffs, 110s to 115s; Dutch Whites, 70s to 90s; Hamburgh, 90s to 110s.

RICH. HARRIS.

COVENT GARDEN, JAN. 15.

The market continues to be well supplied with Vegetables. Winter Fruit also is plentiful, but trade is dull. Pine apples are abundant and good, and Grapes, although scarcer, are sufficient for the demand. Pears and Apples are plentiful, considering the season. Of the former, specimens of Pearce Rance and Ne Plus Meuris may be bought at from 3s. to 4s. per dozen. Oranges, though small in size, continue to improve in quality. Nuts are sufficient for the demand. Filberts sell slowly at from 14s. to 24s. per 100 lbs. Walnuts are scarce. Chestnuts are pretty abundant. Lemons are sufficient for the demand. Of Vegetables, Cauliflowers and Broccoli are plentiful, and Asparagus and Sealkale may be obtained at last week's prices. Carrots and Turnips are good in quality. Potatoes realise good prices. Lettuce and other salading are sufficient for the demand. Mushrooms are cheaper. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Chrysanthemums, Camellias, Fuchsias, Azaleas, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 4s to 6s	Lemons, per 100s, 6s to 14s
Grapes, hothouse, per lb., 6s to 8s	Almonds, per peck, 6s
— Portugal, per lb., 1s to 1s 6d	— sweet, per lb., 2s to 3s
Apples, dessert, per bush., 3s to 6s	Walnuts, per bush. 12s to 18s
— kitchen, p. bush., 2s 6d to 5s	Nuts, Barcelona, per bush., 20s to 22s
Pears, per half sieve, 5s to 8s	— Filberts, per 100 lbs., 12s to 20s
Oranges, per doz., 1s to 2s	— Cob, per 100 lbs., 25s to 30s
— per 100, 4s to 12s	— Brazil, per bush., 12s to 16s
— bitter, per 100, 16s to 18s	Chestnuts, per peck, 3s to 6s
Lemons, per doz., 1s to 2s	

VEGETABLES.

Asparagus, per 100, 2s to 7s	Shallots, per lb., 6d to 9d
Savoys, per doz., 4d to 1s	Garlic, per lb., 8d to 1s
Cabbages, per doz., 6d to 1s	Spinach, per sieve, 1s to 1s 6d
— Red, per doz., 1s to 3s	Sealkale, per punnet, 4d to 2s 6d
Greens, p. doz. bunches, 1s 6d to 2s 6d	Art chokes, Jerusalem, per half sieve, 1s to 1s 6d
Cauliflowers, per doz., 5s to 8s	Lettuce, Cab., per score, 4d to 9d
Broccoli, per bundle, 3d to 3s	— Cos, per score, 9d to 1s
Brussels Sprouts, p. hf. sieve, 1s to 1s 6d	Endive, per score, 1s to 2s
Sorrel, per half sieve, 6d to 9d	Radishes, per doz. bunds, 1s
Potatoes, per ton, 120s to 160s	— Turnip, p. doz. bands, 9d to 1s
— per cwt., 6s to 8s	Mushrooms, per pottle, 9d to 1s 3d
— per bush., 3s 6d to 4s	Rhubarb, per bundle, 1s 6d to 2s
— Kidney, per bu. h., 3s 6d to 4s	Small Salads per punnet, 2d to 3d
Turnips, p. doz. bunch., 1s 6d to 2s	Fennel, per bunch, 2d to 3d
Bed Beet, per doz., 9d to 1s 6d	Savory, per bunch, 3d to 4d
Horse Radish, per bundle, 1s to 4s	Thyme, per bunch, 2d
Cucumbers, each, 1s to 2s	Watercresses, p. 12 small bun., 4d to 6d
Leeks, per doz., 6d to 1s	Parsley, per half sieve, 1s to 1s 6d
Celery, per bundle, 6d to 1s 6d	— Roots, per bundle, 1s to 1s 6d
Carrots, per doz. bunches, 2s to 4s	Mint, green, per bunch, 4d to 6d
Onions, per bush., 2s to 3s	Marjoram, per bunch, 3d to 4d
— Portugal, per doz., 1s to 4s	
— pickling, p. hf. sieve, 2s to 3s	

HOPS, FRIDAY, Jan. 14.

MESSRS. PATTENDEN and SMITH, Hop Factors, report that the market remains the same.

Mid. & East Kents, p. cwt.	70s to 100s	Yearling Kents, p. cwt...	50s to 60s
Weald of Kents	56 — 70	Yearling Sussex	46 — 60
Sussex	56 — 70	Old Hops	20 — 40
Farnhams	84 — 105		

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Jan. 13.

Prime Mead. Hay	68s to 74s	New Hay	.. —s to —s	Straw ..	25s to 28s
Inferior ditto ..	55 65	Clover ..	.. 75 95		
Rowen	45 55	New Clover	.. — —		

JOHN COOPER, Salesman.

CUMBERLAND MARKET, Jan. 13.

Prime Mead. Hay	70s to 75s	Old Clover ..	90s to 95s	Straw ..	28s to 32s
Inferior	30 65	Inferior ..	72 84		
New Hay ..	— —	New Clover ..	— —		

JOSHUA BAKER, Hay Salesman.

WHITECHAPEL, Jan. 13.

Fine Old Hay ..	68s to 72s	Old Clover ..	90s to 95s	Straw ..	24s to 28s
Inferior Hay ..	60 55	Inferior ..	70 75		
New Hay.. ..	63 68	New Clover ..	80 88		

SMITHFIELD, MONDAY, Jan. 10.

We are but moderately supplied with Beasts. The fine morning causes a brisk trade, but we cannot quote prices higher on the average. Some few choice Scots make rather more than 5s. There are a few more Sheep to day, and the trade having been dull in the dead markets during the past week, buyers make a great effort to reduce prices; thus, trade is slow, and anything that is not first-rate makes rather less money. The weather being good, very few remain unsold. The number of Calves is again very small. Friday's quotations are well supported. Trade is rather better for Pigs. From Holland we have 121 Beasts, 470 Sheep, and 16 Calves; from Scotland 100 Beasts, and Ireland, 150.

Per stone of 8 lbs.—	s	d	s	d
Best Scots, Herefords, &c.	4	10 to 5	0	
Best Short Horns	4	6 — 4	8	
Second quality Beasts ..	3	8 — 4	2	
Calves	4	6 — 5	4	
Best Downs & Half-breds	5	0 to 5	2	
Ditto Shorn	....			

Per stone of 8 lbs.—	s	d	s	d
Best Long Wools	4	6 to 4	8	
Ditto Shorn	....			
Ewes and second quality	3	8 — 4	2	
Ditto Shorn	....			
Lambs	....			
Pigs	4	8 — 5	4	

Beasts—2975. Sheep and Lambs—22,600. Calves—81. Pigs—315.

FRIDAY, Jan. 14.

We have not a very large supply of Beasts to-day; it is however adequate to the demand, which is limited, owing to change of weather and full dead markets. All kinds of Beasts must be quoted 2*d.* per 8lbs. lower than on Monday last, nor can a clearance be effected at this reduction. The number of Sheep is by no means large, but for the above reasons there are quite sufficient. Monday's prices are with difficulty obtained. Trade is also dull for Calves. Choice ones, being scarce, still make 5*s.* 4*d.*; but inferior qualities are lower. Pigs meet with a dull sale, at rather less money. We have from Holland, 47 Beasts and 600 Sheep; from Scotland, 240 Beasts; and 125 Milch Cows from the neighbourhood of London.

Per stone of 8 lbs.—	s	d	s	d
Best Scots, Herefords, &c.	4	8 to 4	10	
Best Short Horns	4	4 — 4	6	
Second quality Beasts ..	3	6 — 4	0	
Calves	4	2 — 5	4	
Best Downs & Half-breds	5	0 — 5	2	
Ditto Shorn	....			

Per stone of 8 lbs.—	s	d	s	d
Best Long Wools.....	4	6 — 4	8	
Ditto Shorn	....			
Ewes and second quality	3	8 — 4	2	
Ditto Shorn	....			
Lambs.....	....			
Pigs	4	0 — 5	0	

Beasts—949. Sheep and Lambs—2360. Calves—128. Pigs—310.

41, West Smithfield.

MARK LANE, MONDAY, Jan. 10.

This morning's market was moderately supplied with Wheat from Essex but largely from Kent, and the whole met a tolerable sale at about the prices of this day se'nnight. Foreign was in limited request, but held very firmly. —Fine Barley is firm at our quotations; middling and ordinary qualities are difficult of disposal.—Beans and Peas of all sorts are a free sale, and the turn dearer.—Oats are held for late rates, but business is not active.—Flour is in moderate demand, and unaltered in value.—Rye-meal continues in request.

BRITISH PER IMPERIAL QUARTER.	s	s		s	s
Wheat, Essex, Kent, and Suffolk ..... White	52	61	Red.....	46	54
Norfolk, Lincolnshire, and Yorkshire	48	52	White ..	48	52
Barley, Malting and distilling, 26s to 29s	30	32	Grinding	25	27
Oats, Lincoln and Yorkshire ..... Potatoes	23	29	Feed	21	23
Northumberland and Scotch ..... Feed	32	29	Potato ..	25	30
Irish ..... Feed	30	27	Potato ..	24	30
Malt, pale, ship.....	—	—			
Hertford and Essex	—	—			
Rye.....	28	32			
Beans, Mazagan, old and new .. 28s to 40s.... Tick.	30	42	Harrow..	32	44
Pigeon, Heligoland .. 34 50 .... W. nds	16	54	Longpod ..	32	38
Peas, White..... 40 42 .... Maple	38	40	Grey	35	37

FRIDAY, Jan. 14.

There was a fair supply of English Wheat fresh up for this morning's market, but the trade being dull factors preferred keeping it back for Monday. Foreign was in limited request, but is unaltered in value.—Spring Corn of every description is a slow sale at late prices.

IMPERIAL AVERAGES.

	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Dec. 4	52 1	30 8	22 5	28 11	44 6	48 5
— 11	51 11	30 5	22 4	31 0	42 7	47 7
— 18	52 2	30 7	21 7	31 4	41 6	48 2
— 25	53 0	31 3	21 3	31 1	40 6	44 5
Jan. 1	53 11	31 8	20 7	29 11	39 10	44 10
— 8	53 10	31 7	20 11	31 4	40 8	46 0
Aggregate Average	52 10	31 0	21 6	31 1	41 6	46 9

Duties on Foreign Grain	Free till March 1.					
PAICS.	Dec. 4.	Dec. 11.	Dec. 18.	Dec. 25.	Jan. 1.	Jan. 8.
53s 11d	...	...	...	...	...	...
53 10	...	...	...	...	...	...
53 0	...	...	...	...	...	...
52 2	...	...	...	...	...	...
52 1	...	...	...	...	...	...
51 11	...	...	...	...	...	...

SEEDS, JAN. 14.

Canary ..... per qr.	60s to 68s	Linseed-cakes, Foreign, p. ton, 10l to 11l	
Caraway ..... per cwt.	35 37	Mustard, White, p. bush., 5s 6d to 6s 9d	
Clover, Red, English	— —	Superfine, p. bush.,	— —
— Foreign	— —	Brown, per bush.,	— —
White, English	— —	Rapeseed, Eng., per last.....	28l 30l
— Foreign	— —	Rape-cakes ..... per ton	5l 10s 6l
Coriander.....	10 20	Sainfoin	— —
Hempseed ..... per qr.	34 36	Tares, Eng., winter, p. bsh.,	7s 0 8s 0
Linseed	45 46	— Foreign, per bush.,	4s 6 5s 0
— Baltic.....	41 42	Trefoil	17s 0 21s 0
— Cakes, Eng. p. 1000,	13l 10s to 14l	Turnip—too variable for quotation.	

KINGSFORD and LAY.

Sales by Auction.

TO NOBLEMEN, GENTLEMEN, AND NURSERYMEN.

MR. J. C. STEVENS is favoured with instructions from Messrs. Loddiges, of Hackney (in consequence of the near expiration of the Lease of a part of their Nurseries), to announce for Sale by Auction, early in March, the first portion of their stock of CAMELLIAS, many of which are of unusually fine growth (some 15 feet high), and consisting of most of the favourite varieties, well furnished with Flower-buds. Due notice will be given of the Days of Sale.—38, King street, Covent-garden, Jan. 15.

TO PRIVATE GENTLEMEN, CONNOISSEURS IN BOTANY, FLORISTS, and Others. Mons. Jullan's valuable stock of Rose Trees, Plants, and Effects.

MR. LEWIS, in conjunction with Mr. PRIEST, begs to inform the public that he will sell by Auction, on the premises, Southend-green, Pond-street, Hampstead, on Monday, January 17, at 11 for 12 precisely, 2000 English and Foreign ROSE TREES, 3000 valuable Plants in pots, extensive erections of Hot and Greenhouses, 200 Hand-lights Glazed, quantity of Iron Frames, Syringes, Garden Roller, Agricultural Implements, Newfoundland Dog, Dog Kennels, quantity of Mats, Garden Utensils, and various other items of this extensive Garden, the property of the above celebrated gentleman, selected regardless of expense, and sold without reserve, his term having expired. On view three days previous. Catalogues at the Villa; of C. Lewis, Esq., 9, Grosvenor-street, Bond-street; of Mr. Priest, 2, Claremont-place, Pentonville, and of the Auctioneer.

TO GENTLEMEN, NURSERYMEN, AND FLORISTS.
LARGE SALE OF CAMELLIAS, ACACIA COTTAGE, FULHAM-ROAD.

MESSRS. ROBINS AND CO. are instructed to offer for unreserved Sale on Wednesday, January 26th, 1848, (the house being required for other purposes), upwards of 2000 CAMELLIAS of the finest and most favourite varieties, ranging from 18 inches to 4 feet high, and also a few hundred stocks ready for work. In case the weather should not permit an immediate removal, the plants will be taken every care of, and, if required, they will be packed and delivered at a proper time.—On view three days prior to the sale. Particulars at the place of sale, and at the Pimlico Auction Rooms, 2, South-place.

TO BE DISPOSED OF, a quantity of ONION SEED warranted all to be grown in Bedfordshire, of the last year's growth, at 2s. 6d. per lb., or 13l. per cwt. All Orders, accompanied with a remittance, will be punctually attended to by Robert Aldred Sandy, near Biggleswade, Bedfordshire.

SOMERSETSHIRE.

TO BE LET, from Lady-day next, a compact and desirable FARM, consisting of a modern and very convenient Homestead, and about 100 acres of Land, of which about three-fourths are good Dairy Land, and the remainder Arable, and to which more Land may be added another year, if desired. An active skilful farmer would receive due encouragement from the landlord.—Apply to Mr. T. O. Bennett, Land-agent, Bruton.—Jan. 15.

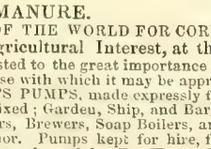
LIQUID MANURE.

ENGLAND INDEPENDENT OF THE WORLD FOR CORN.

THE attention of the Agricultural Interest, at this momentous crisis, is requested to the great importance of LIQUID MANURE, and the ease with which it may be appropriated by the use of FOWLER'S PUMPS, made expressly for the purpose, either portable or fixed; Garden, Ship, and Barge Pumps; also those for Distillers, Brewers, Soap Boilers, and Tanners, for hot and cold liquor. Pumps kept for hire, for Excavations and Wells. Buildings heated by Hot Water, for Horticulture, and every variety of manufacturing purposes.

The Trade supplied on advantageous terms, by Benjamin Fowler, Engineer, &c., 63, Dorset-street, Fleet-street, London.

THE IMPROVED HYDRAULIC RAM, fixed by Freeman Roe, Fountain Maker, 70, Strand, London, can be worked by a small stream of half-an-inch, where a fall of two feet can be obtained. The same RAM, without the aid of a Tank or Cistern, arranged to throw a Jet of Water constituting a Fountain with the head of water beneath.

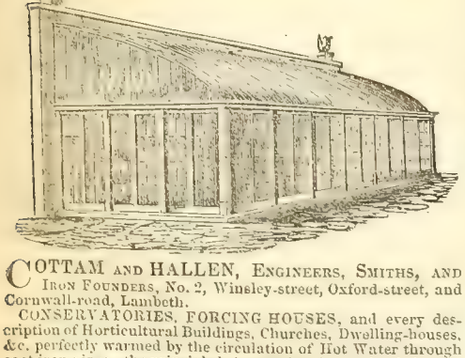


ENGINES FOR DEEP WELLS OF ALL KINDS, DOUCHE AND OTHER BATHS. BUILDINGS HEATED BY HOT WATER. WATER WHEELS to work Small Pumps, from 15l.

Estimates given for the supply of Towns, &c.

A newly invented PORTABLE VAPOUR BATH, all complete for 4l.

WARMING BY HOT WATER, AND ALSO BY AN IMPROVED POLMAISE STOVE.



COTTAM AND HALLEN, Engineers, Smiths, and Iron Founders, No. 2, Winsley-street, Oxford-street, and Cornwall-road, Lambeth.

CONSERVATORIES, FORCING HOUSES, and every description of Horticultural Buildings, Churches, Dwelling-houses, &c. perfectly warmed by the circulation of Hot Water through cast iron pipes; the principle being rendered very simple in construction, effective in operation, and economical in the cost of the apparatus and consumption of fuel—the result of the great experience which C. and H. have obtained by their warming buildings for every possible purpose for many years past.

AN IMPROVED POLMAISE STOVE, exposing a much larger heating surface than flat plates.

Horticultural Buildings erected of Iron or Wood, or of Iron and Wood combined; Verandahs, Ornamental Iron and Wire Work, Hand-glass frames, Flower Stakes, Hurdles, and every description of Fencing; Bedsteads, brass and iron; the patent Rheocline or Spring Bedstead; Stoves, Ranges, Furnishing Ironmongery, Agricultural Implements, &c.

Show Rooms for every description of Iron Work, &c. at the Manufactory, No. 2, Winsley-street, and 76, Oxford-street, three doors from the Princess's Theatre.

IMPROVED FARMING IMPLEMENTS.

THRESHING MACHINES (Four-horse Power) doing from 2 to 5 loads of Wheat straw per day, threshed unbruised, price 50 guineas; ditching carriage and horse power. A CORN MACHINE, hand power, will prepare 60 bushels per day, price 10l. 10s.; WIRE RIDDLE MACHINE will cut 200 bushels per day, price 7l. 7s.; Patent Dressing Machine (7l. 10s.), Turnip Cutters, Turnip Drill, Stubble Rake, Oil Cake Breaker, Iron and Oak Chain Harrows, Iron Ploughs for 2 horses, Wood Plough, Double Land Roller, &c. Seed Machines from 4s. to 3l. 3s. each in any length. References given and testimonials produced of property. Mark Wellall (1), Portland-road.

FLEXIBLE INDIA RUBBER PIPES FOR GARDENING AND AGRICULTURAL PURPOSES.

THE PATENT VULCANISED INDIA RUBBER PIPES AND TUBING are made to stand boiling LIQUOR WITHOUT INJURY, do not become rotten in any temperature (but are always perfectly flexible); and as they require no application of oil or dressing when out of use, are well adapted for Fire engines, Pumps, Brewers', Gas Fitters', Beer-engines, and all purposes where a perfectly flexible pipe is required. Made all sizes, bore of machine opened, and of any length to order.—Sole Manufacturer, J. & L. Hancock, Goswell-mews, Goswell-road, London.

Vulcanised India Rubber Washers, all sizes, for Steam and Hot-water Pipes, and articles of Indiarubber Manufacture generally.

CHEAP AND DURABLE ROOFING.—Houses of all descriptions can be roofed at less than one-half the ordinary cost, by using the

PATENT ASPHALTED ROOFING FELT,
Manufactured by
FRANCIS RITCHIE AND SONS, Belfast,

who also make INODOROUS FELT for lining damp walls under paper in place of lead. Samples, directions, and all necessary information sent free, on application to the Manufacturers, or any of the following Agents:—

Bristol—Tratman, Brothers.
Carlisle—Edward Jobling.
Hull—Thomas Flint.
Liverpool—Chapman, Bowman, and Co.
London—Hay, Anderson, and Sangster, Newington Butts
Hurst and M'Mullen, Seedsmen, 6, Leadenhall-street, London.
Manchester—James Hurst, 11, High-street.
Newcastle-on-Tyne—Richard Warham
Southampton—John Vaux
Whitehaven—Randleson and Forster.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c., of at least 100 sorts and sizes. In addition to the numerous purposes to which it is applied already this material may be moulded into a great variety of articles required either at home or abroad by the nobility, clergy, gentry, architects, civil engineers, and builders; also by owners and occupiers generally of land, mines, railways, buildings, gardens, and other property. See advertisement, with figures, in the Builder of the 2d, 16th, and 30th October, and 13th November last, also the 1st instant. Lists are ready, containing prices, both per number and also per square, per yard, per foot, &c. Applicants would oblige by stating if they want the prices in London or in Staffordshire.—4 Wharf, City-road-basin.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as building and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. White and Sons, Millbank-street, Westminster.

HYDRAULIC ENGINES.

J. LEGG begs to return thanks to his patrons and friends, and also to inform them that he continues to erect his improved Hydraulic Engines, Water Ram, &c., suitable for all situations where a fall can be obtained, also Engines for Deep Wells. J. L. also begs to inform his friends that he has made several improvements on his Hydraulic Machines, and flatters himself that he is able to compete with any parties of the present day in the construction of the above machines.

Apply to John Legg, Cheltenham.

WATER POWER.

W. AND J. GALLOWAY, Engineers, &c., Manchester, beg to intimate to the Proprietors of Waterfalls and others, that they Manufacture WHITELAW'S PATENT SELF-REGULATING TURBINE, or Horizontal Water-wheel, and for simplicity, cheapness, and efficiency, cannot be surpassed by any other kind of Hydraulic Motor hitherto in use, as is proved by those already in operation. Parties wishing to examine these Machines at work, may apply as above.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK AND TILE MACHINE COMPANY (James Smith, Esq., of Beanston, Chairman) invite attention to their IMPROVED BRICK and TILE MACHINES, which are to be seen at work at Alperton, and at the Company's Office, 193A, Piccadilly, from 10 A.M. to 5 P.M. Mr. Robert Scrivener, who has been appointed Manager in the room of Mr. John Ainslie, will show the Machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. William Gordon, Secretary, at the office of the Company, 193A, Piccadilly, London.

These Machines may also be seen at Mr. Slight's, Leith-walk, Edinburgh; Mr. Lawrence Hill, 145, Buchanan-street, Glasgow; Mr. Robert Charles, Mill-hill, Leeds; Messrs. Peaty and Finch, Penkeridge, Staffordshire; and Messrs. Drummond and Son, Dublin.

Most Important to FARMERS, MALTSTERS, MILLERS, SHIPOWNERS, and Others having Storehouses, &c., infested with Rats and Mice.

MOSCROP'S CHEMICAL PASTE, for the complete extirpation of RATS, MICE, and BEETLES. Warranted never to Fail.

This Paste effectually clears all Premises of Rats and Mice most speedily; they take it readily, and leave the Premises never to return, generally dying in the open air, or where there is a supply of water, and other Rats and Mice avoid the Premises in which the Poison which has proved so destructive to their species has been used.

A great advantage this Paste possesses over Poisons usually sold for the destruction of Rats and Mice is, that it contains no Arsenic, is perfectly free from danger to Human Life, and will not destroy Dogs or Cats. Mr. Moscrop has numerous Testimonials of the highest respectability of its success. *Directions*: The Paste is divided into Balls for convenience of use, and some of them should be distributed where most infested with Rats, Mice, or Beetles. Sold in covered Pots, at 6d., 1s., 2s. 6d., and 5s. each, by every respectable Chemist in the Kingdom. A Five Shilling Pot will be sufficient to clear the Premises, however extensive. Prepared only by E. H. Moscrop, Chemist, &c., Godalming, Surrey. Sold Wholesale by the Proprietor: Messrs. Hodgkinsons and Tonge, 218, Upper Thames-street: Messrs. Sutton and Co., 10, Bow Church-yard: Messrs. Evans, Lescher, and Evans, 60, Bartholomew Close, London; and Messrs. Duncan, Flockhart, and Co., Edinburgh.

STRONG PLATE GLASS [illegible] GREENHOUSE ROOF [illegible].

CHARLES D. YOUNG [illegible] COMPANY, [illegible]

MANUFACTURERS [illegible] &c., 126, [illegible]

[illegible] respectfully [illegible] and others [illegible] that they have [illegible] and Young's Patent [illegible] protection, [illegible] the greatest [illegible] Hares and Rabbits [illegible] be unrolled [illegible] pose, to wooden [illegible] or even 5 chains apart. It [illegible] dering Hedges, Paling, or other existing Fences, completely impervious to such [illegible] pieces of three or more [illegible] cient guard, at less [illegible]

18 ins. high, 27 yards [illegible] 1s. 6d.; and 36 ins., 1s. 6d. per lineal yard.

Or a web of [illegible] high, [illegible] wide, will cost [illegible] £1 15 0
Do. of 5 yards [illegible] 5 0 0
Do. of 10 yards [illegible] 9 5 0
Do. of 20 yards [illegible] 17 10 0

If more or less than a web is required, it would be charged at the same rate per yard.

This Netting is [illegible] admirably adapted for Pheasantries and Poultry-yards, and is the [illegible] cheapest. A carriage has, in many instances, been [illegible] distance requiring the Net, C. D. Y. and Co. [illegible] arrangements by which they will be [illegible] at the principal ports of Scotland, England, and Ireland, for One Halfpenny per lineal yard.

C. D. Young and Co. cannot give a better [illegible] of the great strength of their Patent Wire Fencing [illegible] to another that the weight of one yard of their 2 inch [illegible] is equal to 2½ yards of another article in the [illegible] wire, at 6s. per yard. Samples for inspection [illegible]

C. D. Young & Co. [illegible] of IRON and WIRE WORK required for the [illegible] countries.

Workmen sent to any part of [illegible] and Ireland.

VASES, AND OTHER GARDEN ORNAMENTS.—During the [illegible] late Austin and Seeley) will offer [illegible] from his stock at a deduction of [illegible] from the usual prices.

Keppel Row, New-road, Regent's Park.

ANOTHER EXTRAORDINARY CURE of ASTHMA of 14 years' standing by Dr. [illegible]'S PULMONIC WAFERS. Dated High-road, Wednesbury, Staff., 1847.

"Sir,—When I received the first box of Dr. [illegible] Wafers from you, I was labouring under one of the worst fits of asthma to which I have been subject now for about 14 years. My breathing was so very difficult that I expected every inspiration would be my last. As for sleep, that was entirely out of the question, and had been so for several weeks. The first dose of your Pulmonic Wafers gave me great relief; the second [illegible] the first box laid the ground-work for a perfect cure, only four boxes have effected, and I am [illegible] Witness, S. E. BIGNELL." Witness, Mr. I. C. [illegible] Sold by all druggists. To singers and public speakers they are invaluable for strengthening and clearing the voice, [illegible] a most pleasant taste.—Price 1s. 1½d., 2s. 9d., and 11s. per box. Da Silva and Co., 1, Bride-lane, Fleet-street. Sold by all medicine vendors.

KING'S RUSSIAN EMBROCATION, FOR CHILBLAINS, &c.—This [illegible] high estimation by nearly every [illegible] for its efficacy in [illegible] wintry visitants, CHILBLAINS. [illegible] these irritating and painful [illegible] it, and where Children are [illegible] tive blessing to the entire [illegible] as to see the little ones [illegible] without being able to relieve them. [illegible] tion forms an important [illegible] its use the severity of the winter is [illegible] also the most efficacious [illegible] Pains in the Limbs and Nerves, [illegible] tions, Sprains and Bruises, [illegible] the Joints or Neck, Rheumatic [illegible] they are broken it is an infallible cure, [illegible] immediately it is applied.

Prepared by C. King, [illegible] London. Sold by [illegible] and in single bottles [illegible] for 1l. Sold also by [illegible] Edwards, 67, St. Paul's Churchyard; [illegible] Cheapside; Newbery, [illegible] Johnston, 98, Cornhill; [illegible] and Co., 150, Fleet-street; Prout, [illegible] street; Sanger, [illegible] and retail by all [illegible] in every town in England, Ireland, and Scotland, Messrs. J. and R. Menzies and Co., Druggists, Edinburgh.

A SURPRISING CURE OF A BAD COLD THAT HAS SETTLED ON THE LUNGS, BY HOLLOWAY'S PILLS.—Anne Kingston, residing at [illegible] Carnaby Street, Chancery Lane, was reduced to a most [illegible] by a severe cold, that her liver and lungs had become [illegible] affected. When she last attended Parliament [illegible] from her master was told by a medical gentleman [illegible] that every thought she would live to reach home. Her master, [illegible] a friend, brought commended trying her case, [illegible] and Pills with Holloway's ointment, and now [illegible] quite well, after taking twelve a-day, which to the surprise [illegible] Sold by all vendors of medicine throughout the [illegible] world, and at Professor Holloway's Establishment, 244, Strand, London.

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

Patron—His Royal Highness Prince Albert.
President of the Council—Right Hon Earl Bathurst.
Vice-President—Earl Ducie.

All persons desirous of entering Students for the ensuing Session are requested to apply as early as possible to the Principal, who will forward the papers necessary for their admission.—PHILIP BOWES, Secretary.

The Winter Session will commence on the 4th Feb., 1848. New students are expected to attend for examination on the day previous.

London Office, 15, Duke-street, Adelphi.

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

Patron—His Royal Highness Prince Albert.
President of Council—Right Hon. Earl Bathurst.
Vice-President—Right Hon. Earl Ducie.
Principal—John Wilson, F.R.S.E., F.G.S., &c.
Chaplain and First Master—Rev. E. Sendall, B.A.
Second Master—Mr. E. Cockayne.

RESIDENT PROFESSORS.

Agriculture—John Wilson, F.R.S.E.
Chemistry—John Blyth, M.D.
Natural History, Botany, Geology—Jas. Buckman, F.G.S.
Mathematics and Natural Philosophy—Rev. E. Sendall, B.A.
Veterinary Practice—John Robinson, M.R.C.V.S.
Surveying and Farm Accountant—Mr. Cockayne.

OBJECTS.

The object of this Institution is to provide such a course of instruction as will be most useful to the practical Farmer. The benefits to be derived by the Agriculturists from a judicious application of scientific information are becoming more and more extensively acknowledged; while the means of obtaining that information, if, indeed, it can be obtained at all, without for the time sacrificing a due attention to the practical operations of husbandry, are so scattered and costly as to be within the reach of very few. The College course of instruction is conducted in such a manner that, while the student is well based in the principles of each science, its relations with Agriculture are specially touched upon and explained, and their practical application shown, as far as possible, in the operations of the College farm. The theoretical and practical teaching go hand in hand, and the whole is combined with the advantages of collegiate discipline.

The Winter Session will commence on the 4th Feb., 1848. New Students are expected to attend for examination on the day previous.

By order of the Council, PHILIP BOWES, Sec.
London Office, 15, Duke-street, Adelphi.

NEW ZEALAND COMPANY,

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London, 6th January, 1848.

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The Railway Chronicle

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EVENTS OF THE WEEK—CALLS FOR PAST AND APPLICATIONS FOR FUTURE WORKS—NEW PRACTICE ATTEMPTED BY A "CROWNER'S QUEST" JURY—NORTHERN LINES—NOTE ON WRITING AND READING OF STATISTICS—SYMPTOMS OF MINISTERIAL AMENDMENT—"AMENITY" WITNESSES IN SCOTCH LAND CASES—TRAFFIC RESULTS OF 1847.

REPORTS OF MEETINGS—Northampton and Banbury—Jamaica South Midland—Portbury Pier, &c.—Liverpool, Crosby, and Southport—London and South Western (inhabitants of Lambeth).

RAILWAY LITERATURE—Westminster Review: Railway Help in Railway Need—Hon. E. Phipps's Adventures of a 1000*l.* Note.

PROCEEDINGS OF SOCIETIES—Institution of Civil Engineers of Ireland

Stock Fluctuations—Railways opened in 1847—Extent of American Lines.

Progress of Works—Accidents—Law Intelligence—Iron Trade—Meetings—Contracts—Dividends—Calls—Deposits returned—Transfer Books closed—Correspondents—Traffic Table—Share Lists—Foreign ditto—Money Market—Paris Letter—Correspondence: Grimsby Docks—Rouen and Havre—National Gauge and National Defences—Gossip of the Week.

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Fine Art Gossip.—New Façade of Buckingham Palace—M. Gavarni—Council of Royal Academy—Archæological Institute and Stonerood Screen at Christ Church—Death of Mr. H. Lonsdale Elmes—Monster Mausoleum—Bronze Equestrian Statue of Duke of Wellington at Edinburgh and Contracts with Artists.

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THE GARDENERS' CHRONICLE

AND

AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 4.—1848.] SATURDAY, JANUARY 22. [PRICE 6d.

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GARDENERS' BENEVOLENT INSTITUTION.—Notice is hereby given, that the ANNUAL GENERAL MEETING of the Subscribers to this Society will be held on Thursday, 27th January, at the London Coffee-house, Ludgate-hill, for the purpose of receiving the accounts of the Charity for the past year, and electing Officers for the ensuing year. The chair to be taken at 11 o'clock precisely. An election for TWO PENSIONERS on the Funds of this Charity will afterwards take place from among the following Candidates, whose Testimonials have been examined and approved of by the Committee.

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Humphrey Taylor	„ 69	Clapham	1st „

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The RIGHT HON. LORD ROBERT GROSVENOR, M.P., in the Chair.

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Jan. 22.

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HAMMOND'S JERSEY PIPPIN APPLE.
BERNARD SAUNDERS, F.E.B.S., L.B.S., &c., NURSERYMAN, SEEDSMAN, and FLORIST, begs respectfully to announce to amateurs of fine fruit that he is now ready to supply Trees of the above-named APPLE. This fruit was raised by J. Hammond, Esq., of Fantasie, in the Island of Jersey, and was first exhibited at the Royal Jersey Horticultural Society in October, 1839, and was awarded the First Seedling Prize, when the following description was given by the Judges and Committee, who tasted it:—Fruit, middle size, ovate, rather flattened at both ends; eye small, sunk in a shallow cavity a little prominent; stalk [illegible] inserted in a deep cavity; skin greenish yellow on the shady side, changing to a bright orange yellow next the sun; flesh white, tender, crisp, and juicy, of a highly rich saccharine [illegible] flavour. Keeps from October to May and June, and still retains its good qualities. It has since been exhibited at the London Horticultural Society, where it was [illegible] much approved of. Dwarf Trees, 3s. 6d. each. The regular allowance to the trade if three or more are taken. He can also supply Fine Dwarf Trained Peaches and Nectarines [illegible] Apricots at 3s. 6d. each. His collection of [illegible] unrivalled in the Channel Islands. [illegible] upwards of 3[illegible] years he has had [illegible] fruits of every description. [illegible] is requested from unknown correspondents.—Jersey, Jan. 22.

CHARLES DALY AND SON beg to inform the Trade and the Public that they are [illegible] to sell out their large stock of THORN QUICKS [illegible] Seedling, 1s. per 1000, ditto [illegible], 1 to 2 feet, [illegible] per 1000, [illegible] ditto, 2s. 6d. per 1000, 1 year transplanted [illegible] per 1000, 2 years transplanted, [illegible] per 1000. [illegible] per bushel for Cash. [illegible] per bushel, [illegible] 1s. per 1000, [illegible] ditto, 3s. per 1000, 2 years [illegible] 2s. 6d. per 1000, 1 year [illegible] Seedling Sycamore [illegible] Birch, 3s. per 1000 [illegible] 2-years Seedling [illegible] 10s. per 1000; Portugal ditto, [illegible] Rhododendron, [illegible] Irish Yews, 1 to 1½ feet, 25s. per 100 [illegible] furnished Plants, [illegible] per 100; Variegated [illegible] Ash and Elm, 3 to 4 feet, 15s. per 1000 [illegible] per 100; Caronna and Ontario Poplars, [illegible] All kinds of Forest Trees [illegible] by naming any [illegible] London.—Free to Liverpool or Glasgow.—[illegible] Jan. 22, [illegible].

TRAINED TREES.
JAMES LAKE, NURSERYMAN, &c., Bridgewater, has several thousand DWARF TRAINED TREES of the following kinds to dispose of [illegible] at a very low rate, viz. Peaches, Nectarines, Apricots, Pears, Plums, and Apples; also a fine stock of Gooseberries, Currants, Raspberries, and Strawberries, of sorts, all true to name.

CHOICE VEGETABLE AND FLOWER SEEDS.
BASS AND BROWN beg to offer the following, all carefully selected and grown from the best stocks. Their Descriptive Catalogue of Seeds for [illegible] sent on application. Packets of those marked * free by post, or any of the Flower Seeds.

PEAS, 10 quarts for succession, 1 quart of each, with heights stated, including Fairbairn's new Champion of England, and Surprise, British Queen, Hay's Mammoth, Queen of Dwarfs, and other very fine [illegible] sorts, for 12s. [illegible], or 6 quarts do., 1 quart of each, [illegible]. One quart of each of eight fine and esteemed sorts, 6s. 6d.

BEANS, new Thick [illegible] fine [illegible] pods, 1s.; new early [illegible] and new [illegible] Negro, each 1s. per [illegible].

*BEET, very fine [illegible], 6d., White's Dark, 6d.

BROCCOLI, 10 superior sorts, selected for succession, 4s. 6d.; 6 ditto ditto for 3s.

CARROT, early Scarlet Horn and Long Red Surrey, each per oz., 3d.

*CELERY, Monster White, Wonder Red, Seymour's Superb White, and Manchester Red, each per packet, 6d.

*CABBAGE, [illegible] Queen, and other fine sorts, each per packet, 6d.

*CUCUMBER, 4 finest frame varieties for [illegible]; fine prolific hand-glass, 6d. per packet.

*CAULIFLOWER, very fine, [illegible] per packet.

CRESS, extra double curled, 1s. [illegible] per quart.

*LETTUCE, 6 finest sorts, in packets, [illegible].

*MELON, Cutill's [illegible] Scarlet-flesh, and Passingham's Victoria Green-flesh, each 1s. per packet. Several other choice varieties, 6d. per packet.

ONION, best sorts, per oz. [illegible], pickling, 1s. per oz.

*PARSLEY, extra fine triple curled, [illegible] per packet.

*POTATO SEED, with instructions for sowing, early and late varieties, each 1s. per [illegible].

RADISH, [illegible] 1s. per pint; Beck's Superb [illegible] per oz., [illegible].

*SAVOY, extra fine [illegible].

SPINACH, round or prickly, [illegible] per quart.

TURNIP, fine early Snowball and early [illegible] 1s. [illegible] per lb.

And all other sorts of Vegetable Seeds of the best kinds.

A complete collection of Vegetable Seeds of the [illegible] selection, including the best and newest sorts of Peas as above, making 2[illegible] quarts in quantity, [illegible] Cucumber, and all other seeds [illegible] in proportion, for [illegible].

The above collection, in smaller quantities, [illegible].

Ditto ditto [illegible].

A collection, complete, [illegible] for a small garden, 1[illegible]s.

SELECT AND CHOICE FLOWER SEEDS sent free by post, with full directions [illegible] &c.

100 varieties, best and [illegible] including the finest Stocks, Asters, Zinnias, [illegible].

[illegible]

Remittances are requested from unknown correspondents. [illegible] WILLIAM [illegible] Seed and [illegible].

SEED TRADE.

J. G. WAITE'S unrivalled Catalogue of FLOWER SEEDS is now ready, and can be had on application.—181, High Holborn, London, January 22.

DOUBLE ITALIAN TUBEROSE ROOTS, 3s. per Dozen. With Directions for Planting.

ROBERT HALL begs to advise the arrival of his Annual Importation of the above-named Bulbs at his Foreign Warehouse, 63, South Audley-street, Grosvenor-square, facing the chapel. Orders by post punctually attended to, and remittances in postage stamps taken in payment.

FOREIGN WINES, CHAMPAGNE BRANDY, &c. &c.

ROBERT HALL begs to call attention to his curious old pale Champagne Brandy, 60s. per dozen.

	per dozen—s.		per dozen— 26s.
Old Cordial Gin	26	Marsala	
Port Wine	36	Genuine Spruce, for inward strains, bruises, &c., per bottle	2s 6d
Sherry	36		

Samples of which will be forwarded to any part on application, per post or otherwise, at 63, South Audley-street, Grosvenor-square, facing the chapel.

KITCHEN GARDEN SEEDS.—No 1.—A complete collection, consisting of 20 quarts of the best kinds of PEAS, and all other seeds in proportion, and of the best sorts, sufficient for one year's cropping of a large garden the choicest Melons and Cucumbers inclusive)...£3 3s.

No. 2.—Complete collection, in smaller quantities, equally choice sorts ... ...£2 2s.

No. 3.—Ditto Ditto Ditto ...£1 1s.

No. 4.—Ditto (this is sufficient for a gentleman's small garden) ... ...12s. 6d.

No extra charge made for packing.

If there should be any sorts of seeds that would not be wanted in the collection, increased quantities of those most desired would be sent. References will be given if required to some of the principal families in England, Ireland, and Scotland, who purchased collections last season. All orders to be accompanied with a remittance or reference from unknown correspondents.

A General Catalogue of Horticultural and Agricultural Seeds may be had on application.

Seeds carefully packed for exportation.

WM. JAS. EPPS, F.H.S., High-street, and Bower Nursery, Maidstone.

TO CUCUMBER GROWERS.

EDWARD TILEY, NURSERYMAN and SEEDSMAN, begs to offer his superb and unequalled Cucumber, "VICTORY OF BATH." The advantages of this over others are—it is a very handsome fruit, the earliest and most productive bearer, and the quickest grower known; the average length of this Cucumber being from 24 to 30 inches long. It has been awarded more than 30 first prizes at the different Cucumber Shows within the last three years. It is worthy of remark this Cucumber has been successfully grown by Amateurs in the open air without frames against a wall, or trained to trellis, surpassing any of the hardy kinds this season. It will be sent out in packets, 7 seeds, 2s. 6d., or 16 seeds, 5s.

E. T. has seeds of Hamilton Black Spine Cucumber, which he can highly recommend; this has also been very successful at a number of different Exhibitions, and taken many first prizes; length from 24 to 28 inches, and a very handsome fruit. Seven seeds, 2s., or a packet of each of the above seeds, 4s.

The above Cucumbers will be found to be of excellent quality for table, the flesh being firm and of fine flavour.

Parties intending to show at the forthcoming Exhibitions should not delay their orders. It is unnecessary to enter into further properties of the above Cucumbers, having given every satisfaction to purchasers during the last three years.

	Per packet—s. d.		Per packet—s. d.
True Beechwood Melon	1 0	Windsor Prize	1 0
Sweet Ispahan	1 0	True Walcheren Cauliflower Broccoli	1 0
Terry's Prize	1 0		
Emperor Green-flesh	1 0		

Sold at EDWARD TILEY'S General Seed Shop, 16, Pulteney Bridge, Bath. The above will be sent post free, on a remittance of a Post-office order, or the amount in postage stamps.

TO PLANTERS.

W. DRUMMOND AND SONS, NURSERY AND SEEDSMEN, Agricultural Museum, Stirling, have this season to offer a large and well-grown stock of FOREST TREES, &c.

TRANSPLANTED LEADING SORTS.

Oak and Beech, in sizes, 1½ to 3 feet,		per 1000—	20s. to 30s.
Ash, Elm, and Plane	ditto	ditto ,,	16s. to 20s.
Spanish Chestnut	ditto	ditto ,,	25s. to 35s.
Larch Fir	ditto	1 to 2½ feet ,,	10s. 6d. to 16s.
Scotch Fir	ditto	9 to 18 inches ,,	8s. to 10s. 6d.
Norway Spruce	ditto	ditto ,,	12s. to 15s.
Thorns or Quicks,	ditto	2 and 3 years	10s. 6d. to 12s. 6d.

Priced Lists, including Shrubs and Fruit trees, can be had on application.

The Nursery Grounds, consisting of sharp, gravelly soil, produce hardy fibrous-rooted trees, well suited for hill and moor planting. Orders above 5l. will be delivered free at the principal ports of Britain and Ireland.

SEEDS.—CORNER OF HALF-MOON-STREET.

THOMAS GIBBS AND CO.,

(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND," Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

Priced Lists of Agricultural Seeds are always ready, and may be had on application.

PATENT ROUGH PLATE GLASS SLATES.—

Size.	⅛ in. thick. s. d.	¼ in. thick. s. d.	⅜ in. thick. s. d.	½ in. thick. s. d.	
Duchess	24 by 12	1 7	3 2	3 10	4 6 }
Small Imperials	20 by 14	1 7	3 0	3 8	4 4 }
Small Duchess	22 by 12	1 6	2 11	3 6	4 2 }
Countess	20 by 10	1 2	2 3	2 9	3 2 } each.
Viscountess	18 by 10	1 1	2 0	2 5	2 10 }
Large Ladies	16 by 10	1 0	1 9	2 1	2 5 }
Ladies	16 by 8	0 11	1 7	1 11	2 3 }
Doubles	13 by 7	0 8	1 0	1 3	1 5 }

TILES.

⅛ inch thick ..... 0s. 11d. each. | ⅜ inch thick ..... 1s. 7d. each.
¼ ,, ... 1 3 ,, | ½ ,, ... 2 0 ,,

And every description of Glass, at JAMES PHILLIPS and Co.'s, 116, Bishopsgate-street Without.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

VASES, AND OTHER GARDEN ORNAMENTS.—During the months of January and February, J. SEELEY, (late Austin and Seeley) will offer a selection from his stock at a deduction of one-third from the usual prices.

Keppel Row, New-road, Regent's-park.

STRONG HORTICULTURAL 16-oz. SHEET GLASS FOR CONSERVATORIES, GREENHOUSES, PITS, FRAMES, &c.—FURTHER REDUCTION.

HETLEY AND CO. publish Prices in the *Gardeners' Chronicle* the first Saturday in every month. Wholesale and Retail Glass Shade, Sheet, Crown, and Patent Plate Glass Warehouse, 35, Soho-square, London.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND CO., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS SIZES UP TO 40 INCHES LONG.		SMALL SQUARES of SHEET. 4 by 3 and 4½ by 3½..1½d. per ft.	
16 oz. to the foot	3½d. per foot.	5 ,, 3 ,, 5½ ,, 3½..2	,,
21 ,,	5 ,,	6 ,, 4 ,, 6½ ,, 4½..2½	,,
26 ,,	7½ ,,	7 ,, 5 ,, 7½ ,, 5½..2½	,,
32 ,,	10 ,,	8 ,, 6 ,, 8½ ,, 6½..2¾	,,
		Not above 10 ,, 8	,,

GLASS MILK PANS, PROPAGATING GLASSES, AND BEE HIVE GLASSES, carefully packed in Baskets, and sent to any part of the kingdom.

GLASS TILES AND SLATES.

16 oz. ..	0s. 8d.	....	0s. 10d.	26 oz. ..	1 0	....	1s. 4d.
21 oz. ..	0 10	....	1 0	32 oz. ..	1 4	....	1 8

Made to any dimensions.

LACTOMETERS.

For trying the quality of Milk, 4 tubes 7s. 6d., 6 tubes 10s.

PATENT ROUGH PLATE GLASS, about 30 oz. to the foot, from 4d. to 7d. per foot, according to size; well adapted for Conservatories, Offices, and Warehouses, and an excellent substitute for Ground Glass.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors, and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory in New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

HOT-WATER APPARATUS AND HORTICULTURAL BUILDINGS.

DANIEL AND EDWARD BAILEY, of 272, Holborn, construct and erect Hot-water Apparatus for Warming Horticultural Buildings, Dwelling-houses, Churches, and Manufactories, in a simple and efficient manner, at moderate charges. They have erected Apparatus in England, Scotland, and Ireland for many Noblemen and Gentlemen. They had the honour to be employed in heating the ranges of Hothouses and Pits in HER MAJESTY'S NEW GARDENS AT FROGMORE, and in executing the works of the splendid Conservatory erected by the Horticultural Society of London in their gardens at Chiswick, and also in the erection of the Conservatory attached to the Pantheon Bazaar.

D. and E. BAILEY, who were the first to introduce Metallic Curvilinear Hothouses to Horticulturists, erect various descriptions of Horticultural Buildings, and execute all kinds of metal work at their Manufactory, 272, Holborn.

PERUVIAN AND BOLIVIAN GUANO ON SALE,

BY THE ONLY IMPORTERS,
ANTONY GIBBS AND SONS, LONDON;
WM. JOSEPH MYERS AND CO., LIVERPOOL;
And by their Agents,
GIBBS, BRIGHT, AND CO., LIVERPOOL and BRISTOL;
COTESWORTH, POWELL, AND PRYOR, LONDON.

To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

LIQUID MANURE.

ENGLAND INDEPENDENT OF THE WORLD FOR CORN.

THE attention of the Agricultural Interest, at this momentous crisis, is requested to the great importance of LIQUID MANURE, and the ease with which it may be appropriated by the use of FOWLER'S PUMPS, made expressly for the purpose, either portable or fixed; Garden, Ship, and Barge Pumps; also those for Distillers, Brewers, Soap Boilers, and Tanners, for hot and cold liquor. Pumps kept for hire, for Excavations and Wells. Buildings heated by Hot Water, for Horticulture, and every variety of manufacturing purposes.

The Trade supplied on advantageous terms, by BENJAMIN FOWLER, Engineer, &c., 63, Dorset-street, Fleet-street, London.

GUANO—Guano, direct from Import Warehouse, Superphosphate of Lime, Dry Night-soil, Gypsum, Salt, Bone-dust, Sulphuric Acid, Nitrates of Soda and Potash, and every other Manure of known value. Also Horticultural Glass of every description.—For Prices Current, apply to MARK FOTHERGILL, Office 201 A, Stores 40, Upper Thames-street.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK AND TILE MACHINE COMPANY (James Smith, Esq., of Beanston, Chairman) invite attention to their IMPROVED BRICK and TILE MACHINES, which are to be seen at work at Alperton, and at the Company's Office, 193A, Piccadilly, from 10 A.M. to 5 P.M. Mr. Robert Scrivener, who has been appointed Manager in the room of Mr. John Ainslie, will show the Machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, 193A, Piccadilly, London.

These Machines may also be seen at Mr. Slight's, Leith-walk, Edinburgh; Mr. Lawrence Hill, 135, Buchanan-street, Glasgow; Mr. Robert Charles, Mill-hill, Leeds; Messrs. Penny and Finch, Penkeridge, Staffordshire; and Messrs. Drummond and Son, Dublin.

CHEAP AND DURABLE ROOFING.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

F. M'NEILL AND Co., of Lamb's-buildings, Bunhill-row, London, the Manufacturers and only Patentees of THE ASPHALTED FELT FOR ROOFING Houses, Farm Buildings, Shedding, Workshops, and for Garden purposes, to protect Plants from Frost.

At the Great National Agricultural Shows, it is this Felt which has been exhibited and obtained TWO SILVER MEDAL PRIZES, and is the Felt SOLELY patronized and adopted by

HER MAJESTY'S WOODS AND FORESTS,
HONOURABLE BOARD OF ORDNANCE,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE COMMISSIONERS OF CUSTOMS,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANIC GARDENS, REGENT'S PARK,

And on the Estates of the Dukes of Sutherland, Norfolk, Rutland, Newcastle, Northumberland, Buccleuch (at Richmond), the late Earl Spencer, and most of the Nobility and Gentry; and *at the Royal Agricultural Society's House, Hanover-square.*

It is half the price of any other description of Roofing, and effects a great saving of Timber in the construction of Roofs. Made to any length by 32 inches wide.

PRICE ONE PENNY PER SQUARE FOOT.

*** Samples, with Directions for its Use, and Testimonials of seven years' experience, with references to Noblemen, Gentlemen, Architects, and Builders, sent free to any part of the town or country, and orders by post executed.

☞ The Public is cautioned that the only Works in London or Great Britain where the above Roofing is made, are F. M'NEILL AND CO'S Patent Felt Manufactory, Lamb's-buildings, Bunhill-row, London, where roofs covered with the Felt may be seen.

The new Vice-Chancellor's Courts, at the entrance to Westminster Hall, were roofed with F. M'NEILL and Co.'s Felt about two years since, under the Surveyorship of Chas. Barry, Esq., R.A. Her Majesty's Commissioners of Woods and Forests are so satisfied with the result that they have ordered the Committee Rooms at the Houses of Parliament to be roofed with their Felt. Quantity altogether used, 24,000 feet.

Note.—Consumers sending direct to the Factory can be supplied in lengths best suited to their Roofs, so that they pay for no more than they require.

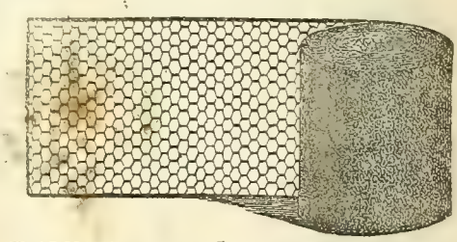
Every information afforded on the construction of Roofs, or any proposed particular application of the Felt.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as building and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

IMPROVED FARMING IMPLEMENTS.

THRESHING MACHINES (Four-horse Power) doing from 25 to 35 loads of Wheat-straw per day—straw undamaged, price 60 guineas, including carriage and horse-power. A GORSE MACHINE, hand labour, will prepare 50 bushels per day, price 10l. 10s.; WEDLAKE'S CHAFF MACHINE will cut 200 bushels per day, price 7l. 7s; Horse Hoe, Dressing Machine (7l. 10s.), TURNIP CUTTER, Turnip Drill, Stubble Rake, Oil-Cake Breaker, Bean and Oat Crushers, Essex Ploughs for 2 horses, Subsoil Plough, Double Field Roller, &c. Seed Machines from 3l. 6s. to 3l. 10s., according to length. References given and testimonials produced of superiority.—MARY WEDLAKE, 118, Fenchurch-street.



BARNARD AND BISHOP, Market-place, Norwich, MANUFACTURERS OF WIRE-GAME NET, STRAINED WIRE CATTLE AND DEER FENCES, IRON HURDLES, GATES, &c. &c., respectfully invite the attention of the Nobility and Gentry to their WIRE GAME NET, which for cheapness and durability will be found the most economical article yet introduced for the preservation of Gardens and Young Plantations from hares, rabbits, &c. &c.

It is sent out in Rolls of 50 yards, or any other length, at prices as under:—

2-inch mesh, 24 inches wide	...	...	6d. per yard.
2-inch do.	do.	stronger ...	7½d. ,,
1⅝-inch do.	do.	... ...	7d. ,,
1⅝-inch do.	do.	stronger ...	9d. ,,

Any width can be made at proportionate prices; and also, if required, the lower half can be made of a fine, and the upper of a coarse mesh, which greatly reduces the price.

A finer description for Aviaries, Pheasantries, &c., sparrow proof, 3d. per square foot; or, if made in copper, at 5d. per foot. The Iron Wire Net is twice dipped in anti-corrosive composition, and sent free to London or Hull.

Patterns can be forwarded per post, free of expence.

FLEXIBLE INDIA RUBBER PIPES, FOR GARDENING AND AGRICULTURAL PURPOSES.

THE PATENT VULCANISED INDIA RUBBER PIPES AND TUBING are made to stand BOILING LIQUOR WITHOUT INJURY, do not become stiff or hard in any temperature (but are always perfectly flexible); and as they require no application of oil or dressing when out of use, are well adapted for Fire-engines, Pumps, Brewers' use, Gas Fitters, Beer-engines, and all purposes where a perfectly flexible pipe is required. Made all sizes, from ¼ inch bore upwards, and of any length to order.—Sole Manufacturer, JAS. LYNE HANCOCK, Goswell-mews, Goswell-road, London.

Vulcanised India Rubber Washers, all sizes for Steam and Hot-water Pipes, and articles of India-rubber Manufacture generally.

THE BEST REMEDY FOR INDIGESTION.

NORTON'S CAMOMILE PILLS are confidently recommended as a simple but certain remedy to all who suffer from Indigestion, Sick Headache, Bilious and Liver Complaints; they act as powerful tonic and gentle aperient, imparting strength to the stomach and composure to the nervous system. Sold in bottles at 1s. 1½d. or 2s. 9d. each, by A. WILLOUGHBY and Co., late B. G. Windus, 61, Bishopsgate Without, and nearly all Medicine Venders. Be sure to ask for NORTON'S PILLS, and do not be persuaded to purchase an imitation.

CORNWELL'S VICTORIA RASPBERRY — Prizes were awarded to it at the Horticultural Society's Garden, Chiswick; Royal Botanic Society's Garden, Regent's-park; and Surrey Zoological Gardens, as being the best for size, colour, and flavour. Plants to be had of GEORGE CORNWELL, Market-gardener, opposite to the Red Lion, Barnet; GEORGE CHARLWOOD, Covent-garden; and W. and J. NOBLE, 152, Fleet-street, at 2l. per 100, or 6s. per dozen. The Fruit in Covent-garden brought a higher price than any other.

SPRUCE FIRS, HOLLIES, AND LAURELS for Sale, at JOHN CATTELL'S Nursery, Westerham, Kent.
7000 SPRUCE FIRS, 6 to 10 feet. 5000 HOLLIES, 3 to 4 feet.
4000 LAURELS, Common, 3 to 5 feet.
1000 Ditto Portugal, round and handsome, 3 to 4 feet.
All the above have been several times transplanted. Stout and good.

The Gardeners' Chronicle.

SATURDAY, JANUARY 22, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

MONDAY,	Jan.	24—Entomological (Anniversary)	8 P.M.
WEDNESDAY	—	26—Microscopical	8 P.M.
TUESDAY,	Feb.	1—Linnean	8 P.M.
WEDNESDAY,	—	2—Society of Arts	8 P.M.
FRIDAY,	—	4—Botanical	8 P.M.

A STATEMENT was copied into our Paper of the 8th of January from the "Art-Union Journal," relative to the occurrence of the POTATO BOTRYTIS ON SILK, which had been manufactured with size prepared with starch from diseased Potatoes. This supposed fact had already been recorded by Mr. EDWIN SIDNEY in his interesting little tract on the "Blights of Wheat and their Remedies," and as we believe it to be incorrect, and the physiological tracing of the subject is not without importance, we take an early opportunity of stating what we know on the matter, and of fulfilling our pledge of making a few observations on the mildew of paper and some other manufactured substances.

A specimen of the silk in question was submitted to us by Dr. HOOKER, and afterwards a second, but so far from detecting the peculiar mould of the Potato, we could with difficulty find a few very delicate threads of mycelium without any fructification. As it was possible, however, that the mould might have been injured by friction in the course of transmission by post, we applied to Mr. J. D. C. SOWERBY, who had also examined it, and ascertained that so far from finding so fine a species as the Botrytis infestans, he had detected nothing more than extremely short flocci rising from the mycelium, bearing a single very minute globose spore, which doubtless exhibited the early state of some Penicillium, to the presence of which genus a very great proportion of the cases of similar mildew are attributable.

Penicillium glaucum is developed wherever organic substances are in fitting conditions of moisture and temperature, and books are constantly injured by its growth, on which it produces spots or continuous patches. There are, however, a great variety of fungi, which, according to the varying conditions of heat and moisture, are produced on paper, linen, parchment, &c., such as species of Myxotrichum, Chætomium, Oidium, Sporocybe, &c. Linen which has been impregnated with fatty substances, when imperfectly washed and laid by, produces sometimes Cladosporium or allied forms.

Mildew does not, however, always arise from the action of fungi; it is sometimes purely chemical. Specimens of black crape were submitted to Dr. MONTAGNE at Paris, and which we had an opportunity of inspecting, which were covered with little rusty spots that did not exhibit the slightest trace of mould under the very highest magnifying powers; and such is certainly the case with many instances of mildew in manufactured goods. We lately had an opportunity of examining a piece of fustian which had been accidentally exposed for a few seconds to a shower, and the whole of the piece, though closely folded, was spotted, and evidently by some chemical action.

In most cases it will perhaps be found that the mildewed goods have been exposed to moisture, for the action of gases would probably be more general. It is very possible that the growth of mould might be prevented by the admixture of a proper proportion of corrosive sublimate, or some salt of copper, but it would be necessary to inquire first whether any injurious effect might be produced, and in many instances the practice would be incompatible with the chemical substances used in dyeing.

It has been supposed that the use of strong scented oils, or of Russian leather, would prevent mildew in books and engravings, but this is very problematical, and we can by experience assert that books bound in Russian leather are quite as subject to mildew as any others. —*M. J. B.*

WE have received from a nurseryman at New York the following letter concerning the ORCHARD FRUIT of the United States, upon which we feel it our duty to offer some observations.

"In sending you a catalogue of American productions, I deem it of high importance to call your attention to a subject which, from most *culpable apathy and want of enterprise*, has not hitherto received that attention which it most justly merits. I refer to the introduction to the northern countries of Europe of all the hardy and estimable varieties of garden and orchard fruits, and of table and wine Grapes, which have originated in North America, and especially within the United States. On the annexed sheet you will find a schedule enumerating the varieties of each family of fruits that have originated here, the greater part of which are entirely unknown in Europe, save the specimens of some portion which are found in the garden of the London Horticultural Society; and on the score of their *great hardihood*, and the ease with which they may be cultivated, unprotected, even in the high northern latitudes of Europe, there seems to be an *utter lack of information*. Even the Peaches of this country may be thus cultivated far to the north, and one successful Vineyard, at least, of American Grapes already exists in Germany; while Professor Otto, of Berlin, has publicly commented on the successful culture of American Grapes in the vicinity of that metropolis. Recently there seems some awakening on this subject in that country, at least, as orders have been sent to America for every indigenous species and variety of the Grape. Permit me to tell you that we have varieties suited to every northern country of Europe, and which will there flourish and produce fruit for the table and wine *equal to the best that was ever landed on your shores*, and in quantity from four to tenfold that which is deemed a fair crop in France. More than 100 indigenous varieties of the Grape are already cultivated in our nursery collections, and in our rising Vineyards; and singular as may be the prediction, we feel assured of its verification, that 20 years hence the *north of Europe will be seen spotted over with innumerable Vineyards*, formed of American Grapes, rivalling in their abundant produce, and in the *exquisite flavour* of their wines, the finest Vineyards of France, Spain, Portugal, and Italy. I send the preceding as a communication for the *Gardeners' Chronicle*. You have been rather unfortunate in the specimens of American horticultural and pomological knowledge of the genus *homo* that have visited your country of late."

We do not say that this letter was written otherwise than in good faith; but we certainly regard it as peculiarly calculated to mislead persons unacquainted with the facts to which it refers.

The writer sets out with alleging that "culpable apathy and want of enterprise" are chargeable upon some one for not promoting the introduction of American fruits into this country. If that charge applies to anybody it is to ourselves, who might have effectually served the purpose of the American nurserymen, had we been so minded. If we have not done so it has certainly not been for "utter lack of information," but for another reason. We believe the American Orchard Fruits to be either inferior to our own, or quite unsuited to our climate, and therefore in either case unworthy of being introduced to the notice of English gardeners. Let us add that we wholly disbelieve the flaming accounts of the wonderful results obtained in United States Vineyards and Orchards, as they are reported in the American periodicals.

The terms good and bad in matters of taste are relative; they express no positive quality, and therefore when we hear of the admirable flavour or exquisite beauty of an object our first enquiry should be into the means of comparison possessed by the person who uses the terms. To a Suffolk labourer his hard beer and horny cheese are nectar and Ambrosia; our ancestors revelled in muddy metheglin and the coarse flesh of the porpoise; an Esquimaux thinks nothing equal to a rancid whale; and we have no doubt that each of them would be astonished at their taste being called in question. In like manner the Americans imagine their native Grapes to be incomparable; they have probably acquired a taste for them in the absence of better. We should describe them as bags of gum arabic flavoured with the extract of a fox's skin. Such as we have tasted can only be described by one word, and that is—execrable. Admitting them to be in some cases better than we have described, they are still commercially worthless, unless they are superior to our Sweetwaters, Hamburghs, and Muscats.

Our correspondent speaks triumphantly of the wine, which he asserts is "equal to the best ever landed on the shores of England." Upon that point we can only say, that if we are to judge from samples sent to England from an eminent United States Horticultural Society, on account of their supposed excellence, the wine also can only be fitly designated by the same name as the Grapes. It was not even good vinegar.

That the North American orchard fruits are hardy is undoubted, if by that term is meant the power of withstanding winter frost. They are uselessly hardy, because we have no such winters as those of the United States. But if our correspondent intends to say that they are capable of ripening in a worse summer than other kinds, then, in that case, we must observe that his statement is directly at variance with experience. The fact is, that our summers are too short and too cold and too damp for the orchard fruits of North America, as well as for many of their forest trees. Our esteemed correspondent, the Comte de Paris, calls the earliest of their Peaches, the Oldmixon Free, "a poor late variety, not worth cultivation." Their highly vaunted Apples have not one of them the quality of extraction that has been found worth cultivating. The famous Newtown Pippin never acquires its naturally admirable quality; and others are, in this climate, inferior to our own. We have not one American Plum that is esteemed. The Virginian; and among Pears, the Seckle, a small and [illegible] variety—is the only one known to us worth growing.

Such being the ascertained fact, we are bound to warn our readers against being induced by exaggerated statements to lay out their money in purchasing American orchard fruits. They can only be disappointed so long as the mean of the lowest month is 64°. 40 in London — and 40. 70 in New York. They will find it far better to make their purchases among the highly respectable nurserymen of the United Kingdom.

ON THE VEGETATION OF BOTRYTIS INFESTANS IN THE INTERIOR OF TOMATOES.

By M. PAYEN.

A FORTNIGHT since a number of hard-ripe Tomatoes were sent me by M. Magenot, infested with a disease which appeared to him analogous to that which characterises the Potato murrain. The substance of a russet brown colour, had consolidated the tissues, more or less deeply, round the point of insertion of the stalk; under the microscope granules, accompanied by traces of flexuose filaments, appeared in the intercellular passages, round the cells, and in their cavities. This granular mass abounded more in mineral and fat azotized substances than the surrounding healthy green or red tissues. The partial destruction of sugar, white matter and starch was very evident in the diseased zones, as also the evaporation of a part of the water, and the disengagement of carbonic acid which filled the cavities resulting from the destruction of the solid and fluid substances.

These effects, similar to those produced by different species of parasitical fungi, accorded with the first external appearances observed by M. Magenot, as also with the properties often recognised, since 1845, in the granular red matter, viz., resistance to the continued action of boiling water, and the persistence of its incineration; while the healthy surrounding tissues yield to the progress of fermentation and separate cell from cell by spontaneous putrefaction.

This series of physical characters, of immediate and elementary structure, of special properties and reactions concurred to show in the fruit under observation a disease transmitted beyond doubt by the leaves and stems which had received it from outward agents.

That this disease was analogous to that of Potatoes, was but an additional fact observed in a plant so closely allied to Solanum tuberosum, that the graft of one upon the other produces tubers below, and Tomatoes above.

The fact might indeed appear less remarkable on account of this close affinity than the similar decomposition observed; 1st, in Turnips in 1845, by Mr. Berkeley; 2dly, in Beet-root at the same period, by Dr. Montagne; and, 3dly, in 1846 in the same vegetables, and also in Carrots and Orchises, as reported by its correspondents to the Royal and Central Society of Agriculture.

All these facts prove that the influence of general causes irregularly distributed over immense tracts of country has been able to affect in an especial manner the Potato crop at similar epochs of vegetation these extensive phenomena being renewed every year since 1843 in the United States and Ireland; and since 1845 in Belgium and France), and in the same seasons, though in a far less degree, to attack different plants which presented, by their feculent or saccharine principles, a matrix fit for the development of similar parasitic agents.* A peculiar circumstance however in the disease of Tomatoes appeared to be more worthy of attention. At the moment when I divided the fruit at intervals of one or two days, I observed in the cavity which the action of the russet substance had formed,† groups of white filaments, developed in the spaces where air could have arrived only by infiltration through thick tissues, which were free from all solution of continuity. Under such circumstances it appeared difficult for the spores to have penetrated from without. I observed under the microscope, with the help of certain reagents, the forms and properties of these minute vegetables immediately after the dissection of each Tomato. All presented identical forms, characters, and properties.

* Mr. Berkeley, for instance, asserts that the agent of the destruction of the Potatoes is Botrytis infestans first pointed out by Dr. Montagne, and studied as regards its effects on Potatoes by Dr. Morren; whilst the foliage and then the fleshy roots of Turnips were destroyed by the influence of Botrytis parasitica.

† Mr. Berkeley has observed in the course of last November Botrytis infestans produced under the same circumstances as M. Payen. It was not, however, confined to the diseased cavities, but was abundant on the smooth surface of those portions of the cavities or the fruit which were not occupied by the placenta. The external surface of the fruit exhibited precisely the spotted blotchy depressions characteristic of the Potato murrain.—*Ed.*

The branched threads bear at their extremities scattered isolated ovoid spores terminated at the apices of their major axis by a protuberance, the one mamillæform, the other cylindrical. The spores are filled with a granular substance, which is contracted and becomes of a yellow orange by the application of iodine; but extensible by sulphuric acid, which causes it to swell till it bursts its envelope. This endospore is formed of a soft azotized substance, containing fatty salt and inorganic principles, analogous to that which fills more or less a portion of the branched tubular flocci, a substance offering the closest analogy with the granular matter, which seems in fact to proceed from the stems of the Botrytis, or to serve as their support, and to be in connection with the granular matter introduced into the fruit.

This little mould then may perhaps constitute the regular organic development and fructification of the granular matter which has itself proceeded from a similar vegetable, and has introduced itself into the current of the circulation from the leaves even to the fruit

The exclusive presence of the same fungus in every Tomato examined should seem to support this hypothesis; the development of various moulds in the course of a few hours on all the Tomatoes exposed to the free air would indicate that before the division of the fruit, the spores of similar vegetables had not been able to introduce themselves. Without pretending to proceed in this difficult matter beyond certain results sufficiently positive to testify at least my efforts in the cause of truth, I thought that I ought to submit the probability of the analogy I had suspected to a more rigorous proof. I went therefore to Dr. Montagne, to compare the Tomato fungus with the Botrytis infestans, to which that naturalist had attributed since 1845 the principle agency in the destruction of Potatoes.

My sketches, compared with those of Dr. Montagne, and which were engraved in the memoir of Mr. Berkeley, offered so complete a resemblance, that we were forced to recognise a complete identity rather than a close affinity between the two species. This curious coincidence seemed to me worthy of being communicated to the academy. I shall profit by future opportunities of verifying experimentally the hypothesis* which the preceding facts have suggested. If this hypothesis prove just, we may conclude on the one side that organographists were right in refusing to recognise ordinary vegetable forms in the russet substance which infests and exhausts the tissues of the tubers; on the other hand, that other botanists were not deceived in attributing the origin of the infection to a Cryptogamic vegetable.

Finally, according to the same hypothesis, the properties, the immediate composition, and the chemical reaction, determinate in every case, belong to an organism endowed with vital functions, although the proper envelopes from which it emanates are replaced by the walls of cells between and within which it evidently insinuates itself, which it consolidates, and where it produces the reactions of a true parasite.

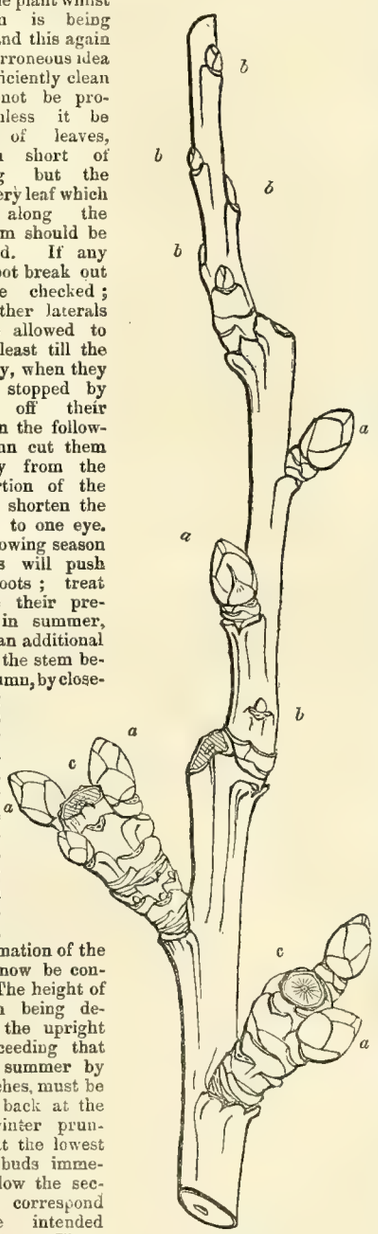
M. Payen, in reply to a question of M. Thénard, stated that insects appear in Potatoes, like putrefaction, subsequent only to the appearance of disease. He also stated that a comparison of all the observations made to the central board of agriculture showed that no soil whatever, locality, aspect, or variety, was exempt from the evil, but that nevertheless its effects might be materially diminished by getting the crop as forward as possible, by using up immediately the infected tubers, by proper variation of the course of cropping, and by avoiding or diminishing all causes of injury to the plants.—*Comptes Rendus, Oct.* 18, 1847.

PRUNING.—THE APPLE TREE.

THE Apple tree, left to its natural growth, forms generally a low stem, branching out into a top, which ultimately becomes hemispherical, towards the outside of which fruit-spurs, leaves, and fruit are most abundant; to support these, the branches interiorly may be considered as a sort of frame-work, for they are often destitute of spurs or foliage. In pruning and training it is necessary to bear this natural tendency of growth constantly in mind; for although that tendency may be subdued or diverted to suit the purposes of cultivation, yet it cannot be annihilated whilst the trees are young, and as vigorous as they ought to be. A tree may be prevented from growing up with a single stem by cutting back; then several shoots usually result, and these become so many smaller stems, if not interfered with. Like the individual stem they are not disposed to bear fruit; their tendency is to be merely pillars or supporters of a system of elevated ramifications, at the extremities of which fructification naturally takes place. Being aware of this, the operations of pruning and training necessary to be performed when the tree is to be grown in any particular form different from its natural habit, will be better understood. The modes in which the Apple tree is grown are numerous. The principal are, as standards, open dwarfs, pyramids, trained against espaliers, and against walls.

A *Standard*, properly managed, should have a clean, straight, and substantial stem. By substantiality of stem is here meant a structure capable of supporting itself without bending, and hence not requiring the aid of stakes. In general, this property is too little thought of; or, at its expense, the other properties are endeavoured to be obtained. The following will illustrate this. Supposing it were required to grow an Apple tree with a stem (if such it might be called) 15 feet in length, yet nowhere more than an inch in diameter; the way to effect this would be to train a maiden plant to a rod, taking care to allow no side-shoots to grow, nor any leaves, excepting a very few at top. By adopting a similar proceeding year after year, the stem will reach the height above-mentioned, and be like a slender, flexible rod, almost of uniform thickness, which would instantly bend to the ground on being deprived of its support. It must be considered a work of misapplied art; for naturally the plant would have put forth side-shoots and leaves as it advanced; and these leaves would have contributed to the formation of layers of wood, increasing the thickness of the base; thus the stem would have become an elongated cone, a form adapted for self-support.

From what has been stated it is obvious that the necessity for stakes is owing to the improper management of the plant whilst the stem is being reared; and this again from the erroneous idea that a sufficiently clean stem cannot be produced unless it be stripped of leaves, twigs, in short of everything but the bark. Every leaf which appears along the young stem should be encouraged. If any strong shoot break out let it be checked; but all other laterals should be allowed to go on at least till the end of July, when they may be stopped by pinching off their points. In the following autumn cut them off closely from the lower portion of the stem, and shorten the rest back to one eye. In the following season these eyes will push fresh shoots; treat them like their predecessors in summer, and clear an additional portion of the stem below, in autumn, by closely cutting the laterals which may have pushed therefrom. By this mode of procedure self-supporting stems can be generally insured.



a a a a a a, blossom buds; *b b b b b*, wood buds; *c c*, scars where fruit was attached last season.

The formation of the top must now be considered. The height of clear stem being determined, the upright leader exceeding that height in summer by several inches, must be shortened back at the ensuing winter pruning, so that the lowest of three buds immediately below the section shall correspond with the intended height of stem. These three buds will give rise to three shoots, which should be encouraged for the commencement of the branches of the tree. Each of them, as they proceed in growth, should be made to diverge at an angle of about 45°, or half way between the horizontal and perpendicular directions; and, at the same time, the shoots should be kept equidistant from each other. At the winter pruning, they should be shortened to within 9 inches or a foot of their bases, particularly observing to cut above two buds pointing outwards in the direction which it would be desirable the shoots proceeding from them should take. Six limbs will be thus originated. Again a little attention in summer will ensure an equal divergence of the shoots from the perpendicular, and equal distances from each other. Meanwhile, a gradual divestment of the temporary shoots on the stem is presumed to have annually taken place, as above recommended. The scars resulting from the suppression of those on the lower part of the stem will have nearly, or quite healed over; for this process will be greatly accelerated by the action of leaves on shoots left above. It may be observed, that after all these temporary shoots are removed from the stem, their beneficial effects continue; for the roots formed by their agency still remain to contribute to the future growth of the tree.

After the principal branches have been started, it would be well to regulate the growth of the top for a few years longer, by checking, about midsummer, any shoots that are over-luxuriant, or that are taking a wrong direction. Afterwards, little pruning will be required. The branches should be kept thin enough to admit sufficient sun and air; and after bearing heavy crops, portions of the extremities should be a little shortened. ||

* This hypothesis should seem to accord with that put forth by De Candolle on the mode of infection of corn by the spores of parasites. It may also help to explain a very curious fact analogous to that which is the object of this notice, viz a fungus found by Réver near Montagne on the yoke of an uncracked egg.—*Archives de Botanique Comparée.*

EXTRACTS FROM MY NOTE-BOOK.

(*Continued from page* 700, 1847.)

Lavatera arborea, L.— This biennial is worthy of cultivation either singly or in beds, its erect tree-like stems, large leaves, and numerous branches, producing a profusion of flowers for several months, make it a plant to be desired. Being a sea-side plant, severe winters sometimes kill it when young; it might, however, be taken up in autumn, potted in small pots, and placed in a cold frame, transplanting it in the open borders again in spring. It vegetates freely from seeds, which are produced in abundance, and it will grow in any common garden soil.

Vaccinium uliginosum, L.—By some oversight the plant noticed under this name at page 700, 1847, ought to have been Oxycoccos, L., or common Cranberry. V. uliginosum is a shrub which grows to the height of three or four feet in peat soil, flowering freely, and produces abundance of fruit. It is, however, a plant of little beauty.

Clover Dodder.—I mention this again in consequence of its having been stated that it ripens seeds in England; but if my article on this subject is referred to, it will be found that the plant I spoke of as not ripening seeds was growing on Pelargonium triste, and, of course, under artificial conditions. I know that in Clover fields, if not early eradicated, it ripens seeds too abundantly, which I am sorry to say, as Professor Henslow has proved (p. 670), will vegetate.

Isnardia palustris, L.—This aquatic grows freely potted in loam and immersed in a pan of water. It must, however, be placed where the water does not become frozen. It is easily increased.

Subularia aquatica, L.—This requires to be potted in sandy peat, and to be immersed in a pan of water, which must not be allowed to freeze.

Isoetes lacustris, L., should be potted in sandy peat and immersed in a pan of water, placing the plant 6 inches under the surface. It likes a shaded part of a greenhouse.

Campanula hederacea, L. (Wahlenbergia hederacea, Reich.).—A humble but beautiful object when potted in sandy peat and placed in a shaded situation; it covers the whole surface of the pot and flowers freely. It may also be successfully grown in a shaded peat border; but in this situation it will require some looking after in winter, such as to see that it is not upraised by frost. It is capable of being increased to any extent by division.

Dryas octopetala, L.—In a shaded situation in peat or light sandy soil this grows freely, spreading slowly and rooting in the soil as it creeps along. It blooms freely, and after it has been established two or three years may be divided to a considerable extent. It may also be cultivated successfully in pots in peat and loam. Pots, however, are unnecessary where a suitable soil and situation can be obtained.

Pulmonaria maritima, L. (Lithospermum maritimum, Lehm.).—This is one of our most ornamental British plants for rockwork; it should be planted in peat and loam, mixed with stones or brickbats, which should be placed firmly about its roots. When established it will spread its stems over the stones and flower profusely for a considerable time. It does not like to be disturbed, but young plants may be raised from seeds.

Convolvulus Soldanella, L.—This, like the last, is an inhabitant of the sea coast. It succeeds well on rockwork, where it should be planted in light sandy loam; it sends its stoloniferous roots amongst the stones, and flowers pretty freely. When fairly established it may be readily increased.

Saxifraga stellaris, L.—This may be grown in pots in peat and sand. The soil should be shaken clean from its roots every spring, and it should then be potted a little deeper, in order to induce it to make fresh roots on the top. It may be divided at the same time. It will also succeed in the open ground in a light damp soil, and it should be replanted every year in spring.

Alyssum calycinum, L., is rather a rare British annual, which sends up hundreds of seedlings which survive the winter and flower freely in the ensuing spring.

Mercurialis annua, L., becomes a weed at a distance from the sea. The first plant which I grew seven or eight years ago was a male, which must, however, have produced some female flowers, for abundance of plants have sprung up every year since.

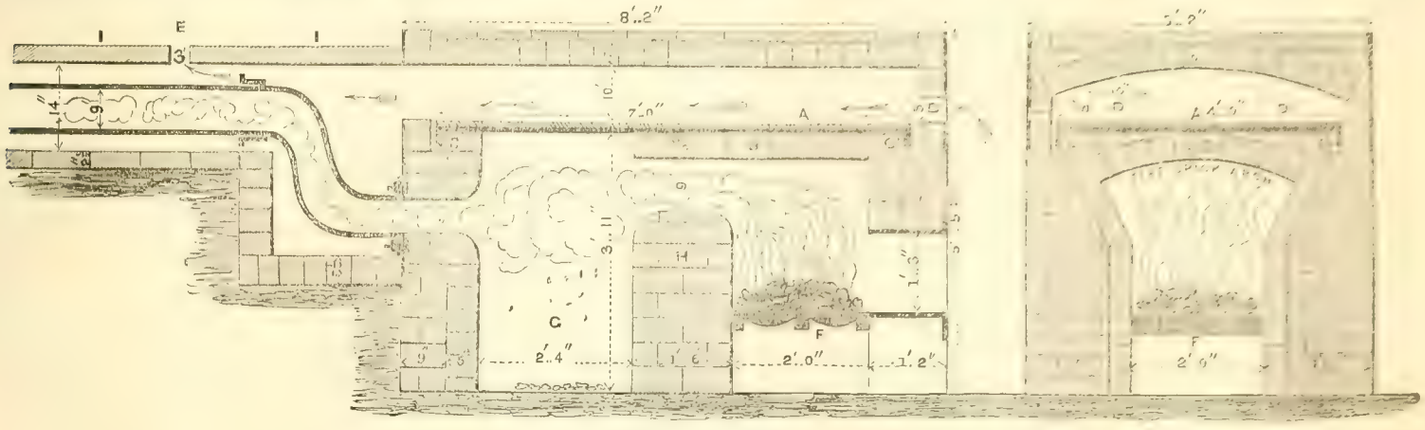
Silene acaulis, L.—This beautiful little alpine may be planted either on rockwork or in pots. In the latter case it should be potted in peat loam and sand, with plenty of drainers, and placed in a shaded situation among similar plants. It may be readily increased by dividing it in May. There also exists a white variety. These and other small plants on rockwork are frequently thrown out of the soil by frost, and if not replaced soon perish, on account of the delicate roots getting dried up.—*David Cameron.*

POLMAISE HEATING.

The glass houses here (Felling), to which allusion was made early last year, and which are heated on the Polmaise principle, have given every satisfaction up to the present time. The Vines (two year old ones, from eyes) were planted in the beginning of April. After breaking, heat was applied to them, and by the end of August they had reached the top of the house, performing this work in a manner far beyond expectation. The rods are strong, short-jointed, well swelled, and perfectly ripened from bottom to top, with plump eyes, and all the Vines in the house have ripened equally well. Heat has been withheld from them since the end of September. I have not been troubled at all with red spider. In the stove everything goes on to my entire satisfaction; indeed, the odour of the foliage bespeaks volumes in favour of Polmaise. The range of houses here is 60 feet in length, and is divided into three compartments, viz., Vinery, stove, and greenhouse, each being 16 feet in breadth, 6 feet high in front, and 13 feet high at the back wall. The heating is performed from two chambers, the size of the plate being 7 feet by 4 feet; the chamber used for the stove heats the greenhouse when required.

Regarding brick arches and stoves formed of large fire-bricks, I have no doubt they will both answer; but it should be borne in mind that brick is a slow conductor of heat, and of course a corresponding increase of fuel will be required. In order to have the heat more equally diffused over the plate, and thereby prevent cracking, I had a large fire-brick placed above the fire, which perfectly effected the end in view. If the air circulates well inside, the temperature of the house will rise in a ratio corresponding with the fall of temperature outside; for when the thermometer outside indicated freezing, the thermometer inside gradually began to rise as the other fell, proving the statement just made to be correct. One night, when the thermometer in the open air sunk to 25°, the thermometer inside the stove, at 10 o'clock at night, stood at 80°, and a thermometer suspended in the hot blast, at 170°; but even that heat, great as it was, was salubrious. No such thing as scorching was to be seen either in the stove or Vinery, and I maintain that the air was as sweet as that from any hot-water apparatus ever erected.

My employer has put up two Polmaise stoves in his factory for drying alkalies, of which the accompanying woodcut will give some idea; and he finds the consumption of fuel by the introduction of Polmaise to be more than a half less than that by any other system of heating. The plan is so simple and so efficient that I have no doubt from one fire a whole range of houses might be heated, by merely fixing valves in the drain to open and shut as heat is required. A gentleman called here the other day who has [illegible] heated on the Polmaise principle. I directly introduced him to this system; he was perfectly struck with the arrangement; the temperature at the time was 60°, and the air was perfectly humid and sweet, though no water pans are used. The size of the house heated is 30 feet by 12, and 15 feet high; the highest temperature it can be got up to has not as yet been tested, but in case 130° can be obtained. The chamber measures 7 feet by 4, and above the fire is an arch of fire-brick put up with the view to equalise the expansion of the plate; the heat from the fire is carried through cast-iron pipes inside a flue, which communicates with the hot-air chamber. There are two openings in the hot-air chamber above the fire, 10 inches by 4, through which fresh air enters, passes over the plate, is admitted into the flue where the hot pipes are, and escapes into the house through ventilators fixed along the top of the flue, and then passes off by ventilators fixed in the roof of the house. The same mode of heating may be applied to Polmaise by bringing the cold air from the house, though for many purposes fresh air is desirable. The water cistern may be put into the drain or flue, or any convenient part past the end of the plate, but not on it, as it would be too hot.—*John Deans, gr. to Wm. Pattenson, Esq., Felling Chemical Works, Newcastle-upon-Tyne.*



REFERENCE TO PLAN.

A, The Plate, is metal, ¾ in. thick, with a ½ in. boiler-plate riveted on the top; the metal prevents the sheet iron warping, and in case the metal cracks, of course the iron plate prevents the escape of gas into the house. B, a Fire-brick Arch over the fire, to prevent the plate getting too hot at that part. C, Sand lute. D, Openings to admit the hot air over plate, which then passes through the flue containing the pipe heated by the fire after it has left the plate. E, Openings to admit the hot air into the house. F, [illegible] burning coke. G. This opening is left to trap any dust that may pass over the bridge in stirring the fire. H. Fire Bridge. I. Stone Flags, 9 inches thick, forming drain 12 inches by 14 inches.

Home Correspondence.

Cultural Observations on the Potato for 1848.—The first point of importance is, selecting and cultivating the earliest kinds, and at the earliest possible season, not that early varieties have been less subject to disease than others, for if cultivated at a late period of the summer all have proved alike affected. Hence, the utility of treating late kinds as precocities, which plan, be it remarked, we have had recourse to with success, by raising them in pots on slight heat, early in April, and planting them out finally in May on open compartments, taking precaution to cut down the haulm or straw at the end of July, and in this way we have obtained an abundant sound crop, and large, which has kept well up to the present time. We recommend our friends to adopt the same plan, and we vouch for satisfactory results, for we flatter ourselves this is a decided cultural improvement in late kinds, and of national importance, as we conceive nearly double the land usually allotted to them will be required to produce ample supplies of early Potatoes if late ones become extinct. Upon the same principle they may be ripened earlier on a larger scale by simply plastering a warm bed 2 inches thick with puddled dung or loam, which will more readily adhere to the roots when transplanted, then placing the sets firmly, as close as they may be conveniently removed with a trowel, finally covering them about 2 inches with light mould, precisely as with Dahlias, to be slightly protected in case of frost until their final destination in May. We hope this will induce those who are about to raise Potatoes from seed to be as early in the field as circumstances will admit, as the greater probability of success depends on raising them before the ordinary time, also of obtaining early selected seed, as seeds gathered and raised indiscriminately have signally failed, whilst the former have produced a crop of sound tubers, and many of ample size for the table the first year. For the encouragement of tyros in this department, we observe that on 7 rods under this early treatment, we have from one small packet of selected seed, value 7*d.*, obtained 5 bushels of seedlings, sufficient to plant half an acre of land, which we intend to plant the ensuing season, not fearing success. We would further add that no one need be apprehensive of the impracticability of planting seedings, as our best crops were obtained last season from seedings of 1846, though diminutive in size as compared with those of 1847. In short, by superior cultivation full crops may be obtained from seedlings not larger than Peas. Also note, that seeds selected from a distinct early kind invariably produce tubers akin to the parent stock, whilst from those collected promiscuously or inadvertently, are produced a progeny in various sporting varieties, consequently from their late tendency, many of them have fallen victims to the prevailing epidemic.—*Hardy and Son, Maldon, Jan* 13. [The Potatoes sent are fine looking, without any appearance of disease.]

Rain.—The following is the amount of rain which has fallen at Balchrystie, in Fifeshire, during the following months.

1847.

January	1.50	August..	.60
February	.70	September	1.00
March	.80	October	3.80
April	1.40	November	2.30
May	4.20	December	5.00
June	1.80		
July	2.20	Total ..	25.30

It will be seen that the amount for December is 5 inches, which is much above the average for that month. The total amount of rain for the year, however, is below that of former years; for in 1844 we had 27.20 inches; in 1845, 35.00, and in 1846, 36.40 inches. It is, perhaps, worthy of mention that Balchrystie is about 130 feet above the level of the sea.—*R. Forgan, Gardener, Balchrystie, near Collinsburgh, Fifeshire.*

Close Pruning of Vines.—My opinion, as to close pruning, is, that, if a Vine is pruned as described by "T. D." (at p. 22), the result will be small puny bunches, such as will never be worthy of a place among specimens we may expect to see produced under the judicious arrangements of the Horticultural Society; and, as to its preventing shanking, it is natural to suppose that if you divest a Vine of the greatest part of its fruit, or, in other words, its largest bunches, it ought under ordinary management to perfectly mature the remainder. But, in my opinion, the secret does not lie so much in pruning as in the state of the roots. I follow Roberts exactly as regards pruning; and I am proud to state that I have produced Cannon-hall Grapes from 3½ lbs. to 4 lbs., Black Hamburghs from 3 lbs. to 3½ lbs., Black Prince from 2½ lbs to 3 lbs., and without shanking, or any great mechanical preparation of border beyond thorough drainage. Has "T. D." produced such bunches under his mode of pruning?—*W. C.*—— In No. 2, of this year, "T. D." very knowingly informs me that I have not yet close pruned my Vines; this I was aware of. But "T. D." will surely admit that the fruit on the aforesaid Vines was closer to the principal stem last season than ever it can be again by any system of pruning; and if that is "T. D.'s" object in close pruning, I ought last season to have reaped the benefit of his discovery, viz., total exemption from shanking. Would "T. D." inform me what I have yet to do in order to obtain the same results as he did?—*T. W.*

Gardening Books.—The short days and diminished engagements of the winter months will leave the gardener at liberty to amuse and instruct himself with the theory of his art, and to assist, by the knowledge of books, the practical engagements of the year. A short time back our position in relation to literature was very different from what it now is. *Then*, very little was written on gardening; *now* there is so much that it is difficult to make a selection. The man who a few years back assisted his knowledge by perusing the pages of Mawe and Abercrombie, is now invited by competitors on every side and on every department of his art. The synthetic process has been exchanged for the analytic, and instead of having the whole philosophy of gardening in one volume, each department, and almost each production of Flora has a treatise of its own. Volumes have been written on the best modes of cultivating the Rose, the Gooseberry, and the Potato. But in the very abundance of our resources we find causes of inconvenience and difficulty. Like that meek animal the ass, who proceeds to make a meal off a truss of hay, but starves *in equilibrio* when placed between two, we are kept in suspense by the claims of rival authors, who solicit our attention. The attempt to procure all that is published would prove an expensive and cumbrous one; and the idea of reading all is not to be thought of. A selection must therefore be made, and in doing so we must either consult our own judgment or take the advice of experienced friends. One rule may here be given, which if observed cannot fail to be of service: Consult established authors first: for no man without some merit can gain long attention to his works. If you are attracted by every advertisement of a new production, you will lose both time and money; but by observing what authors continue to be read, you may safely read two. In so doing you have the benefit of the judgment of others, who, having made themselves acquainted with an author, recommend him to others. Upon some it devolves to test the claims of new writers on matters of art and science, and the multitude in some degree may be guided by their decision. Another rule in the choice of books is, to select those first which treat on the general principles, or the science of gardening. Nature always works in one way, the previous conditions being equal: and to ascertain the principles on which she proceeds, is the first step to excellence in any department. The practical man who is successful without science, is so, because by repeated trials, and many failures, either on his own part or by means of others, he has found out Nature's laws, and acts upon them. A well-written book, explaining those laws, will render the trials and failures unnecessary. Take, for

instance, the very difficult operation of striking cuttings. Any man of sense may arrive in a course of years at the best and surest modes of gaining roots from cuttings; but how much vexation must he first pass through? But an hour's instruction from Lindley's "Theory of Horticulture" will do for him what years must otherwise accomplish. A good course of botanical study appears to be a *sine quâ non* in the case of every gardener; but it will be found that very few possess even a general acquaintance with that science. A few evenings this winter would give to thousands of horticulturists such an insight into the great principles of botany as to throw light on practical pursuits, and create a desire for still further acquisitions.—*H. B.*

Ipswich Museum.—Accept my thanks for the notice thou hast taken of the Ipswich Museum. I am sure thou wilt forgive my correcting a misapprehension respecting the "formation of classes," which, thou wilt notice, was specially alluded to in the few remarks I made at the dinner, and is herewith enclosed. I am well aware but little comparative good would result from an exhibition of curiosities only; the novelty would soon wear off; but by having classes under the management of our talented curator, Dr. Clarke, whose whole time is devoted to forwarding the objects of the promoters of the institution, I must confess I expect the most satisfactory results. The working classes have taken the deepest interest in the institution, as will be evinced by the fact of 10,870 having visited it during the eight free days which have been given since the opening; and although we have not been able to admit one-half the applicants each day, yet the greatest decorum and propriety has been observed in the densely crowded room, and feelings of gratitude repeatedly expressed for the pains taken to give them information on the various objects of interest exhibited. — *George Ransome.* [We plead guilty to having overlooked Mr. Ransome's observations upon classes. We now find in one of his speeches the following expressions:—"The main object of the institution was the benefit of the working classes. It was not only one of their laws that the institution should be thrown open to the public one day and two evenings in each week, but that they should be admitted free to every lecture given in connection with the institution. And he trusted when they had obtained the books, that they would not only be admitted to the privileges of referring to the library, *but every care would be taken by the curator to aid and assist them, by forming classes, in whatever branch of science they thought necessary.*"]

Polmaise Heating.—I have seen, as also your readers have, a great deal written for and against this system of heating plant houses. I have watched and noted carefully the *pro* and *con* of the various writers on the subject. My first impression, on reading the original report from Polmaise, was that it was a system that could be made available for the purpose of heating plant structures in an economical way, insomuch that the whole of the heat generated by the fuel, or nearly so, if properly applied, could be saved. I have consequently had one of my houses fitted up for the purpose, and have applied one of Lewis's small-sized improved Polmaise stoves, which I have found everything I can desire. The original cost and fitting up I find is equal to fire-flues, but the saving of fuel is considerable; the heat is more quickly got up, and diffuses itself thoroughly through the house, with the advantage of a dry or a moist heat at pleasure. The house to which this apparatus is applied is 30 feet long, 14 feet wide, and 10 feet high to the ridge of the span of the roof, and glazed with common sheet glass of the old make, being by no means very even, so that the laps are not very close, which is a great means of the quick escape of the heated air. This apparatus has been at work during the present season to this time, and I am enabled to heat the coldest part of the house (*i. e.* the farthest from the stove) being 24 feet distant, to 20 degrees above the external air, with a very small quantity of fuel. I am so far convinced of the practical utility of Polmaise, that I have no hesitation in recommending it for all purposes that heated air is required for. When I want a moist air I have water poured into the cold air drain (which is only 3 feet long), which water descends under the stove into the low chamber in which the stove stands, and is taken up by the heated air passing over it; this, it will be seen, is different to the tank above the stove—the air by this means becomes thoroughly impregnated with moisture, and by placing the hand against the opening from which the hot air enters the house, you may feel a sensible moisture escaping with the heated air. There is no fear of the plate cracking in this apparatus, it being lined sides and top with fire-clay bricks, which, when hot, retain and give the heat to the iron casing. I have found the hot air issuing from the hot air chamber for six hours after the fire was out. My flue from the stove is an iron pipe of 4 inch bore, running 21 feet inside the house, near the back wall, with a rise in the 21 feet of 12 inches, where it passes through the wall, and is carried up about 6 feet outside. This pipe inside thus becomes a powerful assistance to the apparatus, by which I consider I get most of the heat the fuel used makes, and there is no escape of the five-pound notes so much talked of flying up the chimney. I am fully convinced I can save one-half the fuel by this, in comparison with any other mode I have had or seen adopted. I have recently applied a modification of Polmaise in conjunction with a flue, by making the top part of the furnace an iron plate with an arched oven over it, so that I get the whole of the heat on this plate, which would by other modes be absorbed by the brick-work and lost. The oven is 3 feet long, 1½ foot wide, and 1½ foot high in centre of arch, the whole of which is inside the house, the furnace door standing flush with the outside wall. In the farther end of the oven, inside the house, is an opening left the size of a brick for the heated air to enter the house, and the front is open, with a loose sheet-iron door, with three small openings to act as cold-air drains. I find this to answer admirably, economising the whole of the heat by means of the flue and the hot plate, and here again no five-pound notes fly away. I have also modified it in another form, by placing a boiler over a stove furnace, setting the furnace and boiler inside the house, with the top of the boiler-plate, without any brick or stone work upon it. Above the old flue I have added a tank 21 feet long by 3 feet wide for hot water, so that I get hot air from the flue, hot air from the top of the boiler, and hot water from the interior of the boiler itself, the boiler in addition heating an adjoining house, with a tank of hot water and pipes. The length of these two houses together is 60 feet, 9 feet wide, and 8 feet high at the back. The furnace is by no means large, and the boiler holding only 16 gallons of water. I am enabled in the severest weather to maintain a steady temperature of 60° at a cost of about 2*s.* 6*d.* per week, and fuel is here dear, being from 17*s.* to 20*s.* per ton. There can be no escape of five-pound notes here. I have other two houses not so large as any of those I have named heated by a flue arch above, which consume by far more fuel than the others named. I have given the above with a view to advocate a system which I consider may be so far modified and applied as to answer all purposes to which it is necessary to apply heated air. I shall feel pleasure in showing these apparatuses to any party wishing to see them and their application.—*William May, Hope Nursery, Leeming-lane, Bedale, Yorkshire, January* 19 —— I find that a person whom I need not name has unceremoniously introduced my name into a contemporary journal in connection with Polmaise, for the sole purpose of committing an impertinence. Let me tell him that big words devoid of sense, and conveying little but abuse, will not deceive intelligent gardeners. I am not one who think that the enterprise of an Englishman "oozes out at his fingers' ends;" failures to him are only stimulants to exertion: otherwise where would have been all those noble inventions the pride of our land? I am old enough to rememember the introduction of gas to our streets and houses, when scarcely a week passed without an explosion, shop-fronts blown out, and people injured. What is now more simple and more safe? Where would have been our railroad travelling, had silly alarmists prevailed over the good sense of the nation? Certainly, then, such persons as I now refer to, even though he may have nailed his *credit* to hot water, will not stop Polmaise. Even this man admits the goodness of the principle, and attributes its failure "more to the conceited and ignorant blundering of those who undertook to carry it out than to any natural defects." This is an admission fatal to what he calls his reasoning. How could he thus lop from off the tree the branch on which he sat and sung. Poor man! he has broken to pieces his own arguments. If a person places a lighted candle in a barrel of gunpowder, what does he expect but an explosion? Nevertheless, if he places a highly combustible material in the focus of a highly heated furnace, he expects the laws of Nature to be reversed for his presumption! I do not mean to charge any one with wilful falsehood, but I would suggest to those who make representations of any kind, that is as well "Nothing to extenuate nor set down aught in malice." I certainly went to see two places at which the accidents *first made public in the Chronicle* had occurred, but certainly not to give advice; they were past cure. One was pulled down, and the other was on fire, and condemned. Undoubtedly I expressed my deep regret; and who could help doing so, seeing a beautiful system martyred at the shrine of ignorance. A very self-sufficient writer has made some remarks on my experiments. At the time of the visit of his informant, I was trying them, and he knew it. But no one has a right publicly to judge the experiments of another until they become the property of the world. If men observe that they will save themselves unpleasant observations, and me the pain of making them. Perhaps strangers, when coming here, expect to see something out of the common line—a house of beautiful plants in high perfection, such as a first-rate nurseryman would keep for the nobility to pick out of. If so, they will be disappointed. I grow for the London markets—I do not keep my plants to look at; as soon as they are in perfection they are sold. Twice or thrice a week, and sometimes oftener, my plants are stripped of their flowers for sale. Let not your readers suppose that I am ignorant of the action of hot water; the greater part of my plant houses are heated by it. Neither do I set up Polmaise as an idol to which all things else must bow. But this I know—that it suits my purpose well—it is as durable as hot water, —with common care is as safe as hot water—its first cost is but the third of hot water—and it consumes but half the fuel as hot water.—*A. Kendall Stoke Newington, Jan.* 17.

Societies.

HORTICULTURAL SOCIETY.

Jan 18.—J. J. BLANDY, Esq., in the chair. The Countess of Newborough, C. W. Strickland, and M. Favell, Esqs, were elected Fellows. As might be expected in the month of January, few objects of exhibition were produced. Of novelties, Messrs. Veitch and Son, of Exeter, sent a little half shrubby purplish lilac-flowered species of Hindsia? raised from seeds sent by Mr. W. Lobb from the Organ Mountains of Brazil. In this instance it was seen to disadvantage; but judging from its present appearance we should say that, though pretty, it can only be classed among plants of third-rate character. Blossoming as it does at this season, it may however form a useful addition to our winter flowering plants, more especially if it prove to be a free bloomer, which it appears to be. At Exeter it has been found to succeed in a moderately warm greenhouse. A certificate of merit was awarded it. Mr. Glendinning of the Chiswick Nursery, sent a new Gesnerwort resembling G hondensis or breviflora; it does not, however, give promise of ever becoming a plant of considerable attraction. Of FRUIT, Mr. Mills, of Gunnersbury-park, sent a Providence Pine-apple, handsome, well formed, and remarkable for the redness of the scales with which the pips were furnished. It weighed 8 lbs. A Certificate of Merit was awarded it. A black Antigua Pine-apple was produced by Mr. Hewitt, gr. to J. Purday, Esq., of Bayswater. This was a pyramidal fruit, regularly formed, weighing 4 lbs. 10 oz.—Of Grapes, G. Crawshay, Esq., of Colney Hatch, sent, as he generally does at this season, a sample of Black Hamburghs, perfectly ripened, plump, and fresh, but rather deficient in colour. Mr. Crawshay's mode of growing Grapes has now become so well known that it is almost needless to recapitulate that the specimens in question were grown in a house to which no fire heat has been applied except in November and December, when small fires were lighted merely to dry up damp. Mr. Crawshay's houses are freely ventilated, and no doubt to this circumstance is to be attributed the success he experiences in keeping Grapes plump and fresh till this late period. From Mr. Vick, of Chichester, also came a sample of Black Hamburgh Grapes, being part of 7 lbs. which were cut on the 16th instant from a Vine growing on the south front of his dwelling-house. Last season being somewhat unfavourable to ripening Grapes in the open air, in order to accelerate this process some Cucumber lights were placed over them in a sloping direction, and this, with the addition of a net suspended from the lights, was all the protection they received. The Grapes exhibited were quite ripe and well coloured. Finally, from Mr. Davis, of Oak-hill, East Barnet, was a basket of Muscat of Alexandria and Black St. Peter's Grapes. They had been grown in a late house. Both samples were perfectly ripened, and to the latter, which were finely swelled and coloured, a Certificate of Merit was awarded. —Of miscellaneous articles, Mr. Bowers, of Busbridge, Godalming, sent a watering-pot tube, whose novelty consisted in its having a valve at the tip moved by a lever working on a spring. It was stated that by this contrivance the operator without half the usual labour and loss of water could water plants without spilling a drop. The operation is effected by holding the watering-pot between both hands; the thumb of the left hand being placed on the spring, allowing much or little water to flow as required.—From the Garden of the Society were, of Orchids, the green-flowered Lycaste ciliata, the yellow-blossomed L. cruenta, and one of the best of the many varieties of the handsome L. Skinneri, together with two Oncids, the West Indian Brassavola nodosa and Cypripedium barbatum. Of stove and greenhouse plants the same collection supplied the well-known Muraltia Heisteria, a useful plant at this season; three Correæas, two Epacrises, two Cape Heaths, the red-flowered Columnea grandiflora, Gesnera zebrina, a large Acacia, Hovea pungens, Euphorbia jacquiniflora, and the comparatively new Whitfieldia lateritia. The latter—a stove Acanthad from the interior of Sierra Leone—forms a low-spreading evergreen shrub, whose branches terminate in racemes of flowers, of which the calyx, corolla, and bracts are of a dull brick colour. They, however, want brilliancy to render the plant attractive. Flowers of Chimonanthus fragrans and grandiflora, which are usually exhibited at this season, were produced, and distributed among the members.

Reviews.

Sarawak; its Inhabitants and Productions: being notes during a residence in that country with H. H. the Rajah Brooke. By Hugh Low. 8vo. Bentley. pp. 416.

The island of Borneo seems to be just now exciting as much interest as China—among lovers of gardening even more; for China is well nigh exhausted, and in Borneo all is new. The book before us would therefore have been a welcome acquisition, even had the author possessed fewer opportunities of judging of natural history. Mr. Low, however, to whom the public is indebted for the present very interesting and instructive volume, visited Borneo for the express purpose of collecting seeds and plants, for which his education had peculiarly fitted him. With the assistance of Mr. Brooke he was enabled to see a good deal of the country and its people, and the result is the work before us, from which we learn that this prodigious island is unsurpassed in the variety and value of its productions.

We leave to others the duty of pointing out Mr. Low's interesting facts relating to the people, the minerals, and the animals, which form the subject of his narrative. We can only mention that Borneo produces gold and diamonds, coal equal to the best English cannel, rich ores of antimony, iron in abundance, tin, nickel, and quicksilver. We must confine our own extracts to what concerns vegetation and climate.

The climate of Borneo is stated by Mr. Low to be like that of most eastern islands, "exceedingly healthy to persons whose avocations do not render great exposure necessary. The north-east monsoon, or that which blows from April to October, is the rainy period; but a day rarely passes during the south-west, or fine monsoon, without a refreshing shower: this, with the constant warmth, causes every thing to grow during the whole year, the forests being clothed with a perpetual verdure, which gives the islands, when seen from the sea, a beautiful appearance, possessed by no country in the world to so great an extent; shrubs (Hibiscus) and flowering trees (Barringtonia) always overhanging the margin of the ocean, and the inland mountains are observed covered to their summits with a dense and luxuriant vegetation. In temperature it has never been found by Europeans to be oppressively hot; the thermometer generally averaging 70° to 72° Fahrenheit in the mornings and evenings, and 82° to 85° at 2 P.M., which is generally the hottest part of the day; and though in the dry season the mercury has sometimes ascended as high as 92°, and occasionally 93°, it has not been felt so inconveniently oppressive to Europeans as a hot summer day in England."

Gardeners should treasure up the following important fact, which is no doubt new to many.

"Though the vegetation of no country in the world is so luxuriant as that of the Eastern islands, it has been proved by many writers that the soil of some of them is not so fertile as the appearance of the forests would lead the cultivator to expect. This remark particularly applies to Sumatra, the forests of which are supported in their luxuriance, in a great measure, by the moisture of the surrounding atmosphere. The soil of Sarawak, with which I am best acquainted, and which, from the similarity of productions over the whole island, may probably be fairly taken as an example of its whole extent, is of a rich strong yellow loam, covered to a depth of from 6 inches to a foot with black and very productive vegetable mould, which has been formed by the decayed vegetation of the forests."

It is, however, to be observed, that although the soil may not appear to be very fertile, yet the inevitable effect of the frequent thunder and lightning which Mr. Low describes as being peculiarly frequent in Borneo, must necessarily have the effect of supplying the soil abundantly with nitric acid, and, therefore, plants with nitrates.

As is usual in the damp islands of the Indian Archipelago, great difficulty is experienced in raising Euro-

pean vegetables. Mr. Low tells us that in Borneo "the heat of the climate, and the constant growth consequent on its moisture, render it difficult to raise European fruits and vegetables, though, when roads are cut through the island, the mountains will be found to produce these in perfection. In the low lands it is useless to attempt the cultivation of the former, though, by great perseverance on the part of the gentleman above referred to, some kinds of vegetables have been obtained in considerable abundance: of these, French Beans, Cucumbers, Endive, Tomatoes, and Asparagus have succeeded best; when I left, in June last, many others, however, were looking very promising. As on the mountains, the sides of all of which are covered with productive soil, any climate and temperature may be obtained, it is probable that the new settlement of Labuh-an will not be left in the same destitute state for vegetables as Singapore, where the few Cabbages which are produced are cultivated in flower-pots, and with great care."

Our limited space prevents our extracting the accounts given by the author of the various useful trees, and of the products which they yield; the merchant will, however, do well to examine them attentively. We must be contented with the following scraps relating to the flowers which adorn the island.

"As in all tropical countries, the tribe Orchidaceæ is in profusion and beauty; and on the open banks of the rivers, *where the sun can shed its vivifying influence upon them*, these delightful epiphytes decorate with their fragile but showy forms the otherwise naked and unsightly stumps of decaying forest trees. The most gaudy are perhaps the various species of Cœlogyne, called collectively by the natives the 'bunga kasih-an,' or the flowers of mercy; they are all highly fragrant, and their white and orange coloured flowers are exceedingly delicate and beautiful. Several Vandas, of which the continent of India has produced so many for the ornament of our gardens, are found here inferior to none of those from India, many of which are, by one gigantic species, far surpassed in beauty. This I have been successful in introducing into England, and Dr. Lindley has done me the honour of naming it after me. One kind of the beautiful genus Cypripedium, or Ladies' Slipper, so named from the curious form of the labellum, far surpasses in beauty any of its tribe from other countries. The Dendrobiums, which in India are so gorgeous, here dwindle, for the most part, into insignificant flowers; while the species of Eria which are abundant, are so beautiful that, were they once seen they would probably raise their hitherto despised genus in the estimation of the English cultivator of these beautiful plants. Of the smaller kinds, the Cirrhopetalon, Bolbophyllum, and some other genera, though not showy, are curious, delicate, and beautiful. On the banks of the rivers, and growing as underwood in the dense jungles, are found many beautiful species of the genera Ixora and Pavetta, the former with large bunches of flowers of every shade, from orange to crimson, the latter with tufts of pure and delicate white blossoms; other genera of the order Rubiaceæ abound, and are amongst the most beautiful wild plants; many of these are fragrant."

Then we have a tempting account of the epiphytal Rhododendrons, which are, we believe, now growing in England, in the Clapton Nursery, and which the drawings and dried specimens with which Mr. Low has favoured the writer of this notice, shew to be plants of remarkable brilliancy and beauty. Charming Combretums, Bauhinias, Hoyas, and Gesnerads, with Bignonias, Asclepiads, and Melastomads abound in the low grounds, to which must be added four species of Clerodendron. Of one of these Mr. Low speaks thus—

"The Clerodendron which bears the crimson flowers is the most handsome of them all; it grows to a shrub of 10 feet in height, having at the point of every branch a large loose spike of rich crimson flowers; the head of the flowers is frequently 3 feet in height from the foliage—rarely less than two—forming with the bracts and stems, which are equally crimson, a magnificent pyramid of flowers; each being relieved by a beautifully white centre and the long protruding stamens; the foliage is also fine, being heart shaped, very large, and dense. This fine species, which is now growing well in England, I have named after Captain C. Drinkwater Bethune, R.N., C.B., whose kindness in Borneo was of the greatest assistance to me, and who, on his return, was successful in introducing some of the finest of the Borneo plants. When the Clerodendron has ceased flowering, the crimson bracts and calyx which remain are scarcely less gaudy than the flowers, and each calyx contains within it a four-seeded berry of the richest blue colour. On the mountains are found plants altogether different from these: there the genus Dacrydium and others of the order Taxaceæ, resemble the Cypress and Firs of our northern clime. Herbaceous plants of great beauty are also found on the exposed and damp rocks, while in mossy places the beautiful golden leaved Anaectochilus and a new and more beautiful species flourish. But of all those above mentioned, though they excel in beauty, none so much attract our curiosity as the various and beautiful Pitcher-plants, eight different species of which I discovered in the western part of the island."

These Pitcher-plants are, indeed, extraordinary things, and would be charming additions to our stoves, as Mr. Low's unpublished drawings abundantly prove. Concerning one of them we have the following curious history.

"The Nepenthes ampullacea produces its green or spotted short and broad pitchers in a different manner from the last: it is also a climbing plant, and found in thick jungles. The old stems, falling from the trees, become covered in a short time with leaves and vegetable matter, which form a coating of earth about them; they then throw out shoots which become in time new plants; but apparently the first attempts to form the leaf are futile, and become only pitchers, which, as the petioles are closely imbricated, form a dense mass, and frequently cover the ground as with a carpet of these curious formations. As it continues growing and endeavouring to become a plant, the laminæ of the leaves gradually appear, small at first, but every new one increasing in size, until finally the blades of the leaves are perfect, and the pitchers, which, as the leaves developed themselves, have become gradually smaller on each new leaf, finally disappear altogether when the plant climbs into the trees. This formation of the pitcher may afford an instructive lesson to the naturalist, as, though not to the same extent, the principle is perceptible in all of this curious tribe, the leaves of seedlings and weak plants always producing the largest pitchers."

But we must conclude with strongly recommending Mr. Low's work to all cultivators of tropical plants as a very interesting addition to their information concerning the vegetation of the Eastern islands. We may add that to the general reader it has not less value, for it is full of striking pictures of the curious manners and customs of the natives of a singular country, concerning which we previously possessed very little information.

An appendix contains a meagre list of the animals of Borneo, furnished to Mr. Low by the gentlemen of the British Museum.

THE RUSTY-LIPPED LIPARIS.

(*Liparis ferruginea*, Lindl.)

Sp. Char.—Leaves oblong, obscurely 5-veined, tapering to the base much shorter than the scape (which is terete), arising from a short nearly cylindrical compressed pseudo-bulb. Spike smooth, furrowed, with subulate bracts as long as the ovary. Flowers small, spreading. Lip linear, abruptly reflexed, fleshy, with an emarginate, truncate, somewhat ragged and wedge-shaped termination.*

This Orchid has been imported from Penang by Messrs. Loddiges, with whom it flowered in Jan. 1848. It has a scape nearly 2 feet long, covered with small pale green flowers, with a rusty-brown lip. It is very near L. elegans, which differs in the scape being two-edged, not terete, and shorter than the leaves, which have a long, narrow stalk. It is a stove epiphyte of little interest.

* For the meaning of these technical terms see Lindley's *Glossary*.

Miscellaneous.

Proposed Winter Garden.—We have just seen a circular issued by the Caledonian Horticultural Society, the object of which, if carried out to its full extent, would undoubtedly confer on the inhabitants one of the greatest enjoyments such a place could possess. It is the formation of a winter garden in their grounds at Inverleith, somewhat on the plan of similar establishments at Paris and London, forming the principal promenade under glass. Here during the cold and dreary months of the year, would be brought together all the exotic plants which might come into flower in the various hothouses, and there they would remain in bloom in beauty, giving place to others in succession. A plan, devised by the superintendent, has been approved of generally by the garden committee. It forms an elegant and commodious conservatory, and is so contrived that one wing only of the conservatory may be erected at first. This could in time be added to. The heating is to be accomplished by means of hot water conveyed in pipes, and there are to be adopted such as to maintain the internal air at the temperature of the most genial climate. Mr. J. M'Nab proposes to arrange the various flowers so as to give effect to the different colours—a point hitherto little attended to. In short, it aims "to render gardening completely according to the wishes of its promoters, and to properly conducted, it will bid fair to prove as amusing a resort as the picture galleries, so attractive in this city."—*Edinburgh Evening Courant of Jan.* 15.

The Cow-fish.—We heard one day that a peixe boi, or cow-fish, had just arrived in a montaria, and was lying upon the beach. Hurrying down, we were just in time to see the animal before he was cut up. He was about ten feet in length, and, as he lay upon his back, between two and three feet in height, presenting a conformation of body much like that of a "fine old English gentleman" whose two legs were encased in a broad flat tail. His back was covered sparsely with hairs, and his large muzzle was armed with short stiff bristles. His smooth belly was black in colour, and much scarred by the bite of some unknown fish. There was nothing corresponding to legs; but a pair of flappers, as of a turtle, answered the purpose of locomotion. His eyes and ears were very small, but the nostrils were each an inch in diameter. The brain was one-fourth of an inch in thickness, and covered a deep coating of blubber, the extreme end of which is used as butter in cooking. Under the blubber was the meat, something between beef and pork in taste. These curious animals are in great numbers upon the Solimoens, and are to the people what porpoises are to us, and, like that fish, cut into slabs and salted. The brains, however, very offensive to a stranger, and an Indian will eat dried peixe boi if he can get anything else. These animals do not venture upon land, but feast upon the Grass that lines the shores. When feeding they are taken by the Indians, who know their places of resort and watch their appearance. Although from their bulk several men might be puzzled to lift a cow-fish from the water when dead, yet one living will stow the largest in his montaria without assistance. The boat is sunk under the body, and rising, the difficult feat is accomplished. Not unfrequently a peixe boi is taken eighteen feet in length. The thick bones formerly served the Indians for shoes, and their jawbones as hammers.—*Voyage up the Amazon.*

Balsam of Copaiva.—The quantity of balsam Copaiva brought down is prodigious. There were lying upon the beach at Barra two hollowed logs in which Balsam had been floated down from above. One had contained 250 and the other 1000 gallons. They had been opened and carefully sealed over; and in this way has arrived without loss, whereas in jars the leakage and breakage would have been considerable. At Barra the Balsam is transferred to jars and shipped to the city. There much of it is bought up by the Jews, who adulterate it with other gums and sell it to the exporters. It is often put up in barrels, or in the earthen vessels, according to the market for which it is intended. The tree grows in the vicinity of Barra, and we were very desirous of obtaining at least some leaves, but decay of

NEW GARDEN PLANTS, PUBLISHED IN BOOKS.

Name.	Where Published.	Name of Country.	Quality.	Natural Order.	Colour of Flowers.	Time of Flowering	When first Flowered.	Where.
Banksĭa Solāndri ..... * *Solander's Banksia.*	B. M., Comp. 1848, 1	Swan River	G. ♄	Proteads	Scarlet	.....	.....	B. G., Kew.
Hakĕa Victorĭæ ..... * *Queen Victoria's Hakea.*	B. M., Comp. 1848, 2	Swan River	S. ♄	Proteads	White and yellow.	.....	.....	B. G., Kew.
Nelumbĭum Jamaicēnse ..... * *Jamaica Waterbean.*	B. M., Comp. 1848, 3	Jamaica	S. ♃ (aquatic)	Waterbeans	Yellow	.....	.....	B. G., Kew.
Lycŏris stramĭnea ..... † *Straw-coloured Lycoris.*	Hort. Journ., 3, 76	China	H. ♃ (bulb)	Amaryllids	Pale yellow	August	1847	Hort. Soc.
Oncidĭum tenŭe ..... ‡ *Thin-bulbed Oncid.*	Hort. Journ., 3, 77	Guatemala	S. ♃	Orchids	Yellow and brown.	September	1847	Hort. Soc.
Pogogўne multiflōra ..... ‡ *Many flowered Beardwort.*	Hort. Journ., 3, 78	California	H. ⊙	Labiates	Pale lilac	August	1847	Hort. Soc.
Clemātis tubulōsa ..... * *Tubular Virgin's Bower.*	Hort. Journ., 3, 79	N. China	G. ♃	Crowfoots	Blue	September	1847	Hort. Soc.
Phalænōpsis grandiflōra ..... * *Large-flowered Phalænopsis.*	Gard.Chron.,1848,39	Java	S. ♃ (epiphyte)	Orchids	White	September	1847	J.H.Schröder,Esq.

N.B.—* = Very handsome. † = Second rate. ‡ = Third rate. ¶ = Unimportant.

one day after another at last made it impossible. The tree is of large size, and is tapped by a deep incision, often to the heart. In this latter case the yield is greater, but the tree dies. The average yield is from five to ten gallons.—*Voyage up the Amazon.*

Calendar of Operations.

(*For the ensuing Week.*)

As the season is at hand when the business of increasing our stock of plants will demand particular attention, it will not be inappropriate to suggest the advisibility of preparing a place calculated to afford the required convenience. There is scarcely a gardener who is not called upon annually to apply his skill, to replace the losses that invariably and necessarily attend the occurrence of a rigorous season, and yet we rarely find a proper situation appropriated for the purpose, or a systematic plan in force for carrying it out. This may in a measure be owing to the facility found in propagating the plants principally in demand for decorating the flower garden, such as Pelargoniums, Fuchsias, Verbenas, &c. The common plant houses are unfortunately found sufficient for the purpose, and we see them crowded with pots of cuttings, to the destruction of all order and propriety, in addition to the plague they often introduce into the houses of various insects. What we wish to recommend is a small pit, constructed with beds to contain plunging materials, and provided with a heating apparatus capable of supporting a bottom-heat of 90°. This, with a complement of bell-glasses, would enable the gardener not only to obtain his stock of summer plants with certainty and expedition, but give him the opportunity of multiplying his rare and more difficult plants at the seasons most suitable to them.

CONSERVATORY AND GREENHOUSE.

The unsettled nature of the weather lately has called, and will probably continue to do so, for much judicious management in regulating the temperature of large greenhouses; while cold biting winds prevail much caution must be used in admitting air; it will be necessary to support a temperature varying from 45° to 50° by moderate fires. Naturally plants will make little progress at this season, but they may be stimulated to unhealthy activity if attention be not directed to the regulation of the temperature; a forced and premature growth will for ever injure plants both in health and appearance; care in repressing undue activity at this moment will in no wise enfeeble plants, or prevent their perfect development at a later and more favourable season. Eradicate scale and other insects from climbing conservatory plants; at the same time tie and arrange them. Care must be taken that Camellias receive no check, or their buds will be endangered. Brugmansia sanguinea, a noble conservatory plant, demands similar attention. The fruit of Passiflora edulis should be gathered as soon as ripe; an excellent preserve can be made from it; it is also valuable for flavouring in ice. In lesser greenhouses it will be necessary to examine soft-wooded plants, in order to remove decayed leaves and make an arrangement that will give them liberty to receive the full benefit of light and air; turn over and prepare compost for Pelargoniums. No diminution of temperature must be allowed in the forcing pit. Pinks after they have made a little growth require to be removed to a cooler place, or the buds will fail. Gardenias require a warm moist atmosphere, which now may be slightly increased if they exhibit activity. Maintain a night temperature in the stove of 50°, and insure a midday heat of 65°.

FRUIT FORCING.

Early Vinery.—It will be perceived that the leaves of Vines subjected to early forcing are exceedingly delicate and susceptible of injury from various causes. All influences likely to prove obnoxious must be guarded against. We prefer leaving a few extra shoots (to be removed when the Vine attains more vigour later in the season), as we imagine that the additional respiratory power thus afforded encourages the roots to greater activity. The position taken by the leaves of a Vine in a hothouse shows us as plainly as possible that light and air are sought for; if the houses are efficient both of these sources of vitality may be abundantly given. Syringe morning and afternoon; atmospheric moisture may be increased after 3 o'clock in the day; and a temperature of 55° maintained through the night; 70° is sufficient, without sun, during the day. *Second Vinery.*—Where the buds are breaking, must be syringed night and morning; 45° to 55° may be allowed as extreme points of fire heat; care must be continued, so that the young shoots are not excited too rapidly. *Peach-house.*—A healthy growth of leaves must be induced by gentle heat, 50° should not be exceeded at night; a free circulation of air on sunny mornings will greatly assist a safe impregnation of the blossom. A constant supply of air is requisite while the trees remain in blossom. *Cherries* in bloom must still be supplied liberally with air; with the earliest development of the leaf bud will be found a small caterpillar, whose appetite is voracious, and annoyance incalculable. Seek for it daily. *Fruiting Pines.*—If circumstances justify the arrangement, a few of the earliest starts may be selected and advanced before the general stock, in a separate pit. *Early Melons* may be planted out, provided the pits prepared for them are free from rank steam and violent heat.

VEGETABLE FORCING.

Seakale intended for successional forcing should be protected from the frost. Asparagus transplanted into the forcing-pit should receive a copious supply of water. The application of warm water to Asparagus after its introduction to the forcing-pit is doubtless advantageous. Broccolies may be forwarded in any warm situation if severe weather retards their growth out of doors. French Beans should be shifted as they require it. The manure from an old Mushroom-bed mixed with loam is an excellent compost for them.

KITCHEN GARDEN AND ORCHARD.

Operations recommended last week may with propriety be continued; look to Cauliflowers under hand lights, and stir the mould round them. Take precautions for protecting vegetables, so that sudden and severe frost may not compel you to stop your supplies.

FLORISTS' FLOWERS.

Should heavy snow or severe weather set in, Pinks and Carnations planted in the open border will run some danger of destruction in those localities where hares and rabbits abound. We have lately seen in a florist's garden, in the immediate vicinity of a large preserve abounding in these pests, a simple and at the same time efficacious remedy against their encroachments. It consisted in laying small pieces of Larch spray, or branches, between the rows of plants, and then placing other branches on the top of these. Air and light has free access to the plants, and as spring advances, the coverings are removed; for as vegetation progressed, more palatable food, in the shape of young Clover, &c., enticed the rabbits to feed at a distance. *Tulips.*—Seeds may now be sown to advantage in compost of leaf-mould and sandy peat, in equal parts. They may be placed at equal distances, almost touching each other, on the surface, and gently pressed down, covering with the same soil to the depth of the eighth of an inch. As the foliage of the roots, planted in the main bed, shows itself above ground (if very early), it should be covered with sandy peat; but this must be done before it opens, as dirt or soil getting into the heart is very detrimental. If mice frequent the garden, catch them if you have any favourite Polyanthuses, especially should the plants be kept in frames; we have often seen sad havoc made in a collection of these plants during severe weather, when the frames have been closed. *Auriculas.*—As soon as you perceive these plants have made a start, give them occasional waterings with weak liquid manure, that made with sheep dung is best. Should premature blooms show themselves, allow the stem to rise high enough, and then remove the pips. To cut or pull the stem at this season often has an injurious effect on the plant, by its decaying and rotting down to the heart; by simply removing the pips this is avoided, whilst the plant is strengthened.

Erratum.—In the second line of the article on Forcing in last week's Calendar, for "*gardener* of the floral world," read "*guardian*," &c.

State of the weather near London, for the week ending Jan. 20, 1848, as observed at the Horticultural Garden, Chiswick.

Jan.		Moon's Age.	Barometer.		Thermometer.			Wind.	Rain.
			Max.	Min.	Max.	Min	Mean		
Fri. ..	14	8	30.228	29.963	45	36	4·.5	N.W.	06
Satur..	15	9	29 986	29. 04	42	20	31.0	N.	.00
Sun. ..	16	10	29.972	29.84	38	28	33.0	W.	.04
Mon...	17	11	29.830	29.328	44	29	36.5	S.W.	.23
Tues...	18	12	29.461	29.306	38	27	32..	S.W.	.00
Wed...	19	13	29.643	29.399	35	29	32.0	E.	.00
Thurs.	20	○	29.882	29.807	35	30	32.5	N.E.	.00
Average			29 686	29 650	39.5	28.4	34.0		.33

Jan. 14—Foggy; drizzly; hazy; overcast at night.
— 15—Cloudy; exceedingly fine, with bright sun; overcast; frosty.
— 16—Sharp frost; very fine; clear and frosty.
— 17—Partially overcast; rain throughout.
— 18—Clear and fine; overcast at night.
— 19—Cold; easterly haze; overcast.
— 20—Cloudy and cold; densely overcast; small hail; overcast.
Mean temperature of the week, 1½ deg. below the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending Jan. 29, 1848.

Jan.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds.						
						N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 23	44.5	34.3	39.4	10	0.27 in.	1	2	2	3	4	5	1	4
Mon. 24	43.8	32.7	38.2	9	0.51	2	2	2	1	3	7	4	1
Tues. 25	44.0	33.5	38.7	9	0.59	1	2	2	1	3	6	4	3
Wed. 26	44.9	34.0	39.5	10	0.90	1	2	2	1	3	5	5	3
Thurs. 27	44.5	33.3	38.9	9	0.34	1	4	1	2	6	4	1	3
Fri. 28	45.2	32.1	38.7	10	0.21	2	3	2	1	2	8	5	—
Satur. 29	45.0	32.0	38.5	11	0.23	2	3	1	—	—	10	5	1

The highest temperature during the above period occurred on the 28th, 1843, 29th and 26th, 1846—therm. 56 deg.; and the lowest on the 27th, 1827—therm. 17 deg.

Notices to Correspondents.

ALPINE PLANTS — *Alpinus* — Try Mr. Plant, Nurseryman, Cheadle.

APPLE-TREES—*Novice*—The Paradise stock on which these are grafted is a dwarf sort of Apple tree with more fibrous roots than the usually cultivated kinds.‖

BACK NUMBERS—*W M*—You can have the Numbers.

BOOKS—*Ellen*—Indeed we know nothing of such matters. However, to oblige you, we have consulted a lady of our acquaintance, who assures us that Miss Lambert's "Practical Hints on Decorative Needlework," contains much useful and general information on the choice and best use of materials required for fancy needlework; and that the second series of the same lady's "My Crochet Sampler," although chiefly confined to patterns for collars and open borders, of which some of the latter are very pretty, also includes many hints very useful to beginners in crochet. — *Sylvanus*—Babington's "Manual," or Hooker's "British Flora," or Lindley's "Synopsis"—if you understand technical Botany. If not you must first master "School Botany"—*T S*—"School Botany:" No elementary books are coloured.

CONSERVATORY—*F H M*—The principle on which your gardener acts is right: his object is to get your Oranges and Camellias rapidly into flower. It is, however, early for the commencement of syringing and forcing in houses so dark as your old-fashioned conservatory, and there is danger of getting the plants drawn and weak, from want of air and light.

COTTON—*D L*—We have again to thank you for your very obliging communication, and we hope that we shall soon be able to avail ourselves of it and others.

EPACRISES—*X Y Z*—Your seedlings are much inferior to varieties at present in cultivation.‡

HEATING—*G Jennings*—We have already given so many plans of Polmaise heating, at a very considerable expense, that we cannot publish any others for the present.—*Beta*—Then it appears that you really do propose to run your flues across the upper part of your house. It is impossible to warm any building in that manner.—*P B*—A wooden tank lined with zinc will hold hot water; so will a wooden tank, without zinc, if well put together like a brewing "cooler."—*J I*—We do not regard minor drains as essential. They can do no harm. The great point is to have the main drain *large enough*.

INSECTS—*Russet*—The grubs which have eaten through the stems of the Fuchsias are the larvæ of a weevil (Otiorhynchus, sp.) to which nothing seems to come amiss. The earth round the plants ought to be carefully stirred and searched, especially when the plants show the least appearance of drooping. The earth may also be watered with a solution of corrosive sublimate, which is a sure destroyer of the grubs. *W.*—*G P*—Your Cineraria blooms may be eaten off by the caterpillars of some moth, or by woodlice. You must find out the enemy before we can tell you what to do with it. You may obtain seeds or roots of Anemone japonica in any respectable nursery. *W.*

MUSA CAVENDISHII—*Sussex*—Repot, if required in two parts turfy loam mixed with one part vegetable soil or well rotted manure and a small portion of sand, and plunge in a bark bed, if convenient. Use plenty of drainage, and keep the roots moist. A temperature of from 55° to 60° will keep your plants from receiving any check in winter, and from 60° to 75°, or even 90° with sun heat, will not be too much in summer, although they do very well in a lower temperature.‡

NAMES OF FRUITS—*W H*—The Glout Morceau; but not so well flavoured as it ought to be.‖

NAMES OF PLANTS—*W S*—Æschynanthus maculatus.—*R R*—A variety of Oncidium Cavendishianum.—*S K C G*—It is impossible to name your plant, which dropped to pieces.—*Sylvanus*—The plant bearing the coarse name you mention is Polygonum Hydropiper.

PEARS—*Rus*—The Beurré Diel will suit a western aspect; but it will prove better flavoured from an espalier. The Glout Morceau, as regards flavour, is far preferable to the Beurré Diel, especially when the comparison is made between the two grown respectively against walls.‖

POLMAISE—*Michael M*—We cannot admit disputes. Your name has never been used, and there is no ground for your complaint. Moreover, you make use of the names of gentlemen without appearing to have their permission to do so. We are, however, glad of the statement, for our personal information.

POTATOES—*L L*—The early kinds of Potatoes should be planted in rows not less than 18 inches apart; 2 feet in general will be found preferable; and 6 inches from set to set in the rows.‖

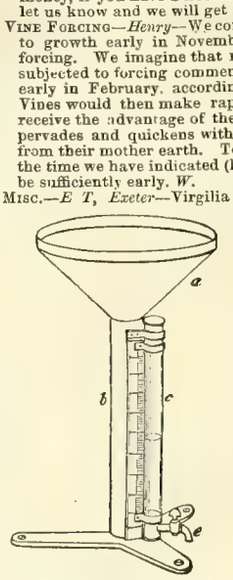
SAP—*S and W*—Your question is not stated very clearly; but we believe we understand it. Sap is first set in motion, in trees, in the buds—and from those organs the motion is communicated downwards to the roots. If the roots can they will then begin to act; but if the roots are in too cold a medium they remain inactive, or nearly so. Hence shanking, &c. A plant in a pit in a glasshouse is circumstanced differently: the main fact is however the same.

STRAWBERRIES—*Novice*—We know nothing of the Aberdeen Bee-hive. The best and only way of proving it to possess the merits ascribed to it is, as we stated before, to send it to the public exhibitions, where it will find its true value in public estimation.‡

STUDY—*A Young Gardener*—Your mode of occupying your time is highly praiseworthy. There is no occasion to pursue Euclid any further. The main object in studying him is to acquire the habit of reasoning correctly. As a gardener, you will, perhaps, obtain a discount of 10 per cent. for ready money, if you have a liberal bookseller to deal with. If not, let us know and we will get it for you.

VINE FORCING—*Henry*—We consider when Vines are stimulated to growth early in November, they are subjected to early forcing. We imagine that no harm would accrue to Vines subjected to forcing commenced the latter end of January or early in February, according to the state of the weather; Vines would then make rapid progress, as the roots might receive the advantage of the increasing natural heat, which pervades and quickens with vitality all plants deriving life from their mother earth. To precede Vines in a greenhouse, the time we have indicated (late in January) would, we think, be sufficiently early. *W.*

MISC.—*E T, Exeter*—Virgilia capensis is an old well-known plant. We do not know where the seed of Verbascum Thapsus can be had; enquire in the Botanic Gardens.—*C N R*—The Glastonbury Thorn can be grown anywhere that will produce the common Hawthorn, of which it is only an early variety.—*R S D, France*—The rain-gauge used at Chiswick is this. It can be bought of the makers of philosophical instruments. Ruscus hypophyllum would be marked ¶. We have not seen Erythrina velutina in English collections.—*E F G*—There are only two more sheets to print of the 3d part of the 3d and last vol. of the Horticultural "Transactions." It will complete the volume and series, and will appear before many weeks; probably in a fortnight.—



A B—Fasten your bits of glass by tying string round them, and then attaching them to a line. They may be kept from cutting the string by grinding down the edges a little previous to tying.‡—*W C K*—Strelitzia Reginæ thrives *best* in a stove. It does not require more water than other stove plants in winter.‡—*J H*—Deodar cuttings may be put in in the beginning of September, when the current year's growth is about three parts ripe. Leave a small heel of old wood attached to them. Place them in pots well drained, and having sufficient silver sand on the top for planting the cuttings in; afterwards water freely, to settle the sand, and then place the pots in a cold frame or pit. Keep close and free from frost all winter. They may remain here until the following February, when they should be removed to a hot-bed frame or warm pit, where there is a good supply of moisture. They will soon root freely, and may afterwards be treated like seedlings. The Deodar grafts freely on the common Cedar, either by using the current year's shoots, half grown, in July or August, or by what is called herbaceous grafting, or just before growth commences in May. Treat Taxodium sempervirens and other Coniferous plants in the same way. Paulownia imperialis may be increased freely by placing portions of the roots in a light soil, and giving plenty of heat and moisture in spring or autumn.¶

SEEDLING FLOWERS.

CINERARIAS—*Salop*—There is a pretty variety of colours among your seedlings, but they are deficient in form, the petals being too narrow and wanting in substance; 5 is the best shaped flower.*

PRIMULA SINENSIS—*E M*—Your seedling is bright and rich in colour, large (measuring 1¾ inch in diameter); the defect in the flower consists in the edges of the petals being too serrated.*

THE LONDON MANURE COMPANY beg to offer the under-mentioned MANURES on the best terms:—The AGENCY of the LONDON MANURE COMPANY, for Turnips, Tares, Oats, Barley, and all other Spring Crops.
GENUINE PERUVIAN GUANO, DIRECT FROM THE IMPORT WAREHOUSE
Nitrate of Soda—Petre Salt for dressing old Pasture—Agricultural Salt—Superphosphate of Lime—Soda Ash—Pure Gypsum—Bone Sawdust—Sulphuric Acid—Sulphate of Ammonia, and every other artificial Manure. E. PURSER, Sec.
No. 40, Bridge-street, Blackfriars, Jan. 22.

The Agricultural Gazette.

SATURDAY, JANUARY 22, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.
THURSDAY, Jan. 27—Agricultural Imp. Soc. of Ireland.
WEDNESDAY, Feb. 2—Agricultural Soc. of England.
THURSDAY, — 3—Agricultural Imp. Soc. of Ireland.
FARMERS' CLUBS.—Jan. 28: Stranraer.—Feb. 5: Newcastle, Durham.

SOME of our readers may have noticed in a late number of the *Mark Lane Express*, and also in the *Maidstone Gazette* a letter by Mr. J. C. NESBITT, in which that gentleman has taken the liberty of publishing the results of certain analytical researches in which he was employed by Mr. PAINE, of Farnham. Led by an agricultural experience of singular uniformity in reference to the soil on part of his property, Mr. PAINE has been induced carefully to investigate the nature of the subsoil: and he has arrived at conclusions not only of the highest interest in a geological point of view, but of the very first importance to the welfare of British Agriculture. We decline copying Mr. NESBITT'S letter on the subject, not only because of the very inadequate view it gives of the discoveries which have been made, but also because Mr. PAINE, with whom alone, of course, the permission to publish these investigations must rest, has not authorised us to make them known. But we have authority to say that so soon as the facts shall have been fully worked out, the earliest information respecting them will be published in these columns. The whole history will prove to be an admirable illustration of the relative bearings of Agriculture, Chemistry, and Geology.

WE are sure that our readers must agree with us in the high value to be placed upon the annual statements of his AGRICULTURAL EXPERIENCE which the Hon. and Rev. L. VERNON HARCOURT has published in our columns. Nothing can be truer than his first sentence in the adjoining page:—"Facts and not theories or opinions are the things most wanted for the improvement of agriculture." And nothing can exceed the faithfulness with which in the full details that follow he has adhered to this doctrine as the guide of his proceedings. Whether the subject be the merits and demerits of hedgerow timber—the relative advantages of sowing broadcast and in rows—the benefits of hoeing grain crops during their growth—or the much debated question of thick or thin seeding—it is not an opinion or a dogma that he insists upon, it is the simple record of his experience that he recites. How very few agricultural writers there are who, on most of the above-named subjects, would think it worth their while to refer to facts in proof of their teaching—they would assert the *self-evident* truth or argue from the *obvious* advantages, and so forth; but who would think of patiently observing and recording experience on points so "certain?" And yet this is the only true philosophy: to found a doctrine upon facts is the only safe method of teaching.

And if this be true of what are called "settled" questions, how much more of those which are still debateable. The question of THICK OR THIN SEEDING, for instance; we shall never arrive at any certain conclusions upon it so long as the disputants having stated all they *know*, prolong discussion on the character of their opponents rather than on that of their evidence. Some of these gentlemen exhibit a very suspicious preference of adjectives to substantives in their writings; this may be taken as a very safe indication of their approaching exhaustion. How easily and satisfactorily, on the other hand, the matter could be resolved if intelligent farmers—those who can give their own experience upon it—would simply state it, and thus conclude the discussion instead of leaving it in the hands of the few who have hitherto conducted it. Let Mr. WILKINS' experience, that of Mr. H. DAVIS, of Mr. MECHI, and of hundreds of others be thus tabulated and compared, and we should have a sufficient basis of facts on which to rear a sound conclusion—but so long as farmers hear of three or four witnesses merely, and those asserting an experience acquired only on highly cultivated land, they will be justly fearful of sanctioning that general adoption of thin sowing which is recommended.

Our own opinion is simply this—that to grow a good crop of Wheat many conditions must concur—*one* of these, and *not* the most important, being the right relationship between the number of plants on a given space, and the means which that space (of air as well as land) has of maintaining them. There is a possibility of too few being grown as well as of too many—in the one case the greater size of the ears of corn does not compensate for this smaller number, and the whole plant later of ripening is more liable to disease: in the other, the number of the ears does not compensate for their puny size, and the plants being crowded have short and weaker straw. There are, however, differences in grain produce, consequent on other causes, so great that we do not believe it to be much influenced by two or three pecks, more or less, of seed, between five and eight per acre: the former, we believe, in ordinary circumstances to be sufficient, and an additional quantity up to the latter is probably simply wasted, while beyond the latter it is probably also injurious. All this may appear dogmatic, and to earnest advocates of thin seeding unreasonable: we can only say that for the last seven years we have sown from 60 to 120 acres of Wheat per annum, with quantities varying from 27 lbs. of seed up to 10 pecks per acre, and our conclusions are, we think, rightly deducible from our experience.

There is no better illustration of the way in which this subject has been discussed than the reception experienced by "More Facts" in connection with it lately published in a tabular form by Mr BAKER, of Writtle, in the *Mark Lane Express*. Two gentlemen noticed them on the following week. The one says: "I like Mr. BAKER'S quiet way of stating a fact: it is better than declamation;" and he very justly adds, "I hope, if he has any facts *in favour* of thin seeding, he will communicate them, and also the results of any of *his own experiments*, which I presume he has tried. I shall consider it my duty to publish all the facts I am cognizant of, either for or against, and I hope other agriculturists will do the same. We ought not to appear as mere *advocates* of a particular system, but as judges of facts sought for or tried by ourselves."

He then follows with a number of facts within his own knowledge as to the practice of farmers in his neighbourhood, which we shall publish as so much clear addition to the history of the subject:—

"Last year, Mr. Walker, of Petistree, Suffolk, a successful practical farmer, tried thin seeding, in consequence of my remarks at a previous meeting. In the middle of a 15-acre field he altered the drill wheel, and deposited 1 bushel of seed on 1 acre, the rest of the field having his usual quantity, 2 bushels; it was sown in October. The thin-sown acre produced 7 bushels more per acre than the thicker sown acre, besides saving the bushel of seed. In another field, drilled in November (a month later), he had no increase from thin sowing, but saved his bushel of seed per acre, and grew a greater WEIGHT of straw, which confirms my own experiments, that we get more *weight* of straw from thin sowing than from thick. My own experiments for three years have been *invariably* in favour of 1 bushel per acre over 2 bushels—the saving being often the rent of the land. I have now 50 acres drilled with 1 bushel per acre, and 32 acres sown later with 5½ pecks. Mr. W. Hutley has, at Wigborough, 180 acres of Wheat drilled with 5 pecks per acre. Mr. James Wood, of Goldhanger, grew as much from 1 bushel as from 2."

The other gentleman finds in Mr. BAKER'S "facts" arguments than which "nothing could have been more convincing in favour of thin sowing:" he adds no new facts himself, and welcomes these only because, in *his* eyes, they are in favour of what he considers a better system of agriculture. Now what we have all along contended for is that facts are welcome, whatever the tale they tell. What we want is TRUTH, not evidence in favour of any particular creed. We ought gladly to receive evidence of all sorts from trustworthy witnesses, and then we should admit its obvious testimony. But how does the correspondent of the *Mark Lane Express* approach Mr. BAKER'S facts? By a singular and amusing ingenuity, he grounds his conclusions on a comparison of the best account of the thin seeding with the worst of the thick, and is silent regarding all the others on the scale between. It is as if, of all the fields on a farm, of various fertility, each of which was half thick sown and half thin, he had taken the characteristic acreable produce of the former from the worst, and that of the latter from the best of the series.

But he illustrates his point in another way. He shows by the plainest arithmetic that the produce of the thin sown was a greater multiple of its seed than that of the thick sown. This he appears to think is a great point. Now, so far from this, we submit that, excepting in a country where land is of no value, the inference he draws is absolutely worthless. It is the produce per *acre* not per bushel of seed that the farmer looks to. We have grown 30 bushels per acre from 1½ pecks, and 50 bushels per acre from 8 pecks of seed: in the former case we obtained 20, and in the latter only 6. Had the seed, but on which had we the most reason for self gratulation?

We subjoin the whole letter:—

"As every additional fact in favour of a better system of agriculture must be interesting to all [illegible], will you allow me publicly to thank Mr. [illegible] for his 'More Facts on Thin Sowing,' which [illegible] in your *Express* of December 31. An article [illegible] in favour of thin sowing from the [illegible] of the agricultural troop of agricultural protectionists, [illegible] great weight with the agriculturists of [illegible], and perhaps so of all England. Mr Baker's facts are as follows:—

[illegible]

That is to say—

[illegible]

"By the above analysis it is clearly shown that the experiments do [illegible] facts on thin sowing, since one of the smallest quantities of seed produced the largest increase of crop; the 5 pecks produced 29 pecks, whilst 7 pecks produced only 22 pecks. Sowing therefore, could have been more convincing in favour of thin sowing, or I would show Mr. Baker where by a little more than half 5 pecks of seed 75 fold was produced, and where only a little more than 5 pecks of seed produced a crop of nearly 6 bushels an acre. But the above 'More Facts on Thin sowing' are enough, and I thank Mr. Baker for publishing them."

We have not given the names of the writers of these letters (we cannot suppose that they [illegible] care for that), because our object has not been to bring home anything to *them*, but simply to illustrate the general subject of agricultural instruction, of which Mr. HARCOURT'S paper in an adjoining page is so valuable a specimen.

EXPERIMENTS IN CULTIVATION AND MANURES.

FACTS and not theories or opinions are the things most wanted now for the improvement of agriculture. The latter are as plentiful as Blackberries, the former are treated as if they were weeds not worth preserving, and yet they contain the whole practical truth of the art, and the latter cannot be sound if they are constantly contradicted by them. I therefore persist in recording the results of my experiments as a contribution towards laying the foundation of more certain knowledge, and it is the more necessary because agriculture is not an exact science, but is exposed to a thousand contingencies which perplex our investigations; and accidents of weather and variations of soil and the ravages of animals render accurate comparison extremely difficult. The object of these experiments in cultivation was to compare—1. Sowing broadcast with sowing by the drill. 2. Thin sowing with thick sowing. 3. Hoeing crops with unhoed crops. The first experiment was made in five different places; but one of them, on account of the havoc committed by the wireworm, was not a fair trial; of the remainder, two gave the following results, the calculation per acre being made from 6 perches measured and weighed.

	Corn per Acre.	Straw per Acre.	Weight per bush.
	bush. gal.	stones. lbs.	lbs.
1. Drilled Wheat	56 5	37 14	63
Broadcast ditto	43 2	29 5	63
2. Drilled Wheat	40 0	31 27	62
Broadcast ditto	41 3	30 23	62

The last of these I consider a perfectly fair trial: and the advantage is on the side of the broadcast, but it is an advantage which I hold to be more than compensated in favour of the drill by the superior economy and execution in keeping the land clean: with respect to the other I must observe that a better quality as well as a larger produce argues that the quality of soil to which I have already referred; a crowded crop may increase the quantity at the expense of the quality: but then there is not only more straw and more grain, but more weight per bushel too, that must be ascribed to something more than the difference in sowing: moreover, the broadcast was sown thicker—7 pecks to [illegible]. But the same remark applies still more strongly to the third instance, where though in the same [illegible], too, not a large one, the crop will be seen to be so much inferior.

	Corn per Acre.	Straw per Acre.	Weight per bush.
	bush. gal.	stones. lbs.	lbs.
3. Drilled Wheat	[illegible]	[illegible]	[illegible]
Broadcast ditto	[illegible]	[illegible]	[illegible]

It is obvious that there must be a great deterioration in the quality of the soil in this part of the field, and to a greater extent where it was drilled than where it was broadcast,* for though it was so thin upon the ground the bushel weighed 1½ lb. less. The fourth example shows the advantage decidedly in favour of the drill, which is not counterbalanced by any similar objection.

	Corn per Acre.	Straw per Acre.	Weight per bush.
	bush. gal.	stones. lbs.	lbs.
4. Drilled Wheat	48 0	31 4	63
Broadcast ditto	36 3	26 24	62

In the next place the evidence of the experiments is

* I have since examined these soils, and find that in the part of the field where the last experiment was tried there was 6 per cent. less of alumina, 12 per cent. less of sand, and 11 per cent. more of lime and magnesia than in the other.

very much against thin sowing. It might easily be imagined that since in some seasons and in some localities severe injury is inflicted upon Wheat by a variety of minute animals, the crops which have no plants to spare must suffer much more in proportion than those which can afford to lose a great many, and yet retain enough to cover the ground. It would seem unnecessary to insist upon so plain a proposition, were it not that some persons most resolutely shut their eyes against the most obvious truths; for this reason only I will mention a fact which otherwise would not be worth recording. In a field where the wireworm had been very destructive, 7 pecks of corn sown produced 20 bushels; but where 4 pecks only were sown the quantity was reduced to 13 bshls; and in another, where 8 pecks had been sown the produce was 33 bushels; but where half that quantity was sown the produce was less than half, or 16 bushels; but it was not only under circumstances of disadvantage that thin sowing failed of success; its inferiority was shown, though not in the same degree, when the crop was good, as shown in the following cases:—

	Corn per acre. bush.	gals.	Straw per acre. trusses.	lbs.	Weight of Corn. lbs.
Wheat dibbled, 4 pecks	27	4	57	1	62
„ drilled, 8 pecks..	40	0	77	1	61½
„ dibbled, 3¾ pecks	40	0	106	24	60
„ broadcast, 7 pecks	43	2	102	8	61

However, it may be said in this case that the greater weight of the grain, and the greater quantity of corn, from a smaller amount of straw, indicate some accidental superiority of soil; and it proves that in some particular instances good crops may be obtained from a very small amount of seed. The third series of experiments tend to show the advantage of hoeing Wheat, though that advantage in the two first cases is limited to a small increase of straw, the measure and weight of grain being just the same under either treatment. The dibbled, both hoed and unhoed, yielded 29 bushels 7 gallons; the drilled, both hoed and unhoed, 43 bushels 2 gallons; but the hoed from 1 to 2 trusses more. In another field the comparison stood thus:—

	Grain per acre. bush	gals.	Straw per acre trusses.	lbs.	Weight of Corn. lbs.
Wheat drilled and hoed	35	0	56	26	61
„ drilled but not hoed	33	3	62	34	61
Australian Wheat, dibbled but not hoed ..	43	2	108	8	61
„ dibbled and hoed..	46	5	128	18	61

Here the advantage of hoeing is very decisive; and I shall have occasion to revert to this subject by-and-bye. In the meantime I must observe that though more than 46 bushels of corn can be obtained, as in this instance, from little more than 3 pecks of seed, it does not warrant the general adoption of the practice, for in most cases it would be attended by disappointment: failure is the rule, success is the exception. With respect to the value of manures applied as a top-dressing to meadow land, I continue to find sulphate of ammonia, when applied at the proper season, to be uniformly beneficial and remunerative, though sometimes only to a small extent. In two instances, where ¾ cwt. was employed, the increased value of the hay, after deducting the price of the manure, was 1*s.* 4*d.* and 7*s.*; in other trials, where the quantity was 1 cwt., the profits per acre were 3*s.*, 12*s.* 2*d.*, 14*s.* 1*d.* The only instance of loss was where it was sown merely for the sake of the experiment, too late and after the dry weather had set in. But even that may not be ultimately a total loss; for I found upon comparing two portions of land, neither of which had been manured this year, but one had last year received a dressing of the sulphate of ammonia, and the other none — the value of the hay on the former was 3*s.* 10*d.* per acre more than on the latter. A similar experiment, when the manure had been guano, gave an increase in one trial of 3*s.* 9*d.*; in another none at all. The application of the same manure this year was rather more successful than before; for it failed once, but succeeded twice. The loss was 4*s.* 4*d.*; the gains were 3*s.* 5*d.* and 7*s.* 2*d.* The quantity in the last instance was 2 cwt.; in the others, 1½ cwt. But on poor soils the benefit of applying artificial manures to the Trefoils was more remarkable. The manures were selected in this case with a special view to the constitution of the plant, and these were the results:—

	Weight of Hay. tons	cwt.	lbs.	Cost per acre. £	s.	d.	Profit. £	s.	d.
Yellow Trefoil, without manure	1	0	106						
1½ cwt. guano and 1½ cwt. gypsum	1	6	74	0	15	0	0	7	10
1½ cwt. guano and 1½ gypsum, 40 bushels ashes....	1	11	48	1	10	0	0	11	10
Red Clover, without manure	1	6	74						
2 cwt. superphosphate of lime	1	12	39	0	14	0	0	8	9
Do. and 40 bushels ashes ..	2	0	53	1	9	0	1	6	3
1½ cwt. Clover manure	1	13	37	1	1	0	0	5	8
Do. and 40 bushels ashes ..	2	9	58	1	16	0	2	15	4

Here it will be observed that the ashes in each instance greatly augmented the fertilising power of the manures to which they were added; and yet, when used alone, they did not repay their cost by 1*s.* 8*d.*; but it follows not from this that separately they have less efficacy in proportion than they have in combination with other substances. General experience shows that they are very favourable to the growth of Trefoil; and in this case there is no second trial to check and correct the first. I now pass on to other experiments, embracing both the effects of cultivation and the action of manure, experiments which have been continued for four years on the growth of Wheat upon the same ground with the same artificial manures and no other. Two things, however, must be premised:—1. That in the course of the preceding summer, the ground being overrun with the Convolvulus arvensis, in order at once to get rid of the weed and to restore to the soil the inorganic food which had thus been abstracted from it, the roots were collected and burned; care however being taken to burn on each plot of ground only those plants which had grown upon it. 2. In the renewed trial, whether artificial manures might not equalise the productiveness of good and bad grain, the latter being left without any artificial aid for five months, more than half of it either did not grow or was destroyed in the winter, and it was necessary to take up the whole of the remaining plants and divide them. Being then replanted they scarcely covered the ground, and stood at such distances from each other as would have satisfied the stoutest advocate for thin sowing. As soon as they had taken root again they were watered with the solutions, and through the summer they were remarkable for the dark green vigorous appearance of the foliage; but the straw was shorter than the rest, and was later in ripening by a week or ten days. The results of this treatment and the produce of this year compared with that of the last are shown in the subjoined Tables:—

Names of Manures.	1846. Weight of Corn	Weight of Straw.	1847. Weight of Corn.	Weight of Straw.
	lbs. oz.	lbs. oz.	lbs. oz.	lbs. oz.
Good Seed.				
Phosphate potash, 4 lbs...	12 12	26 15	14 4	35 0
Phosphate potash, 2 lbs. Sulph. ammonia, 2 lbs.	13 10	24 2	17 11	40 0
Sulph. ammonia, 4 lbs. ..	13 6	24 2	17 13	35 0
No manure	13 8	23 14	14 8	33 0
Bad Seed.				
Phosphate potash, 4 lbs...	10 14	23 6	12 2	28 0
Phosphate potash, 2 lbs. Sulph. ammonia, 2 lbs.	17 8	30 14	18 13	31 0
Sulph. ammonia, 4 lbs. ..	16 10	24 6	15 9	30 8
No manure ...	11 10	22 14	12 13	25 0

Here three facts call for remark:—1. In every instance the phosphate of potash seems to have caused a greater production of straw and less of corn; and in one case the sulphate of ammonia had the same effect, but the same weight of manure, consisting of the two combined, produced a very considerable increase of both. 2. Instead of a diminution resulting from a repetition of the same crop, we see in every instance but one a great increase this year of both, even on those parts which received no addition of foreign manure, and the single exception is more apparent than real; for the great increase of straw shows that the falling off was due to some accidental cause. The seasons, which are beyond our control, sometimes produce effects of which we can render no account; but a part at least of the increase may be ascribed to the inorganic elements, which were slowly elaborated from the soil in the summer by the weeds being restored to the roots of the corn in a more soluble and therefore in a more available state in the shape of ashes. 3. Though the bad seed did not yield more than the good, as it did last year, yet in proportion to the quantity of straw the produce of corn was greater, and therefore the difference must be ascribed to the thinness of the plant upon the ground; and, further, not only was the whole amount of corn from the bad seed this year greater than the whole amount from the good seed last year, but in one instance it surpassed the good this year too, and surpassed it not only in quantity but in quality, for the value is tested not by measure but by weight. Much of this success must no doubt be attributed to the complete consolidation of the soil, by the trampling of the transplanters, and the application of the manure to the plants exactly at the critical period of their growth, when they were best able to appropriate to their organisation the food with which they were supplied. The next chemical manures tried upon a somewhat smaller space of ground were the same as before—sulphate of soda, phosphate of soda, muriate of ammonia, and nitrate of potash. All the seeds were first steeped in a solution of these salts, and half of them in the following spring watered with 6 lbs. of them. For the purpose of comparison the produce is given both of last year and this:—

Name of Manure.	1846. Weight of Corn.	Weight of Straw.	1847. Weight of Corn.	Weight of Straw.
	lbs. oz.	lbs. oz.	lbs. oz.	lbs. oz.
Sulphate of soda watered	31 2	52 13	35 6	92 0
„ steeped only	29 0	50 2	31 14	77 8
Phosphate of soda watered	29 14	46 2	31 0	74 12
„ steeped only	30 12	52 14	32 0	84 12
Mur. of ammonia watered	34 2	63 0	36 14	109 4
„ steeped only	28 8	52 14	30 10	89 4
Nitrate of potash watered	30 6	62 14	31 0	90 4
„ steeped only	29 12	62 1	27 13	83 0

The same remarks apply to these as to the former experiments, except that the phosphate of soda seems to be more injurious than the phosphate of potash, since the Wheat watered with the solution produced in both years not only less grain but less straw, too, than where the seed was only steeped. But with the single exception of that which was steeped in the nitrate of potash, the produce of all this year exceeded that of last year; and even that may be more an apparent than a real exception; for the quantity of straw was nearly one-third more. It only remains to mention that every alternate row having been left unhoed, the produce of those rows was less by 27 lbs. 4 oz. than from those which had been hoed; and the oftener that operation was performed the greater was the increase. But it is necessary to be cautious; for though it is useful to keep the soil open till the lateral fibres of the roots have penetrated it, yet afterwards the hoe is mischievous, for it cuts off the mouths by which the plant feeds itself.

Before I conclude, the obvious improvement obtained in these experiments from so small an amount of inorganic manure, leads me to notice a vulgar error which a certain agricultural fanaticism is propagating too successfully all over the country. If any agricultural radical boasts that he has slain his thousands of trees, and claims merit for it as a great benefactor to mankind, he not only shows an utter insensibility to all the beauties of Nature, and a utilitarian dulness destitute of taste, but also a woful ignorance as to some plain matters of fact. I do not contend that trees do no harm to crops; I freely admit that inclosures may be too small, and trees too numerous; but I do contend that to proscribe them altogether, and to banish them entirely from any extensive farm, is the greatest blunder that can be committed by an agriculturist. Ask the traveller whose eye is wearied by the endless tracts of open lands in France what it is that strikes him most when he crosses the channel, and he will tell you that it is the richness of the scenery formed by the inclosures; and this is no illusion; it is not a mere impression upon the eye from the intermixture of trees in the landscape; it is a real richness of soil, a real difference of verdure and vegetation produced partly by shelter, and partly by the fertilising operations of Nature. When Mr. Jacob published his account of agriculture on the continent, he stated that the return of Wheat in the north of France was eight or nine for one. In the enclosed parts of England no good farmer would be content with such a return, though in the most bleak and exposed situations it would not be far from the mark; and why? because protection from wind is an essential condition of fertility. In a dry soil, especially, the unrestrained action of wind abstracts from the growing plant more moisture than its roots can supply, and therefore tends to weaken and to wither it; and the same effect is produced by the great reduction of temperature which it causes; for it is well known that rapid evaporation is the source of intense cold. But crops want protection from wind in their state of maturity as well as in their state of growth. Wheat and Oats sometimes suffer much from the absence of it, and for one bushel that is lost by the neighbourhood of trees, ten will sometimes be scattered on the ground by the shaking of the wind.

But further, though shade is injurious to crops, yet both shade and shelter are wanted for cattle. If they are to be kept in the highest state of health, shade in summer, and shelter in winter. Let any one observe what a longing for shade is exhibited by animals in a hot day; how sheep, for instance, cluster under the shadow of a tree, or a hedge, or even a bank, and then say whether, by depriving them of that comfort, you do not subject them to a privation likely to be injurious to their health, or at least very hostile to their thriving well. In winter, again, the want of shelter is admitted on all hands to be hurtful to them, on account of the great combustion of food in the lungs which it occasions, and the great loss of animal heat; and therefore some of those who have deprived them of that which Nature gave them have been driven to invent moveable sheds to supply its place. The exterminators of trees, indeed, go so far as to say that all animals should be kept under cover. Be it so; if they can find their system answer to them, let them manure their fields with gold if they will; it is not for me to complain of it. What I do complain of is their propagandism, that they beguile those who have not, and those who cannot have their accommodation, into a belief that, by a partial adoption of their system, but omitting the most material part, they are acting well and wisely. It may be said that animals resorting to hedges and trees for shade and shelter deposit their manure in places where it must be lost. But why must it be lost? Did anybody ever hear that manure is lost when it is deposited in the fold yard? And why may it not be collected in one place as well as in another, especially since there is the same intermixture of animal and vegetable matters? for where the droppings fall, the leaves fall also. It may be said that they are scattered by the wind over the surface of the ground: well, but if they are scattered, they are not annihilated, and wherever they are deposited their decomposition adds so much useful matter to the soil, and before decomposition they protect the young crop from frost, and prevent the radiation of heat from the earth. Strange it is that when the value of leaves and leaf-mould is so well understood by gardeners, it should be so entirely overlooked by farmers; but since many persons are extremely slow either to perceive or admit inferences from analogy, I determined to bring this question to an issue in a method almost approaching to demonstration.

I had the leaves of a tree which stood apart from all others collected and weighed when they were so far dried by exposure to the air as to be fairly considered dry leaves; their weight was 360 lbs., the space of ground covered by the tree was from 8 to 9 perches, and beyond that area no effect at all from the roots was perceptible. Here, then, is more than 3 cwt. of manure to compensate for any loss sustained from the tree; the next thing was to ascertain what that loss might be on arable land. The mean of three trials upon Wheat under the shade of trees, compared with equal spaces in the middle of the field, was for 9 perches a

diminution of grain to the amount of 1 bushel and 1 gallon; supposing, however, that it might amount to 2 bushels, which is almost double the result of actual experiment, it would be far more than replaced by 3 cwt. of leaf manure; but in order to bring the proof within a narrower compass of known facts, I further ascertained that by reducing the leaves to ashes there would remain about 34 lbs. of inorganic manure; now, since the few pounds produced by burning the roots caused an increase of 26 lbs. of grain upon 32 perches, which is 1-5th of an acre, five times that amount will give 130 lbs. per acre, which is more than the weight of 2 bushels of the best Wheat. But here the quantity of manure is not strictly determined; in the foregoing experiments the quantities are known, but only the phosphates and the sulphate of soda will serve for comparison, as being wholly inorganic; but the former salts depend so entirely upon combination for the activity which they then possess, that they cannot form the basis of any fair calculation, although both the acid and the bases are found in leaves upon analysis; the sulphate of soda therefore alone remains, and even this is very disadvantageous for the purpose, because 17 times more potash, of which the leaves principally consist, are required for a crop of Wheat than of soda. Nevertheless it appears that the application of 12 ounces of this inorganic manure increased the crop by 3½ lbs.; taking it, however, at only 3 lbs., and multiplying it by 45, which is in round numbers the amount of equal doses contained in 34 lbs., the increase would be in return for the leaves 135 lbs. of corn, which again is more than the weight of the 2 bushels supposed to have been lost by the tree. If any one should object that trees only restore to the soil the food of which it had previously deprived it, the objection is quite erroneous, for the plough takes care to cut off all the roots near the surface, and the subsoil only is concerned, and the rest penetrate to a depth which the roots of the crop cannot reach, and there elaborate fresh materials of fertility, and bring up again the soluble manure which had filtered through the soil, or been carried down by the rains. It has now been proved, therefore, that the injury inflicted by trees, though more immediate and obvious to the eye than the benefits they confer is amply compensated in the ultimate results, and that we are not justified in deforming the country in order to increase its food. I am quite sensible that the preservation of these leafy screens may be carried too far; the best things become bad in excess. It is good for the soil to be warm, it is not good that it should be parched; it is good that it should be moist, it is not good that it should be deluged; it is good to have the benefit of the sun, it is not good to have no shade; it is good to have a free circulation of air, it is not good to be exposed to violent winds. I cannot, therefore, understand how those who at great expense scruple not to cover acres of ground, which might bear Wheat, with fold-yards and cattle sheds, because they economise manure and food, and favour the health of the animals, can proscribe, as an intolerable usurpation, provided they are kept within moderate bounds, those natural manufacturers of manure and shelterers from the storm which cost them nothing, and pay well for any apparent damage, and are a refreshment to the eye and an ornament to the landscape, and a source of fuel for the poor, and a supply of timber for the use of the farm.—*L. Vernon Harcourt, West Dean House.*

Home Correspondence.

Influence of Climate upon Agriculture.—Since I called the attention of agriculturists to the influence exerted upon their produce by the variations of climate, I have received letters from a number of gentlemen announcing their intention of establishing rain gauges and thermometers upon their respective farms; and in some instances requesting advice upon the best method of erecting these instruments and taking observations. When we consider that the object for which these observations are intended is to obtain information respecting the effect of climate upon agriculture, and that the observations obtained in one district are to be compared with those of another, the importance of unanimity in the means employed must be apparent to all. I will therefore venture to make an extract from the work of Sir James Clark upon climate, in which he laments the want of uniform observations, and points out the best means to be employed in making them. "It is much to be regretted that a more perfect comparison of the climate of various places has hitherto been unattainable, in consequence of the different methods adopted and instruments employed by observers, as well as the difficulty which frequently exists as to the proper position of the instruments. In making observations for comparison, a spot should be selected at some distance from any dwelling, and as little surrounded as possible by walls or high ground. The thermometers should be placed upon a framework of wood, facing the north, between 5 and 6 feet from the ground, and defended by a pent roof, to prevent the rain falling on the bulb; or, what would be better still, the instruments might be fixed on a frame of wood under a thatched roof, placed at some height above them, open to the north, but projecting some distance downwards towards the east, south, and west, so as to cast a shadow on the ground and prevent as much as possible any directly reflected heat; the floor of the little observatory should be boarded. As the majority of observers have other occupations, and are unable to devote a large portion of their time to the subject, one daily observation at 9 A.M. will, without entering too scientifically into the matter, be sufficient for all general purposes. The maximum temperature should be inserted in the journal kept for the purpose, with the observations of the preceding day, and the minimum on the day on which it is taken. The reason for this is, that in marking the registering instrument once only in the 24 hours (at 9 A.M.), and the warmest part of the day occurring in our climate about 2 P.M., the registering thermometer obviously gives the maximum temperature of the preceding day; whilst the coldest period usually occurring a short time before sunrise, the minimum temperature is, as has been already noticed, that of the day on which the observation is made." For agricultural purposes I should be inclined to recommend—1st. A register thermometer which shows the extreme heat and cold, to be suspended upon a post 4 or 5 feet from the ground, and about 18 inches above the thermometer; a roof of thatch or asphalte, to descend about 18 inches upon the north side, and twice as far on the other three sides, and to project from the centre about 2 feet; the thermometer should face the north. One observation at 8, 9, or 10 o'clock in the morning would be sufficient, the extreme heat shown being entered in a book as the temperature of the day before, and the extreme cold as that of the day on which the observation is made. The rain gauge may be placed upon a post, or on a low wall, at a convenient height, say 3 or 4 feet from the ground, and care should be taken that the mouth of the gauge is level. The gauge should be examined every day, as it is of essential importance to know the number of days in which there is rain, as well as the quantity which falls. It would also be advisable to enter the character of each day, whether windy, fine, sunny or cloudy. The expense of a rain gauge and register thermometer, as made by Bate in the Poultry, amounts to 2*l.* 4*s.*, and the time required to make and enter the observations, would not be 5 minutes daily. If an hygrometer could be added to the other instruments it would be advantageous. Although the position of my thermometer does not accord with that which I have named, I am quite willing to place it in this or any position which the majority of observers would deem most suitable. My own observations upon the influence of climate upon agriculture, imperfect as they are, have already furnished results of sufficient importance to show how valuable a series of carefully recorded facts would be. It is true we cannot influence or alter, to any great extent, the action of the sun or rain upon our produce, but I have little doubt that we shall eventually be able to predict with certainty the effects which any peculiar changes in the seasons will produce.—*J. B Lawes.*

Thin Seeding.—"Opinionum commenta Dies delet, Naturæ judicia confirmat." *Cic. de Nat. Deo.*—With such a text as this how can I be such an advocate for thin seeding? This, of course, I shall explain as I proceed; but is not thin seeding a modern invention which Dies deleat? Certainly not; but Naturæ judicia which Dies confirmat. Had it been the invention of yesterday, George Wilkins would not have been its advocate; he would not in that case have exposed himself, and gratuitously too, to the illiterate bigotry of that swarm of anonymous writers, who, he was sure, would be raised up with their waspish stings in their tails buzz buzz buzzing against him. There are the "J. B.'s," and the "R. B.'s," and the "T. B.'s," and all the swarm of B's which all the combination of the 24 letters of the alphabet will permit to be produced. But who are these writers?] If their object were a national one, and they had the benefit of mankind at heart, as the rational seeders have, would they shield themselves under fictitious signatures, like men who walk about in the dark with crapes over their faces and dirks in their pockets? Is such the conduct of the thorough drainers, subsoil ploughers, and thin and rational seeders? Is truth to be elected, and is scientific agriculture to be advanced by anonymous writings? Every man with a grain of sense in his braincase will answer that they are not, and to the honour of every advocate of them he has appended his name, his place of abode, and the name of his estate, to all he has written, and has invited the strictest scrutiny into the veracity of every statement he has yet made. Such is the difference between the advocates of thick sowing and thin seeding! between a system of blunders, accidents, and repeated failures, and one of certainty, founded on scientific knowledge, and proved to be correct by practical experiments. Oh! how the mind recoils with pain, and even anguish, at the low cunning of contracted, or rather not expanded, minds. I have now lying before me five letters from thick sowers full of abusive language, because the concocters of them say I am opening the minds of landlords and injuring tenants. Painful, I observe, is such stuff as this, and only fit to emanate from a lunatic asylum: as it the whole community of landowners, tenants, tradesmen, merchants, manufacturers, mechanics, and labourers formed two families, or had separate interests. But to return to my text. Thick sowing is comparatively a modern practice; it had its origin in England in the most ignorant and darkest period of our history; thin, or rational seeding, on the contrary, is of the same age as the civilisation of mankind. Before I ventured to give my opinion on the cultivation of the earth to produce food for man, as far as my limited acquirements would enable me to go, I examined the husbandry of the civilised nations of antiquity, accounts of which are handed down to us by the writers of the several ancient countries: and in those investigations I came to the conclusion that all the polished nations of antiquity were scientific farmers, and consequently thin seeders, since knowledge and thin seeding always go together, and are the Siamese twins, one cannot be separated from the other without death to both. And I have expressed my own mind on the subject as I proceeded to the authorities from which my conclusions were drawn and quoted. In those investigations I found that, in common as all these nations were for all the arts that can adorn and humanise mankind, agriculture was at the head of them all, and that the best, the wisest, most virtuous and credible of every profession of society are engaged in the cultivation of the earth. Why, then, do not these "J. B.'s," "T. B.'s," "T. B.'s," and swarm of B's look into the records and history of antiquity, and not pester the world with their puerile nonsense, without so much as having examined the ground upon which it is founded. As the world can know that they cannot farm; they have proved to all mankind that they cannot. That remarkable man, the "J. B." of Alnwick, to whom I am indebted for knowing [illegible] system had no corn on 2 acres of land that was 21 or the latter: that is, as he had cut it early for the fowls of the air and would not let it remain to ripen, nor does: and the [illegible] to form the word that such was the case [illegible] acres in his neighbourhood. Now, on the contrary, as to thin seeding, I never knew more than a single instance; last year I had exactly 12 coombs an acre: a neighbour following my example to the Rev. G. Bowyer, had nearly 17 coombs an acre; Mr. Mead 14½ coombs an acre, and Sir. Dash's crops were equally as good. It is true against all this "J. B." has opposed a certain champion in one "C. W." which he has pitted against "C. W.," who takes about 12 to 24 coombs an acre, but whether grown in terra firma or in aerial be leaves us to form our own judgments.—*G. Wilkins, Wix, Dec. 28.*

Salt.—"S." says some of his Turnip seed sown with manures in which salt formed a part came up, and in other places they did not, and ascribes it to the seed coming in contact with the salt. In the month of May, in the very dry spring of 1 44, I sowed my barley in drills with various manures as manure, mixing with salt sown in the drills with the seed; the seed remained dormant in the soil without vegetating for a month or six weeks, till rain came, where it was drilled in which guano had been sown, and also in which common soda, and others in which dissolved bones had been sown, as well as those in which no manure was used, except as in the usual course. From this I am inclined to think that the chlorine of soda with such whatever little moisture there was in the soil, to form the muriate, and which action succeeded by the known evaporation of muriatic acid to undergo saturation, continuously deprived the seed contiguous to the Barley of its water, and so prevented vegetation. I think the evaporation of salt is on the surface, immediately after covering the seeds: in dry weather it attracts moisture from the air, and very probably gives it to the soil. I have frequently sown it, and always the ground where it has been applied, remained long with the appearance of moisture in the form of [illegible] and appeared quite dry. I have frequently, in dry seasons, sown salt with other manures and seeds, but never found it but in the instance of the Barley to prevent vegetation. "S." might say the [illegible] season and the ground were very dry when his Turnips did not come up, and if they were more favourable they did. I have much injured Carrots by sowing salt over them when they were above ground at this year I nearly destroyed Indian Corn by watering it with a strong solution of guano which Grass on it: I was with a month back by it. I desire you Curiosity by sowing a [illegible] of salt in each hole in which the plants were planted.—*J. M. Goodiff.*

Linseed as Food.—In various reports I have read of feeding cattle with Linseed [illegible] in saying the Linseed must be ground. Now my brother is using Linseed, not ground, but in the form it is soaking or steeping the seed 24 hours in [illegible] water, and then [illegible] he tells me that after having [illegible] the dung many times, as has [illegible] found many more seeds, and those merely the refuse or thinner of the seeds which appeared to have no kernel. I shall much obliged if you will give me your opinion of the above, or, if you prefer it, ask the [illegible] question in your Paper:—Is steeping Linseed in [illegible] water 24 hours, and then [illegible] three hours, equal to grinding for feeding purposes? [Mr. [illegible] experiments, reported last year, say—No. [illegible] steeping is undoubtedly the most economical. I [illegible] a quantity of bullocks [illegible] with [illegible] (or Swede Turnips, then water [illegible] from malted cows, would [illegible] the [illegible] which I can get at 4*d.* per gallon) be a good [illegible].—*G. G.* [No doubt.]

Boxfeeding Cattle.—With respect to the objection to box-feeding, the keeping of litter and dung under cattle for a month or two, however [illegible] it may be in England, is not [illegible] so in the mountains of Senegal. It is rather curious that among rude and uncultivated mountaineers two customs have prevailed for, it is unknown how long, which [illegible] seem to be gaining admittance into modern practice. For more than 15 years I saw them practised without drawing a useful lesson from them, with the pride of the then rising and neglecting the practice of experience. From the time the cattle are housed (November) till the manure is re-

quired for the Potatoes, (May) nothing is removed from under the cattle, by which time the accumulated heap under their feet carries their backs up to the roof of the byre. The continual tramping of the cattle so consolidates the matters under them, that I never remarked any escape of ammonia from them. The close country byres were as sweet or sweeter than mine, which were kept clean and well ventilated. The other practice to which I have alluded, is the application of manure on the surface to a growing crop, in these mountains, the Potatoes being planted, as is commonly the case in Ireland, in beds, receive the usual shovelling from the furrow (when they are about 6 in. high); and, previous to the shovelling, manure is carried in baskets among the beds and a handful applied to each plant. This they find increases the produce by keeping the Potato haulm longer green and in a growing state. This also I found contrary to our rules of burying animal and vegetable manures, to prevent the escape of ammonia, and therefore in due rule despised it as a barbarism, till an accidental circumstance drew my attention to the subject and led me to form opinions much at variance with the old school ones, and which I have already offered to the notice of the readers of *the Agricultural Gazette.*—*J. M. Goodiff.*

An Experiment on the Action of Drains in Clay.—Having laid two parallel drains with pipes 3 feet deep straight down the descent of a moderately inclined field of the blue lias clay, previous to the last winter, the ground having cracked well during the summer, and having heard of a deep drain laid in an adjoining field 40 years ago, which on examination I found to be 6 feet 6 inches deep, formed of stone perfectly open, the soil over it having been removed to the width of 4 feet, I had holes dug with a fork whilst the ground was perfectly sound, at various distances from all the drains, in order that I might observe the depth and rapidity of the drainage. Heavy rain having fallen on the 8th December, on the 10th, 36 hours after it had ceased, I found the water standing to within 3 inches of the surface, at 5 feet from the 3 feet drain, and the same height at 11 feet from the 6 feet 6 inch drain. Sixty hours after the rain had ceased, the water had abated in the latter to 10 inches from the surface. Dec. 15th, seven days after rain had fallen, the water stood 15 inches below the surface at 4 feet from the 3 feet drain, and 18 inches at 11 feet from the 6 feet 6 inch drain. I had then a hole cut 5 feet from the 6 feet 6 inch drain, that is 3 feet from the soil removed in laying it, which was perfectly sound, and on Dec. 21st, 36 hours after rain had fallen, the water stood within 10 inches of the surface. These experiments, however conclusive they may be thought against the immediate and extensive drainage of the retentive lias clays, furnish no argument against a deeper system of drainage than has hitherto been applied to them, but only against the very sanguine expectations which some of your correspondents might raise. Whether the drainage be deep or shallow, the washed and puddled surface of these soils will continue saturated with rain water until the more rapid evaporation of the spring relieves them, and then the greater the depth of the drain the sooner the lower strata will be dried, and the earlier will the ground be pervious to the influence of the atmosphere.—*H. W. S.*

Effect of Turnips on Ewes in Lamb.—We are glad to see this subject taken up in your columns, as we are convinced that much misunderstanding prevails respecting the proper management of ewes before lambing. In attending to the condition of the ewes at this time, two evils are to be avoided; the ewes should neither be too fat nor too lean. The young of any animal in high condition is much smaller than that of one in an ordinary fresh state. Either from the stimulating nature of the food she receives, or from a natural tendency in some animals to convert everything into fat, the young animal is neglected and does not increase in the same ratio as its dam. Fat animals are also more subject to inflammatory attacks after parturition than lean ones. We have seen ewes in such high condition that it was with great difficulty they could be lambed at all, and where much assistance is required there is great danger of losing both ewe and lamb. In Cheviot or black-faced ewe flocks, which are seldom in high condition, it is very rare indeed that any assistance is required from the shepherd, except in cases of false presentation. But even these may be hurt by being over-fed. Three years ago, when Turnips were very abundant, we allowed our black faced ewes nearly as many as they could eat for about eight weeks before lambing, and the consequence was that we lost a considerable number of ewes from this over-feeding having caused the horns of the tup lambs to grow so much that some of them never could be lambed; and others were so much hurt that they inflamed and died. The horns of the new-born lambs were, in many instances, 3 inches long; in general they are seldom more than two. In this case the ewes were not fat, they were only in good condition; still, better than they should be. On the other hand, care should be taken that the ewes do not get too lean. They must have sufficient food not only to support themselves but their young also. After the wool begins to grow upon the lamb, so much nourishment is required for its support that if the ewe is not provided with enough of proper food she will lose flesh rapidly. The wool loosens, and either causes a break in the staple, or, what is worse and more likely to happen, it peels off and is lost. The effect on the lamb is equally bad. There being nothing to spare for the necessary supply of milk when it is dropped, it must be assisted with cow's milk; or, perhaps it gets as much from the ewe as keeps it alive for three or four weeks; after which, as the ewe regains condition, the supply of milk increases, but it comes too late; the lamb has been checked in its growth at a time when it is most necessary it should have abundance of milk, and the consequence is it is crabbed and puny all its life. To avoid both these extremes, let the ewes have a moderate supply of Turnips about two months before lambing. We consider one cart-load to 80 ewes, given them on a Grass field where they will be able to get some Grass, the best treatment they can get. Once, when Turnips were scarce, we tried Oats and foundered several ewes. We have had no experience in giving them oilcake or salt. "A Lincolnshire Flockmaster" says, page 859, "that in that county the Swede Turnip is usually pitted for lambing time, and the red and white tops consumed during the winter season." Our experience leads us to say that Swedes should not be given at all. Swedes both yield less milk, and are, from their more costive nature, more apt to produce inflammation after lambing than other varieties. The best Turnip for ewes, as far as we have seen, is the green-top yellow. It produces more milk than any other variety we are acquainted with, and keeps well either in pits or growing in the field till the middle of April. —*A Berwickshire Flockmaster.*

Societies.

SOCIETY FOR THE AMENDMENT OF THE LAW. MR. STEWART'S LECTURE ON THE TRANSFER OF REAL PROPERTY.

Jan. 18.—A lecture on the Transfer of Real Property and the legal difficulties which obstruct its sale, was delivered at the Society's rooms, 21, Regent Street, by James Stewart, Esq. who spoke nearly as follows:—

The free circulation of land in this country has long been considered a highly desirable object. All great writers on this subject, whether we take European jurists or our own, consider that the right of transfer is inseparably connected with the complete idea of property in land. It is, indeed, the definition of property to have in oneself the power of alienation; and it has been, at all events for the last two centuries, the policy of our law to facilitate the transfer of land. As to this, indeed, I can use no better words than those of our great commentator, Blackstone, who, when speaking of land, after stating that under the feudal system alienation was much restrained, used the following words: "But by degrees the feudal severity is worn off; and experience has shown that property best answers the purposes of civil life when its transfer and circulation are totally free and unrestrained." I need not go far to prove that the same rules which regulate the price of other things are applicable also to land. I find an apposite passage as to this in Locke's Essay on the Value of Money: "All things (he says) that are bought and sold raise and fall the price in proportion as there are more buyers and sellers. When there are a great many sellers to a few buyers, then, use what art you will, the thing to be sold will be cheap. On the other side turn the tables, and raise up a great many buyers for a few sellers, and the same thing will immediately grow dear." This rule holds in land as well as other commodities, and is the reason why in England, at the same time that land in some places is at 17 or 18 years' purchase, it is in others, where there are profitable manufactures, at two or three and twenty years' purchase, because there (men thriving and getting money by their industry, and willing to leave their estates to their children in land, as the surest and most lasting provision, and not so liable to casualties as money in unrrading or unskilful hands) are many buyers ready always to purchase, and few sellers. This seems to be the reason why, in places wherein thriving manufactures have erected themselves, land has been observed to sell quicker and for more years' purchase than in other places, as about Halifax in the north, and Taunton and Exeter in the west. Among the reasons which cause a scarcity of buyers of land, and thus lower its value, he afterwards mentions "doubtful and ill titles; where these are frequent and fatal one can no more expect that men who have money should be forward to purchase than ships richly laden to venture among rocks and quicksands." The same effect will obviously be produced if the titles are practically made intricate, tedious, and expensive. What, indeed, is land but the raw material of the agriculturalist, just as cotton or flax are the raw materials of the manufacturer of those articles? and the more the law facilitates the circulation, to use the words of Blackstone, of this raw material among the consumers, *i. e.*, those who wish to buy it, the more perfect is that law and its practice. Limited, of course, by the land in the market, the consumer should be able to buy easily as much or as little as he wants, and the only way to insure this is to allow a man having bought more than he wants to sell it again as easily as he bought it to him that wants it. He will then deal in it freely, but not else.

The effect of the existing law, or rather our practice in this respect, is to impede if not to prevent this ready dealing in it, to confine the owners of land to a few. It is the duty of the state, for the benefit of all its subjects, whether owners of land or not, to render the circulation of land as free as possible. If the law incapacitates land from receiving the highest cultivation which it is capable of receiving, it is a positively injurious law. In this respect land differs from many other kinds of property—as money, and stock, and funded property, the mal-appropriation of which may possibly only injure the owner. There are two classes of persons who have a right to express an opinion on the difference existing between the theory and practice of the law. The first class are the owners of land themselves, and I will first appeal to their experience on this point. Have they found the sale of land in this country an easy, cheap, and perfectly safe process? Is the buying it more easy, more cheap, or more safe? Is the borrowing money upon land a perfectly simple and speedy transaction? I think I may say on behalf of the landowners that the practice of our law is not quite identified with the theory in their minds. But there is another class of persons to whose opinions on this subject I wish to refer. What do the lawyers say? Why the profession, and more especially that part of it whose express business it is to transact the dealings in land, have admitted its present defective state, and have loudly called for its alteration.

The learned gentleman having quoted the opinions of several eminent authorities, and the report of the commission of 1826, as to the defects in the system of conveyancing then existing, cited Lord Redesdale's opinions as to the evils arising from the prolixity and wordiness of deeds, and referred to a case in which a long and expensive lawsuit had been caused by the accidental oversight of a clause in a deed of that description. Mr. Stewart also quoted the opinion of the commission of 1828, and of that of 1831, recommending an alteration in the practice, while they approved of the theory of the law, and continued: But mark the language of the next important public document on this subject, and the last to which I shall refer, for it will prove to you that a well-founded opinion, respecting a grievance which remains unattended to, or not sufficiently attended to, bursts forth almost with violence on the next opportunity which it finds, and the longer the grievance remains unredressed the greater will be the demand made by those who claim redress, and the greater difficulty will be found in satisfying them. The document to which I now allude is a report of a committee of the House of Lords on the burdens of land. This report was made in the year 1846. It complains "that the transfer of real property is subjected by law to difficulties, expenses, and irregularities; that the committee are convinced that the marketable value of real property is seriously diminished by the tedious and expensive process attending its transfer. It is a work of time to raise money on landed security, and the law expenses incident to the transaction are a considerable addition to the sum borrowed." And the committee state "that they are anxious to impress on the house the necessity of a thorough revision of the whole subject of conveyancing, and the disuse of the present prolix, expensive, and vexatious system." The committee, by way of remedy for these evils, recommend four things: first, the improvement of the law of real property; secondly, the simplification of tithes; thirdly, the simplification of the forms of conveyance; fourthly, the establishment of some effective system for the registration of deeds." Now there is one other important consideration respecting this committee—that it was appointed by all parties with a view, so far as it was possible, of relieving the landowner from any hardship, proved and admitted, as a set-off against any injury which he might suffer from the great alteration which was made in that session with respect to the duties on corn. Now, gentlemen, need I say then how important it is for the landowner—yes, and for the lawyer, to see that these recommendations are fully, adequately, and completely attended to? After mentioning the commission which has been appointed, reciting the report on the burdens of land, and directing an inquiry into two of the matters recommended, the lecturer proceeded to say that although we have got this great advantage, although we have thus obtained an inquiry, even supposing it to be a partial one, yet it behoves us who are desirous that these great ameliorations of the law, recommended by the lords, should not only be inquired into, but should be effected—it behoves us to be vigilant, wary, and steadfast. It is necessary that the landowners of this country should strengthen the hands of those who are desirous of seeing the recommendations of the lords carried into effect, and who are ready and willing to help them so far as they are able, and this is to be done by a combination of landowners and lawyers. Let us be thankful for, but trust not implicitly even to commissions. We have seen the first Real Property Commission suddenly broken up without being allowed either to complete their course of inquiry, or to know that their recommendations were carried into effect. A similar fate may await the second commission, and the large hopes which have been raised of having a complete remedy for the existing grievances provided may again be disappointed. Be assured, gentlemen, that if the voice of the country and of those connected with the land shall make itself distinctly heard, and prove that they pay attention to their own interests, free trade in land must follow free trade in corn; and if any injury should be eventually effected by the one, I am persuaded it will be redressed, but at all events relieved, by the other. Let the landowners simply ask for greater facility of transfer. Let them ask for power to do what they like with their own, and it cannot be refused them; and, in doing this, they are making no selfish request. By letting in, in this way, a large body of new consumers of this commodity of land, by extending the market for it, and thus greatly raising its value, they are also insuring the general good. "What is the great incitement," says Lord Hardwicke, "to industry and merit in trade, study, or the profession of arms? Founding families. If cut off from all opportunities of realising (that is, acquiring real property), they are scarce incorporated into the body of the people." Now, gentlemen, these words were spoken more than a hundred years ago, when the landowners were far more numerous than at present. Let us consider the present state in this respect of the people of this country. It is notorious that the owners of land have been decreasing, and are now comparatively few. I have heard it stated that they do not exceed 80,000 persons. This is probably much understated. But I will ask how many citizens of this great metropolis are possessed of land? How many, to use the words of Lord Hardwicke, are thus "incorporated into the body of the people?" He very justly says that it is the first desire of most persons, whether engaged in trade, or study, or the profession of arms, to become owners of land, to hand down their little territory to their children; and yet how few attempt to gratify this reasonable wish: they are deterred by the expense, and still more by the uncertainty of the dealing. I am guilty of no exaggeration when I say that in small purchases the expenses of transfer frequently amount to one-sixth, and sometimes to one-third of the value, or even a larger proportion. The circumstances have very recently come to my knowledge of one transaction, in which 150*l.* was the purchase-money, and the expenses were 50*l.*; and in another, in which 630*l.* was the purchase-money, the expenses were 200*l.* But even if these large sums in the way of expenses were certain, the payment might be endured. But there is a complete uncertainty both as to the expense and the time which the transaction will take in completion, and this is the great disadvantage under which we labour in this matter. What we do want is, 1st, Security of tenure. 2nd, Facility in transferring land from buyer to seller, and from borrower to lender. 3rd, Certainty in point of time in all our arrangements respecting it. 4th, A reasonable, moderate, and well-ascertained scale of expense attending our various dealings with it.

Let me, then, go at once to what I consider the root of the evil, and give you some account of what is called the abstract of title. And here, gentlemen, you must again carefully distinguish between the theory or principle and the practice of the law in this respect. Nothing by the theory of our law is more rapid, more instantaneous, than the passing of land from one person to another. If I, being the owner of land, write the following words: "I grant all my land in such a parish and county to John Thomas and his heirs," and this is sealed and given to John Thomas, it is a perfect conveyance of the fee-simple, and if properly stamped as a deed it is evidence to all the world, and if it was not sealed it would be enforced against the seller in a court of equity. But the practice of the law will not allow these simple transactions, and says, No! before I can sell to John Thomas, either by private contract or by public auction, I must deliver him what is called an abstract of title. Now, what is this? An abstract of title is an abbreviated account of the deeds, wills, and other documents in the possession of the seller. The importance of this document is exceedingly great to both parties, *i. e.* to seller and buyer; it discovers, if properly drawn, the exact state of the title; if flaws exist, it must therefore discover these. On the other hand, the purchaser has this notice of them, and if he does not discover them in time, on his head must rest the consequences. This abstract is the only safeguard to the purchaser which the usual practice of the profession allows. With it he is supposed to be safe; without it, he is at sea. I need not then say how important it is that this document should be one which can be relied on. This abstract is what is laid before counsel when this course is taken. In all usual cases he goes no further than the abstract of the deeds which is thus presented to him. Now, in the first place, there may obviously be suppression of deeds. The Real Property Commissioners, as I have already mentioned, show the numerous opportunities which exist for this suppression, observing that a person who has entered into a contract of purchase is compellable to fulfil his contract, unless he can object to the title shown; the possible existence of documents unproduced not being a ground of defence. Now then, gentle-

men, we have in this respect three fertile sources of danger and insecurity let in upon every abstract—accident, mistake, and fraud. Accident may mislay; mistake may blunder; fraud may suppress.

But we will pass this over, and let us suppose that none of these causes interfering, there is an intention of giving in the face of the abstract all the deeds and documents relating to the title. These documents are abstracted on the one hand, and are compared with the original documents by the solicitor of the purchaser on the other. I need not tell you how important a duty this is—how necessary it is that the persons who perform it should not only be careful and honest, but competent to do this duty efficiently. The omission of three words, the addition of three words, in a certain part of a deed may alter entirely the position of the party in Westminster-hall, and determine whether his remedy be in a court of law or in a court of equity. The omission or alteration of one word may be of most material consequence in the construction of an intricate deed or will. How necessary is it, then, that the preparing of an abstract on the one hand, and of comparing it on the other hand, should be properly performed. Although no document of title is omitted or suppressed, yet accident, mistake, and fraud follow our footsteps and combine in rendering the title insecure. But we will suppose that our abstract has escaped all these, and that it is a fair, judicious, and correct statement of all the necessary documents in the possession of the vendor. What in done next? The price has been agreed upon, both parties are ready to complete; but as yet we have been only stating the difficulties which meet us on the threshold, for the title has yet to be examined, perused either by the solicitor or by counsel, and if the latter it is sent into Lincoln's inn for that purpose. It is the practice, nay, it is the duty, of the counsel who peruses it to put the vendor on the proof of all matters of fact, and to carry his suspicions into every corner of the abstract; he is not only to meet all present difficulties, but he is to anticipate objections which may be made by a subsequent purchaser. To borrow again from Mr. Sewell:—"Every material transaction must be proved, at however remote a date, and however difficult to trace. The compliance with all the requisites of an over scrupulous purchaser frequently occupies a very long time. I have known not months or weeks, but years, consumed in the inquiry. For what amount of evidence may be accepted of particular facts, as of the deaths of parties, the discharge of debts and incumbrances, and the like, is altogether a question of discretion." Now, gentlemen, what a floodgate of doubt and difficulty is thus opened upon every unfortunate title so placed?

But suppose all these doubts are satisfied, all this money expended, what is the result? The title is accepted, the purchase-money, shrunken and diminished by this severe process, is paid over, and the purchaser enters into possession. Is he safe? Is he secure? Has he obtained possession of that phœnix, a marketable title? Will it pass current as the coin of the Mint? Let him put it on trial—let him send it to the land market—let him try to raise money on it, or to sell it. He is now placed, in his turn, under the knife. He finds then a new legal surgeon is employed, one, perhaps, anxious to flesh his maiden sword, or one better skilled in the morbid anatomy of conveyance than him first called in. Some faint suspicion of disease—some latent mischief is discovered—and, after all his anxiety and care, the new vendor is fixed with that curious creation of a court of equity, an unmarketable title. Now, gentlemen, am I exaggerating this matter? Am I not stating what is daily happening in practice? I say not that this vast discretion is ordinarily abused by conveyancers, who are a most honourable as well as learned body of men; but I say that this discretion should not exist at all to the extent to which it does exist. It is too great a trust to be imposed on poor human nature.

I cannot fairly leave this region of doubts and surmises without hinting at one peculiar circumstance affecting the examination of abstracts. It is well known that they are divided into two great classes. The doubts of a willing purchaser and the doubts of an unwilling purchaser. Now, gentlemen, we should say that a doubt is a doubt in all cases, and that if it is a proper objection it should be taken, and that if it is not a proper objection it should not be taken. But in abstracts of title there is a curious classification of doubts, and it is possible that at one time the digestion of a conveyancer would be seriously pained by a doubt, which at another would give him no uneasiness at all. In the case of a willing purchaser the camel becomes a gnat, but in the case of an unwilling purchaser the gnat becomes a camel. Gentlemen, it is fair to say that this practice is growing less frequent than it was, and it is only in an abstract from a remote part of the country that we now see in the instruction, "the purchaser is a willing purchaser," or possibly the converse. Still such things have been seen, although I am glad that the profession is abandoning the practice; for I remember the late Mr. Duckworth (who occasionally had titles referred to him as master) telling me that on one occasion a friend, who had bought an estate the title to which had then come under Mr. Duckworth's notice, asked him, after the suit was over, privately what he thought of the title—was it good or bad? "That depends," said Mr. Duckworth, "on whether you are a willing or an unwilling purchaser."

But, gentlemen, we have hitherto supposed that the seller of the property goes into the market to show his title with all its imperfections on its head; but usually this is too perilous a course to take; he is advised before venturing to put up his property for sale to accompany it with certain written stipulations, called conditions of sale. For this purpose he employs a learned counsel to walk the round of his domain and show him where it may be assailed, to point out its weak points, to indicate where danger may be apprehended, and to guard against it. An important fact cannot be proved—the proof of it is to be restricted by the conditions of sale. The production of a particular deed would establish the liability to a certain charge—that deed must not be produced; there are certain blots which would be fatal to the marketability of the title; the conditions must wipe out or conceal them. This may be a necessary course for the vendor to take in the present state of the law—but is it always a fair thing to the purchaser? He enters the auction-room and bids for the land; he subscribes the agreement for purchase, not always having a lawyer at his elbow, and he afterwards finds that the most important inquiry suggested by the abstract is barred by the conditions of sale. Now this practice of conditions of sale is an exceedingly common practice, and an increasing practice; and it forcibly proves—if it proves no more—that our titles to land are becoming so unwieldy and unmanageable that they cannot be produced, except in this guarded way; it proves, in fact, that most titles would be what is called technically unmarketable, if they were not thus previously doctored for sale. I now come, gentlemen, to what is, after all, in my opinion, the greatest hardship to all persons in the present practice of conveyancing. When I have talked of titles being unsafe, let me explain to you what I mean. The lands to which they relate usually are safe to hold, safe to enjoy, safe to live upon, safe to the owner to eat and drink the produce thereof; but they are not safe to transfer. There is a technical objection; but I believe the great bulk of the titles in this country are really, justly, and according to common sense, good. It is the practice of the law which renders these titles unsafe. Instead of protecting the real and *bonâ fide* owner, the law is frequently a positive injury to him. It is a doubt which has been uttered respecting a title which practically renders it worthless. It is a suspicion of some latent defect. It has been gravely said, indeed, that a title must be like the honour of Cæsar's wife, not to be even suspected. But, gentlemen, what does all this mean? Why is our common sense to be affronted by being told that a title is good to hold, but not a good title to transfer? What do we want of land except to hold it safely? Why are the sellers of land and the buyers of land to be mystified and perplexed with all the fantastical jargon of marketable title and holding title? Why are dealings in it to be surrounded by all these ceremonies, which are practically of little or no consequence? Why are we to apply rules which are these indeed or excluded by the very persons who insist most on them necessity? If these inquiries that I have mentioned to you are material, why does the law permit them to be evaded by conditions of sale, and why are they usually set at nought entirely on the purchase of small pieces of land? This sort of inquiry as to title is applied to nothing else but land in this country. It follows, then, with respect to these last, that we are acting with the grossest carelessness and want of foresight, or that we are showing something that almost amounts to a delusion with respect to our practice as to larger pieces of land.

We are told by some that the system cannot be touched or altered, or hardly inquired into, without danger to titles throughout the whole of the country. Why, gentlemen, what advantage has this system? Is it cheap? Is it certain? Is it speedy? Is it safe? The only reason for inquiry into title at all is the security of purchasers. This seems to be invented to insure their plague and peril. If I am asked what better I propose, I may answer "A worse there cannot be," which I certainly believe, and I do think a far better may certainly be given you, at all events.

And surely we may now freely consider a substitute for it, and inquire whether it be absolutely necessary to carry back our inquiries when land is sold for 40 years or 100 years, for this is the chief cause of all this perplexity and expense—a rule be it remembered as to the origin of which there is at this moment a controversy among the learned, which is not yet settled, one party contending that it is founded on the Statute of Limitations, and the other on the duration of human life. Into the necessity of this rule, and the substitute I propose for it, I will with your permission, inquire in my next lecture. This is not a mere conveyancer's question; it is not a mere controversy as to the length of deeds, or the curtailing of common forms. I believe it to be a question of vital importance to the empire; and remember, that these same evils of which I complain as affecting England are all heightened and aggravated in Ireland. More than this, in both countries new doctrines are afloat respecting the land; some partially correct; some exceedingly wild, and without any legal foundation. The rights of property must be preserved, but, in order that this may be done, the just grievances of the landowner should be also attended to. He should be enabled to compete fairly with foreign countries in this respect. In no civilised country in Europe, I venture to assert, is the transfer of land so difficult as in this country. I do not know anything of the system in Russia; but I do know something of that in force in most of the other European countries. I do not say that any of them should be adopted here; but surely they may be properly inquired into.

If in those countries in which the manners of the people most resemble our own, as perhaps Holland and Prussia (Proper), and Saxony, and many of the smaller states of Germany and some of those of Italy; if we, the most practical nation of Europe, find ourselves as far behind them in this as we are before them in most other things, are we to be so proud so distrustful, so bigoted, as not to know that we live in an age when nation may thus enrich nation and be none the poorer themselves? Let us then lay aside all national jealousies of this kind, and I venture to assure you that we shall find that we thus promote the benefit of all classes; that we found a law adapted only for the rich, and that we shall leave one for the poor.

At the conclusion of the lecture, Mr. Ewart, M.P., moved and Mr. Hedlam seconded, a vote of thanks to the lecturer which was carried unanimously; and the meeting separated.

FLAX IMPROVEMENT SOCIETY.

Dec. 29.—A stone of Flax, grown this season by W. Jones Armstrong, Esq., Kippure-Park, Blessington, at an altitude of 1100 ft. above sea level, had been forwarded to the Society. It is much superior to that grown last year on similar soil, which had been imperfectly managed. The quality is not fine, but long and strong. Mr. Armstrong writes—

"From the observations I have made, and the experience I have had of the soil and climate of our 'Highlands,' now the fourth season, and from the thinness of our population, who have fully more land than they can, as yet, pay sufficient attention to, I think that a small sowing of Flax is as much as they should attempt for a time, and that proper attention should be paid, from October forward, of each season, to have the soil trenched, and thereby rendered dry, friable and ready for the seed in spring. Without this, neither quantity nor quality can be obtained. With prices, in this direction, I am fully satisfied that the returns would be much more certain, in an average of years, failure being extremely rare, from the many showers and dews of summer which we have on these high grounds. I am also of opinion, that for such high levels, saving the seed in the rough state for the use of cattle, horses, and pigs, should be preferred to attempting to save it for sowing. I have found it very valuable for calf-rearing, and the refuse in mixtures for pigs."

Farmers' Clubs.

EAST BERWICKSHIRE, *Dec.* 11: *Subsoil Ploughing.*—Why subsoil ploughing is not more generally practised in the district? This question had been suggested for discussion by one of the most intelligent practical farmers of the district, and it certainly could not be said that any question could have been selected of more interest or importance.

The CHAIRMAN understood that several members present had tried subsoil ploughing to a greater or less extent, but he was aware that a number had not done so. He believed those gentlemen who had tried it had in many cases given it up. They must therefore have had some reasons for so doing, which he hoped they would state to the meeting. The reasons which were generally stated in favour of this improvement were these. 1st. That where there are drains in a field, subsoil ploughing facilitates the escape of water into the drains. 2d. It deepens the actual thickness or amount of soil to the extent of from 8 to 16 inches, thereby affording double nourishment to the crops. 3d. It increases the heat or temperature by lessening evaporation. 4th. In dry summers, when crops are parched, the increased thickness of soil, which causes the roots to penetrate to a greater depth than usual, enables the crop to withstand the drought. If these reasons are true, and if it is an improvement second only to thorough draining in the beneficial results which flow from it, the question arises, Why has it not been more generally adopted? It is on this point that the opinion of practical men will be most valuable. Although its principles may be sound in theory, yet when applied in practice, something may occur to prevent those principles from being successfully carried out. Mr. Milne then adverted to the difference between subsoiling and trenching, and the effects of the two operations. There is sometimes in subsoils a great deal of matter which is poisonous to plants, consisting of what chemists call the protoxide of iron. The effect of the opening up the subsoil to the influence of the air was supposed to convert the protoxide into the peroxide of iron, which is [illegible] injurious to plants, but on the contrary produces [illegible] indirectly. On these grounds it was [illegible] ploughing to trench ploughing, and the [illegible] in its constitution; and then it might be [illegible] with less risk of injury. He would now [illegible] meeting a letter received by him from Mr. [illegible] tenant of Barnes-dale, stating the result of [illegible] him in subsoil ploughing. He had understood [illegible] mean, in consequence of his inability to be [illegible] "several years ago I subsoil-ploughed a [illegible] the large pounds, the wet land being [illegible] The crop produced [illegible] article. Two horses were [illegible] ordinary, then between [illegible] of ploughing, in the same [illegible] ploughed by stone and rock, was [illegible] plough was very severe work. [illegible] that could be done was [illegible] Three men to take out the stones and [illegible] them on the surface. After [illegible] some number of men to pick [illegible] extraordinary [illegible] rocky parts of other fields [illegible] wages of ten carlines of stones per [illegible] drain [illegible], and which had a good effect [illegible] soil an [illegible] last crop [illegible] one. I have used the [illegible] deep [illegible] on land [illegible] it more easily worked. The soil [illegible] at once. The ploughs [illegible] stones or rocks, which [illegible] advantage to the [illegible] on the hard [illegible] ful on inferior [illegible] often lays on a [illegible] which prevents the water from [illegible] prevents all green crops, as we [illegible] they otherwise would do. [illegible] more [illegible], that it would throw [illegible] work on the farm. It may be replied, [illegible] strength; but I have no room for [illegible] horses being already occupied. The [illegible] humble opinion, when all ploughing is not [illegible] practised is, the extra strength required [illegible] to an strength on the farm, [illegible] is considerable, the repairing [illegible] so immediate as the same amount [illegible] nures and other implements." [illegible] Chairman that Mr. Caddel's letter [illegible] propositions: 1st. That subsoil ploughing [illegible] a beneficial operation; 2d. That it [illegible] with extra men and horses, so as not to [illegible] operations of the farm. He (the Chairman) [illegible] little experience in subsoil ploughing. He [illegible] this year. The plough he used had been recommended by Sir Anthony Maitland, who had worked with it on his farm in Lauderdale, with much success. It [illegible] wheels, and is drawn by two horses. With this [illegible] lowing the ordinary plough, he (the Chairman) [illegible] subsoil to a depth of 16 inches, the ordinary [illegible] to the depth of 10 inches, and the subsoil [illegible] time required for subsoiling an imperial acre was [illegible] and the expense was calculated to be 1*l.* per acre. [illegible] the plough being a light one could not [illegible] description. In the same field where he was [illegible] subsoil plough a similar operation was being carried [illegible] by a different instrument, viz., by a spade and fork. The depth attained by this was 20 inches; the expense, however, was much more considerable, being 6*l.* 14*s.* 6*d.* per imperial acre. Whether or not that large outlay would be compensated by the benefit to be derived, remained to be seen. When the expense was greater the operation was much more effectually performed, not only in obtaining greater depth of soil, but in completely pulverising every inch of the soil; whereas by his subsoil plough there were nearly 9 inches of unstirred land between the furrows. This was all the information he had been able to obtain upon the subject before them. It was experience only on which they could rely, and he trusted that gentlemen who had tried the experiment would now favour the meeting with their views upon it.—Mr. MARSHALL, Mellerstain-crow, said his opinion differed so greatly from the statements they heard both from the Chairman and from Mr. Culver, with regard to the depth attained by the subsoil plough, that it was not without considerable hesitation he ventured stating his opinion before them. He had subsoiled about [illegible] acres, but found that he must have extra men and extra horses. The labour was very great, and even with four horses he did not think that he could obtain an average of more than half an acre a day, and the expense he calculated was 2*l.* an acre. Respecting the depth, he was certain they could not average more than from 10 to 12 inches with both ploughs. The measurement was properly made. The chairman had said that the subsoil plough would go 20 inches deeper than ordinary, but he had never been able to obtain more than [illegible] inches. He knew one gentleman who had tried [illegible] 16 inches; but when he went to the ground and [illegible] the depth, he found that it was only [illegible] inches deep. Mr. Marshall added, that, on the [illegible] which [illegible] the effect was certainly beneficial [illegible] he had never observed that it [illegible] any improvement.—The CHAIRMAN observed that the depth obtained [illegible] not merely on his own observation, [illegible] and of Mr. Heriot, of Muiredge, Mr. [illegible] Peelwalls, said it would always be found that when any real improvement was introduced into agriculture, it was [illegible] forgotten or laid aside. But in the case [illegible] notwithstanding the strong recommendation [illegible] had been brought under the notice of the country by a committee of the House of Commons in [illegible] pamphlet of Mr. Smith, of Deanston, it had [illegible] plete, even in the county of Stirling, where it was first introduced. In the vale of Trent, [illegible] subsoil ploughing was carried [illegible] years ago, but was now almost [illegible] that subsoil ploughing had [illegible] estate, but without any [illegible] testify. When he commenced [illegible] tried it on a good retentive [illegible] from it, and he must say that [illegible] 12 inches could be obtained with the ordinary plough, as much benefit would be derived as with the subsoil plough, and at less expense. But he would [illegible] the importance of invariably putting the land [illegible] ing. In this county large [illegible] from no other cause than want [illegible] to be worth the [illegible] he could not [illegible] what had been stated [illegible] as yet been [illegible] speak decidedly [illegible] ploughing, and had been [illegible] it, and it was with him an [illegible] whether that was not in ordinary circumstances [illegible] operation. It was at all events a safe [illegible] to perceive any injury to arise from [illegible] in the summer by the drain [illegible] that there was an operation [illegible] only repeated. He was disposed [illegible]

in Turnips, his observations had led him to the conclusion that it was not caused by the existence of any maggot or other insect, but that it was of an organic nature in the plant, produced by some condition of the soil unfavourable to its growth, and only to be combated by deep ploughing and the plentiful use of lime. He did not think that lime alone would have the effect, but used in conjunction with deep ploughing, the disease would be in a great measure removed. At least that seemed to him the only thing which would have a beneficial effect. To revert to subsoil ploughing, he believed with Mr. Makins that the great expense had deterred the Berwickshire farmers from using the subsoil plough, besides the inconvenience it occasioned to the ordinary operations of the farm. These objections would continue to operate until there was some certainty as to the good to be obtained. They would therefore be under obligation to those gentlemen who had actually under taken it if they would favour them from time to time with the results, and for the settlement of this important point he thought that the Club might be of the very greatest benefit. Deep ploughing, however, he could recommend without hesitation.

The following remarks were afterwards made by Mr. Milne on the subject of Agricultural Statistics, which this Society has taken up :

He had requested a friend of his own, who held a large farm, all arable, in one of the richest parishes on Tweedside, to favour him with a return from his books of the average quantity per acre of his corn crops for each year that he had occupied the farm. His friend had kindly complied with his request, though at some personal trouble ; for he had occupied his farm 28 years. The following is the result of his friend's returns :—

	First 14 *Years.*	*Second* 14 *Years.*
Wheat,	24·5 bushels.	26.7 bushels.
Barley,	32 ,,	34.2 ,,
Oats,	40.8 ,,	40.7 ,,

He (the Chairman) had been comparing this product with what has been represented as the average produce per acre of East Lothian. He found that in 1836 Messrs. Hope and Brodie, before a Parliamentary Committee, stated the produce to be, on an average, Wheat, 29 bushels ; Barley, 43 bushels ; Oats, 48 bushels He (the Chairman) observed that from these returns, the best land in Berwickshire was returning considerably less produce than in East Lothian. If similar returns from other districts could be procured, the comparison of them might in like manner lead to the inquiry—Is the difference owing entirely to difference of soil, or difference of climate, or to good management in the one case and to bad management in the other ? Such a comparison might even be extended with advantage to foreign corn-growing countries,—for in many of them, to the credit of their governments, accurate returns are obtained and published of every year's crop. This is the case particularly in the United States of America. The following is the average produce given of the arable land in the State of New York, comprising twelve millions of acres, for the year 1841 —and the return is certainly not what should alarm British farmers :—

Wheat, 14 bushels
Barley, 16 ,,
Oats, 26 ,,
} per imperial acre.

The Chairman then mentioned that both the late Government and the present one were alive to the importance of agricultural statistics. He showed by a variety of statements the practicability of obtaining statistical returns, and adverted to the great advantages which would be derived by the farmer were the system generally adopted. The working out of the plan could only be fully and completely performed by Government, but individuals and associations, such as theirs, could do much to further the attainment of such an object.—Mr. Wilson, of Edington Mains, said, he should like, seeing this was a meeting of farmers, and a Farmers' Club—one of their objects being to promote agricultural improvement in their own district—to ask them to drink with him the toast, "Success to Agricultural Improvement." They might well wish this, they for now saw that unless they made every attempt to improve their modes of husbandry, they might soon not be able to keep their heads above water. They had not yet undergone the ordeal of the new laws affecting the importation of produce. They had had no opportunity of knowing what the result would be. They might all of them have some notion that by and by they would have to grapple with greater difficulties than they ever yet had encountered ; but instead of going to Parliament with petitions complaining of agricultural distress—as many had often done—they should rather trust to their hands and their heads for the crowning of their labours with success, and bringing about larger returns. The agricultural interest might not remain long exempt from the difficulties which had lately fallen upon other classes. But it was quite evident that it was only by obtaining larger produce and at less expense, that they would be enabled to go on. He had therefore listened with very great interest to the discussion that had that forenoon taken place ; and he believed the result of the evidence then brought before them was that they had a very clear and decided testimony in favour of general deep ploughing, but a rather dubious return in the matter of subsoil ploughing. He had stated that he was opposed to subsoil ploughing rather from the difficulties experienced in carrying it into operation than from its own demerits, but he did not by any means consider it a closed question. He was still willing and anxious to obtain every information upon it. Mr. Wilson then alluded to the subject of agricultural statistics, and said he thoroughly coincided in the sentiments expressed by their president on this most important matter. His (Mr. Wilson's) own conviction was that the result to be obtained from such inquiries would be of the greatest benefit not only to themselves as individuals, but to the whole community ; for anything that affected the welfare of the one operated in the same way upon the welfare of the other. On a former occasion he drew attention to a very striking fact. It was perfectly well known to them all that this time twelvemonths, when the largest portion of the produce of the county was brought into market, grain was sold at least 10*s.* a boll less than it was worth a short time after. Now, if they had possessed such knowledge as these statistics would have afforded, there could be no doubt they would have obtained for their produce something like a value proportioned to the real necessities of the country. It would have been perfectly practicable to have come to something like a distinct knowledge of the actual amount of produce in the country ; and if that had been done, there was perhaps not one there present who would not have been some hundreds of pounds the better for it this day. He had no doubt that this was a matter which would be taken up by the Government, no matter of what party, and their attention having once been called to it, he felt convinced it would not be allowed to drop. But he thought it would be highly creditable to them as a farmers' club, if they could set an example by showing that they were not only not averse to it, but were even anxious to get it done. He made these remarks on this occasion to bespeak their favourable consideration of the proposal, and hoped they would all be ready to give it every facility in their power. If any entertained fears of their private affairs being exposed, he begged to assure them that nothing was further from the intention of the Club than to publish returns from any particular individual or any particular farm. The returns would be from parishes and not from individuals, so that no fear need be felt that private affairs would be exposed. —Mr. Makins, of Auchincrow Mains, proposed "Success to Tile Draining and Deep Ploughing," and remarked on the importance of both operations for the improvement of the soil.—The Chairman, in reference to the former of these subjects, begged permission to mention an experiment he had tried, and the result of it. He had a 27 acre field, consisting generally of clay, with a retentive subsoil. He divided it into three equal parts of 9 acres each. The east division he had drained at a depth of 3½ feet, at intervals of 24 feet : the mid-division at a depth of 3 feet, at intervals of 19 feet ; the west division at a depth of 2½ feet, at intervals of 15 feet. The drains were executed in autumn of 1845. In 1846, there was a crop of Turnips, which, on the west division, were ate on the ground by sheep. In spring last, the whole field was sown with Oats, the west division having been sown about 14 days before the others. After the Oats had been cut last September, he caused the stooks to be counted on each division.

On West Division there were 54.4 stooks per acre.
,, Mid ,, ,, 66.6 ,, ,,
,, East ,, ,, 69. ,, ,,

Of course, it yet remained to be seen what was the actual produce, per acre, on the three several divisions ; but, it appeared to him that the experiment, so far as it went, showed that the deep drains had, notwithstanding the greater intervals between them, proved more beneficial than the shallow drains, though the last, on account of their greater number, were more expensive, as the following statement would show :—

West Division, cost per acre,	£6	19	6
Mid ,, ,,	5	9	7
East ,, ,,	5	3	4

—Some members observed, that the west division, instead of having been benefited by the sheep which ate the Turnips from it, as the Chairman seemed to suppose, may have been injured.

Miscellaneous.

Theory—a mere formula, for the expression of existing knowledge.—A theoretical view in natural science is never absolutely true, it is only true for the period during which it prevails ; it is the nearest and most exact expression of the knowledge and the observations of that period. In proportion as our knowledge is extended and changed, this expression of it is also extended and changed, and it ceases to be true for a later period, inasmuch as a number of newly acquired facts can no longer be included in it.—*Liebig's Researches on Food.*

Calendar of Operations.

JANUARY.

Amateur Farm, near Monmouth [90 acres], *Jan.* 18.—Two pair of horses deep ploughing and subsoiling for Potatoes an iron swing plough turns up 8 to 9 inches first, and Read's subpulveriser goes 8 inches deeper, doing its work in an admirable style. Three men are draining four acres of old pasture about to be converted into arable, 3 feet deep, with 1½-inch pipes. We have sod drains, made 20 years ago, which now run as freely and effectively as ever. We are satisfied that no money is so well laid out on the soil as in good and judicious draining. There are thousands of acres in Monmouthshire, with a deep soil, fit for anything, now correctly called wet, heavy, cold lands, with clods in the summer, baked as hard as Babylonian bricks, and having fissures nearly wide enough for Curtius to leap into ; and which, in rainy wather, lie for weeks untouched, on account of its untractable nature, that if properly drained and cultivated, would be most covetable estates. Many of these farms let from 8*s.* to 12*s.* an acre, and the boors who hold them linger out a starving existence, unable to pay up their pitiful rents, to educate their children, or to present themselves before the world in other guise than that of common labourers. The old red sandstone soil suits Carrot and other root crops well, when properly drained and pulverised. We have this year obtained the Monmouth Farmers' Club prizes for both Carrots and Mangold Wurzel.—*T. D.* [Whitfield, if you please.]

Berwickshire Merse Farm, *Jan.* 15.—Since last report we have been ploughing stubble land for Oats ; two men with four single-horse carts halt a day delivering Wheat at the railway station ; a man with a single-horse cart two days leading Oats to the barn ; a woman forking, one man and seven women threshing and taking away the straw ; one man and two women one day dressing the Oats for the labourers ; one man with a single-horse cart leading Wheat to the barn one day ; a man forking, one man and four women threshing with water power ; three women carrying away the straw ; one man with two single-horse carts one day delivering Barley at Berwick, and bringing home coals ; four men with eight carts one day at the coals, one man with two carts one day at Evemouth for drain slates ; one ditto at Berwick. Eleven men digging drains ; one man and a woman putting in the tiles ; the leading drains 3 feet deep, the other 2½ feet ; eight women two days topping Turnips, four men with eight single-horse carts two and a half days leading to the store ; seven women filling, one man assisting at the store ; one man with two carts leading for the sheep ; four women filling ; one woman with the shepherd cutting the Turnips ; one man and a boy feeding the cattle ; we have 42 feeding, nine in stalls, six in boxes, and the remainder in courts ; one man cutting thorns.—*J. B.*

Dorset Farm, *Jan.* 14.—Since our last report the horses have been employed ploughing for Barley after Turnips ; breast ploughing Wheat stubble for Turnips ; and harrowing it when the weather and the state of the ground would allow ; and carting Turnips, Parsnips, hay, and straw. Labourers threshing Peas and Beans, rooting out a hedge so as to enlarge the fields, and digging Parsnips. Women and boys pulling Turnips when the weather is good, and when wet cutting chaff. Ewes now lambing fast ; our flock is all Downs. We are now getting excellent weather, and the ground is in good order for working.—*G. S.*

Downside College Farm, Somerset, *Jan.* 11.—Since our last report (which was, I think, dated the 8th of December) the horses and men have been engaged ploughing a Turnip fallow, carting road dirt on the farm, hauling coal for the use of the house and the gasometer ; and at various odd work when the weather prevented them from ploughing ; and they have also been engaged several days ploughing a second time a Wheat and Barley fallow piece, rather more than 4 inches deep ; also hauling and ploughing in dung upon the same, which is done in the following way : A three-horse cart-load of dung is hauled into the field, depositing 17 heaps of dung from each load five yards apart from each other every way. There is in each load enough dung to cover 425 square yards, consequently at the rate of 10 loads and a half to the acre. The barnmen have been engaged in threshing out and winnowing Wheat, Barley, Peas, and Oats, all for home consumption. Some of the men have been engaged a part of their time in altering old hedges, planting Quick, levelling banks, filling the putts or carts with dung, coals for burning lime, and spreading abroad dung on the fallow. One man and two lads have been in constant attendance on the flock ; one lad has been engaged sorting and crushing bones, clearing up the yards, and various odd work of the sort. The weather before Christmas was very wet, but since then we have had nothing but changeable weather—now frost, then rain, and mild spring weather, in fact every variation of weather possible.—*M. S.*

East Lothian Farm, *Jan.* 15.—We have experienced another week of good winter weather, with slight frost in the night. Work upon the farm during the week has been ploughing lea, carting off Turnips and ploughing Turnip land, likewise threshing for litter for cattle ; also carting Barley to market. Markets in the district for several weeks past have varied little in price for all sorts of grain.—*S.*

North Lincolnshire Farm, *Jan.* 15.—We have been occupied, since last report, as follows :—Nine pair horses ploughing Oat stubble one day ; three pair horses leading manure, two horses leading in Wheat stack one day ; two carts employed taking Wheat to Grimsby, brought back two tons of engine coals ; seven pair horses ploughing one day ; one one-horse cart leading in Swedes for store ; two carting Wheat to Grimsby, brought back one ton of coke and one ton of coals ; four two-horse ploughs ; two carts leading in stack of Oats ; threshed three stacks of Wheat in 2½ days ; 2½ stacks of Oats in two days ; all spare hands have been assisting —*J. U.*

Somersetshire Farm, *Jan.* 17.—This last week having been very favourable for field labour, we have been engaged in pulling, hauling, and storing a piece of late Turnips (sown after Flax) ; ploughing the ground and sowing with Wheat ; hauling timber, which we are throwing from a hedgerow, at the same time grubbing and levelling the hedge-row, for the purpose of enlarging a field. Sent off a lot of fat wethers for the butcher ; hauling away Wheat sold.—*R. C.*

Sussex Farm, *Jan.* 17.—Ploughing and subsoiling ; if the weather continues wet we shall plough Grass land for Tares, for the ewes in the spring, when the Swedes and Mangold Wurzel are gone ; threshing Oats and Peas, cutting and carting litter to yards, carting bushes to repair hedges, stones to repair roads, making new pond for cattle and horses ; draining, &c. —*J. B.*

Wiltshire Farm, *Jan.* 10.—For the last month we have been busily engaged sowing Wheat. We have 25 acres to sow in the spring after Swedes and Turnips, instead of sowing any spring corn. Two ploughs are engaged ploughing and subsoiling for Mangold Wurzel. Oxen fallowing the Swede land ; fat oxen sold at Christmas ; 100 two-tooth wethers sold last week to the butcher, fed on cut chaff, Mangold Wurzel, and a pint of corn per day ; 100 ewes taking their places to be sold in March ; the breeding ewes feeding on Hybrid Turnips and hay twice a day. Sold fat pigs off, fed on Linseed meal, bran ditto, and Mangold Wurzel. Four men threshing with hand machine ; one man cutting chaff for sheep and working oxen ; one man trimming hedges and ditches. Three men quarrying stones for building ; the Wheats that are up looking remarkably well before the frost set in.—*H.*

Notices to Correspondents.

Agricultural Gazette—The report to the Sewage Manure Company referred to last week was by the officers of the *Metropolitan* Sewage Manure Company, which is the proper designation of the Society.

Dairy Farm—*W Cook*—What we mean is that if you will state the circumstances, and ask your questions, we will, through the paper, give or procure trustworthy answers.

Farm Calendar—*Original Sub*—Arthur Young's may, perhaps, still be had. It is the best : but out of date in many points.

Guano—*Civis*—You might mix salt with it- equal weights—with advantage. Probably with benefit to the manure, and certainly with benefit to the land to which you apply the guano after so mixing it. If you add enough salt to the manure in the yard, there will be no need for mixing more with it when you come to gather it into heaps.

Harrison's Pills—*D R*—We do not know them. They ought to be advertised.

Irrigation—*F P B M*—The only work by Stephens that we know is by George Stephens—not the author of the "Book of the Farm." Does any one know any other work on this subject ?

Oyster Shells—*X R*—We cannot suppose them worth 20*s.* a ton, though powdered and brought to your door. They are worth very little more than lime. Leguminous crops would probably benefit by them as much as any other. Their composition is probably much the same as that of corals, &c., which is something like this—

Carbonate of Lime	95
Phosphates, &c.	1.5
Organic Matter	3.5
	100

Scour in Lambs—*Civis and others*—The scour in lambs (of 1847) has been particularly prevalent during the last month in various parts of the country, and very fatal. In examining some recent cases, we found scarcely any disease of the liver, but disease of the mucous or internal coat of the intestines, and also a tuberculous state of the lungs, which externally presented the appearance of numerous white knots, which, on cutting into, were found to contain matter. It is evident that where the latter appearances were found the mischief must have been of some standing, and caused probably by the wet weather of the autumn. You appear to have given the best medicine to obviate the relaxation ; we have only to suggest in addition about ½ a drachm of gentian daily, to be given in Wheat flour gruel. Split Beans may also be given with the other food, and Clover hay will be preferable to meadow. It may be prudent to commence the treatment by giving each lamb ½ an ounce of sulphate of soda dissolved in gruel. In all fatal cases the *post mortem* appearances should be stated. *W. C. S.*

Sundries—*J S P M*—You can purchase bone-dust now at 20*s.* a quarter. Drumhead Cabbages should be allowed to seed where they are : we should not like to move them. If your plough does not bury the inner edge of the Clover, you should use a skim coulter.

Superphosphate—*G D*—J. B. Lawes, Esq., Rothamstead, St. Alban's, Herts. It is cheaper to buy (of an honest man) than to manufacture it yourself. Do you apply no dung at all with it ?—then you should apply at least 3 cwt. of superphosphate with 2 cwt. of Peruvian guano per acre.

The Butter will not come—*An old Sub*—We would recommend you to give the cows some roots with their hay, which possibly retains some of the astringent properties of the Oak, which it succeeded (too much tannin). Carrots, Mangold or Swede Turnips, will probably succeed, or if they cannot be readily procured, give each cow a good bran mash daily with some bruised linseed in it, from which the oil has not been extracted. A moderate amount of exercise should be permitted daily. *W. C. S.*

Transmutation of Grain—*W G*—Page 555, 1844.

Which uses most Litter, Box-feeding or Stall-feeding ?—*Rusticus*—Box-feeding.

Errata.—At page 27, Jan. 8, in the article on "*The Oil-gland in Birds*," by "D. S. E.," in col. *b*, at the 23d line from the commencement, read thus—"In very aggravated cases, a little sweet oil *as a clyster* has been said to be very effectual." And at page 28, in the article on "*Swine Pens in the North of England*," at col. *b*, in the 4th line from commencement, for "Mellagaço" read "Melgaço."

*** Communications reaching town after Wednesday cannot be answered the same week.

Markets.

POTATOES, Southwark, Waterside, Jan. 17.

There have been several arrivals since our last report from Yorkshire and Wisbeach, and these, with those of former arrivals, may be considered a tolerable good supply for the season, and the quantities that arrive by rail in one week are very considerable. Notwithstanding the holders of the best samples of York Regents are asking more money, in consequence of that sample being eagerly sought after to be sent to the inland districts and to Scotland, and an advance on some samples has been realised. The following are the present prices :—York Regents, 140*s* to 150*s* ; secondary, 125*s* to 130*s* ; Kent and Essex Regents, 110*s* to 140*s* ; Shaws, 110*s* to 120*s* ; Kidneys, 120*s* to 140*s* ; Blues, 110*s* to 120*s* ; Scotch Reds, 120*s* ; Buffs and Whites, 110*s* to 120*s* ; Wisbeach, 110*s* to 130*s* ; Dutch Whites, 70*s* to 90*s* ; Hamburgh, 90*s* to 110*s*.

Rich. Harris.

HOPS, Friday, Jan. 21.

Messrs. Pattenden and Smith, Hop Factors, report that the market remains the same.

Mid. & East Kents, p. cwt.	70*s* to 100*s*	Yearling Kents, p. cwt...	50*s* to 60*s*
Weald of Kents	56 — 60	Yearling Sussex	46 — 60
Sussex	56 — 70	Old Hops	20 — 40
Farnhams	84 — 105		

COVENT GARDEN, Jan. 22.

The market continues to be well supplied with Vegetables. Winter Fruit also is plentiful, but trade is dull. Pine apples are abundant and good, and Grapes, although scarcer, are sufficient for the demand. Pears and Apples are plentiful, considering the season. Of the former, specimens of Beurré Rance and Nec Plus Meuris may be bought at from 3s. to 4s. per dozen. Oranges, though small in size, continue to keep over an quality. Nuts are sufficient for the demand. Filberts sell slowly at from 4s. to 28s. per 100 lbs. Walnuts are scarce. Chestnuts are pretty abundant. Lemons are sufficient for the demand. Of Vegetable, Cauliflowers and Broccoli are plentiful. Of the latter some fine samples have been supplied from Cornwall, which sell at from 2s. 6d. to 6s. per dozen. Asparagus and Seakale may be obtained at last week's prices. Carrots and Turnips are good in quality. Potatoes realise good prices. Lettuces and other salading are sufficient for the demand. Mushrooms have not altered in price since last week. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Chrysanthemums, Camellias, Cyclamen, Fuchsias, Azaleas, Moss and other Roses.

FRUITS

Pine Apple, per lb., 4s to 6s	Lemons, per 100s, 6s to 14s
Grapes, muscadine, per lb., 1s to 8s	Almonds, per peck, 6s
— Portugal, per lb., 1s to 1s 6d	— sweet, per lb., 2d to 3d
Apples, dessert, per bush. 4s to 6s	Walnuts, per bush. 12s to 16s
— kitchen, p. bush., 2s 6d to 4s	Nuts, Barcelona, per bush., 20s to 22s
Pears, per half sieve, 3s to 8s	— Filberts, per 100 lb., 1s to 20s
Oranges, per doz., 1s to 2s	— Cob, per 100 lb., 2s to 3s
— per 100, 4s to 12s	— Brazil, per bush., 12s to 16s
— bitter, per 100, 16s to 18s	Chestnuts, per peck, 3s to 6s
Lemons, per doz., 1s to 2s	

VEGETABLES.

Asparagus, per 100, 2s to 7s	Shallots, per lb., 6d to 8d
Savoys, per doz., 4d to 1s	Garlic, per lb., 8d to 1s
Cabbages, per doz., 1d to 1s	Spinach, per sieve, 1s to 1s 6d
— Red, per doz., 1s to 3s	Sealale, per punnet, 2d to 2s 6d
Greens, p. doz. bunches, 1s 6d to 2s 6d	Art chokes, Jerusalem, per half sieve, 1s to 1s 6d
Cauliflowers, per doz., 5s to 8s	Lettuce, Cab., per score, 1d to 9d
Broccoli, per bundle, 8d to 3s	— Cos, per score, 9d to 1s
Brussels sprouts, p.hf. sieve, 1s to 1s 6d	Endive, per score, 1s to 2s
Sorrel, per half sieve, 6d to 9d	Radishes, per doz. bunds., 1s
Potatoes, per ton, 120s to 160s	— Turnip, p. doz. bunds, 9d to 1s
— per cwt., 6s to 8s	Mushrooms, per pottle, 9d to 1s 3d
— per bush., 3s 6d to 4s	Rhubarb, per bundle, 10d to 1s 6d
— Kidney, per bu.-h., 3s 6d to 4s	Small Salads, per punnet, 2d to 3d
Turnips, p. doz. bunch., 1s 6d to 2s	Fennel, per bunch, 2d to 3d
Red Beet, per doz., 9d to 1s 6d	Savory, per bunch, 3d to 4d
Horse Radish, per bundle, 1s to 4s	Thyme, per bunch, 2d
Cucumbers, each, 4d to 6d	Watercress, p. 12 small bun., 4d to 6d
Leeks, per doz., 6d to 1s	Parsley, per half sieve, 1s to 1s 6d
Celery, per bundle, 6d to 1s 6d	— Roots, per bundle, 1s to 1s 6d
Carrots, per doz. bunches, 2s to 4s	Mint, green, per bunch, 1d to 3d
Onions, per bush., 2s to 3s	Marjoram, per bunch, 3d to 4d
— Portugal, per doz., 1s to 4s	
— pickling, p. hf. sieve, 2s to 3s	

ENGLISH TIMBER AND BARK, Jan. 22.

Round Timber. Per Load.	Plank. Per Foot, Cube.	Inch Board. Per foot, Superficial.
Oak .... £5 10 to £8 10	3s 6d to 5s 0d	0s 3½d to 0s 6d
Ash..... 5 0 — 6 10	2 6 — 3 6	0 3 — 0 4
Elm..... 3 5 — 4 5	1 10 — 2 3	0 2 — 0 3
Beech.... 3 0 — 3 10	1 6 — 2 0	0 2 — 0 2½
Lime .... 3 10 — 4 10	2 0 — 2 6	0 3 — 0 5

Oak Bark, per load of 45 cwt., 10l to 12l. J. S.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Jan. 20.

Prime Mead. Hay	68s to 78s	New Hay	—s to —s	Straw	24s to 28s
Inferior ditto	55 64	Clover	75 95		
Rowen	46 55	New Clover	— —		

JOHN COOPER, Salesman.

CUMBERLAND MARKET, Jan. 20.

Prime Mead. Hay	70s to 77s	Old Clover	90s to 95s	Straw	28s to 32s
Inferior	50 63	Inferior	70 84		
New Hay	— —	New Clover	— —		

JOSHUA BAKER, Hay Salesman.

WHITECHAPEL, Jan. 20.

Fine Old Hay	68s to 72s	Old Clover	90s to 95s	Straw	24s to 28s
Inferior Hay	50 55	Inferior	70 75		
New Hay	63 68	New Clover	80 88		

SMITHFIELD, Monday, Jan. 17.

We have to-day a large supply of Beasts. Trade is very slow; a few of the choicest Scots, &c., however, make 3s., but on the average prices are lower than on Monday last. The number of Sheep is small, but adequate to the demand. Last Monday's quotations are barely maintained. There are very few Calves on offer. Prices for them and for Pigs remain unaltered. From Holland we have 111 Beasts, 1300 Sheep, and 12 Calves.

Per stone of 8 lbs.—s d	s d	Per stone of 8 lbs.—s d	s d
Best Scots, Herefords, &c. 4 8	to 4 10	Best Long Wools 4 6	to 4 8
Best Short Horns 4 6	— 4 8	Ditto Shorn	....
Second quality Beasts .. 3 6	— 4 4	Ewes and second quality 3 8	— 4 2
Calves 4 6	— 5 4	Ditto Shorn.....	....
Best Downs & Half-breds 5 0	to 5 2	Lambs	....
Ditto Shorn	....	Pigs..... 4 0	— 5 0

Beasts—3335. Sheep and Lambs—19,430. Calves—63. Pigs—310.

FRIDAY, Jan. 21.

Per stone of 8 lbs.—s d	s d	Per stone of 8 lbs.—s d	s d
Best Scots, Herefords, &c. 4	8 to 4 10	Best Long Wools..... 4 6	— 4 8
Best Short Horns 4	6 — 4 8	Ditto Shorn	....
Second quality Beasts .. 3	6 — 4 4	Ewes and second quality 3	8 — 4 2
Calves 4	8 — 5 6	Ditto Shorn	....
Best Downs & Half-breds 5	0 — 5 2	Lambs	....
Ditto Shorn	....	Pigs..... 4 4	— 5 4

Beasts—836. Sheep and Lambs—2480. Calves—93. Pigs—340.

Our supply of Beasts to-day is small, and the demand very limited. The choicest qualities are pretty readily disposed of, but second rate meet with a heavy sale. We cannot observe any alteration from Monday's quotations. The business done in the Sheep market is exceedingly unimportant, there being but few on offer, and several of those turned out unsold. Prices are the same as on Monday. Good Calves are in request, and the supply being short, the whole are readily disposed of at 2d. per 8lbs. advance. Trade is better for Pigs, at 4d. per 8lbs. advance. We have from Holland 60 Beasts and 210 Sheep; Scotland, 240 Beasts; Ireland, 76; and 120 Milch Cows from the home counties and the neighbourhood of London.

41, West Smithfield.

MARK LANE, Monday, Jan. 17.

There was a fair supply of Wheat from Essex this morning, that from Kent continues to be large; the condition of either was generally very bad, and before sales could be proceeded with factors were compelled to submit to a decline of 3s. per quarter, notwithstanding which much of the former day remained unsold at a late hour. Foreign was neglected, but holders showing no disposition to press sales, its value remains nominally unaltered.—Barley finds buyers at our quotations.—Beans are a dull sale, and the turn lower.—Peas support former rates.—Oats are in good demand at fully late prices.—In Flour we observe no alteration.—Rye-meal continues to be inquired after.

BRITISH PER IMPERIAL QUARTER.	s	s		s	s
Wheat, Essex, Kent, and Suffolk ..... White	50	60	Red.....	42	52
Norfolk, Lincolnshire, and Yorkshire	48	52	White ..	48	52
Barley, Malting and distilling, 26s to 29s Chevalier	30	32	Grinding	25	27
Oats, Lincolnshire and Yorkshire..... Polands	33	29	Feed	21	28
Northumberland and Scotch ..... Feed	32	29	Potato ..	25	30
Irish ..... Feed	20	27	Potato ..	24	30
Malt, pale, ship.....	—	—			
Hertford and Essex	—	—			
Rye.....	28	32			
Beans, Mazagan, old and new ..28s to 30s... Tick..	30	42	Harrow...	42	44
Pigeon, Heligoland 34	50	.... Winds	46	54	Longpod	32	36
Peas, White.....	40	42	.... Maple	38	40	Grey	35	37

FRIDAY, Jan. 21.

The arrivals of grain during the week have been moderate. The English Wheat left over from Monday realised last day's prices, so on was also the case in the few sales effected of Foreign, as well as for every description of spring corn.

IMPERIAL AVERAGES.

	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
	s. d.	s d.	s d.	s d.	s. d.	s d.
Dec. 11	51 11	30 5	22 4	31 0	34 0	49 7
— 18	52 2	30 7	21 7	31 4	41 6	48 2
— 25	53 0	31 3	21 3	31 1	40 6	44 5
Jan. 1	53 11	31 8	20 7	29 11	39 10	44 10
— 8	53 10	31 7	20 11	31 4	40 8	46 0
— 15	53 5	30 6	21 0	29 2	39 1	46 4
Aggregate Average	53 1	31 0	21 3	31 2	40 8	46 3

Duties on Foreign Grain Free till March 1.

Price.	Dec. 11.	Dec. 18.	Dec. 25	Jan. 1.	Jan. 8.	Jan. 15.
53s11d	...	...	...	...	...	...
53 10	...	...	...	...	...	...
53 5	...	...	...	...	...	...
53 0	...	...	...	...	...	...
52 2	...	...	...	...	...	...
51 11	...	...	...	...	...	...

SEEDS, Jan. 21.

Canary .....per qr.	60s to 68s	Linseed-cakes, Foreign, p. ton, 10l to 11l	
Caraway .....per cwt.	35 37	Mustard, White, p. bush , 5s to 6s	9d
Clover, Red, English	— —	Superfine, p. bush , —	—
— Foreign	— —	Brown, per bush.. —	—
White, English	— —	Rapeseed, Eng., per last.....28l	30l
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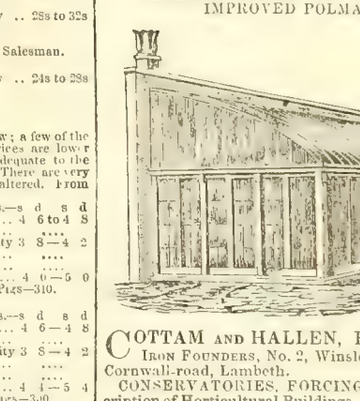

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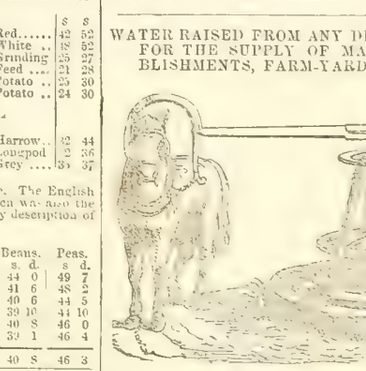

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METCALFE AND CO'S NEW PATTERN TOOTH-BRUSH and SMYRNA SPONGES.—The Tooth-Brush has the important advantage of searching thoroughly into the divisions of the teeth, and cleaning them in the most extraordinary manner, and is famous for the hairs not coming loose—1s. An improved Clothes Brush, that cleans in a third part of the usual time, and incapable of injuring the finest nap. Penetrating Hair-brushes, with the durable unbleached Russian bristles, which do not soften like common hair. Flesh Brushes of improved graduated and powerful friction. Velvet Brushes which act in the most surprising and successful manner. The genuine Smyrna Sponge, with its preserved valuable properties of absorption, vitality, and durability, by means of direct importations, dispensing with all intermediate parties' profits and destructive bleaching, and securing the luxury of a genuine Smyrna Sponge. Only at METCALFE & Co.'s Sole Establishment, 130 B., Oxford-street, one door from Holles-street.

CAUTION.—Beware of the words, "From Metcalfe's," adopted by some houses.

CLOSE OF HOLIDAYS.—Now that the season of annual festivity is about to terminate, and the respective boarding-schools be re-instated by the busy throng of youthful aspirants, the personal comfort and attractions of whom become naturally an object with friends and relatives of great solicitude, ROWLAND'S MACASSAR OIL, for accelerating the growth and improving and beautifying the hair; ROWLAND'S KALYDOR, for improving the skin and complexion and removing cutaneous eruptions; and ROWLAND'S ODONTO, for beautifying the teeth and preserving the gums, are universally considered indispensable in the requisite accompaniments of the decorative repository. The august patronage conceded by all the Sovereigns of Europe to the creative renovating specifics, and confirmation, by experience, of their infallible efficacy, have characterised them with perfection, and given them a celebrity unparalleled.

*** BEWARE OF SPURIOUS IMITATIONS—some are offered under the implied sanction of Royalty and the Government Departments, with similar attempts at deception. The only genuine of each bears the name of "ROWLANDS'" preceding that of the article on the wrapper, with their Signature at the foot, in red ink, thus—

A. ROWLAND & SON.

Sold by them at 20, Hatton-garden, London, and by every respectable Chemist and Perfumer throughout the kingdom.

Printed by WILLIAM BRADBURY, of No. 6, York-place, Stoke Newington, and FREDERICK MULLETT EVANS, of No. 7, Church-row, Stoke Newington, both in the County of Middlesex, Printers, at their office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the Office, No. 5, Charles-street, in the parish of St. Paul's, Covent-Garden, in the said county, where all Advertisements and Communications are to be addressed to the Editor.—SATURDAY, JANUARY 22, 1848.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 5.—1848.] SATURDAY, JANUARY 29. [Price 6d.

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GARDENERS' BENEVOLENT INSTITUTION. —At a General Meeting of the Members of this Charity, held at the London Coffee House on Thursday, 27th January, 1848, for the election of Two Pensioners, the following was the result of the Ballot:—

		Votes.
Edward Marshall	... 5th application, aged 68,	42
Francis Chamberlain	... 4th ,, ,,	69, 378
Mark Browne ...	... 3rd ,, ,,	81, 152
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John Appleby ...	... 1st ,, ,,	55, 21
Robert Duncan ...	... 1st ,, ,,	68, 28
Benjamin Hayter	... 1st ,, ,,	69, 47
Ogilvie Neil ...	... 1st ,, ,,	79, 108
Humphrey Taylor	... 1st ,, ,,	62, 11

The Meeting then declared Francis Chamberlain, of Turnham-green, and Henry Bursby, of Benenden, Kent, as having the greatest number of votes, duly elected Pensioners of this Charity.—By order, Edward Roger Cutler, Secretary. 97, Farringdon-street, January 29.

HENRY GROOM, Clapham-rise, near London, by Appointment Florist to Her Majesty the Queen, and to His Majesty the King of Saxony, begs to recommend to the attention of the Nobility, Gentry, and Amateurs, his collection of LILIUM LANCIFOLIUM, GERANIUMS, RANUNCULUS, ANEMONES, AURICULAS, CARNATIONS, and PICOTEES, which he can supply at very moderate prices.

TYSO and SON, Wallingford, Berks, beg to offer—
*RANUNCULUSES, 100 superb named sorts, 50*s.* to 100*s.*
*ANEMONES, 50 ditto double ditto, 20*s.* to 30*s.*
CARNATIONS, 25 extra fine varieties, in pairs, 40*s.* to 60*s.*
PICOTEES, 25 ditto, ditto, 40*s.* to 60*s.*
*Imported seeds, collections of named German Asters, Stocks, Balsams, Hollyhocks, Zinnias, &c., from 2*s.* 6*d.* to 5*s.* per assortment.
° These can be forwarded safely by post.
NEW POTATO, the "Chalmore Kidney," 2*s.* 6*d.* per peck.
"The Ranunculus: how to grow it," price 6*d.*, or sent post free, in a priced Catalogue for 1847 and 1848, on receipt of nine postage stamps.

DOUBLE ITALIAN TUBEROSE ROOTS, 4*s.* per dozen.—The importation of the above-named Bulbs has been just received at A. Corbett's Italian and Foreign Warehouse, 18, Pall Mall. Orders by post punctually attended to. Also some exceedingly moist Parmasan and Gruyère Cheese.

MITCHELL'S ROYAL ALBERT RHUBARB.—This superior variety, so well known in Covent-garden Market for the last six years, and acknowledged by all who have seen it to be the best ever introduced, its qualities being—the earliest that is grown, most prolific bearer, splendid red colour, with large fleshy stalks, and considered by epicures to be the finest-flavoured Rhubarb ever eaten. Large one-year-planted roots, 3*s.* 6*d.* each, with the usual allowance to the trade. Remittances requested from unknown correspondents, by Post-office order, to William Mitchell, Enfield Highway, Middlesex, made payable at the Post-office, Enfield.

MILLER'S SEEDLING GERANIUMS.

Scarlet Defiance	£1 11 6	Rosa Mundi ..	£1 11 6
Queen of Kent	.. 1 1 0	Distinctum ..	.. 1 11 6
Admiration ..	.. 1 1 0	Valquis ..	.. 1 1 0
Conspicabundum	.. 1 1 0	Flora's Flag ..	.. 1 1 0

The set 8*l.* 8*s*, with the usual allowance.

Fireblaze ..	.. 0 10 6	Garland ..	.. 0 15 0
Eclipse ..	.. 0 15 0	Meteor Superb	.. 0 10 6
Telegraph ..	.. 0 15 0	Beauty Surpass	.. 0 10 6

The six 3*l.*, with usual allowance.
New Forcing GERANIUM, "PURPUREUM MULTIFLORUM," 10*s.* 6*d.* each.
N.B.—Good strong plants, with cuttings, are now ready to send out. The whole set of 15 distinct varieties a real bargain, 10*l.* 10*s.*, with usual allowance to the trade.
Providence Nursery, Ramsgate.

BALSAMS.—The Subscriber begs most respectfully to call the attention of the Nobility, Gentry, and Public of England to his unrivalled collection of BALSAMS, to which he has devoted his attention for many years, and perfected regardless of expense. The flowers are of immense size, very double, and embrace all the known varieties of colours peculiar to that beautiful plant. Seeds can be furnished, mixed, at 2*s.* 6*d.* per packet.
Orders forwarded per post to all parts of the kingdom on receipt of postage stamps or money orders.
George Imms, Bowater Nursery, Woolwich.

WALES AND IRELAND. (By the Great Western Railway.)
JOHN SUTTON and SONS have the pleasure of informing their customers in Ireland and Wales, that they have engaged an Agent at Bristol who will receive their goods from the Great Western Railway Company (carriage paid to Bristol), and immediately put them aboard the fast Steam Packets, free of expence, whereby delay and other impositions will be entirely prevented.
Priced Catalogues of Horticultural and Agricultural Seeds may be had, post free; but Messrs. Sutton would most especially recommend their complete Collections of NEW KITCHEN GARDEN SEEDS, which for many years they have supplied to noblemen and others in most parts of the United Kingdom, whereby the best kinds are obtained on very advantageous terms, viz.—

Collection No. 1 (complete for the season) ..	.. £3 3*s.* 0*d.*
Collection No. 2, containing all the same choice kinds as No. 1, but in smaller quantities ..	.. 2 2 0
Collection No. 3, ditto	.. 1 1 0

Also the most showy hardy kinds of FLOWER SEEDS, in Collections at 10*s.* 6*d.*, 7*s.* 6*d.*, and 5*s.*
*** Flower Seeds sent free, by post, and all other goods by railway carriage paid.
Reading Seed Warehouse, Reading, Berks, Jan. 29.

POTATOES FOR SEED, of the following varieties, warranted free from disease:—

Per bush.—*s.* *d.*		*s.* *d.*
Ash-leaved Kidneys	6 0	Early Shaws ...Per bush. 5 0
Walnut-leaved do.	6 0	Bushel bags ..... each 0 6
Hampshire Red do.....	5 0	Sacks..... ,, 1 3
Farmer's Glory	5 0	

An order for each or any of the above sorts, accompanied with a Post-office order, or postage stamps of the amount ordered, will be promptly attended to.—Apply to S. Rosling, Comen Hall, Hemel Hempstead.

SEED POTATOES.
CHARLES SHARPE, Nursery and Seedsman, respectfully begs to direct the attention of the Nobility and Gentry to his superior sorts of POTATOES, which, having been grown on the Lincoln and Cambridgeshire marshes, has afforded the advertiser ample opportunity to witness their progress for the last three seasons; he is, therefore, able to recommend the following sorts as being very productive, and the least affected by the disease, and offers them at the following prices, packing included:—

Early Cockneys, fine for forcing		7*s.* per bushel of 56 lbs.	
Fox's Seedling, ditto	ditto...	7*s.*	,, ,,
American Natives,	ditto ..	5*s.*	,, ,,
Ash-leaf Kidney ...	... ...	8*s.*	,, ,,
York Regents ...	... ...	5*s.*	,, ,,
White Kidney, very fine...		5*s.*	,, ,,
Early Shaws ...	... ...	5*s.*	,, ,,
Kentish Pink Kidneys ...		5*s.*	,, ,,

The above will be forwarded immediately after the receipt of a Post-office Order, and the greatest care will be taken to ensure their safe delivery.—Direct, prepaid, to Charles Sharpe, Wisbeach, Cambridgeshire.

UNDER THE PATRONAGE OF THE QUEEN AND PRINCE ALBERT.

JOSLING'S ST. ALBAN'S GRAPE.—The above has been patronised by Professor Lindley, the Horticultural Society of London, Mr. R. Thompson, Superintendant of the Fruit Department in the Hort. Soc. Gardens: and the Editor of the Gardeners' Journal, as being an excellent variety; fleshy, rich, and sugary, with a Frontignan flavour, and is deserving of extensive cultivation. Plants well established in 6-inch pots, free to London, on receipt of a post-office order for 21*s.* Usual allowance to the trade if three are taken.
Robert Josling, Seedsman, St. Alban's, Jan. 29, 1847.

TO PLANTERS.
W. DRUMMOND and SONS, Nursery and Seedsmen, Agricultural Museum, Stirling, have this season to offer a large and well-grown stock of FOREST TREES, &c.

TRANSPLANTED LEADING SORTS.

Oak and Beech, in sizes, 1½ to 3 feet,			per 1000—	20*s.* to 30*s.*
Ash, Elm, and Plane	ditto	ditto	,,	16*s.* to 20*s.*
Spanish Chestnut	ditto	ditto	,,	25*s.* to 35*s.*
Larch Fir	ditto	1 to 2½ feet	,,	10*s.* 6*d.* to 16*s.*
Scotch Fir	ditto	9 to 15 inches	,,	8*s.* to 10*s.* 6*d.*
Norway Spruce	ditto	ditto	,,	12*s.* to 15*s.*
Thorns or Quicks,	ditto	2 and 3 years	,,	10*s.* 6*d.* to 12*s.* 6*d.*

Priced Lists, including Shrubs and Fruit trees, can be had on application.
The Nursery Grounds, consisting of sharp, gravelly soil, produce hardy fibrous-rooted trees, well suited for hill and moor planting. Orders above 5*l.* will be delivered free at the principal ports of Britain and Ireland.

MYATT'S LINNÆUS RHUBARB.—The numerous applications from those who have seen this superior variety, and from the London Trade in particular, have induced Messrs. Myatt to offer it to the public. The universally acknowledged excellence of MYATT'S RHUBARB is a sufficient recommendation for the LINNÆUS; this being the principal sort grown by them for the London markets for several years, being remarkably early and unusually productive, and is preferred by purchasers to every other variety for its delicious flavour. The stalks being large and free from filaments, it is admirably adapted for preserving, and all other culinary purposes. For early forcing it is the best variety known. The superior flavour, large size, unusual productiveness, and extremely handsome bright red appearance, render it alike desirable and profitable. One-year planted roots will be ready the end of October, price 3*s.* 6*d.*; also Mitchell's "Royal Albert" Rhubarb, 3*s.* 6*d.*, and Myatt's "Victoria," 1*s.*
Manor Farm, Deptford, Jan. 29.

SELECT [illegible]
NEW DAHLIAS, [illegible] AND PETUNIAS.—The Re[illegible] Gardens, beg to inform their friends and the Public generally, that their Descriptive Catalogue of [illegible] may be had on application. [illegible]
Thomas Rabbits, as above, will meet with [illegible] Jan. 29.

FISHER, HOLMES, and Co., [illegible] and Seedsmen, beg leave most respectfully [illegible] ing choice CUCUMBER SEEDS, which [illegible] dence recommend.
HAMILTON'S HERO; a very fine [illegible] long, and suitable for exhibition. [illegible]
HAMILTON'S WHITE SPINE, [illegible] 6*d.* per seed, or 6 seeds for 2*s.* 6*d.*
IMPROVED SION HOUSE; packets [illegible]
MILLS'S JEWESS; a very early [illegible] 12 seeds, 1*s.*
VICTORY OF BATH; true, 6 seeds 1*s.*
CUTHBERT'S COLNEY HATCH; true [illegible]
TELEGRAPH; superb night [illegible] growth 24 inches, great bearer and of [illegible] fine for exhibition, 1*s.* per seed, or 6 seeds for 5*s.*
WALKER'S IMPROVED; 12 seeds, 1*s.*
EASTWOOD SEEDLING; an improved [illegible] Walker's; fine, 12 seeds, 1*s.*
The above sorts sent free by post. The [illegible] supplied.
Nurseries at Handsworth. Seed Warehouse, [illegible], Market-place, Sheffield.

TO CUCUMBER GROWERS.
EDWARD TILEY, Nurseryman and Seedsman, begs to offer his superb and [illegible] "VICTORY OF BATH." The advantages of [illegible] are—it is a very handsome fruit, the earliest and most productive bearer, and the quickest grower known; the average length of this Cucumber being from [illegible] It has been awarded more than 50 first prizes at the [illegible] Cucumber Shows within the last three years. Its [illegible] mark this Cucumber has been successfully grown [illegible] Specimens in the open air without frames against a wall, [illegible] trends, surpassing any of the hardy kinds this season. It will be sent out in packets, 7 seeds, 2*s.* 6*d.*, or 14 seeds, 5*s.*
E. T. has seeds of Hamilton Black Spine Cucumber, which he can highly recommend, this has also been very successful at a number of [illegible] Exhibitions, [illegible] many first prizes; length from 24 to 28 inches, [illegible] fruit. Seven seeds, 2*s.*, or a packet of each of the [illegible] 5*s.*
The above Cucumbers will be found to [illegible] quality for table, the flesh being firm and of fine flavour.
Parties intending to show at the forthcoming Exhibitions should not delay their orders. It is unnecessary to enter into further properties of the above Cucumbers, having given every satisfaction to purchasers during the last three years.

Per packet—*s.* *d.*		Per packet—*s.* *d.*	
True Peechwood Melon..	1 0	Windsor Pr[illegible] ..	.. 1 0
Sweet Ispahan ..	.. 1 0	True Walcheren Cauli-	
Terry's Prize ..	.. 1 0	flower E[illegible] ...	.. 1 0
Emperor Green-flesh	.. 1 0		

Sold at Edward Tiley's General Seed Shop, 10, Pulteney Bridge, Bath. The above will be sent post free on remittance of a Post-office Order, or the amount in postage stamps.

HAMMOND'S JERSEY PIPPIN APPLE.
BERNARD SAUNDERS, F.E.B.S., L.B.S., &c., Nurseryman, Seedsman, and Florist, begs respectfully to announce to amateurs of fine fruit that he is now ready to supply Trees of the above-named APPLE. This fruit was raised by J. Hammond, Esq., of Farnham, in the Island of Jersey, and was first exhibited at the Royal Jersey Horticultural Society in October, 1839, and was awarded the First Seedling Prize, when the following description was given by the Judges and Committee, who tasted it:—"Fruit middle size, ovate, rather flattened at both ends; eye small, set in a shallow cavity a little prominent; stalk rather short, inserted in a deep cavity; skin greenish yellow in the early part of the year, changing to a bright orange yellow next the sun, flesh white, tender, crisp, and juicy, of a highly rich refreshing and delicious flavour. Keeps from October to May and June, and still retains its good qualities. It has since been exhibited at the London Horticultural Society, where it was also much approved of. Dwarf Trees, 2*s.* 6*d.* each. The usual allowance to the trade if three or more are taken. He can also supply Fine Dwarf Trained Peaches and Nectarines at 1 Moorpark Apricots at 3*s.* 6*d.* each. His collection of [illegible] Pears is unrivalled in the Channel Islands. Having [illegible] established upwards of 30 years he has had ample [illegible] growing fruits of every description. A remittance or [illegible] is requested from unknown correspondents.
St. Heliers, Jersey, Jan. 29.

CHARLES DALY and SON beg to inform the Trade and the Public that they have [illegible] to sell out their entire Stock of THORN QUICKS, [illegible] 1*s.* per 1000; ditto, 9 inches to 1 foot, [illegible] per 1000; ditto, 1 to 2 feet, 6*s.* per 1000; 2-years Seedlings, [illegible] ditto, 2*s.* 6*d.* per 1000; 1-year transplanted, 4*s.* per 1000; 2-years transplanted, 5*s.* per 1000. Any quantity to [illegible] per bushel; 1-year Seedlings, [illegible] per bushel; Beech-Mast, 4*s.* per bushel; 1-year Seedling Ash, [illegible] per 1000; 1-year Seedling Larch Fir, 6*s.* per 1000; 2-years ditto, 9*s.* per 1000; 1-year Seedling Spruce Fir, 2-years planted, 2*s.* 6*d.* per 1000; 1-year Seedling Alder, 1*s.* 6*d.* per 1000; 1-year Seedling Scarlet Oak, 1 foot, 2*s.* 6*d.* per 1000; 1-year Seedling Silver Fir, 1 foot, [illegible] per 1000; 2-years Seedlings Silver Fir, 1 foot, [illegible] per 1000; 2-years Seedling Horse-chestnut, 3*s.* 6*d.* per 100; Common Flowering Currants, 1*s.* per 100; Persian ditto, good plants, 2*s.* per 100; Rhododendrons, fine plants, 15 inches, 20*s.* per 100; Irish Yews, 1 to 1½ feet, 25*s.* per 100; 1½ to 2 feet, 5*s.* per 100; good furnished Plants, 1*s.* each; Broad-leaved Irish Ivy, 2*s.* per 100; Variegated Privet, 2 to 3 feet, 1*s.* per 100; Ash and Elm, 3 to 4 feet, 15*s.* per 1000; Limes, 5 to 7 feet, 15*s.* per 100; Carolina and Ontario Poplar, 6 to 7 feet, 2*s.* per 100. All kinds of Forest Trees sold cheap. Nine months' credit given by naming any respectable Seed Merchant in London.—Free to Liverpool or Glasgow.—Coleraine, Jan. 29, 1848.

DOUBLE ITALIAN TUBEROSE ROOTS, 3s. per Dozen.
With Directions for Planting.

ROBERT HALL begs to advise the arrival of his Annual Importation of the above-named Bulbs at his Foreign Warehouse, 63, South Audley-street, Grosvenor-square, facing the chapel. Orders by post punctually attended to, and remittances in postage stamps taken in payment.

FOREIGN WINES, CHAMPAGNE BRANDY, &c. &c.

ROBERT HALL begs to call attention to his curious old pale Champagne Brandy, 60s. per dozen.

	per dozen—s.		
Old Cordial Gin	26	Marsala	per dozen— 26s.
Port Wine	30	Genuine Spruce, for inward strains, bruises, &c., per bottle	2s 6d
Sherry	36		

Samples of which will be forwarded to any part on application, per post or otherwise, at 63, South Audley-street, Grosvenor-square, facing the chapel.

COOPER'S PATENT APPARATUS, for Preserving Fruits, by which process they are perfectly secured for many years, on sale, by JAMES COOPER, at No. 8, St. John's-street, Clerkenwell, London. Sample Hampers will be delivered at any part of London, for TEN SHILLINGS each, containing fruit in considerable variety, in half-pints, pints, and quart bottles, some in syrup, others plain.— Particulars and testimonials will be forwarded by post when requested.

KITCHEN GARDEN SEEDS.—No. 1.—A complete collection, consisting of 20 quarts of the best kinds of PEAS, and all other seeds in proportion, and of the best sorts, sufficient for one year's cropping of a large garden (the choicest Melons and Cucumbers inclusive)...£3 3s.

No. 2.—Complete collection, in smaller quantities, equally choice sorts ... ...£2 2s.

No. 3.—Ditto Ditto Ditto ... ...£1 1s.

No. 4.—Ditto (this is sufficient for a gentleman's small garden) ... ...12s. 6d.

No extra charge made for packing.

If there should be any sorts of seeds that would not be wanted in the collection, increased quantities of those most desired would be sent. References will be given if required to some of the principal families in England, Ireland, and Scotland, who purchased collections last season. All orders to be accompanied with a remittance or reference from unknown correspondents.

A General Catalogue of Horticultural and Agricultural Seeds may be had on application.

Seeds carefully packed for exportation.

WM. JAS. EPPS, F.H.S., High-street, and Bower Nursery, Maidstone.

PLANTING SEASON.—The following description of Nursery Stock may still be obtained, at the prices advertised in the *Gardeners' Chronicle* on the 6th Nov. 1847, by W. ROGERS AND SON, Nurserymen and Contracting Planters, Southampton.

SEEDLING.

Ash	Fir, Scotch	Arbutus
Acacia	,, Pineaster	Mahonia
Beech	,, Sea Pine	Catalpa
Spanish Chestnut	Oak, English	Ailanthus
Hazel	Thorn, Quickset	Evergreen Oak

TRANSPLANTED FOREST AND ORNAMENTAL TREES, 1, 2, and 3 feet.

Ash	Carpet Juniper
Beech	Weeping Beech
Birch	Laurestine (three sorts)
Elm	Laburnum, common
Fir, Scotch	,, sweet-scented
,, Pineaster	,, purple
,, Sea Pine	Mahonia aquifolia (for cover)
,, Spruce	Evergreen Oak (in pots)
,, Larch	Pinus maritima (in pots)
,, Austrian	Stone Pine (in pots)
,, Weymouth	,, transplanted, 1 foot
Hazel	Pinus ("Abies") Douglasii, in pots, 1 foot, on own roots (from seed), 75s. per dozen, or single plants from 7s. 6d. to 10s. 6d. each; and a few fine plants, 3 to 6 feet, 42s. to 63s. each. This is the hardiest and most magnificent of the "Conifers."
Oak, English	
,, Turkey	
,, Evergreen	
Sycamore	
Willow (Cornewell)	
Common Laurel	
Portugal Laurel	
Holly, Green	
,, Variegated	Ribes sanguinea
Evergreen Privet	,, aurea
Arbutus	Snowberry
Sweet Bay	Double Scarlet, White, and Vermilion Thorn
Tree Box	Weeping Willows
Cotoneaster	Irish Yew, 3 to 7 feet.
Deutzia	
Double Furze	

OF LARGE GROWTH, 5 to 12 feet.

Beech	Lime	Pineaster
Birch	Poplar	Sea Pine
Elm	Hornbeam	Laburnum
Oak, English	Silver Fir	Laurel
,, Turkey	Spruce Fir	Portugal Laurel
Acacia	Scotch Fir	Bay
Chestnut	Larch Fir	Arbutus

AMERICAN PLANTS.

Rhododendron ponticum, 1, 4, and 8 inches, bedded 20s., 40s., and 80s. per 1000.
,, ,, 1 foot, 12s. 6d., 1½, 2, and 3 feet, 20s., 40s., and 75s. per 100.
,, roseum, 1 to 2 feet, 50s. to 75s. per 100.
,, hybrid Scarlet and Catawbiense, in many beautiful varieties, bedded, 2 to 6 inches, 6s. per doz., or 25s. per 100.
Epigæa repens, 12s. per doz.
Gaultheria procumbens, 25s. per 100.
Kalmia latifolia, small bedded, 12s. 6d. per 100.
,, ,, 1 to 2 feet, 50s. to 75s. per 100.

China Roses, 25s. per 100.
Rose stocks raised from cuttings of the Bourbon, admirably adapted for budding or grafting, 8s. per 100.
Roses, a selection of the finest sorts, mixed, 25s. per 100.
Aristolochia Sipho, 9s. per dozen.
Clematis azurea grandiflora, 42s. per 100 or 6s. per dozen.
Dutch Honeysuckle, 20s. per 100.
Irish Giant Ivy, 8s. to 25s. per 100.
Perpetual Tree Violet, 3s. per doz. or 20s. per 100.
,, New White, 6s. per doz.
Camellia Stocks (from pots), 42s. per 100.
,, ,, bedded, 25s. per 100.
Hollyhocks, 25 superb varieties, 50s. per 100.

FRUIT TREES.

Peaches, Nectarines, Apricots, Apples, Pears, Cherries (trained and untrained), Vines, Currants, Gooseberries, Filberts, Raspberries, and Strawberries of the most select kinds.

A most superb collection of the choicest Roses, including all the new introductions, of which, and their general catalogue of Nursery Stock, Priced Catalogues may be had on application at their Nurseries, Red Lodge, North Stoneham, near Southampton, or their Floricultural Gardens, High-st., Southampton.

SUPERB HOLLYHOCK SEED.—The Subscribers beg to intimate that they can supply the above, saved by Mr. FOULIS, from his choicest kinds, in packets containing about 200 seeds, sent by post free on the receipt of postage stamps, or a post office order for five shillings, from unknown correspondents.—JAMES DICKSON and SONS, 32, South Hanover-street, Edinburgh, Jan. 22.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

SEEDS.—CORNER OF HALF-MOON-STREET.
THOMAS GIBBS AND CO.,
(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND,"
Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

Priced Lists of Agricultural Seeds are always ready, and may be had on application.

CUCUMBER AND MELON BOXES AND LIGHTS.—One hundred 1, 2, and 3-light Boxes and Lights of all sizes ready for immediate use. Warranted best materials, packed and sent to all parts of the kingdom; 2-light Boxes and Lights from 11. 6s. Garden Lights of every description, Conservatories, Green and Hot-houses made and fixed in all parts of the kingdom. References given to the Nobility, Gentry, and the Trade, in most of the counties of England.

JAMES WATTS, Hothouse Builder, Claremont-place, Old Kent-road, London.

VASES, AND OTHER GARDEN ORNAMENTS.—During the months of January and February, J. SEELEY, (late Austin and Seeley) will offer a selection from his stock at a deduction of one-third from the usual prices.

Keppel Row, New-road, Regent's-park.

STRONG HORTICULTURAL 16-oz. SHEET GLASS FOR CONSERVATORIES, GREENHOUSES, PITS, FRAMES, &c.—FURTHER REDUCTION.

HETLEY AND CO. publish Prices in the *Gardeners' Chronicle* the first Saturday in every month. Wholesale and Retail Glass Shade, Sheet, Crown, and Patent Plate Glass Warehouse, 35, Soho-square, London.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND CO., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS SIZES UP TO 40 INCHES LONG.				FOR CONSERVATORIES. SMALL SQUARES of SHEET.	
16 oz. to the foot	3½d.	per foot.		4 by 3 and 4½ by 3½	1½d. per ft.
21 ,,	5	,,		5 ,, 3 ,, 5½ ,, 3½	2 ,,
26 ,,	7½	,,		6 ,, 4 ,, 6½ ,, 4½	2½ ,,
32 ,,	10	,,		7 ,, 5 ,, 7½ ,, 5½	2½ ,,
				8 ,, 6 ,, 8½ ,, 6½	2¾ ,,
				Not above 10 ,, 8	3 ,,

GLASS MILK PANS, PROPAGATING GLASSES, AND BEE HIVE GLASSES, carefully packed in Baskets, and sent to any part of the kingdom.

GLASS TILES AND SLATES.

LACTOMETERS for trying the quality of Milk, 4 tubes 7s. 6d., 6 tubes 10s; and every article in the trade.

POLMAISE HEATING.

J. LEWIS'S IMPROVED REGISTERED STOVES are delivered at the Railroads, with plans for fixing, at the following prices:—For a greenhouse 20 feet by 12, 6l. 10s.; 30 feet by 14, 8l. 10s.; 60 feet by 18, 10l. 10s. To be seen in operation on the premises, Machine and Hothouse Works, Stamford-hill, Middlesex.

HOT-WATER APPARATUS AND HORTICULTURAL BUILDINGS.

DANIEL AND EDWARD BAILEY, of 272, Holborn, construct and erect Hot-water Apparatus for Warming Horticultural Buildings, Dwelling-houses, Churches, and Manufactories, in a simple and efficient manner, at moderate charges. They have erected Apparatus in England, Scotland, and Ireland for many Noblemen and Gentlemen. They had the honour to be employed in heating the ranges of Hothouses and Pits in HER MAJESTY'S NEW GARDENS AT FROGMORE, and in executing the works of the splendid Conservatory erected by the Horticultural Society of London in their gardens at Chiswick, and also in the erection of the Conservatory attached to the Pantheon Bazaar.

D. and E. BAILEY, who were the first to introduce Metallic Curvilinear Hothouses to Horticulturists, erect various descriptions of Horticultural Buildings, and execute all kinds of metal work at their Manufactory, 272, Holborn.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors, and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory in New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

LIQUID MANURE.

ENGLAND INDEPENDENT OF THE WORLD FOR CORN.

THE attention of the Agricultural Interest, at this momentous crisis, is requested to the great importance of LIQUID MANURE, and the ease with which it may be appropriated by the use of FOWLER'S PUMPS, made expressly for the purpose, either portable or fixed; Garden, Ship, and Barge Pumps; also those for Distillers, Brewers, Soap Boilers, and Tanners, for hot and cold liquor. Pumps kept for hire, for Excavations and Wells. Buildings heated by Hot Water, for Horticulture, and every variety of manufacturing purposes.

The Trade supplied on advantageous terms, by BENJAMIN FOWLER, Engineer, &c., 63, Dorset-street, Fleet-street, London.

PERUVIAN AND BOLIVIAN GUANO ON SALE,
BY THE ONLY IMPORTERS,
ANTONY GIBBS AND SONS, LONDON;
WM. JOSEPH MYERS AND CO., LIVERPOOL;
And by their Agents,
GIBBS, BRIGHT, AND CO., LIVERPOOL and BRISTOL;
COTESWORTH, POWELL, AND PRYOR, LONDON.

To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named Importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

THE LONDON MANURE COMPANY beg to offer the under-mentioned MANURES on the best terms:—The URATE of the LONDON MANURE COMPANY, for Turnips, Tares, Oats, Barley, and all other Spring Crops.

GENUINE PERUVIAN GUANO, DIRECT FROM THE IMPORT WAREHOUSE.

Nitrate of Soda—Petre Salt for dressing old Pasture—Agricultural Salt—Superphosphate of Lime—Soda Ash—Pure Gypsum—Bone Sawdust—Sulphuric Acid—Sulphate of Ammonia, and every other artificial Manure. E. PURSER, Sec.

No. 40, Bridge-street, Blackfriars, Jan. 29.

GUANO—Guano, direct from Import Warehouse, Superphosphate of Lime, Dry Night-soil, Gypsum, Salt, Bone-dust, Sulphuric Acid, Nitrates of Soda and Potash, and every other Manure of known value. Also Horticultural Glass of every description.—For Prices Current, apply to MARK FOTHERGILL, Office 201 A, Stores 40, Upper Thames-street.

THE following MANURES are Manufactured by Mr. LAWES, at his Works at Deptford-creek:—

Corn Manure	14l. per ton.	Grass Manure	14l. per ton.
Clover do.	14l. ,,	Turnip do.	7l. ,,

Superphosphate of Lime, 7l. per ton.

Mr. LAWES has also made preparations for supplying the various artificial MANURES of commerce, and if Agriculturists will trust the selection of them to him, and will furnish him with the necessary information, he will supply those which he considers most suitable to the soil and crops. A paper containing the questions required to be answered will be forwarded upon application to his Office, 69, King William-street, City, London.

THE COLD WEATHER.

SELF REGISTERING SIXIS THERMOMETERS for Heat and Cold, of the best construction, and not liable to get out of order.

14-inch, 1l. and 1l. 1s.; 10-inch do. do., 15s.

Day and Night Thermometers for Heat and Cold, 10s. 6d.

Night Thermometers for cold only, 4s. 6d.

8-inch Box-wood Thermometers for Greenhouses, 2s. each.

Hydrometers for ascertaining the quality of Sulphuric Acid, 6s. No purchaser of sulphuric acid should be without one, as it is often sold highly diluted. Lactometers, by which the quality of milk may be shown, whether for curd or cream, with instructions how to use it, and also the results of experiments on different milks, 7s. 6d. Lactometers for showing the amount of cream in milk, consisting of 4 graduated tubes, 7s. 6d. Mason's Hygrometers for showing the humidity of the air, with tables, &c., 15s. This is an invaluable instrument in hothouses, sick-chambers, &c. It was described in this Paper of March 6, 1847.

All kinds of Barometers, Thermometers, and Philosophical Instruments made by HENRY BAKER, 90, Hatton-garden, London, will be sent on receipt of a Post-office order for the amount. Boxes are charged extra.

TO BRICK AND TILE MAKERS.

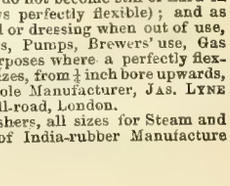
THE AINSLIE BRICK AND TILE MACHINE COMPANY (James Smith, Esq., of Beanston, Chairman) invite attention to their IMPROVED BRICK and TILE MACHINES, which are to be seen at work at Alperton, and at the Company's Office, 193A, Piccadilly, from 10 A.M. to 5 P.M. Mr. Robert Scrivener, who has been appointed Manager in the room of Mr. John Ainslie, will show the Machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, 193A, Piccadilly, London.

These Machines may also be seen at Mr. Slight's, Leith-walk, Edinburgh; Mr. Lawrence Hill, 135, Buchanan-street, Glasgow; Mr. Robert Charles, Mill-hill, Leeds; Messrs. PERRY and Finch, Penkeridge, Staffordshire; and Messrs. Drummond and Son, Dublin.

IMPROVED FARMING IMPLEMENTS.

THRESHING MACHINES (Four-horse Power) doing from 25 to 35 loads of Wheat-straw per day—straw undamaged, price 60 guineas, including carriage and horse-power. A GORSE MACHINE, hand labour, will prepare 50 bushels per day, price 10l. 10s.; WEDLAKE'S CHAFF MACHINE will cut 200 bushels per day, price 7l. 7s; Horse Hoe, Dressing Machine (7l. 10s.), TURNIP CUTTER, Turnip Drill, Stubble Rake, Oil-Cake Breaker, Bean and Oat Crushers, Essex Ploughs for 2 horses, Subsoil Plough, Double Field Roller, &c. Seed Machines from 3l. 6s. to 3l. 10s., according to length. References given and testimonials produced of superiority.—MARY WEDLAKE, 118, Fenchurch-street.

THE IMPROVED HYDRAULIC RAM, fixed by FREEMAN ROE, Fountain Maker, 70, Strand, London, can be worked by a small stream of half-an-inch, where a fall of two feet can be obtained. The same RAM, without the aid of a Tank or Cistern, arranged to throw a Jet of Water constituting a Fountain with the head of water beneath.



ENGINES FOR DEEP WELLS OF ALL KINDS. DOUCHE AND OTHER BATHS. BUILDINGS HEATED BY HOT WATER. WATER WHEELS to work Small Pumps, from 15l. Estimates given for the supply of Towns, &c.

A newly invented PORTABLE VAPOUR BATH, all complete for 4l.

FLEXIBLE INDIA RUBBER PIPES, FOR GARDENING AND AGRICULTURAL PURPOSES.

THE PATENT VULCANISED INDIA RUBBER PIPES AND TUBING are made to stand BOILING LIQUOR WITHOUT INJURY, do not become stiff or hard in any temperature (but are always perfectly flexible); and as they require no application of oil or dressing when out of use, are well adapted for Fire-engines, Pumps, Brewers' use, Gas Fitters, Beer-engines, and all purposes where a perfectly flexible pipe is required. Made all sizes, from ¼ inch bore upwards, and of any length to order.—Sole Manufacturer, JAS. LYNE HANCOCK, Goswell-mews, Goswell-road, London.

Vulcanised India Rubber Washers, all sizes for Steam and Hot-water Pipes, and articles of India-rubber Manufacture generally.

THE JOURNAL OF THE HORTICULTURAL SOCIETY.—It is requested that those who propose to contribute to the next Part of this Journal will be so good as send their papers to the Vice-Secretary, 21, Regent-street, before the 15th of February. A copy of the Journal for the current year is sent gratis to all writers whose communications are published.

The Gardeners' Chronicle.

SATURDAY, JANUARY 29, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

Tuesday,	Feb.	1—Linnean	8 P.M.
Wednesday,	—	2—Society of Arts	8 P.M.
Friday,	—	4—Botanical	8 P.M.
Monday,	—	7—Entomological	8 P.M.
Saturday	—	12—Royal Botanic	4 P.M.

No question has been asked us more frequently than this: "What book on FORESTING can you recommend?" To which our invariable reply has been—there is none that upon the whole we can speak well of. This seems strange, considering that we have many books of fair repute upon the subject; but in our view their reputation exceeds their deserts. We regard the whole of them as bad in one respect or another, so far as forest management is concerned; some are written in ignorance and defiance of the plainest principles of vegetable physiology; others are crotchety; others are mere booksellers' compilations, fit for nothing but the shops of the butterman and trunk maker.

If ever there was a department of gardening in want of a good guide, it is the management of woods. If any branch of any subject has been ruined by the useless routine of ignorant "practical" men it is the department of woods. If the advantages of any branch of cultivation have ever been exaggerated or depreciated it is still the unfortunate forest land, and it must even be admitted that spurious science has in no small degree complicated the question. It is full time, then, in an age of intellect and correct observation, that a beginning at least should be made in pointing out the true principles of the forester's practice, in exposing the manifold absurdities of the timber-doctor, and in showing what it really is which constitutes the foundation of the woodman's science. Many contributions to a correct understanding of this great national matter have been made of late years, several indeed in our own columns, and there can be no doubt that plantations are in all respects, upon the whole, managed better than they were 10 years ago. Still a plain general work on the subject, by a man of intelligence and experience, was greatly wanted; and we are glad to say is at last before us.

Mr. JAMES BROWN, the forester at Arniston, near Dalkeith, has published his views of the subject* in a sensible, concise, and useful manner: and we can now refer to his volume as *the book* to be recommended. We have read it with great care, and we can say that although perhaps his Scotch experience is not all that is required in the south, and although in minor matters we may entertain opinions somewhat at variance with his, yet that he may be taken as a safe and experienced teacher of practice in all that is most material, whenever he speaks from his own knowledge. When he copies the opinions of others, as in speaking of the quality of our two British Oaks, or dealing with the physiology of the matter, he has not always the knowledge which is required to avoid errors.

Mr. BROWN's book is a very good one then, and may be recommended as a guide, to those who would turn their plantations to the best account. That this is not done at present, except in an inconsiderable number of places, is a notorious fact. He says,

"Upon a little reflection, it must appear evident to every inquiring man interested in the welfare of our home plantations, that a forester, in order to be one profitably, must be perfectly acquainted with the natural habits, constitution, and peculiarities of every tree that he attempts to cultivate; for if he is not so, the ultimate result of his work must in a great measure be left to chance. I by no means wish to say anything lightly of the qualifications of foresters; but, at the same time, I feel in duty bound to say the truth, and that is, that taking foresters as a body of men, there is extremely little of useful practical information among them; and in order to prove the truth of this assertion, I may say, that foresters in general are not so able to cultivate the trees which grow under their notice, upon natural principles, as we find gardeners do the plants under their notice. And, admitting this, what is the reason of such a deficiency in their professional character? So far as I have been able to trace the cause of this defect among my brethren, I am led to think, that it is the want of having proper sources of information upon their business. Gardeners have been assisted by the advice of many able and scientific men, who have written much for their instruction; while the forester has had very little indeed written for his information. It has often been observed, that gardeners make better farmers and foresters than any other class of men: and it is the truth; but the reason is, that they have, or rather are obliged to have, a closer acquaintance with the nature of plants than any other class of men. A gardener cultivates several thousands of distinct species of plants; and yet he is generally able to adapt each species to that sort of soil which is found to be best suited to its nature. The gardener, in cultivating a Heath, for instance, gives it a light, sharp, mossy soil and a cool dry situation; and he does so because he knows that the Heath, in its native country, is an inhabitant of a light dry soil, and hilly or mountainous situation; and so on with every other plant he cultivates. Now, the principal thing to be observed here is, that the gardener who cultivates his plants with the most success is he who can by his art give his plants most nearly that soil and situation which is found to be their condition in a state of nature; which is just the point that the forester ought to attend to also."

To these views all must subscribe. They exhibit clearly one of the causes to which disappointment in obtaining from plantations the profit which they may be made to yield is to be attributed. What that profit is may be a question: but be it what it may there can be no doubt that in general it is grievously cut down by the unskilfulness of those who have to produce it. And if this is so in plantations it is still more so in hedgerows, which might have become a most important part of the property on a landed estate instead of the valueless nuisance which has led to their extermination. Mr. BROWN does not touch upon this subject, which is much to be regretted, as he would doubtless have had some judicious advice to offer. His views with respect to pruning may, however, be taken to apply to hedgerow timber, and certainly deserve to be studied. The following piece of advice, in particular, meets the larger number of cases in hedgerows when the timber is first forming.

"It is now a well-ascertained truth among all practical foresters, that when a young tree is in a vigorous state of growth, and the wood full of sap, previous to its having made any hard wood, any branch may be taken off without doing the least injury to it; therefore, it is just at this stage of the existence of a tree that it can with certainty be made to do well or otherwise, according as it may be attended to, to give the top the lead in the growth, to check the stronger branches, and to give the tree that shape it may be intended it should have when it attains full age."

The question of hedgerow timber has now become of such moment that we are anxious to draw attention to it, irrespective of the timber of plantations; for we quite agree with Mr. VERNON HARCOURT and an experienced writer in the *Chester Chronicle*, that if some stop is not put to the indiscriminate destruction of trees round fields, the landed interest will sustain injury which it will require a century to make good. Bad hedgerow trees are worthless: too much hedgerow timber is a nuisance; but a moderate number of good trees round fields is not only not injurious, but is productive of advantage, independently of its effect upon the scenery of a country: a circumstance however which cannot be properly allowed to form a part of the economical question, to which we shall return.

IT would be wrong for us to pass over in silence the letter from "a Professor of Taste in Landscape Gardening." We will make no comment on the rather doubtful meaning of this signature; nor on the sharp tone of his communication. It is quite enough for us that so much interest is manifested in respect to this long-neglected question, and we shall be very happy if he write again and again on the subject.

Let us look, however, at the charges brought against us. One is that we have introduced humour and even jesting into our articles; and it is asserted that the pervading spirit should be equable gracefulness of style. It will surely not be asserted that such a style would be uniformly or at all effective in exposing or demolishing glaring bad Taste. It would have as little effect as a homœopathic dose against an attack which demands medicine the most rapidly powerful. But grant that for certain purposes we have used irony or sarcasm or ridicule, or broad humour. By what other weapons could our purposes have been accomplished? Our correspondent will agree with us that there are some and not a few natures which neither graceful style nor pure argument can affect—that they can be moved and roused to right thoughts and right views only by the very process which he condemns. Does not ridicule the test of truth? Are not [illegible] SMITH' writings [illegible] has forgotten the [illegible] determination to keep out the Atlantic from [illegible] dashing by the arduous exertions of the [illegible]? That single bit of [illegible] more for the [illegible] a hundred and [illegible] limited piece—after [illegible] as the most effective [illegible] —may we not [illegible] [illegible] on at the present moment [illegible] Park, Manchester? It is in [illegible] for such a purpose that we have [illegible] engine to bear: and we [illegible] its application. On the general question [illegible] tastes naturally differ; and it [illegible] be equally balanced, the scale is usually turned by the good actually done.

Our correspondent again briefly states [illegible] views and principles with [illegible] We have no more advocated [illegible] condemned exclusively, any [illegible] principles whatever. Our readers will bear in mind that while we advocate the curve as the line of beauty, and therefore as the prevailing feature in good landscape gardening—and while we have equally deprecated the predominance of straight lines and angles—we have never said that *all* the lines should be curves, or that there should be no angles or straight lines at all. We have always maintained that the latter might be occasionally and well introduced as a foil to heighten the grace and beautiful effects of the former when tastefully designed. With regard to avenues our correspondent must be oblivious. We distinctly expressed our admiration of them when skilfully planned. And as to obelisks, columns, and such ornaments to grounds, we equally plainly made the question rest on the principle of APPROPRIATENESS in each case. We believe that to be the sound opinion on the subject, but at the same time we shall not shrink from avowing our commission of error, if our correspondent can convince us that we are wrong. And we are entirely open to conviction.

But our worthy friend charges us with being crotchety. Be it so. There is no harm in that if the crotchet lead to good. And we may safely say that our crotchet in favour of DOWNING will be proved to be neither more nor less than just commendation of a deserving man—a man of original powers of thinking, whatever his previous education may have been. We do not, for our parts, shrink from commenting on any portion of his work—however unfairly the passages may have been selected—our own selections having been made in perfect fairness. As to the language which he uses, even if it were open to the sarcasms of our correspondent—even if it manifested extreme ignorance in the knowledge and application of words and phrases—this would only show the triumph of his TASTE in brighter colours, when we shall have proved his Taste to be good. For the present we shall only meet our friend's challenge as to the particular words "*pleached*" and "*sheared*." He must have forgotten, for the nonce, the almost universal maxim, that very many words and phrases are preserved in the vernacular of colonies long after they have become obsolete in the mother country. Now there is an American Dictionary of the English Language—and a very excellent one it is—by WEBSTER. If our correspondent will turn to it he will find, from the definition there given of the word "*pleached*," that it is precisely the word which a writer should use in describing a garden intersected by alleys: and that the old word "*sheared*" is still ordinarily used in America. Its meaning of course is obvious—although in this country it would be thought an inelegant expression.

For the rest, we do not shrink from defending in full our opinions concerning DOWNING. We shall show that his is an undeniable instance of Taste that *will* come into action despite of every adventitious obstacle—that he is as the American what BROWN was as the Englishman—that the principles which he lays down are not only sound but are developed on a uniform system, in a manner which is not paralleled in any English work—that the illustrative instances are well portrayed—and that, on the whole, we shall completely vindicate the opinions which we have deliberately formed and published in his favour. And when we shall have done this, we are sure that our correspondent, in the fair spirit of discussion, will be as open to conviction from our arguments as we can truly say that we ourselves are from his. =

CAPE HEATHS.—No. III.

Potting.—Vegetable chemistry reveals to us the fact, that the principal uses of the soil in reference to the

* *The Forester; being plain and practical directions for the planting, rearing, and general management of Forest Trees.* By James Brown. 12mo. Blackwood: pp. 215.

nutrition of vegetables, are to afford certain inorganic substances necessary in the building up of the vegetable fabric, and that those substances are by the decomposition of the bodies of which they form a component part, returned to the soil from whence they were originally extracted; but though chemical analysis assures us that such substances are present, it gives us no satisfactory explanation (except in a few instances), as to their probable uses in the economy of vegetable life; nor for our present purpose is such an explanation necessary, it is sufficient for us to know that they are present. Arguing from these premises, the deduction resolves itself into the fact, that the most suitable soil we can employ in the cultivation of any given plant, is that resulting from the decomposition of plants, similar in constitution to those whose capabilities we are anxious to develope; and this brings us to the immediate subject of our inquiry—What is the most suitable soil for Heaths?

If what we have premised be correct, the only answer to the question is—the surface soil from a common on which our native Heaths flourish spontaneously, and not the common black and sandy peat earth so often confounded with heath-mould, and employed as such. The one is principally vegetable matter in a state of decomposition, the other disintegrated rock. In removing soil, as above described, from the locality in which it is found, it is not advisable to take more than a few inches from the surface, as in this the most valuable soil is found, being of a more fibrous texture and containing a greater mass of vegetable debris. In carting it to the compost-yard, do not remove any of the growing Heather, as by its decay the soil will be greatly enriched; but stack the clods, with everything adhering to them, in neat ridges, disposing them in such a manner as to prevent the winter's rains soddening them. In this position the soil should remain for 12 months if possible; by that time all the vegetable matter will be in a decomposing state, and the soil suitable for all purposes of cultivation. I have used soil raw from the common without any apparent ill results, but such a practice is not to be recommended when it can be avoided. I have said that soil from a greater depth than a few inches should not be employed for the purposes of Heath cultivation. In the majority of cases, at a greater depth than 6 inches, it consists principally of disintegrated silician rocks, in which the oxide of iron is frequently present—a most deleterious compound when employed in conjunction with the Heath. I was near paying dearly for inadvertently producing this substance in the soil after my plants were potted. To facilitate the tying down of their branches, in order to produce bushiness, I employed iron wire rings, proportionate to the sizes of the pots, in which they were secured by legs of the same substance thrust into the soil; oxygen rapidly united with a portion of the metal and produced an oxide of iron, which rapidly impregnated the surrounding soil, destroying a great portion of the roots of my plants. In fact, none were produced in the neighbourhood of the iron legs. It was curious to observe, in turning the plants out of their pots, that little bunches of roots had condensed themselves into the smallest possible space compatible with the obtainment of nourishment, and that at the most remote point from the influence of the iron.

In repotting large plants requiring a considerable shift, the soil can be used after being thoroughly beaten and chopped with the spade; but for smaller specimens it should be forced through the meshes of a coarse sieve. In fact, in all cases when extraordinary large shifts are not to be given, it is by far the better practice to rub the soil through a coarse meshed sieve, as you need not rid it of any of its fibrous matter, and the original permeability is still retained. In using very rough soil for repotting plants, so much advocated of late, great care is requisite to prevent interstices occurring between the exterior of the ball of the plant and the interior of the pot.* When such is the case, a variable amount of moisture to the roots must be the inevitable result, and the languor of the plant, without any apparent cause, will soon warn us of the disadvantages under which it is labouring.

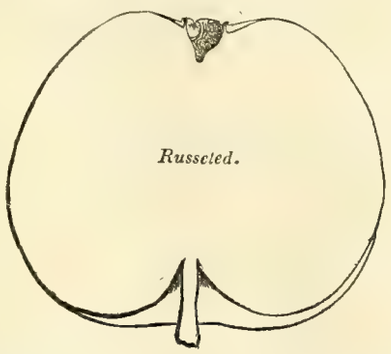
That the Heath should enjoy an unvarying seasonable supply of water is one great point in its successful cultivation: and here I would impress on the amateur and young gardener, that for the Heath to enjoy this, careful and assiduous attention is the only means of affording it. Do not trust the matter to assistants, or to any second person; but examine them yourself. Recollect you cannot trifle with the wants of a Heath as with a Pelargonium or other soft-wooded plant. The latter may be suffered to flag for want of water for hours, and then be restored without being much damaged. Not so with a Heath. In some species an hour's need of water is sufficient to kill them: and what is most provoking, they never flag, to give one warning. They never speak to us in that significant language which seems to say, "Give me moisture or I die." But in many cases a plant of this description may be dead for days, and an unpractised eye never detect it. I hope, before this series of papers is closed, to give some descriptions of individual specimens, in which I shall point out some of their peculiarities. But enough for the present.—*G.*

* I consider the use of very rough soil, for the purposes of repotting, can only be justifiable in cases where a plant is removed from a comparatively small pot to a very large one; and where a vast amount of growth is required in one season. For Justicias, Aphelandras, Poinsettias, Hibiscus, and similar soft-wooded and rapidly growing plants, large "shifts" and very rough fibrous soil can be used with immense advantage. These and similar plants, after their season of absolute rest (theirs being not merely a season of rest as applied to many plants, are excited, disrooted, and when they are established with a healthy action of root, are immediately shifted into their blooming pots. In such cases the soil cannot be reasonably too rough and fibrous. The advice so often reiterated in reference to using very rough soil in repotting, is so likely to mislead the amateur and tyro in gardening matters, that I feel confident this note will not be deemed out of place or uncalled for.

ASHMEAD'S KERNEL APPLE.

Synonymes.—Ashmead Kernel, Dr. Asmead's Kernel.

The accompanying representation is from a fruit of this excellent variety, received from Mr. J. C. Wheeler, Kingsholm nursery, Gloucester, who very truly remarks that it is an Apple not sufficiently known. A totally different fruit has, under the above name, unworthily occupied the place of the true sort; and to the latter only a second rate character has, in consequence, been attributed in the descriptive Catalogue of Fruits published by the Horticultural Society. Means of detecting the error were satisfactorily afforded in 1846, by Mr. Beck, of Isleworth, who forwarded specimens of the true variety.



The flesh is firm, crisp, and juicy, with a very rich, sugary, aromatic flavour; in season from November till May.

In the "Guide to the Orchard and Kitchen Garden," p. 86, it is stated that "the habit and general appearance of the tree is very much like that of the Nonpareil, and there can be no doubt of its having originated from a seed of that fruit. It is a Gloucestershire Apple, and was raised by a Dr. Ashmead, of Ashmead, in that county. It is a very valuable and hardy variety, highly deserving of cultivation." Unquestionably it ought to be in every good collection.—*R. T.*

ON THE DEVELOPMENT AND REACTION OF BOTRYTIS INFESTANS ON POTATOES.

No. II. (see page 51.) By M. Payen.

Since the communication of the fact observed by M. Magendie, many similar observations have arrived from different quarters; the destruction of Tomatoes in the neighbourhood of diseased Potato crops has especially attracted the attention of M. Sageret, a learned horticulturist well known to the Academy. From that time, every diseased Tomato presenting within a closed cavity partly clothed with a thin delicate white vegetation, has exhibited the phenomena described before; the Cryptogamic production belonging invariably to the same species of Botrytis.

This remarkable constancy encouraged me in the experimental examination of the other analogies, which it had appeared to me must exist in the causes of the disease of the two Solanals. The curious facts which I am going to relate establish clearly this analogy; they seem besides to help to explain the primitive effects and the various incidents of the Potato murrain.

I began by placing the granular substance of the cortical zones of diseased tubers in a cavity produced artificially, similar to that which is produced by the attack of Tomatoes. Tubers, cut in two and with their medullary substance removed, were re-united by a ligature, and then left for 10 days in a place where the temperature was kept at between 15° to 18° centigrade (59° and 64°.4 Fahr.).

The walls of the cavities were then clothed with a white down, which under the microscope presented in every instance the characters of Botrytis infestans, mixed occasionally with one or two other fungi; in some the fructification was developed more slowly; frequently I saw the spores, detached under the influence of water, absorb this liquid by endosmose, and then expel the granular matter which filled them; a similar granular substance but less abundant was perceived in the tubular stems and branches; a portion of this escaped by the lower extremity especially, where ruptures and spontaneous separation are more easy.*

The same phenomenon observed in the two similar Botrytides of different origins agreed with the hypothesis I had proposed, which attributed to these granules the primitive action in the affected tubers. I thought then to verify directly this hypothesis, by means analogous to those which I had employed to establish the transmission by contagion of the Potato murrain, and which had given the same results to Messrs. Vrolik and Harting.

Having chosen eight perfectly sound tubers, of four varieties (yellow, red, and violet), I cut all of them in two, and having made a little cavity in one of the halves, I reunited them by a ligature, and deposited in two of the specimens a morsel of the white mould of the Potato Botrytis; in two others, a similar morsel (taken up with the point of a pin) of the Tomato Botrytis; and, finally, the four remaining Potatoes received no addition, being intended merely for comparison. Each of the eight tubers was inclosed in a well-stoppered flask.

At the expiration of five days, the Tomato Botrytis had produced, to a depth of nearly 5 millimetres (about one-fifth of an inch), the appearance of the Potato murrain. The effects of the Botrytis of the Potatoes, spontaneously developed, were less advanced. Six days later, the affection, exactly characterised in the two divisions of the tubers, had traversed their whole thickness. It was easy then to study and establish its properties; the complete absence of all signs of putrefaction; the disappearance of the starch in the neighbourhood of the granular substance; the russet colouring and assimilation of the azotized and fatty matters in the latter; the induration of the diseased zones, manifest after boiling in water, &c.; and the walls of three of the cavities presented some new downy patches of the Botrytis. In the fourth tuber, the original threads remained solitary, ruptured, and surrounded with granular matter. None of the remaining four tubers, to which no Botrytis had been applied, showed the least appearance of change. I had, besides, taken the precaution of making the little cavity near the end opposite to the stalk, where the tuber remains in general sound for a long time, even when the other parts are attacked.

The experiments which I have just described are easy to repeat, especially by taking the Botrytis already formed from the fruit of the Tomato. If, as I believe will be the case, others find a repetition of the same facts, the following observations may be drawn from them.

1. The first effects of the Potato murrain are due to the emanations of a Cryptogamic vegetable (Botrytis infestans).

2. The action of water favours this emanation by endosmose and the ruptnre of the envelope; it is thus easy to understand why the attacks of the malady have very frequently coincided with rain, moist fogs, or hoar frost.

3. The spores are transported by the air when in motion; they are dispersed irregularly over crops, according to the direction of the atmospheric currents, shade, or physical obstacles; hence proceed inequalities of distribution of the disease in affected districts.

4. The extremely minute granules which proceed from the microscopic fungus may, taking the course of the sap, pass from the parts exposed to the air into the tubers, or be introduced into these directly. This latter mode of penetration is exceptional; we observe it frequently in Potatoes lying near the surface of the soil, sometimes in tubers more deeply seated.

5. Cosmical conditions proper to the development of the fungus naturally have the greatest influence on late varieties, though none, even seedlings, are exempt. Fears regarding the degeneration of Potatoes ought then to disappear, and we may hope that amongst the new varieties obtained from seed, the earlier ones will offer the best chance of escaping the epidemic.

6. The preceding facts are in accordance with one of the laws of Nature, which greatly import the progress of vegetable physiology: they show, in fact, granules of a quaternary chemical combination, endowed with powerful reactive forces, proceeding from their envelopes, and drawing from another vegetable organism azotized, fatty, and saline substances, in order to their assimilation, dissolving and transforming into carbonic acid and water, the feculent, saccharine, or other allied substances which they consume, at the same time disengaging caloric; thus producing in an evident manner the phases of the vegetation of certain parasitical fungi, phases analogous, it may be observed, to those which are developed by animal life.

The agricultural phenomenon, then, with which we are occupied, doubtless but of transitory duration, does not present a complete anomaly in Nature: it proves by a new example that the vital energy of organisms resides in bodies of a quaternary combination; it adds to scientific data the knowledge of one of the natural processes which limit the extent of cultivation, and oblige us to vary it for the benefit of general production.—*Comptes Rendus, Nov.* 15, 1847.

* The dislodgement of the granular matter in all these tubular cavities seems to me to indicate the absence of cells, the appearance of which was doubtless due to the lines of separation between the agglomerations of the granular matter itself; the accompanying sketches (which are not published), give a sufficiently exact idea of the forms and of the effects produced by this Botrytis similar to Botrytis Solani, figured by Harting, 1846; B. fallax (Desmazières), B. vastatrix (M. Libert), Botrytis (Morren, Unger, &c.).

NEW FRUITS:

Described in the Bon Jardinier Almanach for 1848.

PEACHES.

Gain de Montreuil.—Fruit roundish, a little compressed, transversely about three inches in diameter, and nearly four inches longitudinally. Skin thickly covered with down, of an intense dark purple next the sun, greenish yellow, finely dotted and streaked with purple on the shaded side. Flesh firm, veined with red, and of very good flavour; the flesh adheres to the stone, which is of a very deep purple.

Reine des Vergers.—Fruit very large, having the flesh tinged with red next the sun.

PEARS.

Arbre courbé.—Fruit of the size of the St. Germain. Flesh melting. Ripens in October and November. Tree vigorous and fertile; suitable for a west aspect wall; or it may be grown as a pyramid, but in this

case its irregular mode of growth requires particular management.

Beurré Bretonneau.—Fruit regularly oval, at first deep green, afterwards becoming yellow, and then exhibiting brown dots. Stalk short. Flesh melting and sugary. Ripens in March and April.

Beurré d'Esperen.—Fruit large, of first-rate quality. Flesh melting, perfumed. Ripens February to May.

Beurré Giffard.—A melting fruit, of the size of the St. Germain. Ripens end of July. Branches slender. The tree bears well against an east or west wall; and it is also suitable for training as a pyramid.

Bon Gustave.—Fruit pyriforme, about seven inches in circumference; skin greenish yellow, marked with large irregular spots. The footstalk is very long and slender.

Calebasse d'Eté.—Fruit tapering, about the size of a Passe Colmar; flesh half melting; ripe end of August. Tree vigorous, not very productive as a pyramid.

Calebasse d'Hiver.—Fruit turbinate, of the size of a Brown Beurré. Flesh half melting. Ripe in February and March. The tree is not very productive as a pyramid.

Cassante de Mars.—Fruit of the size and form of the preceding. Flesh crisp. Ripe in March and April. The tree does not thrive on the Quince stock. It may be grown as a pyramid, or trained against a south or an east wall.

Catinka.—Fruit roundish or turbinate, of the size of a Catillac. Ripens in November and December. The flesh is melting, but must be eaten when just in perfection, for it soon afterwards decays. The tree is vigorous and productive, and may be grown as a pyramid or against a wall.

Duc de Nemours.—Fruit oval, upwards of 2½ inches diameter, and nearly 4 inches in length. Footstalk obliquely inserted. Skin smooth, green, sprinkled with grey spots; it acquires a yellowish tinge on approaching maturity. The flesh is white, tender, and melting.

Orpheline d'Enghien.—A melting fruit of the size of Passe Colmar, of a turbinate form, more or less elongated. Ripe November to January. The tree is middle sized, and a most abundant bearer trained in the pyramidal form, or against a wall with a south-east aspect.

Passe tardive.—Fruit of the size of a St. Germain, nearly as broad as long, swelling in the middle. Flesh crisp. Will keep a year. Tree middle-sized; it requires a south aspect.

Poire Faurite.—Fruit of the size and form of a small short St. Germain. Its skin is yellow, shining, tinged with red next the sun and marked with numerous small reddish dots. The eye is shallow; stalk of medium length and thickness, fleshy at its junction with the fruit. Flesh yellowish white, half melting, and tolerably fine-grained, with a peculiar, slight perfume. Keeps nearly a year.

Reine des Poires.—Fruit of the size of Passe Colmar, turbinate; skin reddish. Flesh half melting. Ripe November to January. Pyramid or west wall. [There is another Reine des Poires which ripens earlier than the above.]

Triomphe de Jodoigne.—A large pyriform fruit, 5 inches in length and 3⅔ in diameter. Eye depressed; footstalk short and thick. Skin deep yellow, slightly tinged with green on the shaded side, with a blush of red near the base; the side next the sun is deep red. The flesh is melting and perfumed. The tree is very vigorous; leaves with long petioles, generally three, four, or five together, but solitary towards the extremities of the shoots. The fruit ripens in November, and keeps not beyond December.

Vauquelin.—Fruit large, oval, jutting out towards the middle, or oblong-turbinate, obtuse at the stalk. Flesh demi-fine, with an abundant juice, of a rich, subacid, perfumed flavour. Ripens usually in November, and may be kept even till March.

STRAWBERRIES.

Angelique Jamin.—Fruit of the largest size, oval. Flesh very succulent, with a sugary juice, slightly acidulated, and very agreeable. The plant is vigorous, and a more abundant bearer than Queen's Seedling [Keens's Seedling?], from which it was raised.

Comte de Paris.—Fruit irregularly heart-shaped, 3 to 3½ inches in diameter; seeds slightly embedded. The colour is bright scarlet. Flesh pale red, with a separable core, which is spongy and rose-coloured, surrounded by a white zone. The scape branches into three pedunculs, bearing a truss composed of six or eight fruits. The plant is of a short, robust habit; leaflets roundish, with obtuse serratures.

Princesse Royale.—Fruit of the form of an elongated cone, from an inch to an inch and a half in length, and upwards of three inches in circumference. Seeds deeply embedded. Flesh vinous, very white at the core, which is firm and solid. Scapes slender, bearing 8 or 10 fruits. The plant is vigorous, with tapering, sharply serrated leaflets.

[A Strawberry described under the appellation of *Aly Smooth* is most probably the Alice Maud.]—‖

Home Correspondence.

Asparagus Forcing.—I agree with Mr. Ingram and Mr. Farrant as to the utility of hot water in this process. Its advantages over the old hotbed of Mr. Errington consist, first, in its better quality; secondly, in obviating the labour of building up linings, &c.; thirdly, in better Asparagus being obtained in less time. I have a range of pits or houses here, measuring 58 feet in length and 16 feet in width, divided into three houses, having a pathway down the centre. At the back and the front is one flow and return pipe. The front pipes are walled in so as to form a hot chamber, having doors in it either to confine the heat or allow it to escape into the house. Immediately above the chamber is a bed of rich soil, of about 20 inches in depth, in which I grow Cucumbers, French Beans, Potatoes, and Asparagus. The first planting of Asparagus in one of these beds (the farthest from the boiler) was on the 30th Nov. last, and I had on the 13th Dec. Asparagus ready for the table, *i. e.* in two weeks. In these houses I have had a regular supply of good Cucumbers ever since summer, and I have now hanging about 20 fine fruit of the Sion-house, measuring from 9 to 12 inches in length, and about 20 more are coming forward. The fruit is clean, well formed, and firm as summer Cucumbers.—*C. H., Newton House.*

Rain at Cobham Lodge, Cobham, Surrey, collected in and measured by Howard's Rain Gauge.—

Rain.	1837	1838	1839.	1840.	1841	1842.	1843.	1844	1845	1846	1847
Jan.	2.51	.26	1.32	2.67	2.50	.82	1.68	3.28	2.53	.93	1.43
Feb.	2.47	1.60	1.57	2.08	1.07	1.57	2.05	1.27	1.07	1.33	1.7
Mar.	.71	1.16	1.28	.52	1.50	1.79	.85	2.60	1.10	1.60	.72
April	.85	.54	.93	.21	2.58	.92	1.82	.20	.88	1.89	1.53
May	.91	.74	1.13	1.58	2.59	1.78	.99	.44	3.08	1.40	1.1
June	1.17	2.65	.10	.93	1.74	.56	1.68	1.13	.73	.97	1.39
July	1.53	1.56	3.48	1.97	1.93	1.62	2.13	1.05	.55	2.17	1.1
Aug.	2.86	1.09	1.36	2.01	2.61	3.60	3.20	2.08	2.0	.91	1.0
Sept.	1.09	2.60	5.74	2.88	4.33	3.88	.71	1.18	1.03	2.82	1.0
Oct.	1.65	1.81	1.84	1.58	1.25	1.75	1.23	1.56	.76	.5	.1
Nov.	1.40	3.77	3.91	3.84	3.09	1.0	3.29	2.77	2.70	1.82	1.82
cc.	1.38	1.64	2.86	.55	2.28	.92	.80	.29	1.91	1.26	2.63
	18.53	19.69	27.35	20.55	31.83	21.37	27.11	21.7	22.28	20.20	18.92

Culture of the Vine.—The advantages or disadvantages of the use of carrion as a constituent in Vine borders, have occupied a portion of your valuable columns for the last few weeks, and lest my silence should be construed into acquiescence with what has been advanced on this subject, I beg to offer the following remarks. I doubt not that the majority of your readers are aware that when the Vine borders at Eshton Hall were formed a goodly portion of carrion was put into them. But before I proceed with this part of my subject, I will answer the remarks made relative to my article of Dec. 18, page 837. In page 851 it is stated that the Grapes I exhibited on Sept. 7, 1841, have been superseded by Mr. Hutchinson, gardener at Castle Malgwyn. It certainly appears that the Hamburghs sent were heavier, and I have no doubt others have shown heavier bunches than mine, which were perhaps not the heaviest in the Eshton range; but admitting they were, do the Grapes alluded to supersede them, *i. e.*, do they supersede them as a collection? This is substantial ground for difference, even although the age of the Vines at that time were not taken into account, they being only two years old; and I must beg to entertain the opinion that my Grapes were the best ever shown in London or elsewhere, either before or since that time. This collection, which was exhibited in London on the 7th Sept., on the 9th was exhibited at York, and took five first prizes. Surely then the Grapes must have been good indeed, which, after receiving I believe the highest medal ever awarded for Grapes at the Society's rooms in London, travelled by coach and rail between 400 and 500 miles, were packed and repacked twice, and then competed successfully amongst the best fruit growers of any county in England. Between Sept. 7, 1841, and Oct. 17, 1843, something over two years, I was awarded by the Hort. Society of London eight medals, for the produce of my Vines, six medals for Grapes exclusively, the other two for exhibitions in which Grapes formed the principal fruit. The Vines at Castle Malgwyn are seven years old. Of the history of my Vines your readers are now aware. If anything more conclusive as to the advantages to be derived from using carrion in Vine borders is required, I beg to refer your readers to Mr. Cherry's article, at p. 22, on the state of the Vines, at Eshton Hall; and more particularly to an article signed "E. F. G" at page 19 of the same Number. Mr. Cherry there says, "I found the Vines in a good growing state. They are still in good condition;" and further on, "we might travel a long way ere we found Vines to match those of Eshton." Now just such results as these I had anticipated. What more is required? It appears Mr. Cherry agrees with my practice of culture, with the exception of carrion; but if he has not remade the borders at Eshton, which I am persuaded he has not, are not the Vines still enjoying the remains of what I *cautiously* offered, and in which (to use his words) they are luxuriating in robust health and fruitfulness? I have watched them many an hour in the bright sunny evenings of early summer, and I think yet as I did then—that, for their age, their strength when planted (the strongest cane at that time being only ½ inch in diameter), their enormous weight of fruit, they are the best collection of Vines in the three kingdoms, or perhaps in Europe. "E. F. G." appears to prove from the state of his Vines that carrion in Vine borders is deleterious and destructive. But he soon forgets this, and before he closes he tells us that, with the addition of brick and lime rubbish, his Vines are now luxuriant and abundantly fruitful, and this in this same pasty matter. Does "E. F. G." really intend us to understand that his Vines were ruined by carrion, and then show that by making his border porous, as all good borders should be, he husbanded on the Vines this destructive pasty matter? He says, "I replanted the Vines carefully, and the result was that in the following season the wood became firmer and shorter jointed, and the crop improved both in weight, flavour, and colour." Something in this bespeaks a convert in "E. F. G.," to whom, if he will allow me, I will give my opinion as to the cause of the state of his Vines when he got charge of them. He says, "Throughout the whole of the border I found not one single fibre." This assertion is untenable; the Vines could not have been in the state he mentions for they could not have subsisted by large roots, destitute of fibres. Had that been the case, he would rather have had shoots nor tendrils. But, since tendrils were produced in place of bunches, and shoots being cut back were the cause of the evil, that the Vines [illegible] too deep, and were [illegible] entirely removed from the influence of [illegible] high night temperature had also been [illegible] shoal on which many founder, and [illegible] not ripen'd. These remarks [illegible] all interested in Vine-culture. [illegible] cause of incipient bunches or tendrils; "E. [illegible] predecessor had placed his borders upon the [illegible] his Vines: "E. F. G." places his [illegible] and the results have been perfectly [illegible] instead of "E. F. G" having proved [illegible] of using carrion in Vine borders, he has [illegible] to be of very great advantage. I [illegible] another instance of great [illegible] the judicious use of the valuable [illegible] ing a tour in the autumn of [illegible] man's demesne, not 100 miles [illegible] an introduction to the gardener, [illegible] round his department. We entered a large [illegible] which there was a splendid crop of [illegible] dria Grapes; good bunches, with [illegible] and beautifully coloured. I expressed my [illegible] at the sight, and he kindly stated the [illegible] bring about so desirable a result. The Vine [illegible] out, and bore little; and he added, "[illegible] your Treatise, I top-dressed as [illegible] result is what you see; they have been the [illegible] tion of all who have seen them." Was [illegible] disadvantageous? In answer to a correspondent at p. 10, I beg to say that we English cultivators of the Vine do not succumb to either the growers of Frontignan, the Rhine, France, or to those of any of the wine countries. In the wine countries the Vine is as easy to cultivate as we would cultivate a crop of Currants or Gooseberries. In the general culture of the Vine in England we have to call in the aid of Art to accomplish what Nature kindly offers us, and still we surpass them in fine specimens of fruit. The same correspondent complains of the taste of a Nice Grape he tasted from Raby Castle, and the idea occurred that the bad taste might be owing to excessive manuring and forcing. Now this Vine had not been heavily manured, and as to forcing that cannot be admitted, as perfect plump fruit shown on the 7th Dec., and cutting from the same house since, answers that question. In fact it was not a Nice Grape at all. But all are liable to err, for a small bunch of black Grapes shown at the same time was called Black Prince, which must have been an oversight, as some of the berries measured 4 inches in circumference, and were perfectly globular, whereas those of the Black Prince are perfectly oval and much smaller. Will "G." name this assertion by naming the places in the neighbourhood of Leeds and Wakefield in which the Vines have been cut.—*James Roberts, Raby Castle, Jan.* 17.

The Glastonbury Thorn.—Enclosed I send you from a very old tree in this neighbourhood some sprigs of the Glastonbury Thorn (C. oxyacantha præcox) which generally begins to bud in December, and some blossom-buds are open towards the end of the month. This season it was in bloom on Christmas day. In consideration of the anecdote attached to it in the legendary tradition, it is an interesting variety.—*Thos. Rivers, Jun.* 22.

Culture of the Strawberry.—At a late meeting in the Study, Exotic Nursery, King's-road, Chelsea, Mr. Seadman brought forward an essay on the culture of the Strawberry in pots. He recommended plants of the previous year's growth to be selected from the extremities of the runners, then to be pricked out in a south border, and to be potted in the first week in June in 8-inch pots, two plants to a pot. He recommended a soil composed of decayed turf, mixed with rotten dung, and preferred having it collected in a heap a year previous to its being used, turning it occasionally in order, so that it might become well pulverised. In potting, a portion of fibrous peat is to be put above the drainage. After the plants are fully established in the pots they are to be plunged within an inch of the rim of the pot, in some open situation, where they might remain until the approach of winter, when they should be removed to pits or frames till wanted for forcing. He recommended flowering and setting of the Strawberry in pots where that accommodation could be commanded, and maturing the fruit in an early Peach-house or Vinery, on shelves near the glass, supplying them plentifully with water, and occasionally with manure-water after they were set, but not before, and continuing it till the fruit had attained its full size; but, on the first appearance of ripening, to discontinue it. The fruit, he said, should be thinned, and the trusses supported with stakes when required. Mr. R. Scott preferred only one plant in a pot, arguing that one would produce finer fruit, and nearly the same quantity as two. Mr. Saul agreed with Mr. Scott in preferring only one plant to a pot; he thought that, as in the leaves, the matter was prepared that nourished the fruit, these organs would be better able to perform their functions with only one plant in a pot. He likewise preferred using the turf fresh, being of opinion that, as vegetable matter in the turves underwent decomposition during 12 months much organic food was lost, and the mechanical condi-

tions of the soil lessened; and he, morever, preferred not plunging the pots after potting; he would only set them on the surface of the ground until October. On this point he argued that, as there was continually going on a reciprocal action between the leaves and roots, and that, as in July and August, the action of the sun on the leaves was great—that, therefore, equal root action should be excited; this he maintained was best secured by leaving the plant on the surface of the ground. Mr. Slow agreed with Mr. Saul on these points. Mr. Scott disagreed with the practice of not plunging the pots; for, in his opinion, when the pots were plunged, the roots of the plants were kept at a more regular temperature than when fully exposed to the burning rays of an August sun. He also disagreed with Mr. Saul as to soil; he certainly agreed with the essayist in preferring decomposed turf a twelvemonth old, for, although it lost half its vegetable matter in the process of decomposition, he considered that the principle was retained in the heap and called into action by heat and water. Mr. Daniels and Mr. Mason agreed with Mr. Scott. An animated discussion followed on these points.—*J. Patterson, Secretary.*

Bees.—On examining a hive of bees (exposed to a southern aspect) on the morning of the 2d inst., a number of the inmates was found lying dead at the bottom. These were cleared away, and some beer and sugar given to the bees. The day was very fine and warm, but during the day an additional number of the bees was observed dead. These were carried out of the hive by the survivors during the afternoon and throughout the whole of the following day (the 3d), which was also very fine. My object in writing is to inquire whether the death of the bees is to be attributed to disease, or to their having been starved in consequence of the mildness of the season having prevented them from becoming torpid? I am afraid that should either of these cases have occurred to my bees, the circumstances are of so general an application, that we shall hear of a great failure of hives throughout the country.—*J. O. W.* [Your colony is weak and dying off for want of food; in mild weather therefore lose no time in trying to save it by liberal feeding. In general the consumption of food has been great, owing to the mildness of the winter having prevented the bees from becoming torpid, and if the supply is not replaced till they can collect more, we think with you that there will be "a great failure of hives throughout the country."—*W.*]

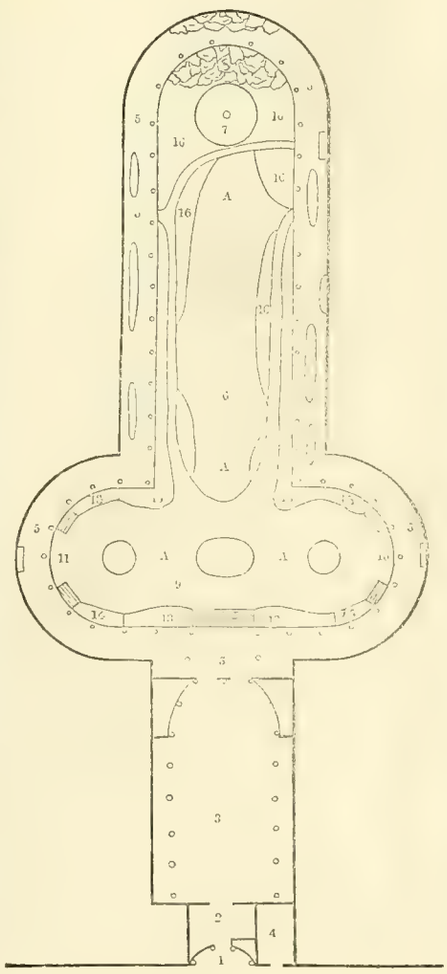
Foreign Correspondence.

Paris, Jan. 1848.—*Jardin d' Hiver.*—About two years ago I furnished an account of the Jardin d'Hiver, which had just then been established in the Champs Elysées. I moreover predicted that it would not last long, being in every respect unsuitable for the purpose; so it came to pass, for in less than six months it was doomed to come down, and another, upon a larger scale, combining various amusements, such as balls, concerts, swimming baths, &c. &c., was to be erected in its place; for this purpose the directors decided upon issuing new shares to the amount of about two millions of francs, thus increasing the capital to between three and four millions (120,000*l.* to 160,000*l.*)—such was one of the gigantic schemes of 1846.

To erect a floral temple 300 feet long, 180 feet wide, and 60 feet high upon speculation, is what no one who knows the habits of the French would suppose possible; but it has been done, for this new Jardin d'Hiver was opened last month, and is decidedly the most magnificent horticultural building in Europe. The only persons who can have reason to complain will be the shareholders; to them it will prove a splendid ruin, for they never can by any possibility receive the interest of their money, and it is more than doubtful whether it even pays its actual expenses. The horticultural part must prove a failure and a very ruinous one; the only hope is in the accessary amusements of balls, concerts, flower shows, or sale of works of art. Having said thus much, I will now describe the building, in which you are almost tempted to fancy yourself transported among the delicious reveries of the "Arabian Nights Entertainments," so grand and striking is the illusion.

The site is the same as before, No. 39, Champs Elysées, between the Roud Point and the Etoile, decidedly one of the best situations in Paris. The entrance is by a circular vestibule (No. 1) opening into a large hall (2), about 30 feet wide; immediately behind this is the ball or concert room (3), about 100 feet long by 60 wide, supported by a double row of pillars, and lighted from the top; the walls are high and fitted up to receive pictures and works of art, for sale, for which purpose it is well adapted; as a ball room it must become fashionable—a better place is not to be found. Situate in the most gay and frequented promenade of Paris, it cannot fail to prove attractive to the votaries of pleasure, of which the Parisians have ever been the most devoted followers. Upon leaving this you at once enter the corridor, or lower gallery (5), of the Jardin d'Hiver, or, as it looks at first sight, fairy land, so grand, lofty, tasteful, light, and elegant does the whole appear. From this corridor you look down upon the garden, which is in the form of a cross, 300 feet long and 180 wide. Toward the further end you see the "Jardin Anglais" (6), about 150 feet long, laid down in Grass, intersected with borders containing large shrubs and trees, among which rises a noble Araucaria excelsa, from the Jardin des Plantes, about 50 feet high; beyond, you see a cascade and fountain playing nearly to the top of the building, and the whole terminated by rockwork; at the sides of the cross, on the corridor, are arranged noble Orange trees, and below you thousands of Camellias and other plants; the corridor or lower gallery extends round the interior of the entire building, and is about 15 or 20 feet wide. The roof, which is exceedingly light and elegant, is of iron, and supported by more than 100 iron pillars in a double row, resting upon the corridor. About 30 feet up the pillar is suspended a smaller gallery, about 6 feet wide, which also runs round the building; in this are placed large pot plants of Rhododendrons, Cacti, Palms, &c., and the pillars and palisading tastefully decorated with climbing or pendant plants, which no one could ever suppose to be artificial, so natural and graceful do they appear; descending the steps of the lower gallery, you enter the cross, to the right and left are erected stages for Camellias, Ericas, Azaleas, and near them you find the noble collection of Cacti from Monville; farther on you find stalls for the sale of bouquets, clerks' tables, &c.; under the corridor are reading-rooms and other offices; on the other side is a café and patissier; in the middle is ample space for promenaders, besides being furnished with writing and reading-tables, on which are placed the daily papers. The Jardin Anglais is planted with all kinds of greenhouse and other trees and plants, among which I noticed some very fine specimens of Latania borbonica, Chamædorea elegans, Oreodoxa regia, Phœnix dactylifera, Cycas circinalis and revoluta, Colocasia odora, Agnostus sinuatus, Abelmoschus splendens, Astrapæa Wallichii, Hibiscus sinensis, Edwardsia grandiflora, Dombeya Ameliæ, Caryota urens, Strelitzia augusta, Charlwoodia australis, Ficus laurifolia, Dracæna Draco, various large Mimosas and Camellias. In the promenade you find here and there basins of gold and silver fishes, and aviaries of singing or rare birds; the walls of the cross, as also the entrance and farther end of the building, are entirely covered with looking-glass in zig zag ornamental work.

Ground Plan of the New Jardin d'Hiver.



Avenue des Champs Elysees.

References.—1, Vestibule; 2, Entrance-hall, 30 feet by 20; 3, Ball-room, 100 feet by 60; 4, Gardener's House; 5, Corridor of Jardin d'Hiver; 6, Jardin Anglais, Grass and borders; 7, Water and Fountain; 8, Rock-work and Cascade; 9, Promenade in cross; 10, Café and Patissier; 11, Reading-room; 13, Stages for pot plants; 14, Bouquets; 15, Large Cacti; 16, Camellias, &c. &c. A, Jardin d'Hiver; extreme length, 30 feet; do. breadth, 180; do. height, 60.

This immense building is heated by a powerful steam-engine, and on the day I visited it, the thermometer stood at 56° Fahr., but at what expense this was accomplished I leave others to judge. Such is a brief account of the new Jardin d'Hiver, a splendid monument of Parisian enterprise; but, as a profitable speculation, fit only to be classed with the Thames tunnel, from the shares of either or both of which it is hardly necessary for me to caution your readers.

Societies.

LINNEAN SOCIETY.

Jan. 18.—Dr. Wallich in the chair. A. Adams, Esq., J. W. Gutch, Esq., R. Hudson, Esq., G. Ransome, Esq., and J. E. Stocks Esq., M.D., were elected Fellows. A paper was read from Mr. Miers on the genus Atamisquea, belonging to the family of Capparids. The only species of this genus is the A. emarginata. The generic name is derived from the native name Atamisque. This plant is a small tree not more than 8 or 10 feet in height. It has alternate leaves with axillary terminal flowers, seated on pedunceles solitary or in pairs. It is a native of South America at the foot of the Cordilleras de los Andes, and was discovered by Dr. Gillies as well as Mr. Miers. Sir Wm. Jackson Hooker had described the plant, and arranged the parts of the flower according to the number 4, but although contrary to the family character of the Capparids, the author believed the parts of the flower, which are somewhat irregular and anomalous, best arranged on the number 3. It has 3 sepals, 6 petals, and 9 stamens, 6 of which are fertile and 3 gibbous. The fruit is an acid berry. It contains originally two seeds, but one is abortive.—A collection of Australian Myrtle blooms made by Messrs. Drummond and Gilbert, at Swan River and King George's Sound, was presented by W. Wilson Saunders, Esq.

ENTOMOLOGICAL SOCIETY.

Jan. 3.—W. Spence, Esq, F.R.S., President, in the chair. The President gave notice of the alterations in the Council and officers of the Society intended to be proposed at the anniversary meeting on the 21st Jan. Mr. F. Bond communicated a note on the fall of a great shower of Ephemera Swammerdamella, near Heidelberg, which from the opake white colour of the insects looked like a snow storm. Mr. Ingpen exhibited a very highly magnified drawing of a minute coccideous insect covered with flattened scales, probably the young state of a species of Calypticus. Mr. Westwood exhibited specimens of the larvæ of the truffle beetle (Lecodes cinnamomeus), and various dipterous larvæ inhabiting the truffle, communicated to him by Lady Braybrooke, through the intervention of Professor Henslow. The anomalous structure of the genus Lecodes and its uncertain position amongst the families of coleopterous insects rendered the discovery of its larva very interesting. A magnified drawing of the insect and of its anatomical details was also exhibited. Captain Parry exhibited some new and beautiful species of coleopterous insects, chiefly belonging to the families Cicindelidæ, Buprestidæ and Cetoniidæ, of which he read the descriptions. The species were chiefly from the East Indies and Madagascar. Mr. Westwood also read the descriptions of a number of new exotic species of Acroceridæ, a curious family of dipterous insects remarkable for having their bodies quite vesiculose. Although a monograph of this family has lately been published by Dr. Erichson, Mr. Westwood has nearly doubled the number of the species. A letter was read from Mr. Gray, of St. Petersburg, returning thanks for his election as a corresponding member of the Society.

NEW ZEALAND HORTICULTURAL SOCIETY.

The autumnal show of this Society, which lately took place, was highly creditable to the exhibitors. The show of Apples, for quality, would have been creditable to any society at home. Doubts have been expressed whether this would ever become an Apple-growing country, but that is now settled beyond all question. Peaches were also shown in abundance, many measuring from 8 to 9½ inches in circumference, and the number of such fruit grown on one tree is truly astonishing. Grapes, too, were plentiful, though the Vines on which they were grown are necessarily very young. We see no reason to doubt that the Grape will do remarkably well in this settlement. The Black Hamburghs, exhibited by Dr. Monro, were very fine Grapes indeed. A Black Cluster Grape, exhibited by Mr. Dillon, was also a delicious fruit. These were the only dark Grapes shown, the remainder being all white. There was also a Pomegranate exhibited, which had ripened in the open air, and several fine Melons. Of course it was too late in the season for many fruits, and with the exception of a few Cape Gooseberries, Plums, and Alpine Strawberries, no others were shown. The show of vegetables was scanty. The following prizes were awarded:—Dessert Apples, Mr. Seymour; Kitchen ditto, Grapes (1st prize), Melons (1st prize), Dr. Monro; Peaches (1st prize), Mr. Stephens; Ditto (2d), Kitchen Plums, Onions, Mr. Sweet; Rhubarb, Mr. Martin; Water Melon, Mr. Bachelor; Tomatoes, Mr. Saxton; Pumpkin, Mr. Tar; Cucumber, Mr. Dale; Vegetable Marrow, Kidney Beans, Alpine Strawberry, Mr. Cautley; Dahlias, Mr. Lines; Onions (2d prize), Beet, Celery, Salading, Peas, Potatoes, Carrots, Parsnips, Turnips, Cabbages, Horse-radish, Mr. Plumridge; Broad Beans, Mr. Newport; and Kidney Beans, Mr. Clarke.—*Nelson Examiner and New Zealand Chronicle, March* 13, 1847.

Reviews.

Lectures on the Physical Phenomena of Living Beings, by C. Matteucci; translated by J. Pereira, M.D. Longmans, 1847: small 8vo.

The lectures before us were delivered at the University of Pisa, by Prof. Matteucci, and though chiefly confined to the examination of the phenomena of animal life, and of their causes, are not destitute of interest to the in-

telligent gardener, who will here find the principles on which some of his daily operations depend clearly and briefly explained.

Professor Matteucci is not one of those persons who, so learned as to have lost their common sense, attempt to refer the phenomena of animal and vegetable life to chemical and physical action alone. After a general notice of the forces influencing organic life, he comes, among other conclusions, to the following :—

"That there are also in living beings phenomena which we call vital ; that these are numerous and of the highest importance, and that, in the present state of science, we are unable to explain how their production can be influenced by physical agents, though the action of these be modified by the organism. This is the reason that we have a study,—a science whose object is the physico-chemical phenomena of living bodies; as there is one for experimental physiology. The intimate and necessary connection is found in the third class of facts which we distinguished. Organisation modifies the action of physical agents, and the study of these modifications requires the co-operation of physics and experimental physiology. Do not forget that we have formed a fourth class of phenomena of living beings, which we have called vital. I term them vital phenomena, not vital forces, and indeed the difference is truly vital."

To the important subject of Endosmose especial attention is drawn, and the author then proceeds to Absorption and Exhalation, which he treats in a very satisfactory manner. The following extracts, on the absorption of vegetables, will give the reader an idea of the style in which the work is written.

"*Absorption in Vegetables.*—A few words, also, on absorption in plants. Here, in these small glasses, are a great number of plants, more or less immersed in a very dilute solution of acetate of iron. Some of them are Haricots [Kidney Beans, Phaseolus vulgaris] ; others Beans [Vicia Faba]. Some have been deprived of their leaves ; others have been cut in two, and immersed by their stalks only : these have been deprived of the extremity of the roots ; those have been put into the liquid after the roots had withered. Lastly, others were completely dried before they were placed in the fluid.

"By employing ferrocyanide of potassium as a test, we can demonstrate the ascent of the ferruginous solution in the interior of each of the plants, above the level of the liquid in which they are immersed.

"We perceive, that in the living plant, furnished with leaves and roots, the liquid has been considerably elevated ; in those that were withered, and which have recovered their freshness in the aqueous solution, absorption has been yet greater ; while, lastly, it is most abundant in those which had been previously deprived of their roots.

"Whatever may be the liquid employed, it is always absorbed by the plant, except in the case of some acid, alkaline, or very concentrated saline solution, which, by altering and destroying the structure of the plant, and by coagulating its juices, cannot be absorbed by it.

"Let us now examine whether the absorption of the nutritive juices, which takes place by means of the roots, and the movement of these juices in the plants themselves, should be considered as simple phenomena of capillarity, or imbibition.

"At the commencement of spring, the sap rises from the roots to the leaves, through the central part of the trunk ; and at this time a liquid, called the *succus proprius*, or proper juice, whose composition is different from that of the sap (or *succus communis*), passes in a contrary direction ; that is, from the leaves through the cortical tissues to the roots. If we bore a hole to the centre of the trunk of a growing plant, we can collect a considerable quantity of sap, which is denser in proportion as it is taken higher up towards the leaves. If, on the contrary, we pass a ligature around the trunk, or if we remove a circular layer of the bark, the swelling, which we shall soon see formed above the knot or ring on the side of the leaves, will prove the existence of the descending current of the proper juice."

After referring to Hales's experiments on the force with which the sap of Vines ascends, the writer goes on to say—

"This force of impulsion, and the discharge of the liquid of the plant from a cut, are facts incompatible with the effects of capillarity and imbibition. A liquid rising in a capillary tube cannot overflow the tube by the effect of the same force which raises it.

"Dutrochet has demonstrated by a very simple experiment that the force of impulsion which produces the ascension of the juice of a plant, has its seat in the ultimate extremities of the roots. This distinguished physiologist made successive sections of the trunk of a Vine, approaching each time nearer the roots ; and finally, he cut even the roots themselves contained in the ground, and he observed that the flow of sap continued. One of the ultimate filaments of the rootlet, when plunged in water, also allowed the juice to escape from it. It is then in the spongelets that the force of impulsion resides."

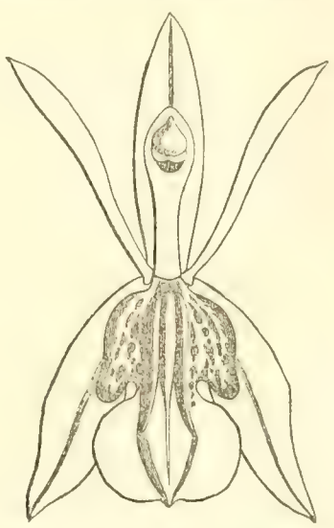
With this extract we must finish, merely adding that the translator's notes, short and to the point, greatly increase the value of the work, which we feel no hesitation in recommending to the notice of our readers generally. We, however, regret to say that there is no index, the absence of which materially detracts from any merit the work might otherwise possess.

THE RUSSET CELOGYNE.

(*Celogyne brunnea*, Lindl.,

Sp. Char.—Stem taper, bearing about 2 broad 7-ribbed oblong acute leaves. Scape radical. Raceme 7-8 flowered, flexuose. Sepals acuminate. Petals linear, slightly lanceolate. Lip oblong, 3-lobed, strongly 3-ribbed, with the lateral divisions obtuse, entire, and as wide as that in the middle, which is roundish. Column border perfectly entire.*

We now have in our collections several species of this fine genus, in which the bright yellow which renders many of them so handsome is replaced by a pure brown. Of this C. fimbriata, fuliginosa, speciosa, and fuscescens are well known examples, to which the present has to be added. When we first saw it, we mistook it indeed for C. fuscescens, but a more exact examination of the



latter has shown us the error. It is very much the same in general habit, but its lip has on each side a well defined lobe as broad as the middle division, while the true C. fuscescens has only rudimentary side lobes. The stem is about 4 inches long, has no scars, and bears at the upper end about 2 leaves, from 6 to 7 inches long, and about 2½ inches wide. Its blossoms although large (nearly 2½ inches broad) want the brilliancy necessary to render them very striking. They are of a pale greenish yellow, without any markings except on the lip, which has a few brown spots towards the base, a broad brown band along the middle of each side lobe, and three vermilion coloured streaks in the centre. The flowers appear in November and December ; they were first produced on a plant at Syon in 1844, and since have been occasionally sent us by other correspondents.

The annexed cut represents an expanded flower of the natural size.

* For the meaning of these technical terms see Lindley's *Glossary*.

Garden Memoranda.

Balnagowan Castle, the Seat of Sir Charles Ross, Bart.—This is one of the finest seats in the north of Scotland. It is situated near the turnpike-road, which leads from Inverness to Tain. Its extensive lawns and tasteful plantations, encompassed by a substantial stone wall, at once indicate that the proprietor spares no expense in the decoration of his domain. From the turnpike-road branches off the drive which leads you some distance before the main gate is reached, at which is a neat flat-roofed lodge. From the lodge the drive sweeps through a spacious lawn for nearly a mile, clumps of trees, here and there scattered about alternately with single specimens of Evergreen Oak or Weeping Lime, show a degree of taste as well as of skill in the original design. At the Castle a splendid view is afforded towards the south of the bay and town of Cromarty with its shipping, Tarbat House, the seat of J. Hay M'Kenzie, Esq., &c. From the top of the Castle, which is built in the Gothic style, a view is obtained as far west as the town of Dingwall (a distance of at least 18 miles) and overtopping the town of Invergordon, and the famous seat of Cadboll, many beautiful villas appear. To the east is the broad expanse of the German Ocean, and to the south-east the Moray Firth. On the north-east is Dunrobin Castle, the seat of the Duke of Sutherland, and John O'Groat's coast. Lamington Park overtops it to the north, in which is a plentiful supply of the mountain deer. To the north-west mountainous scenery prevails, in which Ben Wyvis stands pre-eminent, streaked with streaks of snow throughout the year. Leaving the Castle, we descend by a circular stone stair to a flower garden below a perpendicular rock of at least 90 feet. This rock is ingeniously terraced from one end of the garden till it reaches the stone stair, where it breaks off. The rock extends the whole length of the garden on the one side, while on the other a river winds its way beyond a strong bulwark of rude mason work, which at its termination is so neatly fitted into the rock that it is almost impossible for any accident to happen even although the water should rise far above its common level. At this extremity two wells are ingeniously cut in the crevices of the rock. In winter it is said that icicles at least 20 feet in length often hang from the projecting portions of this rock, which, when looked at from a distance, has a fine effect.

The garden is almost a semi-circle, in whose centre is a massive fountain, the water from which, by certain appliances, can be thrown into any shape or figure. The same pipe which supplies this, also supplies a small jet in the centre of an ornamental grotto at the south end of the garden. A rustic stair on the outside, and attached to the grotto, conducts the visitor to the top, where a walk has been formed, and flower borders, in which it is intended pot plants should be plunged, so as to give it effect when looked at from the surrounding summits. At this end of the garden is a lake, having an island in the centre. The walks are broad, and correspond well with the size and form of the flower beds. The latter were well filled with plants, and there seems to be no expense spared to render the place as attractive as possible. Mr. Smith, the gardener, has so contrived that he can have something in bloom almost all the year round—an object worthy of attention in flower-garden decoration—Roses, Dahlias, Phloxes, Pelargoniums, &c., intermixed with hybrid Rhododendrons, such as nobile, campanulatum, arboreum, maximum, &c., were luxuriant and conspicuous at the time of my visit. Plants of Araucaria imbricata also indicated perfect health. Mr. Smith has been trying Mr. Rivers' plan of root-pruning Pear-trees. When I saw them, they had fruit on them, and perhaps Mr. Smith will be kind enough to say whether or not it arrived at maturity, the Pears being the finest French varieties.—*A. M.*

Miscellaneous.

Curious Phænomena in the Night-blooming Cereus, &c.—Two days ago a remarkable circumstance occurred in my greenhouse, which it may be interesting to you to communicate. The Night-blooming Cereus, of which I gave you a cutting, has long had a bud. Being a fine strong plant, it has been able to mature it even at this unusual season. It arrived at maturity on Thursday. The days however not being of the length usual at its ordinary season, it seems to have been somewhat hurried

NEW GARDEN PLANTS, PUBLISHED IN BOOKS.

Name.	Where Published.	Name of Country.	Quality.	Natural Order.	Colour of Flowers.	Time of Flowering	When first Flowered.	Where.
Lipăris ferruginĕa	Gard.Chron.,1848,55	Penang	S. ♃ (epiphyte)	Orchids	Green and brown.	January	1848	Loddiges.
¶ *Rusty-tipped Liparis.*								
Coryānthes Albertīnæ	Karsten, t. 1	Caraccas	S. ♃ (epiphyte)	Orchids	Yellow and crimson.	Midsummer ?	1847	Booth, of Hamburgh.
* *The Albertini Coryanth.*								
Caloscōrdum nerinefolĭum	B. R., 1847, 5	China	G. ♃ (bulb)	Lilyworts	Crimson	October	1846	Spofforth.
‡ *Nerine-leaved Caloscord.*								
Sarcochĭlus fuscolutĕus.....	B. R., 1847, 18	Borneo	S. ♃ (epiphyte)	Orchids	Yellow and brown.	March	1847	Low and Co.
‡ *Brown-yellow Sarcochile.*								
Spirǽa pubēscens	B. R., 1847, 38	China	H. ♄	Roseworts	White	March	1847	Hort. Soc.
‡ *Downy Spiræa.*								
Telipōgon obovātus	B. R., 1847, 27	Peru	G. ♃	Orchids	Yellow	.....	.....	Veitch and Son.
† *Blunt-leaved Beardwort.*								

N.B.—* = Very handsome. † = Second rate. ‡ = Third rate. ¶ = Unimportant.

how to bloom. When I entered my greenhouse at 8 A.M. I found all the petals on one side expanded [left side]. I thought this remarkable, but conceived that, in this dull weather, a longer effort at opening was necessary than usual. I watched it all day, but was surprised to find no advance. At 8 P.M. I went into my greenhouse for the express purpose of examining the bloom, when, to my great suprise, I found that all the petals which had opened in the morning were closed up, while all the petals of the opposite [right] side were then fully expanded! The left petals remained closed. The bud was a full-sized and healthy one. [The seed promises to mature. 27th December.] It is obvious, I take it then, that the law which regulates the opening of these flowers, and which normally causes them to bloom at night only, and for [say] twelve hours only, affects the individual petals and not the totality of the bloom. Hence if, from any accident, as here, any number of petals mistake a dull day for the night, and open, their doom is sealed: they have begun their twelve hours' race, and can see it—and no more; and their more knowing companions, who keep closed till true night, must flourish alone in their glory,—but will do it, independent of the prior blooming and present decay of their companions. I have often noticed that if the Echinocactus Eyriesii (a remarkably rapid bloomer) advances to the point of opening near morning, it remains in that exact state all the day, checked by the light, and does not begin to burst till the sun is going down.—*Mr. Toulmin Smith, in Annals of Natural History.*

Gardeners' Benevolent Institution.—We are happy to announce that at the anniversary of this Institution on Thursday last, under the able presidency of Lord Robert Grosvenor, the subscriptions at the dinner nearly reached the sum of 200*l.*, viz.: 148*l.* donations, and 50*l.* annual subscriptions. Among the donations were:

The Chairman	£20	0	0
W. Stuart, Esq.	10	10	0
Duke of Cleveland	10	10	0
Robert Hanbury, Esq.	10	10	0
Dr. Lindley	5	0	0
The Sheriffs	10	10	0
Robert S. Holford, Esq.	10	10	0
W. F. J. Farmer, Esq.	5	5	0
Rev J. H. Fisk	5	0	0
Messrs. Henderson and Co.	5	5	0
M. J. Webber, Esq.	5	5	0

At the meeting in the morning, the usual routine business was transacted, and the accounts shewed a small increase in the annual subscriptions.

Calendar of Operations.

(*For the ensuing Week.*)

CONSERVATORY AND GREENHOUSE.

THE continuance of wintry weather will not allow of any essential variation of treatment here. The precautions previously recommended, in regard to the necessity of allowing exterior influences to govern, in a measure, the temperature within the house, may be insisted on. Should high winds prevail, little air need be admitted; few of our glass houses are so constructed as totally to exclude air; aided by the pressure of strong currents it will be insinuated through every crack and crevice, and the necessity for admitting it by other means obviated; at the same time more fire-heat is required to preserve the requisite temperature of 50°, which is ample while the thermometer indicates so low a degree of cold without. Cinerarias and Calceolarias will require a liberal supply of water and possibly increased pot-room. Pelargoniums must be cautiously encouraged to activity. The mould intended for greenhouse plants should be prepared and sweetened by several turnings, and a sufficient supply for immediate use should be stored in an open shed. In the stove the Begonias will still occupy a distinguished position; some of them are remarkable for their beauty. Phaius grandifolius and Epiphyllium truncatum assist in embellishing the house. A portion of the stock possessed of Achimenes, Gesneras, and Gloxinias, should now be potted in light mould and placed in gentle warmth. Tropæolums will demand frequent attention, bestowed in directing their young shoots. Orchids may be looked over and repotted, and decaying labels renewed.

FRUIT FORCING.

Early Vinery.—The advantage of low-roofed structures, built in situations that afford them shelter from the direct influence of the sweeping gales that usually occur at a critical season, and yet sufficiently exposed to receive the utmost possible advantage from solar light, cannot fail to receive a just appreciation from those who have adopted them for early work. A slight increase of temperature may be allowed to follow a similar change out of doors, 70° otherwise must be considered sufficient. Syringe twice a day, but not too copiously. Employ mats or other materials to protect the houses in windy weather. *Second Vinery.* — A due amount of humidity materially assists the development of the buds. Allow a moist heat of 50°, to encourage a healthy progressive growth. We do not recommend an exposure to severe weather of Vines grown in hothouses; if the lights of the late Vineries be only kept on, a good deal of frost may be turned aside. *Peach trees* having set their fruit may have an increase of heat, 55° to 65° may be allowed; succeeding houses in blossom require a free circulation of air. The same treatment must be pursued with Cherries; be careful they do not suffer for want of water. *Strawberries* must have a position that permits them to enjoy the full advantages of light and air, they will grow, but not fruit, exposed to great heat. The Roseberry is preferred by some for forcing for the first supply, but few surpass Keens' Seedling for an early and continued crop; we have seen the Princess Royal Strawberry at Meudon, affording an early and splendid display of fruit; whether or no it will thrive equally well in this country remains to be proved. *Melons* ridged out will demand particular care while the weather continues so boisterous.

KITCHEN GARDEN AND ORCHARD.

If a great plantation of Asparagus be contemplated, trench and well manure the ground, make arrangements that a supply may be afforded for forcing each year. Should the ground continue frozen, wheel on manure; avoid turning in the frosted soil. This is an excellent time for turning over composts stored for planting; preserve the vegetable rubbish from the kitchen garden stacked and fermented; it will make an excellent manure. Cover Rhubarb and Seakale for forcing. Continue a judicious system of pruning in the orchard. The immature wood of Apple trees will probably canker if not removed or shortened. This is a good time for the application of fresh soil to fruit trees where it is required.

FLOWER GARDEN AND SHRUBBERIES.

In the absence of frost prune hardy Roses; reduce the wood according to the luxuriance of the tree; allow a consideration for its tribe and habit to influence your hand, except (in pruning) late planted Roses; they must receive that attention later in the season; finish planting the hardy sorts, and protect their roots. If the removal of evergreens has been neglected, opportunities of mild moist days may be taken to effect the purpose. Preparations should be made in the Pinetum to receive any proposed addition to the collection. If the natural soil be indifferent trench it to the depth of 3 feet, and allow a diameter of 6 feet, raising a mound to receive the plant 18 inches above the surface; a compost of turfy loam, decomposed vegetable matter, and sand, may advantageously be employed.

FLORISTS' FLOWERS.

Propagation of Dahlias may now be commenced in good earnest. The roots may be placed in a moderate hotbed, or what is still better, on a tank containing hot water. As the shoots elongate they may be cut off just below a joint, giving the leaf on each side the shoot a cut, by which means they may be pulled over and the bud on each side at the base of the shoot exposed; this is essentially necessary, as from these buds roots are emitted; these shoots should then be planted in white pit sand, with a very small admixture of leaf-mould, in pots, which must be plunged in the soil of the hotbed or the material (sand or sawdust, the former is best) on the surface of the tank; bell-glasses should be put over them. There is, however, no mystery about striking Dahlia cuttings. We have seen 20 cuttings put into a small earthenware pot-stand, which was filled with water, and placed in a Melon-bed, they every one emitted roots and made good plants. Whilst hard weather continues, let compost heaps be frequently turned; give air to Auriculas on every favourable opportunity; shelter Carnations from cutting winds, and beware of heavy cold rain when the frost breaks up. Look through the stock of hand-glasses, Carnation-sticks, shades for Carnations, Dahlias, &c. &c, and see that everything is mended and ready for use. Straighten leaden layer pegs that have been used, and cast fresh ones, if required.

State of the weather near London, for the week ending Jan. 27, 1848, as observed at the Horticultural Garden, Chiswick.

Jan.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 21	15	30.131	30.075	32	30	31.0	N.E.	.00
Satur. 22	16	30.084	30.010	33	28	31.5	N.E.	.00
Sun. .. 23	17	30.283	30.041	33	29	32.0	N.E.	.00
Mon... 24	18	30.338	30.338	37	29	33.0	N.E.	.00
Tues... 25	19	30.370	0.242	32	25	28.5	N.E.	.00
Wed... 26	20	30.138	30.072	27	20	23.5	E.	.00
Thurs. 27	21	30.154	29.953	31	19	25.0	E.	.00
Average		30.006	30.111	32.4	25.7	29.0		.00

Jan. 21—Densely overcast; a few snow flakes; slightly frosty.
— 22—Overcast and cold.
— 23—Overcast; some snow flakes; densely overcast.
— 24—Clouds in strata, the lower fleeting rapidly from N.E.
— 25—Cold, dry easterly wind; boisterous at night.
— 26—Dusky haze; piercing easterly wind; clear; sharp frost.
— 27—Frosty and cold, with brisk wind; clouds of dust along the roads: overcast; snow.

Mean temperature of the week, 10 deg. below the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending Feb. 5, 1848.

Jan.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 30	43.4	32.2	37.8	5	0.32 in.	2	3	1	1	1	5	6	4
Mon. 31	43.3	32.0	37.6	9	0.12	3	2	2	4	1	4	5	1
Feb.													
Tues. 1	42.6	30.9	36.8	6	0.52	4	4	1	2	3	4	1	3
Wed. 2	43.2	29.9	36.5	7	0.75	2	2	3	3	2	4	3	2
Thurs. 3	43.8	31.3	37.5	10	0.42	2	3	2	1	1	8	2	2
Fri. 4	43.6	32.8	38.2	11	0.31	3	4	2	—	1	6	3	4
Satur. 5	43.9	31.1	37.5	7	0.39	2	3	2	1	3	3	3	5

The highest temperature during the above period occurred on the 4th and 15th, 1833—therm. 56 deg.; and the lowest on the 5th, 1830—therm. 10 deg.

Notices to Correspondents.

DRAYTON MANOR MEETING—The SPEECHES at the AGRICULTURAL MEETING at DRAYTON have been reprinted from the AGRICULTURAL GAZETTE for general distribution, at Two-pence each. They may be ordered of all Booksellers, and single copies will be sent free by post on three postage stamps being forwarded to the Publisher, 5, Upper Wellington-street, Covent-garden, London.

DAPHNES—*X X X*—None of the genus thrive in cold clay, as all English clay must be. They love warm sunny places where their roots can sink deep into fissures. Even the Spurge Laurel, the hardiest of all, requires the light warm soil formed in woods by the decay of leaves. One Sweet Daphne (odora) is a greenhouse plant; another is a hardy trailer with beautiful red flowers (Cneorum); both may be had of any nurseryman.

EDUCATION—*T P*—Your views deserve praise and encouragement. Study the first book of Euclid, chiefly for the sake of accustoming yourself to reason correctly; and the "Theory of Horticulture" for gardening principles. Architectural drawing, land surveying, and timber measuring are each useful, and the two latter indispensable; the elements of chemical knowledge are very important; and if you can get admission to a course of natural philosophy, by all means take advantage of the opportunity, especially directing your attention to the subjects of pneumatics and hydrostatics, which great gardeners find it very convenient to understand.

FRUITS—*Lancaster*—The Pomological Magazine.‖

GREENHOUSES, &c.—In consequence of the great numbers of applications which are continually made to us for plans, &c., we are obliged to state that we *cannot furnish* them. It is impossible to do so in a newspaper. All that is practicable is to point out general principles. It is for professional men to work out their details.

HOLLIES—*Lancaster*—Never remove Hollies except when you are sure that there will be a long continuance of damp weather. November is the best month. Sometimes a good take is obtained at Midsummer; but it is a risk. March is the worst of all months.

HYDRANGEAS—*An Old Subscriber*—Apply a weak solution of alum when the plants begin to grow, and as long as they are in full growth. The quantity is immaterial—say an ounce to a gallon of water. In these matters it is always best to employ weak solutions frequently rather than strong solutions rarely.

NAMES OF FRUITS—*W Laing*—The Apple appears to be a large specimen of the Wyken Pippin.‖

NAMES OF PLANTS—When plants are sent to be named, it is most particularly requested that they may be in flower, and as perfect as circumstances permit. Most especially is it requested that the country whence they have been received, and whether they are annuals, perennials, or shrubs, hardy, greenhouse, or stove plants may be stated; because specimens by post are generally bad and incomplete, and much valuable time, which such information would save, is needless wasted.——*G W*—Jasminum Sambac and Begonia incarnata.¶——*Thom*—Sophronitis violacea.

PEAS—*An Old Subscriber*—We are not acquainted with the Pea you mention. Your best plan will be to apply to the London seedsmen for it; and then grow it for comparison with your own.‖

POTATOES—We have received a very long letter on this subject, from an Irish correspondent, who states that he knows all about the cause of the disease, and its cure. If he really does possess the information, it strikes us that it would be better to say at once what it is, than merely to talk of what he *could* say.——*Henry*—Plant your Potatoes as soon as the weather will permit. Place the sets 8 inches deep and as much apart, in rows 28 inches asunder. We should use no manure.‡

PRUNING—*Lancaster*—Shoots, 18 inches long, of Apple and Pear trees will generally require shortening; otherwise the greater part of that length of branch would be naked. See the article on pruning these trees. Pruning may be performed safely in frosty weather, provided the branches are not actually frozen. Cuttings for grafts of the Plum and Cherry should be taken off now. A knife may be used for summer pruning; a *secateur*, or in some cases a light pair of garden shears, may be advantageously employed.‖

TAGETES PINNATA—*G R N*—We are unacquainted with such a plant. The name is doubtless a mistake. If this should catch the eye of "G." he will probably say what he meant.

THE MOON—We are told by a correspondent in Shropshire that the following is extensively circulated in country papers:—"1. Vines, if pruned when the moon is increasing in light, will shoot out and spread, and grow fast, particularly if it be done in the second quarter, because, as the light of the moon increases, so does the sap in the tree. 2. Vines, if pruned while the moon is decreasing in light, will not spread nor grow fast, particularly if it be done during the last quarter, because the sap decreases with the light. 3. Timber cut down while the moon is increasing will soon become rotten, particularly if she be in the second quarter. 4. Timber cut down when the moon is decreasing will last for years, and the more durable it will be if cut down during the last quarter. [If our Government would attend to this simple rule we should hear nothing of the dry rot in the British Navy, and a saving of from 4000*l.* to 5000*l.* per year might be effected.] 5. Peas sown during the moon's increase will bloom to the last, and will be full and rich in flavour, still more certain if sown during the second quarter. 6. Peas sown when the moon is decreasing in light will just be in the opposite condition. 7. The age to which a Pomegranate will live depends on the moon's age at the time of planting; it will live just as many years as the moon was days old. 8. Plants and shrubs shoot up and take little root if planted when the moon is increasing in light, and in the zodiacal signs Gemini, Libra, or Aquarius. 9. If planted when the moon is decreasing in the signs Taurus, Virgo, or Capricornus, they take deep root, and do not grow tall.—*Glenny's Garden Almanack.*" If it is so circulated it is surely for the sake of its absurdity, which can only be paralleled by the stuff found in Moore's Almanack, in the 5th column of the left hand page, under the "Moon's Signs."

THE WALNUT TREE—*H A C*—Prune it when in *full* leaf, *before the young shoots begin to harden.* It will not bleed at that time.

VINES—*A Subscriber*—In a greenhouse, without heat, you may grow the Black Hamburgh, Black Prince, White Sweetwater, and Royal Muscadine.‖

WINDOW GARDENS—*E R*—The causes of success or failure in these delightful contrivances can rarely be ascertained without inspection. We presume that your plants suffer from want of a good supply of fresh air. Damp will not hurt such things as you speak of, unless accompanied with cold. It is always, however, desirable to keep them pretty dry in winter, not *very* dry, so as to rest them till bright sunny days return.

MISC—*Jacobus*—Poor people! they don't know when to have done.——*J M*—The sentence is wrong; it should have been—"to the roots of early forced Vines in a manner different *from* and superior *to* the system, &c." We do not say different *to* a thing but *from* a thing. The plan of mutual instruction by letter is a good one—provided the correspondents are in earnest.——*O P Q*—A bird in the hand is worth two in the bush; always remember that. At the same time you have a clear right to better yourself if you can. We do not see that any reason exists for your not having the employment you speak of, if the lady chooses, and you have done nothing in an underhand way to induce her. Neatness is one of the best signs of good gardening. A slovenly gardener is always a bad one.——*Sizer*—We are unacquainted with such a plant as Centaurea islandica.——*M D*—The price of the volume for 1847 is 30*s.*——*F H M*—By judicious management you may have ripe Strawberries in January. Keens' Seedling is perhaps the best for forcing. As to the means to be used, see an article in another column.‡——*E M*—The address you have given is sufficiently explicit. Beck's "Treatise on the Pelargonium" has been advertised in our columns, at page 792, 1847.‡——*O P*—Roots of Anemone japonica may be obtained of any respectable nurseryman.‡

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those numerous correspondents, the insertion of whose interesting contributions is still delayed.

WATER POWER.

W. AND J. GALLOWAY, Engineers, &c., Manchester, beg to intimate to the Proprietors of Waterfalls and others, that they Manufacture WHITELAW'S PATENT SELF-REGULATING TURBINE, or Horizontal Water-wheel, and for simplicity, cheapness, and efficiency, cannot be surpassed by any other kind of Hydraulic Motor hitherto in use, as is proved by those already in operation. Parties wishing to examine these Machines at work, may apply as above.

HYDRAULIC ENGINES.

J. LEGG begs to return thanks to his patrons and friends, and also to inform them that he continues to erect his improved Hydraulic Engines, Water Ram, &c., suitable for all situations where a fall can be obtained, also Engines for Deep Wells. J. L. also begs to inform his friends that he has made several improvements on his Hydraulic Machines, and flatters himself that he is able to compete with any parties of the present day in the construction of the above machines.

Apply to John Legg, Cheltenham.

The Agricultural Gazette.

SATURDAY, JANUARY 29, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

Wednesday, Feb.	2	Highland and Agri. Society.
	2	Agricultural Soc. of England.
Thursday,	—	3—Agricultural Imp. Soc. of Ireland.
Thursday,	—	10—Agricultural Imp. Soc. of Ireland.

Farmers' Clubs.—Feb. 5: Newcastle, Durham, Melrose.—Feb. 7: London, Claydon.

We beg to repeat a request here that was made a week or two ago in a less prominent section of the Paper, for information on Maxima of Agricultural produce. Will any of our readers who may see this paragraph be kind enough to state the circumstances of any large produce of Wheat or of other grain crops, of Turnips or other root crops that may have been known to them in past years. A history of extraordinary crops would be very interesting, and if accompanied by full details of all the causes and circumstances, very useful also.

It is impossible not to suppose that Electricity exerts a powerful influence on the growth of plants. And, no doubt, in days to come the mode of its action, and methods of regulating and applying it, will be ascertained. But no merit attaches to such a forethought as this: for it is a mere guess which indeed the known character and the prevalence of this agent may justify one in making, but which does not rest on any well ascertained facts or experience: all observations on the subject hitherto have, indeed, discountenanced the idea; and those who advocate its plausibility are enterprising and speculative rather than philosophical. Mr. Forster's published statements on this subject led to a great deal of experiment, much of which may not have been very skilfully devised, but at any rate the result of it all was—*nothing*. His own experience still stands unique, and the otherwise universal failure of the means which are supposed to have occasioned it may well excite doubts of his perfect accuracy in the statement of it. And the only *exact* experiments with which we are acquainted on atmospheric electricity in connection with this subject lead one to the same conclusion. At the very least they indicate our entire ignorance of the mode in which it acts, or of the conditions under which it is influential. We allude to Dr. Lindley's investigations, as published in the Horticultural Society's Transactions, and quoted in the *Gardeners' Chronicle* of last year. The following is the account of them:—

During the year 1844 the rate of growth of seven different plants was measured three times a day during the months of July and August, the period of their quickest vegetation. On July 19th there was a thunderstorm, the thermometer being 65½°. The growth of the experimental plants on that occasion was as follows:—

Hop	1.22 or .16 *below* average.
Vine	.04 or .03 *below* ,,
Willow	.22 or .06 above ,,
Scarlet Runner ..	2.54 or .81 above ,,
Fig	.02 or .08 *below* ,,
Jerusalem Artichoke	.19 or .23 *below* ,,
Gourd	.76 or .31 *below* ,,

So that on this occasion, when the atmosphere was highly charged with electricity, five out of the seven plants grew *considerably below the average rate*, and of the others one but little exceeded it. It might, perhaps, be supposed that the influence of the thunderstorm would be felt shortly before and after its occurrence, rather than during its continuance; *but that was not the fact*. On the occasion in question, the growths immediately before and after the thunderstorm were as follows:—

	Before.	After.
Hop	.80 or .64 *below* aver.	1.14 or .87 *below* aver.
Vine	.04 or .06 *below* ,,	.02 or .05 *below* ,,
Willow	.10 or .03 *below* ,,	.11 or .03 *below* ,,
Scarlet Runner ..	.68 or .11 *below* ,,	.85 or .72 *below* ,,
Fig	.00 or .05 *below* ,,	.03 or .04 *below* ,,
Jerusalem Artichoke	.07 or .21 *below* ,,	.14 or .19 *below* ,,
Gourd	1.30 or .29 above ,,	1.06 or .29 *below* ,,

So that in every instance except one the average rate of growth was diminished, and the night growth of the Fig was arrested altogether.

We republish this statement, for, being accurately quantitative, it is worth all previous ones put together: and, though it is difficult entirely to disbelieve the agency of electricity in the growth of plants—such powerful attractors and conductors of it as they are—yet we are certainly forced to acknowledge our entire ignorance of the relationship which seems so probable.

The vague and uncertain position in which the matter thus stands is, however, precisely that in which some theorists delight to find the subject of their speculations. And accordingly numberless illustrations have been published of the *philosophy* of electro-culture, forgetful of this, that it has not yet been proved to be a *fact*. Very lately a little book* has been printed, basing an entire "new theory of vegetable physiology" upon electricity, and showing how all the facts within the experience of the farmer—the germination of the seed and its future growth—the discouragement of weeds—the action of manures—the success of mechanical operations on the soil—are all merely electrical phenomena. The work is written in remarkably simple style—indeed, simplicity is the leading characteristic of the performance. We do not suppose the author to have had much professional experience either in literature, the science, or the art; he appears to hold the status of amateur in all three: and whether it be in his electrical illustrations of agriculture, or in his agricultural illustrations of electricity, or in the mode in which both are presented to the reader, there is a transparent, almost amusing honesty, about him—the best armour he could have chosen against the laugh which many of his remarks will inevitably excite. The author's philosophy (we do not refer to his work of that title about to be published, to which he frequently refers), he may depend upon it, is entirely at fault. The only true philosophy is that which Bacon taught—the inductive philosophy, as opposed to that of analogy, or mere excogitation, which the schoolmen practised before him. The only way of arriving at principles, or general laws, is by collecting and comparing Facts. But nowhere in this book do we find records of electrical facts—tables of indications by the electrometer and other instruments, under the various circumstances in which the farmer cultivates the soil. It is evident that the author has been inspired to begin with, and that, assuming the whole in the first place, he has then searched for evidence of his accuracy. This was not the way to have approached the subject at all: he should have collected *the evidence* first, and have allowed *that* to inspire him. Into what absurdities this, his main error, leads him, let this suffice for illustration. Speaking of positive and negative electricities, he says:—

"It has been previously stated that the two fluids are always united together when existing on the same body, and, therefore, when decomposed in the soil by certain crops and the positive extracted, the negative remains free, and instantly commences the growth of weeds."

What is his definition of a weed? And by what means does he procure the introduction of "the negative fluid" into the formula for expressing it? If he had ascertained the electrical state of soils in which weeds luxuriate, as compared with that of those in which the cultivated crops overmaster them, we would gladly have listened to his statement, but at present the idea of weeds *thus* created and maintained cannot fail to excite a smile. He adds: "Now, it is apparent there are only two alternatives for arresting their progress. The first is to supply the soil with as much positive fluid as will neutralise the negative, and thereby render it inactive, so that the seeds may not be supplied with free fluid when in their infant state. The second is, to eradicate all young weeds, almost immediately as they appear." We greatly prefer the latter of his alternatives, and so no doubt will he himself when he shall practically engage in the cultivation of land.

In the concluding section of the book a recapitulation is given of the points which the electrical theory is supposed to succeed in elucidating. But there is not one of them on which the existing theory is not already perfectly satisfactory. The advantages of pulverising and deepening the soil, of adding inorganic manures, of shelter, of rest, are all already explained. It is capitally put, that "if we can so prepare the soil as to receive fertility when wafted to it by the winds and the rain, it cannot be denied that this is preferable to being at the expense and the risk of bringing it across the ocean." But this is true, whether the rain showers ammonia and carbonic acid and warmth upon our soils or, as the author believes, *abundant stores of positive electricity*.

* "A new Theory of Vegetable Physiology, based on Electricity and substantiated by Facts, with its Application to Agriculture." Simpkin, Marshall, and Co.

We do not think that this work will prepare the minds of its readers for the readier reception of the theory it advocates, and as to not [illegible] has made any material addition to the [illegible] on which the theory must stand [illegible] "Electro Culture," we anticipate, will remain a mystery.

HAND THRASHING MACHINES.

Were I at home, I could perhaps furnish you with more exact information, which I will now give you from memory, but which I request to correct, in reply to your inquiry under the head of "Thrashing Machines," page 45 of the *Agricultural Gazette* of the 15th inst. I cannot, however, exactly answer your precise inquiry; but giving you the result of my practice, leave you to deduce your own answer, which is the best information I can give. A poor farmer, but fully appreciating the benefit to be derived from thrashing machines, in 1845 I hired a machine (made by Garrett and Co., Marlesford), with a view to purchase one like it if found to answer, from a neighbouring farmer—a 3 horse power portable machine; cost 60*l*. I believe it threshed 24 sacks of Wheat, on the average, per day of 10 hours, at the following expense; did the work well and did not injure the straw.

3 horses, at 1s. each	£ s. d.
Three of man[illegible]	
Man in charge, who fed the machine	
3 men to clear up the [illegible] straw ..	
2 boys—1 to drive [illegible] the sheaves	
Total	£

I considered this machine too expensive, and of more power than I required, and did not purchase one. In this autumn I hired a hand thrashing machine, made by Exall and Andrewes, and, on the average, I threshed 9 sacks or 36 bushels per day of 10 hours. It was a 16-inch machine, at the following expense:

Hire of machine per day	£ s. d.
Man in charge to feed it	
2 men to turn it, at 1s. each	
2 men to clear up and bind straw	
1 boy to supply sheaves	
Beer for men, considering the hard work, say ..	
Total	£

The Wheat was not well thrashed out, as the men did (or could) not keep up the necessary speed, which I take to be about 960 revolutions in a minute of the drum, or 25 revolutions of the handles. The two men turning changing places with the two men coming up about every ten minutes. The straw was less broken than by a flail, and excellent for thatching. The neighbouring farmers who used this machine also, I understand, complained of the hard work for the men: upon this I purchased of Messrs. Exall and Andrewes, of Reading, an 18-inch machine, with horse-gear for one horse.

Machine cost	£ s. d.
One horse gear	
Extra wheels in case of breakage	
	£

And I find I can thresh with this 11 sacks or 44 bushels in eight hours at the following expense:—

One man to feed and in charge	£ s. d.
Two men to clear up and bind straw	
Two boys, one to drive and one to supply sheaves	
Horse, say	
Wear and tear of machine to be allowed ..	£

But I found that one horse did not keep up a regular speed, it being constant and hard work. I have therefore added another beam to the horse-gear for a second horse (and which now makes a second gear, having mounted the machine on wheels for travelling), and I expect next week to thresh a greater quantity in the day, and better work, not requiring to change horses, which I found a necessary relief where only one was used. With this machine I can get other work done by the men, who would be otherwise employed for weeks flogging the barn floor, besides other benefits I need not mention. Should this information be of any service you are welcome to it from one of your readers.—*Fred. T. Maitland, Tonbridge Wells, Jan. 16.*——I may state that I use Barrett and Andrewes's, which is the best I have seen. I have threshed with it by hand, within half a bushel of 20 sacks in three days: but it was very hard work, and nearly the same hours were paid as by flail; but I was a gainer in getting the work done off in so short a time. It requires [illegible] hand-machines of other makers more particularly much labour and frequent rests. I have found it a two-horse power, and am perfectly satisfied with the result. Threshing a load in this way [illegible] to get the load, but I frequently find advantage [illegible] the hand-machine, with manual labour, to get out small quantities of grain, Peas, Oats, Barley &c., when taking in a large quantity would be inconvenient to me, for want of barn-room. The horse-power costs about 10*l*., and is useful for other purposes—chaff cutting, &c. Though my farm is only about [illegible] acres, I consider my horse-power machine the most useful implement out of the field. I could possess, and the saving it brings very soon repays the cost.—*T. F.*——I have a hand-threshing machine of the medium size now in constant use: it is barely equal to 15 bushels a day, or as much as three men can thresh with the flail: it is one of Barrett's, and was advertised to thresh 30 quarters of Wheat of average yield per day. Other farmers in the neighbourhood using machines by different makers agree with me in saying that they are very inefficacious, and that the labour is severe, and regret with me that they were ever induced to purchase them. I was obliged

to discard the use of it altogether for Oats, Barley, and Peas, as two men could actually thresh more and far cleaner. The price paid for labour is the same as that for day work of any other description; it is impossible to regulate it by the quantity of work done, as in the case of horse-power machines, because the men, in order to render the labour at the handles less severe, would be apt to place the breastwork at a considerable distance from the drum; thus they would be able to thresh an immense deal more with far less power, without caring about leaving half the grain unthreshed, which would be the case.—*T. W.*——Your correspondent asks, what quantity of Wheat, Barley, and Oats, of ordinary yield, four men and a boy can thresh per day? I myself have threshed nothing but Wheat yet, and have used it above two years. Last autumn they threshed 7 sacks per day, when the days were 12 hours long, at 1*s.* 4*d.* per sack of 4 bushels; since then they have been threshing less of the new Wheat, of which in some instances the straw is blighted; being spring Wheat they do not average above 4 sacks per day. When they are threshing the fall sown Wheat, about 5 or 6 sacks of last year's growth, I have been paying them by the day at 1*s.* 6*d.* per day.—*H.*——Barrett and Exall's hand-threshing machine is constantly in use on Oxton Farm, near Exeter; and I can testify to its merits. It is worked by four men alternately—two turn for half an hour, whilst the others bind the straw and feed the machine; they then change places, and the binder and feeder go to the machine for the same space of time. A woman is employed to shake the straw from the machine to the binder, and a boy unties the sheaves and hands them to the feeder of the machine. The result of a day's threshing we winnowed yesterday, which proved to be 40 bushels of red Wheat fit for market. The men prefer this machine to the flail, and do not consider it so laborious by taking their turn in the manner described. The price per bushel for threshing red Wheat is 3*d.*, and for white, 4*d.*, as the latter does not generally yield so well.—*Richard Anthony Webb, Oxton Farm, Exeter.*

ARABLE VERSUS GRASS LAND.

Mr. Wm. Shaw asks, in your *Gazette* of the 15th inst., "What reason can be given for retaining so much land in Grass, which of all the plants a farmer cultivates stands the lowest in money value?" I will endeavour to give the reasons which occur to me. In early life I made calicoes with some success, but I considered it a hazardous business, though the profits were high; and believing that I saw in land a property which, though it gave low interest, was safe, and not obnoxious to envy and calumny, I invested nearly all my capital in land. Some was Grass land of various quality in a Grass country. Some was arable. I soon perceived that my arable land, particularly upon clay soils, was very liable to be injured by bad tenants, and in consequence I occasionally had difficulty in letting some of my arable farms, and was forced to recede from former rents, in order to make an allowance for the new tenant's repairing the injury done by the slovenliness and covetousness of his predecessor. On the other hand, I found that if the tenants were not positively lawless, but abstained from committing audacious acts of waste, by ploughing up old pasture; and if they only kept a moderate stock on the land, kept up the fences, and kept the buildings in fair order, they did not materially injure the Grass land, and whenever a Grass farm became vacant, I was sure of a tenant for it, and they gave me higher rents for land of equal quality than would the arable farmer. Struck with this impression, I turned my attention to the culture of Grasses, and the art of creating pastures and meadows. I found that when I took arable land in hand of a suitable quality, I could make it, from 20*s.* or 23*s.* an acre, to produce me a rent from 50*s.* to 60*s.* an acre for a long period of years—I may say for ever; and the tenants prayed me to convert more of it to Grass. On the other hand, I, foolishly believing that a renting farmer could and would do anything that a cotton weaver could do, I permitted them repeatedly to break up portions of old clay Grass land of moderate quality, under covenants to lay them down again to Grass in so many years, but though several attempts were made, never a man among them performed his covenant in a satisfactory way, and there are not three fields out of all their attempts which are restored to a state of good pasture or meadow. But what has been the effect of the breaking up? Never 1*s.* of addition to my rent did I obtain thereby! But this I got. Since the fields have become arable, the tithe commutation has taken place, and I am fixed for ever with a charge of 5*s.* to 7*s.* an acre for the tithe rent charge, whereas had I never consented to the breaking up, I should have had to pay only about 2*s.* This is incurable; for if I were myself to take them in hand, and lay them down to Grass again in the best manner, I could not shake off the tithe rent charge. But worse than this; with all this clay land under the plough, though my rent is low, I dare not raise my rent or change my tenant if he refuses to make a reasonable advance; for a large clay arable farm left untenanted is ruinous; and though the present tenants, when they prayed for licence to break up the land, rather than alarm me with outgoings, made shift to harvest and manipulate their double arable produce with the same farm buildings which were calculated and sufficed for half the present arable, yet the succeeding tenant will cry out for more stabling, more barn room, more granaries, more building of every description. And, as I before said, having expended the produce of my calicoes in land, I have not the means to put up more buildings. Now, formerly, when I was an owner of calicoes, I took them to market, or I withheld them, as I pleased, as other merchants do, no one doubted or questioned my right to dispose of my calicoes; but now, if I persevere to hold my Grass land, the equivalent for my calicoes, I am complained of as infringing on the rights of the public—as starving my countrymen. I am not doing my duty, it is said, if I do not build more barns, forsooth, feeding houses, tanks, and I know not what, and give all my remaining Grass to be broken up. If any one will come forward, and give me good security, that if I let them my Grass which now produces me 3*l.* an acre without risk, they will pay me 3*l.* 10*s.* an acre during a 21 years' lease, leaving the land at the end of the term again restored to a state of meadow worth 3*l.* an acre for a permanency, or to pay me 30 years' purchase upon the difference in value, I will demise it to them to be broken up; and if they will also secure me a rent equivalent to 8 per cent. on the cost of new buildings (any man would be unwise to build for less) I will borrow money on mortgage to put them up; or rather, what is more reasonable, if my old friends the cotton weavers want more bread, instead of butter and mutton, let them subscribe handsomely to enable us poor landowners to improve the soil; that would be a more seemly course than to confiscate our property, as many, demoralised by the railway facilities of taking what is not their own, are well prepared to do. As to the proposition that Grass stands the lowest of all plants which a farmer cultivates in money value, that may be doubted. See what Mr. Dickinson makes of his Italian Rye-grass! Look at the rich Hams in Somersetshire and other counties that let for 6, 7, 8*l.* an acre? Will they pay a higher rent for 21 years together, and also interest on the cost of the necessary buildings, if they were to be broken up? I have made more value of the first year's growth of a meadow properly laid down than I ever made of a Wheat crop. If improved Grass land were not more useful to the tenant than arable he would not pay a higher rent for it. If the higher rent were not more useful to the landlord than the lower, he would not demand the higher. If the arable land would be more useful to the public than Grass, which I know not that it would (because I believe the public is best cared for when every man's property is most productive to himself), let the public, which wants my property, pay, either in the higher price of arable produce, or in a direct contribution to the rent of the land, and the expenses of the tenant, that equivalent which will induce both of us, like the public, to prefer arable crops to Grass produce; but if the public will not, the same justice which leaves a man at liberty to choose his own market for his calicoes, dictates that he ought to be at liberty to choose his own application of his land. Those who are averse to Grass, may buy Grass land and break it up themselves.—*Leirnon.*

SCHEMES OF CULTIVATION FOR SMALL FARMS.

"Hill Side" has 15 acres of Grass land about his house; the soil is thin and stony on a sharp gravel or clay. He has much improved the Grass, and it yields about 1 ton per acre. He has also an arable field of 10½ acres, the soil is thin and stony, and the substratum chalk or gravel. He has held it three years, and has this year laid down 5 acres in Sainfoin; 1 acre is in Oats, 2½ acres in Tares, 1 acre drilled with Swede Turnips, and 1 acre in Mangold Wurzel. He has subsoiled and improved the land, which was considered a very bad piece. He has also lately taken three fields which adjoin.

	A.	R.	P.
No. 1	4	3	16
„ 2	7	2	9
„ 3	11	1	21
	23	3	6

No. 1 is in Tares just cut for hay. No. 2, Barley, with 4 acres sown with Clover. No. 3, Clover after Wheat on Barley, but the Clover failing, Rye Grass, &c. was sown, and a bad crop has just been cut for hay.

This land is also light and stony, but it is of much better staple than the 10½ acres, and is in good heart, though not very clean. The 7A. 2R. 9P. grows very good crops. His buildings consist of a double barn, stables, cow-house, piggeries, pit for manure, covered in, and cart shed. He has also a liquid manure tank. He keeps a cow for the house, two carriage and two cart horses.

It appears, then, that he has 15 acres of Grass land, 5 acres of Sainfoin, and 29 acres of arable land. This would suit very well in a dairy farm if near a market for the milk; and even though on the plan adopted in Dorsetshire, Ayrshire, and other localities of letting the cows to a dairyman for the manufacture of butter and cheese, no better mode could be selected. Let us see how many cows could be kept. The 20 acres of Grass and Sainfoin may be supposed to yield 200 tons of green food; and of the 29½ acres of arable land, 20 acres in Clover, Mangold Wurzel, Carrots, Parsnips, and Swedish Turnips, might be made to produce annually 400 tons; while the 9½ acres would produce, say 15 tons of straw and 8 tons weight of grain — 600 tons, at 1½ cwt. each day, would keep 22 cows throughout the year, and the 15 tons of straw would litter them in winter. This calculation is on data which will hold true whether the Grass be made into hay or not. These cows might be let for 220*l.* annually, and in addition to this the grain may be sold for from 80*l.* to 100*l.*, making the gross proceeds upwards of 300*l.*, while the expense may be put at 4*l.* per acre for the arable land and 1*l.* per acre for the pasture land, or in all 138*l.*, which, together with the rent and taxes (say 30*s.* per acre = 75*l.*), makes the whole expense 213*l.*, and leaves about 100*l.* of profit. We have no doubt this might be realised under ordinary circumstances. And the following is a rotation which would bring out the quantities and kinds of produce we have suggested. It will be seen that the cattle will be much more easily kept in winter than in summer. It is for summer food that the difficulty will be felt. Let half the Sainfoin and half the Grass land be mown each year, and 5 acres of the arable land be Clover to be cut and carried to the cattle in the house. The nearly 30 acres of arable may be divided into 6 fields of 5 acres each. 1st year, Wheat sown with Clover seeds; 2d year, Clover; 3d year, Swedes; 4th year, Parsnips; 5th year, Wheat; 6th year, Carrots.

	Summer food.	Winter food.
5 acres of Clover	60 tons.	—
5 „ Swedes	—	100 tons.
5 „ Parsnips ..	40	40
5 „ Mangold Wurzel	80	60
5 „ Carrots	40	60
5 „ Sainfoin	30	30
15 „ Meadow	80	40
	330	330

It may be necessary to purchase manure for the farm, to balance the great draught upon it by the sale of dairy produce. The cheapest way of doing this would be by selling some of the roots, which it is probable may be done without a deficiency of food for the cows, and which bear a market value far beyond that of the "artificial" manure, guano, &c., which is needed to grow them, so that 20 tons of Carrots would furnish you with abundant guano for the year.—*M. S.*

Home Correspondence.

Maxima of Agricultural Produce.—In reference to the wish expressed in a late *Agricultural Gazette* that your readers would send you reports of good crops of Wheat, and the circumstances under which they were produced, I beg to send the following, by desire of the Earl of Essex. In 1845 his lordship took in hand a 6½ acre field held for many years by Mr. Moore, of Watford; soil a shallow, light, gravelly loam. At that time it had on it the remains of a plant of two-years-old Clover, perhaps on an average one plant to every two square yards, the whole field being one mass of Couch, and every sort of rough Grass and weeds. I ploughed it deep in the winter of 1845. In the spring of 1846 I thoroughly ploughed and cleaned it to the best of my power, collecting a very great many cart-loads of rubbish into a heap, which I burned, and obtained therefrom 1100 bushels of ashes, which I spread over the whole field during the summer. I sowed it with Dale's Hybrid Turnips, which were manured with about half a dressing of farm-yard dung and 4 cwt. of Peruvian guano, 60 bushels of bones, and 6 cwt. of common salt. About half the Turnips were drawn off, and half fed off, with a good quantity of cut hay during the winter of 1846; and a very good crop it was. In February 1847 his lordship allowed me to sow it with Chidham Wheat instead of Barley, and a good plant came up, and in about five weeks it had a top-dressing—

6 cwt. of Peruvian guano, at 10*s.* 6*d.* ..	£3 3*s.* 0*d.*
6 cwt. of superphosphate of lime at 8*s.* 6*d.*	2 11 0
18 cwt. of common salt at 1*s.* 6*d.*	1 7 0
30 bushels of ashes burnt from Couch at 3*d*	0 7 6
	£7 8 6

It was well harvested on the 27th of August, and I finished threshing and dressing it last week, the whole produce being 29 quarters 4 bushels of head corn, and 7 bushels of tail corn; weight per bushel 64 lbs.; and I sold the whole for 85*l.* 12*s.*, the total produce being 30 quarters 3 bushels, and the price per quarter 2*l.* 16*s.* 4*d.* The seed Wheat I bought at Uxbridge, and I drilled it on the 25th of February, 1847, scarcely 6 inches apart.—*S. Drury, Bailiff to the Earl of Essex on Gammon's Farm, Watford, Herts.*

Thin Seeding.—You having, in last week's leading article, adverted to some correspondence upon the subject of "thin seeding," I beg, for the information of your readers, to supply you with a statement, more at large, in explanation. About three weeks ago I communicated to our local papers, a statement made by Mr. Hall, of Layer-de-la-hay in this county, that in two experiments, made in the preceding year, of 5 pecks and 7 pecks, and 5 pecks and 8 pecks to the acre, in both cases, the increase per acre was far greatest from the smallest quantity of seed. These facts were stated without note or comment of mine own, and were immediately replied to by Mr. Wilkins, as stated in your leading article, to prove by most extraordinary logical demonstration, that the smaller quantity sown, and the smaller quantity produced, was notwithstanding the greatest return. To these statements, as well as to the strong personal allusions of the rev. gentleman, I made the following reply in our local papers of the past week, and which you will oblige me by inserting in your own. [The following is a portion of the letter—the first part, in which Mr. Baker points out the error into which Mr. Wilkins had fallen, being omitted for want of room.]

About the year 1770, Du Hamel, and several other scientific agriculturists, made a great number of experiments upon small quantities of seed dibbled at various distances, the result of which was decidedly in favour of the larger quantity of seed; and unless, as he stated, the soil and season should be

favourable, without prevalence of insects or other vermin, thin sowing ought not to be ventured upon; and at the meeting before alluded to several agriculturists asserted that they found it difficult to obtain a plant upon particular descriptions of soil, even with four bushels of seed to the acre, whilst in other descriptions it might be easily obtained with as many pecks. In the year 1841 the autumn was so wet and uncongenial for putting in the seed, that a general failure of plant took place, and throughout the whole of the heavy-land district of this county the result was so disastrous as to amount to a loss of upwards of a moiety of the whole crop, and for five years preceding 1852 the same deficiency took place, until one-half of the farms in Dengie Hundred were abandoned; and in wet and uncongenial seasons the same result will again follow—the slugs becoming so destructive that a plant cannot be insured unless by the assistance of an extra quantity of seed. The post of land farmed by Mr. Wilkins is situated in one of the finest districts in the kingdom, and being glebe, it no doubt one of the best pieces in the parish, especially if it is situated near the church, for, with but few exceptions, the very best land in every parish is found adjoining the churchyard; at any rate it is more under a system of garden culture than otherwise, and therefore does not bear any resemblance to the generally farmed lands of this county. Under favourable circumstances, with land in a fine state of cultivation, good crops can doubtless be procured from very small quantities of seed; but with a wet and cold autumn and winter, and backward spring, whatever the quantity that may be sown, it is frequently difficult to ensure a good plant; thus every experienced farmer knows, and provides for the contingencies he has to contend with by sowing an extra quantity to meet them, as it almost generally happens that thin pieces produce a coarser quality, of lighter weight (*vide* Mr. Wilkins' statement of his own crop) weighing but 61 lbs. per bushel; and, although he asserts that mildew is not a consequence to thin pieces, every one knows that they are more liable than others to its attack. And, in refutation of his statement respecting mildew, I assert that no system of farming will counteract it; for, originating from atmospheric causes, no prudence or foresight can ward off its attack. It is with mildew as with every other description of parasitic fungi *an indication of previous disease* existing in the plants affected; and the most reasonable presumption is that Wheat plants in a state of great luxurriance, and of a dark green colour, arising from the great quantity of sap in their vessels, are more susceptible of sudden atmospheric changes; and under certain conditions of weather of a warm and moist character, succeeding warm days and cold nights, a derangement in the system of the plant takes place, probably from the sap vessels becoming ruptured by sudden contraction taking place, whereby disease follows. This is indicated by the production of parasitic fungi called mildew attaching to the stems of Wheat, and rapidly spreading, by the agency of its seed, over the field, the parts most thin in plant becoming most affected, whilst other portions of the field, more thickly planted, ripen earlier, and mostly without being in the slightest degree affected, or injured. And although a system of thorough draining has greatly mitigated the injury arising from this pest, it has not entirely prevented its recurrence; and the difference in the result by thick and thin sowing is from the circumstance that in the former instance the plants run more quickly into ear, whilst under the latter, time is necessary to allow the thinly-planted Wheat to tiller so as to form a larger number of ears, whereby it comes much later to perfection; the vigorous growth also rendering it more liable to the attack of mildew. And in reply to Mr. Mechi, I beg to assure that gentleman that it is my intention to collect every well-authenticated fact upon the subject, as well as to report those obtained by my own experiments, and which I shall have no hesitation in communicating; I trust he will do the same. —*Robert Baker, Writtle, Jan.* 18, 1848.

Drain Water.—Can you inform me of any simple and correct method of measuring the quantity of water issuing from a drain? I am draining a 20 acre field, and have divided it into four equal parts, putting into each part alternately 3 feet and 3½ feet drains (at different distances) with the view of testing which of the two kinds of drains is most efficient. Each set of drains discharges by one leading drain, the mouth of which opens out on a precipitous bank at the lower side of the field. It has occurred to me as desirable to have some simple machine or instrument, to be placed at each of these four outlets, in order to measure the quantity of water discharged from them. If you or any of your correspondents can inform me of such an instrument, the price of it, and where it can be obtained, I would be much obliged.—*Drainer.* [Would some modification of the gas metre not be available;—a small one with mercury in place of the water over which the gas finds its exit. Mr. Smith, of Deanston, had some plan for the purpose. Did he not mention it at the Glasgow meeting of the Highland Society?]

Large Allotments.—Can any of your correspondents give me information, through your Paper, how the system of large allotments (of 4 to 6 acres) for the poor, as pursued by Mrs. Davies Gilbert, and others, has answered. It has often appeared to me that it would be desirable to have a few small holdings in our agricultural parishes that would enable their occupiers to keep a cow and supply the village with milk, an article difficult for the poor to procure unless where it is given them; these holdings should be cultivated entirely by spade, as recommended by Messrs. Blacker and Cuthbert Johnson. The chief difficulty against trying the experiment is getting land and cottages sufficiently near together, and there would be considerable expense in erecting proper buildings on land which might be given up without inconvenience to the present occupiers; and it is almost impossible to get land near the cottages now standing, as land near a village is almost always requisite to the farm to which it is attached. In the articles in the November Numbers of your Paper there was a good deal said about allotments, but nothing as to their size. I do not know whether my views on the subject are right or not, but it appears to me that for agricultural labourers, generally from 20 to 40 poles is quite sufficient, and there should not be anything between that and 5 or 6 acres; in short, a man should not have a quantity that will interfere with his regular farm work and yet not be sufficient to afford him occupation and subsistence. At one time much was said about the industrial schools at Willingdon, and elsewhere, but I have not been able to hear anything of their proceedings lately. Can you favour me with any information on the subject. [We have seen in the papers a statement that the death of Mr. Gilbert has proved the word "self-supporting," by which they were designated, to have been a misnomer.] The state of the agricultural labourer in the midland counties; indeed, I may say, in most parts of England, is most serious, and every day demands more attention. Could you call a little more attention to the subject through your excellent Paper, it might be productive of good. What a difference is there between the labourer of Berwickshire and the Lothians, &c., and his fellow of the south! Should I be able to put together my own ideas on the subject of improving the condition of the labourer, I will send the papers to you, that you may use them or not, as you may think fit. But it is a difficult subject to treat sufficiently briefly for a weekly publication. Why should not the English labourer be as well off as the Scotch?—*E. N.* [We shall be very glad, indeed, of your assistance. No subject deserves more attention; and we will endeavour to procure the facts for you regarding the condition of the labourer in the various counties. As regards size of allotments, our argument was, that it should depend on the labour capital of the tenant, which, of course is determined by his ability, skill, spare time, distance of dwelling, and present size of garden; the idea being that the allotment shall not take him from regular work. From 40 to 80 perches we should imagine to be the right size. And as to large allotments, we would not provide them in such numbers as to create a new class, so to speak, in the society of the neighbourhood; but they ought, we think, to occur scattered about in number corresponding to that of each of a series of sizes from allotments up to large farms—sufficient, not for those who would be glad to remain permanently in the condition of a mere squatter, but for that, we hope increasing number who would merely use them as stepping-stones on their way up to a higher station. The great thing must be to inspire hope, and then create energetic industry. The immense blank between the labouring man and the large farmer damps all hope of the former ever altering his position; whereas, were there a succession of steps in the space between, it might by many be traversed.]

Turnips for Lambing Ewes.—In common with your correspondent, a "Lincolnshire Flockmaster," in the *Gazette* of Dec. 25, as well as, I doubt not, a great many other of your readers, I was much surprised to find from Prof. Robinson, as quoted by Mr. Mechi, that Turnips in winter were improper food for lambing ewes; and also, that salt was injurious to breeding animals. Here, as in Lincolnshire, we feed our ewes on Turnips in winter, with hay, in case of a bare pasture or hard weather; and after lambing, upon Swedes. This latter treatment too, it would appear, in well informed quarters, is considered improper: I see, in your last number, your East Lothian correspondent writes, "We have now commenced feeding with Swedes; the remainder of the Purple Tops and Globe Turnips are kept for the ewes." After lambing, I presume. This is in accordance with the opinion of a gentleman, of great practical experience, with whom I met some months ago, and who never gives his cows (he has upwards of 20) Swedes, from an idea that such food is against their milking. Now, I have always considered, that what produced fat would produce milk; and that in feeding my nursing ewes and milk cows with Swedes, I was doing a very proper thing. I also supplied both with rock salt, as I do the rest of my cattle and horses. Is the system wrong then? are salt and Swedes anti-productive of milk? I shall be greatly obliged if any of your correspondents will favour me with an opinion upon this very important question, particularly important at this season. I may mention that here we can neither grow field Cabbages nor Beet Root—soil and climate not being fitting.—*J. Little, East Dumfriesshire.*

Societies.

SOCIETY FOR THE AMENDMENT OF THE LAW.

TRANSFER OF LANDED PROPERTY.

Jan. 25.—Mr. JAMES STEWART delivered his second lecture "On the means of facilitating the transfer of land," at the Rooms of the Society, 21, Regent-street.

Mr. STEWART commenced by showing the inapplicability of the system by which land was transferred to the transfer of any other species of property; he then showed that the enquiry into title was in many cases dispensed with, without any injury or inconvenience; and that the profession themselves frequently made efforts to avoid it. He thus described the remedy which he proposed.

I propose, then, the establishment of a register of all the lands in this country, which is to be divided into districts for this purpose, of a smaller or greater extent, as may be thought most advisable. My own idea is that these districts should follow pretty much the boundaries of the districts of the county courts, and that the officers of those courts should to some extent be available for carrying on the functions of the register. I would establish a register in each of these districts; but I do not propose that it should be compulsory on any owner of property to register his land until some transaction respecting it took place. I would accompany the establishment of the register by the taking of an accurate map of the whole lands in every district which should be identified in all its particulars by numbers, but which as to boundaries or ownership should not be evidence until acted on, and when acted on be only evidence against the person who so acted on it, but not as against any one else. This map, to which I shall hereafter refer, would take time to complete; but I do not propose to wait for its completion before establishing the register, which might commence immediately with the existing description of the lands and such identification of the parcels as could be obtained, which might be rendered complete when the map was finished. In this way, and by degrees, the lands in each district would gradually get on the register; and I think it would be only reasonable to allow persons to place their lands, after some public notice, on the register, if they thought proper, although no dealing took place. I propose that a certain effect should attend the undisputed placing and continuance on the register for a certain number of years. We have seen that the present law makes 40 years, and in some cases even 2 years adverse possession a title against all the world. As placing a title on the register would be a more positive act than any deed can now be, I think it would be reasonable to suppose a more stringent operation, and, I should say, that a person having registered his land for 2 years should be estopped all the world, going to every court for purposes of removing disability to make their claim. After [illegible] the register, a competent time would be allowed, and supposing a person had some claim to this land, I would allow him to enter that claim by way of caveat. [illegible] need not further pursue the mode in which we would propose dealing with that and accompanying circumstances. [illegible] caveat had been removed. [illegible] owner, by imposing a portion of the [illegible] of the land on him, and [illegible] to [illegible]

I should have explained that [illegible] to the success of what I am proposing, [illegible] desire should be [illegible] the law of real property [illegible] appeal; and that [illegible] his district, and to some extent [illegible] may have, I would give power to [illegible] the register should [illegible] in this matter [illegible] the Record Commission [illegible] number on the map which [illegible] of the property.

Now, gentlemen, [illegible] I do not think they would [illegible] by coming to be passed on [illegible] jurisdiction of the [illegible] all parties [illegible] itself, he should have power to [illegible] them. Where a property lay in [illegible] such case, should we [illegible] districts sitting together, [illegible] to the register, he acts close to [illegible]

When once entered on the [illegible] transactions respecting [illegible] entered must afterwards appear [illegible] this distinction from the present [illegible] perpetuates all those dealings with [illegible] I have said, for the sake of [illegible] been long enough on the [illegible] strict. Thus, on a sale [illegible] the original deed, the vendor [illegible] and the receipt [illegible] strict. This will [illegible] As a debt is paid off [illegible] This is the principle [illegible] readily in the Private [illegible] register. At p. 11 I [illegible] dollars, and a few pages after [illegible] and so on, so that he could [illegible] any part of the land may be easily known, and [illegible] purchaser wishes to know. There would be more [illegible] settlements, for, of course, I [illegible]

The charges under them remain a charge [illegible] land. The portions of children are to be paid [illegible] often allow them to remain in charge [illegible] marriage, and perhaps three generations [illegible] before all traces of this deed can be wiped [illegible] would remain as at present; but it would [illegible] trouble-some to produce them, as necessary [illegible] of all claims under it. That settlements are [illegible] a register kept on this principle, as proved [illegible] (Proper) and other countries where the law [illegible] obtains, and settlements are [illegible] But, gentlemen, there is no wish or [illegible] to [illegible] liable to charges, except such as [illegible] tage of the system to which I am [illegible] the title works itself free, and that [illegible] this at once appears; whereas, [illegible] a person so situated has as much [illegible] in transferring his land, as a person [illegible] estate.

One word as to the publicity which has been always a great objection to a register. The [illegible] by the most eminent lawyers [illegible] found in the Appendix to the Second Report of the Real Property Commissioners, in favour of the [illegible] declaring their opinion that it would be of the greatest benefit. It is also found to work no inconvenience in the many countries where a register prevails, [illegible] of any one for a small sum of money. And in England it exists as to personal estate, for every one for [illegible] that he pleases at Doctors' Commons. So [illegible] insuperable objection to a register, [illegible] by having the land vested in a [illegible] reference to the mortgage or settlement [illegible] which it was thought advisable to [illegible] but this is matter of detail.

Now, by this plan of a register, which I propose slowly and gradually, or, if [illegible] all the lands of this country would get [illegible] would ever afterwards be evidence [illegible] no distant period of time, give the owners a complete title against all the world.

I may here say, gentlemen, I trust without offence, that I greatly lament the recent alteration [illegible] parties by any act of their own [illegible] The period of time at which this [illegible] and non-claim was [illegible] I think it highly desirable and convenient [illegible] this operation to some such act, by a [illegible] after a certain time, say [illegible]

The wisdom of our ancestors [illegible] any inconsiderate person can dispute [illegible] titles, not only by a fine, but by a [illegible] effect of divesting all estates; but [illegible] are concerned, has been done away [illegible]

So far, then, as to the plan [illegible] But there is one great [illegible] other plans of registry. It is [illegible] some violent act of the [illegible] a considerable lapse of time. It is true [illegible] land is placed on the register [illegible] that all after dealings with it must [illegible] valid: but many years must [illegible] before all investigation into the [illegible] the register can be dispensed with.

I have, indeed, seen proposals that, in order to hasten this slow operation of a register, [illegible] examination [illegible] that, on the first [illegible] there was such [illegible] will not say [illegible] certainly would [illegible] resort to it. It would [illegible] have all titles declared [illegible] the start afresh, but, in my [illegible] regard to the rights of property, [illegible] ment, unascertained, and [illegible] in attempting to settle, you would, in fact, [illegible] a great degree. I recommend my own [illegible] recommended by better authority, is that [illegible] placing a time on the register, should [illegible] the title and give his opinion on it. [illegible] plan—be acting as a master in chancery would. But even here, if this were to be an effectual [illegible] exceedingly difficult to quiet titles without [illegible] harsh measures towards absent parties, or [illegible] questions which it would occupy much time satisfactorily

dispose of. I do not say that this latter plan would be impossible, but I think that in practice it would be attended with difficulty, nor could it fail to excite some uneasiness throughout the country.

Is it possible, then, that the benefit of the register can be realised immediately, without these disadvantages? Can any means be devised, by which a living person, wishing to buy land, shall be satisfied with the investigation which he there may make, without raking up the old title, for that is the point to arrive at? If not, many existing owners, I fear, will look but coldly on any plan of registry, the benefit of which is almost entirely prospective, and intended chiefly for the good of others. The doubts surrounding the question, the fears of disclosure, will press on them, and they will look, at all events, with no great desire, on a scheme in which no immediate benefit is afforded to themselves. And yet I need not tell you, that it is by the existing owners of property that any act of registry must be passed. Can we then satisfy this all-important class, that they may derive immediate benefit from the register, and that it will greatly facilitate the transfer, not only of the property of their successors, but of their own? Gentlemen, I think it is possible to secure this great advantage, by a method which will enable the existing owners of property to deal with their lands without the constant retrospective deduction of title, which we have found to be so tedious and expensive, which will be attended with at least all the safety of the present system, and be much more speedy and cheap.

Gentlemen, I have already told you that the reiterated investigation of the title usually required by the present practice is the great cause of that expense, and delay, and risk. Now it certainly would be of immense advantage if, in connection with the registry of the land, there was one complete and final examination of the title which should answer once for all, and not attended with the disadvantages I have alluded to. Mark, gentlemen, on what security we now buy land, and lend our money on land. It is lent wholly on the faith of the counsel's opinion that "the title is a good one." And the soundness of this opinion is found very rarely to be disproved by the result. At all events, this is the only security ever taken. Suppose, then, that after a certain time, and preparatory to being placed on the register, the title of the lands in which a dealing was intended to be made was inspected by eminent counsel, selected for the purpose, and that this examination was to be a final one preparatory to being placed on the register. This would be something. The purchaser would be informed that the examination had taken place, and that the title had been declared a good one by Mr. B. or Mr. C. Now if this had just occurred it might very probably satisfy a purchaser under the existing system. It would, therefore, be not too much to expect that the same examination would satisfy a purchaser under any new system. But we must make sure. Now what is the proportion of good to bad titles in this country at the present time? I have heard it stated by experienced professional men, that for 99 good titles there is only 1 bad; and as to this, I find a very important passage in Sir Edward Sugden's book on vendors, who says (Ed. 11, p. 986), in the last edition, "that the present expense as to titles is, in 49 cases out of 50, superfluous; but as every one may be in danger, all are guarded against it. The precaution has very much increased within the last 20 years, but not from any increased danger." Well, then, accoding to this last very high authority, 1 title in 50 only is bad. Now if this be so, and I believe there can be no doubt that a larger proportion than 49 in 50 are good, does not the principle of insurance apply? This principle, which is constantly receiving extension, and with great benefit, is founded on the fact that in a certain number of lives a certain number of deaths only will take place within a given time, or that in a certain number of houses only a certain number will be destroyed by fire, or that in a certain number of ships only a certain number will be lost; and on these calculations some of the most profitable, easily conducted, and wealthy companies and businesses in the world, have been established. Now let us see whether it be not possible to extend the principle to the insurance of titles. Each of these different kinds of insurance had its battle to fight at the commencement; and do not let us reject this extension of the principle without careful inquiry. Now, I wish in the whole of the procedure that I propose as much as possible to abide by the present practice of conveyancing, and to act according to existing rules. I will assume, then, that one of our large insurance offices, in whose means, and stability the public would have perfect confidence (and no other could do it at all), was willing to undertake assurances of this nature. Let us see what would be done. One source of the profits of these companies, as we all know, is lending out their money on mortgage. They have, therefore, a machinery for examining titles, that is, they take care to employ an able and experienced solicitor and conveyancer. Now, it is on the opinion of both these gentlemen that the company lend their money; they have no other safeguard. They advance their own money on the sole faith of this opinion, and sometimes very large sums indeed, on one title 100,000*l.*, 200,000*l.*, and even in a late case that came to my knowledge, 400,000*l.* on the title of one person. Now, gentlemen, if they would lend their own money on such a security, it is most obvious that they could guarantee the payment of another person money on a similar certificate by the professional adviser that the title was a good one. If they lent their own money on a title that turned out bad, they would assuredly lose it, and if it was another person's money they could be no worse off, and might possibly be better. All those titles, then, that are good are susceptible of being insured, with only a sufficient protection, by way of premium (to be paid as I shall hereafter explain), against some one title in 50, or, as I think, a larger proportion, which might, in spite of every care, turn out bad, alike under the present as under the new system. So far you will see that we have adhered to the existing practice, and there is no shock done to any to favour or, if you please, prejudice towards existing habits. But see what an advantage is gained. The person whose title has thus been approved goes with it to the register. The title is thus insured for what the land will fetch in the market. No further examination of title is necessary. It is an insured title down to the 1st of January, 1848, and were a register in existence, it is a registered title ever afterwards. If it remains a sufficient time on the register, it becomes a title against all the world, and the insurance is at an end; if, on the other hand, the purchaser has got the unlucky fiftieth title, the black sheep, and he is turned out, at all events he gets back the money that he has paid. In the meantime, for all purposes of sale or mortgage, there can be a ready dealing with the land.

But we have so far supposed that the title was of that class on which insurance societies lend their money; that is to say, marketable titles. Let us suppose that the title, when examined, turned out not a marketable title, but only what is called a good holding title; might it also be insured? Undoubtedly; because if the purchaser, although he had not what is technically called a marketable title, was not evicted, the company would be quite safe, although here, perhaps, a higher premium might be required. Here, then, are two classes of titles under which the great bulk of the present titles may be ranged—marketable titles and holding titles; and for this purpose you would thus get rid of this absurd distinction. What is to be done with a third class—titles more or less defective? What is done now when there is a willing purchaser? An indemnity is given against the defect, according to the nature of the defect—a bond, or covenant, or charge on other land, or deposit of money. Thus the defective title is now cured. Cannot a company acting in discharge of its proper duty take an indemnity, as well as an individual? I have thus provided for all these three usual classes of titles. And what is to be done with positively bad titles? Can they be insured? Why no; no more than the life of a man in a galloping consumption. They ought not to be transferred, and as to them, the holder has no title, and ought not to be protected. But all technical blots—all that class of objections which are called "conveyancers' crotchets" and most of those objections which private acts of parliament are obtained to cure, could be insured against with perfect safety. There would be an end of them for ever. Now if this were done do you not see what a mass of technical objections, which now effectually prevent the transfer of land, would be got rid of. An insured title down to a certain period, and a registered title ever afterwards, would give you indeed free trade in land, if this is what is desired, and would at all events allow the real owner to do what he wanted with it.

After noticing in detail several objections which might be urged against this plan, Mr. S. proceeded:

I have now laid before you the rough outlines of the plan. Do not imagine that I suppose it would be free from difficulties or from fraud. I can only say that in my opinion it would be infinitely more free from those than the present system, and that it would enable persons freely to deal with land; and that by its means we might obtain those advantages which I alluded to in my first lecture—1. Security of tenure; 2. Facility of transfer; 3. Certainty in point of time in all our arrangements respecting land; and, 4. A reasonable, moderate, and well-ascertained scale of expense attending our various dealings respecting it. These are what are wanted by the landowner, yes, and by the lawyer too; for I have shown you that many members of the profession are calling for these as necessary for carrying on their business. The plan, as I believe, would relieve the seller of land from his present difficulty and danger; 2. It would secure to the purchaser a safe title at a small expense, and in a speedy manner; and 3. It would provide an indemnity fund for persons who might be injured by any improper dealing under the new system. There are some other important points connected with the plan, as to which I desire to say something more, and some other alterations which I think should accompany a register. To them I shall hereafter advert But before I conclude the present lecture, I wish it to be understood that in performing this great change, I do not hold out any hopes of dispensing with the use of the lawyer in dealing with land. When the interest of the profession clashes with that of the public, it is the duty of the former to give way; but here, I believe, they do not clash; and it is as much the interest of the profession as of the public to promote the ready transfer of real property. I find this expressed on all sides by members of the profession, and more especially by solicitors, from many of whom I have received great assistance. I find in those countries in which registers are established on the principle for which I contend, that the professional classes who assist in those dealings with land, are a rich, powerful, and respected class. Without legal assistance, I do not believe that dealings in land can be safely conducted. I have no intention, because I think I have no power, of dispensing with their assistance But I believe the charges may be made more moderate in this particular case, better defined, and regulated according to the amount of property; but believing, as I do, that if you establish a register on this plan there would be twenty dealings where there is now one, I am satisfied that the last person who would complain of this alteration would be the lawyer. It is not his real interest, be assured, to support a system which scares the great majority of the public from having anything to do with the purchase of land.

At the close, thanks were voted to Mr. Stewart for his able and interesting lecture.

NEW ZEALAND AGRICULTURAL SOCIETY.

THIS, the autumnal exhibition of this Society, occupied two days. The first day was devoted to a Ploughing Match. The ploughing formed no part of the original programme, but was only got up at the eleventh hour by the Hon. C. A. Dillon, who liberally offered a prize of 2*l.* 2*s.* for the best ploughing by horses, and on this the Society offered a like prize for oxen. In consequence of the short notice given only 11 ploughs were on the ground, seven of which were bullock-teams, and four horse-ploughs. To these, the Governor, who came on the ground, generously gave 5*l.* 5*s.*, which, with a subscription of 1*l.* from Mrs. A. M'Donald, and 1*l.* 1*s.* from Mr. Saxton, allowed the committee to reward the competitors in a more liberal manner than they had expected. The bullock-ploughs were the first to start; but an accident occurring to one, reduced the number to six, which were as follows:—*Names of Owners:* Messrs. Songer, C. Palmer, Cautley, Saxton, Pattison, and Best. *Names of Ploughmen:* Songer, Morgan, Castles, Perry, Newman, and Best. The ground to be ploughed was a quarter of an acre, and the time allowed was two hours and 20 minutes. The whole did their work considerably within the specified time, and the judges (Mr. Morse and Mr. Wallis, with Mr. Macrae, referee) awarded the first prize (3*l.*) to Songer, and the second (1*l.* 10*s.*) to Palmer. The horse-ploughs were as follows:—*Names of Owners:* Mr. T. Kite, Mr. Harkness, Hon. C. A. Dillon, and Kelling Brothers. *Names of Ploughmen:* T. Kite, Harkness, Atkinson, and Sewass. The first prize (3*l.*) was awarded to Kite, and the second to Harkness. The ploughing of Atkinson was no way inferior to the others, but he did not go the the required depth. In addition to the prizes the committee awarded 5*s.* each to the unsuccessful candidates. The first to finish was the German, who appeared to think it was intended to be a match against time, and he therefore made a race of it. Kite finished second, considerably in advance of the other two, then Atkinson, and lastly Harkness, but all in good time. The agricultural exhibition took place on the next day. The short notice of a couple of days made the cattle show a very thin affair, which we were sorry to see. *Agricultural Prizes.*—Cart filly, Mr. Stephens; Saddle filly, Mr. Redwood; Long-woolled ram, Dr. Monro; Bull, second prize, Rev. C. Saxton; Best Boar, Mr. Sweet; Second best do., Mr. Harley; Best sow, Mr. Harkness; Second best do., Dr. Renwick; Pair of Rabbits, Mr. Moulder; sack of Wheat, Mr. Kerr; bushel of do., Mr. Sweet; bushel of do., Mr. Kelling; sack of Barley, Mr. M'Gee; do., second prize, Mr. Hodgson; bushel of Oats, Mr. Sweet; Sainfoin seed, Mr. Bolton; Vetch seed, Mr. Martin; Rye-grass seed, Mr. Stephens; Swede Turnips, Mr. Humphries; White Turnips, Mr. Newport; Mangold Wurzel, Mr. Humphries. A capital collection of Grass seeds, both native and European, was exhibited by Mr. Humphries, but there was not the required quantity to entitle them to a prize. The judges for the cattle were Messrs. Redwood, senior, H. Martin, and Mills; for the horses, Messrs. White, C. Kelling, and Dale; for the sheep, Messrs. F. Kelling, Dillon, and Mathews; for the pigs, Messrs. Poynter and Bird.—*Nelson Examiner.*

CHEMICO-AGRICULTURAL SOCIETY OF ULSTER.

Dec. 31.—*Schenck's Patent Method of Watering Flax.*—Dr. Hodges said, that, by the kindness of the patentee, Mr. Schenck, he had been several times allowed to inspect all the operations of watering flax, according to his new method, and had also made some experiments in Mr. Schenck's establishment. He had no doubt that the method was an immense improvement upon the uncertain plan of the farmer, and it merely remained for the spinner to ascertain that the quality of the fibre was not injured. He was informed that some of the first merchants in Belfast had stated that its strength was not impaired. He directed the attention of the meeting to two samples of flax, both of which had been grown in the same field; one had been treated according to Mr. Schenck's method, while the other watered in the old manner, the same water being used in both cases. The sample treated in the old plan was much inferior to the other, the yield being 20 lbs. to the 112 lbs., and spinning only 96 lbs., while Mr. Schenck's flax gave 24 lbs. to the 112 lbs. of straw, and would spin on an average 101 lbs. The samples exhibited were hackled and sorted by Renshaw, of Manchester. The following is Mr. Schenck's account of the process:—"The improvement of the new retting process comprises the application of chemical means, governed in their operation by mechanical arrangement, whereby the glutinous matter which connects the fibres together, and holds them to the stem, is dissolved. This is effected in a short time, at a small cost, and at all seasons of the year, without loss of the useful parts, by putrefaction on the one hand, or by an incomplete separation of the fibre from the woody matter, and also without any injury to the natural strength. "This process is accomplished by placing the flax in vats, constructed for the purpose, which may be of any convenient size, but should be proportioned to about 50 feet in length to 6 feet wide, and never exceed 4 feet in height. They may be built of wood, or brick cemented. Along the bottom of the vat are placed cast-iron pipes, commencing at one end, and returning by a bend at the other, forming two parallel lines. These pipes are connected at one end with a steam-boiler, and are laid with a gradual slope, to allow the water of condensation to run off at the other or open end. "Above these pipes is a wooden platform, perforated with small holes, to allow a free circulation of water. Upon the platform the flax is placed, in nearly a perpendicular position, with the roots down; above the flax is placed a frame-work of loose pieces, which are placed across the vats, with the ends confined under a bracket, near the top of the vat, for the purpose of keeping the flax from rising. The water is now to be admitted, when the vat is filled, and the plants entirely covered; the steam is turned on and the water heated to the temperature of 90 deg. Fahrenheit. The heated water begins immediately to dissolve the glutinous matter, and within a few hours acetous fermentation commences. This speedily decomposes the gluten, abstracts the colour, and leaves the fibre in a state to be readily separated from the stem. After remaining in the vat about 60 hours, the vat is emptied by a sluicegate, and the plants taken out to be dried."—*Irish Agriculturist.*

Farmers' Clubs.

NEWCASTLE, *Nov.* 6: *On Breaking up Grass land.*—Mr. W. GLOVER said—

I am fully convinced that the pasture lands of this district may be made to produce something more profitable than Grass. We cannot but be surprised in our rambles through this district at seeing the extent of miserable and wretched Grass land, which might be broken up advantageously, thereby employing more labour, fattening more cattle, and producing more food for man. In the following observations by Mr. John Morton I most cordially agree:—"Population increasing rapidly, an imperative demand exists for an increased production of food, for an increased supply of well-paid employment—yet more than one-half of the cultivated land in this country is now yielding Grass. The co-existence of these facts is a strange thing. Surely it is possible to grow something better, more nutritive, more remunerating than Grass—something involving the profitable employment of more labour in its cultivation. If all the plants the farmer grows be arranged in the order of their value, Grass must stand lowest in the scale. Wheat, Barley, and Oats, with their large and nutritive seed, food for man—the Turnip, Carrot, Parsnip, Mangold Wurzel, and Potatoes, with their large and fleshy roots and tubers, food for man and beast, must all take the precedence of Grass; its strawy and narrow leaves can hardly ever be so profitable to grow—and surely never in those districts of this country, where a dense population is but scantily supplied with either food or employment." From the importance that is now attached to agriculture, and as so much of human happiness or misery depends upon a supply of food, it is the duty of the landowner to give every reasonable facility to the tenant who is desirous of breaking up old Grass land, and who must be liberal in his expenditure to promote improvement. "As it is his duty so it is his advantage," observes Mr. Clarke; "Nothing pays him so well as a judicious application of his capital to the soil he cultivates. Land must be kept in a good state of cultivation, or a certain loss ensues. Bad farming is ruinous to landlord and tenant; capital must be liberally expended to bring liberal returns—productive and remunerating crops. By this course the tenant is continually creating property in the soil by his own capital, and his landlord ought to afford him every encouragement for this purpose, and every opportunity to secure a favourable return for his outlay." The object of every judicious farmer should be to improve his condition by improving the condition of his farm; and as this cannot be done without manure, and as manure cannot be always had without stock, it

becomes a matter of primary consideration how the animals can be most economically maintained, and soonest made available for the butcher, and by what management. I shall now endeavour to show *that* by the growth of Linseed and green crops, such as Clover, Italian Rye-grass, Rye, Turnips, Mangold Wurzel, Kohl Rabi, and Cabbages, all of which can be made to grow in this district. They will come in for use if properly managed as follows:—October and November, Cabbages and Turnips; December and January, Turnips and Mangold Wurzel; February and March, Swedes and Mangold Wurzel; April and May, Swedes, Kohl Rabi, Rye, and Tares; June and July, Italian Rye-grass, Clover, and spring Vetches; August and September, second cut of Clover (manured after first cutting), and Vetches; Linseed all the year round. The same ground which when in pasture would only feed one beast in summer, will, under the management above-mentioned, feed three the whole year round, if they are kept in the house and fed according to the system pursued by Mr. Warnes, of Trimingham, which I had the honour of bringing before the notice of the Club last year. A system that is now universally acknowledged by the first agriculturists of the present day, to be the cheapest and best method of consuming cattle food. The manure produced by one of the animals so fed, will be equal to that produced by three pastured in the summer, and kept badly littered with straw, and only fed with hay and Turnips. If, therefore, three may be provided with food in the house all the year round, from ground that will scarcely feed one under pasture in the summer, and if one animal so fed in the house affords as much manure as three fed in the field, we see that by adopting this plan we would be able to keep three in the place of one, and have nine times as much manure by this method as we would by the system we at present pursue in this district, of keeping half-starved animals, picking up a scanty subsistence with incessant labour day and night, exposed to the scorching sun of summer and the cold nights. We are all aware that most of the fertilising properties of the dung of cattle that are pastured in the fields, are dissipated by atmospheric influences, so that, in fact, the land derives comparatively little or no benefit from it. No arguments are necessary to prove that such dung is rendered worthless by the influence of the sun and winds: indeed, the rank and coarse herbage produced on such spots, which no animal will eat, is a sufficient proof. Professor Johnston, in speaking upon soiling, says, "It is universally acknowledged that soiling is much more profitable than pasturage; that an acre of meadow, for example, will feed more stock if the Grass be cut and given to the cattle under cover, than if they be turned out to crop it for themselves. * * The difference is very easily accounted for. In the first place, cattle are known to eat less—indeed all animals do so—when they are kept in the open air and deprived of natural exercise. In the same circumstances also, they fatten more quickly, and increase in weight more rapidly, in proportion to the food they eat. In the second place, the quantity of Grass produced by a young plant or shoot, in a given number of days, is less when it first comes forth than after it is some way advanced towards maturity. It is when the leaves are fully expanded that it is able to draw the largest supply of nourishment from the atmosphere in a given time, and consequently to increase more rapidly in weight. But when cattle are turned into pasture, it is the young shoots which they delight to crop—cutting them down before they have attained to their most rapid period of growth. But if the whole be cut down and soiled, the stock have no such choice, they must eat the whole Grass as it is given them, and the young shoots in the field have leisure to expand and grow again before the scythe returns to cut them down a second time." It may be stated, as the result of an experiment actually made in one of the southern counties, with an acre and a half of red Clover, that seven milch cows were fed with the produce of 64 days, each cow being supplied with 168 lbs. of clover daily, making in all 33½ tons of produce from the acre and a half of land in the 64 days. On the Glasnevin farm, near Dublin, where the system of house feeding is pursued, there was fed from 16½ English acres, from the 4th April to the 18th August, 1844, 17 milch cows, one bull, six young stock, two horses, one pony, besides two-thirds of an acre of Cabbages being sold for 15*l.*, and 28 tons of hay put into stack. The Rev. Mr. Huxtable broke up the whole of the Grass land upon a dairy farm, which consisted of 95 acres, 10 of which only were under the plough. When he entered upon the occupation the farm supported 14 dairy cows, and grew 45 bushels of Wheat and 40 bushels of Beans. It now annually produces 1600 bushels of Wheat, 40 head of cattle, cows, yearlings, and calves, 100 sheep, and 80 pigs are fattened; and instead of only employing three labourers and a half, he now employs 12 all the year round. Let us then change our present system, and follow one by which we can increase the quantity and improve the quality of our manure, increase the supply of food, increase the value of the land, increase the demand for labour—all of which ought to entitle this question to our serious attention. Before entering further upon this subject, I wish to guard against being thought an advocate for breaking up all Grass lands. I would not break up those exceeding an elevation of 800 feet. On such lands I would breed, and sell the cattle lean to the farmer on the lowlands to be fattened. I would not attempt to cultivate any of the cereal grasses above the height I have mentioned, as it is exceedingly difficult to bring them to maturity above that height. I would not break up water meadows, or those capable of being converted into such, or lands subjected to floods, nor do I advocate breaking up all Grass land upon a farm at once—it should be done gradually, i. e., a field or two each year, until the whole was broken up. Many landowners object to the breaking up of their Grass lands, from a fear of seeing them "run out," and very justly so. Where permission has been given the lands have been completely ruined by overcropping, such as three or four corn crops in succession, one of Beans and then Wheat, succeeded by three or four corn crops again; that is a system I have heard many farmers say was "the only way to bring fresh land to its senses;" when, at last, failures have succeeded failures, the land has then been left to nature to be renovated. We cannot be surprised at the objections raised by the landowners, when we see such a "barbarous" system pursued. But if the land, after being broken up, be treated with fairness, and each year half of the land, whether it be old or new, be made to produce crops of food to be consumed on the premises, and a proper system of house-feeding be pursued, it is utterly impossible for the land to lose its fertility. Mr. John Morton, in speaking of the Whitfield farm, where I believe all the Grass land has been broken up, says, "So far from the land giving any signs of exhaustion, I do not hesitate to say, that during the past few years it has been increased in richness. Its greatest fault now is its tendency to grow too much straw, which, being converted into manure for re-application to the land, has been year by year adding to the mischief; till now, by permission of the Earl of Ducie, our landlord, we have endeavoured to meet the growing evil by altering our system, in part seeding our Rye Grass occasionally, and taking a crop of Beans in place of a green crop; and, it is hoped, by thus robbing the land of some of its fertilising elements, to diminish that tendency to grow so much straw, by which our Wheat crop has latterly been so much laid." Here we have a proof, and I would have brought forward many others, showing that so far from the land, after being broken up, becoming exhausted, if it is properly managed, it will undoubtedly increase in fertility, and the greatest embarrassment we would next have to contend with, would be to find a place to deposit the vast accumulations of manure made on the farm; a difficulty, I am confident, which is not often experienced in this district. The landlord would unquestionably be benefited by the breaking up of the Grass land, he could command a higher rent, and the farmer would be better able to pay it. To the labourer the breaking up of Grass land would be of especial advantage, as affording a vastly extended means of employment. In the commonest process of breaking up, considerable labour is required. The great advantage, however, is in the regular daily labour to be done throughout the year. And the more cultivated a district becomes, the more active, intelligent, and happy the labourer. I find that Mr. Bravender, in the Journal of the Royal Agricultural Society of England, estimates that there is in Great Britain four millions of acres of pasture land, at present employing 4,340,170 men; and that if the four million of acres were converted into arable, they would employ 174 men each. The difference in favour of arable would be 1,674,000, as an additional number of men likely to obtain permanent employment by breaking up land to that extent, and this without reckoning anything whatever for the labour of draining, which would, according to his estimate, be required on three fifths of the four million of acres; and to do it in a substantial manner, would cost 4*l.* per acre in manual labour. The result would give the sum of 9,600,000*l.* to be expended, the whole of which would pass through the hands of the labourer. This would employ 320,000 men for 12 months. In these estimates he has omitted the additional hands that would be required by the introduction of the plan of "box-feeding," which would inevitably force its way into practice; so that it would not be overrating the number of additional hands required to put down at 200,000 men, who, with their families, would probably amount to 1,000,000. I shall not occupy your time by endeavouring to impress upon you the importance of carting manure, and permanent demand for labour, but merely to call your attention to the following point:—The average outlay of manual labour on Grass land does not exceed 5*s.* per acre. The cost of manual labour on a well-cultivated arable farm will exceed 5*l.* per acre—in many cases 40*s.* per acre; so that the labour laid out in the cultivation of arable land, at the lowest cost, is about six times more than is expended on Grass. This fact alone is sufficient, with an increasing population of 400,000 annually, to outweigh every objection. The advantage to the country from the breaking up of Grass land, would undoubtedly be a large and permanent increased supply of food. Mr. Bravender, in speaking upon this part of the subject, estimates that a fourth of the four million acres of Grass land that may be broken up, would be planted with Wheat every year; but to be on the right side, he assumes that one-half would be cropped on a four-course, and the other half on a five-course shift. He takes the average produce of the former at 32 bushels, and that of the latter at 24, making a general average of 28 bushels per acre. This would give 900,000 additional acres of Wheat, producing annually 3,150,000 quarters, which would be more than sufficient to supply the deficiency of our home growth of this grain, without reckoning the beef, mutton, green, and other crops. Such facts as these speak volumes in favour of the conversion of a considerable portion of the Grass land into arable. The farmer would undoubtedly have many advantages. In the first place, Clover, Turnips, and other green fallow crops, straw, and corn, will, in dry seasons, by good cultivation, grow when the natural Grasses will not, so as to enable him to feed his cattle so much better, and with greater rapidity; and by pursuing the system of house-feeding, he will increase the quantity and quality of his manure heap, which supplies the very essence required by the crops. He should always bear in mind the old adage, that "muck is the mother of money." His poor and other rates would be reduced by employing the surplus poor; he would be enabled to pay his landlord a higher rent, who, by giving permission to break up Grass land, by draining and other permanent improvements, is justly entitled to demand an increased revenue. As all these matters resolve themselves into pounds, shillings, and pence, we will take first the produce of beef, mutton, and wool, for four years, from an acre of such land as will let in this district for 30*s.* per acre, and will feed a 50 stone beast. Allow him to increase 12 stones at 7*s.* per stone, will leave a return of 4*l.* 4*s.*, to which we will add 18 lbs. of mutton, at 7*d.* per pound, equal 10*s.* 6*d.*, and 7 lbs. of wool, at 1*s.* per pound, equal to 7*s.*, made from two sheep, during the autumn and winter. Total, 5*l.* 1*s.* 6*d.* per acre for one year—so that we have the produce for four years as follows:—

Creditor.

48 stones of beef, at 7*s.* per stone	£16	16	0
72 lbs. of mutton, at 7*d.* per lb.	2	2	0
28 lbs. of wool, at 1*s.* per lb.	1	8	0
Total produce for four years	£20	6	0

Debtor.

Rent	£1	10	0
Rates and taxes, at 3*s.* in the pound	0	4	6
Labour	0	5	0
Expense for one year	£1	19	6
Expense for four years	7	18	0
Profit for four years	£12	8	0

We shall now take the produce of what one acre of such land may be made to produce during a four-course shift, if broken up, thoroughly drained, highly cultivated, and the system of box-feeding pursued.

Creditor.

1 acre of Turnips, Mangold Wurzel, &c., producing 45 stones of beef, at 7*s.* per stone	£15	15	0
1 acre of Barley, producing 50 bushels, at 3*s.* 6*d.* per bushel	8	15	0
1 acre of Clover and Italian Rye-Grass, cut green, producing 40 stones of beef, at 7*s.* per stone	14	0	0
1 acre of Oats, producing 56 bushels, at 3*s.* per bush.	8	8	0
Total produce for four years	£46	18	0

Debtor.

Turnip, Mangold Wurzel, seed per acre	£0	5	0
Barley seed, 3 bushels per acre, 3*s.* 6*d.* per bushel	0	10	6
Clover, 14 lbs. at 10*s.*, Italian Rye-grass, ½ bushel, at 7*s.* per bushel per acre	0	13	6
Oats, seed, 6 bushels per acre, at 3*s.* per bushel	0	18	6
Expense of seed for four years	2	7	0
Rent per acre	2	0	0
Rates and taxes, at 2*s.* in the pound per acre	0	4	0
Labour, per acre	2	0	0
Saddler and blacksmith, per acre	0	10	0
Horse keep, per acre	1	5	0
Interest on 8*l.* laid out by landlord for draining, &c., at 6 per cent. per acre	0	8	6
Expense for one year	6	7	6
Expense for four years	25	10	0
Seed	2	7	0
Total expense for four years on arable land	£27	17	0
Profit on arable land for four years	18	1	0
Ditto grazing	12	8	0
Difference in favour of arable land for four years	5	13	0
Ditto for one year	1	18	3

In the above calculations I have allowed the same amount for labour each year, although the working of the Turnip land will cost more, but the expense upon the Clover will be trifling; so that one will counterbalance the other. The calculations show the advantage to the labourer [illegible] to the amount of 1*l.* 18*s.* 3*d.*, to the landlord [illegible] for interest per acre, and to the [illegible] 13*s.* 6*d.* per acre per annum, besides the [illegible] We now come to the [illegible] tion, of Grass [illegible] could be [illegible] draining, [illegible] without [illegible] manure, [illegible] seems to be [illegible] tical authorities, that [illegible] crop, if the [illegible] has been proved by [illegible] gained by [illegible] the benefit is permanent [illegible] and even exceeds [illegible] the Whitfield farm, [illegible] of it was ploughed [illegible] in the spring; the [illegible] Oats; the latter [illegible] fertility natural [illegible] the first crops, and [illegible] system of [illegible] any other that [illegible] Every other year [illegible] field in the farm [illegible] nate years [illegible] Carrots, Mangold [illegible] been for the most part [illegible] sumed with straw, [illegible] manufactured [illegible] on which, during [illegible] tions near the [illegible] manufactured [illegible] plied to the present crops. [illegible] Oats, Linseed, and Beans are [illegible] doubt, add much to [illegible] so much fertilising [illegible] straw it ensures [illegible] application of each year [illegible] system thus maintained [illegible] expense, and it contains within itself [illegible] establishment." I cannot conclude [illegible] ing my firm opinion that agriculture will never advance [illegible] country to that high state of improvement [illegible] capable, until we break up a considerable portion [illegible] land, and change our present [illegible] cattle. An interesting discussion [illegible] expressed.—Mr. STEPHENS, of Tiverton, was glad [illegible] subject was one upon which [illegible] be a long time in coming to a [illegible] BROWN, of Seaton Delaval Hall, [illegible] coincide in the view of their worthy [illegible] that he was laying out about [illegible] land to Grass, because he had to improve [illegible] was that there was too much land broken up, [illegible] allow more to be broken up, before [illegible] land was properly cultivated, would be [illegible]. CHAIRMAN'S experience was quite opposed to Mr. [illegible] theory. As to the Whitfield farm, it proved [illegible] that a wilderness had been converted, by an [illegible] of capital, into a productive garden.—Mr. WEBB [illegible], that Mr. Glover's views had not been shown to be [illegible] that the capital was wanting to carry them [illegible]. Mr. GLOVER, after a few words in reply, [illegible] resolution: "That the members of this Club [illegible] desirable to break up Grass lands in this district, as he believe that if such permission were given, under proper restrictions, it would encourage good farming throughout the district, as the farmer would be able to fatten a greater number of cattle, and increase his profits, the value of the land, the supply of food, and the source of labour."—Mr. [illegible] objected to the system recommended by Mr. Glover, because it could not be carried out. To give a tenant leave to break up Grass land, was neither more nor less than to give him leave to take a few white crops from the land, and reduce it in the end to the level of the other tillage land on his farm. He would therefore move the following amendment: "That it is not desirable, at the present day, to break up Grass lands of average or superior quality in this district; while, at the same time, such cases are deserving of the increased attention and improvement of the tenants generally."—Mr. RAMSAY understood Mr. Glover to advocate his system on the ground that it would be advantageous alike to the landowner, the occupier, and the community. If it were otherwise, it would not be worthy of approval in their deliberations. Now, in this part of the country, soils were various, and many of them much the same, and what might do very well in one district would not do at all in another. Every one must be aware, who was conversant with the state of farming in this neighbourhood, that among the first questions put by a farmer, when making inquiry about a farm was, whether it comprised any old Grass land. If it did not, he would have [illegible]. If farming could always be carried on as Mr. Glover proposed, old Grass land might be dispensed with; but with a variable climate and varying seasons it could not be done well at. Last season, for instance, what would they have done without their old Grass land? Then, again, Mr. Glover's system could not be acted upon in the neighbourhood of a large town, where manure was plentiful, and where the cultivation of the land more like gardening than ordinary tillage; but a system of general application must be adopted by farmers generally. He must say, for his part, as a practical farmer, that he did not how he could get on without Grass land. And [illegible] the landowners were prepared to grant leases [illegible] system could not beneficially be [illegible].—Mr. WEBB said it was very evident, from what had been [illegible] the question was only one of time. [illegible] division, when 6 voted for the original motion, and [illegible] the amendment.

Miscellaneous.

Best method of boiling meat.—If the flesh intended to be eaten be introduced into the water, when the water is in a state of brisk ebullition, and if the boiling be kept up for some minutes, then so much cold water added as to reduce the temperature of the water to 150° or 158°, and the whole kept at this temperature for some hours, all the conditions are united which give to the flesh the quality best adapted to its use as food. When it is introduced into the boiling water, the albumen immediately coagulates from the surface inwards, and in this state forms a crust or shell, which no longer permits the external water to penetrate into the interior of the mass of flesh. But the temperature is gradually transmitted to the interior, and there effects the conversion of the raw flesh into the state of boiled or roasted meat. The flesh retains its juiciness, and is quite as agreeable to the taste as it can be made by roasting; for the chief part of the sapid constituents of the mass is retained, under these circumstances, in the flesh. If we reflect that the albumen of the juice of flesh begins to coagulate at a temperature of 140° and

that it is completely coagulated at 140° (Berzelius), it might be supposed that it would not be necessary, in the cooking of flesh, to expose it to a higher temperature than 140°. But, at that temperature, the colouring matter of the blood is not yet coagulated; the flesh, indeed, is eatable, but when it contains blood, it acquires, under these circumstances, a bloody appearance, which it only loses, when it has acquired, throughout the whole mass, a temperature of 150° to 158°.—*Liebig's Researches on Food.*

The best Soup.—When 1 lb. of lean beef, free of fat, and separated from the bones, in the finely-chopped state in which it is used for beef sausages or mince-meat, is uniformly mixed with its own weight of cold water, slowly heated to boiling, and the liquid, after boiling briskly for a minute or two, is strained through a towel from the coagulated albumen and the fibrine, now become hard and horny, we obtain an equal weight of the most aromatic soup, of such strength as cannot be obtained, even by boiling for hours, from a piece of flesh. When mixed with salt and the other usual additions by which soup is usually seasoned, and tinged somewhat darker by means of roasted onions or burnt sugar, it forms the very best soup which can in any way be prepared from 1 lb. of flesh.—*Liebig's Researches on Food.*

Important Invention.—On last market-day, Mr. Yates, an extensive corn-factor, presented W. F. Wratislaw, of Rugby, with a can of milk capable of being kept in a good and fresh state for an indefinite length of time, by means of a chemical process which it undergoes on being taken from the cow. It was manufactured at Toxall, near Stafford, on the estate of Earl Talbot, and we are informed that the milk of 700 cows is daily acted upon by this novel invention, which must, in course of time, be a valuable acquisition in the victualling department of the navy, for which it is well adapted. The process has been patented, and not only may a rich sweet milk be constantly had, but also rich cream convertible into butter in a very short time.—*Bedford Mercury.*

Calendar of Operations.

JANUARY.

Berwickshire Merse Farm, *Jan.* 21.—Since last report we have been ploughing Grass land for Beans, but we have been stopped for two days by the frost: one man with a single-horse cart 1½ day leading Wheat to the barn, a man forking, one man and four women threshing, three women carrying away the straw; one man and two women one day dressing; three men with five single-horse carts delivering the Wheat at Ayton station and bringing home drain tiles; two men with four single-horse carts two days leading tiles; two men with four carts at Berwick for drain slates; 20 men digging drains, two men and two women putting in tiles; three men with six single-horse carts at the coals; six women topping Turnips one day, four men with eight single-horse carts one day leading Turnips to the store, five women filling, one man assisting at the store; one woman with the shepherd cutting Turnips for the sheep; a man and a boy feeding the cattle; a man cutting Thorns.—*J. B.*

Dorset Farm, *Jan.* 24.—The work with the horses for the past week has been dragging and harrowing Wheat stubbles; ploughing for Barley; delivering corn that was sold; driving out dung for Turnips, and liquid manure to put on the top of the mixen; carting Turnips, straw, and hay, and driving out chalk on pasture lands where the Grass was rough and sour; we find that the stock eat it much better after it has got a top-dressing with chalk. Labourers have been digging Parsnips, rooting hedges, threshing Peas, filling dung, and crushing Oats, Linseed, and oilcake.—*G. S.*

East Lothian Farm, *Jan.* 22.—We have hard frost, which put a stop to ploughing about the middle of the week. Work upon the farm has been carting off Turnips, likewise threshing and carting grain to market; also carting coals for servants.—*S.*

Galloway Farm, *Jan.* 24.—Since last report we have had very good winter weather up to the 17th; and we have had frost every night since, with snow, on the evening of the 22d, between 2 and 3 inches deep; and this day we have very hard frost, and it has all the appearance of standing for some time yet; we have our Turnip land nearly all ploughed where we took off the Turnips; threshing Wheat for the market, and Beans for fodder for horses; carting dung and threshing will be the most of our work until the frost leaves.—*J. R.*

North Lincolnshire Farm.—We have been occupied for the week ending Jan. 22, thus:—Two carts at Grimsby to bring back 2 tons of coals; four single carts carrying to repair roads; five pair of horses ploughing; two pair at plough half day; two single horse carts delivering Oats; two carts getting in Swedes for store; one man with two single carts delivering Oats one half day and leading stones half day; four single horse carts leading flints one day; two carts to Grimsby with 8 qrs. Oats and 3 qrs. Wheat, and brought back 1 ton of engine coals; two carts at Grimsby with 12 qrs. Oats, and brought back 1 ton cake; five carts leading gravel to lay round the building; seven single horse carts leading manure; two single carts delivering Oats. Threshing, &c. has occupied three days; two men wheeling out manure from cattle boxes two days.—*J. U.* [Do not know of any one.]

Somerset Farm, *Jan* 24.—This last week, with fine frosty weather, being very favourable for cartage on the farm, we have been engaged in hauling earth for filling up ditches, hauling home faggot wood made from the hedge-rows and heads of trees that were rooted and thrown. Hauling stones for the repair of roads. Some of the labourers are draining, making the drains 21 feet apart and 3½ feet deep. Making and racking cider, which we hope to finish this week. Our ewes have begun lambing and have been very fortunate as yet.—*R. C.*

South Hampshire Farm, *Jan.* 22.—Having been favoured with frosty weather at intervals since our last report of Jan 6, we have been enabled to proceed with carting manure on the pasture land, which operation has engaged most of our horses and some men for several days; we work in two sets, three two-horse carts and three one-horse carts; at other times our horses have been employed in hauling earth from banks where hedges have been removed into meadow land, to fill up old trenches where the land has been recently drained. On Jan. 14, the weather being open and mild, all our horses were employed in ploughing and harrowing for Wheat. We continue to sow 4 bushels per acre of White Hopetown Wheat, where Swedish Turnips have been fed off with sheep. Our labourers have been employed in various ways, threshing Barley and Oats, banking, erecting wire fences for protection to recently planted Quicks; also in cutting hedgerow wood, threshing Talavera Wheat for seed, which is done by the flail, the sheaves being first examined, and the Barley and objectionable Wheat ears picked out, which costs 6*d.* per quarter. Some of the women are employed sweeping and collecting leaves from under the ornamental trees in the pastures; others are employed in picking up roots of Turnips for the sheep, after being fed down even with the ground; also cleaning, preparing, and stacking Swedes, in stacks of one hurdle square, which contains the produce of about 10 or 12 rods of land, for which work we pay from 9*s.* to 11*s.* per acre, ready prepared for the cutter. Our shepherds are now engaged in feeding the ewes and lambs in earnest; the lambing season now drawing to a close, their attention is chiefly turned to fatting the lambs; they are allowed to range over about a quarter of an acre of Turnips, and eat off the tops before the ewes; they also get plenty of cut Swedes passed twice through Gardener's machine; they receive also a liberal allowance of White Clover hay, and as much Linseed cake and cracked Peas as they can eat, for we have found, after years of experience, if you would have fat lambs in perfection, they should have plenty of trough food at all times; nor is it less important that the ewes should be well fed, as it is proverbial with us that fat ewes make fat lambs. We have commenced selling our Somerset lambs dropped in October, although we find the sale for them becomes more limited every year, which fact we know not how to explain, unless the public taste is altered; for we feel warranted in saying there are at least one-third less early lambs bred and fatted now, as compared with the period 20 years past, when we first commenced fatting lambs, and yet the sale for them is more uncertain.—*J. B.*

Sussex Farm, *Jan.* 24.—The weather has the appearance of severity. Frost has set in for some days, and snow falls heavy to-day. Carting dung for Mangold Wurzel, Swedes, and Turnips, and litter to yards; threshing Peas and Oats; making new pond; repairing roads, draining, &c. Should the weather change the ploughs will be at work, and we shall turn our Swedes, as they are beginning to spoil in the pits.—*J. B.*

Notices to Correspondents.

Beet Wine—*T F H* asks for a recipe. Can any one oblige him? See page 14, col. *b.*

Berwickshire Agricultural Society—*George*—Is it the East Berwickshire Farmers' Club you refer to? A letter addressed to the Secretary, at Berwick, will probably procure you the information you desire.

Books—*T Wood*—A little knowledge of botany is extremely useful to all farmers, who ought to know how to distinguish cultivated plants at least, and to understand the nature of those which constitute their crops. If you will study Lindley's "School Botany" and "Elements of Botany," you will lay the foundation of anything further you may desire to learn. The latter having the only complete glossary of technical botanical terms in any language, is as indispensable to a library as a dictionary.——*W R L*—On the practice of agriculture, Low's "Elements" or Stephens' "Book of the Farm;" on the theory, Johnston's Lectures.

Carrots—*Subscriber*—Plough deeply in autumn, and you may, *if you can*, manure it then, working the dung in by the cultivator, and then bouting up by the plough into drills 2 feet wide. In March, 2 or 3 cwt. of guano per acre may be sown broadcast, and the harrows may be sent over the field without quite obliterating the drills, between which the horse hoe should be sent, followed by the double mould board plough, which restores the drills in good tith. Towards the middle of April a double coulter Turnip ridge drill should be passed over the drills, opening shallow furrows on the top of each. This should be followed by men with basins of the seed mixed some days previously with damp sand, and they should be followed again by the Turnip drill without its coulters. The rollers cover the seed. The seed should be 4 or 5 lbs. per acre. In three or four weeks the seed will be up, and about the beginning of June the plants may be singled out to 8 or 10 inches apart. The land may be horse-hoed once or twice in the course of the summer, and hand-hoed once again. And towards November if the land be good (a clay loam is best) you may look for upwards of 20 tons per acre of the White Belgian Carrot.

"Chronicles"—*Tenant Farmer*—"Talpa" has received your letter.

Coltsfoot—*New Subscriber*—You cannot expect to destroy it, except by thoroughly good cultivation before and during the Turnip crop; by dislodging, shaking free of earth, lifting and carrying the roots off the land, or burning them on it. You may depend upon it there is no royal road to clever farming.

Dwarf Peas—*Gilpinetto*—The dwarf blue or green Imperial is a Pea capable of cultivation either in field or garden.

Harrison's Pills—*Subscriber*—We do not know them; but have no reason to doubt the information honest.

Italian Rye-Grass—*D W S*—No doubt it will yield a crop the next year better than this one, if sown in March, and provided it be hindered from blossoming and seeding.

Kohl Rabi—*Inquisitor*—They may be sown in drills like Swedish Turnips early in May, and cultivated exactly alike, singled out to rather greater distances, and yielding a crop of somewhat similar weight per acre. Or they may be sown in a bed and transplanted late in May or early in June. They last long in spring, and endure frost well.

Land Drainage—*Forrester*—A thousand thanks for your most valuable paper.

Rye Grass—*Villager*—You should apply to Mr. Dickenson himself, 7, Curzon-street, Mayfair.

Steamer—*W R Watson*—Robinson, Lisburn, Ireland; Richmond, Salford, &c.

The Late Mr. Burgess—*E M T*—We cannot help you. You ought to see that we can have nothing to do in the matter. Apply in the proper quarter.

Waggon-horses for the Road—*Sylvanus* asks how they are generally fed, and as to the advantage of turning them to Grass in summer.

Wild Garlic—*E H* finds pulling it up by hand too expensive. Can any one suggest an easier mode of riddance? We know of none.

Young Cattle—*W H B*—One lb. of Linseed each, daily, made into a *salt* soup will, if thrown when hot over straw chaff, make a quantity of it sapid, sufficient for the daily maintenance of each in good store condition.

Misc—*W R*—Very good. It shall appear as soon as possible.

**** Communications reaching town after Wednesday cannot be answered the same week.

Markets.

POTATOES, Southwark, Waterside, Jan. 24.

Since our last report it has been good weather for the consumption of Potatoes, and there has been more activity among the buyers. The best samples of York Regents were eagerly sought after at a further advanced price; best samples from all parts were more in request, and an advance was realised, but all inferior qualities went off heavily, at former quotations. The following are the present prices:—York Regents, 140s to 160s; secondary, 130s to 140s; Kent and Essex Regents, 120s to 130s; Shaws, 110s to 140s; Kidneys, 120s to 140s; Blues, 120s to 130s; Scotch Buffs, 115s to 120s; Mixtures, 110s; Whites, 110s; Wisbeach Regents, 110s to 140s; Dutch Whites, 90s to 100s. Rich. Harris.

HAY.—Per Load of 36 Trusses.

Smithfield, Jan. 27.

Prime Mead. Hay	68s to 74s	New Hay	—s to —s	Straw	24s to 28s
Inferior ditto	55 65	Clover	75 95		
Rowen	45 55	New Clover	— —		

John Cooper, Salesman.

Cumberland Market, Jan. 27.

Prime Mead. Hay	70s to 77s	Old Clover	90s to 95s	Straw	28s to 32s
Inferior	50 65	Interior	75 84		
New Hay	— —	New Clover	— —		

Joshua Baker, Hay Salesman.

Whitechapel, Jan. 27.

Fine Old Hay	66s to 72s	Old Clover	90s to 95s	Straw	28s to 30s
Inferior Hay	— —	Interior	60 70		
New Hay	63 68	New Clover	80 88		

COVENT GARDEN, Jan. 29.

Notwithstanding the change in the weather, the market still continues to be well supplied with Vegetables. Winter Fruit also is plentiful, but trade is dull. Pine apples are abundant and good, and Grapes are sufficient for the demand, which is not great. Pears and Apples are tolerably plentiful, considering the season. Of the former, specimens of Beurré Rance and Ne Plus Meuris may be bought at from 3*s.* to 4*s.* per doz. Oranges are plentiful, but small in size. Nuts are sufficient for the demand. Filberts sell slowly at from 14*s.* to 24*s.* per 100 lbs. Walnuts are scarce. Lemons are sufficient for the demand. Of Vegetables, Cauliflowers and Broccoli are plentiful. Of the latter some fine samples have been supplied from Cornwall, which sell at from 2*s.* 6*d.* to 6*s.* per dozen. Asparagus and Seakale may be obtained at last week's prices. Carrots and Turnips are good in quality. Potatoes realise good prices. Lettuces and other Salading are sufficient for the demand. Mushrooms have not altered in price since last week. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Chrysanthemums, Camellias, Fuchsias, Azaleas, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 4s to 6s	Lemons, per 100s, 6s to 14s
Grapes, hothouse, per lb., 6s to 8s	Almonds, per peck, 8s
— Portugal, per lb, 1s to 1s 6d	— sweet, per lb., 2s to 3s
Apples, dessert, per bush., 3s to 6s	Walnuts, per bush. 12s to 18s
— kitchen, p. bush., 2s 6d to 5s	Nuts, Barcelona, per bush., 20s to 22s
Pears, per half sieve, 5s to 8s	— Filberts, per 100 lbs., 14s to 24s
Oranges, per doz., 1s to 2s	— Cob, per 100 lbs., 25s to 30s
— per 100, 4s to 12s	— Brazil, per bush., 12s to 16s
— bitter, per 100, 10s to 18s	Chestnuts, per peck, 3s to 6s

VEGETABLES.

Asparagus, per 100, 2s to 7s	Shallots, per lb., 6d to 8d
Savoys, per doz., 4d to 1s	Garlic, per lb., 8d to 1s
Cabbages, per doz., 6d to 1s	Spinach, per sieve, 1s to 1s 6d
— Red, per doz., 1s to 3s	Seakale, per punnet, 6d to 2s 6d
Greens, p. doz bunches, 1s 6d to 2s 6d	Artichokes, Jerusalem, per half sieve, 1s to 1s 6d
Cauliflowers, per doz., 3s to 8s	Lettuce, Cab., per score, 4d to 9d
Broccoli, per bundle, 8d to 3s	— Cos, per score, 9d to 1s
Brussels Sprouts, p. hf. sieve, 1s to 1s 6d	Endive, per score, 1s to 2s
Sorrel, per half sieve, 6d to 9d	Radishes, per doz. bunds, 1s
Potatoes, per ton, 120s to 160s	— Turnip, p. doz. bunds, 9d to 1s
— per cwt., 6s to 8s	Mushrooms, per pottle, 9d to 1s 3d
— per bush., 3s 6d to 4s	Rhubarb, per bundle, 10d to 1s 6d
— Kidney, per bush., 3s 6d to 4s	Small Salads, per punnet, 2d to 3d
Turnips, p. doz. bunch., 1s 6d to 2s	Fennel, per bunch, 2d to 3d
Red Beet, per doz., 9d to 1s 6d	Savory, per bunch, 3d to 4d
Horse Radish, per bundle, 1s to 4s	Thyme, per bunch, 2d
Cucumbers, each, 1s to 2s	Watercress, p. 12 small bun., 4d to 6d
Leeks, per doz., 6d to 1s	Parsley, per half sieve, 1s to 1s 6d
Celery, per bundle, 6d to 1s 6d	— Roots, per bundle, 1s to 1s 6d
Carrots, per doz. bunches, 2s to 4s	Mint, green, per bunch, 4d to 8d
Onions, per bush., 2s to 3s	Marjoram, per bunch, 3d to 4d
— Portugal, per doz., 1s to 4s	
— pickling, p. hf. sieve, 2s to 3s	

HOPS, Friday, Jan. 28.

Messrs. Pattenden and Smith, Hop Factors, report that the market remains the same.

Mid. & East Kents, p. cwt.	70s to 100s	Yearling Kents, p. cwt...	50s to 60s
Weald of Kents	56 — 60	Yearling Sussex	46 — 60
Sussex	56 — 70	Old Hops	20 — 40
Farnhams	84 — 105		

SMITHFIELD, Monday, Jan. 24.

Our supply of Beasts to-day is small, and the average quality very middling; consequently, prices are rather higher, fully 2*d.* per 8lbs. advance on all kinds, and some of the choicest descriptions make a little over 5*s.* per 8lbs. From Holland there are only 123, about 200 from Scotland, 150 from Ireland, and 1500 Norfolk and Suffolk. The number of Sheep is unusually small; they are, in consequence, all disposed of, at an advance of about 2*d.* per 8lbs. Owing, however, to trade having been very bad during the past week, the butchers were very unwilling to submit, and this caused a slow trade. Our supplies from abroad are now very inconsiderable; there were only two or three pens of foreign Sheep on offer to day. We have remarkably few Calves in the market to-day. They are readily disposed of at advanced prices. There is a fair supply of Pigs, but, all other kinds of meat being scarce, these share in the general rise.

Per stone of 8 lbs.—s d	s d	Per stone of 8 lbs.—s d	s d
Best Scots, Herefords, &c. 4	10 to 5 0	Best Long Wools 4	8 to 5 0
Best Short Horns 4	8 — 4 10	Ditto Shorn	....
Second quality Beasts .. 3	8 — 4 4	Ewes and second quality 3	10 — 4 6
Calves 4	10 — 5 8	Ditto Shorn	....
Best Downs & Half-breds 5	2 to 5 4	Lambs	....
Ditto Shorn	....	Pigs 4	8 — 5 6

Beasts—2750. Sheep and Lambs—19,210. Calves—44. Pigs—300.

FRIDAY, Jan. 28.

We are not very heavily supplied with Beasts. Trade is, however, dull, and Monday's quotations with difficulty supported. The dead markets being full of mutton, we have a very slow trade for the few Sheep there are on offer: all kinds must be quoted at 2*d.* per 8lbs. lower. Trade is also slow for Calves, and only the choicest maintain Monday's prices; inferior are quite 2*d.* per 8lbs. lower. There is rather a brisk demand for Pigs, at late rates. We have from Holland 30 Beasts and 5 Calves, 200 Beasts from Scotland, 100 from Ireland, and about 130 Milch Cows from the home counties.

Per stone of 8 lbs.—s d	s d	Per stone of 8 lbs.—s d	s d
Best Scots, Herefords, &c. 4	10 to 5 0	Best Long Wools..... 4	6 — 4 10
Best Short Horns 4	8 — 4 10	Ditto Shorn	....
Second quality Beasts .. 3	8 — 4 4	Ewes and second quality 3	8 — 4 4
Calves 4	6 — 5 8	Ditto Shorn	....
Best Downs & Half-breds 5	0 — 5 2	Lambs	....
Ditto Shorn	....	Pigs 4	8 — 5 6

Beasts—879. Sheep and Lambs—2500. Calves—149. Pigs—250.

41, West Smithfield.

MARK LANE, Monday, Jan. 24.

There was a good supply of Wheat by land carriage samples from the neighbouring counties this morning, the condition of which, notwithstanding the frost, is still bad; and before a clearance could be effected, a reduction in price of 1*s.* to 2*s.* per quarter became necessary. Foreign met a slow sale, and we reduce our quotations 1*s.* per quarter.—Barley was in fair supply, and fully supported the rates of last week.—Beans and white Peas are quite as dear, Grey the turn higher.—The Oat trade is firm, without alteration in price.—In Flour there is little doing, but its value remains unaltered.—Rye-meal continues to be taken at our quotations.

British per Imperial Quarter.	s	s		s	s
Wheat, Essex, Kent, and Suffolk ..... White	50	60	Red.....	42	52
Norfolk, Lincolnshire, and Yorkshire	48	52	White ..	48	52
Barley, Malting and distilling, 26s to 29s	Chevalier	30	32	Grinding	25	27
Oats, Lincolnshire and Yorkshire.....	Polands	23	29	Feed	21	27
North'berland and Scotch	Feed	23	27	Potato ..	25	29
Irish	Feed	20	27	Potato ..	24	28
Malt, pale, ship.....		—	—			
Hertford and Essex		—	—			
Rye.....		28	32			
Beans, Mazegan, old and new ..	28s to 40s	Tick..	30	42	Harrow..	32	44
Pigeon, Heligoland	34	50	Winds	36	54	Longpod	32	36
Peas, White.....	40	42	Maple	38	40	Grey	35	37

Arrivals in the River last week.

	Wheat.	Barley.	Malt.	Oats.	Rye.	Beans.	Peas
Flour, 2671 sks	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.
— — bls							
English.....	7236	5941	6220	3132	—	984	437
Irish	20	—	70	9329	—	—	—
Foreign.....	5920	2154	—	1770	—	1913	881

FRIDAY, Jan. 28.

The arrivals of Grain and Flour during the week have been small, and having a very moderate advance at market this morning, a limited extent of business only was transacted, but the value of all articles fully supports our Monday's quotations.

Arrivals this week.

	Wheat.	Barley.	Oats.	Flour.
	Qrs.	Qrs.	Qrs.	
English.....	3280	5060	1110	3260 sacks.
Irish	—	—	—	
Foreign.....	—	—	970	— barrels.

Imperial Averages.

	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Dec. 18	52 2	30 7	21 7	31 4	42 7	47 7
— 25	53 0	31 3	21 3	31 1	40 6	44 5
Jan. 1	53 11	31 8	20 7	29 11	39 10	44 10
— 8	53 10	31 7	20 11	31 4	40 8	46 0
— 15	53 5	30 6	21 0	29 2	39 1	46 4
— 22	53 1	30 4	21 1	30 8	38 8	45 2
Aggregate Average	53 3	31 0	21 1	31 1	40 1	45 10

Duties on Foreign Grain Free till March 1.

Price.	Dec. 18.	Dec. 25.	Jan. 1.	Jan. 8.	Jan. 15.	Jan. 22.
53s 11d	...	...	...	...	...	...
53 10	...	...	...	...	...	...
53 5	...	...	...	...	...	...
53 1	...	...	...	...	...	...
53 0	...	...	...	...	...	...
52 2	...	...	...	...	...	...

SEEDS, Jan. 28.

Canary .....per qr.	60s	to 68s	Linseed-cakes, Foreign, p. ton, 10*l* to 11*l*		
Caraway .....per cwt.	35	37	Mustard, White, p bush., 5s 6d to 6s 9d		
Clover, Red, English	—	—	Superfine p. bush., —		—
— Foreign	—	—	Brown, per bush.. —		—
White, English	—	—	Rapeseed, Eng., per last.....	28*l*	30*l*
— Foreign	—	—	Rape-cakes .....per ton	5*l* 10s	6*l*
Coriander.....	19	20	Samfoin	—	—
Hempseed .....per qr.	36	40	Tares, Eng., winter, p. bush.,	7s	0 8s 0
Linseed.....	45	46	Foreign, per bush.,	4s 6	5s 0
— Baltic.....	41	42	Trefoil	17s	0 21s
— Cakes, Eng. p. 2000,	13*l* 10s to 14*l*		Turnip—too variable for quotation.		

Kingsford and Lax.

Sales by Auction.

TO NOBLEMEN, GENTLEMEN, AND NURSERYMEN.

MR. J. C. STEVENS is favoured with instructions from Messrs. Loddiges, of Hackney (in consequence of the near expiration of the Lease of a part of their Nursery), to announce for Sale by Auction, on the premises, early in March, the first portion of their stock of CAMELLIAS, many of which are of unusually fine growth (some 15 feet high), and consisting of most of the favourite varieties, well furnished with Flower-buds. Due notice will be given of the Days of Sale.—38, King-street, Covent-garden, Jan. 29.

MESSRS. ROBENS AND Co. will sell by Auction, at Acacia Cottage, Fulham-road, at the request of several buyers, 2000 CAMELLIAS, on Wednesday, February 9, instead of the day formerly advertised. —2, South-place.

A FORTUNE QUICKLY.—A NURSERYMAN AND FLORIST being about to RETIRE from a profitable concern, wants to find a Successor. An inquiry will prove this an opportunity rarely to be met with.—For full particulars, address, A. C., Post-office, Ramsgate.

FARMS NEAR DEVONPORT AND PLYMOUTH, DEVON, BELONGING TO THE EARL OF MOUNT EDGCUMBE.

TO BE LET, BY PRIVATE CONTRACT.—No. 1.—RAME BARTON, about 350 acres, with a Limekiln and (if desired) a Malt-house, adjoining the sea.

No. 2.—NINIHAY FARM, containing 90 acres, with about 50 acres of Common.

Both Farms are situate in Rame Parish, about three miles from Devonport and Plymouth, and will be let from Lady-day next for 14 years. They are within half a mile of each other, and capable of being farmed together, and each has an excellent Dwelling-house.—For information and inspection apply to Messrs. BOGER, BOGER, and BEWES, Solicitors, at the Manor Office, Stonehouse, near Devonport.

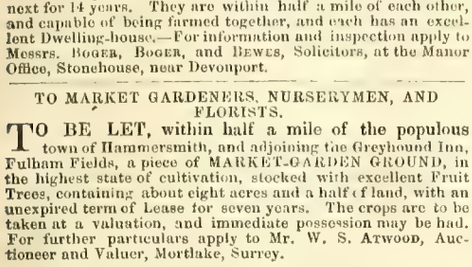
TO MARKET GARDENERS, NURSERYMEN, AND FLORISTS.

TO BE LET, within half a mile of the populous town of Hammersmith, and adjoining the Greyhound Inn, Fulham Fields, a piece of MARKET-GARDEN GROUND, in the highest state of cultivation, stocked with excellent Fruit Trees, containing about eight acres and a half of land, with an unexpired term of Lease for seven years. The crops are to be taken at a valuation, and immediate possession may be had. For further particulars apply to Mr. W. S. ATWOOD, Auctioneer and Valuer, Morthake, Surrey.

WANTED, five to seven acres of LAND, for one Crop, within 10 to 15 miles of London, near to a Railway Station preferred. The Land to be ploughed, sown, and kept clean by the Proprietor.—Apply to HAY, ANDERSON, and SANGSTER, Seedsmen, Newington Butts, London.

THE PATENT ECONOMICAL HAND SEED DIBBLE, with which One Man can Dibble many Acres a Day.—At present particulars can alone be obtained by addressing to M. D., Post-office, Tunbridge Wells. This is not Mr. Nicholls' invention, as has been stated in some of the Newspapers. Great Improvements have been made since the Smithfield Exhibition; they are now on a lighter principle and three times the size. The price of the small machines varies from 10*s.* 6*d.* to 3*l.* 3*s.*, and they contain two, four, six, eight, ten, or twelve dibblers each—the two being for children, the four for women, and the others for men. They are for all kinds of Grain and Beans and Peas.

STRONG PREMIUM HARE AND RABBIT PROOF WIRE NETTING.



CHARLES D. YOUNG AND COMPANY, (LATE W. AND C. YOUNG), MANUFACTURERS OF IRON AND WIRE WORK, &c., 128, HIGH-STREET, EDINBURGH; and 32, ST. ENOCH-SQUARE, GLASGOW,

Beg respectfully to call the attention of Landed Proprietors and others to their strong Wire-Net Fence, for excluding Hares and Rabbits from Gardens, young Plantations, Nurseries, &c.

This Net was exhibited at the Show of the Highland and Agricultural Society of Scotland, held lately at Inverness, where its Efficiency, Great Strength, and Exceeding Cheapness attracted general attention, and had awarded from the Judges the Society's Silver Medals, with high commendations.

The immense damage done by Hares and Rabbits in Gardens and Young Plantations, is often so great, that in the course of a year or two it will amount to more than the entire cost of protecting them with this Net. It is so durable, that when Plantations are sufficiently advanced to be independent of its protection, it can be removed to other exposed situations with the greatest facility, by any labourer. As a Fence against Hares and Rabbits, it is of itself quite sufficient, having only to be unrolled and attached, with small wire sent for that purpose, to wooden stakes driven into the ground, about every six or seven feet apart. It is, besides, peculiarly adapted for rendering Hedges, Paling, or other existing Fences, *completely impervious* to such vermin: and by being cut up into small pieces of three or more feet, as required, it forms a most efficient guard, at little expense, for individual Plants and Shrubs.

PRICES.

18 ins. high, 9*d.*; 24 ins., 1*s.*; 30 ins., 1*s.* 3*d.*; and 36 ins., 1*s.* 6*d.* per lineal yard.

Or a web of 100 yards, 18 ins. wide, will cost	...	£3 15	0
Do. of 100 yards, 24 ins. wide	...	5 0	0
Do. of 100 yards, 30 ins. wide	...	6 5	0
Do. of 100 yards, 36 ins. wide	...	7 10	0

If more or less than a web is required, it would be charged at the same rate per yard.

This Netting is also admirably adapted for Pheasantries and Poultry-yards, and is charged at the same rate. As carriage has, in many instances, been an obstacle to parties at a distance requiring this Net, C. D. Y. and Co. have made arrangements by which they will undertake to deliver it at any of the principal ports of Scotland, England, and Ireland, for One Halfpenny per lineal yard.

C. D. YOUNG and Co. cannot give a better idea of the great strength of their Premium Wire Netting than by stating that the weight of one yard of their 24-inch at 1*s.* is equal to 2½ yards of another article in the market, the same width, at 9*d.* per yard. Samples for inspection sent free of expense.

C. D. YOUNG & Co. manufacture every description of IRON and WIRE WORK required for this and foreign countries.

Workmen sent to all parts of Scotland, England, and Ireland.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c., of at least 100 sorts and sizes. In addition to the numerous purposes to which it is applied already this material may be moulded into a great variety of articles required either at home or abroad by the nobility, clergy, gentry, architects, civil engineers, and builders; also by owners and occupiers generally of land, mines, railways, buildings, gardens, and other property. See advertisement, with terms, in the Number of the 2d, 16th, and 30th October, and 13th November last, also the 1st instant. Lists are ready, containing prices, both per number and also per square, per yard, per foot, &c. Applicants would oblige by stating if they want the price in London or in Staffordshire.—4 Wharf, City-road-basin.

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

Patron—His Royal Highness Prince Albert.
President of the Council—Right Hon. Earl Bathurst.
Vice-President—Earl Ducie.

All persons desirous of entering Students for the ensuing Session are requested to apply as early as possible to the Principal, who will forward the papers necessary for their admission.—PHILIP BOWES, Secretary.

The Winter Session will commence on the 4th Feb., 1848. New Students are expected to attend for examination on the day previous.

London Office, 15, Duke-street, Adelphi.

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

Patron—His Royal Highness Prince Albert.
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Vice-President—Right Hon. Earl Ducie.
Principal—John Wilson, F.R.S.E., F.G.S., &c.
Chaplain and First Master—Rev. E. Sendall, B.A.
Second Master—Mr. E. Cockayne.

RESIDENT PROFESSORS.

Agriculture—John Wilson, F.R.S.E.
Chemistry—John Blyth, M.D.
Natural History, Botany, Geology—Jas. Buckman, F.G.S.
Mathematics and Natural Philosophy—Rev. E. Sendall, B.A.
Veterinary Practice—John Robinson, M.R.C.V.S.
Surveying and Farm Accountant—Mr. Cockayne.

OBJECTS.

The object of this Institution is to provide such a course of instruction as will be most useful to the practical Farmer. The benefits to be derived by the Agriculturists from a judicious application of scientific information are becoming more and more extensively acknowledged; while the means of obtaining that information, if, indeed, it can be obtained at all, without for the time sacrificing a due attention to the practical operations of husbandry, are so scattered and costly as to be within the reach of very few. The College course of instruction is conducted in such a manner that, while the student is well based in the principles of each science, its relations with Agriculture are specially touched upon and explained, and their practical application shown, as far as possible, in the operations of the College farm. The theoretical and practical teaching go hand in hand, and the whole is combined with the advantages of collegiate discipline.

The Winter Session will commence on the 4th Feb., 1848. New Students are expected to attend for examination on the day previous.

By order of the Council, PHILIP BOWES, Sec.

London Office, 15, Duke-street, Adelphi.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as building and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

CULTIVATION OF THE BEAUTIFUL.—It has been the fashion with prudes and pedants, time immemorial, to run down the advantages of external appearance—thus the phrases "outside show," and "skin deep beauty," had obtained a sort of currency which gave them, and others of similar import, an appearance of grave authority. The present age is bold enough to question this dictum, and even to go as far as to extol the study of externals as a duty to society, which should have presented to it agreeable objects, and now contends that the cultivation of the beautiful holds a place second in importance only to the promotion of the good. This it is which holds out encouragement to those who labour to put the public in possession of means to this end. OLDRIDGE'S BALM OF COLUMBIA, as the most effective preservative or renovator of that most beautiful ornament, the Human Hair, takes first rank, and, as long as its valuable properties continue to be known and appreciated, must take the precedence of every production intended for exterior improvement in this direction.—3*s.* 6*d.*, 6*s.*, and 11*s.* per bottle. No other price is genuine.—OLDRIDGE'S BALM, 1, Wellington-street, the second house from the Strand.

CURE OF STAMMERING.—MR. HUNT, late of Trinity College, Cambridge, begs to announce his return to Town for the season. Mr. H. purposes giving gratuitous instructions every Monday, at 4 P.M., to poor persons selected by and in the presence of distinguished Medical and Literary gentlemen. A Prospectus, containing Terms, and Testimonials of Cures effected during the last 21 years, sent on application, to any part of the kingdom, free of expence.

224, Regent-street, corner of Argyle-place.

Most Important to FARMERS, MALTSTERS, MILLERS, SHIPOWNERS, and Others having Storehouses, &c., infested with Rats and Mice.

MOSCROP'S CHEMICAL PASTE, for the complete extirpation of RATS, MICE, and BEETLES. Warranted never to Fail.

This Paste effectually clears all Premises of Rats and Mice most speedily; they take it readily, and leave the Premises never to return, generally dying in the open air, or where there is a supply of water, and other Rats and Mice avoid the Premises in which the Poison which has proved so destructive to their species has been used.

A great advantage this Paste possesses over Poisons usually sold for the destruction of Rats and Mice is, that it contains no Arsenic, is perfectly free from danger to Human Life, and will not destroy Dogs or Cats. Mr. MOSCROP has numerous Testimonials of the highest respectability of its success.—*Directions:* The Paste is divided into Balls for convenience of use, and some of them should be distributed where most infested with Rats, Mice, or Beetles. Sold in covered Pots, at 6*d.*, 1*s.*, 2*s.* 6*d.*, and 5*s.* each, by every respectable Chemist in the Kingdom. A Five Shilling Pot will be sufficient to clear the Premises, however extensive. Prepared only by E. H. MOSCROP, Chemist, &c., Godalming, Surrey. Sold Wholesale by the Proprietor: Messrs. Hodgkinsons and Tonze, 213, Upper Thames-street; Messrs. Sutton and Co., 10, Bow Church-yard; Messrs. Evans, Lescher, and Evans, 60, Bartholomew Close, London; and Messrs. Duncan, Flockhart, and Co., Edinburgh.

PRESENTS for WEDDINGS, BIRTHDAYS, AND ALL FESTIVALS.

ART MANUFACTURES will aim to produce in each article superior utility, which is not to be sacrificed to ornament: to elect just forms: to decorate each article with appropriate ornament, leading to its use, and to direct the mode of using it directly and forcibly from itself. These principles are by no means put forward as forming an universal rule; but it is thought they may be adhered to advantageously in most Articles of Use, and may possibly control the growth of a style which England of the nineteenth century may call its own. Several of our best Artists have already expressed their willingness to assist in this object, among them may be named—

John Bell, Sculptor; C. W. Cope, R.A., T. Creswick, A.R.A.; W. Dyce, A.R.A., J. R. Herbert, R.A., C. Horsley; S. Joseph, Sculptor; D. Maclise, R.A., W. Mulready, R.A., R. Redgrave, A.R.A., E. J. Townsend, W. Wyon, R.A., John Absolon, &c. &c., and executed by the best English Manufacturers.

The Art-Manufactures will be of all kinds, and executed in METALS, POTTERY, GLASS, WOOD, PAPER, and other materials.

THOSE NOW READY ARE PRICED.

A New Wine Tray in paper mache, especially for decanters and glasses; designed by R. Redgrave, A.R.A., with Decanters and Glasses made. The Tray can be had of Jennens and Bettridge. Price of the Tray, 15*s.* in sets.

"Salt and Fresh Water Fishers." **A Fish-Knife and Fork.** In Silver. By J. Bell. Price 5*l.* 5*s.*

"Vintagers." **A series of Decanter Stoppers.** Designed by J. C. Horsley. In Silver and Electro-plate.

A Bride's Inkstand, in Parian, with Taper. Modelled by J. Bell, 1*l.* 11*s.* 6*d.*, and upwards. The Inkstand will also be published separately in Bronze, 6*l.* 6*s.*, and Silver.

Kissing Children, surmounting a Paper Weight, 9*s.*; and a Loving Cup, 1*l.*

Boy and Dolphin, as a Seal or Paper-knife Handle, with a gilt blade ornamented with the fish, in Parian, 5*s.*

A Beer-Jug in Parian: emblematical of the Gathering, Storing, and Employment of the Bees. Designed by H. J. Townsend, price 15*s.*; or with extra Figures, 25*s.*

*** The Gold Medal of the Society of Arts was awarded to Messrs. Minton and Co., the Manufacturers, for the Union of Superior Art and Manufacture which this Jug displays.

The Infant Neptune. Modelled by H. J. Townsend, 27*s.* in Parian. The same in Silver, 5*l.* 5*s.*

A Water-Jug, in Glass. Designed by R. Redgrave, A.R.A., price 2*l.* 12*s.* 6*d.*; also Goblets to match, 1*l.* 1*s.* each. The Vase on a smaller scale will be executed in Parian.

The "Bitten Tongue." **A Mustard-Pot,** in Parian. Modelled by John Bell, price 9*s.* The figure will also be applied to a Silver and Plated Metal Mustard-pot.

A Pair of Carved Wood Brackets; price 3*l.* 3*s.* and upwards.

Dorothea, a Statuette, in Parian. Modelled by John Bell, 2*l.* 2*s.*; also in Bronze.

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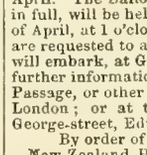

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UNDER THE PATRONAGE OF THE QUEEN AND PRINCE ALBERT.

JOSLING'S ST. ALBAN'S GRAPE.—The above has been patronised by Professor Lindley, the Horticultural Society of London, Mr. R. Thompson, Superintendant of the Fruit Department in the Hort. Soc. Gardens; and the Editor of the Gardeners' Journal, as being an excellent variety; fleshy, rich, and sugary, with a Frontignan flavour, and is deserving of extensive cultivation. Plants well established in 6-inch pots, free to London, on receipt of a post-office order for 21s. Usual allowance to the trade if three are taken.
Robert Josling, Seedsman, St. Alban's, Feb. 5.

GAINES begs to inform the Amateurs and Nurserymen that his List of DAHLIAS, including his new White Seedling "Mount Blanc," is ready for distribution, and can be had gratis, with his List of Pelargoniums, Calceolarias, &c. He has a few strong plants of his superb new Pelargonium "Salamanda," to dispose of; he is also taking orders for Kinghorn's superb Seedling Calceolarias, to be sent out the second week in March, the entire stock being at present in his own possession.—Nursery, Surrey-lane, Battersea, Feb. 5.

WILLAM MAY, F.H.S., has received from the respective Growers the undermentioned very select varieties of GARDEN SEEDS. He is now prepared to send them out in sealed packets, with printed directions, at the prices quoted; or the full collection, post free, for 10s. Every article named is warranted genuine and unsurpassed in quality.
N.B.—W. M. will not be responsible for any of the articles named not bearing his signature.

	Per packet—*s. d.*
BROCCOLI, Elletson's superb, or Mammoth April White, weighing from 12 to 20 lbs. each head, very hardy, and dwarf	1 6
BROCCOLI, Elletson's improved Welcove White; this precedes the Mammoth in season, weighing from 7 to 12 lbs. each head	1 0
BROCCOLI, Metcalfe's improved Walcheren, warranted genuine; this is the best autumnal Broccoli known	1 6
CABBAGE, Telford's superb early dwarf; very early, dwarf, and of delicious flavour and quality	1 0
PARSLEY, Usher's exquisite curled; is a splendid variety, beautiful dark green, extra curled, and very large heads	1 0
CELERY, Seymour's improved Red and White flat-stemmed solid; very crisp, of fine flavour, and not subject to run	1 0
BEET, Lindsey's imperial crimson dwarf; very dwarf, fine formed bulbs, splendid colour, and unequalled in quality	1 0
MELON, Beechwood, warranted genuine; the best Melon grown	1 0
CUCUMBER, Hewson's Sion House improved, very excellent	1 0

Every other article in Garden Seeds of the most select quality. The Broccolies, &c., have been before the public two seasons, and have given universal satisfaction to the growers.
Hope Nursery, Leeming-lane, Bedale, Yorkshire.

ARNOTT'S "CHELTENHAM SURPRISE" CUCUMBER.

HURST and M'MULLEN beg to offer SEED of this splendid variety at 2s. 6d. per packet. Fine specimens, 18 to 20 inches in length, were shown at 6, Leadenhall-street, in the summer, hanging from one stem within the space of 11 inches. This Cucumber can be safely recommended as one of the finest and most prolific yet known. The following good varieties at 1s. per packet:

Charlton Hero	Warwickshire Hero
Victory of Bath	Walker's Improved Manchester
Carpenter's Wonder	Sion House
Heath's New Hybrid	Great Mogul.
Cherry's Goliah	
Roman Emperor	

True Beechwood Melon, Cabul, and other fine varieties, 1s. per packet. A new Catalogue, just published, may be had on application. 6, Leadenhall-street, Feb. 5.

SPRUCE FIRS, HOLLIES, AND LAURELS for Sale, at John Cattell's Nursery, Westerham, Kent.
7000 SPRUCE FIRS, 6 to 10 feet. 5000 HOLLIES, 3 to 4 feet.
4000 LAURELS, Common, 3 to 5 feet.
1000 Ditto Portugal, round and handsome, 3 to 4 feet.
All the above have been several times transplanted. Stout and good.

MYATT'S LINNÆUS RHUBARB.—Spring being the usual planting season, Messrs. Myatt respectfully request early orders from those who have not yet favoured them with their commands, as half the available stock is already parted with. The LINNÆUS is the variety cultivated so largely by the Messrs. Myatt for the London markets, being remarkably early and unusually productive. The stalks are large and free from filaments, and are admirably adapted for preserving and all other culinary purposes. One-year planted roots, 3s. 6d each; also Mitchell's "Royal Albert," 5s. 6d., and Myatt's "Victoria," 1s., with the usual trade allowance.
Manor Farm, Deptford, Feb. 5.

NEW AND BEAUTIFUL PLANT,
"ALLAMANDA SCHOTTII,"
THE LARGE-FLOWERED ERECT ALLAMANDA.

LUCOMBE, PINCE, and CO., having obtained the identical plant (with all its stock) of this truly magnificent species of Allamanda from R. W. Barton, Esq. in whose hothouse at Springwood it flowered profusely during the whole of last summer and autumn, and from which the fine figure in the "Botanical Magazine" of this month was made, beg leave to announce that they will have plants ready to send out early in March next, at 3s. 6d each.

Beautiful as is the well known and justly admired "Allamanda cathartica" the species here alluded to is in every respect vastly superior, the flowers are nearly twice the size, they are highly fragrant, their colour is a rich golden yellow finely contrasted by the widely expanding campanulate throat being of a full orange colour. Sir William Hooker thus speaks of it:

"*I had the pleasure of receiving a splendid specimen of a perfectly "upright growing species of Allamanda, from Mr. J. Stanton, "Gardener to* R. W. Barton Esq., *which, besides the size, "beauty and copiousness of the blossoms, has the merit of flowering "when little more than 2 feet high in 8 inch pots.*"

It was raised at Springwood from Brazilian Seeds.

To cultivators of choice specimens for exhibition at Horticultural Meetings, this will prove a most desirable subject, flowering as it does continuously through so many months, and as a permanent ornament to the hothouse and conservatory it will not be exceeded by any plant in cultivation.

L., P., and Co. beg leave to refer to the figure and description of "ALLAMANDA SCHOTTII" in the "Botanical Magazine" for February 1848, edited by Sir William Hooker, which will at once convey a better idea of its attractions than anything which they can say respecting it.—Exeter Nursery, Feb. 5.

TO PLANTERS AND THE TRADE.

DICKSON and TURNBULL, Nursery and Seedsman, Perth and Brechin, N. B., beg to intimate that they have for sale a large Stock of the following PLANTS, of fine quality, which will be sold cheap, viz.—

SEEDLING LARCH, 1 and 2 years (Native and Tyrolese).
" SCOTCH FIR, 1 and 2 years (Native).
" NORWAY SPRUCE, 2 and 3 years.
" BIRCH AND ALDER, 1 year.
TRANSPLANTED LARCH, 1 and 2 years.
" SCOTCH FIR, 1 and 2 years.
" NORWAY SPRUCE, 2 and 3 years.
" ASH, ELM, OAK, and PLANE, 2 to 6 feet high.
Also the following,
ORNAMENTAL TREES.

ALDER	4 varieties	3 to 8 feet high.
ASH	16 "	2 to 8 feet "
ASH (Mountain)	5 "	2 to 9 feet "
BEECH, Fern-leaved		2 to 6 feet "
" Purple		2 to 7 feet "
" Weeping		6 to 8 feet "
BIRCH (American)	12 varieties	2 to 10 feet "
CHESTNUT (Horse)	16 "	2 to 6 feet "
" (Spanish)	6 "	2 to 8 feet "
ELM	24 "	3 to 10 feet "
LABURNUM	9 "	3 to 10 feet "
LARCH	4 "	2 to 6 feet "
LIME	17 "	2 to 9 feet "
MAPLE	17 "	2 to 10 feet "
OAK	37 "	1 to 7 feet "
PINES	70 "	chiefly in pots.
POPLARS	14 "	2 to 8 feet high.
ROBINIAS	11 "	2 to 6 feet "
CRATÆGUS, or Thorn	37 "	3 to 6 feet "
WALNUT, or Hiccory	8 "	1½ to 6 feet "
YEWS	8 "	1 to 5 feet "

Catalogues of the above to be had on application.

*** The Ornamental Trees are well worthy the attention of parties forming Arboretums, Cemeteries, or Pleasure Grounds.

N.B. A Large Stock of the following Tree Seeds fresh and newly collected, viz:—Alder, Birch, Larch, Scotch Fir, and Norway Spruce. Brechin, Feb. 5.

S. and J. DILLISTONE have [illegible] POTATO SEED [illegible] from America, which has hitherto [illegible] splendid varieties have been raised from [illegible] post, upon receipt of 12 stamps.

HOLLYHOCK SEED saved [illegible] Double Flowers, warranted to give [illegible] packet of 240 seeds.

Nurseries, Stormer, near Haverhill, [illegible]

SUPERB RANUNCULI AND GLADIOLI.—The present being the usual month for [illegible] culus, we beg to recommend the following [illegible] varieties have been selected with great care [illegible] from immense quantities of seedlings, and [illegible] and free flowering are far preferable to [illegible] Selection, in strong roots, at the following [illegible] with printed instructions for planting and [illegible]

RANUNCULUS.—Free by [illegible] £ s. d.
50 Splendid new varieties, with names [illegible]
50 do. do. do. [illegible]
25 do. do. do. [illegible]
50 Fine older varieties, do. [illegible]
25 do. do. [illegible]
100 Finest mixed [illegible]
100 Fine mixed, 5s.; or free by post for [illegible]

GLADIOLUS, quite hardy.
12 Splendid early varieties, with names [illegible]
Beautiful mixed early hybrids, 5s.; or free by post [illegible]
Gladiolus gandavensis, large roots, 1s. [illegible] post, 1s.; floribundus do., 2s. 6d. per doz.; [illegible] nus, 1s. 9d. per doz.

Any of the above, free by post, as [illegible] last-named Gladioli. The early varieties [illegible] planted this month.

Remittances are expected from unknown [illegible]
Bass and Brown, Seed and Horticultural [illegible]
Sudbury, Suffolk.

ROSES ESTABLISHED ONE YEAR IN SMALL POTS, FOR IMMEDIATE FORCING.

THOMAS RIVERS has to offer the following select and highly fragrant varieties of Roses [illegible] per dozen. They are fit to be placed at once in the [illegible] house. The plants are strong and good.

Hybrid Perpetuals.		
Aubernon.	Prince of Wales.	
Baronne Prevost.	Reine des Neiges.	
Clementine Scringe.	Rivers.	
Comte de Paris.	William Jesse.	
Dr. Marx.		
Duchess of Sutherland.		
Duc d'Arnadel.	Comte de Paris.	
Louis Buonaparte.	Emmet.	
Lady Alice Peel.	Persian Yellow.	
La Reine.	Unique white.	
Madame Laffay.	Unique striped.	
Melanie Cornu.	Provence, brown.	
Moss Roses.		
Blush	French Crimson	Primitive
Common	Lanzezeur	Princess
Celina	Luxembourg	Unique
Comtesse de Murinais	Malvina	White
	Presque parfait	White Bath
Eclatante	Prolific	

Carriage paid to London.—Sawbridgeworth, Herts.

FISHER, HOLMES, and CO., Nurserymen and Seedsmen, beg leave most respectfully to offer the following choice CUCUMBER SEEDS, which they can with confidence recommend.

HAMILTON'S HERO: a very first-rate kind, grows very long, and suitable for exhibition. 1s. per packet, or [illegible]
HAMILTON'S WHITE SPINE: also a very superior kind. 6d. per seed, or 6 seeds for 2s. 6d.
IMPROVED SION HOUSE: packets containing [illegible] seeds, 1s.
MILLS'S JEWESS: a very early prolific sort, packets, 12 seeds, 1s.
VICTORY OF BATH: true, 6 seeds, 1s.
CUTHBERT'S COLNEY HATCH: true, 6 seeds, 1s.
TELEGRAPH: superb light green, with black spine, growth 24 inches, great bearer, and of most beautiful form for exhibition, 1s. per seed, or 6 seeds for 5s.
WALKER'S IMPROVED: 12 seeds, 1s.
EASTWOOD SEEDLING: an improvement on Walker's: fine, 12 seeds, 1s.

The above sorts sent free by post. The Trade supplied.
Nurseries at Handsworth. Seed Warehouse, No. 1, Norfolk-place, Sheffield.

HAMMOND'S JERSEY PIPPIN APPLE.

BERNARD SAUNDERS, F.L.S., L.B.S., &c., Nurseryman, Seedsman, and Florist, has respectfully to announce to amateurs of fine fruit that he is now ready to supply Trees of the above-named Apple. This fruit was raised by J. Hammond, Esq., of Pontac, in the parish of Jersey, and was first exhibited at the Royal Jersey Horticultural Society in October, 1846, and was awarded the First Seedling Prize, when the following description was given by the Judges and Committee, who tasted it:—"Fruit medium size, ovate, rather flattened at both ends; eye small, sunk in a shallow cavity a little prominent; stalk short and slender, inserted in a deep cavity; skin greenish yellow on the shady side, changing to a bright orange yellow next the sun; flesh white, tender, crisp, and juicy, of a highly rich saccharine or mellow flavour. Keeps from October to May and June, and still retains its good qualities. It has since been exhibited at the London Horticultural Society, where it was also much approved of. Dwarf Trees, 3s. 6d. each. The regular allowance to the trade if three or more are taken. He can also supply Fine Dwarf Trained Peaches and Nectarines and Morpan's Apricots at 3s. 6d. each. His collection of choice Pears cannot be unrivalled in the Channel Islands. Having been established upwards of 30 years he has had ample opportunity of growing fruits of every description. A remittance or reference is requested from unknown correspondents.
St. Heliers, Jersey, Feb. 5.

SUPERIOR GARDEN SEEDS

JOHN SUTTON AND SONS, in offering the under-mentioned Articles, beg to intimate that these are a SELECTION FROM THEIR GENERAL STOCK of the very best kinds only, and being of HOME GROWTH, they can be most confidently recommended. The Prices are given for small quantities, but Gardeners and others making extensive purchases will receive Wholesale Prices on application.

NEW KITCHEN GARDEN SEEDS.

PEAS, per qt.—*s. d.*
Auvergne Marrows..... 1 6
Dwarf Imperials 0 9
Clark's Ringwood 1 0
British Queen 2 6
Prince Albert 1 0
Early Kent..... 0 10
Double-blossom Frames 0 9
Fairbeard's Surprise 2 6
Flack's Victory, Dwarf... 1 0
Groom's Superb, Dwarf 1 0
Scimetar 0 10
Early Grotto 1 0
Sutton's Early Goliah, (Largest, very early) ... 1 0
Sutton's Superb, (fine) ... 1 6
Thompson's Dwarf..... 0 10
Milford Marrowfat 1 0
Champion of England ... 5 0
Queen of Dwarfs 2 6
Dancer's Monastery 1 0

BEANS.
Early Hangdown..... 0 6
Green Windsor 0 8
Johnson's Wonderful..... 0 8
New Thick Windsor 0 8
Taylor's Windsor 0 6
Turkey Sword 0 6
Longpod..... 0 5

FRENCH BEANS.—1*s.* per qt.
China, or Robin's Egg
Early Dun
Early Mohawk, or Six Weeks
Englefield Early Dwarfs, the best sorts for forcing, 2*s.*
Fulmer's Dwarf
Negro Major (fine)
Scarlet Runners and others

BEET.—6*d.* per packet.
Fine red (small)
Whyte's New Dark

BORECOLE, OR KALE.
6*d.* per packet.
Green Curled Scotch
Jerusalem Kale
New Imperial Hearting (fine)

BRUSSELS SPROUTS.
6*d.* per packet.
Fresh imported (fine)

BROCCOLI—6*d.* per packet.
Cape Purple Autumn
Cape White Autumn
Early Malta, White
Early Walcheren (true)
Grange's Autumn
Howden's Purple
Knight's Protected
Lake's Superb White
Snow's Winter White
Southampton (large)
Wilcove White (fine)

CAULIFLOWER—1*s.* per pkt.
Early London
Large Asiatic
Large Late German
New Walcheren (true)

CABBAGE—6*d.* per packet.
Sutton's Imperial (fine large)
Wheeler's Imperial
Atkins' Matchless
British Queen
Early Nonpareil
Early York, Dutch
Early Vanack (fine flavour)
Savoy, Green Curled Dwarf
Savoy, Globe and Drumhead

CARROT—4*d.* per oz.
Early Dutch Horn (fine)
James's Orange
Altringham selected
Long Surrey (fine)

CELERY—6*d.* per packet.
Lion's-paw, White
Manchester Red Giant
Seymour's Superb White
Sutton's Superb Pink
True Italian

CUCUMBER—6*d.* per packet.
Cuthill's Black Spine
Latter's Victory
Man of Kent
Sion House
Horticultural Prize
Stockwood (fine ridge)
Sutton's Berks Champion
True Snake
Weedon's Prizefighter

ENDIVE—6*d.* per packet.
Green Curled French
New Large Batavian

LETTUCE—6*d.* per packet.
Adey's Large Cos (fine)
Bath Cos, black seed
Drumhead
London White Cos
Monstrous White Cos
Wellington Cos (fine)
Improved Brown Cos

MELON—6*d.* per packet.
Aiton's Green Flesh
Cuthill's Scarlet Flesh
True Beechwood, and others

ONION.
Deptford
James's Long Keeping
New White Globe
Reading (true), the finest sort, 6*d.* per ounce
Silver-skin (true)
White Spanish

PARSLEY—6*d.* per packet.
Extra Fine Curled
Myatt's Garnishing

PARSNIP.
Guernsey (large)
Hollow Crown
Jersey Marrow, best for table, 4*d.* per oz.

POTATOES, per peck—*s. d.*
Early Manley... ..... 2 6
Early Ash-leaf 2 6
Early Walnut Leaf..... 2 6
Soden's Oxford..... 3 0
Swaile's Frame 2 6
Early Shaws 2 0

RADISH—6*d.* per packet.
Beck's Superb Short-top
Long White
Scarlet Olive
Turnip, Red and White
Wood's Early Frame

SPINACH—6*d.* large packet.
Flanders
Lettuce-leaved

MISCELLANEOUS.
Early Turnip of sorts
Mustard and Cress
Large flag Leek
Salsafy
Scorzonera
Sweet Herbs of sorts
Asparagus Plants
Seakale Plants

JOHN SUTTON and SONS beg also to call attention to their Select List of FLOWER SEEDS, at page 83 of this Paper. The Flower Seeds will be sent free by post, and other articles carriage paid to any station of the Great Western or South Western Railways.—Reading Nursery, Reading, Berks, Feb. 5.

SEEDS.

WOODLANDS NURSERY, Maresfield, near Uckfield, Sussex.

WILLIAM WOOD AND SON respectfully solicit attention to their Stock of Vegetable, Flower, Agricultural, and other SEEDS, which are warranted genuine and of first-rate quality; a Catalogue of which (containing a selection of all the newest Peas and Broccoli, together with every other improved vegetable of the season) may be had GRATIS on application.

N.B.—Collections of Flower Seeds, carefully assorted, will be forwarded, post-free, at 5*s.*, 7*s.*, 10*s.* 6*d.*, 15*s.* to 21*s.* each, the selection being left to W. W. and Son.—Feb. 5.

TO CUCUMBER GROWERS.

EDWARD TILEY, NURSERYMAN and SEEDSMAN, begs to offer his superb and unequalled Cucumber, "VICTORY OF BATH." The advantages of this over others are—it is a very handsome fruit, the earliest and most productive bearer, and the quickest grower known; the average length of this Cucumber being from 24 to 30 inches long. It has been awarded more than 30 first prizes at the different Cucumber Shows within the last three years. It is worthy of remark this Cucumber has been successfully grown by Amateurs in the open air without frames against a wall, or trained to trellis, surpassing any of the hardy kinds this season. It will be sent out in packets, 7 seeds, 2*s.* 6*d.*, or 16 seeds, 5*s.*

E. T. has seeds of Hamilton Black Spine Cucumber, which he can highly recommend; this has also been very successful at a number of different Exhibitions, and taken many first prizes; length from 24 to 28 inches, and a very handsome fruit. Seven seeds, 2*s.*, or a packet of each of the above seeds, 4*s.*

The above Cucumbers will be found to be of excellent quality for table, the flesh being firm and of fine flavour.

Parties intending to show at the forthcoming Exhibitions should not delay their orders. It is unnecessary to enter into further properties of the above Cucumbers, having given every satisfaction to purchasers during the last three years.

Per packet—	*s.*	*d.*	Per packet—	*s.*	*d.*
True Beechwood Melon..	1	0	Windsor Prize	1	0
Sweet Ispahan	1	0	True Walcheren Cauliflower Broccoli.. ..	1	0
Terry's Prize	1	0			
Emperor Green-flesh ..	1	0			

Sold at EDWARD TILEY'S General Seed Shop, 16, Pulteney Bridge, Bath. The above will be sent post free, on a remittance of a Post-office order, or the amount in postage stamps.

SEED POTATOES.

CHARLES SHARPE, NURSERY and SEEDSMAN, respectfully begs to direct the attention of the Nobility and Gentry to his superior sorts of POTATOES, which, having been grown on the Lincoln and Cambridgeshire marshes, has afforded the advertiser ample opportunity to witness their progress for the last three seasons; he is, therefore, able to recommend the following sorts as being very productive, and the least affected by the disease, and offers them at the following prices, packing included:—

Early Cockneys, fine for forcing	7*s.*	per bushel of 56 lbs.		
Fox's Seedling, ditto	ditto...	7*s.*	,,	,,
American Natives,	ditto:..	5*s.*	,,	,,
Ash-leaf Kidney	...	8*s.*	,,	,,
York Regents	...	5*s.*	,,	,,
White Kidney, very fine...	...	5*s.*	,,	,,
Early Shaws	...	5*s.*	,,	,,
Kentish Pink Kidneys ...	...	5*s.*	,,	,,

The above will be forwarded immediately after the receipt of a Post-office Order, and the greatest care will be taken to ensure their safe delivery.—Direct, prepaid, to CHARLES SHARPE, Wisbeach, Cambridgeshire.

KITCHEN GARDEN SEEDS.—No. 1.—A complete collection, consisting of 20 quarts of the best kinds of PEAS, and all other seeds in proportion, and of the best sorts, sufficient for one year's cropping of a large garden (the choicest Melons and Cucumbers inclusive)...£3 3*s.*

No. 2.—Complete collection, in smaller quantities, equally choice sorts ... ...£2 2*s.*

No. 3.—Ditto Ditto Ditto ... ...£1 1*s.*

No. 4.—Ditto (this is sufficient for a gentleman's small garden) ... ...12*s.* 6*d.*

No extra charge made for packing.

If there should be any sorts of seeds that would not be wanted in the collection, increased quantities of those most desired would be sent. References will be given if required to some of the principal families in England, Ireland, and Scotland, who purchased collections last season. All orders to be accompanied with a remittance or reference from unknown correspondents.

A General Catalogue of Horticultural and Agricultural Seeds may be had on application.

Seeds carefully packed for exportation.

WM. JAS. EPPS, F.H.S., High-street, and Bower Nursery, Maidstone.

A NEW SEEDLING FUCHSIA, "GLOBOSA CARNEA."—A new and distinct variety, of good habit; in form resembles Globosa, with a pink tube and sepals, crimson corolla, and would form a singular contrast if added to any collection. Strong plants 5*s.* each. For description see *Gardeners' Chronicle*, August 21, 1847, p. 560.

WESTMACOTT'S Descriptive priced Catalogue of new and choice Flower and Kitchen Garden Seeds for 1848, is now ready, and may be had by addressing to ROBERT WESTMACOTT, Seedsman and Florist, 156, Cheapside (opposite St. Paul's), London; or at Stuart's Grove Nursery, Fulham-road, Chelsea.

CHOICE VEGETABLE AND FLOWER SEEDS.

BASS AND BROWN beg to offer the following, all carefully selected and grown from the best stock. Their Descriptive Catalogue of Seeds for 1848 will be sent on application. Packets of those marked * free by post, or any of the Flower Seeds.

PEAS, 10 quarts for succession, 1 quart of each with heights stated, including Fairbairn's new Champion of England and Surprise, British Queen, Hay's Mammoth, Queen of Dwarfs, and other very fine improved sorts, for 17*s.* 6*d.*; or 6 quarts do., 1 quart of each, 10*s.* 6*d.* One quart of each of eight fine and esteemed sorts, 6*s.* 6*d.*

BEANS, new Thick Windsor, per quart, 9*d.*; fine Longpods, 4*d.*; new early six weeks Dwarf Kidney, and new prolific Negro, each 2*s.* per quart.

*BEET, very fine Blood-red, per packet, 6*d.*; White's Dark, 6*d.*

BROCCOLI, 10 superior sorts selected for succession, 4*s.* 6*d.*; 6 ditto ditto for 3*s.*

CARROT, early Scarlet Horn and Long Red Surrey, each per oz., 3*d.*

*CELERY, Monster White, Wonder Red, Seymour's Superb White, and Manchester Red, each per packet, 4*d.*

*CABBAGE, Shilling's Queen, and other fine sorts, each per packet, 6*d.*

*CUCUMBER, 4 finest frame varieties for 3*s.*; fine prolific hand-glass, 6*d.* per packet.

*CAULIFLOWER, very fine, 6*d.* per packet.

CRESS, extra double curled, 1*s.* 6*d.* per quart.

*LETTUCE, 6 finest sorts, in packets, 3*s.*

*MELON, Cuthill's early Scarlet-flesh, and Passingham's Victoria Green-flesh, each 1*s.* per packet. Several other choice varieties, 6*d.* per packet.

ONION, best sorts, per oz. 6*d.*, pickling, 1*s.* per oz.

*PARSLEY, extra fine triple curled, 6*d.* per packet.

*POTATO SEED (with instructions for sowing), early and late varieties, each 1*s.* per packet.

RADISH, Wood's Early and Short-topped Salmon, 1*s.* per pint; Beck's Superb and Scarlet Olive-shape, each per oz., 3*d.*

*SAVOY, extra fine green curled, 6*d.* per packet.

SPINACH, round or prickly, each, 1*s.* per quart.

TURNIP, fine early Snowball and early Dutch, 1*s.* 6*d.* per lb

And all other sorts of Vegetable Seeds of the best kinds.

A complete collection of Vegetable Seeds of the choicest selection, including the best and new varieties of Peas as above, making 20 quarts in quantity, with the finest Broccoli, Melon, Cucumber, and all other seeds, of the best and newest kinds in proportion, for 3*l.* 3*s.*

The above collection, in smaller quantities, 2*l.* 2*s.*

Ditto ditto ditto 1*l.* 5*s.*

A collection, complete, of esteemed and fine sorts for a small garden, 15*s.*

SELECT AND CHOICE FLOWER SEEDS sent free by post, with full directions for sowing, heights, colours, &c.

100 varieties, best and newest Annuals, including the finest Stocks, Asters, Zinnias, &c., 15*s.*

50 varieties ditto, 8*s.* 6*d.*; 30 ditto, 5*s.* 6*d.*; 20 ditto, 4*s.*

20 varieties best dwarf kinds in larger packets, suited for filling beds on lawns; 7*s.* 6*d.*; or 12 ditto, 5*s.*

20 varieties best Greenhouse Annuals, including very splendid Balsam, Phlox Drummondii, Martynia fragrans, Mesembryanthemum tricolor, Portulaca Thellusonii and splendens, Rhodanthe, Thunbergia, &c., 7*s.* 6*d.*

20 varieties choice Greenhouse Perennials, including choice Calceolaria, Cineraria, Fuchsia, Petunia, &c., 10*s.* 6*d.*

20 varieties choice Hardy Biennials and Perennials, 5*s.*

The following are each saved from large collections of new and first-rate varieties:—

Per packet—	*s.*	*d.*	Per packet—	*s.*	*d.*
Antirrhinum	0	6	Hollyhock	0	6
Calceolarias	1	0	,, 30 vars. saved separate for ..	5	0
Carnations	2	6	,, 20 vars. ditto for..	3	6
Cineraria	1	0	Petunia	1	0
Fuchsia	1	0	Ranunculus	2	6
Geranium	2	6	Verbena	2	6
,, small packets ..	1	6	,, small packets ..	1	0
,, best Scarlets ..	1	0			
Heartsease	1	0			

Remittances are requested from unknown correspondents. Post-office orders must be made payable either to WILLIAM BASS or STEPHEN BROWN. Packages to London carriage free, and with orders of 40*s.* and upwards, extra articles sent gratis to defray expense of carriage.—Bass and BROWN, Seed and Horticultural Establishment, Sudbury, Suffolk.

KITCHEN GARDEN SEEDS, ALL OF THE BEST QUALITY.—In the Answers to Correspondents of the *Gardeners' Chronicle*, Dec. 18, 1847, a statement is there given of the necessary quantity of VEGETABLE SEEDS for cropping one acre.

The entire collection may be had for £2 0 0
A smaller collection, including the same articles 1 0 0
25 varieties showy hardy Annuals 0 5 0
12 ditto ditto 0 3 0

No charge for Packages.

N.B. A General and Descriptive Catalogue for the present year may be had on application to WILLIAM DENYER, Seedsman and Florist, 82, Gracechurch-street, near the Spread Eagle, London. Many years with Warner's, of Cornhill.

GENUINE NEW AGRICULTURAL, HORTICULTURAL, AND CHOICE FLOWER SEEDS, &c.

LUCOMBE, PINCE, AND Co. beg leave to inform the public that their new SEED CATALOGUE is just published, and may be had, gratis, on application. They pay great attention to the Seed department of their business, selecting their stock with much care from the best growers in the kingdom, procuring every desirable novelty, and invariably proving samples of all Seeds before sending them out. They are thus enabled to speak with great confidence of the genuine quality of all their Seeds, feeling convinced that no disappointment will be experienced by those who purchase from them. The following Agricultural Seeds are strongly recommended:—

Long Red Mangold Wurzel, at .. 1*s.* 9*d.* per lb.
Red Globe do. do. .. 1 9 ,,
Yellow Globe do. do. (Turner's) 1 9 ,,

This valuable stock was grown by George Turner, Esq., of Barton, near Exeter, and is much approved of by the Earl of Leicester, John Hudson, Esq., and many other members of the Agricultural Society.

Large Hollow-crown Parsnip .. 1*s.* 9*d.* per lb.
Large Drumhead Cattle Cabbage .. 2 6 ,,
Long Red Altringham Carrot .. 1 6 ,,
White Belgian Carrot .. .. 1 9 ,,
(Imported direct from the Continent.)

The genuine White Carrot cannot be too highly praised. It is quite unnecessary here to enter into any explanation of the peculiar merits of this most valuable root, so universally has it been approved of; indeed all who have given it a fair trial concur in asserting that this variety of Carrot yields one of the most nutritious and remunerating crops that has ever been cultivated. Printed directions as to culture will accompany each parcel.

N.B. A large stock of very strong twice transplanted Quick, or White Thorn, for hedges, which will be sold very cheap. Samples and all particulars may be had on application.

Exeter Nursery, Feb. 5.

SPLENDID NEW MARROWFAT PEA.

JAMES SALTER respectfully offers to the Public the most valuable Marrowfat Pea in cultivation, Salter's "IMPROVED VICTORIA," possessing the combined qualities of the Incomparable and Victoria Peas, and preferable to either from its dwarf habit, not usually growing more than 4 feet high. It is an abundant bearer, and its flavour is most delicious. Price 1*s.* 6*d.* per quart.

True Incomparable Pea (or British Queen), 3*s.* per quart.

Also all the most approved Peas and Beans recently introduced, the prices of which will be found as low as at any of the respectable Seed Establishments.

J. S. begs to state that, owing to the very fine season last year, Flower Seeds of all descriptions are particularly good; and having for many years raised his own Flower Seeds, he is enabled to make such selections as he can with confidence recommend. He begs also to add, that his connection with some of the most respectable growers on the Continent facilitates his submitting all kinds of Flower Seeds of foreign and home growth, particularly German Stocks, Asters, &c., at the most moderate prices.

Orders for Flower Seeds above 10*s.* will be forwarded through the post prepaid, and all orders for Vegetable and Agricultural Seeds of 20*s.* and upwards will be delivered free at any station on the Great Western or Gloucester Railways.

Price List of Seeds will be forwarded on application.

Superior Bog (or Peat) Earth constantly on sale, and if taken in large quantities, delivered carriage free at any station within 30 miles of Bath.

Experienced Bailiffs and Gardeners recommended.

JAMES SALTER, General Seedsman, Bath.

GARDENERS' REGISTER OFFICE.

HORTICULTURAL ESTABLISHMENT.

J. WEEKS AND CO., King's-road, Chelsea, Architects and Builders of Hothouses, Greenhouses, Conservatories, &c., beg to inform the Nobility and Gentry that they have erected, on their premises, for the purpose of inspection, a variety of Horticultural Buildings, showing all the various modern improvements of the day.

J. WEEKS AND CO.'S PATENT HOT-WATER APPARATUS is unrivalled for simplicity and efficiency. The whole apparatus, in various forms, may be seen in action on their premises. Boilers of all sizes, which only require attendance once in 12 hours.

J. WEEKS AND CO. have, in addition to their Horticultural Manufactory, established an extensive Ornamental Nursery. The buildings, which are now nearly completed, are allowed to be the finest in the country; as also the complete arrangements of the Heating Apparatuses. The whole combining economy with utility and elegance.

There is a rare and most esteemed Collection of Stove and Greenhouse Plants, Catalogues of which will be forwarded.

THEIR SEED CATALOGUE IS NOW READY.

The prices at this Establishment will be found considerably lower than those at any other. Plans, Estimates, and Catalogues furnished free.

A REGISTER OF EVERY CLASS OF GARDENERS requiring situations, classed according to their various qualifications, offers to the Nobility and Gentry an easy means of selecting those best adapted to their purpose.

GARDENERS in want of situations will be furnished with a printed form upon application.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND CO., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS SIZES UP TO 40 INCHES LONG.			FOR CONSERVATORIES. SMALL SQUARES or SHEET.	
16 oz. to the foot	3½*d.* per foot.		4 by 3 and 4½ by 3½..	1½*d.* per ft.
21 ,,	5 ,,		5 ,, 3 .. 5½ .. 3½..	2 ,,
26 ,,	7½ ,,		6 ,, 4 ,, 6½ ,, 4½..	2½ ,,
32 ,,	10 ,,		7 ,, 5 ,, 7½ ,, 5½..	2½ ,,
			8 ,, 6 ,, 8½ ,, 6½..	2½ ,,
			Not above 10 ,, 8 ..	3 ,,

GLASS MILK PANS, PROPAGATING GLASSES, AND BEE HIVE GLASSES, carefully packed in Baskets, and sent to any part of the kingdom.

GLASS TILES AND SLATES.

LACTOMETERS for trying the quality of Milk, 4 tubes 7*s.* 6*d.*, 6 tubes 10*s.*; and every article in the trade.

CHOICE FLOWER SEEDS. By post, or railway, Carriage free.

Aster, German, fresh imported, in 24 double varieties, separate or mixed
Auricula, from show flowers
Balsam, large German double
,, French spotted
,, dwarf, striped, and others
Brachycome iberidifolia
Calendula, choice
Carnation, from stage flowers
Cineraria, bright blue
Clintonia pulchella
Cockscomb, fine dwarf
Commelina tuberosa
Convolvulus, new striped
Dahlia, show flowers
Dianthus pulchellus
Fuchsia, choice new
Geranium, choice
Heartsease, finest show flowers
Hollyhock, German, 20 superb varieties, mixed or separate
Jacobæa, new dark
Larkspur, dwarf German, very double, mixed
Lobelia ramosa
Martynia fragrans
Marigold, fine striped
Mesembryanthemum tricolor
Mignonette, 6d. per oz.
Nemophila insignis, 3d. per oz.
,, alba
Picotee, choice
Peas, sweet, mixed, 3d. per oz.
Portulacaea in sorts
Petunia, splendid new
,, fine dark
Phlox Drummondii, mixed
,, ,, new scarlet
Polyanthus, fine sorts
Primula sinensis fimbriata
Rhodanthe Manglesii
Salvia patens
Salpiglossis, fine mixed
Schizopetalon Walkerii
Stocks, ten-week fine
,, German, 36 beautiful vars., fresh imported, separate or mixed
,, scarlet giant
,, Buck's Intermediate
Thunbergia of sorts
Tobacco, large-leaved
Trachymene cærulea
Tropæolum canariense
,, tricolorum
Verbena, choice sorts
Viscaria oculata
Wallflower, striped and black
Zinnia elegans coccinea
,, splendid mixed

The above choice kinds of FLOWER SEEDS may be had at 6d. per packet, 12 packets for 5s., or 30 for 10s. 6d., from JOHN SUTTON and SONS, Reading Nursery, Reading, Berks. Also, upwards of 500 other kinds may be had at 3d. per packet, or the best 30 *hardy* kinds for 6s.

J. S. and SONS also call attention to their Priced LIST OF KITCHEN GARDEN SEEDS, at page 82 of this Paper, which being of home growth can be confidently recommended.

*** Carriage paid to any station of the Great Western or South Western Railway. Flower Seeds free by post.

Orders to be addressed to JOHN SUTTON and SONS, Reading, Berkshire.

NEW AND GENUINE SEEDS
OF FINE GROWING QUALITY.

WILLIAM E. RENDLE AND CO., Plymouth, are now in a position to offer the following varieties of SEED, which have been harvested with the greatest care from true and selected plants.

		s.	d.
WHITE BELGIAN CARROT	per lb.	2	0
LONG RED ALTRINGHAM DO.	,,	1	9
LARGE GUERNSEY CATTLE PARSNIP	,,	2	0
WHITE SILESIAN BEET	,,	2	0
KOHL RABI	,,	3	6
LARGE DRUMHEAD CABBAGE	,,	2	6
MANGOLD WURZEL—LONG RED ..	,,	1	9
,, ,, RED & YELLOW GLOBE	,,	1	9

All other Seeds equally moderate.

Early purchases are recommended, as prices may probably advance, the same as last season.

Sample packages containing ½ an ounce of each of the above kinds, to prove their quality, will be sent postage free on receipt of 36 penny postage stamps.

NEW KITCHEN GARDEN SEEDS.

We have this season an excellent assortment of all the best varieties of KITCHEN GARDEN SEEDS, all of which have been saved from selected stocks with scrupulous care and attention, and which we can supply on the following terms:—

		£	s.	d.
No. 1.—Complete collection consisting of 16 quarts of Peas, and all other seeds in proportion for one year's supply		2	10	0
No. 2.—Complete collection in smaller quantities ..		1	10	0
No. 3. do. do.		1	0	0
No. 4. do. do.		0	12	6

A LIST OF THE SORTS AND QUANTITIES FURNISHED FOR A No. 1. COLLECTION CAN BE OBTAINED.

*** *Upwards of a thousand purchasers are annually supplied from this Establishment. Every kind of seed is proved before sent out.*

N.B. Orders above £5 will be delivered (package and carriage free) to London, Bristol, Exeter, Barnstaple, Falmouth, or to any station on the Great Western Railway.

A general Catalogue of Agricultural, Kitchen Garden, and Flower Seeds can be had GRATIS on application. Cash payments or reference in London is desired from unknown correspondents. WM. E. RENDLE & Co., Plymouth.
ESTABLISHED 1786.

TYSO AND SON, Wallingford, Berks, beg to offer—
RANUNCULUSES, 100 superb named sorts, 50s. to 100s.
ANEMONES, 50 ditto double ditto, 20s. to 30s.
CARNATIONS, 25 extra fine varieties, in pairs, 40s. to 60s.
PICOTEES, 25 ditto, ditto, 40s. to 60s.
Imported seeds, collections of named German Asters, Stocks, Balsams, Hollyhocks, Zinnias, &c., from 2s. 6d. to 5s. per assortment.
* These can be forwarded safely by post.
NEW POTATO, the "Chalmore Kidney," 2s. 6d. per peck.
"The Ranunculus: how to grow it," price 6d., or sent post free, in a priced Catalogue for 1847 and 1848, on receipt of nine postage stamps.

The Gardeners' Chronicle.

SATURDAY, FEBRUARY 5, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

MONDAY,	Feb.	7—Entomological	8 P.M.
WEDNESDAY	—	9—Society of Arts	8 P.M.
SATURDAY	—	12—Royal Botanic	4 P.M.
		Horticultural	2 P.M.
TUESDAY	—	15 Linnean	8 P.M.
WEDNESDAY	—	16—Microscopical (Anniversary)	7 P.M.

We perceive that a portion of the daily press has at last declared itself against the ADVERTISEMENT DUTY levied on newspapers, and we do think that if Government can consent to its entire or partial abolition they will confer a greater boon on the industrious classes than men in a high sphere are likely to be aware of. We speak on this occasion more especially for gardeners who are out of place, and who are in a manner compelled by the necessity of their position to lay out their money on advertisements. Unless they make it known to the public that they are seeking for situations, they have little chance of procuring them—and no possible way is open to them except by way of advertisement. It is a tax they must pay—or starve.

To the rich the sum of *eighteen-pence*, which is the amount levied by Government upon each advertisement, may appear too small a matter to be of importance to the payer. *De minimis non curat lex*; and this duty may seem to rank among the *minima*. But it is not so; it is quite the reverse. Eighteen-pence is *three-quarters of a day's labour* by a gardener out of place, even if he is so fortunate as to procure temporary employment: and it is no trifling matter to be obliged to work hard for nine hours and a half in order to earn the right of saying—"I, THOMAS BARNES, am thirty years old, have an excellent character, can give the best reference, and desire to find employment as a gardener." For permission to utter in public these two dozen words it is necessary to pay eighteen-pence, or three farthings per word. In addition to which, another eighteen-pence is paid for the printing, paper, and publication expenses attending the advertisement: so that in reality *one-fourth of a week's wages is absorbed by it*.

Let it only be remembered that many gardeners are obliged to advertise week after week, over and over again, before they can attract attention, and the sums levied upon them by the state will be seen to be an intolerable burthen. Nor is the tax less worthy of condemnation, if we regard the proportion which it bears to the other costs attending it. Cent. per cent. is the Government charge for short advertisements, a rate which, although familiar to financiers, is, we believe and trust, unparalleled among taxes directly levied upon the industrious classes.

The true principle of taxation is to make men pay according to their means. But a labourer, and most gardeners out of place are so, cannot be said to possess any means whatever, if the word "means" signifies the surplus after our daily bread is provided by us. When taxes are levied fairly, equitably, and *by a regularly ascending scale*, according to what a man possesses, they will not be unpopular, though they may be unpleasant. Let government, for instance, thus tax our windows, which are a rude but not bad sign of wealth, our income, our property, our servants, horses, carriages, luxuries of all sorts, as much as the exigency of the state demands. Such imposts are fair; but let it never take directly out of the poor man's pocket what he earns by the sweat of his brow, and can only pay by pinching or starving himself, his wife and children.

A gardener who earns 12*s.* a week is taxed to the extent of one-eighth of his income if he ventures to say in public that he wants a place; if he does not say so he must be contented in a great majority of cases to remain a labourer, be his merits what they may. Such imposts no state necessity can justify so long as surplus wealth exists elsewhere, and we confidently believe that it is only required to point them out in order to secure their total abolition.

The whole amount of advertisement duty paid to Government for the United Kingdom was not above 130,000*l.* in the year 1842-3, when the returns were last published; and of this sum the share contributed from their hard earnings by servants out of place must have been financially trifling, however much it may have pressed upon the payers: and we are unable to perceive why, if the advertisement duty be not itself repealed, servants out of place should not be placed among the classes already exempted from the payment of this tax.

We should not treat Mr. ROBERTS's letter on VINES in our last *Chronicle* with the consideration to which the indisputable skill of the writer is entitled, if we passed it over without remark. We are also called upon to notice it by some of the reasoning introduced into it.

Mr. ROBERTS first questions whether his carrion-fed Vines have been excelled by others treated to a less offensive diet. That his Grapes were excellent we have repeated over and over again; they did the greatest credit to his skill, as his work on the Vine does to his intelligence and knowledge of his profession. But until he can show that a bunch of Hamburghs weighing 5 lbs. is not superior to one weighing 2 lbs. 5 ounces, or a bunch of Muscats of 2 lbs. 9 ounces to one of the same kind weighing 2 lbs. 3 ounces—and such are the differences between Mr. HUTCHISON's Castle Malgwyn Grapes and those of Eshton-hall—we must retain our opinion that Grapes are not improved by being fed on carrion. It is said that Mr. HUTCHISON's Vines were seven years old, and those of Mr. ROBERTS but two: *but* we learn from the present gardener at Eshton that the Vines there, *now that they have become seven or eight years old*, only bear bunches averaging 1 lb. So that the carrion-fed Vines are not improved by age, and their present state is to our minds anything rather than "conclusive as to the advantages to be derived from using" that substance.

Mr. ROBERTS states that some very fine Grapes seen by him in Cheshire, had acquired their colour by being [illegible] manded by him. We [illegible] in his Treatise to [illegible] bones, [illegible] tion, [illegible] rotten [illegible] room appears [illegible] to [illegible] tion at once. [illegible] *tale of error*, [illegible] a border with [illegible] vegetized [illegible] yards." [illegible] not be induced to [illegible] Mr. Roberts's term [illegible] the advice [illegible]

But we shall [illegible] our difference in opinion [illegible] respondent [illegible] the meaning of a word. [illegible] carrion? We understand it [illegible] the *early* stage of [illegible] effluvia not less dangerous [illegible] it is offensive and [illegible] of animal decay, be they [illegible] given off in such abundance as [illegible] varying with temperature and [illegible] that they cannot be too carefully [illegible] and therefore carrion, in the sense [illegible] understand the word, is wholly unfit [illegible] purposes. But by degrees the [illegible] tions from putrid bodies are [illegible] by the surrounding soil, or are lost in the open air, and then their dangerous quality disappears. In fact, *decayed carrion*, that is to say, carrion which has lost its offensiveness, is not carrion at all; it consists of little more than [illegible] and the black earth which is called [illegible] valuable substance, partly on account of its [illegible] and partly on account of the [illegible] it detains among its pores, and [illegible] and beneficially. It is old crumbling manure. It is not to this that we, or any [illegible] Quite the contrary: and we [illegible] that over a time the dead horses in the Vine [illegible] Leighton, ceasing to be dangerous, will become a potent and harmless manure. But the mischief is done before that time; the first stage in the [illegible] Vines has been injurious, and we [illegible] whether any amount of after care will quite repair the damage. At all events, admitting that it may be [illegible], we are still forced to arrive at the conclusion that the use of so offensive a material as carrion is [illegible] no good, and therefore ought to be abandoned.

IN connexion with the question of the APPROACH to a mansion, is that of the LODGE at the entrance of a Park, or of extensive [illegible]. At first sight no question would appear more easy of solution: and yet on none have greater mistakes been made. REPTON well exposes this evil: "In some places the entrance is a triumphal arch, like a large hole in the wall: in another it is a [illegible] gate between two lofty piers, attached to a rough park pale: but the most common expedient is a pair of small square boxes on each side of the gate, making together one comfortless smoky house of two rooms, separated by a gate into the Park."

Both REPTON, and his [illegible] LOUDON, write severely on the want of comfort permitted in these appendages to the mansions of the rich and the great. With that subject, however, we are not concerned. It is the Taste to be exhibited in the design and execution of LODGES which we wish to bring before our readers. Now, either of two principles may be kept in view— [illegible]

The first is the occupation and [illegible] of the inmates of the lodge. They are [illegible] certain duties to perform. It is [illegible] that the simplest form of the [illegible] the most picturesque cottage. It is in harmony with their habits and station. It marks their position in reference to their employer. It is [illegible] by its rural situation and style. And there is [illegible] any limit to the neatness and [illegible] with which its exterior may be [illegible] [illegible] may be effectually consulted in every part of the interior. A lodge of this character is not offensive to the eye of Taste, even at the [illegible] an extensive Park. But in more [illegible] pleasure grounds it is, perhaps, the most [illegible] that can be devised.

The other principle which may be kept in view is the style [illegible] the exhibited in a mansion. Now it is manifest that the adoption of this principle involves many important elements, and, incautiously applied, may lead to very unsightly effects. There are certain styles of architecture adapted only for a large and [illegible] which would look ridiculous when [illegible] to [illegible] proportions in the [illegible] the entrance to the grounds. We speak, of course, of the higher and

more ornate styles in Grecian architecture. On the other hand, while the Gothic and Elizabethan styles can be admirably used for lodges to the most extensive park, and in unison with the character of the mansion, both these styles will equally well bear reduction in the scale of their proportions in reference to the magnitude of the mansion; and the effect will remain very pleasing still. If the mansion, again, however large, be plain and unadorned in character and style, its simplicity must find its counterpart in the lodge. For it would be a complete inversion of Taste to give the plainness to the master's and the ornamental to the servant's abode.

These are among the many elements involved, to all of which space renders it impossible now to advert. It is obvious, however, that a skilful architect and landscape gardener has it in his power to carry out both the leading principles mentioned. He can very well retain the general character of the house, and at the same time consult the condition and the comfort of those who inhabit the lodge. There is one error, however, which cannot be too severely condemned—that of having a lodge on each side of the gate. They are worse than unmeaning—they are absurd. And, looking at some existing specimens of such twin-lodges, we can appreciate the humour of the lady quoted by Repton. On approaching such a pair, which were very like tea-caddies, she very quietly wrote in large letters on the one, "Green," and on the other, "Black."

To illustrate the errors of unfitness of site, and incongruity of style, let our readers look at the lodges at Syon, in front of the house. Every one knows the style of the mansion. What, then, are the feelings of the beholder as he looks upon those lodges? In the first place he cannot but wonder why they were placed precisely where they stand. In the next place, it is obvious to him that the massive style which is admirably adapted to such a mansion as Syon, looking especially at its original destination, is utterly inapplicable to a small porter's lodge. But what will strike him as most singular is that while the architect has preserved a small portion of the character of the house, he has introduced other and opposite styles so effectually as to accomplish perfect incongruity.

In more recent, but public, instances, there is much to praise and much to blame. For example, look at the Prince of Wales's entrance to the Park at Knightsbridge. We think that most persons will agree with us when we say that, looking at the character of the Park, it is as tastefully designed a Lodge as could well have been placed on that spot. But look at a very different, but almost equally recent effort of Public Taste. An entrance to the Botanic Gardens at Kew is about to be opened at the river side: and the gate is already erected. Every one knows the style of the old Kew Palace. This gate, then, is on the whole in harmony with that style, and is really a very pleasing specimen of Art well applied. But there must be a lodge near the gate. And probably such a lodge was never seen in the length and breadth of England. What its style really is we defy any person to define. But every spectator may see at a glance that it is at discord with its neighbour the gate—that it is out of all harmony with the venerable Palace—and that it is not even in keeping with the long dead wall of which it forms the termination. Ought these things to be so? Should the ugliest effect be produced amidst the most pleasing scenery?

Repton says honestly: "I am not ashamed to confess that I have often experienced more difficulty in determining the form and size of a Park entrance than in arranging the several apartments of a large mansion: indeed, there is no subject on which I have so seldom satisfied my own judgment as in that of an entrance to a Park." How very few designers of Lodges have been as modest as Repton! How numerous are they who have committed the errors which he feared, but from which he really kept himself free! =

Without at present opening the question of Allotments, we would venture to ask for the latest experience of our readers as to the best way of framing conditions for prizes. Supposing a gentleman to be in possession of 3 acres of land, let in cottage allotments of about 15 poles each, and, anxious to stimulate the men to cultivate their gardens to the best advantage, he gives prizes for the common and most serviceable vegetables for labourers' families, to be awarded to successful candidates when the time for competition arrives; what are the best conditions and stipulations upon which the prizes should be offered? with the classification and number of each kind of vegetable to be exhibited, excluding Potatoes.

This is so entirely a question of experiment, that we would much rather give the experience of others than the opinions of ourselves. And we are sure that great numbers of readers of our pages would be greatly obliged by information upon the subject.

"It is stated in Loudon's "Arboretum Britannicum," p. 1777, that an Oak tree, called the Gelonos Oak, felled in Monmouthshire in 1810, was of such enormous size that it realised the large sum of 675*l*. His words are—

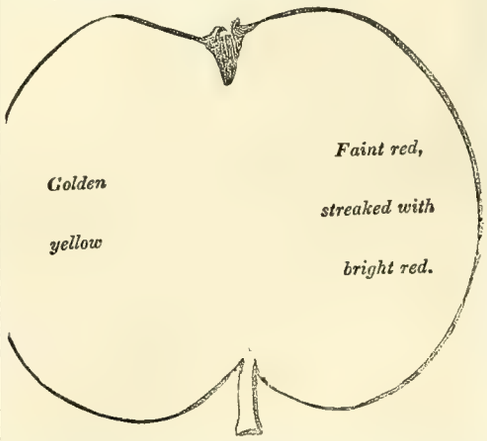
"The bark, Burnet says, he has been informed from a memorandum furnished to Mr. Burgess (the artist, and author of 'Eidodendron'), was sold by the merchant for the scarcely credible sum of 200*l*. This Oak was purchased by Mr. Thomas Harrison for 100 guineas, as stated in the 'Gentleman's Magazine,' for 1817, under the apprehension of its being unsound; but Burnet tells us that it was resold, while still standing, for 405*l*.; and that the cost of converting it was 82*l*.; amounting altogether to 487*l*. *It was subsequently resold for* 675*l*. There were at least 400 rings or traces of annular growth, within its mighty trunk!"

This statement is so remarkable that we should be greatly obliged to any friend in the neighbourhood of Monmouth who would take the trouble to inquire into its truth, and inform us of the result. If really true, the sum of money produced by this tree is the largest heard of in modern times to have been so obtained, and leads to some rather important calculations, which just now have unusual interest.

THE GOLDEN REINETTE.

Synonymes.—Kirke's Golden Reinette, Yellow German Reinette, Megginch Favourite, Dundee, Englise Pippin, Reinette d'Aix, Court pendu Doré, Aurore, Elizabet, Princesse Noble (of the French), Reinette Gielen, Pomme Madame, Wyker Pippin (of the Dutch).

The origin of the Golden Reinette is not known. That it has obtained most extensive cultivation in various countries is evident from the above list of synonymes. Under the name of Wyker Pippin, it has existed in Holland for more than a century. It is mentioned as having been in England 150 years ago; and it is still held in great esteem, and most deservedly so; for, perhaps, there is in no other Apple so much beauty and excellence combined.



The flesh is yellow, crisp, with a rich saccharine juice; ripe from October till January, but generally in greatest perfection in November. The fruit varies considerably in the length of the stalk; sometimes the latter is very short and thick; in other instances it is an inch in length, and rather slender. In almost every case the surface of the fruit is marked with slight triangular scars.

The tree is a good bearer, healthy in congenial soils, but a little subject to canker where drainage is defective. The shoots are moderately strong, dark chestnut-brown, sprinkled with a silvery epidermis, and slightly downy. Leaves broadly ovate, acuminate, distinctly and rather sharply serrated, dark shining green; petioles about an inch in length; stipules lanceolate, reflexed, shorter than the petioles. Flowers middle-sized; petals ovate, slightly cordate at the base.

In good soil, well drained, and otherwise duly prepared, this excellent variety will succeed well in most of the counties in the kingdom; in all, some favourable spots may be found suitable for it.—*R. T.*

HINTS FOR PLANTERS.

(*Continued from p.* 766, 1847.)

Among deciduous trees the Oak of course is pre-eminent, and little needs to be said in its recommendation. It prefers a clay soil, but will thrive in almost any soil, provided there is a sufficient depth to allow free course to its tap-root. There appears to be a considerable difference in the value of the timber of the two species indigenous to Britain; but it is still a disputed point which is the best. The Turkey Oak is a good deal planted, as of quicker growth; but its timber and bark are inferior, and in beauty it is not to be compared with the British Oak. The Ash will thrive even in the most exposed situations; but it requires a good soil. Any description of good soil seems to suit it, either sand, clay, or calcareous, and its roots are so superficial that a shallow soil does not at all prevent it from flourishing. It is said that the timber of the male and female Ash differs much in usefulness. Its value both as underwood and timber is well known.

The Elm, of the species so common throughout the southern counties of England, is one of the most beautiful of trees, and as it affords a useful timber I am surprised to find how much it is neglected by planters, who generally seem to prefer the straggling broad-leaved species from the north of England. It will grow well in almost any soil, not very barren or rocky, but seems to prefer sandy soils. This preference is remarkably shown in some of the southern counties (Sussex and Surrey, for instance), where the change from sandy to clayey districts is immediately shown by the prevalent hedgerow timber, which in the clay is almost exclusively Oak, and in the sand almost exclusively Elm. The Cornish Elm, though not often planted, deserves notice for its elegant light foliage and spiring growth, and the uniform thickness of its upright stem, which adds much to its value as timber.

The Sycamore is worthless as timber, but is desirable on account of its fine massy foliage, and its capability of resisting wind. It will not flourish in dry sands or shallow soils.

The Norway Maple deserves the attention of the planter, from its beautiful foliage, both in summer and autumn. It has one advantage over the Sycamore, which it so much resembles, in being exempt from the ravages of the insect which is so apt to deform the leaves of the Sycamore.

The Lime has little to recommend it, either for use or ornament.

The Beech will flourish on dry rocky soils, and particularly on chalky hills, where hardly any other tree could live.

The Birch is a useful underwood, when the stools are once established, but it is a bad tree to plant for that purpose, as a young sapling very often perishes on the first cutting down. It will grow in almost any situation.

The Plane tree is unrivalled for beauty of foliage and rapid growth. It delights in a moist light soil. It is invaluable as an ornamental tree in the neighbourhood of towns, as it possesses the singular quality of being uninjured by a smoky atmosphere. Numerous instances may be seen in the neighbourhood, and even in the heart of London, where the Plane tree flourishes as luxuriantly as in the purest country air. It is rather too tender for the north of England. It appears to be a yet unsettled point whether the American or the Asiatic species is the more hardy. The Tulip tree seems to prefer a moist situation; it is so beautiful an object, when covered with blossom, that it is a matter of surprise why it is so little cultivated.

The Spanish Chestnut is very valuable as timber, and for ornamental purposes few trees can compete with it. It bears a wet clay very ill, but thrives beautifully in dry light soils, not too shallow.

Of the Poplar tribe two or three kinds only need be mentioned. The species called Black Italian is highly valuable, from its extraordinarily rapid growth; unfortunately it is, whether young or old, the ugliest tree in Nature. The landscape of the northern counties is cruelly deformed by its prevalence in the hedgerows; fortunately for the beauty of the southern counties it is there little known. The Abele is also of rapid growth, and is, I believe, also useful as timber. As an ornamental tree it is not so much planted as it deserves. No tree forms a finer mass of dark foliage, with which its silvery bark forms a striking contrast. The Lombardy Poplar seems to be much out of favour with the present generation, though when judiciously grouped, it is highly ornamental; its tall spiral form produces a fine effect in the landscape, particularly among buildings. In form the Lombardy Poplar is quite undistinguishable from the Cypress, the beautiful effect of which in the landscapes of Italy is, I believe, acknowledged by all who have visited that country: its timber is worthless.

The Acacia is deservedly a favourite, from the elegance of its foliage and flowers, and the rapidity of its growth in dry light soils. Its timber, though far from possessing the value attributed to it by Cobbett, would, no doubt, be highly useful for all purposes where hardness and durability are required.

The Horse Chestnut, though useless for timber, is, from its beauty, highly deserving of a place in every park or lawn, though it seems to be much out of fashion at present. No tree can vie with the red-flowering species when in full blossom: it is, nevertheless, rarely seen, for what reason I cannot imagine.

The Walnut is another tree which has unaccountably gone much out of fashion, though so deservedly a favourite with our ancestors of the last century, that hardly a mansion-house of about that date can be pointed out where they are not to be seen. It requires a good soil. Its wood was formerly in high repute among cabinet-makers, and probably still commands a sale for their purposes.

Of the Alder and Willow little need be said, except that they both yield boards useful for many purposes, and will flourish in swamps too wet for any other useful vegetable production.

I would fain hope that the foregoing observations, though pretending to little of novelty, may not be without their use to the planter, by suggesting various matters on which his success will depend. I cannot conclude without adding the testimony of 30 years' observation to the very great advantage of beginning from an early age to trim off close and clean the side branches of Firs and Larches. By this means we obtain a butt of more uniform thickness, entirely free

from large knots or rotten small knots, to the height of 15 or 20 feet or more—an advantage which the timber merchant will not fail to appreciate. Let the planter remember that of the three methods of pruning, one only is decidedly bad—1. The pruner may cut the branch off clean and close, which he need never fear to do unless the branch is very large in proportion to the tree; or, 2, He may prune by fore-shortening; that is, by cutting off the side branches at such a moderate distance from the trunk as shall insure their remaining alive; or, 3, He may leave a short snag where he cuts off a branch. This third method is the only bad one, because the snag almost invariably dies, and rotting away leaves a sort of pipe, by which the water generally sonks into the centre of the tree, and when once this is the case the mischief goes on till the whole of the tree below the snag becomes hollow-hearted, and the timber of course is utterly ruined.

There is still one point to which I must draw the attention of the planter, because it is I believe not generally known, and that is, that on sandy heaths there is found, a few inches below the surface (I believe always), a hard black stratum, quite impervious to water and to the roots of trees. If therefore the planter has to work on such a soil, it is absolutely necessary that he should by some means or other break through this stratum, otherwise few trees will survive above a few years, and the remainder will be so stunted as to be always worthless either for use or ornament.—*Baobachter.*

PRUNING: THE APPLE-TREE.

(*Continued from p. 52.*)

Open Dwarfs are next to be considered. Presuming a tree which has made its first season's growth from the graft or bud has been planted in autumn or early part of winter, let it then be cut back just above that bud which is ascertained to be 8 inches above the surface of the ground. But if the plant is weak, or from circumstances absolutely unavoidable the planting has been delayed till spring, the cutting back to the height above mentioned must be deferred till the following autumn. In both these cases, however, a little of the top of the shoot ought to be taken off when planted; and then let the plant grow as roughly as possible throughout the season. The more shoots and leaves it makes the better, above the height of 9 inches; immediately below this height it would be desirable that the buds should not break till the second season after planting, by which time the tree will have made roots, and established itself sufficiently to push shoots vigorous enough to form the bases of the principal branches; and to obtain such at proper height is the object of cutting back the tree; it may be repeated, to the bud 8 inches from the ground, before winter in all cases, immediately when planted, if strong; but not till next autumn if the plant is weak.

Whatever shoots may be made by the plant in the first season after it has been cut down as above directed, let especial attention be directed to the three uppermost. Keep all others in check during the summer, and cut them off closely in autumn. The uppermost shoot will be 8 inches from the ground; and as an inch is about the average distance between the buds on the shoots of the Apple-tree, the next will originate at 7 inches, and the lowermost of the three at 6 inches above the surface of the ground, thus leaving 6 inches of clear stem. It may be here observed that the uppermost bud should point to the north; for then the next will point to the east, and the lowest to the west, thus leaving the widest space open to the south, which is of advantage, because the sun's rays are not obstructed; besides the branches naturally incline to grow more towards the south than elsewhere, all other circumstances being the same.

The shoots, many chances to one, will not diverge in the right direction, and therefore training becomes necessary. Some prefer training the branches almost horizontally at first, and then nearly upright. Others as nearly as possible in direct lines at an angle of 45°, or half way between the perpendicular and horizontal directions. It would be an easy matter to train the three first shoots strictly at the above angle as they progressed during the summer; but it must be recollected that before much fruit can be expected, the tree must have formed a considerable quantity of wood; and one thing is certain, that the more its natural growth is interfered with, especially when young, the less wood it will form in a given time. Yet these shoots, even in their early stage, must not be left entirely wild and free; for it usually happens that one of them pushes with greater vigour than the rest, and that one should be a little checked by bending it from the perpendicular early in the season; and so should the next strongest, but in a less degree, and thus the weakest left to its freedom will have a better chance of ranking fairly with its neighbours. When the shoots have made their principal growth for the season, but before vegetation becomes inactive, they should be brought into the position which they are intended finally to occupy, at least as far as 6 inches from their bases; beyond this it is immaterial, for to that distance the shoots must be cut back in autumn. A piece of matting will be sufficient to secure them in an equidistant position from each other laterally, leaving, however, a somewhat wider interval on the south side.

The three primary shoots, cut back to 6 inches from their bases at the autumn or winter pruning, will generally push at least three shoots each in the following season; but only two from each are necessary to be encouraged for leading branches, six of which will thus be originated, within 6 inches of the stem. These leading branches, if supposed to be extended horizontally, ought to represent the radii of a hexagon, the distance between any two adjoining branches being equal to their length from the centre or stem, up to the point where the said distance from one to the other is measured; but when in reality they are not horizontal, but occupy a position half way between that and perpendicular, or having an inclination of 45°, the distance of one branch from another at, say 3 feet from the stem, will only be 18 inches; at 4 feet the distance from branch to branch will be 2 feet; at 5, 2½ feet; at 6, 3 feet; and so on. If these relative distances are maintained, a uniform divergence of the six principal branches must result. When these are found to be a foot apart, a supplementary branch on each should be encouraged to fill up the increasing intervals. The branches may be kept in their proper positions by means of hoops; or rods may be employed if hoops are considered too expensive. Neither the hoops nor the rods will require to be strong if timeously applied; that is to say, whilst the shoots are not more than one year old. And it may be observed, that if a shoot or branch be kept in any position for only a few weeks in the growing season, that position will afterwards be retained, and the materials may be then employed where elsewhere required.

Having endeavoured to give a general idea of what may be termed the frame-work of the tree, it will be necessary to advert to the management of one of the six branches from the time they were originated by cutting back the three primary ones. The leading shoots will require to be shortened to about a foot every winter pruning, observing to cut to a bud pointing outwards, and to the direction which the branch should take. Generally, if the leader be cut to a bud pointing outwards and to the left one season, it will require to be cut to a bud pointing outwards and to the right in the following season. By shortening the leader, abundance of side-shoots will be produced. These should be pinched back in summer; and further reduced to within 2 inches of their bases at the winter pruning, and thus they will in a few years become fruit spurs.—‖

Home Correspondence.

Planting Hollies.—The following remarks were penned in April 1847. I am induced to send them to you now, because I read almost every week in the *Chronicle* advice which is diametrically opposed to my experience, and to what I believe to be sound theory, and I wish to invite your readers to test my observations by experiment. I believe that spring is the best time, and the last three weeks of April the very best time of all the year for moving Hollies; and I believe that November is the very worst season (August not excepted) for that operation, and this for the following reasons:—1st. Upon repeated trials during the last 12 years upon various soils, with plants varying from 6 inches to 10 feet in height, I have found plants moved at this season (April), flourish quicker and better than those moved at any other. 2d. Because I have taken up at this season plants which had been moved in the previous November, and on examining them have found not a particle of fresh fibre; and I have noticed that such plants, however well they might look during the winter, suffer exceedingly as spring advances; whereas on taking up in April plants moved in February, *i. e.*, six weeks or two months before, I have found that they had already begun to form fresh fibre, and such plants generally retain a healthy appearance. 3d. I have moved plants of the same batch 6 feet high, some in November and some in April, with equal care, and those moved in November have languished for years, and in fact never recovered, while those moved in April were completely established in 12 months. So much for experience. Theory is I know considered to oppose my view, and this I proceed to examine. It is, I presume, allowed on all hands, that the best season for moving any plant is its period of greatest rest. That period generally occurs when the foliage has nearly completed its allotted term of existence, and is soon about to fall. The Holly sheds its leaf in May and June, at which time also it makes its growth. I believe its period of greatest rest to be in April. The leaf is then nine or ten months old; its tissues are hardened, and its pores nearly closed, and the whole plant full of organizable matter. Its roots are already in active exercise preparatory to the next season's growth of wood, just as the roots of a Crocus make considerable growth before the foliage puts forth. Now if you move a Holly at that season, you generally accelerate the fall of its leaf, and in about two months the plant is covered with new wood, which carries on the renewed action of the roots. The theory of moving Hollies in November is, I believe, that the moist atmosphere of that season prevents exhaustion by the pores of the leaf. This is no doubt true, but the Holly is then in the midst of its growth; its tissues are still soft; its pores large and open; its leaves not more than four months old. The check given to it by removal is so severe that it cannot get over it. It does not make fresh root, for want of stimulus, for light and heat are failing, and the excitability of the plant is partially exhausted. It does not wither from the absence of evaporation; it has not even vigour enough to shed its leaves, and so restore its equilibrium; but it stands still with gaping pores and mutilated roots till March winds destroy its fallacious appearance of health. The Holly has been a special favourite with me from childhood, and I often recommend its cultivation, and almost invariably receive in reply an objection founded on its slow growth. Now my own experience is that its growth is by no means slow when planted as I recommend. I have planted them with my own hands 6 inches high, and had them grow upwards of a foot a year from the time of planting. In conclusion I invite your readers to test my observations by planting with equal care, in similar situations, a certain number of Hollies in April, and a like number in November, and to watch the result; and I venture to predict they will never plant again in November. I might adduce the frequent enquiries on this point which appear in the *Chronicle* as a proof that the prevailing practice is unsatisfactory. If your readers found autumn planted Hollies flourish, they would not so necessarily enquire what is the best season for planting.—*J. Rivers.*

General Tom Thumb Pelargonium.—On looking over your volume for 1846, I was surprised at a remark of Mr. W. P. Ayres, that it was almost an impossibility to obtain seeds from the General; deprecating some unfortunate seedsman for charging 100 seeds for 2s. 6d., and saying that he would willingly give a sovereign for that number of true seeds, as he had entirely failed in obtaining them himself though he had a large stock of plants. Without at all wishing to close over frauds, for I myself, like all other amateurs, have been occasionally bitten, I beg to say that in the year 1846 I saved at least 70 seeds from two small pot plants of the General, from which seeds, which were sown as soon as gathered, I obtained nearly a like number of plants; but Tom Thumb, at best, being rather a difficult Pelargonium to keep through the winter, my seedlings, like the parent, became blanched in the leaves and damped off, my greenhouse being in an unfinished state then, and having no heating apparatus to keep off frost and dampness. Last summer, having added considerably to my stock by rooted slips of the General, I was less anxious about obtaining seeds; but still I saved a few for the purpose of testing their properties. I now have about a score tiny plants. I do not know if what I am going to state has any novelty in it, but the following is the method I pursued in getting my plants to seed. Seeing that this Pelargonium was not inclined to seed as freely as other scarlets, I pulled such parts of each flower as possessed any pollen, and with these I fertilised all the others (which were the greater number), which did not possess any fertilising properties. Far less of these failed than any other Pelargonium that I ever attempted to fertilize. How these seedlings may turn out I cannot say, of course, as they have not yet flowered; but I can vouch that they are *bonâ fide* seedling Tom Thumbs, saved from plants fertilised by themselves. I beg to add that in stating the foregoing, I do not intend to throw discredit on anything which your correspondent may have said, as he must have been under the impression that seeds were not obtainable when he said so.—*B. H. W., Jan.* 19.

Pears on Quince Stocks.—If a gardener were asked for what purposes he cultivates fruit trees, he would reply, for their fruit. To cultivate Pear trees for mere ornament would be ridiculous. 1st., then, we grow fruit trees for the sake of their fruit. 2d. The fruit should be good and abundant. 3d. The tree itself should be of some duration. Then, as to the first statement, we may inquire whether with Pears grafted upon Quince stocks we shall be able to accomplish the end we have in view. It is a fact that few sorts of Pears will grow immediately on Quince stocks. We are compelled first to graft or bud upon them a useless Pear called the Virgouleuse, and then to graft or bud upon that again the finer sorts of Pears. Here then we have double work in establishing Pears on Quince stocks; and after we have secured them, they can only be grown profitably as standards: for a wall or espalier they are all but useless. "F. Y.," however, states, p. 814, 1847, that English gentlemen have been deprived of the best dessert Pears for want of dwarf-growing trees upon Quince stocks, or rather for want of Mr. Rivers's pigmies; but if we are to credit Mr. Thompson, our finest Pears can only arrive at perfection on a wall. (See Hort. Soc. Catalogue.) It is also a fact that Pears are far more liable to canker upon Quince stocks than upon their own. Now no person would ever cultivate trees, at least they should not, which in the course of a few years would require to be replaced, and which, even during the years they did thrive, only produced a scanty allowance of fruit. But further, Pears upon Quince stocks require several years before they come into a bearing state: to support this, the testimony of most gardeners can be brought. Now how Mr. Rivers induces his pigmies so soon to bear fruit completely baffles me. "F. Y." states "that although every tree may require somewhat different treatment, yet there will be found no difficulty in treating on each case, and the pruning of a hundred such Pear trees would be only an amusement for a lady, with a small pair of nippers, and the root-pruning under her directions might occupy a labourer half a day in November. The treatment is as follows:—Having procured the trees, plant them up to the insertion of the graft, and water diligently from April until they are thoroughly established, and afterwards in dry weather. I can say from experience the fruit will be found as fine, as large, and as good-flavoured as from a tree of 10 years' standing in the same ground." Now gardeners never expect from little trees the same amount of fruit that they do from large ones, and indeed it would be hopeless to find good fruit on stinted trees. To be always cutting the roots from trees must affect their growth; they must be thrown into a stinted or

unhealthy state, and although in this state they may have a tendency to produce abundance of fruit, as all dying trees have, yet the fruit will be small and deficient in juice. To have abundance of fruit, well-flavoured, juicy, and large, the trees must be healthy and grafted upon their own stocks. Now, as to duration; to die in a few years must undoubtedly be the fate of the trees so highly prized by "F. Y."—*Abdalonymus.*

Hedge-row Timber.—The sanitary condition of a question is dependent (like our atmosphere) on its proper and occasional agitation. Storms are said to do good, but I prefer, for many reasons, a temperate and yet refreshing breeze. When I read in your late number Mr. Vernon Harcourt's voluminous communication, calling me (there could be no mistake as to the person alluded to) "an agricultural radical," "a vulgar and agricultural lunatic," "a dull utilitarian, utterly insensible to all the beauties of nature," I freely accorded to him my mental forgiveness. It really is enough to irritate the bile of an enthusiastic arboriculturist to see the devastating decapitation of so many veteran friends, who have stood their ground (and exhausted it too) so long and so well; to see their defunct and mutilated members transferred to the tender mercies of saw, adze, hammer, screw, plane, and nails. Those waving domiciles of the merry morning songsters—those midnight recesses of the charming nightingale—that they should be bound in faggots and consigned by vulgar hands to the devouring and relentless flames—that cooling, shady, massive foliage, our protection from Sol's ardent rays—those fantastic but delightful collectors of winter's brilliant frosts and snowy flakes—those sturdy recipients of the Ivy's fond embrace, agreeable even in their mossy decrepitude. It is enough to raise one's ire; I therefore do forgive the Reverend L. Vernon Harcourt the very unguarded ebullition of his indignation, and I will acknowledge myself a commonplace matter-of-fact utilitarian of the 19th century. But when I see my talented editorial friend of the *Gardeners' Chronicle* seriously deprecating the removal of timber trees from corn fields, adieu to joke or romance. Let me enter the list of facts, of calculation, of public utility, of public necessity, of science, and of profit. Am I dreaming? or is it a reality that our best and most luxuriant corn crops are to be found in our most tree-less districts—our fens—our Lincolnshire wolds—our sloping coasts, where the excess of saline particles will not permit a tree to thrive. Does my friend Morton's model farm owe its long avenue of stacks to the presence of trees, or to their absence? Does my talented but thin-sowing friend, Hewitt Davis, grow his luxuriant crops under the protection of those giant robbers? Oh, no! nor does their absence ruin the open parish allotment, or the equally unsheltered market-garden. Is it their presence that has caused my friend Hutley to grow 7 quarters of Wheat per acre on 20 acre fields? Decidedly not. When I see my lengthy Wheats rolling and undulating like a distracted sea, I chuckle in self-content at the robbery of carbon they are committing on the truant wind. The upturned and ruffled leaves of my root crops are drinking deeply of the precious draught when old Boreas is most angry. In winter his welcome puffs find free access to air and dry our lands. In summer the well-cropped ground is amply shaded by the growing crops of human food. In summer the greatest robbers of moisture and of food are those giant bundles of capillary tubes called trees whose roots I have frequently seen extending to the very centre of narrow fields. Will Dr. Lindley recommend so dangerous a protector to the flower garden. Am I fanciful, or will not Liebig and Johnston, Dumas and Boussingault tell us that the food of the tree, organic and inorganic, is or ought to be the support of our own food. Mr. Harcourt's idea of growing trees for the sake of getting manure from their leaves!! is rich indeed. It is a practical illustration of laying out 5*l.* to get back 1*l.* However theoretical I may be called by farmers in some matters, in this I have their entire and hearty concurrence. As a matter of £. *s. d.*, the loss by trees is enormous, both to landlord and tenant, as the annexed letter from my careful and practical friend, Foster, too truly illustrates. I submit it most deferentially, but confidently, to the test of arboricultural dissection, vouching for its accuracy as regards this county. At one of our Witham meetings Mr. Hutley said he would give 2*s.* more per acre for a farm free from timber; and at another, Mr. Joseph Foster stated as a fact, appealing to his neighbours for its confirmation, that an Ash tree, value 6*s.*, had damaged his heavy crop of Caraway to the extent of 26*s.* No one who know those gentlemen will doubt their accuracy. Well, then, are we to put on our manure to be consumed by timber trees? Is a famishing country to be fed with wood? Talk of spoiling the beauty of the country! What so grateful to the eye and to the mind as the contemplation of abundant food and ample employment for the people? I pity the taste that can prefer an Oak tree to a Cabbage, a Nut grove to a field of Wheat sheaves. Talk of destroying the beauty of the country! why I am often obliged (thanks to the timber mania) to drive for miles between two green walls, some 10 feet high, with only an occasional glance through a gate-way or gap. The sky above and the gravel road in front being one's only solace. If we do get into a 3 or 4 acre field, there is at all events no seeing one's way out of it. Those who advocate the present system may be literally and truly said to be taking a very limited view of the country. But stern necessity will soon compel us to give up our prejudices. The increasing millions must be fed, and in 50 years time no man will be found bold enough to argue that we can grow timber and corn profitably in juxtaposition. The arboricultural enthusiast will then of necessity be located amidst the dark backwoods of America, where I sincerely wish him every joy. Mr. Hewitt Davis truly says ("Royal Agricultural Society's Journal," vol. 7, part 2, page 529):—"Were no other injury done to the crops by trees and hedges than that which arises from their mischievous shade and shelter, it would be equivalent to the ordinary rent of such fields; but the farmers sustain a further loss in the additional time occupied in its tillage by the more frequent stoppages and turns they cause, and by the encouragement to idleness in the men that their cover affords. I believe arable fields with large hedges and hedgerow timber round them, whose dimensions are under eight acres, are seldom or ever worth a farmer's cultivation. I see much poor open down land in profitable cultivation, and large districts of enclosed land of far better quality ruinous to the occupiers; and I have not a doubt that to the difference in the size of the fields this may be principally if not entirely traced." —*J. J. Mechi, Tiptree Hall, Kelvedon, Essex, Feb.* 1.

"My calculations upon growing timber in hedgerows," says Mr. Foster, of Great Totham, "are as under.

1st. The average value of timber on 100 acres of land in the county	£100	0	0
2nd. Let it stand 25 years, and the improvement in value will not exceed 50*s.* per year	70	0	0
	170	0	0
3rd. Sell the same now	100	0	0
Interest and compound ditto	360	0	0
4th. Tenant paying 2*s.* more per acre, with the interest and compound ditto upon the same ..	377	12	0
	777	12	0
	170	0	0
	£607	12	0

So that the proprietor of 1000 acres loses more than 6000*l.* by letting it stand. Perhaps you will have the goodness to test this by your own figures, and give it publicity for the good of the community."

Rain.—The following statement may be relied on as being correct.

	1845.	1846.	1847.
January	2.54	3.92	1.73
February	2.02	1.68	1.85
March	0.89	2.57	1.04
April	1.32	2.06	1.04
May	3.21	1.84	2.10
June	1.12	1.01	1.34
July	2.19	1.79	0.77
August	2.54	4.48	1.37
September	2.63	3.06	1.32
October	2.41	6.31	2.37
November	5.43	2.12	1.57
December	2.90	1.80	3.88
	27.20	32.64	20.38

It is perhaps worthy of mention that this place is within 250 yards of the sea, and that this part of Sussex is very level, being about 10 miles from the downs.—*James Graham, Steward and Gardener, Bersted Lodge, Bognor, Jan.* 31.

Societies.

MICROSCOPICAL SOCIETY.

Jan. 26.—The President in the chair. A note was read from Mr. Reginald Mantell, calling attention to Gutta percha as a material adapted for forming grooves for microscopic slides. Dr. Lankester stated that Mr. Bush had used Gutta percha for forming cells upon glass slides in which to retain microscopic objects, and enquired if it would answer for varnish. Mr. Delarue stated that although the Gutta percha was readily soluble in naptha, it did not adhere so well to glass as other substances, and was not so well adapted for a varnish. Mr. Legg described a new stage which he had invented for the microscope, by which not only were the ordinary movements of the moveable stage obtained, but also a circular movement, by which the object might be presented on all sides to the light without the trouble of turning it. Some discussion ensued on the difficulty of securing a movement of the stage directly under the axis of vision, but all agreed that Mr. Legg's was a most important addition to the present properties of the moveable stage. A lithographic portrait of the celebrated microscopist Ehrenberg, was presented to the Society by the artist Mr. Leonard.

BOTANICAL SOCIETY OF EDINBURGH.

Dec. 9.—The President in the chair. The following communications were read:—1. *On Anacharis Alsinastrum*, a new British plant, by C. C. Babington, Esq., with a synopsis of the other species of the genus, by Dr. J. C. Planchon.

2. *On the Reproduction of Cryptogamic Plants*, by the late W. S. Dougall, Esq., communicated by Dr. Balfour. The first part only of this paper was read, viz., on the mode of formation of spores in Algæ and Charads. In the introductory remarks the author examined the opinions entertained by botanists as to the existence, in these plants, of bodies equivalent to the stamens and pistils of the higher orders of vegetables. The arguments in favour of their existence are, the presence in the same or different individuals of two kinds of cells, the union of which appears to be necessary for the production of germinating spores. These cells sometimes exist in the same cavity, so that the functions cannot be always easily detected. At other times they are separate. In the latter case the spores are occasionally produced by the actual conjugation of two individuals of the same species. The spores, when first discharged, frequently exhibit ciliary movements, like those seen in the ova of animals. And lastly, the cells representing anthers often contain phytozoa, or moving bodies, similar to the spermatozoa of animals. The reproduction of Algæ was then brought under consideration as observed in Diatomaceæ and Confervaceæ, with their cell division, conjugation, and development of endochrome; in the Fucaceæ and Ceramiaceæ, with their antheridia, spores, and tetraspores; and in Charads with their globule and nucule. In regard to the latter tribe, the following points were noticed, as favouring the opinion that the globule may be compared to an anther and the nucule to the pistil. Their co-existence and close proximity—the opening of the valves of the globule to allow the escape of filaments and phytozoa (similar to those of fuci, which Thuret and Decaisne have shown to be connected with staminal functions)—the existence of an opening at the apex of the nucule allowing communication with the interior—the capability of germination in the contents of the nucule when mature—and the decadence of the globule prior to the ripening of the nucule.

The 2d and 3d parts of the paper on the reproduction of the other orders of Cryptogamic plants were deferred till a future meeting.—Dr. Balfour read a communication from Mr. Lawson, jun., relative to the Cultivation of Potatoes by cuttings of the herbaceous stems. Six cuttings were planted on June 16, 1847, kept in a warm frame for six weeks, then planted out, and they produced 20 tubers of very considerable size, one of which was exhibited. The communication was accompanied by a report from Mr. M'Laren, gr. at Coten-house, in which he stated that he potted green cuttings in February, 1847, three in a 15-inch pot, in a mixture of leaf-mould and light loam. He then plunged them into a bottom heat of 75°, taking care to shade them from the sun, and also to water them three times every day. On 23d April he found tubers of the size of a Walnut.—Mr. Brand read an extract from a letter from W. A. Stables, Esq., relative to the Plantations recently made on Lord Cawdor's estate in Nairnshire. "The forester planted 230 imperial acres in nine days, 57 women and boys being employed each day, and the average number of trees planted by each was 1566 a day. Two-thirds of the plants were Larch, and the remainder Scotch Fir; in all, 3465 plants per acre. The plants were two-years-old seedlings, all raised in the gardens here. The cost of inclosing was 75*l.* 6*s.* 10*d.*, and of planting, 16*l.* 8*s.* 8*d.*; together, 95*l.* 5*s.* 6*d.*, or about 7*s.* 7*d.* per acre of outlay."—Several gentlemen were elected ordinary members, after which the Society proceeded to elect office-bearers for the ensuing year.

Reviews.

Adventures in Mexico and the Rocky Mountains. By G. F. Ruxton, Esq. London: Murray. 12mo. (*Two Parts of the Home and Colonial Library.*)

Those who wish to know something of the climate of those provinces which divide Mexico from the Arkansas, and form an eastern frontier to California, will do well to read this entertaining work. They will there see what sort of winter there is where the Californian Pines and other trees grow wild, and that severity of seasons is by no means to be measured by degrees of latitude.

Mr. Ruxton rode from Vera Cruz to the Canadian Lakes, and in the course of his formidable journey saw every variety of climate between the tropical abodes of the Black Vomit and Yellow Fever, and the regions of ice and snow, where disease is impossible except such as arises from natural dangers, which it must be confessed, make up for any deficiency of local insalubrity. Mr. Ruxton's views were turned to other things than natural history, and therefore we gather little on that head. Yet his account of the wine or "pulque" of the American Aloe (Agave Americana) will probably be new to most of our readers.

"In the city of Mexico alone the consumption of pulque amounts to the enormous quantity of 11 millions of gallons per annum, and a considerable revenue from its sale is derived by Government. The plant attains maturity in a period varying from 8 to 14 years, when it flowers; and it is during the stage of inflorescence only that the saccharine juice is extracted. The central stem which encloses the incipient flower is then cut off near the bottom, and a cavity or basin is discovered, over which the surrounding leaves are drawn close and tied. Into this reservoir the juice distils, which otherwise would have risen to nourish and support the flower. It is removed three or four times during the 24 hours, yielding a quantity of liquor varying from a quart to 1½ gallon. The juice is extracted by means of a syphon made of a species of gourd called *acojote*, one end of which is placed in the liquor, the other in the mouth of a person, who by suction draws up the fluid into the pipe, and deposits it in the bowls he has with him for the purpose. It is then placed in earthen jars, and a little old pulque—madre de pulque—is added, when it soon ferments, and is immediately ready for use. The fermentation occupies two or three days, and when it ceases the pulque is in fine order. Old pulque has a slighty unpleasant odour, which heathens have likened to the smell of putrid meat; but when fresh is brisk and sparkling, and the most cooling, refreshing, and delicious drink that ever was invented for thirsty mortal; and when gliding down the dust-dried throat of a wayworn

traveller, who feels the grateful liquor distilling through his veins, is indeed the '*licor divino*,' which Mexicans assert is preferred by the angels in heaven to ruby wine."

We have also the following description of the deciduous Cypresses of Chapultepec, which, though not now, has the advantage of being the result of personal inspection in 1846.

"Far more interesting than the apocryphal tradition of the Indian's palace, the viceroy's castle, or the existing eyesore, is the magnificent grove of Cypress, which outlives all the puny structures of man, and, still in the prime of strength and beauty, looks with contempt on the ruined structures of generation after generation which have passed away. One of these noble trees is upwards of 17 yards in girth, and the most picturesque, and at the same time most nobly proportioned tree, it is possible to conceive. It rises into the sky a perfect pyramid of foliage, and from its sweeping branches hang pendulous, graceful festoons of a mossy parasite. There are many others of equal height and beauty, but this one, which, I believe, is called Montezuma's Cypress, stands more isolated, and is therefore conspicuously grand. From the summit of the hill, to which a path winds through a labyrinth of shrubs, a fine view of the valley and city of Mexico is obtained, and of the surrounding mountains and volcanic peaks."

We confess that the winter climate of the country that separates California from Texas exceeds in rigour anything we should have anticipated in so southern a latitude. Speaking of the descent from the rocky Mountains into the plains of the Arkansas, we have the following graphic relation of a night in the snow :—

"The animals strove in vain to face the storm, and, turning their sterns to the wind, shrank into themselves, trembling with cold. Panchito, whom I was leading by the bridle, followed me to the edge of the plateau, but drew back, trembling, from the dismal scene which lay stretched below. With a neigh of fear he laid his cold nose against my cheek, seeming to say, 'Come back, master : what can take you to such a wretched place as that, where not even a blade of Grass meets the eye?'

"The descent on the eastern side is steep and sudden, and through a thick forest of Pines to the valley beneath. Once amongst the trees there was nothing to do but reach the bottom as fast as possible, as it was nearly dark, and nothing was to be seen at the distance of a dozen yards, so dense was the forest. Before we had proceeded as many paces from the edge of the plateau, and almost before I knew where I was, horses, mules, &c., were rolling down the mountain all together, and were at last brought up in a snow drift some 12 feet deep. There they all lay in a heap, the half-breed under one of the pack mules, and his swarthy face just peering out of the snow. Before a mule would stir every pack had to be removed ; and this, with a temperature some 10° below zero, was trying to the fingers, as may be imagined. As it was impossible to reach the bottom from this point, we struggled once more to the top through 6 feet of snow and an almost perpendicular ascent. I had to beat a road for the animals, by throwing myself bodily on the snow, and pounding it down with all my weight. We were nearly frozen by this time, and my hands were perfectly useless—so much so that, when a large bird of the grouse species flew up into a Pine above my head, I was unable to cock my rifle to shoot at it. The mules were plunging into the snow at every step, and their packs were hanging under their bellies, but to attempt to adjust them was out of the question. It was nearly dark too, which made our situation anything but pleasant, and the mules were quite exhausted.

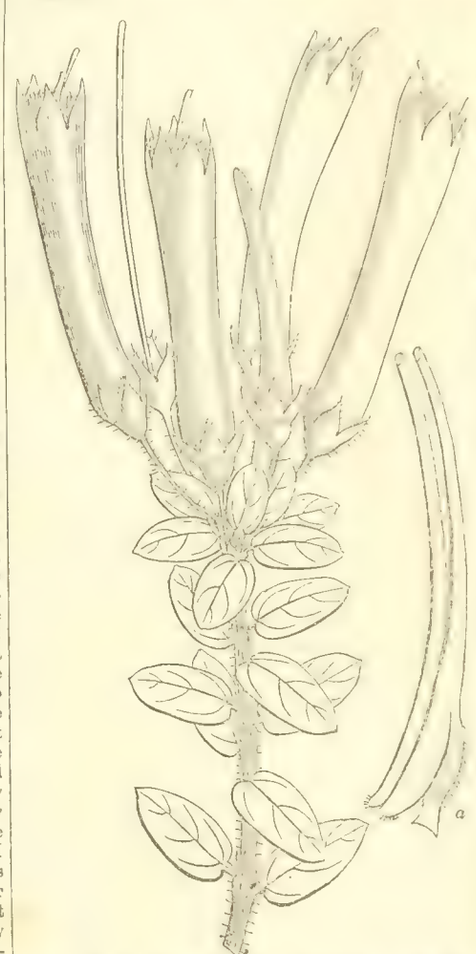
"At last, however, we reached the top and struck down the mountain at another point, but it was with the greatest toil and difficulty that we reached the bottom long after dark, and camped shortly after near the creek which wound through the valley, or rather in its very bed. One of the mules had slipped its pack completely under the belly, and, the girth pinching her, she started off just before reaching the creek at full gallop, kicking everything the pack contained to the four winds of heaven. This pack happened to contain all the provisions, and, as the search for them in the dark would have been useless, we this night had no supper. To shelter ourselves from the wind we camped in the bed of the creek, which was without water, but the wind howled down it as if it were a funnel, scattering our fire in every direction as soon as it was lighted, and tearing the blankets from our very bodies. The animals never moved from the spot where they had been unpacked ; even if there had been Grass, they were too exhausted to feed, but stood shivering in the wind, collapsed with cold, and almost dead. Such a night I never passed, and hope never to pass again."

The matters, however, which touch upon our objects are as nothing compared with the information relating to animals, and savage man, concerning which we refer the reader to Mr. Ruxton's work, with the single observation that it is not exceeded in interest by any book in our language.

THE LONG-FLOWERED HOLLY-BERRY.

(*Ceratopetalum longiflorum* Lem.)

Gen. Char.—Branchlets hairy. Leaves ternate, petiolate, oblong, coriaceous, smooth, entire. Flowers in terminal panicles. Flowers pedicellate, downy (¼ of an inch long). Calyx-leaves triangular-ovate, acute, ciliated, nearly smooth. Corolla cylindrical, deeply 5-toothed nearly 2 inches long, remaining persistent at the points of their horns a little beyond the tube of the corolla ; with smooth filaments, and coarsely hairy, almost scaly connectives.*



One of the very prettiest of evergreen shrubs, with the foliage of one of the small evergreen Vacciniums. Its long trumpet-shaped flowers are of a rich purple (Mr. Lobb says scarlet), and grow in loose clusters at the end of the shoots. It was gathered in Peru, by Mr. Wm. Lobb, along with Thibaudia microphylla, at the height of 12,000 feet, and from his seeds it has been also raised in Messrs. Veitch's nursery. It is a charming half-hardy evergreen.

The genus derives its Latin name from the long horns which terminate the stamens, as is represented at fig. *a* of the accompanying cut. The English word Horn-berry may be taken as a fair translation of it. All the species are Peruvian ; this is the finest among them.

* For the meaning of these technical terms see Lindley's *Glossary*.

Miscellaneous.

Professorship of Botany to the Royal [illegible] Society.—Our botanical friends will [illegible] that this appointment has been [illegible] Dr. Harvey, which is not too much to [illegible] ment [illegible] has been [illegible] been a candidate, withdrew in [illegible] support of Dr. Harvey, who [illegible] election passed nearly three [illegible] highest of the candidates opposed [illegible] this appointment as one which [illegible] the Royal Dublin Society.

Detection of Free Sulphuric Acid in Wine.—When a piece of paper which has [illegible] pure wine is dried at a gentle heat, [illegible] with water, to which a very small [illegible] acid has been added, renders [illegible] friable to the touch, but [illegible] the white paper remains [illegible] which nothing has been added, [illegible] evaporation a violet hue appears [illegible] a very small quantity of [illegible] (two to three thousandth part) [illegible] coloured spots. On a similar [illegible] of a blue shade produced, the [illegible] to detect by means of the [illegible] acid in red wine. The paper most [illegible] the experiment is common gazed paper, [illegible] starch or fecula. This kind of paper [illegible] commerce ; and it is easy to discover it by [illegible] which it assumes when moistened [illegible] solution of iodine.—*La Argentière Gazette.*

The Lobster.—Lobsters are taken on various parts of our coast, particularly on rocky [illegible]. From the southern and western coast of [illegible] a large number are constantly sent off to the London market, by the South-Western railway from Southampton, and by the Great Western from Bristol ; and by steamers from Guernsey and Jersey ; and a considerable number from the west of Ireland to Liverpool. From the Orkney and Shetland and the Orkney and Lewis Islands, it is computed that not less than 15,000 reach the London market every year ; but the principal supply is from Norway, from whence we derive not less than [illegible]. The fishery in the sea on a supply at Bergen gate of [illegible] from 20,000 to 25,000 lobsters in one day. [illegible] only as many to be eaten in the whole of [illegible] as in London, the multitude which are [illegible] in the course of every year to enrich us. [illegible] sophisticated and indubitable fact, that the [illegible] as the common crab (*Cancer pagurus*), and several other species of Crustaceans, not only shed their claws and other limbs in case of severe injury to them, but voluntarily. On being seized by one of their limbs, the captive member is left in the possession of the captor, and the animal escapes, leaving behind a part of its body to [illegible] ; and it is also well known that fishermen and other practical persons, that the same [illegible] take place in violent thunder-storms. In the words of the intelligent correspondent to whom I have already had occasion to express my obligations, Mr. [illegible], "they shoot their claws, especially after a [illegible] or the report of cannon, and whole voyages are destroyed by this means. If time were given new claws would be formed. It is a voluntary act, and does not injuriously affect the animal." "I have heard [illegible] men of Goran Haven say that they have seen in the summer, frequently, the old lobsters with their [illegible] and them ; some of the young have been [illegible] inches long. One man noticed the old lobster with her head peeping from under a rock, the young [illegible] playing around her : she appeared to rattle her claws in the approach of the fisherman, and herself and young took shelter under the rock ; this rattling [illegible] was to give the alarm. I have heard this [illegible] some very old men, who all speak to this [illegible] assert, and as a matter of course : and they are men I can readily believe."—*Bell's British Crustacea.*

Fruit Gathering.—The following [illegible] a hint to fruit growers, or rather to [illegible] fruit gatherers, that although not exactly in season, it [illegible] not be passed over. It occurs in the "[illegible] Fruitist," in allusion to a valuable [illegible] it is said the cottager of a certain [illegible] for the

* For these details I am [illegible] to [illegible] Saunders, the respectable [illegible]

NEW GARDEN PLANTS, PUBLISHED IN BOOKS.

Name.	Where Published.	Name of Country.	Quality.	Natural Order.	Colour of Flowers.	Time of Flowering	When first Flowered.	Raised.
Nepēnthes Hookeriāna	Low's Borneo, p. 68	Borneo	S. ♈	Nepenthes	.....	.....	1847	Hugh Low and Co.
* *Sir W. Hooker's Pitcher-plant.*								
Echinocactus longihamātus	Pfeiffer, t. 16	Mexico	G. ♄	Indian Figs	Yellow	.....	1847	Fennel of Cassel.
† *Longhooked Hedgehog Cactus.*								
Phyllocactus phyllanthoides.....	Pfeiffer, t. 17	Mexico	S. ♄	Indian Figs	Pale purple	.....	1847	Dr. Seidl, Munich
‡ *Phyllanthoid Leaf Cactus.*								
Echinocactus uncinātus.....	Pfeiffer, t. 18	Mexico	G. ♄	Indian Figs	Brown.	November	1847	Fennel of Cassel.
¶ *Hooked Hedgehog Cactus.*								
Echinocactus coptogōnus	Pfeiffer, t. 19	Mexico	G. ♄	Indian Figs	Purple	.....	1847	Germany.
¶ *Interrupted Hedgehog Cactus.*								
Mammillaria elephantidens	Pfeiffer, t. 20	Mexico	G. ♄	Indian Figs	Rose colour	.....	1847	Germany.
† *Tusked Mammillaria.*								
Cologȳne brunnea.....	Gard.Chron.,1848,71	E. Indies	S. ♈ (epiphyte)	Orchids	Yellow and brown	November	1844	London Nurseries.
‡ *Russet Cologyne.*								

N.B.—* = Very handsome. † = Second rate. ‡ = Third rate. ¶ = Unimportant.

supply of his family, and also for profit by the sale of his surplus. "This tree (says the writer) has the character of bearing profusely every alternate year, which, in some degree, is correct. This may sometimes occur from exhaustion, through excess of production; but we have observed another cause as tending to this effect. Its bearing spurs are exceedingly tender, and in the usual careless method of gathering fruit, nearly every spur that happens to have an Apple attached to it is broken off, and two years are subsequently necessary to repair the injury." This gross negligence, of breaking off the bearing spurs with the Apples, cannot be too severely reprobated.

New Hakea.—I found a most extraordinary plant, a species of Hakea, growing 12 or 14 feet high: the true leaves of the plant are 7 or 8 inches long, jagged and sinuated as in Hakea undulata, but by far the most conspicuous part of the foliage of this superb plant are its bracts, which make their appearance with the flower-buds. When the plant is 3 or 4 years old, they are borne in regular whorls, each circle or whorl being from 7 to 9 inches in height, formed of 5 rows, which have each 5 bracts; the lowest bracts of the whorl are the broadest, and vary from 4 to 5 inches the whole breadth across, in full-grown, middle-sized specimens, being about 10 inches; and they regularly decrease in size to the uppermost bracts, which are only about 4 inches across from outside to outside; each whorl is a year's growth of the plant after it bears the first flowers. The variegation of these bracts is so extraordinary, that I almost fear to attempt a description. The first year they are yellowish-white in all the centre of the bracts, and the same colour appears in the veins and in the teeth, which grow on the margin; the second year, what was white the first year has changed to a rich golden-yellow; the third year, what was yellow becomes a rich orange; and the fourth year, the colour of the centre of the same bracts; their veins and marginal teeth, are turned to a blood-red. The green, which has a remarkably light and luminous appearance the first year, varies annually to deeper and darker shades; and the fourth year, when the centre of the bracts has acquired a blood-red colour, the green of the same series is of the richest hue, while the whorls below change to darker and duller shades, until they ultimately fade into the dull and withered leaves of other climes. The flowers I have not seen: the stem and buds of the upper series, which are the only ones unopened, are white and velvety; the other series contain seed-vessels, mostly with perfect seeds. To this, the most splendid vegetable production which I have ever beheld, in a wild or cultivated state, I have given the name of our gracious Queen, Hakea Victoria. It will soon be cultivated in every garden of note in Europe, and in many other countries.—*Drummond in the Botanical Magazine.*

Calendar of Operations.

(*For the ensuing Week.*)

Every one has opportunities of remarking the favourable effect of congenial soil and situation on plants, and the reverse under opposite circumstances; from this fact we may fairly assume that plants are not indiscriminate in their absorption of nutritive matters, but possess selective powers. The experience of every gardener assures him of this, and the proper application of soil becomes no unimportant part of the practice of his art. Rules can scarcely be offered to embrace every circumstance relating to a just application of this essential agent; the occasions being generally controlled by influences that would demand endless modificatory explanations. The advice we have to offer with reference to this subject, is to collect, and the present is the proper season for doing so, a goodly store of the various sorts of soil ready for a future season. Loam, peat, and vegetable mould should be stacked a year at least in the compost-yard before used for potting. We have seen plants greatly injured by being potted in fresh cut soil.

CONSERVATORY AND GREENHOUSE.

The advantage of increased solar light and heat will be rendered apparent by the increased brilliance of colour in the flowers, and depth of verdure in the leaves, provided a judicious admission of air and a just proportion of other essentials be continued. The display of flowering plants in the conservatory may receive additions from various quarters; the stove will afford the beautiful Euphorbia jacquiniflora, which may be removed without injury; the pits should long afford a supply of Cinerarias; the Heath-house, too, may contribute. Fragrance is a quality always sought for in flowers. The most striking are too often deficient in that charming recommendation. In effecting an arrangement this must not be forgotten. However humble in appearance, the modest Mignonette will always be valued for its delicious fragrance. The addition of a really handsome plant to our list of early flowers is no mean acquisition. Weigela rosea promises to possess that recommendation. Possibly water will be required more frequently, but still administer it with care. Remedy defects in drainage in long potted plants; shift Calceolarias; repress the green fly. A temperature varying between 50° and 60° in bright weather will easily be sustained.

FRUIT FORCING.

Pines.—Allow no diminution of bottom-heat. Encourage, by an application of tepid water, an action in the roots to correspond with the progress of the plant, which the increased solar light and heat, which may be permitted, will soon render evident. Top-dress fruiting plants; in doing so, if necessary, remove two or three of the lowest leaves, which probably will place some roots at liberty. Keep the house damp. Succession Pines must still be allowed a moderate and equable temperature. A circulation of air through the pits may be permitted on sunny days. Stagnant and moist air will speedily destroy weakly plants. *Peach-houses.*—Constant attention will be required in disbudding and stopping the forward shoots. As the occasion invites the operations, perform them; the vital action of the trees would be weakened were the superfluous shoots to be removed suddenly and entirely. Keep the leaves in health. Syringe morning and afternoon, regulating the amount of humidity by the state of the atmosphere externally. *Cherry-house.* — Be cautious in regard to temperature here, particularly if the slightest doubts are entertained of any deficiency of healthy roots. Reduce the temperature at night from the average of 60° to about 45° or 50°. *Early Vinery.*—In admitting air some caution is required to prevent direct currents from striking the tender leaves. Keep the surface soil of the house moistened sufficiently to produce at night a gentle dew. If the roots are confined to the house, an application of warm manure-water would, doubtless, prove beneficial. Top-dress Vines in pots with rich manure. In bright weather a dry temperature, varying from 70° to 80°, may be permitted. *Second Vinery* will exhibit a more vigorous development after a few sunny days, and render the task of disbudding and topping forward shoots immediately necessary. *Strawberries.*—A supply should be put in a state of preparation for removal into the forcing range, by receiving the protection of a frame and night coverings. Those plants already introduced must be kept regularly watered; on shelves much exposed to the effects of light and air, a quick action of the leaves will be induced, and necessarily a rapid evaporation of moisture. It is advisable to provide for this by placing a small pan beneath each pot.

KITCHEN GARDEN AND ORCHARD.

Should the weather permit spade operations, a warm border or quarter may be prepared, and a favourable opportunity chosen for getting in a sowing of Early Frame or other early Peas. The Mazagan and Dwarf Cluster Beans should receive the same attention. Make arrangements for the distribution of crops of vegetables, with a view of preventing a similar tribe from occupying the same piece of ground during successive seasons. A small sowing of Carrots may be made on a sheltered border. The operations of pruning and nailing must be continued unremittingly; attend to the earliest trees first. Planting where an unfavourable situation has compelled a postponement of the operation should now no longer be delayed.

FLORISTS' FLOWERS.

Polyanthuses.—Last year's seedlings will now begin to throw up occasional trusses of blooms. Those which have "pin eyes," or which show the pointal above the stamens or thrums, are usually discarded; but we would advise our floricultural readers, who are fond of hybridising by manual fertilisation, to save those flowers which may have other first-rate properties, even if they are thus worthless in a horticultural point of view by the protrusion of the stigma, as from the facility with which it may be acted upon by fertilisation a more successful result is likely to be obtained. The bee seldom or never settles on the Polyanthus, and from the position of the anthers and stigma in a perfect thrum-eyed flower, the former are difficult to remove without either injuring the latter, or otherwise fecundating it with its own farina, which is not desirable. We trust our readers will cross a fine pin-eyed flower, of perfect lace and form (hundreds of which have been thrown away), with such flowers as Buck's George the Fourth, or Pearson's Alexander, and communicate the result of their experiments, for it is by no means possible that all the progeny should be pin-eyed. *Auriculas.*—Cover at night with mats, and as the plants are now beginning to grow, a little more water may be given than common, taking care not to water over the plant. *Tulips* are rapidly getting out of the ground; protect them as much as possible "over head," allowing a free circulation of air. *Carnations and Picotees* will soon be ready to remove; harden as much as possible, and give these also a little more water, but not over the foliage.

State of the weather near London, for the week ending Feb. 3, 1848, as observed at the Horticultural Garden, Chiswick.

Jan.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 28	((	29.857	29.828	29	17	23.0	E.	.00
Satur.. 29	23	29.914	29.820	44	28	36.0	S.	.06
Sun. .. 30	24	29.657	29.276	48	36	40.0	S.	.02
Mon... 31	25	29.395	29.232	39	28	33.5	N.E.	.12
Feb.								
Tues... 1	26	30.071	29.763	37	26	31.5	N.W.	.13
Wed... 2	27	30.315	30.153	46	29	37.5	W.	.00
Thurs. 3	28	30.363	30.241	46	33	39.5	S.W.	.01
Average		29.926	29.716	41.3	28.1	34.7		.34

Jan. 28—Snowing; clear and frosty; bright sun; snow in the evening; sharp frost.
— 29—Foggy; fine; clear and frosty.
— 30—Overcast; slight showers; overcast.
— 31—Densely and uniformly overcast; sleet; overcast; slight frost.
Feb. 1—Slight frost; clear and very fine; slight frost at night.
— 2—Lightly overcast; clear and fine.
— 3—Slight shower; cloudy; fine with sun: partially overcast.
Mean temperature of the week, 1½ deg. below the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending Feb. 12, 1848.

Feb.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 6	45.3	31.3	38.3	12	0.25 in.	2	1	3	3	4	4	4	1
Mon. 7	46.0	32.0	39.0	12	0.29	3	1	3	1	3	6	5	2
Tues. 8	45.1	32.9	39.0	13	0.57	1	3	2	1	4	8	3	1
Wed. 9	45.5	31.6	38.5	6	0.30	1	3	1	2	1	8	5	2
Thurs. 10	44.8	31.4	38.1	8	0.28	2	4	1	2	4	5	2	1
Fri. 11	44.6	31.5	38.0	11	0.34	4	2	1	1	5	5	2	3
Satur. 12	45.6	30.5	38.0	10	0.23	3	2	1	1	4	8	3	2

The highest temperature during the above period occurred on the 10th, 1841—therm. 65 deg.; and the lowest on the 11th, 1845—therm. 3 deg. below zero.

Notices to Correspondents.

Drayton Manor Meeting—The SPEECHES at the AGRICULTURAL MEETING at DRAYTON have been reprinted from the AGRICULTURAL GAZETTE for general distribution, at Two-pence each. They may be ordered of all Booksellers, and single copies will be sent free by post on three postage stamps being forwarded to the Publisher, 5, Upper Wellington-street, Covent-garden, London.

Allotments—*H D*—We believe the best manner of dealing with your question is in the form which we have to-day adopted in another column.

Anemones—*R E*—Much obliged; we suppose it to be what is called the Poppy Anemone, a very fine race, certainly. The seed shall be sown carefully. You must, however, thank your climate in part.

Asparagus—*J A*—Salt should not be applied when the beds are made; but when the plants are growing—frequently and in small doses. Water no salter than that of the ocean is what we recommend.‡

Emigration—*A Gardener*—New Zealand by all means.

Greenhouses, &c.—In consequence of the great numbers of applications which are continually made to us for plans, &c., we are obliged to state that we *cannot furnish* them. It is impossible to do so in a newspaper. All that is practicable is to point out general principles. It is for professional men to work out their details.

Hot-water Pipes—*W W*—Evaporating saddle-backed pans, to be fixed on hot-water pipes, should be made of cast iron. Zinc won't do. They are a great convenience to a gardener, and should be applied. But it is possible, no doubt, to dispense with them by constant syringing, and by throwing water upon the heated pipes, so as to fill the air with warm vapour; that is to say, by substituting labour for iron. Whatever you do, do not recommend zinc for the purpose.

Insects—*J G Hepburn*—There are several distinct species of moths which attack furs, woollens, &c. Their time of appearance in the winged state (when they deposit their eggs) extends through the summer, during which period the articles ought to be very carefully protected from their approach by being folded in several wrappers of brown paper or linen. If they could be saturated with a weak preparation such as is used by bird preservers, they would be safe. During winter the articles ought to be looked over very carefully, to see if they are attacked by the grubs, which may be destroyed by putting the articles into fumes of brimstone. *W.*——*W Rayner*—The object of the method suggested for the destruction of the Gooseberry chrysalides, was the battering down the earth beneath the trees in the winter or spring, so that when the perfect insects were disclosed they could not make their way to the surface through the hard earth. It is a doubtful remedy. The best plan is to attack the caterpillars themselves. *W.*——*A M*—The fox moth is a very uncertain species to rear; we think, however, that your caterpillars will revive with the spring; they feed on the bramble. *W.*

Liquid Manure—*Monte Christo*—It suits all kitchen garden crops, and injures none. Only apply it when the crops are growing—if you can.

Melons—*B J C*—The Windsor Scarlet-fleshed, and Beechwood or Italian Green-fleshed, will probably suit you. As for Cucumbers, it matters little; you had better take the advice of your seedsman, explaining to him what the properties are which you desire. Study "School Botany."

Names of Plants—When plants are sent to be named, it is most particularly requested that they may be in flower, and as perfect as circumstances permit. Most especially is it requested that the country whence they have been received, and whether they are annuals, perennials, or shrubs, hardy, greenhouse, or stove plants may be stated; because specimens by post are generally bad and incomplete, and much valuable time, which such information would save, is needless wasted.——*J K*—Plants not in flower cannot be named. They are probably species of Phebalium.——*J A*—Apparently Oncidium nudum; but your leaves are in that case unusually large.——*A Young Gardener*—1, Doodia caudata; 2, Platyloma falcata; 3, Lastrea patens; 4, Asplenium Ruta-muraria; 5, Notholæna vestita; 6, Lastrea Sprengeli (?); 7, Goniophlebium Catharinæ; 8, Goniopteris asplenoides; 9, Notholæna rufa; 10, Lastrea dilatata (?); 11, Cystopteris tenuis; 12, Pteris aquilina; 13, Cibotium glaucum; 14, Phymatodes longipes; 15, Sagenia cicutæfolia. When Ferns are sent to be named, the native countries should be mentioned, and specimens should be taken from full grown plants. We have the Numbers except 32. *S.*——*R S Y*—Zygopetalum crinitum.

Oleanders—*Cotswolder*—Cut down your tall Oleander, and if it require it, repot in rough turfy loam mixed liberally with sand and pieces of freestone, adding plenty of drainage. Endeavour to start it early into growth, that it may have time to perfectly ripen its wood; while growing give it plenty of water, and keep it in the lighest part of your house—the more sunlight it gets, the better, as far as the production of flowers is concerned—when not growing give very little water.‡

Peat—*Henry*—You may employ the substance sent to us as a mass *upon* which epiphytes may be tried, but not as one *into* which they can be made to grow. It has no one good property except its open texture. Nothing will thrive in it. Musa regalis is a name invented to sell a plant by; it is not to be found in any work on botany known to us. We do not know what is meant by it.

Polmaise—*Polmaise*—It ought not to exceed ⅓ the price of hot-water: what it cost must, of course, depend upon the plan adopted, and the way in which it is carried out.

Sheet Lead—*Vertumnus*—The lead you mention is known in the trade by the name of 4 lb. lead, that is 4 lbs. to the foot. It may be bought of any lead merchant, at about 22*s.* per cwt.

Vines—*Anti-braggadocio*—Your letter is not fit for printing; it is unjust towards a person whom we believe to be respectable, and not such as you would like to have published concerning yourself. *Do as you would be done by.* We have forwarded it to the party concerned. We will not permit men's characters to be insinuated away.

Misc—*J S*—Mr. Gaines, Battersea, near London.‡——*A. Hall* and *A Sub, Ireland*—We make it a rule never to recommend dealers.‡——*J L*—Your soil seems suitable for Heaths, except that it is rather deficient in vegetable fibre. Without better information we cannot say what is the matter with your plants. Read the papers on Heath-growing now being published in our columns.‡——*Z*—Tropæolum Lobbianum is perennial; your plants are no doubt going to rest. Cuttings, taken off about midsummer, struck in a cold frame, shifted, and afterwards placed in a heat of 60°, will bloom nearly all winter.‡——*F H S*—We do not recollect having received your former letter. What was the question?

CHEAP AND DURABLE ROOFING.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

F. M'NEILL AND Co., of Lamb's-buildings, Bunhill-row, London, the Manufacturers and only Patentees of THE ASPHALTED FELT FOR ROOFING Houses, Farm Buildings, Sheddings, Workshops, and for Garden purposes, to protect Plants from Frost.

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HER MAJESTY'S WOODS AND FORESTS,
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And on the Estates of the Dukes of Sutherland, Norfolk, Rutland, Newcastle, Northumberland, Buccleuch (at Richmond), the late Earl Spencer, and most of the Nobility and Gentry; and *at the Royal Agricultural Society's House, Hanover-square.*

It is half the price of any other description of Roofing, and effects a great saving of Timber in the construction of Roofs. Made to any length by 32 inches wide.

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☞ The Public is cautioned that the only Works in London or Great Britain where the above Roofing is made, are

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Patent Felt Manufactory, Lamb's-buildings, Bunhill-row, London, where roofs covered with the Felt may be seen.

The new Vice-Chancellor's Courts, at the entrance to Westminster Hall, were roofed with F. M'NEILL and Co.'s Felt about two years since, under the Surveyorship of Chas. Barry, Esq., R.A. Her Majesty's Commissioners of Woods and Forests are so satisfied with the result that they have ordered the Committee Rooms at the Houses of Parliament to be roofed with their Felt. Quantity altogether used, 24,000 feet.

Note.—Consumers sending direct to the Factory can be supplied in lengths best suited to their Roofs, so that they pay for no more than they require.

Every information afforded on the construction of Roofs, or any proposed particular application of the Felt.

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PATENT ASPHALTED ROOFING FELT,
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who also make INODOROUS FELT for lining damp walls under paper in place of lead. Samples, directions, and all necessary information sent free, on application to the Manufacturers, or any of the following Agents:—

Bristol—Tratman, Brothers.
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Southampton—John Vaux
Whitehaven—Randleson and Forster.

Hurst and M'Mullen, Seedsmen, 6, Leadenhall-street, London.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK AND TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their IMPROVED BRICK and TILE MACHINES, which are to be seen at work at Alperton, and at the Company's Office, 193A, Piccadilly, from 10 A.M. to 5 P.M. Mr. Robert Scrivener, who has been appointed Manager in the room of Mr. John Ainslie, will show the Machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, 193A, Piccadilly, London.

These Machines may also be seen at Mr. Slight's, Leith-walk, Edinburgh; Mr. Lawrence Hill, 135, Buchanan-street, Glasgow; Mr. Robert Charles, Mill-hill, Leeds; Messrs. Perry and Finch, Penkeridge, Staffordshire; and Messrs. Drummond and Son, Dublin.

IMPROVED FARMING IMPLEMENTS.

THRESHING MACHINES (Four-horse Power) doing from 25 to 35 loads of Wheat-straw per day—straw undamaged, price 60 guineas, including carriage and horse-power. A GORSE MACHINE, hand labour, will prepare 50 bushels per day, price 10*l.* 10*s.*; WEDLAKE'S CHAFF MACHINE will cut 200 bushels per day, price 7*l.* 7*s*; Horse Hoe, Dressing Machine (7*l.* 10*s.*), TURNIP CUTTER, Turnip Drill, Stubble Rake, Oil-Cake Breaker, Bean and Oat Crushers, Essex Ploughs for 2 horses, Subsoil Plough, Double Field Roller, &c. Seed Machines from 3*l.* 6*s.* to 3*l.* 10*s.*, according to length. References given and testimonials produced of superiority.—MARY WEDLAKE, 118, Fenchurch-street.

The Agricultural Gazette.

SATURDAY, FEBRUARY 5, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.
WEDNESDAY, Feb. 9—Agricultural Soc. of England.
THURSDAY, — 10—Agricultural Imp. Soc. of Ireland.
FARMERS' CLUBS.—Feb. 5: Newcastle, Durham, Melrose.—Feb. 7: London, Claydon.—Feb. 14: Yoxford, Botley.—Feb. 17: Carlton on Trent.—Feb. 18: Halesworth, Hadleigh, Wakefield, St. Austell.—Feb. 19: Reading, East Kent, Northampton.

ONE HUNDRED AND TWENTY-SEVEN THOUSAND SEVEN HUNDRED AND FIFTY POUNDS OF SULPHURIC ACID were used as a manure by occupiers around Spalding last year. That is a startling fact. To those who are wont to speak of agriculturists as a slow and plodding race it will appear hardly credible. Let us state the history of a single farm in that neighbourhood in connection with this subject. We refer to a farm of nearly 600 acres in Deeping Fen. On this land the ordinary annual consumption of bones as a manure was one thousand bushels. This has latterly been reduced, as a less quantity with acid is found more efficient in the long run in producing a crop, and much more so in the first instance in securing and starting a plant. In 1846, on this farm, 6661 lbs. of acid, and 630 bushels of bones, were used; and last year the quantity used was 9647 lbs. of acid, and 790 bushels of bones. It may be necessary to state that the land is in the occupation of a tenant-farmer, on a lease for 14 years. No immediate saving is effected by the use of the acid, but a more valuable result is obtained; and that of course is as desirable a consummation as the other. The acid and bones are used with benefit for Mangold Wurzel as for the other green crops: 3½ bushels per acre along with yard manure have a most material influence; some drills where they were omitted appearing, a month after sowing, full 10 days later than the rest.

Of the whole quantity of acid named as sold last year in Spalding, upwards of 97,000 lbs. were disposed of directly *as* acid, only about 30,000 lbs. weight were sold in a manufactured state by the manure dealers. The following is the mode in which the acid and bones are mixed on the farm to which we have alluded. The latter are laid in heaps of 80 bushels, and water is added until they are thoroughly soaked, and in 36 or 48 hours, when they have got into a state of high fermentation, they are spread abroad as, in making mortar, the mason spreads the lime before adding the water. They are spread in the form of a basin, a layer of 6 or 8 inches thick where thinnest, surrounded by an elevated bank or rim which is trodden down as firmly as possible. More water is added if it can be absorbed, and the acid follows, poured on gradually. After the heat has partly subsided, the whole mass is mingled together, and remains untouched for a few weeks, after which 20 bushels of peat ashes for every acre of the land to which the bones are to be applied are mingled with them, and the whole is once more damped sufficiently to cause fermentation before it is required for drilling.

Mr. PUSEY paid a visit to the Lincolnshire Wolds a few years ago, and astonished many by his account of the energy and intelligence with which agriculture there is prosecuted. The above history will, we doubt not, be generally received as an equally remarkable proof of the energy and intelligence with which the land is cultivated in the Lincolnshire fens. The acreable outlay of 15 lbs. per acre of *gunpowder* as a first cost, which we had some months ago to record of a farm in Dartmoor, is hardly more remarkable in the annals of agricultural improvement than the *annual* outlay of 15 lbs. per acre of sulphuric acid. How ridiculous the prophecy of such doings would have appeared years ago! Experience acquired in the laboratory of the chemist had not then been proved capable of application in the field. It remained for LIEBIG to show the chemical character of the many processes in cultivation and vegetable growth; and, after thoroughly arousing the attention of agriculturists to the importance of his doctrines, to offer suggestions founded on a chemical experience which have so rapidly proved their excellence in the experience of the agriculturist.

It can hardly be necessary to repeat an explanation of the mode in which sulphuric acid increases the fertilising influence of bone-dust. We shall, however, allude to it again, as it is explanatory also of Mr. PUSEY's experiments lately published in the "Journal" of the English Agricultural Society. It has been found that bones in a heap with moistened ashes or sand ferment so intensely as soon entirely to lose their structure and form. In this state they have acquired greatly more power as a manure. In one case 17 bushels of bones yielded a crop of 13¼ tons of Turnips per acre, while the same crop was obtained from half the quantity of bones that had heated in sand. In another case 14¼ tons of Turnips followed the application of 25½ bushels of bones, while 12¾ bushels heated in sand yielded a crop of upwards of 17 tons per acre. In the former case 4½ bushels of "sulphated" bones produced 14¼ tons of roots, and in the latter 7½ bushels of "sulphated" bones produced a crop of 14¼ tons. The explanation is this. In the course of it, let it be assumed that the value of the bones as a manure is mainly due to the phosphorus with which they furnish the plant. The chief constituent of bone-dust is phosphate of lime, a compound of phosphoric acid and lime, which is insoluble in pure water, and which, therefore, if rain water were pure water, would be useless as a manure. Lime will unite with two different proportions of phosphoric acid; and though as phosphate of lime it is insoluble, as biphosphate (*i. e.*, united with a double quantity of phosphoric acid) it is very easily soluble in water. And the advantage of adding sulphuric acid to bones is simply this—that it converts the insoluble phosphate which they contain into the soluble biphosphate. From one portion of the phosphate of lime it detaches the phosphoric acid, and, taking its place, unites with the lime thus isolated, forming gypsum, while the phosphoric acid which it has detached combines with another portion of phosphate forming a biphosphate. Bone earth thus treated, therefore, contains [illegible] in a soluble form, and the [illegible] abundance presented to it by every [illegible] penetrates the soil in which the manure has been deposited.

Again:—Rain water contains [illegible] and this acts precisely as the [illegible] a soluble superphosphate of lime [illegible], only the process is much slower, owing to the comparative weakness of the acid. To compensate this weakness, a greater quantity of the [illegible] must be applied, and the carbonic acid of the [illegible] acting on a larger surface of the [illegible] may, perhaps, though checking [illegible] in the way of the decomposition per square inch of the [illegible] on, produce an equal result in the total, owing to the greater number of square inches [illegible]. And in the experiment quoted there [illegible] that the crop from 2½ bushels of [illegible] fact, equal to that from 7½ bushels of the unprepared bones, from which we may infer that the [illegible] acid of the rain-water produces [illegible] phosphorus, so to speak, by setting [illegible] face of the many particles in 2½ bushels of bone-dust, as the stronger sulphuric acid was able to do, acting on the less surface of the [illegible] particles in 7½ bushels of bone-dust. Now, no doubt, the bones disintegrated and powdered by their fermentation in sand, owe their greater immediate [illegible] manure simply to the greater surface [illegible] finely divided state they present to the action of rain-water. A less quantity presents a [illegible] face; and for the year's supply of the [illegible] it is, therefore, equally efficient under the influence of the carbonic acid of the rain-water in the preparation of the soluble biphosphate of lime. Of course it will not be supposed that phosphorus is all that a Turnip crop needs. Bones contain more than this, and owe much of their value to their other ingredients. But the other elements on which the Turnip feeds being more generally present in sufficient abundance, the vigour and ultimate weight of the crop will often depend on the quantity of phosphorus to which it has access: and thus it is that the efficiency of bone-dust as a manure will generally depend on the quantity of available phosphorus it can be made to yield.

We have alluded to this subject now, as the present is the proper time to purchase acid and prepare these composts of it, in anticipation of the Turnip seed-time. And the subject is [illegible] at any time, both as remarkably illustrating, in its history, up till now, the various degrees of energy and intelligence brought to bear in different localities on farm practice: and as a notable instance of the benefits that practice has derived from its union with science.

LAND DRAINAGE REPORTS.—No. IV.

CASTLE MALGWYN, PEMBROKESHIRE.—In answer to your queries as to Draining, I proceed to furnish my quota, for as you are always ready to answer any inquiries put to you, the least that farmers can do is to follow your example when you ask information from them.

Dates of Operations.—Years 1841, 1842, and 1848.

Extent Drained.—200 acres.

Nature of Soil.—All of it a retentive clay soil and subsoil, being mostly all in pasture when [illegible] hard.

Mode of Drainage.—The small drains were 3 inches deep and 13 feet apart. The material used was [illegible] broken so as to go through a 2½ inch ring. The main drains 36 inches deep; the small drains right down the fall.

The Cost of the Operation was, on the average, 5*l.* 10*s.* per acre; some of the fields more, some less. This includes quarrying, cutting, filling, [illegible], breakage, placing in the drains, and filling up. The crops previously grown were little but [illegible]; now crops of all kinds can be grown, viz. [illegible] to 40 bushels of Wheat, 30 to 35 bushels [illegible], 20 to 25 tons of Turnips, 2½ to 3 tons of hay, and Oats and Barley in proportion.

The subsoil plough (Smith's, of Deanston) is annually applied, and will be continued until the whole has been subsoiled, and this is found to be of great benefit. Every field now is perfectly dry, and no water left on the surface even after the heaviest rains. The leading drains are all covered in, so that there is no ground lost by ditches, but the whole is ploughed in close to the hedges, which are cut down every season so as to give the crops a free circulation of air, besides preventing the growth of weeds, which would otherwise shed their seeds over the land.—*A. Lewis Gower, 31, Finsbury Square.*

No. V.—BALDOON, WIGTOWN.—*Dates of Operations.*—1842, 1843, 1844, 1845, and 1846.

Extent Drained.—450 imperial acres.

Nature of Soil.—413 acres alluvial carse land, flat, and of very uniform character. About 40 acres gravelly Turnip soil on a very retentive and impervious till subsoil.

Mode of Drainage.—For the first two years after commencing operations on the carse land, the drains were made in every furrow 2 feet deep (or about 27

inches deep when the ridge was levelled down), and 15 feet apart. Experience showed the advantage of more depth, and as the work proceeded the depth was increased to 2½ and 3 feet, and the distance apart to 18 and 20 feet. A greater depth than 3 feet could not be obtained with an outfall. The fields being large, the length of ridge from 500 to 600 yards, it was necessary to provide cross main drains at as great depth as the outfall admitted, and which were so placed as to cut across the parallel drains about every 200 yards. From the very level nature of the land, it was necessary in every case to see water running in each drain before closing it up, as it was otherwise impossible to obtain a fall. The delay thus caused was frequently very inconvenient, but the necessity for it was always seen when rain came, even in the drains of the most experienced workmen. The material employed was 3 inch tiles and soles. On the gravelly land, where there was no difficulty in getting a fall, 2 inch tiles and soles were used. Very few of the drains have gone wrong. Where they have it was where too shallow, or where they had been filled up in dry weather.

Cost of the Operation.—From 6*l.* to 7*l.* per acre, according to width apart—the landlord, the Earl of Galloway, supplying the tiles; the tenant doing all the work; the proportions being, for materials by the landlord, from 3*l.* 10*s.* to 4*l.*; and for work by the tenant from 2*l.* 10*s.* to 3*l.* per imperial acre.

The Results are—Greater uniformity in the grain crops; greater ease in all the operations of husbandry; greater certainty in the action of manures; the power of substituting drilled for broadcast green crops on the carse land. But it is right to state that though a Turnip crop can now be forced on the carse land, it is done at great expense, and even in the best seasons does not form nearly so good a preparation for a Wheat crop as the bare summer fallow; and it becomes a matter of simple calculation whether the value of the Turnip crop compensates the expense attending it, and the deterioration of the following Wheat crop.—*James Caird, Baldoon, Wigtown.*

No. VI.—Perswick, Devon.—You invite information on the result of various modes of draining. I have been rather perplexed at the partial failure of an undertaking of this kind, executed in Jan. 1846. Can you point out the best mode of obviating such a result? The part of the field drained is about 2 acres—drains cut 4 feet deep, down the slope, which is rather rapid; length of drains about 80 yards from top to bottom; distance between each drain 21 feet; horse-shoe tiles laid on slate soles; 18 inches of stones and porous materials laid over the tiles. The substratum under the soil is of a stiff impervious character, a mixture of clay and stones, requiring the pickaxe to work through it. It is much of the same texture the whole depth. The drains are not carried to the top of the field, the ground for 40 yards at their head, or upper termination, appearing dry at all times, but the field is now in Wheat, and it is evident that the rain water sinks away at the top of the field, but reappears on the surface a little farther down than the commencement of the drains. The slope is rapid, and the soil being too impervious between the drains to admit of the water sinking freely to the drains, it has accumulated in sufficient quantity and remained long enough to destroy a considerable breadth of the Wheat. It appears to flow down the slope. The field heretofore was thrown up in ridges or stitches and furrows, but these I omitted after draining. I subsoiled with Barrett's and Exall's subsoil plough across the drains once after they were completed and before Turnips were sown last summer. I may observe that the drains discharge a great deal of water for some hours after rain, but it is very evident that they do not admit it all, in sufficient season. May I hope that after more subsoiling, and longer drying, these drains will absorb all the water? or will it be advisable to run three or four drains across the slope, discharging themselves into the perpendicular drains? Certainly I have been much disappointed at the result, but perhaps I ought to have let the field lie fallow a year, to establish the fissures, whereas I had Swedish Turnips before the Wheat. P.S. Since the Wheat was destroyed I have resown it, and have run two or three open drains or water grips across the slope, which catches the rain water and conveys it to the hedge, and the Wheat resown flourishes. You may think that had I carried the drains to the top of the field this would not have occurred, but if not to so great an extent, I still believe the injury would have remained.—*A Subscriber.* [Which way do the strata below the soil dip?]

THE WIREWORM.

There is probably no subject connected with the occupation of the farmer on which so little real information exists amongst practical men, as on the habits and economy of insect life, yet upon correct views on this subject often depends the preservation or loss of a valuable crop; and as any facts connected with the habit of that most destructive insect the wireworm are of interest to the cultivator, the following observations may be of service to some of the numerous readers of the *Gazette*.

Having entered upon the occupation of a farm last autumn, I resolved to convert a piece of indifferent pasture to tillage, and at the urgent persuasion of some friends was induced to plough the field before Christmas, and, without burning or other preparation, to sow Oats in the following March.

The crop at first came well, but soon began to show symptoms of wireworm, the plant gradually dying over the whole field, with the exception of a small portion on which a mixture of guano and superphosphate of lime was drilled with the seed by way of experiment; on this portion of the field the Oats grew so luxuriantly as to defy the attack of the enemy, while upon the other part of the field the crop was nearly worthless, although every expedient that could be adopted was resorted to with the view of saving it. Crosskill's crusher, and treading with sheep, apparently had no effect in retarding the destructive operations to which the crop was ultimately sacrificed.

The portion of the field drilled with artificial manure with the seed produced a good crop, nor was there any appearance in the plant at any period which indicated the attack of wireworm, although on examination of the land they were found to be equally numerous as on the part of the field where the crop was nearly destroyed; doubtless this difference arose in part from the dislike of the wireworm to work in the rows of Oats where guano and superphosphate were drilled (as they were generally found in the spaces between the rows, apparently feeding upon the decaying vegetable substance), and partly to the increased vigour of the young plant; the latter view is supported by experience in Turnip cultivation, it being a case of frequent occurrence that crops were materially injured, and in some instances entirely destroyed by the wireworm, while I have never heard of an instance or met with one in my individual experience in some hundreds of acres of Turnips in which the crop has ever suffered from wireworm, when dissolved bones have been used as manure and drilled in with the seed. In the month of June the destroyers were as vigorous and as voracious as in the spring, still feeding upon my devoted crop; but at the end of the month the greater number of them were about to cast their skin previous to passing into the pupa state; they were then inactive, and had lost that tenacity of life which is so characteristic of the creature; they had excavated small egg-shaped retreats in the soil, about two or three inches from the surface, to which they retired to undergo the final transformation. During the first week in August I first noticed that the pupa had assumed the external form of the perfect insect; they were devoid of all power of locomotion, although very sensitive, writhing on the slightest touch of the finger; from some specimens selected for trial it is probable that the insect remains in this inactive state for as long a period as six weeks, or, as in this instance, from the beginning of July to the end of August. Upon searching the soil on the 6th of September, to ascertain if it were free from this pest, I was surprised to find many of the perfect beetles which, on breaking the clods, were found to occupy the oval cell formed by the wireworm; they were the species described by Mr. Curtis as "Elater lineatus," and in a few seconds after exposure, they began to move about in a very lively manner, and some of them that I have kept until the present time, with the hope of discovering the period at which the species is propagated, appear equally lively as on the day they were taken from the field.

Mr. Curtis says, "that previous to exposure to air and light, the beetles are of a whitish colour, soft, and extremely tender." If this is a correct description of the species generally, the specimens I have had probably retired to the cells in which they had passed the pupa state, for the purpose of temporary rest, possibly induced by instinct to avoid the predatory beetles with which the field was well stocked. I am inclined to this view for several reasons, for instance they were of the natural colour of the perfect insect, and had not the appearance of a recent chrysalis; they appear to have little inclination for fresh quarters, not attempting to escape from an open vessel in which they are placed, but frequently bury themselves in the soil, as though it were the natural habit of the insect. From these facts I conclude that it is highly probable that when the perfect beetle is called into existence it also propagates its species. If the state of the field had admitted of tillage during July or August, the whole of the present, and probably a future race, would have been easily destroyed.

The practical conclusions deducible from these facts are, that when second-rate pasture is converted to tillage it is prudent, as a security against insect depredations, either to incur the expense of paring and burning, or to afford the crop in its early stage some assistance from guano or other inorganic manures; it is also evident if ordinary land, infested with wireworms, could receive an effective tillage in July or August, it would tend materially to rid the land of this pest.

One of the best modern improvements in husbandry consists in paring the stubbles immediately after harvest, with a plough constructed for the purpose, and after effective harrowing, collecting, and removing the rubbish from the land, a practice which cannot be too highly recommended, as the work of the next season is not only forwarded, but the operations of clearing the soil of root weeds and Twitch Grass is effected at that period of the year at which the land is most easily wrought, the seeds of annuals vegetate and are destroyed, and the tendency of Grass and rubbish to extend over the surface is very much checked; the land receives a winter fallow, and the ameliorating effect of frost is not counteracted by subsequent tillage in the spring.

Our ancestors used to burn the rubbish collected from their fields to a much greater extent than has been usual lately; this was undoubtedly the cheapest method of getting rid of it, and now that science has explained to the agriculturist that the occasional destruction of vegetable substance by incinerations is not incompatible with true economy in farming, we may have less reluctance in returning to the custom, but if we consider that autumn cultivation, combined with the decomposition of the rubbish by fire, has also the effect of destroying the germ of insect life, it is an additional reason for its general adoption.—*J. B., Allesley.*

Home Correspondence.

Box-feeding.—"Opinionum commenta Dies delet; Naturæ judicia confirmat." *Cic. de Nat. Deo.*—Should my valued friend Mechi and I disagree on the subject of managing of cattle, it will be, I believe, the first time our thoughts have not coincided upon any important matter. But I cannot at present persuade myself but we do agree here, or that we shall agree when we better understand each other's meaning. It is quite clear to me that my friend has not understood the drift of my letter on cattle-feeding. Had he understood what I aimed at, his reasoning would have had very great weight with me, because I know that no man is more cautious than he, or considers his subject more before he trusts his pen to paper. My friend reasons, however, as if I were against dry, warm, comfortable houses and bedding for pigs, sheep, and all kinds of cattle; whereas the very reverse to this is the fact. All who know me, all my neighbours, parishioners, and friends, will acknowledge that I have continually pressed upon them the impolicy, as well as cruelty, of exposing warm-blooded animals to the severities of our climate. For my part, I have said, if I kept a rat, a polecat, or even a wolf, I would protect it from the severities of our winters. But my friend reasons as if I were advocating opinions just the reverse to these; he writes in reference to the kind of buildings that I was drawing cattle-feeders' attention to, who were about to build new ones, that those boards "of his are palaces for sheep when compared with the cold, wet, and unctuous Essex clays;" and this I do not deny, nor did I intend to deny it, but that was not the question before me. I did not intend to compare my friend's covered-in cattle-sheds to the "cold, wet, and unctuous Essex clays;" but I wished to draw the attention of agriculturists about to build to this modern plan of feeding cattle in pits never cleaned out, and sheep and pigs on open floorings over pits that were never, or but seldom cleaned out likewise, and without bedding also. For several years I had suspected that the plan was neither natural nor philosophical, knowing what aversion nature has implanted in every animal to its own excrements. I had also a higher motive still for the appeal I made. I consider that we should not look upon the brute creation as mere machines devoid of feeling; I am aware that it has been said that it is not wise to reason from analogy on these matters; but in my treatment of every animal I possess (my horse, pig, dog, and cat) I always ask myself how I should like them to treat me, were we to change places. I consider that they have pleasures and pains, aye, and mental anguish too; for, on one occasion, when I was ill, and seemingly at the point of death, my cat lay on my bed all the time, though she was never seen in my room before, and my faithful pointer came nightly and howled under my window. But these feelings did not alone move my pen; I thought, and I still am inclined to think, that buildings to answer all the purposes of manure-making might be erected without these modern dungeon-like excavations, and I rejoice to find that such can be built. Amongst other proofs of this, I can inform my friend Mechi that a gentleman, well known to him, of great knowledge, and one of the most extensive breeders and feeders of cattle in England, has a far more rational plan, has filled up excavations he had made, and is erecting buildings on a better system; nor is this all. But since my letter was written I have been favoured with the opinions of others upon it, which coincide with those of the gentleman above. And I know my friend so well, and that his candour is so great, and thirst for knowledge so ardent, that he will think again upon this subject, and that when I inform him who the gentleman is to whom I have referred, and I have his card on purpose, he will not, at least, so placidly smile afterwards upon the "occasional adhesive patches" on the sides of his own beasts. But after all, I fear it will be said of me, What! Mr. Wilkins an enemy to modern inventions? Does the advocate of this novel system of grain-growing oppose the new method of muck-making? Should this be said, and doubtless it will, I answer by my motto at the head of this paper, that the inventions of opinions last but for a day; but the judgments of Nature are eternal. Rational agriculture, such as we thin-seeders advocate, is not novel, but as old as the civilisation of mankind, while thick-sowing is comparatively new; this is the offspring of the ignorance of the darkest ages of our history. But cultivated minds, such as my friends Mechi's and Davis's, and many others, are removing the mist under which it has been too long fostered, and will soon banish it from our land. These cattle-dungeons also will exist but for a day.—*Geo. Wilkins.*

Salt.—I am the person alluded to by Mr. Mechi, at Sir R. Peel's, who has reaped the advantage of standing crops in place of lodged and half-rotten ones, through the use of salt, which I apply at the rate of 4 cwt. per acre to all my Corn and Grass seed crops,—namely 2 cwt. in March and 2 cwt. in the beginning of May; and for Turnips, 7 cwt. of salt and 4 qrs. of lime, mixed and well slacked with water about three months before use,

and kept dry. I apply it on the surface, and once harrowing, a few days before putting in the seed. I commenced using the foregoing mixture in 1842, and I have never had either mildew or a failure in my Turnip crop since; except in two cases where I did not use this simple and cheap manure. I use it in addition to farm yard manure, or any other, although it will grow as good a crop of Turnips as any other light manure on light land, but on strong land it will not, although of great use. I hope that the importance of this communication will be sufficient excuse for an humble farmer's asking you to give it a place in your valuable Paper; as it is the duty of us all to give all the information in our power, to aid in the supplying the increasing population of our country with bread and meat. —*Peter Lees, Manor-house Naseby, Welford, Rugby.*

The Tour in Scotland.—We have often heard a newspaper compared to a stage coach, and no mean comparison, for sure enough a public periodical is just a conveyance for information, as a stage coach is for goods and passengers; and as we may sometimes find in the latter all ranks and characters of the community placed side by side, so in a public periodical we find the statement of all classes of correspondents, from those of great knowledge and intelligence, down to the prejudiced and blundering correspondent, whose own assertions contradict each other. This leads me to the extraordinary account of a "Tour in Scotland" by a correspondent, published in the *Gazette* of 4th December, and who re-asserts part of his statements in that of the 8th inst. From his own account he has traversed no small portion of that country, but certainly its inhabitants cannot applaud him for his minute and correct observation. I do not by any means affirm that Scotch farming is yet arrived at the *ne plus ultra* of good husbandry; we are however daily progressing, though we have yet much to learn; but from your correspondent's statements it appears we do not know anything of what good farming is, but only what it is not. It happens that I am not only acquainted, but have actually resided in all the districts traversed by your correspondent, and we are told that "the soil throughout is with very little variation the same;" the most ignorant Scotch ploughboy would soon furnish us with a suitable contradiction to this statement. Our draining, we are told, is "almost universally on bad principles, for the most part the drains are made with horse shoe tiles without soles," and I agree with your correspondent's assertion that *that being the case*, "they are sure to fail." Still he cannot by any means say this is universal; a very large portion of the furrow-drains in Scotland are made of horse-shoe tiles with soles, and in many instances a little coarse gravel or small stones are put on the top of the tiles, which makes a great improvement. He adds, "much land has been drained within the last few years, but still it is poisoned with wet." As his tour appears to have been about the beginning of August, I am surprised to hear of wet land at that dry season, except bogs or morasses. In his first account we are told that "the most elementary and trivial point of husbandry is as well understood by every plough-boy in England as by the best farmer in Scotland." And we are afterwards informed that "the farmers in Scotland are intelligent and have done well;" as these two statements cannot both stand the test of mathematical reasoning, I shall therefore pass by them as specimens of many more of his assertions. But our "cottages are dirty to the extreme." I do confess too large a portion of the cottages in Scotland are wretched, dirty, uncomfortable hovels; but by no means to the extreme. To arrive at the extreme, he must visit Ireland, where he will frequently find both the family and the pigs all living in one apartment, and that none of the largest dimensions. This is, however, a rare sight in Scotland, and I also assert that a goodly portion of our cottages are both clean and comfortable, and as a whole I consider them pretty near akin to their neighbours. We are also informed by this tourist, that "our ploughs are little toys." Is he not surprised that the gentry and farmers in England send here for so many of those toys? It has been my lot to labour in the sunny fields of one of the richest districts in the south of England, and although I am far from undervaluing the countless specimens of good farming in that country, yet I trust I will be excused for asserting that many of the ploughs throughout England are constructed and wrought on bad principles. It is by no means uncommon to find ploughs with one or two wheels drawn by four horses yoked in single file. In one instance I observed, while travelling from Manchester to Leeds, a plough of this description drawn by three horses, and a donkey in front leading the rest. Now no one can deny the fact that wheeled ploughs are never in use except to suit unskilful workmen, and only employed when agriculture is in a backward condition. The practice of ploughing with horses yoked in single file cannot be too much condemned, and the sooner it is abandoned the better, as it must be a great waste of animal power, because some of the power of the foremost horses is always lost in its passage along the sides of the hind horses, and in turning the whole draught is imposed upon the hindmost in the row. Two horses will in general do more work yoked abreast than four yoked before each other in single file. But we pay nothing to our church, nor the poor; not so in this parish—we are charged 6*d.* in the pound by the kirk session yearly for the support of the poor, and so are we free from conscribing 8*s.* per annum sufficient allowance for an old woman, that I am aware of several in the parish receiving 3*s.* 6*d.* per week, and others 2*s.* 6*d.* and a stone of Oatmeal. In his last assertion, your correspondent appears as if he had meant to give to all the rest of his comments what artistic terms "the sheer," but he has wonderfully failed in his attempt. "Stockmen," he remarks, "are wise enough never to farm in Lincoln on their own money, although they will recommend their landlords with the money of their masters." Could he not have also stated once more, by confidence so frequently fill such situations in England, as to the fact is that any English ploughboy is equally qualified. —*Caledonicus.*

Extreme Crops.—As you desire to hear of instances of abundant crops of Wheat, I will give you one. My late respected friend Geo. Webb Hall, [illegible] practical farmer, in the year 1840, in my presence, declared to me, purchased at an auction of the goods of a clergyman at Wroxhall, near Bristol, a standing crop of Wheat growing upon a piece which measured 7 rods less than an acre of land. He harvested it when ripe, and threshed out, as he assured me, 7 bushels of grain from it. It was a fine White Wheat, a capital sample, but the particular variety I do not know. Struck with the enormous produce, I purchased some of it for seed and sowed it in Hampshire, in a soil much poorer than that off which it was raised, and my skill was inferior to that of the rev. farmer who reaped it. I did not obtain from it above a third part of the same agreeable produce, and the sample being inferior, I did not preserve the variety.—*Hantonicus.*

The Turnip Crop.—Around Dunse the Turnip crop is so abundant that the tenantry doubt if they have stock to consume them. At one period the crop looked bad, but has turned out beyond their expectations. Mr. John Elliott, who farms 560 acres and more, says: The longer I live the more convinced I am of the propriety of early storing, during the months of November and December, but if possible before the close of December. Size of root must be sacrificed for quality; a large Turnip is seldom a good feeder, besides taking so much out of the land; this applies to White Turnips especially, unless grown upon a strong soil, when the quality is always better of both kinds, Swedes and Globes. Turnips, if allowed to remain on the ground till they attain their full growth, or if drilled with large quantities of guano or superphosphate, by which the plants are forced to size and early maturity—are the first to show signs of decay, and when stored are found not to keep long, and this exhibits itself more plainly in roots grown on light than on strong soils. On these last the soundest and best Turnips are raised with us. A large Turnip contains more water, we know, but the residue does not possess the quantity of nourishment a smaller bulb would produce. The root that is slowest in coming to maturity is the best for food as well as for storing.—*R. S. S.*

Cultivation and Produce of 9 acres 20 poles.—Soil gravel; staple shallow, subject to Poppies, but good Turnip land; farmed the last 16 years the four-course, after this plan:—1st year, 4½ acres Swedes; 1 acre 20 poles Mangold Wurzel; 1 acre Carrots; ¾ acre Kidney Potatoes—(these crops reversed every four years); 1½ Tares, mown for horses and cows; after first-mown Tares, Potatoes (Shaw's); last-mown, Round Red Turnip; Turnips greater part fed off; sheep fell back on Mangold Wurzel and Carrot land. 2d year. Sown with Barley and seeds—half the field Red Clover; the other part Dutch. 3d year. Dutch Clover fed off by sheep; red mown, and the second crop fed with sheep; the land, where Mangold Wurzel, Carrots, &c., grew, folded. 4th season. Ploughed about 3½ inches deep in October; immediately pressed and harrowed; then rolled a second time previous to dibbling; dibbled 7 pecks altogether of Spalding's, and a small quantity of the Taunton Dean Wheat per acre: rows 7 inches apart: commenced on 24th, finished 30th October. A very regular plant all over the field; hoed all once in March—a part twice—and dressed the Mangold Wurzel, Carrot, and Potato land, with about 25 bushels of soot per acre early in March. The Wheat was also rolled in the spring, and afterwards harrowed with light harrows to break the crust.

Produce	.. ..	370 bushels, head
,,	.. ..	25 ,, tail, good.
		395 bushels.

The tail Wheat I sold to my men at 1*s* per bushel less money. The head Wheat weighed 61½ lbs. per bushel, and 40 sacks disposed of immediately after harvest at 35*s.* and 36*s.* 6*d.*, the remainder in December, at 33*s.* per sack of 5 bushels. A small quantity of very thin chicken Wheat not taken into account. 2d Statement:—Dibbled, Nov. 18 (after Turnips fed off by sheep), as an experiment, 3 bushels of Wheat, had from Mr. Piper, Colne Engain. Rows 7 inches apart: quantity of land, 1 acre 2 roods 24 poles: produce, 91½ bushels, besides 2 bushels of very light. The quality altogether inferior, being mildewed, or the yield would have been enormous. I think it will be found the most productive Wheat grown, but will not bear wet; the ear, owing to its being so closely set, holds water like a sponge. The straw being remarkably short is another objection I have against it. I may state that my average for a number of years is about 5 qrs. per acre. Land all suitable for Turnips, but in the opinion of some, too sharp or hot for good Wheat land.—X. [We shall be much obliged for further history.]

The Oil-cake in Beds.—Having read with attention the several letters that have lately appeared in the [illegible] *Chronicle* on the [illegible] in the case of [illegible] to consecrate [illegible] who deny the [illegible] had, appear [illegible] that the [illegible] soiled, were it not [illegible] All these [illegible] me [illegible] Edinburgh; [illegible] by paying the [illegible] the [illegible] the city [illegible] being fed [illegible] —by [illegible] [illegible] for the [illegible] way that the [illegible] the [illegible] the [illegible] the [illegible] continued till the feathers of the [illegible] over the [illegible] judge by their [illegible] after the operation. [illegible] that it is a [illegible] that the necks of [illegible] for the tip of the [illegible] way that the necks [illegible] the length of the [illegible] Grass and other [illegible]—*C. C.*

On the Formation of the Egg of Poultry.—[illegible] tinct [illegible] a few words [illegible] a hen in full laying [illegible] that the ovary was [illegible] resembling a bunch of [illegible] that the yolk begins [illegible] ter down to a pale [illegible] there yolks begin, [illegible] capable of having [illegible] to reason, and has not been [illegible] gist that I know of. In the case of the [illegible] appended to the ovarium [illegible] once filled, is sufficient for the [illegible] all the eggs in the ovary: this [illegible] passes the mouth of the [illegible] Birds, not being furnished with a muscular apparatus, cannot have more than a few of the [illegible] at a time—only those that are [illegible] forwardness; but when to fix the time, I cannot state before laying, can only be ascertained by experiments. My belief is, that two or three if the first might prove fruitful; but it is [illegible] of, that no hen will lay the normal number (from 120 to 150) eggs from which chickens might be produced after the death of the cock or [illegible] to [illegible] passes an [illegible] the [illegible] after. Those who believe and assert the contrary must have been deceived by the [illegible] ing cock, which, resembling them as to [illegible] known hours of the [illegible] eluded his prejudiced gaze.—*Cock.*

Harrison's Pills.—By means of your Paper let me add my testimony to that of [illegible] Harrison's pills in many [illegible] premises have been for many years [illegible] worst of all very [illegible] than a box of these pills we are [illegible] You may judge of my [illegible] they had such [illegible] as to gnaw the [illegible] through the sewers and [illegible] with my premises [illegible] around me. Traps, [illegible] nothing; and the [illegible] certainly, if one less than [illegible] after his visit, the stock [illegible] the case. But [illegible] I am not selling them. I do not even [illegible] but by means and in that capacity, as part [illegible] the usual [illegible] ridding the [illegible] vermin, and by the universal use [illegible] might [illegible] of them: for they are not [illegible] than a century's standing in this country: all [illegible] the former rats [illegible] known in England. I know enough of the [illegible] recommended [illegible] Gaz. p. 44) to say, [illegible] to do with [illegible] experiment: after all, it may fail, and I think I may say Harrison's pills will not. I do not think the rats eat them, as the servant found them as he had them, many days; but I may say after the rats were gone. But, [illegible] the enemy is put to flight.—*J. E. L.*

Mixed Manure for Turnips, &c.—W. Sapper.—Some time ago I

proffered to forward you the system adopted on this farm in preparing night-soil, which being accepted, I now proceed to do so. With a view that nothing may be lost, the privies are constructed with boxes inclosed under the seats; these boxes are made water-tight, and run on four cast-iron wheels; two iron staples project at one end, so that when full, a horse, with a pair of traces attached, conduct them to the tanks or reservoirs. These tanks, being two in number, are underground (4 feet 6 inches deep, 7 feet long, and 4 feet wide), built of stone, the bottoms being paved. A covered shed extends over the whole, supported at the back by a wall, having apertures, with doors, opposite each reservoir, for the purpose of receiving the contents of the boxes; the front being open, is supported by posts. This shed extends several feet beyond the reservoirs at each end, one portion being used as a depôt for the ashes of coals, also calcined and charred vegetable matter, with sawdust &c. (a supply of such articles being always kept in readiness to mix with the night-soil and urine); when delivered into the tanks, a sufficient quantity of the said ashes, &c., are supplied to give the whole mass the consistency of thick mud; the effluvium is immediately fixed upon the application of the ashes, containing a large amount of sulphuric acid, rendering it perfectly inodorous, and retaining its most valuable properties. This process is repeated whenever the boxes are replete, till one of the reservoirs is full, which is generally effected in about eight weeks; the other is then commenced, and by the time this is satiated, the first is in a fit state to empty, and is found sufficiently consolidated to admit of its being performed very pleasantly with a shovel, the labourer providing himself with a piece of plank or board, about 2 feet square, to stand upon, shifting it as necessity requires. The whole of the contents being thrown out, the mass is allowed to remain in this position (as delivered from the shovel, being at the other end of the shed) for about a month, during which time it undergoes a certain degree of fermentation, and is in a fit condition to be turned; whilst undergoing this process, it is chopped as minutely as possible with the shovel; should it be found too moist, a little dry ashes or powdered charcoal is scattered over, and the whole mixed in a compact mass together. It is again allowed to remain about another month, then again turned and passed through a sieve of 1-inch mesh; thus completing the process. I presume I need not add, we have found this mixture a very powerful fertilising agent; it is certainly worthy the serious attention of the agriculturist. The process is simple, easy, and cheap, and might be adopted on any farm within a reasonable distance of a town or village.—*Downside College, Jan.* 8.

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A Monthly Council was held at the Society's House in Hanover Square, on Wednesday last, the 2d of February: present, The Rt. Hon. Lord Portman, in the Chair; Lord Southampton; Sir Matthew White Ridley, Bart.; Sir John V. B. Johnstone, Bart., M.P.; Mr. Raymond Barker; Mr. Barnett; Mr. S. Bennett; Mr. Brandreth; Mr. Burke; Colonel Challoner; Mr. F. Cherry; Mr. Childers, M.P.; Mr. Druce; Mr. Brandreth Gibbs; Mr. Grantham; Mr. Hamond; Mr. Harvey; Mr. Fisher Hobbs; Mr. Hudson, of Castleacre; Mr. Jonas; Mr. Kinder; Mr. Milward; Professor Sewell; Mr. Shaw; Mr. Shaw, jun.; Mr. Shelley; Mr. R. Smith; Mr. Stansfield, M.P.; Mr. T. Umbers; Professor Way; and Mr. Henry Wilson.

The following new members were elected.

Hyde, Francis Colville, Syndale, Feversham, Kent
Small, Patrick, Dirnanean, Blairgawrie, Perthshire
Berners, Capt. Hugh, R.N., Gatcombe House, Newport, Isle of Wight
Mac Duff, Capt., Blair Castle, Blair Atholl, Perthshire
Mac Lagan, Peter, Invercauld, Braemar, Aberdeenshire
Bolton, George, Shropham, Larlingford, Norfolk
Wills, John, South-Petwin, Launceston, Cornwall
Luxton, Robert George, Brushford, Crediton, Devon
Croughton, William Peel, Heronden House, Tenterden, Kent
Pollard, Pascho, jun., Berrys, Totness, Devon
Howell, William Parker, Britannia-square, Worcester
Overman, Robert, Burnham Market, Norfolk
Fussel, Rev. G. C. Chantry, Frome, Somerset.

The names of 39 candidates for election at the next meeting were then read.

Finances.—Mr. Raymond Barker, Chairman of the Finance Committee, presented to the Council the report on the state of the Society's accounts at the last day of the month just ended, from which it appeared that the invested capital of the Society stood at 8999*l.* stock, with a current cash-balance of 3283*l.* in the hands of the bankers. Mr. Barker explained that this floating balance was made up of 1000*l.* received as a subscription from York towards the country meeting of 1848; of 688*l.* arrears of subscription paid up; of 371*l.* received on account of Life-Compositions; and of 1224*l.* the remaining balance available for current purposes. He also laid before the Council, for the information of the Members, the quarterly statements of the several accounts of the Society, classed under the different heads of receipt and expenditure.

York Meeting.—Mr. Raymond Barker having reported, on the part of the General York Committee, held in London on the previous day, the reasons which had induced that committee to recommend to the Council that the date of the ensuing country meeting of the Society, to be held at the city of York in 1848, for a district comprising that county, should be fixed for the week commencing Monday, the 10th of July next, the Council unanimously adopted that recommendation, and decided that the Tuesday, Wednesday, and Thursday of that week should be the days of exhibition, and Friday that of the general meeting of members, as usual.

Yorkshire Local Prizes.—Mr. Raymond Barker further reported, on the part of the General York Committee, the proposed distribution of the 350*l.* remaining of the 450*l.* placed at the disposal of the Council by the Yorkshire Agricultural Society after the appropriation of 100*l.* to two of the 50*l.* prizes for essays on the farming of Yorkshire, when Sir John Johnstone favoured the Council with such detailed information connected with the local wants and wishes of the farmers of the county, in reference to these prizes, as were required by the members present for the purpose of deciding on their respective subject and amount. The Council finally agreed to the following schedule of the local prizes in question, and decided that they should be competed for, under the general regulations of the Society, by such parties only as are occupiers of a house or land in the county of York, on their making the proper entry with the Secretary of the Society, as required by those regulations, on or before the 1st of June; such parties being allowed to enter the animals shown for these local prizes for any of the general prizes also of the Society for which they are qualified to compete, provided a distinct separate entry is made to that effect:—

	£	s.	d.
HORSES.			
Best stallion qualified to get hunters	30	0	0
Second best do. do.	15	0	0
Best stallion qualified to get carriage-horses	30	0	0
Second best do. do.	15	0	0
Best Stallion qualified to get Roadsters	20	0	0
Best Cleveland Stallion	20	0	0
Mare, with her Foal at foot, for hunting purposes	20	0	0
Second best do. do.	10	0	0
Mare, with her Foal at foot, for carriage purposes	20	0	0
Second best do. do.	10	0	0
Cleveland Mare, with her Foal at foot	20	0	0
SHORT-HORNED CATTLE.			
Best Bull of any age	20	0	0
Second best do.	10	0	0
Best Bull above 1 and not exceeding 2 years old	20	0	0
Second best do.	10	0	0
Best Cow above 3 years old	10	0	0
Best pair of In-calf Heifers, above 2 and not exceeding 3 years old	10	0	0
SHEEP.			
Best Shearling Leicester Ram	15	0	0
Best Shearling Long-woolled Ram (not Leicester)	15	0	0
Best Pen of 5 Shearling Leicester Ewes	5	0	0
Best pen of 5 Shearling Long-woolled Ewes (not Leicesters)	5	0	0
PIGS.			
Best Boar of a Large Breed	5	0	0
Best Boar of a Small Breed	5	0	0
Best Sow of a Large Breed	5	0	0
Best Sow of a Small Breed	5	0	0
	£350	0	0

Trial of Implements.—Colonel Challenor, chairman of the Trial of Implement Committee, obtained leave for that committee to report to the council at the next monthly meeting in March.

Steward of Implements.—On the motion of Mr. Brandreth, seconded by Mr. Shelley, Colonel Challenor was appointed one of the stewards of the Implement Department, in the place of Mr. Miles, M.P., who retires by rotation.

Paring Plough.—Mr. Miles, M.P., called the attention of the Council to a clerical error in the Report of Implements at Northampton (Journal, VIII., 334), in describing the Paring Plough exhibited by Mr. Kilby, of Queniborough, and to which the Society's prize was awarded, as "invented by Mr. Thomas Glover of Thrussington; improved and manufactured by Thomas Johnson of Leicester;" instead of—"invented by Mr. Thomas Glover of Thrussington; improved by the inventor." The distinction, though apparently trifling, was, Mr. Miles had found from Mr. Kilby, an important and essential one.

Railway Liberality.—Mr. Fisher Hobbs reported to the Council that the Eastern Counties Railway Company had, in the most handsome and liberal manner, compensated him for the loss he sustained at the time of the Northampton meeting, in having two bulls, two cows, and a calf, of the Hereford breed, accidentally destroyed by fire, in being conveyed free of charge by that company to Northampton, for the purpose of exhibition. He had made his claim of 300 guineas, as the value of those animals, and that sum had been paid over to him by the Eastern Counties Railway Company, in the most liberal spirit.

The Council expressed their gratification at receiving this report of the compensation to Mr. Fisher Hobbs, for his loss and disappointment on the occasion of the Northampton Meeting, through the handsome conduct of the chairman and directors of the Eastern Counties Railway.

Farming Accounts.—Mr. Hobbs took that opportunity of presenting to the Society, on the part of the author, a copy of another published Farming Account Book; and as there were parties who were, without authority, announcing to the public by advertisement their respective account books as sanctioned by the Society, he thought it desirable that the Farming Account Committee should be summoned to meet for business. The Council requested that Committee to meet during the current month, and report the result of their enquiries to the next monthly Council in March.

Implement Judges.—Mr. Shelley had leave to postpone his motion on Implement Judges to the next monthly Council.

Notices of Motion.—On the 1st of March, Mr. Bennett to move the election of Mr. Hudson, M.P.; Mr. Fisher Hobbs, that of Mr. Jonas Webb; and Mr. Burke that of Mr. Tweed; to fill the vacancy in the Council occasioned by the decease of Mr. W. R. Browne.—Mr. Raymond Barker to move the appointment of Mr. Hudson of Castleacre, as one of the Stewards of the Cattle Yard, in the place of Mr. Pym, whose state of health still prevents his holding that important office.

The Council then adjourned to Wednesday next.

SOCIETY FOR THE AMENDMENT OF THE LAW.

TRANSFER OF REAL PROPERTY.

Feb. 1—Mr. James Stewart delivered his third and concluding lecture on the above subject, at the rooms of the Society, 21, Regent-street.

He said: I am now desirous of calling your attention to some measures which should accompany a register on the plan which I have proposed to you. But first I wish to make one or two remarks on the present value of land in this country. Essays and speculations on the theory of rent are to be had; but the general nature of land in this country, the ingredients of its value, and the chief points on which this rests, are very lightly touched upon indeed. Now the reason of this, I conceive, must be that political economists have declined entering into it from the mystery which surrounds everything connected with land in this country. Political writers may indeed well be excused, when many lawyers at the bar, and even on the bench too, profess to understand very little about the technicalities of the law of real property.

Let us contrast the comparative value of land and stock in the funds in England and other countries. In England, on this day, Consols are at very nearly 90*l.*, or, that is to say, 30 years' purchase. You need not be told that the funds are liable to great fluctuation in prices. This has been shown within the last twelvemonth to a remarkable extent. In a time of peace, these same Consols have been at 100*l.*, or very near it, and they have been at 80*l.*, and yet, in spite of this variation and unsteady market, they are now at 30 years' purchase, and have been lately at 33 years' purchase. Now, is it not remarkable, that land, which in England produces more than in any other country, the value of which is intrinsic, which does not fluctuate with wars or the rumours of wars, which remains when all other things are swept away, which may turn out of great value indeed, as being available for mining, building, and more recently for railroad operations, should be usually of no more than 30 years' purchase, and frequently sells for much less. Take all these circumstances with you, and look to other countries in this respect. Take France: the Three per Cents. are now at 73. The credit of our own country is better, and the difference of price is thus accounted for; but the value of land in France is far greater, although there is much more of it, according to the amount of population. It is frequently 35 years' purchase, and, sometimes, in small quantities, 40 years' purchase, or even more. Take Belgium: the Four-and-a-Half per Cents. are at 91, but the value of land is 40 and sometimes 45 years' purchase. 100*l.* laid out in almost all other things will fetch more in France or in Belgium than here. But laid out in land it will fetch less. The reason appears to be this: In these countries, from the ready and secure mode of transfer, the land is considered the great national depositary—the great safety-bank of the country, to which all resort. In Belgium it has been stated to me over and over again by competent persons, that a small shopkeeper, or even a servant, who has saved 2000 or 3000 francs, lays it out in land as not only the safest but the readiest mode of security.

Take another instance; Most people at some time of their lives wish to borrow money on their property, and of course they desire to pay as little interest as they can. Now, suppose I live in London, where the greatest facility exists for this purpose, and I am the owner of freehold land, of a leasehold house in which I live, and that I am also possessed of a stock in our funds; a sudden emergency obliges me to raise a sum of money (I may be in trade—it may be absolutely necessary to save me from ruin—and if I can raise it, it may be all-sufficient for that purpose). I go to my bankers, or my friend in the city. I hand him over the title deeds of my freehold: he shakes his head at them. In the city I apprehend many cautious men will have nothing to say to them for this purpose. But, possibly, some more adventurous man, or some West-end banker may find the needful; leaving himself a very wide margin, and taking several kinds of collateral security, and charging me a good interest. But I have not sufficient, and then I hand him the lease of my house. I will suppose it is in a good situation, and, of course, a beneficial lease, and the title here is quite simple. In many cases for this purpose it is valueless. Leasehold security many most respectable bankers and offices will not look at. And if the business is done at all, the highest legal rate of interest, and sometimes more, I fear, is charged. But if I have Consols, or even good foreign securities, the countenance of my banker or my broker, assumes a very different aspect indeed. He will lend the money very freely, giving himself a very narrow margin, and taking a much less interest, and wanting no collateral security at all; and the whole is done at very little expense indeed. Loans on stock are thus made every day by hundreds.

But now let us see the practice as to this in other countries. Take any great trading city abroad—take Frankfort or Hamburgh, for instance, with both of which we have many relations. In the free state of Frankfort there is an excellent register, founded on a map, and the securities are almost entirely houses. There is a very lively exchange in that busy town. News comes from the East or the West which affects the market. I am a resident in Frankfort—I want money—I carry my bonds, my rentes, my stock to the banker. He tells me he does not at all like the look of things; the general credit of Europe is affected. He knows not what may happen—the funds are at 70 to-day, they may be at 60 to-morrow. He advances some money with reluctance, charges the full interest, and protects himself very carefully as to the amount. But if I have a house in a good street of the town he simply puts on his hat, walks to the register-office, demands to see the book in which the inscription of my house is set out, finds it unincumbered, and instantly gives me the money. It is the affair of a half hour. He gives me further on loan nearly the full estimated value of the house, and at the very lowest rate of interest that the state of the market allows. This I am assured by a highly respectable authority—that money is frequently lent on houses at Frankfort at 3½ per cent., and even lower, when, if we can get it at all, it is here at least 5 per cent. Take also Hamburgh. There we find the same ready mode of dealing with land and houses, with this accompanying convenience: the inhabitants of that city, having previously ascertained the value of all the land and houses in its territory, mutually agree to insure the repayment of any loan made on any house or land up to a certain amount, as one-half, or as it may be. Why are we, in London, and all cities large and small of this country, deprived of this great convenience, which is enjoyed in other countries? They are surely right and we are wrong. Land and houses should have more intrinsic and certain value than stock and funds. I have no wish to depreciate the value of these latter securities, but I certainly wish to raise the value of the former. Give us facility of transfer, give us security of title, give us simplicity of dealing, give us moderate and certain charges, and we can have all the advantages enjoyed by the citizens of Frankfort or Hamburgh.

The fact is, gentlemen, I am satisfied we do not know one half of the real uses or value of land in this country. We are a long way behind the most backward German state in this respect. For, take another great institution which exists in the whole of the northern parts of Europe more or less, and which the present French ministry has, in the session just opened, brought under the notice of the Chambers, with a view to its

adoption in France. I mean the institution called Credit-Verein, or Union for Credit, one of the consequences of which is the system I have alluded to as established at Hamburgh. It is simply this: all the landowners in a certain district or province, for it is chiefly confined to the country, unite together and pledge all their lands within that district to the state, or a public company, to secure advances to each person of, say two-thirds, the value of his land. This enables the proprietors of land within the district to obtain notes to a certain amount. These are transferable from hand to hand, and constitute a most sound and useful species of currency. The system has been in practical operation, I believe, for nearly 100 years; and this kind of currency, founded on land, is higher in the market than those stocks whose security rests only on the credit of the Government.

Now, gentlemen, I do not ask you to adopt these institutions in this country in the same form in which they are to be found in foreign countries. But I bring these facts before you, that you may weigh them well, and consider how you may safely make use of them in your own way. You have the same wants and wishes as other civilised nations. You have a right to the same advantages, and remember, you may obtain them if you will. The principle of insurance of titles, which I brought before you in my last lecture, I thought applicable to titles in this country before I knew it was carried into actual practice at Hamburgh, and I believe in some other places. Am I to reject it, because it is there adopted? Surely it greatly strengthens my argument in its favour when I find that it is not only found practicable, but is attended with great advantage in that country. I certainly wish the landowners of this country had also a Credit-Verein—a union for the insurance of their titles in this country. We have heard of the principle of mutual assurance for lives. Why not adopt it in districts, in counties and parishes in England and Wales, as regards titles. The working this principle into practical operation would require time and care, and thought, and there would be blunders committed and difficulties to encounter, but the legislature could hardly refuse you any assistance you asked, and we have usually considered ourselves as good men of business as the good people of Hamburgh, or as any Dutchman, high or low, although in this we are a long way behind them. But I think you will begin to see how much this question of the ready transfer of land concerns us as a commercial people. The conclusion, then, that I come to as to the value of land is, that it is in this country, from our defective practice of conveyancing, unnaturally and even absurdly low. There is every reason why land in England should be worth ten years' purchase more than it is. There is less of it, compared with the population of the country, than in any other country of Europe. There is more capital to purchase it than in any other country, and if the law of transfer were made easy, and titles made simple and secure, there are more persons desirous of purchasing it. If the landowners please it is in their power very considerably to increase the value of their land, and at the same time benefit the whole community.

Now, having made these general observations, I wish to mention one or two alterations which, I submit to you, should accompany the register.

I. Mode of Remuneration.—The first, and perhaps the most important, alteration which should accompany it is a change in the mode of remuneration to the legal professsion. You know, gentlemen, that the usual mode of payment for preparing deeds and for perusing abstract is by the length of the instrument drawn or perused. Now, I think this is now very generally admitted to be a bad mode of payment. The only question is as to the substitute for remuneration by length; for what is this mode of remuneration? Both the barrister and solicitor are paid, not for the labour, the skill, or the talent which he has expended, but simply by the length of the instrument prepared by him, or employed by him in the course of his professional duties. Skill and talent obviously cannot be measured by length, neither can labour be so measured, for it is often more easy to compose a long instrument than a short one. The degree of care and labour mainly depends on the habits and conscience of the draughtsman: but the only point looked at, so far as remuneration is concerned, is the length. Skill and labour, therefore, are not insured, but length is. This, it must be admitted, is bad in itself, as a system should be adopted which, so far as it is possible, will insure what is absolutely necessary, and not what may very well be dispensed with. Some documents must, indeed, be long; many may well be short; but all should be the fruit of labour and skill. So, also, were I devising a new system, I would not choose a plan which is palpably open to be abused by the direct tendency in human nature to study its own interest rather than the strict rule of conscience. It is obvious, then, that the present system of remuneration does not insure the proper requisites for the work, and it places human nature in a constant state of temptation. But is not this stating its effect rather too mildly? Does it not often give cause for the most odious accusations and suspicions? I only wish to glance at this, but it would be easy to go into detail; and, although I believe that the great body of each branch of the profession is free from these charges to this extent, yet it is not right that an honourable profession should be open even to the suspicion of such motives for their every day proceedings. But these are by no means my only reasons for saying that the present system of remuneration by length is a bad one. It is of far more importance than in the first instance it appears. If the additional gain from the additional length of the draft simply went into the pocket of the barrister or the solicitor, and this were all, that, perhaps, would not do much harm, but it may be safely said that every line of every deed is multiplied by 20 in the subsequent proceedings of the cause, or after dealing with the property. And is this system, so injurious to the client, always fairly remunerative to the profession? I think not. There is much business which, though necessarily paid by this standard, is very inadequately paid. You will find plenty of evidence to this effect from solicitors. It seems, then, that this system is open to almost every objection of which a system is capable. It does not insure adequate skill and labour; it is liable to be greatly abused; and lastly, it is not adequately remunerative. It rewards what should not be rewarded, and it leaves often the best services wholly unpaid. With all these defects, what should we substitute in its stead? I admit that this is a question not easy of solution. Still, if I find that our present practice is admitted by all to be a bad one, and to work ill both for the public and the profession itself; and I find another mode of payment prevail, not only in almost all other civilised countries, but also in Scotland to a great extent, which appears to give satisfaction to all parties; I am induced to think that it would be well it that mode of remuneration were to receive a trial in this country. I mean a remuneration chiefly founded on the value of the property dealt with. If you were to inform a foreign advocate or solicitor that our mode of remuneration was by length, he would hardly believe you, so objectionable would it appear to him; and certainly, if it were meant to obstruct all small dealings in land, it is very successfully contrived for that purpose; for it is obvious that, if a shorter deed or less perfect abstract is used when a small piece of land is conveyed than when a large piece is, either the long abstract or deed is useless in the latter case, or the purchaser of the small piece is deprived of some protection which the purchaser of the larger piece obtains. I apprehend, therefore, that if you wish to encourage the ready transfer of land, you should alter the rule as soon as possible, and moreover, I believe you would have the very general concurrence of the profession in this alteration. I have conversed with many eminent solicitors practising in London and the country, and they have almost to a man concurred with me that it would be a highly desirable change, and it has indeed been partially adopted by some respectable offices in the country, although, for any general or extensive change, I apprehend legislative sanction would be necessary. And here I may mention that a friend of mine, an eminent collector, informed me that, on the marriage of the eldest son of a nobleman, his client, it was necessary to settle the lands which lay both in England and Scotland—that he did his duty and the Scotch solicitor did his—that he sent in his bill, which was on the principle of payment by length, and the Scotch solicitor sent in his afterwards, which was on the principle of payment *ad valorem*, and that my friend was much concerned to find that the marriage settlement of the Scotch property, although not so large as the English property, was much higher in amount than his, although the settlement was much shorter, and ever since that my friend has been a strong advocate for an *ad valorem* payment.

And, gentlemen, I will frankly tell you that it is on no small policy of clipping professional bills that I have undertaken to bring these matters before you. Economy in these transactions should be fairly attended to, but this is far from being the principal point. Certainly in point of time the safety and simplicity of the title are far more important. The expense, if these be secured, does not deter persons from buying land. Take, for instance, Belgium, where the buying and selling land is the passion of the people, where it is said that the whole land in the country changes hand once in 15 years, which is of course not true as to certain lands, but is made up of it said by a more frequent change of other lands. Admit the to be an exaggeration, but there can be no doubt that the traffic in land is enormous. Well, in this country the expenses are very high indeed; they usually range at 10 per cent., and they must come to 7½ per cent., stamp duty and all included; but then this is a certain expense—it is calculated by the person laying out his money, and it does not deter him from investing it in land. Then, again, in Prussia, the usual expence is much less, being usually only one per cent, and yet there is not nearly so much traffic in land as in Belgium, so that the expense, provided it be an ascertained expense, does not alone deter persons from dealing in land. I believe the large sums that are now paid would be willingly paid if the parties could be spared the anxiety, the ruinous delay lasting sometimes for years, which often cause the misery and even the deaths of the parties. This is the great cause of grievance, and not the expenses, although it is right and fair that they should also be looked to and rendered more moderate and better proportioned to the property.

[The learned gentleman then pointed out the importance of shortening the forms of transfer, and of releasing land from the general lien of judgments. On the subject of the stamp duties, he observes:]

"The next change which should accompany the establishment of a register, is a revision of the stamp laws. I do not now dwell on the inequality of these laws, because that has been again and again brought before the public, and much evidence has been collected on the subject in the report on the burdens of land. Here again, as has been repeatedly proved, the law tends to discourage small dealings with land, whether by sale or mortgage. Above 1,000*l.* the *ad valorem* duty amounts to 1*l.* per cent., but below that sum, instead of being lower or equal, it is higher, and in very small sums it amounts to two or three per cent. Now, gentlemen, I say nothing at present on the unfairness and injustice of this law. But I will ask, is it good policy to leave it thus? The net produce of the stamps on deeds has been for many years about 1,500,000*l.*, sometimes more and sometimes less. It cannot be known exactly what proportion of this is paid *ad valorem*. But I believe it may be roughly stated at one million.

Now the total annual value of real property, including tithes, mines, fisheries, assessed to the property tax in England, is about 85,000,000*l.*

Now the 1,500,000*l.* is produced as well by personal property as by real property, because there are a great many deeds, as settlements and others, which relate to personal property as well as real property. Now I will take off the 500,000*l.* for the personal property, including railway shares, debentures, and so on, and leave the million as applicable to real property. Does it not strike you that, when you consider the immense value of the real property of this country, as shown by the property-tax returns, that one million is a very small sum to receive in the year by way of stamp duty, for all the transfers that take place? We are very much in the dark in all that relates to the stamp duties on deeds, but it shows most convincingly how little traffic takes place in land. The value of land, remember, is gradually increasing, and has been so at all events for the last century. This is easily proved by every abstract of title, for we find usually that more and more is given for the same land each time it changes hands. But the stamp duty on deeds has not increased, which shows that the traffic is decreasing, and that the land is getting into fewer and fewer hands. Now, this is not so with the other branch of the stamp duties on probate, legacies, and administration, which, as you know, affect only personal property directly, although they affect real property indirectly, because they are charged on all lands directed to be sold. Here we have a large steadily increasing revenue.

The tables show that the duty on probate and legacies has greatly increased within the last 20 years, but that the stamp duty on deeds has not increased, although real property has greatly increased.

Now most persons agree that a stamp duty, properly regulated, is a fair tax, and is very willingly paid and is collected with great ease, almost every farthing of it coming to the revenue. Would it not, then, be of great advantage if this branch of the revenue could be increased? It has often been proposed that real estate should be assimilated to personal estate in this respect, and that probate and legacy and administration duty should be charged on real estate. Now, I have already said that real estate does not altogether escape these duties at present; nor do I think it reasonable that the owners of real estate should be called upon to pay this additional duty unless you gave them some equivalent. But if you lowered the duties relating to the transfer of land which now presses on them, then it would not be unreasonable to levy a small duty on the decease of the present owner. But, of this I am quite sure, that if the government, even keeping all the present duties as they are, would promote the free transfer of land and give it circulation in the market, the revenue would soon feel the beneficial influence of the change. Instead of one million thus paid, if the commercial principle were introduced, ten times more than that sum might not unreasonably be expected to arise from it, and there would be no tax more properly asked or more readily paid. That shows how small a sum is now paid by the land for the stamps. We have seen that the property tax returns shows that the annual rental for England and Wales, on which that return is made, is about 85,000,000*l.* If this is multiplied by 30, you have something like the value of the whole land in England and Wales, making 2,550,000,000*l.*, which only pays 1,000,000*l.* in stamp duty in the year at the utmost, or about 9*d.* in every hundred pounds worth of land.

II. Forms.—The next point to which I would call your attention are the forms now in use; those long deeds of which Lord Redesdale so loudly complained, and which, if spread out on the land conveyed by them, would almost cover its surface. These are only a symptom of the disease under which this department of the law labours. If the register were adopted, and a rapid transfer of land were to take place, and more especially if the mode of remuneration were altered, this evil would cure itself. The forms of a transfer and mortgage, the simple transactions, would probably be uniform. They would in fact be extracts from the register; and here I may refer you to an institution of our forefathers in what we find a [illegible] system of transfer [illegible] copyhold tenure. [illegible] tenure which are [illegible] easy transfer and [illegible] always been preferred [illegible] to show that, for the [illegible] out of England. [illegible] was decided into [illegible] lands were transferred [illegible] which is contained on the [illegible] Register, which was [illegible] the lands of [illegible] always most well [illegible] would very soon [illegible] which there are [illegible] practice of the [illegible] is only one way [illegible] There should be [illegible] propriety of [illegible] dealt with [illegible] I will call your [illegible] ference with [illegible] upon the conveyancers, and on the [illegible] fession. All other [illegible]

Pleaders and [illegible] and are controlled by the [illegible] bunals of the [illegible] even the Lord Chancellor himself, [illegible] the learned body of [illegible] no course whatever, [illegible] but they make the law which all others [illegible] then doubts must be resolved, having [illegible] than other men's [illegible] country that does [illegible] ration, or it might become a [illegible] all other subjects of her Majesty to [illegible] even an act of parliament [illegible] Chancellor Lyndhurst passed [illegible] plify the transfer of property, [illegible] told his lordship that they would not attend [illegible] obliged to repeal it and pass another [illegible] Now, it would only be [illegible] forms of conveyancing were [illegible] some proper body of men, who [illegible] time to time, such rules or such forms as [illegible] sufficient, and that these forms [illegible] same kind as has been given to [illegible] issued. That many forms may be [illegible] with I do not hesitate to assert; that [illegible] I believe; but unless you have [illegible] your proceedings nothing else will [illegible]

III. Judgments.—Another alteration [illegible] pany the establishment of a register [illegible] be released from the general lien of [illegible] sider the present state of our law as to [illegible] stated (in a publication by my learned friend [illegible] Manning. He says that any buyer of land [illegible] useless expense, and [illegible] to [illegible] (occasioning necessarily, though in [illegible] a [illegible] of price), for the purpose of giving a few [illegible] a remote chance of reaching land which [illegible] been unable or have neglected to [illegible] This heavy burden upon real property, which [illegible] to lessen the number of years' purchase [illegible] in England is saleable, differs from other [illegible] being attended with no corresponding [illegible] ties in whose favour it is created. It appears [illegible] it would be highly beneficial to return to the [illegible] of the statute, and to relieve real property from the [illegible] judgments, with its attendant [illegible] of registration, and from all question upon the [illegible] of an unregistered judgment, and all difficulties [illegible] satisfied judgments on the like by declaring that [illegible] not be bound until the writ of execution has been [illegible] the sheriff, and a minute thereof left with the [illegible] the Court of Common Pleas, in the manner required [illegible] ments by 1 & 2 Vict., c. 110, s. 1."*

IV. Ireland.—And now, gentlemen, perhaps these remarks will just now fall coldly on the ear of [illegible] country, who are, I am assured, in a thriving and prosperous state. Let them, however, remember, that [illegible] of adversity may come, and let them consider. But there is a country whose interests are all bound up with ours, whose [illegible] in fact are ours. In this country the great [illegible] land; and it is governed by property [illegible] perty as exists in England. But in Ireland, for [illegible] is to this part of our kingdom that I allude. [illegible] plaint is, that the state of the law is such [illegible] the tenure are such that the owner can [illegible] the profits of the land himself nor transfer it to [illegible] neither capital himself, nor can he [illegible] has. How much more, then, does Ireland require [illegible] that I propose than even England; and [illegible] already provided with much of the framework [illegible] her the benefit that would arise from it. Ireland [illegible] Register-office for deeds, very fairly in its details, [illegible] on the principle of the publicity of all dealings in land. [illegible] an excellent map of the whole country, [illegible] of the towns, which certainly, with some [illegible] might be rendered available for conveyancing [illegible] which I am assured it is already [illegible] further a system of local courts, [illegible] over land, which our county courts have not. Ireland has therefore most of the machinery [illegible] of the plan that I propose. Nor [illegible] wanting, either in her landowners [illegible] Facility of transfer of her land is [illegible] the state, from one end of this island to the other, [illegible] public meeting after meeting [illegible] been moved, with universal consent, in favour [illegible] indeed, in almost all other things, [illegible] I hail this coincidence of opinion [illegible] of the plan that I have proposed. [illegible] we require this in England, it is [illegible] Ireland, and that under it that [illegible] ing country might indeed see [illegible] wealth would be properly distributed [illegible] means, might become a blessing [illegible] self, and not a curse.

I have now done. I have [illegible] before you, and it is only on mature [illegible] sultation with others, that I have [illegible] of stating my opinions. My [illegible] statements have been already received by your attention, and have been sufficiently [illegible] for the purpose that I intended. If I am wrong, there are those who can and will set me right. If I am right, and, at all events, I speak as sincerely convinced that I am so, the truth will ultimately prevail, however much it may be opposed by prejudice or interest. I must leave the matter in your hands, thanking you for your attendance here, and asking of you this favour: Object as much as you will be, urged against the whole or part of my plan; I ask you to pay the greatest attention to them, as I certainly shall myself, but do not regard vague misrepresentations or [illegible] denials, which are sometimes the only weapons [illegible] most effectual, that are in the power of the enemies of truth.

At the close, thanks were, on the motion of Mr. Beattam, M.P., voted to Mr. Stewart, for his lectures.

* Serjeant Manning's "Proposal for the Amendment of the Law of Bankruptcy," p. 57.

Calendar of Operations.

JANUARY.

BEDFORDSHIRE FARM, *Jan.* 26.—The horses during the frost have been carting dung and various mixtures of lime and mud, brick rubbish, &c. The lime and mud were applied to light land to improve its quality and texture, the brick rubbish was laid upon an adhesive soil to improve its texture only. The manual labour has consisted of threshing Wheat and Barley, draining, hedging, digging gravel, turning mud and soap ashes, and attending upon the stock. The Wheat was threshed by water power, the Barley by a hand-machine, at a cost of 2*s.* 6*d.* a quarter, dressing included; the draining was too irregular to let by the piece; the hedging cost 2*s.* per imperial chain; the gravel cost 10*d.* per cubic yard, once sifting; the mud and ashes cost 2*d.* per cubic yard. One man and two boys attend to 60 head of cattle, part of which receive cooked food, and all a small allowance of Turnips, meal, and chaff; one man and a boy attend to 13 score of fatting sheep upon Turnips; one man and a boy attend to about 100 pigs, a few store cattle, and some young horses; one man attends to the breeding ewes, &c. The labourers are paid once a fortnight, and generally meet at one place in the morning to receive orders.—*R. T.*

BERWICKSHIRE MERSE FARM, *Jan.* 28.—Since last report we have been employed in leading dung to the land intended for Turnips, as we could not plough, for the frost; one man with a single-horse cart 1½ day leading Wheat to the barn, a man forking, one man and four women threshing half a day with water power, one day with the horses, one man driving, three women carrying away the straw, one man and two women one day dressing; three men with six single-horse carts at Eyemouth with Wheat; one man with two single-horse carts at Berwick for drain slates; the drainers have stopped work this day on account of the frost, one man with a double-horse cart 1½ day leading stones for the road; one man two days cutting wood for the house and making stakes for fencing the Turnips, one woman with the shepherd cutting Turnips for the sheep, one man and a boy feeding the cattle.—*J. B.*

NORTH LINCOLNSHIRE FARM [750 Acres], *Jan.* 27.—The hands and horses have been occupied three days in threshing Barley with a six-horse machine, and two days delivering it at Grimsby in waggons—sold at 29*s.* per quarter, weight 15 stones per sack; seven ploughs one day following Wheat stubble for Turnips; two men and two boys regularly employed in cutting Turnips for 300 hogs, and in sitting folds and dragging for 350 ewes and gimmers in lamb, which are following the hogs, eating off Turnips on the land—an excellent crop. Turnips are selling at enormous prices, being very scarce in this part of the country, say from 5*l.* to 6*l.* per acre readily. The Wheat was looking remarkably well before the storm set in, but it is now covered with snow.—*H. G. S.*

STIRLINGSHIRE CARSE FARM, *Jan.* 29.—During last week we have been for the most part engaged in carting out dung to the fields from the dung-pit, and also preparing some Barley for the market; and the present week being unfavourable for out-door labour, from the severity of the frost, accompanied with a considerable fall of snow, we have been chiefly employed in threshing and preparing seed Beans for the market.—*W. F.*

Notices to Correspondents.

AGRICULTURAL COLLEGES—*J S C*—We know no other.

BUCKWHEAT—*J S P M*—Grind it up and use it as Barley or Beans are used for pigs and cattle.

DOWNSIDE COLLEGE FARM—*J Rushaw* asks how the bones are crushed to which reference was made. Are the bones fresh?

FARM—*L*—Our answer, though short, is not given hastily. We know nothing of Hop culture, but, barring that, we have no doubt but you could easily get 10 per cent. Is the land drained naturally or artificially?

LEASES, &c.—*A Constant Subscriber*—"Low on Landed Property" contains that, and much beside. Talavera Spring Wheat is as good as any. We do not know the flat red Potato. The Dorking breed.

LINSEED CRUSHER—*J E*—We know of no one who sells Linseed crushers for 3*l.* and under.

SCHEMES OF CULTIVATION—*A B*—The following fields, eight in number,

No.	A.	R.	P.	No.	A.	R.	P.
1	2	3	16	6	3	3	7
2	5	2	7	7	2	2	21
3	2	2	39	8	3	3	30
4	2	1	19				
5	1	1	24		25	1	3

constitute a small farm, which "A. B." is about to take in South Wales. It is a light loam of good depth on mountain limestone. Six miles from market. It is out of condition, and full of Thistles. No. 1 is good old meadow, and to remain so. The rest are all arable, but have been laid down in Clover for the last few years. The best plan for you will be to throw these small fields all together, drain them if necessary, pull the Thistles, plough up one half, and sow it to Oats in spring; pare and burn the other half, and with the assistance of guano and superphosphate, force a good crop of Swedes and Turnips. The Oat straw and half the Turnips pulled will, with Linseed and Beans, feed 16 or 18 beasts all winter in boxes; and the other half fed on the land will prepare the land for Barley, half of which may be laid down with seeds for one year. The boxes, with some bought guano, will yield manure enough to grow Swedes on the Oat stubble, and the green crop may be treated as the previous year's—to be followed by Wheat the next year. And then you may get into the regular four-course system. Our answers as to profits must be general—that if possessed of sufficient skill you may surely get 10 per cent. on your capital.—*A Four-years Reader*—You can, if the land be pared and burned, and that is the best way of breaking it up. Grow all your green and corn crop this year. You had better grow Oats, not Wheat, and the straw will suffice for litter, while the produce of Mangold Wurzel and Turnips will keep 8 or 10 cows. A scheme of cultivation suited for the remaining 8 acres will be found at page 53. But the way in which you can make the most of your farm will be by growing Mangold Wurzel, Carrots, and Swedes for the cow-feeders, and buying town and artificial manure to keep the balance true. One great improvement on clay lands after drainage, which can be done gradually, is—burning it. We should not risk so large a quantity of salt.

TO PREPARE NIGHT-SOIL—*Constant Sub*—See Home Correspondence.

Markets.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Feb. 3.

Prime Mead. Hay	68s to 74s	New Hay	.. —s to —s	Straw	.. 25s to 30s
Inferior ditto	.. 55 64	Clover	.. 75 95		
Rowen	.. .. 50 60	New Clover	.. — —		

JOHN COOPER, Salesman.

CUMBERLAND MARKET, Feb. 3.

Prime Mead. Hay	70s to 77s	Old Clover	.. 90s to 94s	Straw	.. 28s to 32s
Inferior	.. 50 68	Inferior	.. 75 84		
New Hay	.. — —	New Clover	.. — —		

JOSHUA BAKER, Hay Salesman.

WHITECHAPEL, Feb. 3.

Fine Old Hay	.. 68s to 72s	Old Clover	.. 90s to 95s	Straw	.. 24s to 28s
Inferior Hay	.. 50 60	Inferior	.. 60 75		
New Hay	.. 63 68	New Clover	.. 84 90		

HOPS, FRIDAY, Feb. 4.

Messrs. PATTENDEN and SMITH, Hop Factors, report that there continues a good demand for all Hops with colour and quality.

Mid. & East Kents, p. cwt.	68s to 100s	Yearling Kents, p. cwt.	48s to 60s
Weald of Kents	.. .. 56 — 72	Yearling Sussex	.. .. 45 — 58
Sussex	.. .. .. 56 — 70	Old Hops	.. .. .. 20 — 40
Farnhams	.. .. .. 84 — 105		

COVENT GARDEN, Feb. 5.

The weather having taken a favourable change, the market still continues to be well supplied with Vegetables. Winter Fruit also is plentiful. Pine-apples are abundant and good. Grapes are a trifle dearer. Pears and Apples are tolerably plentiful, considering the season. Of the former, specimens of Beurré Rance and Ne Plus Meurs may be bought at from 3*s.* to 4*s.* per doz. Oranges continue plentiful, but small. Nuts are sufficient for the demand. Filberts sell slowly at from 14*s.* to 24*s.* per 100 lbs. Lemons are sufficient for the demand. Of Vegetables, Cauliflowers, Broccoli, Greens, &c., are plentiful. Asparagus and Seakale may be obtained at last week's prices. Carrots and Turnips are good in quality. Potatoes realise good prices. Lettuces and other salading are sufficient for the demand. Mushrooms are somewhat dearer. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Camellias, Fuchsias, Azaleas, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 4*s.* to 6*s.*
Grapes, hothouse, per lb., 6*s.* to 10*s.*
— Portugal, per lb., 1*s.* to 2*s.*
Apples, dessert, per bush., 4*s.* to 6*s.*
— kitchen, p. bush., 2*s.* 6*d.* to 5*s.*
Pears, per half sieve, 5*s.* to 8*s.*
Oranges, per doz., 9*d.* to 2*s.*
— per 100, 3*s.* to 12*s.*
— bitter, per 100, 8*s.* to 16*s.*
Lemons, per doz., 1*s.* to 2*s.*
Lemons, per 100's, 6*s.* to 14*s.*
Almonds, per peck, 6*s.*
— sweet, per lb., 2*s.* to 3*s.*
Walnuts, per bush., 12*s.* to 18*s.*
Nuts, Barcelona, per bush., 20*s.* to 22*s.*
— Filberts, per 100 lbs., 14*s.* to 24*s.*
— Cob, per 100 lbs., 25*s.* to 30*s.*
— Brazil, per bush., 12*s.* to 16*s.*
Chestnuts, per peck, 3*s.* to 6*s.*

VEGETABLES.

Asparagus, per 100, 2*s.* to 7*s.*
Savoys, per doz., 4*d.* to 1*s.*
Cabbages, per doz., 6*d.* to 1*s.*
— Red, per doz., 1*s.* to 3*s.*
Greens, p. doz. bunches, 1*s.* 6*d.* to 2*s.* 6*d.*
Cauliflowers, per doz., 3*s.* to 8*s.*
Broccoli, per bundle, 3*d.* to 3*s.*
Brussels Sprouts, p. half sieve, 1*s.* to 1*s.* 6*d.*
Sorrel, per half sieve, 6*d.* to 9*d.*
Potatoes, per ton, 125*s.* to 190*s.*
— per cwt., 6*s.* to 10*s.*
— per bush., 3*s.* 6*d.* to 4*s.* 6*d.*
— Kidney, per bush., 3*s.* 6*d.* to 4*s.* 6*d.*
Turnips, p. doz. bunch., 1*s.* 6*d.* to 2*s.*
Red Beet, per doz., 1*s.* to 1*s.* 6*d.*
Horse Radish, per bundle, 1*s.* to 4*s.*
Cucumbers, each, 1*s.* to 2*s.*
Leeks, per doz., 6*d.* to 1*s.*
Celery, per bundle, 6*d.* to 1*s.* 6*d.*
Carrots, per doz. bunches, 2*s.* to 4*s.*
Onions, per bush., 2*s.* to 3*s.*
— Spanish, per doz., 1*s.* to 4*s.*
— pickling, p. bf. sieve, 2*s.* to 3*s.*
Shallots, per lb., 6*d.* to 8*d.*
Garlic, per lb., 8*d.* to 1*s.*
Spinach, per sieve, 1*s.* to 1*s.* 6*d.*
Seakale, per punnet, 6*d.* to 2*s.* 6*d.*
Artichokes, Jerusalem, per half sieve, 1*s.* to 1*s.* 6*d.*
Lettuce, Cab., per score, 4*d.* to 9*d.*
— Cos, per score, 9*d.* to 1*s.*
Endive, per score, 1*s.* to 2*s.*
Radishes, per doz. bands, 1*s.*
— Turnip, p. doz. bands, 9*d.* to 1*s.*
Mushrooms, per pottle, 1*s.* to 2*s.*
Rhubarb, per bundle, 10*d.* to 1*s.* 6*d.*
Small Salads per punnet, 2*d.* to 3*d.*
Fennel, per bunch, 2*d.* to 3*d.*
Savory, per bunch, 3*d.* to 4*d.*
Thyme, per bunch, 2*d.*
Watercress, p. 12 small bun., 4*d.* to 6*d.*
Parsley, per half sieve, 1*s.* to 1*s.* 6*d.*
— Roots, per bundle, 1*s.* to 1*s.* 6*d.*
Mint, green, per bunch, 1*d.* to 3*d.*
Marjoram, per bunch, 3*d.* to 4*d.*

POTATOES, SOUTHWARK, WATERSIDE, Jan. 31.

The arrivals during the past week coastwise have been very limited, in consequence of the contrary winds, but there has been a considerable quantity brought in this market by rail; the best samples went off freely, and there was more demand for second rate goods. The following are the present prices:—York Regents, 150*s.* to 160*s.*; secondary, 130*s.* to 140*s.*; Kent and Essex Regents, 120*s.* to 160*s.*; Shaws, 120*s.* to 140*s.*; Kidneys, 140*s.* to 170*s.*; Blues, 120*s.* to 140*s.*; Scotch Buffs, 140*s.*; Wisbeach Regents, 120*s.* to 130*s.*; Blues, 110*s.* to 120*s.*; Dutch Whites, 90*s.* to 100*s.* RICH. HARRIS.

SMITHFIELD, MONDAY, Jan. 31.

We have a considerable increase in the supply of Beasts, which causes a dull trade at rather less money. The average quality is in prove*d*, and a pretty good clearance is effected at about 2*d.* per 8lbs. reduction. The number of Sheep is also large, and owing to the state of the dead markets and the damp weather trade is very heavy. A few choice Downs make 5*s.* 2*d.*, but this is an extreme quotation. The demand for Calves has much decreased, and although there are but few, they are with difficulty disposed of, lower rates. Trade is slow for Pigs. From Holland we have 174 Beasts and 40 Sheep; from Ireland, 200 Beasts, and about 1500 from Norfolk and Suffolk.

Per stone of 8 lbs.—s	d	s	d	Per stone of 8 lbs.—s	d	s	d
Best Scots, Herefords, &c. 4	8	to 4	10	Best Long Wools 4	6	to 4	8
Best Short Horns 4	6	— 4	8	Ditto Shorn	....		
Second quality Beasts .. 3	6	— 4	4	Ewes and second quality 3	8	— 4	4
Calves 4	4	— 5	6	Ditto Shorn.....	....		
Best Downs & Half-breds 5	0	to 5	2	Lambs.....	....		
Ditto Shorn	....			Pigs 3	8	— 5	4

Beasts—3033. Sheep and Lambs—19,390. Calves—68. Pigs—280.

FRIDAY, Feb. 4.

The supply of Beasts is not very large, but quite equal to the demand; indeed a clearance cannot be effected, although there is a disposition to take lower prices. All kinds must be quoted 2*d.* per 8lbs. less than on Monday. The number of Sheep is very incousiderable, so also is the demand. As is usual at this time of year scarcely any business is doing in this department. Prices are nominally the same as on Monday. There is a slow trade for Calves at a reduction of 2*d.* per 8 lbs. Trade for Pigs continues steady. From Holland we have only 34 Beasts and 220 Sheep; 144 Milch Cows from the home counties.

Per stone of 8 lbs.—s	d	s	d	Per stone of 8 lbs.—s	d	s	d
Best Scots, Herefords, &c. 4	6	to 4	8	Best Long Wools..... 4	6	— 4	8
Best Short Horns 4	—	4	6	Ditto Shorn.....	....		
Second quality Beasts .. 3	6	— 4	0	Ewes and second quality 3	8	— 4	4
Calves 4	4	— 5	4	Ditto Shorn	....		
Best Downs & Half-breds 5	0	— 5	2	Lambs.....	....		
Ditto Shorn	....			Pigs 4	0	— 5	4

Beasts—821. Sheep and Lambs—1880. Calves—102. Pigs—230.

41, West Smithfield.

MARK LANE, MONDAY, Jan. 31.

The supply of English Wheat by land carriage samples this morning was moderate, and the condition generally bad, but the stands were cleared at the prices of last week. The attendance of distant buyers was better than of late, and the demand for foreign more general; nevertheless, business continues of retail character at late rates.—Barley of fine quality in demand, and the turn dearer.—Beans are a slow sale.—White Peas are difficult of disposal at our quotations; Maple 1*s.* per quarter higher.—The Oat trade is heavy, but cannot be written cheaper.—In Flour and Rye-meal we observe no alteration.—The weather, which last week was very severe, has become mild, but we have to-day snow and sleet.

BRITISH PER IMPERIAL QUARTER.	*s*	*s*		*s*	*s*
Wheat, Essex, Kent, and Suffolk ..... White	50	60	Red.....	42	52
Norfolk, Lincolnshire, and Yorkshire	48	52	White.....	42	52
Barley, Malting and distilling, 26*s* to 29*s*	Chevalier	30	33	Grinding	25	27
Oats, Lincolnshire and Yorkshire.....	Polanus	23	29	Feed	21	27
Northumberland and Scotch	Feed	22	27	Potato ..	25	29
Irish	Feed	20	27	Potato ..	24	28
Malt, pale, ship.....		—	—			
Hertford and Essex		—	—			
Rye.....		28	32			
Beans, Mazagan, old and new ...28*s*	30*s*	...Tick..	30	42	Harrow..	32	44
Pigeon, Heligoland	34	36	....Winds	46	54	Longpod	32	36
Peas, White.....	40	42	....Maple	38	42	Grey	36	38

ARRIVALS IN THE RIVER LAST WEEK.

	Flour, 3956 sks	Wheat. Qrs.	Barley. Qrs.	Malt. Qrs.	Oats. Qrs.	Rye. Qrs.	Beans. Qrs.	Peas Qrs.
—	— bls							
English.....		3922	5883	3874	864	—	476	642
Irish		—	—	60	70	—	—	—
Foreign.....		—	—	—	975	—	—	—

FRIDAY, Feb. 4.

The supply of grain coastwise during the week has been small, as was also the attendance at market both on Wednesday and this morning. Much of the English Wheat sold on Monday has been refused, owing to its wretched condition, and great difficulty is experienced in disposing of it. The demand for foreign continues limited without alteration in price.—Barley maintains our quotations.—We observe no alteration in the value of Beans or Peas.—The Oat trade is dull.—In Flour there is little doing.

ARRIVALS THIS WEEK.

	Wheat. Qrs.	Barley. Qrs.	Oats. Qrs.	Flour.
English.....	3890	5510	210	2340 sacks.
Irish	—	—	2060	
Foreign.....	190	—	100	— barrels.

IMPERIAL AVERAGES.

	Wheat. s.	d.	Barley. s.	d.	Oats. s	d.	Rye. s.	d.	Beans. s.	d.	Peas. s.	d.
Dec. 25	53	0	31	3	21	3	31	1	41	6	48	2
Jan. 1	53	11	31	8	20	7	29	11	39	10	44	10
— 8	53	10	31	7	20	11	31	4	40	8	46	0
— 15	53	5	30	6	21	0	29	2	39	1	46	4
— 22	53	1	30	4	21	1	30	8	38	8	45	2
— 29	52	0	30	8	21	2	30	6	38	7	43	5
Aggregate Average	53	3	31	0	21	0	30	5	39	7	45	0

Duties on Foreign Grain ..... Free till March 1.

PRICE.	Dec. 25.	Jan. 1.	Jan. 8.	Jan. 15.	Jan. 22.	Jan. 29.
53s11*d*	...	...	...	...	...	...
53 10	...	...	...	...	...	...
53 5	...	...	...	...	...	...
53 1	...	...	...	...	...	...
53 0	...	...	...	...	...	...
52 0	...	...	...	...	...	...

SEEDS, FEB. 4.

Canary ..... per qr.	6*s* to 8*s*		Linseed-cakes, Foreign, p. ton, 10*l* to 11*l*		
Caraway ..... per cwt.	35	37	Mustard, White, p. bush., 5*s* 6*d* to 6*s* 9*d*		
Clover, Red, English ...	—	—	Superfine, p. bush.	—	—
— Foreign	—	—	Brown, per bush.	—	—
White, English	—	—	Rapeseed, Eng., per last.....	28*l*	30*l*
— Foreign	—	—	Rape-cakes ..... per ton	6*l* 10*s*	6*l*
Coriander.....	10	20	Sainfoin	—	—
Hempseed ..... per qr.	36	40	Tares, Eng., winter, p. bsh., 7*s* 0	8*s* 0	
Linseed.....	45	46	Foreign, per bush., 4*s* 6	5*s* 0	
— Baltic.....	41	42	Trefoil	17*s* 0	21*s*
— Cakes, Eng. p. 1000, 13*l* 10*s* to 14*l*			Turnip—too variable for quotation.		

KINGSFORD and LAY.

GLASS FOR CONSERVATORIES, GREENHOUSES, PIT FRAMES, &c.

HETLEY AND CO. are supplying the above articles, packed in boxes containing 100 square feet each, of British Manufacture, at the following reduced prices for cash Areduction on 1000 feet.

Sizes. Inches.		Inches.		Per feet.	Per 100 feet.
From 6 by 4	to	8 by 6	at	2½*d.*	is £1 0 10
8 „ 6	„	10 „ 8	„	2¾*d.*	„ 1 2 11
10 „ 8	„	14 „ 10	„	3*d.*	„ 1 5 0
14 „ 10	„	20 „ 12	„	3¼*d.*	„ 1 7 1
20 „ 12	„	40 „ 14	„	3½*d.*	„ 1 9 2

21 oz. from 3*d.* to 5½*d.*, per square foot, according to size.
26 oz. „ 3¼*d.* 7¼*d.* „ „
32 oz. „ 4*d.* 9½*d.* „ „

GLASS TILES AND SLATES made to pattern any thickness.
PROPAGATING, FLOWER, FRUIT, AND VEGETABLE GLASSES of every size and description.
BEE HIVE GLASSES from 4 to 12 in. diameter.
GLASS MILK PANS, from 12 to 26 in. diameter.
GLASS SHADES, as ornamental to, and for the preservation of every description of goods susceptible of injury by exposure. Prices, since the removal of the Excise duty, reduced one-half. List of Prices forwarded on application to JAMES HETLEY and Co., Glass Shade, Sheet, Crown, and Patent Plate Glass Warehouse, 35, Soho-square, London.

HOT-WATER APPARATUS AND HORTICULTURAL BUILDINGS.

DANIEL AND EDWARD BAILEY, of 272, Holborn, construct and erect Hot-water Apparatus for Warming Horticultural Buildings, Dwelling-houses, Churches, and Manufactories, in a simple and efficient manner, at moderate charges. They have erected Apparatus in England, Scotland, and Ireland for many Noblemen and Gentlemen. They had the honour to be employed in heating the ranges of Hothouses and Pits in HER MAJESTY'S NEW GARDENS AT FROGMORE, and in executing the works of the splendid Conservatory erected by the Horticultural Society of London in their gardens at Chiswick, and also in the erection of the Conservatory attached to the Pantheon Bazaar.

D. and E. BAILEY, who were the first to introduce Metallic Curvilinear Hothouses to Horticulturists, erect various descriptions of Horticultural Buildings, and execute all kinds of metal work at their Manufactory, 272, Holborn.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors, and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory in New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

CLARK'S METALLIC HOTHOUSE WORKS, 55, Lionel-street, Birmingham.—Proprietor, Mr. THOMAS CLARK; Manager, Mr. JOHN JONES.

Mr. CLARK presents his grateful thanks to the Nobility and Gentry for their liberal patronage of the above Establishment, during a period of thirty years, and begs to state that the repeal of the duty on Glass enables him to offer his METALLIC HOTHOUSES at a greatly reduced price. These Houses are glazed with British Sheet Glass, in panes of from 24 to 30 inches in length, and of such thickness as to preclude all danger of accidental breakage, whilst that which arises from the action of frost is effectually prevented by the peculiar mode of glazing adopted. As a sample of his Metallic Hothouses, in which all the most recent improvements are happily combined, Mr. CLARK refers to the magnificent range erected by him in the new Royal Gardens at Windsor, admitted by competent judges to be the most complete of its kind in the world.

POLMAISE HEATING.

J. LEWIS'S IMPROVED REGISTERED STOVES are delivered at the Railroads, with plans for fixing, at the following prices:—For a greenhouse 20 feet by 12, 6*l.* 10*s.*; 30 feet by 14, 8*l.* 10*s.*; 60 feet by 18, 10*l.* 10*s.* To be seen in operation on the premises, Machine and Hothouse Works, Stamford-hill, Middlesex.

SUBSTITUTE FOR FARM YARD MANURE.

THE VEGETABLE AND MINERAL MANURES manufactured under DE SUSSEX'S Patent, are now on Sale by PAUL DE SUSSEX and Co., 34, Mark-lane, London.

PERUVIAN AND BOLIVIAN GUANO ON SALE,
BY THE ONLY IMPORTERS,
ANTONY GIBBS AND SONS, LONDON;
WM. JOSEPH MYERS AND Co., LIVERPOOL;
And by their Agents,
GIBBS, BRIGHT, AND Co., LIVERPOOL and BRISTOL;
COTESWORTH, POWELL, AND PRYOR, LONDON.

To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named Importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

LIQUID MANURE.

ENGLAND INDEPENDENT OF THE WORLD FOR CORN.

THE attention of the Agricultural Interest, at this momentous crisis, is requested to the great importance of LIQUID MANURE, and the ease with which it may be appropriated by the use of FOWLER'S PUMPS, made expressly for the purpose, either portable or fixed; Garden, Ship, and Barge Pumps; also those for Distillers, Brewers, Soap Boilers, and Tanners, for hot and cold liquor. Pumps kept for hire, for Excavations and Wells. Buildings heated by Hot Water, for Horticulture, and every variety of manufacturing purposes.

The Trade supplied on advantageous terms, by BENJAMIN FOWLER, Engineer, &c., 63, Dorset-street, Fleet-street, London.

THE LONDON MANURE COMPANY beg to offer the under-mentioned MANURES on the best terms:—The URATE of the LONDON MANURE COMPANY, for Turnips, Tares, Oats, Barley, and all other Spring Crops.

GENUINE PERUVIAN GUANO, DIRECT FROM THE IMPORT WAREHOUSE.

Nitrate of Soda—Petre Salt for dressing old Pasture—Agricultural Salt—Superphosphate of Lime—Soda Ash—Pure Gypsum—Bone Sawdust—Sulphuric Acid—Sulphate of Ammonia, and every other artificial Manure. E. PURSER, Sec.

No. 40, Bridge-street, Blackfriars, Feb. 5.

Sales by Auction.

TO NOBLEMEN, GENTLEMEN, AND NURSERYMEN.

MR. J. C. STEVENS is favoured with instructions from Messrs. Loddiges, of Hackney (in consequence of the near expiration of the Lease of a part of their Nursery), to announce for Sale by Auction, on the premises, early in March the first portion of their stock of CAMELLIAS, many of which are of unusually fine growth (some 15 feet high), and consisting of most of the favourite varieties, well furnished with Flower-buds. Due notice will be given of the Days of Sale.—38, King-street, Covent-garden, Feb. 5.

TO BE DISPOSED OF, on reasonable terms, a Collection of rare ORCHIDACEOUS PLANTS, in fine health, of 120 varieties, a mile from London-bridge. Direct to A. B., Mr. J. Andrews, Artist, George-street, Harper-street, New Kent-road, Surrey.

SOUTH HAMPSHIRE.

TO BE SOLD, by Private Contract, a FARM of about 100 acres, situated half a mile from a Railway Station. The Land is chiefly arable, and lies compactly together. Apply to Mr. STONEY, 17, Featherstone-buildings, Holborn, London.

TO SEEDSMEN.—WANTED, a BUSINESS in the Retail Agricultural and Flower-Seed Line, with or without a Nursery attached. In or near London or other large town preferred. Letters stating particulars to be addressed to A. B. C., 7, Dover-place, New Kent-road, Newington, Surrey.

FARMS NEAR DEVONPORT AND PLYMOUTH, DEVON, BELONGING TO THE EARL OF MOUNT EDGCUMBE.

TO BE LET, BY PRIVATE CONTRACT.—No. 1.—RAME BARTON, about 350 acres, with a Lime-kiln and (if desired) a Malt-house, adjoining the sea.

No. 2.—NINHAY FARM, containing 90 acres, with about 50 acres of Common.

Both Farms are situate in Rame Parish, about three miles from Devonport and Plymouth, and will be let from Lady-day next for 14 years. They are within half a mile of each other, and capable of being farmed together, and each has an excellent Dwelling-house.—For information and inspection apply to Messrs. BOGER, BOGER, and BEWLS, Solicitors, at the Manor Office, Stonehouse, near Devonport.

VASES, AND OTHER GARDEN ORNAMENTS.—During the months of January and February, J. SEELEY, (late Austin and Seeley) will offer a selection from his stock at a deduction of one-third from the usual prices.

Keppel Row, New-road, Regent's-park.

FINE PLANTS PRESERVED.

BOWERS' NEW KEY TUBE for Greenhouse Purposes. May be fitted to watering-pots of all sizes. The water, by the use of the Key, is adjusted to the wants of all descriptions of plants, avoiding drip on the foliage and the usual slop; keeping mildew and its ravages in check, thereby preventing the loss of valuable plants.—See Report of late Meeting of Horticultural Society in the Gardeners' and Farmers' Journal, and *Gardeners' Chronicle* of Jan. 22, 1848.

Being importuned by many friends and correspondents, I have arranged to supply the above at 7*s.* 6*d.* each—length under 20 inches.—N.B. Post-office orders payable as above attended to.

HENRY BOWERS, Godalming.

TWO OR THREE GENTLEMEN, AGRICULTURAL STUDENTS, can be ACCOMMODATED upon a respectable farm under efficient superintendence, in the heart of Roxburghshire, North Britain. Applications may be addressed to A. B., 18, Brighton-street, Portobello, by Edinburgh.

GUANO—Guano, direct from Import Warehouse, Superphosphate of Lime, Dry Night-soil, Gypsum, Salt, Bone-dust, Sulphuric Acid, Nitrates of Soda and Potash, and every other Manure of known value. Also Horticultural Glass of every description.—For Prices Current, apply to MARK FOTHERGILL, Office 201 A, Stores 40, Upper Thames-street.

THE following MANURES are Manufactured by Mr. LAWES, at his Works at Deptford-creek:—

Corn Manure	14*l.* per ton.	Grass Manure	14*l.* per ton.
Clover do.	14*l.* ,,	Turnip do.	7*l.* ,,

Superphosphate of Lime, 7*l.* per ton.

Mr. LAWES has also made preparations for supplying the various artificial MANURES of commerce, and if Agriculturists will trust the selection of them to him, and will furnish him with the necessary information, he will supply those which he considers most suitable to the soil and crops. A paper containing the questions required to be answered will be forwarded upon application to his Office, 69, King William-street, City, London.

DRAINAGE: ENGLAND & IRELAND.—Drainage and Reclamation of Lands and Bogs by Purchase, Contract, or Commission.—An engineer, of 16 years' experience, will UNDERTAKE a limited amount of DRAINAGE, furnishing the surveys, plans, and estimates, and part of the capital required, and agreeing to take a portion of the lands in lieu or as security. Or he will, if preferred, undertake the work by contract, guaranteeing abundant crops on the most unpromising bogs.—Address to W. H. S., care of Mr. J. Morgan, Copthall-court, Throgmorton-street.

THE PATENT ECONOMICAL SEED HAND-DIBBLE may be inspected at Messrs. GABRIEL & Co.'s, 44, Lincoln's-Inn-Fields, from 11 A.M. till 4 P.M. Persons wishing to contract for manufacturing the same may apply as above. The number of Dibblers in each implement are from 2 to 12, and the price varies from 10*s.* to 3*l.* 3*s.*

GORSE FOR CATTLE.

TO BE SOLD, about 40,000 fine Plants of GORSE (French Furze), raised from seed last year, enough for planting two or three acres. This is the proper month for planting it.—Apply to Mr. JESSOP, Nurseryman, Cheltenham.

HORTICULTURAL IMPROVEMENTS.

READ begs to inform Ladies, Amateur and Practical Gardeners, that he has taken out a NEW PATENT for Improvements in his Garden Engines, Machines, and Syringes. The action of the Valves is such as to prevent the possibility of their getting out of repair. The above are adapted for Forcing Houses, Conservatories, &c., surpassing anything of the kind ever offered the Public, inasmuch as they can be worked with half the labour of any other Engine now in use. Manufactured only by the Patentee, 35, Regent-circus, Piccadilly, London, where they may be seen and proved.

N.B.—None are genuine except stamped with the words "Read's Patent."

SEEDS.—CORNER OF HALF-MOON-STREET.

THOMAS GIBBS AND Co.,

(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND," Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

Priced Lists of Agricultural Seeds are always ready, and may be had on application.

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

Patron—His Royal Highness Prince Albert.
President of the Council—Right Hon. [illegible]
Vice-Presidents—[illegible]

All persons desirous of entering [illegible] for the Session are required to [illegible] on Friday Lowe, [illegible]

The Winter Session commenced on [illegible]
London Office, [illegible]

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

Patron—The Royal Highness Prince [illegible]
President of the Council—Right Hon. [illegible]
Vice-Presidents—[illegible]
Principal—John Wilson, F.R.S.E., &c.
Chaplain and Head Master—Rev. [illegible]
Second Master—Mr. [illegible]
Resident Professor of Agriculture—John Wilson, F.R.S.E.
Chemistry—John Blyth, M.D.
Natural History, Botany, Geology—Jas. Buckman, F.G.S.
Mathematics and Natural Philosophy—[illegible], B.A.
Veterinary Practice—[illegible]
Surveying and Farm Accounts—Mr. [illegible]

The object of this Institution is to provide such a course of instruction as will be most useful to the pupils of Farmers. The benefits to be derived by the [illegible] in a thorough application of scientific information are becoming more and more extensively acknowledged; while the necessity of obtaining that information, if, indeed, it can be obtained, will be felt for the time sacrificing a due attention to the practical operations of husbandry, are so altered [illegible] as to be within the reach of very few. The College course of instruction is conducted in such a manner that, while the student is well based in the principles of each science, it [illegible] with Agriculture are [illegible] touched upon and explained, and their practical application shown, so far as possible, in the operations of the College farm. The theoretical and practical learning go hand in hand, and the whole is combined with the advantages of collegiate discipline.

The Winter Session commenced on the 7th inst.

By order of the Council, PHILIP LOWLES, Sec.

London Office, 15, Duke-street, Adelphi.

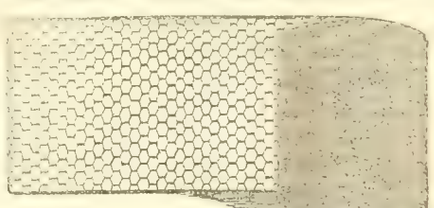
FLEXIBLE INDIA RUBBER PIPES, FOR GARDENING AND AGRICULTURAL PURPOSES.

THE PATENT VULCANISED INDIA RUBBER PIPES AND TUBING are made to stand BOILING LIQUOR WITHOUT INJURY, do not become stiff or hard in any temperature (but are always perfectly flexible); and as they require no application of oil or dressing when out of use, are well adapted for Fire-engines, Pumps, Brewers' use, Gas Fitters, Beer-engines, and all purposes where a perfectly flexible pipe is required. Made all sizes, from ¼ inch bore upwards, and of any length to order.—Sole Manufacturer, JAS. LYNE HANCOCK, Goswell-mews, Goswell-road, London.

Vulcanised India Rubber Washers, all sizes for Steam and Hot-water Pipes, and articles of India-rubber Manufacture generally.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost and to be consequently superior to every other for hydraulic purposes, such as building and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.



BARNARD AND BISHOP, Market-place, Norwich, MANUFACTURERS OF WIRE GAME NET, STRAINED WIRE CATTLE AND DEER FENCES, IRON HURDLES, GATES, &c. &c., respectfully invite the attention of the Nobility and Gentry to their WIRE GAME NET, which for cheapness and durability will be found the most economical article yet introduced for the preservation of Gardens and Young Plantations from hares, rabbits, &c. &c.

It is sent out in Rolls of 50 yards, or any other length, at prices as under:—

2-inch mesh, 24 inches wide	...	...	6*d.* per yard.
2-inch do.	do.	stronger	... 7½*d.* ,,
1½-inch do.	do.	...	... 7*d.* ,,
1¾-inch do.	do.	stronger	... 9*d.* ,,

Any width can be made at proportionate prices; and also, if required, the lower half can be made of a fine, and the upper of a coarse mesh, which greatly reduces the price.

A finer description for Aviaries, Pheasantries, &c., sparrow proof, 3*d.* per square foot; or, if made in copper, at 5*d.* per foot. The Iron Wire Net is twice dipped in anti-corrosive composition, and sent free to London or Hull.

Patterns can be forwarded per post, free of expence.

COMFORT FOR TENDER FEET, AND A CERTAIN CURE FOR CORNS AND BUNIONS.

PAUL'S EVERY MAN'S FRIEND, Patronised by the Royal Family, Nobility, &c.

PAUL'S EVERY MAN'S FRIEND, which gives relief on the first application. Paul's Every Man's Friend Corn Plaister is generally admitted to be the best emollient application for Corns and Bunions, and is worthy of a trial on the part of those who are afflicted with such unpleasant companions. Testimonials have been received from upwards of 1[illegible] Physicians and Surgeons of the greatest eminence, as well as from many officers of both Army and Navy, and nearly 1000 private letters from the gentry in town and country, speaking in high terms of this valuable remedy.

Prepared by John Fox, in boxes, at 1*s.* 1½*d.*, or three small boxes in one for 2*s.* 9*d.*; and to be had, with full directions for use, of C. King, 34, Napier-street, Hoxton New-town, London; and all wholesale and retail Medicine Venders in Town and Country. The genuine has the name of "JOHN FOX" on the Government Stamp. A 2*s.* 9*d.* box cures the most obdurate corns. Ask for "Paul's Every Man's Friend."

Sold also by Barclay and Sons, Farringdon-street; Edwards, 67, St. Paul's Church-yard; Butler and Harding, 4, Cheapside; Newbery, St. Paul's; Sutton, Low Church-yard; Johnson, 68, Cornhill; Sanger, 150, Oxford-street; Willoughby and Co., 75, Bishopsgate-street Without; Eade, 20, Goswell-street; Prout, 229, Strand; Hannay and Co., 63, Oxford-street; and retail by all respectable Chemists and Medicine Venders in every town in England.

Wholesale Agents for Ireland and Scotland, Messrs. J. and R. RAIMES and Co., Druggists, Edinburgh.

THE HERD BOOK OF [illegible] CATTLE.

THE ZOOLOGICAL [illegible]

AUTHENTIC [illegible]

HISTORY OF [illegible]

HISTORY OF [illegible]

HISTORY OF [illegible]

MANURES [illegible]

A LETTER [illegible]

In One [illegible]

INTRODUCTION TO BOTANY. By Professor [illegible], F.R.S., &c. [illegible]

THE THEORY OF [illegible]
SYNOPSIS OF THE [illegible]
London: [illegible]

STRACHAN'S NEW SET OF AGRICULTURAL TABLES, for [illegible] ment: the Quantity of [illegible] Value of Land, &c.; the [illegible] hills. Also a few other [illegible] amples, and Exercises for [illegible]

"Mr. Strachan's Tables are [illegible] wants. They will help [illegible] culation."—[illegible]

OLIVER & BOYD, Edinburgh; [illegible] & Co., London.

IN PREPARATION.

THE SEA and THE RAILWAY: [illegible] tions set forth in a [illegible] SHEFFIELD and LINCOLN [illegible] DOCKS, by FELIX SUMMERLY. [illegible] Cope, A.R.A., D. Cox, Sen., T. Creswick, A.R.A., and [illegible] grave, A.R.A.

London: LONGMAN, BROWN, [illegible] MANS.

NESBIT'S LAND-[illegible]

A New Edition, in [illegible] and an Engraved [illegible]

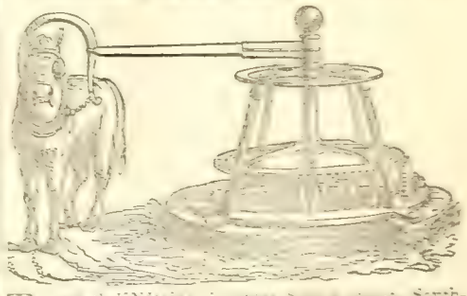
A COMPLETE TREATISE ON PRACTICAL LAND-SURVEYING, [illegible] dents. With [illegible] Edition, corrected [illegible] added, PLANE TRIGONOMETRY [illegible] Theodolite and [illegible] NEERING, including [illegible] Planning, Laying [illegible] nenance, Viaducts, &c. By T. [illegible] Engineer.

London: LONGMAN [illegible] MANS.

THE ARTISAN CLUB'S [illegible] New Edition, in One [illegible] Vols. [illegible]

A TREATISE on the STEAM ENGINE in its Application to [illegible] Railways. By the ARTISAN [illegible]
London: LONGMAN, [illegible]

WATER RAISED FROM [illegible] FOR THE SUPPLY OF [illegible] BLISHMENTS, FARM-[illegible]



T. AND S. KNIGHT, [illegible] Southwark, [illegible] Agriculturists, [illegible] Water on their [illegible] mental purposes, [illegible] raising water [illegible] by mechanical power, [illegible] Many years' experience [illegible] Machines capable [illegible]

Estimates furnished upon the application of the enquiry: [illegible] water [illegible] to the above address, when [illegible] of various descriptions may be [illegible]

Conservatories and other Buildings heated with Hot Water on scientific principles, [illegible] with economical arrangements.

JOHN KERNAN

4, GREAT RUSSELL STREET, COVENT GARDEN, 1848.

Begs to offer a Select List from his

GENERAL CATALOGUE OF VEGETABLE AND FLOWER SEEDS,

WHICH MAY BE RELIED ON WITH CONFIDENCE AS THE MOST DESIRABLE FOR CULTIVATION.

Peas.

Per qt.—	s.	d.
Shilling's new Grotto Marrow, which gave general satisfaction last season, being early, large, and productive...	1	6
Matchless Marrow ...	1	0
Thompson's Early Dwarf	1	6
Bedman's Improved Imperial	0	9
Blue Scimetar	0	9
Blue Prussian	0	9
Victoria Marrow	1	0
Early Racehorse	1	0
Prince Albert	1	6
Early Warwick	1	0
Woodford, or Nonsuch ...	1	0

With all other varieties worth cultivating.

Beans.

Per qt.		
Early Mazagan	0	8
Sword Longpod	0	8
Taylor's Windsor... ...	0	8
Johnson's Wonderful ...	0	8
Green Genoa	0	9
All the varieties of dwarf French Beans	1	6
Painted Lady and Scarlet Runners	1	0

Per oz.		
Beet, fine London Red ...	0	6
Beet, Silver, or Seakale	0	6
Beet, Castelnaudary ...	0	6
Borecole, dwarf curled ...	0	6
Brussels Sprouts (foreign seed, fine)	1	0
Kohl Rabi, per paper ...	0	6
Borecole, red and white, variegated, for garnishing (very beautiful) ...	0	6

Broccoli.

Per oz.		
Myatt's Early Purple Cape	1	0
Miller's Dwarf	1	0
Chappell's Cream ...	1	0
Bowles's Sulphur ...	1	0
Somner's Late White ...	1	0
Grange's Early White,— from the original raiser	1	0
Invisible White	1	0
Purple Sprouting ...	1	0
Brimstone	1	0
Walcheren	1	6
Imperial Winter ...	1	0
Hampton Court ...	1	0
Dwarf Siberian	1	0

Cabbage.

Per oz.		
Nonpareil	0	9
Shilling's New Queen, fine	1	6
Atkin's Matchless ...	1	0
Heart-shaped	0	6
Knight's Early Dwarf ...	1	0
Early York	0	6
Early Battersea ...	0	6
Peake's Incomparable ...	1	6
Robert's Emperor ...	1	0
True Cornish, per packet	0	6
Hardy Green (very early)	1	0
Perpetual	1	0
Vangirard (Winter) per packet	0	6
Large Drumhead — (for cattle), per lb. ...	3	6

And all other kinds in cultivation.

Carrot.

Per oz.		
Early Scarlet Horn ...	0	6
Long Orange	0	4
Fine Surrey	0	4
Parsnip, Hollow crown	0	3
Altringham, per lb. ...	2	0
White (for Agriculture), per lb.	3	6

Cauliflower.

Per oz.		
Mercer's fine Pearly ...	1	0
London Particular ...	1	0
Large Asiatic	1	6
Walcheren	1	0
Fine late	1	0

Cress.

Plain, per pint	0	6
Curled	1	0
American, per oz. ...	0	3
Broad-leaved, per oz. ...	0	3
Water, per paper ...	0	6

Parsley.

Plain, for feeding early lambs, per bushel ...	16	0
Extra Curled, per oz. ...	0	3

Furze, per lb., 1s. 3d.; Broom, per lb., 1s.
Coarse Grasses for Game Covers, 8s. per bushel.
Long Red and Globe Mangold Wurzel, per lb., 1s. 6d.
Chevalier Barley; Hopetown, Tartarian, Sandy, and other Oats; Tick Beans; Field Peas, &c.
A fine Collection of all the best Permanent Grasses (hand picked), separate or mixed; if mixed, per bushel, 10s.
Sweet Vernal, the earliest and most suitable Grass for early Lambs, clean seed, 5s. per lb.
Ditto, seed in pod, 2s. 6d. per lb.
White and Red Clover, Lucerne, Trefoil, &c., per lb. or cwt.
Kohl Rabbi, per lb., 2s. 6d.
New Tartarian Buckwheat, per packet, 6d.
Perennial Buckwheat, per packet, 6d.

Celery.

Per paper.	s.	d.
Seymour's Superb White	0	6
New Rose, solid	0	6
Dwarf White Siberian, very solid, per packet .	0	6
Seymour's Superb Red, per packet	0	6
New Giant	0	6

Cucumber.

Victory of Bath ...	1	0
Acme of Perfection ...	1	0
Sion House	1	0
Weedon's Free bearer ...	0	6
Early Frame	0	3
Kerrison's	1	0
Walker's Rambler ...	0	6
Windsor Prize	0	6
Early Handglass ...	0	3
Early Ridge	0	3

Melons.

Seymour's Golden Perfection	0	6
True Scion House ...	0	6

And all the better sorts cultivated for this market.

Endive.

New Imperial, per packet	0	6
Batavian ... per oz.	0	6
Green curled	0	6
White curled	0	6
Herbs, all the kinds, per packet	0	6

Lettuce.

Brighton Cos, per oz. ...	1	0
Imperial Cos	1	0
Spotted or Tiger Cabbage (new), per packet ...	0	6
Artichoke-leaved, a fine new hardy sort ...	0	6
Fine London White Cos, per oz.	0	9
Drumhead	0	9
Bath Cos, & others, p. oz.	1	0

Onion.

Per oz.		
Jamee's Long Keeping ...	0	6
Fine White Spanish ...	0	6
Globe	0	6
Strasburgh	0	6
Deptford	0	6
Silver-skin	0	9
Tripoli	1	0
Blood-red	0	6
Two-bladed, for pickling	0	8

Radish.

New Scarlet Olive-shaped, a delicious new variety, per packet ... ... | 0 | 6
New rose, per packet ... | 0 | 6
Early Frame, per pint ... | 1 | 0
Long Scarlet ... ... | 1 | 0
Red and White Turnip | 1 | 0
Black Spanish, per oz. ... | 0 | 3

Spinach.

New Flanders, per pint	0	6
Round, or Summer ...	0	6
Lettuce-leaved (new), per paper	0	6
New Zealand, per oz. ...	0	6

Turnips.

Early Snowball	0	3
Teltow, for stewing ...	0	3
Early Dutch	0	3
Yellow Maltese ...	0	3
,, Stone	0	3
Early Snowball, per lb....	1	6
Early Dutch (earliest), true imported ...	2	0

per lb.		
Yellow Scarabrook ...	1	0
White Round	1	0
Red Round	1	0
Yellow Bullock ...	1	0
White Globe	1	0
Dale's Hybrid	1	6
Skirving's Swede ...	1	6
Laing's ditto	1	6
Ashcroft ditto	1	6
Green-topped ditto ...	1	0
Purple-topped ditto ...	1	0

Italian Rye Grass, Spring and Winter Tares.
A few of the very finest Grasses for Lawns, per lb., 1s. 6d.
Myatt's fine new Strawberries.
Asparagus plants, according to age, per 100, 2s. 6d. to 5s.
Seakale do. do. do. 5s. to 10s.
Dulley's Early Scarlet Admirable Rhubarb, per root, 1s. 6d.
Myatt's Victoria do (the largest in cultivation), 1s. 6d.
Mushroom Spawn, per bushel, 5s
All the fine new Raspberries, 2s. 6d. to 3s. per dozen.
Seeds of all the new Strawberries, Raspberries, Gooseberries, and Currants, per paper, 6d.

Potatoes.

	s.	d.
Soden's Early Oxford, per bushel	10	0
Barnard's Early Frame, per bushel	8	0
Shilling's Early Prolific, per peck	2	6
Ash-leaved Kidney, bshl.	8	0

And many other most productive late kinds; also seed saved from the best varieties, 1s. per packet.

	s.	d.
Walnut-leaved Kidney, per bushel	8	0
Early Hen's Nest do.	8	0
Early Shaw ... do.	8	0
Prince Regent's ... do.	8	0
Kentish Mignon ... do.	8	0
Albany Kidneys ... do.	8	0

Garlic, per lb., 6d.
Shalots, per lb., 6d.
Budding and Pruning Knives.
Russia Mats, 1s. 6d. each.
Buckwheat, Indian Corn, Rape, Hemp, &c., for Aviaries.
The trade supplied on moderate terms, with every article true to its kind.

Flower Seeds.

Asters, 20 distinct German varieties, in sealed packets, suitable for exhibition, the collection 10s.
A mixture, including all the colours of the above, per paper, 1s.
Do. in 12 distinct colours, the collection 5s.
Superb German and Prussian Stocks, 25 distinct varieties, for exhibition, the collection 10s.
12 varieties of do., distinct in colours, 5s.
12 autumn flowering do., in distinct colours, 5s.
A mixture of all the finest varieties of Ten-week, per paper, 6d.
A mixture of Prompton do., per packet, 6d.
12 named varieties of Hollyhocks, 5s.

Per packet—	s.	d.
Achimenes, seeds & bulbs of all the varieties.		
Anagallis Phillipsii ...	0	6
,, superba grandiflora ...	0	6
,, indica	0	3
,, carnea	0	3
,, latifolia	0	6
Anomatheca cruenta ...	0	6
Amethystea cærulea ...	0	6
Anthemis arabicus (dwf. yellow)	0	3
Antirrhinum (all the new kinds)	0	3
Argemone grandiflora ...	0	3
,, Barclayana ...	0	3
,, speciosa	0	3
Aquilegia glandulosa ...	1	0
,, siberica	0	3
,, fine mixed German varieties	0	6
Auricula, from fine named flowers ...	1	0
,, alpine	0	6
Brachycome iberidifolia .	1	0
,, alba, new ...	1	0
Balsams, 12 very fine distinct colours, all double ...	6	0
,, mixture of above	0	6
Bartonia aurea	0	3
Blumenbachia insignis...	0	6
Browallia, of sorts ...	0	6
Calceolarias, from a collection of named shrubby kinds	1	0
Calceolarias, from Herbaceous do.	1	0
Calceolaria pinnata ...	0	6
Calendrinia discolor ...	0	3
,, grandiflora...	0	3
,, umbellata — (new), fine for rockwork ...	1	0
Campanula pulcherrima.	0	6
,, Loreii	0	6
,, capularis ...	0	6
,, stricta	0	6
,, sylvatica new	1	0
And many other sorts, fine, as a contrast with bedded out Verbenas, &c.		
Cistus guttatus, very dwf.	0	6
Clintonia pulchella ...	0	6
,, elegans ...	0	3
Cuphea viscosissima ...	0	6
,, silenoides ...	0	6
,, platycentra new	1	0
Cineraria, selected from 30 of the latest new kinds	1	0
Commelina cœlestis ...	0	3
Carnation and Picotee, from named flowers ...	1	0
Clarkias, all the varieties	0	3
Coreopsis, of sorts ...	0	3
Collinsia bicolor, new dwf.	0	6
Candytuft, new crimson .	0	3
,, purple ...	0	3
,, white ...	0	3
,, Sweet scented	0	3
Convolvulus major ...	0	3
,, minor ...	0	3
,, do. new dark	0	6

CLIMBERS.

Per packet—	s.	d.
Cobœa scandens ...	0	6
Calampelis scaber ...	0	6
Lophospermum erubescens	0	6
,, Hendersonii	0	6
Loasa aurantiaca ...	0	6
Maurandya Barclayana .	0	6
Tropæolum peregrinum .	0	6
,, pentaphyllum	0	6
,, Jarrattii ...	1	0
,, tricolorum grandiflrm.	1	0
,, trimaculatum, new ...	1	0
Ipomœa rubra cærulea...	0	6
,, punctata ...	0	6
,, nil	0	6
,, rosea	0	6
,, striata & others	0	6
Thunbergia alata ...	0	6
,, ,, alba	0	6
,, aurantiaca .	0	6
,, Fryerii ...	1	0
Cleome pentaphylla ...	0	6
,, rosea	0	6
Collinsia grandiflora ...	0	3
,, bicolor	0	3
Dahlia scabigera (dwarf lilac)	0	6
Delphinium or Larkspurs, distinct or mixed ...	0	3
Ditto, biennial and perennial varieties	0	3
Digitalis grandiflora ...	0	3
,, new spotted ...	0	3
Dianthus, double white, Indian pink	0	6
,, Knight's new hybrid ...	0	6
,, double Indian	0	3
,, latifolia ...	0	3
,, Cherii	0	6
,, superbus and others.	0	6
Didiscus cæruleus ...	0	6
Dahlia, fine mixed ...	1	0
Eucharidium grandiflorum	1	0
Eutoca viscida	0	3
Egg plant, white	0	6
Eschscholtzia, 3 sorts ...	0	3
Erysimum Perofskianum	0	3
Fuchsias from named sorts	1	0
Gaillardia picta	0	6
,, bicolor ...	0	3
,, Richardsonii .	0	3
Globe Amaranthus, of sorts	0	3
Gentianas, of sorts ...	0	6
Geum splendens	0	6
,, Wicei	0	6
Geranium, from fine sorts	1	0
Grahamia aromatica ...	0	6
Godetia, all the new sorts	0	3
Heartsease, from first-rate prize flowers	1	0
Humea elegans	0	6
Helichrysum macranthum	0	6
,, bracteatum album	0	3
Heliotropium Peruvianum	0	6
Hibiscus Richardsonii ...	0	6
,, africanus	0	3
,, Humboldtii ...	0	6
Heliophila araboides ...	0	3

Per packet—	s.	d.
Helianthemum (Rock Cistus), 6 vars. for rockwork	0	3
Do., all the vars., mixed	0	6
Hollyhock, Chinese ...	0	6
Hydrolea spinosa ...	1	0
Ipomœas, of sorts ...	0	6
Ipomopsis elegans ...	0	6
,, Berichii, new	1	0
Isotoma axillaris	0	6
Jacobæa, double crimson	0	3
,, ,, purple. .	0	3
,, new lilac ...	0	6
Kaulfussia amelloides, for edging ...	0	3
,, trachelioides...	0	6

HANDSOME ORNAMENTAL GRASSES.

Lagurus ovatus (Hare's-tail Grass)	0	6
Agrostis pulchella ...	0	6
Briza gracilis	0	6
,, maxima	0	6
Stipa pinnata	0	6

Larkspurs, 12 distinct German vars.	5	0
,, mixed dwarf Rocket ...	0	3
Leptosiphon densiflorum	0	3
,, androsaceum	0	3
Loasas, of sorts	0	3
Linum monogynum, fine	0	6
,, grandiflorum ...	0	3
,, perenne	0	6
,, album	0	3
Lymnanthus grandiflora (new) ...	0	6
,, Douglasii...	0	3
Lobelia heterophylla major, fine ...	0	6
,, bicolor	0	6
,, gracilis, for edging	0	3
,, ramosa	0	6
,, erinoides	0	3
,, propinqua ...	0	6

And many other biennial and perennial varieties.

Lisianthus Russellianus, in plants (seed does not vegetate well).		
Lupinus lucidus	0	6
,, Hartwegii ...	0	3
,, nanus	0	3
,, Cruikshankii ...	0	3
,, Dicksonii and many others ...	0	3
Lychnis speciosa, new ...	0	6
,, flos Jovis ...	0	3
,, cœli-rosa ...	0	3
,, prostrata ...	0	3
Lianthus latifolia major, fine new yellow	0	6
,, nigricans ...	0	6
Malope grandiflora, and others	0	3
Marvel of Peru, 6 distinct colours, each	0	3
Marigolds, all the vars ...	0	3
Mesembryanthemum tricolor	0	6
Mignonette, per oz. ...	0	6
Mimosa sensitiva (Sensitive plant) per packet	0	6
Mimulus, from 12 distinct named varieties ...	0	6
Martynia fragrans ...	1	0
Nasturtiums, all the sorts	0	3
Nemophila insignis major	0	3
,, insignis alba (new)	1	0
,, discoidalis (new)...	0	6
,, Cramboides, and others	0	6

Per packet—	s.	d.
Nemesia floribundus ...	0	6
Nierembergia splendens	0	6
,, violacea ...	0	6
,, fine mixed	0	6
,, nyctaginiflora	0	3
Nolana atriplicifolia ...	0	3
,, paradoxa ...	0	3
Œnothera Sellowii ...	0	6
,, Drummondii ...	0	6
,, Hartmania ...	0	6
,, densiflora ...	0	6
,, macrocarpa ...	0	6
,, and others ...	0	3
Papaver Marcelli ...	0	6
,, nudicaulis ...	0	6
,, 16 new Prussian varieties, very showy for borders	5	0
Peas, sweet, all the colours separate or mixed ...	0	3
Pentstemon, of sorts ...	0	6
Phlox Drummondii, various shades...	0	6
,, Drummondii, white	1	0
,, new, scarlet ...	0	6
Picotee, from named flowers	1	0
Platystemon californica	0	3
Potentilla Garnieriana ...	1	0
,, Russelliana ...	0	6
,, insignis, fine new	0	6
Polyanthus, fine mixed...	0	6
Portulaca splendens ...	0	6
,, Thellusonii ...	0	6
,, grandiflora ...	0	6
Primula sinensis (white fringed) ...	1	0
,, lilac	1	0
,, cortusoides ...	0	6
Rhodanthe Manglesii ...	0	6
Salvia patens	1	0
,, bicolor	0	6
Sanvitalia procumbens. .	0	6
Schizanthus Hookerii ...	0	6
,, Grahamii...	0	6
,, humilis & others	0	3
,, Priestii ...	0	6
,, venustus ...	0	3
Schizopetalon Walkerii, very sweet	0	6
Sphænogyne speciosa ...	0	3
Streptocarpus Rexii ...	0	6
Silene shafta	0	6
,, compacta	0	6
Stock, white pyramidal...	0	6
,, Buck's Intermediate, 16 out of 20 certain to come double	0	6
,, Chapman's Scarlet 10-week	0	3
,, Shepherd's White and Purple... ...	0	3
Sedum cæruleum, for rockwork	0	6
Sultan, yellow	0	3
,, white and purple	0	3
Thunbergia (*see* Climbers).		
Tropæolum (*see* Climbers).		
,, Shillingii ...	0	3
Viscaria oculata	0	6
Violet, Russian (everflowering)	0	6
Verbena, a mixture of 6 best sorts	0	6
Wahlenbergia grandiflora	0	6
,, capillaris...	0	6
Wallflower, blood red ...	0	3
,, Double German, of sorts	1	0
,, changeable	0	6
Zinnia elegans coccinea	0	6
,, purpurea... ...	0	6
,, mixed, from 20 separate varieties	0	6

Ornamental Trees and Shrubs of all descriptions.
Named Double Anemones and Ranunculuses; Gladiolus ramosus and floribundus; Tigridia pavonia and conchiiflora; with many other flowering Bulbs and Herbaceous Plants, which may be planted out till the middle of May.
Carnations, Picotees, and Pinks, per pair, from 1s. to 3s. 6d.
All the better named Heartsease from 6s. to 30s. per dozen.
Fine named Dahlias, per dozen, 12s.
,, Chrysanthemums, new kinds, 12s.
Standard Dwarf and Climbing Roses, 1s. to 2s. 6d. each.
Rivers' Catalogue of Fruits, with directions for culture and root-pruning, 1s.
Rivers' new edition of the "Rose Amateur's Guide," 6s.
Paxton's "Cottagers' Calendar," 3d., which ladies and gentlemen should distribute to cottagers.
Collection of 24 Annuals, mixed, recommended by Dr. Lindley as suitable for Shrubberies, 6s.
Seeds for distribution by Gentlemen to their Tenants and Cottagers on the most liberal terms.
A Selection of Seeds best adapted for Ward's cases may be had on application.
24 papers of Hardy Annuals, 5s.
Seeds selected and carefully packed for North and South America, India, New Zealand, and Australia, in the most secure way to arrive safe at any of the above places.

Where a post-office order accompanies an order for any of the above-named Seeds, J. KERNAN will allow, as discount, additional articles to the amount of 2s. in the pound.

J. KERNAN, knowing that even during the best years, it is difficult to procure Seed of a sound and genuine sort in any quantity, and that the late deficiency in the crops is calculated, as the season advances, to cause a demand, particularly in many of the later kinds of Peas, wholly disproportioned to the present supply, begs to direct Gentlemen, Agriculturists, and Farmers, to the policy of favouring him with their commands before the drain upon the market has commenced. J. KERNAN having secured from time to time the best samples of Barley, Oats, Beans, Turnips, Carrots, Clover, and Grasses of every description, can with confidence recommend his stock.

Old meadow turf, which will take a considerable time to decompose and char by the regular or natural means, may be produced by the following simple and short process. Place four bricks, raised two on two about 3 feet distant from four others similarly arranged, upon which place a sheet of iron large enough to rest fully on the bricks. By making a fire under this simple machine, and allowing your turf to remain until charred, it will, when bruised, make an excellent stimulant for Annuals, Herbaceous and Pot Plants of all sorts. If the vermin or the season do not disturb them, you will not require more than one plant in a hundred of those that come up. Be careful to begin thinning when the plants are quite young. Do not sow delicate Annuals in the open borders until the end of April, or (what is better) make two sowings, one in the middle of April, and the other the beginning of May. These will succeed each other until October.

Although this list is condensed in the present enumeration, all other new and necessary seeds may be ordered. Gentlemen coming to town, having but one day to remain, wishing to take on return plants or any kind, will greatly oblige by giving one day's notice.

Printed by WILLIAM BRADBURY, of No. 6, York-place, Stoke Newington, and FREDERICK MULLETT EVANS, of No. 7, Church-row, Stoke Newington, both in the county of Middlesex, Printers, at their office in Lombard-street, in the precinct of Whitefriars, in the City of London; and published by them at the Office, No. 5, Charles-street, in the parish of St. Paul's, Covent Garden, in the said county, where all Advertisements and Communications are to be addressed to the Editor.—SATURDAY, FEBRUARY 5, 1848.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 7.—1848.] SATURDAY, FEBRUARY 12. [Price 6d.

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FREDERICK WARNER begs to refer his friends and the public to his Catalogue of new and choice FLOWER and VEGETABLE SEEDS (in Harrison's "Horticultural Cabinet" for the present month), which contains all the novelties of the season; the selection of Peas is particularly recommended. Catalogues can be had on application at 28, Cornhill, London.—Feb. 12.

CORNWELL'S VICTORIA RASPBERRY.—Prizes were awarded to it at the Horticultural Society's Garden, Chiswick; Royal Botanic Society's Garden, Regent's-park; and Surrey Zoological Gardens, as being the best for size, colour, and flavour. Plants to be had of GEORGE CORNWELL, Market-gardener, opposite to the Red Lion, Barnet; GEORGE CHARLWOOD, Covent-garden; and W. and J. NOBLE, 152, Fleet-street, at 2*l.* per 100, or 6*s.* per dozen. The Fruit in Covent-garden brought a higher price than any other.

CLARKE AND Co., SEEDSMEN and FLORISTS, 86, High Street, Borough London, beg to say their Catalogue of New Garden, Agricultural, and Flower SEEDS, is now ready, and may be had on application.

Choice assortments of German Flower Seeds, including many New Varieties.

SEYMOUR'S RED MATCHLESS CELERY.

H. LANE AND SON, Great Berkhampstead, are now sending it out at 2*s.* 6*d.* per packet, or the amount may be remitted in postage stamps. Reference to the successful exhibitions at the Horticultural Shows during the last season are considered sufficient recommendation.

THE NEW EARLY BEDALEAN PEA (JACKSON'S).

The most prolific, best, and earliest known for spring sowing.

WM. JACKSON AND CO., NURSERYMEN and SEED MERCHANTS, beg to state that the present month is the best for sowing the above excellent Pea, which may be had of them at 2*s.* 6*d.* per quart. Also a general assortment of the most approved and useful Garden Seeds, including all the novelties of the season, on the most reasonable terms.

Nurseries, Scruton, Bedale, Yorkshire, Feb. 12.

SEEDLING POTATO, SHURSTON'S "CONQUEROR."

GEORGE SHURSTON, Stowmarket, begs to offer the above prolific, floury, and rich flavoured Kidney Potato, at 6*s.* per peck, package free; a discount where four or more pecks are ordered. It took the prize at Stowmarket and first class certificate at the metropolitan Shows, where it was very highly recommended. See also Dr. Lindley's note in this Paper, September 18th; and Mr. Glenny's in the Gardener's Almanack, and in the Scotch Gardeners' Gazette and Farmers' Journal. A money order is respectfully requested from all unknown Correspondents.—Feb 12.

MOSS ROSES.

RICHARD PERRY, of Broomhouse, Fulham, begs to call the attention of the Public to his stock of MOSS ROSE PLANTS. They are strong and well rooted, in excellent order for potting or border planting, at 20*s.* per 100. Also his stock of Moss Roses in pots, which have been potted one season, and now fit for forcing, at 6*s.* per doz., or 42*s.* per 100.

COOPER'S PATENT APPARATUS for preserving Fruits, by which process they are perfectly secured for many years, on sale, by JAMES COOPER, at No. 8, St. John street, Clerkenwell, London. Sample Hampers will be delivered at any part of London, for TEN SHILLINGS each, containing fruit in considerable variety, in half-pints, pints, and quart bottles, some in syrup, others plain.—Particulars and testimonials will be forwarded by post when requested.

NEW AND CHOICE FLOWER AND VEGETABLE SEEDS.

BASS AND BROWN'S DESCRIPTIVE PRICED CATALOGUE FOR 1848 will be sent free by post on application. For Advertisements of a few select Seeds from the Catalogue, see *Gardeners' Chronicle* dated Jan. 8, page 18, Jan. 22, page 49, and Feb. 5, page 82.

Seed and Horticultural Establishment, Sudbury, Suffolk.

HARDY AND SON, SEED and POTATO GROWERS, Maldon, Essex, beg to inform the nobility, &c. that One Peck of each of their 10 selected EARLY POTATOES, as Advertised Dec. 25, Jan. 8 and 15, will still be forwarded on receipt of 20*s.* Late Bread Fruits, 5*s.* per bushel.

DOUBLE ITALIAN TUBEROSE ROOTS, 4*s.* per dozen.—The importation of the above-named Bulbs has been just received at A. COBBETT'S Italian and Foreign Warehouse, 18, Pall Mall. Orders by post punctually attended to. Also some exceedingly moist Parmasan and Gruyère Cheese.

MESSRS. J. AND H. BROWN'S Descriptive CATALOGUES for 1848 can be had by [illegible] are also supplying the following Greenhouse Early Flowering and other plants.

		Priced	
		s.	*d.*
12	American plants, in variety, with flower buds fit for forcing	10	0
6	Andromedas, of sorts including Leschenaultii	4	0
25	Azaleas, New Dwarf Pontic varieties, for shrubbery roots, with flowering buds, one of a sort by name	10	0
25	Azaleas, American varieties, ditto ditto	15	0
12	Rhododendrons, including ponticum, arboreum, and hardy varieties	12	0
12	Hardy Heaths, one of a sort, by name	9	0
	Magnolia grandiflora, fine plants, in pots, per doz.	18	0
	Tea, Bohea and Young Hyson, per dozen	15	0
100	Two of Roses, two of a sort, on Dwarf stocks	25	0
50	Ditto ditto on Standard stocks, ditto	12	0
	Standard and half-standard Roses, per doz., 12*s.* and	18	0
12	Climbing or Pillar Roses, one of a sort	8	0
	Rosa Anemonæflora, each	5	0
	Cloth of Gold Rose, each	2	6
	Tea-scented Roses, one of a sort, per dozen	9	0
50	Choice Greenhouse plants, one of a sort for	45	0
	Camellias and *Greenhouse* Azaleas, fine blooming plants, per dozen	36	0
	Best Petunias and Verbenas, one of a sort, per doz.	6	0
	Best Fuchsias and Scarlet Geraniums, one of a sort, per dozen	6	0
	New Dark Petunia, Purple Queen, each	2	0
25	Herbaceous Border Plants, of choice sorts	7	6
12	New Double Paonies, one of a sort	9	0
	Choice Pelargoniums, one of a sort by name, per dozen	12	0
	Complete collections of Kitchen Garden Seeds, of the newest and best kinds, for 10*s.*, 20*s.*, 30*s.*, or	40	0

Albion Nursery, Stoke Newington, London, Feb. 12.

ISIANTHUS RUSSELLIANUS.—This beautiful Plant, with bell-shaped, rich porcelain-blue flowers, which remain in bloom for three months consecutively, forms a most desirable object for either greenhouse or conservatory. Very strong, healthy plants are now ready, at from 3*s.* 6*d.* to 5*s.* each. Seed of ditto, with printed cultural directions, 1*s.* per packet. Plants of CUTHILL'S EARLY BLACK SPINE CUCUMBER always ready, also Seed of ditto, together with a Treatise on Cucumber growing, 2*s.* per packet. PASSINGHAM'S VICTORIA MELON, best of all Melons, 2*s.* per packet. New early Forcing STRAWBERRY, 1*l.* per 100.

CUTHILL'S "Treatise on the Culture of Early Potatoes in the Open Ground," price 7*d.* Post-office order on Camberwell, or stamps to a small amount.

JAMES CUTHILL, Camberwell, London.

DWARF TRAINED CHERRIES.

H. LANE AND SON, Great Berkhampstead, have some very fine strong plants to offer to the trade.

A COLLECTION OF RARE AND HARDY CONIFERÆ for £5.—The following Collection of CONIFERÆ is offered by YOUELL and Co. in very healthy plants, in pots, for 5*l.*, package included, and carriage paid to London or Hull:

Pinus insignis	Abies Douglasii
,, Montezuma	,, Khutrow
,, Gordoniana	,, orientalis
,, cembroides	,, Menziesii
,, Gerardiana	Picea Pindrow
,, excelsa	,, Webbiana
,, australis	,, Pinsapo
,, Grenvidea	Cupressus torulosa
Araucaria imbricata, 3 plants, fine	Taxodium sempervirens
Cedrus Deodara, 3 plants	Juniperus excelsa
	,, Uadeana

Cupressus torulosa, bedded, 18 inches to 2 feet, 12*s.* per doz.

CEDRUS DEODARA.

YOUELL and Co. beg to inform Planters and the Trade they are enabled to supply fine one and two years Seedling Plants of the above, well established in pots, upon reasonable terms.

CAMELLIAS of the finest and newest varieties, 30*s.* per doz.

TRUE FASTOLFF RASPBERRY, originally introduced by YOUELL and Co., 10*s.* to 15*s.* per 100.

Fine large white ditto, 25*s.* per 100.

THE FINEST CARNATIONS, PICOTEES, AND PINKS.

YOUELL and Co.'s extensive and celebrated Collection of the above are this season unusually strong and healthy, and ready for sending out, in fine well-rooted plants, to any part of the United Kingdom, or for exportation, at the following prices:

25 pairs of finest first rate show varieties of Carnations and Picotees	£3 0 0
12 pairs do. do. do.	2 0 0
25 pairs of very fine show varieties of do. do.	3 0 0
12 do. do. do. do.	1 10 0
25 do. of finest first-rate show varieties of Pinks	1 4 0

Fine mixed border Carnations, 12*s.* per dozen pairs.

Standard and half-standard Roses of the finest sorts, 12*s.* to 18*s.* per dozen.

Tobolsk Rhubarb, strong roots, fit for forcing, 6*s.* to 12*s.* per doz. Roots planted now will be ready for cutting in three weeks. For particulars see Advertisement Nov. 27, 1847.

Improved Giant Rhubarb, a very fine variety, and well adapted for forcing, 3*s.* to 9*s.* per dozen.

Strong Giant Asparagus, 3 years old, 3*s.* 6*d.* per 100.

Do. do. 2 years old, 2*s.* 6*d.* per 100.

Strong Seakale for forcing, 2*s.* per dozen.

Potatoes: the following can be supplied free from disease, at 2*s.* 6*d.* per peck, viz., true Ash leaved Kidney, Early Coolney, and Shilling's Early Frame.

Lily of the Valley for forcing, 5*s.* per 100.

30 packets of newest and choicest Flower Seeds, per post free, for 6*s.* Fruit Trees of the finest kinds.

Great Yarmouth Nursery.

J. C. WHEELER [illegible]

CHARLES SHARPE, [illegible] respectfully begs to [illegible] and Country to his [illegible] has rendered the advantages [illegible] progress of the last [illegible] recommend the following [illegible] the least affected by the [illegible] ing prices, packing [illegible]:

Early Cockings, [illegible]
Fox's Seedling, ditto
American Nonpareil
Ashton Kidney
York Reginets
White Kidney, very [illegible]
Early Shaw
Kentish Plum, [illegible]

The above will be [illegible] a Post-office Order, [illegible] ensure their safe delivery.—[illegible] Wisbeach, Cambridgeshire.

WOODLANDS NURSERY, [illegible]

WILLIAM WOOD AND SON [illegible] attention to their [illegible] tural, and other SEEDS, which [illegible] first-rate quality [illegible] of all the newest Peas and [illegible] improved vegetable of the [illegible] application.

N.B.—Collections of Flower [illegible] be forwarded, post-free, [illegible] the selection being left to W. W. and Son.—[illegible]

NEW AND GENUINE SEEDS OF FINE GARDEN VEGETABLES.

WILLIAM E. RENDLE [illegible] now in a position to [illegible] which have been harvested in the [illegible] selected plants.

WHITE BELGIAN CARROT
LONG RED ALTRINGHAM [illegible]
LARGE GUERNSEY CATTLE [illegible]
WHITE SILESIAN BEET
KOHL RABI
LARGE DRUMHEAD CABBAGE
MANGOLD WURZEL—LONG [illegible]
,, RED & YELLOW GLOBE
,, All other Seeds [illegible]

Early purchases are [illegible] advance, the same as last year.

Sam, 2 packages [illegible] *the above kinds*, [illegible] *postage free* [illegible]

NEW KITCHEN [illegible]

We have [illegible] varieties of KITCHEN [illegible] best saved from [illegible] tention, and which we [illegible]

No. 1.—Complete [illegible] Peas, [illegible] one year's [illegible]

No. 2.—Complete [illegible]

No. 3. [illegible]

No. 4. [illegible]

A LIST OF THESE SETS [illegible] PEAS, [illegible]

*** Upwards of [illegible] supplied to the Emperor [illegible] is now ready to be sent out.

N.B. Orders to the amount of £2 will be executed [illegible] free to Boston, Lincoln, Exeter, Nottingham, Falmouth, [illegible] any station in the Great Western Railway.

A general Catalogue of Agricultural, Kitchen Garden, and Flower Seeds can be had GRATIS on application. [illegible] ments or reference in London is desired from unknown Correspondents. WM. E. RENDLE & Co., Plymouth.

ESTABLISHED 1770.

HAMMOND'S JERSEY PIPPIN APPLE.

BERNARD SAUNDERS, F.E.B.S., L.B.S., &c., Nurseryman, Seedsman, and Florist, begs respectfully to announce to amateurs of fine fruit that he is now ready to supply Trees of the above-named APPLE. This fruit was raised by J. Hammond, Esq., of Fantosie, in the Island of Jersey, and was first exhibited at the Royal Jersey Horticultural Society in October, 1839, and was awarded the First Seedling Prize, when the following description was given by the Judges and Committee, who tasted it:—Fruit, mid. size, ovate, rather flattened at both ends; eye small, sunk in a shallow cavity; a little prominent; stalk long and slender, inserted in a deep cavity; skin greenish yellow on the shady side, changing to a bright orange yellow next the sun; flesh white, tender, crisp, and juicy, of a highly rich saccharine or mellifluous flavour. Keeps from October to May and June, and still retains a good quality. It has since been exhibited at the London Horticultural Society, where it was also much approved of. Dwarf Trees, 3s. 6d. each. The regular allowance to the trade if three or more are taken. He can also supply Fine Dwarf Trained Peaches and Nectarines and Moorpark Apricots at 3s. 6d. each. His collection of choice Pears stands unrivalled in the Channel Islands. Having been established upwards of ten years he has had ample opportunity of proving fruits of every description. A remittance or reference is requested from unknown correspondents.

St. Helier's, Jersey, Feb. 12.

CHOICE VEGETABLE SEEDS OF FINE GROWING QUALITY.

WILLIAM E. RENDLE and Co., of Plymouth, have much pleasure in stating that their SEED CATALOGUE *is now ready for distribution, gratis*. They have this season a most excellent assortment of all kinds, which have been saved from selected stocks with scrupulous care and attention. They can warrant all they sell to be of the best quality, every sort being proved before sent out.

The following sorts can be highly recommended as being very choice and valuable varieties, and will be sure to give great satisfaction. 6d. per packet, or 20 *for 7s. 6d., free by post.*

BROCCOLI, PENZANCE SUPERB LATE WHITE.—Thousands of baskets of the heads of this valuable variety are forwarded every spring from Cornwall to the London markets.

BROCCOLI, RENDLE'S WILLCOVE SUPERB.—Unequalled.

BROCCOLI, ELLETSON'S MAMMOTH APRIL WHITE.—A very hardy variety, of dwarf habit, can be strongly recommended.

BROCCOLI, LEGG'S TRUE WALCHEREN.—The true and genuine kind.

BROCCOLI, ADAM'S SUPERB WHITE.—A most excellent kind, ready in December and January.

BEET, CATTELL'S SUPERB CRIMSON.—Splendid colour.

PARSLEY, MYATT'S TREBLE GARNISHING.—Of first-rate excellence.

Beet, Whyte's black red	Lettuce, true Drumhead Cabbage
Brussels Sprouts, true imported	,, Ady's large Cos
Broccoli, Chapple's Cream	,, Ice Cabbage
,, Standsworth Superb White	,, Golden Cos
,, Potter's Pink	,, Hampton Court
,, Hampton Court	Turnip, red-top stone
,, Legg's late hardy dwarf white	Parsley, Enfield Matchless
Cabbage, Shilling's British Queen	Celery, Seymour's Superb White
,, Early Cornish	,, Dewsbury, Walnut-flavoured
,, Wheeler's Imperial	,, Lawe's Giant White
,, Victoria	Savoy, Cattell's, green curled
Couve Tronchuda	Parsnips, improved Guernsey.

A good Collection of Garden Seeds, from 12s. 6d., 20s., 30s., to 50s. each.

ARNOTT'S "CHELTENHAM SURPRIZE" CUCUMBER.

We have a very limited supply of this splendid variety. Four specimens 18 *to* 20 *inches in length were exhibited at Messrs. Hurst and M'Mullen's in the summer, hanging from one stem within the space of* 11 *inches. This Cucumber can be safely recommended as being one of the finest and most prolific yet known.* 2s. 6d. per packet.

The following choice sorts, 1s. per packet, free by post.

CUCUMBERS.

Victory of Bath	Charlton Hero
Improved Sion House	Barnes' Man of Kent
Stockwood fine Ridge	Roman Emperor
Weedon's fine Frame	Carpenter's Wonder.

MELONS.

Duncan's Green-fleshed	Green-flesh Cabool
Beechwood	Prize Green-flesh.

CHOICE FLOWER SEEDS.

WILLIAM E. RENDLE and Co. have this season to offer a very choice collection of NEW FLOWER SEEDS, which contain all the novelties of the season, and as many of the choicer kinds are of Home Growth, we can warrant them to be quite true and correct to name.

SCALE OF PRICES, SENT POSTAGE FREE.

No. 1.—100 Packets of choice kinds, including all the best kinds ..... 18s. 0d.
,, 2.—50 Ditto ditto ditto 10 0
,, 3.—25 Ditto ditto ditto 6 0

A useful Chart, giving the height, colour, and mode of raising the principal sorts of Flower Seeds, will be sent gratis with each order.

The following sorts will be included in every No. 1 and No. 2 collections:—

Alonzoa incisa	Martynia fragrans
Aster, fine German	Marigold, Superb French
Brachycome iberidifolia	Mesembryanthemum tricolor
Centaurea Americana	Nemophila striata
Chænostoma Polyantha	Phlox Drummondi
Clarkia rosea, double	Podolepis gracilis alba
Clintonia pulchella	Rhodanthe Manglesii
Coreopsis atrosanguinea	Schizanthus Grahamii
Convolvulus minor, new dark	,, Hookerii
Cuphea silenoides	Schizopetalum Walkerii
Didiscus cæruleus	Stocks fine German
Gilia nivalis	,, Victoria
Hearts-ease, fine mixed	,, White Pyramidal
Hollyhocks, fine mixed	Thunbergia alata
Ipomœa atro-violacea	Tropæolum canariense
,, grandiflora	Vicaria ocu'ata
Lobelia ramosa	Zinnia coccinea.
Lupinus Cruickshankii	

With all the most popular Hardy, Half hardy, and Tender Annuals; an assortment of which can be made from our General Catalogue, to be obtained on application.

A General Catalogue of Agricultural, Kitchen-garden, and Flower Seeds can be had on application. Cash payments, or reference in London, is desired from unknown correspondents.

William E. Rendle and Co., Plymouth. Established 1783.

MYATT'S LINNÆUS RHUBARB.—Spring being the usual planting season, Messrs. Myatt respectfully request early orders from those who have not yet favoured them with their commands, as half the available stock is already parted with. The Linnæus is the variety cultivated so largely by the Messrs. Myatt for the London markets, being remarkably early and unusually productive. The stalks are large and free from filaments, and are admirably adapted for preserving and all other culinary purposes. One-year planted roots, 3s. 6d. each; also Mitchell's "Royal Albert," 3s. 6d., and Myatt's "Victoria," 1s., with the usual trade allowance.

Manor Farm, Deptford, Feb. 12.

NEW AND BEAUTIFUL PLANT, "ALLAMANDA SCHOTTII,"

THE LARGE-FLOWERED ERECT ALLAMANDA.

LUCOMBE, PINCE, and CO, having obtained the identical plant with all its stock of this truly magnificent species of Allamanda from R. W. Barton, Esq. in whose hothouse at Springwood it flowered profusely during the whole of last summer and autumn, and from which the fine figure in the "Botanical Magazine" of this month was made, beg leave to announce that they will have plants ready to send out early in March next, at 31s 6d. each.

Beautiful as is the well known and justly admired "Allamanda cathartica," the species here alluded to is in every respect vastly superior, the flowers are nearly twice the size, they are highly fragrant, their colour is a rich golden yellow finely contrasted by the widely expanding campanulate throat being of a full orange colour. Sir William Hooker thus speaks of it:

"*I had the pleasure of receiving a splendid specimen of a perfectly "upright growing species of Allamanda, from Mr. J. Stanton, "Gardener to* R. W. Barton, Esq., *which, besides the size, "beauty and copiousness of the blossoms, has the merit of flowering "when little more than 2 feet high in* 8 *inch pots.*"

It was raised at Springwood from Brazilian Seeds.

To cultivators of choice specimens for exhibition at Horticultural Meetings, this will prove a most desirable subject, flowering as it does continuously through so many months, and as a permanent ornament to the hothouse and conservatory it will not be exceeded by any plant in cultivation.

L., P., and Co. beg leave to refer to the figure and description of "ALLAMANDA SCHOTTII" in the "Botanical Magazine" for February 1848, edited by Sir William Hooker, which will at once convey a better idea of its attractions than anything which they can say respecting it.—Exeter Nursery, Feb. 12.

PLANTING SEASON.—The following description of Nursery Stock may still be obtained, at the prices advertised in the *Gardeners' Chronicle* on the 6th Nov. 1847, by W. ROGERS and SON, Nurserymen and Contracting Planters, Southampton.

SEEDLING.

Ash	per 1000—1s. 6d	Oak, English, per 1000—7s. 6d.	
Acacia	,, ... 8 0	Thorn, Quickset	,, ... 2 6
Beech	,, ... 3 6	Arbutus	,, ...20 0
Spanish Chestnut	,, ... 7 6	Mahonia	,, ...15 0
Hazel	,, ... 7 6	Catalpa	per 100 ...12 6
Fir, Scotch	,, ... 1 0	Ailanthus	,, ...12 6
,, Pineaster	,, ... 3 6	Evergreen Oak, per 1000	20 0
,, Sea Pine	,, ... 7 6		

Planting contracted for to any extent from 5l. to 20l. per acre.

TRANSPLANTED FOREST AND ORNAMENTAL TREES, 1, 2, and 3 feet.

Ash, 15s. to 25s. per 1000.	Carpet Juniper
Beech, 15s. to 30s. ,,	Weeping Beech
Birch, 20s. ,,	Laurestine (three sorts)
Elm	Laburnum, common
Fir, Scotch, 10s. to 25s. ,,	,, sweet-scented
,, Pineaster, 15s. to 30s.	,, purple
,, Sea Pine, 40s. to 60s.	Mahonia aquifolia (for cover)
,, Spruce, 20s., 40s., 60s.	Evergreen Oak (in pots)
,, Larch, 10s. to 15s.	Pinus maritima, (in pots) 40s. per 100
,, Austrian	Stone Pine (in pots)
,, Weymouth	,, transplanted, 1 foot
Hazel, 15s., 30s., and 40s.	Pinus ("Abies") Douglasii, in pots, 1 foot, on own roots (from seed), 75s. per dozen, or single plants from 7s. 6d. to 10s. 6d. each; and a few fine plants, 3 to 6 feet, 42s. to 63s. each. This is the hardiest and most magnificent of the "Conifers."
Oak, English, 20s., 40s., 60s.	
,, Turkey	
,, Evergreen	
Sycamore	
Willow (Comewell)	
Common Laurel	
Portugal Laurel	
Holly, Green	
,, Variegated	
Evergreen Privet	Ribes sanguinea
Arbutus	,, aurea
Sweet Bay	Snowberry
Tree Box	Double Scarlet, White, and Vermilion Thorn
Cotoneaster	Weeping Willows
Deutzia	Irish Yew, 3 to 7 feet.
Double Furze	

OF LARGE GROWTH 5 to 12 feet, 25s., 50s., and 75s. per 100.

Beech	Lime	Pineaster
Birch	Poplar	Sea Pine
Elm	Hornbeam	Laburnum
Oak, English	Silver Fir	Laurel
,, Turkey	Spruce Fir	Portugal Laurel
Acacia	Scotch Fir	Bay
Chestnut	Larch Fir	Arbutus

AMERICAN PLANTS.

Rhododendron ponticum, 1, 1½, and 2 inches, bedded 20s., 40s., and 80s. per 1000.
,, ,, 1 foot, 12s. 6d., 1½, 2, and 3 feet, 20s., 40s., and 75s. per 100.
,, roseum, 1 to 2 feet, 50s. to 75s. per 100.
,, hybrid Scarlet and Catawbiense, in many beautiful varieties, bedded, 2 to 6 inches, 6s. per doz., or 25s. per 100.
Epigæa repens, 12s. per doz.
Gaultheria procumbens, 25s per 100.
Kalmia latifolia, small bedded, 12s. 6d. per 100.
,, ,, 1 to 2 feet, 50s. to 75s. per 100.

China Roses, 12s. 6d. per 100.
Rose stocks raised from cuttings of the Bourbon, admirably adapted for budding or grafting, 8s. per 100.
Roses, a selection of the finest sorts, mixed, 25s. per 100.
Aristolochia Sipho, 9s. per dozen.
Clematis azurea grandiflora, 42s. per 100 or 6s. per dozen.
Dutch Honeysuckle, 20s. per 100.
Irish Giant Ivy, 8s. to 25s. per 100.
Perpetual Tree Violet, 3s. per doz. or 20s. per 100.
,, New White, 6s. per doz.
Camellia Stocks (from pots), 42s. per 100.
,, ,, bedded, 25s per 100.
Hollyhocks, 25 superb varieties, 5s. per 100.

FRUIT TREES.

Peaches, Nectarines, Apricots, Apples, Pears, Cherries (trained and untrained), Vines, Currants, Gooseberries, Filberts, Raspberries, and Strawberries of the most select kinds.

A most superb collection of the choicest Roses, including all the new introductions, of which, and their general catalogue of Nursery Stock, Priced Catalogues may be had on application at their Nurseries, Red Lodge, North Stoneham, near Southampton, or their Floricultural Gardens, High-st., Southampton.

BALSAMS.—The Subscriber begs most respectfully to call the attention of the Nobility, Gentry, and Public of England to his unrivalled collection of BALSAMS, to which he has devoted his attention for many years, and perfected regardless of expense. The flowers are of immense size, very double, and embrace all the known varieties of colours peculiar to the beautiful plant. Seeds can be furnished, mixed, at 2s 6d. per packet.

Orders forwarded per post to all parts of the kingdom on receipt of postage stamps or money orders.

George Sims, Bowater Nursery, Woolwich.

TYSO and SON, Wallingford, Berks, beg to offer—
RANUNCULUSES, 100 superb named sorts, 50s. to 100s.
ANEMONES, 50 ditto double ditto, 20s to 30s.
CARNATIONS, 25 extra fine varieties, in pairs, 40s. to 60s.
PICOTEES, 25 ditto, ditto, 40s. to 60s.
Imported seeds, collections of named German Asters, Stocks, Balsams, Hollyhocks, Zinnias, &c., from 2s 6d. to 5s. per assortment.

These can be forwarded safely by post.

NEW POTATO, the "Chalmere Kidney," 2s. 6d. per peck.

"The Ranunculus: How to grow it," price 6d., or sent post free, in a priced Catalogue for 1847 and 1848, on receipt of nine postage stamps.

DOUBLE ITALIAN TUBEROSE ROOTS, 3s per Dozen. With Directions for Planting.

ROBERT HALL begs to advise the arrival of his Annual Importation of the above-named Bulbs at his Foreign Warehouse, 63 South Audley-street, Grosvenor-square, facing the chapel. Orders by post punctually attended to, and remittances in postage stamps taken in payment.

FOREIGN WINES, CHAMPAGNE BRANDY, &c. &c.

ROBERT HALL begs to call attention to his curious old pale Champagne Brandy, 60s per dozen.

	per dozen—s.		per dozen—26s.
Old Cordial Gin	26	Marsala	
Port Wine	30	Genuine Spruce, for inward strains, bruises, &c., per bottle	2s 6d
Sherry	36		

Samples of which will be forwarded to any part on application, per post or otherwise, at 63, South Audley-street, Grosvenor-square, facing the chapel.

ROSES.

WOODLANDS NURSERY, Maresfield, near Uckfield, Sussex.

WILLIAM WOOD and SON beg leave to invite attention to their extensive stock of ROSES, strong plants of which are offered at the following prices, the selection of sorts being left to themselves.

The best sorts of Climbing, Noisette, Hybrid China, Bourbon, and Hybrid Perpetual Roses, budded on the same stem with from three to five distinct varieties, on tall stocks from 4 to 8 feet in height, forming large pendulous heads, well adapted for training on umbrella shaped wire frames	At 3s. to 5s. each.
Tall Standards, fine picked stocks from 4 to 6 feet, with large heads, of the most showy kinds, for planting in conspicuous situations on lawns, &c.	per doz. 30s. / per 100. ....
Superior selected Standards	24s. £10 0 0
Superior do. do. extra fine	30s.
Fine Dwarfs and Standard Dwarfs	12s. 5 0 0
Superb do. do. extra fine	18s. 7 10 0
Fine Dwarfs, on own roots, in 50 varieties	2 10 0
,, Climbing	9s. to 12s.
,, Noisettes (Climbing)	9s. to 12s.
Good Dwarfs on own roots without names	1 10 0
Climbing Roses, mixed, without names, for covering banks	1 10 0

ROSES IN POTS FOR GREENHOUSE CULTURE AND FORCING.

Isle de Bourbon	12s. to 24s. per doz.
China	12s. to 18s. ,,
Tea-scented	12s. to 24s. ,,

The following sorts, being profuse bloomers, are peculiarly well adapted for planting in masses, where beds of one variety are desired.

Collections will be supplied (one of a sort), at 18s. per doz., the selection being left to W. W. and Son; and at the following prices per dozen, when not less than six plants of any sort are ordered.

DAMASK PERPETUAL.

	s.	d.		s.	d.
Antinous	15	0	Carmin Royal	15	0
Bernard	16	0	Rose du Roi	15	0

HYBRID PERPETUAL.

Aricie	15	0	Louis Buonaparte	16	0
Baronne Prevost	20	0	Madame Laffay	15	0
Comptesse Duchatel	30	0	Marquise Boccella	16	0
Dr. Marx	15	0	Marquis of Ailsa	16	0
Duc d'Aumale	15	0	Mrs. Elliot	16	0
Duchess of Sutherland	18	0	Prince de Galles	15	0
Edward Jesse	15	0	Princesse Hélène	15	0
General Allard	18	0	Reine de la Guillotière	15	0
Jolande d'Arragon	15	0	Robin Hood	18	0
La Reine	20	0	William Jesse	16	0
Lane	15	0			

ISLE DE BOURBON.

Amerentine	15	0	Madame Nerard	16	0
Augustine Margat	15	0	Manteau de Jeanne d'Arc	18	0
Cardinal Fesch	15	0	Mrs. Bosanquet	15	0
Comte de Nantieul	18	0	Paul Joseph	20	0
Comte de Rambuteau	15	0	Phillippart	15	0
Desgaches	15	0	Pierre de St. Cyr	15	0
Duc de Chartres	15	0	Queen	15	0
Gloire de Paris	20	0	Souvenir de Dumont d'Urville	15	0
Gloire de Rosamene	15	0	Souvenir de la Malmaison	20	0
Le Grenadier	20	0			

TEA-SCENTED ROSES.

These are also recommended for Greenhouse culture.

Archiné	10	0	Lady Warrender	15	0
Belle Allemande	15	0	Le Pactole	16	0
Bourière	15	0	Mancais	15	0
Burêt	15	0	Nina	15	0
Clara Sylvain	15	0	Souvenir du 30 Mai	15	0
Elize Sauvage	20	0	Triomphe du Luxembourg	15	0
Goubault	15	0	Virginal	9	0
Jeannie Deans	15	0			

AUSTRIAN BRIER—Persian Yellow .. 15s.
NOISETTE—Ophirie .. .. 24s.

A selection of the best autumnal blooming Pillar Roses.

ISLE DE BOURBON.

One plant of each of the following Roses for 18s.

Bouquet de Flore	Madame Bigotini
Comtesse de Ressequier	Madame Lacharme
Gloire de la Guillotière	Pierre de St. Cyr
Gloire de Rosamêne	Splendens
Imperatrice Josephine	White
Lady Canning	Zulema

NOISETTE ROSES.

Cloth of Gold	each—2s 0d	Larmarque	each—1s 6d
Jaune Desprez	1 6	Solfaterre	2 0

A liberal number of plants will be presented with each order to defray cost of carriage. Rose Catalogues are still issued, gratis, on application.—Woodlands Nursery.

LILIUM LANCIFOLIUM, RANUNCULUSES, & ANEMONES

HENRY GROOM, Chapham-rise, near London, by Appointment Florist to Her Majesty the QUEEN, and to His Majesty the KING OF SAXONY, begs to recommend the present season as the best for planting the above BULBS, which he can supply of the finest quality at the following moderate prices, having been most successful in their cultivation last year.

	£ s. d.
LILIUM LANCIFOLIUM ALBUM, fine bulbs, each, 1s. to	0 2 6
" " PUNCTATUM, each .. .. 5s. to	0 10 6
" SPECIOSUM (true), each .. .. 7s. 6d. to	1 11 6
100 RANUNCULUSES, in 100 superfine sorts, named ..	2 10 0
Superfine mixture, per 100, from 5s. to 15s.	
100 ANEMONES, in 50 superfine sorts, named (new collection)	2 2 0
Superfine mixture, per 100, 7s. 6d. to 10s. 6d.	

Foreign orders executed and the trade supplied. Discount allowed for ready money.

MILLERS SEEDLING GERANIUMS.

Scarlet Defiance	£1 11 6	Rose Mundi ..	£1 11 6
Queen of Kent ..	1 1 0	Distinctum	1 11 6
Admiration	1 1 0	Vulpure	1 1 0
Conspicuhumdum ..	1 1 0	Floyd's Flag	1 1 0

The set 8l. 8s., with the usual allowance.

Fireblaze	0 10 6	Garland	0 15 0
Eclipse	0 15 0	Meteor Superb ..	0 10 6
Telegraph	0 15 0	Beauty Surpass ..	0 10 6

The six 3l., with usual allowance.

New Forcing GERANIUM, "PURPUREUM MULTIFLORUM," 10s. 6d. each.

N.B.—Good strong plants, with cuttings, are now ready to send out. The whole set of 15 distinct varieties a real bargain, 10l. 10s., with usual allowance to the trade.

Providence Nursery, Ramsgate.

S. AND J. DILLISTONE have a few packets of POTATO SEED, saved from an unrivalled early variety from America, which has hitherto escaped the disease; some splendid varieties have been raised from the above. Free per post, upon receipt of 12 stamps.

HOLLYHOCK SEED saved exclusively from the finest Double Flowers, warranted to give satisfaction, 2s. 6d. per packet of 200 seeds.

Nurseries, Sturmer, near Haverhill, Suffolk, Feb. 12.

SUPERB RANUNCULI AND GLADIOLI.—The present being the usual month for planting the Ranunculus, we beg to recommend the following selections. The new varieties have been selected with great care, of first-rate sorts, from immense quantities of seedlings, and for vigorous growth and free flowering are far preferable to the older varieties. Selection, in strong roots, at the following reasonable charges, with printed instructions for planting and treatment.

	£ s. d.
RANUNCULUS.—Free by post.	
50 Splendid new varieties, with names	2 0 0
25 do. do.	1 2 0
50 Fine older varieties, do.	0 10 0
25 do. do.	0 6 0
100 Finest mixed	0 10 0
100 Fine mixed, 5s.; or free by post for	0 6 0
GLADIOLUS, quite hardy.	
12 Splendid early varieties, with names	0 15 0
Beautiful mixed early hybrids, 3s. 6d. per doz.; or free by post	0 4 3

Gladiolus gandavensis, large roots, 1s. 6d. each, by post, 1s. 10d.; floribundus do., 2s. 6d. per doz.; psittacinus, 1s. 9d. per doz.

Any of the above, free by post, as priced, except the two last-named Gladioli. The early varieties of Gladioli should be planted this month.

Remittances are expected from unknown correspondents.

BASS and BROWN, Seed and Horticultural Establishment, Sudbury, Suffolk.

The Gardeners' Chronicle.

SATURDAY, FEBRUARY 12, 1848.

MEETINGS FOR THE FOLLOWING WEEK.

SATURDAY	Feb. 12	Royal Botanic	4 P.M.
TUESDAY	— 15	Horticultural	2 P.M.
		Linnean	8 P.M.
WEDNESDAY	— 16	Microscopical (Anniversary)	7 P.M.
		Society of Arts	8 P.M.

Nunc illud est, quod, si omnia omnes sua consilia conferant, Atque huic malo salutem quærant, auxilii nihil adferant.

ONE would think that TERENCE was thinking of HOLLY-PLANTING when he made his GETA thus to express himself. Upon nothing, in fact, is there more diversity of opinion than upon the season at which this operation should be effected; and it would really seem as if the difficulty became greater in proportion to the advice and consideration bestowed upon it.

We had hoped that the excellent directions upon the subject given by Mr. MACNAB, of Edinburgh, than whom we have no writer on gardening matters of more sagacity and experience, had set the question at rest for ever, especially when we found for ourselves that, independently of all theoretical considerations, experiments made upon the subject fully bore out his statements. He recommends "late in autumn, winter, or very early in spring; that is, any time from the middle of October to the middle of February; and, in general, the *beginning of this period is the best*." Among the evidence in favour of this statement, which is accessible to everybody, Mr. MACNAB refers to the following instance:—

"Let any one look at the evergreens in Hillside Crescent, by the side of the New London-road from Edinburgh, in front of the house of the Right Honourable William Allan, Esq., of Glen, present Lord Provost of the city of Edinburgh. They are principally Portugal Laurel, common Laurel, Laurestine, Holly, Alaternus, and a few specimens of Arbutus, and were all planted in the months of November and December, in the year 1824, and under his lordship's own immediate auspices, and without any other watering, even at the time of planting, but that which fell upon them from the heavens. Of many hundreds, nay, I believe, several thousands, of those evergreens planted in that Crescent at the above time, very few failures occurred; but an instance of evergreens planted in the spring of the following year will be given hereafter, which proved nearly a total failure. Now, let any person compare the evergreens in Hillside Crescent with all the evergreens in the public squares, crescents, circuses, places, or gardens in Edinburgh, and if these are not convinced that winter is a proper time for planting evergreens, they must at least admit, that the autumn is not the very worst time that can be found for the purpose. A qualified acquiescence in my opinion is all that I can consider myself entitled to hope for; for as to all that I have said about planting evergreens, and notwithstanding my belief, that all I have said is founded on common sense, and has been proved to be correct by long and extensive practice, yet many a person, from prejudice, obstinacy, or indolence of mind, will act as they always do, and says must be right; and almost everybody knows that spring and autumn are the best times for planting evergreens, it is not likely that any thing I have said, or can say, will be the means of inducing people in general to change to the time that I am satisfied, from practice, is the best for performing such work. 'Errors of long standing can only experience a lingering death.'"

Lingering, indeed! when we find correspondents of such intelligence as two who have now revived the question in our columns, falling back upon the old, and, as we had imagined, exploded practice of April planting.

The example of failure in the latter operation, referred to by Mr. MACNAB, is the following:—

"I happened to be at a gentleman's seat in the month of July, 1825. In the spring of that year they had planted 500 Portugal Laurels, which had been got out of a sale nursery, and when I saw them in July, there did not appear to be 100 plants alive out of the whole, and not more than one-half of them were in good health—the others could not attain, for several years, the size they had reached when they were planted."

We quote this in order to complete his statement, but it is needless, because, whatever instances of success in April planting may be adduced, its failure in England is too notorious to require proof.

We have lately examined a new plantation into which many large Hollies were transplanted in the winter of 1845-6. Of these a portion was planted in November and December: the remainder at a much later period in consequence of the land, a heavy clay, being too wet to work upon in mid-winter. Those planted in November have sustained no injury, the spring planted specimens have in many cases died back till nothing is left but the central trunk. Among the small autumn planted specimens no loss at all has occurred. It is however proper to add that all the March planted specimens are also flourishing: but *they were turned out of pots*, and every one knows that such plants may be removed at all seasons if proper precautions are taken.

But while we retain the opinion that we have so uniformly expressed in favour of late autumn planting, we freely admit that many examples are to be found of failure at that time, and of better success at others, and that examples of perfect success in April are to be easily produced. We can point to them almost from our own windows; and to others in which July has proved a most propitious month. But we regard these as exceptional cases; or as examples of success equal to winter planting, and no more. Failure or success in transplanting Hollies, all other things being equal, depends upon the weather that is to succeed the operation. Upon this point we again quote Mr. MACNAB:—

"There can be no secret in the proper treatment of evergreens; if there were, I should say that it is in preventing their roots from becoming dry when out of the earth; to choose moist and cloudy weather for planting; and still better, if we had the power, by foresight or otherwise, to secure a continuance of such weather some time after they have been planted. If the roots of evergreens be allowed to dry when out of the ground in spring, it is scarcely possible to prevent their suffering considerably, and showing this injury for a long period after they are planted. Now, it is quite true, that we occasionally have such weather as I have said is fit for our purpose in spring, and too often even in summer, and therefore it has happened, as I have already said, that I have planted successfully during ten months of the twelve. But though we seldom can have difficulty at any season in selecting a moist day, or at least some hours in which the weather is sufficiently moist for planting, yet I know no secret by which, at any season, we can determine that, after planting, we shall for a week or more be free from sunshine; and I know, in common with everybody who has any experience in planting evergreens, that they suffer considerably if exposed to a hot sun immediately after being planted. Though

spect to a single tree of graceful form is in the choice of a site for it. The tree itself will then produce the full effect. And, as a general principle, the same truth holds good with regard to groups of trees, ranging as they may from the smallest to the most extensive combinations. The external outline of the forms—the exquisite variety of light and shade—the effect of intricacy increased in proportion to the largeness of the group—all these may be so worked up by skilful hands as to make TREES a most charming feature in the landscape; and unquestionably, when well contrived, few effects are so beautiful as these.

While Sir UVEDALE PRICE agrees however in the principle that what is true as to one tree is equally true concerning the grouping of many, he adds qualifications which will repay serious reflection. His remarks run thus: "What is here said of a *single* tree is equally true of every massy *combination* of them: and appears to me to account perfectly for the bad effect of clumps, and of all plantations and woods where the trees grow close together. In all these cases the effect is in one respect much worse. We are disposed to admire the bulk of a single tree—the *ipse nemus*—though its form *should* be heavy; but there is a meanness as well as a heaviness in the appearance of a lumpy mass produced by a multitude of little stems."

Is Sir UVEDALE right on every point introduced in this short passage? =

GRAFTING.

THIS is one of the nicest operations which can engage the attention of gardeners, and generally carries them onward through the spring months full of anticipation; it has been successfully performed during midsummer, as well as in spring, although the following remarks bear principally upon the latter course.

About the middle or end of February, select the grafts or scions from shoots of one year's growth, reducing their length to 6 or 8 inches, keeping each sort separate; put them into the ground, there to remain until the sap shall have become active in the stocks on which they are to be put; this will, in ordinary seasons, be about the middle of March, commencing with Cherries, then Pears, Plums, and lastly Apples, which will succeed when put on any time up to the middle of April. Stocks on which to graft may be reared from seeds, although many sorts of Apples grow easily by slip, even when half-an-inch in diameter. Paradise stocks, also, which are obtained by slipping those trees of mature growth which throw out fibrous knots, which knots become the roots when put under ground, should be grown to graft dwarfs upon; they present a very handsome appearance in flower borders, and grow well in large pots, or tubs. When you are ready to put on the grafts, have by you a sharp knife, a triangular-shaped wedge for raising the bark, a mixture of clay and horse dung thoroughly incorporated, and a supply of bast strands, well wetted. In this operation there are three points to be attended to,—1st, the preparation of the stock; 2d, the preparation of the scion; and 3d, the adjustment of the one to the other. These vary according as the stock is old or young. In preparing the stock it is necessary to bear in mind at what height you require to put on the graft; if for a wall or espalier this should be about 6 inches from the ground; if for a standard, from 3 to 6 feet. For young stocks that mode called tongue grafting is most suitable, while for old ones crown grafting is more certain of success; indeed, a knowledge of these two methods is sufficient for all practical purposes, our object being to exclude any operation which does not combine efficiency with economy; these then, I shall notice separately.

1. *Tongue Grafting.*—Prepare the stock by making a clean, slanting incision nearly 2 inches long, and at a height suited to the result wished, and with the knife cut a slit downwards in the form of a tongue, beginning at the upper third of the slope; next, prepare the scion by making an incision similar, and of equal length, to that on the stock, making a slit or tongue in like manner; after which proceed to adjust the scion to the stock by inserting the tongues within each other, being careful to have the inner bark of both touching on one side; then tie it carefully with a strand of bast, after which, having first wetted the stock and scion, apply the clay compost in such bulk as to exclude the air and preserve the scion moist until adhesion takes place; surround the whole with a little moss retained with a strand, which will prevent it from cracking, as well as prove a medium for administering moisture, if the weather should prove too sultry.

2. *Crown Grafting.*—This consists in making a horizontal cut in the stock at the proper height; pare it smooth, and on the smoothest side of the bark make a slit, 1½ inch in length, down to the wood; then, with the triangular wedge, raise the bark only on one side—this is much superior to the ordinary method of raising both sides, as it is more successful and much more easily adjusted, as will be seen in the tying. Prepare the scion by a similar cut, making a shoulder on which to rest it when inserted; pare the bark slightly along the edge which is to be applied to the unraised bark of the stock; then, having inserted the scion, take a strand of bast and pass it always round in the same direction, so as to press the pared edge to the unraised bark; after this, cover with clay, &c., as directed for tongue grafting. This mode of crown-grafting is by far the most successful of any which I have seen or tried, and is more easily executed. A further precaution which I use is always to include a bud in the under part of the scion, so that, after the clay is removed, should any accident occur with a favourite graft, the chances are in its favour of being preserved in the bud.

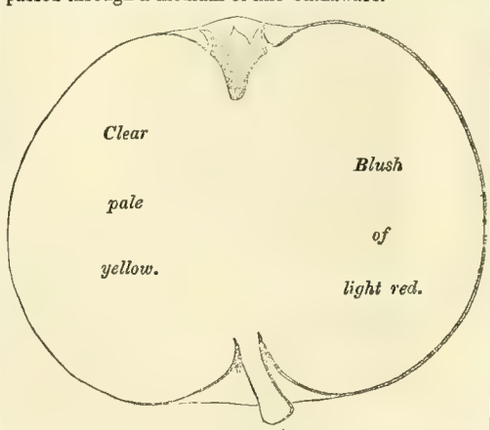
As to the future management of grafted stocks, it is necessary to keep down all young shoots, to remove the clay and ligature about the beginning of June, to allow for the swelling of the bark, and replace by another ball of clay without a ligature; this I prefer to applying a ligature without clay, which is generally done, as it more effectually secures the grafts from wind or accidents; the clay may be finally removed in August.—*J. B. Weir, Galashiels.*

DUMELOW'S SEEDLING APPLE.

Synonymes.—Wellington, Dumelow's Crab, Normanton Wonder.

THIS Apple was raised by a Mr. Dumelow, a nurseryman near Derby, according to some accounts; in the "Transactions of the Horticultural Society," vol. iv. p. 529, he is stated to have been a farmer near Ashby-de-la-Zouch, Leicestershire. In this county, and likewise in Derbyshire and Nottinghamshire, it was cultivated previously to 1820, when fruit of it was exhibited by Mr. Richard Williams, nurseryman, Turnham-green. Mr. Williams obtained the variety from Gopsal-hall, the seat of the Earl Howe, under the name of the Wellington Apple; and by this name it is best known in Covent-garden market, where it is much esteemed as a culinary fruit.

Flesh firm, crisp, with a brisk acid juice. It keeps well, without shrivelling; its season for use may be stated as commencing with November, and some fruit may be kept sound till April. It is semi-transparent; if the side of the fruit be held up to the light, the shaded part of the eye becomes illuminated, as if the light had passed through a medium of fine Chinaware.



The tree is of spreading growth. Shoots vigorous, dark brown, remarkably speckled with whitish dots. The spots are, indeed, more numerous than in any other known variety. Leaves moderately large, roundish or somewhat oblong, acuminate, unequally serrated; petioles about an inch in length; stipules linear, half the length of the petiole.

This excellent variety may be supposed to have been raised from the Northern Greening; but this is only a supposition, in consequence of the resemblance which the shoots of both these varieties bear to each other in regard to the numerous spots. However that may be, Dumelow's Seedling ought to be in every collection, for it is one of the very best kitchen Apples.—*R. T.*

PEARS ON QUINCE STOCKS.

I MUST refer your correspondent "Abdalonymus" to my reply to "Constant Reader," given at p. 372, 1847; he will there find the results of my experience, which will spare my pen, but I feel that I ought to firmly contradict his assertion—"It is a fact that few sorts of Pears will grow immediately on Quince stocks." I can give him a list of more than 200 sorts that grow freely without double working. The Virgoleuse Pear is very inferior to other sorts, the names of which I have given in the letter above referred to for double working; for walls or espaliers they are not "useless;" let "Abdalonymus" go to Mr. Thompson at the Chiswick Gardens, and ask him to show him the fine trees in the west wall there, some 25 years old, and looking as if they would live for a century. Some of our finest old varieties of Pear, such as the Crassane and Colmar, most certainly require a wall to bring them to perfection, as is also the case in the northern departments of France and in Belgium; but our best new varieties give the very finest fruit from pyramidal trees on the Quince stock.

It is not a fact "that Pears are far more liable to canker upon Quince stocks than upon their own;" quite the contrary, as I can prove to "Abdalonymus," if he will come and see me. Very many sorts that canker and are unfruitful here, when grafted on the Pear stock are fruitful and healthy in the highest degree when worked on the Quince. I will here venture to repeat what I have before written in your pages, that the "Louise Bonne, of Jersey," grafted on the Pear here, and growing in a light sandy loam, seldom or never bears clean fruit; they are always spotted and diseased, and its shoots are often cankered and unhealthy. I have this month taken off the heads, for the purpose of regrafting some fine trees 15 years old, on this account, and have just finished a plantation of 2000 trees of this sort on the Quince to grow fruit for Covent-garden market, only because it does so well. Your correspondent does not give any account of his experience; his letter seems to me all empty assertion.

Pears upon Quince stocks do not "require several years before they come into a bearing state;"* they often bear the second year from the bud or graft, and the third year they will bear abundantly. I am not at all surprised at your correspondent being "completely" baffled; he has not persevered as I have. The fruit from pyramidal trees on the Quince occasionally root-pruned is not "small and deficient in juice;" the finest flavoured Pears I have ever tasted in this country and in France have been the produce of trees of this description; there is always much more piquancy of flavour than in Pears from walls. I can state rather a stubborn fact in support of this; I sent last October some sieves of Louise Bonne of Jersey to Covent-garden market. My salesman reported to me that "they were the best he had ever seen or tasted."

Now, as to duration, "to die in a few years" will not be the fate of trees worked on the Quince; witness the healthy trees in the gardens of the Horticultural Society at Chiswick, which are now more than 20 years old. I have seen trees on the continent more than 40 years old equally healthy. Surely this is enough of duration for any garden trees, and for any man of moderate wishes.

I half suspect that I know "Abdalonymus," and that some years since he was an unsuccessful cultivator of the Pear on Quince stocks, owing to his employing the common Pear-shaped Quince, raised from layers, which is a most unfit stock. He does not perhaps know that there are four or five varieties of the Quince, and that he used the very worst sort for a stock. He sold his trees, and I should think suffered in reputation. This, I fear, has made him crotchety and envious. I regret to observe this, and shall feel much pleasure in pointing out to him the different varieties of the Quince, and in particular that which is most favourable to the Pear. By the way, an error that the Portugal Quince is alone the proper stock for the Pear has been extensively propagated; this, I think, has its origin in the assertion of Comte Lelieur, in his "Pomone Francaise;" he there mentions it as being the best stock, but in describing it he gives the description of the Angers Quince, a variety with small and pointed leaves, which strikes readily from cuttings. The true Portugal Quince has broad downy leaves, and does not strike freely from cuttings; neither does the Pear succeed well grafted upon it; it is rarely seen in the French nurseries, and never employed as a stock.

I have above spoken of the freedom from canker of many sorts of Pears when grafted on the Quince. So much is this the case, that only the other day, when looking over some very healthy free-growing root-pruned trees, I was almost vain enough to think that I had discovered both the cause and the remedy for that perplexing disease. On one side were some Pear trees (not root-pruned) grafted on their own stocks, which after having grown freely for several years had commenced to canker; the disease indeed seemed to be making rapid progress. On the other side were some root-pruned Pear trees, of the same age, on Quince stocks, full of bloom buds and health; not a spot or speck of canker to be seen on them. One of my labourers was present; I bid him dig around the first-named Pear trees, so that I could see their roots. I found them all making their way almost perpendicularly downwards, through a sandy loam into a calcareous sand, and in some places into a stiff, reddish, tender clay. They were evidently getting out of the influence of the sun and air; the consequence is disease in the branches.

I turned to my root-pruned trees on the Quince stocks, uncovered their roots, and closely examined them. Every root and fibre was near the surface, ready to receive the benefits of surface dressings in winter, liquid manure in summer, and the influences of sun and air. The consequence is health and fertility. These are, I trust, facts worthy the consideration of the physiologist.

A few words more about pyramidal Pear trees on the Quince stock and I have done. In the "good old times" it was customary in planting common gardens to stick in dwarf trees here and there, either Willow-like one year old grafts or bushy trees two or three years cut in; if vigorous growing sorts these soon grew into large spreading trees, shading a large space of ground. If, on the contrary, they were delicate and rather tender, their shoots in a few years commenced to canker, and presently the trees would be a mass of disease. Now pyramidal Pear trees on the Quince stock, and Apples on the Paradise stock, must not be stuck in in this manner; they should be planted—and planted well, and have summer pinching and winter root-pruning if inclined to grow too vigorously; surface dressing in autumn and liquid manure in summer will also be found highly advantageous. In short, they require culture; in deep, rich fertile, soils this surface dressing and liquid manuring may be dispensed with, but in thin, dry, and light soils it is quite indispensable, more particularly in thin soils resting on chalk; in such soils, even with the

* I quote his words. How different to his assertion in his letter at end, "to die in a few years is the certain fate," &c. O, "Abdalonymus!" thy memory is bad and thy judgment worse; if trees are several years before they bear they will most probably live for several years after coming into bearing.

best culture, success will not always attend the efforts of the cultivator; but I must honestly confess that I have not yet seen any failure. The following sorts of Pears, I am inclined to think, will succeed on the Quince, even on the most unfavourable soils; they are planted here in stiff, dark, adhesive clays—in light, calcareous, reddish sand—in sandy loam, and in a stiff, red loam (such is the great variety of soils in my nursery), in all they succeed admirably, and give abundance of fruit of large size and fine flavour: Beurré Ananas, Beurré d'Amanlis, Beurré d'Aremberg and its congener Soldat Laboureur or Orpheline d'Enghien, Beurré Capiaumont, Beurré Diel, Beurré Easter, Beurré Langelier, Bon Chretien (Williams's), Chaumontelle, Citron des Carmes, Colmar, Crassane, Delice de Hardenpont, Doyenné d'eté, Doyenné (white), Duchesse d'Angouleme, Fortunée (Parmentier), Glout Morceau, Gratioli of Jersey, Louise Bonne of Jersey, Napoleon, Passe Colmar, Saint Germain, Van Mons Leon le Clerc, Vicar of Winkfield, Wilhelmine, &c.

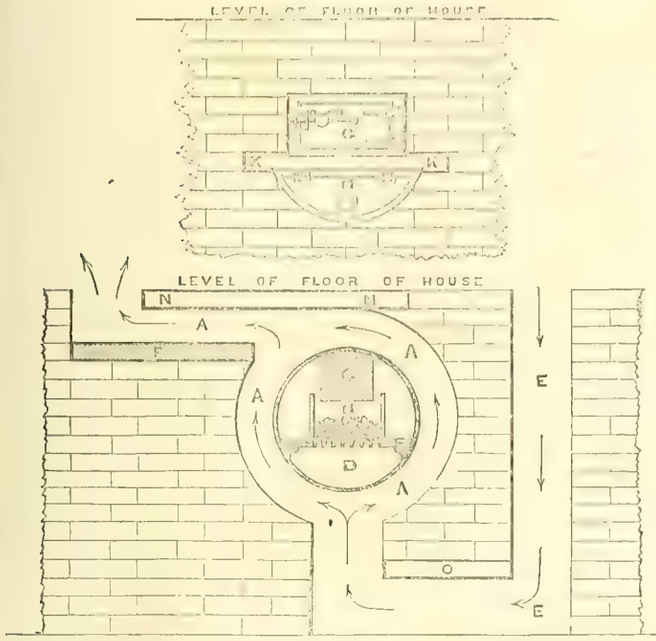
I must confess that I take great pleasure in the culture of pyramidal trees—they are so productive, so "gardenesque," so comeatable, their fruit is so easily gathered, the progress of the trees in all their stages of growth is so under the eye of the cultivator that I feel assured it must make rapid progress, in spite of such cavillers as "Abdalonymus" and "Constant Reader."—*Thomas Rivers.* [Mr. Rivers is perfectly right.]

THE POLMAISE SYSTEM OF HEATING.

I FEEL certain that the Polmaise system of heating, in spite of the temporary difficulties of application which it has at present to contend against, will ultimately supersede all other modes of heating horticultural structures, as well as many others, such as lecture rooms, town halls, churches, and even the halls of our dwelling houses. From the advantage obtained in the circulation of the atmosphere, the principle must recommend itself, and in the end prove superior to any other mode of warming buildings of the above description. It is the advantage of this peculiarity in its principle that seems to me to have been so much overlooked by gardeners in general. With all their objections to its adoption, none can say that when it has been acted, the plants, Vines, &c. have been otherwise than in a surprisingly healthy state, and the produce of grapes of the Vines has not been surpassed.

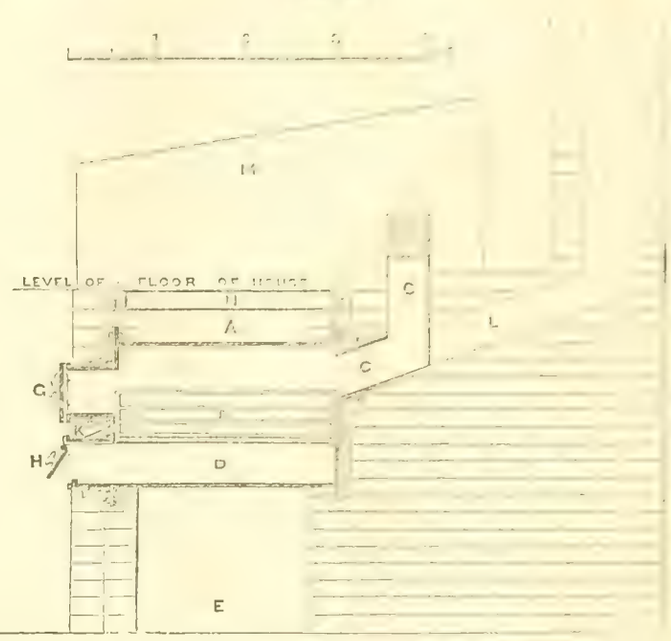
Amongst the chief difficulties complained of (which are only those of detail in the construction of the heating apparatus), is the material best adapted to convey the necessary heat to the structure, and in a mode of application. The flat iron plate combined with brick-work seems objectionable, from its liability to derangement; I would therefore venture to suggest the accompanying form of heating apparatus in the shape of a cast-iron cylinder, as being less likely to crack. The fire being in the centre of it, and the air from the ash-pit D having access to the sides and all parts of the fire, the cylinder will become equally heated, and consequently contract and expand equally. The cylinder is closed by plates at each end, of the same material, secured to the former by nuts and screws. In these plates are placed the iron tubes for the smoke flue C, the fire grate door G, and ash-pit door H; either cast with the plates, or attached afterwards. The flanges

PLAN No. 3.



PLAN No. 1.

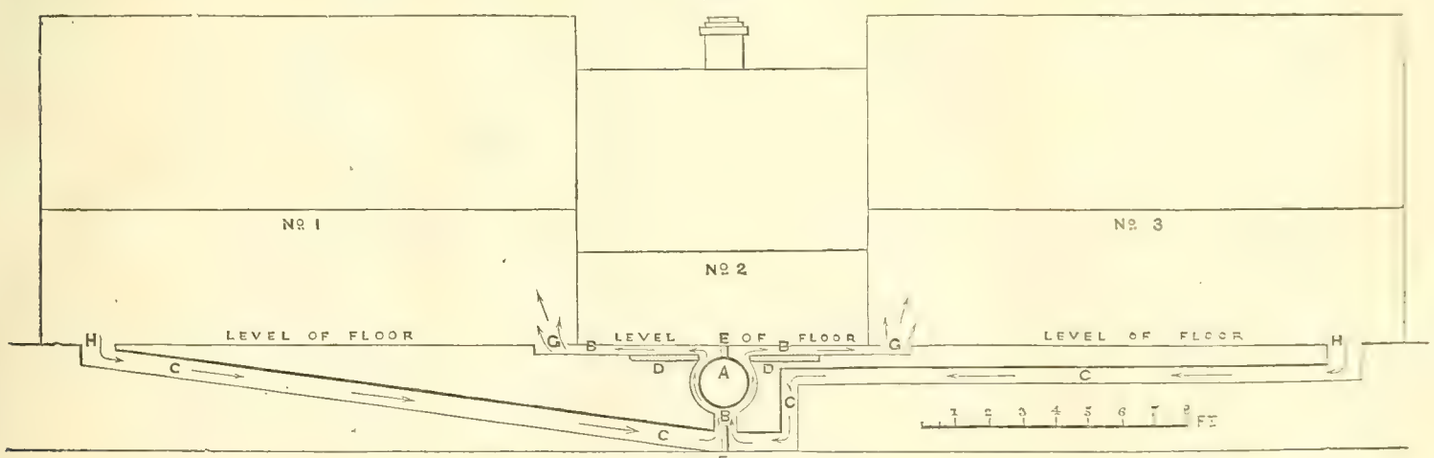
PLAN No. 2.



REFERENCES TO PLANS Nos. 1, 2, and 3.

A, Hot-air chamber, containing the cylinder, 18 inches in diameter and 2 ft. 6 in. in length, Nos. 1 and 2.
B, Fire-grate, Nos. 1 and 2.
C, Smoke flue, Nos. 1 and 2.
D, Ash-pit, Nos. 1 and 2.
E, Cold air drain, Nos. 1 and 2.
F, Tank, No. 1.
G, Fire-grate door, Nos. 2 and 3.
H, Ash-pit door, Nos. 2 and 3.
I, Groove in brickwork for sand, and in which the flanges of cylinder are placed, No. 2.
K, Stone to connect brick-work between fire-place and ash pit, Nos. 2 and 3.
L, Showing flue continued to chimney, No. 2.
M, Forcing-pit over cylinder, and through which the smoke flue C passes if required for bottom heat, No. 2.
N, Stone to connect brick-work over hot air chamber, Nos. 1 and 2.
O, Stone to support brick-work between [illegible] hot air chambers, [illegible]

PLAN, No. 4.



REFERENCES TO PLAN, No. 4.

Nos. 1, 2, and 3, Horticultural buildings to be heated.
A, Cylindrical apparatus for heating on the Polmaise principle, as described in Plans Nos. 1, 2, and 3.
B, Hot air channels entering the houses Nos. 1 & 3, at G
C, Cold air drains leaving the houses at H.
D, Tanks for moisture, which can be filled or emptied at pleasure by a communication through the floor of house, No. 2.
E, A moveable partition to hot air chamber, which, when closed, divides the current of hot air equally to houses Nos. 1 and 3. By raising the partition and closing the openings G & H of one house, the whole power of the heating surface of the cylinder can be applied to the other.
F, A fixed division of brick-work separating the two cold air drains.
Note.—It is proposed [illegible] house No. 2 [illegible] [illegible] in No. [illegible]

of the cylinder, and those on the tubes, rest in a groove in the brick-work, to be filled with sand, and in the event of a portion of this sand working out (which would be indicated at the top of the grooves I, I), more can be supplied by hand; indeed these grooves should be always kept full. There must be a full half-inch clear space between the iron-work and the brick-work in every direction, excepting of course that portion on which the lower part of the cylinder rests. To prevent the sand from going through this half-inch space into the hot-air chamber, a circular piece of thin sheet iron made to fit close round the cylinder can be placed loosely on the cylinder, and against the brick-work, in a vertical position.

In plan No. 1, the position of the cold-air drain is thus placed to show the principle of its action. It may assume another form, as in plan 4, house No. 1, with probably equal success though greater expense.

Plan No. 2 shows a longitudinal section of the cylindrical stove, with the fire grate and ash-pit doors, and their tubes leading to the stove B. The whole of the stove bars and the bottom of the grate should be moveable, so that any portion can be replaced when worn out through the door G.

The smoke flue C is represented as passing through a forcing pit in the house over the stove, as in plan 4, house 2, and from thence it can be led round the house and up the chimney at the back of it, by which all heat is turned to account; or it may go at once to the chimney in back wall, as at L.

Plan 3 merely shows the position and size of the fire grate and ash-pit doors, and the hand screw K between them. The draft to be regulated by opening or closing the ash-pit door H, as shown in plan 2.

In the plan No. 4 I have suggested a mode by which two houses and a small forcing house may be heated by one apparatus. The two houses, Nos. 1 and 3, being heated either together or separately on the Polmaise principle, and the house No. 2 by the smoke flue passing round it on the old plan. But even No. 2 might be made to benefit by the Polmaise system of heating; at all events this house would derive much additional

warmth from being directly over the hot-air chamber, the moist air from which can be freely admitted when required into No. 2 house, by the holes in the stone floor through which the tanks D, plan 4, are filled or emptied.

Finally, by the application of a cast-iron cylinder for the heating material, no deleterious gases can escape into the house, and from its surface a strong and uniform heat is quickly given off from all parts of the cylinder to the surrounding air. These questions may possibly assist in overcoming the difficulties complained of by some of your correspondents.—*C. C.*

Home correspondence.

Planting Hollies.—Being always an advocate for the removal of Hollies and some other of our ordinary evergreens in the spring, I could not but be pleased with Mr. Rogers' article on that subject. I believe him to be both theoretically and practically right. Practically, because I have seen, with him, evergreens which were moved at the end of the year die, if a severe winter followed their removal; and if they did not die, languished for years, and never well recover. Whilst those moved late in the spring, when the cutting and arid winds of March were over, have always prospered; care being taken, if much sunshine and a fair supply of moisture did not follow, to give them a little water till they showed signs of recovered vital energy, by shedding their leaves and advancing their new shoot. You say, "spring planting may, but autumn must succeed." This Mr. Rogers and I deny, as far as Hollies are concerned; and I am disposed to extend the remark to the Portugal Laurel, common Laurel, Bay, Alaternus, and other common evergreens. "It stands to reason" (I am aware of the frequent abuse of this figure of speech) that evergreen and deciduous plants should differ in their seasons for transplantation. The deciduous goes to rest as soon as it has cast its leaves, or, at least, has nothing to care for, except the repair of its lost hold upon the soil, which it sets about immediately to repair; whilst the evergreen, not being prepared to part with its foliage, has its vital fluids wasted by their evaporation, and suffers otherwise such a check to its yet unfinished round of imbibition and elaboration, as must necessarily impair its living powers, and weaken its resistance to frost and the other noxious influences that surround it. Under these circumstances it fails to strike till the approach of summer, if it be not already dead, and then so feebly as to be very quickly surpassed by its spring-planted companions. It is a common saying amongst gardeners hereabout, that "Box planted at Michaelmas dies off at Christmas." I have seen it do so, and apparently from no other cause than because it could not get hold of the ground to keep itself in heart till the frost killed it. The sooner any plant strikes and emits new rootlets after removal, the greater is its eventual prosperity. Does not this rule hold good with all? and more especially with those that are least tenacious of life; and are not evergreens generally less vivacious than deciduous trees? The common herbaceous plants of the garden partake of the same rule. Who does not know that Asparagus plants moved in the autumn, or very early in the spring, seldom do well? If they do not strike and begin to grow very quickly after planting, they grow mouldy at the roots, rot, and die off. The same is especially the case with Cauliflowers. The cuttings of the most vivacious of garden shrubs, Gooseberries, Currants, Willows, &c. &c., do best when severed and stuck in the ground in the spring, when they are just ready to start into active life. Put in in October or November, the half of them rot and the remainder take badly, and grow feebly for a year or two. To return to the Holly. I have said that it may be sometimes necessary to give a little water to keep the transplanted tree in heart till it had struck root. It is very true that this would not be necessary in autumn planting. But this additional trouble is a trifling consideration in comparison with the disadvantages of the latter method. This care is constantly called for in behalf of a newly planted fruit-tree or a valuable Cabbage; why then should we grudge it when the well-being of so great and useful an appendage to a garden as a well grown Holly-hedge is at stake?—*P. P.*

Garden Walks.—Permit me to remind your readers of the following plan for making garden walks, which has now been published by you so long as to have been forgotten by many. Procure a quantity of road sand, or similar powdery material (finely sifted lime rubbish will do), and let it be thoroughly dried, so that it feels like dust when handled. Also sift out of the cinders of the dwelling house, &c., the finer parts, and let them also be made perfectly dry. Mix these carefully, two parts road sand to one of ashes. In a dry place on a dry day, spread a quantity of the mixture as a bricklayer spreads his lime, with a hollow in the middle. Into this hollow pour some coal-tar boiling hot; incorporate the whole with a shovel, as if making mortar, and when a thick paste spread it 3 or 4 inches thick over the ground laid out for the walk. The ground should be previously beaten as level as possible. Powder it all over with dry and rather coarse sand, after which a few passages of the roller will press it level. Leave it for a few days to harden, after which the walk is fit for use, and will last for very many years. The composition must be made and laid down in very dry weather. As it appears to be quite hard and impervious to water, it might probably be used advantageously in cattle boxes, dung pits, and farm yards, to prevent the liquid part of the manure escaping, and would serve as an answer to the question once asked in your columns, "What is the best and cheapest flooring for a pigsty?"—*Suffolkiensis.*

Advertisement Duty.—I see, by your paper of February 5, that you are following up the cry, begun, I believe, in *Douglas Jerrold's Newspaper*, and echoed by several country prints, about the hardship of the duty of 1*s.* 6*d.* on advertisements, particularly to persons seeking employment, and therefore in some degree of want. I fear this cry is not altogether disinterested on the part of the press; for I am old enough to remember how matters were when the duty on advertisements was 3*s.* 6*d.* At that time very short advertisements were inserted by the newspapers very commonly for 5*s.* Now that the duty is reduced to 1*s.* 6*d.*, I know not where I can get the shortest advertisement inserted below 5*s.*; and I can show by my books, that the general charge for advertisements averages much higher than it did at the former period. Thus the proprietors of advertising publications put all the remitted duty into their own pockets. The Government cannot be unaware of this; or, certainly, if the subject be mooted in Parliament, they must be made aware of it. I believe conscientiously that, if the whole duty were remitted, the public would not, for any length of time, pay 1*d.* less for their advertisements; and I am sure that evil would be the result to the proprietors of such advertising vehicles as are now well established, by the encouragement it would afford to the setting up of poor ephemeral productions, merely on account of the expected profit from the advertisements alone: thus dividing the attention of advertisers, and diminishing greatly the efficacy of the advertisements. With some experience in the matter, I consider the daily increase of such publications to be so great an evil, that I am almost determined to confine my own advertisements to the "Leading Journal," and such other papers as, like your own, have an individual character, going into the hands of the very parties for whom the publication is peculiarly intended.—*A Sexagenarian Publisher.* [We cannot answer for others; but we do undertake for ourselves to give the public the full benefit of the repeal of the advertisement duty, and from the first day that the repeal shall take effect. We must also observe that if newspaper proprietors should take advantage of the repeal of the duty, the public possesses the most efficient of all remedies. *Au reste*, our correspondent betrays an imperfect acquaintance with newspapers, for 5*s.* is a very common charge for short advertisements.]

Conservatory Climbers.—Some years ago Mr. Beaton favoured me with his opinion, through the medium of your columns, respecting the merits of certain conservatory climbers, and, having profited by his advice, I am induced again to ask for fresh floral news from him, or some other correspondents, on the same subject. It is true that I was unable to follow his advice in erecting a hot pit at the back of my conservatory, to allow of the introduction of stove climbers in the summer; but following his advice, I have bloomed Stephanotis floribunda in a tolerably satisfactory manner, while Beaumontia grandiflora is growing vigorously, though not yet in a blooming state. I trust, therefore, that this enquiry may lead to my obtaining something more this year that may rank with my old favourites, Bignonia Cherere and jasminoides, Mandevilla suaveolens, and Plumbago capensis. It is somewhat remarkable that, notwithstanding the vast number of new introductions how few conservatory climbers are found to possess the merits of the plants I have enumerated; for many either produce minute blossoms, or have a coarse, seedy appearance, or are shy bloomers; this last fault, I am told, attaches to Tacsonia mollissima, which otherwise would be an acquisition, and the former is the characteristic of one or two curious New Zealand creepers. That fine thing, Echites splendens, I find, after a fair trial, far too tender for my purpose, but the still more lovely Dipladenia crassinoda at present seems likely to answer; if it succeeds, it will be an invaluable conservatory climber.—*A Devonian.*

Zinc Evaporating Pans.—At p. 88, a correspondent is advised not to use zinc saddles on hot-water pipes. I had 20 made five years ago; they are now as good as ever, and with no bad result, and I challenge England to produce better crops of Cucumbers and Melons than I do.—*James Cuthill, Camberwell.* [Zinc evaporating pans do not injure the water; but they are objectionable because they are soft and easily lose their shape.]

Hedgerow Timber.—To my mind there is no more beautiful object than a graceful tree, and I never see a finely-wooded park but I accord a rapturous admiration to its woody tenants. Its hoary Oaks, its towering Chestnuts, and far-spreading Pines, are objects of beauty not to be surpassed, and apart from all the interest we associate with their forms, they tell in terms more enchanting than the page of the historian, the tale of family ancientness; but here in the park of the proprietor, and in grounds set apart for timber exclusively, trees are in their proper place; in the hedgerow, mingling with the cultivated grounds, they are not so, and by the excessive prevalence of hedgerow trees in England, a loss is entailed on the community, the amount of which baffles all computation; and hence I have seen with no inconsiderable pleasure, that the evils attending the prevalence of such trees, have been brought under the attention of your readers by Mr. Mechi, in his usual spirited style and force of argument; and indeed the evils emanating from this source are so enormous, and productive of so much public loss, that I trust the subject will not be allowed to drop until the public mind has become impressed with the enormity of the loss inflicted on the nation by hedgerow timber. The sources of this loss are manifold, and require to be pointed out, as they are apt to escape the attention of those not practically versed in the subject. The robbery committed by the roots is the first and grand cause of injury, and this robbery is confined to the surface—to that portion of the soil in which the roots of crops themselves act—for it is a mistake to suppose that trees derive their support from any deep-seated source of nourishment, and in small enclosures I have found the roots of Elm trees spreading like network under the surface not more than plough furrows deep, and of course sharing the nourishment that should have gone to sustain the cultivated crop. The interruption presented by the leaves and branches to the sun's rays, and circulation of air, is a further fertile source of injury, and more extensive than is generally supposed, for the shadow of a large tree projected on the surface, keeps moving with the diurnal motion of the earth, and successively intercepts the sun's rays, for different portions of the field, and hence deteriorates the crop by depriving it of a due exposure to solar light. And as all observation shows the effect of air in motion to have a more beneficial effect on growing crops than air at rest, trees by interrupting the motion of the air deprive our crops of those benefits which plants experience from a proper exposure to atmospheric agencies. The frequent interruption and fracture of the implements of tillage, by the roots of trees, also entail much loss on the cultivator of small enclosures, and the conjoint influence of the various causes enumerated is so great, that I quite agree in regarding fields surrounded by trees, of an area less than 8 acres, as unworthy of cultivation. Although I cannot go the length of wishing to see England reduced to a treeless, though productive desert—if the term be allowable—and consequently deprived of that picturesque beauty she derives from her woodland scenery, I cannot but express the opinion that a vast boon would be conferred on the community by the eradication of a large portion of that timber which at present mingles with the cultivated grounds. And although the productive energies of the soil are increased by shelter, and the climate as well of single farms as of the country generally, may be improved by judicious planting, still to effect these objects without injury to the cultivator it should be placed in clumps, and belts, not in hedgerows as it at present principally exists, where the benefits derived from its presence are far out-weighed by the injury it occasions.—*George Kirk, Kingswood.* [The great length of our correspondent's letter has obliged us to omit a portion which was not necessary to his argument.]

Vines and Carrion.—Three years ago I gardened not two miles from Wakefield, where I had two Vineries which had produced little for years. The Vines in them were nearly 60 years old. By permission of my employer I remade the borders. In the first place I took the Vines carefully up, and the border being in a very bad state I drained it well, refilling it with compost, consisting of a portion of carrion, leaf-mould, turf from a pasture, and stable manure, and the result is that last year these same Vines produced a capital crop of well-flavoured finely-coloured fruit, and made excellent wood. Surely this speaks volumes in favour of carrion. Is not "E. F. G." mistaken when he says that the Vines in the neighbourhood of Leeds and Wakefield are falling off. I have lived for nearly 20 years in the neighbourhood of Wakefield, and all who have used carrion here speak in high terms of its favourable effects on their Vines. The use of carrion was first suggested to me by reading Mr. Roberts's "Treatise on the Vine," than which I know of no more valuable work on the subject, and for which I feel much indebted to its author.—*J. W. Roberts, gr., Hatfield Hall, Wakefield, Yorkshire.*

Grape growing in London.—A dish of fine black Hamburgh Grapes was cut for dessert, from a Vinery in Great Prescot-street, Goodman's Fields, on the 3d of the present month of February. They were perfectly sound and well-coloured, and were equal in appearance and infinitely superior in quality, to a dish of very good black foreign Grapes placed alongside of them.—*M. J. R.*

Allotments.—In answer to your question respecting the best way of framing conditions for prizes, I am of opinion that the distribution of prizes for the commonest and most serviceable vegetables, is not of any great benefit to the labourer. I have about 200 allotment tenants, occupying land varying in size from 5 to 40 poles. I have given small prizes 7*s.* 6*d.*, 5*s.*, and 2*s.* 6*d.* for the 1st, 2d, and 3d best specimens or produce of Carrots, Turnips, Parsnips, Onions, Cabbage, Beet, Peas, Beans, and, indeed, nearly all the most serviceable vegetables, excluding only Potatoes. I have reason to believe, however, that the distribution of such prizes, though doubtless it stimulates the occupiers, does not benefit, but on the contrary, frequently injures even the successful candidates. My present plan, and one which I suggest to your readers, is to give prizes for the generally neatest and best cultivated garden. Appoint two judges for the year (living in the neighbourhood but unconnected with the occupiers), and authorize them to visit the allotments three or four times in the year, with the view of deciding who has best manured, dug, trenched, weeded, and cropped his garden, as well as kept his footpaths and fences in the best manner. Two or three prizes of some value given in this manner, will be found to stimulate more or less every occupier, greatly to increase the total produce of the field, and

materially benefit the labouring classes in the neighbourhood. I may add, that a highly intelligent farmer in this parish, approving much of this plan, has placed at my disposal a pig, value 1*l.*, to be given to one of the successful competitors. I shall be happy to give further assistance to any of your correspondents. *W. S. P.*

Polmaise Heating. I have read with interest the article which have appeared relative to the Polmaise system of heating. Although I had doubts how it would answer its purpose, I nevertheless induced to give a trial in June last. The house to which I applied it was 50 feet long, 11 feet wide, and 9 feet high, but was so ill contrived that with a very exorbitant waste of fuel I never could raise the heat sufficiently for my purpose. I ordered a plate to be cast 2 inches thick and 2 feet 6 inches square, which I was assured would stand any amount of heat without risk of being cracked. My plate is, I believe, thicker than those of your correspondents, some of which are said to have been cracked, as I apprehend simply from having been cast too thin. The flue for carrying away the smoke passes along the lower side of the house, and forms a bench of sheet glass (for the roof slopes from the top nearly to the ground). The cold air drain is made of cast-iron pipes, but it opens at the end of the house farthest from the furnace, and passes along the bottom of the smoke flue into the hot-air chamber, which is simply a continuation of the wall on which the plate is supported (though, of course, not so thick), and is covered with a large flag. The opening for the hot air is through a hole in the side. I have had it in full operation since June, and I can safely say the alteration to Polmaise has given me the greatest satisfaction. The plate requires very little coal to heat it; after a good fire has been made it keeps up the heat of the house for 24 hours afterwards, without requiring further attention. I was so much pleased with the result, that I applied the Polmaise system to a new pit that I built last August; the pit is 52 feet long by 8 wide, and span roofed. Instead of the plate, however, I have a brick arch which in my opinion answers the purpose as well as a plate. In this instance the smoke flue passes alongside the pit to about half its length, is then turned and brought into the hot-air chamber again, and thence passed out to the chimney. The part under which the flue passes is chambered over, so that I obtain a fine bottom heat. The cold air as usual is brought from the farthest end of the pit to a chamber over the arch of the furnace, the heated air from which rises through a hole in the flag above. I can obtain any quantity of moisture by putting water in the cold air drain, and, with an ordinary fire, I can raise the heat to 80° with the greatest ease during frosty weather. The difference of heat at each end of the pit varies from 5° to 10°. This I consider a great advantage, as all plants do not require the same temperature. Since constructing these for my own use, I have superintended three others belonging to gentlemen in this neighbourhood, being anxious to see the principle fairly carried out, and to prevent failure and disappointment arising from ignorance of the proper mode of constructing the Polmaise flues. I having visited these places during the present frosty season, I am happy to say the whole of them have given the highest satisfaction to the owners, as well as myself. I shall have much pleasure in showing my Polmaise to any gentlemen who feels any scruples about adopting the system.—*John Lee, Curator, Botanic Gardens, Sheffield, Jan.* 24.

Societies.

LINNEAN SOCIETY.

Feb. 1.—R. Brown, Esq., in the chair. The Rev. J. Hamilton and G. Harrington, Esq., were elected Fellows. Robert M'Andrew, Esq., exhibited specimens of Tubulipora truncata, collected by himself in 50 fathoms water off the Orkneys, 20 miles from the shore. Mr. Westwood exhibited specimens of the silk spun by the caterpillars of the new East Indian silk moth, Bombyx Huttoni, Westw. (figured in the "Cabinet of Oriental Entomology," pl. xii., fig. 4,) communicated to him by Captain T. Hutton. It is an inhabitant of the hills about Mussooree, in the Himalayas, 6500 feet above the level of the sea, and feeds on the leaves of the wild Mulberry. The perfect moth is about the size of B. Mori, but has the wings darker coloured, and with a blackish lunate spot near the hooked tips of the fore wings. Some of the specimens of the silk exhibited were composed of three, six, nine, and twelve fibres on each thread; those with nine and twelve fibres, having been pronounced by the Delhi shawl workers to be worth 25 rupees per seer, that is, about 25*s.* per pound. Mr. Westwood also read a paper on the coleopterous genus Athyreus of MacLeay, with descriptions of several new species. This genus of beetles is chiefly confined to South America, and belongs to the family Scarabæidæ, but Mr. Westwood thinks it possesses strong relations to some of the aberrant Tregidæ. The species are remarkable for the curious and diversified horns upon the head and thorax, and are of a moderate size. But little is known respecting their habits.

BOTANICAL SOCIETY OF EDINBURGH.

Jan. 13.—The President in the chair. Several donations to the library and museum were announced, among which were Portugese plants from [illegible] C. Trevelyan. Among them were some marked as having been collected in the [illegible] viz., Francoa pulverulenta, Hibiscus [illegible], and Beppia radiata; [illegible] for their habit of flourishing in the [illegible] paving stones of mica [illegible], but growing [illegible] injured by the heat of [illegible]. The [illegible] contents, [illegible] locality. The following communications were read:

1. *On the Reproduction of Cryptogamic Plants*, by the late W. S. Dougall, [illegible] of formation of [illegible] Hepaticæ. In this part of the [illegible] considers the reproductive [illegible] divisions of the natural order Fungi, and points out the analogy which they bear to Algæ in many respects. Thus, in the lower members of the order the mode of reproduction may be compared to that observed in Confervaceæ, both as regards the development of spores and their movement. In other cases the formation of spores at the dilated ends of filaments or sterigmata, resembles in some degree what takes place in Vaucheria. He regarded the filamentous paraphyses as being concerned in the fertilization of the contents of the Asci and Basidia. He next noticed the natural order of Lichens, and considered the production of spores, whether naked or in Asci, which are united in the form of Apothecia; and of the round green bodies called Gonidia or Gongyli, which are either single or in groups. He stated that little was known in regard to the formation of the latter bodies, and that the subject of reproduction in Lichens was still very obscure; although it might be said to resemble that of some Ascomycetous fungi. The Ricciaceæ, Marchantiaceæ, and Jungermanniaceæ, were next brought under notice. In these orders, organs, which appear to be equivalent to stamens and pistils were pointed out, as well as certain bodies which might be reckoned as buds or gemmæ. The presence of phytozoa with cilia and of spiral fibres or elaters was also remarked. The Equisetaceæ were looked upon as in many respects allied to the last mentioned orders, especially in developing spores with spiral filaments. The true Mosses were then alluded to, and in them the author believed that reproductive organs have been demonstrated in the antheridia with their granular contents and phytozoa, and the Thecæ or Sporangia with their spores. He detailed the various species in which phytozoa had been detected by Thuret, Brongniart, Meyen, and Unger, pointed out the monœcious, dœcious, polygamous, and hermaphrodite arrangement of the organs, noticed the difference between spores and gemmæ, and concluded by stating the following arguments in favour of the sexual nature of the spore formation in the whole muscal alliance:—1. The existence of Antheridia and Pistillidia, and the production of true spores by the latter. 2. The existence of Phytozoa in the Antheridia. 3. The relation of Antheridia and Pistillidia to one another in point of periodicity, both as regards development and function. 4. Their relative arrangement, either together or separate, on the same or on different individuals. 5. The provisions by which the coming in contact of the contents of the Antheridia with those of the Pistillidia may be effected.

2. *On the Ovule of Euphrasia officinalis.* By G. Dickie, M.D.—In this paper Dr. Dickie gave a general view of the recent observations relative to the fertilisation of the ovule and the formation of the embryo, and considered, in a particular manner, the formation of ovule tubes in Euphrasia. These tubes, which he formerly considered as being prolongations of the apex of the nucleus, he now finds to originate from the interior of the embryo sac. He has observed the tube within the sac, but has not been able to determine fully its relation to the very minute embryo, although, in one instance, there was the appearance of a connection between them. He also noticed a remarkable flask-like appendage to the neck of the sac, which he thinks may be similar in its nature to the varicose appendages observed by Planchon in Veronica. In the latter plant the sac becomes external, but this is not the case in Euphrasia. The tubular filamentous appendage in the plant under consideration, he conjectures, may be a prolongation of the terminal joint of the suspensor. Dr. Dickie concluded by stating that he considers the early, or what he denominates the sporoid, stage of the [illegible]

[illegible]

3. Dr. [illegible]

[illegible]

[illegible] Dr. [illegible] Wight, near [illegible]. Mr. [illegible] of the [illegible] Botanical [illegible] collection of his [illegible], viz.:—[illegible] glandulosum, Koch; Ranunculus Petiveri, a Mairii, Godr.; b. Candollii, Godr.; [illegible] Campanula [illegible] hecolor, Kunth; and Carex [illegible] four additional specimens of [illegible] from the [illegible] of the Firth of [illegible]. Mr. [illegible] M'Nab announced the death of Mr. [illegible] of Monkwood Grove, near Ayr, [illegible] Mr. Smith has long been known [illegible]; and did much to raise a taste for [illegible] district where he so long resided. Several [illegible] were elected.

ENTOMOLOGICAL SOCIETY.

Jan. 24.—W. Spence, Esq., F.R.S., [illegible] in the chair. This being the [illegible] election of council and officers [illegible] re-elected president. Mr. Yarrell [illegible] Doubleday and W. L. F. Lunn [illegible] secretaries. Mr. Westwood having [illegible] the secretaryship, which he had held [illegible] office being honorary); where[illegible] was passed to him for his [illegible] that period. The President [illegible] on the state of the Society's [illegible] entomology, for which a vote of [illegible] with a request to him to allow the same to be printed for distribution.

Feb. 7.—Mr. Spence in the chair. The President distributed a number of copies of Mr. [illegible] lecture "*On the Advantages of making Natural History a Branch of General Education.*" The [illegible] exhibited, on behalf of the Rev. P. B. [illegible] pair of specimens of a dragon-fly [illegible] Chester. The specimens had been [illegible] Mr. Westwood, and from the veining of the wings, which were perfectly preserved, it was found that it did not agree with any recent British genus, or with any [illegible] species examined by him. Mr. Spence [illegible] a number of fine coleopterous insects [illegible], the greater portion of which were new. [illegible] of the plants which formed part of the [illegible], they appeared to have been [illegible] elevation on the mountains. Mr. S. [illegible] a new British moth, taken at [illegible] last autumn, apparently identical with [illegible] tella of Zeller. Mr. F. Bond exhibited [illegible] Acridæ, which are parasitic on the [illegible] (Testudo mauritanica). Mr. A. H. [illegible] made an extended series of observations upon a [illegible] singular insect, first described by Mr. [illegible] in the "Transactions of the Entomological [illegible] inhabits the tissue of the [illegible], and which, from the extraordinary [illegible] its limbs, had been supposed to be the [illegible] currents observed in the vicinity of the [illegible], which had been regarded as one of the [illegible] nature of that production. Mr. [illegible] the views of Drs. Erichson and [illegible] the larva of Hemerobius (Sisyra) [illegible] into an elaborate comparison [illegible]

NEW GARDEN PLANTS, PUBLISHED IN BOOKS.

Name.	Where Published.	Name of Country.	Quality.	Natural Order.	Colour of Flowers.	Time of Flowering	Time [illegible] Publication	Name.
Pleurothallis triangularis ..... ‡ *Triangular Pleurothal.*	Gartenzeit. 1847	.....	S. ♌ (epiphyte)	Orchids	Yellow	.....	1847	Bot. Gard., Berlin.
Masdevallia maculata ..... ‡ *Spotted Masdevallia.*	Gartenzeit. 1847	Caracas	S. ♌ (epiphyte)	Orchids	Yellow	.....	1847	Bot. Gard. Berlin.
Brassia odontoglossoides ..... † *Purple spotted Brassia.*	Gartenzeit. 1847	Guatemala	S. ♌ (epiphyte)	Orchids	Yell., spotted with purple	.....	1847	Bot. Gard., Berlin.
Begonia ricinifolia ..... ‡ *Castor-oil-leaved Begonia.*	Gartenzeit. 1847	.....	S. ♌	Begoniads	.....	.....	.....	Bot. Gard. Berlin.
Ceratostema longiflorum .... * *The long-flowered Hornberry*	Gard.Chron.,1848,87	Peru	G. ♑	Cranberries	Crimson	.....	1847	Veitch and Son's.
Allamanda Schottii ..... * *Schott's Allamanda.*	Bot. Mag. 4351	Brazil	S. ♑	Dogbanes	Yellow	September	1847	Henderson's.

N.B.—* = Very handsome. † = Second rate. ‡ = Third rate. ¶ = Unimportant.

ternal and external, with the larvæ of Hemerobius, Sialis, and Coniopteryx, as well as with the perfect states of those genera, and of Sisyra itself.

Reviews.

A Chart of British Ornithology, designed for popular use. By T. W. Barlow. London : Robinson.

On a folding map, 6 feet long and 20 inches wide, Mr. Barlow has given the essential marks of distinction among our British birds, amounting to 337 species. He has made it indicate the systematical characters of the classes, orders, and genera, and some popular indications by which the species may be recognised. It is a most useful introduction to ornithology for learners, and may be consulted by every body, except professed naturalists, with advantage.

If only for its illustration of the order and method which give Natural History much of its value as a branch of education, it should be suspended in all school-rooms and in the reading-rooms of the working classes, for which its price renders it especially suitable. For such places, however, it should be stretched on a frame and varnished, instead of being made to fold like a map, which its large size renders inconvenient.

The whole Art of making British Wines, Cordials, and Liqueurs in the greatest perfection, &c. By James Robinson. London : Longmans. 12mo, pp. 275.

To those who wish to know how to make wine, and not to study the principles of the art, this will be an acceptable work. It is written on the plan of a cookery-book, and is evidently intended for the same class of persons as those who study the interesting volumes of Rundell, Glasse, Acton, Uhde, and Beauvilliers. We suspect it will find more favour with the public than the philosophical disquisitions of Macculloch and Chaptal ; and it is certainly far better suited to the use of the mass of wine makers. We need only add, that the directions are clear and full, and that the number of receipts is greater than we should have thought it possible to collect. Those for wine-making, however, occupy but 100 pages or so ; the remainder of the book is applied to the manufacture of British cordials and liqueurs.

Calendar of Operations.

(*For the ensuing Week.*)

Amongst other important duties which belong to this early season, that of attending to the multiplication of certain plants by seeds is not the least imperative or interesting. There are many seeds of exotic herbaceous plants that should be encouraged to germinate early, that they may receive the full benefit of our summer season, which is an obvious advantage, as it assists them to attain that degree of maturity which enables them better to withstand the gloom and severity of an unaccustomed winter. We recommend the sowing of exotic and other seeds generally during the present and following months. As the principle of hybridisation is beginning to be understood and generally practised, doubtless additional interest will be discovered and attention bestowed in the propagation of plants by seeds. It is a matter of importance to the anxious grower to bloom his plants the first season ; with many things it is only by sowing early that he is enabled to attain this result. Pelargoniums should be sown immediately, and kept growing from the moment they vegetate, to ensure a blossom the first year. As most seeds germinate under similar circumstances, a pit might be appropriated exclusively to the purpose. Beyond regulating the amount of heat and supplying the seed pans with moisture, no extraordinary care is required. We do not recommend the use of rich soils for seeds. The character of the plant should determine, in a measure, the selection of soil.

CONSERVATORY AND GREENHOUSE.

The admission of air on all favourable occasions will conduce to the health, and keep the various flowering plants in unimpaired beauty for some weeks. Hyacinths, Lilacs, Kalmias, Azaleas, and Rhodoras introduced, will lend beauty and fragrance to the various groups. The rich yellow flowers of Cytisus racemosus will add in no slight degree to the general effect ; Kennedya Marryattæ is a charming greenhouse plant, and blossoming at this season it is doubly valuable. The forward Gloxinias and Achimenes will probably require shifting into larger pots. Stanhopeas and Oncidiums, with other Orchids, may be potted ; they should be placed in the warmest part of the house after the operation is performed ; maintain a moist temperature of 65°. *Pelargoniums* require abundance of air ; the application of a little manure-water once a week will prove advantageous ; a slight syringing occasionally will have a beneficial effect. Give air freely to plants, such as Verbenas, Scarlet Pelargoniums, &c., in store pits, and carefully remove all decaying leaves ; Neapolitan Violets must be uncovered on all suitable occasions.

FRUIT FORCING.

Early Vinery.—Apply moisture in proportion to the amount of fire heat, which, in the absence of solar warmth, must be employed in sustaining the high temperature which the forward state of the crop demands. The weather will now contribute greatly to the favourable advancement of the Vines. On sunny days a temperature of 80° may be permitted. Second Vinery will require a steady heat when supported artificially, and a reduction at night of 10° : syringe night and morning. Commence training the young shoots early ; after they attain a little length they are extremely liable to be broken. Soft water is to be preferred in watering and syringing. *Fruiting Pines* will require considerable humidity and an average temperature of 70°. If the plants are in health and active growth water must regularly be applied. If at all apprehensive of an excess of bottom-heat, which often arises after the bed has been turned, only partially plunge the pots with succession plants. Care is essential in controlling the temperature to a moderate degree of heat, and supplying the plants with water in proportion to their wants. *First Peach house* will demand continued attention in stopping forward shoots, disbudding and cleansing the trees from insects. Water may be applied by the syringe twice a day.

FLOWER GARDEN AND SHRUBBERIES.

The weather calls upon us to expedite all retarded operations, pruning particularly. Turf may be cut and aid, and wood ashes spread on lawns where the Grass is injured by moss. American plants may be removed ; it is often dangerous to move Rhododendrons in the winter, as their delicate fibrous roots are liable to be killed by severe weather. Where the natural soil is not favourable for the growth of Rhododendrons, an artificial mould may be gradually formed by sweeping the fallen leaves over their roots, and covering them with sand every season.

KITCHEN GARDEN AND ORCHARD.

While our climate sustains its variable character, the necessity of conforming to its dictates in all gardening operations will exist ; we attach no importance to the observance of traditional dates, nor do we recognise a necessity of obedience to lunar influences. The continuance of fair weather will permit the operations that peculiarly belong to this month to be proceeded with. Sow Peas, and in the event of a constant supply being required, continue to do so at intervals of a fortnight until May ; give the free growing kinds room. Earth up Cabbage plants ; dig and manure the quarter intended for Onions ; we have found night-soil that has been mixed with light earth and stacked a twelvemonth highly advantageous. Sow Spinach, early York Cabbage, and Lettuce. Plant Potatoes on a warm border, Jerusalem Artichokes, Horse-radish, Shallots, and Garlic. Every care that fruit trees require in their season of inactivity, if not already bestowed, should at once be afforded. Trees recently planted should receive a little water ; it is a good plan to place a piece of fresh cut turf over their roots. Decide on the system of training and prune accordingly. The height of the wall and space possessed horizontally should be early governing considerations. Prune Raspberries ; any Gooseberries or Currants not previously pruned should forthwith be attended to. Make arrangements to procure a sufficient supply of Pea sticks ; and collect Fir boughs to protect the blossom of Peach and Apricot trees. Currant bushes occupy much less space in a garden trained to stakes, and afford an equal amount of fruit.

State of the weather near London, for the week ending Feb. 10, 1848, as observed at the Horticultural Garden, Chiswick.

Feb.		Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. ..	4	29	30.167	30.111	51	39	45.0	S.W.	.03
Satur..	5	●	30.110	30.059	53	38	50.5	S.W.	.23
Sun. ..	6	1	30.139	30.073	55	46	5 .5	W.	.01
Mon...	7	2	29.997	29.818	52	40	46.0	S.W.	.25
Tues..	8	3	29.849	29.694	52	44	48.0	S.W.	.26
Wed...	9	4	29.096	29.027	51	36	43.5	S.W.	.01
Thurs.	10	5	28.986	28.840	49	37	43.0	S.W.	.52
Average			29.763	29.660	51.8	41.4	46.6		1.31

Feb. 4—Overcast; cloudy; rain; overcast.
— 5—Overcast; densely overcast ; constant rain.
— 6—Overcast and mild; slight rain at night.
— 7—Densely and uniformly overcast throughout.
— 8—Densely overcast; cloudy and fine; overcast; rain; boisterous.
— 9—Low clouds; cloudy and boisterous; clear at night.
— 10—Exceedingly fine, with sun: barometer very low; heavy rain at night.

Mean temperature of the week, 8½ deg. above the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending Feb. 19, 1848.

Feb.		Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun.	13	45.6	29.2	37.4	10	0.30 in.	1	1	1	1	5	6	4	2
Mon.	14	45.9	31.4	38.6	6	0.50	—	1	2	1	4	6	6	2
Tues.	15	46.1	33.0	39.5	9	0.25	1	2	2	1	5	6	6	2
Wed.	16	43.5	30.7	37.1	4	0.23	2	3	1	2	—	7	5	2
Thurs.	17	42.5	30.6	36.5	9	0.32	3	—	2	3	3	2	8	1
Fri.	18	42.6	30.4	36.5	10	0.30	3	1	3	1	3	4	6	1
Satur.	19	43.0	29.3	36.4	9	0.64	4	—	3	4	1	6	2	2

The highest temperature during the above period occurred on the 17th, 1847—therm. 57 deg.; and the lowest on the 19th, 1845—therm. 16 deg.

Notices to Correspondents.

Drayton Manor Meeting—The SPEECHES at the AGRICULTURAL MEETING at DRAYTON have been reprinted from the AGRICULTURAL GAZETTE for general distribution, at Two-pence each. They may be ordered of all Booksellers, and single copies will be sent free by post on three postage stamps being forwarded to the Publisher, 5, Upper Wellington-street, Covent-garden, London.

Apples—*J G N*—Your seedling Apple will not bear comparison with many first-rate sorts already in cultivation.‖

Aquilegias—*Agah*—Procure strong plants of the following kinds of Aquilegia now, and keep them in a cold pit until the end of March or beginning of April, when they should be planted out, in the open ground, in a good rich but light loamy soil, viz. : A. fragrans, jucunda, glandulosa, Skinneri, canadensis major, and leptoceras. ¶

Bee-flowers—*D O*—Mignonette, Borage, white Mustard, Melilotus leucantha, white Clover, Buckwheat, flowering Turnips and Cabbages, Crocuses, white Alyssum, Savory, Hyssop, Wood-sage, Marjoram, Lemon-thyme, blotch-leaved Pelargonium, great Willow-herb, Hollyhocks, Gooseberry and Currant, and even Chickweed and Dandelion. The early blooms of the Tree Box and White Willow also swarm with bees, and so do those of the late and never-failing unshorn Ivy. *W.*

Books—*Medico*—Pray be more explicit. There are many good books, and the best depends upon what you really want.—— *Y Z*—You should be more careful. Consult your solicitor. It is unwise to "buy a pig in a poke."‡

Cotton—*D L*—We have again to thank you for your very useful communications.

Covering Vine Borders—*G Owen*—If it be granted that the healthy development of a tree is dependent on an unrestricted action of the roots, the propriety of the application of fermenting materials—or other means of procuring an excitement to correspond with that possessed by the stem—must be admitted ; an exposed border is always liable to be frozen. We do not hesitate in recommending the practice, provided it be pursued with judgment and care. *W.*

Ferns—*A Lady*—Presl's name is pronounced as if it were English. Lastræa is to be found described by Bory de St. Vincent in the 6th volume of the "Dictionaire Classique d'Histoire Naturelle," p. 588, and also in the 9th volume of the same work.

Greenhouses, &c.—In consequence of the great numbers of applications which are continually made to us for plans, &c., we are obliged to state that we *cannot furnish* them. It is impossible to do so in a newspaper. All that is practicable is to point out general principles. It is for professional men to work out their details.——*T J*—You should visit the nurseries and public gardens near London, where you cannot fail to find what you are seeking.

Heating—*X Y Z*—Polmaise it in the cheapest way you can devise, using a brick arch instead of an iron plate.

Ice House—*An Old Correspondent*—It is safer to use straw than to discontinue it. It does not exclude air, but it maintains an even temperature and so prevents thaw. Mind your drains ; it is by them that mischief usually enters the ice-house. The drains ought to be S-shaped, with the bend always full of water.

Insects—*O P*—1 is the female of the Great Egger Moth (Lasiocampa roboris). Eggs produced under such circumstances are sometimes prolific. 2 is the ordinary female of the common Vapourer Moth (Orgyia antiqua). The circumstances stated are its usual habits. Some moths have been known to remain in the chrysalis state, under peculiar circumstances, for several years. *W.*——*A B*—A. We found no insect on the Maiden-hair Fern. You appear to have mistaken the Sori, which arise from the edges of the leaves, for insects. B. The oblong bodies on the Cereus are the elongated cocoons of the male Cocci, which in this species are very numerous. *W.*

Names of Fruits—*E C, Frome*—Your Apple is probably Hubbard's Pearmain.‖

Names of Plants—When plants are sent to be named, it is most particularly requested that they may be in flower, and as perfect as circumstances permit. Most especially is it requested that the country whence they have been received, and whether they are annuals, perennials, or shrubs, hardy, greenhouse, or stove plants may be stated ; because specimens by post are generally bad and incomplete, and much valuable time, which such information would save, is needlessly wasted.——*E P*—Your specimen looks like a bit of Teucrium Scorodonia.——*G*—As far as we can make it out, the plant which you called Tagetes pinnata is T. tenuifolia, a pretty annual whose seeds may be had any where.——*F L*—Eranthemum pulchellum——*M E A*—Sarcococca pruniformis. It will bloom in a common conservatory. Its flowers are insignificant.

Pears—*Sub*—Of the varieties you enumerate, the Glout Morceau, Easter Beurré, Colmar, and Gansel's Bergamot best deserve the south aspect. The others will succeed on either east or west aspects.‖——*F L*—For fruit in January and February, graft with Beurré Rance, Ne plus Meuris, Knight's Monarch, and Easter Beurré.‖

Planting—*T S P*—Hollies, Yews, Red Cedars, Junipers, Broom, Common Laurels, Tree Box, and such evergreens will answer your purpose ; but it would be well to mix with them Spruce and Larch, to be hereafter cut away. Do not leave the turf, it will do no good ; but if you fear the shrubs being blown away, weight their roots with stones, or peg them down. If, as we suppose, you are within reach of the Kendal rains, and have nothing to fear from dry north-easters, you may plant very well up to the middle of March.

Potatoes—*W W, J W S*—Much obliged. We pity the poor man ; but we cannot occupy ourselves with persons in the unhappy state of mind of Mr. Crozer.

Rain-gauge—*R S D*—Your request will be attended to.‖

Root-pruning—*J S H*—Root-pruning should either be done immediately or let alone till autumn ; dig a trench on one side of the tree, and cut some of the large roots. This with attention to the summer pruning of the young shoots will bring the tree into a bearing state.‖

Vegetables—*Liverpool*—The Artichoke-leaved Cos Lettuce is good for autumn use. It is hardy, crisp, and does not run soon. The Scandix bulbosa is a small perennial, bulbous-rooted, umbelliferous plant. What the others you mention may prove to be remains to be ascertained.‖

Vines—*C R*—Vines may be grown very well as you propose, and plants likewise, provided you do not allow the Vines to extend so far as to exclude sufficient light. The extent of Vine foliage being consequently limited, you must proportion these to the weight of fruit. Bear this in mind, and keep the foliage healthy ; and you may train them in any way that best suits your convenience.‖ —— *J Arnold*—We cannot inform you where you can procure Vines in tubs or large pots for fruiting this season. The Black Hamburgh is the best sort for the purpose.‖

Weeping Thorn—*W W* begs to state, in consequence of still continued applications for seeds of the Weeping Thorn, referred to on the 11th of January, that his stock is now entirely exhausted ; at the same time he begs to thank those whose taste he has had the pleasure to gratify at so cheap a rate, and who have so kindly acknowledged this trifling attention by promises of reciprocation, that although he is no enemy to free trade on this principle, he considers himself more than compensated for the slight trouble incurred in the transmission of the tiny packets, in the possession of so numerous an assemblage of highly respectable autographs, not to mention the very courteous and complimentary manner in which many of the communications are addressed.

Misc—*O P*—It is probable that your tree is the Black American Walnut, Juglans nigra. You might grow a small plant of Luculia, if your greenhouse is sufficiently ventilated and not too dry. Let your Gesnera gradually die back ; then rest it for two or three months, and again start it in bottom-heat. —— *W D L*—The Number is out of print.——*Gibsonii*—Iron cement used in fixing hot-water pipes does not prove injurious to plants.‡—— *Cotswolder*—You may cut down your Oleander with impunity. It will break and become bushy, and if you treat it in the way recommended will no doubt bloom well. Give it a good shift ‡—— *Henry*—Though better than the last specimen your peat is still objectionable, being deficient in decayed vegetable matter. If you cannot procure peat, cannot you form a substitute by mixing together well decomposed leaf-mould and sand. The latter would suit Rhododendrons and such plants perfectly.‡——*Devonian*—No. 25 is Celastrus punctatus ; it has small green flowers, and probably may prove hardy ; it is a plant of no importance. Hoya Cunninghami is said to be the same as H. Bidwilli from New Zealand ; it has not yet flowered in England. The Bouvardia is not yet in the trade.¶——*G G*—Plant your Vines about the middle of March. By all means spread out the roots.‡——*Dakry*—If you will furnish us with your address we will give them to you.

⁂ As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those numerous correspondents, the insertion of whose interesting contributions is still delayed.

FARM SEEDS.

W. DRUMMOND & SONS, Agricultural Museum, Stirling, N. B., and 58, Dawson Street, Dublin, have now ready, and may be had on application, Priced Lists of AGRICULTURAL SEEDS. They beg to call special attention to their Stock of TURNIP, which is very extensive, and selected with great care, and embraces all the approved varieties.

GRASS SEEDS for Permanent Pasture selected and assorted in suitable mixtures for every given soil and situation.

N.B.—Free delivery. All parcels of Seeds above 2l. value (with the exception of Grain and Vetches) delivered free in London, Liverpool, Hull, Bristol, Newcastle, Belfast, Londonderry, and Cork.

SEEDS.—CORNER OF HALF-MOON-STREET.

THOMAS GIBBS AND Co.,

(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND," Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

Priced Lists of Agricultural Seeds are always ready, and may be had on application.

PERUVIAN AND BOLIVIAN GUANO ON SALE,

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To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named Importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

LIQUID MANURE.

ENGLAND INDEPENDENT OF THE WORLD FOR CORN.

THE attention of the Agricultural Interest, at this momentous crisis, is requested to the great importance of LIQUID MANURE, and the ease with which it may be appropriated by the use of FOWLER'S PUMPS, made expressly for the purpose, either portable or fixed; Garden, Ship, and Barge Pumps; also those for Distillers, Brewers, Soap Boilers, and Tanners, for hot and cold liquor. Pumps kept for hire, for Excavations and Wells. Buildings heated by Hot Water, for Horticulture, and every variety of manufacturing purposes.

The Trade supplied on advantageous terms, by BENJAMIN FOWLER, Engineer, &c., 63, Dorset-street, Fleet-street, London.

THE LONDON MANURE COMPANY beg to offer the under-mentioned MANURES on the best terms:—The URATE of the LONDON MANURE COMPANY, for Turnips, Tares, Oats, Barley, and all other Spring Crops.

GENUINE PERUVIAN GUANO, DIRECT FROM THE IMPORT WAREHOUSE.

Nitrate of Soda—Petre Salt for dressing old Pasture—Agricultural Salt—Superphosphate of Lime—Soda Ash—Pure Gypsum—Bone Sawdust—Sulphuric Acid—Sulphate of Ammonia, and every other artificial Manure. E. PURSER, Sec.

No. 40, Bridge-street, Blackfriars, Feb. 12.

GUANO—Guano, direct from Import Warehouse, Superphosphate of Lime, Dry Night-soil, Gypsum, Salt, Bone-dust, Sulphuric Acid, Nitrates of Soda and Potash, and every other Manure of known value. Also Horticultural Glass of every description.—For Prices Current, apply to MARE FOTHERGILL, Office 201 A, Stores 40, Upper Thames-street.

THE following MANURES are Manufactured by Mr. LAWES, at his Works at Deptford-creek:—

Corn Manure .. 14l. per ton. | Grass Manure .. 14l. per ton.
Clover do. .. 14l. ,, | Turnip do. .. 7l. ,,
Superphosphate of Lime, 7l. per ton.

Mr. LAWES has also made preparations for supplying the various artificial MANURES of commerce, and if Agriculturists will trust the selection of them to him, and will furnish him with the necessary information, he will supply those which he considers most suitable to the soil and crops. A paper containing the questions required to be answered will be forwarded upon application to his Office, 69, King William-street, City, London.

SUBSTITUTE FOR FARM YARD MANURE.

THE VEGETABLE AND MINERAL MANURES manufactured under DE SUSSEX'S Patent, are now on Sale by PAUL DE SUSSEX and Co., 34, Mark-lane, London.

Price One Shilling,

MANURES considered in their Relation to the Crop, the Soil, and the Atmosphere. By F. S. M. de SUSSEX. London: JAMES RIDGWAY, Piccadilly.

The Agricultural Gazette.

SATURDAY, FEBRUARY 12, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY, Feb. 16—Agricultural Soc. of England.
THURSDAY, — 17—Agricultural Imp. Soc. of Ireland.
WEDNESDAY, — 23—Agricultural Soc. of England.
THURSDAY, — 24—Agricultural Imp. Soc. of Ireland.

FARMERS' CLUBS.—Feb. 14: Yoxford, Botley.—Feb. 17: Carlton on Trent.—Feb. 18: Hadleigh, Halesworth, Wakefield, St Austell.—Feb. 19: Reading East Kent, Northampton.—Feb. 21: West Market.—Feb. 23: Harleston.—Feb. 24: Wallbridge, Straurace.—Feb. 28: Hereford.

THERE appear to be more reasons than one why, in the MANUFACTURE OF MANURES, we should add to them that which will hinder the escape of the ammonia and other volatile products of their fermentation. We have often urged the propriety of doing so from the importance of the materials which are thus lost. It is the most important portion of a dung-heap which thus flies away: in fact, if only the time be long enough, it is almost the whole of it which thus becomes volatile: and, of course, this alone is sufficient to induce intelligent farmers to use earth, burnt clay, charcoal, and other substances, capable of detaining these volatile products, as salt, gypsum, &c., capable of decomposing them and inducing the reunion of their elements in less perishable forms. But it appears that in some instances another reason exists why this should be done. The farmer may be indicted for a nuisance, on account of his fermenting dung-heaps.

Mr. NEILSON, of Halewood, near Liverpool, has been in the habit of collecting on his farm much of the market refuse of the towns—many hundred tons annually—for manure, and the smell arising from these putrifying collections, it appears in evidence, extended from them a mile on all sides. An atmosphere of such bulk—a hemisphere, in fact, of one mile radius—attenuated though no doubt it must be, being barely able to affect the sense of smell at its outer surface, must be of considerable substance and continually renewed, as it is repeatedly washed down by the rains, it must be a continual source of great waste. Mr. NEILSON'S manure heaps, as those of all other farmers, would well repay the cost of confining them. As they were, he was called upon to defend himself before the magistrates of Prescot, on a charge representing them to be a nuisance.

We extract his defence from the *Daily News*: it will no doubt greatly interest our readers, as furnishing the details of a characteristic specimen of what is called high farming.

"Mr. NEILSON addressed the court in his own defence. He said he occupied rather less than 300 acres of land, which he farmed as high as he could, and consumed generally upon it from 2500 to 3000 tons of manure annually. He could not make this quantity, and therefore he was compelled to purchase a certain portion, say about 1500 tons. This he got as cheap as he could, and about three years ago he had entered into a contract with the market committee of Liverpool to take all their refuse, consisting of vegetables, oranges, straw, fish, &c. This he was obliged to deposit on his land, and he had endeavoured to keep it as free from nuisance as possible, and he could call evidence to show that no nuisance to certain cottages arose from it, as had been stated. He received a respectful letter from the Board of Guardians, to which he returned as respectful an answer, and immediately gave orders to his bailiff to remove it, and it was carted away into the centre of a lot of fields covering over 100 acres. This was the first heap complained of, and on receiving the medical certificate, the second was removed also, agreeing to a certain extent that such heaps might be injurious to health, but placing little importance on the probability of any one asserting that a nuisance could emanate from a manure heap placed in the middle of a farmer's fields. So far from it being injurious to health, he would call the man before the court who was in the habit of turning the manure over, and he would state that his health was not at all affected by it, and he would rather have that employment than any other which could be found him upon the farm. After other observations upon the fallacy of attributing the propagation of disease to this cause, Mr. NEILSON asked who was the real prosecutor in this case? Not the Board of Guardians. It was his neighbour, who had put forward the Board of Guardians as his representatives, and presented himself on this occasion with an array of legal talent—one learned counsel and two attorneys—in order to establish, what? Why, all that had been said only went to prove that a muck-heap stunk. (Laughter.) Mr. NEILSON then went on to contend that this Act of Parliament was only intended for the prevention of nuisances in crowded places, and districts thickly inhabited. It never was meant to reach rural districts, much less to interfere with the foundation of a farmer's prosperity. When he had entered upon his farm seven years ago, the tithe was only 9*l.* 10*s.*, while the amount of wages paid upon it annually was less than 100*l.* He had drained, thrown down the fences, and converted three fields into two; and, last year, if his tithe had not been commuted, he should have been liable to a charge of 97*l.* 10*s.* for corn alone. In 12 months, too, he had paid 912*l.* 10*s.* 6*d.* in labourers' wages, independent of team labour, having given regular weekly employment to 35 people, men, women, and children, whose wages averaged from 4*s.* to 15*s.* Some of his neighbours might not have enjoyed their dinners so well as formerly; their appetites might have been disturbed; but he would ask the bench to look at the great amount of comfort and independence which it afforded to the less pampered of the surrounding population. He concluded by saying he should call persons to prove that they had not felt these manure-heaps any nuisance, and that they were not aware of any sickness having arisen from the gas with which the air was in consequence impregnated."

The Court finally concluded that the act under which the indictment was laid did not apply to the case in question: but on the justice of the remarks concerning it made by the presiding magistrate, no doubt, we think, can be raised. Colonel WILLIAMS said:—"The defendant rests his argument upon the fact that he is an improver as well as a cultivator of the land, of which he is a very eminent example. There is no man I know to whom the public are under greater obligations for the system of improvement which he has adopted and [illegible] of great importance [illegible] made; but when this comes to [illegible] causing a public nuisance [illegible] the community, then, I [illegible] to put a stop to it, whether [illegible] improver or not. We must [illegible] the neighbourhood; and, if I [illegible] speak for myself living within [illegible] odour, when I go into the [illegible] how the wind blows [illegible] of the wind is the most [illegible] quarter. Whether [illegible] not I do not think it [illegible] not to have the [illegible] occupation of any other [illegible]

We do not [illegible] indicted for keeping [illegible] say that they deserve [illegible] they happen to come [illegible] sanitary laws. In this case [illegible] the public health is the [illegible]

FLAX AND BOX FEEDING.

My attention has been directed to a letter, by the Rev. C. Wilkins, of Wix, in the *Gazette* of the 5th inst., and to another of the 8th inst., by a "Midland Tenant Farmer." I have perused the latter with care, and now beg unequivocally to say, that the statement alluded to from the *Doncaster Chronicle*, on the cultivation of Flax, was the most deceptive document I ever saw imposed upon the public.

That you discovered the imperfections [illegible] from its non-appearance in the columns of your *Agricultural Gazette*. I forwarded a reply, by which an anxious to uphold the Flax [illegible] refused to insert. A more consistent supporter, however, was found in Mr. Moore, Secretary to the Yorkshire Agricultural Society, at the [illegible] *Farmer's Journal*, who published the [illegible] letter and mine at the same time.

Mr. Wells's rejoinder induced me to offer a more minute explanation, through a series of [illegible] to the Council of the above Association (which also appeared in the *Doncaster Chronicle*). Since my publication, I visited some of the Flax growing districts of Yorkshire, in order that, to my [illegible] a personal investigation might [illegible]. Nothing could exceed the waste and mismanagement that I witnessed.

Nationally, the growth of Flax is worthy of the most attentive inquiry. Hence, the authority of my [illegible], which, though doubted by "A Midland Tenant Farmer," must remain unimpeached till the deductions therein have been proved erroneous. I am however [illegible] so able a critic adventuring upon the [illegible] discussion, and hope that his anxiety to elicit information may meet a ready response.

As a practical demonstrator, I shall be happy to support an inquiry justly deemed of such vital importance to the agricultural interests of the kingdom. It must be remembered that I advocate [illegible] of Flax except in unison with the fattening [illegible] the seed. The profits upon the fibre, [illegible], are doubtless beyond those derived from corn at average prices. Still it would be vain to attempt an extended culture of the plant, were the seed destroyed, or sold off the land, according to the ancient custom. On this account, my system of forming it into [illegible] ensures a double return in the shape of meat and of manure; and if combined with box-feeding, [illegible] nearly calculated to sustain the farmer under foreign competition; an assumption which the following extract from my grazing account must tend in a great measure to substantiate.

7 Durham bullocks cost	£	[illegible]	
10 Scotch ,,		[illegible]	
1 Cow ,,		[illegible]	
10 miscellaneous small cattle		[illegible]	
	£		
Deduct the cost price			
Deduct for 14 quarters of linseed, [illegible] the farm, [illegible]			
Return for 14 acres of Turnips, [illegible] straw, and about three [illegible] for the [illegible]			

The value of the manure thus obtained [illegible] the calculation of others. My premises at [illegible] are ever open to the public, of which circumstance [illegible] Mr. Wilkins taken advantage, his pen would never have been employed to denounce the box-feeding department, "crude, unnatural, and unprofitable."

The above return will remove all doubts as to profit; and with respect to cruelty, or to the attempt at [illegible] the order of Providence, I shall prove these charges to be equally groundless. The first of the following extracts, taken from my former writings, contains the substance of my statements at the Great Oakley Farmers' Club, referred to by the rev. gentleman. The second, from the concluding part of my series addressed to the Council of the Yorkshire Society.

"The advantage of feeding cattle in boxes consists in the almost total waste of food which in a yard it is impossible to prevent. In boxes no opportunity is afforded for placing before each bullock an equal portion of Turnips, which cannot be the case in a yard where cattle are indiscriminately mixed. In boxes every bullock can eat at his leisure, ruminate comfo-

lested, and take his rest. In a yard the master cattle consume the choicest parts of the Turnips. They delight in goading and driving the underlings about, and allow them but little rest. Hence the great inequality observable in the condition of yard-fed bullocks compared to those in stalls; and hence the astonishment so often expressed by farmers, that after their fattest beasts have been sent to market the remainder thrive rapidly. It is also perceived that those bullocks which appeared at least great eaters would perhaps have been the forwardest had they been separated from the others. On these several accounts boxes are much to be preferred to yards, but when artificial food is added to turnips, their value is still further enhanced. In the latter case, a bullock will drive away an underling from the finest choice piece of Turnip, he will naturally be more reasonable to claim an undue share of oil-cake, or of the still more valuable compound. In fact, the system of feeding cattle in boxes can be regulated to the greatest nicety, while that in the yard must ever remain slovenly, wasteful, and imperfect. . . . Those who admit the correctness of my statements, in the injury to manure by rain in winter, will readily acknowledge the same by the sun in summer, an injury that would be avoided by consuming the Grass in boxes. The cattle also, screened from flies, would fatten, and/or turn a profit by summer grazing how seldom, if ever, obtained."

Thousands of boxes have been erected without an instance of disapproval, except by the Rev. Mr. Wilkins, from whom I extract the following paragraph:—"But there the poor suffering animal was imprisoned, like a felon, in an impure cell, eating, drinking, and sleeping on his own excrements, from which gases (from the fermentation of the mass) and stench were continually arising, filling his nostrils, his mouth, stomach, and intestines with an effluvia which his nature abhorred." Herein the rev. gentleman has wandered from the truth, for box, unlike stalled bullocks, wear no felon's chains; and although the manure is allowed to accumulate, fermentation is prevented, and consequently no effluvia arises. Instead of suffering, the animals experience the highest degree of enjoyment of which their nature is capable; whilst their silky unstained coats evince their cleanliness, their fat sides the healthfulness, and their value at market the profitableness of the system. Mr. Wilkins ought carefully to have inspected a box-feeding establishment before he attempted to offer his opinion; and then the public would have been spared the perusal of his description, which, if allowed to remain unnoticed, is calculated to retard a cause destined to confer upon the country immeasurable benefits. Many noblemen and gentlemen possessing sensibilities as delicate as those of Mr. Wilkins, have erected, for themselves and for their tenants, extensive ranges of the boxes in question. Others are rapidly following their example, which could never be the case had there been the slightest foundation for the epithets of the rev. gentleman. But whether those "unphilosophical erections and bedless pens," upon which Mr. Wilkins is even more severe, are also "cruel, unnatural, and unprofitable," I must leave the parties to decide who have adopted that system. But I think the patriotic intentions of the originator ought to exonerate him from such offensive and needless animadversions.

If proofs were wanted of the high estimation in which the cattle boxes are held, I could quote largely from the speeches and public letters from Sir Charles Burrell, Bart., as well as from private communications; also from the writings of Mr. Morton, and from a lecture by Mr. Nesbit, Master of the Kennington Agricultural School, wherein he declared that what he had seen at Trimingham nearly approached to perfection. But an extract from the past year's report of the Farmers' Club of which the Rev. Mr. Wilkins "was once a member," will, I think, be more conclusive.

"A member, on introducing the subject of box-feeding, observed that, viewed in every point, it must be considered the best mode for securing the beast, retaining the quality of the manure, and above all, for securing that degree of temperature which was essential to the comfort of the animal and economy of food. These observations were borne out by several other members, the last of whom said he was much gratified to see the plan (which he first saw adopted at Trimingham, and which he had introduced into this locality) gaining ground in the good opinion of the first graziers in the neighbourhood; he believed the system was by far the best that could be adopted for rearing and grazing cattle, both in the economy of food, labour, and the increased value of the manure; and he, for one, felt a debt of gratitude to Mr. Warnes for bringing this system into notice."

The Great Oakley Farmers' Club ranks amongst the best conducted societies in the kingdom. The President, Mr. Barker, of Stour hall, a neighbour of Mr. Wilkins, has long, both by precept and practice, advocated the feeding of cattle in boxes, and, since October, erected 24 upon a newly purchased estate. Stronger evidence can scarcely be adduced to refute the rev. gentleman's objections; and admitting that at the time he inspected one of the "newly recommended sheds for sheep," some imperfections existed, yet it would have been more consistent with his Christian calling to "judge a righteous judgment," than to condemn "according to the appearance."

Instead, however, of instituting a philosophical inquiry, and proposing a remedy, or pointing out to "R. B. D." a plan by which "perfect sweetness and cleanliness" might be attained, Mr. Wilkins exhausts his vocabulary of offensive epithets in the endeavour to pull down a fabric which he acknowledges himself unable to remodel, leaving the question where it commenced, and the reputation of the cattle-boxes unaffected.—*John Warnes, Trimingham, Jan.* 28, 1848.

P.S.—Models of the boxes may be seen at the agricultural implement establishment of Mr. Jabez Hare, 108, Fleet-street, London.

THE ALLOTMENT SYSTEM.

A consideration of the various methods of alleviating distress, which are being adopted in many parts of the country, leads me to think it will be found that the plan of letting small plots of land to the labourers is well deserving of pre-eminent notice and recommendation. For instance, one of the most important undertakings by which the farmer can better the lot of his workmen, is the construction of suitable dwellings for their use. What can be more injurious to the health of human beings than for them to be huddled together in a wet, dark, dirty, and badly ventilated hut; no outlet being provided for the poisonous air as it is exhaled from their lungs, no fresh supplies of vital air admitted; cold and damp being there to generate foul disease, and the healthful beams of the sun carefully excluded; and thus prevented from dispelling, by their purifying light, the noxious influences from the murky and pestilential atmosphere of that wretched habitation? This is a subject of prime importance, not only to the labouring class but also to the whole community. The rich may escape the sight of such scenes of misery as exist in the filthy and comfortless abodes even close around their mansions; but the consequences which inevitably result from the culpable neglect of their poor neighbours, they cannot possibly avoid. If they can omit to relieve that wretchedness, and to provide clean and healthy habitations for the sons of toil, they cannot elude the grasp of the infectious diseases which breed in those foul places.

Neglect of poverty always reacts as a curse upon the wealthy, and *vice versa*; there can, therefore, be no better policy than for the rich to improve the sanitary condition of their labourers by finding them suitable dwellings, in order to render purer the atmosphere in which they themselves live, and thus adopt the best means for preventing the fierce ravages of fevers and other malacies amongst the entire community.

Benefit clubs have been found of great utility to the labourer during the time of sickness, and every benevolent man will wish for their continued prosperity. Coal clubs and clothing clubs are also exceedingly useful institutions, the benefits of their aid being felt by the poor cottager in the drying season of winter frosts and snows. But then these societies cannot become a source of advantage to the man whose whole earnings are required to provide him with bread. Future ill health and old age are frightful objects of contemplation to him who, scarcely able to satisfy the cravings of his appetite with a scanty wage, has nothing whatever to spare every month for his "club." He can barely support his existence now, and how is it to be expected that he should be able to make a provision for the disastrous days to come? A comfortable home is a blessing to any man, but a cottage of the very best description will possess in itself but little ease and comfort if the commonest necessaries of life be not found there. The primary consideration is to furnish a man with means for enjoying such a home; and the means for preserving health must be made of secondary moment to those for sustaining life.

Let more good cottages be built; let more benefit societies of all kinds be established and supported; for thousands of families are at the present time reaping happy advantage from them, and many more might do the same; but take into consideration the still greater numbers whose needy and straitened circumstances debar them from joining in such societies, and it will be seen that the most important and beneficial scheme is one which will supply those men with necessaries enough to enable them to become members of clubs, and enjoy the comforts of a neat and commodious dwelling. A plan which can effect this must also be capable of adding to the prosperity of those who already enjoy some of the above privileges; thus raising their condition to one of less hardship, mitigating the rigour of distress and sickness, and affording them larger opportunities for mental and moral improvement (for, certainly, whatever improves a man's social and physical condition must furnish him with more leisure for mental culture, if he be so inclined). Now a more extended application of the "allotment system" is calculated to accomplish all this; and how extremely important, therefore, is it that its usefulness should be made known as widely as possible—how necessary for the welfare of the poor that the actual results of the system, wherever tried, should be published abroad; so that individuals everywhere may be excited to commence a mode of improvement so entirely suited to the labourer's circumstances, so congenial with his usual occupations, so adapted to his order of knowledge and practical resources, so fitted for ennobling his character and feelings (being the reward of his industry and not a help from the hand of charity, a man being made the improver of his own condition), and withal, so prolific of food and other necessaries, and productive of good feeling and the abundant moral benefits, resulting from application, attention, and industry. But it is well known that some who are real friends to the poor, and who are at the present time, in the form of committees or societies, hiring land and letting it again in plots to labourers, are endeavouring to conceal from the public eye the "returns" obtained by the tenants from their allotments, fearing that should the advantages become known, their present landlords and those of whom they are hoping to procure more land, would be led to demand an exorbitant rent. Of course this speaks nothing in favour of those landowners, for they ought to be satisfied with a similar rental to that which their fields are worth prior to their division into allotments; and unjust, extortionate, and mean-spirited indeed is that man who, when he finds that the poor are reaping gains from his soil (not abstracted from it by over exhaustion, but produced by extra labour and cultivation), demands that that profit (the fruit of their toil and therefore rightfully their own), shall be transferred into his own coffers. But though the measure of the produce from the allotments be hidden from the public admiration, one thing is clearly brought to light, viz, the fact of these individuals wishing to conceal the results of allotment cultivation, sufficiently shows that, in their opinion, the experiments have been so far successful, and the crops so abundant and profitable, as to admit of a higher rent payment, without loss. The fact, then, that such was the motive which induced them to cover up their gains, will be as forcible a proof of the value of their allotments, as the actual publication of the number of bushels they obtained in Wheat, Potatoes, &c.

A case of this kind has occurred in the neighbourhood from which I write; but I have obtained a few particulars, which, united with my own personal knowledge of the allottees and their little farms, will form a short statement of what has been accomplished; and will be one more fact added to the lengthening list of "stubborn" inducements to try the system which are now before the public. Before, however, entering upon the detail of these plots of ground, I offer a few remarks upon several objections which are being continually raised against the allotment system, and I shall then allow a plain statement to speak for itself.

It is affirmed that after being out at work twelve hours every day, or in winter from eight till dark, a labourer can have no leisure hours for farming and gardening; and if a man works ten or eleven hours per day, and in addition works one or two for himself at night, he will be ill-fitted for giving his master a fair day's work for a fair wage. And again, if a man is able to pass so much time in bodily toil, is it right that he should? Is no time to be allowed for the cultivation of his mind.

Now, with regard to the first objection, I would ask, does a labourer who works all the day for his master consider an extra hour at gardening as a hardship? An answer is found in the fact, that men, now allottees, would consider it a severe loss were they to be deprived of their holdings, and yet these men are obliged to cultivate their plots when their masters' work is finished. If a man occupy an allotment of 40 perches (1 rood), he will probably devote 20 perches to Potatoes, 15 for Wheat, and the remaining 5 for Peas, Cabbages, Onions, &c. The Wheat ground is dug and sown by the end of October or beginning of November, and the remainder is dug and planted by the end of March. After that there is very little work required to be done by the man, for the weeding can be done well by children. 20 perches of Potatoes do not take a very long time to chop over and earth up, nor is it a very fatiguing job, and it is done about the end of May, when the evenings are long and generally fine. There is therefore no great deal to do, and the industrious man who cultivates his allotment well is a very likely man to be able to bear the burden and heat of the day, for he can afford himself an extra slice of bacon with his bread. But there are very few cases in which a man has continual employment, and no wife to cultivate the plot for him. The usual plan is for the wife and children to work at their land when they are (as is very frequently the case) out of employ. The man is obliged to lose half a day or a day two or three times during the year to sow or reap his little farm. But there are always plenty of idlers who have time at their command, and might be most wonderfully benefited by the culture of a plot of ground. Many men, too, have light work during the day, and are therefore able to give a considerable portion of their strength to the management of their own ground. Others, having work only at particular seasons, are able to work whole days and weeks on their allotment. It is certainly an evil to let a man have an allotment so large as to engross the whole of his spare time.

The secret of failure, in many instances, both of large and small estates, is the undertaking of more land than the tenant has capital to manage. A labourer may estimate the amount of capital he can apply to his business; that is, he can tell how much time he can or is willing to devote to an allotment, and then by considering his strength and skill he will be able to judge how large a plot he may engage. Of course the larger his piece of ground, the more labour will be requisite, and the more produce will be acquired. As respects mental improvement, it would be useless to allow a man leisure for reading if he had no taste for such a pursuit; and, on the contrary, a man desirous of getting literary information would not be found to hire ground which would be too large to admit of a little leisure. "It is for the interest of the farmer that his labourers should be well informed. If there are any who still maintain that their servants should not be as well educated as themselves, and who think that they themselves must always stand out as lights shining in the midst of darkness, this shows their own want of sound knowledge, or, if not, of worthy motives." The improvement of the mind is an object of the first importance, and certainly there are a great many evenings in which there is plenty of opportunity for a man to amuse and instruct himself with books. If a man occupy a rood (40 perches) of ground, he will have many nights to spare during the year for mental improvement. One thing is certain, viz., that allotments prove great blessings to their cultivators by yielding them a large supply of food, and it is easy to see the way in which this benefit may lead to intellectual exercises. A Northamptonshire labourer says—"When the evenings are long and dark, poor people are not very fond of adding to their expenses by sitting up to read by candle light; of this, however, I feel fully persuaded that the man who, after his day's work, is enabled by his industry to have a good supper, is much more likely to take up his Bible and instruct himself, than the man who, from want of full employment, has very often to finish his day with only half a meal. You never see a man with an empty stomach sitting still." The pecuniary advantages resulting from the culture of an allot-

ment—for little actual expense is incurred by the allottees, the produce which remains when the rent, seed, and a few trifling items, have been subtracted, being a clear gain as remuneration for their time, &c., renders a labourer better able to join ends, and afford something for the education of his children, the latter object being especially desirable.

Finally, the mere act of cultivating a piece of land in itself a source of interest to the labourer's mind, and particularly if he be at all inclined to poaching and crime. There is nothing which causes the idle to become industrious so soon as giving them a business of their own in which their profits will be proportioned to their exertions; industry is the precursor of moral and mental improvement, and morality becomes the sure guide to intellectual pursuits and enjoyments.

I now come to the account of some allotments which have been brought into operation in the vicinity of a market town containing only a few hundred inhabitants. In October, 1846, a field of about 13 acres was hired and divided into plots of 40 perches each. The soil is a good alluvial loam, with a subsoil of clay and silt, lying for the most part on a dead level, though some places are low and swampy. It was broken up from Grass three or four years ago, and when entered upon by the allottees, some part of it was Wheat stubble and some was ploughed over, where Potatoes and Turnips also had been grown. Some portions were in bad condition, being very full of Couch. Out of the various men who offered themselves as yearly tenants, those were generally chosen who were most noted for their industry and good character; and the site of each man's occupation was decided by lot. There were last year about 40 allottee, but it is intended to let the whole of the land for the ensuing year. The conditions are that 6*s.* be paid as entrance money, 1*s.* per month during the year, and 7*s.* at the close of the year, thus making the rent 1*l.* 5*s.* per rood, or 5*l.* per acre; which is not much more than the land was previously worth, being situated so near to the town. That the land be cultivated solely by spade-husbandry, that all straw carried off the field shall be returned as manure, that no work be there done on a Sunday, and that no Mustard-seed or Turnip-seed shall be grown; these are the rules, there is no other restriction as to cropping, nor statement as to the condition in which the land shall be left, and nothing allowed to an outgoing tenant for unexhausted improvements.

After the Couch had been dug or forked up, the different spaces apportioned for Wheat were dug over; some with the spade, others with a common three-bladed Potato-fork (a very useful tool); all very deep, the shallowest parts in some plots being 8 inches of fine pulverised soil; and especial care was taken to bring up only the fine clayey sub oil, the men digging less deeply in these spots which had a subsoil of hungry silt. This operation, of course, did immense good by stirring the surface soil to such a depth and mixing fresh earth from below with the old soil above. Nearly all the Wheat was dibbed, generally at the rate of about 4 or 5 pecks per acre; and these crops certainly cut a very poor figure in the fine spring season, when the drilled Wheat in neighbouring fields had shot up and become rank and luxuriant. But after good hoeing, and good weeding, the plants gathered amazingly; and when harvest approached, most splendid patches of corn, free from mildew, might be seen waving in the field.

A gentleman who had learnt how to appreciate the beneficial influence of rewards offered to the poor, offered four premiums for "the best cultivated allotment;" and at the meeting of our Agricultural Association, held in October, 1847, the prizes were awarded (three judges having been over the several plots once when the crops were standing, and once afterwards), and a report of the general state and success of the system during the first year of its adoption, was read to the meeting. It is found already, that habits of industry have been encouraged, and the condition of many families (who would otherwise, this winter, have been in want of many of the necessaries of life) has been so much improved that they will be able to pass through that season, too often of adversity, in comparative ease and comfort. No general description, however, can have the effect that a few plain facts, which came before the managers on their recent rent-day, will produce.

The first is that, among about 40 allottees, there was not a single labourer or mechanic but who had paid up every farthing that was due for rent. The next and most pleasing circumstance was that they, one and all, expressed their thanks for the great advantages they were enjoying, and hoped that the land would never be taken from them. Of course, as there are grumblers in every assembly of men, this company of allottees possessed their share, and accordingly, a few complained about the rent. However, on being told they were quite at liberty to give up their plots if they were not satisfied, they replied "We don't wish to give up our land, but thought we could, perhaps, get it a little cheaper."

Now it is very gratifying to find that these men are contented and benefited by the allotment system, even during the first year; for the poor man has to find money somewhere to keep constantly paying his rent, for a long time before he can in reality get anything from his land. And yet he is satisfied! The Potato crop, one on which they mainly depended, has been a failing crop, and yet the allottees are satisfied, and consider they have been well paid for their exertions! They are employed from 6 till 6 o'clock for their master (computing their time at [illegible] then leaving and returning to their homes); but in the field is not more than half a mile, at most, distant, from the cottages, many are to be seen [illegible] ing, hoeing, hedging, or reaping, &c., in the evening. Very little hold work is done by candle-light, nor, indeed, could it be [illegible] men who their [illegible] At the time of Wheat hoeing, Potatoes [illegible] the man seemed to [illegible] employment, and frequently [illegible] others who are out of work; but, [illegible] the allottees were well rewarded with the [illegible] which they can come and [illegible] places of worship, and never [illegible]

But now comes the practical proof of the [illegible] allotments. The undermentioned [illegible] fair average specimens of the produce [illegible] plots. There was no exception of [illegible] these cases being taken down regularly as the parties came into the rent room.

On one rood (40 perches) of land, one sixth was Onions and Carrots, which crops paid the rent, and yet left some for the allottee to [illegible]. The remainder was Potatoes, estimated at 12 sacks (of 10 pecks each). If these be taken at the low valuation of 6*s.* per sack, we have—

12 sacks Potatoes	£3 12 0
Carrots and Onions	1 5 0
Lowest possible value of the produce from 1 rood	£4 17 0

Another yielded—

5 bushels of Wheat—a coomb (4 bushels—weighing 18 stone), at 7*s.*	£1 15 0
5 sacks (10 pecks each) Potatoes, at 6*s.*	1 10 0
3 bushels of Carrots, at 2*s.*	0 6 0
8 pecks of Onions, at 1*s.*	0 8 0
	£4 0 0

The produce from another rood was—

6 bushels Wheat, at 7*s.*	£2 2 0
8 sacks Potatoes, at 6*s.*	2 8 0
	£4 10 0

The man who gained the first prize of 1*l.* for the best cultivation obtained from his rood—

40 pecks Onions, at 1*s.*	£2 0 0
13 or 14 sacks Potatoes, at 6*s.*	3 18 0
	£5 18 0

With various other vegetables, he values the whole produce at 6*l.*!

The occupiers of the two following allotments divided the second and third prizes between them, amounting to 11*s.* each.

7 sacks Potatoes, at 6*s.*	£2 2 0
2 sacks (4 bushels each) Wheat, at 28*s.*	2 16 0
5 pecks Onions, at 1*s.*	0 5 0
	£5 3 0

And also a quantity of Beans, Mangold Wurzel, Turnips, and vegetables. The allottee had cultivated it entirely by himself, and yet had only been about two days absent from his regular work!

20 sacks Potatoes, at 6*s.*	£6 0 0
13 pecks Onions, at 1*s.*	0 13 0
	£6 13 0

The Onions were of remarkably fine quality, six of them measured 12½ inches each in circumference. This was the worst allotment in the field in respect to the condition of the land when taken. The fourth prize (5*s.*) allotment, produced 5½ bushels of Wheat and a great variety of vegetables.

Another plot yielded 8 bushels of Wheat (or 8 quarters per acre!), and 7 sacks of Potatoes.

Another 19 sacks of Potatoes, 6*l.*; 16 pecks of Onions, 16*s.*; 8 bushels of Carrots and Kidney Beans, Spinach, Turnips, Greens, &c., 4*s.*; total of 7*l.*

Another with 27 days' labour, yielded: Early Potatoes, 4*l.* 10*s.*; Beets, 1*l.* 7*s.*; late Potatoes, 1*l.* 10*s.*; Beans, Peas, Carrots, Turnips, &c., 1*l.*, making a total of 8*l.* 7*s.* from 40 perches of ground!!

In conclusion may I hope that these facts and observations will remove prejudice from the minds of some objecting individuals, and impel them to attempt a similar method of productive improvement in their own immediate localities.—*I. A. C.*

THE CANTELONIAN PATENT HYDRO-INCUBATOR.

About the beginning of August 1847, when strolling up the great Bath road from London, my attention was arrested at the 4½ mile post, Chiswick, with a board on which was painted "Poultry for the Million," "Exhibition of the Cantelonian Hydro-Incubator," &c.

I walked in at the rusty iron gate over some rough turf, and opened the door of a circular-roofed building right before me. There I saw a sensible farmer-looking man with a brown frock coat, who civilly saluted me, making a graceful sort of salaam by taking off his good spectacles. "This is a 4-tray incubator," said he, pointing to a piece of furniture much like a shop counter, about two yards long, with a small circular pot or kettle standing on the top of it. "A 4-tray incubator! Strange," thought I. "They are called trays or nests, and in each I place 100 eggs, which in 20 times 24 hours will, if they be good, bring out from 70 to 100 chickens. The interior," continued the genial man, "consists of a tank in this centre part, which is externally 2 or 3 inches higher than at the ends, and in the middle of the tank there is a receptacle for the [illegible] vessel, on the same principle as [illegible] you will observe, as a tea-urn, and by which means the water is kept warm. From the top of the tank, right [illegible] part of the incubator, already [illegible] is a box, with a [illegible] is half filled with [illegible] drying nest. There the [illegible] for about 36 hours, when they [illegible] A little grit or rice is now given to them, and they are put to the chicken [illegible] section of the chicken mother [illegible] extent of that department [illegible] is not sufficient to rear as [illegible] are capable of hatching out. [illegible] part of the apparatus [illegible] of rows of small pipes, [illegible] them, strictly [illegible] and the functions of the [illegible] to the ground, [illegible] creatures to stand [illegible] under their [illegible] there are rows of [illegible] broods. The pipes are [illegible] the ground as they [illegible] chickens as they increase [illegible] they can take care of [illegible] roosters. I bought a copy [illegible] and went home quite [illegible] looked in again on the [illegible] hundreds of fowls of various [illegible] and others fit for [illegible] Cantelo that it was with great [illegible] his contrivance to a practical result, [illegible] I felt, my admiration [illegible] would meet with a due reward. [illegible] he told me, was to introduce [illegible] practical use; but that [illegible] inventions constantly [illegible] like others, be obliged to "[illegible] was firm in the truth and real utility of his contrivance; and, indeed, I began to think I had [illegible] sopher. He has also [illegible] feathered tribe to be [illegible] and all other animals [illegible] facts connected with that [illegible] narrate here. So much for my [illegible]

The other day (January 20[illegible], I [illegible] an agricultural neighbour. "Well, [illegible] does your chicken [illegible] continued, "been [illegible] in the past, but [illegible] gently, and I will [illegible] down." "Can you," I replied, "[illegible] pig, and spare a little [illegible] telling you about?" My [illegible] rode to Chiswick. "Can this genius [illegible] he inquired. "Yes," I [illegible] pigeons, sparrows, [illegible] partridges, cocks, [illegible] like, but he cannot [illegible] the [illegible] or convert [illegible] out of eggs an hour sooner [illegible] "But will they [illegible] by the patent process?" [illegible] "how can the [illegible] Perhaps your own mother [illegible] made the less a man or [illegible] the machine, there were [illegible] pecking away at the [illegible] at the point of their [illegible] their way into the light of day. On this [illegible] day (the 20th January, 1848) there [illegible] broods hatching their [illegible] under the warm pipes, and [illegible] the [illegible] of them. There was a [illegible] and thriving, and [illegible] cocks and hens running [illegible] and some in well [illegible] like mothers, [illegible] The coops are well [illegible] I find a couple of the

patent chickens for dinner the other day, and never tasted better.

A most striking peculiarity in Mr. Cantelo's system is, that he sends his poultry to market whenever they are 13 or 14 weeks old. Thus he saves the expense of feeding beyond that age, except comparatively a few which he keeps for laying stock. Fancy 18 broods instead of two in a year, and hundreds—aye, thousands—at a hatch instead of tens. My neighbour and his cousin are extensive farmers, and were quite delighted with, and convinced of, the genuine value of the invention, and they had no idea such a thing could be done. The one left me with the intention of having a barn, which he thought of pulling down, put into repair, to accommodate an incubator and chicken mother; and the other determined without delay to set down the apparatus on his farm to produce ducks, which would get their living chiefly in the stream that runs through a portion of his meadows.—*W. M. F., Jan.* 26.

Home Correspondence.

Drilled Wheat versus Broadcast. (See p. 44, col. *c*.)—This requires explanation. I am not an advocate for broadcast Wheat, never having sown any in my life till this autumn, and that by the recommendation of an excellent strong land farmer, who states the straw will not go down so soon as drilled. Most of my Wheat is planted by Newberry's and by hand dibbles, at from 1 bushel to 6 pecks per acre. The cause of this off-hand remark arose from my stating at the discussion on thick and thin sowing at Northampton, that although the thin seeding did not look so satisfactorily to the eye (and that I thought was one reason why so many farmers continued to sow so much seed), during three parts of the time it was on the land, I had almost always found it best at harvest. I then proceeded to state that I had now growing 20 acres of Turnip Barley, one-third of which was dibbled with 1½ bushel per acre, one-third drilled with 2 bushels do.; one-third sown broadcast with 2½ bushels per acre. That I took the seven judges of implements, who were staying with me, over this piece, and asked them carefully to examine the field, and to give me their opinion which part was best. Their unanimous reply was, that the dibbled was the healthiest crop, the drilled nearly as much so, but more lodged, and the broadcast was the nicest and most profitable crop. Mr. Hillyard then observed that he was surprised that any one in these days should sow Barley (or corn, I am not sure which) broadcast; the readiest reply that came to my mind at that moment was the one your correspondent "W." attributes to me. I may observe that some of the straw of the dibbled Barley was nearly 5 feet high.—*W. Shaw, Northampton, Jan.* 22.

Deep Draining.—I offer these observations to such of your readers as are not convinced that a deep drain after rain will run sooner than a shallow one. 1st. No drain will run except the air follow the water, whether the drain be deep or shallow. 2d. There will be a quicker circulation of the air to and from the shallow drain than to and from the deep drain. 3d. That the soil will retain more moisture throughout in proportion to the depth of the drain. 4th. That the more quickly the air circulates in the soil to and from the drain, the sooner the moisture is evaporated or allowed to escape. Now it is obvious that the comparatively dried soil above the shallow drain, though less in bulk, will require more rain to wet it, so as to give off an excess into the tile than the already comparatively wetted or moist soil above the deep tile or pipe; the soil above the shallow drain we shall call a little dry sponge, requiring more liquid to saturate it than the soil above the deep drain or large moist sponge does, from these observations. I trust no one in future will deny that a deep drain runs sooner after rain than a shallow one, except they prove to our satisfaction that it is not only more reasonable but correct. In conclusion, I would observe that I am afraid a living in future from the bare ploughing and sowing of English soil will shortly be unknown, and that inevitable losses will succeed a continuance of the system. Our soil will have to be worked at a deeper level, and the shafts cannot be sunk by poor farmers.—*G. B. S.*

Thin Seeding.—The remarks on this subject in your 4th number for the present year, by the Rev. Mr. Wilkins have induced me to offer the following observations on the subject; and I have no objection on this occasion to be classed among the numerous B.'s and wasps who have given the rev. gentleman so much annoyance. My object in this communication is to comment on the evidence already adduced, and I will begin by asking a question, viz., Why is there so much discrepancy of opinion upon this subject? Simply because the experiments already tried are not sufficiently extensive to warrant the conclusions which have been drawn from them. The matter must be divested of all personal feeling and party spirit, and a load of ignorance, prejudice, and bigotry must be removed before it can receive that rigid investigation which its importance demands. I have lately conversed with numerous advocates of the two systems and the facts (so called) which they adduced, appear to be based upon evidence of a very inconclusive character. Thus Mr. Wilkins farms about six acres of land, which is no near to his chamber window that a lark or a slug could scarcely cross the field unobserved; and should a grain of corn not vegetate, or fall a prey to the ravenous wireworm, a few kernels will fill up the gap and make all look green and even again. But the man who farms 500 or 600 acres has a host of evils to contend against, which the cultivator of a small plot of ground does not experience. His corn must be put in at various seasons; the slug, wireworm, grub, game, lark, rook, wet season, frost, wind, and many other evils which I need not enumerate, may injure his crops and make him loath to hazard the appearance of barren patches and small stacks. Although I have taken the liberty to remark on what I believe to be the insufficiency of the evidence adduced by Mr. Wilkins, and this I think will apply to all who have written upon the subject, I cannot withhold from this gentleman the meed of praise to which I consider he is justly entitled, for directing the attention of agriculturists to this important matter, and I have no doubt that his views will, to a certain extent, be found to be correct, and as the science of agriculture advances, and the condition of a farm begin to resemble that of a garden, so will it be found that the quantity of seed may be considerably diminished. The thin seeder has established this indisputable fact, that in a proper soil a good crop of corn may be produced from a comparatively small quantity of seed. The gentlemen who have made experiments richly deserve our thanks, but many years must elapse before positive conclusions can be arrived at, and in all future investigations the experimenters cannot be too minute in their inquiries. The season, manure, nature of the soil, quality of the seed, when planted, quality and weight of the produce, quantity of straw, &c., must be stated. If these experiments are carefully conducted, in various localities, for several years, such inferences may be drawn from them as will lead to the most useful and satisfactory results.—*Investigator.*

Kohl Rabi and French Sheep.—I think you are wrong in giving publicity to any doubts you may have of the correctness of the weights of this root as stated by me, as you are evidently imperfectly acquainted with it, and have overlooked in drawing a comparison between it and Swedes the fact that four roots of the former occupied the space allowed to nine or ten of the latter. With relation to this root I can further inform your readers I have given the bulbs, without the leaves, freely to milch cows, and I find they prefer them to Mangold Wurzel and thrive better on them; their milk is richer, and as yet I have experienced no ill flavour in the butter. I fancy too the sheep I have fed on them have fatted faster than I have ever before had sheep do at this season. I have for two months had two parcels of French sheep in yards feeding upon them; these I was induced to purchase by the very low figure at which they were offered me—22*s.* each, in July last, when English sheep were so very dear. They have done well, and have made the sweetest mutton I have ever tasted. An English officer who has long resided on the Rhine, informed me that if well fatted I should find them much more delicate and finer flavoured than any English kinds, and so I prove them. The fat is less thick on the loins, and the meat not so coarse or greasy, and they are very well suited for private family consumption. The sizes vary considerably; whilst the smaller kinds, when fatted, reach only 6, 7, or 8 stones of 8 lb., the larger attain 10 or 11. They are extremely docile, and amuse by their more lively playfulness. An English farmer's eye will object to them that they stand high on the leg, and that they are light on the loins. Still if they are to be bought cheaper per lb., and eat sweeter than the ordinary run of English sheep, the objection disappears. Families who consume their own mutton, and are not partial to the thick linings of fat which our mutton carries, should try a few; and to those who have travelled abroad, and may not have approved the meat there, I would say, as a well known horse dealer says of horses, "much of the goodness is to be put in at the mouth," and foreigners do not understand this, or indeed their cookery does not call for it.—*Hewitt Davis, 3, Frederick's-place, Old Jewry, London, Jan.* 17.

Antiquity of Draining.—I send you an account of my grandfather's, of the mode of land-ditching practised 100 years since on this farm. After recording that the previous tenant, "an ignorant man, given to drinking," failed; "a succession of wet years, together with his bad management, having destroyed his crops of corn," about the year 1750, he was succeeded by Robert Tabrum on a 21 years' lease. "He was a prudent, careful man, who understood agriculture very well, having lived in several parts of the county of Essex on farms, which he improved. He caused land-ditches to be made, about a rod apart, over the whole farm, which let out the wet and prevented the meadows and pastures from poaching, and rendered the ploughed fields dry enough for ploughing early in the year; so that his spring corn was green on the ground at the same time of year when his predecessor could not come on his land to plough, on account of its wetness. The ditches cost about 2½*d.* a rod in meadows and pastures, and 4*d.* a rod in arable land, where it is necessary to go deep, that the plough may not disturb the bushes and straw that the ditches are filled with. The negligence of the former tenant had provided, by suffering them to grow anywhere, a great quantity of bushes, but not sufficient for the whole farm, so that some of the ditches in some of the fields are filled with straw only, which R. Tabrum says he has known last one lease very well, viz. 21 years." "Some of this farm is a kind of marly soil, which the inhabitants call white clay; this is best suited to the plough. The rest of the land is stiff red clay, which is here called loam, and bears very good Grass when laid dry by land-ditches, but does not answer well in tillage." You will see that Tabrum talks of land-ditching as well understood, and that his experience extended to 21 years; in fact, it was then a common Essex custom. The depth is not stated, but the distance apart, and the reasons for deeper drains in the arable land, show that he saw no advantage in depth beyond what was required for safety, probably 30 inches below the surface was the greatest depth. For about 100 years, then, this farm has been drained, most of it three or four times, with bushes, straw, rammed earth, and the mole-plough; and now it either does, or will as the present ditches wear out, require to be done again; and this time, I trust, more durably with pipes—the only chance of any permanent improvement by draining, as all drains filled with perishable materials leave the last state of the land worse than the first, by forming a series of artificial springs. I wish the question of depth, cost and efficiency both considered, was more satisfactorily settled. In my last, there is an error in the figures: for 40 years read 140.—*A. Holt White, Scwald-hall, Harlow, Essex; Jan.* 18.

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A Weekly Council was held at the Society's House in Hanover-square, on Wednesday last, the 9th of February. Present: Mr. Raymond Barker, in the chair; Sir M. W. Ridley, Bart.; Mr. Bosanquet; Mr. Brandreth; Dr. Calvert; Mr. Cherry; Mr. R. W. Evans; Mr. B. Gibbs; Mr. B. E. Hall; Mr. F. Hobbs; Mr. Majendie; Mr. C. Miles; Mr. Nesbit; Prof. Sewell; Mr. Slaney, M.P.; Mr. Stansfield, M.P.; Mr. Tweed; Mr. W. B. Webster, and Mr. H. Wilson.

The Earl of Lonsdale, of Lowther Castle, Westmoreland, and Carlton-terrace, London, was elected a Governor of the Society.

The following new Members were elected:

Ellis, John, Clement's-lane, City of London
Skipworth, Henry Green, Rothwell House, Caistor, Lincolnsh.
Gurdon, Barrett, Assington Hall, Boxford, Suffolk
Duffield, James, Great Baddow, Chelmsford, Essex
Lacey, William Charles, Sutton, Carshalton, Surrey
Ade, Charles, Westdean, Lewes, Sussex
Isham, Sir C. E., Bart., Lamport Hall, Northampton
Thomas, David, Brecon
Church, John, Woodside, Hatfield, Hertfordshire
Burnham, James, Winwick, West Haddon, Northamptonshire
Jeffkins, George, Crosby-square, City of London
Scragg, Thomas, Calveley, Tarporley, Cheshire
Caulton, Thomas, Spalding, Lincolnshire
Hamilton, Edward, Bridgnorth, Salop
Wheble, J. J., Bulmarsh Court, Reading, Berkshire
Hertefeld, Baron, Liebenberg, Berlin, Prussia
Chase, Robert, Buckland Marsh, Farringdon, Berkshire
Sleight, Thomas, Rhyd, St. Asaph's, Flintshire
Meadows, Rev. John Brewster, Witnesham, Ipswich, Suffolk
Nelson, John, Highford, Sheffield, Yorkshire
Fowler, William Barratt, Freazley, Fazeley, Staffordshire
De Leuw, Dr. Gräffrath, Elberfeld, Germany
Robinson, Richard, Belfast
Wigney, Thomas Jennings, Huddersfield, Yorkshire
Foulkes, James Hassall, Chester
Rosewarn, John, Nanhuska, Gwinnear, Hale, Cornwall
Dickons, Thomas, High Oakham, Mansfield, Notts
Churchward, Henry, Stonehouse, Brideslow, Okehampton, Devonshire
Johnson, Robert, Westborough, Long Bennington, Newark, Nottinghamshire
Trotter, G. Dale, Bishop Middleton, Darlington, Durham
Adam, Alexander, Mayor of Boulogne-sur-Mer
Bacon, William, Chilton House, Darlington, Durham
Otranto, Count Athenase, Nusgard, Söderköping, Sweden
Ingram, George, 198, Strand, London
James, Edward, Wylam-hall, Newcastle-upon-Tyne
Haggitt, Henry, Bury St. Edmund's, Suffolk
Barker, Horace, Bury St. Edmund's.

The names of ten candidates for election at the next meeting were then read. Communications were received from Mr. Cantelo, on artificial incubation; from M. Bérard, on the cultivation of waste lands; from Mr. Taunton, on Cow-parsnips; from Mr. Lloyd, on vineyards in England; from Mr. Deacon, on Russian agriculture; and from Mr. Tweed, diagrams on thick and thin sowing. Mr. Cherry favoured the Council with a paper, and illustrative model, on a plough tractor (by steam power) of his invention; and Mr. Webster, with specimen of his sectional tiles for draining: Mr. Slaney reported on the progress made by Mr. Parkes in the drainage of an estate of Mr. Slaney's in Shropshire; and Mr. Fisher Hobbs, on the tiles manufactured by Mr. Dixon in Essex. Mr. Slaney gave the following notice of motion for the Monthly Council in March:—"That the Council, or a committee of their body, should have different subjects of general interest to agriculturists, to be considered and discussed by the members present, on each Wednesday during the sitting of Parliament, after the other business of the day is over, and that due notice be given beforehand to members of Council and others interested." The consideration of Mr. Johnson's offer to supply a proper quantity of his new manure for ten acres, for trial by Members of the Society, was postponed till the next monthly Council.

The Council then adjourned till Wednesday next.

Farmers' Clubs.

Hexham.—At the annual meeting of this club, Mr. Grey, of Dilston, made the following remarks "*On the Cultivation of Root Crops.*"

The importance and advantages of root crops had greatly occupied the attention of farmers, and had established themselves as being the foundation of all that was successful in their present course of husbandry. He conceived that the working of fallows, and the production especially of fallow crops, from its effect of cleaning the land, and from the good husbandry which was attached to it, formed the test of good farming. If they would show him the fallow and root crops of any farm, he would be satisfied, without going into any other field. It had produced a change so extraordinary in the value of land and its productiveness as to make a new era in the agri-

culture of the kingdom. To estimate the importance of root crops, it was only necessary to look back to the period not very distant, though beyond the reach of living memory, when this system had not yet originated. There were many present, however, who remembered the men who first introduced the growth of Turnips as a field crop. Ninety years last summer the first field crop of Turnips was grown in this country, by a gentleman named Pringle, who had property near Coldstream. Mr. Pringle was a surgeon in the army, and though continually moving about the country, he retained his taste for agricultural pursuits. He collected all the information which his moving about the country enabled him to do, and from an ancient writer he took the idea of growing Turnips in rows instead of broadcast, and in small patches occasionally in the fields. It was considered difficult to produce these crops, and the hoeing was let out to gardeners or others considered expert at the operation. It was found necessary to protect them from being stolen—they were so sweet; and they were, therefore, watched as they now did Apples in an orchard. In 1757 Mr. Pringle first put his land into drills, and sowed his Turnips upon them, and so difficult did it appear to him to obtain the crops, that he made his drills 3 feet wide, collecting all the good soil about the roots of the young Turnip. These first efforts attracted the attention of the late Mr. Dawson, of Frogden, near Kelso, father of the present Mr. Dawson, of Wark, who farmed one of the best farms in this country, for which he paid 2500*l* a year. Mr. Dawson was the very first man who introduced the cultivation of Turnips in drill rows into this or any other part of the kingdom. The late Mr. George Culley, whom he (the chairman) had the pleasure of knowing as a near neighbour, was distinguished for extraordinary intelligence and activity; he very soon heard what was going on at Frogden; he accordingly went there, and soon the example of Mr. Dawson was followed. He (the chairman) was detailing not what he had seen himself, but what he had heard from the mouths of others. Mr. Culley engaged a man from Mr. Dawson, who lived with him till his own people were instructed. This man he (the chairman) remembered very well. He lived and died as a land steward. His name was James Cranson, and he was father of the man of the same name who kept an inn in that street. The system spread throughout the kingdom; and even in the southern districts, where they grew Turnips on a flat surface, the drill system was introduced. And this had changed the whole course of agriculture, as they would at once admit, if they considered, what they did not know, but might have heard of, the management of those times. Formerly the only food for cattle was hay, which required the saving of a good deal of the produce of the land to make it. A great deal of the rough pasture land was kept unmade, that it might serve as a scant and somewhat precarious food for the winter; but now the cultivation of Turnips had so far increased the food of cattle as to allow the whole pasture to be consumed in the summer by cattle and sheep, and increased the production of beef and mutton, which was much fatter in winter than in summer. Formerly there was no such thing as fresh meat to be had for five months after Martinmas, the beasts killed at that season being hence called Marts. That beef was salted down for the winter. But if they looked at the quantity of beef and mutton which was now taken into the market to be killed, during the winter months, they would see what a change had been produced, not only in the value of the land, which had doubled and trebled—not only in the capital which it threw into the hands of the farmers, many of whom had the fortune to be holders of long leases—but in the increase which had been made in the productions of the country, and of everything which tended to feed the human race. But in their own time another era had taken place, and which had done much to increase the importance of what had been done 90 years ago. He meant the introduction of furrow draining, in connection with those adventitious manures which were now so well known, consisting of guano, nitrate of soda, bones, bones with sulphuric acid, and various other chemical compositions, all tending to increase the produce of the land; but which were unknown at the period he had spoken of. The use of these manures, in connection with furrow draining, had led to the introduction of root crops to parts of the country which previously were either inaccessible to manure, or from the stubbornness of the soil were not fit for root crops, and an extraordinary increase had been made in the quantity of food produced by the soil in consequence of these improvements. Connected with this subject were also the advantages of the root crops. Those advantages were many, independent of the very great addition to the live stock of the country, and the great increase of the corn produce of the land. In former times, when bare fallowing was resorted to, the land was scantily manured, and it was found necessary, after cultivation, to let it lie six, seven, or even eight years in Grass doing nothing. They knew the produce of these lands was very scanty, and while that state of things continued, the land produced nothing except a foul and bad kind of Grass. But since the cultivation of root crops, and the introduction of drill husbandry, accompanied not only by hand-hoeing, but horse-hoeing, and a variety of improved implements, the produce of the corn crops had doubled, and in many cases trebled, and even quadrupled; because they could now, in a rotation of four or five years, introduce two crops of corn, intermixed with the green and root crops, which were themselves as valuable as the corn. The advantages of green crops were that not only had they the green crops themselves for their cattle to consume, so that they could fatten stock at all seasons of the year, but they had vastly increased the growth of corn, by bringing the land into a state of cultivation before unknown. This proceeded from the fact, that, in the consumption of green crops, they returned to the soil an amount of manure, which, under other circumstances, was impossible. This was very evident when they considered that, in every crop of Turnips, they returned to the soil one-third in weight of manure; so that, taking for example the splendid crop of Turnips produced by Mr. Harbottle, of which he had shown them some magnificent specimens that day,—taking that crop as amounting to 36 tons of Turnips to the acre—[Mr. HARBOTTLE—38 tons.] Well, he would call it 36, for that was more easily divisible by 3,—then out of every 36 tons of Turnips they had 12 tons of manure to return to every acre of land. It must be remarked, indeed, that this was far beyond the average produce of the district of Tyneside, yet it was sufficient to show that the improvement of the soil by means of green cropping must be very great indeed. There was another advantage connected with root crops, which was this:—Unlike the cereal or grain crops, they derived a considerable portion of their sustenance from the atmosphere. It was necessary to make the crops come forward, and the more quickly the better; but after they had passed the first stage of their growth, so as to expand their leaves and get the benefit of the dew, they absorbed the ammonia, and were the means of conveying this into the soil, so that it would be seen that the growth of root crops and green crops was enriching the soil in a way peculiar to themselves. Without entering chemically into a discussion as to the Turnips absorbing the ammonia, or as to the benefit of ammonia in communicating its advantages to the soil (which perhaps would not be very appropriate to the present occasion, even if he were better qualified to do so than he was), if it were the fact as he had stated, it would at once account for the great benefit to be derived from the alternation of root and corn crops. Another advantage was, that root crops were all consumed on their ground, and thus the manure was returned to their land. He spoke of farms inland, for it might be that in the neighbourhood of towns and near the sea, the Turnips were either consumed in the towns, or shipped off to other places; but in farms which were remote from towns and the sea, the produce of the root crops was returned to the land. With regard to the corn crops, with the exception of what was consumed by their horses and cattle, it was all carried off, and a great part of the nourishment of the soil was taken away, more especially with regard to the Grain of Wheat. This was one reason why it was useful to feed cattle with the bran of Wheat. Another advantage connected with the cultivation of root crops was, that it gave the opportunity of cleansing the land better than anything else. It brought agriculture more to a system of gardening on a large scale, where an opportunity was afforded of destroying everything on the land which they did not wish to produce, and of bringing about that perfection in agriculture which they could all desire to attain, that of making the land grow nothing but what they wished it to grow. In a farming point of view, all attained; because by means of horse or hand hoeing they might so completely cleanse the land as not to leave a single weed, and they could not but know that every weed extracted by the soil was robbing of its nourishment the portion of that crop which they wished to grow. These were some of the advantages of root crops. So far he had been somewhat general, and it was now time he should enter into the particulars connected with the root crops which they found most profitable in their general farming. There were varieties of green crops throughout the kingdom, and how everything else connected with agriculture, the judgment of the agriculturist was required in fitting the produce he wished to grow to the circumstances of the soil and climate in which he was placed. That judgment was requisite in every branch of agriculture. It was requisite in determining the kind of stock they thought it right to apply to the ground. For example, the same kind of stock that would be profitable on the top of the Cheviots would not suit the vale of Tyneside. That which was well adapted for rich land would be suitable for a poor soil. The same might be said of all description of root crops. Some tracts of land were remarkable for producing a; not two years Cabbage and Mangold Wurzel, but these roots would not be found so productive in this part of the country as the ordinary Turnip so much in use—say the white Turnip to begin the season and the Swede to end it. It was possible indeed to have hybrid Turnips in any way they wished, There was one description of hybrid Turnips which would grow well in cold and high situations. He might refer to the crop belonging to Mr. Shields, of Stobblick. That was not a good situation, yet he had seen the red hybrid there as good as he had seen it even at Dilston or at Mr. Harbottle's. He believed, however, that none was so useful as the Globe Turnip for the beginning of the season and the Swede for the end of it. Those were the two varieties most generally beneficial. There were however other good varieties, and a man should use his judgment in selecting them. The Chairman next referred to Cabbages, which he said might be grown to a great extent, as they would grow on a greater description of soil than Turnips, but it was not necessary in growing Cabbages that the soil should be pulverised and made so fine as was requisite for the small seed of the Turnip. He knew nothing better than Cabbages to begin to feed the ewes with at the early part of the season; and there was nothing better for ewes nursing their lambs. It was not necessary, however, that they should be all used in the autumn; they might be kept much in the same way as they stored up Swedish Turnips. With respect to Mangold Wurzel, though in much request in some parts of the kingdom, he could not say that he thought it desirable in this; for though it might grow well in very favourable situations, it was not equal in value to the Turnip, nor could it be produced at the same expense. It was tender as regarded frost, and might be lost in one frosty night. Carrots had been recently introduced as a green crop; but they must have sandy loam, of an open texture, to grow a large quantity of Carrots. In certain districts of Bedfordshire Carrots were grown to a great extent. Carrots were a remarkably good food for horses; and there could be no doubt that horses used for mere agricultural purposes would thrive on Carrots and hay without corn. This, however, was not a crop cultivated for field use generally, but as a garden crop. Next, as a field crop, he would mention Potatoes, which was the most exhausting crop of all, because they would recollect that the Potatoes were not generally restored to the land; if they were, the injury done to the land would be less than it is; but if Potatoes were cultivated for the purpose of being sent to Newcastle or elsewhere, the whole produce was carted away, except the tops, which, by some farmers, were held in so little estimation, that they were thrown together and burnt, leaving only a few ashes. This was not necessary, for if the tops were taken up and laid on the bottom of their folds in a green state, they would benefit the land. These were the reasons why the Potato crop was so exhausting, and they would, therefore, see that it was not a crop which ought to be used as a fallow crop, but should be grown instead of an Oat crop, or some such crop, and be succeeded by fallow. These were some of the remarks, very general ones he admitted, connected with the advantages of root crops to the farmer. Then, as to their management. In this branch also, they knew as well as he did, that the cultivation of root crops could not be too good. They could not plough too deeply in the autumn; let them keep ploughing, and expose the soil as much as possible to the atmosphere and the frost of winter, and then use the pulverising processes in the early part of the summer, so as to get as fine a soil as possible into which to deposit the small and delicate seed of the Turnip. The plant had a good deal to contend with in the first stages; but if the soil was so well pulverised that the plant could put forth its delicate feelers, the battle was nearly won. After this, however, they should not spare working: for it was a true maxim—"The more they hoe the more they grow." Let them keep the horse-hoes going, and the hand-hoes likewise, for although there might not be many weeds to cut down, yet the oftener the hoe was applied, the more readily the atmosphere gained access to the root, and the more it would reward their toil. There could be no question on this point, because, as he said before, all these plants derived a great portion of their nourishment from the atmosphere, and it was only in proportion as there was vigour at the root that it could throw out the top. With regard to the application of manure, drill husbandry gave every possible advantage for doing this with expedition and with great effect. The Chairman here referred to some experiments made by the late Earl Spencer, proving the great superiority of drill rows for Turnips as compared with sowing them broadcast. In the system of drill rows, he remarked, there was no necessity to have any portion of the manure exposed in any way, in which the roots would not derive benefit from it. No matter whether it was fold yard manure, or any other; every manure could be applied with equal facility, and with greater facility in rows than in any other way. The advantage of rows for horse hoeing was also very great. He was glad to think that the farmers here were giving such attention to that description of manure, which, like everything else of home manufacture, was deserving of attention, because it was their own; and which rendered it necessary to purchase the guano from abroad, or bones at home. They might depend upon it, it was no criterion of profitable husbandry, to find one acre here and another acre there in a high state of cultivation; but they must show him a man who combined economy in his operations with efficiency in his work. He was no advocate for low farming, or starving the land. He was an advocate for husbanding their own manure. It was, however, extremely fortunate for them, both individually and in a national point of view, that they had the opportunity of supplying what was deficient in their own manure, by the addition of manures from distant countries. It was especially useful to farmers where the situation of the land rendered the carting of the ordinary manure too difficult and expensive. He had seen some steep situations in Teviotdale where it was impossible to convey the manure without having three horses to each cart. They might employ guano in situations of that kind, and preserve their heavy manure for the lower parts of the farm. Besides guano, they had bones,

Miscellaneous.

Harvest in Russia.—The *Agricultural Journal* of St. Petersburgh publishes the following [illegible] harvest in Russia. The harvest [illegible] the aspect of the fields led us to [illegible] tries where the winter corn [illegible] the summer corn was very [illegible] wherever the summer corn [illegible] was very poor. The harvest [illegible] that of Rye, especially in regard to [illegible] harvest was middling. The Potato [illegible] in a certain number of districts; [illegible] the crop was lost in consequence [illegible] stan ing the want of fore [illegible] has shown a very satisfactory result.—*L.*

Calendar of Operations.

FEBRUARY.

BERWICKSHIRE MERSE FARM. *Feb. 4.*—[illegible] have been employed leading [illegible] Turnips, and have got all the [illegible] pair ploughing the Grass lea [illegible] single-horse carts at Martinmas, [illegible] two single-horse carts at [illegible] home drain stones; one man with [illegible] leading Oats to the barn; a man [illegible] horses, one man driving [illegible] barn, three carrying away the straw [illegible] pulling Turnips; one woman with the [illegible] for the sheep; a man and a boy [illegible] one day leading stones for the [illegible].—*J. B.*

DORSET FARM, *Feb. 5.*—Since last report [illegible] hard frosts, which kept [illegible] have been employed in carting [illegible] at the rate of from 20 to 30 [illegible] young Clover at the rate of [illegible] timber from the woods, driving [illegible] Turnips, hay and straw—work [illegible] good deal of our time.—and the [illegible] been filling and spreading [illegible] cattle, and threshing and winnowing [illegible].

EAST LOTHIAN FARM. *January*, we had keen frost, which [illegible] month, when a change took place. [illegible] the 5th soon disappeared, and the [illegible] sumed yesterday. Work upon the [illegible] cept threshing for litter and cutting [illegible] carting thinnings of plantations, [illegible] ploy men and horses. Rain has fallen [illegible] day. I may observe that having [illegible] employment in general on farms in this [illegible] others is carting manure from feeding [illegible] fields intended for grass and other [illegible] approve of this, which may [illegible] noticed in reports from this farm. The [illegible] not to remove the manure [illegible] quired for putting into the [illegible] Mangold Wurzel or Turnips. [illegible] of the manure; whereas, by the [illegible] rally followed out the loss is very [illegible] off by the atmosphere and weather; [illegible] instances the dung is applied [illegible] part is gone. An object [illegible] feeding courts from the latter [illegible] reckon compensated by the [illegible].

SOMERSETSHIRE FARM. [illegible] engaged in threshing Wheat, [illegible] tended for green crops, [illegible] Wheat, and hauling Turnips [illegible].

SOUTH HAMPSHIRE FARM. *Feb. 8.*—[illegible] frosty weather have been employed [illegible] tare land, and carting [illegible] times they have been employed [illegible] has been recently threshed [illegible] guano and superphosphate [illegible] tures, in connection with [illegible] odd horse is continually [illegible] hurdles, &c., for the remaining [illegible] pastures to the yards, carting [illegible] lambs, which are now receiving [illegible] to hay and Turnips; also carting [illegible] for feeding store pigs for [illegible] most economical kind of [illegible] forward in calf are also receiving [illegible] with Barley straw, which seems to keep them healthy and in good stock order. We have also found our sheep yard that our yearling heifers have done well since we have [illegible] them in the winter months on oat straw and hay straw, [illegible] a covered shed, with open yards in front for air and exercise—far better than under the old plan of being allowed to roam the pastures at day time, during which time they were [illegible] standing in snow dirty corner, shivering with cold, hungry, and returning at night to the farm-yard to feed promiscuously with cows, pigs, &c., and exposed [illegible]. We are obliged to say that this negligent and wasteful [illegible] still in practice in too many instances at the present time. [illegible] system of managing [illegible] has been left to your choice to allow them to remain in the pastures at night [illegible] summer months, up to the time of their being [illegible] old, always returning at night to the sheds and feeding [illegible]

good allowance of any green food in use at the time, such as Trifolium, Tares, or Clover, by which plan of housing we have kept the stock perfectly healthy, and have had no case of quarter-ill or kill-calf (as is commonly called), which disease some years ago, under the old plan, usually destroyed great numbers of young stock. We would further state that where cleanliness is strictly observed under the above plan of housing, great quantities of excellent manure is made, particularly during the summer months. Our labourers have been employed in various ways; six men threshing Barley and Talavera Wheat to seed; two men sowing Ichaboe guano on pasture land, and spreading manure immediately after. The women have been mostly employed picking up Turnips for sheep, also in preparing and cleaning Turnips for cutting with Gardener's machine. Our shepherds have had lately a very unpleasant task in tending their sheep, the weather having been so exceedingly changeable, and for the most part very wet; indeed we never recollect the fatting sheep and lambs to have done worse than during this winter, from two causes in particular; first the weather has been unusually wet, and secondly, the Swedes have less nutriment in them than we have known for many years, arising, no doubt, from the extraordinary and rapid growth they made in the autumn, and from the great size they have attained by the application of large quantities of guano, &c., to produce them.—*J. F.*

Stirlingshire Carse Farm, *Feb.* 5.—This week being for the most part wet, we have been confined to labour within doors, such as preparing seed Beans, and also some for the market; also a quantity of Vetches which were taken from amongst the Beans when in the act of dressing, we have been preparing for the market.—*W. F.*

Notices to Correspondents.

Beans—*D M'Kie*—Steeps are of very little use, excepting to start the seed; and in the case of Beans, which are not peculiarly liable to disease when sprouting, steeps are probably of no use at all.

Boiling Turnips—*A B*—We do not know how to confine the smell.

Bones—*Inscius*—Reduced—as generally sold for manure.

Books—*J C*—"Blacker on Small Farms"—a pamphlet—Curry and Co., Dublin. There is no work on market gardening that we know of.

Burnet—*J E T*—Can any one growing this plant give us his experience of it. Arthur Young speaks very highly of it.

Cross Cropping—*B*—It is taking a scourging rotation of crops. That which is cross cropping on some land is not so on others. Oats, Oats, Oats, Oats, followed by as many years of the "natural Grasses,"—a rotation adopted in some localities—is cross cropping!

Dibbling Machine—*Comro*—We hope shortly to be able to give an opinion of "M. D's" dibble. There are paring ploughs such as you desire; ask Mr. Bruce, of Teddington, Stratford-on-Avon, for a description of his.

Downside College Farm—*Agricola* would be much obliged if Mr. Sippet would kindly inform him of the quantity of the prepared night-soil he uses per acre for Turnips; and the quantity he would suppose there to be of the solid excrement used before the admixture of the charred sawdust and other ingredients; and what he supposes this manure costs per acre.

Drainage Pipes, &c.—*J Martin*—Much obliged. Your terminal hanging valves appear well contrived and much cheaper than those which Mr. Parkes exhibited at Newcastle. The drain plough, we suspect, would on few soils answer its intended purpose. The idea is similar to one suggested and carried out some years ago by the late Mr. Stirling, of Glenbervie. But he merely marked the land with the plough, and left the summer heat thus guided to crack the clay land; he filled the cracks with sand as you.

Gorse—*A Sub*—It likes a light soil. Sow in shallow drills a foot apart, 15 lbs. of seed per acre in April, on a light soil.

Grass Land—*T T*—We should stock it well, feeding on hay, Turnips, oilcake, and other food, brought to the field. That would be sure ultimately to improve it.

Harrison's Pills—*Delta and others*—Will any one be good enough to say where they are to be got.

Hydraulic Incubator—*W Rowe*—M. Cantelo, Chiswick, London.

Linseed—*D M*—Any corn-factor in your nearest market town can procure it for you if he chooses.

Manures—*Julius*—Excuse the delay of a week.

Milk—*Inquirens* says artificially heated cream produces colourless butter. We think the effect must be charged on some other cause.

Oilcake—*T W S*—It is impossible to say how much should be given. It is not generally given at all except to fatting animals for four or five months before fat. But the most various practice exists. We should give it in the proportion of 1 lb. to every 30 or 40 lbs. of green food that the animal would eat, which is somewhat the same as if we had said 1 lb. for every cwt. that the carcase of the animal would weigh now if fat.—It is cheaper to buy straw and make manure than to pay 7*s.* per ton for it ready made. But you had better *make* thus not more than half of what you require, and purchase an equal fertilising power in guano to mix with it. One ton of Swedes will, as we litter our stock, make one ton of manure. One ton of straw will, as we use it, make near 10 tons of manure.

Potatoes—*Alpha*—Plant in a week or two—all kinds. We shall do so, at all events. About the peat soil, we should lime and clay it, and grow Rape upon it; then Oats; and, lastly, lay it down for some years with suitable Grasses.

Reaping Machines—*S Deacon*—We never saw or heard of any reaping machines that successfully competed in the long run with hand labour. About Flax-dressing machines, apply to J. H. Dickson, 29, Broad-street-buildings, London.

Sea Sand—*C D*—It will simply dilute the guano; it will neither improve nor injure it.

Sundries—*An Old Sub*—Horses will work on hay alone without any Linseed. And we should prefer giving them an equal value of Oats and Oat straw. The first cut of an acre of good Clover will keep a stall-fed ox for 100 days. You may stock it with from 5 up to 15 sheep per acre. It is impossible to give a definite answer without knowing the land. We shall commence planting Potatoes in a week or two. Tares sown now will be ready in July.

Turnip Washer—*Rustics* should write to Mr. Richmond himself. Information of prices &c., is chargeable with advertisement duty.

Turnips—*Constant Reader*—Four or five pounds per acre is a low price for a crop of 20 tons per acre. The crop of Wheat you mention is a very much more remarkable thing than that of the Turnips. Could you not procure the particulars of the farmer?

Vetches—*S K S*—A good crop may weigh 10 to 12 tons of green food per acre. A cow will eat from 1½ to 2 cwt. of them daily. If 1 cwt. be the daily allowance and 12 tons the acreable crop, then during June and July she will consume the produce of about 60 perches.

Winter Proud Wheat—*Phil, Florid*—If you dare not let sheep on the land you may get rid of the bulk of leaf by mowing it. We have always preferred the latter; only we never had occasion to mow till the month of April.

Markets.

POTATOES, Southwark, Wateside, Feb. 7.

In consequence of the extended prohibition of the French ports against Potatoes, higher prices are being made at the wateside; but it is doubtful whether they will be maintained, as there have been many arrivals coastwise since last Friday. The following are the present quotations:—York Regents, 140s to 180s; Kent and Essex Regents, 160s to 170s; Shaws, 140s to 160s; Kidneys, 140s to 170s; Blues, 130s to 150s; Wisbeach Regents, 130s to 150s; Blues, 120s to 130s; Dutch, 100s to 110s. Charles Pulling.

COVENT GARDEN, Feb. 12.

The weather being still unfavourable, the market continues to be well supplied, and trade has gone to improve a little. Pine-apples are abundant and good. Hothouse grapes are nearly over; but foreign ones are supplied in considerable quantity. Pears and Apples are as plentiful as could be expected considering the season. Of the former, specimens of Beurre Rance and Ne Plus Meuris may be bought at from 3*s.* to 4*s.* per dozen. Orleans plum rail. Nuts sufficient for the demand. Filberts sell dearly at from 18*s.* to 24*s.* per 100 lbs. Lemons are moderately plentiful. Of Vegetables, Cauliflowers, Broccoli, Greens, &c., are plentiful. Asparagus and Sea-kale may be obtained at last week's prices. A few French Beans have been sold at from 2*s.* to 4*s.* per P.O. Carrots and Turnips are good in quality. Potatoes realise high prices. Lettuces and other salading are in request for the demand. Mushrooms are somewhat dearer. Cut Flowers consist of Heaths, Pelargoniums, Cinerarias, Camellias, Euchasis, Azaleas, Hyacinths, Acacias, Mosses, and other Roses.

FRUITS.

Pine Apple, per lb., 1*s.* to 6*s.*	Lemons, per 100*s.*, 6*s.* to 14*s.*
Grapes, hothouse, per lb., 6*s.* to 10*s.*	Almonds, per peck, 4*s.*
— Portugal, per lb., 1*s.* to 2*s.*	— sweet, per lb., 2*s.* to 3*s.*
Apples, dessert, per bush., 3*s.* to 6*s.*	Walnuts, per bush., 12*s.* to 18*s.*
— kitchen, p. bush., 2*s.* 6*d.* to 5*s.*	Nuts, Barcelona, per bush., 20*s.* to 22*s.*
Pears, per half-sieve, 3*s.* to 8*s.*	— Filberts, per 100 lbs., 14*s.* to 24*s.*
Oranges, per dozen, 6*d.* to 2*s.*	— Cobs, per 100 lbs., 25*s.* to 30*s.*
— per 100, 3*s.* to 12*s.*	— Brazil, per bush., 12*s.* to 16*s.*
— bitter, per 100, 8*s.* to 16*s.*	Chestnuts, per peck, 3*s.* to 6*s.*
Lemons, per doz., 1*s.* to 2*s.*	

VEGETABLES.

Asparagus, per 100, 2*s.* to 7*s.*	Onions, pickling, p. half sieve, 2*s.* to 3*s.*
Savoys, per doz., 4*d.* to 1*s.*	Shallots, per lb., 6*d.* to 8*d.*
Cabbage, Red, per doz., 2*s.* to 4*s.*	Garlic, per lb., 8*d.* to 1*s.*
Greens, p. doz. bunches, 1*s.* 6*d.* to 2*s.* 6*d.*	Spinach, per sieve, 1*s.* 6*d.* to 2*s.* 6*d.*
Cauliflowers, per doz., 3*s.* to 6*s.*	Sea-kale, per punnet, 1*s.* to 2*s.* 6*d.*
Broccoli, per bundle, 1*s.* to 4*s.*	Art chokes, Jerusalem, per half sieve, 1*s.* to 1*s.* 6*d.*
Brussels sprouts, p. half-sieve, 1*s.* to 1*s.* 6*d.*	Lettuce, Cab., per score, 4*d.* to 9*d.*
Sorrel, per half sieve, 6*d.* to 9*d.*	Endive, per score, 1*s.* to 2*s.*
Potatoes, per ton 120*s.* to 190*s.*	Mushrooms, per pottle, 1*s.* to 2*s.*
— per cwt., 6*s.* to 10*s.*	Rhubarb, per bundle, 10*d.* to 1*s.* 3*d.*
— per bush., 5*s.* 6*d.* to 9*s.* 6*d.*	Small Salads, per punnet, 2*d.* to 3*d.*
— Kidney, per bush., 3*s.* 6*d.* to 4*s.* 6*d.*	Fennel, per bunch, 2*d.* to 3*d.*
Turnips, p. doz. bunch., 1*s.* 6*d.* to 2*s.* 6*d.*	Savory, per bunch, 3*d.* to 4*d.*
Red Beet, per doz., 9*d.* to 1*s.* 6*d.*	Thyme, per bunch, 2*d.*
Horse Radish, per bundle, 1*s.* to 6*s.*	Watercress, p. 12 small bun., 4*d.* to 6*d.*
Cucumbers, each 2*s.* to 4*s.*	Parsley, per half sieve, 1*s.* to 1*s.* 6*d.*
Leeks, per doz., 6*d.* to 1*s.*	— Roots, per bundle, 1*s.* to 1*s.* 6*d.*
Celery, per bundle, 6*d.* to 1*s.* 6*d.*	Mint, green, per bunch, 4*d.* to 8*d.*
Carrots, per doz. bunches, 2*s.* to 4*s.*	Marjoram, per bunch, 3*d.* to 4*d.*
Onions, per bush., 2*s.* to 3*s.*	
— Spanish, per doz., 1*s.* to 4*s.*	

SMITHFIELD, Monday, Feb. 7.

The supply of Beasts is large, and of tolerably good quality. The weather being mild, trade is exceedingly slow, with no improvement on Friday's quotations. We have had from Holland, about 200 in number, 280 from Ireland, and 1800 from Norfolk, Suffolk, and Essex. The number of Sheep is unusually small; the demand is also very limited. Some of the choicest Downs are readily sold at rather more money; but other kinds cannot be quoted dearer. From Holland we have 220 Sheep and 52 Calves. English Calves are very scarce, but it is difficult to obtain any advance. Trade is dull for Pigs, owing to the mild weather; but the supply, being short, prices are not much lower.

Per stone of 8 lbs.—s	d	s	d	Per stone of 8 lbs.—s	d	s	d
Best Scots, Herefords, &c. 4	6	to 4	8	Best Long Wools 4	6	to 4	10
Best Short Horns 4	4	— 4	6	Ditto Shorn		....	
Second quality Beasts .. 3	6	— 4	0	Ewes and second quality 3	8	— 4	4
Calves 4	4	— 5	6	Ditto Shorn..		....	
Best Downs & Half-breds 5	0	to 5	4	Lambs.....		....	
Ditto Shorn		....		Pigs 4	0	— 5	4

Beasts—3069. Sheep and Lambs—4670. Calves—89. Pigs—210.

FRIDAY, Feb. 11.

The supply of Beasts is small, there being no arrivals from abroad. Included in the number returned there are 150 Milch Cows, so that we are not over-supplied with the choicest descriptions; the trade is however slow, the dead markets having been in a very bad state during the week. We cannot observe any rise on Monday's quotations. There are again very few Sheep on offer, but the demand is quite as small. Monday's quotations remain unaltered. Good Calves continue to be scarce, and are readily sold at 2*d.* per 8 lbs. advance. Trade is more brisk for Pigs, at rather more money.

Per stone of 8 lbs.—s	d	s	d	Per stone of 8 lbs.—s	d	s	d
Best Scots, Herefords, &c. 4	6	to 4	8	Best Long Wools..... 4	6	— 4	10
Best Short Horns 4	4	— 4	6	Ditto Shorn		....	
Second quality Beasts .. 3	6	— 4	0	Ewes and second quality 3	8	— 4	4
Calves 4	6	— 5	8	Ditto Shorn		....	
Best Downs & Half-breds 5	0	— 5	4	Lambs.....		....	
Ditto Shorn		....		Pigs 4	8	— 5	6

Beasts—893. Sheep and Lambs—2040. Calves—108. Pigs—220.

41, West Smithfield.

HAY.—Per Load of 36 Trusses.

Smithfield, Feb. 10.					
Prime Mead. Hay	68*s* to 74*s*	New Hay ..	—*s* to —*s*	Straw ..	24*s* to 30*s*
Inferior ditto ..	55 60	Clover	75 95		
Rowen	48 55	New Clover ..	— —		

John Cooper, Salesman.

Cumberland Market, Feb. 10.					
Prime Mead. Hay	70*s* to 77*s*	Old Clover ..	90*s* to 94*s*	Straw ..	28*s* to 32*s*
Inferior	50 63	Inferior ..	70 84		
New Hay	— —	New Clover ..	— —		

Joshua Baker, Hay Salesman.

Whitechapel, Feb. 10.					
Fine Old Hay ..	66*s* to 72*s*	Old Clover ..	90*s* to 98*s*	Straw ..	26*s* to 30*s*
Inferior Hay ..	50 60	Inferior ..	55 65		
New Hay.. ..	63 68	New Clover ..	80 88		

HOPS, Friday, Feb. 11.

Messrs. Pattenden and Smith, Hop Factors, report that the market remains the same.

Mid. & East Kents, p. cwt.	68*s* to 100*s*	Yearling Kents, p. cwt...	48*s* to 60*s*
Weald of Kents	56 — 72	Yearling Sussex	45 — 58
Sussex	56 — 70	Old Hops	20 — 40
Farnhams	84 — 105		

MARK LANE, Monday, Feb. 7.

The condition of English Wheat fresh up for this morning's market was again very bad, but the supply being small, factors were enabled to effect a clearance at the prices of this day se'nnight. Foreign meets a fair retail inquiry at late rates.—Barley must be written 1*s.* per quarter cheaper.—Beans are a dull sale at our quotations.—Grey and Maple Peas are unaltered in value; White, 2*s.* per quarter lower.—Oats are difficult of disposal at a decline of 6*d.* to 1*s.* per quarter.—Flour and Rye-meal remain as last quoted.—The weather continues very mild and damp.

British per Imperial Quarter.	*s*	*s*		*s*	*s*
Wheat, Essex, Kent, and Suffolk ..... White	60	66	Red.....	42	52
Norfolk, Lincolnshire, and Yorkshire	48	52	White ..	48	52
Barley, Malting and distilling, 26*s* to 29*s* Chevalier	30	33	Grinding	25	27
Oats, Lincoln-hire and Yorkshire..... Polands	23	28	Feed ..	21	26
Northumberland and Scotch ..... Feed	23	26	Potato ..	23	29
Irish ..... Feed	20	25	Potato ..	22	27
Malt, pale, ship.....	—	—			
Hertford and Essex	—	—			
Rye.....	38	32			
Beans, Mazagan, old and new ..28*s* to 40*s*.... Tick..	30	42	Harrow..	32	44
Pigeon, Heligo and 34	50	.... Winds	36	54	Longpod	42	46
Peas, White..... 38	41	.... Maple	38	42	Grey	36	38

FRIDAY, Feb. 11.

The arrivals of all grain coastwise since Monday have been moderate. On Wednesday and this morning the attendance at Mark-st was small, and the business transacted of a very retail character, but we notice no alteration in the value of any article excepting Oats, which are decidedly the turn cheaper.

Imperial Averages.

	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
	s *d*	*s.* *d.*	*s* *d.*	*s.* *d.*	*s* *d*	*s* *d.*
Jan. 1	54 11	31 8	20 7	29 11	39 10	44 10
— 8	53 10	31 7	20 11	31 4	40 8	46 0
— 15	53 9	30 9	21 0	30 1	40 1	46 4
— 22	53 1	30 4	21 1	30 8	38 8	45 2
— 29	52 0	30 8	21 3	30 6	38 7	43 5
Feb. 5	51 2	30 9	20 7	32 6	38 5	42 9
Aggregate Average	52 11	30 11	20 11	30 8	39 3	44 9

Duties on Foreign Grain per qr.	Jan. 1.	Jan. 8.	Jan. 15.	Jan. 22.	Jan. 29.	Feb. 5.
	Free till March 1.					
53*s* 11*d*	...	...	...	...	...	...
53 10	...	...	...	...	...	...
53 5	...	...	...	...	...	...
53 1	...	...	...	...	...	...
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SEEDS, Feb. 11.

Canary ..... per qr.	60*s* to 68*s*	Linseed-cakes, Foreign, p ton, 10*l* to 11*l*	
Caraway ..... per cwt.	55 57	Mustard, White, p. bush., 5*s* 6*d* to 8*s* 9*d*	
Clover, Red, English	— —	Superfine p. bush., —	—
— Foreign	— —	Brown, p. bush., —	—
White, English	— —	Rapeseed, Eng., per last..... 28*l*	30*l*
— Foreign	— —	Rape-cakes ..... per ton 5*l* 10*s*	6*l*
Coriander.....	19 20	Sainfoin	— —
Hempseed ..... per qr.	38 42	Tares, Eng., winter, p. bush., 7*s* 0	8*s* 0
Linseed	45 46	Foreign, per bush., 4*s* 6	6*s* 0
— Baltic.....	41 42	Trefoil 17*s* 0	21*s*
— Cakes, Eng. p. 1000, 12*l* 10*s* to 14*l*		Turnip—too variable for quotation.	

Kingsford and Lay.

UNDER THE PATRONAGE OF THE QUEEN AND PRINCE ALBERT.

JOSLING'S ST. ALBAN'S GRAPE.—The above has been patronised by Professor Lindley, the Horticultural Society of London, Mr. R. Thompson, Superintendant of the Fruit Department in the Hort. Soc. Gardens; and the Editor of the Gardeners' Journal, as being an excellent variety; fleshy, rich, and sugary, with a Frontignan flavour, and is deserving of extensive cultivation. Plants well established in 6-inch pots, free to London, on receipt of a post-office order for 21*s.* Usual allowance to the trade if three are taken.

Robert Josling, Seedsman, St. Alban's, Feb. 12.

FISHER, HOLMES, and CO., Nurserymen and Seedsmen, beg leave most respectfully to offer the following choice CUCUMBER SEEDS, which they can with confidence recommend.

HAMILTON'S HERO; a very first-rate kind, grows very long, and suitable for exhibition, 1*s.* per seed, or 6 seeds for 5*s.*

HAMILTON'S WHITE SPINE; also a very superior kind, 6*d.* per seed, or 6 seeds for 2*s.* 6*d.*

IMPROVED SION HOUSE; packets, containing 12 seeds, 1*s.*

MILLS'S JEWESS; a very early prolific sort, packets, 12 seeds, 1*s.*

VICTORY OF BATH; true, 6 seeds, 1*s.*

CUTHBERT'S COLNEY HATCH; true, 6 seeds, 1*s.*

TELEGRAPH; superb light green, with black spine, growth 24 inches, great bearer, and of most beautiful form, fine for exhibition, 1*s.* per seed, or 6 seeds for 5*s.*

WALKER'S IMPROVED; 12 seeds, 1*s.*

EASTWOOD SEEDLING; an improvement on Walker's; fine, 12 seeds, 1*s.*

The above sorts sent free by post. The Trade supplied.

Nurseries at Handsworth. Seed Warehouse, No. 1, Market-place, Sheffield.

KITCHEN GARDEN SEEDS.—No 1.—A complete collection, consisting of 20 quarts of the best kinds of PEAS, and all other seeds in proportion, and of the best sorts, sufficient for one year's cropping of a large garden (the choicest Melons and Cucumbers inclusive)...£3 3*s.*

No. 2.—Complete collection, in smaller quantities, equally choice sorts ... ...£2 2*s.*

No. 3.—Ditto Ditto Ditto ... ...£1 1*s.*

No. 4.—Ditto (this is sufficient for a gentleman's small garden) ... ...12*s.* 6*d.*

No extra charge made for packing.

If there should be any sorts of seeds that would not be wanted in the collection, increased quantities of those most desired would be sent. References will be given if required to some of the principal families in England, Ireland, and Scotland, who purchased collections last season. All orders to be accompanied with a remittance or reference from unknown correspondents.

A General Catalogue of Horticultural and Agricultural Seeds may be had on application.

Seeds carefully packed for exportation.

Wm. Jas. Epps, F.H.S., High-street, and Bower Nursery, Maidstone.

TO CUCUMBER GROWERS.

EDWARD TILEY, Nurseryman and Seedsman, begs to offer his superb and unequalled Cucumber, "VICTORY OF BATH." The advantages of this over others are—it is a very handsome fruit, the earliest and most productive bearer, and the quickest grower known; the average length of this Cucumber being from 24 to 30 inches long. It has been awarded more than 30 first prizes at the different Cucumber Shows within the last three years. It is worthy of remark this Cucumber has been successfully grown by Amateurs in the open air without frames against a wall, or trained to trellis, surpassing any of the hardy kinds this season. It will be sent out in packets, 7 seeds, 2*s.* 6*d.*, or 16 seeds, 5*s.*

E. T. has seeds of Hamilton Black Spine Cucumber, which he can highly recommend; this has also been very successful at a number of different Exhibitions, and taken many first prizes; length from 24 to 28 inches, and a very handsome fruit. Seven seeds, 2*s.*, or a packet of each of the above seeds, 4*s.*

The above Cucumbers will be found to be of excellent quality for table, the flesh being firm and of fine flavour.

Parties intending to show at the forthcoming Exhibitions should not delay their orders. It is unnecessary to enter into further properties of the above Cucumbers, having given every satisfaction to purchasers during the last three years.

Per packet—*s.* *d.*		Per packet—*s.* *d.*	
True Beechwood Melon..	1 0	Windsor Prize	1 0
Sweet Ispahan	1 0	True Walcheren Cauliflower Broccoli ..	1 0
Terry's Prize	1 0		
Emperor Green-flesh ..	1 0		

Sold at Edward Tiley's General Seed Shop, 16, Pulteney Bridge, Bath. The above will be sent post free, on a remittance of a Post-office order, or the amount in postage stamps.

TO PLANTERS AND THE TRADE.

DICKSON and TURNBULL, Nursery and Seedsman, Perth and Brechin, N. B., beg to intimate that they have for sale a large Stock of the following PLANTS, of fine quality, which will be sold cheap, viz.—

SEEDLING LARCH, 1 and 2 years (Native and Tyrolese).
,, SCOTCH FIR, 1 and 2 years (Native).
,, NORWAY SPRUCE, 2 and 3 years.
,, BIRCH AND ALDER, 1 year.
TRANSPLANTED LARCH, 1 and 2 years.
,, SCOTCH FIR, 1 and 2 years.
,, NORWAY SPRUCE, 2 and 3 years.
,, ASH, ELM, OAK, and PLANE, 2 to 6 feet high.
Also the following,
ORNAMENTAL TREES.

ALDER.....4	varieties.....	3 to 8	feet high.
ASH.....16	,, ...	2 to 8	feet ,,
ASH (Mountain) 5	,, ...	2 to 9	feet ,,
BEECH, Fern-leaved		2 to 6	feet ,,
,, Purple		2 to 7	feet ,,
,, Weeping		6 to 8	feet ,,
BIRCH (American) ...12	varieties	2 to 10	feet ,,
CHESTNUT (Horse)..16	,, ...	2 to 6	feet ,,
,, (Spanish) 6	,, ...	2 to 8	feet ,,
ELM 24	,, ...	3 to 10	feet ,,
LABURNUM 9	,, ...	3 to 10	feet ,,
LARCH 4	,, ...	2 to 6	feet ,,
LIME 17	,, ...	2 to 9	feet ,,
MAPLE 17	,, ...	2 to 10	feet ,,
OAK 37	,, ...	1 to 7	feet ,,
PINES 70	,, ...	chiefly in pots.	
POPLARS.....14	,, ...	2 to 8	feet high.
ROBINIAS 11	,, ...	2 to 6	feet ,,
CRATÆGUS, or Thorn 37	,, ...	3 to 6	feet ,,
WALNUT, or Hiccory 8	,, ...	1½ to 6	feet ,,
YEWS..... 8	,, ...	1 to 5	feet ,,

Catalogues of the above to be had on application.

☞ The Ornamental Trees are well worthy the attention of parties forming Arboretums, Cemeteries, or Pleasure Grounds.

N.B. A Large Stock of the following Tree Seeds fresh and newly collected, viz:—Alder, Birch, Larch, Scotch Fir, and Norway Spruce. Brechin, Feb. 12.

Sales by Auction.

TO NOBLEMEN, GENTLEMEN, AND NURSERYMEN.

MR. J. C. STEVENS is favoured with instructions from Messrs. Loddiges, of Hackney (in consequence of the near expiration of the Lease of a part of their Nursery), to announce for Sale by Auction, on the premises, early in March, the first portion of their stock of CAMELLIAS, [illegible] which are of unusually fine growth (some 15 feet high), and consisting of most of the favourite varieties, well furnished with Flower-buds. Due notice will be given of the Day of Sale. 38, King-street, Covent-garden, Feb 12.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE will submit to Public Competition, at the Auction Mart, Bartholomew-lane, on Thursday, Feb. 24, 1848, at 12 o'clock, about 500 DOUBLE CAMELLIAS, 18 inches to 4 feet, beautifully set with bloom buds, consisting of all the approved kinds. Also, 2000 Camellia Stocks; a very choice assortment of American Plants, comprising Hybrid Rhododendrons, Ghent Azaleas, Andromeda floribunda, a fine collection of Standard and Dwarf Roses, choice Dahlias in dry roots, &c. &c. May be viewed the morning of sale, and Catalogues had at the Mart, and of the Auctioneers, American Nursery, Leytonstone.

FARMS NEAR DEVONPORT AND PLYMOUTH, DEVON; BELONGING TO THE EARL OF MOUNT EDGCUMBE.

TO BE LET, BY PRIVATE CONTRACT.—No. 1.—RAME BARTON, about 350 acres, with a Lime-kiln and (if desired) a Malt-house, adjoining the sea.

No. 2.—NINHAY FARM, containing 99 acres, with about 50 acres of Common.

Both Farms are situate in Rame Parish, about three miles from Devonport and Plymouth, and will be let from Lady-day next for 14 years. They are within half a mile of each other, and capable of being farmed together, and each has an excellent Dwelling-house.—For information and inspection apply to Messrs. Boger, Boger, and Bewes, Solicitors, at the Manor Office, Stonehouse, near Devonport.

SOUTH HAMPSHIRE.

TO BE SOLD, by Private Contract, a FARM of about 100 acres, situated half a mile from a Railway Station. The Land is chiefly arable, and lies compactly together.—Apply to Mr. Storey, 17, Featherstone-buildings, Holborn, London.

GORSE FOR CATTLE.

TO BE SOLD, about 40,000 fine Plants of GORSE (French Furze), raised from seed last year, enough for planting two or three acres. This is the proper month for planting it.—Apply to Mr. Jessop, Nurseryman, Cheltenham.

TO NURSERYMEN, SEEDSMEN, AND FLORISTS.

CAPITAL INVESTMENT.—An opportunity occurs which is seldom to be met with. A PARTNER wanted in a NURSERY BUSINESS, established upwards of 40 years. A respectable person with a moderate capital, who would undertake the Travelling Department, would find this an excellent investment.—For further particulars apply to the Office of this Paper.

A FORTUNE QUICKLY.—A NURSERYMAN AND FLORIST being about to RETIRE from a profitable concern, wants to find a Successor. An inquiry will prove this an opportunity rarely to be met with.—For full particulars, address, A. C., Post-office, Ramsgate.

STRONG HORTICULTURAL 16-oz. SHEET GLASS FOR CONSERVATORIES, GREENHOUSES, PITS, FRAMES, &c.—Further Reduction.

HETLEY and CO. publish Prices in the *Gardeners' Chronicle* the first Saturday in every month. Wholesale and Retail Glass Shade, Sheet, Crown, and Patent Plate Glass Warehouse, 35, Soho-square, London.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS and CO., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS FOR CONSERVATORIES.

SIZES UP TO 40 INCHES LONG.			SMALL SQUARES of SHEET.	
16 oz. to the foot	3½d.	per foot.	4 by 3 and 4½ by 3½..1½d.	per ft.
21 ,,	5	,,	5 ,, 3 ,, 5½ ,, 3½..2	,,
26 ,,	7½	,,	6 ,, 4 ,, 6½ ,, 4½..2¼	,,
32 ,,	10	,,	7 ,, 5 ,, 7½ ,, 5½..2½	,,
			8 ,, 6 ,, 8½ ,, 6½..2¾	,,
			Not above 10 ,, 8 ..3	,,

GLASS MILK PANS, PROPAGATING GLASSES, and BEE HIVE GLASSES, carefully packed in Baskets, and sent to any part of the kingdom.

GLASS TILES and SLATES.

LACTOMETERS for trying the quality of Milk, 4 tubes 7s. 6d., 6 tubes 10s; and every article in the trade.

HOT-WATER APPARATUS AND HORTICULTURAL BUILDINGS.

DANIEL and EDWARD BAILEY, of 272, Holborn, construct and erect Hot-water Apparatus for Warming Horticultural Buildings, Dwelling-houses, Churches, and Manufactories, in a simple and efficient manner, at moderate charges. They have erected Apparatus in England, Scotland, and Ireland for many Noblemen and Gentlemen. They had the honour to be employed in heating the ranges of Hot-houses and Pits in HER MAJESTY'S NEW GARDENS AT FROGMORE, and in executing the works of the splendid Conservatory erected by the Horticultural Society of London in their gardens at Chiswick, and also in the erection of the Conservatory attached to the Pantheon Bazaar.

D. and E. Bailey, who were the first to introduce Metallic Curvilinear Hothouses to Horticulturists, erect various descriptions of Horticultural Buildings, and execute all kinds of metal work at their Manufactory, 272, Holborn.

STEPHENSON and CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors, and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory in New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

FLOWER POTS AND [illegible]

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has [illegible] [illegible] 250, Oxford-street [illegible]

[illegible]

THE [illegible] COMPANY [illegible] at the Company's Office [illegible] All communications to be [illegible] Secretary [illegible] These Machines [illegible] and son, Dublin.

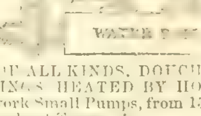
PORTLAND CEMENT.—[illegible] all quarters [illegible] CEMENT [illegible] property of withstanding the [illegible] superior to every other for hydraulic purposes [illegible] and lining of Reservoirs, Cisterns, [illegible] external plastering and ornaments [illegible] colour too pure. It never vegetates [illegible] common times its own bony [illegible] sand.

Manufacturers, J. B. White and Sons, Millbank-street, Westminster.

IMPROVED FARMING IMPLEMENTS.

THRESHING MACHINES (Four-horse Power) [illegible] from 25 to 50 [illegible] Wheat [illegible] undamaged, price 60 guineas, including carriage and horse-power. A GORSE MACHINE [illegible] bushels per day, price 14l. 10s.; [illegible] CHINE will cut 200 bushels per day, price 7l. 7s.; [illegible] Dressing Machine (7l. 10s.), Turnip Cutter, Turnip Drill, Stubble Rake, Oil-Cake Breaker, [illegible] Cat Crushers, Essex Ploughs for 2 Horses, [illegible] Roller, &c. Seed Machines from [illegible] to [illegible], according to length. References given and testimonials produced of superiority.—Mary Wedlake, [illegible], Fenchurch-street.

THE IMPROVED HYDRAULIC RAM, fixed by Freeman Roe, Fountain Maker, 70, Strand, London, can be worked by a small stream of half-an-inch, where a fall of two feet can be obtained. The same RAM, without the aid of a Tank or Cistern, arranged to throw a Jet of Water constituting a Fountain with the head of water beneath.



ENGINES FOR DEEP WELLS OF ALL KINDS, DOUCHE AND OTHER BATHS. BUILDINGS HEATED BY HOT WATER. WATER WHEELS to work Small Pumps, from 15l.

Estimates given for the supply of Towns, &c.

A newly invented PORTABLE VAPOUR BATH, all complete for 4l.

HYDRAULIC ENGINES.

J. LEGG begs to return thanks to his patrons and friends, and also to inform them that he continues to erect his improved Hydraulic Engines, Water Ram, &c., suitable for all situations where a fall can be obtained, also Engines for Deep Wells. J. L. also begs to inform his friends that he has made several improvements on his Hydraulic Machines, and flatters himself that he is able to compete with any parties of the present day in the construction of the above machines.

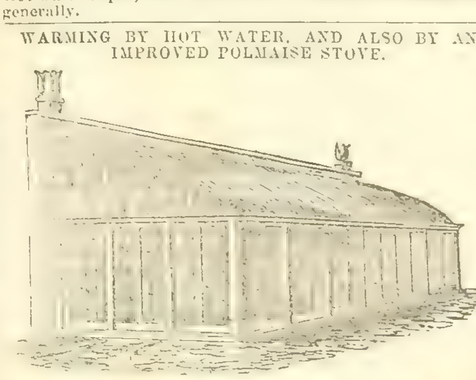
Apply to John Legg, Cheltenham.

FLEXIBLE INDIA RUBBER PIPES, FOR GARDENING AND AGRICULTURAL PURPOSES.

THE PATENT VULCANISED INDIA RUBBER PIPES AND TUBING are made to stand BOILING LIQUOR WITHOUT INJURY, do not become stiff or hard in any temperature (but are always perfectly flexible); and as they require no application of oil or dressing when out of use, are well adapted for Fire-engines, Pumps, Brewers' use, Gas Fitters, Beer-engines, and all purposes where a perfectly flexible pipe is required. Made all sizes, from ¼ inch bore upwards, and of any length to order.—Sole Manufacturer, Jas. Lyne Hancock, Goswell-mews, Goswell-road, London.

Vulcanised India Rubber Washers, all sizes for Steam and Hot-water Pipes, and articles of India-rubber Manufacture generally.

WARMING BY HOT WATER, AND ALSO BY AN IMPROVED POLMAISE STOVE.



COTTAM and HALLEN, Engineers, Smiths, and Iron Founders, No. 2, Winsley-street, Oxford-street, and Cornwall-road, Lambeth.

CONSERVATORIES, FORCING HOUSES, and every description of Horticultural Buildings, Churches, Dwelling-houses, &c. perfectly warmed by the circulation of Hot Water through cast iron pipes; the principle being rendered very simple in construction, effective in operation, and economical in the cost of the apparatus and consumption of fuel—the result of the great experience which C. and H. have obtained by their warming buildings for every possible purpose for many years past.

AN IMPROVED POLMAISE STOVE, exposing a much larger heating surface than flat plates.

Horticultural Buildings erected of Iron or Wood, or of Iron and Wood combined; Verandahs, Ornamental Iron and Wire Work, Hand-glass frames, Flower Stakes, Hurdles, and every description of Fencing; Bedsteads, brass and iron; the patent Rheocline or Spring Bedstead; Stoves, Ranges, Furnishing Ironmongery, Agricultural Implements, &c.

Show Rooms for every description of Iron Work, &c. at the Manufactory, No. 2, Winsley-street, and 76, Oxford-street, three doors from the Princess's Theatre.

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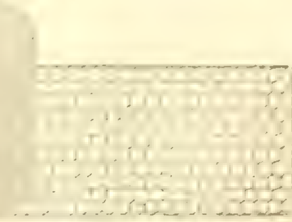


CHARLES D. YOUNG and COMPANY (late W. [illegible]), MANUFACTURERS OF [illegible] &c., 12, [illegible] Edinburgh [illegible]

Beg respectfully to call the attention [illegible] and others to their [illegible] and [illegible] &c.

This Net [illegible] Agricultural [illegible] where its Efficiency [illegible] attracted general attention [illegible] the Society's Silver Medal, [illegible]

The immense [illegible] and Young Plantations [illegible] a year or two it will amount to [illegible] protecting them with this Net [illegible] Plantations are sufficiently [illegible] protection, it can be removed [illegible] the greatest facility [illegible] Hares and Rabbits, it is of itself quite sufficient [illegible] to be unrolled and attached [illegible] pose, to wooden stakes driven into the ground every six or seven feet apart. It is [illegible] for rendering Hedges, Palings, or [illegible] to such vermin; and [illegible] pieces of three or more feet [illegible] sufficient guard, at little expense [illegible]

18 ins. high, 9d.; 24 ins., 1s.; [illegible]; and [illegible] ins., 1s. 6d. per lineal yard.

Or a web of 100 yards, 18 ins. [illegible] ... £ [illegible]
Do. of 100 yards, 24 ins. [illegible] ... [illegible]
Do. of 100 yards, [illegible] ins. [illegible] ... [illegible]
Do. of 100 yards, [illegible] ins. [illegible] ... [illegible]

If more or less than a web is required, it will be charged at the same rate per yard.

This Netting is also [illegible] Pheasantries and Poultry-yards, and [illegible] has, in many instances, been [illegible] tance requiring this Net, C. D. Y. [illegible] arrangements by which they will [illegible] principal ports of Scotland, England, and Ireland, for One Halfpenny per lineal yard.

C. D. Young and Co. [illegible] strength of their Premium [illegible] the weight of one yard [illegible] yards of any other article [illegible] per yard. Samples for inspection [illegible]

C. D. Young & Co. [illegible] and WIRE WORK [illegible]

Workmen sent to all parts [illegible]

SILVER PHEASANTS FOR SALE.—[illegible]

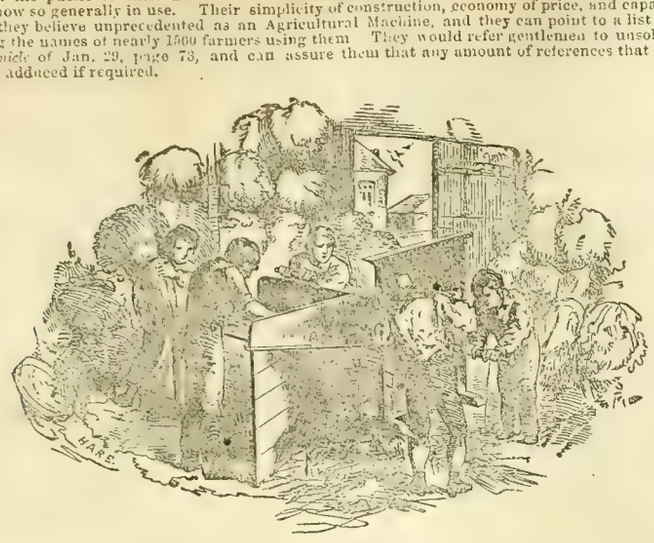
CUCUMBER and MELON [illegible]

[illegible]

LOCOCK'S PULMONIC WAFERS [illegible]

[illegible] Asthmas, Coughs, [illegible] and Co., [illegible] Fleet-street [illegible] sold by all Medicine Venders.

BARRETT, EXALL, AND ANDREWES, Manufacturers of AGRICULTURAL MACHINERY, beg to call the attention of the public to their Patent Hand One-Horse, Two-Horse, Three, and Four-Horse Power THRESHING MACHINES, now so generally in use. Their simplicity of construction, economy of price, and capabilities have caused them to take a place they believe unprecedented as an Agricultural Machine, and they can point to a list of references of the first rank, containing the names of nearly 1500 farmers using them. They would refer gentlemen to unsolicited testimony in the *Gardeners' Chronicle* of Jan. 29, page 73, and can assure them that any amount of references that would be considered satisfactory could be adduced if required.



THEIR PRICES ARE—

Hand Machine, 16-inch size	£14	0	0	Two-Horse Machine	£32	10	0
,, 18-inch ditto	15	0	0	If to travel	37	10	0
One-Horse Machine, such as referred to by Mr. Maitland, in the testimonial before referred to, and generally in use in Essex, with 2 horses, to fix ...	25	10	0	Three-horse Machine	40	0	0
Ditto, to travel	30	10	0	If to travel	45	0	0
				Four-horse Machine, 36-inch drum	42	10	0
				If to travel	48	10	0

Every other variety of Agricultural Machinery they also Manufacture, and for description they would refer gentlemen to their Advertisement in the "Farmers' Almanack," or their Illustrated Catalogue may be had on receipt of 6*d.* in stamps, free by post.—Kates Grove Iron Works, Reading, Berks, Feb. 12.

GEO. SMITH begs most respectfully to return his sincere thanks to those Friends who have favoured him with their kind and liberal support, and hopes, by strict attention to orders, and by recommending to their notice only those Flowers which are really good, to merit future favours. G. S. takes the present opportunity of particularly recommending his SEEDLING VERBENAS and FUCHSIAS.

FIRST-RATE SEEDLING VERBENAS.

G. S. has again the pleasure to offer his matchless Seedling Verbenas: they have been selected with the greatest care, like those of preceding years sent out by him, and which have given universal satisfaction. G. S. warrants his Seedlings, which will be sent out on the 20th of April, to be of decided merit, most of them having taken first class certificates, and highly spoken of by the Editor of the "Gardeners' Journal."

CAPTIVATION, high coloured rose with scarlet spot in the centre, large and a most striking variety, 5*s.*

MADONNA, rosy pink with primrose eye, a noble trusser and a superb show flower, 5*s.*

GEM, pale pink with rose centre, a flower in the style of La Reine, but larger and of exquisite form, 5*s.*

DESIRABLE, cream edged with pink, extra large and compact, 5*s.*

EXCELSA, superb, large and fine formed, rose, first-rate show flower, 5*s.*

MISS SARAH, white with pink centre, large, of fine form, quite a new variety, 5*s.*

VIXEN, pale pink; this splendid Verbena is considered by all who have seen it to be the most perfect yet raised, 5*s.*

FAIRY, rose with scarlet centre, eye primrose, a splendid variety, 5*s.*

The above eight at 30*s.* the set—discount to the trade on two sets.

FIRST-RATE SEEDLING FUCHSIAS.

NE PLUS ULTRA.—This splendid variety was raised by J. Willmore, Esq., of Oldford, near Birmingham, from whom the stock was purchased. A superb specimen was shown at Handsworth and Lozell's Floral and Horticultural Society by the raiser. The plant was from 6 to 7 feet high, with its branches drooping over the pot and loaded with bloom. Ne plus Ultra has taken First Prize at Birmingham, First Class at Newington, the Royal Metropolitan and Highgate, and submitted to the editor of the Gardeners' Journal, Aug. 21.

"G. SMITH's Fuchsia Ne plus Ultra is a variety superior in our opinion to any in the same class. Colour of the tube and sepals, a bright red approaching to crimson; corolla first-rate in shape; colour a deep violet."

Again, Oct 9, Report of Highgate Show:—"To Mr. SMITH, for a new Fuchsia, Ne plus Ultra, one of the very best in its class; the flowers in shape are after Formosa elegans, but very superior in every respect; tube narrow, sepals broad, obtuse, of good substance, and expand sufficiently to set off its rich dark purple corolla to great advantage; colour of the tube and sepals a rich coral red; habit of the plant similar to Virgata, and a remarkably free bloomer."

The following gentlemen have given replies, from blooms sent, viz.: Messrs HENDERSON and SON, Pine apple Nursery.—"Sir,—We duly received the blooms of your Fuchsia, and beg to return thanks. In comparing it with others of the same class we certainly find yours to be superior."

Mr. E. TILEY, Florist, of Bath, says:—"The Fuchsia blooms you sent I consider to be first-rate in all its properties, if the habit be a good and free bloomer."

Mr. EDWARDS, Nurseryman, York:—"Dear Sir, I duly received the blooms of your Fuchsia, Ne plus Ultra, and was much pleased with it. I consider it a most desirable variety, and shall want plants of it."

Mr. JOHN BLACK, Gardener at Clewer Manor, near Windsor: "Dear Sir, I duly received the blooms of your seedling Fuchsia, Ne plus Ultra, which is the best dark Fuchsia I ever saw. It must look beautiful on the plant, the tube and sepals are so transparent; the corolla is also beautiful."

"DR. SMITH" AND "ESTEEM."—G. S. regrets that he had not these two superb varieties to submit to public opinion, having only just purchased them of the raiser, Mr. Michie. G. S. begs to say that he has seen them, and with confidence recommends them to the most limited grower, and warrants them not to be equalled by any out. 10*s.* 6*d.* Discount on three.

Dr. SMITH is a free grower; tube and sepals dark crimson; sepals broad and well expanded; corolla a fine form; colour violet purple; the flowers are large and a free bloomer.

ESTEEM; tube and sepals crimson; corolla rosy purple, very large; a fine habit, and a profuse bloomer. 7*s.* 6*d.*

Strong Plants by the 20th of April.

G. S.'s Catalogue contains, of the above, every novelty of the season, which can be had on the receipt of one postage stamp. Orders from unknown correspondents must be accompanied with money-orders.

Tollington Nursery, Hornsey-road, Islington.

HLANE AND SON, Great Berkhamstead, have fine Plants of the following to offer to their friends:—

Standard Scarlet Thorns, Double Pink, and others, very strong and good, 1*s.* 6*d.* each.

Standard trained Apricots, 7*s.* 6*d.* each.

Dwarf trained Pears, Cherries, and Plums, very fine, 3*s.* 6*d.* each.

Vines in pots, from eyes, 3*s.* 6*d.* each.

Standard Roses, 24*s.* to 30*s.* per dozen.

Dwarf ditto, 30*s.* to 100*s.* per hundred.

Hybrid Perpetual, Moss, &c., established in large pots for early forcing, very strong, 18*s.* to 36*s.* per dozen.

Selections for Greenhouse Culture, 18*s.* per dozen.

Catalogue with descriptions and particulars may be had for two postage stamps.

POTATOES FOR PLANTING, &c.

FREDERICK CHATWIN, of Plumstead, Woolwich, begs to offer to his friends, the public, a New Seedling, named the EARLY CHAMPION KIDNEY; as well as being very early, it is very handsome, its quality for table is first-rate, and its productiveness extraordinary. It is well adapted for forcing, garden borders, and for field cultivation, as it crops well as a Store Potato; like the Ash-leaved Kidney, it must not be cut when planted, and the usual seed size will be selected for orders.

Samples of the growth may be seen, and orders supplied at Messrs. Gordon and Co., Seedsmen, Fenchurch-street; Mr. G. Charlwood, Seedsman, Covent-garden; Messrs. Henderson, Nursery, Pine-apple-place; Messrs. Knight, Exotic Nursery, Chelsea; and of Messrs. T. Gibbs and Co., Seedsmen, corner of Half-moon-street, Piccadilly; and may be obtained of the principal Seedsmen in London; Messrs. Rendle and Co., Seedsmen, Plymouth; Mr. Spongs, Seedsman, Limerick. Price 1*l.* per bushel, or 5*s.* per peck; and of F. Chatwin, Plumstead, Woolwich, of whom any information may be had respecting them.

POTATOES FOR PLANTING, 1848.

F. CHATWIN, Plumstead, near Woolwich, respectfully informs his friends, the public, that he has now ready for delivery in London, free to all the wharfs and railway stations, sound healthy SEED POTATOES of all the best varieties grown in this country, in any quantity. A capital stock of Ash-leaved Kidneys, and some new Seedlings of excellent quality. Potato Seed from the best varieties, with ample instructions for propagation.

Phillips' Hardy Ridge Cucumber, in packets of 1*s.* each, the best sort in cultivation; with all the best Frame Cucumbers, Melons, &c., at the same price.

White Silesian Sugar Beet, Long Red, and Orange Globe; all the best varieties of Turnips; Cattle Cabbage, White Carrot, &c.

CHATWIN'S Potato Catalogue, containing upwards of 150 varieties, with all the requisite information, may be had by enclosing 12 postage stamps; and all letters of inquiry not containing orders are requested to be addressed to Plumstead, Woolwich, enclosing a postage stamp.

The Trade supplied by a daily delivery in London.

SEED POTATOES.—Carriage free to London.

True Ash-leaf Kidneys	2*s.* 6*d.*	per peck.
,, Walnut-leaf do.	2	6	,,
,, Swaile's Early Frames	2	6	,,
,, Early King's, the best second early	2	0	,,
,, Early Shaw's	2	0	,,

JOHN SUTTON AND SONS have great confidence in offering the above as strictly true, they being all of their own growth, and free from disease.

J. S. and SONS also call attention to their list of superior KITCHEN GARDEN SEEDS and FLOWER SEEDS, which appeared in the second and third pages of the *Gardeners' Chronicle* of the 5th inst.

*** All Seeds sent free by Rail or Post.

Reading Nursery, Reading, Berks, Feb. 12.

NEW PEARS—BEURRE ROBIN, BEURRE DE MONS, and BEURRE DUHAUME.

RÉNE LANGELIER, St. Helier's, Jersey, has the honour to inform the public that he has still the above Pear-trees to dispose of. They will prove as represented, viz., of the best and richest flavour, besides being hardy and great bearers. The trees, as well as price, are as previously advertised in this paper. Also GROSSE CALEBASH, one of the longest and largest Pears known; it will generally grow to from 9 to 10 inches long. BEURRE LANGELIER, for January and February, one of the best Pears, the tree forming a fine pyramid. All orders shall be punctually attended to. Amateurs wishing to have a selection of the best Pears, by stating at what time they are required to come to maturity, if the selection is left to R. L. he will engage to supply the table from July to June following.

JOHN HAYES, FLORIST, West Street, Farnham, Surrey, begs to offer the following Plants, well established in 4-inch pots, at 4*s.* 6*d.* per dozen:

VERBENAS.

DARK SCARLET.—Melindres major, Atrosanguinea, and New Scarlet.

ROSY PINK.—Beauté supreme, Burleyana incisis coccinea.

BLUE.—Queen of Blues, Eclipse, Cærulescens, Duke of York.

WHITE.—Queen, Princess of Wales.

LILAC.—Vanguard, very dark, Triumphant.

GERANIUMS.

SCARLET.—Tom Thumb, Thomson's King, Compactum, and others; Oak and Fennel-leaf in variety; Variegated.

PINK.—Trailing and Scarlet.

DWARF HABIT.—Prince of Orange (orange flower), Grassilarifolia, and Lemon-scented.

GOOD COMMON AURICULA, two-years old.

20 Kinds of BOURBON AND CHINA ROSES.

CUPHEA PLATYCENTRA, in small pots.

AGERATUM MEXICANUM, ALBUM, and PURPUREUM.

The following, 2*s.* 6*d.* per dozen, will be sent out at the proper time:

PETUNIAS.—Splendens, Meteor, Highclere, Beauté Paratis, Girling's Perfection, Beauté de Joir, Conqueror, Queen of White, Sir Robert Peel, Morning Star.

PENTSTEMON and ANTIRRHINUM.—Three good varieties of each.

CALCEOLARIA.—Floribunda and other good varieties for bedding.

50 Kinds of GERANIUMS, in good variety, 5*s.* 6*d.* per dozen, to be sent out in March.

PRIZE-FIGHTER CUCUMBER, an excellent sort, in packets containing 12 seeds, for 12 postage stamps.

TREE VIOLETS, 3*s.* 6*d.* per dozen.

MESEMBRYANTHEMUM, 3 sorts, 3*s.* per dozen.

*** All orders with remittances will be punctually attended to. No charge for hamper or package.

MESSRS. J. A. HENDERSON AND Co. beg to inform their friends and the public that they will have the following new and valuable Plants for Sale on the 1st of March next.

ALLAMANDA SCHOTTII.—This new and beautiful Plant was raised from seed in the garden of Mrs. Spooner, Oak Villa, Southampton, and produced flowers last summer, which were seen by Dr. LINDLEY, who pronounced it to be the true "Allamanda Schottii" (as since figured in the "Botanical Magazine" for February, 1848). This plant is therefore identical with that raised in the gardens of R. W. Barton, Esq., of Springwood, near Manchester, and advertised for sale in this Journal of last week. Price 1*l.* 1*s.* 6*d.* each.

ERIOSTEMON NERIIFOLIUM, true species.—This rare Plant is the most beautiful of its species. It is of a close, compact habit, and produces a profusion of bloom, the colour of which is white, delicately tipped with pink, continuing a long time in flower. A specimen exhibited in May last, at the Horticultural Society's Rooms, in Regent-street, was awarded a Banksian Medal. Price 2*l.* 2*s.* each.

EPACRIS HYACINTHIFLORA CANDIDISSIMA.—The flowers of this beautiful variety are pure white and nearly an inch in length; in habit is the same in every respect as E. hyacinthiflora. It was raised by J. Story, Esq., and is one of the best that gentleman has hitherto introduced. Price 21*s.* each.

EPACRIS CANDIDA COMPACTA (var. impressa).—This plant is very compact in its growth, and when in bloom is completely covered with dense masses of pure white flowers; a very distinct variety. Price 10*s.* 6*d.* each.

CALCEOLARIA "KENTISH HERO."—For bedding out this is most decidedly the best variety that has yet been raised. It is of a dwarf and shrubby habit, and produces a profusion of large, bright, bronze-coloured flowers, the beauty of which is injured by neither sunshine nor rain, but retain their brilliancy during the summer and autumn months. Price 5*s.* each.

LOPHOSPERMUM CLIFTONIA.—The flowers of this fine variety are twice the size of the well-known L. Hendersonii; they are produced in long racemes, trumpet-shaped, and widely expanded at the mouth; the colour is a bright brilliant pink. This plant will prove a great acquisition to the present collection of Summer Climbers. Price 10*s.* 6*d.* each.

Orders for any of the above will meet with strict attention.

Pine-apple-place, Edgeware-road, London, Feb. 12.

FINE SHOW ROSES, in Strong Standards, 16*s.* and 18*s.* per dozen. Fine ditto, Dwarfs, 9*s.* and 12*s.* per dozen. Good Varieties, 30*s.* per 100. Finest Bourbon, Tea, China, and Noisette, in good plants, 8*s.*, 10*s.*, and 12*s.* per doz. The Giant Rocket, double white, 20*s.* per 100. Papaver Bracteata, 3*s.* per dozen. Fine Plants of Sturmer Pippin Apple, 18*s.* per dozen. With every article connected with the Nursery and Seed Trade. All orders above 1*l.* paid to London.

S. and J. DILLISTONE, Nursery, Sturmer, Haverhill, Suffolk.

MITCHELL'S ROYAL ALBERT RHUBARB.—This superior variety, so well known in Covent-garden Market for the last six years, and acknowledged by all who have seen it to be the best ever introduced, its qualities being—the earliest that is grown, most prolific bearer, splendid red colour, with large fleshy stalks, and considered by epicures to be the finest-flavoured Rhubarb ever eaten. Large one-year-planted roots, 3*s.* 6*d.* each, with the usual allowance to the trade. Remittances requested from unknown correspondents, by Post-office order, to WILLIAM MITCHELL, Enfield Highway, Middlesex, made payable at the Post-office, Enfield.

RESTORATION OF THE HAIR.—To Messrs. A. ROWLAND and SON, 20, Hatton Garden, London,—"Linton, Cambridge, October 25, 1847.—Gentlemen: A striking instance of the efficacy of your Macassar Oil, in the restoration of the Hair, has just come under my notice. The person alluded to is a young man named Haylock, of Ashdon, near this place, whose entire head of hair came off by some unaccountable means. He purchased of me several different popular preparations, which he regularly and faithfully used, but without effecting the least apparent change. At last I advised him to try a 3*s.* 6*d* bottle of your Macassar Oil; and, on Friday last, he communicated to me the pleasing intelligence of the reappearance of a thick head of hair. You can make what use you please of this, and refer any inquirers to, yours respectfully, J. SERGEANT, Bookseller, &c."

ROWLANDS' MACASSAR OIL

Is celebrated throughout the World for its genial and nourishing qualities for the Human Hair. For CHILDREN it is especially recommended, as forming the basis of a beautiful Head of Hair, and rendering the use of the fine-comb unnecessary. Its intrinsic worth has obtained the Patronage of THE QUEEN, THE COURT, AND ROYAL FAMILY of Great Britain, and the several Sovereigns and Courts of Europe.

Price 3*s.* 6*d.*—7*s.*—Family Bottles (equal to four small), 10*s.* 6*d.*, and double that size, 21*s.* per bottle.

☞ Each bottle of the genuine article has the words ROWLANDS' MACASSAR OIL Engraved in two lines on the Wrapper; and on the back of the Wrapper near 1500 times, containing 29,028 letters.

Sold by the Proprietors, and by all Chemists and Perfumers.

All other MACASSAR OILS are SPURIOUS IMITATIONS.

Printed by WILLIAM BRADBURY, of No. 6, York-place, Stoke Newington, and FREDERICK MULLETT EVANS, of No 7, Church-row, Stoke Newington, both in the county of Middlesex, Printers, at their office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the Office, No. 5, Charles-street, in the parish of St. Paul's, Covent-Garden, in the said county, where all Advertisements and Communications are to be addressed to the Editor.—SATURDAY, FEBRUARY 12, 1848.

THE GARDENERS' CHRONICLE

AND

AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 8.—1848.] SATURDAY, FEBRUARY 19. [Price 6d.

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FREDERICK WARNER begs to refer his friends and the public to his Catalogue of new and choice FLOWER and VEGETABLE SEEDS (in Harrison's "Horticultural Cabinet" for the present month), which contains all the novelties of the season; the selection of Peas is particularly recommended. Catalogues can be had on application at 28, Cornhill, London.—Feb. 19.

CORNWELL'S VICTORIA RASPBERRY.—Prizes were awarded to it at the Horticultural Society's Garden, Chiswick; Royal Botanic Society's Garden, Regent's-park; and Surrey Zoological Gardens, as being the best for size, colour, and flavour. Plants to be had of George Cornwell, Market-gardener, opposite to the Red Lion, Barnet; George Charlwood, Covent-garden; and W. and J. Noble, 152, Fleet-street, at 2*l.* per 100, or 6*s.* per dozen. The Fruit in Covent-garden brought a higher price than any other.

DOUBLE ITALIAN TUBEROSE ROOTS, 4*s.* per dozen.—The importation of the above-named Bulbs has been just received at A. Corbett's Italian and Foreign Warehouse, 18, Pall Mall. Orders by post punctually attended to. Also some exceedingly moist Parmasan and Gruyère Cheese.

THE NEW EARLY BEDALEAN PEA (Jackson's).
The most prolific, best, and earliest known for spring sowing.
WM. JACKSON and CO., Nurserymen and Seed Merchants, beg to state that the [illegible] best for sowing the above excellent Pea, which may be had of them at 2*s.* 6*d.* per quart. Also a general assortment of the most approved and useful Garden Seeds, including all the novelties of the season, on the most reasonable terms.
Nurseries, Scruton, Bedale, Yorkshire, Feb. 19.

FINE SHOW ROSES, in Strong Standards, 16*s.* and 18*s.* per dozen. Fine ditto, Dwarfs, 9*s.* and 12*s.* per dozen. Good Varieties, 30*s.* per 100. Finest Bourbon, Tea, China, and Noisette, in good plants, 8*s.*, 10*s.*, and 12*s.* per doz. The Giant Rocket, double white, 20*s.* per 100. Papaver Bracteata, 3*s.* per dozen. Fine Plants of Sturmer Pippin Apple, 18*s.* per dozen. With every article connected with the Nursery and Seed Trade. All orders above 1*l.* paid to London.
S. and J. Dillistone, Nursery, Sturmer, Haverhill, Suffolk.

FINE SEEDLING CALCEOLARIAS.
J. COLE, Nurseryman and Florist, Rugby, Warwickshire, begs to inform Amateur Florists, he has a Stock of SEEDLING CALCEOLARIAS, impregnated from all the Finest Sorts of last season, spotted and self, which he can with confidence recommend. The plants are strong, and parted with solely through not having sufficient room to grow them; he offers them at 5*s.* per dozen, if two dozen are taken. Hamper and package not charged.

MOSS ROSES.
RICHARD PERRY, of Broomhouse, Fulham, begs to call the attention of the Public to his stock of MOSS ROSE PLANTS. They are strong and well rooted, in excellent order for potting or border planting, at 20*s.* per 100. Also his stock of Moss Roses in pots, which have been potted one season, and now fit for forcing, at 6*s.* per doz., or 42*s.* per 100.

TO GRAPE GROWERS.
R. JOSLING takes this opportunity to thank his numerous Friends that have favoured him with their orders for his "JOSLING'S ST. ALBAN'S VINE," and to state that Plants are still to be had of the principal Nurserymen in the United Kingdom, at 21*s.* each; and of the Proprietor, Robert Josling, Seedsman, St. Alban's.

POTATOES FOR PLANTING.
RÉNE LANGELIER, St. Helier, Jersey, has still for sale the following sorts, which he can with confidence recommend to the public, both for produce and quality, at 7*s.* 6*d.* the 44 lbs., viz.—Axbridge Kidney, very early and very great bearer; Tansprun, round white, early, is a great bearer; also a pink round. The above can be relied on for excellence and produce. A reference is required from unknown correspondents.—Clarendon Nursery, St. Helier, Jersey.

NEW MOSS ROSE "LANEII."—This has been exhibited and well proved. In colour it is a beautiful shaded carmine; very large and double, with very sweet foliage. Price 10*s.* 6*d.* each; discount to the Trade, when six plants are taken.
The new CATALOGUE may be had by enclosing a two-penny stamp; it contains notes of those best suited for pot-culture, training on walls, trellis, and grouping; also a list of those established in large pots for early forcing, the plants of which are very strong.—H. Lane & Son, Great Berkhamstead.

TO BE SOLD OR EXCHANGED, THE MOST BEAUTIFUL ORANGE TREE IN ENGLAND, for its size. It is 6 feet high by 5 feet across, and has 100 ripe fruit on it. It is in the country, not 100 miles from London, on a railroad. Price 12*l.* 12*s.* cash, or 15*l.* in plants with 2*l.* 2*s.* carr. by.—Apply to Mr. Carter, Seedsman, 238, Holborn.

FRUITING AND SUCCESSION PINES.
TO BE DISPOSED OF, about 50 FRUITING PINES, and 90 Succession Ditto, consisting of the Moscow and Ripley Queen, warranted perfectly clean and healthy.—Per particulars apply at Hooper and Co's., Centre Avenue, Covent garden Market.

TO PINE GROWERS.
FOR SALE.—An excellent opportunity now offers to the cultivators of PINES. About 150 Strong Fruiting and Succession Plants; they consist principally of QUEENS, JAMAICAS, and a few PROVIDENCES; they are clean and first-rate in every particular.—Apply to J. Ingram, Exotic Nursery, Southampton; or to Mr. Dowsley, Fordingbridge, Hants.

CLARKE and Co., Seedsmen and Florists, 86, High Street, Borough London, beg to say their CATALOGUE of New Garden, Agricultural, and Flower SEEDS, is now ready, and may be had on application.
Choice assortments of German Flower Seeds, including many New Varieties.
True Ash-leaf Kidney Potatoes 2*s.* 6*d.* per peck, canvas bag included.

GERANIUMS.—All the following new sorts of 1845 and 1846, sent out by their respective raisers—Beck, Foster, Garth, Cock, Gaines, Sheppard, Lyne, Hoyle, and Miller, at 2*l.* per dozen, when the selection is left entirely to Mr. Miller; purchasers' selection 3*l.* per dozen, namely, Mount Etna, Aurora, Isabella, Heidas, Hebe's Lip, Competitor, Bacchus, Lord Hardinge, Princess Olga, Mary Queen of Scots, Orion, Pearl, Pickwick, Rosy Circle, Desdemona, Brutus, Pallida, Gipsy King, Aurantia, Miss Sebright, Paragon, Samye, Sunset, Exquisite, Milo, Leader, Turk, Turban, Tripo Saib, Olympic, Orb, Zenobia, Mustee, Sunset, Arabella, Snowball, Negress, Mars, Sultan, Ardens, Avalanche, Egyptian Prince, Favorita, Margaretta, Mark Antony, La Polka, Merry Monarch, Jet, Virgil, Imperialis, Forget me-Not, Empress, Queen, Purpurea, Iago, Amulet, Pilot, Vinosa, Magnet, and Lady Flora Hastings. Also a number of second-rate sorts at 1*l.* 1*s.* per dozen, the selection left to Mr. Miller. Those persons sending orders are requested to send the names of the varieties they possess, to prevent having duplicates.
W. Miller, Providence Nursery, Ramsgate.

SPLENDID SEEDLING DAHLIA—"RODERICK DHU." Colour, brownish maroon; height, 4 to 5 feet, of fine habit, and throws the blooms freely on strong footstalks. Plants in May, 10*s.* 6*d.* each; Ground Roots, if ordered soon, 2*l.* 10*s.* cash.
JOHN FINLAYSON, Kincardine, Perthshire, Scotland, respectfully directs the attention of Florists to the above SEEDLING DAHLIA. Two blooms were exhibited for competition at the meeting of the Royal Caledonian Horticultural Society, in September last, and gained the Silver Medal, and was pronounced a seedling of "great merit." Six blooms were shown at the North British Professional Gardeners' Exhibition, and was awarded an extra prize "as a flower of great merit, much superior to Berryer." Blooms were also exhibited at Stirling and other places, and received high commendations.
ROBERT THE BRUCE SEEDLING PANSY. Yellow and bronze purple, fine large eyed, 5*s.* Plants ready to send out.

CALCEOLARIA "AQUATICA."—This Plant is remarkably distinct from all others of its genus, except in its flower, which is of a large size and a pale yellow colour. Its habit is creeping, and roots at every joint. When treated as a bog or aquatic plant, it grows and flowers freely. For the purpose of hybridisation, it will be invaluable in giving a decidedly new character to this tribe of plants. Price 10*s.* 6*d.* post free, or three for 21*s.*—A large stock of two years Transplanted QUICK and MAHONIA AQUIFOLIA, each 2 feet high.
Address, John Jeges, Nurseryman, Northampton.

JOHN HAYES, Florist, Farnham, Surrey, begs to offer the following Plants well established in 4-inch pots, at 4*s.* per dozen.
PETUNIAS.—Splendens, Beauté de Joir, Beauté Fanatic, Morning Star, Meteor, Highclere, Queen of Whites, Conqueror, Sir Robert Peel.
VERBENAS.—Scarlet—Melindres and New Scarlet, good. Plue—Puke of York and Queen of Blues. Light or Pink—Scarlet Beauty, Supreme, and other kinds.
Three good kinds of ANTIRRHINUMS.
AGERATUM MEXICANUM and ALBUM.
PENTSTEMON GRANDIFLORA.—Pink, yellow, and purple; and P. Bucknera.
CALCEOLARIA FLORIBUNDA, and other varieties, best for bedding.
Large blue ANAGALLIS; CUPHEA PLATYCENTRA, in 60-sized pots.
The above are now well rooted plants in the striking pots, and will be sent out in the bedding season at 2*s.* 6*d.* per dozen, with a variety of other kinds.
Common AURICULA.—Two-years old plants, in good variety, 4*s.* per dozen.
TREE VIOLETS, 3*s.* 6*d.* per dozen.
Two kinds of Bourbon and China ROSES, 4*s.* per dozen.
SCARLET GERANIUMS.—General Tom Thumb, Thomson's King, Compactum, and others, 4*s.* per dozen. Do. Oak and Fennel-leaved in variety. Variegated, Trailing, and Scarlet. Do. of Dwarf habit, Prince of Orange, orange flower; Grassularifolia, and Lemon scented.
50 kinds of GERANIUMS in good variety at 5*s.* 6*d.* per dozen, will be ready to send out in March.
PRIZE FIGHTER CUCUMBER.—12 seeds of this excellent Cucumber, which grows 16 inches long, will be sent on the receipt of 12 postage stamps.
Public Gardens supplied on reasonable terms.
Remittances required from unknown correspondents.
No charge for hamper or package.

SILVER PHEASANTS FOR SALE. [illegible]
in full plumage. Two cocks and [illegible] for 4 Pens.—Direct to A. C. [illegible]

CHOICE VEGETABLE [illegible] OF [illegible]
[illegible].

WILLIAM E. RENDLE and Co., of Plymouth, have much pleasure in [illegible] that their [illegible] LOGUE is now ready for [illegible] season a most extensive assortment of [illegible] been saved from selected stocks [illegible] attention. They can warrant [illegible] quality, every seed being proved before [illegible]

The following sorts can be highly recommended as being very choice and valuable varieties, and will be sure to give great satisfaction. 6*d.* *per packet, or* 2*l.* *for* 7*s.* 6*d.*, *free by post.*
BROCCOLI, PEARSALL'S SUPERB LATE WHITE. [illegible] Thousands of baskets of the heads of this [illegible] are forwarded every spring from Cornwall to the London markets.
BROCCOLI, RENDLE'S WILLCOVE [illegible]
BROCCOLI, ELLETSON'S MAMMOTH [illegible] — A very hardy variety, of dwarf habit, can be strongly recommended.
BROCCOLI, LEGG'S TRUE WALCHEREN. — The [illegible] genuine kind.
BROCCOLI, ADAM'S SUPERB WHITE — A most excellent kind, ready in December and January.
BEET, CATTELL'S SUPERB CRIMSON [illegible]
PARSLEY, MYATT'S TREBLE GARNISHING — Of [illegible] rate excellence.

Beet, Whyte's black red	Lettuce, true Imperial [illegible]
Brussels Sprouts, true imported	,, [illegible]
Broccoli, Chapple's Cream	,, [illegible]
,, Hand-worth Superb White	,, [illegible] Court
,, Potter's Pink	Turnip [illegible]
,, Hampton Court	Parsle[illegible]
,, Legg's late hardy dwarf white	Celery, [illegible]
Cabbage, Shilling's British Queen	,, [illegible]
,, Early Cornish	,, [illegible]
,, Wheeler's Imperial	Savoy, [illegible]
,, Victoria	Par[illegible]
Couve Tronchuda	

A good Collection of Garden Seeds, from [illegible] to 50*s.* each.

ARNOTT'S "CHELTENHAM SURPRIZE" CUCUMBER.

We have a very limited number of this splendid variety. Four [illegible] exhibited at [illegible] in May, in the summer, hanging from one stem [illegible] the space of 31 inches. This Cucumber can be safely recommended as being one of the finest and most prolific yet known. 2*s.* 6*d.* per packet.
The following choice sorts, 1*s.* per packet, free by post.

CUCUMBERS.	
Victory of Bath	Charlton Hor[illegible]
Improved Sion House	Larkins' Mam[illegible] Rent
Stockwood ane Ridge	Rams[illegible]
Weedon's fine Frame	Carpenter's Wonder.
MELONS.	
Duncan's Green-fleshed	Green-fleshed Cashe[illegible]
Beechwood	Prize Green-fleshed.

CHOICE FLOWER SEEDS.

WILLIAM E. RENDLE and Co. have this season to offer a very choice collection of NEW FLOWER SEEDS, which contain all the novelties of the season and [illegible] of the choicer kinds are of Home Growth, we can warrant them to be quite true and correct to name.
SCALE OF PRICES, SENT POSTAGE FREE.
No. 1.—10 Packets of choice kinds, including all the best kinds ..... 10*s.* 6*d.*
,, 2.—50 Ditto ditto ditto ..... 21*s.*
,, 3.—25 Ditto ditto ditto ..... 10*s.* 6*d.*
A useful Chart, giving the height, colour, and mode of raising the principal sorts of Flower Seeds, will be sent gratis with each order.
The following sorts will be included in every No. 1 and No. 2 collection:—

Alonzoa incisa	Mimulus [illegible]
Aster, fine German	Marigold, [illegible] French
Brachycome iberidifolia	Mignonette, [illegible]
Centaurea Americana	Nemophila [illegible]
Chærostoma Polyantha	Phlox [illegible]
Clarkia rosea, double	Portulaca [illegible]
Cintonia pulchella	Rhodanthe Manglesii
Creopsis atrosanguinea	Schizanthus [illegible]
Convolvulus minor, new dark	,, [illegible]
Cuphea silenoides	Schizopetalum Walkeri
Didiscus cæruleus	Silene [illegible]
Gilia nivalis	,, Virginica
Heartsease, fine mixed	,, White Pyramidal
Hollyhocks fine mixed	Thunbergia alata
Ipomœa atropurpurea	Tropæolum [illegible]
,, grandiflora	Viscaria oculata
Lobelia ramosa	Zinnia elegans.
Lupinus Cruikshankii	

With all the most popular Hardy, Half hardy, and Tender Annuals; an assortment of which can be made from our General Catalogue, to be obtained on application.
A General Catalogue of Agricultural, Kitchen-garden, and Flower Seeds can be had on application. Cash payments, or reference in London, is desired from unknown correspondents.
William E. Rendle and Co., Plymouth. Established 1785.

GEO. SMITH begs most respectfully to return his sincere thanks to those Friends who have favoured him with their kind and liberal support, and hopes, by strict attention to orders, and by recommending to their notice only those Flowers which are really good, to merit future favours. G. S. takes the present opportunity of particularly recommending his SEEDLING VERBENAS and FUCHSIAS.

FIRST-RATE SEEDLING VERBENAS.

G. S. has again the pleasure to offer his matchless Seedling Verbenas: they have been selected with the greatest care, like those of preceding years sent out by him, and which have given universal satisfaction. G. S. warrants his Seedlings, which will be sent out on the 20th of April, to be of decided merit, most of them having taken first class certificates, and highly spoken of by the Editor of the "Gardeners' Journal."

CAPTIVATION, high coloured rose with scarlet spot in the centre, large and a most striking variety, 5s.

MADONNA, rosy pink with primrose eye, a noble trusser and a superb show flower, 5s.

GEM, pale pink with rose centre, a flower in the style of La Reine but larger and of exquisite form, 5s.

DESIRABLE, cream edged with pink, extra large and compact, 5s.

EXCELSA, superb, large and fine formed, rose, first-rate show flower, 5s.

MISS SARAH, white with pink centre, large, of fine form, quite a new variety, 5s.

VIXEN, pale pink; this splendid Verbena is considered by all who have seen it to be the most perfect yet raised, 5s.

FAIRY, rose with scarlet centre, eye primrose, a splendid variety, 5s.

The above eight at 30s. the set—discount to the trade on two sets.

FIRST-RATE SEEDLING FUCHSIAS.

NE PLUS ULTRA.—This splendid variety was raised by J. Willmore, Esq., of Oldford, near Birmingham. A superb specimen was shown at Handsworth and Lozells Floral and Horticultural Society by the raiser. The plant was from 6 to 7 feet high, with its branches drooping over the pot and loaded with bloom. Ne plus Ultra has taken First Prize at Birmingham, First Class at Newington, the Royal Metropolitan and Highgate, and submitted to the editor of the Gardeners' Journal, Aug. 21.

"G. SMITH'S Fuchsia Ne plus Ultra is a variety superior in our opinion to any in the same class. Colour of the tube and sepals, a bricht red approaching to crimson; corolla first-rate in shape; colour a deep violet."

Again Oct. 9, Report of Highgate Show:—"To Mr. SMITH, for a new Fuchsia, Ne plus Ultra, one of the very best in its class; the flowers in shape are after Formosa elegans, but very superior in every respect; tube narrow, sepals broad, obtuse, of good substance, and expand sufficiently to set off its rich dark purple corolla to great advantage; colour of the tube and sepals a rich coral red; habit of the plant similar to Virgata, and a remarkably free bloomer."

The following gentlemen have given replies, from blooms sent, viz.: Messrs HENDERSON and SON, Pine-apple Nursery.—"Sir,—We duly received the blooms of your Fuchsia, and beg to return thanks. In comparing it with others of the same class we certainly find yours to be superior."

Mr. E. TILEY, Florist, of Bath, says:—"The Fuchsia blooms you sent I consider to be first-rate in all its properties, if the habit be a good and free bloomer."

Mr. EDWARDS, Nurseryman, York:—"Dear Sir, I duly received the blooms of your Fuchsia, Ne plus Ultra, and was much pleased with it. I consider it a most desirable variety, and shall want plants of it."

Mr. JOHN BLACK, Gardener at Clewer Manor, near Windsor: "Dear Sir, I duly received the blooms of your seedling Fuchsia, Ne plus Ultra, which is the best dark Fuchsia I ever saw. It must look beautiful on the plant, the tube and sepals are so transparent; the corolla is also beautiful." Price 10s. 6d. Discount allowed upon three.

"DR. SMITH" AND "ESTEEM."—G. S. regrets that he had not these two superb varieties to submit to public opinion, having only just purchased them of the raiser, Mr. Michie. G. S. begs to say that he has seen them, and with confidence recommends them to the most limited grower, and warrants them not to be equalled by any out. 10s. 6d. Discount on three.

Dr. SMITH is a free grower; tube and sepals dark crimson; sepals broad and well expanded; corolla a fine form; colour violet purple; the flowers are large and a free bloomer. 7s. 6d

ESTEEM; tube and sepals crimson; corolla rosy purple, very large; a fine habit, and a profuse bloomer. 7s. 6d.

Strong Plants by the 20th of April.

G. S.'s Catalogue contains, of the above, every novelty of the season, which can be had on the receipt of one postage stamp. Orders from unknown correspondents must be accompanied with money-orders.

Tollington Nursery, Hornsey-road, Islington.

LILIUM LANCIFOLIUM, THE BEAUTIFUL JAPAN LILY.

HENRY GROOM, Clapham-rise, near London, by appointment FLORIST to Her Majesty the QUEEN, and to His Majesty the KING OF SAXONY, having for some years paid great attention to this division of the genus, begs to recommend to all lovers of Flowers the varieties of this most splendid Lily, which for elegance of form, freedom of growth, and exquisite scent, surpass all the known varieties of this much admired family. They have the advantage of being perfectly hardy, and are the greatest ornament to the parterre as well as the conservatory; indeed no garden, however small, should be without an assortment of them, as they are now at a price so moderate as to be within reach of all parties.

LILIUM LANCIFOLIUM ALBUM, fine bulbs, each, 1s. to 2s. 6d.
" " PUNCTATUM, each, 5s. to 10s. 6d.
" " ROSEUM, each, 7s. 6d. to 21s.
" SPECIOSUM (true), each, 7s. 6d. to 31s. 6d.

TO CUCUMBER GROWERS.

EDWARD TILEY, NURSERYMAN and SEEDSMAN, begs to offer his superb and unequalled Cucumber, "VICTORY OF BATH." The advantages of this over others are—it is a very handsome fruit, the earliest and most productive bearer, and the quickest grower known; the average length of this Cucumber being from 24 to 30 inches long. It has been awarded more than 30 first prizes at the different Cucumber Shows within the last three years. It is worthy of remark this Cucumber has been successfully grown by Amateurs in the open air without frames against a wall, or trained to trellis, surpassing any of the hardy kinds this season. It will be sent out in packets, 7 seeds, 2s. 6d., or 16 seeds, 5s.

E. T. has seeds of Hamilton Black Spine Cucumber, which he can highly recommend; this has also been very successful at a number of different Exhibitions, and taken many first prizes; length from 24 to 28 inches, and a very handsome fruit. Seven seeds, 2s., or a packet of each of the above seeds, 4s.

The above Cucumbers will be found to be of excellent quality for table, the flesh being firm and of fine flavour.

Parties intending to show at the forthcoming Exhibitions should not delay their orders. It is unnecessary to enter into further properties of the above Cucumbers, having given every satisfaction to purchasers during the last three years.

Per packet—s. d.		Per packet—s. d.	
True Beechwood Melon	1 0	Windsor Prize	1 0
Sweet Ispahan	1 0	True Walcheren Cauliflower	1 0
Terry's Prize	1 0	Broccoli	1 0
Emperor Green-flesh	1 0		

Sold at EDWARD TILEY'S General Seed Shop, 16, Pulteney Bridge, Bath. The above will be sent post free, on a remittance of a Post-office order, or the amount in postage stamps.

A NEW SEEDLING FUCHSIA, "GLOBOSA CARNEA."—A new and distinct variety, of good habit; in form resembles Globosa, with a pink tube and sepals, crimson corolla, and would form a singular contrast if added to any collection. Strong plants 3s. each. For description see *Gardeners' Chronicle*, August 21, 1847, p. 560.

WESTMACOTT'S Descriptive priced Catalogue of new and choice Flower and Kitchen Garden Seeds for 1848, is now ready, and may be had by addressing to ROBERT WESTMACOTT, Seedsman and Florist, 155, Cheapside (opposite St. Paul's), London; or at Stuart's Grove Nursery, Fulham-road, Chelsea.

SEED POTATOES.

CHARLES SHARPE, NURSERY and SEEDSMAN, respectfully begs to direct the attention of the Nobility and Gentry to his superior sorts of POTATOES, which, having been grown on the Lincoln and Cambridgeshire marshes, has afforded the advertiser ample opportunity to witness their progress for the last three seasons; he is, therefore, able to recommend the following sorts as being very productive, and the least affected by the disease, and offers them at the following prices, packing included:—

Early Cockneys, fine for forcing	7s. per bushel of 56 lbs.		
Fox's Seedling, ditto	ditto...	7s.	,, ,,
American Natives,	ditto...	5s.	,, ,,
Ash-leaf Kidney		8s.	,, ,,
York Regents		5s.	,, ,,
White Kidney, very fine...		5s.	,, ,,
Early Shaws		5s.	,, ,,
Kentish Pink Kidneys ...		5s.	,, ,,

The above will be forwarded immediately after the receipt of a Post-office Order, and the greatest care will be taken to ensure their safe delivery.—Direct, prepaid, to CHARLES SHARPE, Wisbeach, Cambridgeshire.

MYATT'S LINNÆUS RHUBARB.—Spring being the usual planting season, Messrs. MYATT respectfully request early orders from those who have not yet favoured them with their commands, as half the available stock is already parted with. The LINNÆUS is the variety cultivated so largely by the Messrs. MYATT for the London markets, being remarkably early and unusually productive. The stalks are large and free from filaments, and are admirably adapted for preserving and all other culinary purposes. One-year planted roots, 3s. 6d each; also Mitchen's "Royal Albert," 3s. 6d., and Myatt's "Victoria," 1s., with the usual trade allowance.

Manor Farm, Deptford, Feb. 19.

ROSES.

WOODLANDS NURSERY, Maresfield, near Uckfield, Sussex.

WILLIAM WOOD AND SON beg leave to invite attention to their extensive stock of ROSES, strong plants of which are offered at the following prices, the selection of sorts being left to themselves.

The best sorts of Climbing Noisette, Hybrid China, Bourbon, and Hybrid Perpetual Roses, budded on the same stem with from three to five distinct varieties, on tall stocks from 4 to 8 feet in height, forming large pendulous heads, well adapted for training on umbrella shaped wire frames	At 3s. to 5s. each.		
Tall Standards, fine picked stocks from 4 to 6 feet, with large heads, of the most showy kinds, for planting in conspicuous situations on lawns, &c.	per doz. 30s.	per 100.	
Superior selected Standards	24s.	£10	0 0
Superior do. do. extra fine ..	30s.		
Fine Dwarfs and Standard Dwarfs	12s.	5	0 0
Superb do. do. extra fine	18s.	7	10 0
Fine Dwarfs, on own roots, in 50 varieties	..	2	10 0
,, Climbing	9s. to 12s.		
,, Noisettes (Climbing)	9s. to 12s.		
Good Dwarfs on own roots without names..	..	1	10 0
Climbing Roses, mixed, without names, for covering banks..	..	1	10 0

ROSES IN POTS FOR GREENHOUSE CULTURE AND FORCING.

Isle de Bourbon	12s. to 24s. per doz.
China	12s. to 18s. ,,
Tea-scented	12s. to 24s. ,,

The following sorts, being profuse bloomers, are peculiarly well adapted for planting in masses, where beds of one variety are desired.

Collections will be supplied (one of a sort), at 18s. per doz., the selection being left to W. W. and Son; and at the following prices per dozen, when not less than six plants of any sort are ordered.

DAMASK PERPETUAL.

	s.	d.		s.	d.
Antinous	15	0	Carmin Royal	15	0
Bernard	16	0	Rose du Roi	15	0

HYBRID PERPETUAL.

Aricie	15	0	Louis Buonaparte ..	16	0
Baronne Prevost ..	20	0	Madame Laffay ..	15	0
Comptesse Duchatel ..	30	0	Marquise Boccella ..	16	0
Dr. Marx	15	0	Marquis of Ailsa ..	16	0
Duc d'Aumale	15	0	Mrs. Elliot	16	0
Duchess of Sutherland	18	0	Prince de Galles ..	15	0
Edward Jesse	15	0	Princesse Hélène ..	15	0
General Allard	18	0	Reine de la Guillotière	15	0
Jolande d'Arragon ..	15	0	Robin Hood	18	0
La Reine	20	0	William Jesse	16	0
Lane	15	0			

ISLE DE BOURBON.

Amcrentine	15	0	Madame Nerard ..	16	0
Augustine Margat ..	15	0	Manteau de Jeanne d'Arc	18	0
Cardinal Fesch ..	15	0	Mrs. Bosanquet ..	15	0
Comte de Nantieul ..	18	0	Paul Joseph	20	0
Comte de Rambuteau ..	15	0	Phillippart	15	0
Desgaches	15	0	Pierre de St. Cyr ..	15	0
Duc de Chartres ..	15	0	Queen	15	0
Gloire de Paris	20	0	Souvenir de Dumont d'Urville	15	0
Gloire de Rosamone ..	15	0	Souvenir de la Malmaison	20	0
Le Grenadier	20	0			

TEA-SCENTED ROSES.

These are also recommended for Greenhouse culture.

Archinto	10	0	Lady Warrender ..	15	0
Belle Allemande ..	15	0	Le Pactole	16	0
Bougère	15	0	Mancais	15	0
Buret	15	0	Nina	15	0
Clara Sylvain	15	0	Souvenir du 30 Mai ..	15	0
Elize Sauvage	20	0	Triomphe du Luxembourg	15	0
Goubault	15	0	Virginal	9	0
Jeannie Deans	15	0			

AUSTRIAN BRIER—Persian Yellow .. 15s.
NOISETTE—Ophirie .. .. 24s.

A selection of the best autumnal blooming Pillar Roses.

ISLE DE BOURBON.

One plant of each of the following Roses for 18s.

Bouquet de Flore	Madame Bigotini
Comtesse de Ressequier	Madame Lacharme
Gloire de la Guillotière	Pierre de St. Cyr
Gloire de Rosamêne	Splendens
Imperatrice Josephine	White
Lady Canning	Zulema

NOISETTE ROSES.

Cloth of Gold	each—2s	0d	Larmarque	each—1s	6d
Jaune Desprez ..	1	6	Solfaterre	2	0

A liberal number of plants will be presented with each order to defray cost of carriage. Rose Catalogues are still issued, gratis, on application.—Woodlands Nursery.

SEEDS.

WOODLANDS NURSERY, Maresfield, near Uckfield, Sussex.

WILLIAM WOOD AND SON respectfully solicit attention to their Stock of Vegetable, Flower, Agricultural, and other SEEDS, which are warranted genuine and of first-rate quality; a Catalogue of which (containing a selection of all the newest Peas and Broccoli, together with every other improved vegetable of the season) may be had GRATIS on application.

N.B.—Collections of Flower Seeds, carefully assorted, will be forwarded, post-free, at 5s., 7s., 10s. 6d., 15s. to 21s. each, the selection being left to W. W. and Son.—Feb. 19.

KITCHEN GARDEN SEEDS.—No. 1.—A complete collection, consisting of 20 quarts of the best kinds of PEAS, and all other seeds in proportion, and of the best sorts, sufficient for one year's cropping of a large garden with the choicest Melons and Cucumbers inclusive....£3 3s.

No. 2.—Complete collection, in smaller quantities, equally choice sorts ... ...£2 2s.

No. 3.—Ditto Ditto Ditto ... ...£1 1s.

No. 4.—Ditto (this is sufficient for a gentleman's small garden) ... ...12s. 6d.

No extra charge made for packing.

If there should be any sorts of seeds that would not be wanted in the collection, increased quantities of those most desired would be sent. References will be given if required to some of the principal families in England, Ireland, and Scotland, who purchased collections last season. All orders to be accompanied with a remittance or reference from unknown correspondents.

A General Catalogue of Horticultural and Agricultural Seeds may be had on application.

Seeds carefully packed for exportation.

WM. JAS. EPPS, F.H.S., High-street, and Bower Nursery, Maidstone.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

FARM SEEDS.

W. DRUMMOND & SONS, Agricultural Museum, Stirling, N. B., and 58, Dawson Street, Dublin, have now ready, and may be had on application, Priced Lists of AGRICULTURAL SEEDS. They beg to call special attention to their Stock of TURNIP, which is very extensive, and selected with great care, and embraces all the approved varieties.

GRASS SEEDS for Permanent Pasture selected and assorted in suitable mixtures for every given soil and situation.

N.B.—Free delivery. All parcels of Seeds above 2l. value (with the exception of Grain and Vetches) delivered free in London, Liverpool, Hull, Bristol, Newcastle, Belfast, Londonderry, and Cork.

SUPERIOR GARDEN SEEDS.

JOHN SUTTON AND SONS, in offering the undermentioned Articles, beg to intimate that these are a SELECTION FROM THEIR GENERAL STOCK of the very best kinds only, and being of HOME GROWTH, they can be most confidently recommended. The Prices are given for small quantities, but Gardeners and others making extensive purchases will receive Wholesale Prices on application.

NEW KITCHEN GARDEN SEEDS.
(Carriage free to London or Bristol.)

PEAS, per qt.—s. d.
Auvergne Marrows..... 1 0
British Queen 2 0
Fairbeard's Surprise 2 6
Flack's Victory, Dwarf... 1 0
Groom's Superb, Dwarf 1 0
Scimetar 0 9
Sutton's Superb (fine) ... 1 6
Thomp on's Dwarf..... 0 10
Milford Marrowfat 1 0
Queen of Dwarfs 2 6
Champion of England ... 5 0

BEANS.
Green Windsor 0 8
Johnson's Wonderful..... 0 8
New Thick Windsor 0 8

FRENCH BEANS.—1s. per qt.
Early Mohawk, or Six Weeks
Englefield Early Dwarfs, the best sorts for forcing, 2s.
Negro Major (fine)
Scarlet Runners and others

BEET.—6d. per packet.
Whyte's New Dark

BRUSSELS SPROUTS.
6d. per packet.
Fresh imported (fine)

BROCCOLI—6d. per packet.
Cape Purple Autumn
Cape White Autumn
Early Malta, White
Early Walcheren (true)
Grange's Autumn
Howden's Purple
Lake's Superb White
Snow's Winter White
Southampton (large)
Wilcove White (fine)

CAULIFLOWER—6d. per pkt.
Large Late German
New Walcheren (true)

CABBAGE—6d per packet.
Sutton's Imperial (fine large)
Atkins' Matchless
British Queen

CARROT—4d. per oz.
Early Dutch Horn (fine)
Long Surrey (fine)

CELERY—6d. per packet.
Seymour's Superb White
Sutton's Superb Pink

CUCUMBER—6d. per packet.
Cuthill's Black Spine
Sion House
True Snake
Stockwood (fine ridge)
Sutton's Berks Champion

LETTUCE—6d. per packet.
Adey's Large Cos (fine)
Bath Cos, black seed
London White Cos
Monstrous White Cos
Wellington Cos (fine green)
Improved Brown Cos

MELON—6d. per packet.
Alton's Green Flesh
Cuthill's Scarlet Flesh
True Beechwood, and others

ONION—6d. per oz.
New White Globe
Reading (true), the finest sort

PARSLEY—6d. per packet.
Extra Fine Curled

PARSNIP—4d. per oz.
Jersey Marrow, best for table.

POTATOES, per peck—s. d.
Early Ash-leaf 2 6
Soden's Oxford..... 3 0
Swaile's Frame 2 6

J. SUTTON and SONS also recommend the undermentioned CHOICE FLOWER SEEDS,

which will be sent free by post at 6d. each, or any 12 sorts, selected, 5s.; or the whole collection of 30 for 10s. 6d.

Aster, German, fresh imported, in 24 dbl. varieties, mixed
Auricula, from show flowers
Balsam, large German double
Brachycome iberidifolia
Calceolaria, choice
Carnation, from stage flowers
Cineraria, choice sorts, mixed
Cockscomb, fine dwarf
Dahlia, show flowers
Dianthus pulchellus, for beds
Geranium, from choice sorts
Heartsease, finest show flowers
Honeysuck, 20 superb vars.
Larkspur, dwarf German, very double, many colours
Martynia fragrans
Mesembryanthemum tricolor
Picotee, from choice sorts
Portulacca of sorts
Petunia, splendid new, mixed
,, fine dark
Phlox Drummondii, mixed
,, ,, new scarlet
Polyanthus, fine sorts
Primula sinensis fimbriata
Salpiglossis, fine mixed
Stocks, German, 36 beautiful vars., fresh imported
,, scarlet giant
Thunbergia, 3 sorts
Verbena, choice sorts
Zinnia, splendid mixed

Also Nemophilas, Viscarias, Clarkias, and several hundred other hardy Flower Seeds at 3d. per packet, or the best 24 hardy sorts for 5s.

*** The above seeds will be sent free by rail or post, without delay. Orders to be addressed to JOHN SUTTON & SONS, Reading Nursery, Reading, Berkshire.

THE TRUE ASHMEAD'S KERNEL is a very delicious APPLE, of a golden russety colour, and a totally distinct fruit to that generally known by the name of Ashmead's Kernel. Mr. Robert Thompson, the Superintendent of the Horticultural Society's Fruit Department, speaking of it in the *Gardeners' Chronicle* for January 29th, says, "The flesh (of the true variety) is firm, crisp, and juicy, with a very rich sugary aromatic flavour. In season from November till May. Unquestionably it ought to be in every good collection." Although the demand has been large, yet J. C. WHEELER has still remaining some fine young Trees, which he can sell at 3*s.* 6*d.* each, or Standards, coming into bearing, at 5*s.* Early orders are necessary to secure handsome plants.

Post office orders made payable to JAMES CHEERS WHEELER will oblige, or on receipt of 5*s.* worth of postage stamps, a Dwarf Tree will be forwarded, package and carriage free, to London, or any station on the Great Western Railway.

Kingsholm Nursery, Gloucester.

WILLIAM MAY, F.H.S., has received from the respective Growers, the undermentioned very select varieties of GARDEN SEEDS. He is now prepared to send them out in sealed packets, with printed directions, at the prices quoted; or the full collection, post free, for 10*s.* Every article named is warranted genuine and unsurpassed in quality.

N.B.—W. M. will not be responsible for any of the articles named not bearing his signature.

	Per packet—*s.* *d.*
BROCCOLI—Ellerton's superb, or Mammoth April White, weighing from 12 to 20 lbs. each head, very hardy, and dwarf	1 6
BROCCOLI—Ellerton's improved Welcome White; this precedes the Mammoth in season, weighing from 7 to 12 lbs. each head	1 0
BROCCOLI—Metcalf's improved Walcheren, warranted genuine; this is the best autumnal Broccoli known	1 6
CABBAGE—Telford's superb early dwarf; very early, dwarf, and of delicious flavour and quality	1 0
PARSLEY—Usher's exquisite curled; is a splendid variety, beautiful dark green, extra curled, and very large heads	1 0
CELERY—Seymour's improved Red and White flat-stemmed solid; very crisp, of fine flavour, and not subject to run	1 0
BEET—Lindsey's imperial crimson dwarf; very dwarf, fine formed bulbs, splendid colour, and unequalled in quality	1 0
MELON—Beechwood, warranted genuine; the best Melon grown	1 0
CUCUMBER—Hewson's Sion House improved, very excellent	1 0

Every other article in Garden Seeds of the most select quality. The Broccolies, &c., have been before the public two seasons, and have given universal satisfaction to the growers.

Hope Nursery, Lecming-lane, Bedale, Yorkshire.

SEEDLING ANTIRRHINUMS.

W. IVERY begs to offer the following distinct varieties, which he can with confidence recommend.

GOLDFINCH.—Tube white; upper and lower lips bright red, with a yellow centre, 3*s.* 6*d.*

KING.—Tube, red; upper and lower lips, bright crimson, with a yellow centre, 3*s.* 6*d.*

LUCY ROSEA.—Tube delicate rose; upper and lower lips with a white centre, 2*s.* 6*d.*

PEARL.—A fine white, 2*s.* 6*d.*

CHAMPION.—Tube purple, with a white centre, 2*s.* 6*d.*

UNIQUE.—Tube red; upper and lower lips reddish brown, with a bright yellow centre, 2*s.* 6*d.*

W. I. can also supply extra strong plants of Show CINERARIAS, from varieties which gained three first prizes at the London Exhibitions in 1847, at the following prices:—1st Class, per doz., 42*s.*; 2d Class, per doz., 30*s.*; 3d Class, per doz., 18*s.*

IVERY'S SCARLET GERANIUM, brilliant colour, large truss, foliage handsome, with the horse-shoe distinctly marked, price 5*s.*

W. I. has a large quantity of Stock Plants, of the most approved variety of VERBENAS and PETUNIAS, 6*s.*, 9*s.*, and 12*s.* per dozen.

Mixed Balsam Seeds of the finest double variety, 2*s.* 6*d.* per packet. Catalogue will be ready early in March.

Hanover Nursery, Peckham, near London, Feb. 19.

The Gardeners' Chronicle.

SATURDAY, FEBRUARY 19, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

Wednesday	Feb. 23—Society of Arts	8 P.M.
Saturday	— 26—Royal Botanic	4 P.M.
Friday,	March 3—Botanical	8 P.M.

We trust that the statements given last week, on the authority of Mr. M'Nab, have shown that experience is in favour of Planting Hollies in November, and against planting them in April. By experience we do not mean blind practice, which is a totally different thing, but knowledge acquired by a careful observation and rational investigation of the numerous facts personally observed by a sagacious planter during many years.

This being so, we might leave the question without further comment; for *theory is only a formal expression of rational experience*, and a reduction of that experience to general principles; it is deduced from ascertained facts and cannot exist without them. Experience is its parent. Men sometimes, indeed, call by the name of theory what is only fancy; the child of imagination, not of observation: the dream of a head filled with preconceived ideas. This child is not theory, but hypothesis; useful enough in its way, but too dangerous to be safely introduced into everyday affairs.

Nevertheless, although we regard the question as sufficiently determined by mere experience, yet we wish to show that the theory of the subject is entirely conformable to that experience. What is the theory? It is this: "Evergreens, if transplanted in dry bright weather, are apt to die, because the action of dry air and bright light upon their leaves robs them of their fluids faster than the wounded roots can replace them. But evergreens, if transplanted in damp, gloomy weather, are saved from this risk, and have time to renew their roots before the hour of danger. After November we have a long succession of damp, gloomy weather; in April we have drying winds and a bright sun; therefore, evergreens should be transplanted in November and not in April." To this our excellent correspondent, Mr. Rogers, objects on several grounds, which we are sure that he wishes us to examine.

In the first place it is alleged that the Holly when planted in November makes no fresh root at that time. Although this statement is true it hides a fallacy. The Holly, like other trees, is not indeed able to produce fresh root immediately after transplantation in November, for want of the exciting cause that exist at other seasons; but it forms a callus. The first act of a wounded root is to produce at the junction of wood and bark that enlargement of cellular matter to which gardeners give the name of callus, and which is in truth a temporary provision for absorption until root appear. The callus acts in all respects as a root, and, therefore, in a *physiological sense*, is the same thing. At a later period roots find their way out of the system. This has been observed by Mr. Rogers, who found February planted Hollies already furnished with roots in April; a fact by the way much against April planting: for they must at that time be so tender and brittle as to be little able to resist so violent an act as that of transplanting.

It is next assumed that the period of greatest rest is the time to transplant, and April is supposed to be that period in the Holly, because the leaves are at that time 9 or 10 months old, and the new growth of the plant is not made till May and June. We believe, however, the reverse to be the case; that the winter is the period of greatest rest, and the spring the period of greatest excitability in the Holly as in all other trees. The period of rest is not determined by the mere age of leaves, but by external conditions; by light, moisture, and temperature, especially by the latter. These have their feeblest action in November and December: but by March they are again acquiring force. It is true that the Holly does not cast its leaves till May or June: but the fall of the leaf in evergreens is in all cases posterior to renewed growth, and is indeed regarded as a mere consequence of it. In April the fluids of the Holly are in motion, and its buds are swelling: the green bark is already losing its fluids, and that irresistible demand has begun which roots or their equivalent can alone supply.

With regard to the best time at which to transplant, we are by no means sure that under *all* circumstances it is the period of greatest rest. It is the best under *ordinary* circumstances, because of the difficulty of maintaining around plants newly removed that kind of atmosphere which is conducive and essential to the renewal of roots. But if this difficulty can be removed, we are of opinion that the most suitable of all periods is when the leaves are fully formed, the worst being that at which they are just forming. And for this reason. When leaves begin to grow they abstract from the stem what is required for their own nutriment, and they add little; any power of forming roots at that time was pre-existent in the plant. But when leaves are full grown their chief object is to produce in the recesses of their structure the matter out of which other organs are formed, roots inclusive. It is however obvious that the conditions of our climate render summer transplanting unadvisable—the objections to it being greater than the advantages.

But although we cannot admit that the month of November is bad, and that of April good, for transplanting evergreens, nevertheless we give entire credence to all the evidence upon the subject which our correspondents have brought forward. We believe that their failures in November, and success in April, are owing to the condition of the soil, and to nothing else. In November all heavy lands are hard and difficult to work; but in April the frosts of winter and long continued rains have done their appointed duty by pulverizing and softening the soil. In November a hole is dug, the earth is thrown out in clods: they are partially broken, then shovelled back upon the roots, which are not evenly pressed upon by soil, but placed among a number of cavities and spaces, to which air has free access. The result of this is the decay, not the renewed growth, of the wounded roots. In April the same degree of care and no more is enough to ensure a uniform pressure of the soil on the roots. Upon this point we again quote Mr. M'Nab.

"In all seasons, situations, and soils, the plants should be well soaked with water, as soon as the earth is put about the roots. Where the water is not at hand, so that it may be easily carried or wheeled by men, a horse with a water barrel on wheels should be used, as I am certain this will be amply repaid by the success of the plantation afterwards. As soon as the plant has been put into its place, the earth should be filled in, leaving a sufficient hollow round the stem and arches over the roots to extend, to be filled [illegible] poured in, in sufficient quantity [illegible] down to the lowest part of the roots, where there should be made [illegible] this position with a pointed spade and [illegible] down by the [illegible] roots [illegible] filled. [illegible] drawn over to the roots [illegible] poured upon it; [illegible] and pressed [illegible] and each [illegible] time is needful, [illegible] will then form a [illegible] speed, as pipe in the [illegible] the insertion [illegible] the past. After the [illegible] the earth should be [illegible] plant, and as far out as [illegible] loose pressed [illegible] but not tread; it [illegible] watering is sometimes necessary.

And again—

"I wish it to be [illegible] I speak from practice, that I [illegible] evergreens when [illegible] is wet weather, cold [illegible] the situation in which [illegible] dry, sheltered or exposed [illegible] I have recommended, *fill up the holes that may be in the earth about the roots, and consolidate the whole mass* much better than it [illegible]."

We are authorized to announce that [illegible] an Exhibition of Flowers, Fruits, Vegetables, &c., as also of Agricultural [illegible] ments, at Amsterdam, [illegible] March next, for which [illegible] on the 21st and 22d of [illegible] being forwarded to the Director of [illegible] Botanicus at Amsterdam previous to the 20th.

Several Gold and Silver [illegible] rewards, will be given [illegible]

We think it desirable to make [illegible] hope that persons in this country may be induced to contribute specimens, and compete for the Medals to be awarded [illegible]

VINES AND CANKER.

Although the canker question has occupied so many columns of your Paper, and to the [illegible] of your readers may appear to [illegible] cussed, yet, as Mr. Robert [illegible] but consider as a most [illegible], I am induced to offer a few [illegible] duly weighed, must, I think, [illegible] being very generally followed.

It is the besetting sin of [illegible] culturists, that they are given [illegible] quantity. For a long time [illegible] they had accompli[illegible] every [illegible] in a profusion of ol[illegible] food, they had swelled the [illegible] to a monstrous bulk, [illegible] rank fat and muscle, unfit [illegible] like manner the latter have [illegible] duce large sized fruit, forgetting that [illegible] natural limits which we cannot safely transgress, and that the smaller fruits of all kinds are generally the richest in flavour and aroma. It must be admitted, however, that those who furnish [illegible] and the tables of the luxurious, [illegible] certain disadvantages, being obliged [illegible] to consult the prejudices of [illegible] for it will sometimes happen [illegible] of the garden may be rejected [illegible] that they do not accord with [illegible] and size.

Of all fruits, that of the Vine is perhaps the most easily affected by external [illegible] influence of climate, its [illegible] by minute and often imperceptible [illegible] the soil, and by the nature of the [illegible] it is grown; by slight variations [illegible] of the ground; by the [illegible] and, if we may credit the [illegible] confirmed as they appear to be [illegible] by the emanations of certain [illegible]

As the roots of the Vine [illegible] the water of the soil, even when it [illegible] tion, it is evident that it may be [illegible] putrescent animal matter, [illegible] the most solid portion, which are not [illegible] and that the better [illegible] supplied must visit the [illegible] penetrating all parts of the [illegible] to the fruit. We have even seen [illegible] solution apparently [illegible] seaweed sprinkles injurious[illegible]; and that in the districts where the Vine is most extensively [illegible] the use of fresh animal manure is [illegible] and the preference is given to well-fermented composts,

or to pure vegetable manures. In the returns to some queries which I submitted to the wine-growers in the north-east corner of Sicily, the general answer to the question concerning manures is "non s'ingrassano," ("the Vines are not manured") except when the meagreness of the soil requires some assistance, which is generally given by a crop of Lupins, sown in November, and ploughed in or dug into the ground in March.

But Mr. Roberts will, no doubt, contend that these rules are applicable only to wine countries, where he supposes that Grapes require no more attention than the Currants and Gooseberries of our gardens. Such is by no means the case, at least on this side the Alps. In France, and in the southern provinces of Germany, this branch of agriculture, as is well known, forms an object of anxious care; and it is only by the skill of the cultivators, and with much labour and expense, that good or even tolerable crops are obtained. It is from those countries that the Vine comes to us; no essential change takes place in the character of the plant; the fruit, though differently applied, remains the same; and those delicate shades of flavour, which become developed by the process of fermentation, must exist, in a less perceptible state, in our Grapes. Why, then, should the method of cultivation differ? Can the wine-growers of England be justified in disparaging the accumulated experience of some two thousand years, in rejecting the precepts and maxims handed down to us by the thousand and one writers who have investigated the history and physiology of the Vine? Confining our attention to the effects of animal manure, let us hear what some of the most trustworthy and approved authors tell us on the subject.

If we look into the pages of the Abbé Rozier, who made the Vine and its products the study of his lifetime, of Chaptal, Dussieux, and Parmentier, we shall find that they all agree in condemning in the most unqualified manner the application of fresh litter or dung. Their contemporary, M. Bosc, who, as you are aware, was no mere theorist, is equally decided in his opinion, giving the preference to vegetable manures, and recommending that if animal manures be substituted, they should be in a state of complete decomposition, and applied only after they have lost their offensive smell by exposure to the air for two or three years, and even then they should be used sparingly. And as an instance of the injurious tendency of the contrary practice, he mentions how the Vines grown in the neighbourhood of Paris, which were formerly in some repute, have degenerated in consequence of the too free employment of the mud of the streets—"Dictionaire Raisonné d'Agriculture," art. "Vigne." The same doctrine is maintained by Cavoleau in his valuable "Œnologie Française," and confirmed by the observations of a still more recent writer, who has discussed this question at considerable length and in the most satisfactory manner. "The operation of fetid manures," says M. Lenoir, "is not confined to the introduction into the sap of the Vine of noxious matter, which, after being more or less modified, will penetrate the Grape, and impart to it the germ of a disagreeable aroma; it may also change the relative properties of its constituent principles."—"The effect of such manures," he further observes, "is to stimulate the Vine to excessive and too-far-prolonged growth, which is prejudicial to the quality and the maturity of the fruit. Such will be found to be the case with all Vines that have been strongly dunged; they continue to vegetate at a time when the vintage will not admit of delay; and yet the Grapes are not ripe, are watery, acid, and but slightly saccharine."—*Traité de la Culture de la Vigne et de la Vinification*, Paris, 1828—pp. 127-8.

Now, if I am not greatly mistaken, this description will apply to the Grape exhibited by Mr. Roberts on the 7th of December, which he says was not of the Nice kind, but with the name of which he has not favoured us. It was certainly a "perfect, plump fruit, finely swelled," and highly tempting to the eye, though the skin had a clouded appearance, such as I do not recollect to have before observed in any other Grape; but the pulp was hard and tough, like that of the half-ripe Grapes which we receive from Portugal; it was acidulous, and much less saccharine than I expected to find it, and had a decidedly earthy taste. I am most willing to acknowledge Mr. Roberts's skill in raising luxuriant crops of "finely-swelled berries;" but, in answer to his interrogatory, must say that we do require something more. If he can only be induced to forego his rough practice, and to adopt a more congenial mode of culture, I am persuaded that, although he may not succeed in producing an "enormous weight of fruit," yet the Grapes which he will grow will be of much choicer quality, and have a purer and richer flavour.—*A. Henderson, Curzon-street, Feb.* 11.

NEW ZEALAND.

I have read with interest the articles on this colony, which have appeared from time to time in your Paper, and I am again reminded of the subject from observing in your Number for Jan. 29, that a Mr. Stephens obtained the first prize for Peaches at the meeting of the New Zealand Horticultural Society, held early last year; and also that he obtained prizes for a filly and for Rye-grass seed, at the meeting of the Agricultural Society, held at the same time. This gentleman is a relative of mine, who went to New Zealand about seven years ago, being one of the civil engineers in the service of the New Zealand Company. He occasionally sends home to his English friends copious extracts from his private journal, and as some of these relate to agriculture and horticulture, I have selected a few, which are as follows:

"1845: *Feb.* 16.—The Peaches are ripening fast, but unfortunately many of them fall off before they are quite ripe, of which we make puddings and pies. A few that have ripened possess as good a flavour as any I ever ate in England, although my tree is only a standard grown from a stone. In this country they bear so abundantly, and with so little trouble, that they will prove a most acceptable addition to our present small list of palatable fruits. These and the Rhubarb already go far to compensate us for the variety we left in England. In a year or two, however, we shall have plenty of varieties of all kinds, and no doubt in great profusion, as the climate seems admirably adapted for their growth in perfection. Gooseberry and Currant bushes do not as yet thrive quite so well as some kinds, but Raspberries and Strawberries thrive exceedingly.

"22*d*.—During a walk up the valley behind my house, we passed a grove of Fuchsia trees, and sat down to take our lunch under one of them, whose spreading branches hung over a space of 19 yards diameter. There was a profusion of fruit upon it, quite ripe, and of a larger size than any I had seen before, many being nearly as large as a medium-sized Gooseberry. It is agreeable and wholesome to eat in its ripe state, and we have often used it in pastry. The stem or trunk of the tree does not grow to a very large size, generally throwing its branches out when 2 or 3 feet high. The height of this tree and many others near it was about 40 feet. The bark is very thin, something of a salmon colour, and, as it easily peels off, hangs in loose strips about the stem, giving it rather a rough and ungainly appearance, at the same time that the general appearance of the tree is picturesque and rather handsome. It is one of my favourite shrubs, on account of the agreeable shade of its foliage, and its sending forth its handsome blossoms during the greater part of the year. But the flower is not equal to that of the smaller kind introduced into England, from the absence of that delicate velvet-like purple wrapper that infolds the stamens of the latter, and imparts to it its peculiar grace.

"*March* 1.—Having brought [to Nelson] a quantity of Peaches as presents to some of my acquaintance, I placed them in the library of the institution, for the inhabitants to see, they being the first that had been grown at Nelson. [These were not grown at the town of Nelson, but at a distance of some miles from it.] The sight of 60 or 70 specimens of such fine fruit, caused many of the people who had not seen such a thing since they left England, some surprise and considerable satisfaction, the room, although a large one, being quite scented with their odour. Many of them measured 8 and 9 inches in circumference, and both in size and flavour were quite equal to the finest specimens ever grown in England, even with all the extraneous aid which is there bestowed to bring such fruit to perfection. The total number of Peaches that have come to perfection in a greater or less degree on my tree [the seedling standard mentioned Feb. 16th] amounts to about 300, after having thinned them extensively at three or four separate times.

"*April* 2.—We attended the agricultural and horticultural exhibition [at Nelson] which took place this day. Although the show of cattle and other stock was not very extensive, some of the animals brought there would have made a very respectable appearance even at similar displays in England. The show of grain and other agricultural produce was very limited, the farmers not having threshed out their crops. Of garden vegetables there was an extensive and excellent assemblage of almost every variety that is produced in the gardens of European countries, but in many instances much superior, convincing us how well our climate and soil are adapted to the production of anything almost that the temperate regions supply. Among the productions of Nelson, most of which were shown to-day, we have Tobacco in a high state of luxuriance, as also some in a manufactured state; every kind of garden vegetable, as the Pea, Bean, Kidney Bean, Scarlet-runner, Potato, Turnip, Carrot, Parsnip, Spinach, Horseradish, Cabbage, Cauliflower, Broccoli, Seakale, Beet, Celery, Onion, Shallot, Leek, Lettuce, Radish, and all other salads; Rhubarb, Tomato, Cucumber, Vegetable Marrow, Pumpkin, Artichoke, Melon, Water Melon, Watercress, Nasturtium, Thyme, Sage, Mint, Marjoram, Parsley, Fennel, and most other pot herbs, &c. &c., in endless variety. Of fruits we have the Apple, Pear, Plum, Peach, Nectarine, Apricot, Damson, Cherry, Grape, Pomegranate, Quince, Mulberry, Walnut, Filbert, Hazel-nut, Spanish-nut, Chestnut, Almond, Orange, Lemon, Fig, Strawberry, Raspberry, Gooseberry, Currant (black, red, and white), Cape Gooseberry, Cocoa-nut, &c. &c. Many of them, as the Orange, Lemon, Cocoa-nut, &c., have not as yet borne fruit, but I am inclined to think they will as the trees grow old enough. Of agricultural produce, we grow Wheat, Barley, Oats, Rye, Maize, Cobbett's corn, Mangold Wurzel, Swede Turnips, Rape, Clover, Trefoil, Lucerne, Alfalfa, Vetches, Rye-grass and many other kinds suited for permanent pastures. Our live stock consists of saddle and draught horses, mules, oxen, cows, sheep, swine, goats, rabbits, dogs, cats, turkeys, geese, guinea fowls, ducks, common fowls, and pigeons. There are also many hives of English bees, a good specimen of the honey having been brought to the show. Our manufactures are in a small way, but comprise sail-cloth, sacking, and sacks, made from the Phormium tenax, as well as cordage of all sizes, lines, twines, nets, &c., made from the same; leather, woollen cloth from our own wool, of which many of us have our coats and trousers made, stockings, &c. Every kind of furniture is made here, in a very good style of workmanship, from the lady's workbox to the sofa or chair, and of woods the most beautiful I have ever seen, from our commonest trees, as the Totara, Rimu, Birch, Mai, Miro, &c. Most of the agricultural implements are made here, at little more than English prices, as carts, wheelbarrows, ploughs, harrows, flour mills, threshing and winnowing machines, Flax ditto, &c. I cannot but think that our English friends must pronounce that the colony has not been standing still during the short three years that it has been established, although labouring under the most depressing drawbacks and discouraging circumstances, such as no other settlement ever experienced. These facts speak well for the activity of our settlers, and the advantages of the settlement, and augur favourably for our final prosperity, however adverse causes may delay its consummation.

"*April* 27.—Some gentlemen dining with me to-day, we cut two of the Melons that had ripened in my garden, and which were of the most delicious flavour of any I had ever tasted. The seed of this and several other kinds I had from the London Horticultural Society, through Captain Wakefield, who had a large packet of seeds of various kinds sent to him for distribution among the settlers. The name of the sort is, I believe, the Beechwood, but whatever the name it certainly was a most luscious fruit."

The remark respecting the depressed state of the colony from adverse causes was written before the accession of the present Governor, of whose administration my cousin, in a recent letter, speaks most approvingly. The Peaches for which he obtained the prize were, I have no doubt, the produce of the standard tree mentioned Feb. 16 and March 1, which he raised himself from a seed. What species of Fuchsia can that be, mentioned Feb. 22, growing to a height of 40 feet?—*Halesleigh.*

CAPE HEATHS.—No. IV.

Soil and Potting.—I once knew a lady window-gardener, who possessed a scarlet Pelargonium, which had inhabited the same spoutless teapot for 14 years. It was regularly supplied with tea-leaves, as a stimulant, and as regularly gratified its owner with dropsical leaves and half-developed flowers. To her they were perfect of their kind; for her ideas of plant cultivation never soared beyond the supplying her favourite with the mere adjuncts of vegetation—water and mould. Barely a remove from this, was the practice of many a plant-grower in retired districts within my recollection; but, thanks to the dissemination of horticultural literature, aided by the liberality of those who are able and willing to impart information, these strongholds of prejudice—of direct opposition to any innovation on an old system of practice—are beginning to yield to the onward march of improvement.

A plant under the artificial state of existence to which it is subjected in the routine of pot culture, is capable of exhibiting every degree of development, from that of the old lady's Pelargonium up to the highest state of vegetable excellence. Nor are such the results of mere chance; on the contrary, as a general rule, all is in the hands of the cultivator; and, like a rough gem on the wheel of the lapidary, all depends on his skill in developing the hidden beauties. Plant cultivation is essentially a science of development.

But, to come to our immediate subject, Heath potting, too much importance cannot be attached to the drainage. If deep pots are employed, one-fourth, or even a third of their depth will not be too great a space to devote to this particular. The Heath in its natural habitats penetrates the soil but slightly. Travellers from the Cape inform us that many of the species are even found luxuriating in dry rocky places, with barely sufficient soil to cover their roots, while others inhabit the margins of streams.

In draining pots, first place a layer of rough material—broken bricks the size of Walnuts are excellent; immediately over them a portion much smaller, and finally covering the whole carefully with a stratum of Moss. The latter performs two very important offices, it prevents the soil from being carried down by the percolation of the water, and it forms a reservoir of moisture as a contingency against drought, if from accident or otherwise water is for a time omitted.

No particular season for repotting Heaths collectively can be given; all depends on their season of flowering. One rule, however, can be considered as an established one; it is this, repot as early in the season as possible, in order to enable the plant to become well established in its new pot before winter. A healthy action of root is necessary to a fine display of bloom, and *vice versa*, for no plant can possibly produce blossom or fruit of first-rate excellence which is not vigorous and healthy at the root.

Many species, as pyramidalis, vernalis, costata, and glandulosa, require shifting early in February; but March, April, and the early part of May daily present candidates for an increase of pot room. Those Heaths which require the free use of the knife after blooming, of which more will be said by and bye, should be allowed to "break" previous to re-potting.

When a Heath to be repotted is turned out of the pot it has previously occupied, the exterior of the ball will, if the plant is healthy and requires a larger pot, present a mass of delicate hair-like fibres, intricately interwoven, and of considerable solidity. Before the

plant is transferred to its new pot, the ball of roots must be loosened, to facilitate extension of young fibre into the new soil. A mode which answers well in effecting this is to pass a pointed stick from the base of the roots upwards a slight distance beneath the surface. Many of the spongioles will be disengaged unmutilated, and more will of course be broken, presenting innumerable surfaces of cellular tissue, at which thousands of minute rootlets will be protruded. Be sure that the ball is thoroughly soaked previous to repotting, and that the plant is screened from the full influence of the sun for a few days after the operation. The first axiom cannot be too strenuously urged, as many valuable plants are sometimes lost, or their well-being endangered by neglecting it. When water is given a newly potted plant, if such has been the case, the stratum of new soil being more absorbent than the old ball, appropriates the greater part of the moisture, leaving the roots not yet extended to perish from drought. A plant so situated is a vegetable Tantalus perishing in the sight of plenty.

Almost all Heath growers have advocated the practice of "high potting," or, in plainer terms, the placing the ball of the plant at every successive shift a trifle higher in the pot than at the preceding one, till eventually that portion of the soil immediately surrounding the collar of the plant is elevated considerably above the rim of the pot. This practice not only retards the natural development of the plant, but is unsightly and unnecessary. The theory of high potting, as applied to the Heath, is correct, but the practical application in the mode described is a mistake. If a Heath is examined in its natural locality, it will be found that that portion of the stem around the collar is elevated a considerable distance above the surface of the soil, hence doubtless the practice of high potting. But in what way is this elevation by the plant in its natural state effected? Nature, ever mindful of the wants and habits of her subjects, has endowed the Heath with the property of elevating itself by the upward extension of that portion of roots near the surface. Nor is the power afforded without its legitimate purpose. Nature is the model of economy without being a niggard in her gifts. The Heath is most susceptible of the influence of stagnant moisture at the "collar;" yet delighting in plenty of moisture at the roots; and in the winter season and at other times the natural habitat of the Heath is subject to an excess of moisture. Now in what way could these apparently anomalous circumstances be made subservient to the Heath better than by the beautiful provision of nature imendowing it with the means above described? What a volume might be written on the evidences of design exemplified in the economy of vegetable life! But to conclude. In repotting Heaths do not adopt the high potting system, but whenever a tendency to elevation presents itself, assist it by slightly removing the soil in a slight degree from the upper portion of the roots immediately at the base of the stem. Many species, especially those having the character of gemmifera and ferruginea, possess the property in a remarkable degree, and all evince this character more or less.—*G.*

Home Correspondence.

Allotments.—In answer to your enquiry relative to prizes for cottage allotment tenants, I beg to state my practice, which has been established for many years, and I believe has worked extremely beneficially. I have 32 allotments in two fields in different parts of the parish. They were appropriated for the purpose when allotments were very little known, and at first the labourers of the place looked at them doubtfully. A few months sufficed to test their value, and ever since, as often as an allotment has become vacant, applications are received for it from every inhabitant of the working class not yet provided with an allotment. Still, for some seasons there were pieces indifferently managed, till I announced my intention to give yearly prizes for the best cropped gardens and for the best specimens of produce. I give two prizes in each field under each of those classes, and from the time the prizes were issued, the improvement in the gardens generally, and of many in particular, has been striking. I believe it would hardly be possible to produce better tilled spots of land, or finer specimens of vegetables, than are exhibited at the appointed time every summer. Our mode of proceeding is this, my gardener and another respectable gardener of the place, are the judges. A day is fixed for the purpose between the 20th of June and the 10th of July, varying according to circumstances. The judges affix marks on the allotments selected for the prizes without knowing the names of the occupants. The specimens of produce are brought to my house by the tenants, who choose to compete for this class of prizes, and are there selected accordingly. The prizes consist of implements, 4 for the best cropped grounds, in each field, of the value of 7*s.* 6*d.* and 5*s.* each, and the same number for the specimens, of the value of 2*s.* 6*d.* each. No gentleman's garden in the neighbourhood can surpass the specimens of vegetables of various kinds raised, and rarely have the finer sorts so early. At the village flower and vegetable show later in the season last year, one of my allotment tenants, who is also one of my labourers, carried off the first prize for cottagers' gardens by an exhibition of vegetables which for variety, quality, and early maturity, were pronounced extraordinary by all who saw them. My experience of upwards of 15 years leads me to think, as an elderly inhabitant of this village said to me on enquiring, after an absence of some time from the place, how the village institutions were going on, "that there is nothing like the cottagers' allotment gardens for doing good to the people." I originally had certain rules in regard to occupation of the land, and for the prizes; but these have gradually been lost sight of, and a plain understanding established, that if the rents be punctually paid (which, with the exception of one or two laggers is the case—there are none in arrear at this time), and the holders are not convicted of any criminal offence before a magistrate (which would exclude them from the possession of an allotment), they will not be disturbed. I appoint a steward for each field annually, who keeps the key and is expected to settle any dispute, or take my orders to any of his fellows and see them attended to; and lock up the gardens from Saturday night till Monday morning, to prevent all work in them on the Sabbath day. For these services he holds his land for the year rent free. I retain the right of judging whether there are gardens entitled to prizes every year, and last year in one field where I found the style of cultivation lowered, I withheld the prizes. If what I have written of our experience will compensate for the trouble of referring to the "Journal" of the Labourers' Improvement Society, your readers will find in the August number of that publication an account of last year's distribution of the prizes here.—*Suburban, Teddington.*

Novel Mode of Wintering Plants for Bedding Out.—I beg to hand you a small Verbena, in a nut-shell, five months old (of which the accompanying is a representation), being one of many plants which I winter in the same miniature condition. I have struck Roses, Fuchsias, Pelargoniums, and, indeed, almost all florists' flowers, in this way, and have kept them in perfect health over winter; so that it will be perceived that, instead of expending money in erecting pits or greenhouses to winter such things in, a one-light frame, rightly Polmaised, viz., managed according to the laws of Nature, is all that is required; and that a hollow acorn, or a nut-shell, answers the purposes of 3 or 6-inch pots! Surely, this is a step in the right direction.—*W. P.*

Public Taste in the Parks.—As many of your pages have lately been devoted to enquiries as to the principles of taste in laying out grounds and gardens, it has struck me that a few words of application to those great and really noble grounds which have been termed the lungs of the metropolis would not be misplaced, especially at a time when new parks are on the point of being established in the neighbourhood both of London and other large towns. We ought, in the first place, as it seems to me, to determine the question whether these grounds are to be considered and treated in an artificial or a natural manner; of course to give them as natural an appearance as possible as art can effect, ought to be the *ne plus ultra* of the landscape gardener. Looking at Hyde Park for instance, no one will say that it ought to be treated as an artificial piece of ground; its irregular surface and the fine, irregular clumps of trees give it a really natural effect. But its proximity to so many great productions of art, and the necessity for the paths through it being cut in straight lines, require a certain amount of art; and when or where that is the case, it becomes a question whether art ought to stop at its minimum, or be developed into a more evident effect. For instance, the fine statue of Achilles is an object which, from being placed on an eminence immediately opposite the grand entrance to the park, is worthy of being approached with artistic feeling. A clump of trees ought to be placed behind it, to give it strong relief; but the parties having the care of the plantations in the park have, on the contrary, placed a tree in front of it, so that no good front view can be obtained. A broad footpath was lately formed and planted with young trees, leading from the side of the statue to the reservoir near Grosvenor-gate. I am not sure whether it would have been good taste to have made this path commence at the statue itself, because in walking from Grosvenor-gate we should have had a back view of the statue; but supposing this granted, there is no reason why the deformity of the reservoir should not be artistically beautified. What a situation is there here for a fine aquatic statue of Neptune, his dolphins spouting the water, now discharged by a trumpery iron tube. In other respects Hyde Park, especially the most [illegible] in as natural a state of beauty as can be desired. One thing only requires alteration, namely, the [illegible] River, which, from the irregularities of its [illegible] the deaths of many bathers every year. [illegible] as the great bathing place of thousands, it ought to be put in such a condition as to prevent this annual waste of life. The other end of the [illegible] of water, in the Kensington Gardens, is kept in a dirty state, and the tin, dumb waiter of a fountain is a positive disgrace. A fountain, in fact, as a work of art, is quite out of place in such a [illegible] of Nature. Of Kensington Gardens we ought especially to be proud, and no careless hand ought to be allowed to mar its beauty. Some sad mistakes have, however, been lately made in its arrangement. What can be [illegible] for instance, as the very broad walk, extending from the little doorway at Bayswater to the [illegible] at Kensington. If it be intended to make a grand entrance at the Kensington end of the walk, pull down the barracks, and remove the present foot entrance from the turnpike. It was well enough to bring the broad walk thus far; but as no such intention has ever been broached, and as nobody ever comes on this end of the walk, it is quite useless, covered with gravel as it is, very ugly, and ought to be planted as a [illegible]. As to the great, straight broad walk which has been lately made across the middle of the Gardens, the [illegible] is again laid down with Grass the better. It completely breaks up their natural appearance, and makes one every minute to expect a carriage and pair. If a [illegible] was needed in that direction, it ought to have been a serpentine one, straightening towards the Bayswater end, so as to allow the beautiful spire of the new church, near the Paddington railroad station, to be brought into the view. The long foot path, on the south-east side of the Gardens, bordered with flowers, ought also to have been serpentine, and it is a pity it is not rounded, as its gritty surface renders it very disagreeable to ladies. Of St. James's Park, it is difficult to treat it as a natural plot of ground. It ought to be considered and treated as artistically as possible, and we hope still that it may be ornamented with marble statues in the interior. As the beautiful marble arch is intended to be removed, what a fine effect would be produced by continuing Pall Mall as far as the Green Park, and making the arch the entrance to that park. As to the only fitting entrance to St. James's Park, the opportunity was lost when Carlton House was pulled down, the natural declivity from the County Fire Office spoiled by filling in the space between Pall-Mall and the Park to form a base so as to raise the Duke of York's Column as high as possible—the effect of which has been to throw Pall-Mall, as seen from Piccadilly, into a hole. Just in the same way the natural declivity from the National Gallery to Whitehall has been destroyed in Trafalgar-square, and nothing can be richer than to stand at the entrance to Craig's Court and look towards the Gallery. As there is now some chance of the Gallery being altered, it is to be hoped that the natural declivity may be restored, and the two portions in Trafalgar-square removed or rendered more worthy of the situation.—*J. O. W.*

Pears on Quince Stocks.—The Quince-stock question is one of the greatest interest to planters, and from an attentive perusal of what has been written on the subject, I had come to the conclusion, as supported by the greatest weight of evidence, that Pears on Quince stocks were more precocious and fair to the eye, but that the flavour of the fruit was inferior. I was therefore surprised last week to see you endorse Mr. Rivers' letter with a general word of approval. I am sure your readers would feel grateful for a distinct opinion from yourself, "Whether the Pears from Quince stocks are equally well flavoured, and free from [illegible] as those on Pear stocks?" This appears to me to be the real question; for, as to the sale of fruit in Covent-garden, it is decided rather by the eye than by the mouth. Another point would be very satisfactory to learn, viz., what is the practice of the best gardeners in France, Flanders, and Jersey.—*M. S.* [Pears grown on Quince stocks, provided they are sorts fit for that stock, are in no way inferior to Pears on Pear stocks.]

Temperature.—I have not seen any notice taken in the public prints of an extraordinary change of temperature which occurred in this county [illegible]shire on Saturday, the 29th ult. On the morning of that day the thermometer here stood, at 7½ A.M., at 4° below zero, and at 7½ P.M., of the same day, at 36°, being a rise in 12½ hours of 40°. Can any of your correspondents furnish an instance of an equally great change in so short a time?—*R. B. D., Aylesbury.* [Is there no mistake here?]

Hobbies and other Evergreens.—I have perused with interest the several communications on Holly planting, and venture to hope that the few facts which I now adduce may be found useful. In the year 18[illegible] I brought with me a considerable quantity of the Box dug from garden borders at the beginning of June, and packed it with moss in a hamper. There it lay till we could find leisure to plant it in our new walks, and as these had to be formed, some weeks elapsed. About the end of the month, the Box was carefully planted in nice hazel loam, and the season being dripping, the greater part throve, and finally became very strong. This Box was conveyed by waggon from near Frome to Maidenhead Thicket; and as the work of planting was done by my sons, under my personal superintendence, I can attest what I know to be correct in this, as in every operation of gardening. In 1835, in altering

a hothouse, we had occasion to remove a large quantity of the ground; it was a sandy, ochreous earth, like that formerly called Windsor loam; this was wheeled to a wooden fence, and made to form a bank; it was thought little of, the soil being so poor. At length, I proposed to raise a Laurel hedge a yard within the fence; it was the month of July, just at hay-making—the weather sunny and dry, but there were plants to be taken up and an attempt was made. The bank was brought forward, made fit for the young Laurels, which were about 30 inches high. These were planted on the bank a yard apart; they were raised from their old sites, and immediately deposited in holes along the ridge—the soil trickled amongst the fibres, and puddled with a quantity of water. Not one failed. Water was timely given at intervals, and in four or five years I had a hedge 20 yards long and 7 feet high. Hollies I have planted in the loam of the garden at any season; and I found that if I planted carefully, and attended to watering, the trees rarely failed. I perfectly agree with Mr. M'Nab and with your remarks, yet, having tried for myself, I see little danger at any season, but the planter must do his duty. I offer no theoretical remarks till I shall have seen those with which we are to be favoured. —*The Author of the "Domestic Gardener's Manual."*

——In a late Number of the *Gardeners' Chronicle* your readers are informed that had it not been that two intelligent correspondents had revived the question of the April planting of evergreens, it might have been regarded as exploded, its failure in England being "too notorious to require proof," and that you had hoped that the directions of Mr. Macnab had set the question at rest for ever, he having decided that the best season for planting evergreens was from the middle of October to the middle of February; but notwithstanding that the "experience and sagacity" of Mr. Macnab have brought him to that conclusion, and that it be adopted by yourself, whose authority will no doubt carry (and justly) much weight with it, I shall not the less hesitate to affirm my belief that the writers you have alluded to are quite right in what they have advanced in favour of the April planting of evergreens, and that in fact the months recommended by Mr. Macnab as being the best for the operation, are precisely the least good, and the month of March is perhaps as bad. I have myself found, during the very many years that I have been a planter, that the middle of April is an excellent time for the business, provided there be a facility for giving the plants a little water occasionally should a dry summer succeed the planting; if not (as may sometimes happen) I would recommend the beginning or middle of September as being the best, as the trees will in that case have become so far established in the ground as will enable them to support, without much injury, any drought that in the following year may occur. But to ensure success (even when the trees have been planted at a favourable season), if it be not in general well prepared by digging, that the plantation is to be made, the holes should be dug some months before it is proposed to plant the trees, and the soil have a shovel full of ashes or rotten leaves added to it, to stimulate the fibres of the roots into early action. Few gentlemen or gardeners, however, are disposed to bestow any such attention on the matter, and more or less of failure is the consequence.—*H.*

Impostors.—It may be useful just now to warn your readers that spring brings us impostors as well as flowers. Last year a bustling, rather athletic female called on me with "choice Ranunculus roots" for sale, very cheap, and quite fresh, for the lady had just received them from her husband—a small nurseryman in Yorkshire. These tales catch many of the unwary. The fact is the roots offered were those of the common Pilewort (Ficaria ranunculoides), which she had just collected from the hedge-banks; and from her appearance had done in them a flourishing trade. "Fresh Anemone roots," also were offered to some parties, but not having seen these I cannot say what the lady collected for the gratification of Anemone fanciers. Plants of the Orchis mascula, when their attractive spotted leaves are an inch or two long, are sometimes collected in Gloucestershire and hawked about the country with the accompaniment of an outlandish sort of name to make them valuable. These, however, unlike the Pilewort, are plants worth having, if they were sold without being coupled with dishonest intentions. Yellow Rose-trees collected from the same nursery-grounds as the Ranunculus roots, were articles of commerce about three years ago by some of the partners of the company of flying florists. These recollections may suffice to guard your readers against similar impositions.—*B. Maund, Bromsgrove.*

Advertisement Duty.—As conductor of a newspaper in the eastern part of the kingdom, I can positively contradict the statement of "A Sexagenarian," that the benefit of the reduction of the advertisement duty from 3*s.* 6*d.* to 1*s.* 6*d.* went into the pockets of the publishers, and that the general charge for advertisements now averages much higher than it did before such reduction of the duty. On the contrary, I affirm, from a knowledge of the prices of every newspaper in these parts, that the whole benefit of the reduction of duty was immediately given to the public, and that since that period the average prices for advertisements have been reduced, not only here, but universally, far beyond the reduction of duty, as we all of us know to our cost. I know of no paper which inserted advertisements at 5*s.* with a 3*s.* 6*d.* duty: 6*s.* 6*d.* or 7*s.* was the usual charge for the shortest.—*A Newspaper Proprietor, Bury St. Edmund's.*

Early Peaches.—Will Mr. Hutchinson, of Eatington-park, who forces Peaches very early, oblige me by stating whether the condition of his trees will enable him to gather fruit on the 8th of March this year?—*Homo.*

Conservatory Climbers.—When the subject of conservatory climbers was discussed in the summer of 1843, vol. iii., p. 607, "A Devonian" will recollect that I had strong hopes of Bignonia venusta answering as a conservatory climber, notwithstanding the prevailing opinion that a stove, and even bottom heat was necessary to bring it to a fine flowering state. In the following spring I set about trying the experiment with it. I planted a strong old plant of B. Cherere and a young one of B. venusta against a pillar in the coldest end of the conservatory here, with the intention of inarching B. venusta on the more hardy B. Cherere as soon as they reached the top of the pillar. To make more sure of my purpose, I planted a strong old plant of B. Cherere; in this, however, I was defeated, for the old plant was so cramped in a pot for some time previous that it would not grow away freely, but the young plant of B. venusta took to the soil at once and grew away rapidly, and by the summer of 1845 it made such vigorous progress over the house that I gave up my original intention of inarching it. I knew that most climbers, and particularly Bignonias, could not be hurried into bloom by any mode of pruning, therefore I let my B. venusta have its own course, and by the end of last November it showed blossom buds free enough; these buds began to open about the new year. The plant is in beautiful bloom now, and is likely to keep on till the end of March. The house is kept in winter from 40° to 45°. "A Devonian" need not hesitate now about adding this fine old climber to his conservatory favourites, and he may anticipate two or three seasons by inarching it on his B. Cherere as high as his convenience will allow him. Let him not prune or otherwise stop any of the shoots of his Beaumontia, and he will soon be sure of success. It blooms here beautifully every summer. A young plant of it on which I tried to inarch Echites suberecta, but did not succeed, rambled over the house for the last two years, and began to bloom last October; a few of the blossoms only opened freely before the dark days commenced, and they remain now in bud, ready to open when the sun gets strong enough in spring. Lantana crocea, of which there are two or three varieties, and L. mixta, make beautiful pillar plants, like Plumbago capensis, in a conservatory, and flower from May to December. These Lantanas were formerly treated as stove plants, but except when very young, heat is altogether inimical to them. Large masses of them make beautiful beds in the flower garden. Mandevilla suaveolens and Habrothamnus fasciculatus, two of the finest plants ever introduced to this country, do so much better against a south wall out of doors, guarding them from frost, that any one succeeding with them that way will never grow them willingly under glass. A south wall, however, is too hot for the flowers of the Habrothamnus; they will last much longer against a west aspect. Tacsonia mollissima is indeed a very shy flowerer. All the Tacsonias require a peculiar treatment, and the only mode of treating them successfully, I believe, is to plant them in the front border of a cold greenhouse, their heads to be taken outside through a pane of glass early in May, and to be left outside in the autumn till the thermometer indicates 7° or 8° of frost. Passiflora racemosa, Loudoni, and quadrangularis, ought to be in every good conservatory. The latter is an unfortunate name, as there is a section of Passionflowers containing several species all with quadrangular stems, and of much the same aspect. They often pass one for another, but there is none of them fit for the conservatory except the one I believe to be the true quadrangularis. I have not met with any recent introduction that I would call a fine conservatory climber. If "A Devonian" succeeds in establishing Dipladenia crassinoda in the way he mentions it would be a triumph and a boon to many of us.—*D. Beaton.*

The Red Spider.—Since the time that the necessity for paying attention to the hygrometric state of the atmosphere in plant-houses became more clearly understood by gardeners, I think many of us have occasionally erred by keeping it too moist. A humid atmosphere is not only favourable to the growth of most plants, but it is also generally, and I believe justly, regarded as an unfailing preventive of the ravages of the red spider; and yet I believe that an injudicious application of this very essential element is often an indirect cause of plants and fruit being completely ruined by that pest. This opinion was first formed by an accidental circumstance, and has since been confirmed by a series of experiments. The circumstance to which I allude was the partial failure of an early crop of Grapes. Being at the time a young beginner, I managed the house in accordance with the directions given by a late horticultural writer, who recommended, excepting at the time of setting, "abundance of vapour," "copious syringing," &c., up to the very time of the fruit colouring, and then a "brisk heat and plenty of air;" in less than a fortnight after the change of treatment I had scarcely a leaf in the house uninjured by the red spider. Now in order to ascertain whether or not this transition, or rather the conditions of it, were the cause of the disaster, I have since tried the effect of the same treatment upon Melons and Strawberries, and in each instance a similar result has followed. If, therefore, the inference I have drawn from the facts mentioned be a correct one, I, for one, am not at all surprised that Melon crops are so extensively injured by the red spider as they are found in many places to be. The following is, I think, a pretty fair epitome of the general culture of this plant—raised and kept for some weeks in a very moist hot-bed, taken from thence and planted in a very moist soil, the temperature of which exceeding that of the air in the chamber some 20° or 30°. The effect of this is to multiply the roots, thereby giving to the plant the power of absorbing moisture to an extent very far exceeding that with which, under natural treatment, it would be endowed. Water is regularly and plentifully given; the bottom heat is occasionally replenished. In short, everything is done that can be done to fill the system of the plant, even to bursting, with crude watery sap. This treatment is continued until the fruit has attained its full size, and then in two points out of three it is directly reversed; free ventilation and an arid atmosphere are permitted, to promote an excessive evaporation from the leaves at the very time that water is withheld from the roots. Now, my own practice in the cultivation of the Melon differs very widely from this method. In the first place, I endeavour to keep the bottom heat as near as possible to the degree of temperature of the air in the frame; secondly, I never water the plants overhead, nor occasion more vapour in the bed than I can possibly avoid; and lastly, I never permit the soil to become drier when the fruit is ripening than is consistent with a healthy vegetation. By attending to these points, all other conditions complied with, I generally get very robust plants, producing fruit rather above the average, both in size and flavour, and it is very rarely that they are attacked by the red spider, nor are my Grapes now that I have ceased to use the syringe after the Vines are fairly broken.—*W. Sherwood, gr. to J. R. Mills, Esq., Kingswood Lodge, Englefield Green, Surrey.*

Vines and Carrion.—I approve the line you take in handling this subject. I have no desire or wish to depreciate the talent of Mr. Roberts as an experienced gardener; quite the contrary; but, certainly, I agree with you that Mr. R. has yet to produce the Grapes to beat or equal those from Castle Malgwyn. If the Eshton-hall Vines have been judiciously treated, why should not Mr. R.'s successor, at this stage of his Vines, produce Grapes equal to those produced at Castle Malgwyn? Mr. Cherry says (p. 22) that his Vines are in good condition—I doubt not in very good condition; but we will take it that they are in good condition; then let us see something more from these Vines than has been produced lately; if not, there will not be many Grape-growers in Craven who will not beat them. "Facts are stubborn things" to overcome.—*F. P., Skipton, Feb.* 12.

Polmaise Heating.—Imagining that some account of the working of this system of heating at Holmsdale might be interesting, I beg to state that I have three Polmaise furnaces at work, which perfectly answer the purposes for which they were erected. I have no trouble with them at all; I make them up at dusk, and find a good fire in the morning, with a nice heat in the houses. The plants are doing well; all who see them pronounce them to be in vigorous health. Besides other plants, I have in the hothouse Begonia manicata, coccinea, and fuchsioides, Dipladenia crassinoda, Stephanotis floribunda, Ixora coccinea, Dendrobium nobile and fimbriatum, Cattleya Mossiæ, and many others. I may mention that little fear need be entertained of the hot plate bursting; the one employed here for heating the stove has been in use for upwards of 12 months, and the result is that no exhalations or other injury have been sustained during that time. I have a small pit heated by the same system; but in this, instead of a plate of iron, I have a large fire-tile, which answers very well: but iron is by far the best material, especially in our new form of stoves. I find the cisterns very useful in destroying green-fly. This is effected by putting into it a strong decoction of tobacco, which destroys the insects without injuring the plants. So much for Polmaise, which, I again repeat, answers perfectly here; and that being the case, I am confident it must answer elsewhere, if rightly constructed.—*J. T. Salter, Gardener, Holmsdale House, Nutfield, near Reigate.*——I was much pleased with the plans published on the 22d of January last, and more so with the testimony as to its efficiency when in operation. Surely the facts there published ought to set at rest the discussion on this mode of heating. When 130° can be obtained with ease we can come to no other conclusion than that those who have failed in obtaining the temperature they have desired, have applied the system imperfectly. I notice that one item in the construction of the stove is a slight alteration of a suggestion of mine published in your columns a month or two ago, viz., the iron plate being accompanied with a wrought iron one, as a guard against gaseous escape. I pass over the remarks made by two of your correspondents at the time by simply remarking, it is here applied, and I will stake my reputation that it does not fail under any circumstances of answering its desired end. I can now add my own testimony in favour of this system of heating. I have had a small house heated upon this principle since the 22d Nov. last, to my entire satisfaction. My object when I set out was to keep a minimum temperature of 40°, with attendance at morning and night, say at 9 o'clock in the morning and after 6 o'clock at night. I might also state that this greenhouse has a considerably larger surface of glass than is usual in most houses of the kind, in order to admit as much light as possible for the growth of succulent plants only (I might here add I should be greatly indebted to any one who could give me good advice on their successful cultivation on the most approved principles), the laps of the glass are not puttied, and instead of brickwork at the bottom, as is customary, part of the house is made of ¼ of an inch panels with a moulding round. I mention these things to show what the heating apparatus has to do. The first severe frost we had a week or 10 days ago, the thermometer stood outside at 22° at 8 in the evening. I also allowed the temperature inside to sink as low as 33°, in order to get a fair starting. I then, about 9 o'clock, set light to the fire (the furnace being as cold as possible, the fire having been out for 20 hours), the temperature then steadily rose up to 43° and 44°; not wishing to let it rise higher I turned off the damper, and there it remained till 11 o'clock, when I made up the fire for the night (which could not burn more than 2½ hours, the furnace being not more than 15 inches square, made thus small purposely to keep a low temperature), and shut up the house for the night; the next morning, at 10 o'clock, the thermometer stood at 39°, and on putting my hand into the hot air chamber I found it quite warm. I have since found the next morning, at 9 o'clock, on several occasions 40°, 41°, 42°, 43°, so that I may say I have attained just what I wanted. I have used only a cast-iron plate about ⅜ of an inch thick as yet (made for trial) but as it answers so well I shall keep it for use. One night by way of experiment I heated it to a very high red heat, but I found no crack the next morning, nor yet any

signs of its warping, and now having put it to this severe test I believe I shall have nothing to fear from its cracking, which has been spoken of more by way of speculation than from actual experiment. I might as well state that when I tried this experiment the temperature rose to near 90°, at which I was rather surprised, as I had used every precaution to keep down the heat when building the stove, so as not to have the power of raising the temperature of the house more than 25° above the external air, which in this case was between 60° and 70°.—*Matthew Burgess, Hackney-road.*

Societies.

HORTICULTURAL SOCIETY.

Feb. 15.—J. R. Gowen, Esq., Secretary, in the chair. John Thompson, Esq., and Mr. James Gray were elected Fellows. Of subjects of exhibition, Mr. Mylam, gr. to S. Rucker, Esq., of Wandsworth, sent a collection of Orchids, in which was a remarkable specimen of Cologyne flaccida, a species which, under ordinary cultivation, is perhaps the least attractive of its genus, the blossoms being wanting in colour and thinly scattered on the flower spikes. In this instance, however, the pot was densely covered all round with innumerable gracefully drooping racemes of scented flowers, whose profusion alone, induced through skilful treatment, amply compensated for the drawbacks to which we have just alluded. The same collection also contained the orange-blossomed Saccolabium miniatum, a plant which few have been able to flower; the best variety of Oncidium ampliatum; a mass consisting of four of the many varieties of Lycaste Skinneri; and a nice specimen of the large white-flowered Brassavola glauca, a sweet smelling species found near Vera Cruz by Mr. Hartweg, who sent it among his earliest consignments to the Horticultural Society. It may be mentioned that a plant very much like it has since been received from Guatemala, but in the latter, instead of the lip being entire, it is broken up into innumerable threadlike divisions. A Knightian Medal was awarded the Cologyne.—Mr. Ivery, Nurseryman, Peckham, sent two seedling Cinerarias, named Gem and Pre-eminent, and from Mr. Kendall came Pelargonium plants, together with blooms of the same and of Cinerarias and Fuchsias from his Polmaise-house at Stoke Newington. It was stated that about 12 months ago when Mr. Kendall was discussing the merits of Polmaise with the editor of the "Gardeners and Farmers' Journal," the latter expressed an opinion that if the Pelargonium could be successfully bloomed in a house so heated, the system would be worthy of notice, and the plants in question were exhibited with the view of proving that such result could be effected, and with perfect success; for the Pelargoniums, of the difficulty of blooming which in winter every gardener is aware, had flowered even beyond expectation. Mr. Kendall stated that he had been cutting from a scarlet Pelargonium, which was exhibited, all winter upon an average six dozen trusses of bloom weekly. With this was shown one of above two dozen old stumps of the well known forcing Pelargonium album multiflorum, from which Mr. Kendall only expected a few early blooms. Had the plants been shifted, or any particular care been bestowed on them, the blossoms would have been finer; but it was preferred to bloom them under disadvantageous circumstances, and even under such conditions perfect success was obtained, as was proved by the cut flowers produced. With these there was, moreover, a specimen in an 8-inch pot of Beck's Cleopatra, which had been grown by the side of the above; but to which more care had been paid. It was not in bloom, but its trusses promised to be all that could be wished; while the plant was dwarf and bushy, without artificial appliances. It was added that the Camellia had proved quite at home in Mr. Kendall's Polmaise house, plants having bloomed well all winter without dropping their buds, and that so had Acacias, Cytisus, Fuchsias, Roses, and Cyclamens. The house in question was built last spring, and is heated by one of Mr. Lewis's stoves. It is 60 feet long, 18 feet 6 inches wide, and 9 feet high, span-roofed, faces north-east and south-west, and, of course, exposed to the keen, searching winds of last month, during which no difficulty was experienced in maintaining a temperature of 56°. So much for Polmaise.—Of Fruit, Mr. Dauris, gr. to Dr. Dymond, of Bolton-hall, sent an Enville Pine-apple, well formed, weighing 4 lbs. 6 oz. It was stated to have been cut from a plant, 2½ years old, which was planted out in a pit heated by steam. The Pines at Bolton-hall were mentioned to have been much infested by scale some years ago, but having been dressed at that time with a composition, resembling black paint, invented by Mr. Dauris, this pest has not reappeared, although it has been stated in the "Horticultural Society's Journal" that the mixture did not succeed with other plants. From the Garden of the Society were, among other things, Burchellia capensis, finely grown; Acacia dodonæifolia; Correa lactea a useful winter-flowering plant; Echeveria retusa; the now well known stove plant Inga pulcherrima, whose gay crimson flowers keep up a brilliant display for months, and which remain in beauty for a considerable time after being cut; Correa Gaudi; various Heaths, Orchids, and other plants.—Flowers of Chimonanthus fragrans and grandiflorus, together with cuttings of Pear trees, were distributed to such Fellows as wished to receive them. The Pears consisted of Knight's Monarch, a hardy and excellent bearer, whose fruit—melting and rich—ripens in December and January; Eyewood, also a hardy, middle-sized, roundish Pear, of rich flavour, ripening in October and November; Broom Park, a middle-sized roundish fruit, which ripens in December and January, partaking of the flavours of the Melon and Pine-apple; and, finally, Beurré d'Amanlis, a variety identical with Beurré d'Amalis of the Society's Catalogue of Fruits; but it was stated that B. d'Amanlis was the proper name, it having originated at Amanlis, a parish about 18 miles from Rennes. It is an excellent Pear, large and pyriform, pale green dotted with brown, sometimes acquiring a tinge of red next the sun. It partakes of the flavour of the Brown Beurré, but the tree is much hardier. It ripens in October. It may be worthy of remark that the fruit of this, together with that of all the above-mentioned Pears, are best flavoured from standards or dwarfs.—It was announced that the usual seeds were ready for distribution to Fellows.

THE GLOWING BEJARIA.

(*Bejaria æstuans*, Mutis.)

This genus is little known in Europe. Mutis named it after his friend Professor Bejar, of Cadiz: but Linnæus, misreading j for f, published it under the erroneous name of Befaria. It should be written as above, and sounded Beharia. It is nearly related to the Rhododendron, from which it differs in its petals being all distinct, overlapping each other, and not united into a tube. The species inhabit the Alps of Peru and Mexico, where their beauty becomes fully developed, and rivals that of the Azaleas and Rhododendrons of the United States.

One of the finest is that now figured, which [illegible] called *æstuans*, because, I should think, it grows on a [illegible] Mr. William Lobb found it on the [illegible] of Chachapoyas, at the height of 6[illegible] the flower a rose-coloured [illegible], have raised it.

The branches are covered with coarse [illegible]. The leaves are [illegible] with [illegible]; those young they are covered beneath with a [illegible] when full grown they are very [illegible] on the upper side, and dark green on the upper. The [illegible] are shaggy with coarse hairs and [illegible] with a sticky juice which oozes out from the [illegible].

The plant will [illegible] a conservatory, [illegible] it will be a decoration [illegible] Orchideæ Azaleæ, if the species should [illegible].

Rebiews.

Die Neuern Algen-Systeme und Versuch zur Begründung eines Eigenen Systems der Algen und Florideen. Von Carl Nägeli. Zurich. 1847. [illegible] pp. 8vo.

To judge by the number of [illegible] every year brings forth, system making should be the [illegible] thing in the world. But unfortunately the true [illegible] never comes forth, and the bad system of [illegible] too often set aside merely by the [illegible]. The fact is that too many look to [illegible] and [illegible] are advanced far beyond the mere [illegible] of their subject, and even in the absence of knowledge [illegible] to all. Such is certainly the case with the [illegible] at a new system of Algæ, which surpasses [illegible] most attempts of the kind. The main [illegible] on which the distinction of the two orders of Algæ and Florideæ is sought to be established, is [illegible] by the discoveries of Thuret and Decaisne regarding the fructification of Fuci which have been in every hand long before the publication of the memoir, and the quaternary division of their spores had at an earlier period still been ascertained by Crouan, and [illegible] was known by Capt. Carmichael some hundred years ago. The characters of the author's two orders of Algæ and Floridæ are as follows:—Algæ: Endochrome consisting partly of fronds partly of [illegible]. No spontaneous generation. Propagation with sexes by means of gemmæ.

Floridæ: Endochrome, consisting partly of fronds, partly of chromule. No spontaneous generation. Propagation sexual; male organs with [illegible] which are not inclosed in a cellular case; [illegible] without any calyptra, with mother cells in which are four inner cells of the second order, each containing a spore; increase (without sexes) by [illegible].

It is not our intention, nor have we room to point out the consequences of these characters: but we shall content ourselves with a few remarks on [illegible] to show that the distinctions are in the main [illegible].

As regards spontaneous or original generation, if it be admitted at all, it is at least as admissible in Algæ, using the word in its generally received [illegible], as in fungi. The observations of Kützing were carefully conducted, and his conclusions are quite as well established as any which are brought forward to show this mode of propagation in fungi. The main distinction then between Algæ and Fungi falls to the ground at once. The matter on which the distinction is built is, to say the least of it, in the highest degree [illegible].

Then as to the propagation in the one [illegible] being sexual and the other unsexual, without taking the fuci in consideration, which exhibit a far more evident sexual apparatus than any Florideæ, in very few of which antheridia have been discovered, the well-known phænomena of Zygnemata which are now extended to Diatomaceæ exhibit something like sexual agency. Here again then the main distinction between the two grand divisions fails.

But to turn to one or two of the minor divisions,—what could be more absurd than to make the whole order of Lichens a mere division of the same [illegible] with Palmellaceæ, Ulvaceæ, &c. It may be very true that the Lichens may form a portion of Algæ taken in the Linnean sense, as is the opinion of Fries, but that is quite another question.

Then, again, to take a division of still another degree. Fucaceæ are made a mere division of Zygnemata on the very uncertain ground that at a very early stage of growth the cuticle is inverted, and that the fertile

NEW GARDEN PLANTS, PUBLISHED IN BOOKS.

Name.	Where Published.	Name of Country.	Quality.	Natural Order.	Colour of Flowers.	Time of Flowering	When first Flowered.	Where.
Acacĭa oncinophylla ..... † *Hook-leaved Acacia.*	Bot. Mag., 4353	Swan River	G. ♄	Leguminous Plants	Yellow	Spring	1847	Kew.
Clerodēndron scāndens..... ‡ *Climbing Clerodendron.*	Bot. Mag., 4354	Sierra Leone	S. ♄	Verbenes	White	December	1847	Lucombe & Co.
Clerodēndron capitātum ..... ‡ *Large-headed Clerodendron* ...	Bot. Mag., 4355	Sierra Leone	S. ♄	Verbenes	White	.....	1847	Lucombe & Co.
Pimelēa Verschaffeltii ... . † *Verschaffelt's Pimelea*	Ann. Gand., t. 166	N. Holland	G. ♄	Daphnads	White	.....	1846	Verschaffelt.
Camellĭa Mathotiāna..... ..... * *Mathot's Camellia.*	Ann. Gand., t. 170	Gardens	G. ♄	Theads	Crimson	Spring	1847	Saegher, of Ghent.
Cymbidium eburnĕum ..... * *Ivory Cymbid.*	Bot. Reg., 1847, t. 67	East Indies	S. ♃ (epiphyte)	Orchids	White	July	1847	Loddiges.

N.B.—* = Very handsome. † = Second rate. ‡ = Third rate. ? = Unimportant.

threads grow from the surface of the inverted cuticle. This is indeed the case with the little cavities which produce the fascicles of filaments which are so conspicuous on the fronds of Fuci, but we have not only failed to establish the fact in Halidrys, Cystoseira, Fucus and Pycnophycus, Kützing (*Fucus tuberculatus*), but the structure seems to be exactly the reverse. The internal tissue is of three very different types in these genera; but in all alike the fertile filaments arise according to our observations, made a few days since, not from any modification of the external cells but immediately from the internal tissue. Kützing's figures, indeed, of these matters are admirable.

In Nostoc, again, M. Nägeli seems to be altogether unaware of the beautiful observations of M. Thuret, and the figures, as indeed is the case in most instances, are very unsatisfactory.

It is but justice that we should advert to one point to which, as in other branches of cellular plants, M. Nägeli has paid great attention, viz., the order of development of the cells. The loose unfounded systematic statements do not detract from the value of his observations on these points, to which we conclude by directing our readers' attention.

Calendar of Operations.

(*For the ensuing Week.*)

Although we have many reasons to be satisfied with our climate, there still exist circumstances which, in regard to vegetation, have originated many expressions not at all complimentary to it. We cannot cease to lament its capricious and inconstant character, which is more particularly evidenced in the early spring months. The humidity which then accompanies the cold renders its effects much more destructive. The removal, so far as human ingenuity can devise the means, of causes that contribute to induce humidity, such, for instance, as large and numerous trees, undrained land, and stagnant water, should always be the aim of the gardener who finds himself exposed to these unfavourable circumstances. In justice to many it may be affirmed that the causes of indifferent success do not always lie within the garden, nor with the gardener, but may freely be attributed to an unsuitable locality. The contrivance of methods intended to obviate the effect of ungenial weather forms no unimportant part of the cares of a gardener. The necessity of affording protection to early blooming and trained fruit trees will shortly occupy his attention. The method most commonly adopted is that of tacking Fir boughs over the blossom; but when time and trouble and the waste of material is taken into consideration, it is questionable whether in the end it is not an expensive plan. The French method, which is simply a narrow straw mat resting on rods that are commonly fixed in a slanting position under the coping of the wall, is both efficacious and inexpensive. Wooden moveable copings are effective but cumbrous. We imagine glass might be employed advantageously, applied merely as a coping. Canvas or thick woollen netting, fixed to rollers and worked on rafters falling at a sharp angle from the top of the wall, although an expensive, is an assured and effectual plan of protection, the adoption of which we recommend from experience.

CONSERVATORY AND GREENHOUSE.

No time should be lost in arranging, cleaning, and pruning the plants occupying the beds in the conservatory. When the health or habit, or other considerations, render it desirable that the season of blooming should be retarded, pruning may be performed later. Orange trees should be cleaned and top-dressed. Provided proper attention has been given to Roses in pots, a fair reward may soon be anticipated. Fuchsias should be put into action, and cuttings obtained as soon as the shoots are sufficiently forward. Pot Pelargoniums, Cinerarias, Calceolarias, and keep them close for a day or two after the operation. Green-fly must be repressed by fumigation. Pot Verbenas to supply cuttings. Heliotropes may also be placed in heat for the same purpose. Orchids will require an advance of heat and unfailing attention in regard to atmospheric humidity. Snails must be watched for and destroyed. Air may be admitted on favourable occasions.

FRUIT FORCING.

Vine eyes put in last month will by this time have made some little progress; shift them as they advance in growth, giving them rich light soil and bottom-heat. Vineries: a proper temperature must be sustained in the borders; fermenting materials possessing an active heat of 90° will influence the borders to the depth of 18 inches; but however strenuously a due allowance is recommended, excess must be by all means avoided. Vines within the house will require water. Allow, when it can be permitted, a few shoots to exceed the prescribed length, to keep the roots in healthy action. Syringe and shut up early on sunny afternoons, that solar heat may be retained; 85° will not injure early Vines. Peaches, Cherries, and Figs will require attention in the adjustment of temperature, occasional disbudding, and fumigation on the first appearance of fly. Artificial fertilisation may be practised on Strawberries; fresh air essentially aids the operation.

VEGETABLE FORCING.

It will be advisable to introduce another supply of Seakale and Asparagus into the forcing pit, or advance them by other means, with as little delay as possible. If light be not effectually intercepted, Seakale will be encouraged to a state of green health and maturity, not in the least required at this early season. Early Potatoes will require some attention in regard to heat and the proper admission of air; and as they advance in growth, and attain some degree of vigour, earthing up should not be forgotten. A second lot may now be set to succeed them; if they have been started previously in a hothouse so much the better. French Beans, although commonly desired, are yet cultivated in most places incidentally, and often, as little regard is thus shown them, with indifferent success; where a pit can be spared much trouble may be avoided and advantage obtained by appropriating it to them; pricked out in rich soil they yield a constant and abundant supply. As Mushrooms are always in request, succession beds should constantly be provided; in preparing for them long intervals should not elapse between the additions of fresh droppings, or the early collected matter will be found dry and comparatively worthless.

FLOWER GARDEN AND SHRUBBERIES.

Proceed with Rose pruning. The late mild weather has already advanced the buds of many sorts; an exception, however, may be made of Roses recently moved. Plant and lay Rhododendrons. Trained Magnolias should be secured to the wall; and Pomegranates and tender shrubs uncovered. Conifers may be planted out or removed. Edgings required for flower-beds (such as Box, Thrift, Daisies) should at once be planted, and Box edgings cut. Plant Pinks, Pansies, and Carnations; the laying of turf should be in progress, and all planting and pruning completed for the present.

FLORISTS' FLOWERS.

Dahlias.—These are now in full course of propagation with the large growers for sale. The amateur may strike the young shoots in a common hot-bed, which if properly managed is easily accomplished. The first thick shoots do not emit roots so well as those which are more slender; but generally speaking, for small establishments, it is the best plan to start the roots in heat and then divide them, each division having a shoot attached to it. We are glad to find that the merits of fancy Dahlias are now more appreciated; most certainly they have much improved in form, and what we now want is a dwarf race, not exceeding 2 feet in height; for as they now grow, their large size and coarse growth necessarily exclude them from small gardens. We are quite sure that good dwarf Dahlias would be much cultivated. *Auriculas.*—Mild showers occasionally would be of service to these plants; and when grown in wooden frames, a brick placed under each corner whilst the weather is open would contribute to their health and well doing. Some people top dress their plants with rich and stimulating soil at this period; we do not admire the system of adding anything stronger than thoroughly decomposed cow manure, mixed with an equal bulk of decayed leaves; this will grow them well without running any risk of poisoning the plants. *Ranunculuses* may now be planted, whenever the soil is sufficiently dry; planting them in rows about 6 inches apart, 4 inches from root to root, and covering with 3 inches of soil. Seed should also be sown in pans or boxes, thoroughly drained; these should be filled with fine sandy soil and leaf-mould. Water this well the night previous to sowing, scatter the seed on the surface thickly and cover very thinly. Then dip a brush in water and sprinkle the soil, so that no seeds are uncovered, after which they may be placed in a cold frame, carefully excluding frost, &c. *Carnations* and *Pinks* may still receive the attention previously directed.

KITCHEN GARDEN AND ORCHARD.

Any Lettuce, Endive, Broccolies, &c., which have been protected, in anticipation of severe weather, and remain uninjured, should at once be exposed to the favourable influence of the weather. Rhubarb and Sea kale may be planted, and Lettuce plants pricked out in a protected situation. A small sowing of Early Dutch Turnips may be recommended. Longpod or Windsor Beans should be sown; a few pans of Celery may be sown in heat, for an early supply. Ground should be prepared for Carrots, Parsnips, and Onions. Basil and Marjoram may be sown in pans in a hothouse. *Orchard.*—The weather, should it continue mild, will so far advance the wall trees that unceasing application in nailing, pruning, &c. will be rendered imperative; where canvas cannot be obtained, Fir boughs or wooden copings should be employed, to ward off the effects of frost, which an early spring renders both probable and dangerous. Clear away dead leaves from Strawberry plants, and remove superfluous runners from the Alpine Strawberry; all should not be removed, as the runners bear better generally than the old seedling plants.

State of the weather near London, for the week ending Feb. 17, 1848, as observed at the Horticultural Garden, Chiswick.

Feb.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 11	9	29.548	28.981	47	30	38.5	N.W.	.00
Satur.. 12	7	29.916	29.392	48	36	42.0	W.	.00
Sun. .. 13	8	30.051	29.996	51	47	49.0	S.W.	.00
Mon... 14	9	29.863	29.638	53	48	50.5	S.W.	.04
Tues... 15	10	29.544	29.174	49	29	37.5	S.	.03
Wed... 16	11	29.916	29.713	44	25	34.5	N.	.00
Thurs. 17	12	30.136	30.024	45	29	37.0	N.E.	.00
Average		29.763	29.657	48.1	34.4	41.2		.17

Feb. 11—Overcast, with thin haze; very fine; cloudy.
— 12—Clear and fine; very fine; overcast at night.
— 13—Overcast throughout.
— 14—Densely overcast; rain; overcast; slight rain at intervals.
— 15—Densely overcast and damp; rain; partially overcast; frosty.
— 16—Frosty; clear and fine; frosty at night.
— 17—Clear; fine, with whitish clouds and very clear intervals.

Mean temperature of the week, 5½ deg. above the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending Feb. 26, 1848.

Feb.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 20	43.1	27.2	35.1	12	0.51 in.	1	3	2	4	2	4	5	1
Mon. 21	43.8	31.4	37.6	12	0.20	2	5	2	5	—	3	4	—
Tues. 22	45.5	34.5	40.0	10	0.29	3	4	3	—	2	4	4	—
Wed. 23	46.4	33.4	39.9	9	0.44	2	2	4	1	—	8	2	3
Thurs. 24	47.1	31.4	40.7	11	0.29	—	2	5	2	5	—	3	5
Fri. 25	47.8	33.2	40.5	12	0.26	1	4	3	—	5	5	3	1
Satur. 26	47.4	34.7	41.1	13	0.46	1	3	4	1	4	2	5	2

The highest temperature during the above period occurred on the 25th, 1839—therm. 59 deg.; and the lowest on the 20th, 1836—therm. 19 deg.

Notices to Correspondents.

Advertisements—*A Gardener*—We cannot advise you to offer any premium to the person who would procure you a situation. Respectable gardeners will not soil their hands with such dirty transactions, and others are not to be trusted. If your advertisements have produced nothing, the probability is that you have not stated the wages you require.

Apples—*J R*—The Bess Pool Apple is only a kitchen Apple, keeping till January.‖

Birds—*J R J* enquires if any of our readers can give him the name of a bird which in the winter frequents a sandy region called Braunton, near Ilfracombe. It is the size of a skylark; head crested with golden feathers, each side of the head black; body olive-brown; stomach white; wings with white feathers in them. The Juncus acutus grows in the same locality in great abundance. Is it a rare plant?

Books—*Reader*—There has been no supplement to Loudon's "Hortus Britannicus" since 1839. A supplement to Paxton's "Botanical Dictionary" is in the press, and will be published soon. ‡

Cinerarias—*B C A*—Send us a specimen. We shall then possibly be able to answer your question. ‡

Digging—*Fossor*—For well digging garden ground, and turning in the manure, 2½*d.* per rod is charged. *Pointing*, or slightly digging the surface, may be done for half the above.‖

Evaporating Pans—*W W*—By far the best pans of this kind, fit for placing on iron pipes or for standing alone, are made in porous earthenware by Messrs. Copeland and Garrett; they cost about 3*s.* each, and are much better than iron. We had not seen them when we recommended iron a week or two since.

Greenhouses, &c.—In consequence of the great numbers of applications which are continually made to us for plans, &c., we are obliged to state that we *cannot furnish* them. It is impossible to do so in a newspaper. All that is practicable is to point out general principles. It is for professional men to work out their details.

Insects—*T F H*—The insect which has eaten round the branch just beneath the bark, so as to cause it to break so readily, was doubtless the caterpillar of the Wood-leopard moth. See *Gardeners' Chronicle*, 1846, p. 236. *W.*——*L L*—Lime will destroy the slugs, if you can get at them by hoeing, but from your account we would advise the ground to be re-trenched and well limed, and in a fortnight's time a fresh planting of the Potato. *W.*

Melons—*J J C*—The Windsor Scarlet-fleshed is one of the best of its class. We must refer you to the London seedsmen.‖

Names of Plants—When plants are sent to be named, it is most particularly requested that they may be in flower, and as perfect as circumstances permit. Most especially is it requested that the country whence they have been received, and whether they are annuals, perennials, or shrubs, hardy, greenhouse, or stove plants may be stated; because specimens by post are generally bad and incomplete, and much valuable time, which such information would save, is needless wasted.——*M C*—Physalis Peruviana.——*J L*—Gleichenia semivestita. *S.*——*A B C*—Chenopodium album.——*Index*—Linum trigynum.

Pelargoniums—*J S*—They are suffering from cold. The present leaves cannot be cured. Set them growing, and these leaves will be cast, and the new ones will all nothing.

Pines—*A Constant Reader*—We presume Pinus monspeliensis to be one of the many names of the Pinaster. P. tenuifolia is a tender Mexican species.

Potatoes—*Hardy and Son*—There is no authority.

Seeds—*R W F*—The best are Nos. 2, 5, 10, 15, 18, 19. No. 24 is West Indian Indigo, of which we should be glad of seeds; 14 is a Cotton; 22, a Melon. All are stove plants. Those not enumerated are not worth having.

Shading—*Rose*—It is difficult to devise any good plan of shading a greenhouse, without incurring a good deal of expense. The best way, perhaps, is to make up the canvas on a common roller, as you propose; it has advantages over such contrivances as those by which curtains are raised.

The Golynos Oak.—We have to thank three correspondents for their kind information, and another for what he is so obliging as to promise. As soon as we receive the latter we will give publicity to the whole.

Transplanting—*M B*—Our views on this matter have been fully given in Leading Articles to-day and last week. Old Portugal Laurels are at all times *difficult* to remove, and success is doubtful. If put in in November, and the earth thoroughly puddled round them, you will have the best chance. In any case, much depends on that operation. Nothing will thrive under the shade of Lime trees, if the branches are near the ground.

Vines—*Scrutator*—Let us beg of you not to write of others what you would not like to have said of yourself. All men have failings. A little vanity is excusable when a man has something to be vain of. The person you attack is a most intelligent and respectable man, and we cannot permit him to be thus attacked through our columns, although we do happen to differ in opinion from him. Rely upon this, that vulgar abuse defeats its end, and injures no one but its authors.

Walks—*G T J*—The mode of forming asphalte walks was given in our columns last week at p. 102.

Window Flowers—*R H*—All common greenhouse plants, with the exception of Heaths and shrubs of that description will grow in your window, which is due south, provided they are properly managed. Soft-wooded plants are easiest to grow, such as Pelargoniums, Fuchsias, and Aloysias, or herbaceous plants, like Chinese Primroses, or succulents, among which Echeverias or some of the Crassulas, especially C. coccinea and versicolor are the best; or finally the common bulbs or corms called in shops Dutch roots. The principal errors to be guarded against are insufficient drainage, watering with cold water, and allowing water to stand in the pans that receive the pots.‡

Misc—*J D*—We cannot undertake to furnish plans for flower-gardens, which is the business of professional men.‡——*A Constant Reader*—We do not send the Paper out folded, but in sheets.

SEEDLING FLOWERS.

Cinerarias—*J L*—The flower of your seedling is rather small, but it is well formed, and desirable in colour.*——*C H*—The petals of your seedling are too long and narrow; they also want substance.*

Primula sinensis—*A Lady*—The defect in your flower lies in the serrated edges of the petals, as it is large and superior in colour to those generally grown.*

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those numerous correspondents, the insertion of whose interesting contributions is still delayed.

AGRICULTURAL SEEDS.

THOMAS WHALLEY begs respectfully to inform his friends that his priced CATALOGUE for the present season is now ready, and may be had post free upon application. T. W. has published a DESCRIPTIVE LIST OF FLOWER SEEDS, which will be found useful to purchasers, and may also be had free on application.

Seed Warehouse, 12, St. George's Crescent, Liverpool.

TO SEEDSMEN AND OTHERS.—

LIVERPOOL SWEDE SEED
ASHCROFT SWEDE
WHITE BELGIAN CARROT
RED GLOBE MANGOLD WURZEL
YELLOW GLOBE Ditto
LONG RED Ditto

Carriage free to London or Bristol.

JOHN SUTTON AND SONS having saved true stocks of the above-mentioned articles in rather larger quantities than they will require for retailing, beg to offer the same to Seedsmen or others desirous of purchasing in considerable quantities. The whole having been grown from Transplanted Bulbs last summer, may be relied on as strictly true. Prices may be had on application addressed to JOHN SUTTON and SONS, Reading Nursery, Reading, Berks.

Extract from the *Berkshire Chronicle* of 4th December, 1847: "In Messrs. SUTTON'S Sample Grounds are many kinds of Swedish Turnips, Mangold Wurzel, Belgian Carrots, Kohl Rabi, Drumhead Cabbage, and other Agricultural Roots grown for the purpose of testing the merits of each sort."

TO AGRICULTURISTS, DRAIN-TILE MANUFACTURERS AND FLAX GROWERS.

R. BRADLEY AND CO., ENGINEERS, Wakefield, beg to call attention to the following articles manufactured by them.

PATENT "ECONOMIC" AND "UTILE" DRAIN-TILE AND PIPE MACHINES, from 17*l.* to 46*l.* each, the latter being the only Machine extant capable of manufacturing the smallest sized pipe or tile, as well as wall coping, ridge, floor, pan, and sewer tiles and bricks.

IMPROVED BRICK PRESS, pressing two at each stroke, with steel lined dies and brass name letters, 27*l.*

OILCAKE CRUSHER, crushing to any degree of fineness, 7*l.* 7*s.* BEAN SPLITTER, do., 5*l.* 5*s.*

CORN OR SEED DRILL, capable of being attached to any description of plough, 2*l.* 2*s.*

FLAX BREAKER, with serrated rollers, 15*l.* 15*s.*

IMPROVED DOUBLE SPIKE ROLLER, OR NORWEGIAN HARROW, 12*l.* 12*s.*

The above Machines are made wholly of iron, and can be driven by hand, steam, or horse power.—Wakefield, Feb. 19.

FLEXIBLE INDIA RUBBER PIPES, FOR GARDENING AND AGRICULTURAL PURPOSES.

THE PATENT VULCANISED INDIA RUBBER PIPES AND TUBING are made to stand BOILING LIQUOR WITHOUT INJURY, do not become stiff or hard in any temperature (but are always perfectly flexible); and as they require no application of oil or dressing when out of use, are well adapted for Fire-engines, Pumps, Brewers' use, Gas Fitters, Beer-engines, and all purposes where a perfectly flexible pipe is required. Made all sizes, from ¼ inch bore upwards, and of any length to order.—Sole Manufacturer, JAS. LYNE HANCOCK, Goswell-mews, Goswell-road, London.

Vulcanised India Rubber Washers, all sizes for Steam and Hot-water Pipes, and articles of India-rubber Manufacture generally.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK AND TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their IMPROVED BRICK and TILE MACHINES, which are to be seen at work at Alperton, and at the Company's Office, 193A, Piccadilly, from 10 A.M. to 5 P.M. Mr. Robert Scrivener, who has been appointed Manager in the room of Mr. John Ainslie, will show the Machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, 193A, Piccadilly London.

These Machines may also be seen at Mr. Slight's, Leith-walk, Edinburgh; Mr. Lawrence Hill, 135, Buchanan-street, Glasgow; Mr. Robert Charles, Mill-hill, Leeds; Messrs. Penny and Finch, Penkeridge, Staffordshire; and Messrs. Drummond and Son, Dublin.

CHEAP AND DURABLE ROOFING.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

F. M'NEILL AND CO., of Lamb's-buildings, Bunhill-row, London, the Manufacturers and only Patentees of THE ASPHALTED FELT FOR ROOFING Houses, Farm Buildings, Shedding, Workshops, and for Garden purposes, to protect Plants from Frost.

At the Great National Agricultural Shows, it is this Felt which has been exhibited and obtained TWO SILVER MEDAL PRIZES, and is the Felt SOLELY patronized and adopted by

HER MAJESTY'S WOODS AND FORESTS,
HONOURABLE BOARD OF ORDNANCE,
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ROYAL BOTANIC GARDENS, REGENT'S PARK,

And on the Estates of the Dukes of Sutherland, Norfolk, Rutland, Newcastle, Northumberland, Buccleuch (at Richmond), the late Earl Spencer, and most of the Nobility and Gentry; and *at the Royal Agricultural Society's House, Hanover-square.*

It is half the price of any other description of Roofing, and effects a great saving of Timber in the construction of Roofs. Made to any length by 32 inches wide.

PRICE ONE PENNY PER SQUARE FOOT.

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☞ The Public is cautioned that the only Works in London or Great Britain where the above Roofing is made, are F. M'NEILL AND CO.'S Patent Felt Manufactory, Lamb's-buildings, Bunhill-row, London, where roofs covered with the Felt may be seen.

The new Vice-Chancellor's Courts, at the entrance to Westminster Hall, were roofed with F. M'NEILL and Co.'s Felt about two years since, under the Surveyorship of Chas. Barry, Esq., R.A. Her Majesty's Commissioners of Woods and Forests are so satisfied with the result that they have ordered the Committee Rooms at the Houses of Parliament to be roofed with their Felt. Quantity altogether used, 24,000 feet.

Note.—Consumers sending direct to the Factory can be supplied in lengths best suited to their Roofs, so that they pay for no more than they require.

Every information afforded on the construction of Roofs, or any proposed particular application of the Felt.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the same property of withstanding the severest frost, and to become equally superior to every other for hydraulic purposes, such as docks, and lining of Reservoirs, Cisterns, Baths, Tanks, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

IMPROVED FARMING IMPLEMENTS.

THRESHING MACHINES (4-horse Power) doing from 25 to 35 loads of Wheat (straw per day, Strong undamaged, price 60 guineas, including carriage and horse-power. A GORSE MACHINE, hand-worked, will prepare 20 bushels per day, Price 10*l.* 10*s.*; WILLIAMS'S CHAFF MACHINE will cut 200 bushels per day, price 7*l.* 7*s.*, Horse Hoe, Dressing Machine (7*l.* 10*s.*), Turnip Cutter, Turnip Drill, Stubble Rake, Oil-Cake Breaker, Bean and Oat Crushers, Essex Ploughs for 2 horses, wheel Plough, Double Land Roller, &c. Seed Machines from 2 to 7 rows, according to length. References given and testimonials produced of superiority.—MARY WILLIAMS, Dix's Farm-yard, Great.

The Agricultural Gazette.

SATURDAY, FEBRUARY 19, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY, Feb. 23 Agricultural Society of England.
THURSDAY, — 24 Agricultural Society of Ireland.
WEDNESDAY, March 1 Highland and Agricultural Society.
— 1 Agricultural Society of England.
THURSDAY, — 2 Agricultural Society of Ireland.
FARMERS' CLUBS.—Feb. 19 Reading, East Kent, Northampton.—Feb. 21 West Market.—Feb. 23 Dublin.—Feb. 24 Warrington, Stranraer.—Feb. 26 Hereford.—March 1 Newcastle, Durham, Melrose.

THE announcement of the rich guano beds on the shores of Africa and South America justly created great excitement a few years ago among agriculturists and manure dealers; and they have ever since proved the rich source whence many of our farms have largely derived their fertility. What degree of interest, then, may be supposed proper to the announcement we have now to make of A GUANO MINE in our own country? Beds of fossil phosphates needing no costly fleet of ships for transportation here!

This important fact Mr. PAINE, of Farnham, this day makes known to our readers. His discoveries along the lower edge of the chalk formation in Surrey must be regarded as of the highest value both by the geologist and the agriculturist. And besides their immediate importance, they will probably lead to successful search for underground wealth in other parts of the country. Meanwhile they confirm with singular force the sentiment which LIEBIG expressed in the passage quoted in next col.; the stores of fuel long laid up in our coal beds for future generations of manufacturers have at length found their geologic parallel in the stores of *fertility*, so to speak, at last laid bare, which have been similarly accumulated for the benefit of agriculturists.

OUR readers will be glad to learn that owing to the hearty spirit in which Lord CLARENDON'S suggestions for the employment of TRAVELLING TEACHERS OF AGRICULTURE THROUGHOUT IRELAND has been received, owing also to the munificent contributions of his Lordship towards the cost of carrying them out, the scheme has assumed the character of a national undertaking.

The Agricultural Improvement Society of Ireland, to whom its management has been deputed, have now sixteen travelling lecturers, and 1600*l.* in hand available for their employment. The Agricultural Press of Ireland continues the publication of the Journals which these lecturers forward to the Society, and very interesting details are thus given of the general ignorance and despondence they meet with, but the occasional energy also with which their instructions are received and acted upon.

At the meeting of the Society on Feb. 3d, the following letter was received from the Lord Lieutenant on the subject.

"*Dublin Castle, Feb.* 2, 1848.

"Sir—I am directed by the Lord Lieutenant to request that you will convey to the Council of the Royal Agricultural Improvement Society, that his Excellency has watched the proceedings of the practical instructors in husbandry with the greatest interest, and has derived sincere satisfaction from the success that has hitherto attended their labours, which appears to be mainly attributed to the judgment with which the instructors were selected, and the excellent arrangement made by the Society for securing publicity.

"He now begs to inform the Council that he proposes to place at their disposal the sum of one thousand pounds, which he hopes will enable them to increase the number of instructors, and to lessen the areas within which their operations are now conducted, and which appear to him to be too extended.

"He would also venture to suggest, that some short tracts, containing agricultural instruction, should be distributed by the instructors, in the manner adopted last year.

"I have the honour to be, Sir, your obedient servant,
"CORRY CONNELLAN."

"EDWARD BULLEN, Esq., Sec."

The above communication was ordered to be duly acknowledged, and the thanks of the Council conveyed to his Excellency, for his munificent contribution, and the confidence he [illegible] to repose in the exertions of the [illegible] to assure his Excellency that no [illegible] by the Council to render the [illegible] in tuition for the [illegible] possible, during the [illegible] also resolved, in accordance with the [illegible] the close of his Lordship's [illegible] be given for the best Textile [illegible] Instructions and Directions [illegible] the following subjects.

"1. The necessity of turning up and [illegible] tillage land deeply and well in autumn, [illegible] it to the effects of the winter frosts, and [illegible] for cultivation in spring.

"2. The advantage of removing surface and other water by levelling and [illegible] and spreading their contents, either in compost or otherwise, upon the land.

"3. The profit to be derived from the preparation of manures of every description, by collecting, [illegible] scouring ditches, and [illegible] sea-weed, or during the [illegible] for easy distribution in the spring.

"4. The necessity of [illegible] for the purpose of [illegible] their condition.

"5. The benefit arising from the adoption of a rotation of crops suited to the different soils, and the importance of THE GOOD SENSE that two grain crops should never succeed each other without the intervening green crop.

"6. The cultivation of green crops generally.

"7. The nature and importance of the culture of Flax."

DISCOVERY OF STRATA CONTAINING PHOSPHATE OF LIME IN THE CHALK FORMATION.

"In the remains of an ancient [illegible] find the [illegible] as the land already [illegible] ing industry more [illegible]"—*Liebig.*

It may be in the recollection of some of our readers that I addressed a few words to the agricultural public, through the medium of the [illegible], 20, May 15, 1847, "On the Expediency of forming a Chemico-Agricultural Association in [illegible]." In that paper I observed that "I regard the [illegible] of our soils as valuable, not merely as a means by which we may learn to promote their [illegible] tion, but still more as an instrument by which we may discover certain hidden treasures in the shape of manures, when applied to other [illegible] even to their own surface. [illegible] where the strata are much disturbed, many valuable alteratives might certainly be procured at their several outer edges; this is specially the case in the lower chalk formation." And that "analyses of our soils and subsoils, geologically arranged, would form a most valuable acquisition to the scientific farmer, and consequently it is a desideratum of national importance."

Since the above-mentioned period the [illegible] Agricultural Chemistry Association has been established. It commenced working on the 1st of January, and is now in full operation. The suggestions I [illegible] to my brother agriculturists I have myself [illegible] out; and I now proceed to give some of the principal results of my researches: the chemico-analytical portion of these investigations having been chiefly carried on through the agency of the Association, under the able superintendence of Professor Way, to whom, for his assiduous and indefatigable attention, I feel unspeakably indebted.

It has long been a remark of common notoriety that the soil of the lower part of the true chalk formation possesses remarkable powers of fertility, very little or no manure being required to produce heavy crops; and especially with regard to the application of bone manure: the employment of it in most instances being positively useless. And upon my commencing in this geological position, certain spots of land have especially attracted my notice during a period of many years, on account of the exuberant fertility manifested by the crops of corn and [illegible], and also by reason of the remarkable colour of the straw—a very conspicuous green. It was in fact produced by an [illegible] of the true upper green sand. One arable field in particular has been notorious for growing heavy crops, almost without the application of manure. I believe it has been manured only thrice for upwards of [illegible] years, at distant intervals, viz., with bones, rape, and last year with a slight dressing of guano. The bones were applied about 15 years ago, being the first trial of bone manure upon my farm: not the slightest benefit was ever visible, and the failure caused the suspension of the use of bones for several years. Of late years my attention has been a good deal directed to Geology in its application to Agriculture, and I have for a long time suspected that the extraordinary fertility of these green parts of the fields indicated the existence of an unusual quantity of phosphate of lime: but being no practical chemist myself, and not knowing where to apply for professional aid upon which I could rely, I had no means of proving the truth or fallacy of my supposition.

During the winter of 1846-7, Mr. J. C. Nesbit, of Kensington, gave an agricultural lecture at Farnham. I then invited him to walk with me over a portion of my farm, when I informed him of these remarkable

marls, and mentioned to him all the circumstances relating to their peculiarity with which I was acquainted. In the early part of last spring I sent him a specimen of the marl for his analysation. Thus the matter rested for a time, while I became more and more anxious of obtaining a ready means of ascertaining the constituents of my subsoils; and this feeling was the proximate cause of the letter above alluded to, recommending the formation of a Chemico-Agricultural Association.

About the middle of last November I received a letter from Mr. Nesbit, in which he informed me that he had recently examined the marl, and that he found it to contain an extraordinary dose of phosphoric acid; and subsequently about the middle of December he announced to me (as he has also stated in his letter published in the *Mark-lane Express*), that after repeated trials he had arrived at the conclusion that the "marl" contained on the average nearly 5 per cent. of phosphate of lime, and this result I have every reason to believe is perfectly accurate. To Mr. Nesbit my thanks are due, and I desire thus publicly to offer them, as being the chemist who first confirmed my long entertained hypothesis, that phosphate of lime existed in valuable quantities upon certain portions of my land.

Towards the end of November I applied to a mutual friend to ask Professor Way (with whom I was previously unacquainted) if he would undertake the examination of my marl, as I always intended to avail myself of the first opportunity of seeking the assistance of the new Association. He kindly consented to my proposal, and on the 1st of December I sent him a small parcel of the green marl in a letter. I selected the greenest portion of the marl I could find, as I at that period believed that the phosphoric matter resided in the green particles. He subjected the sample to examination, and I was much disappointed at learning from him that he could detect no valuable amount of phosphates. I had also sent a portion of the same marl to another experienced analytical chemist, and from him, too, I obtained a similar discouraging report. Upon this I forwarded to Professor Way a large box of marl filled indiscriminately as it was dug from one of my pits, and I requested him to subject the whole to the most rigid examination. This he did; and I soon received from him a most favourable report, and also the important clue by which we were guided in our future researches after the origin, or rather the proximate origin, of the phosphates.

The following is Professor Way's analysis of this box of marl (dry):

Organic matter	4.59
Phosphate of lime	4.47
Magnesia	1.70
Carbonate of lime	8.00
Alumina	9.10
Protoxide of iron with a little peroxide	7.99
Sand, quite white with a little clay	47.23
Soluble silica	16.12
	99.20

"The green sand absorbs water very rapidly from the air; this, and the solubility of the silicates in it, would render the soil a good one, even without the unusually large proportion of phosphates."

At this time (29th Dec.) he commenced washing the marl in water, in the hope of concentrating the phosphoric acid. The experiment was eminently successful. In the first instance, the heavy sand being collected and analysed, it was found to contain 8 per cent. of phosphates. This concentration led to the discovery of the condition of the phosphate. He then discovered that the phosphoric acid did not exist at all in the green sand as such, but in a certain enveloping yellow substance readily separable by washing; which, after drying, yielded rather more than 50 per cent. of phosphate of lime. He likewise found by this process of washing, that there were other certain hard dark brown lumps, some of which contained upwards of 70 per cent. of the phosphate of lime.

After arriving at this important part of the discovery, I invited Mr. Way to pay me a visit at Farnham, when he kindly gave me his valuable assistance in exploring the different pits which I had had sunk in the meantime. We diligently spent two days in the fields, and two nights in our temporary laboratory, first in examining the beds, and secondly in testing the value of the various substances which we found. The result of our labours was highly gratifying. We had previously ascertained that some of our phosphoric substances were fossils. We now arrived at the conclusion that all, or nearly all of them were of fossiliferous origin.

Out of the richest vein of one of the pits we dug a mass weighing 32 lbs. This was thoroughly washed, and from it we obtained 14 lbs., or about 44 per cent., of clean hard fossil-like lumps of every size. There was not time for a rigorous analysis then, but a similar mass of 30 lbs. weight was subsequently forwarded to Mr. Way, which gave the following results. Of large and small fossils 61 per cent. of the bed were separated by washing; 10 000 grs. weight of these fossils broken down gave an average composition of—

Very fine sand	9.84
Silica (soluble)	2 36
Organic matter	3.26
Oxide of iron and alumina	4.61
Carbonate of lime	15.92
Lime in combination with phosphoric acid	35.60
Phosphoric acid	27.60
equal to 56.90 of bone earth phosphate.	
Magnesia and loss	.81
	100.00

The fossils contain sensible quantities of fluorine, but its proportion was not ascertained. The fossils or their casts hitherto found in this stratum consist of sponges, some with serpulæ attached, echini, various shells, fishes' teeth, a substance having the appearance of bone, fossil wood, and brownish-yellow amorphous lumps, in which at present I can detect no organic structure. These last vary in size from that of a Walnut to others weighing 6 lbs. and 7 lbs. and upwards. Many of these lumps of all sizes have a similar and very curious crescent-like shape, which occurring so frequently and in different pits, I cannot imagine to be an accidental coincidence. These peculiarities may hereafter lead to the detection of their origin. However widely all these fossils may have differed in their normal state, they now all equally concur in being rich in phosphoric acid. It is singular that in some of them, still retaining their external character and shape, the phosphate is in part or entirely replaced by carbonate of lime. The yellow enveloping substance before mentioned I believe originated from the decomposition of the above yellow lumps, some of them being in a very soft disintegrated state. The majority of the fossils are much broken down and water-worn; and therefore I conclude that they were not deposited *in situ*, and this conclusion is, I think, confirmed by the extreme irregularity in the thickness and extent of the beds. Should this conjecture prove correct, there exists, or at any rate did exist, in some former geological period of time, an immensely rich bed, whence these fossils originated, the fortunate discoverer of which would be amply recompensed for his researches.

The exact geological position in which this stratum is found at Farnham is in the lower part of the lower chalk, and invariably lies (when found at all) upon the hard silicious limestone rock, which is here used as a building stone. Although the green sandy marl itself, which first attracted my notice, contains no phosphoric acid, it is still, so far as my own researches have led me, an unfailing concomitant of the rich fossiliferous beds. It is not developed in this parish to any very considerable extent, and the greater part of it is on my own land; probably I may have some 5 or 6 acres. In the part where I am now excavating, we obtain from 10 to 20 cwt. per superficial yard, which is carted away for subsequent washing, &c., besides 3 or 4 tons per yard of surrounding matter, which probably contains from 1 to 5 per cent. of phosphate of lime; and this refuse we cart away for manure upon those adjoining fields, which we know from experience to be deficient in phosphates. The bed in this parish extends altogether to rather more than a mile in length, in nearly a straight line from west to east; but in most parts it is very narrow, and in many places it has been cut through by valleys of denudation.

My attention has been just directed to a paragraph in De la Beche's "Geological Manual," in which he gives an analysis of some upper green sand from Havre, by M. Berthier, viz.:

Silex	50
Protoxide of iron	21
Alumina	7
Potash	10
Water	11
	99

And that some reddish nodules disseminated through the same rock at Havre contained—

Phosphate of lime	57
Carbonate of lime	7
Carbonate of magnesia	2
Silicate of iron and alumina	25
Water and bituminous matter	7
	98

These nodules analysed by M. Berthier were evidently similar to the yellow-brown lumps which I have above described, whilst his analysis of the "upper green sand" strikingly confirms the negative evidence as to the presence of phosphoric acid in Professor Way's first experiment. By way of comparison I here insert an analysis of one of my "yellow-brown lumps," made by Mr. F. Eggar, one of Mr. Way's pupils, a gentleman fully equal to the task, viz.:

Sand and clay	7.18
Silica (soluble)	3.28
Organic matter	2.49
Oxide of iron and alumina	10.60
Carbonate of lime	15.60
Lime in combination with phosphoric acid	33.02
Phosphoric acid	27 13
Magnesia	.96
Fluorine	trace
	100.26

The discovery of these phosphate beds in the upper green sand induced me to extend my investigations to other sections of the chalk formation.

In the first place, from the bottom of my deep drains in the galt, I had collected during the past and present winters several fossil remains, consisting chiefly of a variety of shells, belemnites, broken fragments of ammonites, turrilites, &c., fishes' teeth, and bones of saurians. All these, when submitted to Mr. Way for examination, entirely dissolved up in acids, and contained, I imagine, from 80 to 90 per cent. of phosphate of lime. These fossils are not sufficiently numerous in my land to be dug out with pecuniary advantage; but they may be found elsewhere in large quantities, and I think I recollect a pit a few miles off in this neighbourhood, where, some years since, I observed them in great profusion. These fossils are extremely hard, like flint; and in this respect differ from those found in the upper green sand, yet they concur in being composed of phosphate instead of carbonate of lime.

And lastly, I proceed to give the result of my examination of the lower green sand, just below the galt. For some years I had been in the habit of collecting a quantity of greyish coloured nodules, about the size of a Walnut, which I considered to be coprolites, but at that time I had no means of ascertaining their chemical composition. They have, however, year by year, attracted my attention, from a variety of curious circumstances, which I could not explain satisfactorily to my own mind. But last April, in digging some drains between 5 and 6 feet deep, we arrived at a thin, indurated bed of "mortar-like stuff, which effectually arrested the downward progress of the water." See article on draining, in No. 34 (August 21) of the *Agricultural Gazette* of last year. This field is there referred to in my 16th experiment. The soil above this indurated band is a hard shingly gravel, which, prior to draining, was utterly worthless. On examining this substance I found some of my old coprolitic (?) nodules interspersed; and, by way of experiment, I ordered my man carefully to take out as much as he could of the bottom spit, and to spread it over the land, alongside the drains. (By the way, I should state that the draining has proved to be efficient). The whole field was subsequently sown with Swede Turnips, having been treated all alike. The crop was altogether a good one; I may say most excellent for the season: but near the drains where the "mortar-like stuff" was spread, the superiority in the size of the Swedes was most evident, many of them weighing from 15 to 20 lbs. each. And thus my vegetable chemists informed me that I was right in my conjecture that the substance was rich in phosphate of lime, though it must be confessed that it was rather trying to my patience to wait so long for their report.

When I forwarded to Mr. Way my first box of marl from the upper green sand, I also sent him a parcel of these nodules, and he almost immediately informed me that they contained at least 40 per cent. of bone phosphate. This favourable report caused me to redouble my researches after larger quantities of them, and I soon found that this stratum was likely to prove far more valuable than either of the former ones. Therefore, when Mr. Way was at Farnham, we carefully inspected these beds, and collected a variety of fossils; for in this case also the phosphoric matter is derived from them. The fossils comprise corals, sponges, shells, ammonites, turrilites, and a large number of oblong masses, which may be coprolites; but now that I find them associated with other fossils, all equally rich in phosphoric matter, I shall leave them to be determined by more competent judges than myself. Darwin, in his work on volcanic islands, speaks of "fishes browsing upon corals," &c., which were afterwards taken from their intestines. Might these fossils have had a similar origin?

These beds of fossils are deposited in layers in the midst of very coarse green sand; and they possess the property of binding the sand together like mortar. From one of the richest veins we dug out a solid mass, weighing about 60 lbs. This mass Mr. Way broke up, and, after sifting and washing, obtained about 35 per cent. of fossils. Whilst the fossils remain whole, it is impossible to separate the sand from them, they being in fact intimately mixed up together. Mr. Way, however, discovered an easy mechanical method of separation.

These mixed fossils, powdered but not dried, gave on analysis:—

Sand and a little clay	43.87
Water with a little organic matter and fluorine	3.44
Soluble silica	3.25
Oxide of iron and alumina	3 35
Phosphoric acid	20.80
equal to 42.48 of bone earth phosphate.	
Lime in combination with phosphoric acid	23.86
Carbonate of lime	1.06
Magnesia and loss	0.37
	100.00

It is to be observed that the analyses give more lime than could unite with the phosphoric acid to form ordinary bone phosphate. Some portion of this element must, no doubt, be in combination with fluorine, which is a component also of these fossils. The exact scientific history of this fact will be hereafter given by Professor Way. The organic matter, too, in all the analyses, contains nitrogen, and seems to be of animal origin.

By a process of judicious sieving, the proportion of bone earth phosphate can be raised to 55 or 60 per cent.

It is worthy of remark that these lower green sand beds contain scarcely any carbonic acid, so that for many commercial purposes they are the more valuable. And with regard to the practical working of them, they are more available than the phosphates in the former series, on account of the facility with which the fossils can be separated from the external sand by the simple process of sieving. And they may eventually prove more advantageous to agriculturists in general by reason of their great superficial extent of deposition. They likewise present the appearance of having been deposited *in situ*. Hitherto I have usually found three distinct beds, having about 3 feet of sand between each; they vary in thickness from 3 to 12 inches. Sterility of the superincumbent soil is their invariable characteristic. This is produced (as I have above illustrated by my draining experiments) by their cementing compactness, which stops the passage of the water. The breaking out of water on the side of a hill has frequently indicated to me their exact position. I have examined this neighbourhood over an area of several miles, and without a single exception I have found these same fossils to a greater or less extent prevailing in the same

geological position, viz., *just below the gault, at its junction with the lower green sand.*

Combining with their universal presence in this vicinity the recollection of what I have observed in other counties, I am induced to believe that they may be extensively found elsewhere. Whether the beds can be worked with pecuniary advantage, is quite another question, wholly dependent on their thickness, and the inclination of the strata at their several outcroppings. I have indicated where they are likely to be discovered; it will be for others to pursue the enquiry, if they think proper. Some of the fossils have been examined by Mr. S. P. Woodward, who has kindly named for me the following amongst others; but every day I am increasing my store:—

In the Lower Green Sand.— Several varieties of ammonites; spatangus; Thetis minor (this is characteristic); and fossil wood, also converted into phosphate of lime.

In the Upper Green Sand.—Several kinds of sponges, particularly Syphonia pyriformis; an Inoceramus; Cardita tennicosta (cast); cast of Area glabra and of a Gryphæa; an Auricula incrassata; and teeth of small sharks.

More full particulars, with detailed analyses by Professor Way, will be hereafter presented to the agricultural public. Meanwhile, if the discovery be of any value, my compeers are welcome to all the information I possess; my simple object being to promote the advancement of agriculture on rational grounds, and to prove that science and practice must advance together.

I hope ere long to extend my researches through the whole series of the chalk formation upon which my land is situated; and if I obtain any valuable results they shall be made known.

Fearing that I have already exhausted the patience of your readers by this long letter, I will conclude by appealing to my brother landowners to institute similar investigations on their respective estates; a mass of facts would thus be obtained of really national value, and Liebig's anticipation might be fulfilled that a kind Providence has been as mindful of the agriculturist as of the manufacturer, in storing up treasures for future ages. And that they may not grope their way in the dark, let me urge them to come forward and liberally to support the new English Agricultural Chemistry Association, which has been established for the express purpose of guiding agriculturists in their inquiries.—*J. Manwaring Paine*

P.S. If there be any errors of description of the chemical results given above, they are exclusively attributable to my own ignorance of the details of the science, as I may have misunderstood, and therefore wrongly transcribed or abridged, some of the minute particulars furnished to me by the professional gentlemen whom I have consulted. Since the above account was written, Mr. Nesbit has informed me that he has also just found 45 per cent. of the phosphate of lime in the nodules from the lower green sand which I once gave to him.—*J. M. P.*

BOX-FEEDING.

Perhaps it would not be uninteresting to some of your readers were I to give an account of the plan adopted for feeding the stock on the farm where I now reside. I will first give an account of the manner in which the porridge or compound is made for the horses. Spread 4 bushel baskets of Oat-straw chaff equally over the floor; boil 10 gallons of water, put ¼ peck of Linseed into it, and boil a few minutes. When ready, spread it over the chaff. Mix the whole together, and then put 1 bushel of meal (Buckwheat and Barley mixed) with it; then mix it again well together; allow it to cool.

Compound or Porridge for the Cattle and Sheep.—Spread 17 baskets of chaff, and 4 baskets of Mangold Wurzel over the floor in layers. Boil 30 gallons of water, putting in a handful of salt with it, along with ¼ peck of Peaches. [A singular food for cattle. A lot of spoiled Peaches were bought at 5*l.* per ton.] When it boils put in 1¼ peck of Linseed; and after a few minutes pour the whole over the chaff and Mangold Wurzel; mix it well together and then put 1 bushel of meal [as before] with it. Mix the whole again well together, and let it cool.

Our stock now consists of 4 pair of farm-horses, 37 head of cattle, and 70 pigs, besides the few remaining sheep of a flock, now nearly all sold fat. Fourteen beasts fatting in boxes in the house, viz, 10 Herefords, 2 short-horns, 2 cows, are fed four times per day, viz.:—

1 bushel basket of cut Mangold Wurzel* to each, at 6 o'clock
1 basket of porridge† between two, at 11
1 basket of Mangold Wurzel to each, at 3
1 basket of porridge between two, at night.

Fifteen beasts feeding in the boxes in the yards, viz., 4 cows and 4 oxen, which get the same allowance per day at the same hours as those in the house; also 7 young cattle.

5 baskets of Mangold Wurzel between seven
4 baskets of porridge between seven
5 baskets of Mangold Wurzel between seven
4 baskets of porridge between seven, at night.

Eight young beasts in boxes:

6 baskets of Mangold Wurzel between eight
4 baskets of porridge between eight
6 baskets of Mangold Wurzel between eight
4 baskets of porridge between eight.

Sheep fatting in the lower yard, seven in each pen:

1 basket of Mangold Wurzel between seven
1 basket of porridge between seven
1 basket of Mangold Wurzel between seven
1 basket of porridge between seven.

Seventy pigs of all sizes and ages, 11 of which are fatting and get more meal and less Carrots, with Peaches, all the rest get more Carrots and Peaches, and less meal. The beasts and sheep are abundantly bedded every other day, and get their beds shook up every day. The pigs get a clean bed every other day.—*W. Winyate.*

* A basket of Mangold Wurzel weighs ½ cwt.
† A basket of porridge weighs 48 lbs.

ON THE PROFITS OF AGRICULTURE.

It has been said that the man who puts farming upon paper will never put a plough in the ground, implying that to make exact calculations about it, is attended with so many difficulties that he must not trust these. It is fortunate that the practical farmer can safely go on without minute calculations, and that the state of his cash soon lets him know how things pay. On the other hand, the gentleman farmer, doing the practical work through others, and having many other accounts and transactions, requires to have a good deal of paper farming, or he will not be able to judge of the profit or loss on this account. Farm statements require to take in a number of transactions before any just conclusion can be arrived at, and the result depends upon so many contingencies, that all prospective calculations must be taken as approximations only. There is a good deal about gentlemen's farming that requires investigation, as the opinion seems almost general that to him it must be a losing concern. Now it need not necessarily be so, if conducted on anything like proper principles. Proper farm account books must be kept, but these, from the want of some well established uniform system, often tend more to the confusion than the clearing up of the business. Having got intelligible books, the system of farming requires investigation. "It is just what has been always the practice about the place"—is a reply which, instead of being satisfactory, should urge on the enquiry. A proprietor has to decide whether he is to farm merely for the supply of his own house, or if, besides this, he intends to make a profit beyond. In either case the first enquiry is the same; he has to determine what permanent establishment he intends to keep — what fodder, butcher meat, and other supplies he proposes to get from the farm; then the quality and average produce of his land will determine what extent will be necessary to give these supplies and fodder for his work horses. It is evident off this farm he cannot expect to make other profit, with the exception, perhaps, of improving the land; and that if he wishes to turn the farm to cash profit, he must take a greater extent of land. It is too common to do injustice to the farm by not giving it full credit for all that goes to the house, or that is used by farm horses, poultry, &c. This may be in excess, but the more reason for giving the farm credit for its supply. Everything used off the farm ought to be looked upon as so much bought at the market, and entered accordingly. The carting of wood, of fuel, the improvement of the land, the distance from market, fortunately, seldom leave it optional on an estate whether to have a farm or not; but it will be a proper view to take, after fixing on what house establishment be kept, what necessary supplies would annually cost if bought at market. I will suppose my own case, as the best way of illustrating what I mean. There are in all ten persons, two carriage horses, and a pony, and poultry. To feed these, on an average, I require as follows, with the market prices:—

80 bolls (about 60 quarters) of Oats with straw, at 22*s.* per boll	£88	0	0
1200 stones of hay, at 7*d.* per stone	35	0	0
3500 lbs. of meat, at 6*d.* per lb.	87	0	0
Butter, milk, and cream	5	0	0
Potatoes and cut Grass	20	0	0
Driving coals, 80 carts, at 2*s.* 6*d.* per cart (I drive with carriage horses)	....		
Total, if bought at market	£265	0	0

The dung made will be required for the garden, so that it cannot be deducted; while the driving coals, and many other cartings which will be required, may fairly be put down in this account. Let us now look at the cost of raising these on a farm, including the additional quantities required for the purposes of the farm itself. Again, taking my own land, which is not fitted for Wheat.

Expenditure.

Rent for 74½ acres, at 25*s.*	£94	0	0
Wages of ploughman, and ½ of coachman	46	0	0
Farm labour	60	0	0
Smith's implements	15	0	0
3 milk cows, at 12*l.*	36	0	0
8 stots, at 5*l.* 10*s.*	44	0	0
20 sheep, at 18*s.*	18	0	0
Total expenditure	£313	0	0

Produce.

20 acres of Oats, at 6 bolls per acre = 120 bolls, at 20*s.*	£120	0	0
5 acres Turnips, at 12*l.* per acre	60	0	0
5 acres Potatoes, at 20*l.* per acre	100	0	0
10 acres hay at 150 stones per acre, at 7*d.* per stone	43	0	0
2½ acres meadow—800 stones of hay, at 4*d.*	13	0	0
20 acres pasture, milk, cows, and 8 stots sold, at 8*l.* 10*s.*	68	0	0
12 do. Sheep, 20 at 22*s.*	22	0	0
74½ acres. Total produce	£426	0	0

It is to be observed that the purchase of the milk cows is entered, and so ought strictly the purchase of cart horses and implements, but to put the statement fairly these charges would extend over more years: perhaps a per centage as interest on outlaid capital would have been a better way of putting it. However, there appears a good surplus to allow for other charges not entered, and although the rent per bolt for Potatoes is perhaps high, yet the other produce is most per acre, and no Wheat is grown. [illegible] and during done, there might be more [illegible] and to a permanent improvement of the property, and at the same time [illegible] than it bought in the market. [illegible] by one pair of cart horses [illegible] the carriage horses. A pair are considered per for 40 acres; 74 acres should not be required to furnish what is wanted for my [illegible] can work that quantity, and [illegible] still be a fair profit; [illegible] to make it a farm by which I can [illegible] acres, I must add to the [illegible] will therefore be required, and [illegible] soil and the quantity [illegible] here manage 120 acres [illegible] man's way there would [illegible] of expenditure for labour [illegible] of calculation would stand as follows:—

Expenditure.			
Additional Rent [illegible]			
Ploughman [illegible]			
6 [illegible]			
Total additional expenditure			
Expenditure brought down			
Produce.			
15 acres in Oats, at 6 [illegible]			
10 acres Potatoes and Turnips [illegible]			
Potatoes			
5 acres Barley, at 6 [illegible]			
15 pasture, 6 stots, and [illegible]			
Total additional produce			
Produce brought down			

After supplying the house the sales may be estimated as follows:—

60 bolls of Oats, at [illegible] per boll			
5 acres of Potatoes, at [illegible] per acre			
6 do. of Barley, at [illegible]			
8 stots, at 8*l.* 10*s.*			
Lambs' skins and wool			
Total of Sales			

I believe this to be within the mark of my own practice, but as I already stated the [illegible] are approximations only, I am aware [illegible] of the demands upon property, but my object in these statements appears to be brought out—that the farm need not be carried on at a loss. That to render a farm profitable to a gentleman farmer, he must occupy a considerably greater quantity of land than the home farm.—*Farmer.*

Home Correspondence.

Hand-Threshing Machines.—It is a principle in mechanics that where greater speed is required greater power must be applied—you cannot obtain the one without the other—great speed and regularity of speed are necessary in order to thresh corn efficiently by machine; consequently great power must be applied, hand power is not sufficient for the purpose, and cannot be applied to the best advantage, so as to obtain regularity of speed. Where speed is essential, the object of machinery is the proper application of a sufficient motive power, which must always be proportionate to the speed required. Speed then is gained by the addition of power, and not otherwise. A horse may be necessary to perform at a greater speed what a man could perform at a lesser speed; but a man cannot be made to perform the same work that it would require a horse to perform, except by diminution of the speed. Power then is gained by diminution of speed, and not otherwise. To thresh corn efficiently by machine, great speed and regularity of speed, as I have before said, are essentially necessary, and cannot be dispensed with (I mean of the rotary movement of the drum of the threshing machine), and which, as I have also said, can only be gained by the application of a sufficient motive power. Horses or steam can be applied to do the work efficiently, but to apply hand-power is to decrease the motive power, and consequently by reducing the speed to destroy the efficient working of the machine. Hand-threshing machines, therefore, are not constructed on true mechanical principles, and are not adapted to perform their work efficiently by reason that the motive power is not sufficient to produce the speed and regularity of speed in the rotary movement of the drum which is necessary to perform the work of threshing corn properly.—*G. R. W.*

Thin Sowing.—At the beginning of last harvest I, with a friend or two, visited Mr. H. Davis's farm, to see his crops, and some of them certainly were very fine; but thinking that to judge of a farm it should be seen at different times of the year, therefore last week I went over Mr. D.'s farm again to see how things looked. His Wheat (3 pecks to the acre) looks enough for any land; the Barley sown in November (5 pecks to the acre) very fine, and the winter Beans (1 bushels to the acre), 2 feet between the rows, none could beat them: the quantity of seed above was given by the bailiff. But for thin sowing it has been the finest season ever known, and many will wish they had sown 3 pecks instead of 3 bushels this year. I saw the old Kentish ploughs of Mr. D. in his shed, and Ransome's at work in the field; I have seen the same before. The Kentish ploughs, with their cumbersome machinery, might do very well for the hills and stony lands of Kent, but not for good working land; they might do very well for some of Mr. D.'s farm, the gravel.—*A Thin Sower.*

Salt for Food.—In your *Gazette* of *Dec.* 25, p. 859, the assertion of Mr. Robinson, as quoted by your "Lincolnshire Flockmaster" rather startles me, on reading his opinion. Some years since, when cutting hay into chaff for sheep, I had about 150 ewe tegs on this keep with a full supply of common salt (not rock); their daily consumption was half a gallon, upon this they improved exceedingly well. The hay-chaff being a new system, my neighbours were astonished to see their improvement; since then if hay is plenty, I am not afraid of my flock doing well. In the spring of the year, when the Turnips begin to run to Greens, sheep do better with cut hay than a quantity of old Turnips. It is best to consume your Turnips in the winter with sufficient dry food (never keep Turnips back for spring; if the weather is mild they run and sprout, if severe frost they often rot), by so doing you get your land clear for corn sooner; your flock will not suffer for it. Many hundred sheep are annually sold at our market in the spring (Risley), to go into the salt marshes; if salt is so very injurious I should think they would not fatten in so short a time as I understand they do. It is the first time I have heard that salt should not be given to cattle, or that they should not have free access to it; my opinion is they will not partake of more than will do them good. Many of my brother farmers always keep rock salt in the manger before their horses; if Mr. Robinson's opinion is correct certainly this ought to be avoided; when salted hay has been given to ewes with free access to water, they have not done so well, but I have never heard any practical man assert that the salt did the mischief. Heated hay always produces a craving for water, I think very injurious to ewes in lamb. The 150 tegs above alluded to on hay-chaff, I weighed one week's allowance of salt; they consumed per day each 2 lbs. 2¾ oz.; they were on fallow and could not get anything else; they continued in thriving condition and in perfect health.—*A Berkshire Flockmaster, Stanmore.*

The Formation of Butter.—Even the best regulated dairies are subject to the occasional misfortune of the butter not coming, and in less skilfully managed establishments the mishap is inconveniently frequent. One common misadventure with us has been the conversion of the whole contents of the churn into a mass of froth. To avoid this inconvenience many empirical and even superstitious means are resorted to; and the most adroit butter-getters among our farmers' wives either will not, or more probably cannot, communicate the secret of their success, in such a manner that the person instructed shall obtain a result with equal expedition and certainty. I shall therefore be greatly obliged if some among your many able correspondents will have the goodness to state precisely what it is which effects the conversion of cream into butter. Is it the mere agitation of the cream, thereby producing a simple mechanical union between the oily particles, or does any portion of air enter into combination with them? Does the chemical analysis of butter differ from that of cream minus the butter-milk? Could butter be formed *in vacuo*, by churning under the exhausted receiver of an air-pump, or in a completely closed churn, from which the air had previously been withdrawn. In the ordinary process of churning, does the air contained in the churn after the formation of butter differ in any respect from common atmospheric air? I can find no solution to these queries in any book on agriculture; but a clear answer to them might throw some light on the craft and mystery of butter-making, and save many lady amateurs from giving up the task in despair. Temperature seems a most influential agent. In hot weather you can hardly take a bottle of cream as a present to a town-resident friend, without finding it changed in name and condition at the end of a very short journey, while at this season you might send it unaltered from Penzance to treeless Thurso.—*D.*

Potatoes.—I beg to hand you the result of an experiment which, so far as it has gone, promises to be attended with the happiest results. A landed gentleman had a considerable breadth under that root; they were partly planted on land where stood a belt of planting, and which had not been in tillage for upwards of 20 years, and part on land which had been under a regular course of cropping. The crop on both was good, from 72 to 80 bolls of 6 bushels per Scotch acre. Although the disease was apparent in the whole, yet it was less visible in those of the new land. After lying some days dug, they were picked and carefully mixed up with a portion of sand. On examining them last week, it was found that they were in no respect worse than when pitted, and indeed give every promise to remain so till seed-time, they having still retained their fine mealy flavour which they had when newly dug, and in their march from the pot to the table a good deal resemble Sir John Falstaff's soldiers, not an entire coat in squad. Not so with those which were not treated as above. A considerable part was by the same gentleman stowed away in a fruit loft, for the use of the family during winter; they have required to be twice turned and picked, indeed they indicate that before the period comes round for planting they will be very much diminished. —*Robert M'Naughton, Dec.* 2.

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A Weekly Council was held at the Society's House in Hanover-square, on Wednesday last, the 16th of February. Present: Mr. Raymond Barker, in the chair; Mr. Almack; Mr. Bosanquet; Mr. Burke; Mr. Branston, M.P.; Colonel Challoner; Mr. Fuller, M.P.; Mr. Fisher Hobbs; Mr. Wren Hoskyns; Mr. Hudson, of Castleacre; Rev. C. E. Keene; Mr. Kinder; Mr. Miles, M.P.; Mr. Majendie; Mr. C. Miles; Mr. Parkins; Prof. Sewell; Mr. R. Smith; Prof. Simonds; Mr. H. Tull; Mr. T. R. Tweed; Prof. Way; and Mr. Webster.

The following new Members were elected:

Hutchinson, the Hon. Colonel Henry Hely, Weston House, Towcester, Northampton
Bower, Thomas Bowyer, Tweme House, Blandford, Dorset
Bell, William Read, Gillingham, Shaftesbury, Dorset
Waterhouse, Edward, Liverpool
Blunnerhasset, Rev. William, Tweme Vicarage, Blandford
Farmer, Henry Grimes, Haven Farm, Tickhill, Yorkshire
Matchett, William, Norwich
Marshall, Joseph, Ashgrove, Halifax, Yorkshire
Sidgreaves, James, Fishergate, Preston, Lancashire
Tanqueray, John, Hendon, Middlesex.

The names of 14 candidates for election at the next meeting, were then read.

Phosphate of Lime.—Prof. Way, the Consulting-Chemist to the Society, brought under the notice of the Council some discoveries lately made by Mr. Paine, of Farnham, in Surrey, which in Prof. Way's opinion were likely to prove of great importance to practical agriculture. Mr. Paine had been induced to examine the subsoil of some parts of his estate, and had been fortunate enough to find large quantities of organic remains consisting chiefly of phosphate of lime, the principal mineral ingredient, as it was well known, of bones. These remains were found in the land in two distinct geological formations, namely, in the upper and lower green sand; but more particularly in the latter. Prof. Way stated that these beds would, he had no doubt, be economically worked, and that an abundant source of phosphate of lime would be obtained at a moderate price for all those agricultural purposes for which the mineral constituents of bones had by experience been found to prove so beneficial.

Artificial Desiccation.—Mr. Webster called the attention of the Council to a new system of drying animal and vegetable substances by means of rapid currents of hot air passed through chambers in which such substances were inclosed, which he conceived would prove, in many instances, of great advantage in reference to agricultural produce. He exhibited specimens of various kinds of wood exposed in a green state to the influence of hot air in this process; and which in one week had become perfectly hard, dry, and solid, having lost a considerable amount of weight by the abstraction of moisture, and being left in a state only slightly susceptible of re-absorbing it. The articles to be dried were exposed to the currents of hot air (varying from 100° to 450° Fahr.) in a brick chamber, 10 feet wide, 15 feet deep, and 20 feet long, erected at an expense of from 150*l.* to 200*l.* Mr. Webster was engaged in experiments on the application of this process to agricultural purposes; and would report to the Council the result. In the mean time it had been advantageously applied to wood of all kinds; to tiles and bricks (and even to meat); to Turnips, Mangold Wurzel, Carrots, and Parsnips; to mouldy hay (which it rendered perfectly dry and sweet), and mouldy or mildewed Wheat; as well as to damp and tainted feathers and linen.

Australian Wheat.—Mr. Fuller, M.P., and Mr. Parkins reported similar success in their trials of the Australian Wheat and Barley forwarded to the Council and distributed among the members for cultivation, namely, that the Wheat was a failure in their cases, but the Barley most successful, yielding a large crop, and of a quality better suited for the maltster than any they had tried. Mr. Fuller also reported favourably of the Silesian Beet he had tried, and of his Carrot crop, and his successful growth of the Drum-headed Cabbage. He attributed his exemption to disease prevailing in his neighbourhood in the Turnips, to his employment of sulphuric acid and bones.—Mr. Robert Smith bore testimony to the peculiar value of that application, a crop of his in Rutlandshire having proved a most remarkable one from that treatment.—An interesting discussion then ensued on the rotting of Turnips and on the best mode of cultivation to be adopted as preventive of such result, in which Mr. Kinder, Col. Challoner, Mr. Miles, M.P., and Mr. Raymond Barker communicated the plans which they recommended as the result of their own respective experience on the subject. Col. Challoner related a striking instance that had come under his observation of the value of rooks in extracting grubs from the roots of Turnips, every Turnip on the field to which he alluded, where the beak of a rook had not been inserted, having been found to be cankered with the grub they had not extracted, in such cases, as they had done from the other Turnips of the crop which were found quite sound.

Miscellaneous Communications.—Mr. Chadwick's offer to attend and explain the construction and advantage of a draining level.—Count Gripenberg's application in reference to his sowing machine.—Mr. Turnor's communication of a copy of a translation into Welch of the Cottage Tract on Gardening, published in the Society's Journal.—Mr. Fisen's suggestion on selection of grain for crops.—Mr. Henry Wilson's communication from the Rev. Copinger Hill on the discordant statements of Von Thaer and Johnson on the equivalent of Wheat corresponding to 100 of hay; and his suggestion for prizes on the subject, to induce further experiment.—Lord Kenyon's transmission of a portion of a stratum of earth resting on marl near Wrexham.—Among the numerous presents made to the Society were the Transactions of the Agricultural Societies of Lyons, Vienna, and St. Petersburg.

The Council adjourned to Wednesday next, the 23d instant.

HIGHLAND SOCIETY.

Feb. 2.—At the monthly meeting, held this day, Mr. Clark, of Ulva, read a Report of the Improvement of Waste Land effected by Mr. George Adam, Easter Beltie, Kincardine O'Neil. Mr. Clark said that the paper which he was about to read he considered of a very interesting nature, inasmuch as it came from a tenant-farmer who had, in improving waste land belonging to his landlord, and of which he held a 30 years' lease, expended upwards of 1020*l.* of his own proper funds, and who seemed satisfied, in thus investing his capital, by the return yearly made in the improved value of the lands. The limits of this report do not permit more than a short abstract of Mr. Adam's communication to be given. The subject of his improvement was a tract called the Shangie Muir, about 74 acres in extent, of which a small portion was a quagmire, and about 65 of a black moorish soil, with a retentive subsoil impervious to water; it had never been under the plough, was thickly studded with stones, and bore no herbage except a flimsy coat of heather. Mr. Adam commenced operations by the formation of a sufficient outfall for the drainage, by digging the earth in the line of dikes, and by the removal of earth-fast stones. Between July 1839 and 1842, he trench-ploughed the whole, using five horses in the plough the first year, and subsequently four horses and four oxen alternately, with seven men and women constantly occupied in following the plough to clear the trench of stones. About four acres required to be trenched with pick and spade, at an expense of 8*l.* per acre. The ground, when cleared of stones, was cross ploughed, broken with drag and other harrows, and brought to a smooth surface by spade and mattock. This Mr. Adam conceives preferable to burning the surface, which, though raising a good crop at first, is permanently injurious. The first crop—an average one—was Turnips, manured with 10 bushels of bones, mixed with three times that quantity of peat ashes per acre. The Turnips were eaten off with sheep in spring. The ground was then ploughed, and limed to the extent of eight bolls of shells per acre, mixed with as many cart-loads of moss; it was then sowed with Oats, and Grass and Clover seeds, and produced about three quarters of Oats per acre. Some idea may be formed of the extent to which stones had been removed, when it is stated that they furnished materials for 3716 yards of dikes, 12,000 yards of drains, and the box of a road 730 yards long, by 10 feet wide, and 16 inches deep, and that about 8000 cart-loads have been laid aside for after use. Mr. Adam's opinion is, that such a farm should be cultivated on a five-shift rotation—1st, Turnips, eaten off by sheep; 2d, Oats or Barley; 3d, 4th, and 5th, Grass, pastured by sheep or small Highland cattle. Mr. Maclean, Braidwood, expressed his approval of the course followed by Mr. Adam in his improvements, and his opinion that others would do wisely to emulate his example, and, by reclaiming our waste lands, provide work in this country for the redundant rural population, instead of encouraging their emigration.

Farmers' Clubs.

London, *Feb.* 7: "*On the Value of Town and Sewage Manure—The best and cheapest mode of conveying it to the country, and the best form of application for crops.*" Proposed by the Rev. J. C. Blair Warren, of Horkesley-hall, Essex, who said:—

In the remarks I shall offer to your notice I must beg the indulgence of both practical and scientific farmers, desiring rather to leave it to the discussion of the subject to elicit the truth than to presume to afford information to those who are so much better able to give than to receive instruction from me. I shall, however, take the privilege of offering my views, because I am deeply impressed with the belief that the subject involves in it the life, health, and enjoyment of mankind. You will bear in mind that the people naturally look to be fed through the instrumentality of farmers as manufacturers of food; and we ought also to bear in mind that we have no right to outstep our line of duty by undoing what we propose to do; that is to say, that in the process of providing food we have no right or occasion to poison the air or pollute the fountain of health. On the contrary, the course we ought to adopt, whether learned or unlearned, in the science and practice of farming, I apprehend to be that which recommends itself by common sense, swayed by scientific research, and based on unerring truth. Surely the laws which regulate the production of food for man regulate also the production of nourishment for those plants which constitute the food, and if they be read and understood will be found to be good and true, as emanating from the same Almighty Power. With these preliminary remarks, I will direct your attention to the subject in the order in which it stands, presuming that the value of what is called town and sewage manure is admitted to be such that it ought to be saved and applied to the soil. Those who will address you may, perhaps, touch more particularly on this part of the subject, for I am very glad to see a learned Professor present this evening who has directed much attention to the subject, and is therefore well able to answer any questions which practical farmers may put, which may lead to the proper understanding of what constitutes value. Town and sewage manure is, as you know, composed of the excrements of animals and human beings, the sweepings of the streets, the refuse from manufactories, water-closets, scullories, washhouses, &c., containing nearly all that is essential for the growth and nourishment of Grass, vegetables, fruits, cereals, &c. In short, returning to the soil the fragments of food which have been left after man and beast have been fed and satisfied. These fragments or atoms of broken food are the materials best suited to build up again the elements of life. Now, these elements so called are not available for plants except in a liquid or gaseous form, because from their structure they can only absorb, and so appropriate and assimilate their food, air, light, moisture, and warmth being essential for the perfecting of the life and nourishment of this part of the creation. It is also desirable that food should be stored up and given to plants in a form convenient for use; wherefore the early and latter rain is looked for to effect that change in solid substances, whether organic or inorganic, which will render them available. Large heaps of inorganic manure lose a very great proportion of value from exposure to the atmosphere, or from want of a sufficient quantity of water to hold in solution the valuable component parts; for you well know that water carries or holds in solution the strongest and best part of tea or

malt, when either is manufactured. And if such be the fact we have only to consider how we can convey the good matter in such a convenient and cheap manner as to effect the saving of all that is valuable. I need not tell you, for the press, and especially *The Times*, has already done so, that the sanitary commission has, by incontrovertible evidence proved that the stagnation of sewer water and filth, composed of decaying and decayed animal and vegetable matter, ought no longer to be allowed to remain in accumulation in towns and cities, destroying health and life. It may therefore be regarded as nearly if not quite quite certain that Government will very properly put a stop to such accumulations of poisonous matter, and to such a poisonous manner of removing it. We must therefore contrive under these circumstances (and I think it will be shown that the plan proposed will be the best under any), to remove by other means than those now adopted the town and sewage manure. This brings me to that part of our subject—the best and cheapest mode of conveying it to the country. There is a company at Manchester who have applied manure in the liquid form. I will read you a short extract published in the circular of the Metropolitan Sewage Manure Company, which will give you some idea of the expense. (See report at page 42.) Such is the proposed plan and cost of conveying town and sewage manure to the country. At present a barge freight of from 14 to 20 loads, varying with size and quality, costs from *l.* 10*s.* to 9*l.*, at the water side. One load of 35 cwt. would cost 18*s.* to be conveyed 4 miles, so that 10 loads an acre would cost 9*l.* A practical farmer tells me he would apply 30 such loads to his Swedes or Mangold Wurzel. Another farmer in Suffolk states that a barge-load of from 60 to 70 tons would cost at Colchester 15*l.* the 15*l.* to 16*l.*; that he prefers mixing it with good farm-yard manure; but in a dry season it will do no good; that it should be carted direct from the barge, because it loses a great deal of its goodness, and wastes very much if left long. A gentleman who has published, in the last Journal of the Royal Agricultural Society, his experience on the value of liquid manure, states the wonderful effects of horse-urine diluted with water; he says he believes the great fertilising power is in the urine, the feces containing principally lime and sand. The sewage must contain, he says, in dry weather, a very large proportion of urine of the best kind, that of man, eating flesh, drinking wine, beer, and every kind of strong drink. Professor Henslow, the Rev. Mr. Huxtable, and others speak of the undoubted value of sewage manure. Mr. Heyworth, a Liverpool merchant, addressed the secretary of the Health of Towns Association. (See *Times*, Jan. 5.) I have only one other point to touch upon, and shall not occupy your valuable time but for a little while, as there are persons in the room so much more able than I am to explain the organisation of plants, the nature and mode of absorption of nourishment, that I feel I have only to direct the attention of men of science to this part of my subject to obtain for you that elucidation of facts which will prove the necessity of studying the laws of nature, in order to increase the fertility of the soil and provide food for an abundant population. It would betray much ignorance to give animals and human beings in the earliest stage of life strong meat and drink, which require of them the exercise of ability they do not possess, which require teeth and powers of digestion to assimilate. So with regard to plants, if we give them nourishment in the solid form when they can receive it only in the liquid or gaseous, we oppose the laws of nature, and must wait until the rain descends to divide and dilute the solid concentrated food.

An important discussion ensued, in which Mr. Chadwick and others took part. We regret that our limits do not allow us to publish it.

READING, *Jan.* 22.—The most noble the Marquis of Downshire, President, in the chair. A lecture on manures was delivered by J. C. NESBIT, Esq., F.R.S., &c., agricultural chemist, of Kennington.

The lecturer opened the subject by explaining the component parts of plants and of manures, and urged the importance of preventing the volatile and soluble constituents of farm-yard dung from passing off into the air, or by the action of rain falling on the manure; he also advised that muck-heaps should not be allowed to heat too much, as many valuable products of fermentation are volatile and escape. Much of the ammonia might be saved by sprinkling a little gypsum over the floor of the stable every morning. It was a mistake, the lecturer observed, to suppose that when a farmer had a larger crop of Turnips than his sheep could consume, that he must necessarily hire additional sheep to feed them off; for, if these Turnips were chopped up and ploughed into the land, a greater value of manure would be thus obtained than from the sheep, it being an incontrovertible fact that the excrement of animals contains less manure than the food contained, by so much as was spent in supplying the animal with flesh, besides the carbon which was lost by respiration. The lecturer then pointed out the great advantages of box-feeding, both with respect to economy of food and preservation of the manure, and recommended that as much stock should be kept as possible, which might be greatly assisted by means of root crops, and thereby the farm would be supplied with manure without importation. He also urged the importance of land being properly drained, that manures might remain in the soil instead of being washed off by rain; he believed that the deeper the drains the better, provided they will act; but in certain kinds of soil, 6 feet was much too deep. He also recommended the making of nitrates at home instead of purchasing them, which might be done by mixing stable dung, urine, old mortar, &c., together, keeping it covered, and turned two or three times in a year. Chalk and other calcareous substances were very valuable in land, especially when other manures come in contact with them, and it was important that chalk should be pulverised by the action of frost. The four-course system of farming was particularly alluded to, for the purpose of explaining the reasons why it was found profitable, viz., that the crop of Turnips possessed the property of absorbing from the atmosphere and the soil an immense amount of useful constituents, which, being returned to the soil by the sheep, the succeeding crop of Barley received the benefit; and the Clover, which formed the third course, had the same beneficial effect upon the Wheat crop, which was greatly enhanced by the quantity of Clover roots in the land, which decomposed very gradually. Mr. Nesbit concluded by pointing out the importance of a more liberal education for the rising generation, and advised farmers to demand it of the schoolmasters before they entrusted their sons to them.—Mr. George Shackel made a few practical remarks on the four-course system of farming.—Mr. Braithwaite exhibited some specimens of Wheat which had been chemically prepared previous to sowing, for the purpose of saving manure.—Mr. Nesbit observed that, although he would not deny that some benefit might result from this preparation of the seed, farmers should be guarded against a theory which was current, viz., that manure was thereby rendered unnecessary.—The thanks of the meeting were presented to Mr. Nesbit for his very able and valuable lecture, which was carried unanimously.—It was afterwards proposed by Colonel Hanmer, and seconded by William Stephens, Esq., that the thanks of the meeting be presented to the Marquis of Downshire for his kindness in presiding on this occasion.

Reviews.

Agricultural Statistics. Letter to the Rt. Hon. T. Milner Gibson, M.P. &c. &c. By J. Bailey Denton, Land Agent, Gravely, Herts. John Weale, 59, High Holborn, London.

We called attention, some weeks ago, to Mr. Milburn's pamphlet on Agricultural Statistics. Here is another by a gentleman who has already been of material service to agriculture, and who by urging and improving upon Mr. Milburn's suggestions attains the useful end of keeping this most important subject under public attention, at the same time that he brings his experience to the aid of those who will have to frame the measure by which our agricultural statistics are to be collected. We append an extract, in which Mr. Denton makes a suggestion, we think of some importance, on the means of ascertaining agricultural progress from year to year.

"The duties of the valuator of each union I propose should be such as Mr. Milburn suggests, with the additional duty of supplying, in the first instance, and at subsequent periods of every four or five years, an Appendix to his Annual Report, comprising information in a tabular form on the following heads:—

"1. The total quantities of arable, pasture, meadow, wood, waste.

"2. The average quantity for the preceding five years of arable land under biennial or perennial Grasses.

"3. The average proportion of hedges, hedge-greens, and internal waste, in the farms comprised in his district.

"4. The total quantity of heavy land, arable, pasture, wood, waste. The total quantity of light land, arable, pasture, wood, waste.

"5. The quantity of land drained within the preceding five years. The quantity of heavy or wet land remaining not drained.

"6. The rotation of crops followed on the heavy land, the light land.

"7. The average number of labourers employed per hundred acres on the heavy land, the light land.

"The value of this periodical appendix will be appreciated, as affording some tangible proof of the progress of agricultural improvement, and the resources left for increase of produce. For instance, the periodical statement of land under different states of husbandry—arable, pasture, and wood,—and the application of arable land to the cultivation of alternate Grasses, will show the effect of any increase or decrease of either in the amount of produce arising. So, also, the statement of the division of the country into the simple characters of light and heavy land, and the rotation of crops followed on each, will enable the agriculturist to draw deductions from the result (*i. e.* produce) of the profitable nature of different systems of rotation in operation in different unions."

Mr. Denton recommends the adoption of a map of each district under the inspection of one valuator, on the smallest scale capable of defining every field. This would facilitate calculations both of extent and of crop: and it may perhaps be urged, as an additional advantage of the scheme, that these maps might serve the further purpose recommended by Mr. Stewart in the valuable lectures he has lately delivered on the transfer of landed property, of defining the several estates within their respective districts.

Annual Supplement to Willich's Tithe Commutation Tables. London: Longman, Brown, Green, and Longmans. 1848.

A correspondent, referring to the letter with which Mr. Willich favoured us in a late number on this year's value of a tithe rent charge of 100*l.*, asks us for the annual, as well as the septennial Corn average there quoted. Our answer is, that the annual and septennial averages for each year, along with other information useful to clerical readers, will be found in the tract named above. The annual average prices, for 1847, of Wheat, Oats, and Barley were 69*s.* 9*d.*, 28*s.* 8*d.*, 44*s.* 2*d.*, respectively per bushel.

Miscellaneous.

St. Marylebone Bank for Savings, No. 76, Welbeck-street, Cavendish square.—The 18th Annual General Meeting of this Institution was held on Thursday, the 10th of this month, at the office, No. 76, Welbeck-street, Cavendish-square. The Rev. John Hume Spry, D.D., in the chair. It appeared from the several reports read to the meeting, that no less than 2,206 new deposits had been made in the last year, 18,119 deposit accounts remained open on the 20th November last, of which no less than 13,437 held balances averaging less than 3*l.* 7*s.* 1*d.* each. Upwards of 301,663*l.* was then invested with the Commissioners for the reduction of the National Debt. The continued evidence thus afforded of the disposition of the working classes to provide against the casualties of life, will prove a source of gratification to all reflecting minds; and it may indeed be hoped that this provident disposition has its influence in improving the character and conduct—materially contributing to this class of workmen being the last to be discharged whenever establishments are reduced from scarcity of work.

Calendar of Operations.

FEBRUARY.

BERWICKSHIRE MERSE FARM, *Feb.* 11.—Since last report we have been employed ploughing stubble land for Oats; one man a day and a half leading Wheat to the barn, a man forking: one man and four women in the barn threshing with water power, three women carrying away the straw; five women half a day pulling Turnips, one man with a single horse cart three days storing, two women filling; one woman with the shepherd cutting Turnips for the sheep; one man with two single-horse carts at Berwick for drain slates; the drainers are going on digging, one man putting in the tiles, a woman assisting him: a man and a boy feeding the cattle; a man cutting Thorns.—*J. B.*

DORSET FARM.—For the past week we have been in getting the Swedes off the ground as we [illegible] plough at two [illegible] driving dung, thrashing [illegible] into the barn and thrashing it. The [illegible] carrying [illegible] and litter has been carried [illegible] week. [illegible]

EAST LOTHIAN FARM, *Feb.* 11.—[illegible] who is employed on the [illegible] upon the farm, except [illegible] carting grain to market, [illegible] medal for reaping [illegible] week. [illegible]

GALLOWAY FARM, *Feb.* 11.—[illegible] horses have not been [illegible] when it comes. [illegible] Beans and Oats for the [illegible] doing flail out during [illegible] Cows, repairing [illegible] a [illegible] Beans [illegible] creased and [illegible] as many Turnips [illegible] which in this [illegible]

LANCASHIRE HILL FARM, *Feb.* [illegible] the past month, the [illegible] farmers could desire, [illegible] frosty. The thermometer [illegible] as it was on the [illegible] which may about a week [illegible] that the snow continued [illegible] a few of them only were [illegible] effects of the hard [illegible] ing of the year. Towards the [illegible] will be brought in, and [illegible] daily. These ewes [illegible] supplied with them, either [illegible] last year's drop [illegible] lambing, were removed [illegible] ago, and laid on [illegible] the low country. They are [illegible] The smallest of the [illegible] time. Cattle are daily supplied with a few [illegible] much meadow hay as they can eat. The [illegible] to drop their calves, when, besides [illegible] as soon as they can eat them, which [illegible] two and three weeks old. We prefer [illegible] the shape of cake rather than [illegible] the milk. When they get it in the [illegible] generally has a scour [illegible] are affected. When weather permits, [illegible] Oat stubble for Turnips. This operation ought to be completed some time ago, but as the [illegible] pipes every 30 feet, we were unable to get it on [illegible] good season. During frost cutting of [illegible] is our employment.—*A Lancashire Farmer.*

NORTH LINCOLNSHIRE FARM, *Feb.* 12.—We have been employed since last report with four pair [illegible] from sheep boxes one day; four pair [illegible] one day; two carts at Grimsby for coal and [illegible] horses ploughing Turnip land one day; [illegible] machine.—*J. C.*

SOMERSETSHIRE FARM, *Feb.* 14.—We have been employed last week in ploughing for and sowing [illegible] ley, bruising corn and Flax-seed for [illegible] pipe tiles for drains. Part of the labourers [illegible] and levelling ditches, clearing [illegible] ing our Flax in the expectation [illegible] chinery, which is now nearly ready, when we will get it on as soon as possible.—*R. C.*

STIRLINGSHIRE CARSE FARM, *Feb.* 12.—This week for the most part has been very wet; we were thereby kept within doors threshing and preparing grain for the market. A day or two being more favourable for outdoor work, we finished our ploughing and dung-spreading for Beans.—*W. F.*

SUSSEX FARM, *Feb.* 14.—Ploughing lea for oats, and Turnip land for Barley; threshing Oats and Beans, carting [illegible] ditch cleanings, and road scrapings, to cover dunghill, carting liquid manure, with gypsum added, to grass land, cleaning corn, turning manure, [illegible] repairing hedges, and cleaning out ditches. We are turning [illegible] Potato pits. Draining 3½ and 4 feet deep with pipe tiles. One would think the present high price of [illegible] would induce many of our neighbour farmers to change their system of cropping, instead of growing [illegible] Oats; by growing green crops, and eating [illegible] they would increase their dunghills, both in quantity and quality: they would benefit themselves, the land, and the labourers, for without dung no manure in farm.—*J. B.*

Notices to Correspondents.

*** We must beg for the indulgence [illegible] our numerous correspondents, whose communications still wait for publication. We have letters and papers from H. Davis, C. W., [illegible] W. W., R. B. Harvey, A Labourer, R. S. S., [illegible] R. W. Blencoe, G., G. R. W., Forester, [illegible] C. F. Humbert, A Thin Seeder, J. M. D. S., [illegible] John Benson, E. J. Lance, R. Paine, [illegible] Towers, J. Prideaux, J. P., F. P. B. M., E. K., [illegible] J. Russell, Guy. A Heavy Stock Keeper, J. R., [illegible] Wm. Pippet, Geo. Wilkins, M. R. A., [illegible] Farmer.

BONE-CRUSHING AT DOWNSIDE COLLEGE FARM—*Mr. Pip* forms us for Mr. Rusham's [illegible] he refers to were crushed by [illegible] Bristol), machine for the purpose. [illegible] fresh, as delivered.

BONES AND ACID—*Charing*—You shall have it [illegible] next week.—The salt alone will not supply water [illegible] to slake the lime, you may depend upon it.

BONEDUST—*C D*—Thanks for your communication. [illegible] of bonedust were referred to:—1. [illegible] bonedust fermented in sand; [illegible] treated with sulphuric acid. In the [illegible] by Mr. Pusey, all three were tried. We [illegible] as regarded the two former [illegible] as regarded the last: and then, [illegible] the greater efficiency of the last, we should [illegible] it was founded was the same as that [illegible] bonedust at all was [illegible]: while the greater efficiency of the second over the first was [illegible] the greater surface which it presented to the [illegible] water. The sand was used in order to [illegible] in contact with the bones. Equal bulks would answer well. Sulphuric acid should be added in the proportion of about 1 to 2 of bones in order to form the superphosphate. We will publish Mr. Pusey's paper whenever we can find room.

CARONS—*W B*—Is the similar operation commonly performed on turkeys, geese, &c.? Such capons would well supply the place of game during the spring and summer months.

FARM MANAGEMENT—*Learner*—For the general management of a 20 acre arable farm we refer you to No. 4, 1847. The produce of it in time should be able to keep eight cattle in a fattening condition all the year round. It is cultivated by the spade. For the management of a mixed arable and pasture farm we refer you to No. 10, 1847. It is a dairy farm, keeping 25 cows, and consisting of 25 acres of arable land, and 15 acres of pasture, and thus resembling yours. Two horses were employed, and of course a plough, the use of which your ploughman is accustomed. I pair of [illegible] harrows, two carts, and roller were required. You will find the articles referred to will furnish answers to most of your ques-

tions. Your proposed farm buildings appear excellent. Of course, if you adopted spade husbandry, you would not require so much stabling. In that case your cheapest plan will be to hire assistance with carts, &c., when wanted. The best plan to support the manger in boxes is by means of vertical posts at each end, pierced every 6 inches in height. Let the terminal sides of the manger be also pierced, near the bottom (*a*), again 6 inches directly above the first (*b*, and again to one side (*c*, but still 6 inches from the first. Two pins placed in *a* and *b* through two of the holes in the posts (at each end) will hold the manger in its place, and as the straw accumulates the manger may be lifted other 6 inches. When the cattle have fed, draw the pin from *b*, and lift the front of the manger so as to bring *c* to correspond with the hole in the post, and replace the pin. This will hold the trough in a position in which no dirt can fall into it.

FEEDING CATTLE—*A Subscriber*—Cattle receiving 1½ cwt. of Turnips daily receive in those Turnips at least 15 gallons of water; they do not require more. They would not need any, though they had but 1 cwt. of Turnips apiece daily.

GRASS—*H B*—Your sheep may remain all March without injuring the hay crop.—The only way to hinder stall-fed cattle from being plastered is always to remove the dung before they lie down, and litter them plentifully morning and night. We boxfeed cows, and the plan answers perfectly.

GUNPOWDER—*F S*—It was used in the instance referred to, in order to blast and remove landfast stones.

HIGHLAND COTTER SYSTEM—*J Mackenzie, M.D.*, shall have as early insertion of his valuable letter as is possible, and many thanks for directing our attention to it.

HYDRO INCUBATOR—*J P C* must ask Mr. Cantelo himself.

KITCHEN GARDEN—*A Novice*—The "old cob," as you call it, would be a corrective; you might probably sow Barley with safety.—We would spread the lime in dry weather, about June or July, and cover it in. If for manure also, an interval of some months should elapse.

LABOUR OF DRAINS—*L*—You may calculate the cost of removing clay from a ditch and laying it on the side at 2*d.* per cubic yard, rather more when the ditch is deep and narrow. A series of papers on "Measure work" were published in the *Agricultural Gazette*, 1846; see page 379.

LINSEED COMPOUND—*Stall-feeder*—So far as our experience goes, you are better without moulds; by using the Linseed, &c., in a liquid state (a thin soup), throwing it over chaff, Mangold Wurzel, &c., and serving this up after it has absorbed the liquid. If you must have moulds, they may be simply a sort of grating or rectangular honeycomb framework, which laid on the floor shall have *that* for the bottom of its several cells. Pour the mixture on and let it cool, and on lifting it you will have a number of cakes lying on the floor, of the form of the cells in which they have been made. The cells must be wider at bottom than at top, lest on lifting the frame you lift the cakes too. This may be obtained by the divisional boards being taper towards the lower surface of the framework. The framework may be 2 or 3 inches thick, and its cells 10 by 8 inches.

MANGOLD WURZEL—*Cincinnatus*—We have grown them on the flat, dibbled at intervals of 18 inches every way; and they have yielded a good crop by subsequent *hand* cultivation, deep hacking, &c, without much difficulty. But as regards horse culture, and taking into account the horse hoeings you will have to give the growing crop, which are so much more safely given when the plants are on ridges, we do not think you will save anything by drilling the seed on the flat, and so avoiding the labour of bouting the land up. You may probably get a good crop on the flat as you propose, but either not so good as you might on the drills, or as good only by the use of extra labour in cultivation during the singling and horse-hoeing of the young plants.

MR. HALL'S REVOLVING SUBSOILER—*A Potato Grower* would feel much obliged to Mr. Laycock for further information about this instrument. Where can it be seen?

PIGGERY—*Mona's Isle*—Mr. Swete's piggery shall be published very soon. Mr. Youatt's work on pigs—or, cheaper, Mr. Richardson's little work, will probably serve your purpose. Coprolites are found in many rocks. The richest bed ever found has lately been discovered by Mr. Paine, as described by himself in this week's *Gazette*.

POULTRY—*C W*—You shall have an answer next week; in the meantime do not give salt to your hens.

SALT—*J S H*—Apply from 2 to 4 cwt. per acre in wet weather over the young Oats. It will not destroy the wireworm.—We do not know why bran should be limited to adult animals. The husk of a farinaceous seed usually contains the most of its oil, but so also it contains a larger per centage of mineral matter, and if the former circumstance points to the older animals, the latter points to the growing animals as the proper recipients of it as food.——*Z*—Quite possible to apply with safety 20 bushels of salt with 40 bushels of lime per acre on free soils; but the safety consists in the certainty that one-half of the whole will be washed out of the soil by the first rains. We would not advise more than 2 or 3 cwt. of salt with the lime, except on light soils.——*S O*—You have added an excessive quantity of salt. We should have let the lime be in excess by simply slaking the lime with brine. Any greater quantity of salt may be added by itself afterwards, with the same effect as if with the lime. You must mix the dust with some sand or ashes to enable it to be sown: or wait until it has lost its causticity.

TO LAY DOWN GRASS—*A very old Sub*—Your best plan is to pare the turf off 2 acres of good old meadow, and with that lay down the whole 18 acres after the plan by "inoculation," as it is called. And after the bits of turf are well fixed and grown into the land cast on a lot of compost, spread it even, and then brush in the following mixture of seeds:—Aira cæspitosa hirescens, 1 lb.; Alopecurus pratensis, 2 lbs.; Arrhenatherum avenaceum, 1½ lb.; Avena flavescens, 1 lb.; Dactylis glomerata, 2 lbs.; Festuca duriuscula, 3 lbs.; F. heterophylla, 1 lb; F. loliacea, 1 lb.; F. pratensis, 2 lbs; Lolium italicum, 3 lbs.; L. perenne, 3 lbs.; Phleum pratense, 1½ lb.; Poa nemoralis, 4 lbs.; P. trivialis, 1½ lb.; Trifolium pratense perenne, 4 lbs.; T. repens, 5 lbs. *Lawson*. Any seedsman can procure the kinds.

VINGOE'S SEED PLANTER—*M X*—It is a horse machine, requiring as much labour as the Suffolk drill, of similar size.

WOOD-ASHES—*A B*—We have generally applied about two cart-loads per acre, which would be 40 bushels. You will find the benefit of compositing it with vegetable matter first, such as ditch scourings, &c.

ERRATUM.—In col. *a*, page 105, line 10 from bottom, for "charcoal, and other substances, capable of detaining these volatile products, *as* salt, gypsum, &c., capable of decomposing them," read "charcoal and other substances, capable of detaining these volatile products, *and* salt, gypsum, &c., capable of decomposing them."

*** Communications reaching town after Wednesday cannot be answered till the following week.

Markets.

POTATOES, SOUTHWARK, WATERSIDE, Feb. 14.

The Committee report that the arrivals this week have been more than equal to the demand, which has been exceedingly dull, and less prices have been submitted to in almost all samples. The following are the present quotations:—York Regents, 140s to 170s; Kent and Essex Regents, 160s to 170s; Shaws, 120s to 140s; Kidneys, 140s to 160s; Blues, 120s to 130s; Wisbeach Regents, 120s to 140s. Blues, 120s to 130s; Kidney, 120s to 140s; Dutch Whites, 90s to 100s.

HOPS, FRIDAY, Feb. 18.

Messrs. PATTENDEN and SMITH report that there is a steady demand for Hops at late prices.

Mid. & East Kents, p. cwt.	68s to 105s	Yearling Kents, p. cwt...	48s to 60s
Weald of Kents	56 — 72	Yearling Sussex	46 — 58
Sussex	54 — 70	Old Hops	20 — 40
Farnhams	84 — 105		

COVENT GARDEN, Feb. 19.

The market continues to be well supplied, considering the season, with both Vegetables and Fruit, and trade begins to improve a little. Pine-apples are plentiful and good. Hothouse Grapes are all but over for a season; but the supply of foreign ones is well kept up. Pears and Apples are as plentiful as could be expected considering the season. Of the former, specimens of Beurre Rance and Ne Plus Meuris may be bought at from 3s. to 4s. per dozen. Oranges are plentiful. Nuts sufficient for the demand. Filberts sell slowly at from 14s. to 2 8s. per 100 lbs. Lemons are moderately plentiful. Of Vegetables, Cauliflowers, Broccoli, Greens, &c, are plentiful. Asparagus and Sea-kale are cheaper than last week. A few French Beans have been sold at from 2s. to 4s. per 100. Carrots and Turnips are good in quality. Potatoes realise high prices. Lettuces and other salading are sufficient for the demand. Mushrooms are somewhat cheaper. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Camellias, Fuchsias, Azaleas, Hyacinths, Acacias, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 4s to 6s	Lemons, per 100s, 6s to 14s
Grapes, hothouse, per lb., 6s to 10s	Almonds, per peck, 6s
— Portugal, per lb, 1s to 2s	— sweet, per lb., 2s to 3s
Apples, dessert, per bush., 3s to 6s	Walnuts, per bush. 12s to 18s
— kitchen, p. bush., 2s 6d to 5s	Nuts, Barcelona, per bush., 20s to 22s
Pears, per half sieve, 3s to 8s	— Filberts, per 100 lbs., 1s to 2 8s
Oranges, per doz., 9d to 2s	— Cob, per 100 lbs., 2s to 3.8s
— per 100, 6s to 12s	— Brazil, per bush., 12s to 16s
— bitter, per 100, 8s to 16s	Chestnuts, per peck, 3s to 6s
Lemons, per doz., 1s to 2s	

VEGETABLES.

Asparagus, per 100, 2s to 6s	Onions, pickling, p. hf. sieve, 2s to 3s
Savoys, per doz., 4d to 1s	Shallots, per lb., 6d to 8d
Cabbages, Red, per doz., 2s to 4s	Garlic, per lb., 3d to 1s
Greens, p. doz. bunches, 1s 6d to 2s 6d	Spinach, per sieve, 1s 6d to 2s 6d
Cauliflowers, per doz., 3s to 5s	Sea-kale, per punnet, 9d to 2s
Broccoli, per bundle, 1s to 3s	Art chokes, Jerusalem, per half sieve, 1s to 1s 6d
Brussels sprouts, p.hf. sieve, 1s to 1s 6d	Lettuce, Cab., per score, 4d to 9d
Sorrel, per half sieve, 6d to 9d	Endive, per score, 1s to 4s
Potatoes, per ton, 120s to 190s	Mushrooms, per pottle, 1s to 1s 6d
— per cwt., 6s to 10s	Rhubarb, per bundle, 10d to 1s 3d
— per bush., 3s 6d to 4s 6d	Small Salads per punnet, 2d to 3d
— Kidney, per bush., 3s 6d to 4s 6d	Fennel, per bunch, 2d to 3d
Turnips, p. doz. bunch., 1s 6d to 2s 6d	Savory, per bunch, 3d to 4d
Red Beet, per doz., 9d to 1s 6d	Thyme, per bunch, 2d
Horse Radish, per bundle, 1s to 6s	Watercress, p. 12 small bun., 4d to 6d
Cucumbers, each, 1s to 3s	Parsley, per half sieve, 1s to 1s 6d
Leeks, per doz., 6d to 1s	— Roots, per bundle, 1s to 1s 6d
Celery, per bundle, 6d to 1s 6d	Mint, green, per bunch, 1d to 3d
Carrots, per doz. bunches, 2s to 4s	Marjoram, per bunch, 3d to 4d
Onions, per bush., 2s to 3s	
— Spanish, per doz., 1s to 4s	

SMITHFIELD, MONDAY, Feb. 14.

The supply of Beasts is large and trade exceedingly slow; late quotations for best qualities are with difficulty supported. Several second rate remain unsold, although towards the close there was a disposition to submit to reduced prices. The number of Sheep is again very small; trade is slow. Notwithstanding, the deficiency of supply has caused an advance of fully 2d. per slbs. There are very few Calves on offer; they are readily disposed of at rather higher prices. From Holland we have 269 Beasts and 400 Sheep.

Per stone of 8 lbs.—s	d	s	d	Per stone of 8 lbs.—s	d	s	d
Best Scots, Herefords, &c.	4	6 to 4	8	Best Long Wools	4	8 to 5	0
Best Short Horns	4	4 — 4	6	Ditto Shorn	....		
Second quality Beasts	3	6 — 4	0	Ewes and second quality	4	0 — 4	6
Calves	4	10 — 5	10	Ditto Shorn	....		
Best Downs & Half-breds	5	2 to 5	6	Lambs	....		
Ditto Shorn	....			Pigs	4	6 — 5	4

Beasts—3339. Sheep and Lambs—15,290. Calves—33. Pigs—225.

FRIDAY, Feb. 18.

The number of Beasts fresh up from our grazing districts is not very large, there being included in the returns several that were left over from Monday; also 112 from Holland, 300 from Scotland, 70 from Ireland, and about 150 Milch Cows. Trade is very dull, and Monday's prices are quite extreme quotations for to-day. A considerable number remain unsold, although there was a disposition to submit to lower prices towards the close. There are rather more Sheep than of late; trade is dull, but prices are about the same as on Monday last. The supply of Calves is tolerably good; buyers are not so eager, and Monday's quotations are barely supported. Trade remains unaltered for Pigs.

Per stone of 8 lbs.—s	d	s	d	Per stone of 8 lbs.—s	d	s	d
Best Scots, Herefords, &c.	4	6 to 4	8	Best Long Wools	4	8 — 5	0
Best Short Horns	4	2 — 4	4	Ditto Shorn	....		
Second quality Beasts	3	4 — 4	0	Ewes and second quality	4	0 — 4	4
Calves	4	8 — 5	8	Ditto Shorn	....		
Best Downs & Half-breds	5	2 — 5	6	Lambs	....		
Ditto Shorn	....			Pigs	4	6 — 5	4

Beasts—1114. Sheep and Lambs—2780. Calves—148. Pigs—220.
41, West Smithfield.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Feb. 17.

Prime Mead. Hay	66s to 73s	New Hay	—s to —s	Straw	24s to 30s
Interior ditto	55 60	Clover	75 92		
Rowen	45 55	New Clover	— —		

JOHN COOPER, Salesman.

CUMBERLAND MARKET, Feb. 17.

Prime Mead. Hay	70s to 76s	Old Clover	90s to 95s	Straw	28s to 32s
Inferior	59 63	Inferior	75 84		
New Hay	— —	New Clover	— —		

JOSHUA BAKER, Hay Salesman.

WHITECHAPEL, Feb. 17.

Fine Old Hay	65s to 70s	Old Clover	84s to 90s	Straw	24s to 28s
Inferior Hay	50 55	Inferior	60 70		
New Hay	60 65	New Clover	80 86		

MARK LANE, MONDAY, Feb. 14.

Messrs. KINGSFORD and LAY report that the supply of Essex Wheat fresh up for this morning's market was small, that from Kent moderate, but we observe no improvement in the condition; the driest samples were taken off early at last Monday's prices, but great difficulty was experienced in disposing of the damp, part of which remained unsold at a late hour. Foreign meets a retail inquiry at former rates.—Fine malting Barley is a ready sale at our quotations, but ordinary qualities are taken slowly.—Beans and Peas are each a decline of 1s. per quarter.—The Oat trade is exceedingly heavy, and fully 1s per quart-rlower.—The top price of sack flour is reduced 2s; barrels are the turn cheaper.—In Rye-meal there is little doing.

BRITISH PER IMPERIAL QUARTER.	s	s		s	s
Wheat, Essex, Kent, and Suffolk	White 50	60	Red	42	52
Norfolk, Lincolnshire, and Yorksmire	48	52	White	48	52
Barley, Malting and distilling, 26s to 29s	Chevalier 30	33	Grinding	25	27
Oats, Lincolnshire and Yorkshire	Polmads 26	26	Feed	21	23
Northumberland and Scotch	Feed 22	23	Potato	23	27
Irish	Feed 20	24	Potato	22	26
Malt, pale, ship	— —				
Hertford and Essex	— —				
Rye	28	32			
Beans, Mazagan, old and new	28s to 40s		Tick	30	42
Pigeon, Heligo and	34	50	Winds	46	54
Peas, White	38	41	Maple	38	42
			Harrow	32	44
			Longpod	32	36
			Grey	36	38

FRIDAY, Feb. 11.

The arrivals of Grain and flour during the week have been moderate, with the exception of foreign Wheat. On Wednesday we had a dull market for all articles, but this morning there were a few country buyers in attendance, and an improved business was transacted in foreign Wheat at Monday's prices; English is unaltered in value.—Barley remains as last quoted.—Beans are a shade lower.—White Peas are neglected, and ordinary qualities quite unsaleable.—Oats are difficult of disposal, and the turn cheaper.—In Flour and Rye-meal we observe no alteration

ARRIVALS THIS WEEK.

	Wheat. Qrs.	Barley. Qrs.	Oats. Qrs.	Flour.
English	4410	7770	0	4430 sacks.
Irish	—	0	4050	
Foreign	11310	2 60	380	— barrels.

IMPERIAL AVERAGES.	Wheat.	Barley	Oats.	Rye.	Beans.	Peas.
Jan. 8	53s 10d	31s 7d	20s 11d	31s 4d	40s 8d	46s 0d
— 15	53 5	30 6	21 0	29 2	39 1	46 4
— 22	53 1	30 4	21 1	30 8	38 8	45 2
— 29	52 0	30 8	21 3	30 6	38 7	43 5
Feb. 5	51 2	30 9	20 7	30 6	38 5	42 9
— 12	51 0	31 2	20 7	30 5	38 1	43 2
Aggregate Average	52 5	30 10	20 11	30 9	38 11	44 6

Duties on Foreign Grain Free till March 1.

Fluctuations in the last six weeks' Corn Averages.

PRICE.	Jan. 8.	Jan. 15.	Jan. 22.	Jan. 29.	Feb. 5.	Feb. 12.
53s 10d						
53 5						
53 1						
52 0						
51 2						
51 0						

SEEDS, Feb. 18.

Canary ..... per qr.	6s to 6s	Lin-seed-cakes, Foreign, p. ton, 10l to 11l	
Carraway ..... per cwt.	32 37	Mustard, White, p bush, 5s 6d to 6s 9d	
Clover, Red, English	— —	Superfine, p. bush,	— —
— Foreign	— —	Brown, per bush..	— —
White, English	— —	Rapeseed, Eng., per last.....	28l 30l
— Foreign	— —	Rape-cakes ..... per ton	5l 10s 6l
Coriander	19 20	Sainfoin	— —
Hempseed ..... per qr.	38 42	Tares, Eng., winter, p. bsh.,	7s 0 8s 0
Linseed ..... per cwt.	35 46	Foreign, per bush.,	4s 6 6s 0
— Baltic	41 42	Trefoil	17s 0 21s
— Cakes, Eng. p. 1000,	13l 10s to 14l	Turnip—too variable for quotation.	

NEW PEARS—BEURRE ROBIN, BEURRE DE MONS, and BEURRE DUHAUME.

RÉNE LANGELIER, St. Helier's, Jersey, has the honour to inform the public that he has still the above Pear-trees to dispose of. They will prove as represented, viz., of the best and richest flavour, besides being hardy and great bearers. The trees, as well as price, are as previously advertised in this paper. Also GROSSE CALEBASH, one of the longest and largest Pears known; it will generally grow to from 9 to 10 inches long. BEURRE LANGELIER, for January and February, one of the best Pears, the tree forming a fine pyramid. All orders shall be punctually attended to. Amateurs wishing to have a selection of the best Pears, by stating at what time they are required to come to maturity, if the selection is left to R. L. he will engage to supply the table from July to June following.

SPLENDID NEW MARROWFAT PEA.

JAMES SALTER respectfully offers to the Public the most valuable Marrowfat Pea in cultivation, Salter's "IMPROVED VICTORIA," possessing the combined qualities of the Incomparable and Victoria Peas, and preferable to either from its dwarf habit, not usually growing more than 4 feet high. It is an abundant bearer, and its flavour is most delicious. Price 1s. 6*d.* per quart.

True Incomparable Pea (or British Queen), 3s. per quart.

Also all the most approved Peas and Beans recently introduced, the prices of which will be found as low as at any of the respectable Seed Establishments.

J. S. begs to state that, owing to the very fine season last year, Flower Seeds of all descriptions are particularly good; and having for many years raised his own Flower Seeds, he is enabled to make such selections as he can with confidence recommend. He begs also to add, that his connection with some of the most respectable growers on the Continent facilitates his submitting all kinds of Flower Seeds of foreign and home growth, particularly German Stocks, Asters, &c., at the most moderate prices.

Orders for Flower Seeds above 10s. will be forwarded through the post prepaid, and all orders for Vegetable and Agricultural Seeds of 20s. and upwards will be delivered free at any station on the Great Western or Gloucester Railways.

Price List of Seeds will be forwarded on application.

Superior Bog (or Peat) Earth constantly on sale, and if taken in large quantities, delivered carriage free at any station within 30 miles of Bath.

Experienced Bailiffs and Gardeners recommended.

JAMES SALTER, General Seedsman, Bath.

MESSRS. J. A. HENDERSON AND CO. beg to inform their friends and the public that they will have the following new and valuable Plants for Sale on the 1st of March next.

ALLAMANDA SCHOTTII.—This new and beautiful Plant was raised from seed in the garden of Mrs. Spooner, Oak Villa, Southampton, and produced flowers last summer, which were seen by Dr. LINDLEY, who pronounced it to be the true "Allamanda Schottii" (as since figured in the "Botanical Magazine" for February, 1848). This plant is therefore identical with that raised in the gardens of R. W. Barton, Esq., of Springwood, near Manchester, and advertised for sale in this Journal of last week. Price 1*l.* 1*s.* 6*d.* each.

ERIOSTEMON NERIIFOLIUM, true species.—This rare Plant is the most beautiful of its species. It is of a close, compact habit, and produces a profusion of bloom, the colour of which is white, delicately tipped with pink, continuing a long time in flower. A specimen exhibited in May last, at the Horticultural Society's Rooms, in Regent-street, was awarded a Banksian Medal. Price 2*l.* 2*s.* each.

EPACRIS HYACINTHIFLORA CANDIDISSIMA.—The flowers of this beautiful variety are pure white and nearly an inch in length; in habit is the same in every respect as E. hyacinthiflora. It was raised by J. Story, Esq., and is one of the best that gentleman has hitherto introduced. Price 21s. each.

EPACRIS CANDIDA COMPACTA (var. impressa).—This plant is very compact in its growth, and when in bloom is completely covered with dense masses of pure white flowers; a very distinct variety. Price 10s. 6*d.* each.

CALCEOLARIA "KENTISH HERO."—For bedding out this is most decidedly the best variety that has yet been raised. It is of a dwarf and shrubby habit, and produces a profusion of large, bright, bronze-coloured flowers, the beauty of which is injured by neither sunshine nor rain, but retain their brilliancy during the summer and autumn months. Price 5s. each.

LOPHOSPERMUM CLIFTONIA.—The flowers of this fine variety are twice the size of the well-known L. Hendersonii; they are produced in long racemes, trumpet-shaped, and widely expanded at the mouth; the colour is a bright brilliant pink. This plant will prove a great acquisition to the present collection of Summer Climbers. Price 10s. 6*d.* each.

Orders for any of the above will meet with strict attention.

Pine-apple-place, Edgeware-road, London, Feb. 19.

NEW AND GENUINE SEEDS
OF FINE GROWING QUALITY.

WILLIAM E. RENDLE AND CO., Plymouth, are now in a position to offer the following varieties of SEED, which have been harvested with the greatest care from true and selected plants.

		s.	d.
WHITE BELGIAN CARROT	per lb.	2	0
LONG RED ALTRINGHAM DO.	„	1	9
LARGE GUERNSEY CATTLE PARSNIP	„	2	0
WHITE SILESIAN BEET	„	2	0
KOHL RABI	„	3	6
LARGE DRUMHEAD CABBAGE	„	2	6
MANGOLD WURZEL—LONG RED ..	„	1	9
„ „ RED & YELLOW GLOBE	„	1	9

All other Seeds equally moderate.

Early purchases are recommended, as prices may probably advance, the same as last season.

Sample packages containing ½ an ounce of each of the above kinds, to prove their quality, will be sent postage free on receipt of 36 *penny postage stamps.*

NEW KITCHEN GARDEN SEEDS.

We have this season an excellent assortment of all the best varieties of KITCHEN GARDEN SEEDS, all of which have been saved from selected stocks with scrupulous care and attention, and which we can supply on the following terms:—

No. 1.—Complete collection consisting of 16 quarts of Peas, and all other seeds in proportion for one year's supply £2 10 0

No. 2.—Complete collection in smaller quantities .. 1 10 0

No. 3. do. do. 1 0 0

No. 4. do. do. 0 12 6

A LIST OF THE SORTS AND QUANTITIES FURNISHED FOR A No. 1. COLLECTION CAN BE OBTAINED.

*** *Upwards of a thousand purchasers are annually supplied from this Establishment. Every kind of seed is proved before sent out.*

N.B. Orders above £2 will be delivered (package and carriage free) to London, Bristol, Exeter, Barnstaple, Falmouth, or to any station on the Great Western Railway.

A general Catalogue of Agricultural, Kitchen Garden, and Flower Seeds can be had GRATIS on application. Cash payments or reference in London is desired from unknown correspondents.

WM. E. RENDLE & CO., Plymouth.

ESTABLISHED 1786.

Sales by Auction.

TO NOBLEMEN, GENTLEMEN, AND NURSERYMEN.
IMPORTANT SALE OF CAMELLIAS, including some of the finest plants in the country, fixed for the 1st and 2d March.

MR. J. C. STEVENS is favoured with instructions from Messrs. Loddiges, of Hackney (in consequence of the near expiration of the Lease of a part of their Nursery), to announce for Sale by Auction, on the premises, on Wednesday, 1st March, and following day, at 12 for 1 o'clock, the first portion of their stock of CAMELLIAS, many of which are of unusually fine growth (some 15 feet high); they consist of most of the favourite varieties, and all the plants are well set with flower-buds.—May be viewed the day prior and mornings of sale, and Catalogues had, on the premises, and of Mr. J. C. Stevens, 38, King-street, Covent-garden.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will submit to public competition, at the Auction Mart, Bartholomew-lane, on Tuesday, Feb. 22d and 29th, 1848, at 12 o'clock, a very rich assortment of Standard and Dwarf ROSES; also a splendid collection of Carnations, Picotees, and Pinks, consisting of all the leading varieties; choice Fuchsias, Verbenas, and Dahlias in dry roots, &c. The property of Mr. J. T. Pearce, Prince of Wales's Nursery, Upper Holloway. May be viewed the morning of sale, and Catalogues had, at the Mart, and of the Auctioneers, American Nursery, Leytonstone.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE & MORRIS will submit to Public Competition, at the Auction Mart, Bartholomew-lane, on Thursday, Feb. 24, 1848, at 12 o'clock, about 500 DOUBLE CAMELLIAS, 18 inches to 4 feet, beautifully set with bloom buds, consisting of all the approved kinds. Also, 3000 Camellia Stocks; a very choice assortment of American Plants, comprising Hybrid Rhododendrons, Ghent Azaleas, Andromeda floribunda, a fine collection of Standard and Dwarf Roses, choice Dahlias in dry roots, &c. &c.—May be viewed the morning of sale, and Catalogues had at the Mart, and of the Auctioneers, American Nursery, Leytonstone.

TO NOBLEMEN, GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will submit to public competition, at the Auction Mart, Bartholomew-lane, on Friday, Feb. 25, at 12 o'clock, about 600 fine Bulbs of Lilium lancifolium album, speciosum, punctatum; and Seedlings. A rich collection of Ranunculuses. Also about 500 Standard Roses, consisting of all the leading varieties; a fine assortment of Ornamental Trees, Dwarf Roses, choice Dahlias, in dry roots, &c.—May be viewed the morning of sale, and Catalogues had at the Mart, and of the Auctioneers, American Nursery, Leytonstone.

TO GENTLEMEN, NURSERYMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will submit to public competition by Auction, on the premises, Acre-lane, Brixton, on Wednesday, March 1, 1848, at 11 o'clock, by order of Mr. J. Dawson, in consequence of the lease having expired, the remaining NURSERY STOCK, consisting of Evergreens, Flowering Shrubs, Ornamental Trees, &c. Also the Greenhouse Plants, together with a newly erected Greenhouse, &c. &c.—May be viewed prior to the sale. Catalogues may be had on the premises, of the principal Seedsmen, and of the Auctioneers, American Nursery, Leytonstone.

FINE LARCH POLES, being the Thinnings of the Plantations on the Bigswear Estate.

MR. WHITE will Sell by Auction, at the Beaufort Arms Hotel, Monmouth, on Friday, the 25th day of February, 1848, at 4 o'clock in the afternoon, subject to conditions to be then produced,

Lot 1.	1000 fine LARCH POLES, nearly 30 years' growth.		
,, 2.	1000	ditto	ditto.
,, 3.	1500	ditto	ditto.
,, 4.	1000 Large and fine	ditto	ditto.
,, 5.	1000	ditto	ditto.

Lots 1, 2, and 3 are on the Saint Briavels side of the river Wye, near Bigswear House, and Lots 4 and 5 on the Pilstone side of the river, near Llandogo. Mark Matthews, the Woodward, at Bigswear House, will show the lots, and for further particulars apply to Mr. R. W. Purchas, Pilstone, near Monmouth, or the Auctioneer, Mork, near Coleford.
Pilstone, Feb. 19.

GORSE FOR CATTLE.

TO BE SOLD, about 40,000 fine Plants of GORSE (French Furze), raised from seed last year, enough for planting two or three acres. This is the proper month for planting it.—Apply to Mr. Jessop, Nurseryman, Cheltenham.

SOUTH HAMPSHIRE.

TO BE SOLD, by Private Contract, a FARM of about 100 acres, situated half a mile from a Railway Station. The Land is chiefly arable, and lies compactly together.—Apply to Mr. Storey, 17, Featherstone-buildings, Holborn, London.

TO NURSERYMEN, SEEDSMEN, AND FLORISTS.

CAPITAL INVESTMENT.—An opportunity occurs which is seldom to be met with. A PARTNER wanted in a NURSERY BUSINESS, established upwards of 40 years. A respectable person with a moderate capital, who would undertake the Travelling Department, would find this an excellent investment.—For further particulars apply to A. Z., Office of this Paper.

TO BE LET, a FARM in the County of Warwick. 246 acres, one third Meadow and Pasture; has been for some years in the hands of the Proprietor. The House of a superior description.—Apply to A., care of Mr. Wm. Endall, Henley in Arden, Warwick.

ELIGIBLE OPENING IN MONMOUTHSHIRE.
TO AGRICULTURAL IMPLEMENT MAKERS, MACHINISTS, &c.

TO BE LET, extensive Premises, consisting of about 13 Acres of LAND, with an excellent HOUSE, SHEDS, SHOPS, &c., all newly erected thereon, and well-adapted for the Manufacture and Sale of Implements and other Machinery, of which establishments the County of Monmouth and surrounding districts in South Wales are very deficient. The above are in a central position in Monmouthshire, and within half a mile of the Station of a new Railway now forming by the South Wales Railway Company.

The object being the introduction of a good Implement Manufactory in the County, great facilities will be afforded, and encouragement given in various ways, to such competent parties as may be induced to enter upon such a desirable undertaking. The excellence and cheapness of Timber, Iron, and Coal (all products of the County), may be considered among the advantages.

Apply to Mr. Wyatt, Troy House, Monmouth; or to Mr. John Thompson, Surveyor and Draining Engineer to the West of England and South Wales Land Draining Company, 9, Bedford Circus, Exeter.

PLEASURE AND PROFIT COMBINED. The Proprietor of an old established, respectable, and flourishing NURSERY AND FLORIST'S BUSINESS [illegible] retire, is disposed to relinquish in favour of [illegible] who can advance about [illegible], for Stock, Green-houses, Stock, &c. It is [illegible] young men, and especially [illegible]. For full particulars, apply to [illegible].
N.B.—An improving and prosperous [illegible] the income and pleasure of [illegible] country, [illegible].

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND CO., 11[illegible], [illegible] Without, are supplying SHEET GLASS [illegible] reduced Prices for Cash.

HORTICULTURAL GLASS [illegible] CONSERVATORIES, SIZES UP TO 10 INCHES LONG. [illegible]

16 oz. to the foot 5½d. per foot. [illegible]
1 ,, 6 ,,
2? ,, 7½ ,,
? ,, 10 ,,

GLASS MILK PANS, PROPAGATING GLASSES, AND BEE HIVE GLASSES, carefully packed in boxes, and sent to any part of the kingdom.

GLASS TILES AND LATHS.
LACTOMETERS for trying the quality of Milk, 4 tubes 7s. 6d., 6 tubes 10s.; and every article in the trade.

STRONG HORTICULTURAL 16 oz. SHEET
GLASS FOR CONSERVATORIES,
GREENHOUSES, PITS, FRAMES, &c. [illegible]

HETLEY AND CO. publish Prices in the *Gardeners' Chronicle* the first Saturday in every month. Wholesale and Retail Glass Shade, Sheet, Crown, and Patent Plate Glass Warehouse, 35, Soho-square, London.

HOT-WATER APPARATUS AND HORTICULTURAL BUILDINGS.

DANIEL AND EDWARD BAILEY, of 272, Holborn, construct and erect Hot-water Apparatus for Warming Horticultural Buildings, Dwelling-houses, Churches, and Manufactories, in a superior and efficient manner, at moderate charges. They have erected Apparatus in England, Scotland, and Ireland for many Noblemen and Gentlemen. They had the honour to be employed in heating the ranges of hothouses and Pits in HER MAJESTY'S NEW GARDENS AT FROGMORE, and in executing the works of the splendid Conservatory erected by the Horticultural Society of London in their gardens at Chiswick, and also in the erection of the Conservatory attached to the Pantheon Bazaar.

D. and E. Bailey, who were the first to introduce Metallic Curvilinear Hothouses to Horticulturists, erect various descriptions of Horticultural Buildings, and execute all kinds of metal work at their Manufactory, 272, Holborn.

POLMAISE HEATING.

J. LEWIS'S IMPROVED REGISTERED STOVES are delivered at the Railroads, with plans for fixing, at the following prices:—For a greenhouse 20 feet by 12, 6l. 10s.; 30 feet by 14, 8l. 10s.; 60 feet by 18, 10l. 10s. To be seen in operation on the premises, Hothouse Works, Stamford-hill, Middlesex.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors, and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. Their Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation, free passes will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory in New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

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Corn Manure .. 14l. per ton.		Grass Manure .. 14l. per ton.	
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TO [illegible]

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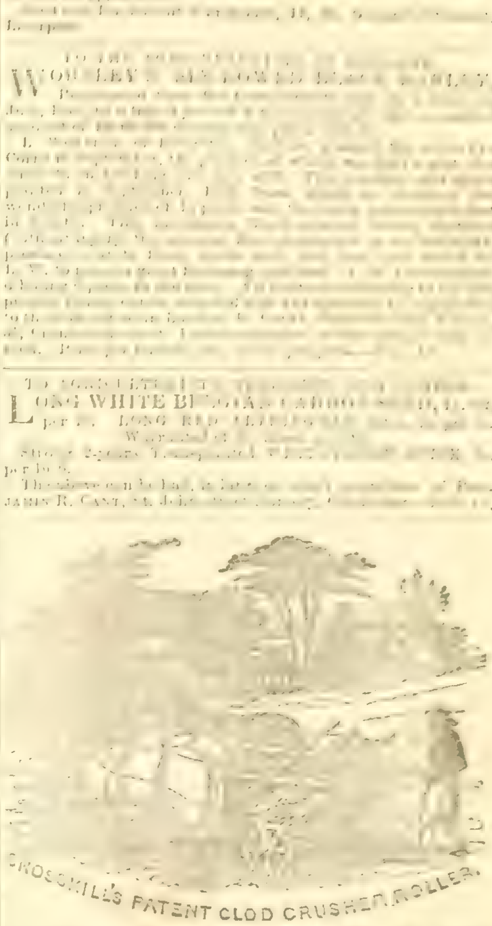

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100 varieties best and newest annuals, including choice Stocks, Asters, Zinnias, &c.	15	0
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Nemophila, new white	0	6
,, striata	0	4
Poppy, 16 separate Prussian vars.	2	6
,, the same mixed	0	4
Scabiosa grandiflora, 16 mixed vars.	0	4
Viscaria oculata	0	4
,, Burridgii, new white	0	6
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Cuphea silenoides	0	6
Lobelia ramosa	0	6
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,, new Belgian vars.	0	4
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,, finest mixed ex.	0	6
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,, ,, alba	1	0
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,, ,, intus candidus	1	0
,, alata alba	0	6
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Antirrhinum, choice mixed	0	6
Carnation, from ditto	2	6
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Geum Wiceii	0	6
Gladiolus, splendid dwarf vars.	0	6
Heartsease, from choice	1	0
Hollyhock, 30 vars. separate, fine	5	0
,, 20 do. do.	3	6
,, choice mixed	0	6
Iris, English, splendid vars.	0	6
Lathyrus latifolius albus	0	4
,, rotundifolius	0	6
Lychnis fulgens	0	6
Mimulus Regina	1	0
,, mixed, choice	0	6
Pentstemon carnatum	1	0
,, gentianoides coccinea	0	4
Picotee, from choice named	2	6
Polyanthus, fine	0	4
Potentilla Garneriana	1	0
Ranunculus, from choice	2	6
Silene Schafta	1	0
Sweet William, fine mixed	0	4
Wallflower, German, mixed	0	6
Calceolaria, from choice	1	0
Chœnostoma polyantha	0	6
Chorozema varia rotundifolia	1	0
Cineraria, new and choice	1	0
Commelina cœlestis	0	4
,, new white	1	0
Fuchsia, from new and choice	1	0
Gaillardia, 3 vars. mixed	0	6
Geranium, from new and choice	2	6
,, smaller packets	1	6
,, finest mixed scarlets	1	0
Hibiscus Manihot	0	6
Hydrolea spinosa	1	0
Kennedya rubicunda	0	6
Lantana, mixed	0	6
Lobelia erinus grandiflora	0	6
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,, small packets	1	6

Remittances with orders are requested from unknown correspondents. Postage stamps received in payment for small amounts.

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Belle Frene	2	4 6
Formosa alba	2	3 5
Prince de Canino	4	8 15
Frederic alba	2	5 8
Queen of Portugal	4	8 15
Napoleon (De Fresne)	2	4 8
King's rubra	2	4 8
Emelii Taverna	2	4 8
Aurora Guicciardinii	5	10 20
Daviesii (Davis)	10	
Aulica (Loddiges)	12	
Angelica nova	3	6 10
Comtesse Elizabeth	2	4 8
Comtesse de Negro	3	6 12
Comte Carini	3	6 12

Grafted with 1 to 2 leaves.	ft. high.	1 ft. high.
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Coronata miniata	3	5 12
Divonia	2	5 8
Duc de Brabant	2	5 7
Americana (Danlaps)	2	5 7
Constantiniana	2	5 8
Princesse Sophie	3	6 10
Clothilde	2	4 8
Beali rosea (Low)	4	8 12
Sovereign (Low)	4	8 12
Maria Theresa	5	10 20
Clymene	5	10 15
Duc de Clarence	10	20 30
Hillarii rosea	5	10 15
Alsatica (Baumann)	2	4 8
Althæiflora alba	3	6 12
Duc de Litta	3	6 12

A Collection of Perpetual-flowering CARNATIONS, which are worth cultivating, 6d. each.

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Rixea azurea or Tropæolum azureum, fine healthy plants (tubers)	0	5s.
12 ditto ditto	2	10
12 ditto ditto ditto, stronger	5	0
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,, speciosum, grafted	0	5
,, edule, grafted	0	3

Such plants, grafted upon T. majus or pentaphyllum, flower much better than on small tubers of their own; consequently they will bear seeds, and if the insertion of the graft is covered with soil they form tubers.

A Priced Catalogue may be had on application.

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100 ditto in 100 fine prize sorts, named	2	0	0
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,,	ditto	standards	4	0	— 5	0
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THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News. The Horticultural Part Edited by Professor Lindley.

No. 9.—1848.] SATURDAY, FEBRUARY 26. [Price 6*d*.

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Botley Farmers' Club—Hedgerow timber	149 *c*	Peaches on Quince stocks	147 *b*
Box feeding	143 *a*	Plants, new	139 *b*
Calceolaria a pinetica	137 *b*	— hardy herbaceous	140 *c*
Calendar, horticultural	139 *c*	— wall	140 *c*
— agricultural	150 *b*	— effect of coloured glass on	138 *a*
Catlow (Agnes), on Feed Botany, rev.	139 *b*	Planting evergreens	136 *b*
Cattle, to box feed	143 *a*	Pomiscope	134 *b*
Conifers at Ballindalloch	138 *c*	Poinsiae Heating	137 *c*
Crops, green	147 *c*	Potatoes, early, to improve the habits of	136 *a*
Curare, case of a	134 *a*	Poultry, ornamental	143 *c*
Drainage reports	146 *a*	— salt for	148 *c*
— cost of	147 *a*	Pechoo Farmers' Club	150 *a*
Draining, Essex	145 *a*	Rain in 1847	146 *b*
Eggs, to keep	140 *c*	Salt for Poultry	148 *c*
Evergreens, to plant	136 *b*	Sheep, abortion in	140 *b*
Ewes and lambs, to feed	150 *a*	Shrubs, new hardy	140 *c*
Farms, small	144 *c*	Society of Arts	138 *a*
Field Botany, by Agnes Catlow, rev.	139 *b*	Sowing, thin	148 *a*
Figs, unripened fruit of	140 *b*	Stanley on Birds, rev.	139 *a*
Gammon's farm, Watford	149 *a*	Strixhally Farmers' Club—Report of crops	149 *c*
Glass, coloured	138 *a*	Strawberries in pots, culture of	147 *b*
Glass water taps	136 *a*	Superphosphate of Lime, manufacture of	141 *a*
Goose, Canada	143 *c*	Thin sowing	148 *a*
Grapes, shanking of	136 *c*	Timber, hedgerow	147 *b*—149 *c*
Grass seeds for sandy loam	150 *c*	Union settlements	148 *c*
— for permanent pasture	150 *c*	Urate	146 *b*
Gutta Percha	147 *a*	Vines, to graft	145 *c*
Heating, Polmaise	137 *c*	— close pruning	146 *a*
Hedgerow timber	147 *b*—149 *c*	Wall plants	140 *c*
Highland Society	148 *c*	Water taps, glass	136 *a*
Hot rage, small	144 *c*	Wheat, maximum yield of	141 *c*
Hollies, to plant	136 *b*	Woods, management of	134 *c*

HORTICULTURAL SOCIETY OF LONDON.—NOTICE is hereby given, that immediately after the Ordinary Meeting of this Society, to be held on Tuesday, March 7, 1848, A SPECIAL GENERAL MEETING will be held, for the purpose of electing a new Member of Council, *vice* Robert Wildman Barchard, Esq., deceased.

Feb. 21, 1848. J. R. Gowen, Secretary

SUPERB FLOWER SEEDS.

WM. JAMES EPPS', F. H. S, descriptive Catalogue of Flower Seeds is now ready, which may be had by enclosing a postage stamp. Purchasers may depend upon their being new and genuine, as the whole are saved and collected under his own superintendence.

		s	*d*.
No. 1 collection, 100 packets of the leading and newest kinds		16	0
,, 2, 60 packets, do.		10	0
,, 3, 30 do. do.		5	0
,, 4, 20 do. do.		3	6

High-street, Maidstone, Kent.

WILLIAM MASTERS begs to recommend the following kinds of PEAS for succession:—

Early Kent	Per quart 1*s*. 6*d*.	Stubb's Dwarf Blue, a new variety, requiring no sticks, higher than Blue Fan, very prolific, large as Scimetar	2*s*. 6*d*.
Prince Albert	1 6		
Fairbeard's Surprise	2 6		
Groom's Superb or Blue Fan	1 0		
Bishop's Dwarf	1 0	Imperial, Masters'	1 0
Waite's Queen of Dwarfs	2 6	Scimetar, Improved	0 9
Victoria Marrow	1 0	Blue Imperial	0 8
		British Queen	2 6

All the improved kinds of Broccolies, Cabbages, &c., and Flower Seeds saved on the premises under his immediate inspection.—Exotic Nursery, Canterbury.

A large quantity of maiden and trained Peaches, Nectarines, and Apricots. The usual discount to the Trade.

NEW CATALOGUE.

WM. WOOD AND SON have just published a new and very much enlarged edition of their annual CATALOGUE OF GREENHOUSE AND STOVE PLANTS, with Descriptive Lists of all the newest and most esteemed varieties of Camellias, Fuchsias, Verbenas, Petunias, and Chrysanthemums; also Geraniums, Calceolarias, Cinerarias, and Plants suitable for Grouping, Hardy Shrubs, Climbers, &c.

Copies of the above will be forwarded to all those parties who have favoured W. W. & S. with their commands, and to others FREE on application.

Woodlands Nursery, Maresfield, near Uckfield, Sussex.

SEEDLING PETUNIAS.

B. JAY has much pleasure in offering the following very superior and first-rate PETUNIAS, which he can with the strongest confidence recommend. Blooms submitted for Dr. LINDLEY's opinion were highly spoken of in the *Gardeners' Chronicle* for May 29 and June 12, in reply to S. A.

NORFOLK RIVAL, a very fine crimson purple, bright, smooth, and well formed. 5*s*.

JENNY LIND, a veined variety, the best and most distinct; rich in colour, and large and attractive in appearance. 5*s*.

PRINCESS ROYAL, white ground veined to the edge, blue throat, clear and distinct in colour and marking. 5*s*.

QUEEN OF GIPSIES, rich dark crimson, large and very attractive in appearance; one of the best darks out. 5*s*.

ILLUMINATOR, white ground, beautifully marked, large and distinct in colour. 3*s*. 6*d*.

FANCY, a very delicate French white edged with blue, very attractive. 3*s*. 6*d*.

DUKE OF YORK, a rich dark crimson, large, round, and very attractive. 3*s* 6*d*.

QUEEN OF FAIRIES, ground colour white finely veined, round, clear, and distinct in colour, dying off to a blue, very dwarf. 3*s*. 6*d*.

DELICATA, white ground, with blue throat, beautifully veined, clear, and distinct; fine form. 5*s*.

The set complete, which are all distinct, 1*l*. 10*s*. The usual allowance to the Trade. Free by post to London. Strong plants will be sent out early in the season. This advertisement will not be repeated.—St. Augustin's Nursery, Norwich.

A NEW SEEDLING FUCHSIA, "GLOBOSA CARNEA."—A new and distinct variety, of good habit, in form resembles Globosa, with a pink tube and sepals, crimson corolla, and would form a singular contrast if added to any collection. Strong plants 5*s*. each. For description see *Gardeners' Chronicle*, August 21, 1847, p. 569.

WESTMACOTT'S Descriptive priced Catalogue of new and choice Flower and Kitchen Garden seeds for 1848, is now ready, and may be had by addressing to Robert Westmacott, Seedsman and Florist, 154 Cheapside (opposite St. Paul's), London; or at Stuart's Grove Nursery, Fulham road, Chelsea.

The following, kept in sealed packages, are well adapted for large or small gardens, and are ready transmitted by post:

12 varieties Hardy Annuals named				2*s*. 6*d*.	
12	,,	Choice	,,	,,	5 0
25	,,	Hardy	,,	,,	5 0
25	,,	Choice	,,	,,	10 0
50	,,	Hardy	,,	,,	10 0
50	,,	Choice	,,	,,	18 0
100	,,	Hardy	,,	,,	20 0
100	,,	Choice	,,	,,	32 6
100 Wooden Labels for Annuals					1 6

CHOICE VERBENA SEEDS.

BENJAMIN BEADLE begs to remind his friends and the public the present is the time for sowing this universal favourite. 100 seeds, first rate, 2*s*. 6*d*.; do. out of second rate, 2*s*. 6*d*. Small packets of either, 1*s*., with directions for sowing and after treatment if wished. Sent to any part on receipt of Post-office order, payable at Camberwell, Surrey.—Nursery, Queen's-road, Peckham, Surrey.

PINE PLANTS.—To be Sold, 120 Healthy PINE PLANTS, chiefly Montserrats, and a few Black Jamaica, with some other kinds. Some of them are fruiting plants of 2-years old, and others are from suckers potted last August.—For further particulars, apply to Mr. Fox, the Heath House Lodge, Tean, Staffordshire.

GERANIUMS, RANUNCULUSES, LILIUM LANCIFOLIUM, AND NEW PLANTS.

H. GROOM, Clapham Rise, near London (by appointment FLORIST to HER MAJESTY THE QUEEN, and to HIS MAJESTY THE KING OF SAXONY), begs to inform the Nobility, Gentry, and Amateurs, that his Catalogue for this spring is ready, and will be forwarded by post on application.

THOMAS WATTS begs to offer for sale a quantity of unusually fine Standard Wall-trained PEACH, NECTARINE, and APRICOT TREES (most of them fruit-bearing). Also VINES, very strong, and well-established in pots, of all the most approved kinds, at 18*s*. per dozen.

Camden Nursery, Camberwell.

BASS AND BROWN'S DESCRIPTIVE PRICED CATALOGUE OF SEEDS FOR 1848 will be sent free by post on application. For Advertisements of a few select VEGETABLE SEEDS from the Catalogue see *Gardeners' Chronicle* dated Jan. 8th, page 18; Jan. 22d, page 49; and Feb. 5th, page 82.

SELECT AND CHOICE FLOWER SEEDS sent free by post with full directions for sowing, height, colours, &c, viz:—

	s.	*d*.
100 varieties best and newest annuals, including choice Stocks, Asters, Zinnias, &c.	15	0
50 varieties ditto for 8*s*. 6*d*., 30 for 5*s*. 6*d*., 20 for	4	0
20 varieties best dwarf kinds in larger packets, suited for filling beds on lawns, 7*s*. 6*d*., or 12 ditto	5	0
20 varieties best Greenhouse Annuals, including very splendid Balsam, Phlox Drummondii, Brachycome, Mesembryanthemum tricolor, Portulaca, Rhodanthe, Thunbergia, Martynia fragrans, &c.	7	6
20 varieties choice Greenhouse Perennials, including choice varieties of Calceolaria, Cineraria, Fuchsia, Petunia, &c.	10	0
20 varieties choice Hardy Biennials and Perennials	5	0
36 varieties imported German Stocks	6	0
20 ditto ditto	4	0

(For List of Flower Seeds selected from Catalogue, see Advertisement at page 128 of last week's Paper.)

Our Descriptive Priced Catalogue for 1848, of NEW and SELECT GERANIUMS, FUCHSIAS, DAHLIAS, PETUNIAS, VERBENAS, CHRYSANTHEMUMS, and GREENHOUSE and STOVE PLANTS, may be had gratis on application. Also our Priced Catalogue of HARDY HERBACEOUS PLANTS. Remittances with orders are requested from unknown correspondents. Postage stamps received in payment for small amounts.—Seed and Horticultural Establishment, Sudbury, Suffolk.

MITCHELL'S ROYAL ALBERT RHUBARB.—This superior variety, so well known in Covent-garden Market for the last six years, and acknowledged by all who have seen it to be the best ever introduced, its qualities being—the earliest that is grown, most prolific bearer, splendid red colour, with large fleshy stalks, and considered by epicures to be the finest-flavoured Rhubarb ever eaten. Large one-year-planted roots, 3*s*. 6*d*. each, with the usual allowance to the trade. Remittances requested from unknown correspondents, by Post-office order, to WILLIAM MITCHELL, Enfield Highway, Middlesex, made payable at the Post-office, Enfield.

ANTIRRHINUMS, FUCHSIAS, VERBENAS, PETUNIAS, &c.

J. FOWLE begs respectfully to invite the attention of the Nobility and Gentry to his Descriptive Catalogue of Summer Plants for 1848, and assures them that he will be much gratified and honoured by supplying any articles specified therein. J. F. having taken the first prize for Antirrhinums at the Royal Metropolitan Show during the past season, and having paid so great attention to this class of plants for the past five years, invites the attention of his friends to his collection, and particularly to his three Seedlings, price 10*s*. 6*d*. (plants of which will be ready for delivery in the middle of March), which he selected from his immense seedlings by the description and character of which is stated in the Catalogues; also a new Tropæolum, Brickwerdii, beautiful yellow, 5*s*. each. Catalogues may be had on application to Holland Nursery, Holland-street, Brixton-road, Kennington, Surrey.

CHOICE FLOWER SEEDS.—[illegible] Paper, [illegible] approved varieties [illegible] Alsike Clover, [illegible] Agricultural [illegible] Brown, Ashton [illegible]

SUPERB NEW PINK [illegible]

W. CHRISTIE begs to [illegible] LIST, which he has prepared [illegible] superior to any [illegible] notice, both as regard [illegible] 3 inches apart; [illegible] wanted free by post on the receipt [illegible] able at Camberwell [illegible]

W. CHRISTIE, Camberwell [illegible]

GEORGE SMITH begs to [illegible] the above [illegible] and 10th, for a [illegible] PEDIGREES and [illegible] the above [illegible] be sent [illegible]

Tuesday in [illegible]

SELECTED POTATOS, [illegible]

GEORGE THOMSON, Stowmarket, [illegible] the above [illegible] Potato, at 7*s*. per [illegible] or more; [illegible] and best class certificate at the [illegible] was very highly recommended [illegible] this Paper, September 14th: and Mr. [illegible] Altamarck, and in the Scotsman [illegible] Journal. A money order [illegible] known Correspondents.—Post-[illegible]

UNDER THE PATRONAGE OF THE QUEEN AND PRINCE ALBERT

JOSLING'S ST. ALBAN'S GRAPE.—The above has been patronised by Professor [illegible] cultural Society of London, Mr. R. T. [illegible] of the Fruit Department in the [illegible] Editor of the Gardeners' Journal, [illegible] flesh, rich, and sugary, with a Frontignan [illegible] serving of extensive cultivation. [illegible] 6-inch pots, 10*s*. to London, or [illegible] 21*s*. Usual allowance to the trade.

ROBERT JOSLING, Seedsman, St. Alban's, Herts.

A COLLECTION OF RARE AND HARDY CONIFERÆ for £5.—The following COLLECTION OF CONIFERÆ is offered by YOUELL and Co. in very fine plants in pots, for 5*l*., package included, and carriage paid to any part of Hull.

Pinus insignis	Abies Douglasii
,, Montezuma	,, Menziesii
,, Gordoniana	,, orientalis
,, cembroides	,, Morinda
,, Gerardiana	Picea Pindrow
,, excelsa	,, Webbiana
,, australis	,, Pinsapo
,, Grenvillea	Cupressus torulosa
Araucaria imbricata, 3 plants, fine	Taxodium sempervirens
Cedrus Deodara, 3 plants	Juniperus virginiana
Or the above, including the following, for 10*l*.	
Cryptomeria japonica	Libocedrus Doniana
Picea religiosa	Podocarpus Totara
,, Nordmaniana	,, chilensis
,, nobilis	,, coriacea
,, cephalonica	Thujopsis borealis
,, Pinsapo	Cupressus Lambertiana

CEDRUS DEODARA.

YOUELL and Co. beg to inform Planters and the Trade that they are [illegible] fine young Seedling Plants of the above, well established [illegible] moderate terms.

CAMELLIAS of the finest [illegible]

TRUE FASTOLFE RASPBERRY, [illegible]

YOUELL and Co. [illegible]

[illegible] large white [illegible]

THE FINEST CARNATIONS, PICOTEES, AND PINKS.

YOUELL AND Co's [illegible] and celebrated Collection of the above are this year [illegible] and ready for sending out, in [illegible] any part of the United Kingdom, [illegible] for exportation at the following prices:

25 pairs of finest first-rate show varieties of Carnations and Picotees	£1 1 0
12 pairs do. do.	0 12 0
25 pairs of very fine show varieties of do.	0 10 6
12 pairs do. do.	0 6 0
25 pairs of finest fancy varieties of Pinks	1 1 0
Fine named border Carnations, 25 pairs	0 10 6

Standard and half-standard roses of the finest sorts, 12*s*. to 18*s*. per dozen.

Tobacco Plants, strong [illegible] for forcing, 9*d*. to 12*s*. per 100.

Roots, [illegible] now [illegible] planting in three weeks.

For particulars, see Advertisement Nov. 27, 1847.

Improved Giant Rhubarb, a very fine variety, and well adapted for forcing, 2*s*. 6*d*. per dozen.

Strong Giant Asparagus, 2 years old, 2*s*. 6*d*. per 100.

[illegible] 2 years old, 3*s*. to 5*s*. per 100.

Strong Seakale for forcing, 1*s*. per dozen.

Potatoes: the following can be supplied free from disease, at 2*s*. per peck, viz., true Ashleaved Kidney, Early Cockney, and Shilling's Early Frame.

Lily of the Valley, for forcing, 5*s*. per 100.

50 packets of newest and choicest Flower Seeds, per post free for 6*s*. Fruit Trees of the finest kinds. Anglesea Pippin 1*s*. 6*d*.; Sturmer Pippin, 1*s*. 6*d*.—Great Yarmouth Nursery.

FREDERICK WARNER begs to refer his friends and the public to his Catalogue of new and choice FLOWER and VEGETABLE SEEDS (in Harrison's "Horticultural Cabinet" for the present month), which contains all the novelties of the season; the selection of Peas is particularly recommended. Catalogues can be had on application at 28, Cornhill, London.—Feb. 26.

DOUBLE ITALIAN TUBEROSE ROOTS, 4s. per dozen.—The importation of the above-named Bulbs has been just received at A. Corbett's Italian and Foreign Warehouse, 18, Pall Mall. Orders by post punctually attended to. Also some exceedingly moist Parmasan and Gruyère Cheese.

TO THE AMATEURS AND GROWERS FOR SALE OF PELARGONIUMS.

N. GAINES begs to inform the above he has twelve Houses and Pits now filled with healthy plants of different sizes, comprising upwards of 1000 varieties. Also a large quantity of Calceolarias, Fuchsias, Verbenas, Azaleas, Dahlias, Cinerarias, and Correæas, in small pots. Priced Catalogues may be had at the Nursery, Surrey-lane, Battersea.

FINE SHOW ROSES, in Strong Standards, 16s. and 18s. per dozen. Fine ditto, Dwarfs, 9s. and 12s. per dozen. Good Varieties, 50s. per 100. Finest Bourbon, Tea, China, and Noisette, in good plants, 8s., 10s., and 12s. per doz. The Giant Rocket, double white, 20s. per 100. Papaver Bracteata, 3s. per dozen. Fine Plants of Sturmer Pippin Apple, 18s. per dozen. With every article connected with the Nursery and Seed Trade. All orders above 1l. paid to London.

S. and J. Dillistone, Nursery, Sturmer, Haverhill, Suffolk.

GERANIUMS.—All the following new sorts of 1845 and 1846, sent out by their respective raisers—Beck, Foster, Garth, Cock, Gaines, Sheppard, Lyne, Hoyle, and Miller, at 2s. per dozen, when the selection is left entirely to Mr. Miller; purchasers' selection 3s. per dozen, namely, Mount Etna, Aurora, Isabella, Heidas, Hebe's Lip, Competitor, Bacchus, Lord Hardinge, Princess Olga, Mary Queen of Scots, Orion, Pearl, Pickwick, Rosy Circle, Desdemona, Brutus, Palinda, Gipsy King, Aurantia, Miss Sebright, Paragon, Samye, Sunset, Exquisite, Milo, Leader, Turk, Turban, Tippo Saib, Olympic, Orb, Zenobia, Mustee, Sunset, Arabella, Snowball, Negress, Mars, Sultan, Ardens, Avalanche, Egyptian Prince, Favorita, Margaretta, Mark Antony, La Polka, Merry Monarch, Jet, Virgil, Imperialis, Forget-me-Not, Empress, Queen, Purpurea, Iago, Amulet, Pilot, Venosa, Magnet, and Lady Flora Hastings. Also a number of second-rate sorts at 1l. 1s. per dozen, the selection left to Mr. Miller. Those persons sending orders are requested to send the names of the varieties they possess, to prevent having duplicates.

W. Miller, Providence Nursery, Ramsgate.

MYATT'S LINNÆUS RHUBARB.—Spring being the usual planting season, Messrs. Myatt respectfully request early orders from those who have not yet favoured them with their commands, as half the available stock is already parted with. The LINNÆUS is the variety cultivated so largely by the Messrs. Myatt for the London markets, being remarkably early and unusually productive. The stalks are large and free from filaments, and are admirably adapted for preserving and all other culinary purposes. One-year planted roots, 3s. 6d. each; also Mitchell's "Royal Albert," 3s. 6d., and Myatt's "Victoria," 1s., with the usual trade allowance.

Manor Farm, Deptford, Feb. 26.

KITCHEN GARDEN SEEDS.—No. 1.—A complete collection, consisting of 20 quarts of the best kinds of PEAS, and all other seeds in proportion, and of the best sorts, sufficient for one year's cropping of a large garden (the choicest Melons and Cucumbers inclusive)...£3 3s.

No. 2.—Complete collection, in smaller quantities, equally choice sorts ... ...£2 2s.

No. 3.—Ditto Ditto Ditto ... ...£1 1s.

No. 4.—Ditto (this is sufficient for a gentleman's small garden) ... ...12s. 6d.

No extra charge made for packing.

If there should be any sorts of seeds that would not be wanted in the collection, increased quantities of those most desired would be sent. References will be given if required to some of the principal families in England, Ireland, and Scotland, who purchased collections last season. All orders to be accompanied with a remittance or reference from unknown correspondents.

A General Catalogue of Horticultural and Agricultural Seeds may be had on application.

Seeds carefully packed for exportation.

Wm. Jas. Epps, F.H.S., High-street, and Bower Nursery, Maidstone.

TO PINE GROWERS.

FOR SALE.—An excellent opportunity now offers to the cultivators of PINES. About 100 Strong Fruiting and Succession Plants; they consist principally of QUEENS, JAMAICAS, and a few PROVIDENCES; they are clean and first-rate in every particular.—Apply to J. Ingram, Exotic Nursery, Southampton; or to Mr. Downey, Fordingbridge, Hants.

NEW AND GENUINE SEEDS OF FINE GROWING QUALITY.

WILLIAM E. RENDLE and CO., Plymouth, are now in a position to offer the following varieties of SEED, which have been harvested with the greatest care from true and selected plants.

		s.	d.
WHITE BELGIAN CARROT	per lb.	2	0
LONG RED ALTRINGHAM DO.	,,	1	9
LARGE GUERNSEY CATTLE PARSNIP	,,	2	0
WHITE SILESIAN BEET	,,	2	0
KOHL RABI	,,	3	6
LARGE DRUMHEAD CABBAGE	,,	2	6
MANGOLD WURZEL—LONG RED ..	,,	1	9
,, ,, RED & YELLOW GLOBE ..	,,	1	9

All other Seeds equally moderate.

Early purchases are recommended, as prices may probably advance, the same as last season.

Sample packages containing ½ an ounce of each of the above kinds, to prove their quality, will be sent postage free on receipt of 36 penny postage stamps.

NEW KITCHEN GARDEN SEEDS.

We have this season an excellent assortment of all the best varieties of KITCHEN GARDEN SEEDS, all of which have been saved from selected stocks with scrupulous care and attention, and which we can supply on the following terms:—

No. 1.—Complete collection consisting of 16 quarts of Peas, and all other seeds in proportion for one year's supply	£2	10	0
No. 2.—Complete collection in smaller quantities ..	1	10	0
No. 3. do. do.	1	0	0
No. 4. do. do.	0	12	6

A LIST OF THE SORTS AND QUANTITIES FURNISHED FOR A No. 1. COLLECTION CAN BE OBTAINED.

*** *Upwards of a thousand purchasers are annually supplied from this Establishment. Every kind of seed is proved before sent out.*

N.B. Orders above £2 will be delivered (package and carriage free) to London, Bristol, Exeter, Barnstaple, Falmouth, or to any station on the Great Western Railway.

A general Catalogue of Agricultural, Kitchen Garden, and Flower Seeds can be had gratis on application. Cash payments or reference in London is desired from unknown correspondents, Wm. E. Rendle & Co., Plymouth.

ESTABLISHED 1786.

POTATOES FOR PLANTING.

RÉNE LANGELIER, St. Helier, Jersey, has still for sale the following sorts, which he can with confidence recommend to the public, both for produce and quality, at 7s. 6d. the 44 lbs., viz.—Ambridge Kidney, very early and very great bearer; Tansrun, round white, early, is a great bearer; also a pink round. The above can be relied on for excellence and produce. A reference is required from unknown correspondents.—Clarendon Nursery, St. Helier, Jersey.

RARE AND BEAUTIFUL COLUMBINE.—The Subscriber begs to offer, free by post, safely packed, strong flowering plants of AQUILEGIA GLANDULOSA at 2s. per pair, or 9s. per dozen, and seeds at 1s. per packet, or for stamps of that value. This plant is a hardy perennial, and yields a profusion of two-coloured blossoms, blue and white, of the size and shape of the Passion-flower. A dried specimen blossom shall be sent with each order. The following remarks by the editor of the *Gardeners' Chronicle* refers to this superb Aquilegia. New Plants.—"*John Grigor*.—Your Aquilegia is certainly one of extraordinary beauty. A flower now before us is upwards of four inches in diameter."

John Grigor and Co., Nurseries, Forres, N. B.

Priced Lists of Forest Trees and Foreign Pines, &c., ready for delivery.

SEYMOUR'S RED MATCHLESS CELERY.

H. LANE and SON, Great Berkhamstead, are now sending out the above at 2s. 6d. per packet, or the amount may be remitted in postage stamps. Reference to the successful exhibitions at the Horticultural Shows during the last season is considered sufficient recommendation. The above is wholly in H. Lane and Son's hands, and can only be had true in their printed packets.

Great Berkhamstead, Feb. 26.

FOREST TREES, &c.—The Subscriber having a considerable stock of FOREST TREES, EVERGREEN and FLOWERING SHRUBS, in Seedling and Transplanted; and being desirous of clearing a portion of his grounds, would offer them at very low prices to the Trade and Planters. The following are a few leading articles:

SEEDLINGS.

Acacia, pseud, 1 yr.	Pinus Strobus, 3 yrs.
Alder, 1 and 2 yrs.	,, Maritima, 1 and 2 yrs.
Ash, 1 and 2 yrs.	Hazel, 1 and 2 yrs.
Beech, 2 and 3 yrs.	Hornbeam, 1, 2, and 3 yrs.
Briar, Sweet, 1 and 2 yrs.	Juniper, Highland, 1 and 2 yrs.
Broom, White, 1 yr.	Portugal Laurel, 1 and 2 yrs.
Cupressus, 6 sorts, 1 and 2 yrs.	Laburnum, Scotch, 1 yr.
Cytisus, 6 sorts, 1 yr.	Mezereon, 1 and 2 yrs.
Elm, 1 and 2 yrs.	Oak, English, 1, 2, and 3 yrs.
Elder, 1 and 2 yrs.	,, Turkey, 1 and 2 yrs.
Fir, Scotch native, 1 and 2 yrs.	,, Evergreen, 1 yr.
,, Spruce, Norway, 1, 2, 3 & 4 yrs.	Pyracantha, 1 and 2 yrs.
,, do. White American, 2 & 3 yrs.	Plane or Sycamore, 1 yr.
,, Silver, 2 and 3 yrs.	Red Cedar, 1 yr.
,, Larch, 1 and 2 yrs.	Thorns (Quicks), 1, 2, and 3 yrs.
Pinus Austriaca, 1 yr.	,, Black or Sloe, 2 & 3 yrs.
,, Mugho, 2 yrs.	Yew, 2 and 3 yrs.

TRANSPLANTED.

Ash, 1½, 2, 3, and 4 ft.	Fir, Larch, 2 years seedling and 2 years transplanted, 1 to 2 ft.
Alder, 2 and 3 f.	Pinus Mugho, 2 years transplanted, 1 ft.
Beech 1½ to 2, and 2 to 2½ ft.	,, Austriaca, 1 to 1½ ft.
Birch, 1½ to 2 ft.	,, Strobus, 6 ins., 9 to 12 ins., and 1½ ft.
Briar, Sweet, 1½ to 2 ft.	Hazel, 2 and 3 ft.
Chestnut, Horse, 1½, 2, 3, and 4 ft	Limes, 3, 4, 5, 6, and 7 ft.
,, Spanish, 1½ to 3 ft.	Maple, Norway, 2, 3, and 4 ft.
Elm, 2, 3, 4, and 5 ft.	Oak, English, 2 and 3 ft.
Fir, Scotch, native, 2 years seedling and 1 year transplanted.	Plane or Sycamore, 1½ to 2, 2 to 3, and 4 ft.
,, Scotch, native, 2 years seedling and 2 years transplanted, 1 to 1½ ft., very fine.	Poplars, sorts, 3 to 6 ft.
,, Spruce, Norway, 9 ins., 1 and 1½ ft.	Privet, Evergreen, 1 to 2 and 3 ft.
,, Silver, 6 to 9 ins., and 1 to 1½ ft.	Thorns or Quicks, 1, 2, and 3 years transplanted.
,, Larch, 1 year seedling and 1 year transplanted, 1 ft.	Yew, common, 6 ins., 1 and 1½ ft.
,, Larch, 2 years seedling and 1 year transplanted, 1½ ft.	,, Irish or Upright, 1, 2, 3, and 4 ft.

The above are all regular stuff. Freights can be paid to Hull, London, &c., when wished. Prices can be had on application.—John Stewart, Nursery and Seedsman, Dundee, N.B.

Feb. 26. [*This Advertisement will not be repeated.*]

ROBERT M. STARK (late partner of Messrs. J. Dickson and Sons) begs to intimate the completion of his stock of FARM, GARDEN, AND FLOWER SEEDS selected from the most approved stocks, and comprising every desirable novelty, of which an accurate and Descriptive Catalogue may be had on application. Extensive assortments of Ornamental Trees and Shrubs, Roses, Herbaceous and Bedding Plants, Florists' Flowers, &c., at moderate prices.

GARDEN IMPLEMENTS, BOTANICAL and SCIENTIFIC APPARATUS, and every other article connected with the Trade.—2, Hope-street, Edinburgh, Feb. 26.

MESSRS. J. A. HENDERSON and Co. beg to inform their friends and the public that they will have the following new and valuable Plants for Sale on the 1st of March next.

ALLAMANDA SCHOTTII.—This new and beautiful Plant was raised from seed in the garden of Mrs. Spooner, Oak Villa, Southampton, and produced flowers last summer, which were seen by Dr. Lindley, who pronounced it to be the true "Allamanda Schottii" (as since figured in the "Botanical Magazine" for February, 1848). This plant is therefore identical with that raised in the gardens of R. W. Barton, Esq., of Springwood, near Manchester, and advertised for sale in this Journal of last week. Price 1l. 1s. each.

ERIOSTEMON NERIIFOLIUM, true species.—This rare Plant is the most beautiful of its species. It is of a close, compact habit, and produces a profusion of bloom, the colour of which is white, delicately tipped with pink, continuing a long time in flower. A specimen exhibited in May last, at the Horticultural Society's Rooms, in Regent-street, was awarded a Banksian Medal. Price 2l. 2s. each.

EPACRIS HYACINTHIFLORA CANDIDISSIMA.—The flowers of this beautiful variety are pure white and nearly an inch in length; in habit is the same in every respect as *E. hyacinthiflora*. It was raised by J. Story, Esq., and is one of the best that gentleman has hitherto introduced. Price 21s. each.

EPACRIS CANDIDA COMPACTA (var. impressa).—This plant is very compact in its growth, and when in bloom is completely covered with dense masses of pure white flowers; a very distinct variety. Price 1l. 1s. each.

CALCEOLARIA "KENTISH HERO."—For bedding out this is most decidedly the best variety that has yet been raised. It is of a dwarf and shrubby habit, and produces a profusion of large, bright, bi-coloured flowers, the beauty of which is injured by neither sunshine nor rain, but retain their brilliancy during the summer and autumn months. Price 5s. each.

LOPHOSPERMUM CLIFTONIA.—The flowers of this fine variety are twice the size of the well-known *L. hendersonii*; they are produced in long racemes, trumpet-shaped, and widely expanded at the mouth; the colour is a bright brilliant pink. This plant will prove a great acquisition to the present collection of Summer Climbers. Price 10s. 6d. each.

Orders for any of the above will meet with strict attention.

Pine-apple-place, Edgeware-road, London, Feb. 26.

SEEDS, HOME SAVED.

JOHN CATTELL, Westerham, Kent, begs to remind the Public that his general collection of VEGETABLE and FLOWER SEEDS is now ready. Catalogues of which may be had by enclosing two penny stamps. A Selection of 12 of his superior sorts of Vegetables, a packet each, consisting of Beet, Broccoli, Cauliflower, Cabbage, Kale, Lettuce, Savoy, &c., may be had free by post, as in former years, by enclosing an order for 5s., or stamps to that amount. Also, a Selection of 12 beautiful sorts of Flower Seeds for the same amount, consisting of Brachycome iberidifolia, new dark-purple Convolvulus major, Delphinium sinensis grandiflora, extra fine double purple Jacobæa, fine dwarf double Rocket Larkspur, Lobelia ramosa, Lychnis fulgens, superb mixed Indian pink, Rhodanthe Manglesii, new dark-purple Sweet Peas, Carnations, &c. Castilleja lithospermoides, 2s. per packet.

J. C. has still a large Stock of Standard and Dwarf ROSES, the finest grown plants in the trade, a Catalogue of which may be had by enclosing two penny stamps. An excellent Stock of Ghent and English Azaleas of the finest sorts; his splendid varieties of Kalmia latifolia, Rhododendrons in great variety, and other American plants particularly fine.

MOSS ROSES.

RICHARD PERRY, of Broomhouse, Fulham, begs to call the attention of the Public to his stock of MOSS ROSE PLANTS. They are strong and well rooted, in excellent order for potting or border planting, at 20s. per 100. Also his stock of Moss Roses in pots, which have been potted one season, and now fit for forcing, at 6s. per doz., or 42s. per 100.

PLANTING SEASON.

EDWARD DENYER begs to intimate that he has still on hand a fine Stock of Standard and Dwarf Roses, Fruit, Forest, and Ornamental Trees, Evergreens and Deciduous Shrubs of all sizes. E. D. begs also to apprise his patrons he is prepared to lay out Gardens and Pleasure Grounds on the most extensive and approved plans, at very moderate charges, including Trees, Shrubs, and Flower Roots, &c., by contract or otherwise. A General Catalogue sent on a prepaid application. Orders to the amount of 5l. and upwards sent, carriage free, within 100 miles, and to the amount of 2l. within 50 miles, of London.—Nursery, Brixton, near London.

TO PLANTERS.

THE SUBSCRIBER has to offer the following SEEDLING FOREST TREES, &c.

Ash, 1 year	per 1000,	2s.	6d.	Gorse, 2 yrs., per 1000,	10s. 0d
Broom, 2 years	..	15	0	Hollies, 2 years	.. 15 0
Elm, English, bedded 2 years	..	12	0	Oaks, 3 years	.. 8 0
Gorse, 1 year	..	7	0	Whitethorn, 1 year	.. 3 0

TRANSPLANTED FOREST AND ORNAMENTAL TREES.

Acacias, 4 to 6 ft., p. 100,	15s.	0d.	Chestnut, Spanish, 2 to 3 feet	per 100,	50s.
Alders, 7 to 9 feet	..	8	0	Do., Horse, 6 to 8 ft.	25s.
Ash, 3 to 4 feet	..	30	0		
Beech, 6 to 8 feet	..	15	0		

Elms, the true Huntingdon, raised here, 3 to 4 feet, 12s. per 100
,, ,, ,, 4 to 6 feet, 18s per 100
,, ,, ,, 8 to 10 feet, 55s. per 100
,, Hertfordshire, at the same prices.
,, common English, 3 to 5 ft., 55s. per 1000
Fir, Spruce, 2 to 2½ ft., 50s. per 1000
,, Silver, 2 to 3 ft., 80s. p. 1000. Hornbeam, 8 to 10 ft., 15s. p. 100
Limes, red-twigged, from layers, 8 to 9 ft., 70s. per 100
Maple, 3 to 5 ft., 35s per 1000
,, Norway, 8 to 10 ft, 25s. per 100
Oak, English, 3 to 4 ft., 50s. per 100; 4 to 6 ft., 65s. per 100
,, Turkey, 5 to 7 ft., 15s. per 100
Pine, Scotch, 2 to 3 ft., 35s. per 1000; 3 to 4 ft., 8s. per 100
Poplar, Black Italian, 5 to 7 ft., 40s. per 1000
,, Lombardy, 7 to 8 ft., 25s. per 100; 8 to 10 ft., 35s. p. 100
Sycamores, 3 to 4 ft., 25s. per 1000
Willows, Bedford, 4 to 5 ft., 35s. per 1000

ORNAMENTAL TREES.

Acacia (Robinia), several fine species, dwarfs, 9s. per doz.; standards, 12s. per doz.
Ailanthus glandulosus, 8 to 9 ft., 12s. per doz.
Althæa frutex, a fine collection, 9s. per doz.
Ash, 12 fine sorts, amongst which are the gold-barked Chinese, heterophylla, &c., 12s. per doz.
Beech, Fern-leaved, 2 to 3 ft., 9s. per doz; 3 to 5 ft., 15s. per doz.; 6 to 8 ft., 24s per doz.
,, Purple, 2 to 3 ft., 8s per doz., 50s. per 100; 3 to 4 ft., 10s. per doz, 75s per 100; 4 to 5 ft., 15s. per doz.
,, Weeping, 12s. to 18s. per doz.
Berberry, several sorts, 6s. per doz, 40s. per 100
Birch, Pendula-leaved, 25s. per 100
Elms, fastigiata, curl-leaved, silver-striped, &c., 12s. per doz.
Thorns, 24 varieties, including new double scarlet, dwarfs, 10s. per doz., standards, 15s. per doz.
Laburnums, standards, fine, 6s. per doz., 40s. per 100
Lilac, sorts, 25s. per 100 Mountain Ash, 5 to 6 ft., 12s. per 100
Maple, Eagle's Claw and several choice kinds, 9s. per doz.
Oak, fine collection of American species, 9s. per doz., 55s. p. 100
Roses, a fine mixture for shrubberies, 21s per 100
Aucuba japonica, 2 ft., fine, 50s per 100
Laurels, 2 to 3 ft., fine, 20s. per 100; Portugal, 2 to 3 ft., 50s. do.

Other Ornamental Trees, Evergreens, &c., at similar charges, of which a Catalogue may be had.

Not less than 6 will be sold at the dozen price, 25 at the hundred price, and 500 at the thousand price.

N.B.—The above charges are for ready money.

Susan Wood, Nurseries, Huntingdon.

GARDENERS' REGISTER OFFICE.

HORTICULTURAL ESTABLISHMENT.

J. WEEKS and CO., King's-road, Chelsea, Architects and Builders of Hothouses, Greenhouses, Conservatories, &c., beg to inform the Nobility and Gentry that they have erected, on their premises, for the purpose of inspection, a variety of Horticultural Buildings, showing all the various modern improvements of the day.

J. WEEKS and CO.'S PATENT HOT-WATER APPARATUS is unrivalled for simplicity and efficiency. The whole apparatus, in various forms, may be seen in action on their premises. Boilers of all sizes, which only require attendance once in 12 hours.

J. WEEKS and CO. have, in addition to their Horticultural Manufactory, established an extensive Ornamental Nursery. The buildings, which are now nearly completed, are allowed to be the finest in the country; as also the complete arrangements of the Heating Apparatuses. The whole combining economy with utility and elegance.

There is a rare and most esteemed Collection of Stove and Greenhouse Plants, Catalogues of which will be forwarded.

THEIR SEED CATALOGUE IS NOW READY.

The prices at this Establishment will be found considerably lower than those at any other. Plans, Estimates, and Catalogues furnished free.

A REGISTER OF EVERY CLASS OF GARDENERS requiring situations, classed according to their various qualifications, offers to the Nobility and Gentry an easy means of selecting those best adapted to their purpose.

GARDENERS in want of situations will be furnished with a printed form upon application.

SEED POTATOES.

CHARLES SHARPE, Nursery and Seedsman, respectfully begs to direct the attention of the Nobility and Gentry to his superior sorts of POTATOES, which, having been grown on the Lincoln and Cambridgeshire marl-bed, has afforded the advertiser ample opportunity to witness their progress for the last three seasons; he is, therefore, able to recommend the following sorts as being very productive, and the least affected by the disease, and offers them at the following prices, packing included:—

Early Cockneys, fine for forcing	7s.	per bushel of 56 lbs.	
Fox's Seedling, ditto	ditto...	7s.	,, ,,
American Natives,	ditto...	5s.	,, ,,
Ash-leaf Kidney	...	8s.	,, ,,
York Regents	...	5s.	,, ,,
White Kidney, very fine...	...	5s.	,, ,,
Early Shaws	...	5s.	,, ,,
Kentish Pink Kidneys ...	...	5s.	,, ,,

The above will be forwarded immediately after the receipt of a Post-office Order, and the greatest care will be taken to ensure their safe delivery.—Direct, prepaid, to Charles Sharpe, Wisbeach, Cambridgeshire.

SEEDS, CHEAP AND GENUINE, WARRANTED.

J. WEEKS and Co., King's road, Chelsea.—The prices at this establishment are not more than half those usually charged. Catalogues of Stove and Greenhouse Plants, Seeds, &c., furnished free.

The Nobility and Gentry supplied with Gardeners, Bailiffs, &c.

COOPER'S PATENT APPARATUS for preserving Fruits, by which process they are perfectly secured for many years, on sale, by James Cooper, at No. 8, St. John street, Clerkenwell, London. Sample Hampers will be delivered at any part of London, for TEN SHILLINGS each, containing fruit in considerable variety, in half-pints, pints, and quart bottles, some in syrup, others plain.—Particulars and testimonials will be forwarded by post when requested.

THE COLD WEATHER.

SELF REGISTERING SIXIS THERMOMETERS for Heat and Cold, of the best construction, and not liable to get out of order.

14-inch, 1*l.* and 1*l.* 1*s.*; 10-inch do. do., 15*s.*

Day and Night Thermometers for Heat and Cold, 10*s.* 6*d.*

Night Thermometers for Cold only, 4*s.* 6*d.*

8-inch Box-wood Thermometers for Greenhouses, 2*s.* each.

Hydrometers for ascertaining the quality of Sulphuric Acid, 6*s.*

No purchaser of sulphuric acid should be without one, as it is often sold highly diluted. Lactometer, by which the quality of milk may be shown, whether for curd or cream, with instructions how to use it, and also the results of experiments on different milks, 7*s.* 6*d.* Lactometers for showing the amount of cream in milk, consisting of 4 graduated tubes, 7*s.* 6*d.* Mason's Hygrometer for showing the humidity of the air, with tables, &c., 15*s.* This is an invaluable instrument in hothouses, sick-chambers, &c. It was described in this Paper of March 6, 1847.

All kinds of Barometers, Thermometers, and Philosophical Instruments made by Henry Baker, 90, Hatton-garden, London, will be sent on receipt of a Post office order for the amount. Boxes are charged extra.

SEEDS.—CORNER OF HALF-MOON-STREET.

THOMAS GIBBS and Co.,

(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND,"

Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

Priced Lists of Agricultural Seeds are always ready, and may be had on application.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

CUCUMBER and MELON BOXES and LIGHTS.—One hundred 1, 2, and 3-light Boxes and Lights of all sizes ready for immediate use. Warranted best materials, packed and sent to all parts of the kingdom; 2-light Boxes and Lights from 1*l.* 6*s.* Garden Lights of every description, Conservatories, Green and Hot-houses made and fixed in all parts of the kingdom. References given to the Nobility, Gentry, and the Trade, in most of the counties of England.

James Watts, Hothouse Builder, Claremont-place, Old Kent-road, London.

STRONG HORTICULTURAL 16-oz. SHEET GLASS FOR CONSERVATORIES, GREENHOUSES, PITS, FRAMES, &c.—Further Reduction.

HETLEY and CO. publish Prices in the *Gardeners' Chronicle* the first Saturday in every month. Wholesale and Retail Glass Shade, Sheet, Crown, and Patent Plate Glass Warehouse, 35, Soho-square, London.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS and CO., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS FOR CONSERVATORIES.

SIZES UP TO 40 INCHES LONG.				SMALL SQUARES of SHEET.
				4 by 3 and 4½ by 3½...14*d.* per ft.
16 oz. to the foot	3½*d.* per foot.			5 ,, 3 ,, 5½ ,, 3½...2 ,,
21 ,,	5	,,		6 ,, 4 ,, 6½ ,, 4½...2½ ,,
				7 ,, 5 ,, 7½ ,, 5½...2½ ,,
26 ,,	7½	,,		8 ,, 6 ,, 8½ ,, 6½...2⅝ ,,
32 ,,	10	,,		Not above 10 ,, 8 ...3 ,,

GLASS MILK PANS, PROPAGATING GLASSES, and BEE HIVE GLASSES, carefully packed in Baskets, and sent to any part of the kingdom.

GLASS TILES and SLATES.

LACTOMETERS for trying the quality of Milk, 4 tubes 7*s.* 6*d.*, 6 tubes 10*s.*; and every article in the trade.

STEPHENSON and CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference or the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory in New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

HOT-WATER APPARATUS AND HORTICULTURAL BUILDINGS.

DANIEL and EDWARD BAILEY, of 272, Holborn, construct and erect Hot-water Apparatus for Warming Horticultural Buildings, Dwelling-houses, Churches, and Manufactories, in a complete and efficient manner at moderate charges. They have erected Apparatus in England, Scotland, and Ireland for many Noblemen and Gentlemen. They had the honour to be employed in heating the ranges of Hothouses and Pits in HER MAJESTY'S KITCHEN GARDEN AT FROGMORE, and in executing the works of the Royal Conservatory erected by the Horticultural Society in their gardens at Chiswick, and also in the [illegible] Conservatory attached to the Pavilion, Brighton.

D. and E. Bailey, who were the first Inventors of Metallic Curvilinear Hothouses, to the exclusion of [illegible] patentees of Horticultural Buildings, and expert [illegible] of such work at their Manufactory, 272, Holborn.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER, ON THE MOST IMPROVED AND ECONOMICAL TERMS.

GRAY, ORMSON, and BROWN, Danvers-street, Chelsea, solicit the attention of the Nobility, Gentry, and Gardeners, to their superior manner of Erecting and Heating every description of Building connected with Horticulture.

Extract of a letter, dated Lucan 10.—"I am happy to say the work you have done here is perfectly satisfactory to his lordship and me. The apparatus by which you have heated three houses and three pits, from one boiler, I believe to be the most complete I have ever seen, having well tested it through the late severe winter. In the coldest weather I had no difficulty in keeping the top and bottom to the desired temperature. I have now plenty of fine ripe Melons that were planted the 1st of April; and I find that both Melons and Cucumbers do quite as well, if not superior, on your Tank System, with less expense and considerably less labour than on dung beds. The Span-roofed house and other buildings you erected here are equally satisfactory, and I should be happy to show the work, or answer any references you may please to direct.—T. Kingham, Gardener to the Earl of Kilmorey, Orleans-house, Twickenham, Middlesex."

Plans and Estimates furnished free; and their works seen at the principal London nurseries.

PERUVIAN AND BOLIVIAN GUANO ON SALE,

BY THE ONLY IMPORTERS,

ANTONY GIBBS and SONS, LONDON;

Wm. JOSEPH MYERS and Co., LIVERPOOL;

And by their Agents,

GIBBS, BRIGHT, and Co., LIVERPOOL and BRISTOL;

COTESWORTH, POWELL, and PRYOR, LONDON.

To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named Importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

THE LONDON MANURE COMPANY beg to offer the under-mentioned MANURES on the best terms:—The GRATE of the LONDON MANURE COMPANY, for Turnips, Tares, Oats, Barley, and all other Spring Crops.

GENUINE PERUVIAN GUANO, DIRECT FROM THE IMPORT WAREHOUSE.

Nitrate of Soda—Petre Salt for dressing old Pasture—Agricultural Salt—Superphosphate of Lime—Soda Ash—Pure Gypsum—Bone Sawdust—Sulphuric Acid—Sulphate of Ammonia, and every other artificial Manure. E. Pursell, Sec.

No. 40, Bridge-street, Blackfriars, Feb. 26.

THE following MANURES are Manufactured by Mr. LAWES, at his Works at Deptford-creek:—

Corn Manure ..	14*l.* per ton.	Grass Manure ..	14*l.* per ton.
Clover do. ..	14*l.* ,,	Turnip do. ..	7*l.* ,,

Superphosphate of Lime, 7*l.* per ton.

Mr. Lawes has also made preparations for supplying the various artificial MANURES of commerce, and if Agriculturists will trust the selection of them to him, and will furnish him with the necessary information, he will supply those which he considers most suitable to the soil and crops. A paper containing the questions required to be answered will be forwarded upon application to his Office, 60, King William-street, City, London.

GUANO AND OTHER MANURES ON SALE.—

Guano, Peruv. & British Superphosphate of Lime Bonedust and Bone Sawdust Dried Night-soil. Urate.	For Wheat, Oats, Barley, Grass Seeds, Turnips, Mangold Wurzel, Potatoes, &c.

Gypsum, for Clover, Cinquefoil, &c.; Nitrates of Soda and Potash, as stimulants; Petre Salt, for dressing old Pastures; Agricultural Salt, for Compost-heaps, &c.; Sulphuric Acid, for dissolving bone; Soda Ash, a destroyer of Wire-worm: and all other Manures of known value. Also Horticultural Glass, Milk Pans, &c.—Apply for prices current, to Mark Fisherghill, Office 201 A, Stores 40, Upper Thames-street.

POTTER'S GUANO.—SEVENTH YEAR—TESTIMONIALS. Whittington, near Lichfield, Aug., 1847.

Mr. Potter.—Sir—I have tried your Guano in several ways against the best Peruvian, and *find it superior;* which I hope will be a convincing proof for another season.—I am, sir, your obedient servant, W. Ward.

Experiment of the Earl of Zetland—Potter's Guano against Peruvian, on Grass.

	Tons	Cwt.	Qr.
Potter's Guano, 2 cwt.—Hay per acre	2	8	0
Peruvian Guano, 2 cwt. ,, ,, ...	1	18	0
In favour of Potter's	0	10	0

Numerous Testimonials will be sent on application per post. The price of Potter's Guano is much under the Peruvian.

POTTER'S PURE SULPHATE OF LIME.—GYPSUM.

Testimonial.—Sir—I have had your Sulphate of Lime examined by an excellent Chemist, who speaks very favourably of it. Please send 2 tons directed to Ashburst Majendie, Hedingham Castle, Essex.

This is the *cheapest* article sold, being much under the usual price.—Factory, 28, Clapham-road-place, London.

*** Sulphate of Ammonia, Superphosphate of Lime, Oil of Vitriol, Burnt Bones, Bone Dust, &c., &c., at lowest prices.

THE LONDON MANURE COMPANY [illegible]

PREPARED BONE [illegible]

WARRANTED [illegible]

IMPROVED [illegible]

COTTAM and HALLIN, [illegible]

Ironmongery, Agricultural Implements, [illegible]

PATENT GALVANISED [illegible]

GARDEN [illegible]

PITS, &c. [illegible]

THOMAS WHALLEY [illegible] his friends that his [illegible] CATALOGUE for the season is now ready, and may be had [illegible] tion. T. W. has [illegible] FLOWER SEEDS, which will be found [illegible] and may also be had [illegible] Seed Warehouse, 12, St. George's Crescent, [illegible]

ALSIKE HYBRID CLOVER.—This [illegible] variety was [illegible] from Sweden [illegible] tween the White and [illegible] the former, with the [illegible] Meadow or Pasture [illegible] always form part [illegible] 1 cwt. 1*l.* 4*s.* per [illegible]

The PURPLE ROOT [illegible] equally hardy as the [illegible] instances surpass [illegible] support; it [illegible]

GRASS SEEDS and [illegible] Agriculture. [illegible] Piccadilly, London.

TO THE AGRICULTURAL [illegible]

WORLEY'S SIX-ROWED [illegible]

July, 18[illegible] [illegible] L. W. [illegible] Cross [illegible] planted in [illegible] wonderful [illegible] in March. [illegible] (with an [illegible] produces a [illegible] L. W. to [illegible] dibbling [illegible] prolific Barley [illegible] to the Seedsmen [illegible] N. Cross-and-[illegible] seen. Price [illegible]

ANOTHER CURE of COUGH and HOARSENESS by Dr. LOCOCK'S PULMONIC WAFERS.—Davidson-street, Liverpool, Jan. 3, 1848. Sir,—I have been troubled with a cough and hoarseness for nearly two years, without relief, which I was induced to try Locock's Wafers, the effects of which were soon visible, for the hoarseness has quite cured me. I have since recommended them to many of my friends, and they also have experienced the great relief from them.—J. Williams. Witness, M. P. Roberts, Rumford-place, Liverpool. Dr. Locock's Wafers give instant relief and a rapid cure of asthma, coughs, and all disorders of the breath and lungs. They have a pleasant taste. Price 1*s.* 1½*d.*, 2*s.* 9*d.*, and 11*s.* per box. Agents—La Shea and Co., 1, Edmonstone, Fleet-street. Sold by all medicine vendors.

HORTICULTURAL SOCIETY OF LONDON.

EXHIBITIONS AT THE GARDEN, 1848.

THE EXHIBITIONS WILL TAKE PLACE ON THE FOLLOWING DAYS, Viz. :—

SATURDAY, May 20; SATURDAY, June 10; and WEDNESDAY, July 12.

The following is a SCHEDULE OF THE PRIZES which are to be offered on those occasions :—

Class I.—FLOWERS; for which Nurserymen and Private growers exhibit independently of each other.

A Pelargoniums; in collections of 12 new and first-rate varieties, with perfectly distinct colours, cultivated with superior skill, in 8-inch pots. GB—SG—CE
NB. The collections in which the varieties are most distinct, *will have the preference.*
B Pelargoniums; in collections of six varieties, in 11-inch pots. SG—CE—LS
N.B. Any plant that shall not have been actually grown in 11-inch pots will be disqualified.
C Roses, in pots; in collections of 12 distinct varieties. GB—SG—CE
NB. The Judges are required to disqualify any collection which shall be found to contain a plant which has been recently placed in the pot from the open ground.
D Yellow Roses, best six varieties. SK—SB—C
E Cape Heaths; in collections of 15 entirely distinct varieties. GK—GB—SG
NB. It is expected that the same plant shall not be exhibited on more than one occasion.
F Cape Heaths; in collections of 9 entirely distinct varieties. SG—CE—LS
NB. No person will be allowed to show in more than one of the classes.
G Cape Heaths; single specimens displaying very superior cultivation. LS—SK—SB
NB. No duplicate Medals can be awarded in *E, F, G.*
H Calceolarias, in sixes; in 11-inch pots. LS—SK—SB
I Carnations, in pans of 24 distinct varieties. LS—SK—SB
K Picotees, in pans of 24 distinct varieties. LS—SK—SB
L Pinks; in pans of 24 distinct varieties. SK—SB
N.B.—Carnations, Picotees, and Pinks, must be shown in boxes of four sixes, of the following dimensions :—From centre to centre, 3¾ inches; from centre to outside, 2¼ do. depth at back, 7 inches; ditto front, 3½ do. The face to be painted light green. *No collections will be allowed to exhibit in which these conditions are not complied with.*
M Single specimens of very superior cultivation, excluding everything which can be shown singly in other letters, and plants not in flower. SG—CE—LS

Class II.—FLOWERS; for which all persons are admitted to equal competition.

N Stove or Greenhouse plants; in collections of 30 plants. CH—LG—GK
NB. Calceolarias, Fuchsias, Orchids, and Pelargoniums are excluded. Not more than two duplicates can be shown.
O Stove or Greenhouse pants; in collections of 15 plants. GK—GB—SG
NB. No duplicate can be shown here.
P Stove or Greenhouse plants; in collections of 10 plants. GB—SG—CE
NB. No duplicate allowed here. Exhibitors cannot show in more than one of the classes *N, O,* and *P*
Q Greenhouse Azaleas; in 12 distinct varieties. GB—SG—CE
R Greenhouse Azaleas; in six distinct varieties. SG—CE—LS
NB. No one can show in both classes of Azaleas.
S Greenhouse Rhododendrons; in six distinct varieties; *in May only*—SG—CE—LS
T Collections of 6 New Hardy Evergreens grown in pots; Conifers excluded. CE—LS—SK
NB. Nothing will be regarded as new which has been previously exhibited, or which has been in the nurseries more than three years.
U Conifers, of new or very rare species, in not less than the third year of their growth, in sixes. CE—LS—SK
NB. *T* and *U* can only be shown at the Exhibition in July.
V Exotic Orchids; in collections of 20 species of superior cultivation. CH—LG—GK
NB. Exhibitors cannot show in more than one of the classes *V, W, X,* and *Y.*
W Exotic Orchids; in collections of 10 species of superior cultivation. GK—GB—SG
X Exotic Orchids; in collections of six species. SG—CE—LS
Y Exotic Orchids; single specimens displaying *very* superior cultivation. LS—SK—SB
NB. No duplicate medals can be here awarded.
Z Scarlet Pelargoniums; in six distinct varieties, in pots not less than 11 inches in diameter. CE—LS—SK
AA Pelargoniums; in six DISTINCT SPECIES, exhibiting superior cultivation. SG—CE—LS
NB. By the word species is meant the wild kinds imported from the Cape of Good Hope, or New Holland, tuberous species inclusive, and not garden cross-breds.
BB Fancy Pelargoniums; in sixes. SG—CE—LS
NB. No duplicate medals can be allowed here.
CC New Hybrid Pelargoniums. LS—SK—SB
NB. This class is to include any varieties that do not belong to the Fancy or Florist's varieties.
DD Achimenes; in collections of not fewer than six species, exhibiting superior cultivation. CE—LS—SK
EE Six distinct varieties of Tall Cacti in flower. GB—SG—CE
FF Roses of 50 varieties in loose bunches, each consisting of three trusses as they are gathered, so as to exhibit, as far as possible, the habit of the variety; in 12 vars. CE—LS—SK
NB. No one who exhibits in this letter can also compete in the following.
GG Roses, exhibited as in the letter *FF*, and in 25 varieties. LS—SK—SB (*Private growers only can exhibit here*).
NB. No duplicate medals or higher Medals than those here offered for Roses can be given by the Judges; and if Roses are brought for exhibition without attention to the regulations here explained, they will not be allowed to compete.
HH Æschynanths; in collections of 6 species. CE—LS—SK
II Cape terrestrial Orchids, in not fewer than six species. LS—SK—SB
KK Statices; in collections of six species. SG—CE—LS
LL Hardy Ferns, in collections of 10 species of *very* superior cultivation. LS—SK—SB
MM Hardy Dwarf Herbaceous Plants of very superior cultivation, in collections of 20. CE—LS—SK
NN New Hardy Hybrid Shrubs, exclusive of Roses, Rhododendrons, Azaleas, and the like. SG—CE—LS
N.B.—It is certain that much may be effected by hybridizing plants in common cultivation, such as Lilacs, Honeysuckles, &c. &c.
OO Amaryllids, in sixes. SG—CE—LS
PP Newly introduced or extremely rare ornamental plants in flower. SG—CE—LS
NB. These Medals will be awarded by the Society's Officers, and not by the usual Judges. Exhibitors will particularly observe that none but new or rare plants can be exhibited under this letter. *Nothing will be regarded as new which has been exhibited in the Garden in a previous season,* nor garden seedlings, hybrids, nor domesticated varieties of any kind.
QQ Miscellaneous subjects. SK—SB—C
NB. Exhibitors under *QQ* will not be thereby *entitled* to a pass ticket. Cockscombs, Heartsease, Hydrangeas, and bouquets, together with all plants for which separate prizes are offered as single specimens, are altogether excluded.
RR Seedling Hybrid Pelargoniums, of entirely new crosses. S—BC
NB. Every seedling must be shown singly, and marked with the name it is to bear. The same seedling cannot gain a prize more than once in the season. The plants must be shown in pots, and not in a cut state.

In addition to any Medals assigned to the classes *E, N,* and *V*, the SK, SB and C are offered for the collections in those classes which shall be best named by the Exhibitor.
N.B. The Society's Officers, who will make this award, will be guided in their judgment by a consideration not only of the correctness of the names, but of the accuracy of the spelling, and the neatness of the writing.

Class III.—FRUIT; for which Market Gardeners, or Growers not Fruiterers, in the habit of supplying the Market, and Private Gardeners, exhibit independently of each other. Fruiterers are not allowed to exhibit at all. No duplicate awards can be made in any case whatever, except in *P*. No person can take more than one award in each letter, except in *A, B, E, K, M, O, P.*

N.B. All Fruit must be sufficiently ripe for Market, WELL COLOURED, and PROPERLY NAMED by the Exhibitor, as far as practicable; if the contrary, it will be disqualified.

A Uncommon Tropical Fruits. GB—SG—CE
NB. No medal higher than SG can be given for Musas or Guavas. Oranges, &c. are excluded.
B Pine Apples, in single specimens :—
1. Queens. LS—SK—SB
2. Enville, Cayennes, Sugarloafs or Trinidads, &c. LS—SK—SB
3. Black Jamaicas, Otaheites, &c. LS—SK—SB
4. Providences. LS—SK—SB
C Grapes, in pots; three specimens to be shown. CE—LS—SK
D Grapes, the heaviest single bunch of any kind. SK
E Grapes; in three bunches for private growers, and six bunches for Market Gardeners :—
1. Black Hamburgh, Black Prince, &c. LS—SK—SB
2. White Muscadines, Sweetwaters, &c. LS—SK—SB
3. Muscats. LS—SK—SB
4. Frontignans. LS—SK—SB
5. Other sorts, distinct from the foregoing. LS—SK—SB
F Peaches, in sixes. SK—SB—C
G Nectarines, in sixes. SK—SB—C
H Apricots, in sixes. SK—SB—C
I Figs, in sixes. SB—C
K Cherries, in dishes of 1 lb. each :
1. Black. SB—C
2. White. SB—C
L Strawberries, in pots; six pots to be shown. SK—SB—C
NB. They must have grown in the pots.
M Strawberries, one dish each :—
1. British Queen, &c. SB—C
2. Keens' Seedling, &c. SB—C
N Oranges, Citrons, &c., in pots; no one to show more than one pot. LS—SK—SB
NB. This class of Fruits is excluded if gathered.
O Melons, one specimen each :—
1. The heaviest. SK
2. The best flavoured. SK—SB—C
P Other kinds of fruit, exclusive of Apples and Pears of the previous year. SB—C

Judges.—The Judges have the power of *increasing* or *diminishing* the number of the Silver Medals offered by the Society for particular objects, in cases where no regulation exists to the contrary.

TO AGRICULTURISTS, DRAIN-TILE MANUFACTURERS, AND FLAX GROWERS.

R. BRADLEY and Co., Engineers, Wakefield, beg to call attention to the following articles manufactured by them.

PATENT "ECONOMIC" AND "UTILE" DRAIN-TILE AND PIPE MACHINES, from 17*l.* to 40*l.* each, the latter being the only Machine extant capable of manufacturing the smallest sized pipe or tile, as well as wall coping, ridge, floor, pan, and sewer tiles and bricks.

IMPROVED BRICK PRESS, pressing two at each stroke, with steel lined dies and brass name letters, 27*l.*

OILCAKE CRUSHER, crushing to any degree of fineness, 7*l.* 7*s.* BEAN SPLITTER, do., 5*l.* 5*s.*

CORN OR SEED DRILL, capable of being attached to any description of plough, 2*l.* 2*s.*

FLAX BREAKER, with serrated rollers, 15*l.* 15*s.*

IMPROVED DOUBLE SPIKE ROLLER, OR NORWEGIAN HARROW, 12*l.* 12*s.*

The above Machines are made wholly of iron, and can be driven by hand, steam, or horse power.—Wakefield, Feb. 26.

FLEXIBLE INDIA RUBBER PIPES, FOR GARDENING AND AGRICULTURAL PURPOSES.

THE PATENT VULCANISED INDIA RUBBER PIPES AND TUBING are made to stand BOILING LIQUOR WITHOUT INJURY, do not become stiff or hard in any temperature (but are always perfectly flexible); and as they require no application of oil or dressing when out of use, are well adapted for Fire-engines, Pumps, Brewers' use, Gas Fitters, Beer-engines, and all purposes where a perfectly flexible pipe is required. Made all sizes, from ¼ inch bore upwards, and of any length to order.—Sole Manufacturer, Jas. Lyne Hancock, Goswell-mews, Goswell-road, London.

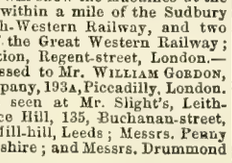
Vulcano India Rubber Washers, all sizes for Steam and Hot-water Pipes, and articles of India-rubber Manufacture generally.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK AND TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their IMPROVED BRICK and TILE MACHINES, which are to be seen at work at Alperton, and at the Company's Office, 193A, Piccadilly, from 10 A.M. to 5 P.M. Mr. Robert Scrivener, who has been appointed Manager in the room of Mr. John Ainslie, will show the Machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. William Gordon, Secretary, at the office of the Company, 193A, Piccadilly, London.

These Machines may also be seen at Mr. Slight's, Leith-walk, Edinburgh; Mr. Lawrence Hill, 135, Buchanan-street, Glasgow; Mr. Robert Charles, Mill-hill, Leeds; Messrs. Perry and Finch, Penkeridge, Staffordshire; and Messrs. Drummond and Son, Dublin.

THE IMPROVED HYDRAULIC RAM, fixed by Freeman Roe, Fountain Maker, 70, Strand, London, can be worked by a small stream of half-an-inch, where a fall of two feet can be obtained. The same RAM, without the aid of a Tank or Cistern, arranged to throw a Jet of Water constituting a Fountain with the head of water beneath.



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Estimates given for the supply of Towns, &c.

A newly invented PORTABLE VAPOUR BATH, all complete for 4*l.*

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THRESHING MACHINES (Four-horse Power) doing from 25 to 35 loads of Wheat-straw per day—straw undamaged, price 60 guineas, including carriage and horse-power. A GORSE MACHINE, hand labour, will prepare 50 bushels per day, price 10*l.* 10*s.*; Wedlake's CHAFF MACHINE will cut 200 bushels per day, price 7*l.* 7*s*; Horse Hoe, Dressing Machine (7*l.* 10*s.*), Turnip Cutter, Turnip Drill, Stubble Rake, Oil-Cake Breaker, Bean and Oat Crushers, Essex Ploughs for 2 horses, Subsoil Plough, Double Field Roller, &c. Seed Machines from 3*l.* 6*s.* to 3*l.* 10*s.*, according to length. References given and testimonials produced of superiority.—Mary Wedlake, 118, Fenchurch-street.

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Manufacturers, J. B. White and Sons, Millbank-street, Westminster.

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Alopecurus pratensis	Festuca ovina	Phleum pratense
Avena flavescens	Festuca hordeiformis	Phleum pratense majus
Avena pratensis	Holcus avenaceus	Phleum pratense minus
Anthoxanthum odoratum	Holcus lanatus	Poa pratensis
Agrostis stolonifera	Holcus mollis	Poa trivialis
Achillea millefolia	Lolium italicum	Poa nemoralis
Cynosurus cristatus	Lolium perenne	Trifolium repens
Dactylis glomerata	Lilium perenne Pacyanum	Trifolium minus
Festuca pratensis	Lotus corniculatus	Trifolium medium
Festuca duriuscula	Medicago lupulina	Trifolium pratense perenne
Festuca tenuifolia		

*** The above natural and artificial GRASSES may be had separately at the lowest market prices, or in mixtures, prepared to suit the soil, at 30s. per acre.

MESSRS. JOHN SUTTON & SONS having for many years paid especial attention to the examination of natural pastures, and the collecting of the Grasses which grow naturally in the various soils of Great Britain, are thereby enabled to supply the sorts of Seeds most suitable for the soils for which they are intended. Also MIXTURES FOR IMPROVING OLD PASTURES which are deficient in Clovers and the finer kind of Grasses, at 1s. per lb. Seven pounds of Seed per acre will be found greatly to improve the pasture, if sown early.

FINEST LAWN GRASSES.—The great expense of cutting and carting turves may be avoided, and a superior fine Grass Lawn produced in a few months by sowing Messrs. SUTTON'S LAWN GRASS SEEDS, which consist solely of the fine short-growing kinds, and perfectly free from weeds. Price 4s. p. gallon.

Any information required will be supplied in answer to application addressed JOHN SUTTON & SONS, Reading, Berkshire.

N.B.—Carriage free to London or Bristol.

The Gardeners' Chronicle.

SATURDAY, FEBRUARY 26, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY, March	1	Society of Arts	8 P.M.
FRIDAY,	—	3 Botanical	8 P.M.
MONDAY,	—	6 Entomological	8 P.M.
	—	7 Horticultural	3 P.M.
TUESDAY	—	7 Linnean	8 P.M.
SATURDAY	—	11 Royal Botanic	4 P.M.

WE have lately observed with much regret a growing disposition on the part of private correspondents and others to disparage the great public BOTANIC GARDEN AT KEW. As a sample of the complaints which reach us, the following extract from an anonymous letter may be selected:

"I think you could not do a greater service to the nation at large than by turning your attention to the state of these gardens. While so much is expended in procuring new plants, and in providing such extensive accommodation for them, surely those which they have should be kept in a better condition than they are. Taking them generally, they may be termed a national disgrace, and they will assuredly remain so until measures are taken to create a more intellectual race of labourers, either by carefully examining the qualifications of the men before they are received, or by providing them afterwards with a library and reading-room, or some suitable means of gaining information on the nature and habits of the plants they are required to cultivate. It is a melancholy task to take a volume of the old 'Hortus Kewensis,' and inquire for the great majority therein mentioned. 'Dead, dead, dead!'—'I don't know.'—'It's not here now,' and the like answers painfully strike the ear. I think it anything but creditable that Knight's and Chiswick should have reading-rooms established, and this not. Of course I do not intend this for publication, as I would rather you judged for yourself. And am, sir, &c., A SUBSCRIBER."

Other correspondents complain that the men are ill-paid, that the fine collection of Cacti is rotting fast, &c. &c.

We believe that the correspondent whose letter we have quoted is right in saying that it may be useful to "turn attention to the state of these gardens," in whose success we have especial reasons for being interested. We have, therefore, recently spent several hours in their examination; and we are bound to give the statements to which we have alluded *the most unqualified contradiction.* They are either absolutely false, or unfair, or ludicrous misrepresentations. The plants at Kew are in excellent health, and the gardens themselves in as much order as is attainable where extensive alterations are going on in all directions.

The story about the Cacti rests upon the broad foundation that a large specimen, which was rotting when it arrived from Mexico, has died. We should be greatly indebted to any one who will tell us how its death could have been prevented. Our eyes beheld nothing that did not indicate good and careful cultivation. It is true that in some of the old lean-to houses, which have been long since condemned, and the contents of which are about to be transferred to the great conservatory, the plants are not in the same healthy condition as in the modern houses: but we will appeal to any unprejudiced person, capable of forming a judgment, whether they could be better *under the circumstances.* In a fortnight the operation of removing them to the new conservatory will commence, and the wretched houses in which they have been kept alive, for cultivation there was impracticable, will disappear.

We are bound to say this in defence not only of the authorities at the Garden, but of the young men themselves, whose characters ought not to be thus aspersed by anonymous writers.

It is scarcely possible to treat seriously the lamentations over the disappearance of the plants which were included in the book called the "Hortus Kewensis." Our worthy correspondent is quite pathetic; his "dead!" "dead!" "dead!" can only be compared to the famous "Song of the Shirt." We trust that his sorrow will be mitigated when he learns that many of the plants named in the work he has been studying never were at Kew at all; that others are of only annual duration, never seeding; that some were uncultivable by any process known at the time when they were introduced; and that thirty-five years have elapsed since the last volume of the "Hortus Kewensis" made its appearance. Our correspondent does not seem to be aware that plants have lives which no human art can prolong. He might with as much reason complain that upon enquiry at the House of Commons for the members of the BARTLEMY Parliament, the answer of the doorkeepers was "dead," "dead," "dead." One thing however our correspondent might have learned, if he had enquired of persons able to give him an answer, and that is, that a very large number of the most important plants named in the "Hortus Kewensis" do still exist at Kew, having survived the neglect with which they had been treated for so many years prior to the re-toration of the Garden.

With regard to the wages of the men, we have only to remark that they vary from 12s. to 20s., 25s. and 30s. a week, the minimum being the customary wages of the country; and that all extra work is remunerated by extra pay. Moreover all men who have been three years at Kew, and conduct themselves well, are advanced to 14s. a week.

The reading room question is somewhat different; there is no reading room properly so called. It is not for the authorities of the Garden to build one at their own expense; that arrangement belongs to Government; Sir WM. HOOKER can only recommend. We have reason to believe that the necessary representations have been made to Whitehall: and no one is at present justified in saying that they will be neglected. The whole conduct of the Woods and Forests is at variance with such a supposition. But if there is not a room, there are books, and as we are informed a considerable number of them; a sufficient reading-room, and the necessary adjuncts, will undoubtedly follow. It is unreasonable to ask that in such a work of reformation as the remodelling of Kew everything should be done at once. The first object was the gratification and instruction of the public: internal arrangements, however important, must, for obvious reasons, be subordinate.

Opticians are able to make spectacles which distort every object that is seen through them. We suspect that the eyes of our correspondent have been fitted with such glasses. Let us hope that he will procure a better pair when he next honours Kew with a visit. He may then discover that it contains matter deserving the admiration of even a cynic.

We would invite him to inspect the interior of the magnificent conservatory, and to ask himself where he will find its equal for beauty of execution or excellence of construction. Perhaps he may exclaim "what of the interior! look at the outside and tell me to what style of architecture, Greek, Roman, Tartar, Cyclopean, or Italian, it belongs?" Such a criticism would be worthy of the "Hortus Kewensis" pathos. He probably will not believe that glass buildings in which plants are to be cultivated cannot be constructed by the rules of architects; he may deny that the interior effect is that which has to be considered; and he may even suggest that had he himself designed the house he would have known how to overcome such trifling difficulties. We should like to see his plan. In the absence of it we venture to express our belief that external architectural beauty is unattainable in plant-houses fit for the use of gardeners. But let him look at the interior, let him pass round the gallery some 30 feet above the floor, and cast his eye along the wings, and then say how he would have improved the design.

We would next venture to recommend to his consideration the piece of water brought up to the terrace walls that bound the conservatory, to the beautiful chimney tower, and to the vistas which are opening in all directions from the spot. He may even find something to commend in the operations in progress for beautifying and throwing open the noble pleasure grounds.

When all these things shall have been examined, we would beg our visitor, always provided his old spectacles are left behind, to visit the building once containing a fruit room, and now in process of conversion into a Museum. He will there find the commencement of a collection of vegetable products, and of the less perishable parts of plants, which we think he can hardly look upon except with pleasure. Specimens of woods, gums, linen fabrics, seeds, seed-vessels, flowers, fruits, and all sorts of vegetable products are neatly arranged in glass cases, well displayed, carefully labelled, and accessible to everybody. We will discover, in fact, the germ of one of the most desirable museums that can possibly be formed: which may become to the merchant and artist what the Museum of Economic Geology is already to the farmer and miner; and which shows to what great purpose [illegible] of enlarged views how to turn [illegible] in common hands are valueless. We [illegible] that this is the beginning of a system [illegible] since observed, of removing to Kew [illegible] products now locked up in the British Museum. There the botanical collections are [illegible], and out of place. Dirty, dusty, murky London is not suited to the preservation of [illegible] tions of natural history; and we earnestly hope that one of the first recommendations of the committee now examining into the state of the British Museum will be to send the Botany of [illegible] to Kew. The space which it occupies is wanted in London: and we presume that further [illegible] grants for the enlargement of the British Museum are for the present out of the question. We may possibly revert to this subject: in the meantime we commend it to the vigilance of the [illegible] correspondent whose complaints have led to these remarks, and who cannot occupy his leisure better than by investigating the cost and efficiency of the natural history department of the great National Museum—provided always he will take our advice as to changing his spectacles.

Having said thus much of and for Kew, we have two words of advice to offer. The first is to the RESPECTABLE PART OF THE MEN EMPLOYED THERE—that they should conduct themselves cheerfully and wisely, that they should eschew evil speaking and insubordination, that they should prove by their acts that they are worthy of the favour of HER MAJESTY'S Government, by using well the indulgences that are granted to them; and, above all things, that they should at once separate from any evil spirits that may have found their way among them, only to delude and destroy under the mask of advocating useful measures, which such evil spirits have not only no power to procure, but which their very advocacy necessarily delays by disgusting those who possess the influence and the will to assist them. The second is to the AUTHORITIES AT KEW, that should instantly discharge all disturbers of the peace and destroyers of the credit of the many respectable young men in the Garden. That there are such we happen to know. It is clear that if this is not done no sane man would think of taking a gardener out of the Royal Botanic Garden at Kew.

WE are assuredly not blind to DOWNING'S errors or faults. From the first we have spoken candidly concerning them; and on one particular portion of his work—the "Historical Notices of Landscape Gardening"—we have long since commented plainly, and have remarked on the defects which disfigure the earlier part of them.

But the last portion of these notices is very much more interesting to the English reader. We mean that which gives an account of American Landscape Gardening. Here DOWNING speaks from his own personal knowledge: and we deduce from his statements the means of judging fairly of the position in which he was placed, and of the consequent merit or demerit of his principles and his works.

In the first place, he states honestly that there is little hope of ever seeing "such splendid examples of Landscape Gardens" in America as, in varied forms and styles, have become the gems of Europe, and especially of England; and he gives a plain reason for this. "Here," says he, "the rights of man are held to be equal: and if there are no enormous parks, and no class of men whose wealth is hereditary, there is at least the almost entire absence of a very poor class in the country: while we have, on the other hand, a large class of independent landholders who are able to assemble around them not only the useful and convenient, but the agreeable in country life." Landscape Gardening, then, on a very large scale—and, therefore, with very extensive scope for the exercise of the artist's genius—is confessedly out of the question in America at least for the present. And the author explains himself more definitively still: "Although until lately, a very meagre plan of laying out the grounds of a residence was all that we could lay claim to, yet the taste for elegant rural improvements is advancing now so rapidly that we have no hesitation in predicting that in half a century more there will exist a greater number of beautiful villas and country seats of moderate extent in the Atlantic states than in any country in Europe, England alone excepted."

Now it is obvious that while DOWNING speaks

with such lively hope of the progress of Landscape Gardening in America, its exercise is avowedly confined to grounds of "moderate extent," and that while on the one hand this limitation must necessarily cramp the efforts of the artist's genius, on the other hand all his opinions and principles must be interpreted in reference to this very limitation, and indications be fairly discovered of what the same genius could accomplish on a larger scale, and with a wider scope. These tests we think that Downing can stand successfully.

But another statement of his requires to be fairly judged for his own sake: "With regard to the Literature and Practice of Landscape Gardening as an Art in North America, almost everything is yet before us, comparatively little having yet been done." Indeed it is a very curious fact concerning such a people as the Americans—with such great and beautiful natural capabilities surrounding them—that only one work on the subject had appeared before the publication of Downing's own. And from its title "The American Gardeners' Calendar," it certainly would not seem to be a regular systematic treatise confined to this subject alone, but rather devoted to general topics, among which Landscape Gardening is only incidentally discussed. Whatever Downing's merits or faults as a writer then may be, he had no work adapted to American scenery from which he could copy. He is original. His merits or his faults are entirely his own.

But if this were the state of American literature on the subject, it appears to us to be even a more curious fact that no practising Landscape Gardener of any excellence arose in that country until 1824. His name was M. André Parmentier. He was the brother of an eminent Horticulturist, the Chevalier Parmentier, Mayor of Enghien, in Holland. He established himself as a horticulturist at Brooklyn, Long Island, and founded nurseries there on a large scale. Now it is very singular that until so recent a date not an Englishman or an American native should have turned his attention to the art. But the more singular fact affects M. Parmentier himself. He was a Dutchman: and looking at the history of Dutch style, one would as soon have expected the natural style to be advocated by him, as for a revived courtier of Louis Quatorze to vindicate the gallopade and condemn the stately minuet. And yet it was so. He published a treatise on the superior claims of the natural over the formal or geometric style of laying out ground. He issued his catalogue periodically—arranging in it the hardy trees and shrubs that flourish in that latitude according to their height, hues, &c., and surveyed and laid out the grounds themselves. "In short," concludes Downing, "we consider M. Parmentier's labours and example as having effected directly far more for Landscape Gardening in America than those of any other individual whatever."

Here then was the only practitioner whose designs and style Downing could have for a model or a warning. And the places which Parmentier laid out could not well have been very numerous, so as to impress the beholder with the idea of any characteristic style. With only one American work then before him, and only one American Professor of the Art, Downing undertook not only to practise as a Landscape Gardener, but to publish a treatise on the subject. There was one other man whose works he studied carefully, with whom he came to correspond—and to whom, in his prefaces, he tenders his deep sense of obligation—and that was Loudon. How far he really benefited by the works and correspondence of this author—how far his own Treatise is original, and his principles are correct—we shall now be enabled to judge more fairly, looking at this preliminary statement which we have felt ourselves bound to make. =

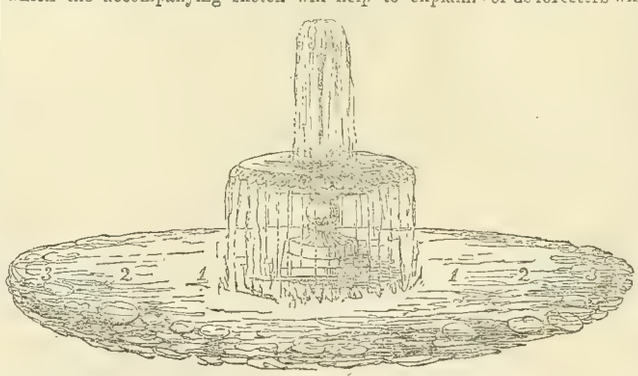
We are so sure that the following case must excite the sympathy of many of our readers, that we introduce it without preface. In fact, it tells its own sad tale.

"I have been a Curate in the Church of England more than 35 years, am now turned threescore years of age, have a large family, and no preferment, and consequently find a difficulty in getting my sons out in the world. At present I am Curate of two parishes, and Chaplain to the Union, consequently I have three full services to perform on the Sunday, and to ride in all weathers about 16 miles; you will acknowledge that this is work enough for a man of my years, but, as my old schoolbook said, 'Necessitas non habet leges.' Alas! it is much to be lamented that livings in the Church of England are generally given through family or political influence. Whatever may be a man's character, or however poor his circumstances, or arduous his labours, yet in the eyes of some Church patrons, they give him no title to preferment. My son, Henry William, has his mind fixed on the gardening and nursery business. He is very industrious, and I think has a good taste for the profession, and if you can kindly oblige us by obtaining a situation for him, it will be conferring a great favour both on him and myself. My circumstances will allow me to give only a small premium; but my son, who wishes to be industrious and to make himself useful, is now in his 17th year, and he has a taste and delight in gardening, and therefore wishes to be in a situation where he may labour and make himself useful, as well as gain a necessary knowledge of gardening. He already manages my garden, and labours in it in a workmanlike manner. Indeed, this year he has not only furnished us with Cucumbers and all necessary vegetables, but, for the first time, has raised Melons. You will very much oblige me by looking out for a situation for him, where he may be regularly employed, and where he may observe the Sabbath-day."

We cannot imagine that any one under these circumstances would think of taking a premium with the young man. What we venture to ask of some one, who can feel for so hard a case, is, that he should take him for three years into his garden at labourer's wages. By that time he will be 20 years old; afterwards the writer of this appeal will himself take care of his further prospects as a gardener. A letter addressed to Dr. Lindley, 21, Regent-street, will meet with immediate attention.

THE PLUVIOSCOPE.

Few who have passed much time in the country can have failed to notice the remarkable sagacity which occasionally characterises some of those individuals who are doomed to earn their bread by the sweat of their brow. I have often been amused at witnessing the various expedients resorted to for supplying their respective wants, but I do not remember to have met with one more simple and curious, or which shews their natural acuteness of observation in a more striking light than the following idea, which was recently communicated to me, for indicating changes in the weather, and which the accompanying sketch will help to explain.



It consists in noticing, where there is a fall of water, such as from a fountain, the innumerable little air-bubbles which rise and float on the surrounding surface. There is nothing very remarkable in this, it may be said, for we have seen these little drops sparkling in the sunshine a thousand times, and they are still the same; but now that your attention has been drawn to them, let me beg of you to look again, and watch them more closely as they float along. Draw imaginary lines as shown in the sketch at 1, 2, and 3, say at the distance of 1, 3, and 6 feet from the jet. If the air is heavy and dry, as in fine weather, the bubbles will vanish almost immediately they are formed, or only reach so far as 1. Previous to rain, or when the weather is showery and unsettled, they will remain a little longer and probably extend to 2; whilst before very wet stormy weather, they will continue to float for a considerable time, and if not broken and dispersed by a sudden gust of wind, will reach the point 3 before they burst. That there are many similar signs observable in nature which to a certain extent foretel the changes in weather, is a fact which will hardly be questioned. All of them are more or less founded on experience, and in this way we reason from analogy, and judge of the future by the past. Take for example—a sudden rise in the temperature, or an equally rapid change in the wind to south or west, and almost invariably they are followed by rain; while on the other hand, a change of wind to north or east is as frequently the precursor of dry cold weather. Again, when the morning sky is red, it is but too often succeeded by wind or rain in the afternoon; but if the evening is red, and as Thomson says—

> ——"In the western sky, the downward sun
> Looks out, effulgent, from amid the flush
> Of broken clouds, gay shifting to his beam,"

we may generally expect the next day to be fine. If brassy, or copper-coloured, rain is almost sure to follow. These prognostics are generally considered to proceed from certain conditions of the atmosphere, and are each subject to the same immutable laws which influence the various movements of the barometer. So also is the pluvioscope, if I may so term it, above noticed, which although only a bubble, tells a story that if rightly interpreted will afford us both amusement and instruction, and verify in some measure the well-known lines of the bard of Avon.

> ——"Our life exempt from public haunt
> Finds tongues in trees,—books in the running brooks,
> Sermons in stones, and good in everything."—*D.*

MANAGEMENT OF WOODS.

In your Paper of January 8 I observe an article, signed "Pinus, Logiealmond, Perth," in which the writer takes notice, in no very measured terms, of a paper written by me on Planting and Management of Woods, and published at p. 787, 1846. He says, in reference to this article, that it is "in his opinion calculated to mislead proprietors who are planting high, exposed grounds, as well as the inexperienced in the management of plantations." In reference to myself he says, "And living in his neighbourhood, I have some idea of his experience, which is not great as a wood forester." Now, I would not have considered it necessary to contradict his assertion, were it not that your readers may believe that it is really true that I am endeavouring, through inexperience, to mislead proprietors on the subject of planting—a subject which, to them and to the public, is of the greatest importance. It is therefore forced upon me to say, that, for the last 32 years, I have been in constant practice as a forester both in Scotland and England, and have in the course of that time had under my charge a very considerable extent of plantations. I may also state, to enable "Pinus" to form some idea of my experience, that, at this moment, I have under my superintendence and direction, lying in 13 counties of Scotland, a greater extent of woods and plantations than perhaps any forester in Scotland ever had under his charge. I am sorry to trouble your readers with these egotistical assertions, which I can easily substantiate, but I feel that in self defence I am obliged to do it.

"Pinus" says that my "mode of planting and managing plantations is at variance with all practical experience, and every forester of any standing with whom he has conversed has condemned it in unmeasured terms." It may be presumed that "Pinus" is of some standing as a forester, and that those of his profession with whom he converses are on a footing of equality with him, and hence his fears that my "mode of planting will meet with encouragement from those who take mere writers as their guides, and the operations of us foresters will be looked upon with suspicion by proprietors, inasmuch as they will imagine we put them to unnecessary expense in forming young plantations; for the saving a few hundred plants per acre appears to Mr. Young a greater desideratum than the ultimate value of the timber to be raised, which, by following his system, is sure to be the result." I am quite aware that such foresters as "Pinus" may and do condemn my mode of planting and management of plantations, because it condemns their own practice, which is altogether empirical, and the impropriety of which they are either incapable of understanding or do not take the trouble to consider.

It is by no means my wish to excite too much the fears of "Pinus" or those foresters of any standing with whom he converses, but it is only candid to tell him and them that it has for a long time been my endeavour, and I will not relax in my exertions, to advise proprietors to renounce the system he and these foresters recommend and practise, and adopt my own, not for the paltry saving of a few hundred plants per acre, but because it insures them against a very great amount of subsequent expense and disappointment, as well as secures to them a much greater amount of valuable timber, which is sure to be the result. I have been successful in convincing not a few proprietors, and some of them the most extensive in Scotland, that it is time to look with suspicion on your system; and with most of them the task has not been difficult, for the ruinous consequences of it are everywhere to be seen, and have been widely and severely felt by them.

With my remarks on the adaptation of trees to soil and climate he says he can find little fault. It might have been as well that he had acquired a little more knowledge of at least the rudiments of his profession before he proceeded to condemn a system which I venture to say he never saw tried. Having, however, discovered that Mr. Young's great error lies in the distance plant from plant, he then proceeds, as he says, to "contrast Mr. Young's experience with that detailed in Brown's 'Forester.' Instead of planting at 2 to 4 feet apart, the usual distance, Mr. Young plants at 6 to 8 feet, if Firs, and if hard-wood, for permanent trees, he plants them at 28 feet distance from each other, and fills in Larch, Spruce, or Scotch Firs, according to soil and situation, for nurses, till all stand at from 6 to 8 feet apart." The quotation is correct as far as it goes, and I will defend the principle, for the reasons given in the article, and for others which I may at a future time adduce. But what does the "Forester" say? For Firs he recommends planting them 3½ feet apart, and for hard wood from 7 to 10 feet, according to the object in view, filling in Firs as nurses, so that the trees stand 3½ feet plant from plant; and for his reasons for planting thus thickly see page 135. "In all cases where

Firs are raised for timber as well as shelter, they should be kept rather closely than otherwise, and upon observation the most advantageous distance to thin out will be found to be about one-third of the height of the trees generally. When Firs have been kept at a distance less than one-third of their height, they become tall, slender, and weakly; and if grown at a distance from one another greater than that above mentioned, they become branchy, and do not increase proportionally in height; besides which the timber is generally coarse. No pruning of Fir trees should be allowed; pruning invariably injures the quality of the wood of Fir trees; and besides the health of Fir trees is much injured by pruning. If trees are kept as nearly as possible at the distance specified above they naturally prune themselves as they advance in height, for as soon as the lower branches of the Fir and Pine tribe become confined and a want of due air ensues in the body of the plantation they gradually die and fall off without in the least injuring the quality of the timber." Well, then this is Mr. Brown's system, or rather, it is the foundation of it. I shall just examine it in detail, and if I differ, as I must do, in my opinion from him, and show that his system and practice is wrong in principle, expensive to proprietors, and ruinous to plantations, he has his friend "Pinus" to thank for it.

He plants hard wood from 7 to 10 feet apart, and fills in Firs till all stand at 3½ feet apart. I would ask Mr. Brown how far the branches of each of these plants have to extend before they meet? It is obvious they have only 21 inches. How long will they take to do this? We shall give them the first year to establish themselves, the second they will extend 3 inches; the third, 7 inches; the fourth, 13 inches; and the fifth, 21 inches; so that in five years after it is planted the plantation is close, although not all equally so. Well, when is thinning to commence? Mr. Brown says, page 148, "If the ground thus planted has been properly drained previous to the trees being planted, and the situation is one of moderate exposure, such a plantation will, at 10 or 12 years' standing, very probably be in a state requiring to be thinned for the first time. In examining the state of such a young hard-wood plantation, with the view of ascertaining whether it may be proper to thin or not, go carefully through among the trees, and mark particularly the state of the hard-wood plants, observing if the branches of the Firs are not encroaching too far upon them either so as to overtop them or to confine them too much upon any side."

This looks all very well, and many may think it excellent practice, but I will assert, without fear of contradiction, that if the plants have grown at a very moderate rate, neither Mr. Brown or any other man will walk through the plantation "to mark particularly the state of the hard-wood plants;" a hare or rabbit may go through it with some ease, but a larger animal will not. What state must a plantation be in planted in the manner described and left to itself for 10 or 12 years? It is ruined almost beyond recovery. The very elements indispensably necessary to the existence of the plants have been nearly totally excluded for at least four or five years except to the small portion of the tops of the plants presented to the atmosphere, it is quite obvious what the consequence must be, and how lamentable it is to see it staring one in the face on almost every estate of any magnitude in Great Britain. The plants are, by an uncontrollable law of their nature, drawn up to the light, presenting a mere fraction of branches and foliage to it, the larger portion of them as well as their roots dead, their stems small, weak, and emaciated, and this must be the case when the sources by which nourishment is conveyed to them are cut off. Would a farmer be thought sane who would shut up in a house or yard only sufficient to hold 20 cattle, sheep, or other animals, 100, give them only the food necessary for the 20, keep them there, and expect that 100 will thrive, grow, and fatten as well as the 20 would have done. Or what punishment would be inflicted on the man who would try such an experiment with human beings? Or it may be said, there is no analogy betwixt animals and vegetables, particularly trees; as far as I have gone there is a strict analogy, atmospheric air is as necessary to the one as to the other, and although they take their air in a different manner, their need they must have. Now, as light, air, water, and heat are the elements which contain the food of trees or plants of any kind, or are necessary for the preparation of their food, and the purification of their sap, it will not be disputed that in any given space there can only be a certain quantity of these present, and if that quantity be only sufficient for the subsistence of 20 plants of a certain size, but 100 are crammed into it, what can be expected but "disease, decay, and death; and that it is so every person at all observant, and has opportunity of seeing plantations, although not foresters, cannot shut their eyes to the fact; and I am sorry to say that many proprietors of woods, with whom I have the honour to be acquainted, are feeling in sad experience the bitter reality of it. Mr. Brown states, that "Fir trees must stand at a distance exactly equal to one-third of their height; for if they stand closer they will become tall, slender, and weakly; and if wider they will be coarse and branchy." He plants at 3½ feet apart, consequently the trees must be above 10½ feet high before the plantation receives any thinning; this may agree pretty well in many cases with the time he recommends, viz. 10 or 12 years. Now only conceive Firs or any other trees standing at 3½ feet apart, and 10 or 12 feet high! The idea is preposterous; such a plantation would be ruined, and there are many in such a state; and I would ask Mr. Brown to point out a single plantation treated in this, his own way, that is not injured to an extent almost beyond recovery; if he will name one I will go 100 miles to see it.—*Jas. Young, Land and Wood Surveyor, Perth, Feb. 12.*

(*To be continued.*)

ON BEES.

Many persons are possibly in possession of that excellent book written nearly a century ago by the Rev. Stephen White, M.A., Rector of Holton, in Suffolk, "On Collateral Bee-boxes, or a new, easy, and advantageous Method of managing bees;" but there are few, probably, who have met with the judicious observations which soon followed its publication; and as those may be interesting to amateurs, I beg to send you the following transcript.—*Medical [illegible], Canterbury.*

"*Observations on Bees, addressed to the Rev. Stephen White.*—The public are much indebted to you for your late useful and entertaining performance. Nor can I suppose any of your readers backward to join with me in thankful acknowledgments for so acceptable a present. Much has been written concerning bees, but nothing, I think, so likely to answer the valuable end of increasing their number and the fruit of their labour as the directions you have given. Yet I cannot entirely approve of everything you have advanced.

You seem to think that bees are scarcely ever killed with cold; but long experience has assured me of the contrary. Instances have unhappily occurred in which I could not avoid considering that as the cause of their destruction. The French (more warmly situated than we) represent it as a difficult matter to secure them from the cold. The author of the 'Natural History of Bees,' to which you refer, advises, I remember, the burial of hives in the earth, to prevent their being exposed to such severities of the season as might otherwise prove fatal to them. And though I do not apprehend the danger to be so great as that writer suggests, yet I have sometimes found boxes, well stocked with honey and bees, frozen to death past recovery. 'Tis true, indeed, they are, during the winter, in a somewhat torpid state; but that does not always prove a sufficient defence. Nor can I say, as you do, that they stir not from their places while the cold continues: for sometimes the brightness of the snow, with a little sunshine, will draw them out to their destruction. You add, 'and consequently eat not at all.' To this I cannot assent, having weighed many of my hives month after month, and scarcely ever found that any of them had spent so little as ½ lb., even in a severe winter; generally double that quantity per month, in a winter not remarkably mild nor otherwise. Usually their greatest consumption of honey is in September, October, March, and April; but in the four intervening months they commonly lose in their weight about 4 lbs. each, one with another. The diversity of seasons, number of bees in each hive, &c., must necessarily make a considerable difference; nor can one pretend to give an account of this matter with any certainty or exactness. I weighed one hive, Jan. 1, 1755, and again Feb. 1, when I found it had lost 2½ lbs; but that was extraordinary. Commonly, and for the most part, it is as I have said, and therefore I cannot but wonder that the author above quoted should tell us, p. 469, 'that a pound of honey is sufficient for the subsistence of the most populous hive during the winter.' I preserved a small second swarm, whose stock was just spent last September, by giving it about 5 lbs., which was but barely enough for the purpose. Nor does a larger supply always answer the end. I have sometimes furnished a light hive with 7 or 8 lbs., which yet has perished (with a good deal of honey remaining), but I cannot add, as you do, with hunger. This you suppose may be owing to the thinning the honey with water, which unfits it for keeping all the winter in open cells. But as I seldom make this mixture, and sometimes not so much as melt it, and yet have found the internal supplies I have afforded them ineffectual to their preservation, their failure, I think, must be ascribed to some other cause—to what I cannot say. As to the mixture mentioned, which is made to bring the melted honey to a proper consistence, it is, as I apprehend, altogether needless. And how the bees can absorb and convey the honey into the little bag or bladder formed to receive it, and throw it into the cells without liquifying it, is not easily intelligible. You add 'the bees never seal it up as they do the rest of their honey;' this I believe is generally the case but I had once experience of the contrary. About the beginning of Oct., 1756, I took a large quantity of honey from a hive that had but one box under it, which was about a third part full of combs, with very little honey, and no great number of bees. These, however, as they had done me good service, I resolved if possible to preserve. Accordingly I gave them enough to fill all their combs, which when they had done (being willing to see what farther they would do), I made an addition, Oct. 6, in the morning; that day being abroad, I was surprised to find, on my return home in the evening, that they had much enlarged the combs, and that nearly all of them, as far as I could perceive, were not only filled, but sealed; whence they had the materials of which the additional combs were composed in that season is not easy to say. I gave them in all about 9 or 10 lbs., which preserved them; but though they lived a year or two, they did not repay me by their labour or increase, nor was my end answered, besides the gratification of my curiosity, by the unusual experiment. Many hives I lost almost entirely, collected by them [illegible] or fattened by me, without any apparent injury or want of [illegible]. One [illegible] I gave to four hives above 30 lbs., [illegible] equal quantity to each; only two of them survived the following summer, the other [illegible] and died. At last I used to [illegible] by imputing them to the [illegible] of the queen; but afterwards, more than once, I found her [illegible] or 3 of her majesty, and no want of honey. It is certain they cannot [illegible] I have kept several queens alive [illegible] which time they would [illegible] the honey [illegible] and so perished. [illegible] when their [illegible] nor take the wonted [illegible] tion. And when a [illegible] with any such [illegible] of heading them, [illegible] swarm in the [illegible] small parcels; [illegible] I found the queen lying on the [illegible] of which they returned to the [illegible] to what their [illegible] when there is [illegible] ill usage or [illegible] know. It is [illegible] be able to entertain [illegible] fortune you impute to the want of a free [illegible]; but I apprehend that the [illegible] of honey in the [illegible] to its being [illegible] exposed. [illegible] that the farmer's [illegible] barren [illegible] &c.; for these [illegible] find them, are [illegible] to yield the bees such a large and [illegible] to be met with in [illegible].

"As I [illegible] in some months in the season, they [illegible] in others; so in the summer months, their [illegible] are very uncertain, and [illegible]. I have known a hive gain as much in July as in both the preceding months of May and June. One I [illegible] in particular, I weighed July [illegible], and again July [illegible], when I found that in those 10 days it had increased in weight upwards of 12 lbs.—1757."

Home Correspondence.

The Bisca Oak (from Mr. George [illegible], July 24, 1819).—In the limbs were 12 navy pieces, [illegible] which made a rother for a [illegible]; the [illegible] of the body of the tree measured 450 feet. The bark was only about four tons, owing to a great many of the limbs being dead. The whole quantity of timber in the tree was 46 loads and 11 feet, at 50 feet to the load. Thomas Harrison purchased this tree at [illegible] (as I have said) made upwards of 4[illegible] of the [illegible], &c.—*M. Purchas, [illegible], Monmouth.*——The account you give, taken from London, of the C[illegible] (not Gelonos) Oak is believed in [illegible] perfectly true. An engraving of it was published at the time, with the history, as given afterwards, by [illegible]. I have it not; but some friends of mine who had seen the tree had made pencil copies of the [illegible], which I have often seen.—*B.*——I never myself saw the tree in question, but at the time it was cut down, [illegible], who superintended the falling of the tree [illegible] cutting up for navy purposes, [illegible] for like purposes, in a [illegible] shire, in which there had at the same [illegible] of timber of large dimensions. I [illegible] that the tree had in its early growth [illegible], and that there grew upon the stem five [illegible] one in itself a tree of great dimensions. A drawing was made of the tree before it was cut down [illegible] engraving was made from it, which was [illegible] Colnaghi, in Cockspur street. On the [illegible] exact account was given by Henderson [illegible] of the conversion of the tree from [illegible] fit for ship-building, and the whole [illegible] on his authority, whose [illegible] been doubted. The tree grew in the [illegible] near Newport, in Monmouthshire, [illegible] (I believe) Gelynos. This [illegible] called by the [illegible] is so favourable to the growth of the Oak. It [illegible] pedunculata, not Quercus sessiliflora, [illegible] least, from Henderson's [illegible] Acorns had a long stalk. [illegible] of Oak more prevail in [illegible] Quercus pedunculata [illegible] Monmouth and Hereford [illegible] Quercus sessiliflora [illegible] prevails in the borders of Wales, [illegible] both in size and in beauty. It is of slow [illegible] and its flat shining leaf turns to a dingy red, while the [illegible] free growing Quercus robur is still green and [illegible]. Mr. Andrew Knight, who was well acquainted with the qualities of both varieties, always maintained that the timber of Quercus pedunculata was the finest and best of the two, as I believe it to be.—*A Planter of Oak.*——You seem to write [illegible] of Loudon's account of the Gelonos Oak. I have so often heard and read accounts of it, that I thought [illegible] and [illegible] were well known and [illegible] by every person curious in timber trees. The following account, copied from [illegible] I cannot now recollect, may not be uninteresting to your readers. "The large Gelonos Oak which was felled in [illegible] use of his Majesty's Navy, grew about four miles from

the town of Newport, in Monmouthshire. The main trunk, at 10 feet long, produced 450 cubic feet; one limb, 335 feet; one ditto, 457; one, 235; one, 256; one, 215; and six other limbs of inferior size averaged 93 feet each; making the whole number 2426 cubic feet of sound and convertible timber. The bark was estimated at 6 tons, but as some of the heavy body bark was stolen out of the barge at Newport, the exact weight is not known. Five men were 20 days stripping and cutting down this tree; and a pair of sawyers were five months converting it, without losing a day, Sundays excepted. The money paid for converting it only, independent of the expense of carriage, was 82*l.*, and the whole produce of the tree, when brought to market, was within a trifle of 600*l.* It was bought standing for 405*l.* The main trunk was 9½ feet in diameter, and in sawing it through a stone was discovered 6 feet from the ground, above a yard in the body of the tree, through which the saw cut. The stone was about 8 inches in diameter, and completely shut in, but round which there was not the least symptoms of decay. The rings in its butt were carefully reckoned, and amounted to above 400 in number, a convincing proof that this tree was in an improving state for upwards of 400 years, and as the ends of some of its branches were decayed and had dropped off, it is presumed it had stood a great number of years after it had attained maturity." This account differs from Loudon's in some particulars, especially in the value of the bark, for six tons could never be worth 200*l.* His seems wonderfully disproportionate to that of the timber, deducting the expense of converting more than one-third, yet it is confirmed by what I am now about to quote. It is evident that it is to this tree Jesse allludes in his "Scenes and Tales of Country Life," and he mentions another which, though inferior in size, seems worthy of notice. The two largest Oak trees I can hear of, purchased by the late navy board, contained the following enormous quantity of timber. The first measured, without the bark, 1418 feet and contained 36 loads 28 feet of timber. The second measured 2426 feet, or 48 loads 26 feet of timber, and was sold for nearly 700*l.* The bark for 200*l.*—*H.*

Close Pruning of the Vine.—In your leading article of Jan. 8th, you state that you do not believe that close-pruning Vines will prevent shanking, and request that I will favour you with my reasons for saying that it does so. Well, about eight years ago, I took charge of the Vines now under my care; they had previously been pruned on the long rod system, and I continued to prune them in the same manner for five years, during which period more than half the bunches (of the Frontignan variety) were annually completely spoiled by shanking. I afterwards close pruned them, and have continued to do so up to this period, and the result is, that every year the Grapes have improved, and out of two good sized Vineries I had not half a dozen bunches last year that were affected with shanking. Now in every other respect the Vines have been managed in the same manner, with this difference, that during the last three years they have borne considerably heavier crops. To what then am I to attribute this difference of result, if not to the alteration in the mode of pruning? But, perhaps, you will say, these are "mere assertions," still; but I am convinced that any one paying a little attention to Vines that are pruned on the long rod system, might soon satisfy himself on the subject. The bunches borne at the extremities of the rods are always the longest, the most straggling, and slender, just such as are liable to shank; while those borne near the old wood are round and compact, with the footstalks of the berries short and stout; such bunches seldom shank, and they are just such as every good grower likes to see. Is it not evident from this, that the nearer you prune to the old wood, you will get bunches less liable to shank, and that close pruning is a preventive of the evil?—*T. D.*—No system of pruning will prevent shanking. If the roots of Vines are not in a healthy state, shanking is sure to take place; overbearing, though the roots are healthy, will also cause shanking. I am an advocate for close or spur pruning, because, if properly done, it is neat; and fine bunches, or finer, may be obtained by that system than by any other. I have pruned my Vines eight years on the spur system, and I cut every year from them Black Hamburghs, weighing from 2 lbs. up to 4¾ lbs per bunch; Muscat of Alexandria, 3 lbs. and upwards; Black Prince from 2 lbs to 3 lbs. Now these surely are not small puny bunches. Mr. Davis, of Oakhill, East Barnet, has, however, exhibited heavier bunches than these at the Horticultural Society's Gardens at Chiswick, from Vines that have been spur pruned for 20 years and upwards.—*W. B.* [Why do you not give your name?]

Glass Water-taps.—Brass cocks always become leaky sooner or later, according to the corrosive quality of the liquid they transmit. Could not glass be substituted and adapted by the intervention of wood, gutta percha, cement, or some other material, to ordinary water pipes or cisterns of lead or zinc? or perhaps it has been already done? Glass cocks are used in chemical laboratories.—**

Views on Improving the Habits of Early Potatoes.—First, we recommend perfect tillage in preference to stimulating manures, as a means of encouraging earliness, and improving the condition of the Potato. By perfect tillage we mean draining where necessary, but more especially deep digging or ploughing in dry weather, in order that the land may be exposed to the action of wind and frost, finishing in the dry month of March by forking and rolling; and, finally, by scarifying, in order to free the land from lumps. If quality, or, in other words, floury Potatoes, is the object to be desired, strong manures will not accomplish the design; but, where quantity is required, manure is necessary. The produce, in the latter case, will be more moist or waxy, however, and in all probability, wanting in hardiness of constitution; and manures tend rather to retard than improve forwardness. Past experience fully corroborates this; and hence the beneficial results of cultivating on elevated barren soils, which improve early habits, and tend to restore the Potato to its former healthy state. In order to restore his patient, does the physician prescribe strong meats and drinks? does he not rather advise natural stimulants, namely, pure air, water, &c.? So Potatoes, which may be reckoned in some measure diseased, should be planted in dry mould in drills 5 inches deep, and only a little soot dredged in with the sets, as a preventive of insects; this plan promotes earliness in no small degree. Greening Potatoes, by strewing them on a dry floor for about a fortnight, thereby hardening and slightly sprouting them preparatory to planting, also encourages early growth. If Potatoes are to be planted whole, double the distance should be allowed them that is commonly allowed for cut sets; and until the plants arrive at a proper height to be moulded, perfect tillage between the rows should be persisted in. Of all varieties, some Potatoes ripen sooner than others; such should be especially marked and reserved for stock; and this selection being repeated from year to year, tends very much to improve earliness. These remarks, coupled with the expedient of treating Potatoes as precocities, we hope may prove useful to your readers.—*Hardy and Son, Maldon, Feb. 9.*

Urate.—In the autumn of 1846, having dressed some Strawberry and Raspberry beds with the Urate of the London Manure Company, at the rate of about 12 cwt. per acre, the results were such that I think they may be worthy the notice of some of your readers. The produce of fruit in 1847 was by far the largest, both in the quantity and size of the fruit, I ever witnessed, and the gardener who has had the care of the garden, long before I hired it, acknowledges that he never saw anything like such a produce of Strawberries on a similar space in this neighbourhood. The soil is a mixture of clay (London basin) and gravel. The effect on the Raspberries (which were recently planted) was to cause a very vigorous growth of young wood, but the fruit although numerous was small.—*Cuthbert W. Johnson, Lee, Kent.*

Rain in Guernsey in 1847.—I received the following account from a friend on whose accuracy I can depend:

	Inches.		Inches.
January	2.58	August	1.56
February	2.57	September	1.98
March	1.48	October	3.77
April	1.62	November	2.38
May	2.90	December	3.65
June	1.26		
July	1.74		26.80

—*C. A. A. Lloyd, Whittington, Oswestry.*—Rain fallen at Goodamoor, Plympton, Devon, collected and measured by Howard's rain gauge:

	1846.		1847.			1846		1847.	
	Inch.	Wet Days.	Inch.	Wet Days.		Inch.	Wet Days.	Inch.	Wet Days.
Jan.	7.85	27	4.42	18	Aug.	3.19	20	2.23	13
Feb.	2.81	22	3.11	17	Sept.	1.69	12	3.19	19
Mar.	3.90	24	4.92	19	Oct.	9.41	21	9.64	25
April	4.35	24	4.06	24	Nov.	6.40	17	4.25	20
May	3.69	15	4.17	22	Dec.	2.39	19	8.27	21
June	2.74	13	4.38	17					
July	5.28	21	4.02	11		53.41	233	56.56	224

The highest temperature the thermometer indicated during the year 1846 was 80°; the lowest, 20°. The highest temperature during the year 1847 was 76°; the lowest, 18°. The elevation is somewhat more than 600 feet above the level of the sea, on the south-west side of Dartmoor. It will be perceived that hay-making whilst the sun shines is sharp work in these parts.—*James Hall.*

Planting Evergreens.—I wish to point out a fact which experience has taught me influences in a remarkable degree the well-being of a transplanted Holly. Every tyro in vegetable physiology is aware that the cuticle enveloping the leaf of a plant is beautifully adapted by Nature to the situations in reference to solar and atmospheric influence it is destined to occupy. For instance, a Laurel in a shrubbery much shaded by trees will be found to produce leaves, furnished more abundantly with stomates, or breathing pores (the apparatus which enables the plant to get rid of its superfluous moisture, which would otherwise accumulate from a deficiency of solar influence), than a similar plant in a more exposed situation. Now it is evident that if a plant so situated be removed to an open situation, simple evaporation (leaving respiration and digestion out of the question, both of which processes are greatly accelerated by its new situation) will take place more rapidly than the absorptive power of its mutilated roots can supply, the results in six cases out of eight will be the death of the plant; and in those surviving the shock, Nature endeavouring to restore the equilibrium between absorption and respiration, the leaves are cast, and new ones are furnished adapted to the new situation. And now to apply this to our Holly, be it removed in November or April, the principle is the same. The object is generally to select handsome plants, and of course the situation which they occupy is allowed to have no weight in the selection. The greater part of them are generally taken from the interior of woods, screened from the wind and sun, and of course the leaves are as those I have described under a like situation. Being handsome in their general contour, the planter gives them the most conspicuous situations in his ground. Every precaution is taken in the transplanting, but the vital energies of the plant have received a shock, and absorption is retarded. If in November a drying wind or in April a bright sun, or both, succeeds the planting, rapid evaporation from the ill-constituted leaf takes place, the parenchyme of the leaf is first dried up, then the cellular tissue of the branches and trunk, till in a few days the whole is but a skeleton of dried sticks. Had the plant been removed from an open situation and ordinary precautions taken, this, instead of being the rule, would have been the exception.—*G.* [We do not quite admit this statement, as it is put.]—I have had much experience in planting Hollies and other evergreens, and the time I make use of for this purpose is September. I preserve as much soil about the roots as I am able, and when the trees are planted I use an abundance of water. I do not recollect that I ever lost an evergreen planted in September, however large it may have been. The following rules should be observed in transplanting trees with balls:—Dig from and not towards the tree. When sufficient earth is removed, use a sharp pointed pickaxe to make hollow under the tree. Do not pull the tree, or you will in all probability break the ball. Do not attempt to take it away until every root is loose, for the same reason.—*C. A. A. Lloyd, Whittington, Oswestry.*—I have been a considerable planter of Hollies, and I speak from experience, when I say that the early spring is the very worst time for planting them. If the author of the proverb, "Plant a Holly in May and it will grow on the highway," intended to say that May is the best month for planting it, I agree with him. During soft, moist weather in the latter part of that month, when the circulation of the sap is vigorous, and the plants are just about to shoot, I move them with never failing success. One or two pailsful of water being poured into the hole opened to receive the Holly, it should be planted as soon as possible after it is lifted, that its fine rootlets may not become dry, and then abundantly watered. It will require no more water before July, and not then unless the weather be very dry. Last year I transplanted in the first week of June about 20 large Hollies from an old hedgerow with complete success. They had made shoots several inches long, which drooped for two or three days, but they then rallied, and the plants grew vigorously throughout the summer. The Ilex, Sweet Bay, and a few other evergreens which shoot late in spring, should be planted in the end of May or the beginning of June. Evergreens which shoot early may be planted with advantage as soon as rain falls in October. Recently planted evergreens suffer much more from harsh cutting winds in March, April, and early May, than from the frosts of winter.—*Yeoman.* [To be sure they do.]

The Dumelow Crab probably was raised by Thomas Dumolo, of Newhall, near Burton-on-Trent, who died about the year 1812 or 1813. He had a small farm there of his own; he did, or rather his wife did, rear Apple trees from pippins, and sold them or gave many away. Amongst his friends and acquaintance about Ashby-de-la-Zouch, he was called by some in that neighbourhood the Apple-tree man. He had an orchard with many young trees in it, and two larger ones very good bearers. The one a Northern Greening, the other bore a fine transparent, and when ripe, wax-like looking Apple, with the most beautiful yellow and red hues; both were very good keeping Apples, the one as good as the other in that respect, and these were the two principal trees from whence he had his winter stock for use. His wife's method was, when peeling Apples for use, to select the finest pippins and preserve them to plant at the proper season. When the pippins had grown and were of sufficient size to be removed, they were planted out in rows; there they remained, row after row, good and bad, year after year, until they bore fruit, when the best were marked with a piece of list or string, the inferior ones, marked (blazed) to be grafted. Those that were not grafted were sold or given away under the name of a Crab Apple; those that had been grafted retained the name of the graft. The writer has heard the old man tell many tales about his Crab Apples, and knows what is written to be correct.—*J. D., Coleshill.*

Shanking of Grapes.—The following fact may tend to throw some light on this still somewhat obscure subject. At a place of which I had the management some years ago, there was a Vinery at the end of which, upon the open wall, was a fine Black Hamburgh Vine, whose roots were in the same border, and received the same treatment as those of the Vines in the house, and while the principal port on of my Grapes in the house shanked, those on the wall did not exhibit the slightest symptoms of the evil—a fact which induced me to imagine that the fault lay in the management rather than in the roots, which are generally considered to be at fault in this case. My opinion is that the steam, which arises during the night, condensing upon the stem of the bunch, chills it, and, stopping the circulation of the sap, deprives the berries of sufficient nourishment, and consequently causes them to shrivel or shank. If this be true the necessity of admitting air early in the morning, to dry up the confined moisture, will be perceived.—*James Duncan, late Gardener to John Rogers, Esq.*—So far as my experience goes I am led to believe that the cause of shanking is more deeply rooted, and must be sought for elsewhere than in different modes of pruning. Deep over-rich retentive borders are unquestionably a great cause of the disease, and the first

care of the cultivator should be to guard against those evils. Presuming the borders to be well made there yet remain two very prolific sources of shanking, which have not received the attention they deserve. I allude to the common practice of planting Vines to be forced outside the house, and to the equally common one of wintering out of doors Vines which have been forced. In the former case 2 or 3 feet of stem are often exposed, or comparatively so, to the temperature of our variable climate, whilst the tops struggle for existence in a temperature perhaps of 70° or 80°. Such treatment cannot fail to be highly injurious to the advancing crop, and to engender disease in the succeeding one—hence, I believe, springs one great source of the evil in question. In the latter case wood formed in a high, moist atmosphere, cannot possibly be fitted to withstand with impunity our winter's blast. Many an old "Practical," not content with turning Vines out after the wood has become perfectly ripened and the leaves fallen, actually thrusts them out whilst the leaves are actively preparing food for next year's crop. The immediate consequence of such a course is sudden and premature decay of those organs, and of course a diminution of food for next year's crop, and eventually disease and even death. Exposing Vines to frost, for the purpose as it is said of hardening or solidifying their wood, is a practice which cannot be too soon abandoned by those who wish to excel in the art of Grape growing. In proof of the correctness of those views, I will just state a few facts. Some years ago I obtained charge of a range of Vineries, in which Pines were also grown. The Vines had been planted four years, and were apparently in good health. Disease, however, inhabited their systems, for, with the exception of some trained over the back pathway, there was not one of them but had more than half the fruit shanked. Those forming the exception were planted inside the back wall. The border for their support was on the outside, arches being left for the free egress of the roots. The border inside, in which they were planted, was only 9 inches in width, so that the roots were compelled to seek their food outside. In winter, whilst in a dormant state, there being no means of turning them out of doors, and wishing to retard them till the middle of February, the tops were untied and brought as near the floor as possible. This part of the house being the coolest, had the desired effect in retarding them till the time above mentioned. When the buds had broken, which they did very regularly, and were about an inch long, the Vines were unfastened from their winter quarters and again tied to the roof. Those Vines produced the finest Grapes I have ever seen, both as regards flavour, size of bunch and berry; and this was the opinion of all who saw them. The sort was Muscat of Alexandria. One portion of the Vines was introduced to the main rafters early in March, and another in the latter end of the same month. Whilst in the house they received precisely the same treatment as those above named, but they never produced a bunch free of disease. In both cases the borders were composed of exactly the same materials, rather deep, and made rich by the addition of rotten dung, crushed and whole bones, carcases of dead dogs, cats, &c, resting on a dry subsoil. In aspect the border from which the Vines free of disease drew their support had a great disadvantage compared with the other, the former being situated at the back of the Vineries, and consequently shaded from the sun, and moreover half of it was paved with large boulders, forming a footway. In the other case, the border was situated in front of the house, open to every ray of sunshine, and receiving heat that escaped through the walls of both the Vinery and a sunk fire pit immediately in front of it. It is evident then that we cannot look to the borders for the cause of shanking—in both cases they were the same, nor to the treatment within the house, for there the Vines were treated exactly alike. Where then shall we look for it? To a system of unnatural exposure during winter, and out-door planting; and until cultivators adopt a remedy for these evils by constructing houses in which the Vines can be both planted and wintered, I am persuaded we shall still hear of Grape shanking.—*Beta, near St. Columb.*

Gutta Percha.—The sooner this valuable substance is made known to those who, like myself, have to stand all weathers the better. I have reaped a real benefit from its use in the shape of shoe soles, obviating, as it does, the evils arising from cold and wet feet. Leather, it is well known, absorbs wet, but gutta percha does not; and therefore the feet are kept warm and dry, and the circulation of the blood goes on regularly. I bought a pair of soles a month ago for a trial; the soles and a tin box of mixture, to fasten them on with, cost 1*s*. But it is best to buy at some wholesale house a pound at a time, which costs 2*s*. 6*d*. Out of this quantity may be got four or five pairs of soles, of various sizes, suitable for a man, his wife, and children; and a tin box of the fastening material may be had for 4*d*. The mode of putting on the soles is this:—The shoes to be operated on must be very dry, and all nails removed; and, as the gutta percha will not stick well on a smooth surface, the leather soles on the shoes must be made rough by rasping with an old saw, or similar instrument. The gutta percha must be laid before the fire, in order that it may become soft, and the fastening mixture too must be quite warm and soft, and the soles of the shoes should also be quite warm. All things being ready, rub the fastening mixture on the sole, regularly all over it; then take the gutta percha sole and lay it on, commencing at the toe, and beat it down, after which the shoes should be allowed to cool, and when quite cold (which will be in 15 minutes) pare off the edge of the sole all round with a sharp knife, and the work is finished. Thus the working man may become his own shoemaker, and save a considerable item in his yearly expenses.—*James Cuthill, Camberwell.* [All this is very true; but shoe making hardly comes within the objects of this Paper. However, we may now add that gutta percha deserves all the praise it has received.]

Pears on Quince Stocks.—As a friend to the distressed we hope you will not only protect our characters from further injury, but also assure the public that we are deserving of high estimation. Within the last few weeks we have been called by all kinds of names, amongst others, Miniatures, Lilliputians, Dwarfs, Bush-digging stumps, and at last even Pigmies. These two first names, we presume, were intended as complimentary. That we appear under the form of Bush-digging stumps in the Chiswick Gardens is true; but still it is no fault of ours. For 20 long years we have annually, by throwing up our arms, protested against the way in which we have been treated, but all in vain; for with unsparing barbarity our poor limbs have either been chopped off or tied down in the most constrained and painful position. The circulation in our veins has been so impeded and difficult that our extremities have actually mortified. Still our efforts to lift up our heads in the garden have been so great and so constant, that our trunks have become disproportionately large, and hence we suppose our name of Broad-gag stumps. We confess we are quite ashamed of our unsightly appearance, even when full of tolerably good fruit; but surely our ugliness under this treatment is our misfortune, not our fault; for within a very few feet some of our family are trained against a west wall, in a manner agreeable to their habits of growth, and consequently they are annually covered with the most beautiful fruit; and as they look upon the gardener as their friend, they give him no trouble; they are in fact the very contrast to ourselves, and are universally admired. We now claim your especial protection against a cruel correspondent who calls us pigmies. We understand pigmies are little, nasty, disagreeable things; surely then we cannot be pigmies. Either your correspondent has never seen us, or his own bad treatment of us has made us, against our wills, what he blames us, most unreasonably, for becoming. You know perfectly well when fairly treated it is difficult to decide whether we excel most in beauty or utility, for we reign, in a well regulated garden, supreme in both respects. As for the occasional (not constant) pruning of our roots, instead of its being an injury it is a great benefit, because each long, straggling, rambling root cut off, and thus prevented from penetrating into bad unwholesome soil, is replaced by a dozen or perhaps 20 healthy fibres, each with a mouth close at home and feeding upon the nutritious diet the gardener has kindly supplied us with. The consequence is our leaves and blossoms are remarkably fair and handsome, and our fruit without a spot or crack, and of most excellent flavour. Our fruit is fair and spotless because our roots have wholesome food; it is large because our roots have many fibres; it is perfectly ripened because our roots being nearer the surface, they have the benefit of the genial influence of the sun; and it is finely flavoured because the air obtains access to the soil in which the roots are placed. We bear a greater weight of fruit, in proportion to our size, than any tree in the garden of any kind whatever, and happy would it be if man could say with us, we never injure our neighbour. Do we then deserve to be called by the injurious name of pigmies? Surely not. Pray, then, good Mr. Editor, protect from future insult your little friends — *The Pyramidal Pears upon Quince Stocks.*

Calceolaria aquatica.—A plant is advertised under this name in the *Chronicle* of Saturday last, which is thus described:—"This plant is remarkably distinct from all others of its genus, except in its flower, which is of a large size and a pale yellow colour. Its habit is creeping, and it roots at every joint. When treated as a bog or aquatic plant, it grows and flowers freely." Now these characters correspond so exactly with those of C. scabiosæfolia, that one is tempted to believe it may only be a re-introduction of that plant, which although not now so much cultivated as it deserves to be, has not been quite banished from our gardens to make way for hybrids. The advertiser is probably not acquainted with this species, and if so, he would do well to forward a specimen of his plant to the editor of the *Gardeners' Chronicle* for examination: should it prove to be the same, he would of course regret hereafter to find that he had been disposing of a plant as new, at a high price, which had been received and distributed by the Horticultural Society, and at various botanic gardens, five-and-twenty years ago.—*A. C., Feb.* 21.

Culture of the Strawberry in Pots.—My mode of culture differs in many respects from that given at page 69. By my method strong plants for forcing are easily procured, in which no disappointment will be experienced in regard to produce. I make a fresh plantation every year about September, consisting of as many plants as I think will produce stock for forcing in the following year; these are planted in rows about 4 or 4½ feet apart, and 9 inches from plant to plant in the rows across a quarter of the garden, or in single rows 2 feet from the side of the walks. These produce in the following spring strong healthy runners, from which I obtain good plants for forcing the following season. If any of them throw up bloom in the spring (and most of them will), I pick it off so that the plants may have nothing to do but throw out runners, and as soon as they get sufficiently advanced to begin to root at the first joint, I get me [illegible] pots filled with good rough soil, and lay the plants one in a pot when I need to be quite enough, [illegible] hooked pegs, or anything else [illegible] their place. I [illegible] and therefore keep all runners [illegible] away. When well [illegible] being if properly attended [illegible] parent plants, and place them [illegible] ground in 4 or 5 feet beds [illegible] apart, with alleys between [illegible] of watering, and other [illegible] Here they remain [illegible] them stock the [illegible] four times a day, [illegible] are wanted for forcing, except a few that [illegible] cold pits or frames. For [illegible] I [illegible] slowly, and to [illegible] the first [illegible] plants plenty of air. By these means I [illegible] fruit quite as early as [illegible] a good crop. I prefer [illegible] pot [illegible] colours, as they [illegible] air at all [illegible] but they also do well [illegible] a Vinery near the top of the [illegible] neither colour nor [illegible] the [illegible] best kinds, is [illegible] Keens' Seedling, and [illegible] grown for variety where [illegible] Keens' Seedling is best, and [illegible] never found the plants [illegible] not being plunged. [illegible] enough to protect them from [illegible] fruit, I do not think it makes [illegible] besides, I find the small ones very [illegible] kitchen use. The plants, when done with [illegible] turned out into well prepared soil, will [illegible] crop of excellent fruit next year; they [illegible] be destroyed, or allowed to remain [illegible] they will produce a great quantity of fruit, [illegible] fine as in the previous year. The best [illegible] find to be good loam, which has been [illegible] season for Melons, mixed with a portion of [illegible] manure, and employed in as round a state as [illegible] I employ 6-inch pots.—*J. Seward, Gardener to Mr. Durant, Esq., Putney-hill, Surrey.*

Birds.—I think "J. F. Jr." [illegible] Ilfracombe, must be the Dalmatian [illegible] Regulus modestus of Gould. If "J. F. Jr." can conveniently procure me a specimen for stuffing, and will send it by post, he will oblige me exceedingly, and I will be happy to pay any expense he may [illegible] —*Thomas Cocks, jun., Hatfield, near Hurst, Berks.*

Public Taste in the Parks.—Pray [illegible] correct two passages in my note on the [illegible] which by typographical errors have [illegible] the very reverse of what I intended. The first [illegible] to the broad walk in Kensington [illegible] at the palisades at Kensington. The [illegible] passage should be thus read: "If it be intended to [illegible] a grand entrance at the Kensington end of the park, pull down the barracks and remove the [illegible] near the turnpike. It was well enough to bring the wall thus far," &c. The second is caused by the introduction of the word "riders," and [illegible] from the entrance to Craig's-court, Whitehall, [illegible] towards the National Gallery, in which the eye is grievously offended by the natural [illegible] having been destroyed by the Nelson Column, and which has the effect of causing the fountains and the [illegible] to appear as though built in a hole. I may as well also allude to the new entrance to Hyde-park at Knightsbridge. For nearly a quarter of a [illegible] wall of the park previously extended in a very straight [illegible] now the gates are thrown back, and the [illegible] of them extended in an angle into the [illegible] so that in walking from Kensington on a dark night a person incurs the risk of running [illegible] against the [illegible] out wall and palings: whilst the effect by day is quite tasteless. The front of the gate-house [illegible] enough, but the west end, which faces you in coming from Kensington to London, both in the turnpike-road and the drive in the park, is a plain blank [illegible] Had the designer of the building no taste to [illegible] this side of the building? A blank window [illegible] even preferable to its present tasteless [illegible]—*J. O. W.*

The Bess-Pool Apple (see p. 120).—In this county, where it was originally raised, the Pool [illegible] considered a valuable table Apple, when [illegible] are gone by. It is certainly not a [illegible] brought in good condition to the table [illegible] little care), it is of an excellent flavour [illegible] the month of May, and the tree is usually very productive, though not beginning to bear at so early an age as many others. The late Mr. Peate [illegible] large orchards at Chilwell, near this place, [illegible] he, one year, sold the produce of [illegible] much were they esteemed in this county for the dessert. —*Pomum, Nottingham.*

Patent Kettles.—In the plan of a stove for heating on the system, published in the last [illegible] on the occasion there can be for [illegible] seeing that it the cylinder is securely [illegible] ought to be, no air or [illegible] consequently the [illegible] is useless, and as simplicity in the construction of such an apparatus is desirable, why not cast the cylinder with the back end and a short circular tube to be continued at pleasure for the smoke in one casting; the front with a double door for putting on the fuel, and another door beneath to remove the ashes; the doors to be fitted with the greatest nicety, with proper air-holes to regulate combustion; the castings of the

bars for the bottom and the sides would be very simple, and if some iron founder would have patterns made, and the prices advertised for the castings complete, I have no doubt he would make it worth his while.—*Buffer.*

Societies.

Linnean, *Feb.* 15.—The Bishop of Norwich in the chair. Dr. C. Cogswell was elected a Fellow. A paper was read from Mr. Thwaites of Bristol, on the growth of Lemania fluviatilis. This plant, when seen in its latter stages of growth, is often overlooked; but when observed in its younger state, has a very definite character and appearance. It is found in its immature state on stones, under water, in the month of November; at this period it is not easily removed from the bodies to which it is attached. It has an olive-brown colour, and is composed of filaments not more than $\frac{1}{1100}$ of an inch in diameter. The filaments consist of cells, which are longer than they are broad. The Endochrome within them is of a blue-green colour, and arranged in a spiral manner. In this stage of its growth it resembles a minute Conferva. The cells are increased by a kind of fissiparous multiplication. A continuation of Dr. Hamilton's remarks on the plants described in the Hortus Malabaricus was read. The plants on which remarks were made by the author belonged to the family of Dogbanes (Apocynaceæ). Of these the species of Nerium, Wrightia, and Echites of various authors were the objects of criticism.—Mr. Chambers exhibited a specimen of the descending trunks of the Banyan tree.

Microscopical: Anniversary Meeting, *Feb.* 16.—J. S. Bowerbank, Esq., President, in the chair. The report of the Council represented the funds of the Institution as being in a flourishing condition. The President delivered the usual address. He adverted to the value and importance of the papers which had been read to the Society during the past year, more especially those of Mr. Busk, on the structure of the Zoophytes belonging to the genera Notamia and Anguinaria. He gave also a short biographical sketch of the late Edwin Quekett, Esq., who was the original founder, and continued through life one of the most ardent friends of the Society. He contributed a great number of valuable papers to the Transactions of the Society. As a proof that microscopical observation is on the increase, the President stated that during the past year there were sent out from the establishments of Messrs. Powell, Ross, and James Smith 110 microscopes, being 11 more than had been sent out during the previous year. At the close of the address a ballot took place for officers for the year ensuing, when George Busk, Esq., was elected President, and Mr. Ward and Mr. John Quekett were re-elected Treasurer and Secretary. In the evening a large party assembled to witness the annual exhibition of microscopes, of which there was a larger number than usual. Mr. Quekett exhibited a beautiful preparation of the nerves and blood-vessels of the pig's nose, in which the most delicate ramifications of these organs could be observed. Several of the microscopes were fitted up with an apparatus for viewing objects by polarised light. Mr. Varley exhibited a microscope stand, which possessed the necessary firmness without occupying much space. Dr. Hermann exhibited one of Gruby's miniature microscopes, which although packed in a box which might be carried in the waistcoat pocket, could be conveniently used with glasses of a magnifying power of 500 times.

Society of Arts, *Feb.* 16.—Mr. Hunt, keeper of Mining Records at the Museum of Economic Geology, read a paper "on the Principles upon which the Tinted Glass used in the construction of the Royal Palm House at Kew has been selected, and the use of Coloured Media in the cultivation of Plants." Mr. H. introduced the subject by remarking that since the employment of German sheet glass in conservatories, a glass distinguished by its freedom from colour, it had been found that the more delicate kinds of exotic plants had been injured by a sort of scorching when under the influence of the sun's rays in particular aspects. This had been observed in a striking manner in a hothouse for Orchids and Ferns erected a few years ago in the Royal Botanical Gardens at Kew. When, from the confined space into which the Palms were crowded in these gardens, it was determined to build a conservatory in which they might have space to extend themselves, and thus convey to the public some idea of the characteristics of the vegetation of the tropics, it became a question of some moment to discover, if possible, some means of protecting them from this peculiar scorching influence. From the immense size of the intended conservatory, any system of blinds was clearly impracticable, and upon the recommendation of Sir William Hooker and Dr. Lindley, the point was submitted to Mr. Hunt for consideration. The reason for this selection was, that Mr. Hunt had been engaged for many years in a series of experiments on the effects produced by coloured transparent media on the growth of plants. Mr. Hunt further stated, that having furnished a report to the Commissioners of Woods and Forests, he was requested to renew his experiments, with a view of ascertaining whether any tinted medium would protect the plants from scorching, without interfering with those influences upon which their healthful vegetation depended. The results of these experiments, were of so satisfactory a character, that after having furnished a second report, which was submitted to several botanists and practical horticulturists, his recommendation was adopted, and the Royal Palm House is now glazed with tinted glass, manufactured under his special instructions by Messrs. Chance, of Birmingham.

Mr. Hunt, proceeding to describe his experiments, remarked that the solar beam was now well known to give rise to three distinct classes of phenomena, which might or might not be due to separate forces or principles. These were—light, producing colour, and, by exciting the optic nerve, vision; heat, upon which depended the present condition, as regarded solidity or otherwise, of all terrestrial substances; and a chemical agent, to which the name of actinism or ray power had been given. Physical investigations had made us acquainted with many of the laws regulating light and heat; but with the exception of those in relation to photography few inquiries had been made into the phenomena of actinic force, although it performed most important offices in the organic creation and in the inorganic world. These three principles existed in every sunbeam in proportions which varied with the seasons, and under certain atmospheric changes. Although we had not the means of separating these principles or powers entirely from each other, they could be isolated to a certain extent, and upon that depended the construction of the glass in question. Mr. Hunt then exhibited a diagram which represented the ordinary prismatic spectrum as formed by passing a pencil of light through a prism, exhibiting the primitive colours of light and the results of their blending. A second diagram showed the effect produced by throwing the same spectrum upon blackened paper masked with ether, by which means it was ascertained where the heating powers of the sunbeam resided. A third diagram was a representation of the chemical change produced by the same prismatic image when it was thrown upon chloride of silver or any of those sensitive photographic preparations which were susceptible of chemical change under solar influence. From this it was obvious that many heat rays were to be found acting with great force where there was no light, and that chemical change was produced by those rays having the least light, and by some that were absolutely dark. These facts, arising from the different degrees of refrangibility in these subtle principles, proved that light, heat, and actinism, although associated, were not identical powers. Further experiments had proved that although light was injurious to the germinating seed, and actinism a most powerful accelerating agent in that process, when the first leaves were developed, the actinic principle as separated from light became too stimulating, and that the luminous principle was then demanded to effect in the plant the decomposition of the carbonic acid inhaled by the leaves and absorbed by the bark, and the secretion of carbon to form woody structure. The influence of heat and its necessity to vegetable life were well known, but it had also been proved that as the calorific rays increased towards the autumnal season, the luminous and actinic relatively diminished. The scorching effects to be prevented were of course the result of some of the heat rays, and he had discovered to which class they belonged by spreading the expressed juice of Palm leaves over paper and exposing it to the action of the spectrum. This class of ray had the power of acting partly by calorific force and partly by chemical agency, a phenomenon which had been previously detected by Sir John Herschell, and classed by him with others, to which he gave the name of Parathermic rays. It was important in adopting any tinted medium that no light should be intersected, no actinism extracted, and that the ordinary heat rays should not be interfered with. The experiments of Melloni had shown that a peculiar green glass, made in Italy, when washed with a solution of alum, would admit the free passage of light, but abstract a very large quantity of heat. The desideratum, therefore, to be obtained was a green glass which should of itself intercept the scorching rays without obstructing the others. Mr. Hunt, with the assistance of Mr. Turner, the contractor, procured from all parts of the kingdom green glasses of every variety of shade; but which, on examination, were all found to be objectionable. Mr. Hunt then experimented with fluid media, diluting the colours to any degree, and examining the absorbing power of a great variety of chemical bodies. By this means he arrived at last at the discovery of a colour produced by oxide of copper in a very diluted state, which would effectually obstruct the scorching rays; and Messrs. Chance, after many trials, succeeded in producing a glass which neither obstructed any light nor interfered with the colour of the most delicate white flowers, nor excluded the passage of the chemical rays, while it would completely prevent the permeation of the heat rays, which were found to have so remarkable a scorching property. In the manufacture of this glass the entire absence of manganese, though used in the ordinary construction of glass, had been insisted on, because that mineral, when used in the slightest excess, had the curious property, when under the influence of light, of imparting a pink tinge; and the slightest approach to redness would allow the free passage of those rays it was so important to obstruct.

From the facility with which we were enabled, said Mr. Hunt, to regulate by the use of coloured media the quantity of either light, heat, or actinism, which may be admitted to growing plants, we had at command the means of supplying the increased action of any of these forces. Germination might be quickened by the action of the actinic power, independently of light, and the full action of chemical rays was secured by the use of glasses stained blue by cobalt. In all cases the germination of seeds may be quickened by covering them with such blue glass as was used in making many finger glasses; and since the striking of cuttings was dependent upon the exercising of an analogous force to that which quickened germination, similar glass shades would be found advantageous to effect this object. It must, however, be remembered that the excitement of that chemical agent must be withdrawn after germination had been effected, and the roots were formed, and an independent existence was given to the plant.

When there was any tendency in plants to form too much stalk or leaves, and it was desired to produce more wood, it was done by admitting as much light as possible with the smallest possible quantity of actinic power. That might be effected by interposing glasses of a yellow tint, which obstructed the passage of the chemical rays, but would intercept very little light. It frequently occurred that, owing to some peculiar atmospheric condition, the flowers of plants did not develope themselves in a natural or healthy manner; the vegetative functions being too active, and interfering with the reproductive powers of the plant, often giving rise to leaves in the centre of the flower. All his (Mr. Hunt's) experiments proved that the calorific radiations were the most active during the period in which the plant produced flowers, fruits, or seeds. The absence of the luminous rays in considerable quantities, and a diminished quantity of the chemical or actinic radiation might be secured at will, without interfering with the heat-giving principle, by the use of glasses coloured red by the oxide of gold. Mr. Hunt suggested, therefore, to horticulturists the occasional use of glasses coloured so as to secure the perfect formation of the flower. Such were the principal features of the results of experiments which had extended themselves over many years, and in addition to the one application made at his suggestion at the Kew Palm House, he believed the others to which he had alluded might be rendered no less valuable to the practical horticulturist.

Mr. Hunt concluded the reading of his paper amidst loud applause, and a very animated discussion ensued upon the interesting subject it embraced.

Highland.—*Feb.* 2.—Prof. Balfour said that Sir J. Macpherson Grant had forwarded to the Society a short and interesting account of the Pinetum at Ballindalloch Castle, accompanied by a tabular statement of the age, growth, and condition of the different species of trees. The Professor, before reading the report, made observations on the structure of Coniferæ, as regards their woody tissue, leaves, cones, and male catkins, fertilization, and germination; and illustrated his remarks by a series of magnified drawings, by the microscope, as well by specimens of living plants and cones. There are only three British species of cone-bearing plants—the common Scotch Fir, Yew, and Juniper; all the rest now in cultivation in the open air have been introduced from different countries of Europe, from Mexico and other parts of North America, from Chili, the Himalaya, Japan, China, &c. The fact was mentioned of some species producing cones but no perfect seeds. It would appear that trees when young sometimes bear cones without producing male catkins: the formation of pollen seeming to require that the trees should be in a fully developed state. These remarks were illustrated by specimens of the cones of Abies Douglasii, in which all the ovules were abortive, the tree not having borne male flowers. The divisions of the natural order were then noticed, and Endlicher's work on Coniferæ was recommended. Attention was chiefly directed to the section Abietinæ, including genera in which the scales were two-seeded, and those in which the scales were one-seeded. Under the former subdivision are found—Pinus, with leaves in twos, threes, fours, and fives, and a thickened apex of scales; Abies, leaves solitary (*i.e.* coming off singly), flat, no thickened apex of scales, which are deciduous (*i.e.* fall off early); Picea, leaves solitary, four-cornered, no thickened apex of scales, which are persistent (*i.e.* remain long attached); Larix (Larch) and Cedrus (Cedar), scales without thickened apex, clustered leaves, which in the former are annual, in the latter permanent. The Professor stated that Ballindalloch Castle stands about 470 feet above the level of the sea, in a sheltered situation, favourable for the growth of all kinds of trees. The Pinetum was commenced in 1831; the soil—a loam, 1 to 3 feet deep, incumbent on gravel—was trenched, levelled, and planted with common Scotch Fir, as nurses for the rarer trees, which have since been from time to time added to the collection. The cultivation of these having been attended with varied results, Sir John had communicated to the Society the report before the meeting, with the view of adding to the information at present possessed with regard to the kinds of foreign Coniferæ most suitable for the climate of this country. The Professor called the attention of the meeting more particularly to the statements in the report in reference to the following trees:—Pinus excelsa, planted in 1836, several of which were making rapid progress, dead, cause unknown; uncinata, 1836, hardy, handsome, 11 feet high; pyrenaica, 1836, 12 feet high, hardy and handsome; Banksiana, 1832, 7½ feet high, stunted, unsatisfactory, but quite hardy; inops, 1832, 6 feet, quite unsuited to climate; halepensis and Pinea, both repeatedly tried, always destroyed by frost; Cembra, 1832, 16 feet, handsome and hardy, succeeds on the hill wherever tried; ponderosa, 1832, 13 feet, uninjured by frost, but subject to the attack of a beetle, which enters the young shoot and eats the pith; serotina, 7½

feet, sickly and unpromising; Abies Douglasii, 1832, 16½ feet, most vigorous and handsome tree, has this year produced cones; Morinda, 1832, has failed; canadensis, 1832, 5 feet, mere shrubs, unadapted to climate; Menziesii, 1836, 8 feet, hardy and ornamental; Picea cephalonica, 3 feet, numerous specimens, produce of seed from Cephalonia, uninjured by frost; Pinsapo, 1840, 2 feet, apparently hardy and growing well; Pichta, 1836, 7 feet, handsome and healthy; Webbiana, 1836, dead from cold; Cedrus Deodara, 1839, 3 feet, has been slightly protected in winter; Libani, many specimens promising well, but not above 5 feet high.—Professor Balfour stated, as the results of Mr. Macnab's experience, that Pinus Pinea seems to be quite hardy, but does not attain the size of a timber tree in Scotland; P. halepensis is too tender for this climate. P. Sabiniana appears to be quite hardy; P. excelsa has suffered in several places from cold, but thrives well in the Botanic Garden; Abies Morinda is perfectly hardy; A. canadensis does not grow to the size of a tree here; Picea Webbiana always injured by late spring frosts; Cedrus Deodara quite hardy. Professor Balfour concluded by stating that a communication on the same subject had been received from Mr. Humphrey Graham. His Pinetum, however, was not so far advanced as that at Ballindalloch; and as he understood that that gentleman intended afterwards to make a more detailed statement on the subject, he would not occupy the time of the meeting further than by stating, that between March 1846 and March 1847 Mr. Graham had himself sown, and given to others to sow, no less than about 12,000 Himalayan seeds. Many of these were received from Colonel Morrison, H.E.I.C.S., by whom above 40,000 seeds were imported from India, and distributed in 1846.

Reviews.

A Familiar History of Birds, their Nature, Habits, and Instincts. By Edward Stanley, D.D., Lord Bishop of Norwich. Parker. 12mo. pp. 460. *Fourth edition, with additions.*

The object of the right reverend author in publishing this little work is thus stated by himself:

"This work is intended for a class of readers to whom mere scientific details would be unacceptable, if not unintelligible. Such, therefore, have been, as much as possible, avoided, and only alluded to as inducements to those who are interested in the subject, to make further progress in so attractive a department of natural history. There are few individuals who have it not in their power, occasionally, to remark the instincts and habits of birds; and the many anecdotes collected from the author's own observation, the information of friends, or various respectable sources, will, it is hoped, excite others to register any facts within their reach, which may illustrate the mysterious economy whereby this beautiful portion of God's creation is enabled, in so many instances, to surpass the highest efforts of man's ingenuity, foresight, or philosophy."

The work is too well known to require much more than an announcement of the appearance of the present cheap edition. It is prefaced by a succinct introduction to ornithology, which young students will find useful, and is illustrated by woodcuts, which answer perfectly the purpose of the noble prelate who has devoted his leisure to its production. The birds of the British islands or of Europe are not the only subjects of description, which, on the contrary, is extended to species of every order that is known to naturalists. The anecdotes by which they are accompanied are carefully selected, and cannot fail to give much interest to a subject which even in their absence has always been found peculiarly attractive. We select one of the most striking.

"*The Condor.*—The natives of South America avail themselves of the gluttonous greediness of this bird to catch it. A dead carcase of a cow or horse is laid out for a bait, on which they gorge themselves to such a degree, that they become quite drowsy and stupid. When in this plight they are approached by the Indians, who easily throw a noose over them; on finding themselves prisoners they are usually for a time sullen and shy: but this is not always the case, as the following story will prove, related by Captain Head, and told to him by one of his attendants, a strong English miner from Cornwall, when exploring the mining districts of South America. The man, when riding along the plains, saw several condors, or largest sized vultures, and guessing that they were attracted by some dead animal, rode up, and found a numerous flock round the carcase of a horse. One of the largest was standing with one foot on the ground, and the other in the horse's body, exhibiting a singular force of muscular power, as he lifted the flesh and tore off great pieces, sometimes shaking his head, and pulling with his beak, or sometimes pushing with his leg. As the man approached, one of them, which appeared to be gorged, rose up, and flew about 50 yards off, when it alighted, and he rode up to it, and then jumping down seized the bird by the neck. The contest was severe, and never probably was such a battle seen before as a Cornish miner and a condor. The man declared he never had had such a trial of strength in his life; that he put his knee upon the bird's breast, and tried with all his might to twist its neck, but that the condor objecting to this struggled most violently, and he fully expected that several others which were flying over his head would take part against him, and assist their companion. At length, however, he succeeded, as he supposed, and carrying off the pinion-quills in triumph left the bird for dead; but so tenacious are they of life, and so difficult to kill, that another horseman who passed the spot some time after, found it still living and struggling."

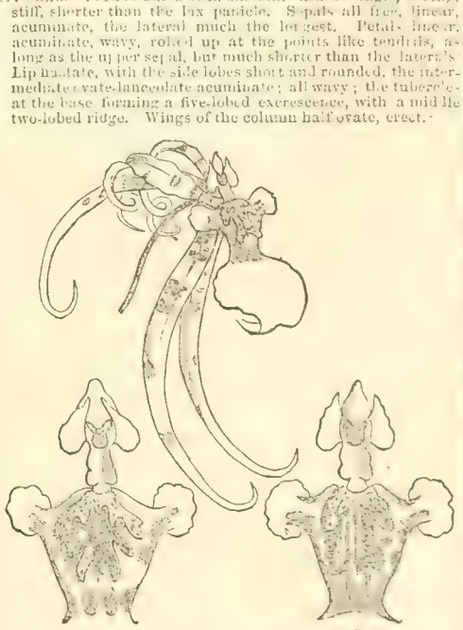
Popular Field Botany. By Agnes Catlow. 12mo. Reeve. pp. 330: 20 coloured plates.

This is a useful aid to young persons in the country who are at a loss how to take the first steps in botany. In this, as in so many other pursuits, the earliest stage is that which it is most difficult to get over; each succeeding advance becomes more easy than its predecessor. One of the impediments in the way of those who have no teachers is the uncertainty that in the beginning attends all attempts at making out the names of the objects they have to examine; and this impediment can only be removed by drawings and very familiar descriptions. Miss Catlow, in the work before us, has furnished a supply of both; the former neat and like, the latter clear and concise. We recommend her popular botany to favourable notice.

THE LONG-TAILED ONCID.

(*Oncidium leptostachyum*, Hort.)

Sp. Char.—Pseudo-bulbs ovid, smooth. Leaves single, oblong, stiff, shorter than the lax panicle. Sepals all free, linear, acuminate, the lateral much the largest. Petals linear, acuminate, wavy, rolled up at the points like tendrils, as long as the upper sepal, but much shorter than the lateral's Lip undate, with the side lobes short and rounded, the intermediate ovate-lanceolate acuminate; all wavy; the tubercles at the base forming a five-lobed excrescence, with a mid lle two-lobed ridge. Wings of the column half ovate, erect.*



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This plant is common in collections under the name we have adopted, but the origin of which we have failed to discover. It is a very pretty species, and much more worth having than many of the yellow Oncids. Its leaves are stiff, like those of O. carthaginense, dark green, and speckled beneath with red. The flowering stem is 2 feet high, slender, divided into slight arms, each of which carries about two flowers, which are nearly 3½ inches from tip to tip. The sepals and petals are long and narrow, like those of a Brassia, green and barred with brownish red. The lip is much shorter, pure white, except at the base, where it is stained with clear yellow. Its tubercles vary a little in form, as is shown in the annexed cut at *a* and *b*, which represent magnified views of the base of the lip.

The species flowers in April, and has something of the aspect of the White-lipped Oncid, before its flowers expand. We first received it from the collection of the late Mr. Clowes.

* For the meaning of these terms see Lindley's *Glossary*.

Garden Memoranda.

Messrs. Lodges' Nursery, Hackney. [illegible] preparations are now being made for the [illegible] of Camellias, which is announced for Wednesday and Thursday next. From personal [illegible] are enabled to state that the plants to be sold are of the most remarkable description, many of them being 14 and 15 feet in height, and some of them [illegible] through, each plant [illegible] buds. Such is the stock in the [illegible] house, which is [illegible] of them 30 years old, and [illegible] many of which do not exist in the country. [illegible] tion includes many [illegible] it is not to be [illegible] sisting chiefly of old [illegible] with the exception of [illegible] which are in [illegible] Of the latter may be [illegible] 9 feet high and [illegible] and about 10 feet [illegible] 13 feet high; [illegible] a magnificent [illegible] earliest imported [illegible] 12 feet [illegible] 19 feet high; a [illegible] Double White, 7 [illegible] of the same variety [illegible] Other sorts, of which [illegible] compose a select [illegible] Besides Camellias, a [illegible] Rhododendrons, Andromedas, &c., with a [illegible] perceived that there is a Camellia [illegible]

The Orchid-house [illegible] beauty, as might be [illegible] there and there [illegible] of the beautiful Dendrobium [illegible] compact D. Wallichii, [illegible] the white-lipped Brassavola venosa, a [illegible] whose flowers [illegible] scarcer B. Martiana a distinct species from the banks of the Rio Negro, in Brazil. [illegible] also in bloom Dendrobium [illegible] Holland species, with [illegible] curiously curled flowers of little beauty; [illegible] Phaius Wallichii, a [illegible] fordianum; Epa [illegible] greenish flowers [illegible] Coryanthes speciosa, a [illegible] able genus. In a cooler [illegible] Mexican and Guatemala Orchids, [illegible] in flower, the most striking [illegible] except the white [illegible] O. Cervantesii, a [illegible] section of the genus, [illegible] O. Insleayi, a fine species, with [illegible] piously marked with [illegible] Cavendishianum was [illegible] O. leucochilum, and another species [illegible] but much [illegible] larger, and with the [illegible]

Calendar of Operations.

(*For the ensuing Week.*)

CONSERVATORY AND GREENHOUSE.

We have previously recommended [illegible] plants from various houses, to fill [illegible] conservatory; their beauty [illegible] be allowed to remain, but should be [illegible] situation suitable to encourage a [illegible] and consequently an assured provision [illegible] future season. It is a great advantage [illegible] pit which can be appropriated to this purpose [illegible] is found that plants are much exhausted [illegible] forcing, they should be supplied with [illegible] soil. Much of the essential nutriment [illegible] ture, but should be the average. The [illegible] greenhouses will require more than [illegible] pot room, to allow the extension of [illegible] branches. Pelargoniums, Fuchsias, [illegible] must receive the [illegible] of plants for bedding out [illegible] young healthy plants, particularly [illegible] Heliotropes, are most [illegible] Salvia azurea should be [illegible] cuttings struck [illegible] required in propagating [illegible] with advantage: the [illegible] should always be [illegible] growing stove plants may be [illegible] for autumn blooming.

NEW GARDEN PLANTS, PUBLISHED IN BOOKS.

N.B.—* = Very handsome. † = Second rate. ‡ = Third rate. ¶ = Unimportant.

Name.	Where Published.	Name of Country.	Quality.	Natural Order.	Colour of Flowers.	[illegible] of Flowering.	[illegible] Flowered.	Where.
Althæa laxiflōra.....	D. C. pl. rar. No. 1.	?	H. ♃	Mallowworts	Rose	August	1840	Here in Gardens.
‡ *Loose flowered Marsh Mallow.*								
Brassia longissĭma	D. C. pl. rar. No. 2.	Mexico?	S. ♃ (epiphyte)	Orchids	Yellow and white.	?	1847	Geneva.
† *Long-lobed Brassia.*								
Crambe grandiflōra	D. C. pl. rar. No. 3.	?	H. ♃	Cruciferæ	White	?	1847	Geneva.
¶ *Large flowered Scakale.*								
Eriostēmon scabrum.....	D. C. pl. rar. No. 4.	N. Holland	G. ♄	Rueworts	White	April	1846	Geneva.
† *Rough Eriostemon.*								
Pomadĕrris pyrrhophȳlla.....	D. C. pl. rar. No. 8.	Swan River	G. ♄	Rhamnads	Green	April	1847	Geneva.
¶ *Red leaved Pomaderris.*								
Pomadĕris polyānthā	D. C. pl. rar. No. 8.	Swan River	G. ♄	Rhamnads	Green	April	1847	Geneva.
¶ *Many-flowered Pomaderris.*								

FRUIT FORCING.

Vineries.—In the early house the leaves and wood will be approaching towards maturity of growth; some limitation of atmospheric humidity may therefore be recommended. Later Vines, after their shoots are properly developed, should also be restricted in regard to humidity; the frequent use of the syringe induces a luxuriant, and, at the same time, a succulent leaf, which is attended with little advantage. In Vine countries, the Vineyard people never complain of an excess of heat affecting their Vines; but, if wet weather occurs, their murmurs are loud and their anticipations sorrowful. Muscats should not be left later than this month, or they are apt to shrivel from an insufficiency of solar heat at the ripening period. *Peaches.*—While the trees exhibit health and vigour, they will bear a liberal amount of heat, if accompanied with solar light; greater caution must be employed, in regard to the temperature, with weak trees. 50° is a fair average night heat; reserve, in tying and disbudding, merely sufficient wood for next spring. Remove large shoots cautiously; syringe once or twice a day, according to the weather; and provide for the constant admission of air. *Cherry-house.* — Apportion the amount of fruit to the capacity of the tree, in thinning; keep down the green-fly, and look well after caterpillars. A gentle, moist heat is most suitable to the Cherry; a low night temperature must be enjoined. *Fig-house.*—In an early stage of development the young shoots delight in humidity; supply the roots liberally with water; a night temperature of 60° will not be injurious. *Fruiting Pines* may receive the addition of a few degrees of heat, which, in its application, must invariably be associated with humidity; attend to their demands for water; the roots now will be in full action, and their absorptive power considerable; night heat, 65° to 70°. Attend to the linings of succession Pine pits, and prevent any diminution of heat; take favourable opportunities of potting and shifting suckers and young plants, which should be shaded on cloudless days; 60° may be maintained at night. This is the best time for introducing Strawberry pots; the British Queen is an excellent Strawberry to succeed Keens' Seedling, a good supply should be entered at once. Stir the soil as it settles in the pots of the first crop, and feed them occasionally with weak manure water. Ridge out Melons; Snow's Greenflesh, the Beechwood, and the old Scarlet-fleshed Melon, are excellent and dissimilar sorts. Maintain a high temperature, and admit air more freely when the blossoms require setting.

FLORISTS' FLOWERS.

Tulips.—The beds of these beautiful favourites of the amateur will now require very great attention, the foliage being generally well up above the surface, and consequently liable to the vicissitudes of our changeable springs. At this season a rainy day is often succeeded by a sharp frost; or hailstorms mercilessly pelt the rising plants. Some florists think it but little use to cover, supposing the Tulip to be sufficiently hardy; but when the leaves form a kind of cup, which hold a considerable quantity of water, and this on a frosty night is turned into a mass of ice, enveloping the rising bud, we think it will be allowed that protection, in this case at least, is advisable. Over our extensive collection we make a point of stretching a thin calico, every evening, if frost is expected, and find this sufficiently effective. Canker will often make its appearance on the foliage; this must be carefully removed with a sharp knife, exposing the part as much as possible to the air, but keeping a shade over it for a few days. *Carnations and Picotees.*—Now is a very trying period; many layers that have apparently withstood the winter with impunity, will often wither and die, and if examined they will be found not to have made a single fibre since they were potted last autumn—evidencing what we have often urged, the propriety of early potting, in order that the plants may, by being thoroughly established, be enabled to stand the weather. *Polyanthus.*—Continue to shade the rising blooms on seedling beds. If pin-eyed flowers show any good property in a marked manner, cross-breed that variety and save seed from it. Attend to our directions for other florists' flowers as advised last week.

KITCHEN GARDEN AND ORCHARD.

The operations recommended here, periodically, cannot, perhaps, always be pursued with propriety at the precise periods indicated; the position of the garden, as well as the nature of the soil, must be considered, and if these circumstances are unfavourable, they may be permitted, as exceptions, to modify our general rules. Continue successional sowings of Peas and Beans; of Peas, such as the Scimetar and Knight's Marrow may be selected. Protect the first crop with Fir boughs, and if too thickly sown, in anticipation of probable losses, thin and transplant them on a warm border. Give abundance of air to early Cauliflowers; kept too close under hand-lights, a premature and useless development often results. Sow Cauliflower, Lettuce, and Cabbage. If necessary a fresh plantation of Artichokes may be made; suckers previously removed and established should be employed in preference to old roots; two beds planted under different aspects would prolong the supply; the removal of plants will also vary the season of production. Proceed systematically with the operations of pruning and nailing fruit trees. Syringe the branches of trees recently transplanted, and see that the soil over the roots is not open to the effects of the weather.

COTTAGERS' GARDENS.

It is seldom that the holders of small gardens can afford sufficient time or space for early crops, which are always in a degree uncertain and less productive. We cannot recommend ventures of any kind to our humble rivals. Now that the days are lengthening, and we find the work progressing in the gardens of our cottage neighbours, with our meed of professional advice we earnestly recommend the exercise of perseverance and care in conducting operations which, with ordinary skill, will ensure the gratification of an abundant produce. Manure must now be got upon the ground intended for Onions, Cabbage, Turnips, Beans, and Peas. Of the two last named vegetables a row or two may be sown as soon as the land is ready. That portion intended for Potatoes had better be dug over, and unless the soil be very poor it would be as well not to add any manure, as the disease affects Potatoes on highly manured land with greater severity than on pure soils. Jerusalem Artichokes should always occupy a small portion of even a small garden; sets may be put in. A bed or two should be reserved for Parsnips, which may be sown cheaply this year, as seed is abundant. Fruit trees should be trained without loss of time. Currants and Gooseberries, and even Apples and Pears, do quite as well trained to stakes as growing free, and a considerable surface of ground is gained by the practice.

FORESTING.

It will be necessary from time to time to examine newly planted trees, and in cases where rough weather has displaced them, or loosened the soil, remedy the fault. When circumstances have retarded the getting in of deciduous trees in planting, it is advisable to adopt the precaution of puddling their roots. Pruning should be performed on their removal from the nursery. No time should now be lost in effecting the removal of timber, especially if it has to be taken across green drives, which, if cut up late in the season, can scarcely be restored for the summer season. The nursery ground having first been duly prepared, and proper arrangements made for the distribution of the various kinds of seed, according to their several characters, the principal sowing of seeds of forest trees and shrubs may now be made—such, for example, as Acorns, Mast, Nuts, Holly, Yew, Haws, &c. &c. Apple-pips for stocks should enjoy a favourable situation for warmth in the nursery. Immediate precautions must be taken against the depredations of mice.

State of the weather near London, for the week ending Feb 21, 1848, as observed at the Horticultural Garden, Chiswick.

Feb.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 18	13	30.420	30.182	42	25	33.5	S.	.16
Satur.. 19	○	29.778	29.583	49	32	40.5	W.	.02
Sun. .. 20	15	29.744	29.364	48	25	36.5	N.W.	.02
Mon. .. 21	16	29.790	29.468	46	39	42.5	S.W.	.11
Tues. .. 22	17	29.478	29.142	51	39	45.0	S.W.	.08
Wed. .. 23	18	29.341	29.002	55	41	48.0	S.W.	.00
Thurs. 24	19	29.323	29.172	53	44	48.5	S.W.	.14
Average		29.696	29.430	49.1	35.9	42.0		.53

Feb. 18—Fine; cloudy; rain at night.
— 19—Ground partially whitened with snow; rain; overcast.
— 20—Foggy; showers; clear at night.
— 21—Clear and flosty; uniformly overcast; rain.
— 22—Rain; densely clouded; clear at night.
— 23—Heavy clouds; fine; barometer very low; overcast. [at night.
— 24—Decidedly and uniformly overcast, rain, very boisterous, with rain

Mean temperature of the week, 4 deg. above the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending March 4 1848.

Feb. and March.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 27	47.6	34.5	41.0	11	0.40 in.	1	4	3	1	4	6	3	1
Mon. 28	48.7	35.7	42.2	8	0.14	1	5	4	1	2	3	3	5
Tues. 29	48.8	34.2	41.5	1	0.13	1	1	1	1	1	1	1	1
Wed. 1	47.8	35.4	41.6	9	0.62	1	4	3	1	3	4	2	1
Thurs. 2	49.2	38.8	44.0	8	0.45	3	2	1	1	2	6	5	1
Fri. 3	49.5	36.1	42.8	10	0.28	1	3	1	1	3	6	5	1
Satur. 4	49.2	33.4	41.3	9	0.48	2	1	2	1	3	4	4	1

The highest temperature during the above period occurred on the 27th, 1846—therm. 62 deg.; and the lowest on the 1st and 3d March, 1847—therm. 24 deg.

Notices to Correspondents.

Annuals—*Martha Fowler*—The following are 24 choice sorts:—Nemophila insignis major, Collinsia bicolor, Rhodanthe Manglesii, Lupinus nanus, L. Hartwegii, Leptosiphon densiflorus, L. androsaceus, Heliophila trifida, Mesembryanthemum tricolor, Cintonia pulchella, Lobelia ramosa, Phlox Drummondii, Bartonia aurea, Gilia tricolor, Erysimum Perofskianum, Eutoca viscida, Godetia Lindleyana, Sphenogyne speciosa, Brachycome iberidifolia, Calandrinia discolor, Clarkia pulchella, Hibiscus africanus, Malope grandiflora, and Platystemon californicum. ¶

Blue bells—*F M*—By *continually* hoeing off their leaves as they appear you will in time destroy them; but it requires perseverance.

Books—*A Young Gardener*—Your books are well chosen, and deserve your most attentive study. Your motto should be *legemultum, hand multa*, which means, study *much* but *not many* things. As you have the "Hortus Britannicus" you will hardly do well to buy another catalogue, unless you can sell it to advantage. There is no such thing as a catalogue illustrated with figures except the "Encyclopædia of Plants," which is expensive.——*Reader*—The "Gartenzeitung," published at Berlin. —— *Medicus*—The "Manse Gardener," Neill's "Fruit, Flower, and Kitchen Garden." Your other question next week.

Boronias—*Philo*—There must be bad gardening somewhere, in your case, unless causes which you do not mention exist for your extraordinary losses. What is the explanation assigned?

Cinerarias—*B C A* complains that his Cinerarias "go blind." The specimens which he has sent us show that the flower-heads are incapable of forming the florets of the ray, on which the beauty of such plants depends. He says they served him in the same way last year, and asks for advice. Can any Cineraria grower oblige him with an explanation of the cause of his misfortune?

Covering—If asphalte coverings be employed for pits, it should be stretched on light frame-work, otherwise it is cumbersome, and it soon breaks up with rolling ‖

Figs—*A Fig Grower*—It is considered immaterial whether the Figs which have formed, but not ripened before winter, be pulled off or not. At the fall of the leaf they become in a manner dead, and cannot rob the plant. Ultimately they drop without occasioning a bleeding wound, which is an injurious consequence of pulling them off when the sap is in motion; but this may be avoided by pinching the fruit in a young state. ‖

Grimstone's Egyptian Pea—*Lionel*—Will you have the kindness to point out where this Pea has been "highly praised in the *Chronicle* a few weeks since"? We know nothing about it.

Insects—*Young Beginner's* Strawberry leaves are not attacked by Thrips, but by the young state of a small Cicadellina. Fumigation would certainly be serviceable in destroying them. As they are on the under-side of the leaves it would be difficult to wash them off, although that would be best. *W.*

Irises—*Litoralis*—Iris pallida, De Burghii, sub-biflora, fragrans, variegata, and sambucina. ¶

Lime Water—*Rusticus*—Let the water stand till it is clear, and it will be fit for all purposes for which lime water is wanted. It will kill all soft animals, such as slugs and worms, and will not injure plants.

Mistletoe—*R S*—To propagate this, all you have to do is to rub the seeds when they are ripe into the crevices of the bark of some tree, and protect them from birds. ‡

Names of Plants—When plants are sent to be named, it is most particularly requested that they may be in flower, and as perfect as circumstances permit. Most especially is it requested that the country whence they have been received, and whether they are annuals, perennials, or shrubs, hardy, greenhouse, or stove plants may be stated; because specimens by post are generally bad and incomplete, and much valuable time, which such information would save, is needless wasted.——*R W*—The fungus is the well known Sclerotium semen.——*H K*—Eupatorium glandulosum.——*A Subscriber*—Clethra arborea.——*P B*—1, Oncidium panchrysum, very pretty and quite new; 2, Phaius bicolor; 3, Phaius Wallichii.——*C*—Your plant found at Bredbury, near Stockport, in a ditch not near any garden, is Claytonia alsinoides.

New Hardy Herbaceous Plants—*Litoralis*—Anemone japonica, Silene Schafta, Aquilegia Skinneri and leptoceras, Pentstemon gentianoides true (flowers blue), Campanula nobilis and grandis, Clematis tubulosa, Cyclamen ibericum, Helleborus olympycus, Statice eximia, Phlomis Cashmeriana. ¶

New Hardy Shrubs—*Litoralis*—The following have been introduced during the last three years:—Weigela rosea, Spiræa prunifolia pleno and expansa, Jasminum nudiflorum, Daphne Fortuni, Berberis Fortuni,* Forsythia viridissima, Garrya macrophylla,* Azalea ovata,* Viburnum plicatum and macrocephalum, Deutzia straminea, Calycanthus macrophyllus, Elæagnus parvifolius, Berberis hypoleuca* and parviflora,* Clematis graveolens, and Caprifolium tubulosum. Those marked with a * are evergreen ¶

Novel Mode of Wintering Plants for Bedding out—*Delta* will feel obliged if "W. P." will explain what he means by a one-light frame rightly Polmaised.

Orchids—*Suburban*—The following are 50 really desirable Orchids, not rare and costly so much as handsome flowerers, for a small house, viz., Barkeria Skinneri and spectabilis, Cattleya Skinneri, Mossiæ, crispa, and guttata; Odontoglossum grande and pulchellum, Miltonia spectabilis, Phalænopsis amabilis, Lælia superbiens and anceps, Aerides crispum and odoratum, Lycaste Skinneri and cruenta, Ansellia africana, Brassia macrostachya, Cœlogyne cristata and Wallichi, Coryanthes macrantha, Cycnoches Loddigesii, Cypripedium insigne and venustum, Cyrtopodium punctatum, Dendrobium formosum, nobile, pulchellum, and fimbriatum; Leptotes bicolor, Oncidium Lanceanum, ampliatum majus, leucochilum, guttatum, papilio, and Cavendishianum; Epidendrum Stamfordianum and macrochilum, Renanthera coccinea, Saccolabium guttatum, Stanhopea tigrina and insignis, Zygopetalum crinitum and Mackaii, Maxillaria Harrisoniæ, Sobralia macrantha, Cyrtochilum maculatum, Phaius grandifolius and Wallichii, Chysis bractescens. ¶

Peas—The British Queen or Knight's Marrow will grow 6 feet high ‖

Pine-apples—*A B*—A similar recurrence of too many fruits ripening at this period of the season may be avoided by not starting the plants so early for fruit. Keep them growing unchecked by dryness. ‖

Pines—*G G*—We earnestly advise you to learn to write and spell. It is not in our power to make out your meaning. When Pines are near ripening their fruit they should have plenty of warm air circulating among them, and no water overhead. They should never be cut until they have changed colour.

Planes—The true Oriental Plane is sold by every nurseryman of importance. If they have it not, they know, or ought to know where to procure it. If you still fail, enquire of Messrs. Osborne, of Fulham, or Mr. Rivers, of Sawbridgeworth. We do not think the Occidental Plane worth planting in this country.

Polmaise—*J N*—We are glad to hear of your success; it is the same wherever gardeners of intelligence use the apparatus, and the latter is properly constructed. The plate ought not to be in three pieces; you will probably get rid of your difficulty by placing below the plates a cap of sheet iron whose edges fall into the sand joint.

Roses—*Emilia*—It is not injurious to standard Roses to have the turf growing close up to the stems, provided the land is good and annually manured beneath the turf. On light sandy soil it is injurious.

Royal Botanic Garden, Regent's Park—*G F*—We are aware of it; but we do not think ourselves justified in noticing it, at least for the present. It comes within the sacred precincts of private matters.

Vines—*N P P*—West's St. Peter's will succeed grafted on the Syrian. Vines should be grafted when the stocks have broken into leaf, leaving a shoot to grow opposite to where the scion is put on till the latter has just taken; then stop the said shoot, and soon afterwards suppress it entirely. ‖——*S C K*—You cannot do better than plant the Black Hamburgh and Royal Muscadine ‖——*J A*—All you can now do is to promote the growth of the strongest shoots, allowing no more to grow than can have their foliage well exposed to light and air ‖——*A B*—The south border is to be preferred for the roots of the Vines. A wash of soft soap and sulphur in tepid water is usually employed. ‖

Wall Plants—*J Denny*—The following are half a dozen evergreen flowering plants, suitable for a south wall in your flower garden, viz.: Magnolia grandiflora præcox, *white;* Berberis fascicularis, *yellow;* Ceanothus thyrsiflorus, *blue;* Cotoneaster rotundifolia, Mespilus pyracantha, *red berries;* and Laurustinus, the latter for flowering in winter. ¶

Misc—*A Sub*—Oil of Asbray we never heard of; oil of Polypody is oil of male Fern, which may be procured in the trade, under the name of *Oleum filicis maris.*

SEEDLING FLOWERS.

Cinerarias—*Mr S*—Your seedling is very large, and fine in colour; but the flowers are defective in form, the petals being disproportionately long, compared to their width; it is too starry, and not adapted for showing.*

Fuchsia—*W E R*—Tube well formed, clear, and white; sepals tinged with light pink; corolla crimson. An attractive variety, but the sepals do not appear to expand sufficiently.*

Erratum—In the Advertisement of "CALCEOLARIA AQUATICA," in the 1st page of last week's Number, col. *b*, for Mr. Jeges, read Mr. Jeyes. Also, in Mr. Hayes's Advertisement, following the above, at the 14th line from the bottom, for "*Two* kinds of Bourbon and China Roses," read "*Twenty* kinds of Bourbon and China Roses."

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those numerous correspondents, the insertion of whose interesting contributions is still delayed.

CHEAP AND DURABLE ROOFING, —Houses of all descriptions can be roofed at less than one-half the ordinary cost, by using the
PATENT ASPHALTED ROOFING FELT,
Manufactured by
FRANCIS RITCHIE AND SONS, BELFAST,
who also make INDOROUS FELT for lining damp walls under paper in place of lead. Samples, directions, and all necessary information sent free, on application to the Manufacturers, or any of the following Agents:—

Bristol—Tratman, Brothers.
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Hull—Thomas Flint.
Liverpool—Chapman, Bowman, and Co.
London—Hay, Anderson, and Sangster, Newington Butts
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Newcastle-on-Tyne—Richard Warham
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HYDRAULIC ENGINES.

J. LEGG begs to return thanks to his patrons and friends, and also to inform them that he continues to erect his improved Hydraulic Engines, Water Ram, &c., suited to for all situations where a fall can be obtained, also Engines for Deep Wells. J. L. also begs to inform his friends that he has made several improvements on his Hydraulic Machines, and flatters himself that he is able to compete with any parties of the present day in the construction of the above machines.
Apply to JOHN LEGG, Cheltenham.

The Agricultural Gazette.

SATURDAY, FEBRUARY 26, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY, March 1—Highland and Agri. Society.
" 1—Agricultural Soc. of England.
THURSDAY, — 2—Agricultural Imp. Soc. of Ireland.
WEDNESDAY, — 8—Agricultural Soc. of England.
THURSDAY, — 9—Agricultural Imp. Soc. of Ireland.
FARMERS' CLUBS.—Feb. 28: Hertford.—March 4: Newcastle, Durham, Melrose.—March 6: London, Clydon—March 10. Wakefield.

IN answer to inquiries on the MANUFACTURE OF SUPERPHOSPHATE OF LIME, we give the following particulars:—The main object of adding sulphuric acid to bones is to detach the phosphoric acid from half of the insoluble phosphate of lime which they contain, in order that, uniting with the other half, it may form the soluble superphosphate. The whole, however, of the added sulphuric acid does not act in this way: in fact, before any of it can be available for this purpose, the more pressing demands have to be met which are made upon it by the less controlled affinities of other ingredients of the bone-dust. *Carbonate* of lime is present, and lime, combined thus, is freer than as phosphate. The portion of lime present in bones as carbonate is often 5 per cent. of their whole weight—a quantity requiring nearly 10 lbs. of sulphuric acid, of the specific gravity 1·8, for its saturation: so that this—a large proportion—goes to waste, we may almost say, in the very outset of the process. The proportion of phosphate of lime present in bones varies from 50 to 60 per cent.: we shall take the less per centage, our object being to state the minimum quantity of acid required. One-half of this—25 lbs. in every 100 of bone-dust—has to be decomposed, in order that with the other half, as we have said, its phosphoric acid may form superphosphate of lime: it consists of 8½ lbs. of lime, and 16⅔ lbs of phosphoric acid. To effect this decomposition such a quantity of sulphuric acid must be added as will saturate the 8½ lbs. of lime: rather more than 15 lbs. of sulphuric acid (sp. gr. 1·8) are required for this purpose. Add this quantity to the "nearly 10 lbs." required as above, and we have 25 lbs. of acid as the minimum quantity needed for every 100 lbs. of bone-dust.

In this estimation, however, we have omitted mention of calls upon the sulphuric acid made by other ingredients of the bones to which it is added: their gelatinous and fatty matters seize upon a portion of it, so that while considering the phosphates and carbonates of lime alone, one-fourth their weight of acid may appear sufficient, we quite agree with Mr. SPOONER in recommending one-third as the least proportion for use where it is desired that the greatest possible quantity of superphosphate may be formed. It is, however, often desired that a portion only of the phosphates present may be rendered soluble—sufficient merely for the plants in the earlier stages of their growth—so that a considerable remainder may be left in its natural condition for slower solution by the carbonic acid of the air, to serve as a subsequent supply: in such cases, of course, even a less quantity than 25 per cent. of sulphuric acid may be more than is necessary.

In the plan adopted on the Fen Farm alluded to some weeks ago the proportion between the acid and the bones seems to have been very wisely chosen. Assuming the average weight of a bushel of bone-dust to be 44 lbs, the 790 bushels used there last year weighed 34,760 lbs., and the acid added to them, 9647 lbs., was then in the proportion of 27¾ lbs. per cent. Taking the practice on that farm as our rule, the following is the method of manufacture. Lay 80 bushels of bone-dust in a conical heap; pour on water till it begins to run off at the base: leave it for a couple of days: then spread it abroad somewhat, leaving a raised rim (which should be trampled firm) and a basin-shaped cavity: pour on more water till it will no longer remain in the heap: and then slowly pour about 9 cwt. of acid over the heap. Turf-ashes (about 300 bushels) may with advantage have been previously laid around the edge of the heap. When the heat has somewhat subsided, mix the bones together again into a conical heap, cover it with the ashes, and leave it for a few weeks: the whole may then be mixed with the dry ashes, and will be ready for drilling. It will suffice for from 10 to 20 acres.

Where a less quantity is required, the following method recommended by Mr. SPOONER will be found perfectly satisfactory. He advises that the acid added should be one-third the weight of the bones, and that four times its weight of water should first be poured over the heap.

"A very convenient and cheap vessel for manufacturing the mixture is a sugar hogshead, having its holes stopped with plaster of Paris. It is very desirable to avoid if possible any measuring or weighing of the acid, as it is so very dangerous a substance to handle. Many serious accidents occurred to my knowledge during the last year, and it is very difficult to impress farm servants with a sufficient degree of caution, or even to convince them that a liquid which appears so colourless will burn their skin and clothes. In emptying a carboy of acid even into a tub it is difficult to prevent a little slopping about and damaging the clothes of the attendants, as well as the basket, &c., which contains the carboy. To prevent these unpleasant consequences I have adopted the following plan:—The carboy is placed on a stage or cask the same height as the sugar hogshead, into which is put the precise quantity of bone-dust we intend mixing with the carboy of acid. The water is now added with a watering pot having a rose at the end, so as to disperse it thoroughly, and the carboy of acid is then emptied by means of a syphon. This syphon is formed of a piece of block-tin pipe, which can be bent into any form, about three-quarters of an inch in calibre and 4 feet in length. A brass cock is soldered to the long end of the syphon, on which the rose of a watering-pot may be placed. The syphon is now filled with water, and its long end closed with the cock, and the small end with the hand or finger. The latter is then quickly inserted into the mouth of the carboy, the cock turned on, and the acid will continue to flow till the vessel is nearly empty, without any assistance, so that the attendant has no occasion to expose himself to the injurious and offensive fumes which almost immediately begin to escape. He may, however, approach the windward side of the tub, and give the mixture a little stirring, which should be continued for some little time afterwards, so that the mixture may be complete. A convenient utensil for this purpose is a fork with two grains, long in the grain, bent at some distance from the grains nearly at right angles, and fixed in a wooden handle. On the same day a fresh lot of bones may be added, and the process repeated untill the hogshead is nearly full. In two days afterwards the mixture may be shovelled into a heap, and either remain till wanted or mixed at once with a certain portion of ashes. It should be shoveiled over several times and ashes added at each time of turning, which will thus render the mixture fine and dry enough to pass through an ordinary drill."

As to the modes of using this manure, probably the best is to strew it from a basket in the furrows between the ridge drills of the field, as manure is generally laid where the ridge system of Turnip cultivation obtains; then to mix it well with the soil by sending the horse hoe up each furrow; and, lastly, to split the ridges with the double mould board plough, and thus form fresh drills for the seed.

We referred a few weeks ago to Mr. PUSEY'S method of disintegrating bones. The details of it as he has given them are simply these. A cart-load of bone-dust is to be well wetted, mixed with two cart-loads of ashes, sand, or porous soil of any kind. Excepting the outside of the heap, where the heat will be insufficient, the bones will in a few days have fermented so as entirely to lose their structure, they may be turned over, and in a week or two nothing but a homogeneous mass of sand and *bone-dust* will remain. This is ready for drilling, and according to Mr. PUSEY'S experience 8⅓ bushels thus treated produce equal effects with 17 bushels not so treated; while in another instance 12½ bushels of the fermented bones *exceeded* in fertilising influence 25 bushels in their natural condition. It is however only fair to add, that we find from the annual report of the Botley Farmers' Club just published, that Mr. SPOONER'S experiments with bones thus heated in sand have not yielded such favourable results. And we can easily believe that the character of the soil will much affect the result of such experiments. On a light porous soil the fermented bones may equal the superphosphate, while on a stiff clay, hindering the access of air to the particles it envelopes, it may be very little better than the ordinary bone-dust.

We cannot conclude without referring once more to Mr. PAINE'S discovery of phosphates at Farnham. If it should lead to similar discoveries elsewhere, as our correspondent [illegible] the important element phosphate, will become more accessible to the farmer [illegible] been. We hope that [illegible] formed both of it [illegible] commenced before the [illegible] that a wide experience [illegible] fore the end of the year.

ON THE MAXIMUM YIELD OF WHEAT.

The articles on the growth [illegible] Wheat which appeared [illegible] and a correspondent [illegible] of the last and [illegible] read; the [illegible] Wheat are to be [illegible] gant. The [illegible] Lo Costar may be [illegible] quarters per [illegible] single farm of [illegible] and the majority [illegible] acres of Wheat [illegible] tain; therefore, [illegible] farms which [illegible] these farms put [illegible] age we will [illegible] again. In [illegible] those of a [illegible] 12 sacks, or [illegible] yield was 16 [illegible] nary crop; [illegible] ing the ab[illegible] time on an [illegible] acre as the [illegible] fertility was [illegible] the tenant [illegible] course being [illegible] Wheat on Wheat; [illegible] Grass, cut for [illegible] are grown [illegible] what are grown. [illegible] of Wheat [illegible] take a parish [illegible] 28 bushels per acre. [illegible] after a wet spring: [illegible] to depend so much [illegible] rains occasionally, as it [illegible] land when the crop [illegible] loose, the crop [illegible] land has been [illegible] not of a good [illegible] of sandy or chalky [illegible] but unfortunately [illegible] drought. But when the land is [illegible] the seed-furrow turns up [illegible] condition of the [illegible] Wheat sowing. Even the [illegible] when the seed is harrowed in, [illegible] the future plant. It is a [illegible] on the headlands is often [illegible] buted to the treading of the horses by which the land is consolidated or rendered [illegible]. The middle of October appears to be [illegible] ing the operation of Wheat sowing, [illegible] and cold soils—and Wheats get [illegible] and the soil in the condition [illegible] invariably produce the best crops at harvest. We prefer broadcast to drilling—the [illegible] by many years' experience, the [illegible] of corn and of straw to average one-third more than by use of the drill. Brown, of Markle, a well known writer on agriculture, was of this opinion also.—*R. S. S.*

Seeing that you are asking for examples of extraordinary crops, and the circumstances under which they were produced, I will state one which is the largest in my own experience. The crop was grown in the year 1821, on land which had been recently enclosed from common, having had a crop of Turnips, one of Oats, which was succeeded by Potatoes, and the crop of Wheat, which is that I speak of, was sown [illegible] in the ordinary way, the soil [illegible] a blue clay slate, I should think about [illegible] feet above the level of the sea, and about 10 miles from it, nearly on the summit of a hill, and having no land so high as itself within two miles—the aspect very slightly inclining to the south—the kind of Wheat, Talavera. The Potatoes had been manured with ordinary farm-yard dung: lime had been applied at first, but I have no note of the quantity. The extent was 7 acres, and the produce 6 bushels per acre, and the weight 66 lbs. per bushel. This was not only the largest quantity per acre, but the heaviest weight per bushel that I have ever known; and though the same treatment was used in several cases on the same farm, we never had any like it. The sort of Wheat was in all cases heavy and prolific, but was given up from the fact of its downy chaff rendering it difficult to harvest in late and damp seasons. I should observe this crop was grown in Cumberland, and having been one of my earliest essays in farm management, the whole facts are strongly impressed on my memory. I remember too that the price at which great part of the crop was sold was 1s. 6d. per stone, and we were then giving labourers during the subsequent winter 1s. 6d. per day—lower wages than I ever remember in that county. The price given for reaping the whole of the Wheat on the farm, about 80 acres, was 8s. per acre.—*John Benson, Turistock.*

In compliance with a request in your *Gazette* (as

I have kept an account of the produce of every field on my small farm for the last 20 years), I send you the following:—1842: Part of a field of 8½ acres, after Turnips; 3½ acres ploughed and drilled, on 5th March, with 11 bushels of white Wheat; produce 6 quarters 2 stones per acre, or 23½ quarters in all, only 5 bushels tail corn—carried 3d September: remainder of field Barley, about 6½ quarters per acre, all sown with seeds, grazed one year, then ploughed up and drilled with red Wheat; produce 5 quarters per acre. Soil light and gravelly, part of it subject to burn, and much infested with the red Poppy, but good Turnip land.—1847: 6½ acres strong clay land, but of good quality, summer fallowed and slightly manured, part of it earth and farmyard dung and part with a compost of lime and ditchings, and drilled 4th and 5th November (a very wet seed time, but we could not get it in earlier) with 12 bushels 2 pecks of Spalding Red Wheat; produce 40 quarters very fine Wheat.—1847: 2½ acres of a 14-acre field, separated from the rest of the field by a water course, two years seeds, grazed after Turnips and Barley, drilled on 6th of November with 4 bushels of Hunter's White Wheat; 6th of April, about 60 bushels of soot and salt sown on it, horse-hoed and rolled with Crosskill's roller; produce 12 quarters 2 bushels, grain small but even, very little tail corn. Soil generally naturally very wet, but drained; the remainder of field nearly all Spalding Red, not yet threshed, but fully as promising as that threshed. — 1836: A small field, barely 5 acres, with fences on three sides. Oat stubble after seeds, grazed two years, drilled on 20th April with 2 quarters Barley; produce 36 quarters, sold at 38s. per quarter, 4 quarters rakings, &c.; total 40 quarters, upwards of 8 quarters per acre. Soil rather heavy, black land verging on the moors.—1837: A field, 7 acres 1 rood, after Turnips, part Swedes, part white-top, part eaten on the land, part carried off; drilled with 3 quarters 6 pecks Chevalier Barley; produce 62½ quarters. Soil light, deep, and good. On this and other fields I have since had 8 quarters per acre.—*J. Young, Coddington, near Newark, Feb.* 8.

In reply to your question, which appeared in your *Gazette* of the 15th ult., "What is the largest acreable produce of any of our crops that has come under your observation, its date and circumstances?" I beg to send you the following statement, which I have just received from a spirited and intelligent farmer in my neighbourhood, which may be entirely depended upon. —*R. W. Blencowe, the Hooke, Lewes.*

"*Hamsey, near Lewes.*

"Dear Sir,—According to your request I send you a correct account of the quantity of Wheat grown on 6 acres and 20 perches in the year 1836. The Wheat was white Wheat, commonly called in this neighbourhood Berry's Wheat, but I believe the right name to be the old Hertfordshire White. On this piece of land there was a very bad crop of Clover the previous year, and it was very foul. I made a winter and summer fallow of it, and then sowed it with Swede Turnips, having manured it with about 30 loads of dung per acre. The plant was beautiful, but just before it was ready for housing it was attacked by the black negro, so prevalent in that year. I ploughed the ground immediately, and sowed it with Tares and Rape; the season, however, was so dry that they did not come up till within a fortnight of my sowing it with white Wheat. The quantity of corn threshed and cleaned up, all very good, was 10 loads 8 bushels.—I am, Sir, your obedient servant, James Aylwin."

In Bristol market, last week, I was informed of an interesting agricultural fact; and thinking it may prove instructive to more than a few readers of the *Agricultural Gazette*, I forward the particulars to the editor. A person named Nicholls, who keeps the Pack Horse at Widcomb, near Bath, and who also occupies a few acres of land, had 158 perches (an acre, less 2 perches), in Wheat last year. It appearing very irregular in the spring—in some parts too thick, in others much too thin—by way of experiment, he had some of the thick removed and transplanted, so as to make the crop more regular. The crop has been threshed, and I am told, on authority which leaves no doubt of the truth of the information, that from these 158 perches he delivered, to a miller at Widcomb, 66 bushels of best Wheat, having reserved more than 2 bushels of tail for himself; together over 68 bushels. I believe, after the transplanting was finished, the plant was much thinner than has been usually considered desirable in this part of the country. Perhaps our thin-seeding agricultural instructor, Wilkins, may consider this a strong fact for him; and although I belong to the "old school" too much to unite with the extreme views he propounds as a rule for general adoption, if he will pursue his subject, taking care to avoid all personalities, he may yet instruct some of the readers of the *Agricultural Gazette.—Josiah Hunt, Almondsbury, Feb.* 15.

You invite persons who have grown good crops of grain or Turnips to forward to you the particulars. I therefore enclose you an account of an attempt which I have made to grow Wheat on the same land year after year, that account reaching to the fourth white crop in 1844; and as I still continue the experiment, I shall be in a position to continue it to the present time (as I am now threshing out the last year's crop); I will send it you, if you think it worth inserting in the *Agricultural Gazette.* If the account I now enclose is not worth inserting, please to send it to your correspondent "A. W.," who doubted whether there were authenticated instances of land producing 80, 70, or even 50 bushels to the acre. [We will publish the paper referred to, if our correspondent will only allow us time. And we shall be happy to receive the account of his this year's experience.] I attribute my success in growing Wheat to the silicate of soda, and yet singularly enough, until now, I have been unable to induce any one else to try it. This season, however, several persons have applied to me to procure it for them; among them is the talented editor of the *Liverpool Times*, whose farm at Barton Moss shows what good management will accomplish on very unpromising soils; if, as I hope will be the case, silicate of soda supplies to peat its greatest deficiency, no one will be more ready to discover it than Mr. Baines. In the use of silicates of soda and potash, one precaution is very necessary, namely, to ascertain that you really have a soluble silicate, and not a mere mechanical mixture of ground flint and soda; this is a very different thing, and one which if it be not carefully guarded against, will lead to nothing but disappointment. Again, the silicate may be properly made in the first instance, but by a long exposure to the atmosphere, the soda attracts carbonic acid, and the soda is liberated, and this has defeated my expectations more than once. Again, although I think it desirable to defer the application of it until vegetation has fairly started in the spring, yet in one instance I delayed it so long that there was not moisture enough in the soil to dissolve it until the end of June, and then the Wheat began to shoot afresh from the roots, and the crop was seriously injured by it; but this was in an exceedingly dry spring, and might not happen again for many years.—*T. G.* [Pray excuse the delay of the former part of your letter.]

I send you the account of cultivation and produce of 3a. 1r. 13p. statute measure in the Isle of Man. The soil is a good loam of considerable depth. In 1845 it was broken up for Barley, having been in Grass the two previous years; yield about 50 bushels per acre, 56 lbs. to the bushel. In 1846 it was planted with Potatoes, which were a complete failure. In 1847, Jan. 1st, sown broadcast with Spalding's Prolific Wheat, at the rate of 10 pecks to the acre; was harvested in August. Yield of marketable grain (besides tail corn, which was not taken into account) 170 bushels, or 6 quarters 3 bushels per statute acre. Weight per bushel, 64 lbs.—*W. H. B., Isle of Man.*

In answer to your inquiry for information concerning the maximum crops of grain, &c., grown in different parts of the country, I beg to offer the following statement and particulars of the greatest crop of Wheat I have ever grown, which was in the year 1835. A field containing 7 acres of land, the soil a good deep loam, upon brick earth, the previous crop was a portion of summer Tares, partly fed off with sheep, a part cut and carried off for soiling cattle; the other portion, early Warwick Peas, a very bad crop; after these crops the land was fallowed successfully, as the autumn was one of the driest ever known, so much so that very many farmers hesitated sowing their Wheat until the rain came, which was about the 9th of November. Upon the fallow was applied six waggon-loads of good town manure per acre, and the field sown with 3 bushels per acre of white Scotch Wheat on the 20th of October 1834, the land at the time being in a perfectly light, dry, and pulverised state, or what may be termed, a fit state to be sown with Barley or Turnip seed; being quite the reverse of an old adage "Wheat in the mud, and Barley in the dust." The appearance of the plant in the spring was as healthy and vigorous as it could be, at harvest. The crop was not laid, being as thick as was possible to produce a good sized ear. I did not weigh the straw, but I can safely say it was the heaviest crop of straw I have ever seen. The harvest proved remarkably fine, and the quality of the Wheat excellent, weighing 66 lbs. per bushel. The crop was threshed by the flail, and the produce from the seven acres of land was 363 bushels best Wheat, and 2 bushels tailing—*Joseph Blundell, Maidenstone-heath, Hound, Southampton.*

In the spring of 1844 I took a fresh farm of 180 acres of heavy land in Surrey, which was in very bad condition, and immediately commenced cleaning that portion which was not sown, and the remainder as soon as the crops were off the land. In the autumn 69½ acres were drilled with white rough-chaff Wheat, at the rate of 7 pecks per acre, which in due time was reaped and threshed, the total produce being 394 quarters, or 5⅝ quarters per acre. Some of the crops were light, probably not more than 7 or 8 sacks per acre, and other fields we supposed to yield 6½ quarters. Although I cannot boast of 10 quarters per acre, which we are told is very common in some counties, I think the above is a good crop, especially for "slow Surrey," where we sow Wheat every second year. Upon another farm of light soil I drilled on Sept. 26, 1846, 8 acres with nearly 2 bushels Rye per acre, of which 2½ acres were cut green; the remaining 5½ acres produced 6 qrs. corn and about 4 loads straw per acre. On the same date last autumn I drilled 6 acres with the same quantity of seed, which is now so rank that I fear it will not stand for a crop, which is entirely owing to the mildness of the winter, as the field has always been considered rather poorer than the remainder of the farm. How do you think it would answer to cut it early, and let it grow again for a crop? [Of seed? Very well, if you do not injure the young ear, the position of which you can easily ascertain.] We are now waiting for dry weather to drill Peas and Beans, and have very little employment except threshing (with Garret's bolting machine) and ploughing dry land for Barley. During the late frosts we carted out dung and compost to the Clover and meadow-ground, which carried the carts very well.—*B. J. W.*

SUGGESTIONS TO ALLOTMENT TENANTS.

Drainage.—Whether you hold several acres of land, or merely the 16th part of an acre, let it be your object to work it upon the principles of high and productive gardening. To effect this your land must be well drained; without this the rain that should fertilize will stagnate, and thereby chill, canker, and rot the seeds and roots of your plants. These draw their nourishment from chemical substances in the air and earth, and you must therefore supply the land with these elements if you would take frequent and abundant crops off the ground. In other words you must enable the earth to nourish your crops by giving it the food which they require—this is done by manuring, which may be divided generally into two kinds, solid and liquid.

Solid Manure should be carefully collected from animal and vegetable substances, decayed leaves, burnt clay, weeds, ashes, peat charcoal, road scrapings, woollen rags, sea-weed, and other refuse. These substances should be worked and mingled together, and protected from waste, by covering up as much as possible from wind, sun, and rain—a coating of coal ashes or peat rubbish will be useful for this purpose.

Liquid Manure should be saved by conducting all the slops of the cottage, and the drainage of the byre, privy, and midden into a tank, which may merely consist of a water-tight cask or barrel sunk in the ground; or it may be more permanently formed in the shape of an inverted bee-hive, built of asphalte, of stone and lime, or of stones puddled with clay. Liquid manure applied to crops in their various stages of growth acts more rapidly upon them than solid manure, which requires more digestion, as it were, by the earth, before it can feed the fibres and roots of plants.

Trenching with the spade is of far more benefit to the land than ploughing, and wherever the plough only has been used, or the spade superficially, you must proceed to trench as deep as the soil is good—say two or three spits down. Trenching two spits or spades deep may be performed in this manner: Lift the earth one spit along the top of the ground to be trenched, and wheel it away in a barrow to fill up the hollow which would otherwise be formed at the lower end. When you have done this, dig another length along the top, one spit wide and deep, and wheel away the earth as before directed. The top part of the land you are working will now have been uncovered one spit down and two spits broad, and may be represented thus—

2	1
4	3

Standing in the trench, with the top part of the ground you are working on your right hand, dig and turn over No. 3 from end to end in the usual manner. Then begin No. 4 by digging it out, spit by spit, and laying it upon the place of No. 3. This will bring No. 3 to the level, and may be shown thus—

5	2	1
6	4	3

Beginning at top of the ground again, No. 5, a top soil spit, is turned over into the trench from which No. 4 was taken, and, when the whole of that line is finished No. 6, a subsoil spit, is turned over on the top of No. 5, and fills the place first occupied by No. 2. This trenching may be performed by one person, or by two individuals. The one, A. B., a little in advance of the other, turns over No. 3, and is followed by his companion C. D. down the trench, who turns No. 4 over upon No. 3

	4	3

A. B., still in advance, then turns over No. 5 into the place of No. 4. C. D. follows, and throws No. 6 spit upon No. 5. Trenching three spits deep is done after the same manner, but requires the removal, in the first instance, of three spits in breadth from the top of the ground to be trenched, and two spits deep. The spades used by the market-gardeners in the neighbourhood of London, are very broad and deep, and trenching, as performed by them, is the most perfect method of working the soil which is anywhere adopted, and accounts to a considerable extent for the superior vegetable productions of those gardens. As rain has a tendency to wash the fertilising parts of the top soil and of manure through the ground, and below the reach of the roots of plants, deep digging is necessary to bring the subsoil to the top. A fork or grape is frequently a very useful instrument in turning up the subsoil. A man having with a spade turned over the top soil spit, may be followed by his son, who may turn over the subsoil with a fork, which is found usefully to break the pan-soil below. If the crofter or field-gardener is not able to trench all his land two or three spits deep in one season, let him be sure to sow such long-rooted crops as Carrots, Beet-root, Mangold Wurzel, Parsnips, and Belgian Carrots, in the ground that has been deepest dug. Your land being, it is supposed, well drained, manured, and trenched, the next point of importance is to see that you put down your crops at the right times, and endeavour to raise successive crops during the year from the same land. This may easily be done, by adopting the principles we have laid down, especially with reference to time of cropping and keeping up the fertility of the soil by solid and particularly liquid manuring. We shall now give some directions for—

Succession Cropping.—You may raise two or three crops off one plot of land, by adopting the following plan:—Take advantage of the first favourable state of

the weather and soil to plant some early kind of Potatoes. The sets should be smallish whole Potatoes, and should be planted so as to be below the reach of winter frosts, being covered with ashes, Fern leaves, or something that will answer the same purpose. Plant them in drills 2 feet apart, and 1 foot between each set. Sow two rows of Rye between each drill, and water the Rye well with liquid manure twice or thrice before February. In March dibble Beans on each Potato drill 3 feet from each other; or else, in April, sow one Pea of 6 shop's dwarf kind between each Potato set. If you have no cow or pig to feed, and Radishes can be profitably disposed of, they may be sowed instead of Rye between the Potato rows. We must suppose that Early York Cabbages, in September, were planted 6 inches apart on a well-dunged plot, whence they will be ready to transplant in March between the Potato drills, as the Radishes will be pulled, or the Rye all used for the cow or pig by the second week in May. Early York Cabbages will therefore be planted in its place about 3 feet apart. Drumhead Cabbages, having also been sown in September, must be transplanted in May to another bed or out-corner. They must be carefully retransplanted again in June, so as to have the roots formed into a bushy mass of fibres, that, when finally planted out in August, they may grow as well as if they had been planted out in May. Suppose, then, the Potatoes and Rye planted in October, or as early thereafter as may be practicable, Beans in March, or Peas in May, the Early York Cabbages also planted in March, the latter will be ready for use in June, and if used early, they will not interfere with the growth of the Potatoes. As soon as a yard of the Potatoes is lifted, take one of the Drumhead Cabbages carefully from its bed, make a hole on the Potato drill, and, holding the Cabbage plant upright, rake the earth lightly over its roots, and, without pressing it upon the roots, pour liquid manure to settle the earth about the fibres of the plant. Add more earth and liquid if necessary. If this method be adopted before August, you may expect, after your Potato crop, Drumhead Cabbages weighing 10 to 20 lbs. each, and you may thus grow, at 1 yard between each Cabbage, 450 on the sixteenth part of an acre. At Inverness such Cabbages fetch 1*d.* and 1½*d.* each; so that, taking the price at 1*d.* per head, the market value of this supplementary crop will be 1*l.* 17*s.* 6*d.*

By the system of cropping above described, you may grow on the 16th of an acre, or on the same space that is usually occupied by the Potato crop alone. 1st. A heavy crop of Rye, or of Radishes; 2d, a fair crop of early Cabbages; 3d, a full crop of early Potatoes; 4th, a tolerable crop of dwarf Peas, or Beans; 5th, a good crop of Drumhead Cabbages; and if Jerusalem Artichokes are planted in February, in the centre of each drill between the Rye, at 1 yard apart, you may have—6thly, a fair crop of Jerusalem Artichokes; and the land at the end of the season in as good or better order by a high system of manuring and cultivation than it would have been had only the ordinary Potato crop been taken from it. Without liquid manuring, however, such productiveness cannot be expected, as it is the key to successful gardening and farming. Another point of great importance is the frequent transplanting of Cabbages with care, so as to preserve the roots entire, and never planting them in the ground except with liquid manure, as above described.

Crofters and labourers, who adopted our advice last season of growing garden crops instead of Potatoes only, have found the advantage resulting from so doing; we shall therefore here merely remind them, in addition to crops already enumerated, that the rearing of Carrots, Parsnips, Beet-root, Onions, Leeks, Turnips, Kidney Beans, and Lettuce, should be kept in view by them. If unable to sell Lettuce, it grows so rapidly that it may be raised in beds of Beet-root, Onions, Carrots, &c., and consumed before it could injure those crops, by being given to the pigs and rabbits, which thrive well upon it. Every cottager, if he does not keep a pig, should endeavour to keep rabbits. A buck and two does will supply him with a rabbit for his soup every third day throughout the year, an object of great importance to multitudes, who scarcely ever can procure a morsel of animal food, and who, for want of it, frequently fall into bad health. The manure and the skins of rabbits have been found to pay the expense of their keep, even where this has not been done in the limited and economical manner within reach of the cottager.—*Abridged from Second Annual Address of the Scotch Patriotic Society.*

BOX FEEDING.

To Mr. Warnes.—Dear Sir, When I ventured to draw public attention to what you denominate box feeding, I wrote with all the precaution I was able, that I might not give offence. Although I had made up my mind on the subject, from a careful examination of the modern dungeon-boxes, and an anxious investigation to arrive at the truth, yet I was more anxious to obtain the opinions of scientific men on the subject of cattle feeding than to express my own. So much do I deprecate personality also, unless I or my friends are first attacked, that I almost weighed in a hair balance every word I wrote on box feeding, for fear I might excite it. But, sir, you have thrown down the gauntlet, and I take it up. The battle is a most important one; for, in one way or other, the whole community is interested in it. Let us, therefore, fight it out fairly, and shake hands before we begin. But before we enter upon the contest in earnest, let us settle the following three points: 1st, you write "herein the rev. gentleman has wandered from the truth," 2d, "It would have been more consistent with his (Mr. Wilkins's) Christian calling," &c; 3d, "Mr Wilkins exhausts his vocabulary of offensive epithets," &c.

Now, sir, under the first of these three heads, let me ask you to point out wherein I wandered from the truth? Show it, if you can. Did I write a word about felon's chains? did I hint even about felon's chains? You charge me with writing about felon's chains, which every one who has read my letter knows I did not, and then accuse me of wandering from the truth, whereas chains were never in my mind when I wrote. I thought then as I think now—aye, and my letters, I know, are making many more think so too—that it is bad enough to force poor, innocent cattle into pits dug into the ground, and there to confine them for months together, as your box feeding system does, in their own urine and dung. I thought this, I observe, was "cruel, unnatural, and unprofitable" enough, without torturing them with galling chains also. The system which I recommend does not admit of chains, nor a dungeon either, though every beast has a stall to himself in the sweet, refreshing air above ground, and is not confined like a felon, in a dungeon dug in the earth, and weltering in his own excrements.

But to the second head. I always find that when a man gets into a passion with a clergyman, and has nothing to accuse him of, he begins to speak of his "Christian calling." You, sir, refer me to my "Christian calling" Now, let it be understood, and I know it is generally understood, that it was that very feeling which first moved my pen, and it will move it; and if you have caused thousands of suffering beasts to be put into these stinking boxes, as you write, I will undertake to keep thousands out of them. Cattle are not machines, to be used as mere muck-makers; but they are the creatures of that great and awful Being whose creatures you and I are also, and to whom we must give an account of our treatment of them. The learned Paley has informed us, that had God not directed us to slay and eat, all the reasoning in the world could not have vindicated us for doing so. And as you have directed me to my "Christian calling," I inform you that when I wrote my letters on the treatment of cattle I had the advice of Moses in my mind, (Deut. 25, 4) "thou shalt not muzzle the ox," &c. I had, also, the words of the wise and inspired Solomon in my mind (Prov. 12, 10) "a righteous man regards the life of his beast." But above all, I placed that sublime passage in the 12 c. 7 v. of Job before me, which says, "ask the beasts and they shall teach thee, and the fowls of the air, and they shall tell thee." Now, sir, only lay these texts before you, and especially the last, and then turn to my letters on your box-feeding, *alias* dungeon-feeding, and calmly ask yourself if the texts are not exactly applicable to my discourses on them. Do not all beasts of the field, if you will ask them, every one without exception, and all fowls of the air, every one without exception, avoid and loathe their own excrements. Has not the Great Creator made its own excrements so offensive to every living creature, that it will perish with hunger rather than eat anything with which they have been in contact?

But what is your box-feeding? Does it not confine, as I have said, your cattle in pits in their own dung, contrary to their own nature, and in defiance of inspired directions? Am I, then, sir, as you have referred me to my Christian calling, am I in the right path for condemning your system, or you for charging me with wandering from the truth for doing so? "Ask now the beasts, and they shall teach thee; and the fowls of the air, and they shall tell thee." "The creatures," says a learned commentator on this passage, "teach us that there is a God, and also obedience to the will of God." And another learned commentator writes that bad men "abuse the gifts and purposes of the Great Author and Di-poser of Life, *i.e.* the beasts of the fields and fowls of the air, for purposes of luxury and riot." But you, my dear sir, confine poor domestic cattle in dungeons for the purpose of muck-making; now, ought you not to have taken them out before you referred me to my Christian calling. But to the third head: I exhaust, you say, my vocabulary of offensive epithets. This I take to be a very high compliment, since it proves that my vocabulary of offensive epithets was either quite empty before I began to write, or that it was a very small one indeed.

But to be very serious, Mr. Warnes, I tell you that your dungeon-feeding is nearly at an end; and say what you will, or write what you will, I pronounce that I have given it such a blow that it is laid prostrate, and will never recover from it. You charge me with not having examined it; but I write that I have examined it, and, except the dungeon part of muck making, I saw it in full practice at Workington, by the late Mr. Curwen, nearly 40 years since. The compost you make was also made by him. I saw the steaming apparatus then by which it was manufactured, and witnessed the whole in full operation. I read also a poetical account of it written at the time by a witty friend of mine, a couplet of which, I remember, runs thus, and perhaps you would like to read it:—

"O Curwen, Curwen, nothing can be odder,
Than thy receipt for making fodder."

I have also, as I have said, examined some of your modern excavations; but I will write on them again another day, as I must now say a few words on Flax-growing. You have referred to the Great Oakley Farmers' Club, and to Mr. Barker, the President of it in behalf of your [illegible] being among the [illegible] Now I think I am [illegible] one member of that [illegible] box feeding and [illegible] although you [illegible] read me for [illegible] for bringing [illegible] writing the truth [illegible] the [illegible] tired of his [illegible] the locality; [illegible] there is not now a [illegible] Club, therefore, [illegible] conducted Societies [illegible] your place; for [illegible] stated that I am growing [illegible] formed an essential part of [illegible] cattle feeding,' yet the [illegible] of gratitude to you, [illegible] I state also, that the Club [illegible] without getting it a fair trial; Mr. [illegible] President of the Club and [illegible] Flax growing a trial; but I have [illegible] seen that any [illegible] of Scotland, except Mr. Barker, [illegible] crop of Flax, and no [illegible] predict that there will be many [illegible] winters pass over this country, before [illegible] expresses his debt of gratitude to Mr. [illegible] or another field of Flax [illegible] of the Great Oakley Farmers' Club, [illegible] serve correctly, "ranks among the [illegible] societies in the Kingdom."

You remember when you delivered your [illegible] at Great Oakley, that I said that Flax, [illegible] to seed, and pulled up by the roots, was [illegible] crop, and that it could not be grown [illegible] but great loss to the grower, and to the [illegible] at large, until England shall cease to [illegible] corn; and this is my deliberate opinion; [illegible] I have already occupied no small space, I [illegible] for the present, and return to the [illegible]

But what is this? You write, "I [illegible] intentions of the originator ought to [illegible] from such offensive and [illegible]" Leave, sir, the public to sound your praises on all events, as you refer me so [illegible] calling, let me practise your advice, and [illegible] you not to sound your own trumpet; [illegible] both had policy to do so, and it is [illegible] that modest kind of humanity which [illegible] so forcibly inculcates, and which real [illegible] men of all kinds always endeavour to [illegible] a patriotic man much: but I would rather have the labour, if it were by night and day [illegible] him out myself, than he should [illegible] and, were I a patriotic man, I would [illegible] ment in one of your [illegible] than publish it to the world.—*George Warnes.*

ORNAMENTAL POULTRY.

The Canada Goose.

The history of the Anser Canadensis, in a state of nature and in captivity, has been [illegible] written by the ablest ornithologists, [illegible] and America, that for me to attempt [illegible] details would be either to restate the same [illegible] appropriate language, or to commit a [illegible] of compilation upon the stores of preceding [illegible] But although unwilling to be guilty of [illegible] must necessarily make some reference to [illegible] others. The bird is far too important, in every respect, to be entirely omitted in the present series: and there are a few points respecting it which [illegible] into more prominent notice. [illegible] call it a variety of the common goose. But [illegible] more a variety of goose than the swan is a variety of goose. Cuvier seems to doubt whether it is a [illegible] at all, and says that it cannot be properly separated from the true swans. Audubon kept some three years and though the old birds refused to breed in confinement, their young did. He states their period of incubation to be 28 days, which is a shorter time than we should have imagined. That circumstance alone, if correct, marks a wide distinction. I suspect that at a future time our scientific naturalists will deem it advisable to institute one or two new genera, for the reception of some of the larger water-fowl: particularly [illegible] the diet and habits of the birds, as well as their external form, to influence the rules of [illegible] They eat worms and soft insects, as well as grass and aquatic plants; with us they do not breed [illegible] they are at least two years old, and so far appears [illegible] Like the swan also, the male appears to be [illegible] reproduction earlier than the female. But Audubon says, "that this tardiness is not the case in the wild state I feel pretty confident, for I have observed, during broods of their own, many individuals, which, by their size, the dullness of their plumage, and [illegible] marks as are known to the practised ornithologist, I judged to be not more than fifteen or sixteen months old. I have therefore thought that in this, as in many other species, a long series of years is necessary for counteracting the original wild and free nature which has been given them; and indeed it seems probable that our attempts to domesticate many species of wild fowls, which would prove useful to mankind, have often been abandoned in despair, when a few years more of constant care might have produced the desired effect."

The Canada goose, in spite of its original migratory habits, which it appears in almost every case to forget in England, shows much more disposition for true domestication than the swan, and may be maintained in perfect health with very limited opportunities of bathing.

The manner in which these birds are usually kept here is neither consistent with their natural habits, nor calculated to develope their usefulness and merit. They are mostly retained as ornaments to large parks, where there is an extensive range of Grass and water: so far, all is as it should be. But they are there generally associated with other species of geese and water-fowl, all being of a sociable disposition, and forming one heterogeneous flock. In the breeding season, they neither can agree among themselves to differ seriously, nor yet to live together in peace; the consequence is, that they interrupt each other's love-making, keep up a constant bickering, without coming to the decisive quarrels and battles that would set all right; and in the end we have birds without mates, eggs unfertilised, and now and then a few monstrous hybrids, which, however some curious persons may prize them, are as ugly as they are unnatural, and by no means recompense by their rarity for the absence of two or three broods of healthy legitimate goslings. Many writers, Audubon amongst others, from whom one would have expected a more healthy taste, speaks highly of the half-bred Canada goose. They are very large, it is true, and may merit approbation on the table; but with whatever other species the cross is made, they are hideously displeasing. An old-fashioned plan of sweeping chimneys was to tie the legs of a goose, pull her up and down by a string, and let her dislodge the soot by the flapping of her wings. This sounds cruel, and is not humane. But is it more barbarous to send a goose down a chimney than a child up it? This by the way: but all half-bred Canada geese that I have seen look as if they had kindly undertaken to act as substitute for the poor little climbing boy or girl.

Not only are they suffered thus to herd with other varieties, but the broods of successive years are suffered to remain and annoy and encroach upon the privileges of their parents, which would be made all square by their natural migrations, till the park gets evidently overstocked to the most unpractised eye—it has really been so long before,—and then a few surplus individuals are disposed of, mostly at an age and season when they are good for little except their feathers. This mode of mismanagement accounts for the low esteem in which the flesh of the Canada goose is held in England. I never met with any one who had tasted it here that did not pronounce it detestable; though a gentleman who had lived on it for weeks in Canada, still remembered it with relish. In one instance within my own knowledge, the extra stock were given to the poor, who could not or would not eat them. But it is impossible that the thousands of people who eagerly destroy the bird in its passage to and fro, can be mistaken in the opinion they have for years held of its value as an article of diet. Audubon gives the clue to our error; he says: "the goslings bred in the inland districts, and procured in September, in my opinion, far surpass the renowned canvas-back duck"—the most famous tit-bit that America produces. He adds, "Every portion of it is useful to man; for besides the value of the flesh as an article of food, the feathers, the quills, and the fat, are held in request. The eggs also afford very good eating."

Instead of this slovenly mode of breeding and feeding, which no one would think of adopting with the most ordinary goose that ever grazed upon a common, I would, not unadvisedly, recommend every flock of Canada geese to be at this season (November) immediately reduced to two, (in order to guard against accident to one), or, at the most, three pairs, in the very largest park, and greatest extent of water, possessed by our nobility. Such pairs should be retained as differ as much in age as may be consistent with their breeding powers; and also, if possible, those should be selected which have been observed to entertain a mutual dislike, in order that they may fix their nests at a distance from each other. They should previously have become attached to their keeper, though not to their co-mates, that they may suffer him to approach and feed them and their goslings liberally, and so bring them into thoroughly good condition by killing time.

The stock birds ought to be well supplied with corn during winter, when the Grass grows little or not at all, to promote early laying; but they usually have just half-a-dozen kernels of Barley thrown down to them now and then. No one can blame them if they occasionally stray out of bounds in search of food; but they are then accused of restlessness, shyness, and so on. They have been literally starved out. It is no migratory impulse that sets them on the move, but over-crowding and under-feeding; in proof of which, they will generally return of their own accord. I am speaking of birds that have been bred in captivity for several generations. Give them room and food enough, and they will stay contentedly at home. Curtail their supplies, and they become like "darkness" in Spofforth's well-known glee; "flies away" is ever and again the burden of their song. The Canada goose is a very large bird, and cannot be expected to live and get fat upon air. If a farmer's wife were to treat her turkeys as the Canada goslings are usually served, they would at Christmas be just as tough, stringy, and uneatable, if indeed they survived the pinching regimen so long. Many people in the country make the same difference in their treatment of their ornamental fowls and their ordinary stock that they do between their garden and their farm. The garden goes without a spadeful of manure from one end of a seven years' lease to another; the Turnip field is glutted with guano and all sorts of good things. And so, exotic birds, procured at considerable expense, or received as highly valued presents from friends, are turned out into a grassy wilderness, to shift for themselves as best they may, while the turkeys and goslings are taken as much care of as their master's children. To a late inquiry after the fate of a pair sent to a distance, I got for answer, "One flew away and the other the swan killed." The growing Canada geese must sensibly miss the abundance of their native breeding-places, when confined to these short commons; and it is not just in us, after such neglect and penuriousness on our part, to complain that they neither fat well nor reproduce at an early age.

From each pair of geese, properly looked after, between six and nine goslings may fairly be calculated upon; which, killed in the autumn when really plump, would be very acceptable at home, or as presents to unprejudiced persons. Managed thus, they would be little, or, according to Audubon, not at all inferior to a fatted cygnet. And their picturesque effect, as accessaries in landscape gardening, would surely be greater in distinct uniformly-tinted groups, moving here and there across the scene with a decided object, namely, the conducting of their young, than as a motley crowd of diversely coloured, variously shaped creatures, huddled together in unmeaning confusion. The woodland park should be stocked on different principles to the aviary and the menagerie. Thus it is as a spot of pure white that the swan gives such a sparkling brilliancy to the picture; and the point of deepest shade (an adjunct of no less importance to the painter) may be made more intense and effective by the judicious employment of the Canada goose.

When a pair are received from a distance, the best way of settling them in their new abode is to confine them with hurdles and netting, as near as possible to the spot where it is wished they should eventually make their nest. Those from the hands of dealers will generally be cowed or timidly tame; but young birds fresh taken from their parents, or adult ones that have been removed from their old home to a new one, will sulk and be shy. For the first few hours they need have nothing to eat, only plenty of water to drink. Their keeper should show himself to them, and speak to them kindly, as often as his leisure will permit; when he guesses that they begin to feel the cravings of hunger, a small handful of corn may be thrown down to them, a Cabbage or two, and half a dozen earth-worms. It is, of course, supposed that they have been located on the Grass. It is likely that at first they will not eat in the presence of a stranger; they may be left for an hour or so, when, if they have availed themselves of his absence, he may give them a little more from time to time. Proceeding thus by kindness, familiarity, and very frequent visits, he will soon secure their confidence, and be able to form his own judgment when they may be suffered to range at large.

The young give no trouble in rearing. The old ones lead them to the places where suitable food is to be obtained. The keeper, by a liberal supply of corn, can bring them forward for the table better than by shutting them up to fat; and before Christmas the parents should be again alone in their domain. They will continue to increase in size and beauty for some years, and should have been pinioned at the first joint of the wing (reckoning from the tip) in a manner hereafter to be described for the swan: the young that are to be eaten had better remain unmutilated. I believe that old birds killed in the autumn after they have recovered from moulting, and before they have begun to think about the breeding time, would make excellent meat if cut into small portions, stewed slowly five or six hours with savoury condiments, and made into pies the next day. "'Tis the soup that makes the soldier," say the French. By roasting or broiling similar "joints" we lose the large quantity of nutriment contained in the bones and cartilages, besides having to swallow tough what we might easily make tender. The young (as well as the old) are in America salted and boiled; they would probably please most palates better cooked and served swan-fashion.

Audubon's description of their manners is most vivid, and, as far as I have observed, quite accurate, and not at all exaggerated. The young male has a frequent disposition to neglect his own mate, and give himself up to unlicensed companionship. We had one that deserted his partner, to her evident grief, and made most furious love to one of a flock of tame geese, separating her from the rest, not permitting any other water-bird to swim near her, stretching out his neck stiffly on a level with the water, opening his red-lined throat to its utmost extent, hissing, grunting, sighing, trumpeting, winking his bright black eyes, tossing his head madly, and all kinds of folly. We did not choose to permit such conduct; but as often as we killed and roasted the object of his affections, he immediately selected another leman, invariably the ugliest of the surviving females. One short, squat, rough-feathered, ill-marked goose, with a thick bill and a great grey top knot, was his especial favourite. When the Michaelmas murders had extirpated the whole race he so admired, he returned reluctantly and coldly to his former love. The best remedy in such a case is to divorce them at once, and exchange one out of the pair for another bird.—*D.*

—[The writer of these Essays is desirous that the "History of Domestic Fowls," which he proposes to give shortly, should be made as complete and accurate as possible, in respect to the varieties at present in existence and in vogue. He will, therefore, be thankful to receive, through the office of the *Gazette*, any personal and practical information about valuable breeds that his readers may be disposed to take the trouble to put on paper. The points of greatest importance would be, a general description and account of the breed in question: an accurate description of the new hatched chicks: the size, shape, and colour of the eggs: whether the hens are everlasting layers, or disposed to sit after having laid a few eggs: and the natural history of the breed and its origin, if at all traceable by any authentic record or tradition.]

SMALL HOLDINGS.

It may possibly interest some of your readers who occupy small quantities of land, to state the results of an experience of two or three years as to the best mode of cultivating about 15 acres, situated close to a city containing about 20,000 inhabitants.

The soil is a deep and rich, but rather heavy loam, and would let at from 5*l.* to 6*l.* per acre in Grass, and from 8*l.* to 10*l.* per acre when occupied as garden ground; the rate of taxes being at least 1*l.* per acre besides. Manure is abundantly cheap. There is a sale for new milk at 1*s.* per gallon, and all other kinds of produce may be disposed of with facility as compared with many country places. Under these circumstances I soon arrived at the conclusion, that the growth of corn would not answer so well as the production and sale of milk at 3*d.* per quart, and therefore turned my attention to the cultivation of such green crops as I considered best adapted for feeding milch cows, and my experience up to the present time convinces me that Italian Rye grass and Mangold Wurzel, both as to quality and quantity, are the best crops that can be grown for this purpose.

The Italian Rye-grass I sow in the spring, using about 3 bushels of seed to the acre. On the 4th of March last I sowed about two acres, which from the cold and backward character of the spring, I did not begin to cut till the end of May. I cut the whole of it five, and most of it six times in the course of the summer; and although some of the middle crops were light, in consequence of the dry weather, the earlier crops were very heavy, as will appear from the following fact. I began cutting the first crop on the 27th of May, and by the time I got to the end of the two acres the second crop was quite ready for the scythe again. This first cutting occupied just a month; during that period the produce entirely maintained nine cows and one horse, and allowed of my selling 3*l.* worth of the Grass, probably 4 or 5 tons in weight. I should observe that I dress the Grass after each cutting with liquid manure, as far as it will go, diluted with water to the extent of one-third or one-half, and throwing into each cart-load about half a pint of sulphuric acid. The land upon which this Italian Rye-grass grew last summer, and which afforded good sheep feed in the early part of the winter, has since been dug with the spade (for it does not answer with me to let it remain longer than one year), and a good coat of manure spread over the surface after the digging, ready for the succeeding crop of early Potatoes and Mangold Wurzel. The Potatoes (the Ash-leaved Kidney) I intend to plant, as the weather may serve, in March, in rows 3 feet apart.

In April, after the Potatoes have been once earthed up, the Mangold Wurzel seed will be put in on the centre line between them, which of course fixes the rows of Mangold at 3 feet asunder also, the individual plants being from 20 to 24 inches apart in the rows. The Potatoes will probably be ripe early in July, when the Mangold Wurzel plants will be still small, and so far from being injured, will be considerably benefited by the operation of digging the Potatoes. I cultivated 2 acres in this way last summer, except that, from fearing the Potato disease, I substituted Beans for Potatoes in every alternate row, making, of course, 1 acre of Beans and 1 of Potatoes. The Beans were almost a total failure from the blight, but the Potatoes, though managed, as I now find, very badly, produced a fair crop. I regret that I am not able to state the weight, it must, therefore, suffice to say that I sold the produce of the acre on the 6th of July to a dealer in Potatoes for 14*l.*, besides having two or three sacks of smaller ones reserved for seed. The Mangold Wurzel was about half Long Red and half Yellow Globe, and being planted in rows exactly a yard apart, the produce was easily ascertained by weighing a row of each throughout the whole length of the piece. This was carefully done, and the weight was as follows:—Long Red, 32½ tons of roots and 13 tons of leaves per acre. Yellow Globe, 33½ tons of roots and 11 tons of leaves per acre. The roots were large, many of them weighing upwards of 20 lbs., and a few nearly 30 lbs. each. The whole of my land was in Grass when I took to it. I have drained the whole as nearly 3 feet deep as the outfall would allow. I have broken up about half of it, and have suffered sadly from the ravages of the wireworm for the first year or two after; but in the full belief that arable land is far more productive under proper management than Grass, I intend to break up the whole by degrees, excepting 3 acres which I rent, and which I have no power to disturb.

My present stock on the 15 acres is 9 cows (which is my average number), 1 horse, 2 breeding sows, and

20 ewes. I have had as many as 500 sheep during part of the winter, but I do not keep any through the summer months. My cows are kept entirely in doors; except that I have a small green paddock or airing ground at the back of the stalls into which they are turned at night during the summer, and for a few hours in the day during the spring and autumn when the weather is not too unfavourable. As I grow no corn, I am, of course, compelled to purchase litter, and this I do in the shape of sawdust, and which, at 2*s.* 6*d.* per waggon load, is a great deal cheaper than straw at 40*s.* per ton, and answers my purpose much better. All my manure is kept under cover, and the floor on which it stands being composed of gas tar, &c., no liquid can escape, any overflow being prevented by a drain into the liquid manure tank.

I intend to pursue the system of growing alternately Italian Rye-grass and Mangold Wurzel, with early Potatoes between the rows as just described, until I find a better plan, or till the land appears to get sick of either crop, which I hope may not be the case. Upon this system my experience leads me to anticipate that I may obtain from my 12 acres of arable land, when all brought into cultivation, 200 tons of roots and 200 tons of Italian Rye grass per annum, in addition to the six acres of Potatoes.—*Samuel Bowly, Gloucester, Feb.* 14

ESSEX DRAINING.

Perceiving that you intend giving a series of articles on draining, I will give you a description of it as practised in this neighbourhood. The district comprises about 20 square miles, extending from Braintree in the south east towards Suffolk in the direction of Clare, and from Dunmow in the west towards Hedingham. The soil is generally a poor stiff clay, so retentive of moisture, that in a wet season the water will stand for three months in the print of a horse's foot. I do not mean to say that there is not some good light land in this district, but it is like "angel's visits—few and far between." The system of draining as followed here has been in vogue more than 100 years, as I have seen the entry of the expense of it in an old account book, and I believe that if it was carried an additional spit deep it would be a very effectual drain; but there is no chance of that for the next 50 years, though there are some farmers who will go that depth in a field of mixed soil, it is no use arguing the point as regards the clay, and one is generally knocked down with such an argument as this—"I have been a farmer this 40 or 50 years, and always brought up to it, how can you or any of those people who write in newspapers know better than me? Besides, I never believe anything I hear in them, and I never look at anything but the Mark-lane news and Smithfield when I have got either bullocks, or sheep, or fat pigs, and if those who spend their time in writing had anything else to do, and did it, there would not be the harm done there is. What business has a gentleman or tradesman to know what an acre of land will produce?" What hope is there with such impressions as these on the mind of a man of his following out those improvements which have taken place in the agricultural world within these 20 years? Let us hope, however, that though the improvement may be slow, it will nevertheless be sure, either in this generation or the next. I have no doubt that with drains of the depth I have mentioned, and subsoiling (which is not done at all here), the land would be in a fit state for any crop.

Draining, or as it is termed here, Land-ditching, is commenced with a plough made expressly for the purpose, having a very high mould-board and wide share, made very strong, as sometimes as many as six horses are yoked to, but generally 4; this turns out a furrow of 6 or 7 inches; the loose soil is then shovelled out; the workman then begins by placing his broad spade at the side of the furrow, and with his foot upon the rest forces it into the ground to its full length, at the same time working towards his body, thus cutting it from the adjoining soil, then he cuts the other side in a similar manner, he then cuts across from one to the other of the former cuttings and by thrusting his spade down the centre of the last cutting and pulling the handle of his spade towards himself he forces out a piece of the soil, something in the shape of a common brick, but of course much larger, this is called the top spit and is generally about 16 or 18 inches across it, but requires to be at least 24. If the drain is to be more than 2 spits deep, the loose soil is again shovelled out, (this operation is generally performed by the boy who waters the spade, this I will explain by and by). The workman then takes his narrow spade and with his foot still on the rest, works his spade perpendicularly into the soil at the side of what is to be the drain, then he pushes the handle of his tool from him which cuts the top of the piece to be taken out, then he pulls it towards his body and thus cuts the bottom, so on the other side and down the centre as before, and with a similar action to a lever, he forces out the lower spit, not this time shaped like a brick but more like a long narrow wedge; it is this spit that requires the spade to be watered, it is done by a boy having fastened on the end of a stick an old tin can or horn, which he dips into the pail of water, taking up a small quantity and pouring it into the crevice as the man is working his spade into the ground; this is found to keep the tool clean, and enables the workman to get it into the clay with more ease. I may here remark that the man always works backwards; the loose soil is then cleaned out with the hoe, the drain is now finished as far as regards the digging. I will now give you the expence of the operation. As it is usually paid here, it is the practice to put [illegible] yards in each acre, and the men are paid so much per score rods, the price varying from 3*s.* to 5*s.* per score, and I have heard of a large farmer giving no more than 2*s.* 6*d.*, but he ought to have nothing but what he could earn at that price himself, about 7*s.* 6*d.* is the average for digging and filling up, and as it is a part of the agreement in this county to drain a certain portion of the farm every year; the tenant does not think of draining more than 12 or 15 yards, the yearly accounts for too little use of pipes or tiles. I will give you the different ways of covering them in at another time. The broad spade is about 11 inches in length in the blade, and 9 inches wide, made two edges, but not more than a ¾ of an inch thick at the centre. The narrow spade is the same length in the blade, but only about 2½ inches wide at the shoulder, tapering to 1¼ inch at the point, it is made with both edges cutting, and very narrow. Each spade has a rest for the foot fixed on a ring that slides up and down the handle, and of course strengthens where the handle fits into the blade.—*E. N., near Braintree.*

HINTS ON AGRICULTURE.

The Editor's late appeal to his correspondents on drainage, and the remarks made upon subsoiling by C. Wren Hoskyns, Esq., addressed to the farmers of Herefordshire, has hurried me in making the following observations. Mr. H. will find, by a reference to my paper upon that subject, which appeared in the last volume of the *Agricultural Gazette*, my approval of bringing up by degrees the subsoil to the surface for the purpose of mixing, and adding body to that portion termed soil, well knowing that frost and atmospheric action in general are powerful and effective agents in rendering inflexible soils quite mellow and friable by pulverising, absorbing, and carrying off all noxious substances therein contained. Such changes as these are advancing ones, which must tend to enrich the most sterile soils. Cultivation and nature are in this case truly combined, each performing their intended duties by assisting and forwarding the other. With respect to deep trenching, I in that paper suggested waste land to be broken up with spade and crowbar, 15 inches deep. I again state that the system therein stated of executing the work as a general one, is an economical plan, as it in the first place turns up the soil with a third part of its fellow at an early period of the year, and exposes both to the various changes of the seasons. Then when this portion of soil and subsoil were sufficiently enriched by improved stimulated cultivation, a second portion can with ease be by the plough brought up, and so on until the two and four-horse trench ploughs at last reach to the depth of the 1 foot 6 inches so broken up at the first course of trenching. But should the capital of the improver, whether landlord or occupier, be suitable to break, and open up the subsoil to a greater extent in depth, say to that of 24 or 26 inches, this would most decidedly be a much better course of proceeding, and a more effectual improvement than 18 inches, suggested by me in that paper. The view of this sort of deep working was one of my principal reasons for recommending all field drains to be opened from 42 to 48 inches in depth, in order that they should be now, and hereafter, a sufficient depth and quite safe from the progress and attacks of all future tillage by a more enlightened race. The present generation think they know much respecting agriculture. The next generation, as a matter of course, will know more, by having their own discoveries, in addition to all our ancient and lately improved inventions, recorded in volumes before them.

The plan of subsoil ploughing, as at present adopted, has not as yet arrived at a perfect state. I know in the first instance, that the two-horse plough used in opening the furrow before the other is too small to make a sufficient opening, both in width and depth, for the subsoil plough to follow. In order to make amends in this particular, a larger sort should be applied, of four-horse power, otherwise three abreast, which would open out a proper channel, and not less than 12 inches deep, for the other to follow with 12 inches more in depth. Let this plan be adopted, and let not things of this sort be left in the background for a future race of people to accomplish. Surface or hide-deep working is most certainly no longer answerable to the demands of an increasing and half-starving population. Skill, with better economy, must increase likewise, in proportion to the demands at least, or in advance of them if it can; let us then use our instruments thoroughly, and arouse from a state of slumber and torpidity a body which will supply the surface with fresh vigour, and additional vegetative powers, and linger not without breaking up what lies under the flesh, viz., the bone, and test its marrow in every sense of the word. These horse picks [the subsoil plough] can be also improved so as to penetrate a further depth in the ground. The clumsy broadcast metal sole must undergo an alteration, and its parallel iron bar. These placed as the subsoil crusher can be dispensed with as useless lumber, being a most oppressive pull and complete drag upon the working cattle. I have lately ordered one upon a new construction from the iron foundary of Messrs. Paul and Vincent, Dublin, which will be in active operation here before the end of this month, and I expect will give every satisfaction in its performance, and with more ease to horses, although I shall look for at least 4 inches of extra depth over the others by the same horse power, and shall be happy in apprising the [illegible]

the foregoing various branches of scientific agriculture, in order to point those things to many others who have a deeper interest in such than I. Land drainage, above all things, demands their serious attention, to have executed in a complete and workmanlike manner; and those who do not attend properly to this important particular must bear with the loss.

It may not be out of place here to refer to another mode of land improvement. I thought upon and handed a report of it over to the secretary to the Highland and Agricultural Society of Scotland, of applying sea water in the culture of land to be used in compost mixtures of burned clay, peat, and bog ashes, or the like, otherwise apply it directly over the face of fallow, or ploughed fields, by watering carts (Grass land excepted). I also gave the Society a plan for elevating it, in order that the interior parts of countries might become sharers in the outlay of erecting proper machinery for that purpose, and also of the benefits derived from its effects. The Society's reply to me upon this subject was that experiments in the first instance should be tried by those adjacent to the sea, so as to test its effects by proving it upon simple scales. The ingredients contained in the sea water are so numerous that the fact is left beyond all doubt, and unquestionable as to its fertilising properties. By taking a view of the rich valleys in many countries once covered by the sea, which she had either deserted, or man, through art, taken from her, the beautiful rich verdure these places possess, which is a lesson to teach us that the time cannot be far distant when the ocean will be applied by artful and ingenious men over the surface of the hills also—time is now calling loudly upon all, that much of the unimportant and ignorant practices of the present and past times be either improved upon, otherwise altogether abandoned; and may I remark here, as a concluding topic of my paper, that much useless trash appears in many of the agricultural journals, calculated to do much evil, particularly to those whose minds are wavering in the midst of enterprise; therefore the very best practical and scientific men of the present day should be selected as editors; these will, at the very first glance and reading of any communication, know whether such deserves a place in their publication; these their enlightened and intelligent correspondents will second by furnishing them with every information upon important matters in their power of giving, such being their duty and demands of their country.—*R., Barne Clonmel, Jan.* 6. [The closing remark is all very well; but the truth it expresses is safest when presented along with another—That the man, editor or otherwise, who believes himself infallible in all his judgments is not likely to do much good either to himself or others.]

LAND DRAINAGE REPORTS.—No. VII.

As possessor of a considerable extent of property in the mid-west of Scotland, abounding in every variety of soil, as well as in woods and minerals, in a good locality, but with a huge debt, a tumble-down house, indifferent steadings and fences, in short every thing out of order; I feel, as I am so much indebted for instruction to others, that some details of my attempts to put things into a better state may not be without use to those in a similar predicament, particularly as I have still much to learn and am anxious to avail myself of hints from every quarter. A loan under the Drainage Act having enabled me to carry on this first step in improvement it is a fitting subject to begin with.

A considerable degree of forethought is necessary before the operation of draining is commenced, a general view of the whole to be ultimately done must be taken, the out falls carefully examined, the greatest depth obtainable for them, all local circumstances noted, where materials are to come from, by what roads they are to be driven, where first, and in what order laid down, as well as calculations of the quantities required by a reference to the tables, and the tolls and other things which will affect the price, the exact line of the main and other drains, and enquiries after the different contractors and the rates of the work. The depth will in many cases have to be decided by local circumstances, but it is of consequence to come to some definite conclusion with reference to the particulars of the lands, on this much discussed subject; for my own part, I consider there is no nostrum of universal efficacy in draining any more than in anything else, and therefore that parts of all systems will be adopted, and that each field must be taken by itself and treated according to its wants. I have accordingly drains of all kinds and depths, tile, stone, open, built conduits from 2 feet square to 6 inches inside, with depths varying from 27 inches to 5 feet. As a guide to depth where there is no peculiarity to deal with, the nature of the wetness must be considered, whether it is surface water or spring, or both; also whether the soil is close or porous, if the subsoil is hard or open, and on what it again rests. Draining is an incomplete operation without subsoiling, therefore the drains must be deep enough in all cases to allow ample room for this operation, beyond this the circumstances alluded to must be the guide. I will now refer to my own land; it is generally a close retentive clay of 10 inches, with a very hard subsoil of a whitish clay mixed with sand; there are a good many stones in it, and it generally requires to be worked with a pickaxe; there are springs, but surface water is most prevalent, and the soil is so retentive that the water rests a long time on the surface, and the climate being wet, the whole is quite saturated. I therefore decided over the general surface to put the drains from 12 to 16 feet apart and 30 inches deep, the general main drains 6 inches deeper. When advised to adopt the very deep system at greater distances apart, I considered that there was no prospect of the surface being dried by them, and that I could not afford to work in a puddle of clay for some years, in the hope that then these drains would be best. I am willing to concede to my deep friends that ultimately some may complete the work, after I have opened the soil and dried the surface, that then there will be a prospect of the water percolating deeper, but at present no atmospheric pressure will force the water from the surface into drains at greater distances apart in such land as I treat of. I would now offer some general remarks founded on experience. The main drain should be first cut and last closed, it need not be cut to quite its full depth at first; if there is much water, it should run open till the sediment has in some degree subsided, when it is to be cleaned out 6 inches deeper than the side drains: these I make to tail off for some feet where they join the main, so as to fall in with the same direction of course; this prevents choking, especially where there is a declivity in the side and a more level main. The sooner side drains are closed the better. The junction of open drains with close ones requires the greatest management, otherwise the latter will infallibly get choked. There ought to be no open drains in a field; but, for instance, from a plantation to a field, the open cut joins the close drain below the fence, the leaves and Grass collect, and either prevent the water entering, or still worse, are forced into the drain; to prevent this there are different ways, one is, to fill in the open drain with stones to the surface for some yards back, having first enlarged it considerably; another way is to put a grating on the drain, and form a large cesspool. Drains through a plantation, near a hedge, and particularly along a hedge where there used to be an open drain, tiles are almost sure to get choked. The Holly root is particularly active in search of moisture—I took up a tile filled with fibre like a coarse sponge in less than a year and a half. Stones or a built drain are best in such situations. In very wet places it is proper to cut open drains part of the full depth some time previously, to allow the water to run off; this, or even a very deep open cut, will be quite proper the season before in mosses or other very wet places. When very soft wet ground is to be drained, a careful inspection of the causes of it will be very necessary, and some science and knowledge of the lie of the strata will be of great use and probably save expense; such places are generally caused by pent up springs, and if an exit is discovered for them by a short deep cut, or a drain along the bank from which they issue, an effect would be produced which a dozen other drains would have failed to effect. These are often cases for tapping by bores. I have seen a bore most successfully applied; reaching nearer to the source of the spring, the water rushes out and by degrees dries the neighbouring ground. Boring is of the greatest use in supplying a field with water in many localities. If possible, draining ought always to be done from lea, the carting and every other operation is more easily and perfectly done, and the proper sod, a matter of great consequence, above the tile is obtained; in Grass also the wet parts of a field are better distinguished. The inspection of all outfalls of drains, as well as any suspicious moisture in a field, is a matter of such consequence that on all estates it should be an annual one at furthest, and as the interest and authority rest with the owner, a personal inspection will be best. The pleasures of seeing the water run off in its prescribed course, and the ground assuming a totally different aspect, are of a higher order than are willingly accorded to us tillers of the soil.

I will proceed to detail the method followed here in draining. With the exception of part of the operations it will be found best to do the work by contract, but in doing so it must not be by a mere verbal agreement, or even a written one, stating merely that drains at a certain depth are to be cut at a fixed rate, but there must be a regular specification, detailing every particular of each field, and the manner in which it is to be executed, and this fully explained and understood, and signed, before a spade is put into the ground. At the risk of being thought far too great a trespasser on your space, I annex a specification such as I use, but to bring in different kinds of work I give parts made for different fields as if applied to one.

"I hereby agree to cut the drains and execute the other work specified in the field A for B C, on the estate of D, in strict compliance with the following conditions:—1. The drains to be cut at such distances and lines as are pointed out. 2. The large drains are to be 36 inches deep and 7 inches wide at bottom; the small drains are to be 30 inches deep and 5 inches wide at bottom. The sides of the drains are to be equally sloped at both sides, and the whole cut to moulds of the specified sizes, furnished by the proprietor. The sod and earth are to be put on one side by themselves, and any stones found in the drains are to be laid separate; no cleanings or earth are to be laid on the other side. The whole drains are to be cut straight and even throughout, so as to give a clear water course, for which purpose the proper levels are to be carried out. The side drains, however, are to tail off into the direction of the main drain where they join it, beginning three yards back. 3. The tiles and soles are to be laid flat, solid, and straight, exactly opposite each other, and a newly cut turf is to be laid on top of tile, just fitting the space, with the Grass downwards. 4. Where stones are used they are to be broken of one uniform size to pass through a 3½ inch ring and to be laid evenly in the drain to a depth not exceeding 12 inches, and to be covered with a turf, the same as the tiles. In filling in the earth it is to be done completely and wholly cleared off the sides. 5. I am to lay clay and slate soles, as laid down, and in the moss land wood soles. 6. I am to be paid by the rood of 36 imperial yards, at the following rates:—For cutting the large drains, as above, 2*s.* 2*d.*; for the same, in the moss, 1*s.* 6*d.* For the small drains, 1*s.* 10*d*; in the moss, 1*s.* per rood. For laying the tiles and soles, and cutting and putting in the top turf, 3*d.*; for filling in the earth, 3*d.*; for breaking the stones, after they had been laid along the side of the drains, 6*d.*; and for filling them in 2*d.* per rood; or collecting and breaking stones in quarry, 6*d.* per cubic yard. 7. I further agree to cut open drains in the moss, where staked out, 5 feet deep, the bottom to be 2 feet wide and the sides to be sloped off to 9 feet wide at top, throwing back the stuff taken out on the adjoining surface, for the sum of 6*s.* per rood. Also a main drain in the hollow, as pointed out, 4 feet deep, 2½ feet wide at bottom, at 7*s.* per rood; and to build a box drain of stones, laid down by the proprietor, 12 inches square inside bottom and top, being laid with flags, for 3*s.* 6*d.* per rood, and fill in such depth above with stones as may be required, at 4*d.* per rood. 8. I am to begin the drains immediately, and finish them in one month from this date. The proprietor to retain one-third of the price of cutting the drains in his own hands till the whole are completed as herein agreed upon. The money not to be paid oftener than once a week. 9. I hereby certify that I have this day examined the ground with the overseer; that I fully understand the parts staked off, as well as the conditions and rates herein specified; and I agree to execute the works according to the same. In witness whereof this 1st day of February, 1847. (Signed) P. A. B. R., overseer."

Although the foregoing specification is here found to enable me to get all the work well done by contract, I generally only do the cutting, filling in, and breaking stones; also the other large drains mentioned, the laying the soles and tile, and putting on the top turf, is done by my own day labourers, as they take greater care and interest in the work being properly done. When a certain portion of the drains are cut, the soles and tiles, or stones, being already on the ground, the day labourers are brought on, and one or two women, who lay out and hand in the soles and tiles. First, a man clears out the bottom of the drain with the scoop, taking a spading where necessary to carry out a proper fall; then follows the man who lays the soles and tiles at a distance from the first of 15 or 20 yards, to enable the cleaner to have a proper view of the levels; in the meantime a third man has run a cut of a spade along a line on the clear side of the drain, just the proper width to fill in on top of the tile, he then begins turning in the first turf, gets into the drain on top of it, and after a cross cut at the greatest length his spade will lift without breaking the turf, he slices it off and turns it over on the tile, and so proceeds. The contract men follow, one hauling in the soil with a strong bent fork, like a very coarse rake, while another standing on the same side with the soil shovels it in. The work thus proceeds most regularly, while the overseer tries the drains with the moulds, so as to get the full depth with the contract men; and with the cleaning out of the day labourer, the field will average an inch or two deeper than would appear by the contract. The ridges here are generally high; I put the drains in the furrows, but lay down the fields without ridges, so that the drains are some inches deeper than appears in the contracts; 27 inches usually specified, which ultimately gives a drain of 30 inches. In many places the ridges are greatly curved and very high, from the land being such retentive clay I do not consider it safe to cut the drains straight, and filling in the soil merely to make the ridges straight, but put the drains in the curved furrows, and a drain in the centre of the ridge; in a more open soil I would put all the drains straight. The want of anything like uniformity in the measures used renders tables of little use beyond a certain locality, and the efforts made by your Journal in collecting information from all parts of the country on agricultural subjects cannot but tend to correct this. In hopes of contributing a little for this end, I proceed to give some tables of prices.

TABLE OF PRICES.

	Bore	Length.	Price per 1000.
	Inches.	Inches.	
Tiles at Kiln, No. 1	...	15	50*s.*
,, ,, 2	3½	15	22*s.* 6*d.* to 25*s.*
,, ,, 3	2½	15	18*s.* to 22*s.*
Pipes	2	15	18*s.*

Clay Soles one-half of tiles.
Slate Soles, 5 in. wide, and 10 in. to 12 in. long, 12*s.* to 14*s.* 6*d.* per 1000.
Wood Soles, 5 in. wide, 5*s.* per 100 yards.

Draining Tools—No. 1, Spade	3*s.* 4*d.*
,, ,, 2, 1st Wedge	3 0
,, ,, 3, 2d Wedge	3 0
,, Scoop	3 6 with long handle.
,, Coarse Rake	2 0
,, Pickaxe	3 0

	Depth.	Price per 33 yards.
	Inches.	
Cutting Drains	48	3*s.* to 5*s.*
,,	36	2*s.* 2*d.* to 2*s.* 8*d.*
,,	30	1*s.* 2*d.* to 2*s.* 2*d.*
,,	27	1*s.* to 1*s.* 10*d.*
Laying Soles, Tiles, and Turf	...	3*d.*
Filling in Earth	...	3*d.*

Collecting and Breaking Stones in quarry, 5d. to 7d. per cubic yard.
Breaking Stones laid out in field, 6d. per 36 yards.
Carting Stones to Drains, 1s. 10d. per ditto.
Ditto Tiles, 1s. 6d. per ditto.
Boring first 5 fathoms, 5s. per fathom; second, 15s. per do.; third, 30s. per do., according to strata.
Man's Wage, 1s. 6d. to 2s. 2d.; Woman's, 1s.; Horse, Cart, and Man, 5s. per day.

DRAINAGE TABLE.

Distance apart. Feet.	Number of Rods, of 5½ yards, per imperial acre.	Number of Rods, of 7 yards, per imperial acre.	Number of Roods, of 36 yards, per imperial acre.	No. of cubic yards of stone, 9 inches square deep, per imperial acre.	Number of yards per imperial acre.	Number of Tiles or Soles, 15 inches long, in imperial acre.	Number of Tiles or Soles, 14 inches long, in imperial acre.	Number of Slate Soles in imperial acre. 12 inch. long.	Number of Slate Soles in imperial acre. 10 inch. long.	REMARKS.
12	363?	174	33½?	100	1210	2904	3111	3630	4356	Fewer tiles, when laid will fill the spaces, but to allow for breakage, the full number is given.
14	311?	148	28¾	86½	1037	2490	2668	3113	3735	For the number of Pipes, look to the column under any of
15	290?	138	26¾?	80⅝	968	2323	2489	2904	3484	the lengths that correspond from 15 to 10 in.
16	270	129	25	75¾	907	2183	2339	2646	3175	4840 yards in an acre.
18	240	115	22¼	63½	806	1944	2082	2420	2904	
20	217	103	20	60½	723	1742	1869	2178	2613	
22	198	92	18¼	57¾	660	1584	1697	1980	2376	
24	180	86	16¾	50½	605	1452	1555	1815	2178	

Number of Tiles, Soles, or Pipes, in	15 in.	14 in.	12 in.	10 in. long	Stones.
5½ yards	13½	14	16½	19	A cubic yard of stones to pass a 3¼ inch ring (say 9 in. square laid in drain as an average) would fill 36 feet in length.
7 „	16½	18	21	25	
36 „	86	92	108	129	

TOTAL COST OF DRAINING AN IMPERIAL ACRE.

With Stone, drains 15 feet apart, 30 inches deep. A Large Tile in main, 36 inches deep.

	£	s.	d.
Cutting 968 yards or 26¾ roods of 36 yards, at 2s. per rood ...	2	13	4
Cutting Main 72 yards, or 2 roods of 36 yards, at 2s. 2d.	0	4	4
Collecting and breaking 86¾ yards of stones to pass 3¼ in. ring, at 6d. to 9d. ...	2	0	4
Filling in Stones, 10 inches deep, at 3d. per rood ...	0	6	8
Filling in Turf and Earth, at 3d. per rood ...	0	6	8
Carting Stones at 1s. 10d. per rood for 26¾ roods ...	2	8	4
172 large Tiles, at 50s. per 1000 ...	0	8	8
172 Soles, at 20s. per ditto ...	0	3	6
Laying Soles and Tiles, 2 roods, at 6d. per rood ...	0	1	0
Carting Tiles and Soles, and Toll ...	0	3	6
Extra Work ...	0	10	0
Total cost of Stone Drains per acre ...	£9	6	4

With Tiles, drains 15 feet apart, 30 and 36 inches deep. Large Tile, 1 inch bore; small, 3, inch bore. Both 15 inches long.

	£	s.	d.
Cutting 968 yards or 26¾ roods of 36 yards, at 2s. ...	£2	13	4
Cutting Main 72 yards, or 2 roods, at 2s. 2d. ...	0	4	4
2323 Tiles, at 22s. per 1000 ...	2	11	2
2323 Soles, at 11s. per ditto ...	1	5	7
172 Large Tiles, at 50s. per ditto ...	0	8	8
172 Soles, at 20s. per ditto ...	0	3	6
Carting Tiles and Soles, and Tolls, at 1s. 6d. per rood of 36 yards ...	2	0	0
Laying Soles, Tiles, and Turf, at 3d. per ditto ...	0	7	6
Filling in Earth, at 3d. per ditto ...	0	7	6
Extra Work ...	0	5	0
Total cost of Tile Drains per acre ...	£10	6	7

These figures are very different from what are stated to be prices at which draining can be done in England; but to me it appears that items are omitted. There are examples in what we call carse land near this, where the drain plough has been used with great success, and from 6 to 10 acres done in a day, and at a much lower figure; but this is only suited for particularly favourable soils, and where there is a great command of horse power. I even found by calculation that here turning in the soil with the plough would be no saving. It would be right, however, to take a deep furrow with the plough before the men are turned on, and they would contract for less. The cart work is not generally a cash outlay, but if there is not an extra number of horses other work must be at a stand. There is frequent disappointment about draining, arising chiefly from not having taken a full estimate of what it was to cost, together with extra work, and next from too high expectations in the results. In this paper I have endeavoured to give a fair average of my own experience, and the results I am about to add might have been made to look better by taking particular fields. I would also remark that though the soil is indifferent, the locality is very favourable. Draining is only one of the mechanical means of improving the soil, and the work is very incomplete unless the rest follow. By persons of long experience the effect of draining on the quantity of produce has been brought to a scale, showing that inferior land, by merely being freed of the water, makes an extraordinary exertion the first rotation after draining, which is not nearly followed up in the second. In good land there is also a falling off in the second rotation, but not to such an extent as in inferior soil, all pointing to the necessity of following up with all the other means of improvement. On the other hand, land such as there is here, called "sour," only begins to feel the full effects of draining after some seasons, when the deleterious contents have got washed and worked out, and the improvement goes on almost without limit according to the treatment it receives.

The actual degree of improvement resulting from draining can only be fairly judged of after several rotations of crops, each being properly cultivated. After practical experience in any district, it is easy to calculate the degree of improvement likely to be effected by draining, by taking into consideration the treatment it will receive. If, for instance, it is for a tenant, supposing the draining in all cases to be thoroughly done, who [illegible] simply plough and manure in an ordinary way, the result will be a surer crop, with [illegible] per acre in grain, his green crops will be better and the ground more easily worked; but if for a tenant or proprietor who will sub-soil, manure, and lime and work up the land in a complete manner, the result will prove much more than merely the difference between good and indifferent farming or undrained land. The letting in Grass before and after draining and cropping is a tolerable test of the actual improvement. I have to observe that as I have only a limited time to do the drains in, I got the fields as quickly laid down to Grass as possible, and have not attempted subsoiling yet, so that the results are only in part of what may eventually be expected. I have only now for the first time any of the drained land to let, but can judge what it ought to bring. No lime has as yet been applied. I add a table, showing the produce before and after.

TABLE SHOWING THE PRODUCE BEFORE AND AFTER DRAINING.

No. 1. Before Draining 11 Scotch Acres.

Let in Grass before this crop at 17s. per acre.

	£	s.	d.
1. Crop of Oats, 5 bolls per acre, say, 75 bolls, at 14s. ...	£5[illegible]	[illegible]	0
2. Potatoes dunged with 19 loads per acre; 11 acres at 1[illegible] per acre ...	2[illegible]	10	0
3. Crop of Oats, with Grass-seeds, 11 acres, at 6 bolls per acre, say 90 bolls, at 16s. ...	72	0	0
4. Crop of hay, 150 stones per acre, 1650 stones of hay, at 6d. per stone ...	[illegible]	[illegible]	0
Total ...	£[illegible]	1[illegible]	[illegible]

Would let in Grass to two years, at 25s. per annum.

No. 4. After Draining 11 Scotch Acres.

	£	s.	d.
1. Crop of Oats, 11 acres, at 6½ bolls per acre, say 71½ bolls, at 16s. ...	£57	[illegible]	0
2. Potatoes dunged with 40 loads per acre; 11 acres, at 21l. 10s. per acre ...	2[illegible]	10	0
3. Crop of Oats with Grass-seeds, 11 acres, at 8 bolls per acre, at 16s., say 115 bolls ...	92	0	0
4. Crop of hay, 200 stones per acre, 2200 stones of hay, at 6d. per stone ...	[illegible]	0	0
Total ...	£5[illegible]	1[illegible]	[illegible]

Would let in Grass for two years, at [illegible] per annum.

The surplus on the produce would be 125l., while the draining 14 acres, at 9l. 6s. 4d., is 130l. 8s. 8d., showing a deficiency; but the sum for which it will let in Grass is very much larger than it was before draining, and will continue so. The crops are now much more certain and sooner ready. The land is very greedy of dung for green crops; but a much better crop will be obtained, and the carting and working the field is easier. These results would be in themselves favourable; but the field will now carry sheep, so that the next rotation will be very different. There will be a crop of Barley and a crop of Wheat, and again bring for the first season's Grass between 4l. and 5l. per acre, and continue of more than double what it let for before draining. The uncertainty of the Potato crop does not affect these calculations here so much as in other localities, as we have such a ready sale, that provided they will ripen they are sold and used before the disease has done much damage. But the farming part will require a separate paper, by your permission. The raising a sufficient quantity of dung, and the best paying crops, are very perplexing subjects to a beginner; and I may find others who will help to clear up these and other matters by stating my own ideas.

In the foregoing statements the present prices for work have been taken, which are certainly high, which does not give so favourable a result at first as would be expected; but having stated as a caution the opinion of some who reduce the increase of effect, I wish to show a very different prospect. I have now to conclude by giving totals of expenditure and value of crops, as experienced here. I began in 1841, and for four or five years the fields were both particularly easy, and labour was much cheaper. The number of acres drained is 57 Scotch, or 73 imperial, at a total cost of 548l. 12s. 1d. The total value of crops in the fields drained alone, taking, where sold, the price paid, and estimating the value of the rest at the market prices, at the time is 1427l. 2s. 10d. To many I am indebted for the information on a subject on which I can lay no claim to originality, and shall feel gratified if any part of these statements are useful to those engaged in draining.—*Forester.*

Home Correspondence.

Hedgerow Timber.—The Rev. C[illegible] Harcourt having rather roughly handled my friend Mechi, I wish to add my testimony to the worthlessness of hedgerow trees. I have always fancied myself an admirer, I may say almost an idoliser, of Nature—I love trees, shrubs and flowers; beasts, birds, and fishes; but all in their places. Hedgerow trees, large, misshapen, ugly pollards, are to me an abomination. No farmer can grow timber and corn together, nor ought he to pay rent for land incumbered with hedgerow trees; but he should rather receive a bonus for muddling away his time in toil and anxiety on a farm where it is impossible for him to grow crops of corn sufficient to pay him for his labour and expenses. The Rev. Mr. Harcourt writes that lands require trees to shelter them; I write directly the reverse: give me an open country. A few years [illegible]

[illegible] —*G. Wilkins.*

Black Barley.—[illegible]

[illegible] novelty.]

Green Crops.—[illegible]

[illegible] it will stand a great deal of frost, [illegible]

[illegible] months of the twelve where such [illegible] stubbles, &c. Another year—Drumhead Cabbage. I have grown, and so have my relations for years: much to the advantage of my cows and ewes. I like on heavy land always to grow some for these reasons; they need

not be planted till July, giving good time for clearing the land; they cost little, as 1 lb. of seed will grow plants for an acre, and the expense of planting is fully balanced by the less cost of hoeing than Turnips; they will grow with less manure than any other root; indeed 3 cwt. guano mixed in the water and applied when planted will produce a good crop; they are easily cut in snow and frost, when white Turnips cannot be got at, and they produce an enormous weight. I have seen 3 cwt. in the field of a friend of the weights of 31, 33, and 34 lbs. each; but a highly respectable seedsman, Mr. H. Coles, No. 35, Cranbourne-street, Leicester-square, London, this summer exhibited in his window a Drumhead Cabbage of the extraordinary weight of 50 lbs.! certainly the heaviest I ever read or heard of; and his is decidedly the seed I will sow this year, for if it produced such Cabbages last year why should it not this?—*A Heavy Stock Keeper.*

Thin Seeding.—Far be it from me to find fault with any matter which you think worthy of a place in your columns, but as you rarely seem to be deficient in matter that is really interesting, and often apologise to correspondents for postponing their communications, it might not be a bad thing to dock off four-fifths of the controversies that are so warmly carried on respecting thin and thick sowing. I conceive this might be done, if the antagonists would only call all things by their right names, and state all facts which are material to the result of the experiments. Instead, then, of descanting on thin sowing and thick sowing, let the champions adopt the sounder distinction of garden farming and ordinary husbandry; and, in detailing experiments, state all the conditions of each; and I expect that it will soon appear that thin seeding is the very least and most insignificant element of success. Let no one detail an experiment of thin or thick sowing, except in a tabular shape, recording—1, what is the nature of the soil; 2, how deeply the soil is tilled; 3, what manure it has had, as well ploughed in as top-dressing; 4, what were the two preceding crops, and how tilled; 5, on what day of the year the seed was sown; 6, how many hoeings, rollings, sheep-treadings, or other tillage, it received in the course of its growth; 7, whether any and what seeds were sown amongst it; 8, how many wireworms there are in a perch, to be carefully ascertained by a rigid examination; 9, how many slugs there are in a perch; 10, on what day it was harvested; 11, what weather it had during Mr. Lawes' three months; 12, in what degree it was infested by foxhunters, rooks, hares, or rabbits; 13, how much the feed of the Couch-grass or other weeds, after harvest, was worth; 14, whether any and what diseases, as mildew, red gum, rust, or any other attacked it; 15, the bushels and weight of grain, and weight of straw. The multiple of the seed which the crop produces is only important as a physiological fact, which may test the productiveness of some plants or varieties above others, and in some cases, and to a limited degree, the efficacy of manures and modes of tillage, but to the balance sheet it is quite unimportant. Nor can I agree that the produce per acre is the sole test; for if Wheat, value 10*l.*, be raised at a cost of 15*l.*, the farmer is a loser. I conceive the problem to be, how to obtain the greatest profit from the acre. The saving of seed, on which much stress has been laid by some writers, is comparatively a very slight consideration; for although it amounts to a large quantity when multiplied by the number of acres of Wheat land, yet if you were to multiply the number of bushels of Wheat which every rough ordinary farmer would lose from his present produce if he were to thin seed his foul, half-tilled, wet, or wireworm land, amid a plague of slugs, some lands pestered by hares and rabbits, some farmers negligent to keep the rooks off, many that will not, or dare not, say "no" to the foxhounds, the loss which all these would experience from thin seeding would be tenfold, nearly, of the gain which they might make by sparing their seed. It is 30 years since I fell into the cry of thin seeding; I have followed it through evil report and good report, and I believe I have sacrificed thereby as much Wheat as ever I have harvested. The best crop I ever had was one which I severely blamed my drillman for sowing too thick. I thought to have a magnificent crop last year, on excellent land, broken up from five years' Grass, sheep fed all the time, and highly manured, late sown; it was a splendid sight to the eye, if there had been four times as much on the ground, and I threshed out 10 bushels an acre, a great part of it chubbings, and the grain never got thoroughly dry, and was musty before I could eat it. Now, before I practise any more thin seeding, I wish to see a detail of all circumstances attending the successful thin sown crops, such as may encourage me to persevere therein on such land as I have, and with such culture as it suits me to bestow.—*A Thin Seeder.*

Thin Seeding: To "Investigator."—It may appear somewhat presumptuous in so humble an individual as myself to attempt to maintain my ground against such a host of powerful adversaries rising up from time to time against the system of husbandry of which I acknowledge myself a very inefficient and unworthy advocate. It may appear, too, something like obstinacy in me to continue a contest against a swarm of enemies who think they can annihilate me by a kind tacit compact to strike or sting in exactly the same place. In addition to that swarm of "Bs.," I have before referred to, I have another assailant now who calls himself "Investigator," but they all fight under a shield, all use the same weapon, and all hit exactly in the same place. This, I am aware, is powerful odds against an individual standing weak and defenceless and unshielded, and *in propria persona* before them all. Now, had I been "Investigator," I would not have joined a pack; I would have fought like a lion, and not like a jackall; nor, above all, would I have thrust my shaft into a wound which had been pierced to the quick so many times before. Admitting that I do farm no more land than I am every day accused of not doing, still what does this prove? I live in a parish of 3090 acres of land, nearly all of which is under the plough; the neighbourhood of the parish, also, is one of the finest corn districts in England. What is it to me, therefore, whether I farm a few acres only, or a few hundreds? I know everything which is being done; I carefully watch the system practised by all my parishioners and neighbours, and some of whom are now carrying out my views; and, therefore, as to the general practice, I gain as much information as if the whole country was cultivated by me. I know the whole, and I cannot know it better. My glebes, unfortunately, lie at too great a distance from my residence to enable me to cultivate them; and, therefore, in order to test my principles, I rent a few acres of land on which to carry out my experiments, and to show my neighbours by examples the results, let them be whatever they may, but they have never yet failed. I could do no more if I had a thousand acres of land under my cultivation as to principles, and it is for principles that I am contending, and they apply to a single acre as well as to 10,000. But, at all events, admitting that my attempts are not wise, still they are not criminal. "Investigator" commences his article by disclaiming personality, and then falls foul upon me, because I farm, he writes, but 6 acres of land, which are so near my chamber window that "a lark or slug could scarcely cross the field unobserved," and "should a grain of corn," he continues, "not vegetate, or fall a prey to the ravenous wireworm, a few kernels will fill up the gap, and make all look green and even again. But the man," he continues, "who farms 500 or 600 acres, has a host of evils to contend against." Now all this, doubtless, sounds very finely; but it is all gratuitous. I never feared, but welcomed birds of all kinds; nor do I fear wireworms nor slugs; for although no land could be fuller of them than mine was when I first took it into cultivation, I have not now, I believe, one in my fields—at least, for three or four years none have done me mischief. But what does "Investigator's" arguments prove? Why, surely, that all large farms are an injury to the state; that they cannot be cultivated but at a great loss in the manner in which I cultivate mine, and with a profit. "Slug, wireworm, grub, game, lark, rook, wet seasons, frost, wind, and many other evils," "Investigator" writes, which he "need not enumerate," injure the man's crops who farms 500 or 600 acres; but not so with Mr. Wilkins's 5 or 6 acres. A stronger or more convincing argument than this, if "Investigator" be correct in his premises, and I do not doubt them, against large and in favour of small farms, I never before read, and I kindly thank "Investigator" for it. If it be correct, it proves to a demonstration that large tracts of land, 500 or 600 acres, ought not to be in single farms, but for the good of the community they ought to be divided or subdivided until they can be cultivated without fear or injury from this long list of enemies, or, in other words, that they can be cultivated as I cultivate mine. I observe, particularly, that in thus writing I am not stating my own, but "Investigator's" opinions of large farms; the subject is too deep for me; but I will preserve the article carefully, in order that I may refer to it at any time whenever the comparative merits of large or small farms shall be discussed. "Investigator" has given me proofs that a farmer of a small tract of land can guard against every kind of injury that can by possibility assail it; but that the farmer of a large tract, 500 or 600 acres, has such a host of enemies to contend against, that it is impossible for him successfully to fight against them, and so he can do nothing but subdivide his land or sink under the swarms of slugs, wireworms, grubs, game, larks, and rooks, by which he is assailed. Even the seasons, frosts, winds, and many other evils which "Investigator" needs not enumerate, all these are in battle array, in constant fighting order, against the unlucky wight who cultivates a large farm. Why, he is in a worse plight than I am when surrounded with the swarms of buzzing "B.s."—*Geo. Wilkins.* P.S.—I inform "Investigator" that, except on a very small bit of ground, on which a new instrument was tried for the first time, and which broke in the operation, I have never had occasion to fill up failures in my corn fields. Last year I caused very much of my Wheat plants to be pulled up, but I planted none after the drill.

On the Capabilities of a Grain of Wheat: Thin Sowing.—Few are aware that a root of Wheat after it has tillered is capable of subdivision many times, or are acquainted with the fact that, in a congenial soil, the Wheat root will, after having ripened many ears of corn, again vegetate and produce ears of corn a second year, yet these results I have obtained in the course of my experiments for the past 20 years. Relative to the subdivision of the Wheat root, I would refer to my publication, "The Cottage Farmer," wherein is explained how 43,000 grains were obtained in one season from one grain, by sowing early, subdividing the roots, and continual culture. This experiment was executed in rich alluvial soil at Lewisham. I wish now to bring before the public the result of an experiment made during the year 1847, in a poor sandy soil, in the neighbourhood of Bagshot, it being the effect of thin sowing, ample culture, and judicious manurings—a union of science with practice. The plot of ground selected was about 30 rods, which had been Clover for one year; this was dressed with a mixed yard manure, at the rate of about 6 tons per acre. The land was dug deeply, the top surface being pared off and put at the bottom of each trench. In the first week of November, 1846, the land was dibbled with Crawford's hand-dibbler, which put in from one to three seeds in each hole, consuming at the rate of about 2 pecks per acre, or rather less, for the dibbling was in rows of 12 inches by 6 inches in the rows. There being 43,560 square feet in one acre, and as a bushel of Wheat would generally consist of 615,500 grains, this would supply seed sufficient for nearly three acres, presuming 5 seeds to be used in each square foot. The vegetation of the seed Wheat was kept under the surface of the ground until the end of February, in consequence of the severe frosts of the winter; being under ground thus, for three months, the seed became a prey to various insects, and their larva, such as wireworm, grub, &c. When the blades did come above ground, they were exceedingly weak, and most persons would have destroyed the whole, for it appeared to be far from being worth remaining, but, as it was an experiment, I was resolved to see what could be made of this thin planted Wheat; many spots had not a plant in a square yard, and no place had more than half the dibbled holes occupied by plants. The ground was harrowed in March, and again in April, when a mixed manure was worked into the ground, consisting of salts of ammonia, prepared bones, alkalies, and other matters, known to be the proper food for Wheat. In May, the surface was twice moved deeply with the Vernon hoe; at this time the roots were tillering out in a prodigious manner, being encouraged by the manure and the hoeings. In consequence of the tillering of the roots being encouraged so late in the season, the corn did not ripen very early, and some of the lower ears did not come to perfection, still all was reaped before the end of August. Some of the roots were exhibited at the Northampton Show. One rod was selected as being the most complete; this was cut low and weighed, the grain and straw being 48 lbs.; this would give a weight of 68 cwt. per acre. The roots of this one rod were afterwards taken up and found to be in weight 13lbs.; this would give 18½ cwt. per acre. The number of roots on the rod was 235, which is not half the number of dibbled holes, as there are in that space of ground 544 squares of 12 inches by 6 inches. The average number of straws to each root was 17; very many roots were counted consisting of 50 straws, and none less than 8. The corn on this rod measured 1½ gallon, and weighed 12 lbs. This would give a rate of 30 bushels per acre, and 64 lbs. per bushel. The yield to the acre is not great, but it is prodigious when compared with the quantity of seed which vegetated; indeed it may be called 60-fold on the quantity sown, and more than 120-fold on the quantity that vegetated. A statement of the produce may be tabled thus:—

	Roots and stubble.	Number of roots.	Holes seeded.	Straw and Chaff.	Corn weight.	Corn measure.	Gross weight.	Weight per bushel.
	cwt. lbs			cwt. lbs	lbs.		cwt. lbs	lbs.
One rod..	0 13	235	544	0 36	12	6 qts	0 61	
Rate for 1 acre..	18 64	37,600	87,120	51 48	1920	30 bsh	87 36	64

We may learn from the above experiment how little seed is wanted for an acre of ground, provided the seed that is sown vegetated and came to perfection. We also may see how much increase may be made by an expenditure of labour and adaptation of proper food to the plant. We see also (in confirmation of what Mr. H. Davis has asserted) that a Clover lea is an uncertain bed for a crop of Wheat, for the roots of Clover are ever a harbour for the larvæ of insects, these feeding most voraciously when they are in a larva state. The seed corn is also subject to birds. This experiment goes to confirm what Mr. Davis has said—that Wheat should be in the ground and well vegetated before the frost sets in; if not, an increase of seed, and therefore a great waste of corn, must be the consequence; for it is but seldom we have so mild a winter as to allow vegetation to progress much during the three winter months. —*Edward J. Lance, Blackwater, Bagshot.*

Union Settlements.—Every friend to the poor must rejoice at the recommendation for union settlements, contained in the Report of the Poor Law Removal Committee. I am in a populous parish (1000 inhabitants in 1,600 acres), and I have always considered that an abundant supply of labour, at hand, compensated in a considerable degree for high rates; and I am sure that the parochial settlement did not so much affect the landowner, as the poor. But let us trust that any law that may be framed on the recommendation of the committee will not entail on us a continuance of high rates, and at the same time a loss of labourers; for thinly inhabited parishes, when the dread of settlement is removed, will see the necessity of drawing off a supply for their own requirements from the populous parishes; and there will moreover be an inducement to build in low rated places, if inequality be established. It is quite a different case from the apportionment of union charges in the Poor-law Act; for there was nothing in that act to produce an effect at all analogous to what is likely to result from the recommendation of the late committee if it be legislated upon.—*G.*

Salt for Poultry.—I strongly advise "C. W." to refrain from giving salt to her hens for the purpose of

making them lay. Among the most experienced practical rearers of poultry there is an old, and I believe well founded prejudice against their eating salted food, even in very small quantities. I have seen in some books Glauber's salts recommended, but should be sorry to try them, except as an experiment on a lot of worthless or diseased fowls. Gallinaceous birds reared by the sea side or on the banks of a salt-water river, avoid the saline stream, and search for food and drink as far inland as they can range. I know not either how common salt could be administered to them. It is more than doubtful whether the hens would pick it from the ground in its crystalline form, and it would be difficult to distribute it in equal doses by means of bread, &c., soaked in salt water: the chances are that some of the hens would be poisoned. Pigeons, I think, are the only domesticated birds to whose health salt is beneficial, and they prefer it in combination with animalised matters; the more offensive it is to our senses, the more agreeable it appears to be to theirs. In her confined space, "C. W." should not omit lime in some form; chopped bones, old mortar, or a lump of chalky marl. The shell of every egg used in the house should be roughly crushed and thrown down to the hens, which will greedily eat them. A green living turf, like those given to larks, only larger, will be of service, both for its Grass, and the insects it may contain. A dusting place, wherein to get rid of vermin, is indispensable. A daily hot meal of Potatoes, boiled as carefully as for the family table, then chopped and sprinkled or mixed with pollard; the French plan, namely, bread soaked in hot *vin ordinaire*, beer, or cyder, may both be tried with advantage. After every meal of the household, the bones and all other scraps should be collected and thrown out. Hens are great pickers of bones; I have seen a hen devouring the flesh and cleaning the skeleton of her dead husband, doubtless on the native Australian principle of respect and affection for the deceased. We have had a little sharp weather lately, which may be some excuse for "C. W.'s" hens' unproductiveness; but I may suggest to her that there are cases in which fowls do lay, without their owners being much the better for the eggs. This, however, is less likely to happen in her aviary, if I may be allowed so to term it, than in the farm, or the uninclosed poultry-yard. It is an unfortunate fact, that in the country, where fowls are allowed unlimited range, choice specimens are remarkably apt to disappear; and if they do not, their eggs do. The proprietor is sure of just as many of the select kinds as he can himself lay hands upon. He may often have the satisfaction of buying in a neighbouring village a fine brood of chickens, hatched from eggs purloined from himself, and be thus considerately saved all trouble of rearing them. These agreeable tricks are played by a set of rascally half poaching pilferers, who are connected with the lowest class of dealers. If any fear of detection arises, the "fancy" birds are immediately forwarded to the metropolis, or some other large town at a distance. "C. W." may perhaps derive assistance from the following system of management, which has been kindly communicated to me by Mr. Leonard Barber, of Pentonville: "There is one thing I think necessary to impress upon those who keep fowls in a confined place, which is cleanliness. The droppings in their roosting place should be taken up every morning, and a handful of dry ashes strewed under their perches. I have only a confined yard in which to keep my fowls. The plan I adopt is to give them every day plenty of fresh Cabbage leaves, and once or twice a week I have some Onions chopped up for them, of which, after a time, they become very found. I let them have a plentiful supply of burnt oyster shells. I put the shells into the fire until they are red hot and well burnt. I then break them into small pieces with the fingers, but not into powder. I am satisfied this is much better for them than crude lime; they eat great quantities of it. Their other food consists of the best Barley and Oats, and to compensate for the want of insects, I occasionally give them a little raw meat. By adopting this plan I keep them in decent health. The only thing they appear to want is more exercise, which I think is the reason I cannot rear chickens well, for with all my attention I find they are stunted in their growth, no doubt from the want of a sufficient run." I can only say that a cockerell which this gentleman did me the favour to send me a few weeks since, showed no symptoms of stunted growth. He was a magnificent black Spanish fellow, with all the distinctive marks of the breed highly developed. He has since vanished, and is now doubtless the pride of the thief or the receiver in some sequestered dingy back lane. The hens (imported from the neighbourhood of Herez de la Frontuca in Andalusia) produce eggs weighing from 3 to 4 ounces each, so that the system cannot be very defective. It is a pity that "C. W." did not mention the breed of her hens. I shall be obliged if, in return for these hints, she would communicate to me privately through the office, a few weeks hence, a report of her success or failure, with any other particulars.—*D.*

Gammon's Farm, Watford.—In your *Gazette* of the 29th ult., Mr. Drury, one of Lord Essex's bailiffs, published a statement, showing the produce of 6½ acres of land to be 30 qrs. 3 bushels of Chidham Wheat. This crop may, perhaps, strike your readers as not being extraordinary, but it is certainly above the average grown on similar soils in this neighbourhood, and is, therefore, worthy of being recorded. The field in question is situate upon a diluvial deposit of gravel, with perhaps veins of loam and sand resting upon the upper bed of the chalk formation. The soil may be designated a gravelly loam; it is porous and easily worked, but not naturally fertile. Its yearly value would be about 27s. per acre. It abuts on the turnpike road, which is bounded on the opposite side by an extensive plantation, being, I think I may say, the chief preserve for pheasants and hares on the estate, and has Norcott wood and some springs, also preserved, near it on the side opposite to the road, and therefore having been said to be from their situation peculiarly liable to suffer from the depredations of the game, this field, with several others adjoining it, were two years since transferred from the occupation of the tenant to that of Lord Essex himself. I will obtain such information as will enable me to reply more directly to the question put by your correspondent "Dombey," [which referred to damage by game on the land], and I will, therefore, now only add that I know there is at present a fair stock of game in the preserves mentioned above, although the quantity has been reduced within these few years. I also know that at the period to which he alludes the reports circulated of damage done to the crops of the tenants by game preserved on this estate were exaggerations of the truth.—*C. F. Humbert,*

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A WEEKLY COUNCIL was held on Wednesday last, the 23d of February: present Mr. RAYMOND BARKER in the chair, Mr. Almack, Mr. Bosanquet, Dr. Calvert, Rev. Thomas Cator, Mr. Fuller, M.P., Mr. Brandreth Gibbs, Mr. Fisher Hobbs, Rev. C. E. Keene, Mr. Langston, M.P., Mr. Miles, M.P., Mr. C. Miles, Prof. Sewell, Mr. H. Smith, Mr. R. Solly, Mr. Thomas Turner, Mr. Tweed, and Mr. Bramston, M.P.

The following new members were elected:—

Richardson, Joseph, Woodside, Luton, Bedfordshire
Richmond, Francis, Salford, Manchester
Vivian, John Henry, M.P., Singleton, Swansea, Glamorganshire
Chandler, Henry, Salford, Manchester
Grove, Dr., Fern, Shaftesbury, Dorset
Levick, Henry, West-Woodhay, Newbury, Berks
Ewings, William, Manager of the Bloomsbury Branch of the London and Westminster Bank
Hunt, Henry John, High Street, Lambeth, Surrey
Strahan, William, Ashurst, Dorking, Surrey
Newington, S., Knole Park, Frant, Tonbridge-Wells
Kinderley, Geo. Herbert, 10, Bedford-square, London
Prickett, Rev. Josiah J., Markington Parsonage, near Ripon
Walker, David, Master of the Agricultural College, Maidstone
Dray, William, 16, King William-street, City of London.

The names of eight candidates for election at the next meeting were then read.

GYPSUM.—PRIZES FOR CATTLE AND SHEEP.—Communications were received from Mr. WILSON, principal of the Royal Agricultural College at Cirencester, on the Canadian gypsum sent by the Council for trial at the experimental farm of that establishment; and from Mr. Turnor, of Abbots-Bromley, Staffordshire, on prizes for long-horned cattle (as a breed peculiarly suited to the cold clayey pastures and high elevations of that county), as well as for other breeds of cattle (as the Sussex, the Galloway, and the Ayrshire), and for particular breeds of sheep (as the Cheviot, the Ross or old Ryeland, the clan-Teviot, the black-faced Cannock, and the Shropshire, the former he thought yielding probably the finest wool and mutton in the kingdom), adapted to extensive localities, and to different climates and soils, and of which he conceived the improvement to be an object of national importance.

WHEAT AND POTATOES.—The chairman favoured the Council with the following report of his cultivation of the Wheat and Potatoes distributed for trial among the members present at one of the meetings of the Council during their former session: namely—"*Wheat.* Samples of the Wheat from Australia, sown March 16, and came into ear June 5, 1847. *Potatoes.* Specimens planted March 16, 1847. The Jamaica Potatoes, white; the other two samples purple and red, no growth of either haulm or tuber till after the rain early in August, the tuber being at that time not bigger than a marble. After rain the haulm grew to the length of 4 feet 9 inches, when the tubers also began to grow. The crop was dug up late in November, but was then not ripe throughout. A considerable number (chiefly of the purple variety) were diseased. The produce obtained was about half a bushel, from about half a gallon of seed plants. These Potatoes were planted in a garden where no Potatoes had ever been grown. From one of Lance's smallest seedlings 11 tubers of various sizes had been obtained. The latter were sown March 6, in a common hot-bed. From the portion supplied of Lance's Potato seeds mixed with wood-ashes, sown in a garden-pot, March 16, and grown in the same hot-bed, eight plants grew to a size fit for planting out; the two weakest plants left in the pot produced 22 tubers; pot No. 2, had 12; No. 6, had 17; No. 5 had 23; No. 8, had 9; No. 3 had 27, all of various sizes.—Hambledon, Bucks.—T. RAYMOND BARKER."

An interesting discussion then ensued, in the course of which Mr. Miles, M.P., stated, that he had for the last 12 years cultivated the Belle-vue Talavera Wheat on inferior land in Somersetshire, with so much success, that he found it the best spring Wheat he had met with, and so superior in his experience to every other variety that he had never once changed it; the chairman remarked that in the midland portion of England the Hopetoun was a favourite variety; and Dr. Calvert observed that for the hills of Yorkshire, the Adelaide variety was employed with great advantage, but required a peculiar mode of cultivation.—The Chairman stated that his land in Buckinghamshire on which the trials of Wheat and Potatoes had been made was of a mouldy dirty kind; and he had found the Canadian gypsum have a great effect in promoting the growth of the Potatoes under these circumstances.

THE PHOSPHATE OF LIME.—Mr. MILES, M.P., suggested that the consulting chemist of the Society should be directed to report to the Council the proportion of phosphate of lime contained in the crystalline specimen of phosphate from Estremadura, presented to the Council by Mr. Loudesley, which last year Council had, in the first instance, called the attention of the Society to the value of the important mineral substance in question, and the proportion of that salt ascertained in the organic remains occurring in Mr. Pusey's land, and referred to by Prof. Way, at the last monthly meeting of the Council. Mr. Miles thought it would also be interesting to the members to have specimens of these organic remains placed on the table for the inspection of members.

The New York State Agricultural Society transmitted seven volumes of their transactions, along with a copy of their diploma, and an impression of their seal. Dr. B. P. Johnson, their secretary, at the same time favoured the Society with a copy of the Proceedings at the Annual Fair at Watertown, Conn.

The Council then adjourned to Wednesday next.

Farmers' Clubs.

BOTLEY: *Hedgerow Timber.*—In the annual report of this club, just issued, we find the following report of a discussion on the Laws relating to *Hedgerows and Timber surrounding arable lands*, introduced by Mr. W. B. Gates.

[illegible] that the [illegible] of the [illegible] hedgerows and timber [illegible] the present day of [illegible] are [illegible] with [illegible] upwards of 7 per cent. [illegible] sacrificed, but [illegible] uff is from under- [illegible] tenant is injured [illegible] too, to the [illegible] barely [illegible] acknowledged. It is the unanswerable [illegible] that I would allude to, [illegible] closures, for were [illegible] mischief [illegible] mit, the [illegible] of anything under [illegible] by the additional time [illegible] stoppages and [illegible] it is that [illegible] such obnoxious [illegible] there are numbers [illegible] plundering the [illegible] by refusing to [illegible] tracting manures [illegible] I will not omit to state I [illegible] contrary is the case, and [illegible] their tenants in working out [illegible] lasting improvements of the [illegible] their tenants' interests, [illegible] by the additional [illegible] large. I can testify to the [illegible] larly of Ash and [illegible] it is [illegible] would on good arable land [illegible] would admit of its removal. I have seen where the roots of Elm trees met each other from one side to the other, with clusters of young shoots springing up at intervals, when I first occupied the land. The Ash I look to be of a greater drawback to the farmer's cultivation, as it will also be invariably found that proportionate to its extreme height will be a corresponding area of totally barren land, which has, as I have before stated, undergone the same expense of tillage, and is subject to all charges alike with the best acres of the land. It needs, I think, but little argument or illustration to prove the existing evil or the vast advantages to be derived by a restitution of the old system of encouraging the growth of timber about arable lands.

STRADBALLY: *Report of Crops.*—For the best 5 acres of Turnips on farm-yard manure, we award the silver medal to Thos. Budds, Esq., Timogue. The variety cultivated is Laing's improved Swede. The crop is well cultivated, uniform, and regularly studded in the drills, sound, and very fully developed for such an unpropitious season for Turnip cultivation. After we had closely inspected this field of Turnips, containing, we consider, about 12 Irish acres, we selected at random a lineal perch of one drill, and tested the weight by beam and scales, which turned up at the rate of 60 tons per acre, with tops and tails; and of bulbs only, 47 tons, 4 cwt., 1 qr. and 14lbs. Joseph Lyons, Esq., Moyanna, was also a competitor in the same class. Mr. Lyons' Turnips, when tested by beam and scales, turned up at the rate of 50 tons per acre, with tops and tails, and bulbs only, at the rate of 40 tons 10 cwt. For the best 5 acres of Turnips, on artificial manure, the competitors were Joseph Lyons and Thos. Budds, Esqrs. Weight of Mr. Lyons' Turnips (purple top Aberdeen), with tops and tails, 52 tons 10 cwt.; of bulbs only, 42 tons 10 cwt. Weight of Mr. Budds's Turnips (purple top Aberdeen), with tops and tails, 48 tons; of bulbs only, 37 tons 5 cwt. We award the medal to Mr. Lyons. For the best 3 acres of Turnips we experienced great pleasure in awarding the first premium (£4) to Mrs. Sydney Cosby; and we are sorry she did not compete for the Royal Agricultural Society of Ireland's medal, as she would have taken it at a much higher figure than the gentleman to whom it is awarded, although it is well merited on his part. Mrs. Cosby's Turnips are decidedly the best which we have witnessed in any part of the county this year. The field in which they are produced was, prior to last winter, stamped with all the characteristics of infertility and unproductiveness—rude in its features—forbidding in aspect—stern and sterile. Before the Board of Works commenced operations in this locality, poverty and destitution had entered many an humble dwelling, where every member of the family was staring it in the face, taking it by the hand, and testing of it with all the vividness of experience. At this critical moment, Mrs Sydney Cosby, with her

characteristic humanity, commenced operations in the field alluded to; thorough-drained and subsoiled with the spade about 20 Irish acres. This work supplied not only the physical necessities of many a poor family, but has increased the value of the said ground fully 1*l.* per acre; and when all expenses are included, we understand that Mrs. Cosby has the present crop at a cost of 20*l.* per Irish acre. The Turnips (Laing's improved Swede), turned up at the rate of 72 tons per acre, of tops and bulbs, and bulbs only, 51 tons 10 cwt. Take the Turnips at 15*s.* per ton (and that is a low price for Swedes), it will amount, at that rate, to 38*l.* 12*s.* 6*d.* per acre. But, to say the least of it, the present crop will amply remunerate Mrs. S. Cosby for all the outlay; and the laudable undertaking is well worthy of imitation throughout the length and breadth of the kingdom. And it also reflects great credit upon her land steward, Mr. Molloy, for the masterly manner in which the whole undertaking has been conducted. Judges, James Clapperton, William Clegg.—*Leinster Express.*

Probus.—At the late annual meeting of this club Mr. Karkeek said he had frequent opportunities of witnessing the want of that proper accomodation on farms, and more particularly with regard to cattle. It was a very common practice in this county for those who are over careful of their cattle to throng them all into close houses,—those feeding and those intended for depasturing in the summer. A great deal of injury was the result of this system of keeping cattle in hot, close, ill-ventilated, ill-drained places during the winter months, which would cause them to incur a number of diseases. He spoke now professionally, as those things came before him almost daily in his practice. For want of sufficient Turnips, such animals as he referred to were frequently turned out early in the spring, and exposed to all the severity of what was termed a late spring, which in this county is sometimes equal in severity to the winter. In consequence the poor animals at the first get what is called a "hoose," something like a cough; but depend upon it, it was generally a very serious matter. The "hoose" was often attributed to the severity of the weather to which the animals had perhaps been exposed for a week; whereas the disease was in the lungs of the animal; it was produced by the hot, stimulated manner in which the animal had been kept during the winter, and the cold to which it was lately subjected, had only been the means of bringing the disease forward. The animal is then taken back again to the close house, where diarrhœa comes on, and after a short time it may get a little better, but generally speaking it would die in the place. He believed this was the case in hundreds and thousands of instances, not only in this county, but in every other county in England. The turning cattle out and exposing them to a late spring, after being kept in those hot close byres for the winter, was also productive of very serious mischief in other ways, But this was not so bad as when animals were turned out in a half-fattened state, as was too frequently the case in this county, from the want of sufficient accommodation on the part of the landlord, and of sufficient green crops on the part of the farmer. The cattle go to Grass early in the spring because there are no more roots to consume, and the consequence is that they lose full six weeks of the condition they have arrived at during the winter. That was a loss of six weeks of food, and of six weeks of Grass, for before that time they do not get into a condition to derive benefit from their food. It has just been observed by Mr. Trethewy that when cattle are turned out from their hot, close confinement during the winter, exposed as they are at that period, they then change their winter coats and put summer ones on. From the hot manner in which they are kept in quiescence, when turned out they have very little on their backs, and are, therefore, very susceptible of the influence of cold and stormy weather. He should state that all animals intended to be depastured in summer should not be kept in too close places during the winter. In Scotland the farmers had loose yards parted off in separate divisions, with sheds attached, where the cattle were assorted during winter, so that the larger could not interfere with the younger ones. This system was better than loose straw yards; they not only kept their young animals in that way, but also their fattening animals, and it was a question to which attention had been directed, whether the hammeling system would not do for feeding as well as the hot and close places he had referred to. His own opinion was that the system was only fit for animals intended to be depastured during the summer; he would keep all animals intended to be fattened in the house; but doubts were entertained as to the best method.

Miscellaneous.

Metropolitan Sewage and Drainage.—From practical observation, I believe that if the noxious matters which, now being left to waste, generate disease and spread desolation over our population, were scientifically collected and transferred to the soil, they would not only remunerate all cost by the abundant fertility they would induce, but would be a mine of wealth to the promoters of any scheme for this purpose, and thus the promoting of self-interest would thenceforward be the security of public health. By means of earthen pipes, small covered cesspools, and stench-traps, I convey all the waste water, including that from the water-closets, chambers, scullery, washhouse, &c., and all other feculent matter in a diluted state, from my residence, stables, sheep-pens, &c., into one end of a large excavated dung-pit, which, being always covered with litter, never allows any escape of noxious effluvia; at the other end of the pit I have a covered well outside, communicating by small openings with the bottom of this pit, from which the fluid manure is lifted by a pump into a covered water-tight cart, and carried upon the fields. The quantity of this liquid manure from my single establishment covers annually about 20 acres, and renders them profusely luxuriant. For the rain-water and springs I have separate and distinct drains, which is an essential arrangement. What should prevent a scheme so encouragingly profitable from being applied in collecting and distributing the liquid manure of towns generally, if incorporated companies were authorised by acts of parliament to enter upon such undertakings? —*Mr. Heyworth, of Liverpool, to the Secretary of the Health of Towns Association.*

Calendar of Operations.

FEBRUARY.

Berwickshire Merse Farm, *Feb.* 18.—Since last report we have been employed ploughing Grass land for Oats, threshing with water power, and dressing; cleaning the stackyard, carrying coals; carrying Turnips, filling drains; cutting Turnips for the sheep, feeding the cattle, cutting Thorns, deepening ditches, &c., for level for the drains.—*J. B.*

Dorset Farm, *Feb.* 22.—For the past week we have been employed ploughing for Barley, Peas, and Beans; and carting dung, threshing Barley, and grubbing out hedges, which will add to our arable ground; and, however the beauty of the country may be marred, it will certainly be of advantage to get rid of the hedgerow timber, though it were only for the saving it will effect in ploughing headlands, where ploughs are often broken among their roots, and horses liable to be injured. Our ewes have now nearly all lambed; we have been as yet very fortunate with them, but I am sorry to say that this has not been the case generally hereabout. Since ours began to lamb they have been kept in a large fold, having Turnips and hay carted for them; when they lamb, they are taken to a shed where they are kept for three or four days, until the lambs get strong, when they have leave to run out into a fold at their pleasure. We have had very unsteady weather for the past week, and little could be done in the fields; as soon as the ground is in a proper state, we shall plant Beans, and sow Peas and Barley.—*G. S.*

East Lothian Farm, *Feb.* 19.—We have experienced rather changeable weather, at times fresh, with a deal of rain, then frost with a considerable fall of snow, which disappeared in the low district in the course of two or three days, and left the land in a very wet state. Work during the week has been threshing for litter and carting grain to market, also threshing Beans, to be ready for sowing when weather will permit, likewise carting lime, &c., for repairs on buildings.—*S.*

Galloway Farm, *Feb.* 21.—We have been engaged in taking up the rest of our Swedish Turnip crop, and find them a good deal injured by the frost. Many thousands of tons throughout the country will, no doubt, be in the same condition. They should be taken up at once, and the worst used speedily. Those which are least affected will of course keep longest, but the very abundant crops we have will probably, from the injury they have sustained, not be found more than is required before the return of Grass. Turnips of the same kind, grown on this farm with the same manure, but taken up in the end of November, are in the finest possible condition, showing clearly the great disadvantage, in every respect, of leaving this crop on the ground throughout the winter, where they exhaust at once the soil and themselves. As the day is lengthening, our feeding cattle now receive their food at five different times: first, at 5 A.M., Turnips; second, at 8, boiled Linseed, Oats, and chaff; third, at 12, Turnips; fourth, at 3, boiled Linseed, Oats, and chaff; fifth, at 7, Turnips.

North Lincolnshire Farm. *Feb.* 19.—We have been engaged since last report in ploughing, threshing Oats, carting Swedes home to store, wheeling out manure from cattle-boxes, carting coals and coke, three single-horse carts lifting yellow Turnips off the land to store for the cows; there were four women and one man filling, two lads driving, two men and a woman putting them down close together, with the top up—five acres occupied them two days and a half; cutting chaff for cattle and horses; three pair of horses leading manure, single carts, each man drives his own two horses, one man assisting to unload at the manure-hill, three men with the driver filling.—*J. U.*

Poultry Farm, Chiswick, *Feb.* 19.—The chickens which were hatched out last August and September are now laying eggs, which are put into the patent Hydro Incubators, and will come out in due course; and some of them may be seen small chickens in a few days. The full-grown poultry are now sold in the neighbourhood as fast as they are got ready for eating at 5*s.* and 6*s.* a couple. Mr. Gaunt is busy finishing incubators for the spring trade, as the season for hatching game and poultry is fast approaching.—*W. J. M.*

Somerset Farm, *Feb.* 21.—We have been occupied in preparing the ground for sowing Beans; the field that we have been engaged in was raftered or ribbed in the fall after Wheat, now harrowed flat, and worked with the cultivator and flat points, and ploughed. We shall sow as soon as possible. Repairing fences and dressing Flax.—*R. C.*

Stirlingshire Carse Farm, *Feb.* 19. — This week having still continued changeable and stormy, we have been for the greater part confined to threshing and dressing grain, both for seed and the market, and such other things as are necessary, with a view of commencing Bean sowing as soon as the weather settles a little, which it has every appearance of doing this afternoon.—*W. F.*

Sussex Farm, *Feb.* 21.—Ploughing for Peas and Barley; if the weather continues fine we shall sow Talavera Wheat, Peas, and spring Tares the first opportunity; threshing Oats, carting litter to yards, earth to mixings, liquid manure on Grass lands, and tiles to drains; men repairing roads and fences, and finishing pond for watering cattle; woman turning Potatoes. Last year we planted our Potatoes on a piece of waste land which formerly grew nothing but Furze. We had the seed from North Wales, which grew a capital crop; up to the present time there is scarcely a diseased one amongst that sort. We had a good crop of Wheat, considering the land, last year, and some of it weighs 64 lbs. per bushel, grown after Turnips, superior to some of our neighbours grown after fallow. Some think the cultivation of Turnips too expensive, they would rather sow corn after corn; but it is a very poor crop indeed that will not pay the labour.—*J. B.*

Notices to Correspondents.

Abortion in the Sheep—*L E S*—The most frequent cause of abortion or casting of the lambs in sheep is the feeding on Turnips, particularly in a wet season like the present. You do not say whether you bred your ewes, or bought them in lamb. If the latter be the case, they might have had Turnips before coming into your possession. However, the mischief appears to have been done, and we cannot suggest any improvement in your mode of keeping the flock. *W. C. S.*

Agreement—*T S P*—If you have no agreement you must be guided by the custom of the country. If it *required* an agreement to hinder the previous tenant from selling his hay, the probability is that you, being unbound, may do so without risk.

Condition of Ireland—*Sir J. M. Tylden, Bart.*, of Milsted, Sittingbourne, informs us that in an old book of travels, published in 1773, by a Mr. Marshall, through various parts of Europe, an account given of the estate and management of a Count Roncellen, in Denmark, is very applicable to the present state of Ireland, and sets an admirable example to the landlords of that country. The whole work is well worth the perusal, and Mr. Marshall is really a pattern for a *useful* traveller. It was "Published by and printed for J. Almon, opposite Burlington-house, Piccadilly."

Downside College Farm—*Agricola*—I beg to inform him we have been in the habit of using about 54 bushels of the compost in question, to which is added 6 bushels of crushed bones, digested in a sufficient quantity of sulphuric acid, making 60 bushels to the acre; it is almost impossible to arrive at a correct idea of the quantity of solid excrements being immersed in a much larger portion of liquid at the time of delivery, but as well as I can judge I would say it forms about one-twelfth portion of the 54 bushels. The cost with us chiefly depends upon the amount of labour employed in collecting and preparing the materials, which on an average I have computed at 3*d.* per bushel. *W. Pippet.*

Eggs keep well in lime water with a handful of salt in it. I have used it many years, and for the last *two* have put the eggs into it in spring, when they are most plentiful, and find it answer as well as getting them in autumn. *Amateur.*

Farm Book-keeping—*C A Marly*—A work on book-keeping in general will give you the principles. We know of none in which they are well developed for the use of farmers. But if you can have patience for a month or two, we can promise you one then.

Gas Lime—*J P C*—It contains very little ammonia, if any. The fermentation you speak of is, in fact, a combustion: the material absorbs oxygen and becomes gypsum, &c.; the gas coming off is little more than the moisture which is driven off by the heat caused by this combustion or union with oxygen. Can any of our readers give our correspondent the particulars of Mr. Leslie's scheme for purifying gas.

Gas Tar—*E S*—It can have no beneficial influence on the charred part, but it may hinder the passage of moisture to that within which is not charred, and *so* may be beneficial.

Grass Seeds for a Sandy Loam—*Constant Reader*—Alopecurus pratensis, 1½ lb.; Avena flavescens, ½ lb.; Dactylis glomerata, 5 lbs.; Festuca duriuscula, 2 lbs.; F. pratensis, 2 lbs.; F. rubra, 2 lbs.; Lolium perenne, 12 lbs.; Poa pratensis, 1 lb.; Medicago lupulina, 1 lb.; Trifolium pratense perenne, 4 lbs.; T. repens, 5 lbs.; in all 36 lbs. per acre with 1 bushel of Barley per acre. *Lawson.*

Guano for Grass Land—*T N H*—3 cwt. per acre of Peruvian, broadcast, in wet weather, about the middle of April.

Harrison's Pills—*A Subscriber* says, "Harrison's pills, for 'the certain destruction of rats and mice,' are prepared and sold wholesale and retail by G. H. Woolley, Chemist, Gabriel's Hill, Maidstone. The mice in my granary would not touch them, and a neighbour of mine makes the same complaint." ——They are to be had of Mr. E. J. Phillipps, 20, High-street, Newport, Monmouthshire; Froom and Son, and Collins, Exeter; J. H. Hall, Mall, Clifton; Hitchcock and Son, Taunton, &c.

Mangold Wurzel Seed—*R W K W*—In the case of crops which are afterwards singled out it is not well to stint seed. We sow 3 to 5 lbs. of Turnip seed, and 6 to 7 lbs. of Mangold Wurzel seed per acre.—As to Kohl Rabi, it is best to sow them thinly in rows in a bed and transplant. Sow in March, and you may transplant in May and June. Mangold Wurzel should be sown about the end of April.

Manures—*Julius*—If you wish to make experiments you must determine to bear losses. You might undertake a series of experiments on Turnips or Potatoes to determine the relative merits of inorganic manures and mixed organic and inorganic. But you run risk of the former failing on your worn out land. If you have stable and liquid manure in abundance, you require nothing else. But you might try this against mixtures of superphosphate of lime and guano and common salt; 20 cubic yards of the former well saturated with liquid manure against 2 cwt. of superphosphate, 2 cwt. of guano, and 2 cwt. of salt mixed would be a pretty fair match. Some of the substances you name we do not know the composition of. Starch refuse and ammonia water might be used well by throwing them over dungheaps; gas-lime, by exposing it for a month or two to the air, and then spreading two or three tons of it broadcast over the Grass land; soda ash is best used along with vegetable composts; and "vitriol washings" we do not know. Stiff land should be thoroughly drained, and then you can effect a wonderful improvement in it by burning it; 100 cubic yards per acre or thereabouts.—About Potatoes, they bear names so exclusively local, that we shall probably give you very little information by recommending the Early Prolific, a white flat oval, and the Axbridge Kidney, a white Kidney Potato for planting. The best general rule for you to follow is, early to plant in early places early sorts.

Permanent Pasture—*E X*—For a good soil of medium stiffness use the following as seed per acre, along with 1 bushel of Barley:—Aira cæspitosa lutescens, 1 lb.; Alopecurus pratensis, 2 lbs.; Arrhenatherum avenaceum, 1½ lb.; Avena flavescens, 1 lb.; Dactylis glomerata, 2 lbs.; Festuca duriuscula, 3 lbs.; F. heterophylla, 1 lb.; F. lobiacea, 1 lb.; F. pratensis, 2 lbs.; Lolium italicum, 3 lbs.; L. perenne, 5 lbs.; Phleum pratense, 1½ lb.; Poa nemoralis, 4 lbs.; P. trivialis, 1½ lb.; Trifolium pratense perenne, 4 lbs.; T. repens, 5 lbs. In all, 38½ lbs. per acre. *Lawson.*

Produce of 1½ Acre—*E Home*—We will publish soon F. O'Connor's account of the produce of *three* acres, which may certainly be called the utmost to be "fairly expected."

Salt—*W S* would be obliged to Mr. Love for a more explicit statement. What is a "quarter" of lime? If he would kindly state the *weights* he uses it would be a good thing.

Shed-feeding of Ewes and Lambs—*A B*—It is very desirable that all animals in milk should have a certain amount of exercise. The pen, therefore, should be large, or other means adopted to admit moderate exercise. With these precautions we believe health can be preserved. *W. C. S.*

Threshing Machines—*Adam*—We use steam; but some other person may answer your question. How many hands should be employed in attending to a four-horse threshing machine: the straw being tied?

Time-book—*Young Farmer*—We know not if it be still published; but you should copy it, and get a neighbouring stationer to make a book for you.

Turnip-taste—*J B H*—The milk from the cow in *a day or two* after its change of diet will cease to possess the taste which the former diet gave it.

*** Communications reaching town after Wednesday cannot be answered till the following week.

Markets.

POTATOES, Southwark, Waterside, Feb. 21.

The Committee report that the arrivals this week, both by rail and coastwise, bespeak a much larger supply of Potatoes in the country than was supposed to be the case. The demand has been very limited, and in every sample less prices have been submitted to; inferior samples are unsaleable. The following are the present quotations:—York Regents, 120s to 160s; Shaws, 130s to 140s; Kent and Essex Regents, 120s to 150s; Shaws, 120s to 130s; Kidneys, 130s to 150s; Blues, 110s to 120s; Wisbeach Regents, 110s to 130s; Blues, 100s to 120s; Kidneys, 110s to 130s.

HOPS, Friday, Feb. 25.

Messrs. Pattenden and Smith report that the demand continues steady for all descriptions of Hops; those with colour are scarce, and command fully as much money.

Mid. & East Kents, p. cwt.	68s to 100s	Yearling Kents, p. cwt...	48s to 60s
Weald of Kents	56 — 72	Yearling Sussex	46 — 58
Sussex	54 — 70	Old Hops	20 — 40
Farnhams	84 — 105		

COVENT GARDEN, Feb. 26.

The market continues to be well supplied, with both Vegetables and Fruit. Pine-apples are plentiful and good. The supply of foreign Grapes is well kept up. Pears and Apples are as plentiful as could be expected considering the season. Of the former, specimens of Beurré Rance and Ne Plus Meuris may be bought at from 3s. to 1s per dozen. Oranges are plentiful, Nuts sufficient for the demand. Filberts fetch from 14s to 2[illegible] per 100 lbs. Lemons are moderately plentiful. Of Vegetables, Cauliflowers, Broccoli, Greens, &c., are plentiful. Asparagus and Seakale may be obtained at last week's prices. A few French Beans have been sold at from 2s. to 4s. per 100. Carrots and Turnips are good in quality. Potatoes realise high prices. Lettuces and other saladings are sufficient for the demand. Mushrooms have not altered in price since last week. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Camellias, Fuchsias, Azaleas, Hyacinths, Acacia, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 4s to 6s	Lemons, per 100, 6s to 14s
Grapes, hothouse, per lb., 6s to 10s	Almonds, per peck, 6s
— Portugal, per lb., 1s to 2s	— sweet, per lb., 2s to 3s
Apples, dessert, per bush., 5s to 6s	Walnuts, per bush., 12s to 18s
— kitchen, p. bush., 2s 6d to 5s	Nuts, Barcelona, per bush., 20s to 22s
Pears, per half sieve, 5s to 8s	— Filberts, per 100 lbs., 14s to 24s
Oranges, per doz., 9d to 2s	— Cob, per 100 lbs., 2[illegible]s to 30s
— per 100, 5s to 12s	— Brazil, per bush., 1[illegible]s to 15s
— bitter, per 100, 8s to 16s	Chestnuts, per peck, 3s to 4s
Lemons, per doz., 1s to 2s	

VEGETABLES.

Asparagus, per 100, 2s to 6s	Onions, pickling, p. hf sieve, 2s to 3s
Savoys, per doz., 4d to 1s	Shallots, per lb., 6d to 8d
Cabbages, Red, per doz., 2s to 4s	Garlic, per lb., 8d to 1s
Greens, per doz. bunches, 1s 6d to 2s 6d	Spinach, per sieve, 1s 6d to 2s 6d
Cauliflowers, per doz., 3s to 6s	Seakale, per punnet, 9d to 2s
Broccoli, per bundle, 1s to 3s	Artichokes, Jerusalem, per half sieve, 1s to 1s 6d
Brussels Sprouts, half sieve, 1s to 1s 6d	Lettuce, Cab., per score, 4d to 9d
Sorrel, per half sieve, 6d to 9d	Endive, per score, 1s to 1s
Potatoes, per ton, 120s to 130s	Mushrooms, per pottle, 1s to 1s 6d
— per cwt., 6s to 10s	Rhubarb, per bundle, 10d to 1s 3d
— per bush., 3s 6d to 4s 6d	Small Salad, per punnet, 2d to 3d
— Kidney, per bush., 3s 6d to 4s 6d	Fennel, per bunch, 2d to 3d
Turnips, p. doz. bunch., 1s 6d to 2s 6d	Savory, per bunch, 3d to 4d
Red Beet, per doz., 9d to 1s 6d	Thyme, per bunch, 2d
Horse Radish, per bundle, 1s to 6s	Watercress, p. 12 small bun., 4d to 6d
Cucumbers, each, 1s to 3s	Parsley, per half sieve, 1s to 1s 6d
Leeks, per doz., 6d to 1s	— Roots, per bundle, 1s to 1s 6d
Celery, per bundle, 6d to 1s 6d	Mint, green, per bunch, 4d to 8d
Carrots, per doz. bunches, 2s to 4s	Marjoram, per bunch, 3d to 4d
Onions, per bush., 2s to 3s	
— Spanish, per doz., 1s to 4s	

SMITHFIELD, Monday, Feb. 21.

The supply of Beasts is rather shorter, and the weather being favourable trade is brisk. It is, however, difficult to get higher prices; a little over 4s. 8d. is made of some of the choicest kinds. There are 247 from Holland, 300 from Scotland, 150 from Ireland, and about 1[illegible]0 from Norfolk and Suffolk. There are rather more Sheep to day; trade is slow, and late prices are with difficulty maintained. We have about 4[illegible]0 from Holland. English Calves are scarce, there being 81 from Holland, the demand is, however, limited, and it must be a choice one to make 5s. 8d. Pigs selling rather better.

Best Scots, Herefords, &c.	4 6 to 4 8	Best Long Wools	4 8 to 5 0
Best Short Horns	4 4 — 4 6	Ditto Shorn	....
Second quality Beasts	3 6 — 4 0	Ewes and second quality	3 10 — 4 4
Calves	4 8 — 5 8	Ditto Shorn	....
Best Downs & Half-breds	5 2 to 5 6	Lambs	....
Ditto Shorn	....	Pigs	4 8 — 5 6

Beasts—2[illegible]68. Sheep and Lambs—6,6[illegible]. Calves—137. Pigs—240.

Friday, Feb. 25.

We have a good supply of Beasts to day. The weather being unsettled, the butchers do not buy largely. Prices must be quoted 2d. per 8lbs. lower on all descriptions, although perhaps a choice Scot makes nearly as much as on Monday. There are 1[illegible]5 from Holland, and about 3[illegible]0 from Scotland; also 150 Milch Cows from the home counties. Although the number of Sheep is again small, trade is very heavy; prices remain about the same as on Monday. English Calves are rather more plentiful, there being only 1[illegible] from Holland. Trade is very heavy; prices range from 4s [illegible]d. to 5s. 9d., the latter being quite the extreme for the choicest qualities. The supply of Pigs is moderate; trade is slow owing to mild weather, but prices remain about the same.

Best Scots, Herefords, &c.	4 4 to 4 6	Best Long Wools	4 8 — 5 0
Best Short Horns	4 2 — 4 4	Ditto Shorn	....
Second quality Beasts	3 4 — 3 10	Ewes and second quality	3 10 — 4 4
Calves	4 6 — 5 6	Ditto Shorn	....
Best Downs & Half-breds	5 2 — 5 6	Lambs	....
Ditto Shorn	....	Pigs	4 4 — 5 4

Beasts—932. Sheep and Lambs—2[illegible]. Calves—168. Pigs—240.

HAY.—Per Load of 36 Trusses.

Smithfield, Feb. 24.

Prime Mead Hay	65s to 72s	New Hay	—s to —s	Straw	24s to 28s
Inferior ditto	55 60	Clover	75 92		
Rowen	48 65	New Clover	— —		J. Cooper.

Cumberland Market, Feb. 24.

Prime Mead. Hay	70s to 75s	Old Clover	[illegible]s to 95s	Straw	28s to 32s
Inferior	50 63	Inferior	70 84		
New Hay	— —	New Clover	— —		Joshua Baker.

Whitechapel, Feb. 24.

Fine Old Hay	65s to 72s	Old Clover	88s to 92s	Straw	24s to 28s
Inferior Hay	50 60	Inferior	65 75		
New Hay	— —	New Clover	— —		

MARK LANE, Monday, Feb. 21.

Messrs. Kingsford and Lay report that the supply of English Wheat by land carriage samples this morning was small, and the condition being somewhat improved, it met a free sale at fully the prices of this day se'nnight. Foreign was more inquired after than of late, at our quotations.—Barley is a dull sale and barely supports our last week's prices.—Beans must be written 1s. and Peas of all sorts 1s. to 2s. per quarter lower.—The Oat trade is heavy at 1s. per quarter decline.—Flour and Rye meal remain unaltered in value.

BRITISH PER IMPERIAL QUARTER.	s	s		s	s
Wheat, Essex, Kent, and Suffolk ... White	50	64	Red	42	52
Norfolk, Lincolnshire, and Yorkshire	45	52	White	48	52
Barley, Malting and distilling, 26s to 29s Chevalier	30	33	Grinding	25	27
Oats, Lincolnshire and Yorkshire ... Polands	22	25	Feed	19	23
Northumberland and Scotch ... Feed	20	23	Potato	22	25
Irish ... Feed	18	22	Potato	22	24
Malt, pale, ship	—	—			
Hertford and Essex	—	—			
Rye	28	32			
Beans, Mazagan, old and new .. 28s to 40s ... Tick	30	42	Harrow	32	44
Pigeon, Heligoland ... 34 50 ... Winds	46	51	Longpod	32	36
Peas, White ... 32 40 ... Maple	36	40	Grey	34	36

ARRIVALS IN THE PORT OF LONDON LAST WEEK.

Flour, 5864 sacks — 90 bls	Wheat. Qrs.	Barley. Qrs.	Malt. Qrs.	Oats. Qrs.	Rye. Qrs.	Beans. Qrs.	Peas. Qrs.
English	6110	12507	98,8	6212	—	1153	8[illegible]1
Irish	—	—	44	5[illegible]	—	—	—
Foreign	17720	2500	—	3143	—	71.0	270

Friday, Feb. 25.

The arrivals of Grain and Flour during the week have been moderate. At this morning's market there was a fair attendance of the trade, and some inquiry for Wheat; Monday's quotations were fully supported, both for English and foreign, but sales of the latter were less extensive than on that day.—We observe no alteration in the value of Barley, Beans, and Peas, with little doing in either.—Oats are a very slow sale at former prices.—Flour and Rye-meal remain as last quoted.

ARRIVALS IN THE PORT OF LONDON THIS WEEK.

	Wheat. Qrs.	Barley. Qrs.	Oats. Qrs.	Flour.
English	3420	3[illegible]90	3[illegible]50	3100 sacks.
Irish	—	—	[illegible]50	
Foreign	6150	2970	1320	— barrels.

Imperial Averages.	Wheat.	Barley	Oats.	Rye.	Beans.	Peas.
Jan. 15	55s 5d	32s 0d	21s 0d	29s 2d	39s 1d	46s 4d
— 22	53 1	30 4	21 1	30 8	38 8	45 2
— 29	52 0	30 8	21 3	31 6	38 7	43 5
Feb. 5	51 2	30 9	21 7	32 0	38 5	42 9
— 12	51 0	31 2	20 7	30 5	38 1	43 2
— 19	50 11	31 3	21 1	32 4	37 1	42 5
Aggregate Average	51 11	30 9	20 11	30 11	38 5	43 10
Duties on Foreign Grain	Free till March 1.					

Fluctuations in the last six weeks' Corn Averages.

Price.	Jan. 15.	Jan. 22.	Jan. 29.	Feb. 5.	Feb. 12.	Feb. 19.
55s 5d	—	...	...	...	...	...
53 1	...	—	...	...	...	...
52 0	...	...	—	...	...	...
51 2	...	...	...	—	...	...
51 0	...	...	...	...	—	...
50 11	...	...	...	...	...	—

SEEDS, Feb. 25.

Canary ... per qr.	6[illegible]s to 70s		Linseed cakes, Foreign, per ton	[illegible] to [illegible]	
Caraway ... per cwt.	3[illegible]	37	Mustard, White, p. bush.	[illegible]s 6d to 8s 6d	
Clover, Red, [illegible]	—	—	Superfine p. bush.	—	—
— [illegible]	—	—	Brown, p. bush.	—	—
White, [illegible]	—	—	Rapeseed, Eng., per last	[illegible]	32[illegible]
— Foreign	—	—	Rape cakes ... per ton	[illegible]	6l
Coriander [illegible]	[illegible]	[illegible]	Sanfoin	—	—
Hempseed [illegible]	[illegible]		Tares, Eng., winter, p. bsh.	7s 0	8s 0
Linseed ...	[illegible]	[illegible]	Foreign, per bush.	4s 6	6s 0
— Baltic ...	[illegible]	42	Trefoil	17s 0	2[illegible]s
— Cakes, Eng. [illegible]	[illegible]		Tares—too variable for quotation.		

Sales by Auction.

TO NOBLEMEN, GENTLEMEN, AND NURSERYMEN.—IMPORTANT SALE OF CAMELLIAS, [illegible] of the finest plants in the country, [illegible].

MR. J. C. STEVENS is favoured with instructions from Messrs. Loddiges, of Hackney, [illegible] the near expiration of the lease [illegible] to announce for sale by Auction, on the premises, [illegible] 1st March, and following days, at 12 o'clock, [illegible] tion of their stock of CAMELLIAS, [illegible] it early fine growth come to [illegible] of the favourite varieties, [illegible] flower buds.—May be viewed the [illegible] sale, and Catalogues had, on the premises, [illegible] J. C. Stevens, 38, King-street, Covent-garden.

TO GENTLEMEN, NURSERYMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE and MORRIS will submit to public competition by Auction, on the premises, [illegible] lane, Preston, on Wednesday, March 1, at 11 o'clock, [illegible] of J. Dawson, in consequence of the [illegible] remaining NURSERY STOCK, [illegible] Ornamental Trees and Shrubs, [illegible] British Queen Strawberries, &c. Also the GREENHOUSE PLANTS, comprising choice Roses, Botanical Geraniums, &c., together with a capital Greenhouse, [illegible] Mould, &c.—May be viewed prior to the sale. Catalogues may be had on the premises; of the principal seedsmen; and of the Auctioneers, American Nursery, Leytonstone.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will submit to public competition at the Auction Mart, Bartholomew-lane, on Friday, March 3d, 1848, at 12 o'clock, about 600 fine STANDARD ROSES, comprising all the leading varieties; also a fine assortment of Ornamental Trees, fine Dwarf Roses, choice Dahlias in dry roots, &c. May be viewed the morning of sale, and Catalogues had at the Mart; and of the Auctioneers, American Nursery, Leytonstone.

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TO BE DISPOSED OF, and entered upon immediately, a Highly Respectable and Flourishing NURSERY AND SEED BUSINESS, in one of the most prosperous and increasing towns in England, 50 miles from London, with an extensive resident gentry. There are about Five Acres of ground with a well selected Stock, on the edge of the town, which boasts of one of the finest agricultural districts in the kingdom, in which is held weekly one of the largest Corn Markets. Railway and Canal conveyance to all parts of the kingdom. This affords an opportunity rarely met with for investment. Part of the valuation may remain on approved security, as the proprietor is retiring.—Apply to Adam Burn, Esq., Great Carter-lane, Doctor's-commons, London. None but Principals need apply.

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Apply to Mr. Wyatt, Troy House, Monmouth; or to Mr. John Thompson, Surveyor and Draining Engineer to the West of England and South Wales Land Draining Company, 6, Bedford Circus, Exeter.

TO BE LET, an Old Established NURSERY, in a provincial town, well situated for business, and within ten minutes' walk of a Railway Station. The establishment consists of a Seed-shop, Greenhouses, House for Propagation, Pits, &c.; together with about 10 Acres of Ground well stocked with Evergreens, American Plants, &c. Should the Land be thought too much, less may be had.—Apply, if by letter, to A. B., Office of this Paper; or personally, to Messrs. Hurst and Co., Seedsmen, Leadenhall-street, London.

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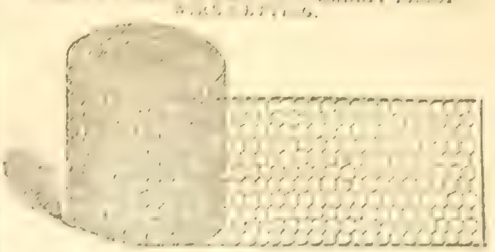

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Division of Profits.—The increasing prosperity of this Society has enabled the Directors at the Annual Meeting held on the 12th May, 1847, to declare a fifth bonus, varying from 35 to 85 per cent, on the premiums paid on each policy effected on the profit scale.

EXAMPLES.

Age.	Sum Assured.	Annual Premium.	Policies taken out in	Bonus in addition to Sum Assured.	Bonus in Cash.	Permanent Reduction of Annual Premiums	Sum the Assured may borrow on Policy.
				£ s. d.	£ s. d.	£ s. d.	£ s. d.
			1837	243 9 3	112 8 5	18 4 6	494 8 10
			1838	218 4 8	99 8 10	15 13 5	445 0 0
	£	£ s. d.	1839	192 1 10	86 9 3	13 4 9	395 11 1
30	1000	74 3 4	1840	113 5 10	66 8 4	9 19 1	346 2 3
			1841	138 14 2	61 17 6	9 9 2	296 13 4
			1842	111 6 8	49 10 0	7 10 4	247 4 5

The Annual Report, with Tables of Rates, &c., may be had at the office, or any of its branches in the country; or, on application, will be forwarded post free.

F. FERGUSON CAMROUX, Secretary.

RESTORATION OF THE HAIR.—To Messrs. A. ROWLAND and SON, 20, Hatton Garden, London.—"Linton, Cambridge, October 25, 1847.—Gentlemen: A striking instance of the efficacy of your Macassar Oil, in the restoration of the Hair, has just come under my notice. The person alluded to is a young man named Haylock, of Ashdon, near this place, whose entire head of hair came off by some unaccountable means. He purchased of me several different popular preparations, which he regularly and faithfully used, but without effecting the least apparent change. At last I advised him to try a 3s. 6d. bottle of your Macassar Oil; and, on Friday last, he communicated to me the pleasing intelligence of the reappearance of a thick head of hair. You can make what use you please of this, and refer any inquirers to, yours respectfully, J. SERGEANT, Bookseller, &c."

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CONTENTS OF No. II.—*Coloured Drawing of Correæ, Gaines's Brilliant.*—Our Illustrations—Gaines on Correæ var. Brilliant—Turner on the Cultivation of the Pansy (*continued*)—Points of Perfection in the Pansy. With Woodcut—Dr. Horner's Letter to the Editor—Dobson on Roses in Pots—Neville on the Management of the Auricula for February—Descriptive List of Pansies—Rivers on Christmas Roses. With Woodcut—The Calceolaria: its Management—On packing Flowers—Descriptive List of Carnations and Picotees—Neville on the Cultivation of the Polyanthus in Pots—Treatment and Culture of the Antirrhinum—On the best mode of Reporting winning Stands of Florists' Flowers—Russian Violets—Keep your Glass clean—Edwards' Lists of 50 first-rate Carnations, 50 Picotees, and 50 Pansies, given by the most eminent Growers.

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Printed by WILLIAM BRADBURY, of No. 6, Stoke Newington-terrace, and FREDERICK MULLETT EVANS, of No. 3, Sussex-row, Stoke Newington, both in the county of Middlesex, Printers, at the office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the Office, No. 5, Charles-street, in the parish of St. Paul's, Covent-Garden, in the said county, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY, FEB. 26, 1848.

THE GARDENERS' CHRONICLE AND AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News. The Horticultural Part Edited by Professor Lindley.

No. 10.—1848.] SATURDAY, MARCH 4. [Price 6d.

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GEORGE SMITH begs to refer the readers of the *Gardeners' Chronicle* to his Advertisement of Feb. 12th and 19th, for a description of his universal SEEDLING FUCHSIAS and VERBENAS. G. S.'s Catalogue contains of the above every novelty of the season, which can be had on the receipt of one postage stamp.

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Manor Farm, Deptford, March 4.

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25 Azaleas, American varieties [illegible]	
6 Andromedas [illegible]	
12 American [illegible]	
25 Small [illegible]	
12 Rhododendrons, in [illegible] hardy varieties	
12 Hardy Hybrid Rhododendrons [illegible]	
New Yellow [illegible]	
6 Fine Hardy Mountain [illegible]	
12 Rare Hardy [illegible]	
Magnolia grandiflora [illegible]	
100 Dwarf Roses, two [illegible]	
50 Ditto ditto [illegible]	
Standard and half-standard [illegible]	
12 Climbing or Pillar Roses [illegible]	
Cloth of Gold and New Persian [illegible]	
12 Tea Roses [illegible]	
50 Choice Greenhouse plants, [illegible]	
Azaleas Indica, choice varieties [illegible]	
blooming plants, per doz.	
Choice Ericas [illegible]	
25 Herbaceous Border [illegible]	
12 Double White and Blue [illegible]	
New Petunia Purple [illegible]	
Cinerarias and Calceolarias, best new sorts, strong plants, per dozen	
Best Petunias, Verbenas, Geraniums, Fuchsias, Pentstemons, Heliotropes, [illegible]	
Phloxes, two plants [illegible]	

25 Papers of Choice Flower Seeds, [illegible] free by post; also List of [illegible] Plants, &c. All [illegible] Horticultural and Agricultural [illegible]

Albion Nursery, Stoke Newington, London, March 4.

BASS and BROWN'S DESCRIPTIVE PRICED CATALOGUE OF SEEDS [illegible] post on application. For [illegible] of the VEGETABLE SEEDS [illegible] the Chronicle dated Jan. 8th, page 18; Jan. 22nd, page 4; 5th, page 82.

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50 varieties ditto [illegible]	
20 varieties best dwarf [illegible] filling beds on lawns, [illegible]	
20 varieties best Greenhouse [illegible] splendid Balsam, [illegible] Mesembryanthemum [illegible] Thunbergia, Maurandya, &c.	
20 varieties [illegible] choice varieties of [illegible] Petunia, &c.	
20 varieties choice Hardy [illegible]	
20 varieties [illegible]	6
20 [illegible]	

(For List of Flower Seeds [illegible]

Our Descriptive [illegible] PEAS, GERANIUMS, [illegible] DAHLIAS, [illegible] VERBENAS, [illegible] PANSIES, [illegible] SHRUBS, [illegible] PLANTS, may be had [illegible] on application [illegible] MARKET GARDENERS [illegible] Remit orders [illegible] Specifications [illegible] Seeds.

PLANTING SEASON.

EDWARD DENYER begs to intimate that he has still on hand a fine Stock of Standard and Dwarf Roses, Fruit, Forest, and Ornamental Trees, Evergreens and Deciduous Shrubs of all sizes. E. D. begs also to apprise his patrons he is prepared to lay out Gardens and Pleasure Grounds on the most extensive and approved plans, at very moderate charges, including Trees, Shrubs, and Flower Roots, &c., by contract or otherwise. A General Catalogue sent on a prepaid application. Orders to the amount of 5*l.* and upwards sent, carriage free, within 100 miles, and to the amount of 2*l.* within 50 miles, of London.—Nursery, Brixton, near London.

KITCHEN GARDEN SEEDS.—No. 1.—A complete collection, consisting of 20 quarts of the best kinds of PEAS, and all other seeds in proportion, and of the best sorts, sufficient for one year's cropping of a large garden the choicest Melons and Cucumbers inclusive)...£3 3*s.*

No. 2.—Complete collection, in smaller quantities, equally choice sorts ... ...£2 2*s.*

No. 3.—Ditto Ditto Ditto ... ...£1 1*s.*

No. 4.—Ditto (this is sufficient for a gentleman's small garden) ... ...12*s.* 6*d.*

No extra charge made for packing.

If there should be any sorts of seeds that would not be wanted in the collection, increased quantities of those most desired would be sent. References will be given if required to some of the principal families in England, Ireland, and Scotland, who purchased collections last season. All orders to be accompanied with a remittance or reference from unknown correspondents.

A General Catalogue of Horticultural and Agricultural Seeds may be had on application.

Seeds carefully packed for exportation.

WM. JAS. EPPS, F.H.S., High-street, and Bower Nursery, Maidstone.

SEED POTATOES.

CHARLES SHARPE, NURSERY and SEEDSMAN, respectfully begs to direct the attention of the Nobility and Gentry to his superior sorts of POTATOES, which, having been grown on the Lincoln and Cambridgeshire marshes, has afforded the advertiser ample opportunity to witness their progress for the last three seasons; he is, therefore, able to recommend the following sorts as being very productive, and the least affected by the disease, and offers them at the following prices, packing included:—

Early Cockneys, fine for forcing	7*s.*	per bushel of 56 lbs.	
Fox's Seedling, ditto	ditto...	7*s.*	,, ,,
American Natives,	ditto...	5*s.*	,, ,,
Ash-leaf Kidney		8*s.*	,, ,,
York Regents		5*s.*	,, ,,
White Kidney, very fine... ...		5*s.*	,, ,,
Early Shaws		5*s.*	,, ,,
Kent-h Pink Kidneys		5*s.*	,, ,,

The above will be forwarded immediately after the receipt of a Post-office Order, and the greatest care will be taken to ensure their safe delivery.—Direct, prepaid, to CHARLES SHARPE, Wisbeach, Cambridgeshire.

WOODLANDS NURSERY, MARESFIELD, NEAR UCKFIELD, SUSSEX.

WM. WOOD AND SON beg leave to draw attention to their very extensive collection of HERBACEOUS PLANTS, which they have much pleasure in offering on the following terms, when the selection of sorts is left to themselves, viz.—

	per doz.	per 100.
Distinct and showy kinds	6*s.* ...	42*s.*
Very superior ditto	9 ...	60
Extra Superb ditto	... 12 ...	75

PHLOXES.

Fine varieties	per doz.—6*s.*
Choice ditto	,, 9
Very select ditto	,, 12

Catalogues of the above, also of Roses, Seeds, Greenhouse Plants, and Shrubs, may be had Gratis on application.

TO PLANTERS.

THE SUBSCRIBER has to offer the following SEEDLING FOREST TREES, &c.

Ash, 1 year	per 1000, 2*s.* 6*d.*	Gorse, 2 yrs.,	per 1000, 10*s.* 0*d.*
Broom, 2 years	.. 15 0	Hollies, 2 years	.. 15 0
Elm, English, bedded 2 years	.. .. 12 0	Oaks, 3 years ..	.. 8 0
Gorse, 1 year ..	.. 7 0	Whitethorn, 1 year	.. 3 0

TRANSPLANTED FOREST AND ORNAMENTAL TREES.

Acacias, 4 to 6 ft., p.100, 15*s.* 0*d.*	Chestnut, Spanish, 2 to 3 feet per 1000, 50*s.*
Alders, 7 to 9 feet .. 8 0	Do., Horse, 6 to 8 ft., per 100, 25*s.*
Ash, 3 to 4 feet, p. 1000 30 0	
Beech, 6 to 8 feet, p. 100 15 0	

Elms, the true Huntingdon, raised here, 3 to 4 feet, 12*s.* per 100
,, ,, ,, 4 to 6 feet, 15*s.* per 100
,, ,, ,, 8 to 10 feet, 55*s.* per 100
,, Hertfordshire, at the same prices.
,, common English, 3 to 5 ft., 55*s.* per 1000
Fir, Spruce, 2 to 2½ ft., 50*s.* per 1000
,, Silver, 2 to 3 ft., 80*s.* p. 1000. Hornbeam, 8 to 10 ft., 15*s.* p.100
Limes, red-twigged, from layers, 8 to 9 ft., 70*s.* per 100
Maple, 3 to 5 ft., 35*s* per 1000
,, Norway, 8 to 10 ft., 25*s.* per 100
Oak, English, 3 to 4 ft., 50*s.* per 1000; 4 to 6 ft., 65*s.* per 1000
,, Turkey, 5 to 7 ft. 15*s.* per 100
Pine, Scotch, 2 to 3 ft., 35*s.* per 1000; 3 to 4 ft., 8*s.* per 100
Poplar, Black Italian, 5 to 7 ft, 40*s* per 1000
,, Lombardy, 7 to 8 ft., 25*s.* per 100; 8 to 10 ft., 35*s.* p. 100
Sycamores, 3 to 4 ft., 25*s.* per 1000
Willows, Bedford, 4 to 5 ft., 30*s.* per 1000

ORNAMENTAL TREES.

Acacia (Robinia), several fine species, dwarfs, 9*s.* per doz.; standards, 12*s.* per doz.
Ailanthus glandulosus, 8 to 9 ft., 12*s.* per doz.
Althæa frutex, a fine collection, 9*s.* per doz.
Ash, 12 fine sorts, amongst which are the gold-barked, Chinese, heterophylla, &c., 12*s.* per doz.
Beech, Fern-leaved, 2 to 3 ft., 9*s.* per doz; 3 to 5 ft., 15*s.* per doz.; 6 to 8 ft., 24*s.* per doz.
,, Purple, 2 to 3 ft., 8*s.* per doz., 50*s.* per 100; 3 to 4 ft., 10*s.* per doz., 75*s* per 100; 4 to 5 ft., 15*s.* per doz.
,, Weeping, 12*s.* to 18*s.* per doz.
Berberry, several sorts, 6*s.* per doz., 40*s.* per 100
Birch, Poplar-leaved, 25*s.* per 100
Elms, fastigiata, curl-leaved, silver-striped, &c., 12*s.* per doz.
Thorns, 24 varieties, including new double scarlet, dwarfs, 10*s.* per doz; standards, 15*s.* per doz.
Laburnums, standards, fine, 6*s.* per doz., 40*s.* per 100
Lilac, sorts, 25*s.* per 100 Mountain Ash, 5 to 6 ft., 12*s.* per 100
Maple, Eagle's Claw and several choice kinds, 9*s.* per doz.
Oak, fine collection of American species, 9*s.* per doz, 50*s.* p 100
Roses, a fine mixture for shrubberies, 21*s.* per 100
Aucuba japonica, 2 ft., fine, 50*s* per 100
Laurels, 2 to 3 ft., fine, 20*s.* per 100; Portugal, 2 to 3 ft., 50*s.* do.

Other Ornamental Trees, Evergreens, &c., at similar charges, of which a Catalogue may be had.

Not less than 6 will be sold at the dozen price, 25 at the hundred price, and 500 at the thousand price. For smaller quantities a slight increase will be charged.

N.B.—The above charges are for ready money.

SUSAN WOOD, Nurseries, Huntingdon.

POTATO SEED.

MR. JOHN HAYWARD, Lymington, Hants, has a very fine parcel of POTATO SEED saved the last season with great care from Potatoes without disease. He will forward a packet to any address, on receipt of 13 postage stamps.

MANGOLD WURZEL.—Yellow or Orange Globe, 1*s.* 6*d.* per lb. Epps' Long Giant Red, 1*s.* 6*d.* per lb. The above are warranted.—WM. JAMES EPPS, Agricultural Seedsman, Maidstone.

TURNIP SEEDS.

A STUART has on sale a considerable quantity of the under-mentioned Turnip seeds, all of the very best description and perfectly genuine. Purple Topped Swedish, Green ditto, Purple topped Yellow Bullock; Skirving's Improved ditto, Dale's Hybrid, Green Barrel. Prices (very moderate) may be had on application, post-paid.

Kelso, March 4.

TO THE PLANTERS OF BRITAIN.
IMMENSE SACRIFICE IN PRICE.

JAMES GRIGOR, NURSERYMAN, Norwich, begs to state that he has just received notice that a strip of his Nursery Ground will be required for building purposes in the course of a few months. In order to clear it immediately, he offers the various sorts of Trees, &c., at such prices as will ensure a ready demand. The only sorts suited to distant purchasers are the following.

EVERGREEN OAK, 1 year old, 5 to 8 inches, very fine, 10*s* per 1000.
BERBERIS AQUIFOLIUM, 1 ft. 3 year Seedlings, 25*s.* p. 1000
Do. do. 6 to 8 inches. ..... 20*s.* ,,

If planted by the sea-side, on poor land, with a dry bottom, the Evergreen Oak becomes a large Tree. From recent experiments at Holkham, it is found to produce a most valuable and beautiful timber. It is extremely hard, and susceptible of the finest polish.

FINEST LAWN GRASS SEEDS, Carriage free to London or Bristol.—The great expence of cutting and laying turves may be avoided, and a very superior FINE GRASS LAWN produced in a short time by sowing "SUTTON'S LAWN GRASS SEEDS," consisting solely of the finer short growing kinds, perfectly free from weeds. The quantity required to make a new Lawn is 3 bushels to the acre, price 25*s.* the bushel, or 4*s.* per gallon. Also, PERENNIAL MEADOW GRASSES, mixed to suit the soil for which they are required, at 32*s.* per acre; or any of the kinds may be had separate.

White Belgian Carrot, Yellow Globe, and other Mangold Wurzels; Liverpool Swede and other Turnips of superior quality. Any information required will be supplied in answer to application made to JOHN SUTTON and SONS, Reading, Berks.

*** N.B. Carriage free to London or Bristol.

IN consequence of the decease of my Father, I take an early opportunity sincerely to thank those numerous kind friends and patrons who, during the period of 23 years, liberally favoured him with their esteemed commands; and to inform them, that the business will be continued as heretofore. By strict attention to all orders, which will be executed with accuracy and despatch, I trust to receive a continuance of that kind support so long conferred upon my late lamented Father. All persons having any claim upon the estate are requested to forward the same, and from those who stand indebted an early remittance is respectfully solicited.

SAMUEL WIDNALL, Grantchester Nursery, Cambridge.

DOUBLE STOCKS EXTRAORDINARY.

H. J. HARDY begs respectfully to thank his numerous Friends and the Public for their kind patronage, and to inform them that he has a little seed left of his SPLENDID DOUBLE GIANT STOCK, which he is sending out in packets 1*s.* each, or 12 postage stamps. It is of a brilliant scarlet, grows 4 feet high, flowers from the very bottom to the top, very thick, and very large bushy plants. The flowers are as large as the top of a common-sized tea cup, and very double. All lovers of superb flowers should have a succession of this.

H. J. H. also has the finest collection of Double Larkspurs, German Asters, and Hollyhocks in Europe, at 3*s.* 6*d.* per collection. 100 Choice Annuals, 20*s.*

H. J. HARDY, 7, Windsor-place, City-road, London.

ROBERT COOPER has the following fine new CALCEOLARIAS, Seedlings of 1847, to offer, which are now ready for sending out.

	s.	*d.*
Hebe, orange and deep red, finely spotted and marked ...	7	6
Juno, crimson and cream-coloured ground, finely marked	7	6
Ceres, light crimson spotted, on buff ground	7	6
Achilles, bright crimson marked, on yellow ground ...	7	6
Una, cream ground, with red spots	5	0
Dido, dark reddish brown, with yellow markings ...	5	0

Or 1*l.* 15*s.* the set.

FUCHSIAS.

Twelve Plants of the following for 21*s.*—White Perfection, Renown, Picta, Jehu, Prince Albert (Jenning's), Leucantha (Low's), Beauty of Leeds (Nichol's), Purity (May's), Constellation, Compacta, Martha, Gipsy, Goliah (Barkway's), Atrosanguinea, Comte de Beaulieu, Madame Pele (Salter's), Lady Wm. Powlett, Aurantia (Tiley's), Ellen (Cripps'), Goliah (Turville's), Beauty of St. Leonards, Miranda, Rose d'Amour (Knight's), Hailstorm, Lady Peel.—Or 2*l.* the set.

SCARLET GERANIUMS.

Twelve Plants of the following for 12*s.*—Fireball (Smith's), Prizefighter improved, Tom Thumb, Lord Farnborough, Brighton Hero, Waterloo, Queen Perpetual, Mrs. Mayler, Britannia, Globe Compactum, Grove's Scarlet, Nosegay, Lady Charlotte, Smith's Superb.

VERBENAS.

Twelve Plants of the following for 15*s.*—Coronet, Mountain of Snow, Satellite, Antagonist (Pearson's), Fair Ellen, Victory (Manley's), Gem of the Whites (Bell's), White Perfection, Emperor, Cyclops (Smith's), Candidissima, Amulet, Reine d'Amour (Knight's), Imperial Blue, Bicolor grandiflora, Imperatrice Josephine, Bicolor odorata, Rosea elegans.—Or 1*l.* the set.

Van Houtte's Spiræa prunifolia pleno, 1*s.* 6*d.* to 2*s.* 6*d.* each.

Petunias, fine named sorts, 6*s.* to 12*s.* per dozen.

The above are now all ready for sending out, in well established plants. The usual allowance to the Trade.

Sion Nursery, Croydon, March 4.

GERANIUMS selected Show Varieties, 12 of which may be selected for 20*s.*; the plants are fine, some of which are showing flower buds:—Orion, Vesta, Sylph, Superb, Sarah Jane, Standard of Perfection, Duchess of Leinster, Rosetta, Sultana, Conflagration, Hybla, Duke of Cornwall, Trafalgar, Robin Hood, Manchester Queen, Lady Howick, Matilda, Thunderer, Othello, Chimborazo, Flora, Pompey, Milo, Goliah, Gipsy Maid, and Rosetta Superba. Others at 9*s.* per dozen.

FUCHSIAS, select Show Varieties, in strong plants, 1*s.* each, or 9*s.* per dozen:—Bianca, Beauty of Leeds, Rose d'Amour, Jupiter, Mary Ann, Delight, Duke of Norfolk, Lowerii, Candidissima, Marchioness of Camden, Cassandra, Rosabella, Exoniensis, Serratifolia, Nymph, Cleopatra, Corallina, Delicata, Countess of Cornwallis, Sanspareil, Acantha, Napoleon, Duchess of Sutherland, Dr. Jephson, London Rival. Others, 6*s.* per doz.

ROSES, a large assortment in pots, prepared for forcing, from 12*s.* to 30*s.* per doz. Best Hybrid Perpetuals and Bourbons, not in pots, selection left, 9*s.* per doz.

SAMUEL WALTERS, Florist, &c., Hilperton, Trowbridge, Wilts

HELIOTROPIUM PERUVIANUM, VAR. VOLTAIREANUM

THIS beautiful variety, fine blue violet, with light centre, immense trusser, and more odorous than the old one, is now ready and can be had in two stages of growth, viz., nice bushy plants struck in autumn and very healthy, 12*s.* per dozen. Well-rooted plants struck since Christmas and potted off about three weeks, 9*s.*; 1*s.* extra for basket.

CUPHEA PLATYCENTRA.—This plant the Advertiser is happy to say has given, last season, universal satisfaction; it makes an exceedingly pretty and neat bed, and is admirably for rustic stands and vases.

FUCHSIAS.—One of the Ring, Napoleon, Corallina, Exquisite, Compte de Beaulieu, Armede. Good strong plants of these desirable varieties 7*s.* 6*d.* the half dozen.

BEGONIA FUCHSIOIDES.—Nice bushy plants of this handsome variety 1*s* 6*d.* each.

PHILIP CONWAY, Earl's Court Nursery, Old Brompton.

HURST AND M'MULLEN beg to offer the following choice FLOWER SEEDS for the present season.

Acacia pulchella & other vars.	Lobelia erinioides
Achimenes, choice vars.	,, cardinalis, 1*s.*
Alstrœmeria major, very fine	Lophospermum Hendersoni
,, Van Houtte's vars.	,, scandens
Anagallis of sorts	,, spectabile
Anemone vitæfolia	Lupinus speciosus (new)
Andirrhinum Foulerii superba,	Lychnis fulgens
Aquilegia fragrans, 1*s.* [1*s.*	Martynia fragrans
,, glandulosa	Magnolia odoratissima
Ardesia crenulata	Marcanthus cœrulea
Asters, imported German, 24	Maurandya Barclayana
splendid varieties, 5*s.*	,, rosea
Brachycome iberidifolia, new white	Mimulus, 8 fine vars.
Do, 12 splendid colours, mixed	,, regina, fine musk-scented, 1*s.*
Balsam, 12 choice vars., 4*s.*	Mimosa margina
Cactus, fine mixed	Mirbelia reticulata
Calceolaria, very choice, 1*s.*	Nemophila grandiflora alba
Campanula grandis	Œnothera Drummondi
,, pulcherrima	,, taraxacifolia
Ceanothus azureus	Oxalis rosea
Centaurea diluta	Oxybaphus violaceus
Chænostoma polyantha	Pentstemon Chandlerii
Chorozema Chandlerii, 1*s.*	,, diffusum
,, 4 other vars., 1*s.*	,, roseum
Cineraria macrophylla (yel.), 1*s*	Petunia, from 20 splendid vars.
,, choice mixed, 1*s.*	,, Beauty
Clintonia pulchella	,, new spotted
Clerodendron, 2 sorts	Physianthus albens [mixed)
Cobæa scandens	Phlox Drummondi (choice
Cockscomb, new giant scarl., 1*s*	,, ,, scarlet, 1*s.*
,, 12 imported vars., 4*s.*	,, ,, oculata, 1*s.*
Commelina, new white	,, ,, alba, 1*s.*
Cuphea platycentra, 1*s.*	,, ,, Leopoldii, 1*s.*
,, strigulosa	Picotee, fine imported, 1*s.*
,, viscosissima	Pink, from named flowers, 1*s.*
Cytisus of sorts	,, double white Indian
Dahlia, from choice vars.	Pimelea hispida
Dillwynia glycinifolia	,, spectabilis
,, clivata	,, sylvestris & other vars.
Didiscus cæruleus	Platylobum, 2 vars.
Diplolæna Damperii	Podotheca capitata
Dianthus aggravatus pleno	Polyanthus, from choice colln.
Erysimum alpinum	Portulaca Thellusonii
Euphorbia, mixed vars.	,, splendens
Forget-me-not	,, Gilesii
Fuchsia, from choice colln., 1*s.*	,, new yellow, 1*s.*
Geranium, fine mixed, 1*s.*	Potentilla, 6 choice vars.
,, scarlet (Tom Thumb)	Primula sinensis rosea
Gesnera, mixed	Do., alba; do., new giant, 1*s.*
Gloxinia macrophylla	Do., 8 splend. vars. mixed, 1*s.*
,, alba	Do., farinosa; do. veris
,, maxima	Pultenæa, 2 sorts
,, rosea	Salpiglossis, 20 vars. mixed
,, rubra	,, new yellow, 1*s.*
,, 6 vars., mixed	,, new blue
Gompholobium of sorts	Salvia patens, 1*s.*
Goodia of sorts	Schizanthus retusus superbus
Heliophila trifida, 1*s.*	Schizopetalon Walkerii
Heartsease, very choice	Swainsonia, 2 vars.
Hibiscus calisurus	Spiræa Lindleyana
,, Cameronii	Scutellaria splendens, new
Hollyhocks, 12 fine vars., 3*s.* 6*d.*	Stocks, collection, 36 imported vars., 6*s.*
Hovea Celsii	Stocks, new White Pyramidal
Hydrolea spinosa, 1*s.*	,, Rosella, new Brompton
Ipomœa Burridgii, 1*s.*	,, fine white Giant Cape
,, rubro-cærulea, 1*s.*	Tetranema mexicana
,, tricolor azurea	Thunbergia, 4 vars.
,, Tyrianthina	Trachymene cœrulea
Impatiens glanduligerus alba	Tropæolum tricolorum, 1*s.*
Ipomopsis picta	,, Jarrattii, 1*s.*
,, aurea	,, pentaphyllum, 1*s.*
Kennedya of sorts, 1*s.*	,, trimaculatum, 1*s.*
Lantana Sellowii	Veronica Lindleyana
Lisianthus Russellianus, 1*s.*	Verbena, fine mixed
Larkspurs, 12 choice vars., 3*s.* 6*d*	Violet, Russian
Loasa Herbertii	Viscaria Burridgii, new white,
Lobelia ramosus	,, new dark [1*s.*
,, propinqua	

All the above at 6*d.* per packet, except marked otherwise.

FRAME CUCUMBERS.

Arnott's Cheltenham Surprise, 2*s.* 6*d* per packet	Myatt's Linnæus Rhubarb, 3*s.* 6*d.* per root
Butcher's Celebrated White Spine, 1*s.** [1*s.**	Josling's St. Alban's Grape
Butcher's Hybrid Black Spine, And 10 other choice vars.	Soden's Early Oxford Potatoes, 3*s.* per peck
	Haigh's Seedling, 2*s.* 6*d.* p. peck
Melons, Beechwood, Cabul, and all the most approved sorts	Bryan's Prolific, 2*s.* 6*d.* p. peck
	True Ash-leaved Kidneys, 2*s.* 6*d.* per peck.

* These two kinds took the prize at the Regent's Park Show.

6, Leadenhall-street, March 4.

GLASS FOR CONSERVATORIES, GREENHOUSES, PIT FRAMES, &c.

HETLEY AND CO. are supplying the above article, packed in boxes containing 100 square feet each, of BRITISH Manufacture, at the following reduced prices for cash A reduction on 1000 feet.

Sizes. Inches.		Inches.		Per foot.	Per 100 feet.
From 6 by 4	to	8 by 6	at	2½*d.* is	£1 0 10
8 ,, 6	,,	10 ,, 8	,,	2¾*d.* ,,	1 2 11
10 ,, 8	,,	14 ,, 10	,,	3*d.* ,,	1 5 0
14 ,, 10	,,	20 ,, 12	,,	3½*d.* ,,	1 7 1
20 ,, 12	,,	40 ,, 14	,,	3¾*d.* ,,	1 9 2

21 oz. from 3*d.* to 5½*d.*, per square foot, according to size.
26 oz. ,, 3¾*d.* 7½*d.* ,, ,, ,,
32 oz. ,, 4*d.* 9½*d.* ,, ,, ,,

GLASS TILES AND SLATES made to pattern any thickness.
PROPAGATING, FLOWER, FRUIT, AND VEGETABLE GLASSES of every size and description.
BEE HIVE GLASSES from 4 to 12 in. diameter.
GLASS MILK PANS, from 12 to 26 in. diameter.
GLASS SHADES, as ornamental to, and for the preservation of every description of goods susceptible of injury by exposure. Prices, since the removal of the Excise duty, reduced one-half. List of Prices forwarded on application to JAMES HETLEY and Co., Glass Shade, Sheet, Crown, and Patent Plate Glass Warehouse, 35, Soho-square, London.

NURSERYMEN, SEEDSMEN, AND FLORISTS TO HER MAJESTY, THE QUEEN.

THE VERY BEST FUCHSIAS, VERBENAS, PANSIES, CINERARIAS, PETUNIAS, CARNATIONS, PICOTEES, AND PINKS, CHRYSANTHEMUMS, PLANTS FOR BEDDING, &c. &c., AS WELL AS CONIFERÆ AND ORNAMENTAL PLANTS will be found in YOUELL AND CO'S CATALOGUE, which may be had on application.—Great Yarmouth Nursery.

GREAT FALL IN SEEDS

J. G WAITE'S present prices of GARDEN AND FLOWER SEEDS is now ready, and can be had on application at his Wholesale Seed Establishment 181, High Holborn.—London, March 4.

The Gardeners' Chronicle.

SATURDAY, MARCH 4, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

Monday,	March 6	Entomological	8 P.M.
		Horticultural	3 P.M.
Tuesday	— 7	Linnean	8 P.M.
Wednesday,	— 8	Society of Arts	8 P.M.
Saturday	— 11	Royal Botanic	4 P.M.

We suspect that more persons than would choose to acknowledge it are unaware of the curious fact that LIGHT, as it reaches us, consists of the three distinct colours, red, yellow, and blue; and that each colour possesses a power peculiar to itself; that the yellow conveys light, the red heat, and the blue chemical action. In the absence of the proofs which exist of the certainty of these facts, it would seem incredible that red, yellow, and blue should form a colourless mixture. So it is, however, and we need not go into the evidence. Suffice it to say that the ordinary white light can be decomposed, that is to say, the red, yellow, and blue can be nearly separated, and the separate action of each ascertained.

Of the philosophers who have occupied themselves with these curious researches, our countryman, Mr. HUNT, is the one who has more especially investigated the relation which the different colours of light bear to vegetation. His views were given in this paper on the 16th August, 1845, and a full report of a very curious lecture on the subject by the same gentleman appeared in our columns last week. Mr. HUNT believes that his original views were correct; and we shall, therefore, put them into the following popular form.

YELLOW LIGHT (*luminosity*), impedes germination and accelerates that decomposition of carbonic acid which produces wood and woody tissues. Under its influence leaves are small and wood short jointed.

RED LIGHT (*heat*) carries heat, is favourable to germination, if abundance of water is present, increases evaporation (or perspiration), supports the flowering quality, and improves fruit. Under its influence colour is diminished, and leaves are scorched.

BLUE LIGHT (*chemical action* or *actinism*) accelerates germination and causes rapid growth. Under its influence plants become weak and long-jointed.

Supposing these facts to be as stated, it would appear that they might be applied to purposes of horticulture; for instance, that the scorching effect of the sun might be prevented by the use of blue glass, that a high temperature might be obtained by the use of red glass, and so on. Experiments, however, are much wanted upon this subject: for it is obvious, and by no means improbable, that unexpected difficulties may occur in applying the facts above-mentioned to practice; and that although the luminous, heating, and chemical rays may be *separated*, there may be no means of *blending* them in such proportions as will render the artificial light thus created adapted to the purposes of vegetation. It is, indeed, improbable, to say the least of it, that any artificial light should be as well suited to plants as that which has been provided for them by the great Author of the Universe.

It is, however, to be remembered that plants in hot-houses are necessarily exposed to a light rendered in some degree artificial by the glass through which it passes: and therefore it is really a serious question what kind of glass is best suited for conservatories. We should have said that the probability is in favour of the whitest, as being that in which the three primitive colours are most entirely blended. Mr. HUNT, however, looks at the question differently, and has suggested a pale *green* glass, made with oxide of copper; by means of which "the scorching" rays of light are to be excluded, but no hindrance given to the free passage of luminosity and chemical force, the green colour being a compound of yellow, or luminous, and of blue, or chemical rays. Whether he is right or not, will in time be seen; for the truth of his theory has been tested on a gigantic scale in glazing the vast conservatory at Kew.* The glass employed there is of the most delicate emerald green. Viewed from within, and at right angles, it appears colourless, seen obliquely from within the green is apparent; viewed externally the tint is very decided, and when the sun strikes it at a particular angle it presents a most curious and beautiful appearance, the whole surface that is illuminated glowing like a mass of gigantic fiery opals.

Mr. HUNT appears to have been led to advise the use of this glass because "since the employment of German sheet glass in conservatories, *a glass distinguished by its freedom from colour*, it had been found that the more delicate kinds of exotic plants had been injured by a sort of scorching when under the influence of the sun's rays in particular aspects. This had been observed in a striking manner in a hothouse for Orchids and Ferns erected a few years ago in the Royal Botanical Gardens at Kew." We cannot say that we attach any importance whatever to the statements that are current upon this subject. We do not believe one word about sheet glass scorching more than crown glass. That some sheet glass may scorch is likely enough, though we do not happen to have seen it; just as crown glass will sometimes scorch, as every gardener of experience is aware. But this cannot, we think, arise from the glass being in the one case made into flat sheets, and in the other into round tables, even although there is some trifling convexity in the latter. If these kinds of glass are alike in composition they will, we believe, be alike in their effects upon plants, notwithstanding the mechanical differences in their manufacture. If indeed they are not alike in their composition, why in that case a difference in their action is conceivable. Mr. HUNT says that manganese, used in the ordinary construction of glass, if in the slightest excess, has the curious property, when under the influence of light, of imparting a pink tinge; and according to his views the slightest approach to redness would allow the free passage of the rays it is so important to obstruct.

This we do not deny; but as manganese is used in the manufacture of both crown and sheet glass, we do not see how sheet glass becomes inferior to crown glass on that account.

The whole series of statements unfavourable to sheet-glass appears to us to be founded upon misapprehension. We entertain little doubt that the scorching which has been complained of has arisen from a high temperature caused by imperfect ventilation. In the old crown glass houses the panes were small, the laps large and numerous; and thus an abundance of apertures existed through which heated air could freely pass. In sheet glass houses the panes are long, the laps few or none, and the means of escape for heated air reduced to a minimum. In many cases (*query* whether not in all) no sufficient provision is made for the removal of the dry and scorching heated air. Hence arise unexpected accidents, which have been erroneously ascribed to the quality of the glass rather than to the imperfect construction of the houses. As we have long maintained, the vice of hothouse architects is their neglecting the most important of all things except light, viz., the power of keeping the air of glass houses in active motion, even in powerful motion, when required; and the complaints about sheet glass only confirm us in our opinion. This seems to us a far more probable explanation of the cause of unhealthy foliage than the presence of a minute quantity of free manganese in glass, or the imaginary effect of "undulations and contortions and concentrations," which if they have any existence, will occur more in crown glass than in sheet.

AMONG the signs of the times, which those who run may read, is the establishment, in Edinburgh, of a BOTANICAL DEPARTMENT in the seed warehouse of Mr. R. STARK, of No. 2, Hope-street. Here are to be purchased all sorts of materials and apparatus required for studying and preserving dried specimens of plants, or for aiding the young student in pursuing his inquiries. Such a fact shows the value which the Scotch place upon Natural History as a branch of garden education, and will, we trust, be a hint to young English gardeners which they will not neglect.

It is clear that the North Britons are resolved to struggle hard to preserve that traditional horticultural superiority which they enjoy over the Southrons: and it is equally clear that unless the English and Irish bestir themselves, the superiority which is now but traditional will become real. We have, however, no fear for the issue. There is no difference in the national intelligence: the whole distinction lies in the foresight of the working classes. Such barbarous opinions as that a gardener should know nothing but gardening do not exist north of the Tweed: and we shall be much mistaken if the good sense of Lochaber will not [illegible] resting-place here. [illegible] only advocate of the [illegible] gardeners in [illegible] who call them [illegible] claim to the [illegible] gent, and who [illegible] of better men.

To such persons [illegible] dener is join[illegible] cannot, look up [illegible] them. Let [illegible] our companion [illegible] our judgment: [illegible] system which, [illegible] energie of [illegible] which is to be found in [illegible] vance of horticultural [illegible] the last 50 years, [illegible] period the education [illegible] struggling on its way. [illegible] struggle, and no one knows better [illegible] what the great difficulties [illegible] the most intelligent of [illegible] head of British Horticulture [illegible] in raising them [illegible] once the envy and [illegible] the difficulties are [illegible] ers on obstacles [illegible] rate, and we confidently believe [illegible] long been a struggle will ere long become a triumphal march.

In one of ZSCHOKKE'S German [illegible] personage is introduced who is always [illegible] progress, urging it on to the [illegible] of one of the heroes of his party.

"Dost thou know, Isenhofer," said he, "what the Avoyer Effinger thinks of thee? That thou art good for nothing, he says, but to blow the fire when thou oughtest to quench it. By my poor life, I believe he was right."

"Perfectly right, Sir Knight, *although the old man did not understand his own words*," replied the poet. "That is my true trade. We have nothing better to do in the world than to blow with full cheeks the divine fire which [illegible] over their toys and houses of cards. They try to quench the holy flame of truth: I always blow—blow—blow!"

It is that habit of blowing the embers of discussion—always in need of it—which produces the marvellous effects observable in the condition of the working classes in free countries, when compared with the same portion of society under repressive governments; and which, in raising the humble and lowly, ever carries higher and higher the great, who float on the waves of popular progress. The value of ISENHOFER'S counsels [illegible] in this kingdom, and we advise [illegible] to imitate his example; to blow—gently and [illegible]—but always—to blow—blow—blow. The harmless flame so aroused will be brilliant and steady, and will serve to illuminate the dark paths through which they, in common with all [illegible] must pass ere they reach that honour and distinction which is the ultimate end of every man's endeavours.

WE asked if Sir UVEDALE PRICE were quite correct in every portion of the passage which we last quoted from him. The very opening words can scarcely be reconciled with his description (so beautifully expressed) of the variety and intricacy exhibited in one single tree. But when he writes so strongly, not only against *clumps*, which he hated with a pure and perfect hatred, but against "*all* plantations and woods where the trees grow close together," he does that which is not uncommon with him—he pushes his views rather too far.

It surely must depend much less on the *extent* of the demesne to be laid out whether trees be admitted or banished completely. If they are dotted at wide intervals over a wide park they will be much more ridiculous in effect. If on the other hand they are studded over grounds of limited space—brought near as they [illegible] to the house, their stems, naked and [illegible] will convey no pleasure to the eye. It is in the space which ranges between the mere [illegible] and the immense park that clumps may be effectively introduced. And no one proves this more clearly by his own specimens than BROWN, whom PRICE delighted so much to abuse.

With regard again to "large plantations and woods," PRICE'S wholesale condemnation of them does not seem to rest on sound principles. It is obvious that to produce a good effect in a landscape such plantations or woods must be placed quite in the distance. By the side or [illegible] run-

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* The *Gardeners' Journal* has informed its readers that BLUE glass is used in this case. The editor even goes so far as to add that he has received a sample of glass "of a decidedly deeper tint of BLUE than the glass used at Kew." Oh!

* *Vernicle*, or *the Free Court*. [illegible] recent volume of the "Parlour Novelist," a very cheap collection of modern literature, sold at [illegible] a volume.

ning water afar off—or clothing the side of a hill or mountain—we doubt if such a plantation, well proportioned and placed, can ever look "mean" or "heavy." It is very true that much will depend on the trees selected. Let them be well chosen in respect to hue and form, and of the beauty which must result there can be no fear whatever.

Still, in doing this, there are some good rules to be observed. "It is not enough," says Price, "that trees should be naturalised to the climate—they must also be naturalised to the landscape, and mixed and incorporated with the natives. A patch of foreign trees planted by themselves in the outskirts of a wood, or in some open corner of it, mix with the natives much like a group of young Englishmen at an Italian *conversazione*. But when some plant of foreign growth appears to spring up by accident, and shoots out its beautiful but less familiar foliage among our natural trees, it has the same pleasing effect as when a beautiful and amiable foreigner has acquired our language and manner so as to converse with the freedom of a native, yet retains enough of original accent and character to give a peculiar grace and zest to all her words and actions." The illustration is certainly whimsical enough; but it contains manifest truth. And like all such illustrations, impresses the truth on the mind more effectually than the most solid and even masterly argument.

There is another rule—a rule of warning—a rule which has been much needed in these latter days; and Price lays down both the true and false principles excellently well. "Variety, of which the true end is to relieve the eye, not to perplex it, does not consist in the diversity of separate objects, but in that of their effects when combined together—in diversity of composition and of character. Many think, however, they have obtained that grand object when they have exhibited in one body all the hard names of the Linnæan system; but when as many different plants as can well be got together are exhibited in *every* shrubbery or in *every* plantation the result is a sameness of a different kind, but not less truly a sameness than would arise from there being no diversity at all; for there is no having variety of character without a certain distinctness—without certain marked features on which the eye can dwell. In a botanical light such a Linnæan collection is all very well; but it is about as good a specimen of variety in landscape, as a line of Lilly's Grammar would be of variety in poetry:

'Et postis, vectis, vermis societur et axis.'"

And then the author adds truly enough in his own peculiar way: "a collection of hardy exotics may be considered a very valuable part of the improver's pallette, and may suggest many new and harmonious combinations of colours: but then he must not call the pallette a picture."

We make no apology for these quotations. They all contain true principles well expressed. And with regard to the errors last condemned, the censure was assuredly never better deserved than now. An attempt has been made, as is well known, to classify trees and groups of trees after this fashion for landscape purposes: and few attempts have ever more signally failed. It is an attempt not to be justified by any truth in principle, or by any effect in beauty: and Price has put the case so clearly that no countervailing assertions or arguments can possibly be adduced.

On his various remarks concerning the use of particular trees, we shall say no more at present than that as a whole they are very judicious, and worthy of the study of every Landscape Gardener. But there is one use of trees which involves a great degree of Taste and Care—we mean when they are introduced as screens or boundaries. On this subject we incline to differ from Price in some respects: but a full contemplation of the objects to be thus aimed at—of the means to be used in their accomplishment—and of the principles on which those means are to be applied, will well reward us for our time and trouble.

We are happy to say that the Clergyman's Son whose case we mentioned last week (p. 134), is provided for. As we expected, several offers of assistance were immediately made by gentlemen who know how to feel for such a case.

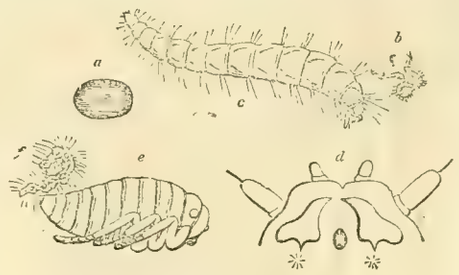
ENTOMOLOGY.

The Common Flea (Pulex irritans.)

Everybody knows that common domestic insect, the flea; but it is not everybody who knows that it undergoes a series of changes as singular as those of the butterfly or beetle; being first a minute egg, then a long slender worm-like larva, then an inactive pupa enclosed within a cocoon spun by the larva; and lastly, the perfect flea itself. My object in this article is to describe these transformations, and to add a practical suggestion for the easy destruction of these little pests.

During the course of the past summer, having dropped a very minute insect on the floor of my library, close to the spot where one of my spaniels is in the habit of lying near my feet, I was obliged, in order to find it, to sweep the carpet very carefully with a fine brush upon a piece of white paper. By doing this I found my specimen; but I also discovered a number of very small, white, worm-like larvæ, which I immediately recognised as those of the common flea. I was not sorry to make this discovery, being anxious to examine the structure of this larva, and especially that of the parts of its mouth (hitherto undescribed), in consequence of the interesting position which the perfect insect occupies in the classification of hexapod insects, forming, as it does, a separate order, to which the name of Aphaniptera has been applied, from no wings being visible upon the insect, although their representatives exist in the shape of two flattened scales on the sides of the body attached to the proper wing-bearing segment.

The female flea deposits about a dozen white, slimy eggs of an oval form (fig. *a*, one of the eggs very highly magnified), and which are of a rather large size in proportion to that of the parent insect. The larvæ are hatched in summer at the end of five or six days. They are at first white, but subsequently assume a slight reddish tinge, with a dark, longitudinal streak down the back, which is the dorsal vessel. They are long and slender (fig. *b* represents a group of four of them of the natural size, and fig. *c* one of them highly magnified). The body consists of 13 segments, gradually but slightly tapering towards the head, the segments being armed at the sides with strong bristles. They are destitute of legs, but are nevertheless able to crawl along with great rapidity, using the parts of the mouth and the appendages at the end of the body in locomotion. When disturbed they writhe about in a serpentine direction, or coil themselves up spirally, remaining for a short time immovable, and thus easily escape observation. The head is small and conical, furnished with two short antennæ composed apparently of two joints, the basal one being very short, and the outer one terminated by a brisle (fig. *d* represents the front of the head seen from above, very highly magnified); the mouth is furnished with two large brown horny jaws, pointed in a slight hook at the tips (fig. *d***), and the lower part of the mouth seems to consist of a large fleshy somewhat bilobed lip, furnished with two very minute 2-jointed palpi. I also observed a small semi-globular tubercle on each side of the head behind the antennæ, which may be the rudimental eyes. The terminal segment of the body is furnished with two small deflexed hooks, preceded by a coronet of minute setæ, and which are evidently employed in walking.



When full grown these larvæ assume the pupa state, having first entirely voided the remains of their undigested food, as is the custom with other larvæ. All the larvæ which I kept encased themselves within a cocoon of a silky texture, and of an ellipsoid form, of a whitish colour within, and greyish externally, often covered with minute particles of the adjacent materials. Rösel, however, observed that some of the larvæ underwent these changes without forming a cocoon. The pupa enclosed within the cocoon bears considerable resemblance to the perfect insect, with this difference, that the legs are folded close on the sides of the body, and the insect is inclosed within a thin pellicle, each of the limbs being covered by a distinct case; of course during this period the insect remains quite inactive, but as soon as the period for its final transformation arrives it stretches forth its limbs, and casts off the thin pellicle with which it had been covered, and then appears as a perfect flea. Figure *e* represents the pupa highly magnified, with the cast skin of the larva (fig. *f*) attached to the extremity of its body.

One curious question still remains to be decided in the natural history of this insect, namely, the nature of the food of the larva. Although the perfect insect is generally found on warm-blooded animals and man, there is no question that it is capable of breeding to a vast extent in places not frequented by such animals. Rooms left for a long time vacant, and some hot sandy localities, may be found occasionally swarming with fleas. At all events the larvæ are never found on the animals attacked by the perfect insects. M. De France, who endeavoured to determine the question, found numerous small black grains in company with the eggs or larvæ of the flea, and which he asserts become the food of the larvæ, being nothing else than dried drops of congealed blood, which, upon being moistened, immediately reassume a fluid state and red colour. These grains have been generally regarded as the excrement of the perfect fleas, but M. De France considers them to be in fact drops of blood which have fallen from the wounds made by the flea. My own opinion, now that the remarkably powerful structure of the jaws of the mouth has been discovered is, rather that the larvæ roam about and feed upon hairs or particles of woollen or feathers lying on the spots frequented by the animals attacked by the perfect flea.

The knowledge of these facts in the economy of this insect suggests that by carefully sweeping carpets, mats, &c., on which dogs or cats are in the habit of lying, and by collecting the sweepings in a dust-pan and burning them (instead of allowing the larvæ to creep away into cracks of the floor or even in the hollows between the threads of the carpet), we may destroy the larvæ in great numbers, and thus prevent them from arriving at their perfect troublesome form. Had I not adopted this plan last year, my library would have produced scores of fleas, although my dogs are regularly washed every week, as well as sent into the river Thames.—*J. O. W.*

MANAGEMENT OF WOODS.

(*Continued from p.* 134.)

Mr. Brown asserts that if Fir-trees stand at a greater distance than one-third their height they will grow coarse and branchy. "Pinus" also confirms this, and says that every forester of any experience can bear testimony to the truth of it. But he is wrong; for I know, and could easily name a number of foresters who would bear testimony to quite the contrary; and although in his idea my experience is very little, I will tell both him and Mr. Brown that they will never produce fine quality of timber by their system. They will, indeed, by their practice prematurely ripen their timber; for every one knows that sickly and diseased trees cannot live out the term of their natural existence. Close planting will neither prevent coarseness nor branchiness, the cause of which does not arise from the external position of the trees at all; it arises from the subsoil. And as Mr. Brown tells us in the "Forester" that he is acquainted with the north of Scotland, and has been at Invercauld, I will give him an opportunity of satisfying himself on this point by recommending him to visit and inspect the woods on that very estate, and those in the neighbourhood of it, the forest of Mar, the estates of Balmoral and Abergeldy; and to the north and eastward the estates of Delgatty, Duff House, Auchenterel, Balvennie, &c., and a large portion of the woods lying betwixt Fochabers and Forres, he will find on some of these estates some of the best specimens of Scotch Fir in the kingdom, but he will also find hundreds of acres both natural and planted, standing closer even than he recommends, which will never be anything but bushes, many patches of large extent 30 and 40 years old, not 10 feet in height, and never will be. To a certain extent this will be found to be the case with Scotch Firs on tilly retentive subsoils everywhere, but more especially where moorband prevails, and the same will be found to be the case with other species both of Fir and hard-wood trees where the subsoil is uncongenial to their nature. Beech, for instance, on retentive clay, whether on a high or low situation, will be found short in the stem and branchy, although planted close; and on dry light loam on a porous subsoil it will be clear and tall, although standing alone on high ground. This fact shows the great necessity of a planter having a thorough knowledge of soils, as well as the plant best adapted for them.

But to revert to the "Forester," he says that "trees kept as nearly as possible at the distance specified," viz. one-third of their height, "naturally prune themselves as they advance in height; for as soon as the lower branches of the Fir and Pine tribe become confined, and a want of due air ensues in the body of the plantation, they gradually die and fall off without in the least injuring the quality of the timber." This is a mere assertion as to the quality of the timber. What is the cause of the trees pruning themselves? "A want of due air." That is to say, disease occasioned by the want of one of the indispensable necessaries of life; if that does not injure the quality of both animal and vegetable, common sense and experience has been sadly at fault, and Mr. Brown has made a wonderful discovery. Why do gardeners (as a body the best cultivators of trees), put themselves to so much unnecessary trouble to produce fine specimens of plants, by placing them in situations where they will have free circulation of air, unobscured supplies of light, unobstructed scope for their roots, and copious effusions of atmospheric moisture? Just because they well know that they could not have plants of great magnitude or good quality if they were to grow them on Mr. Brown's principle, which they know to be contrary to experience. As for Mr. Brown's hard-wood trees, planted at 7 to 10 feet apart, they must be completely smothered by the Firs before he thins at 10 or 12 years after planting; but supposing they were not, I would ask him can these trees arrive at anything like a marketable size standing at that distance? He knows that not one out of 20 will, even although all his Firs were to be cut out at 10 or 12 years; and what will be the value of his Firs at that time? it will not be denied that they cost something in the nursery, something in planting, and that they have by this time done injury to double the amount of both. Truly it is no wonder that proprietors are averse to plant, when they see hundreds, and, in many instances, thousands of acres of woods on their estates treated in the manner recommended by the "Forester," which have yielded them nothing but cost and disappointment, and such instances come almost daily under my observation and inspection. It is high time that this absurd system were exploded, and one founded on something like common sense adopted.

As to "Pinus's" concluding assertions, all I have to say is that they are made in total ignorance of the

person and system that he and the foresters with whom he converses has chosen in unmeasured terms to condemn. One, however, I cannot pass over, in which he says, "I believe Mr. Young's chief object is to remedy neglected and mismanaged woods." Upon what he grounds his faith I do not know, and can only say he is mistaken as to my chief object, although I must confess I have not a little to do in attempting to remedy such woods as he describes, and it is the most unpleasant and unsatisfactory part of my business. He goes on to say "the latter may be attributed to proprietors in many cases not keeping regularly bred foresters." I will only ask him where are they to be had? When he returns an answer I may have a few words to say to him, and I shall take an early opportunity of impressing upon the mind of his respected employer, for his own advantage, the propriety of causing "Pinus" carefully to study and endeavour to understand the principles laid down in the article he was pleased to put into his hands, and insist on his putting them into practice.—*Jas. Young, Land and Wood Surveyor. Perth, Feb.* 12.

EXTRACTS FROM MY NOTE-BOOK.

(*Continued from page* 52.)

Rubus arcticus, L.—This is a beautiful little species, seldom exceeding 3 inches in height. It grows in a crespitose mass on account of its runners sending up shoots all around the plant; it produces abundance of flowers of a deep rose colour. It thrives well in a sandy peat border in a shaded situation, where it will increase rapidly. It may also be grown in pots in light sandy peat with plenty of drainers, and should be placed in a shaded situation along with other alpines. It was to be found formerly on some of the western islands of Scotland, but it may now be extinct, as it has not been observed for many years.

Cherleria sedoides, L., grows only on some of the higher highland mountains; it has nothing to recommend it except rarity, and is only fit for a botanic garden; it should be grown in pots in sandy peat and loam mixed with charcoal, and it may be readily increased by dividing. Its position should be amongst alpines.

Jasione montana, L.—A pretty annual even in its wild state; is to be found on many dry barren commons, and under cultivation it rivals many garden annuals; it grows from 18 inches to 2 feet in height, and branches all up the stem, the glomerate heads of flowers being much larger than on the wild plant. It will grow on light sandy, rather moist, soil. Self-sown plants come up in spring abundantly where the old plants flowered, but the seeds are well worth saving, with a view to introducing the plant into the flower-garden.

Campanula patula, L., is a showy annual or biennial, which grows chiefly under hedges and in thickets in several parts of England. The seeds vegetate freely in any common garden soil, and the plants are worthy of a place in the flower-garden.

Dianthus Caryophyllus, L.—Growing, as this does, on the ruins of old castles and other places, where the roots are dry, it requires to be placed on an elevated part of rock-work; when planted in the common soil, it frequently perishes from wet in winter.

Dianthus plumarius, L., also grows on old ruins and walls, and was first detected by Mr. Leighton in Shropshire; it will succeed in any common garden soil, and produces abundance of seeds.

Cornus suecica, L., is a neat dwarf plant, which succeeds well in light, sandy peat in a shaded border, where it will spread itself by underground stoloniferous roots. It may also be successfully cultivated in pots, in sandy peat, allowing plenty of room for its shoots to run about in the pot. The yellow bracts give it a pleasing appearance when in flower. It is readily increased by dividing it in spring.

Ulex nanus is a low-growing, prostrate plant, which seldom attains more than 15 inches in height, and that chiefly by the young shoots growing upright; for they always become decumbent in the second year, and ultimately prostrate. It is a very different plant from the dwarf, upright-growing sort, which is also called *U. nanus*. It appears to agree perfectly with the description given by Mr. Edwin Lees, in the plants of the Malvern Hills, under the name of Ulex intermedius, which he considered to be a nondescript species. A plant of Ulex europæus growing beside it, and of the same age (8 or 10 years), is now 6 feet high. It is not an uncommon plant on some of the barren heaths in Surrey, and will grow in any light garden soil.

Lychnis alpina, L.—This pretty little plant is found on some of the higher mountains of Scotland; it should be grown in well drained pots in light peat, and placed amongst alpine plants. It may be slowly increased by dividing it in May.

Luzula spicata, D. C.—This scarce Rush, from the higher highland mountains, has nothing except rarity to recommend it; it must be grown in pots in peat and loam mixed with charcoal, and requires to be placed in a shaded situation amongst alpines, and to have frequent but slight waterings overhead in dry weather. It may be increased slowly by dividing it in spring.—*David Cameron.*

Home Correspondence.

Carrion about the Roots of Trees.—My gardener says that he has often put carrion about the roots of Apple and other trees, and that he is quite sure the trees have been destroyed in consequence; the grub produced by the carrion having fed on the vital parts of the wood. Would you have the goodness to say whether others have made the same remark.—*R., Fermoy.* [We apprehend that in this case the carrion acted by destroying the vitality of the roots, which were then attacked by the grubs which feed on decaying vegetable bodies.]

Temperature.—I saw a statement in your Paper of the 19 h ult. of a sudden change of temperature which took place in Fifeshire, on the 29th Jan. last, viz., that the thermometer "at 7½ A.M., was at 4° below zero, and at 7½ P.M. at 35°." On the same day, I found my registering thermometer, in a N.E. aspect, had been down to 16½° in the night; at 8¼ A.M. at 25½°, and at 4 P.M. at 33½°. On the 28th 25° was the lowest, and on the 30th 32½°. At no other time since October, has the thermometer here been lower than 34°, and only at that once, viz., the 1st inst. On the 18th Nov. you had it at Chiswick at 19°, here it was 30°, and that was the only frosty night during the month. This speaks well of the temperature of the western coast of Cumberland.—*S. S., Ponsonby, Calder-bridge, 10 miles S.S.E. of Whitehaven, Cumberland, Feb.* 26.

Queries.—Can any reader favour me with the best mode of lining a brick cistern to make it water-tight with warm water. I have tried Portland and Roman cement, but find neither of them to answer. Also the best mode of fixing lead or iron pipes in the cement.—*Tyro, Feb.* 26.

Shanking of Grapes.—I agree with the notion that shanking of Grapes is caused by the roots and the branches being under different states of temperature and cultivation. I was in a Vinery last year where all the Vines had their roots outside, except one; and that one was the only Vine free from shanking. I examined them with special reference to this point.—*T. A. K.*

Dumelow's Seedling Apple.—An article, which I beg to state is incorrect, appeared in last week's Number relative to the origin of this Apple. It was raised by a respectable farmer, named Dummeller, of Shackerstone, a small village in Leicestershire; one mile from Gopsall Hall, the seat of Earl Howe, and six from Ashby-de-la-Zouch. Amongst the first plants of it, which he gave away, was one to a friend of his at Normanton, another village, about three miles from him, whence no doubt it derived the name of the Normanton Wonder. Dummeller is generally pronounced Dumelow, even in the immediate neighbourhood; I know the family well and have frequently heard them speak of the Apple in question.—*M. Henderson, Coleorton Hall, Feb.* 29.

As Forced Asparagus, Sea-kale, Mushrooms, and Rhubarb form an important item in every extensive establishment through the winter, the best and at the same time the most economical method of producing them should form no ordinary part of a gardener's attention. Asparagus being in great request here, and no provision for forcing it having ever been adopted, except the destructive one of taking up the roots and forcing them in brick pits or dung beds, I entreated permission to adopt a more permanent and less expensive plan. But before I give my method I will offer a few remarks on articles on the subject by Mr. Ingram, Mr. Errington, and "C. H." I will pass over Mr. E.'s favourite mode with the remark that it is the very plan I am most anxious to number with the things that were, except where it can be afforded to have an acre of ground under crop with successional Asparagus; for it would require that breadth of land in extensive establishments, in order that the plants might acquire sufficient age and strength to produce good heads in early winter. "C. H." agrees with Mr. Ingram respecting the superiority of hot water in this process, over the old hot-bed method of Mr. E., yet he practices Mr. E.'s mode, employing hot water in the place of fermented dung, of destroying the roots annually; and had I to choose one of the two methods, I should prefer the dung bed, or, what is better, a range of Melon frames, on M'Phail's plan. As to Mr. Ingram's improved Frogmore pits (a woodcut representation of which is given in your Paper of Dec. 18, 1847)—first, are not 7 feet beds too wide? will the pipes have sufficient power to heat beds of that width uniformly? would it not have been better to have had the beds only 4 feet or 4 feet 6 inches in width? Secondly, would it not have been preferable to have had the flow-pipe laid in a trough or tank? would the heat not have been more congenial, as to moisture, &c.? Thirdly, the spaces the pipes traverse being securely covered with stone, without frequently moistening the pipes and spaces, will the roots not suffer from the dryness of the pipes? Mr. I. speaks of dung-beds producing long, blanched, flavourless stems; but by his method of closed wooden shutters, are they not more likely to produce Asparagus more, far more, blanched than the old dung-bed, which is generally covered with glass! But, perhaps, I may not understand Mr. I.'s plan in all, or in its most essential bearings. It is well known that permanent pits for forcing Asparagus, with dung linings, in the pigeon holed manner (or, as they used to be termed when I first knew them, M'Phail Asparagus pits), were constructed after this manner; the beds were 4 feet wide, 3 feet deep, the sides consisting of 4½ inch brickwork, pigeon-holed within two courses of the top, finishing with a stone coping, which projected ½ or ¾ in. on each side, and 6 in. in depth. The spaces for linings were 2 feet or 2 feet 6 in. wide, the beds 12 feet long, and fitted with wooden covers exactly as shown in Mr. Ingram's section; the covers are hinged, so as to facilitate the gathering, giving air, &c. It is upwards of 20 years ago since I became acquainted with the above plan, and by having a series of beds so as to rest them two or three years, they used to produce splendid Grass. After the forcing season, the dung was removed from the spaces, which were [illegible] with vegetable refuse, weeds, rakings of borders, manure of stable, in fact they here [illegible] was left in until forcing time again. [illegible] worked admirably, but the [illegible] always a work of destruction, [illegible] Nature. The beds having [illegible] spaces having been kept [illegible] through the pigeon holes in search of food, [illegible] found no lack of in the [illegible] complete mass, which by [illegible] order that the spaces might be [illegible] dung, were dragged out [illegible] Nevertheless, in my opinion, [illegible] which expedites the [illegible] tion of the root could be [illegible] of bed, with the [illegible] arranged last autumn [illegible] will be built as stated above, [illegible] coping to project over the [illegible] extra projection will be placed [illegible] flag, similar to grey slate, [illegible] of the pigeon holes, covered [illegible] keep the roots within bounds, [illegible] space from the bed. A [illegible] answer the same purpose on [illegible] Cucumbers, but would very much [illegible] beds will be 15 feet long, 4 feet 2 [illegible] linings 2 feet 6 inches all clear [illegible] of the wooden covers will be [illegible] the top to exclude heavy rains; and I [illegible] to be divided into four separate compartments, two alternate compartments on each [illegible] glazed similar to a hot-house sash, so that I may be able to add a provision for admitting light, which is of the greatest utility, as well as air.—*James Robert, Ruby Castle, Feb.* 9.

Forest tree Pruning.—"Quercus," in his caustic remarks (Dec. 25) on Mr. [illegible] system of pruning, indignantly repudiates all pruning whatever of trees, except "in infancy;" that is, I suppose, in the nursery; because, says he, "it checks the growth of the roots." No doubt, this is to a certain extent true; as in the animal body, medical and surgical operations affect the action of the heart. But both are for ultimate beneficial purpose. In the tree, that purpose is to promote the upward growth of the bole, and in some degree to control irregularities; in part, also, to prevent individual branches from [illegible] us lessly to an excessive size, at the [illegible] useful timber above them. By [illegible] pruning, we may have plenty of [illegible] broad-headed trees—very well for single park trees, but how unsuitable for [illegible] avenues, or even park groups! But surely, "Quercus," in his indignation, imagines pruning [illegible] to be carried to a far greater extent than it [illegible]; for "cutting off the branches of trees" is not what is meant by pruning. And here I must own that in the article on this subject, on 1st Jan., I have, perhaps, described my system so as might lead the reader to suppose that all the shortening of branches recommended is with a view to ultimate removal. This is by no means the case; for, unless [illegible] trees, which require more restriction from a regard to the field and the fence, by far the greater part of the shortened branches are intended to remain permanently on the tree, and only a small number of them to be removed. The purpose in shortening is to prevent the excessive growth of particular branches, but at the same time to promote, on the whole, an abundant foliage on branches of moderate size, and smaller twigs in the head of the tree, together with a suitable length of stem. I agree with "Quercus" that pruning ought to commence in the nursery: and if systematically persevered in, as need requires, no tree should require pruning after 12 or 15 years of age. The pruning of evergreens is a more doubtful matter: but however much it is usually deprecated, and to be sparingly used, I think it necessary in such trees as are trained for timber to obtain a more cylindrical body. In the interior of plantations this is effected by a natural process; but in those on the outer side we may [illegible] the process by a progressive shortening of the lower branches, which gradually dries them up and prepares them for removal.—*J. S. H., Perthshire.*

Pelargs.—The merits of Pelargs are not sufficiently appreciated. Being of great diversity in habit, habit, and colour they possess many claims to [illegible] Planted out, *en masse*, the taller varieties in the centre, and gradually diminishing to the edge, which might be planted with low-growing sorts, they form a beautiful bed. Well cultivated, they form fine objects in pots, and might be introduced with advantage among other plants into the greenhouse or conservatory.—*W. H.*

Poimaise Heating.—My house is a span-roofed Pine stove, whose length is 44 feet, width 12 feet, and height 9 feet; it contains upwards of [illegible] squares of sheet glass; the southern side iron curvilinear, the other wooden lights. It is heated with a Poimaise stove, which contains nearly 60 feet of iron radiating surface: the hot air passes under the pit, which is 36 feet long by 6 feet wide, and escapes through ventilators into the house. The apparatus is placed under disadvantageous circumstances, and consequently I cannot fairly ascertain its power. On Friday night the 25th of January last, the thermometer in my garden went down to 0°, while the interior temperature at either end of my house was 60°. Being an advocate for Poimaise heating,

but without presuming to give an opinion either one way or the other, perhaps it may be as well to state that in the middle of January last, I cut three Enville Pines, grown on Hamilton's system, well coloured, and of excellent flavour; that I have Queens fit to cut and others swelling and starting into fruit. Being near the sea the sudden, frequent, and great changes in the temperature between sunset and sunrise, renders it impossible to keep a steady heat; but notwithstanding this, I have produced, with Polmaise heating, handsome well-flavoured fruit in the dark months of winter. As an amateur Pine grower of only a few months' standing, I am well pleased with my success, which I mainly attribute to having strictly carried out Hamilton's directions.—*George Bentham, Charlton, Dover, Feb.* 19.

Ornamental Planting.—Mr. Hood read an essay in the Study, Exotic Nursery, Chelsea, on Feb. 3d, upon this subject, in which he brought forward ornamental borders as being planted sometimes to hide walls, buildings, and to form boundaries, &c. In forming such borders he recommended that they should be the width the object to be hid was in height, and for boundaries to be the width the shrubs required to grow in height; and that the tallest plants be planted at the back, decreasing in height as the point was approached, though not like a bank planted with Laurels, but like a well arranged stage of plants, placing those of greatest beauty so that they might grow a little above the others. He recommended that as great variety in foliage and flowers should be introduced as circumstances would permit, first planting the permanent plants and then filling up with more common things, to be removed when the others begin to overgrow them. He also recommended the grouping and formation of parterres of American plants, and the planting of single specimens of Rhododendrons, Camellias, &c., on lawns, where circumstances would permit, as he considered the effect they produced when in bloom magnificent; the more tender Rhododendrons and Camellias only requiring a slight protection during severe weather. He deprecated isolated clumps on lawns, and said that single specimens looked much more pleasing. Mr. Walton thought isolated clumps of Firs had a grand effect in pleasure grounds, and others agreed with Mr. Walton's notion. A long discussion ensued.—*M. Saul, Secretary.*

Birds.—The description your correspondent gives (p. 120) of the bird found during the winter in the neighbourhood of Ilfracombe, answers, in a great measure, to that of the Shore Lark (Alauda Alpestris). This, however, is a bird of such rare occurrence in England, that although it might, in some few instances, have been obtained during the winter months in the locality mentioned, it could (I should imagine) be scarcely said to frequent this country at all.—*W. B., Belford, Northumberland.*

Glass and Vulcanised India-rubber Water-taps (see p. 136) —I have no recollection of having seen taps made of glass; neither do I think they would be desirable, inasmuch as they would be very liable to fracture, especially during heat or frost. But my attention has lately been drawn to a patent tap of Mr. Jennings, of the Blackfriars-road, every way suited for your correspondent. It is constructed of iron or brass externally, the same as a common tap, with a tube of vulcanised India-rubber running through the passage, the bore of which tube is the bore of the tap, and is opened and shut by means of the usual T handle, which crushes the very flexible medium just sufficient to stop the passage of the water. I have seen one of these simple taps applied to the boiler of a kitchen range, and its action was quite complete. In fact, it appears to be next to impossible that it should become deranged, as there is no grinding of the surfaces of the metal, and consequently any dirt or grit passing through cannot injure it; and a very great advantage is gained by this tap, viz., its not being injured by frost when exposed for out-door purposes, as expansion and contraction of the water during the change to ice, and *vice versa*, does no mischief to the vulcanised India-rubber, which, on the contrary, yields willingly in every direction. From the great simplicity of these taps, I imagine they must come into general use.—*Metallo-Elastical, Islington.*

Cause of Curl in the Potato; Storing, Greening, &c.—In former years the curl in the Potato occupied a very prominent place in its history, and an antidote for it would then have been considered the long-looked-for desideratum. Now, however, the term is almost obsolete; and the attention of cultivators is taken up with a disease which has proved more deadly in its ravages and more extended in its infliction; the preservation of the tubers also, during the winter months, has for some years past secured considerable attention. In the year 1842 I planted, in common garden mould, a row of a fine seedling blue Potato, which received a premium at the Society's exhibition the previous year; the plants were vigorous and free from curl, and the crop excellent. In 1843 a row of them was planted on a dry chaunely (gravelly) soil; the plants were much affected with curl, and the crop scanty. In 1844 they were again planted in common mould, and the results were as satisfactory as before; I thence inferred that curl was induced by deficiency of sap, which likewise was the cause of want of crop. Now, this condition may result either from planting in sapless soil or from the dissipation of the sap in the tuber, or, worst of all, by both combined. This I mention particularly, since other experiments affect the conclusions arrived at as to the advantage of greening—a process consisting of lifting the tubers yet unripe, and spreading on the surface till they become green; this is an old method, among Scotch gardeners at least, although I believe it has not until lately been attended to by writers. Now, this greening, I admit, does excite the tubers sooner to push in spring, and also confers an aptitude for early ripening; but certain circumstances are requisite to secure a good crop, which, if not attended to, will render such a mode of treatment both hazardous and scanty in produce. Being possessed of a very prolific and very early sort, much superior to the American Early, I several years ago submitted a number of them to the greening process, and having in previous seasons stored my seed in hampers interlined with hay, I was delighted to find, on turning them out at the usual season, all the tubers, without exception, sprung from 1 to 3 inches—a fact unusual at the same season from the same storing; and, on the faith of an earlier and a better crop, I distributed a few amongst my friends. As the season advanced, however, my disappointment increased, and my table was first supplied from those put in later under ordinary circumstances; similar results happened also with those who were furnished with them. Practically convinced that the method did excite vegetation, from the evident pushing of the stems, I repeated the experiment the following season, and with similar results; but a small quantity, also destined for seed, growing on a spot required for other purposes, were removed a little earlier in the season, and relaid 1 inch below the surface, to ripen; on lifting these again for storing, after the others had been greened, I was so much pleased with the fresh plumpness of the tubers that I determined on noting the results in the succeeding crop. As already stated those greened gave results similar to the previous year, while those which had been ripened below the surface were also sprung, but plump and fresh compared with those greened, and the crop much more abundant and large. I would here remark the ease with which this ripening below the surface can be accomplished, and with which I have every reason to be satisfied, viz., by pulling the shaws or stems and leaving the tubers in the ground; this may be done as soon as they are of sufficient size, which will be in August. This also is one of the preventatives of the disease, and hence cannot be injurious. Prosecuting the inquiry still further, and finding a considerable annoyance in the care requisite for the stems in unpacking, it occurred to me that since sawdust when dug into soil materially retards vegetation, it might also succeed in retarding the sprouting; my conjecture was right, and the following winter proved its truth; this fact was published a few years ago, I think in 1843, in a pamphlet entitled "The Potato Problem Solved," the author of which was an eye-witness to the success of the plan. Anxious to know the practicability of this method in large farms, I, in 1844, instituted the following experiment:—A piece of field ground was beaten, and three pits of a few bushels each of small Potatoes were laid out and treated thus: No. 1. Potatoes all picked, covered with straw, then earthed about 9 inches thick. No. 2. Potatoes picked, mixed with sawdust (1 boll to 20 bushels of tubers), no straw, earthed as before. No. 3. Same as No. 2, covered with straw and earthed up. Results, pits opened first week in March, 1845: No. 1. A little sprung, a sixth part of the whole rotten. No. 2. The outer half of every external Potato rotten, the internal half remaining fresh, eyes quite dormant. No. 3. Every Potato without exception fresh, eyes same as No. 2. Here then I think it sufficiently demonstrated that sawdust acts a very important part in the proper culture of the Potato, but its virtues extend also as a remedial agent; the old adage, "Prevention is better than cure," is peculiarly applicable to this agent, as the following fact will show: in 1845 my crop of Potatoes was slightly diseased; they were taken up soon in consequence of the failure of crops close by; they were picked, 10 bushels were counted and treated as in No. 3; and in March, 1846 they were opened, and showed a loss of only 3½ per cent., a result scarcely to be anticipated from diseased tubers. In the same season I also halved several diseased Potatoes, rejecting every one anything sound, and imbedded them in sawdust in a box; in March these also still retained their former size, although they were put in when fresh cut. But I fear I have extended too much already, and in concluding I would suggest that individuals should try the above plan for themselves; sawdust requiring some years to decompose is best suited for preserving, and should not loosely be recommended along with ashes, sand, or lime; it either acts chemically or it does not, and if it does, which I leave the reader to judge, it must absorb all effluvia which may arise in the pits, rendering ventilation unnecessary and admitting of their being stored together in any quantity with safety, while the moisture natural to the sawdust preserves the Potato in full sap, which starts it and keeps it in continued vigour. I find that when taken up unripe, dried for a few hours, and then stored up, they are equally preserved and fully as productive.—*J. B. Weir, Galashiels, Feb.* 26.

Field Gardens.—Rules and conditions for the occupation of land, as field gardens, for the purpose of promoting the comfort and resources of the industrious labourers of the parish of Iver, in the county of Buckingham.

1. The land shall be let for one year certain, ending 29th day of September in each year, and the re-letting of each allotment at the end of the year to the former occupier shall depend upon the good conduct and proper management of such occupier during the preceding year.

2. The rent shall be paid into the hands of John Boswell, Esq., of Iver Lodge, or his agent, on or before the 1st day of August in each year.

3. The tenant shall not assign, let, or underlet, or otherwise dispose of, the land or any part thereof.

4. The tenant shall, at the expiration of his tenancy, leave the land in a good and husbandlike state and condition.

5. Not more than one-half of the allotment shall be appropriated to Potatoes in the same year.

6. The tenant and his family shall conduct themselves decently, honestly, and peaceably; and shall not cultivate the land nor suffer it to be cultivated on the Sabbath day: neither shall he or they in any way annoy his or their neighbour.

7. The tenant shall keep his allotment of fence or ditch, and road or footway, in good repair.

8. Such tenants as shall satisfactorily fulfil the foregoing rules and conditions (the equitable construction of which is vested in the committee of the Iver Labourers' Friend Association), may expect to be continued in their allotments; and the tenants who shall wilfully break or disregard any or either of the said rules and conditions, shall be subject to be dispossessed without further notice or ejectment suit; and the crops growing on their allotments shall be forfeited to the said John Boswell, who shall be at liberty forthwith to take possession of the same without subjecting himself to an action of trespass or other proceeding at law for the doing thereof.—*Bucks Yeoman.*

Chipperfield Cottage Gardens.—Rules and regulations:—

1. Every holder of an allotment to pay 4*d.* per pole, and the rent to be paid in the first week of September, in every year, to the perpetual curate. Half a year's notice given at Midsummer, if a tenant be required to quit possession.

2. Every occupier to cultivate his land by hand labour only, and to dress and manure it in a fair and reasonable manner; and if he neglect the proper time for cropping, he is to submit to give up his land without the required notice.

3. Nothing but garden vegetables to be grown, no corn, nor shrubs, nor fruit trees.

4. No portion of each allotment to be in any way underlet.

5. Each tenant to keep the half of the main road adjoining his own land in good order; and not to trespass upon the garden of his neighbour, or in any way to annoy him.

6. If any occupier be found working in his garden or gathering crops on a Sunday, or profaning the Sabbath or neglecting the due observance of the Lord's Day; if he be addicted to habits of intoxication, or gaming, or fighting, or guilty of any immoral practices, he will forthwith be deprived of his garden.

7. Any dispute which may arise in connection with the above regulations, to be referred to the perpetual curate, whose decision shall be final; and before any tenant can take possession of an allotment, he must pay 1*s.* for admittance, and also sign a written agreement that he will strictly abide by the foregoing rules and regulations.—*Chipperfield, Feb.* 17.

Polmaise Heating.—In Thompson's "Annals of Philosophy," bearing date about 20 years back, there is a proposal to form a cavity behind fire-places; to admit air from the exterior of the house into the same; then to emit it heated into the apartment. The proposer further suggests that there should be some outlet from the apartment besides the fire-place, in order to encourage the heated air to come into the room. In one of the recent excellent tracts brought out by the Health of Towns' Association, a similar proposal is reiterated. I tried it with some success; but the diameter of the cold drain and that of the hot-air channel, severally, was only 3 inches, manifestly insufficient for the purpose. The back of the grate, however, is composed of fire-brick; and that slow-conducting material might not suffice for a much larger current of air. I found that when the wind blew in the direction of the cold drain, the heated air escaped much more freely into the apartment. This suggests whether some contrivance might not be fitly resorted to, to accelerate the hot current. Experiencing the interest I do in matters relating to heating and ventilation, it was with great pleasure I read the successive and often very instructive articles that appeared in your excellent paper on the subject of what your correspondents term Polmaise heating. If the plan prove expedient with regard to plants, it is so likewise with regard to human beings; and if it answer for hothouses it will do for dwelling-houses. Human beings, at least in these northern regions, are truly hothouse plants, and require warmth and pure fresh air as well. In my opinion Polmaise heating has thrown great and unexpected light on the heating and ventilation of human dwellings—a light so much the more important as the interests of human beings surpass those of plants. I really think the practical solution of the problem of Polmaise heating has gone far to solve the hitherto insoluble problem of heating and ventilating human dwellings. With a copious supply of moist heated air, our rooms would almost, if not wholly, ventilate themselves. I should always stipulate, however, that the fire itself should be supplied from the air of the apartment. To your journal also belongs the enviable merit of having afforded scope for the important discussion on Polmaise heating; and to your zealous and clever correspondents the further merit of having so well conducted that discussion. What by means of open fires, or close stoves, every one knows how rooms may be heated; it is only further necessary to have hot chambers behind fire-places, or cases surrounding stoves, and to admit the exterior air into the hot chamber in the one, and between the stove and its case in the other, thence into the apartment, to secure the great advantages not merely of warm, but of pure, sweet, fresh air. No doubt, there will be difficulties in the way of the introduction of this superior method of heating and ventilation into private houses; but these assuredly will be successfully overcome so soon as architects make themselves sufficiently acquainted with the necessary working details. It was recently ingeniously proposed in the *Chronicle* to employ stoves of iron, or, preferably, of copper, as superior conducting media to clay or bricks. It must not, however, be lost sight of, that the faster the heat is led away, so much the more fuel will be consumed. When there is a small heated surface, copper or iron will prove necessary; but where the heated surface, as in a Russian or Dresden stove, is large, clay will doubtless very well suffice. This seems to me the practical distinction. A porcelain Dresden stove of large dimensions, with a hot-air cavity, at once for receiving air cold and emitting it hot (more especially if the fuel be supplied from a separate apartment) would seem to secure the *ne plus ultra* of warmth and ventilation; combining at once a genial temperature with pure fresh air, perfect cleanliness and economy. Russian, or, preferably, Dresden stoves, thus arranged, may be constructed anywhere (say, of fire-bricks covered outside with encaustic tiles or porcelain slabs); but the principle of Polmaise heating, so termed, is also applicable to Flemish stove-grates, as also to stoves and ordinary grates.—*H. M'Cormac, M.D., Belfast, Jan.* 10.

Societies.

BOTANICAL SOCIETY OF EDINBURGH, *Feb.* 10.—The President in the chair. The following communication was read:—Account of a Botanical Excursion to Braemar, Clova, and Ben Lawers, with Pupils, in August, 1847; by Professor Balfour. Having made some general observations on the botany of the alpine districts of Scotland, Dr. Balfour proceeded to give a detailed account of the localities visited and the plants gathered. From Aberdeen the party went to Ballater, thence by Lochnagar to Castleton of Braemar, where they remained 10 days, examining Ben Aven, Ben na Muich Dhui (on the top of which they slept for a night),

Cairn Toul, Braemach, Glen Callater, Clova, Glen Isla, &c. Leaving Braemar, they walked by Glen Tilt to Blair Atholl, and thence by the Pass of Killiecrankie to Kenmore, Ben Lawers, and Loch Lomond. All the usual and many very rare Alpine species were gathered. Carex leporina was picked both on Lochnagar and on Cairn Toul; Carex vaginata was found on every hill in the Braemar district; Woodsia hyperborea was gathered in Glen Isla, Glen Phee, Clova, and on Ben Lawers: and Luzula arcuata was seen on all the lofty summits in the vicinity of Ben na Muich Dhui; Mulgedium alpinum was detected in considerable quantity on Lochnagar; also a beautiful variety of Hieracium alpinum, with remarkably long leaves, and involucres covered with long, white silky hairs: it is probably the H. villosum of Smith, or H. alpinum var. longifolium of Flora Silesiae. In the vicinity of Ballater, and also in Glen Tilt, Equisetum umbrosum grew in profusion. The sides of Loch Etichan and the rocks near Loch Aven were covered with numerous alpine varieties of Hieracia, presenting remarkable transition forms; among them were, H. alpinum, Halleri, nigrescens, Lawsoni, &c. Orobus niger was gathered at the Pass of Killiecrankie. Dr. Balfour then made some remarks on the progress of vegetation in the vicinity of Edinburgh, and the injury done by the late frost, in the course of which he stated that Galanthus nivalis was in flower in the Botanic Garden, and Eranthis hiemalis in Dr. Neill's garden, on the 10th inst. Several gentlemen were elected Fellows.

ROYAL SOUTH LONDON FLORICULTURAL SOCIETY: ANNIVERSARY, *Feb.* 24.—The Treasurer in the chair. By the report of the committee it appears that the affairs of the Society are in a flourishing state, the committee having been enabled to award and pay in prizes during the year, 328*l.* 17*s.* 6*d.*, being 37*l.* 12*s.* 6*d.* more than the amount given in 1846; to which may be partly attributed the improvement in the Society's Shows, which during the last year called for marked approval. A resolution was passed to separate in future the offices of secretary and collector, the former being paid by a fixed salary, and the committee being empowered to appoint a collector; the Society then proceeded to elect officers for the present year, when John Bright Esq., was appointed Treasurer, and Mr. J. T. Neville Secretary. By the Treasurer's account, it appears that the receipts during the past year were 437*l.* 13*s.* 4*d.*, and the expenditure 443*l.* 2*s.* 10*d*, leaving a balance due to the Treasurer of 5*l.* 9*s.* 6*d*. The usual business having been transacted, and thanks voted to the Treasurer, Committee, Auditors, and Secretary, the meeting separated.

Reviews.

Die Pflanzenordnung der Gonatopteriden oder Hydropteriden. Von Dr. G. v. Eisengrein. Frankfurt. 1848: pp. xxx. and 584. 8vo.

This forms part only of an introduction to the study of Acotyledones, and comprises under the collective names of Joint-Ferns or Water-Ferns, Lycopodiaceæ, Characeæ, Equisetaceæ, Rhizocarpeæ, Isoeteæ, Ophioglossieæ, and Marattiaceæ. It is in the true Oken style, and as fanciful as can well be imagined. An extract taken almost from any page of the book would give a good notion of what may be expected from its perusal, and we shall choose amidst the mass of speculation which it contains a portion of what is urged on the subject of Characeæ, productions which have puzzled all botanists, both as regards structure and affinity. We do not think the author has thrown much light upon it; but let him speak for himself on that most interesting and enigmatical point the structure of the globules. We have, however, room only for a portion of what relates to these orders.

"The origin, growth, and composition of the whole globule may be deduced from the union of eight, rarely six, pollen-grains (spores). Each of these is in a state of extreme ripeness proceeding to germination, so that it cannot retain any longer the condition of an embryo, as a ripe pollen-grain, but is fluctuating between ripeness and germination. This condition of extreme maturity is indicated by the circumstance that the integument of all is burst open and reflected, in consequence of which the pollen tubes appear free and naked within, as represented by the eight or six processes which radiate towards the centre of the globule. The pollen skins, however, rebounding and stripped off from the inner end of the pollen-tubes do not fall, but remain attached to the outer extremity of the tube, which is situated in the circumference of the globule, and by their union form its integument. As in the centre the rupture of the pollen-skin and its evacuation takes place, from extreme ripeness, and, as it appears, in a trivalvular form, so, on the other hand, from reaction, quite in the spirit of blossom and fruit, there is the regermination of the little ball of filaments, as also in consequence of the bilateral opposite organically-working polarity of ripeness and regermination, the peripherical formation and compact of the outer integument."

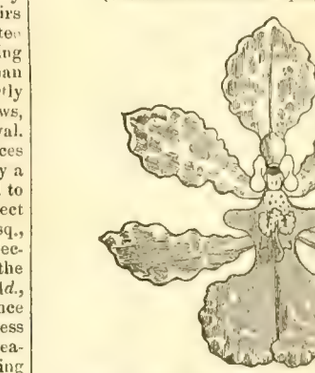
A person must indeed be deeply imbued with the Okenian philosophy to comprehend, much more to relish, above 500 pages of such reasoning; reasoning not deduced legitimately from facts but from mere reveries, reasoning to which can with the greatest facility pass by everything which does not exactly chime in with it, and which in any case of difficulty has merely to make fresh drafts on the imagination.

"It is by such processes that the spores of Equisetum, with their spiral integument, are considered as of the same category with the meshes of Chara, though the one are produced externally the others in mother cells, and there is evidently not the least affinity in the mode of production of the spiral envelope. It is indeed most probable that the two orders are closely allied, but many an intermediate link is wanted to make the one flow naturally from the other.

Doubtless such speculations are a very trying mental exercise, and so far beneficial to the student; but we doubt much whether they do not rather lead away from truth than tend to establish it.

THE PURPLE-STAINED ONCID.

(*Oncidium luridum var. purpuratum*, Lindl.)



THIS is the finest variety of the lurid Oncid yet seen. It has the hard spotted leaves of that species, and the same habit. But the sepals and petals are richly speckled with purple, and the lip is as rich a crimson as that of Mr. Lance's Oncid. It looks, in fact, as if it were a cross between the two. It is slightly and agreeably aromatic. The annexed cut was taken from a fine specimen which flowered with Messrs. Loddiges in September last; it is of the natural size, and thus shows that the present variety is larger in all its parts than the original species.

Garden Memoranda.

Mr. Low's Nursery, Clapton.—In visiting the glass houses here, which are extensive, several novelties presented themselves, some account of which may be interesting, more especially of those from the island of Borneo, whose horticultural productions have of late excited so much attention. Of the latter, Mr. Low has living plants of Nepenthes Hookeriana, which, though weak, he thinks he will be able to keep, now that he has wintered it alive. He has also a Clerodendron with white flowers, and another named Bethunianum, which is said to be a magnificent plant in its native country, bearing great panicles of rich crimson blossoms, each of which is relieved by a pure white centre. Several Ixoras, apparently distinct from anything of the kind at present in cultivation, have been received from the same island, from which Mr. Low has also two plants of an Æschynanthus, stated to have deep orange blossoms; a Mallowwort, apparently nearly related to Abutilon; a golden-yellow flowered Ipomœa, from Borneo Proper, from which little has yet been received; and the glorious Hoya imperialis, whose history is given at p. 39 of our volume for 1847. In regard to Rhododendrons, of which much was expected, Mr. Low has been unfortunate, only a few plants being alive—some stated to have yellow blossoms, the others a deep red, called tubiflora.

In a span-roofed stove, erected last autumn, 100 feet long by 14 feet wide, were various Borneo Orchids, of which, in their present condition, little can be said; and other subjects from the same island were seen. One was a bulbous rooted plant, resembling the old Pancratium Amboynense, whose flowering is looked forward to with interest, for it is expected it may throw some light on the origin of the Dyaks, who cultivate it under the name of the Rice plant, believing that, without such nourishment, the latter would not thrive. The plant is supposed to be a native of Borneo; but to have been imported there, where it is regularly harvested and sown annually, replanted with the Rice. In the house was also another Borneo production in the shape of two plants of the Gutta Percha tree (*Isonandra gutta* of Hooker), the gum yielded by which has of late become an article of so extensive use. This tree is stated to attain a large size, sometimes as much as 6 feet in diameter, and to be plentiful in Sarawak, and most probably all over the island of Borneo as well as in Singapore, and in the dense forests at the extremity of the Malayan peninsula.

In a cool house were some fairly large plants of Lapageria rosea, a most beautiful twiner, and to have sweet eatable berries, and a root not [illegible] in quality. It is from Chili, whose southern [illegible] more especially yield all we as yet know of the species of the order to which it belongs. It is to be hoped Mr. Low will be able to recover the plant from the effects of their journey, but this is as yet somewhat doubtful. On a shelf near the glass to a pit were about 300 young plants of Nepenthes distillatoria, raised from seeds. Some difficulty has been experienced by some in causing seed of this to vegetate; but if gathered when ripe and sown immediately they are collected, we imagine the difficulty will be obviated. It may also be worthy of mention that here were many thousands of seeds of Araucaria imbricata, inserted the small end down in boxes filled with pure yellow loam, in which they have been found to succeed better than in anything else, the only precautions being not to place them too deep in the soil, to have the latter as loose as possible, so that the ends of the seeds may not be injured in the operation of inserting them, and to give them little or no water till they have fairly started into growth, and then cautiously, as they are apt to damp. Under this treatment they have vegetated freely here in a temperature of from 55° to 60°, with a very slight bottom heat. In a cold pit we observed bulbs of the extremely scarce and beautiful Lilium colchicum, from the Caucasian range of mountains, with the habit of longiflorum, and producing bright yellow flowers [illegible] after the manner of L. lancifolium speciosum, and finely scented. In the same pit were also flowering bulbs of the rare Cyclamen ibericum, with its white variety.

The show-house was gay with the usual spring flowers, as Tulips, Hyacinths, &c., and in the house adjoining it was a fine collection of New Holland plants, among which was in bloom a pretty little hardy (?) Primula from the Himalayan mountains, nearly related to P. denticulata. The Heathery was well stocked with that interesting tribe; and of Conifers and hardy plants there is here a goodly collection. In one of the quarters of the nursery was a tree of Paulownia imperialis, which has stood unscathed our London winters for about eight years. It has been lifted and replanted several times, with a view to induce it to bloom, but although less rampant growth has been made in consequence, and other conditions favourable to that desirable end accelerated, yet the crowning effect, the blooming, has as yet been unaccomplished, and we fear must ever remain a desideratum.

Miscellaneous.

Messrs. Loddiges' Camellias.—This fine collection of Camellias was brought (as was announced at p. 139) to the hammer on Wednesday and Thursday last by Mr. Stevens. What sort of prices Messrs. Loddiges obtained will be seen from the following statement:—Fine trees of Speciosa, Incarnata, and Candidissima, fetched within a few shillings of 20*l.* each; Fimbriata, in a tub, 10 feet high, 16*l.* 16*s.*; Coccinea, 14*l.* 14*s.*; Anemoniflora, 14*l.* 10*s.*; Eximia, ditto; Russii, 5*l.* 15*s.*; trees of the old double white from 11*l.* 17*s.* to 8*l.* 17*s.* 6*d.* each; Variegatas from 1*l.* 10*s.* to 8*l.* each; Anemoniflora, 4*l.* 15*s.*; Fimbriata, 5 feet high, 2*l.*; Punctata, 6 feet high, 11*l.* 11*s.*; Myrtifolia, 5 feet high, 11*l.* 11*s.*; Incarnata, 9 feet high, ditto; Candidissima, 6 feet high, 2*l.*; Woodsii, 7 feet high, 1*l.* 10*s.*; and Rosa Mundi, 5 feet high, 2*l.* Other lots averaged from 10*s.* to 30*s.* and 4*l.* each.

NEW GARDEN PLANTS, PUBLISHED IN BOOKS.

N.B.—* = Very handsome. † = Second rate. ‡ = Third rate. ¶ = Unimportant.

Name.	Where Published.	Name of Country.	Quality.	Natural Order.	Colour of Flowers.	Time of Flowering	When first Flowered.	Where.
Scævŏla multiflŏra..... † *Many flowered Scævola.*	D. C. pl. rar. No. 9	Swan River	G. ♄	Goodeniads	Pale blue.	?	1847	Geneva.
Sĕdum præ'ltum ..... † *Tall Stonecrop.*	D. C. pl. rar. No. 10	Mexico?	G. ♃	Stonecrops	Yellow	May	1847	Geneva.
Bejaria æstŭans ..... * *Glowing Bejaria.*	Gard. Chron., 1848, p. 119	Peru	G. ♄	Heathworts	Rose	.....	1847	Veitch and Son's.
Oncidium phymatochilum..... † *Long-tailed Oncid.*	Gard. Chron., 1848, p. 139	?	S. ♃ (epiphyte)	Orchids	White and yellow.	April	1846	Loddiges'.
Eucalyptus macrocarpa..... ..... * *Large-fruited Gum-tree.*	Bot. Mag., t. 4333	Swan River	G. ♄	Myrtle blooms	Crimson	Summer	1847	Kew.
Rhododĕndron javanicum..... * *Java Rhododendron.*	Bot. Mag., t. 4336	Java	G. ♄	Heathworts	Orange	Summer	1847	Veitch and Son's.

Calendar of Operations.

(For the ensuing Week.)

CONSERVATORY AND GREENHOUSE.

The activity of the vital principle in plants will, under appropriate circumstances, be daily more powerfully evidenced; the increasing warmth of the weather will offer an inappreciable advantage to plants in activity; it becomes therefore necessary to contribute and unite all agencies essential to the perfect health of vegetable existence. The application of fresh soil, manures, and humidity will, in various instances, be required to supply the necessities of growing plants; excess of nutriment should never be offered to plants—hence potting should be commenced, not completed at this moment; plants supplied with food in proportion to their progress thrive better than when over potted. The recommendation offered last week in regard to the removal of the occasional conservatory plants to a close pit should be borne in mind as their floral display declines. Amongst other gay plants in the conservatory, Acacia pubescens, with its rich profusion of blossoms, is pre-eminent for beauty. Greenhouses and pits will continue to contribute fair offerings to the show-house; Cinerarias may constantly be introduced. Potting must be in progress, and include a good proportion of the occupants of the greenhouses. Ericas must be top-dressed or repotted; Tropæolums will require attention; Pelargoniums and Calceolarias will require increased pot-room; Dahlias must be put in action; Fuchsias, Cupheas, Salvias, Bouvardias, and other plants for the parterre must be encouraged to afford cuttings. In the stove, shifting must also be practised. Achimenes and Gesneras may be repotted, and others to succeed them put in; Clerodendrons and Pleromas may be propagated; stove Orchids will be benefited by a little additional warmth and moisture; where it is desirable to guard the blossom a considerable period the plant may be removed to a cooler house.

FRUIT FORCING.

Fruiting Pines.—Ensure a day temperature of 75° to 80°, accompanied by atmospheric humidity, during the progress of the fruit to maturity. Pans of manure-water placed about the house will help to maintain the necessary moisture in bright weather. The increase of heat must be attended with supplies of fresh air. *Succession Pines* will require a steady moist heat, which must be carefully sustained after potting, to induce an action of the roots. Shading must also be practised during intense sunshine, particularly when the plants have received a check by exposure or otherwise. *Vineries* will be benefited generally by the admission, under judicious restrictions, of fresh air during the occurrence of sunshine. In the early house lateral shoots will require stopping at the first joint in the first instance; but where the Vines are exceedingly luxuriant, and a second shoot results, an additional leaf may be allowed and a second joint. See that the border heat has not been destroyed by the late heavy rains. The weather must be watched and air supplied in accordance with every atmospheric variation. Raise the temperature, and repress excessive humidity in Vineries about blossoming. *Peaches* will require frequent attention in arranging the young shoots, disbudding, and where a large crop exists, thinning the fruit. This should be done partially at this moment, and an allowance made for the probable loss that will result from the stoning process. Damp early houses night and morning, and prevent the increase of green fly. In the first house the trees will probably require water. To be enabled to adjust the supply with any degree of accuracy, it must be evident that the construction of borders (either Vine or Peach) should be known, and their capability of retaining or passing water ascertained, otherwise the serious errors of giving too much, or of withholding a sufficient supply, may be committed. The state of the borders previous to the forcing season, and to their exclusion by coverings from the weather, should be remembered. The possible supply derived from rain, and the humidity of the neighbouring soil, can scarcely be estimated to correspond with the amount subtracted by several healthy trees during two or three months; therefore it is extremely likely that a supply will be required for trees under the circumstances suggested above. *Strawberries* are extremely liable to the attacks of the green fly and red spider, if the house cannot be smoked. On wet days look over the plants individually, and eradicate the pests. Apply manure-water. The plants will probably require this additional stimulant to enable them to swell their fruit completely.

KITCHEN GARDEN AND ORCHARD.

Should the weather prove fine and the ground be found in a condition suitable for sowing (when it crumbles beneath the tread it may be said to be so), the principal sowing of Onions may be made. It will be an advantage to sow wood-ashes in the drills with the seed. Early Potatoes should be planted without delay. Asparagus beds must be manured and pricked over; a sprinkling of salt may be applied. Stick early Peas. Transplant Lettuces from beneath Peach walls, where they are often wintered, as the first brood of green fly is generally produced by them. Sow a little green Kale, Savoys, Brussels Sprouts, Broccoli, Parsley, according to the demand for it. Radishes and small salad must not be forgotten. Transplant Cauliflowers to a warm situation. Shallots and Garlic should be set. Make any additions required in the herb beds, replacing old scrubby plants with younger ones. Where circumstances have retarded the operations belonging to the orchard and fruit trees generally, no further time should be allowed to elapse. The application of fresh soil, pruning, nailing, and cleansing, should each be completed with all reasonable dispatch. The early season will render immediate preparations for grafting necessary. Cherries and Plums must be attended to before Apples and Pears.

FLOWER GARDEN AND SHRUBBERIES.

Proceed with all operations that involve the necessity of wheeling or removing earth; complete all planting; roll and sweep lawns; cleanse and turn gravel-walks where necessary. To eradicate weeds, there is nothing like hand labour. In completing the arrangement of the flower garden, duplicate herbaceous plants may, perhaps, be found; these can be distributed about the pleasure ground and park often with excellent effect. Prick over flower-beds and get them in a wholesome state to receive the delicate plants intended for them. Prune Roses generally, and dress the beds with rotten manure. All trained trees and plants should receive attention. March winds are often destructive when the precaution of renewing old stakes and strings rotted by the damps of winter, is neglected. A pretty floral effect may be obtained at an early season with Narcissus, Hyacinths, Heartsease, which may be planted for the purpose now. Anemones and the single Wallflower, last summer's seedlings, will shortly bloom; and, in large masses, the effect of their rich golden blossoms is magnificent.

FLORISTS' FLOWERS.

Tulips are looking admirably, and, from their strong and healthy appearance, promise a first-rate bloom. The first dry day the beds should be carefully gone over, breaking the surface soil with the hand, so that all interstices may be filled up. We do not admire the use of a stick or other blunt instrument for this purpose, being persuaded that in unskilful hands much detriment may very soon be done to the roots of a valuable collection. After rain at this season, a sharp frost will often occur; care must be taken, by covering, to prevent the water which lodges in the hearts of the plants from being frozen. *Carnations and Picotees.*—Our soil is now under cover, preparatory to potting; whenever rain occurs, preventing out-door occupation, we subject it to a most rigid inspection, passing the whole (however tedious the operation) through the hand, so that wireworms, however minute, do not escape us; we have not consequently to mourn over the loss of a fine pair of Carnations, often worth five times more than the time which it would have taken to look the compost several times over. *Ranunculuses.*—The seed, which ought all now to be sown, should be carefully shaded from drenching rains. We cover ours with clean damp Moss; this prevents the surface from becoming dry, and hastens the germination of the seed. *Auricula* seed should be sown in pans, making small ridges transversely, on which the seed may be deposited; by watering between these, much of the risk of damping off the young plants is avoided. Plant Pinks, on prepared beds, for exhibition; propagate Dahlias by cuttings; shelter Pansies from bleak winds, occasionally stirring the surface of the beds, &c.

State of the weather near London, for the week ending March 2, 1848, as observed at the Horticultural Garden, Chiswick.

Feb. and March	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min	Thermometer. Mean	Wind.	Rain.
Fri. .. 25	20	30.070	30.041	54	43	48.5	S.W.	.16
Satur.. 26	21	29.809	28.462	51	39	45.0	W.	.48
Sun. .. 27	22	29.103	28.95	50	42	46.5	S.W.	.22
Mon.... 28	24	29.419	29.214	56	35	45.5	S.W.	.01
Tues... 29	25	29.462	28.849	49	37	43.0	S.	.23
Wed.... 1	25	28.807	28.637	46	30	38.0	S.W.	.11
Thurs. 2	28	29.306	29.040	46	36	41.0	N.W.	.11
Average		29.362	29.077	51.0	37.1	44.2		1.32

Feb. 25.—Rain; showery; overcast at night. (In afternoon.)
— 26.—Boisterous with rain; barometer unusually low; very heavy rain
— 27.—Heavy rain; showers of hail and hail; clear and boisterous.
— 28.—Fine throughout; clear at night.
— 29.—Very clear and fine, overcast; boisterous, with rain.
Mar. 1.—Rain, constant rain in forenoon; partially overcast.
— 2.—Cloudy and damp; rain at night.
Mean temperature of the week, 2½ deg. above the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending March 11, 1848.

March.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. A.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 5	48.2	33.7	40.5	6	0.27 in.	2	5	—	—	—	4	3	8
Mon. 6	47.4	33.0	40.1	9	0.35	1	6	2	1	2	2	4	4
Tues. 7	48.9	33.1	41.0	9	0.11	2	4	2	1	2	2	4	4
Wed. 8	50.2	33.2	41.7	7	0.17	3	—	1	1	2	2	4	4
Thurs. 9	50.6	32.2	41.4	4	0.17	—	1	1	1	2	7	3	6
Fri. 10	51.1	31.9	42.5	9	0.69	1	—	1	1	2	4	3	9
Satur. 11	51.0	34.2	42.6	9	0.20	—	2	1	4	3	8	2	1

The highest temperature during the above period occurred on the 9th, 1826—therm. 68 deg.; and the lowest on the 10th, 1847, therm. 7 deg.

Notices to Correspondents.

Books—*Reader*—There has been no supplement to Loudon's "Hortus Britannicus" since 1839. For prices apply to Longman's, Paternoster-row. ‡——*A Gardener*—Such lists as you mention are not sold by booksellers. You must get them printed yourself. ‡

Climbers—*J W*—Clematis azurea grandiflora, Campsosema splendens, Kennedya Marryattæ, Hardenbergia macrophylla and monophylla, Calystegia pubescens, Dolichos lignosus, and Tasconia mollissima will probably suit you ‡

Conifers—*Inquisitor*—Those raised from seed are generally the best; firstly, because they are best rooted, and, secondly, because they have a better form. Yet the great Araucaria at Dropmore shows that a layer may become as handsome as the finest seedling.

Emigrants—*A G W*—Go to New Zealand. Apply at the New Zealand House, Broad-street, London. You cannot proceed in a Government ship.

Fruit Trees—*A Novice*—If you emigrate in summer you cannot take out cuttings of Apples, Pears, Plums, and Cherries with any chance of success; but if cuttings of these kinds of fruit trees are cut off in December or beginning of January they may be transported to America with little or no risk of failure. Their ends should be stuck in Potatoes, or in balls of clay surrounded with damp Moss, or even in damp Moss alone, if not allowed to get dry in the course of the voyage. They should be worked on established stocks of the respective kinds. ‖

Guano—*L M N*—We see no reason why guano should not be as fit as other manure for nursery stock, as well as for other things. It should be applied liquid, weak, and when they are growing. Hard seeds may be boiled for as much as five minutes without destruction of vitality.

Insects—*E C*—The worm sent is the Gordius aquaticus, the Thread-worm, found generally in damp soil, of the natural history of which very little is known. *W.*

Law respecting Over-hanging Boughs—*W L H*—Your enquiry is answered in Stephens' "Blackstone," which says, vol. iii., pp. 361 and 500, "if the boughs of my neighbour's tree are allowed to grow so as to overhang my land, which they have not been accustomed to do, I may, on his refusal to remove such parts of them as are in that position, effect the removal myself." ‡

Mice—*C J B*—Your only plan is to trap them. The best trap for your purpose being perhaps a pit-fall like that represented at p. 221 of our volume for 1846; or a commoner one is two bricks, one laid as a sole for the other to fall on, one end of the latter being suspended on a thread on which Peas are strung for bait, and which is tied to an upright stick on each side of the brick. The mice pulling at the Peas, fetch down the brick above them, and are killed. The Peas string readily if steeped for some time in water. ‡

Names of Fruits—*W F*—Pear, Beurré Rance; Apple, Court Pendu Plat. ‖——*G H*—A good specimen of Ne plus Meuris. ‖——*G C*—The Apple is quite unknown; probably an excellent kitchen Apple. ‖

Names of Plants—*C W K*—Clematis cirrhosa.——*A B*—Some zoophyte, not a plant.——*R A C*—Onoclea sensibilis. *S.*——*Rusticus*—Apparently all specimens of Erica arborea.——*C L*—Spreckelia Cytister.——*Jonquil*—Rhododendron dauricum. It is increased like other Rhododendrons.——*T Brown*—We do not name Mosses.

Annuals—*N B*—The following are 25 showy, hardy annuals, whose heights and colours will afford some guide as to their disposition in the flower garden, viz.:

Name.	Height.	Colour.
	Inches.	
Phlox Drummondi	9to12	Various shades from white to dark crimson, purple.
Lobelia ramosa	9	Deep blue.
Sphenogyne speciosa	9	Deep yellow, dark eye.
Leptosiphon densiflorus ..	6— 9	Pale pink. [deep purple.
,, androsaceus	6— 9	Various, from white to
Eutoca viscida	12	Deep blue.
Godetia rubicunda	12–15	Blush.
Calandrinia discolor..... ...	15–18	Deep rose.
,, speciosa	6	Rosy purple.
Erysimum Perofskianum	15–18	Orange.
Brachycome iberidifolia ...	6— 9	Deep blue.
Clarkia pulchella	12	Rose.
Platystemon californicus..	9	Lemon.
Malope grandiflora	18	Crimson. [purple.
Gilia tricolor	9—12	Various, from white to
Heliophila trifida	9	Bright blue.
Nemophila insignis	6	Azure blue.
Bartonia aurea	12—18	Orange yellow.
Hibiscus africanus	12—18	White with dark eye.
Clintonia pulchella	4	Blue and yellow.
Collinsia bicolor.....	12	Purple and white.
Lupinus nanus	6	Deep blue and white.
Madaria corymbosa	12	White.
Rhodanthe Manglesii	9—12	Rose.
Tropæolum canariense ..	trailing	Orange yellow. ¶

Peas—*Lionel*—We doubt the truth of the origin assigned to the Grimstone Pea. The advertisement is much too like a puff. Does any one know what the truth is about it?

Pines—*T A K*—In the summer when they are merely ripening, they require less bottom-heat than at other seasons, but some they must have. You are mistaken in supposing that Mr. Barnes had none. When fruiting, Pines do not want to grow. Don't shift your Camellias now.

Plants for Vases—*G B N*—Tropæolum canariense, Lophospermum grandiflorum, Rhodochiton volubile, Maurandya Barclayana (blue and white varieties), Sedum Sieboldii, Verbenas, Fuchsias, and Anagallis. ¶

Polmaise Heating—*Dynfr*—We now print, in small type, the greater part of the communications on this subject, because we conceive that we have fully and fairly placed the question before the public, because the numerous houses throughout the country furnish abundant evidence of its advantages, and because its opponents, having discovered their mistake, are backing out as fast as they decently can.——*Mr Brown's* inquiry could, surely, not have been intended for the Editor of any paper: it must have been misdirected; for the question is such as can only be put to those who execute Polmaise work. We must beg him to study the details already given in our columns, and to consult the dealers in Polmaise apparatus.

Potatoes—*A Novice*—The seeds of Potatoes will afford useable produce the second year. ‖

Roses—*Auchincruive*—Your letter has never been received. Be kind enough to repeat the question, and we will gladly answer it. ‡

Seeds—*R W R*—Nos. 16, 15, 12, 25, and 2 are the best; 4 is a Melon and 8 a Gourd. The others are not worth your sowing.

Seed Steeping—*F A S*—None of the so-called steeps answer any good purpose. It is, however, useful to soak hard seeds in *water* for a day or two prior to sowing them. Mangold Wurzel should always be so treated.

Transplanting—*A H J*—We abide by our opinion, as explained in our Leading Articles. The Evergreen Oak is no exception.

Ventilators—*J S*—There is no difficulty in making a mercurial self-acting force wherewith to open or shut a ventilator. It has been often done upon your plan; but it is too apt to get out of order by the escape of air through the mercury, or by the loss of mercury in consequence of the excessive expansion of the air. Such contrivances have therefore never found permanent favour in the eyes of the public. It is the same with the mercurial ventilators of Arnott stoves, which few persons now employ, and for similar reasons.

Verbenas—*T F*—There is nothing novel in the *mode* of striking them in nut-shells; the novelty resides in the substitution of shells for flower-pots.

Misc—*G B N*—No plants will thrive on a brick floor underneath a platform, except Ivy; but the following might be trained on wirework in front of the platform, or allowed to hang down from it, viz.: Cotoneaster rotundifolia and microphylla, Variegated and Irish Ivy, Mespilus pyracantha, Jasminum officinale, Caprifolium gratum and others, Vinca major and minor (double), Nolsette and other free-growing Roses. ¶——*W C K*—You had better not disturb your Azaleas till they have flowered, then repot them. ‡——*Juvenis*—When all danger of frost is over, plant out your Hyacinths, which have been bloomed in water, on a north border, and *take care of the foliage* till it dies down. It may then be removed and and the bulbs harvested. They will, however, not bloom so finely next year as fresh bulbs might be expected to do. ‡——*Sub*—Sow your Pines seed in pans, filled with pure yellow loam, placed in very slight bottom heat. When up, pot them off and keep them in a cold frame ‡

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those numerous correspondents, the insertion of whose interesting contributions is still delayed.

CHEAP AND DURABLE ROOFING.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

F. M'NEILL AND Co., of Lamb's buildings, Bunhill-row, London, the Manufacturers and only Patentees of THE ASPHALTED FELT FOR ROOFING

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The Agricultural Gazette.

SATURDAY, MARCH 4, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

THURSDAY, March 9—Agricultural Inst. Soc. of Ireland.
WEDNESDAY, — 15—Agricultural Soc. of England.
THURSDAY, — 16—Agricultural Inst. Soc. of Ireland.

FARMERS' CLUBS.—March 4: Newcastle, Durham, Melrose.—March 6: London, Clayden.—March 10: Wakefield.—March 11: Great Oakley, Yoxford, Moreton Hampstead. March 14: Botley.—March 15: Harpenden.—March 16: Carlton-on-Trent.—March 17: Halesworth, Debenham, Hadleigh, St. Austell. March 18: East Kent, Reading.

IT is only natural to suppose that the greater skill in Agriculture will be also the more abundantly rewarded. The art of cultivation is no exception to the rule which proportions the returns to the outlay in other cases. Farm profits, like those of other professions, are in proportion to the amount of the skill and the capital which have created them. And this is as true of the details of the art as it is of its aggregate result.

It is to this circumstance, no doubt, that we must attribute the variance amongst witnesses on the subject of farm profits generally—the more agreeable experience of some being the legitimate consequence of their greater judgment and skill. And to the same cause the conflicting evidence on the profitableness of many plans and practices is doubtless due. FLAX CULTURE, for instance, has been condemned as a profitless undertaking both to landlord and tenant by many of those who have longest practised it, while by others it is extolled as the most effectual method of increasing the incomes of farmers and therefore of course those of the landowners also; while as regards the labourer, it is the only efficient method of destroying national pauperism!

A controversy on this subject has been raging in the columns of other Agricultural journals, which, as the topic has already been referred to in our pages with sufficient frequency, we are only too glad to have escaped. But it appears to us, however, that the combatants in this affray sometimes lose sight of the real purpose of the discussion: they may be sure of this, that if it turn upon nothing better than the veracity of the disputants, it will be both useless and uninteresting. And it surely exhibits blindness as well as impolicy in the advocates of Flax cultivation that they should quarrel with statements of an unfortunate experience in reference to it, when, by admitting their truth, they would make good a claim to credit for their own statements, also conveying details of experience, and that of a character which necessarily puts the misfortunes of their opponents to the account of bad management.

Flax is a crop which more than any other that the farmer grows requires skilful management. And more than any other that is grown, it will reward that skill or punish those who are without it. It is the risk attendant on the after management of the crop that make its "account" so variable; it is the skill which reduces that risk which reaps the reward, and the blunders which create it that entail the loss. It has been said that farmers ought to superintend the *growth* of the crop only, not the "handling" of it after growth: but they may depend upon it that if they undertake the portion requiring ordinary skill they will derive only ordinary profits from the undertaking: they will find that the mere growth of the crop and its sale on the land will not remunerate more than the growth and sale of any other crop as easily cultivated. The purchase from them would be made at prices not more remunerative, because they must be so much below those of the "manufactured" article as to cover the risks which have yet to be incurred.

Flax in skilful hands is no doubt a profitable crop. Mr. SOUTHRON'S statement in the letter we publish from Mr. PICKSON, is a remarkable proof of this. No doubt, too, the labourers must benefit by the introduction of a crop requiring so much labour in its cultivation and manufacture. And as to the landlord's interest, it is clearly identical with that of the other classes dependent on the land. If it raises their profits, it must raise his rents. This is a simple truth, requiring no qualification by reference to the supposed "*deteriorating*" influence of the crop upon the soil. The mystery of that mode of speaking may now be said to be thoroughly exploded. "Scourging crops" are grown only by bad farmers, for they only know not how to meet the difficulty. Let alone all the information we have received from Sir R. KANE and others regarding the very *petty* robbery committed on the land by the only part of the crop which ought to leave it; let alone the facts that saleable Flax contains very little mineral matter, and that the seed and other parts consumed on the land produce most enriching manure, we say that a crop exhausts a soil just as an air-pump exhausts a receiver, and that in both cases the exhaustion may be removed by the simple restoration of what has been taken.

Ascertain what the crop has taken from the land, and there is no magic power in the "fama" so long connected with the character of the Flax crop which can upset the obvious truth that if the abstracted material be restored, the soil will be as it was before that material was taken.

ON THE DOMINION OF MIND OVER MATTER.

A MIND filled with admiration of the achievements of science would fly to the steam engine, transporting its loads both by sea and land, as one of the fittest illustrations that could be found of the dominion of mind over matter.

Let a savage see a gun discharged, and a bird upon the wing brought to the ground, and he will be ready to worship you as a superior being. By his surprise and gestures of reverence he will convince you that he regards it as one of the greatest triumphs of mind over matter. Take the trouble to make him acquainted with the mechanism of a gun; explain to him the nature of gunpowder; let him know the weight of lead and the power which a heavy body possesses of overcoming obstacles when impelled by great velocity. At each stage of your instructions you will find that his admiration declines, and by the time you have made him acquainted with the art of gunnery, you stand dispossessed in his estimation of those attributes of superiority with which he at first invested you. He has no difficulty in paralleling gunpowder and ball with bow and arrow, and he regards you simply as a brother or an enemy. The triumph of mind exhibited in the discovery of gunpowder and in the invention of the pistol is of the same nature as that which is displayed in the construction of the steam engine. The same illustration may serve to explain all the triumphs of mind of what is called this wonder-working age. The triumphs of mind over matter exhibited by the Romans in their conquest of the world, by Hannibal in his passage over the Alps, or by Alexander in his conquest of Asia, were all of a very different character from this. The mind of the ancient warrior bears a nearer affinity to the mind of the savage than to the habits of thought possessed by the writers and readers of modern literature.

Is, then, the state of mind possessed by the uninstructed savage one of truth or error? Is it true or not? Almost every journal of modern France and Britain will answer, No! The almost unanimous voice of every generation of men previous to the last two hundred years will answer, Yes. The belief of our ancestors in demonology and witchcraft proves the truth of my assertion. It is further confirmed by the fact that every ancient state before going to war paid the most religious regard to the dicta of oracles, and instructed their generals to ascertain by divination whether or not the gods would be propitious to the enterprise. It would appear, therefore, that the belief of the savage has at all times been so prevalent among mankind, previous to the lights of modern learning, as to point to something radically and essentially a part of the human mind.

Now we find nothing useless or superfluous about our bodies. Every organ of the body [illegible] to the body itself, but [illegible] to it. The ear [illegible] by means of touch. But [illegible] might be for the [illegible] was equally well [illegible] but however true and [illegible] the body, of what use would it be [illegible] due to the sake of it.

Every organ of the body, therefore, is not only fitted for the body, but is also [illegible] to it, and may be said to [illegible] the universe of matter [illegible]. In [illegible] believe we [illegible] which we look [illegible] and pains [illegible] come from every [illegible] things which [illegible] where there [illegible] of the human [illegible] ready to instruct you [illegible] made matter of [illegible] there that [illegible] unknown and [illegible] as the recognised and [illegible] mind are forced [illegible] having their back [illegible] their progress, they [illegible] caution from what [illegible] cheer us only by the [illegible] won. It is plain that the men who [illegible] of Rome and Carthage [illegible] tution of a very [illegible] minds were ever [illegible] in advance, [illegible] Perhaps in this circumstance lay the [illegible] their success.

The character of mind which [illegible] to the enterprises of an army [illegible] the earths if [illegible] to agriculture; and it will [illegible] skill which it possesses of the art. [illegible] much or little, this will [illegible] added to the other [illegible] plying them. If, therefore, we find a [illegible] country where the minds of the [illegible] down by a weight of reverence for [illegible] practice of their forefathers, we may [illegible] that in this district the fruits of the earth are capable of being greatly increased, not so much by an increase of knowledge as by a revolution of the habits of the inhabitants. They are priests and [illegible] ture, squaring everything by law and [illegible] traditions; but their minds are dead to [illegible] and spirit of the profession. They have [illegible] to fall many degrees from [illegible] have sunk in the scale of [illegible] tolerable as servants, but are useless [illegible].

As the eye of the body is turned towards an object before the feet can carry it there, so [illegible] the mind must be capable of [illegible] excellence, otherwise no power on earth will [illegible] the task of raising it. On this account it [illegible] that the value of land is so various in different parts of the country, however little the real nature of the soil and climate may vary. As the eye is [illegible] the source of heat and light from material creation, so it is also susceptible of impressions from the love and the joy of the human mind. Every wise father knows the intimate relation that subsists between the cultivation of the soil and the minds of the cultivators. He knows how his ox or his horse thrives under the watchful care of a loving eye, and he sees how a state of evil thoughts writes the haggard state of his own mind upon the coats of his beasts.

Fill the minds of the peasantry with images of death and melancholy, and the fields will be covered with desolation, whatever the amount of skill or quantity of manure you carry to them. Breathe into their souls the life of hope and love, and every succeeding year will witness improved cultivation, although [illegible] cut off from all access to greater stores of knowledge and manure.

In a neighbouring country we witness a condition of things which may be taken as an approximation to a time of trouble such as the world never [illegible] saw. All men look to the soil as the source from whence [illegible] amelioration can come. The [illegible] are not ignorant of the responsibility [illegible] them. They are bestirring themselves, but in what manner are they doing so. Why it is by teaching chemistry and awarding prizes for high fed cattle and [illegible] roots. But in doing this they never dream of coming in contact with the minds which are nearest the soil and have the strongest influence upon it, viz., the minds of the poorest peasantry. What a wide chasm there is between the mass of Irish mind and that state of mind which can be improved by a knowledge of chemistry or stimulated by the rewards of high farming. If it were possible by means of prizes to stimulate men to love each other, the Irish Agricultural Society would be legitimately employed in devoting its energies to this object, and not inferior to this would it be to make them believe that they were loved. Are either of these objects promoted by introducing agents into the country who ride through it with pistols and protected by police who refuse back from their persons by the arms which they carry the spirit of wrath with which they are received.

Unhappy Irish mind! Religion feeds it with images

of agony and death. The mother adorns her chamber with them; Government presents itself to it by means of its agents holding an instrument of death. This is the age of the world when men expect the sword to be beaten into a reaping-hook. Not so the Irish mind; it sees the sword where the reaping hook should be. The life of an Irish peasant is but an elevated mount from which he may view at a distance all the aspects of death and anger. By attempting to renovate the condition of Ireland by offering prizes for well fed cattle, the Irish Agricultural Society are acting upon a pernicious principle of our nature. What quality of mind is there which tends more to create poverty and diffuse misery through the whole circle of its influence than the passion of vanity and the love of display? Even comparatively rich communities cannot long afford to make a display of wealth which they do not possess. How tenfold pernicious must such a disposition of mind be on the other side of the channel. That which in truth renders a man actually happy and comfortable increases wealth. That which exhibits a man as richer than he really is increases poverty. It is only therefore by the improvement of the Irish mind that the soil of Ireland can be better cultivated; and if that mind is to be improved we must forget the lights of modern science and fall back upon the belief of our ancestors. We must withdraw it from the contemplation of agony and death and fill it with the anticipations of love, life, and happiness. Rouse the religious faculty into healthful exercise, it is not for us to say what it shall believe. It will find its proper mate in the world of spirits. As the Roman soldier went out only after he had assured himself that the God of battles was on his side, and when he had done so he went out and conquered, so the Irish peasant can only cultivate the earth successfully in the same manner. And he will assure himself that the God who sends the joy of spring and exuberance of summer is on his side, by tokens which no mind but his own could interpret.—*John Russell.*

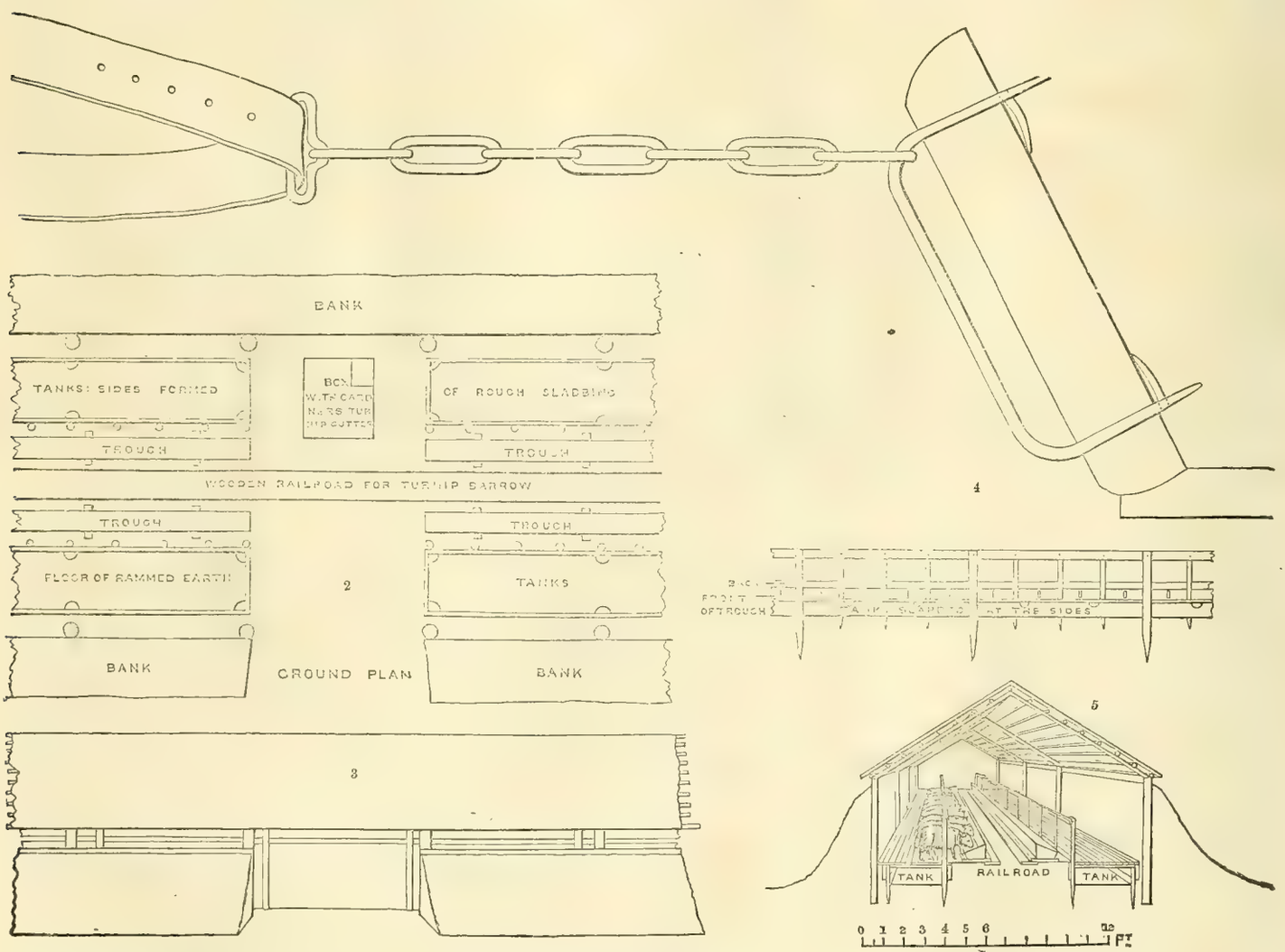
ON STALL-FEEDING SHEEP.

YOUR friend Mr. Rawlstone having received with such flattering attention the sketch of the plan for box-feeding* sheep as adopted and recommended by my reverend neighbour, I trouble you with one for stall-feeding, with some suggestions thereon, which are the result of a visit to the establishment of two gentlemen in the south of England, combining the economy of the one with the utility of the other.

The wandering restless nature of the sheep is well known; in open pasture each animal strives to pass his neighbour; in confinement he presses in between those near the troughs, wantonly quitting his own share of food, in order, not to get at food of which he is in want, but to take away his companions'. Instead of finishing quickly and quietly his own share, each occupies himself in hindering and delaying the others. Again, when the meal is at length finished, restless and uneasy, instead of lying down to digest and sleep, he treads about on his companions, fidgetting first one and then another; even when all are lying down, if one be disturbed he jumps up and rouses the rest. The process of digestion, and consequently of fattening, is interrupted: the fault of one is the injury of all. The intelligent and able steward of one of the above gentlemen had two lots of sheep feeding in a shed, the one lot tied up, each in its own stall; the other remaining loose in another part of the same shed.

Though treated in other respects similarly, the progress of the former was much more rapid and profitable than that of the latter. The effect was very evident, the cause not so. However, one evening, going round the cattle sheds at a late hour, he observed upon opening the door of the sheep house that the loose sheep were on their feet, alert, and restless, and as he entered they were instantly on the move; their food was unfinished. Those, on the contrary, that were tied up were reposing with full stomachs and empty troughs. Each having eaten, uninterrupted, all it could get, was making itself ready for the next supply. Nothing was wasted. The difference in their progress was thus accounted for. The recital of this little adventure having interested me, I proceeded to ascertain carefully the different arrangements connected with this economical and comfortable mode of getting fat at leisure. Having, therefore, in my recollection the precise measurement of my own sheep-shed, I found with pleasure, upon examining the one which I propose to

* Box-feeding; *i. e.*, where sheep are fattened in loose pens boards under cover.



describe, that stall-feeding, in a shed purposely made, required less outlay for construction than even the economical arrangement I had adopted; the additional cost of the collar straps and chains being compensated by the saving of four-sevenths of the boarded grating and one-third of the roof—an equal number of sheep being accommodated in either case in the same number of feet longitudinal; the width of my house internally being as 16 feet to 12, and of the grating, from front to back, as 6½ feet to 3. I believe the above sketch contains every point necessary to be explained. The distance of the upright rails, and the height of the rod that connects them, depend on the size of the sheep; each animal will require from 18 to 24 inches, and the rail should allow them to stand under it without touching. Thus they can neither touch their neighbours nor get into the troughs.

Now for the materials:—The roof of fir-poles, principals connected by rods of Ash, Fir, or any other light wood. Uprights — Oak posts, refuse of coppice thinnings; stall rails of 1½-inch shores, *i. e.*, hurdle stakes. Tanks sided with outside slabs, refuse of sawpit; bottom, natural bed of earth beaten hard, and half-filled with sawdust or burnt earth. The whole of the above is to be found on most farms for the trouble of cutting down. The labour of the sawing of the slabs is hardly to be charged, as it belongs more properly to the planking cut from between the slabs. These materials, if already in existence on an estate, would probably be supplied gratis by the landlord. For the thatch, heather or the farmer's own straw. The troughs of refuse fir slabs, the heavier the better, as the iron staples of the sheeps' collars and chains are driven into them, and clenched inside, and their own weight keeps them steady. The ends of the houses wattled and thatched, the sides banked up with earth taken from the tank, and raised to within 6 inches of the eaves; the outside slopes should be turfed or seeded.

In cold weather, if additional warmth is desirable, the aperture may be closed by long bundles of straw laid lengthways; the central opening should also be closed at night by a wattled hurdle. The length of the chain from 7 to 9 inches, long enough to allow the animal to lie down with its head clear of the trough, and not so long as to allow of its putting its fore-feet into it. Lastly, for each grating, 10 battens of 2¾ inches, ¾-inch apart, cover 2 feet 11 inches, which area is quite sufficient for any sheep. These battens should be of inch Larch, with bearings at every 3 feet, and of a length to suit the openings of the side uprights.—*F. P. B. M., Jan.* 25.

[The above engraving contains 5 figures. The uppermost represents the neckstrap (½ the full size) for the sheep, with the mode of connecting it to the trough. 2. A ground plan of the buildings, the railroad, the troughs, the tanks covered by an open floor, the wattled sides to the building sheltered by the outer banks of earth. 3. Below this is a side elevation of the building, its earth mounds at the side, and its roof. 4. We have a section and view of the internal arrangement, which requires no explanation. 5. Lastly, we have an elevation of the arrangement of trough, with divisional parts in front of it for separating the sheep, and tank also in front and below it, over which they stand.]

ON DIBBLING WHEAT, &c.

MY attention was arrested, and I felt quite interested in an article published in the *Agricultural Gazette*, Jan. 1, of this year, by J. B. Lawes, Rothamstead, headed "Liberal Manuring will not alone ensure a Heavy Crop of Wheat." With the whole of that article I quite agree; but especially with those parts of it

where he speaks of early autumnal sowing, treading, and eating by sheep, rolling, and even mowing, which last, I think, would seldom be needed when sheep could be turned upon it. I think, also, he is quite right in thinning out the plants by hoeing in spring to two or three in each square foot; all this being to produce a result which he calls the "tillering" of the plant (I suppose he means its branching, spreading, or what some call its "gathering.") Yet it looks something like waste of seed in sowing it to hoe out. The same I observed when talking to a farmer the other day. He had ploughed in his seed, and left the furrows rough as they had been turned up, alleging for it that they protected the young plant from cold winds and frost; which might, perhaps, be true with respect to the plant in the furrows, while those on the ridges would not, I think, be much benefited. The season having been very congenial, the Wheat had sprung very finely, and looked quite fresh and green. I asked, "Don't you consider your Wheat very much too thick?" He answered, "Yes, but in the spring I shall give it a good harrowing down, and thus pull up and bury half the plants; this will kill many of the young weeds also." "O, yes, indeed it will," I replied. "How much seed do you sow per acre?" "About 10 pecks." "Did you ever try dibbling?" "No." "But if you had dibbled your Wheat, about 2 pecks per acre or less would have done it; and thus you would have saved 8 pecks of good seed per acre, which would be worth about 1*l.*; instead of throwing it into the ground to waste." This statement struck him; but he observed, "Dibbling would be a very tedious process;" to which I made answer, "Not, perhaps, so much as you imagine. A good workman, with a proper implement, could do half an acre per day, and would require three women or boys to put in the seed after him." "And what would all this cost?" "Well, suppose the man's wages 2*s.* 6*d.* per day, and the women's 1*s.* 4*d.* each, or 4*s.* for the three; we have then 6*s.* 6*d.* per half acre, or 13*s.* per acre, it would cost you. Thus, you see, the spare seed you have thrown into the soil to waste, or harrow up, would far more than pay for the labour. This would be clear gain. You would get your work done for nothing, and gain something in the bargain, by dibbling; and what would be still better, you would be enabled to pay for your labour in bread, which at the present time is far more valuable than money." He seemed still more struck by these statements; and I further observed, "You see a labourer would be more than well paid in doing your work for the spare seed." "But would it answer?"—"I have no doubt it would answer well; you would obtain equally as good, or a better, crop than by your present plan; for example, have you never observed that thin crops of Wheat, on good ground, generally, nay, I may say always (I mean autumn sown), are the heaviest and best yielding crops? Have you not known instances of some that have been thought good for nothing early in the spring, that have turned out to be excellent in harvest?" "O, yes, to be sure, I have, and I had an instance of it only last year in this other field; what with the crows getting the seed, and the hard weather, I thought it was completely wasted and would be good for nothing, but it gathered wonderfully, and was exceedingly strong in the straw—it was like reeds, and the heads large and well filled. I am now threshing it out, and believe I shall have 5 quarters, or 40 bushels, per acre. So here is a proof at once in favour of thin seeding."

This person's land is a stiff loam, well calculated for the growth of Wheat; and I have no doubt, if dibbled, and in other respects properly treated, it would produce 50 bushels per acre. And what I mean by proper treatment is, what Mr. Lawes has suggested in his article, viz., early autumn sowing, making the soil firm by treading and rolling, eating by sheep, and well hoeing, and I may add (if the soil is not in good heart), a top-dressing of artificial manure of some sort to be hoed in. Dibbling should be done in September, October, and the first fortnight in November, but not later; and you had better do nothing than dibble Wheat in the spring, for this very plain reason: the plant has not time to branch or spread, but shoots up with two or three stems (instead of 10 or nearly 20 strong ones to each root, which is the case in early-autumn dibbling), and the crop is thin and straggling. This applies, of course, only to Wheat. Barley may be dibbled with advantage, and other crops in their proper season, but I confine myself to Wheat. When the plant is strong and well rooted, and the soil firm, there is no danger to be anticipated from frost, which often does so much damage in late-sown crops, by throwing it out, especially where the soil is loose. But in dibbling it receives a good treading by the operators, and the roller might be used before and after with advantage, if the soil was moderately dry. It is needful the seed should be watched from vermin and crows, as you only put so much in as is sufficient for the crop; therefore none can be spared. But, in dibbling, the seed is not so easily found as in drilling, &c., and not so much scattered upon the surface, as a sort of train to lead the depredators in search of the hidden portion. If sown in September or the fore part of October, one seed to each hole would do; but if later, two would be better, to provide against failure.

A gentleman in this neighbourhood was induced last year, or rather in the latter part of 1846, to try three roods of his field upon which Potatoes had grown with dibbled Wheat, and proceeded as follows: but I may notice that in the preceding year he had done a small portion which had been Carrots; this, however, did not succeed, being weak and thin, owing, I believe, to two causes—the poorness of the soil, this having been recently trenched, and the lateness of the season in which he put in the seed, being towards spring. The person he employed to dibble the Wheat for him being much annoyed by the dibble he used not working well (it was a wooden one with four teeth 6 inches apart, and thrust in by the foot, the teeth being fixed in a wooden head, these continually being clogged pulled out the holes, filling them up again), he was induced by necessity to invent another, which answered admirably, by working in a frame, cleaned its own teeth, which were iron, making six distinct holes at once, 6 inches apart. By this implement a good workman may do half an acre per day upon land moderately free from stones. I would recommend it to any who may wish to try the method.

By this implement the above three roods were done about the middle of November, which I observe by the way was too late a season. The crop of Potatoes having partly failed, the land was in pretty good heart. It was not ploughed after the crop was gathered, but only well harrowed and cleared of the tops, &c. The seed was prepared by steeping awhile in liquid manure mixed with salt to carry an egg, then taken out and being drained a little in a sieve, lime was put amongst it to dry it, then sifted again from the lime was ready for the women, who were ordered to put two seeds into each hole, but often it is believed they put more. About 1½ peck was seed enough. It came well, but the crows and moles did it a little damage. Being by the roadside, the neighbouring farmers often made their remarks, and most of them prophesied its failure, only seeing two or three blades standing up, 6 inches apart every way. Spring came, however, and it looked rather ragged; but a sowing of soot was given to it, and it was well hoed, after which it began to improve; it was rolled with Croskill's crusher, and also with a wooden one, and it spread until it covered the land, being strong and of good colour, each root sending up from six to 12 strong stems, and when ready for the sickle it was much admired; the straw was strong, all standing, and very even; the ears large and well filled, the grain being of superior sample. I cannot say as to the produce precisely, but think it was near 30 bushels for the three roods. This it may be thought was not extra yield, but I would observe the land is not of first-rate quality for Wheat, and the season of dibbling was too late. I believe it was a better crop than could have been obtained by sowing or drilling, and the sample being extra it took a good price. I am sorry that the season is now too far advanced for the trial of Wheat dibbling; it is probable I should not have troubled you with these remarks, had it not been for the article of Mr. Lawes which I saw in your valuable Paper. The season, however, is young with respect to Barley, which might be worthy of a trial. I may, however, say, do it early in the season, to allow the plant time to gather. I have thought, in reference to Wheat especially, that instead of having it 6 inches apart every way, it would be better 4½ inches in the row by 9 inches between; this would be more eligible for hoeing, and the dibble being the same size might make nine holes at once instead of six. I have never seen the merits and demerits of this method of sowing discussed anywhere in print, and whether it has been so in your Paper I cannot say, as it has only recently fallen into my hands; if it has not I think it may be worthy of a little discussion.

Allow me, as a sort of foundation, to submit to those far more experienced than myself in agricultural matters, the following propositions:—

1st. As good or better crops can be produced on most lands, but especially upon good lands, by dibbling than by any other method.

2d. Considering the immense saving in seed, the labour in cropping is more than covered, as generally 2 bushels, and in some cases 3 bushels, per acre would be saved.

3d. A vast amount of employment would be given to the labourer, and his wages paid in bread.

4th. Thousands of quarters of good grain might be saved instead of being thrown into the soil to waste, which at this period of our country's history would be an immense advantage to the community at large.—*George Rymer, East Anton, Pickering, Yorkshire.*

SHOULD FLAX CULTURE BE ENCOURAGED?

As a triumphant refutation to the specious untruth that because Mr. Wells (who would not follow mine or other improved systems of Flax culture) failed in being successful, other attempts must also prove a failure, I cannot do better than introduce the statement of a gentleman at the Wilts Flax Association whose standing in society is too well known for the public to doubt the correctness of his figures.

"Mr. Sotheron said he was anxious to have heard the result of other gentlemen's experience before he gave his own. What he had to say he should put in as small a compass as possible. Last year he grew 2 acres of Flax upon the slope of Bowden-hill, the soil having a wet clay 9 inches below the surface. This land was broken up three years ago, and drained, when the clods were burnt, and the ashes spread over the ground, since which it had no manure applied. The cropping previous to the Flax had been Potatoes and Wheat. His statement of cost and produce was as follows:—

Cost.	£	s.	d.
Rent, 3 *s.* per acre	3	0	0
Rates and taxes	0	10	0
Seed, 2 bushels per acre, at 7*s.* 6*d.*	1	10	0
Ploughing	1	0	0
Harrowing and sowing	0	10	0
Beetling, at 1*s.* 8*d.* per bushel	3	0	0
Drawing, stacking, and stooking, viz., 7 men 6 days at 1*s.* 6*d.* per day, 4 women 6 days at 8*d.* per day	3	12	0
Steeping and drying	1	0	0
Breaking and scutching 120 stone, at 2*s.* per stone	12	0	0
(Or 18*l.* 7*s.* 6*d.* per acre.)	£23	15	0

Produce.	£	s.	d.
Seed, 45 bushels, at 3*s.*	6	15	0
Fibre, 120 stone, at 2*s.*	12	0	0
	£18	15	0
Deficiency	5	0	0
	£23	15	0

(0 1*st.* 0 2*d.* per a[illegible] ... 0 0
(Loud cheers.) Mr. [illegible] ... 0 0
point to the present ... 0 0
culated at 5 tons, ... 0 0
it down to the quantity ... 0 0
Dickson, when here, ... 0 0
turned out to be just ... 0 0
and in the estimate given ... 0 0
Robert Flax Society, and ... 0 0
what the exact amount ... 0 0
made what he believed ... 0 0
the work had been done ... 0 0
paid 1*s.* 6*d.* a day, ... 0 0
the labourer. The ... 0 0
any employment whatever, ... 0 0
should not be employed ... 0 0
was over-stated but ... 0 0
He put the figures ... 0 0
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hall, and the ... 0 0
ments. It was ... 0 0
surprised if it was ... 0 0
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courage him and ... 0 0
Mr. Sotheron produced ... 0 0
which was very good. ... 0 0
seen it said he should ... 0 0
hands. When they ... 0 0
that he was not able ... 0 0
object had been held ... 0 0
would afford the ... 0 0
able-bodied, during ... 0 0
curred in such a ... 0 0
to interfere with it ... 0 0
amounted to this, ... 0 0
2, 3, or 4 acres, ... 0 0
management of the ... 0 0
curred. Mr. Sotheron ... 0 0
plant itself. He ... 0 0
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processes, after ... 0 0
under his consideration, ... 0 0
mises for breaking, ... 0 0
the two would be ... 0 0
ready the necessary ... 0 0
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tages of rapidity in ... 0 0
thought it was better ... 0 0
—such a one as Mr. ... 0 0
therefore, being erected, ... 0 0
had no doubt it would ... 0 0
that would be grown ... 0 0
might not only scutch ... 0 0
they pleased, might ... 0 0
mises, a certain ... 0 0
them. He was ready ... 0 0
send in this way. ... 0 0
it should be brought; ... 0 0
break and scutch it; ... 0 0
that some person ... 0 0
and that he (Mr. ... 0 0
or, if they liked it, ... 0 0
it as they pleased. ... 0 0
observations on the ... 0 0
that if those gentlemen ... 0 0
as much again in the ... 0 0
seed, twice as much ... 0 0
of the fibre, after ... 0 0
cesses in water; for ... 0 0
of the seed. Mr. ... 0 0
heartily congratulated ... 0 0
of those endeavours ... 0 0
effort to do good ... 0 0
and he did hope ... 0 0
plant, but to establish ... 0 0
manufactory, where ... 0 0
for their own use."

This extract from the speech of the hon. Member for Wilts proves that common sense and Flax cultivation have become inseparable in the estimation amongst prudent and practical men.

I agree with your late correspondent, the "Midland Tenant Farmer," that the subject is too important to be raked aside with the rubbishy topics which but too often agitate and engross the public mind. That subject must be vital whose object is the saving of eight odd millions sterling yearly to Great Britain, for which she gets no return. That subject must be gigantic whose success shall furnish employment for one million of human beings, whose industry is now lost to the commonwealth or pining in unpaying labour, so that the sad burden, whilst the frowsy Hollander and phlegmatic Belgian fatly enjoy the fruits of English superiorness. That subject must be great whose aim is to render Britain in a great measure independent of American produce, and give to the humble sections of society substantial and wholesome linen shirtings, in lieu of cotton: such would wage war against disease and accelerate sanitary improvements, by enabling the poor to earn and enjoy comfort independent of parish relief.

I regret to see that the "Midland Farmer" insinuates a desire on the part of the Irish Flax growers to mislead the public. I can only say for myself I have never done so; I have made no assertions without proof. At the same time I fearlessly express my opinion, with reservation that I have a doubt of its interfering the growth of Flax, and I believe if I were in the slightest to mislead the public, I should most unquestionably inflict ruin on my own private interests of mercantile success, and deserve reprobation and undignified from that position as a Flax grower in Ireland, and an extensive purchaser of the fibre, both Irish and Continental, which I have for many years enjoyed.

Believing as I do, in the expressed opinions of the Rev. George Wilkins, that "it a man is a real patriot, he will not be the first to sound his own trumpet," and not wishing to throw dust in the eyes of British farmers, by impiously casting my mission from on high, I tell them plainly, my object is to grow by their cultivating the Flax plant, just as it is their object to grow by the use of the seed to foster their cattle. This I has been my trade for the last 20 years, and as I know it

will pay the farmers better than any other crop, it is my duty, as well as my interest, to encourage its growth, and although the Rev. Mr. Wilkins asserts it cannot be grown in England "without great loss to the grower," I hope before the coming month of May to produce some dozens of examples similar to that which I have now adduced to prove he has been mistaken, just as the "Midland Farmer" has been, when he asserts that Flax has fallen to near half its former price. I admit that Flax that would fetch 7*s*. 6*d*. to 7*s*. 9*d*. per stone this time last year, can be had this year at about 6*s*. per stone in Ireland, because of the farmers preferring to sell their Flax off to pay rent, and hold their grain, for fear of another year of famine; but to talk of "the half" is simply absurd.—*J. Hill Dickson, 29, Broad-street buildings, London.*

Home Correspondence.

The Farnham Fossil Phosphate Bed.—The very interesting communication in your Paper of the 19th Feb., "On the Discovery of Strata containing Phosphate of Lime in the chalk formation," has cleared up a mystery which I attempted some time since to solve without success. I had observed the extraordinary fertility of those spots where the outcropping upper green sand unites with the chalk marl, and which present (as your correspondent remarks) "a very conspicuous green." The district in question is at the foot of the chalk range between Tetsworth in Oxfordshire and Wantage in Berkshire; the largest development of the "true upper green sand" being at Ardington near the latter, and at Easington near the former place. Under the supposition that the virtue must lie in the green sand, I analysed, in a rough way, portions of the purest green sand, but found nothing to throw light on the subject, and contented myself with the supposition that the exuberant fertility was due either to the condition of the soil produced by the union of the sand and chalk marl, or perhaps to soluble silicates in the green sand, or some other cause, which was beyond my slight chemical skill to determine. Mr. Manwaring Paine has now cleared up the mystery, and has done good service to the cause of science united with practice. There is a subject, analagous to that so satisfactorily disposed of, which may be worth scientific investigation. To the north of the districts before-named is an outcropping ridge of the lower green or iron sand. Where this stratum is not covered by any alluvial deposit, the disease called ambrey or fingers and toes is very prevalent among Turnips. It was so destructive that a well known agriculturist told me that he was obliged to give up the cultivation of Turnips on certain portions of his farm, until he tried the application of the scrapings of a turnpike road that is repaired with stones from the coral rag, which abounds in fossils, and which, as he said, acted as a charm. This he attributed to the lime which it contained, but on examination it yielded not only a large per centage of carbonate, but a perceptible quantity of phosphate of lime. Nearly the same effect is produced by the application of the scrapings of another line of road, which is repaired with a diluvial gravel composed of the detritus, as the above-named and other strata, and contains portions of limestone, fossils, bones, teeth, &c. These road scrapings are more efficacious than pure lime, and would no doubt be found to contain phosphate as well as carbonate of lime. Where the stratum of iron sand is covered with beds of this gravel, the Turnips flourish, and are very healthy. At my suggestion a farmer spread some of this gravel, as dug from the pit on the surface not so covered, and though, as he expressed it, "it worked slower than the scrapings," the effect was very perceptible. If these simple facts come under the notice of those more competent than I am to bring them to the test of chemical inquiry, they may, perhaps, be found useful in the localities to which they refer, by making the stores of manure which Nature has provided available to the increase of the fertility of the soil.—*James Clutterbuck, Long Wittenham, Abingdon.*

Fossil Phosphate bed at Farnham.—I have read with great interest Mr. Paine's paper upon the phosphates of the lower chalk formation. I am living myself on that formation, and believe that I shall find the substances he speaks of in the strata of my own neighbourhood; but owing to local variations in the development of certain beds, I do not feel certain on the subject. At any rate, the precise forms in which he has found the valuable substance do not exist here, though I would fain believe their correlatives do. There are, however, two places in England where I have many years ago observed the precise fossils which appear by his experiments to be most rich in phosphates. One is the Undercliff of the Isle of Wight, in the neighbourhood of Steephill; and the other is Eastbourne, along the shore southwards of the Sea Homes towards Beachy Head for about a mile or a mile and a half. The neighbourhood is, I believe, called the Wish. I mention these observations that the attention of residents in those two localities may be called to the subject. Many years have passed since I was familiar with those spots, but early recollections are generally pretty accurate. Both districts are spots of more than ordinary fertility; the fossils in both cases may be found in the sea-washed rocks on the shore, but more abundantly inland.—*Lower Green Sand.*

On deep Drainage of Arable land.—Of the many improvements in agriculture which science is bringing forward to increase the productive power of the soil, perfect drainage, wherever vegetation is injured by the rise of springs, or the accumulation of water in the winter season, is of the first importance. When well done, drainage forms the basis of an improved cultivation, by it the expenses of tillage are diminished, the land is adapted for an extended rotation of cropping, the produce is improved both in quantity and quality, the health and comfort of the animals on it are promoted, and the climate is ameliorated to man, whilst the returns are so various and important, that the outlay may be said to be comparatively nothing; for it is an extraordinary fact, that the entire expenses may frequently be recovered in the greater value of the first crop that the drained land produces. I have thought it necessary to qualify the drainage I have in view by the term deep, meaning drains of not less than four feet, because I would not lead any one to expect the same effects from shallower drains. Mr. Parkes, the engineer to the Royal Agricultural Society, by his experiments, has thrown much light on the subject; for although the greater advantage gained by increasing the depth of the drains had previously been seen, still the scientific explanation, which has afforded so much assistance to the well doing the work, of why vegetation is benefited by deep drainage, had not before been given. By Mr. P.'s experiments and directions, we now know that drawing down water by under drainage, raises the temperature of the surface soil, and adapts it for an earlier vegetation, and Liebig has proved to us that rain carries with it the principal nutriment of all vegetation, and in its percolation leaves a store of food in the soil for future use. These experiments have shown to us, not only that the soil is much earlier warmed in the spring and summer by being dry to the depth of 4 feet, but we have also learned the curious fact that the passage of every shower into the earth carries warmth and nutriment with it. We knew previously that wet land was always cold and poor, and had its vegetation backward; but we could not philosophically explain why it was so. We have shown to us that rain, which should be a powerful agent for warming and feeding the soil, by the neglect of drainage robs the soil and becomes an aggravator of the mischief which cold produces. Mr. Parkes has likewise put beyond a doubt, the capability of stiff clays being drained; he has shown that when these soils are properly drained, they contract and crack to the drains, and thus become for ever porous; and he may be said to have given confidence, and extended the benefits from deep drainage to a class of soils having most occasion for additional warmth and improvement in the texture, but which previously had been left in hopeless incapacity of such amendment. We are also indebted to this gentleman for information which has led to the general introduction of small pipes, thus effecting a considerable saving in the construction of drains. In a word, the scientific discoveries and explanations of Mr. Parkes, combined with the skill which others have gained by experience, have effected important reductions in the expense, and at the same time greatly extended the beneficial results of draining. It is much to be regretted that in this as in other improvements to be made in the cultivation of the land, the want of consideration leads to very imperfect execution and much waste. Of the very large expenditure now being made in draining, it is probable that at least four-fifths are being spent upon erroneous principles. The truth is, that the miscalculation which looks upon the employment of professional men as an expense to be saved, leads, in the end, to a waste of money and an amount of disappointment far beyond conception. The greater part of the draining now being done is shallow, under the direction of men to whom the existence of Messrs. Parkes and Liebig is unknown; whose experience has not extended beyond their own farms: and whose views go no further than to rid land of the rain in the quickest manner. To those who have draining to effect I would address common sense, and shall do so in advising them (before leaving their draining to anyone) to previously obtain the best information, carefully read what Mr. Parkes has written, and also Mr. Mechi's letters; and if their intended outlay be considerable, after reading these works, personally to inspect draining now being done under able direction, even if they travel 200 miles for that purpose, and not to trust to the plans of men whose knowledge has been gained only from the narrow limits of their own experience, for land may be drained well or ill: the expenditure will not secure the desired result, and 5*l*. or more per acre may be spent, when 3*l*. would have better answered. Mr. Mechi can tell us of hundreds lost for the want of better information, and I could point out where many thousands at this time are being spent to as little purpose.—*Hewitt Davis, 3, Frederick's-place, Old Jewry, Jan. 18.*

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A Monthly Council was held at the Society's House in Hanover square on Wednesday last, the 1st of March. The following Members of Council and Governors were present:—Mr. Raymond Barker in the Chair; Lord Southampton; Sir Robert Price, Bart., M.P.; Mr. Bennett; Mr. Bramston, M.P.; Mr. Brandreth; Mr. Burke; Colonel Challoner; Mr. Bell Crompton; Mr. Evelyn Denison, M.P.; Mr. Druce; Mr. Garrett; Mr. Brandreth Gibbs; Mr. Grantham; Mr. Hillyard; Mr. Fisher Hobbs; Mr. Holland; Mr. Hudson, of Castleacre; Rev. C. E. Keene; Mr. Kinder; Mr. Miles, M.P.; Mr. Milward; Prof. Sewell; Mr. Shaw, of London; Mr. Shelley; Mr. Slaney, M.P.; Mr. Smith, of Burley; Mr. Stokes; Mr. Thomas Turner; and Prof. Way.

The following new Members were elected:—
Penrice, Thomas, Kilvrough, Swansea, Glamorganshire
White, John Mould, Mickleover, Derby
Bragge, Colonel, Sadborough Park, Chard, Somerset
Chatterton, William, High-Risby, Barton-on-Humber
Barker, H. B. Raymond, Garden-court, Temple, London
Dawson, G.P., Osgodby Hall, Selby, Yorkshire
Jeggo, Thomas Bayley, Gosfield, Halsted, Essex.
Parson, George John, Haslemere, Surrey.

The names of nine candidates for election at the next Meeting were then read.

Finances.—The Chairman laid before the Council the report of the Finance Committee on the accounts of the Society; from which it appeared, that on the last day of the month of February just ended, the invested capital of the Society stood at 8999*l*. stock, with a current cash-balance in the hands of the bankers of 262*9l*. The Chairman explained that this general balance was made up of the following special balances, namely: York subscription balance 980*l*., arrear balance 742*l*., composition balance 401*l*., and available balance for current purposes 506*l*.; and submitted to the Council the recommendation of the Committee, that the 742*l*., then reported as the amount received on account of subscriptions in arrear, be invested in the purchase of stock, and be thus added to the fund of invested capital standing in the names of the trustees of the Society. This report, with the recommendation it contained, was unanimously adopted by the Council.

The Chairman also reported to the Council the recommendations of the House Committee in reference to the periodical repairs required in the Society's House by the terms of the lease, the custody of the great seal and legal documents, and the means proposed for keeping up the arrangement of the library and the catalogues of the books: all which recommendations were adopted by the Council.

Trial of Implements.—Colonel Challoner, Chairman of the Trial of Implements Committee, presented the following—

Report of the Committee on Conditions for the Trial of Implements.—The Committee having had under their consideration the report of the consulting-engineer of the Society on that part of their former report which the Council, in December last, directed the Committee to reconsider, find that the schedule of conditions which that portion comprised, for the trial of winch or crank implements and machinery driven by steam or horse power, has, with the suggestion of a few verbal alterations, received the approbation of the consulting engineer of the Society; and the Committee have accordingly resolved to recommend to the Council the adoption of the following conditions (to be inserted in the Implement Prize-Sheet, between the Regulations at present standing as Nos. 18 and 19), wherein the verbal amendments suggested have been made, namely:—

"1. That all implements turned by the winch or hand-crank shall not be worked at any trial beyond the revolutions following:—40 revolutions for 12-inch crank.
35 " 14-inch "
30 " 16-inch "

"2. That in machinery driven by horse-power, the utmost speed that the horses shall be driven at during any trial shall not exceed 2½ miles per hour, or 198 feet per minute.

"3. That steam-machinery shall, under no circumstances, be allowed to compete at any trial with a greater pressure than 45 lbs. per square inch in the boiler: at which pressure it will be expected that the engine shall work up to the power declared by the exhibitor.

"4. That a note be added (in italics) that the quantity of fuel consumed by each engine will be strictly ascertained by the judges."

The Committee have also had under their consideration the question of regulations for the trial of implements at the country meetings of the Society, and of the best system of distributing the duties of the Judges. The Committee beg to submit to the Council the adoption of the following recommendations, which can be amended as experience may suggest—

I. That in the trial of steam-engines, an apparatus known as a "Force-Resister" be purchased by the Society, and be employed by the Judges as a test of power: such apparatus consisting of a friction break, acted upon by a rotatory pendulum, to supply and to regulate the friction, as well as to show the utmost resistance for any quantity of power that the engine on trial may require.

II. That the Judges be directed to ascertain in every engine, and report in their award, whether regulators, or governors, are used in the steam engines which they recommend for prizes, and also to ascertain the temperature of the water in the boilers immediately prior to the lighting of the fires at the commencement of the trial of the steam-engines.

III. (1.) That the exhibitor of each steam-engine shall furnish to the Society at the time of entry a longitudinal and transverse section plan of the boiler, showing the action of the fire upon the flues; and also state, in writing, the thickness and quality of the boiler plates as well as the diameter of the cylinder, the length of stroke of the piston, the number of revolutions of the crank shaft (with its diameter, and whether made of cast or wrought iron), the diameter and weight of the fly-wheel, the diameter of the driving-wheel or pulley, the number of horse-power that the engine is calculated to work at, the probable time it will require to generate the steam (taking water at 60 degrees), to steam at the working pressure, and the quantity of fuel it will consume in getting up the steam, and the consumption of fuel for every hour it is in full work. (2.) That the exhibitor of each threshing machine be required to state, in writing, at the time of entry—1st, If driven by steam power, the diameter and length of the drum, the number of revolutions it makes per minute, the diameter of the wheel or pulley on the drum spindle, and whether driven

by a strap or wheel; 2d, If driven by horse-power, the number of horses he will require, and the number of revolutions they will make per minute, the diameter and length of the drum, and the number of revolutions it makes per minute. (3.) That the exhibitor of each corn mill, corn and linseed bruiser, chaff-cutter, or of any other rotatory machine required to be driven by power, be required to state, in writing, at the time of entry, the number of revolutions per minute they are to be driven (not exceeding the limited speed set forth in the foregoing conditions), the number of horse-power required to drive them, and whether driven by a strap or wheel; if by a strap, to state the diameter and width of the driving pulleys, also the diameter and weight of the fly-wheel (if any).

IV. The Committee recommend for the year 1848, that, in addition to the consulting-engineer of the Society, who acts as mechanical referee, there should be ten judges of implements; two of these to be engineers, and the remaining eight to be practical farmers. 1. That the two engineers should be the sole judges of steam-engines and of steam-power generally, considered in a scientific and mechanical point of view, without reference to the application of such power to agricultural machinery; but that they should report to the stewards, in writing, for the information of the other judges, a statement of the power applied to the machinery under the consideration of any such judges. 2. That the other judges should judge the work done by any agricultural machine to which steam or other power is applied; but that it be an instruction to them to pay every attention to the report of the engineers in forming their judgment of the work of the machinery on which they are called upon to adjudicate.

V. That, in the trial of machines, in every case where practicable, steam-power should be adopted instead of horses, as the most accurate test of the relative working of machinery.—(Signed) C. B. Challoner, Chairman.

This report having been unanimously adopted by the Council, Mr. Fisher Hobbs expressed his strong approval of the Force-Resister recommended by the Committee to be purchased by the Society, but thought it desirable, that although enquiries should be made in reference to the cost of such an apparatus, and requisite economy taken into consideration in its purchase, still that as the proposed test of trial was admitted to be of so decisive a character, he trusted that only an efficient apparatus, even if the cost was a little greater in the first instance, would be procured for the Society, for the purpose of effecting the important object in view, in reference to trials of machinery at the country meetings of the Society, when the two following points of enquiry, suggested respectively by Col. Challoner and Mr. Shelley, were referred to the Committee.

1. To take such steps for obtaining a Force-Resister as in the opinion of the Committee would meet the exigency of the case.
2. That the Committee be requested to take into consideration the drawing up of the report for the Journal, or the exhibition and trial of Implements at the ensuing York meeting, and to report to the Council their recommendations on that subject.

Colonel Challoner then reported from the Committee, the suggestions of Mr. Brandreth Gibbs, in reference to the disqualification of all entries made for implements by the 1st of May, of which the final details (required by the second Regulation of the Implement Prize Sheet) should fail to be sent on or before the 1st of June; and also in reference to a statement to be made by exhibitors, not only of the space required by them for exhibition, but likewise of the total number of articles of exhibition intended to be sent by them to the Show; both of which suggestions, agreeably with the recommendation of the Committee, were adopted by the Council.

York Meeting.—Mr. Shelley, as the Chairman of the meeting of the General York Committee, held that day, laid before the Council the following recommendations; namely:

1. That the Secretary of the Society be directed to make application to each of the parties who entered stock or implements for the Northampton Meeting, but omitted to send the same for exhibition; informing them of the amount of the fines incurred in each case, and requesting a remittance of their respective amount.
2. That the conditions and regulations of the prize-sheets for the York Meeting, as finally arranged by the Committee, be approved for publication.
3. That the Plan of the Show-yard, as drawn out by Mr. Brandreth Gibbs, and approved by the Committee, be adopted for the York Meeting.
4. That the Secretary be instructed to communicate with the Railway Companies on the subject of the conveyance of stock and implements to and from the ensuing Country Meeting of the Society.

These recommendations were unanimously adopted by the Council.

Steward.—On the motion of Colonel Challoner, seconded by Mr. Shelley, Mr. Hudson of Castleacre was unanimously appointed one of the stewards of the cattle-yard for the country meetings of the Society.

Discussions.—Mr. Slaney, M.P., brought forward his motion on the advantages which, in his opinion, would result from a practical discussion, after the ordinary business of the Council, on topics of interest to those members of the Society who might, from time to time, be in town during the session, and enabled to attend its weekly meetings. He mentioned, as instances of such topics of wide interest, and connected with innumerable details—1, the price of draining-tiles; 2, the management of fences; 3, the making and keeping in order farm roads; 4, the insurance of ricks and farm stock; 5, the conveyance, by means of pipes and hose, of town sewerage, for agricultural purposes. He conceived that discussions on such topics, and on others of a similarly practical character as would arise in constant succession, if confined to questions not under the consideration or about to be brought under the notice of Parliament, and carried on not as public addresses, but in familiar and quiet conversations, would excite great interest, and lead to much information connected with the progress of agricultural processes and experiments: but although thus in his opinion an arrangement which would lead to interesting communication of facts, he would by no means wish to press his motion unless it met with the entire approbation of the Council.—Mr. Hillyard would second the motion if the discussions were carried on only once during the month.—Mr. Denison, M.P., thought that the plan would not be found to answer the expectations of Mr. Slaney, consistently with the transaction of the ordinary business of the Council, and the time of engagement of its members elsewhere at the close of their present meetings.—Mr. Slaney then expressed his readiness to accede to the suggestions of Mr. Denison, on whose opinion he placed a high value, but trusted that at some future time the plan he proposed might be adopted in some way which would be considered by the Council as free from objection.

Member of Council.—Mr. Fisher Hobbs having withdrawn the name of Mr. James Webb, and Mr. Burke that of Mr. Tweed, as candidates respectively proposed by them to fill the vacancy occasioned in the Council by the decease of Mr. W. R. Broome; on the motion of Mr. Bennett, seconded by Mr. Shelley, Mr. Hudson, M.P., was unanimously elected to fill that vacancy.

Farming Accounts.—The Farming Accounts Committee had leave granted for an extension of time for making their report to the Council.

Draining Level.—Mr. Chadwick had leave given him to explain to the Council the construction and advantages of Blundell's Drainage Level (in which the change of horizontality in the instrument is indicated by the change of level in two surfaces of a connected body of liquid, the surface for registry rising and falling in a glass tube, which remains nearly vertical, and to which a scale for reading off its variations is attached); for which attention the Council gave to him their thanks, with an express understanding, however, that they give no opinion on the invention then submitted to their inspection.—Mr. Shelley suggested that the Level in question might be shown, like any other instrument of an agricultural character, at the country meetings of the Society, if duly entered for such exhibition.—Mr. Hobbs thought that a cheap and efficient drainage level would be of great service to farm-bailiffs.

Phosphate of Lime.—Prof. Way, the consulting chemist to the Society, presented, in the name of Mr. Paine, of Farnham, specimens of the fossils containing phosphate of lime, from the upper and lower green sand; together with samples, in their natural state, of the soils in which these valuable fossils are found. Prof. Way called the attention of the members to the phosphatic fossils from the galt clay, which in an interesting manner connects the upper with the lower beds of these remains, and leaves no doubt in his mind that the conditions which prevailed during the collection of this large phosphoric deposit must have extended over a lengthened geological epoch. He entertained no doubt that the deposits might be profitably worked at the *outcrosses*; but whether the great bulk of the phosphate of lime would be available for agricultural purposes, could only be ascertained by experience. As there were obstacles to the working of the bed in some places, so, no doubt, there would be great facilities in others. Agreeably with the request of the Council, at the previous meeting, he had analysed the phosphorite mineral from Estremadura, originally presented to the Society by Mr. Kimberley; and it was found to contain about 41½ per cent. of phosphoric acid, which would form nearly 86 per cent. of phosphate of lime, or bone-earth. Prof. Way, however, explained that phosphoric acid, as existing in phosphate of lime, did not represent the precise chemical condition under which that acid existed in the phosphorite; but that the proportion of it given might in all respects be taken as an index of the agricultural value of the mineral in which it occurred. In comparison with the Estremadura specimen, he stated that the fossils of the upper green sand were found to contain about 57 per cent., and those of the lower green sand 43 per cent., of phosphate of lime; and he trusted that the great abundance of these fossils, and the facilities for collecting them, would render them far more important to the English agriculturist than the phosphorite mineral itself, even should means be found for the more ready importation of that foreign substance. Mr. Paine, in conjunction with Professor Way, intended to draw up and offer to the Journal Committee a complete statement on this subject.—On the motion of Mr. Fisher Hobbs, the thanks of the Council were voted to Professor Way and Mr. Paine, with a reference to the Journal Committee of the offer to which Professor Way referred, of a detailed communication on this interesting subject for the pages of the Society's Journal.

Manures.—Mr. J. R. Johnson, of 41, Nelson-square, Surrey, communicated to the Council an offer to submit a sufficient quantity of his ammoniacal phosphate manure for trial upon 10 acres of land by members of the Council; and Mr. Richard Dover, of 28, New-street, Spring-gardens, offered to supply a sufficient amount of his British guano for the same extent of ground, and to be tried under the same authority. Mr. Purser, of New Bridge-street, also called the attention of the Council to the value of his fishery salt as a manure for land.—The Council decided, on the motion of Mr. Stokes, seconded by Mr. Slaney, that they would not in future accept any offer of [illegible] by the Council.—Mr. Hobbs stated that he had [illegible] with the fishery salt, of which a [illegible] before the Council by Mr. Purser; [illegible] already purchased 1000 tons of [illegible] of common salt, and at a [illegible] from 15 to 16 per cent. of [illegible] common salt, which had been [illegible] Council for curing [illegible] three report to the Council the results of [illegible] at in comparison with the effects of [illegible]

Prize Essays.—Mr. [illegible], of [illegible], Cheshire, expressed a hope that the [illegible] for the Society's Prize on the subject of [illegible] mona among cattle, and which were to [illegible] that day, might come into the [illegible] that subject for the benefit of the [illegible] nity at large; and he trusted that [illegible] case, no time would be lost by the [illegible] in placing the information [illegible] had formed [illegible] from the [illegible] disorder among his cows, and [illegible] making fearful [illegible] county, many farmers [illegible] of the number of their [illegible] and in some instances the [illegible] the same affection. Mr. [illegible] among his cows, and two [illegible] of which number of animals only [illegible] alive, and these he considered were saved by [illegible] copious bleeding and [illegible] but even these, thus saved, [illegible] him as dairy cows, the disease having, in every [illegible] instance, caused abortion, and the cows were very much emaciated. How far the disease was [illegible] he was not prepared to say; the first of his [illegible] curred in July; and it was nine weeks [illegible] fore he had any further outbreak of the disease. It then recommenced, and his stock had not [illegible] from it since that time for more than a few [illegible] together. During the previous week he had [illegible] severe cases, two of which had proved fatal, and [illegible] recovery of the third animal remained very [illegible]. —Mr. John Lees Brown, of [illegible], near Leeds, also addressed the Council on the same subject. He had had serious losses in his stock from the same [illegible], nearly all his stock having been swept off by it. —Mr. Bennett stated that his [illegible] (kept in a separate yard) had been [illegible] disease, while several of his [illegible] cattle (kept in other yards) had been taken and [illegible] young animals had been [illegible] and carried off. He had adopted the system of [illegible] and placing a seton in the dew-lap, and had not had any of his cows affected since.—Mr. Hillyard stated that his Irish cattle had first suffered, but he had now [illegible] stock.—Mr. [illegible] (of Burley) had witnessed many cases of the disease, which he did not believe to be infectious. On its first appearance he had experienced great loss, and had consulted many local veterinary practitioners in vain. He at length, however, was fortunate enough to meet with a retired practitioner who cured the whole of his stock affected with the disease, by the administration of a particular drink which he gave them. The same drink had in every subsequent case effected a perfect cure. His Irish cattle had suffered more than his English ones. He had lost 32 head of stock in a single year in consequence of the disease in question. In every case, as well as in his own, he had found the drink which he alluded equally successful in removing the disease. The retired practitioner whom he had employed only administered the drink; he did not bleed the animals.—Mr. Brandreth Gibbs, on his estate in Lincolnshire, had had some of his Welch [illegible] severely attacked with the prevailing complaint; some, in the same house, were attacked, while the remainder escaped. He had bled them and given them drinks.—Mr. [illegible] believed that the disease was raging much as usual; the cattle of the country were decimated by its fatal effects. Farmers who formerly had kept from [illegible] 40 animals now kept not one.—Mr. Slaney feared that its results were felt not only by the farmer, but also by the consumer.—Mr. J. Turner considered the complaint to be nothing more than a fever, and conceived that it ought accordingly to be treated as a fever affection. The circulation, in a disease under such circumstances, was disturbed; and he would strongly recommend that the early symptoms be narrowly watched, and when they first [illegible] the use of [illegible] depletion would at once cut short the malady. The state of the bowels would, of course, be attended to; and a seton, or rowel, would be [illegible]. He considered that scientific men were not generally called in soon enough.—Mr. Bennett had seen much benefit resulting from practitioners in the cases of this disease in the early stages, and he had found very little benefit result from their attendance.—Mr. [illegible] thought this disease to be so severe a scourge throughout the country that the award of the Society's Gold Medal to the fortunate discoverer of a certain plan of cure would not be thought an adequate acknowledgment on the part of the Council.—Mr. Smith, on the request of the Council, undertook to communicate with the retired practitioner to whom he had alluded, and to report the result to the Council.—Prof. Way would suggest that the most attentive observations should frequently be made of the stock, either by the owner or his attendants (whether herdsmen or shepherds); and on the appearance of any deviation from their healthy condition or usual

habits, that a considerable quantity of blood (about a gallon in full-sized good-conditioned cattle, and a pint from sheep) should be taken from the animals at once; and then to call in a regular practitioner to prescribe or administer the most proper remedies. He considered that the most experienced practitioners concurred in the depleting system; and that its failure arose from the neglect which allows the inflammation to terminate in effusion into the substance of the lungs, and thus obliterate the air-cells; or into the cavity of the chest, or both. In the first case destruction is speedy; but in the second, when confined to the chest, the animal may linger on for several weeks. He would recommend that the external applications should be powerful stimulants or blisters to the sides of the chest; or setons in the dew-lap and chest; or hellebore issues (commonly known by the term "pegging"). He thought that if the owner of stock, or some person in his employ, were instructed how to bleed an animal, many very valuable head of stock would be saved by such immediate reference to the lancet, as the intermission of a few hours only renders such depletion unavailing. Bleeding he regarded as the sheet-anchor in all inflammatory diseases. A whole flock of sheep attacked with acute inflammation (reduced in number by some which had previously died), were saved by the prompt measure of bleeding each of them. They were all in good condition, and the weather at the time was warm. This would not, however, be proper practice in those cases which have recently occurred as the results of a cold and wet season. The disease is affecting the viscera of the abdomen as well as the chest, and the animal gradually wastes and dies exhausted, in consequence of the ensuing dropsy and diarrhœa. In some cases death has been supposed to ensue from a considerable number of worms found in the air-passages. He recommended that animals which appear to be failing in health should be removed to shelter, and confined to dry food. The worms, he remarked, that are often found in the trachea and bronchial tubes of debilitated and old horses, cattle, and sheep, seldom cause death; but that fat calves more commonly suffer from these parasites, as horses do from worms in the stomach and intestines.

Specimens of Wheat.—On the motion of Mr. Shelley, seconded by Prof. Sewell, the best thanks of the Council were voted to the Rev. Professor Henslow, for the communications he had made to Mr. Pusey, M.P., and the specimens of Wheat he had forwarded to the Society, in explanation and completion of the arduous and important task he had undertaken of arranging and illustrating the interesting collection of Wheats, for which the members are indebted to Prof. Henslow's kindness, and to the devotion of a great amount of his valuable time and labour.

Thibet Barley.—Sir William Hooker presented to the Society a portion of Thibet Barley (Hordeum cæleste) from a supply forwarded to him by the Agri-Horticultural Society of Bombay. He had reserved a portion for the Kew Gardens, and had sent the remainder to the Council, thinking it probable that some of the members might wish to make trial of its cultivation. The Council ordered their best thanks to Sir William Hooker for this mark of his attention to the objects of the Society; and Mr. Raymond Barker and Prof. Sewell undertook to try and report upon the qualities of this Barley.

Judges.—Mr. Milward gave notice that at the next monthly Council he should move, that in the resolution of the 9th of December last, the following substitution be made, namely, instead of the passage (as it now stands) "for whatever classes he may be proposed to be appointed," to substitute the following: namely, "for the class for which he recommends him." The Yorkshire Agricultural Society transmitted to the Council a copy of their Transactions just published. The Baron Hertefeld, of Liebensberg, near Berlin, in transmitting his life-composition as a member of the Society, expressed the satisfaction it would give him to promote any of the objects of the Society, or to show any attention to the individual wishes of its members in that part of the Continent where he resides. Mr. Fisher Hobbs obtained leave for Mr. Love to make trial of the American Plough in possession of the Society, and to report the result to the Council.

The Council then adjourned over Ash Wednesday to the 15th inst.

Norfolk Farming.—Mr. Hudson of Castleacre, a member of the Council of the Royal Agricultural Society of England, has just received a well-merited honour from a distinguished agricultural society on the Continent. The Baron von Behr having last year on his visit to England paid a visit to Castleacre, and inspected the admirable arrangements connected with every branch of practical agriculture, so economically planned and efficiently carried out by Mr. Hudson in that part of Norfolk, made so favourable a report of all that he had seen at Castleacre, and Mr. Hudson's other farms, that the Courland Agricultural Society unanimously deputed the Baron de Fircks to be the bearer to Mr. Hudson of a diploma, conferring on him the distinction of an Honorary Member of that body.

Calendar of Operations.

FEBRUARY.

Dorset Farm, *Feb.* 28.—For the past week we have been employed ploughing after Rape, which our hogs are eating off; carting dung for Turnips, threshing Barley, cutting heather, faggoting thorns, gathering stones off the pastures, and pulling down old cottages. We have had very rough weather during the greater part of the week; and when too wet for getting anything done out of doors, we have been occupied in cutting chaff, crushing Linseed and oilcake; mending sacks, and mixing manures.—*G. S.*

North Lincolnshire Farm, *Feb.* 26.—Since last report we have been engaged in leading in stack to thresh, ploughing Turnip land, cleaning up round buildings, getting in Swedes, leading out manure, carrying Oats to market, and in fetching coals and cake. Leading manure may occupy us some time in the following week.

Somersetshire Farm, *Feb.* 28.—This last week has been very unfavourable for field labour, in consequence of so much rain having fallen. Our hands have been employed in threshing Clover seed, hauling coal for the supply of engine, and hauling home some Apple trees that were rooted up by the storm between Thursday night and Friday morning.—*R. C.*

South Hampshire Farm, *Feb.* 21.—The weather having been exceedingly changeable since our last report, the employment of the horses and men has been various. Three 2-horse carts have been employed four days carting chalk on to the pasture land. We have employed four horses several days ploughing and harrowing for Wheat, and on the 18th all our horses were employed ploughing &c. for Wheat; we still continue to sow 4 bushels per acre of mixed red and white Wheat. The land being in a very heavy state, we do not hesitate to say that we could not have ventured to sow Wheat upon our clay loam soil, after Turnips fed off, as we have done at intervals for two months past, except by the use of Howard's patent iron harrows, the old wooden-framed harrow proving quite ineffectual. We observe the Wheat we have sown after Turnips in December and January, although sown under disadvantageous circumstances, is yet coming up very satisfactorily. For several days our horses have been employed in threshing Barley with machine, for we find it a very tedious and expensive operation threshing with the flail, the Barley yielding badly from the straw, still it is a good crop per acre. We continue to employ an odd horse and cart in various jobs, such as carting leaves &c. into the yard, carting Swedes for pigs and cows, carting hurdles for the sheep, also carting the manure made on the farm; and spreading regularly over the farm-yard, to equalise its quality. We have also been ploughing with two 2-horse ploughs several days, as a preparation for Potatoes, to be planted as early as the season will permit; where the Turnips have been fed off, we have found in past seasons that Potatoes crop well after Turnips, and the land requires but little horse labour in its preparation; some of our men have been employed with the threshing machine, four men have been several days spreading dung on the pasture land, and sowing guano, and vitriolised bones, two men have been carting and turning the manure made in the lambing yard, preparatory to being carted out for the Potato crop. We have nearly completed the cutting of Ash, Elm, and Beech timber for this season. Some of our men have been planting Quicks, and earthing up Quick hedges which where planted three years ago, also spreading chalk, and levelling the land where old fences have been removed. Some of the women have been employed stone picking on the pastures, and cleaning and preparing Turnips for the cutter; when the weather has been open they have been forking out the Couch-grass from between the rows of Turnips, for we find that after the best seasons for fallowing for the Turnip crop, there will be yet remaining a trifling portion of Couch, which if allowed, will increase rapidly, and by the time the land comes in fallow again will cause a great expense in its removal, besides the injury sustained by intervening crops; whereas the forking out from the rows of Turnips costs about 1*s.* to 1*s.* 6*d.* per acre, and we generally find the land more effectually cleaned in this way, and at the least cost.—*J. B.*

Notices to Correspondents.

Agricultural Chemistry Association—*G Rushout*—32, Alfred-street, Bedford-square, London, is the address of its chemist, and will no doubt find any other of its officers whom you may wish to write to.

A new white Swedish Turnip—*N B*—We do not know it.

Black Barley—*W M, Deptford*—Will you be so good as favour us with your address, for a correspondent.

Boxes—*A New Subscriber*—We will procure a description for you

Draining—*A Subscriber*—We would certainly break through the gravel, if it were not at too great an expense. If it be a thin layer bound together by ferruginous matter, as is sometimes the case, it might be of the greatest possible service to the land to break it up.

Fences—*A H J*—We should prefer the ditch out of the field, and take care by deep ploughing to hinder landward roots fro n the fence.

Fixation of Ammonia—*B B*—You call attention to a misprint which was corrected at page 126. Your questions shall be answered next week.

How can Hard Water be made Soft—*W*—What is the cheapest precipitant of its calcareous matter? Can any one tell?

Is there a White variety of the Guinea Fowl—*A H J*—And if so, is it as profitable as the grey speckled?

Kentish Coal—*H C*—We do not know the meaning of the words. There is none but what is imported.

Mangold Wurzel—*W G A*—You see we maintain our orthography. Mangold Wurzel is simply the German of *Beet-root*. "Manjel Wurzel," on the other hand, is one founded on an idea, which, though absurd, did not the less effectually answer the object of those who introduce the plant—"Scarcity Root," or "Famine" root made a good heading to an advertisement.

Mr. Dickson's Flax-dressing Establishment—*A Z*—It is in Skinner-street, Bishopsgate, London.

Mr. Hall's Revolving Subsoiler.—If "A Potato Grower" will favour Mr. Laycock (Newcastle-on-Tyne) with his address, he will give him all the information he may require about the subsoiler.

Pleuro-pneumonia—*D Mackie*—Your letter shall have the attention of a good authority on the subject.

Rabbits—*A H J* asks for the experience of any one who has found them profitable; and he wants details of the management, too.

Spent Bark—*J Reed*—We use large quantities of it as manure for green crops—first soaking it well with liquid manure from the tanks. It is of little use in itself, but it is a good sponge for holding the urine. It is not worth 5*s.* 6*d.* per ton carriage. There can be no doubt of that.

⁂ Communications reaching town after Wednesday cannot be answered till the following week.

Markets.

POTATOES, Southwark, Wateside, Feb. 28.

The Committee report that the arrivals this week, both by rail and coastwise have been considerable; also three cargoes from Belgium. The good condition in which all Potatoes come to market leads one to hope the blight is much weaker this season than we had said; that the disease is fast wearing itself out. The weather has been very mild since our last, and trade so very heavy, that we have again been obliged to submit to lower prices. The following are the present quotations, the highest quotations of York Regents may be considered nominal:—York Regents, 150*s* to 180*s*; Shaws, 120*s* to 140*s*; Kent and Essex Regents, 120*s* to 140*s*; Shaws, 120*s* to 130*s*; Kidneys, 120*s* to 140*s*; Blues, 100*s* to 110*s*; Wisbeach Regents, 90*s* to 120*s*; Kidney, 100*s* to 120*s*; Scotch Cups, 100*s* to 120*s*; Whites, 90*s* to 100*s*; Dutch Whites, 70*s* to 80*s*; Belgian do., 80*s* to 110*s*.

HOPS, Friday, March 3.

Messrs. Pattenden and Smith report that the market remains the same as for some time past.

Mid. & East Kents, p. cwt.	68*s* to 105*s*	Yearling Kents, p. cwt...	48*s* to 60*s*
Weald of Kents	56 — 72	Yearling Sussex	46 — 58
Sussex	54 — 70	Old Hops	20 — 40
Farnhams	84 — 112		

COVENT GARDEN, March 4.

The market continues to be well supplied with Vegetables and with most kinds of winter Fruit. Pine-apples, however, are scarcer. The supply of foreign Grapes is well kept up. Pears and Apples are as plentiful as could be expected, considering the season. Of the former, specimens of Beurré Rance, Easter Beurré, and Ne Plus Meuris may be bought at from 3*s.* to 4*s.* per dozen. Nuts are sufficient for the demand. Filberts fetch from 14*s.* to 20*s.* per 100 lbs. Oranges are abundant. Lemons are moderately plentiful. Of Vegetables, Cauliflowers, Broccoli, Greens, &c., are plentiful. Asparagus and Seakale may be obtained at last week's prices. A few French Beans have been sold at from 3*s.* to 5*s.* per 100. Carrots and Turnips are good in quality. Potatoes realise high prices. Lettuces and other sprouting are sufficient for the demand. Mushrooms are cheaper. Cut Flowers consist of Heaths, Pelargoniums, Geraniums, Camellias, Fuchsias, Azaleas, Hyacinths, Acacias, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 4*s* to 7*s*	Lemons, per 100*s*, 6*s* to 14*s*
Grapes, Portugal, per lb., 1*s* to 2*s*	Almonds per peck, 6*s*
Apples, dessert, per bush., 3*s* to 6*s*	— sweet, per lb., 2*s* to 3*s*
— kitchen, p. bush., 2*s* 6*d* to 5*s*	Walnuts, pe bush. 12*s* to 18*s*
Pears, per half sieve, 8*s* to 10*s*	Nuts, Barcelona, per bush., 20*s* to 22*s*
Oranges, per doz., 9*d* to 2*s*	— Filberts, per 100 lbs., 14*s* to 24*s*
— per 100, 8*s* to 12*s*	— Cob, per 100 lbs., 24*s* to 30*s*
— bitter, per 100, 8*s* to 16*s*	— Brazil, per bush., 12*s* to 16*s*
Lemons, per doz., 1*s* to 2*s*	Chestnuts, per peck, 3*s* to 4*s*

VEGETABLES.

Asparagus, per 100, 2*s* to 6*s*	Onions, pickling, p. hf. sieve, 2*s* to 3*s*
Savoys, per doz., 4*d* to 1*s*	Shallots, per lb., 6*d* to 8*d*
Cabbages, Red, per doz., 2*s* to 4*s*	Garlic, per lb., 8*d* to 1*s*
Greens, p. doz bunches, 1*s* 6*d* to 2*s* 6*d*	Spinach, per sieve, 1*s* to 1*s* 6*d*
Cauliflowers, per doz., 3*s* to 5*s*	Seakale, per punnet, 9*d* to 2*s*
Broccoli, per bundle, 1*s* to 2*s*	Rhubarb, per bundle, 6*d* to 1*s* 6*d*
Brussels sprouts, p. hf. sieve, 1*s*	French Beans, per 100, 3*s* to 5*s*.
Sorrel, per half sieve, 6*d* to 9*d*	Radishes, per punnet, 1*s* 6*d* to 2*s*.
Potatoes, per ton, 120*s* to 190*s*	Art chokes, Jerusalem, p. hf. sieve, 1*s*
— per cwt., 6*s* to 10*s*	Lettuce, Cab., per score, 4*d* to 9*d*
— per bush., 1*s* to 6*s*	Endive, per score, 1*s* to 3*s*
— Kidney, per bu h., 4*s* to 6*s*	Mushrooms, per pottle, 6*d* to 1*s*
Turnips, p. doz. bunch, 1*s* 6*d* to 2*s* 6*d*	Small Salads per punnet, 2*d* to 3*d*
Red Beet, per doz., 6*d* to 1*s*	Fennel, per bundle, 2*d* to 3*d*
Horse Radish, per bundle, 1*s* to 6*s*	Savory, per bunch, 3*d* to 4*d*
Cucumbers, each, 2*s* to 5*s*	Thyme, per bunch, 2*d*
Leeks, per doz., 6*d* to 1*s*	Watercress, p. 12 small bun., 6*d* to 9*d*
Celery, per bundle, 6*d* to 1*s* 6*d*	Parsley, per half sieve, 1*s* to 1*s* 6*d*
Carrots, per doz. bunches, 2*s* to 4*s*	— Roots, per bundle, 1*s* to 1*s* 6*d*
Onions, per bush., 2*s* to 3*s*	Mint, green, per bunch, 1*d* to 3*d*
— Spanish, per doz., 1*s* to 4*s*	Marjoram, per bunch, 3*d* to 4*d*

SMITHFIELD, Monday, Feb. 28.

We have but a moderate supply of Beasts to-day; trade is by no means brisk, the salesmen trying to advance prices. This is difficult to accomplish, except for some choice Scots, for which 4*s.* 8*d.* is the top quotation. There are a few more Sheep. Trade is dull, and, except for the very best, rather less money is taken. The supply of Calves is very limited, trade is consequently brisk, but at no advance. Trade is brisk for Pigs at late rates. From Holland there are 161 Beasts, 270 Sheep, and 37 Calves. From Scotland 300 Beasts, Ireland 71, and about 20 0 from Norfolk and Suffolk.

Per stone of 8 lbs.	s	d	s	d
Best Scots, Herefords, &c.	4	6 to 4	8	
Best Short Horns	4	2 — 4	6	
Second quality Beasts ..	3	6 — 4	0	
Calves	4	6 — 5	6	
Best Downs & Half-breds	5	2 to 5	6	
Ditto Shorn	....			

Per stone of 8 lbs.	s	d	s	d
Best Long Wools	4	8 to 5	0	
Ditto Shorn	....			
Ewes and second quality	4	0 — 4	6	
Ditto Shorn	....			
Lambs	....			
Pigs	4	8 — 5	6	

Beasts—3390. Sheep and Lambs—16,020. Calves—80. Pigs—250.

FRIDAY, March 3.

The supply of Beasts to-day is good, including about 150 Milch Cows; 280 Beasts from Holland, and 140 from Scotland. Trade is rather brisk for the best qualities, and Monday's prices are well supported, but not at all exceeded. The number of Sheep is somewhat increased; trade is, however, slow, and Monday's quotations remain unaltered. There are nearly 400 from Holland. Calves are more plentiful, we have 70 from Holland of very fine quality; prices must be quoted 2*d.* per 8 lbs. lower, with a dull sale. We are not abundantly supplied with Pigs; trade continues steady for them.

Per stone of 8 lbs.	s	d	s	d
Best Scots, Herefords, &c.	4	6 to 4	8	
Best Short Horns	4	2 — 4	6	
Second quality Beasts ..	3	6 — 4	0	
Calves	4	4 — 5	4	
Best Downs & Half-breds	5	2 — 5	6	
Ditto Shorn	....			

Per stone of 8 lbs.	s	d	s	d
Best Long Wools	4	8 — 5	0	
Ditto Shorn	....			
Ewes and second quality	4	0 — 4	6	
Ditto Shorn	....			
Lambs	....			
Pigs	4	8 — 5	6	

Beasts—899. Sheep and Lambs—2720. Calves—191. Pigs—260.

HAY.—Per Load of 36 Trusses.

Smithfield, March 2.					
Prime Mead. Hay	65*s* to 72*s*	New Hay ..	—*s* to —*s*	Straw ..	24*s* to 30*s*
Inferior ditto ..	55 65	Clover	70 92		
Rowen	50 55	New Clover ..	— —	J. Cooper.	

Cumberland Market, March 2.					
Prime Mead. Hay	70*s* to 75*s*	Old Clover ..	90*s* to 95*s*	Straw ..	28*s* to 32*s*
Inferior	50 63	Inferior ..	64 84		
New Hay	— —	New Clover ..	— —	Joshua Baker.	

Whitechapel, March 2.					
Fine Old Hay ..	65*s* to 70*s*	Old Clover ..	88*s* to 92*s*	Straw ..	24*s* to 28*s*
Inferior Hay ..	50 55	Inferior ..	60 70		
New Hay..	— —	New Clover ..	— —		

MARK LANE, Monday, Feb. 28.

Messrs. Kingsford and Lay report that there was very little Wheat fresh up from Essex this morning, but the supply from Kent was good. Fair conditioned samples, being scarce, found buyers at last Monday's prices, but the others being interfered with by the late arrivals of new Wheat from the Continent, remained unsold at a late hour. Old foreign met a retail inquiry at fully the rates of last week.—Barley is a slow sale, and is per quarter cheaper.—Beans must be noted 1*s.* per quarter lower, as also Maple and Grey Peas, and White are almost unsaleable.—Oats are difficult of disposal, but their former value is supported.—Tares are in demand at our quotations.—We observe no alteration in Flour.—Rye meal is obtainable on easier terms.

British per Imperial Quarter.	*s*	*s*		*s*	*s*
Wheat, Essex, Kent, and Suffolk ..... White	50	60	Red.....	42	52
Norfolk, Lincolnshire, and Yorkshire	48	52	White ..	48	52
Barley, Malting, and distilling, 26*s* to 28*s*	Chevalier	28	32	Grinding	25	26
Oats, Lincolnshire and Yorkshire.....	Polands	22	25	Feed ..	19	23
Northumberland and Scotch	Feed	20	23	Potato ..	22	25
Irish	Feed	18	22	Potato ..	22	24
Malt, pale, ship.....		—	—			
Hertford and Essex		—	—			
Rye.....		28	32			
Beans, Mazagan, old and new ....28*s* to 40*s*	Tick	28	32	Harrow ..	30	44
Pigeon, Heligoland	32	50	Windsor	46	51	Longpod	32	35
Peas, White.....	32	38	Maple	35	38	Grey	33	35

Arrivals in the port of London last week.							
Flour, 4786 sks	Wheat.	Barley.	Malt.	Oats.	Rye.	Beans.	Peas.
— 243 bls	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.
English.....	4217	3795	3530	2144	—	977	404
Irish	40	—	92	17235	—	580	—
Foreign.....	8311	2 70	—	1320	—	1494	—

FRIDAY, March 3.

The little English Wheat fresh up for this morning's market realised the extreme prices of Monday; some quantity of foreign has been withdrawn from sale, and that on offer is generally held for an advance, which prevented sales from being extensive.—Barley, Beans, and Peas severally maintain our quotations.—The Oat trade is firm, and holders are careless of selling.—Flour supports late rates.

Arrivals in the port of London this week.				
	Wheat.	Barley.	Oats.	Flour.
	Qrs.	Qrs.	Q s.	
English.....	1540	630	2 40	910 sacks.
Irish	—	—	2440	
Foreign.....	6710	—	4150	— barrels.

Imperial Averages.	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
Jan. 22	53*s* 1*d*	30*s* 4*d*	2*s* 1*d*	30*s* 8*d*	34*s* 8*d*	45*s* 2*d*
— 29	52 0	30 8	21 3	30 6	38 7	43 5
Feb. 5	51 2	30 9	20 7	32 6	38 5	42 9
— 12	51 0	31 2	20 7	30 5	38 1	43 2
— 19	50 11	31 3	21 1	32 4	37 10	42 5
— 26	50 2	30 9	20 8	30 3	38 0	41 7
Aggregate Average	51 5	30 10	20 10	31 1	38 3	43 1
Duties on Foreign Grain	6 0	2 6	2 6	2 6	2 6	2 6

Fluctuations in the last six weeks' Corn Averages.

Price.	Jan. 22.	Jan. 29.	Feb. 5.	Feb. 12.	Feb. 19.	Feb. 26.
53*s* 1*d*		...	...	...	...	...
52 0	...		...	...	...	...
51 2	...	...		...	...	...
51 0	...	...	...		...	...
50 11	...	...	...	...		...
50 2	...	...	...	...	...	

SEEDS, March 3.

Canary .....per qr.	60*s* to 70*s*	Linseed cakes, Foreign, p. ton, 8*l* to 10*l*	
Caraway ..... per cwt.	35 37	Mustard, White, p. bush., 6*s* 0*d* to 8*s* 0*d*	
Clover, Red, English	35 52	— superfine p. bush., — —	
— Foreign	35 50	Brown, per bush., — —	
White, English	40 52	Rapeseed, Eng., per last.....28*l* 32*l*	
— Foreign	40 50	Rape-cakes .....per ton 5*l* 10*s* 6*l*	
Coriander.....	10 20	Samson ..... — —	
Hempseed .....per qr.	38 42	Tares, Eng., winter, p. bsh., 7*s* 0 8*s* 0	
Linseed.....	42 48	— Foreign, per bush., 3*s* 6 6*s* 0	
— Baltic.....	— —	Trefoil 17*s* 0 21*s*	
— Cakes, Eng., p. 1000	12*l* to 13*l* 5*s*	Turnip—too variable for quotation.	

Sales by Auction.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will submit to public competition at the Auction Mart, Bartholomew-lane, on Tuesday, March 7th, 1848, at 12 o'clock, a first-class collection of CARNATIONS and PICOTEES (the surplus stock of a well known grower). Also a splendid assortment of Standard and Dwarf Roses, choice Pinks, Heartsease, Fuchsias, Verbenas, Dahlias, in dry roots, &c. May be viewed the morning of sale, and Catalogues had, at the Mart, and of the Auctioneers, American Nursery, Leytonstone.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS PROTHEROE AND MORRIS will submit to public competition at the Auction Mart, Bartholomew-lane, on Thursday, March 9th, 1848, at 12 o'clock, about 150 Double CAMELLIAS, from 18 inches to 5 feet, consisting of all the leading varieties, the whole well furnished with bloom-buds. Also about 200 fine Standard and Dwarf Roses; a splendid assortment of American Plants, comprising fine Ghent and other Azaleas, Andromeda floribunda, Magnolias, &c.; a rich collection of Carnations and Picotees, the newest varieties of Fuchsias and Verbenas, and choice Dahlias in dry roots; together with about 300 fine bulbs of Lilium lancifolium album, speciosum, and punctatum. May be viewed the morning of sale, and Catalogues had, at the Mart; and of the Auctioneers, American Nursery, Leytonstone.

J. FOSTER, of Edgeware and Stanmore Nurseries, intends to offer for public competition, next Thursday, at 12 o'clock, at the London Auction Mart, an unusually superb and large collection of ROSES, *viz.*, selected Climbers on 6 feet stems, Standards of various Moss, Persian Yellow, and fine new varieties; many new and beautiful Dwarf kinds, including Yellow, Variegated, and Autumnal Roses and Climbers. Also Ornamental Trees and Shrubs for Lawns, &c. All the above are from a very first-rate grower's, warranted true to name, and quite beyond the range of ordinary sales.—To be viewed on the morning of sale, at the Mart, and Catalogues then obtained; also at Edgeware, and 24, Mark-lane.

TO AMATEURS, &c.

TO BE SOLD, on advantageous terms, for cash, a good collection of ORCHIDACEOUS PLANTS.—For list and particulars, apply to C. C. ROBINSON, Esq., Stuart Lodge, St. Helier's, Jersey.

ELIGIBLE OPENING IN MONMOUTHSHIRE.—TO AGRICULTURAL IMPLEMENT MAKERS, MACHINISTS, &c.

TO BE LET, extensive Premises, consisting of about 13 Acres of LAND, with an excellent HOUSE, SHEDS, SHOPS, &c., all newly erected thereon, and well adapted for the Manufacture and Sale of Implements and other Machinery, of which establishments the County of Monmouth and surrounding districts in South Wales are very deficient. The above are in a central position in Monmouthshire, and within half a mile of the Station of a new Railway now forming by the South Wales Railway Company.

The object being the introduction of a good Implement Manufactory in the County, great facilities will be afforded, and encouragement given in various ways, to such competent parties as may be induced to enter upon such a desirable undertaking. The excellence and cheapness of Timber, Iron, and Coal (all products of the County), may be considered among the advantages.

Apply to Mr. WYATT, Troy House, Monmouth; or to Mr. JOHN THOMPSON, Surveyor and Draining Engineer to the West of England and South Wales Land Draining Company, 9, Bedford Circus, Exeter.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

CLARK'S METALLIC HOTHOUSE WORKS, 55, Lionel-street, Birmingham.—Proprietor, Mr. THOMAS CLARK; Manager, Mr. JOHN JONES.

Mr. CLARK presents his grateful thanks to the Nobility and Gentry for their liberal patronage of the above Establishment, during a period of thirty years, and begs to state that the repeal of the duty on Glass enables him to offer his METALLIC HOTHOUSES at a greatly reduced price. These Houses are glazed with British Sheet Glass, in panes of from 24 to 30 inches in length, and of such thickness as to preclude all danger of accidental breakage, whilst that which arises from the action of frost is effectually prevented by the peculiar mode of glazing adopted. As a sample of his Metallic Hothouses, in which all the most recent improvements are happily combined, Mr. CLARK refers to the magnificent range erected by him in the new Royal Gardens at Windsor, admitted by competent judges to be the most complete of its kind in the world.

HOT-WATER APPARATUS AND HORTICULTURAL BUILDINGS.

DANIEL AND EDWARD BAILEY, of 272, Holborn, construct and erect Hot-water Apparatus for Warming Horticultural Buildings, Dwelling-houses, Churches, and Manufactories, in a simple and efficient manner, at moderate charges. They have erected Apparatus in England, Scotland, and Ireland for many Noblemen and Gentlemen. They had the honour to be employed in heating the ranges of Hothouses and Pits in HER MAJESTY'S NEW GARDENS AT FROGMORE, and in executing the works of the splendid Conservatory erected by the Horticultural Society of London in their gardens at Chiswick, and also in the erection of the Conservatory attached to the Pantheon Bazaar.

D. and E. BAILEY, who were the first to introduce Metallic Curvilinear Hothouses to Horticulturists, erect various descriptions of Horticultural Buildings, and execute all kinds of metal work at their Manufactory, 272, Holborn.

STEPHENSON AND CO., 61, Gracechurch street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most Ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

REGISTERED FEB. 15, 1847. *No.* 962.

PATENT GALVANISED IRON HOTHOUSES, GREENHOUSES, CONSERVATORIES, FORCING PITS, &c. Horticultural Buildings of the material so greatly superior to any that have been constructed for their light and handsome appearance, at great economy, for comfort and never-requiring painting, for the great quantity of light they admit, and being perfectly water-tight, the largest of glass requiring more than 1/4 inch of the light to be taken up where the sashes slide together, and not being more than half the weight of wood, and being stronger and cheaper than any others that have yet been made. Manufactured only by the Inventor, E. DENCH, the principal, near Peckham, where may be seen Hothouses, Forcing Pits, &c., in full work, of the same material. Hothouses, Forcing Pits, &c., heated with hot water on the most approved methods. Cucumber plants for sale every week in the year. Cucumber plants for sale.

THE LONDON MANURE COMPANY beg to offer the undermentioned MANURES on the best terms: The UTILITY of the LONDON MANURE COMPANY, for Turnips, Tares, Oats, Barley, and all other spring Crops.

GENUINE PERUVIAN GUANO, DIRECT FROM THE IMPORT WAREHOUSE.

Nitrate of Soda, Petre Salt for dressing old Pasture, Agricultural Salt, Superphosphate of Lime, Soda Ash, Pure Gypsum, Bone Sawdust, Sulphuric Acid, Sulphate of Ammonia, and every other artificial Manure. E. PURSER, Sec.

No. 10, Bridge-street, Blackfriars, March 1.

PERUVIAN AND BOLIVIAN GUANO ON SALE, BY THE ONLY IMPORTERS,

ANTONY GIBBS AND SONS, LONDON;
WM. JOSEPH MYERS AND CO., LIVERPOOL;
And by their Agents,
GIBBS, BRIGHT, AND CO., LIVERPOOL and BRISTOL;
COTESWORTH, POWELL, AND PRYOR, LONDON.

To protect themselves against the spurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named Importers, who will supply the article in any quantity, at their fixed prices, delivering it from the import Warehouses.

THE following MANURES are Manufactured by Mr. LAWES, at his Works at Deptford-creek:—

Corn Manure	14*l.* per ton.	Grass Manure	14*l.* per ton.
Clover do.	14*l.* ,,	Turnip do.	7*l.* ,,

Superphosphate of Lime, 7*l.* per ton.

Mr. LAWES has also made preparations for supplying the various artificial MANURES of commerce, and if Agriculturists will trust the selection of them to him, and will furnish him with the necessary information, he will supply those which he considers most suitable to the soil and crops. A paper containing the questions required to be answered will be forwarded upon application to his Office, 69, King William-street, City, London.

GUANO AND OTHER MANURES ON SALE.—Guano, Peruv. & British; Superphosphate of Lime; Bonedust and Bone Sawdust; Dried Night-soil. Urate. } For Wheat, Oats, Barley, Grass Seeds, Turnips, Mangold Wurzel, Potatoes, &c.

Gypsum, for Clover, Cinquefoil, &c.; Nitrates of Soda and Potash, as stimulants; Petre Salt, for dressing old Pastures; Agricultural Salt, for Compost-heaps, &c.; Sulphuric Acid, for dissolving bone; Soda Ash, a destroyer of Wireworm: and all other Manures of known value. Also Horticultural Glass, Milk Pans, &c.—Apply for prices current, to MARK FOTHERGILL, Office 201 A, Stores 40, Upper Thames-street.

POTTER'S GUANO.—SEVENTH YEAR—TESTIMONIALS. Whittington, near Lichfield, Aug., 1847.

Mr. Potter.—Sir—I have tried your Guano in several ways against the best Peruvian, and *find it superior*; which I hope will be a convincing proof for another season. I am, sir, your obedient servant, W. WARD.

Experiment of the Earl of ZETLAND—Potter's Guano against Peruvian, on Grass.

	Tons	Cwt.	Qr.
POTTER'S GUANO, 2 cwt.—Hay per acre	2	8	0
Peruvian Guano, 2 cwt. ,, ,, ...	1	18	0
In favour of Potter's	0	10	0

Numerous Testimonials will be sent on application per post. The price of Potter's Guano is much under the Peruvian.

POTTER'S PURE SULPHATE OF LIME.—GYPSUM.

TESTIMONIAL.—Sir—I have had your Sulphate of Lime examined by an excellent Chemist, who speaks very favourably of it. Please send 2 tons directed to ASHBURST MAJENDIE, Hedingham Castle, Essex.

This is the *cheapest* article sold, being much under the usual price.—Factory, 28, Clapham-road-place, London.

*** Sulphate of Ammonia, Superphosphate of Lime, Oil of Vitriol, Burnt Bones, Bone Dust, &c., at lowest prices.

MR. J. C. NESBIT'S CHEMICAL MANURES.

THE LONDON MANURE COMPANY beg to announce that they have undertaken the exclusive manufacture of the manures recommended by Mr. J. C. Nesbit. The substances used in their preparation will be subjected to Mr. Nesbit's analysis, and every care will be taken in their manufacture. Hop Manure, Superphosphate of Lime, Wheat and Clover Manure. A Pamphlet on Artificial Manures, by Mr. J. C. Nesbit, now ready.

The London Manure Company have also made arrangements for a large supply of Fishery and other Salt, which they can offer on good terms.

E. PURSER, Secretary, 40, Bridge-street, Blackfriars.

IMPROVED FARMING IMPLEMENTS.

THRESHING MACHINES (Four-horse Power) doing from 25 to 35 loads of Wheat-straw per day—straw undamaged, price 60 guineas, including carriage and horse-power. A GORSE MACHINE, hand labour, will prepare 50 bushels per day, price 10*l.* 10*s.*; WEDLAKE'S CHAFF MACHINE will cut 200 bushels per day, price 7*l.* 7*s.*; Horse Hoe, Dressing Machine (7*l.* 10*s.*), TURNIP CUTTER, Turnip Drill, Stubble Rake, Oil-Cake Breaker, Bean and Oat Crushers, Essex Ploughs for 2 horses, Subsoil Plough, Double Field Roller, &c. Seed Machines from 3*l.* 6*s.* to 3*l.* 10*s.*, according to length. References given and testimonials produced of superiority.—MARY WEDLAKE, 118, Fenchurch-street.

ALSIKE HYBRID CLOVER.—This valuable variety was introduced from Sweden; it is a cross between the White and Red Clover, having all the properties of the former, with the abundance of the latter, none of our Meadow or Pasture Lands should be without it—it should always form part of a Clover layer. Price of seed under 1 cwt. 1*s.* 9*d.* per lb.; for 1 cwt., or more, 1*s.* 6*d.* per lb.

The PURPLE KOHL RABI, or HUNGARIAN TURNIP, is equally hardy as the Swedish Turnip; it has in several instances surpassed this root in weight of crop and nutritive support; it is perfectly hardy. Price of seed 2*s.* 6*d.* per lb.

GEORGE GIBBS and Co., Seedsmen, &c., to the Royal Agricultural Department of Belgium, &c., 26, Down-street, Piccadilly, London.

AGRICULTURAL SEEDS.

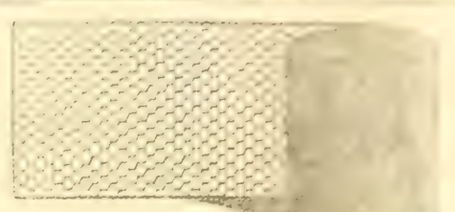
THOMAS WHALLEY begs respectfully to inform his friends that his priced CATALOGUE for the present season is now ready, and may be had post free upon application. T. W. has published a DESCRIPTIVE LIST OF FLOWER SEEDS, which will be found useful to purchasers, and may also be had free on application.

Seed Warehouse, 12, St George's Crescent, Liverpool.

[illegible] PATENT VULCANISED INDIA RUBBER PIPES AND HOSE, FOR CONVEYING LIQUOR WHILST [illegible]

THE PATENT [illegible]

CHARNOCK'S [illegible]



BARNARD AND BISHOP, Market[illegible], MANUFACTURERS OF WIRE [illegible] WIRE CATTLE AND DEER FENCES [illegible] GATES, &c. &c., [illegible] liability and Gentry to use WIRE GAMES [illegible] ness and durability will be found [illegible] yet introduced for the preservation of [illegible] Plantations from Hares, Rabbits, &c. &c.

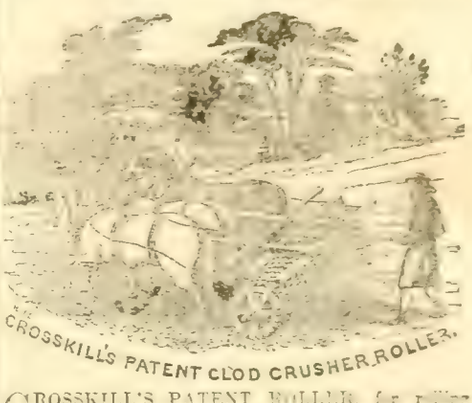
It is sent out in Rolls of 50 yards, or any other length, at prices as under:—

2-inch mesh, 24 inches wide	...	...	4*d.* per yard.
2-inch do.	do.	stronger	7*d.* ,,
1½-inch do.	do.		5*d.* ,,
1½-inch do.	do.	stronger	9*d.* ,,

Any width can be made at proportionate [illegible] required, the lower half can be [illegible] of a coarse mesh, which [illegible]

A finer description for Ar[illegible] proof, 3*d.* per square foot; [illegible] foot. The Iron Wire Net [illegible] composition, and sent free [illegible]

Patterns can be forwarded per post, free of expense.



CROSSKILL'S PATENT ROLLER. [illegible] Wheats in the spring, upon [illegible] frost and snow, before the [illegible] young plants. It can easily [illegible] means for giving solidity to [illegible] and effectual in its operation [illegible] the fine top soil, and scarcely [illegible] ground; which, experience [illegible] grown stronger, thereby [illegible] the quality of Wheat, Oats, [illegible] the Wireworm and is useful [illegible] makes the land warm and [illegible] artificial manures, tend to [illegible] vermin, so injurious to [illegible] the necessity of Rolling. The [illegible] wheeling evidences as [illegible] the ravages of [illegible]

The PATENT SEPARATE [illegible] and free competitions with every [illegible] cipal Agricultural Meetings [illegible] awarded the [illegible] during the last [illegible] since [illegible] by [illegible]

Cash Prices with [illegible] Rolls—[illegible] feet [illegible] 6 feet 6 inches [illegible]

Delivered in [illegible]

,, [illegible]

CROSSKILL'S PATENT [illegible] ALLEY [illegible] manufactured by steam [illegible] and [illegible] Drills, [illegible] machinery is designed [illegible] and [illegible] are of [illegible]

CROSSKILL'S PATENT [illegible] CARTS.—Light, but very strong and [illegible] Carts, with Patent Shifting Couplers, for the easy removal of [illegible] for general Farming and Road Work. [illegible] Price 20*l.* 15*s.*

Also, Crosskill's Improved Patent Portable Manure Broadcast Drills, Liquid Manure Carts, &c. &c.

For further particulars, apply personally, or by letter (enclosing six penny stamps, to cover postage, and Newly Illustrated Catalogues will be sent.—WM. CROSSKILL, Iron Works, Beverley.

CHOICE FLOWER AND VEGETABLE SEEDS, &c., OFFERED BY

BENJAMIN R. CANT, St. John's-street Nursery, Colchester.

	Per packet—s. d.		Per packet—s. d.
Amaranthus purpleGlobe	0 3	Martynia fragrans ..	0 6
,, white ,,	0 3	Mesembryanthemum tricolor	0 3
Anemone, fine mixed ...	0 3	,, glabrum ...	0 3
Balsam, fine dble., mixed	0 3	Mimosa sensitiva ...	0 6
Brachycome iberidifolia	0 3	Petunia, very splend. mix.	0 3
,, alba ...	0 3	Phlox Drummondii ,,	0 3
,, new white...	0 3	,, ,, Leopoldiana	1 0
Browlia alata	0 3	,, ,, alba	1 0
Campanula Loreii ...	0 3	,, ,, ocellata (white red eye) ..	1 0
,, stricta ...	0 3	Pink, Indian, fine double	0 3
Chenostoma polyantha ...	0 3	Portulaca splendens ...	0 3
Clintonia pulchella ...	0 3	,, Thellusonii	0 3
,, elegans	0 3	,, ,, sulphurea (yell.)	2 6
Cockscomb, fine ...	0 3	Rhodanthe Manglesii ...	0 6
Dianthus caryophilloides	0 3	Salpiglossis, very beautiful mixed	0 3
Digitalis new spotted ...	0 3	Schizanthus retusus ...	0 3
Egg plant	0 3	,, Grahamii ...	0 3
Gaillardia picta	0 3	Schizopetalon Walkerii	0 3
Geranium, fine scarl. mix.	0 6	Thunbergia alba... ...	0 6
Humea elegans	0 6	,, alata	0 6
Ipomœa coccinea... ...	0 3	,, Fryeri ...	0 6
Ipomopsis picta	0 6	Viscaria oculata	0 3
Kennedya rubicunda ...	0 6	Zinnia elegans coccinea	0 3
Lobelia ramosa	0 3	,, ,, fine mixed	0 3
,, erinoides	0 3		
Lophospermum scandens	0 6		
Lisianthus Russellianus	0 6		

100 varieties of the best and choicest Annuals for 15s. 0d.
50 ditto for 7s. 6d., 25 for 4s., 12 for 2 0
Long White Belgian Carrot ... ... at per lb. 1 6
,, Red Altringham do. ... ... ,, 1 0
Fine Cattle Parsnip ... ... ,, 1 6
Strong 2 years transpl Whitethorn Quick, per 1000 8 0
Peas, Fairbeard's Champion of England, per quart 5 0
,, Waite's Queen of the Dwarfs ... ,, 2 0
,, Cormack's British Queen ... ,, 2 6
,, ,, Early Prince Albert ,, 1 0
,, Shilling's Early Grotto ... ... ,, 1 0
,, Ringwood Marrow (fine) ... ,, 1 0
Broccoli (true), Early Walcheren ... per packet 1 0
,, Chappel's fine late Cream ... ,, 0 6
,, Tamworth, fine late white ... ,, 0 6
Cabbage, Shilling's Queen ... ... ,, 0 6
,, Wheeler's Imperial .. ... ,, 0 6
Cauliflower (extra fine)... ... ... ,, 0 6
Carrot, James's (best garden) ... per oz. 0 3
,, Early Horn ... ... ,, 0 2
Cucumber, Sion House... ... ... per packet 0 6
,, Latter's Victory of England ,, 0 6
Lettuce, fine white Cos .. .. ,, 0 6
,, black-seeded Bath Cos ... ,, 0 6
,, Paris Cos ... ... ,, 0 6
,, Kensington Cos, 6d., Tennis Ball ,, 0 6
Radish, Early Short-top Salmon ... per pint 1 0
,, New Scarlet Olive-shape ... ,, 1 0
,, White Turnip, 1s., Red Turnip ,, 1 0
,, Wood's New Early Frame ... ,, 1 6
Turnip, Early Dutch ... ... ,, 1 0
,, ,, Stone, 1s., Early Snowball ,, 1 0
Strong 2 years old Asparagus plants per 100 8 6
Princess Alice Maude Strawberry plants ,, 2 0
British Queen do. do. ... ,, 2 0
Caroline, Keens' Seedling, &c. ... ... ,, 1 6

A general collection of Fruit, Forest, and Ornamental Trees, Flowering and Evergreen Shrubs, Standard and Dwarf Roses, also a choice assortment of Stove and Greenhouse Plants.

N.B. A reference requested from unknown correspondents.

SEEDS HOME SAVED.

JOHN CATTELL, Westerham, Kent, begs to remind the Public that his general collection of VEGETABLE and FLOWER SEEDS is now ready, Catalogues of which may be had by enclosing two penny stamps. A Selection of 12 of his superior sorts of Vegetables, a packet each consisting of Beet, Broccoli, Cauliflower, Cabbage, Kale, Lettuce, Savoy, &c., may be had free by post, as in former years, by enclosing an order for 5s., or stamps to that amount. Also, a Selection of 12 beautiful sorts of Flower Seeds for the same amount, consisting of Brachycome iberidifora, new dark-purple Convolvulus major, Delphinium sinensis grandiflora, extra fine double purple Jacobæa, fine dwarf double Rocket Larkspur, Lobelia ramosa, Lychnis fulgens, superb mixed Indian pink, Rhodanthe Manglesii, new dark-purple Sweet Peas Carnations, &c. Castilleja lithospermoides, 2s. per packet.

J. C. has still a large Stock of Standard and Dwarf ROSES the finest grown plants in the trade, a Catalogue of which may be had by enclosing two penny stamps. An excellent Stock of Ghent and English Azaleas of the finest sorts; his splendid varieties of Kalmia latifolia, Rhododendrons in great variety, and other American plants particularly fine.

HORTICULTURAL IMPROVEMENTS.

READ begs to inform ladies, amateur and practical gardeners, that he has taken out a NEW PATENT for improvements in his Garden Engines, Machines, and Syringes. The action of the valves is such as to prevent the possibility of their getting out of repair. The above are adapted for Forcing-houses, Conservatories, &c., surpassing anything of the kind ever offered to the public, inasmuch as they can be worked with half the labour of any other engines now in use. Manufactured only by the Patentee, 35, Regent-circus, Piccadilly, where they may be seen and proved.

N.B. None are genuine except stamped with the words "Read's Patent."

SEEDS.—CORNER OF HALF-MOON-STREET.

THOMAS GIBBS AND Co.,

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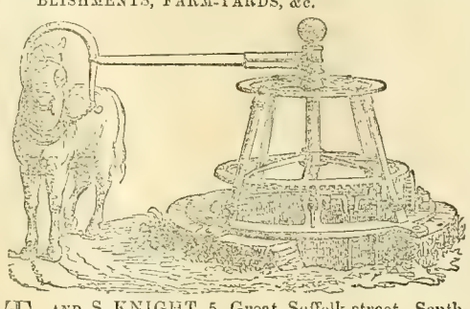

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THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News. The Horticultural Part Edited by Professor Lindley.

No. 11.—1848.] SATURDAY, MARCH 11. [Price 6d.

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Samuel Widnall, Grantchester Nursery, Cambridge.

GERANIUMS, selected Show Varieties, 12 of which may be selected for 20s; the plants are fine rooted, which are showing flower buds.—Orion, Venus, Apollo, Sarah Jane, Standard of Perfection, Duchess of Leinster, Rosetta, Sultana, Conflagration, Hebe, Duke of Cornwall, Trafalgar, Robin Hood, Manchester Queen, Lady Hood, Matilda, Thunderer, Othello, Chimborazo, Flora Perfecta, Milo, Goliah, Gipsy Maid, and Rosetta Superba. Cheaper at 9s. per dozen.

FUCHSIAS, select Show Varieties, in strong plants, 1s. each, or 9s. per dozen.:—Blanca, Beauty of Leeds, Duke of Devonshire, Jupiter, Mars Ann, Delight, Duke of Norfolk, Lemoni, Candidissima, Marchioness of Camden, Cassandra, Corallina, Exoniensis, Serratifolia, Nymph, Cleopatra, Corallina Superba, Countess of Cornwallis, Sanspareil, Acantha, Lancashire Witch, Duke of Sutherland, Dr. Jephson, London Rival, Queen of Perfection, Rosea, a large assortment in pots, prepared for flowering, from 12s. to 30s. per doz. Best Hybrid Perpetuals and Bourbons, not in pots, selection 1s. 9d. per doz.
Samuel Walters, Florist, &c., Hulperton, Trowbridge, Wilts.

TO THE PLANTERS OF BRITAIN.
IMMENSE SACRIFICE IN PRICE.
JAMES GRIGOR, Nurseryman, Norwich, begs to state that he has just received a few thousand Nursery Ground will be required for building purposes in the course of a few months. In order to clear the ground, he will offer the various sorts of Trees, &c., at such prices as will ensure a ready demand. The only sort suited to distant purchasers is the following.
EVERGREEN OAK, 1 year old, 5 to 8 inches, very fine, 10s. per 1000.
If planted by the sea-side, on poor land, with a dry bottom, the Evergreen Oak becomes a large Tree. From several experiments at Holkham, it is found to produce a most valuable and beautiful timber. It is extremely hard and capable of the finest polish.

DOUBLE STOCKS EXTRAORDINARY.

H. J. HARDY begs respectfully to thank his numerous Friends and the Public for their kind patronage, and to inform them that he has a little seed of his SPLENDID DOUBLE GIANT STOCK, which he is sending out in packets 1s. each, or 12 for stage stamps. It is a brilliant scarlet, grows 4 feet high, flowers from the very bottom to the top, very thick, and very large bushy plants. The flowers are as large as the the top of a common tea cup, and very double. All lovers of superb flowers should have a succession of this.
H. J. H. also has the finest collection of Double Larkspurs, German Asters, and Hollyhocks in Europe, at 1s. 6d. per collection. 100 Choice Annuals, 2s.
H. J. Hardy, 7, Windsor-place, City-road London.

SPLENDID NEW MARROWFAT PEA.

JAMES SALTER respectfully offers to the Public the most valuable Marrowfat Pea in cultivation, Salter's "IMPROVED VICTORIA," possessing the combined excellence of the Incomparable and Victoria Peas, and preferable to either from its dwarf habit, not usually growing more than 4 feet high. It is an abundant bearer, and its flavour is most delicious. Price 1s. 6d. per quart.
True Incomparable Pea (or British Queen) 2s. per quart.
Also all the most approved Peas and Beans now introduced, the prices of which will be found as low as at any of the respectable Seed Establishments.
J. S. begs to state that, owing to the very fine season last year, Flower Seeds of all descriptions are particularly good; and having for many years raised his own Flower Seeds, he is enabled to make such selections as he can with confidence recommend. He begs also to add, that his connection with some of the most respectable growers on the Continent facilitates his submitting all kinds of Flower Seeds of foreign and home growth, particularly German Stocks, Asters, &c., at the most moderate prices.
Orders for Flower Seeds above 10s. will be forwarded through the post prepaid, and all orders for Vegetable and Agricultural Seeds of 20s. and upwards will be delivered free at any station on the Great Western or Gloucester Railways.
Price List of Seeds will be forwarded on application.
Superior Bog (or Peat) Earth constantly in hand, and may be had in large quantities, delivered carriage free at any station within 30 miles of Bath.
Experienced Bailiffs and Gardeners recommended.
James Salter, General Seedsman, Bath.

A NEW SEEDLING FUCHSIA, "GLOBOSA CARNEA."—A new and distinct variety, of good habit; in form resembles Globosa, with a pink tube and sepals, crimson corolla, and would form a superior addition to any collection. Strong plants 2s. each. For description see *Gardeners' Chronicle*, August 21, 1847, p. 547.
Westmacott's Descriptive priced Catalogue of new and choice Flower and Kitchen Garden Seeds for 1848, is now ready, and may be had by addressing to Robert Westmacott, Seedsman and Florist, 155, Cheapside opposite St. Paul's, London; or at Stuart's Grove Nursery, Fulham-road, Chelsea.
The following, kept in sealed packages are well adapted for large or small gardens, and are easily transmitted by post:

				s.	d.
12 varieties Hardy Annuals named	..	..	..	2	6
12 ,, Choice ,, ,,	..	..	..	3	6
25 ,, Hardy ,, ,,	..	..	..	5	0
25 ,, Choice ,, ,,	..	..	..	10	0
50 ,, Hardy ,, ,,	..	..	..	1	0
50 ,, Choice ,, ,,	..	..	..	2	0
100 ,, Hardy ,, ,,	..	..	..	2	0
100 ,, Choice ,, ,,	..	..	..	3	6
100 Wooden Labels for Annuals	..	..	..	1	6

MILLER'S SEEDLING GERANIUMS.

Scarlet Defiance	£1 11 6	Rosa Mundi ...	...£1 11 6
Queen of Kent ...	1 1 0	Distinctum ...	... 1 11 6
Admiration	1 1 0	Valquis ...	... 1 1 0
Conspicabundum ...	1 1 0	Flora's Flag ...	... 1 1 0

The set 8*l.* 8*s.*, with the usual allowance.

Fireblaze	0 10 6	Garland	0 15 0
Eclipse	0 15 0	Meteor Superb ...	0 10 6
Telegraph	0 15 0	Beauty Surpass ...	0 10 6

The six 3*l.*, with the usual allowance.

New Forcing GERANIUM, "PURPUREUM MULTIFLORUM," 10*s.* 6*d.* each.

N.B.—Good strong plants, with cuttings, are now ready to send out. The whole set of 15 distinct varieties a real bargain, 10*l.* 10*s.*, with usual allowance to the trade.

Providence Nursery, Ramsgate.

TO AMATEURS, &c.

TO BE SOLD, on advantageous terms, for cash, a good collection of ORCHIDACEOUS PLANTS.—For list and particulars, apply to C. C. ROBINSON, Esq., Stuart Lodge, St. Heller's, Jersey.

NEW AND GENUINE SEEDS
OF FINE GROWING QUALITY.

WILLIAM E. RENDLE AND CO., Plymouth, have this season a genuine and well-selected stock of the following Seeds, which have been saved with the greatest care from true and selected plants.

*Large White Belgian Cattle Carrot ...	per lb.—2*s.*	0*d.*
Long Red Altringham ditto	1	9
Large Guernsey Cattle Parsnip	2	0
White Silesian Beet	2	0
Kohl Rabi	3	6
Large Drumhead Cabbage	2	6
Mangold Wurzel, Long Red	1	9
,, ,, Red and Yellow Globe	1	9

* *White Belgian Carrot.—Notwithstanding the late advance in the price of this article, we have determined not to charge more than* TWO SHILLINGS *per pound to those who purchase other articles. We are fortunate in holding a good stock, and will give our customers the benefit of it.*

Sample packages containing half an ounce of each of the above kinds, to prove their quality, will be sent postage free on receipt of 36 penny postage stamps.

NEW KITCHEN GARDEN SEEDS.

We have an excellent assortment of all the best kinds, which we offer on the following terms—

No. 1—Complete Collection, consisting of 16 quarts of Peas, and all other Seeds in proportion, for one year's supply	£2	10	0
No. 2—Complete Collection in smaller quantities ...	1	10	0
No. 3—Ditto ditto	1	0	0
No. 4—Ditto ditto	0	12	6

*** Lists of the quantities furnished for the above collections can be obtained.

The following choice sorts can be highly recommended as being very valuable varieties, 6d. per packet, or 20 for 7s. 6d., free by post.

BROCCOLI, RENDLE'S WILLCOVE SUPERB.
,, LEGG'S TRUE WALCHEREN.
,, ADAM'S SUPERB WHITE.
BEET, CATTELL'S SUPERB CRIMSON.
PARSLEY, MYATT'S TREBLE GARNISHING.
CELERY, SEYMOUR'S SUPERB WHITE.

Beet, Whyte's black red	Couve Tronchuda
Brussels Sprouts, true imported	Lettuce, Drumhead Cabbage
Broccoli, Chapple's Cream	,, Ady's large Cos
,, Potter's Pink	,, Ice Cabbage
,, Hampton Court	,, Golden Cos
Cabbage, Shilling's British Queen	Turnip, red-top stone
,, Early Cornish	Parsley, Enfield Matchless
,, Wheeler's Imperial	Celery, Dewsbury, Walnut-flavoured
,, Victoria	,, Lawes' Giant White
Savoy, Catteli's, green curled	Parsnips, improved Guernsey.

CUCUMBERS.

The following choice sorts, 1*s.* per packet, free by post.

Improved Sion House	Barnes' Man of Kent
Stockwood nne Ridge	Roman Emperor
Weedon's fine Frame	Charlton Hero

MELONS.

Duncan's Green-fleshed	Green-flesh Cabool
Beechwood	Prize Green-flesh.

CHOICE FLOWER SEEDS.

WILLIAM E. RENDLE AND Co. have this season to offer a very choice collection of NEW FLOWER SEEDS, which contain all the novelties of the season, and as many of the choicer kinds are of HOME GROWTH, we can warrant them to be quite true and correct to name.

SCALE OF PRICES, SENT POSTAGE FREE.

No. 1.—100 Packets of choice kinds, including all the best kinds ..... 18*s.* 0*d.*
,, 2.—50 Ditto ditto ditto 10 0
,, 3.—25 Ditto ditto ditto 6 0

A useful Chart, giving the height, colour, and mode of raising the principal sorts of Flower Seeds, will be sent gratis with each order.

The following sorts will be included in every No. 1 and No. 2 collections:—

Alonzoa incisa	Martynia fragrans
Aster, fine German	Marigold, Superb French
Brachycome iberidifolia	Mesembryanthemum tricolor
Centaurea Americana	Nemophila striata
Chænostoma Polyantha	Phlox Drummondii
Clarkia rosea, double	Podolepis gracilis alba
Clintonia pulchella	Rhodanthe Manglesii
Coreopsis atrosanguinea	Schizanthus Grahamii
Convolvulus minor, new dark	,, Hookerii
Cuphea silenoides	Schizopetalum Walkerii
Didiscus cæruleus	Stocks, fine German
Gilia nivalis	,, Victoria
Heartsease, fine mixed	,, White Pyramidal
Hollyhocks, fine mixed	Thunbergia alata
Ipomœa atropurpurea	Tropæolum canariense
,, grandiflora	Viscaria oculata
Lobelia ramosa	Zinnia coccinea.
Lupinus Cruikshankii	

With all the most popular Hardy, Half-hardy, and Tender Annuals; an assortment of which can be made from our General Catalogue, to be obtained on application.

All Goods not thoroughly approved of will be exchanged, and it is particularly desired that any deficiency in quantity, or inattention to orders, will be immediately communicated to us.

N.B. All Orders above 2*l.* will be delivered (package and carriage free) to any station on the Great Western Railway.

A General Catalogue of Agricultural, Kitchen-garden, and Flower Seeds to be had gratis on application. Cash payments, or reference in London, is desired from unknown correspondents.

WILLIAM E. RENDLE and Co., Plymouth. Established 1785.

WOODLANDS NURSERY, MARESFIELD, NEAR UCKFIELD, SUSSEX.

WM. WOOD AND SON beg leave to draw attention to their very extensive collection of HERBACEOUS PLANTS, which they have much pleasure in offering on the following terms, when the selection of sorts is left to themselves, viz.—

	per doz.	per 100.
Distinct and showy kinds	6*s.* ...	42*s.*
Very superior ditto	9 ...	60
Extra Superb ditto	12 ...	75

PHLOXES.

Fine varieties	per doz.—6*s.*
Choice ditto	,, 9
Very select ditto	,, 12

Catalogues of the above, also of Roses, Seeds, Greenhouse Plants, and Shrubs, may be had Gratis on application.

AMERICAN TREE AND SHRUB SEEDS, just received; likewise strong healthy plants of Sarracenia purpurea, Trillium grandiflorum, T. atropurpureum, T. pictum, and Erythronium americanum, a priced Catalogue of which is published, and can be had on application.

Vegetable and Flower Lists, containing all the most approved varieties, together with several quite new Agricultural Seeds, viz., Turnips, Grasses, Clovers, Mangold Wurzels, Carrots, &c., of which prices can be had.

INDIAN CORN, the best and earliest varieties for sowing in this country, either in ear or loose.

POTATO SEED, English, German, and American.

Prices of any of the above, or estimates for any given quantity of land, immediately attended to, by GEORGE CHARLWOOD, 14, Tavistock-row, Covent-Garden, London.

MAJOR'S NEW PANSY, "MILTON."

HENRY MAJOR, Knosthorpe, near Leeds, has healthy plants of the above beautiful PANSY now ready, and may be had at 5*s.* each, or six plants for 25*s.*, p. free. Colour, primrose ground, with fine rich eye; the upper petals are deep purple, and a broad and well-defined margin of the same surrounds the lower ones. It possesses fine form, good substance, and flatness. Also may be had, for 24*s.*, p. free, 12 fine Show Pansies, selected from the new varieties of last spring, "Milton" included. Select Pansy seed, 2*s.* 6*d.* per pckt.

H. M. will have ready in April, 12 of his best shrubby CALCEOLARIAS, sent out for the first time last spring, price 25*s.* Select Calceolaria seed 2*s.* 6*d.* per packet. From unknown correspondents a remittance is respectfully requested with the order. A descriptive list of H. MAJOR'S beautiful new seedling Calceolarias, together with a descriptive list of the most popular Pansies may be had on pre-paid application.—March 11.

BASS AND BROWN'S DESCRIPTIVE PRICED CATALOGUE OF SEEDS FOR 1848 will be sent free by post on application. For Advertisements of a few select VEGETABLE SEEDS from the Catalogue see *Gardeners' Chronicle* dated Jan. 8th, page 18; Jan. 22d, page 49; and Feb. 5th, page 82.

SELECT AND CHOICE FLOWER SEEDS sent free by post with full directions for sowing, heights, colours, &c., viz:—

	s.	*d*
100 varieties best and newest annuals, including choice Stocks, Asters, Zinnias, &c.	15	0
50 varieties ditto for 8*s.* 6*d.*, 30 for 5*s.* 6*d.*, 20 for	4	0
20 varieties best dwarf kinds in larger packets, suited for filling beds on lawns, 7*s.* 6*d.*, or 12 ditto	5	0
20 varieties best Greenhouse Annuals, including very splendid Balsam, Phlox Drummondi, Brachycome, Mesembryanthemum tricolor, Portulaca, Rhodanthe, Thunbergia, Martynia fragrans, &c.	7	6
20 varieties choice Greenhouse Perennials, including choice varieties of Calceolaria, Cineraria, Fuchsia, Petunia, &c.	10	6
20 varieties choice Hardy Biennials and Perennials ...	5	0
36 varieties imported German Stocks	6	0
20 ditto ditto	4	0

The following are a few selected from the Catalogue.

Per packet—	*s.*	*d.*
Calliopsis nigra speciosa	0	6
Convolvulus, new striped	0	6
,, Burridgii ...	1	6
Iberis superba, extra deep purple	0	4
Larkspur, new crown rocket	0	4
Nemophila, new white ...	0	6
,, striata ...	0	4
Poppy, 16 separate Prussian vars.	2	6
,, the same mixed...	0	4
Scabiosa grandiflora, 16 mixed vars.	0	4
Viscaria oculata	0	4
,, Burridgii, new white	0	6
Cacalia sonchiflora ...	0	4
Cuphea silenoides ...	0	6
Lobelia ramosa	0	6
Pink, Indian, fine ...	0	4
,, new Belgian vars.	0	4
Podolepis gracilis ...	0	4
Schizopetalon Walkerii, (sweet)	0	6
Tagetes signata	0	4
Zinnia elegans, splendid mixed	0	4
,, ,, coccinea	0	4
Balsam, fine mottled and striped... ...	0	6
,, finest mixed ex.	0	6
Brachycome, 3 vars., each	0	6
Clintonia pulchella ...	0	6
Martynia fragrans ...	1	0
,, lutea	1	0
Mesembryanthemum tricolor	0	6
Phlox Drummondi, fine mixed	0	6
,, ,, fine scarlet and crimson vars.	1	0
,, ,, alba ...	1	0
Portulaca, two beautiful vars., each	0	6
Schizanthus retusus or Hookerii...	0	6
Sedum azureum	0	6
Thunbergia aurantiaca	0	6
,, ,, intus candidus	1	0
,, alata alba	0	6
Alstrœmeria, Van Houtte's vars.	1	0
Anemone, fine mixed ...	0	6
,, new Russian semi-double	0	6
Auricula, from choice named	1	0

Per packet—	*s.*	*d.*
Antirrhinum, choice mixed	0	6
Carnation, from ditto ...	2	6
Dianthus Garneriana ...	1	0
,, mixed showy vars.	0	4
Geum Wiceii	0	6
Gladiolus, splendid dwarf vars.	0	6
Heartsease, from choice	1	0
Hollyhock, 30 vars. separate, fine	5	0
,, 20 do. do. ...	3	6
,, choice mixed	0	6
Iris, English, splendid vars.	0	6
Lathyrus latifolius albus	0	4
,, rotundifolius ...	0	6
Lychnis fulgens	0	6
Mimulus Regina	1	0
,, mixed, choice...	0	6
Pentstemon carnatum ...	1	0
,, gentianoides coccinea...	0	4
Picotee, from choice named	2	6
Polyanthus, fine	0	4
Potentilla Garneriana ...	1	0
Ranunculus, from choice	2	6
Silene Schafta	1	0
Sweet William, fine mixed	0	4
Wallflower, German, mixd	0	6
Calceolaria, from choice	1	0
Chænostoma polyantha	0	6
Choroz-ma varia rotundifolia	1	0
Cineraria, new and choice	1	0
Commelina cœlestis ...	0	4
,, new white ...	1	0
Fuchsia, from new and choice	1	0
Gaillardia, 3 vars mixed	0	6
Geranium, from new and choice ...	2	6
,, smaller packets	1	6
,, finest mixed scarlets	1	0
Hibiscus Manihot ...	0	6
Hydrolea spinosa ...	1	0
Kennedya rubicunda ...	0	6
Lantana, mixed	0	6
Lobelia erinus grandiflora	0	6
Mandevilla suaveolens ...	1	6
Petunia, from new and choice	1	0
,, from the "Pet," a pretty dwarf spotted var.	0	6
Primula sinensis, fine mixed	0	6
Verbena, from new and choice	2	6
,, small packets ...	1	6

Remittances with orders are requested from unknown correspondents. Postage stamps received in payment for small amounts.

Seed and Horticultural Establishment, Sudbury, Suffolk.

JOSEPH HOOPER begs to return his sincere thanks to his friends and the public in general for their kind support in purchasing the PANSIES advertised in the *Gardeners' Chronicle* of Oct. 9th, 1847 (a few plants of which are still on hand), and begs to offer the following eight varieties, viz.: "Shylock," "Felix," "Jenny Lind," "Lady Peel," "Venus," "Commander," "Sir H. Smith," and "Star," at 30*s.* the set; the whole of which J. H. can with confidence recommend as the best in cultivation.—A Post-office order, payable in Bath, is requested, and early orders, as the stock is very small.

Freshford Rectory, Bath, March 11.

IMPORTANT SALE OF NURSERY STOCK.

ALEXANDER ROBERTSON, NURSERYMAN, Dorking, respectfully begs to inform the Public that in consequence of a portion of his land being required by the Reading, Guildford, and Reigate Railway Company on 25th March, the whole of the STOCK contained within such portion is for Immediate Sale at Reduced Prices. The Stock consists of common Laurel, Box, Hollies, Laurestinus, Aucubas, and various other evergreen and deciduous flowering Shrubs, Standard and Dwarf Roses; 10,000 of that highly ornamental and hardy evergreen, Mahonia, or Berberis aquifolium and dulcis; 3000 English Elms, 8 to 9 feet; some hundreds of well rooted layers of ditto; 4000 Spruce Firs, 2 to 4 feet; a number of Limes, Planes, Maples, English and Turkey Oaks, Hornbeam, &c., 6 to 9 feet; standard, dwarf, and trained Apples, Pears, and Cherries; Gooseberries and Currants true to kind; Walnuts, Filberts, &c.; 1000 yards of Box edging; fine Yew screen, tall Larch for pillar Roses, Weeping Ash, &c. &c.

The whole is in excellent condition for removal. Further particulars on application to the Proprietor, London-road, Dorking.

E. G. HENDERSON, Wellington Nursery, Wellington-road, St. John's Wood, begs to give notice that he is now prepared to execute orders for the following Seedling CINERARIAS of 1847.

Magnet,	Rosy Circle,	Matilda,
Tom Thumb,	Coronet,	Cleopatra,
Grandidissima,	Incomparable,	

A description of which may be had on application.

SEEDS.—CORNER OF HALF-MOON-STREET.
THOMAS GIBBS AND Co.,
(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND," beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

Priced Lists of Agricultural Seeds are always ready, and may be had on application.

CUCUMBER AND MELON BOXES AND LIGHTS.—One hundred 1, 2, and 3-light Boxes and Lights of all sizes ready for immediate use. Warranted best materials, packed and sent to all parts of the kingdom; 2-light Boxes and Lights from 1*l.* 6*s.* Garden Lights of every description, Conservatories, Green and Hot-houses made and fixed in all parts of the kingdom. References given to the Nobility, Gentry, and the Trade, in most of the counties of England.

JAMES WATTS, Hothouse Builder, Claremont-place, Old Kent-road, London.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

STRONG HORTICULTURAL 16-oz. SHEET
GLASS FOR CONSERVATORIES,
GREENHOUSES, PITS, FRAMES, &c.—FURTHER REDUCTION.

HETLEY AND CO. publish Prices in the *Gardeners' Chronicle* the first Saturday in every month. Wholesale and Retail Glass Shade, Sheet, Crown, and Patent Plate Glass Warehouse, 35, Soho-square, London.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND CO., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS FOR CONSERVATORIES.

CUT TO SIZE UP TO 49 INCHES LONG.	SMALL SQUARES of SHEET.
16 oz. to the foot 3½*d.* per foot	4 by 3 and 4½ by 3½..1½*d.* per ft.
21 ,, 5 ,,	5 ,, 3 ,, 5½ ,, 3½..2 ,,
26 ,, 7½ ,,	6 ,, 4 ,, 6½ ,, 4½..2½ ,,
32 ,, 10 ,,	7 ,, 5 ,, 7½ ,, 5½..2⅝ ,,
	8 ,, 6 ,, 8½ ,, 6½..2⅝ ,,
	Not above 10 ,, 8 ..3 ,,

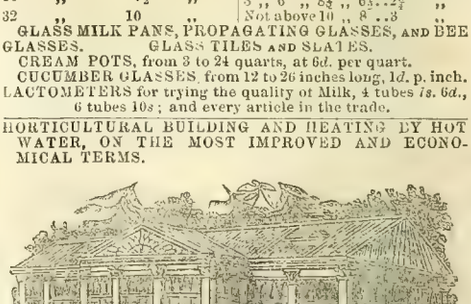
GLASS MILK PANS, PROPAGATING GLASSES, AND BEE GLASSES. GLASS TILES AND SLATES.

CREAM POTS, from 3 to 24 quarts, at 6*d.* per quart.

CUCUMBER GLASSES, from 12 to 26 inches long, 1*d.* p. inch.

LACTOMETERS for trying the quality of Milk, 4 tubes 7*s.* 6*d.*, 6 tubes 10*s*; and every article in the trade.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER, ON THE MOST IMPROVED AND ECONOMICAL TERMS.



GRAY, ORMSON, AND BROWN, Denvers street, Chelsea, solicit the attention of the Nobility, Gentry, and Gardeners, to their superior manner of Erecting and Heating every description of Building connected with Horticulture.

Extract of a Letter, dated June 10.—"I am happy to say the work you have done here is perfectly satisfactory to his Lordship and me. The apparatus by which you have heated three houses and three pits, from one boiler, I believe to be the most complete I have ever seen, having well tested it through the late severe winter. In the coldest weather I had no difficulty in keeping the top and bottom to the desired temperature. I have now plenty of fine ripe Melons that were planted the 1st of April; and I find that both Melons and Cucumbers do quite as well, if not superior, on your Tank System, with less expense and considerably less labour than on dung beds. The span-roofed house and other buildings you erected here are equally satisfactory, and I should be happy to show the work, or answer any references you may please to direct.—F. KINGHORN, Gardener to the Earl of Kilmorey, Orleans-house, Twickenham, Middlesex."

Plans and Estimates furnished free; and their works seen at the principal London nurseries.

NEW CATALOGUE.

WM. WOOD AND SON have just published a new and very much enlarged edition of their annual CATALOGUE OF GREENHOUSE AND STOVE PLANTS, with Descriptive Lists of all the newest and most esteemed varieties of Camellias, Fuchsias, Verbenas, Pelargoniums, and Chrysanthemums; also Geraniums, Calceolarias, Cinerarias, and Plants suitable for Grouping, Hardy Shrubs, Climbers, &c.

Copies of the above will be forwarded to all those parties who have favoured W. W. & S. with their commands, and to others FREE on application.

Woodlands Nursery, Marcsfield, near Uckfield, Sussex.

GEORGE SMITH begs to refer the readers of the *Gardeners' Chronicle* to his Advertisement of Feb. 12th and 19th, for a description of his universal SEEDLING FUCHSIAS and VERBENAS. G. S.'s Catalogue contains of the above every novelty of the season, which can be had on the receipt of one postage stamp.

Tollington Nursery, Hornsey-road, Islington.

The Gardeners' Chronicle.

SATURDAY, MARCH 11, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

SATURDAY	March 11	Royal Botanic	4 P.M.
WEDNESDAY	— 15	Society of Arts	8 P.M.
TUESDAY	— 21	{ Horticultural { Linnean	3 P.M. 8 P.M.
SATURDAY	— 25	Royal Botanic	4 P.M.

A SINGULAR DISEASE has attacked some collections of CALCEOLARIAS near London. The young plants at first appear to be perfectly healthy; afterwards the stem becomes brown at the surface of the ground, the brownness spreads upwards, the leaves shrivel and die back, the lowermost first, and eventually the plants "shank off," as the gardeners say. When taken out of the ground the cutting is found dead up to the base, and the roots diseased more or less to their very points.

The microscope shows that the bark of these specimens is the original seat of the disease. The cells of the tissue there are brown, and their inner surface is covered by a few traces of spawn and by myriads of oval brown particles of extreme minuteness, similar in aspect to the spores of an Uredo (or smut blight), but infinitely smaller. They may be compared to the smaller particles of Cladosporium herbarum, figured by Mr. BERKELEY at p. 356 of our volume for 1847, but are single. The outsides of some of the woody tubes are completely studded by these particles. They do not appear to be the same as the brown granular matter accompanying diseased Potatoes. The brown colour extends here and there into the pith, which, however, is not infested by the particles in question. Doubtless more leisure and skill than we possess would reveal other circumstances which have escaped our notice. The above statement, however, leads to a suspicion that the disease is connected with the presence of some parasite, whose great abundance at an early stage of the attack might seem to warrant the opinion that it is the cause of it.

Supposing this to be so, we must assume one of three things; either that the mischief was introduced with the soil and absorbed by the cuttings; or that its germs pre-existed in the cuttings themselves, and the stock from which they were taken; or that mere disease is inherent in the cuttings, the brown particles above mentioned being mere indications of it. In either case remedy seems hopeless, and a preventive for the future is all that can be looked for. Upon the supposition that a parasite has seized upon the internal tissue of the cuttings some advantage may, perhaps, be found in putting aside the plants, as they perish, with their pots and soil, and afterwards burning them in a furnace which shall heat the mass red hot. If, however, the brown particles are merely symptomatic, the question arises whether the disease is not rather connected with some natural debility in the stock from which propagation has been effected; and this is perhaps the more probable supposition. It is by no means impossible that the propagation of such short-lived plants as Calceolarias, by cuttings, may entail the evil of incurable unhealthiness; for we must remember that they are in many cases little better than annuals, and that a multiplication of them artificially beyond the natural term of their existence, is scarcely compatible with sound health. It may be possible, by art, to protract their existence; but it may not be possible to preserve their vital force. In the latter case they readily become the prey of decomposition, are attacked by parasitical fungi which break up their tissue, when they perish.

These, however, are only suggestions, and we should be very much obliged to any who may have experienced the same visitation, for their observations and mode of treatment. The history of disease in plants has been so little studied, and is necessarily so obscure, that too much information cannot be collected respecting it. If it is ever to be met successfully, it can only be by means of a very large accumulation of well-observed facts. The fact of which the world is at present in possession constitute the mere apex of the pyramid that requires to be built up.

IN creating a Landscape—no matter amid what kind of scenery—if there be art in displaying beauties, there is no less art required in concealing unsightly objects. It is of no consequence whether these objects be natural or architectural—a screen of some sort is necessary. And that which not only accomplishes this end, but itself may be made to add much to the beauty of the whole scene, is unquestionably a screen composed of TREES.

Now while this is almost a self-evident truth, there are more points than one which demand consideration. If it be necessary to screen an object, the *sort* of Trees required for the screen must principally depend upon the distance of that object from the spot from which it would otherwise be seen. Suppose that you are rambling along a path which winds within a few yards of the boundary park paling; it would be monstrously absurd to

plant Firs there for the purpose of a screen—or any other trees whose stems are naked for some feet from the ground. Not only would there be no real screen between you and the object to be concealed from you, but the very stems of the trees would multiply the uglinesses exceedingly. What does good Taste dictate there as the course to be pursued? In such a park there would doubtless be a *carriage-approach* to the mansion, which in the main would run at some distance from the paling. For those who ride along that approach the Trees are absolutely requisite, to give them the idea of the complete isolation of the estate. But just in front of the Trees should be planted a shrubbery, the outline of which should yield a serpentine or waving course to the footpath. The result is as agreeable as it is simple. The carriage-visitor is delighted by the relief which the hues of the shrubs (well-chosen) give to the more sombre foliage of the Trees in the upper back-ground: while the pedestrian as well as himself is rendered, by the shrubs, perfectly unconscious that there is any park paling at all. EALING PARK, in this respect, illustrates our meaning well—both as it is and as it ought to be.

It follows from this view that it depends on the proximity, or distance, and the elevation of the object to be screened, whether you shall use shrubs, or trees, or both. From your drawing-room window—or your terrace—or your lawn even—you see afar off some hideous object just beyond the limits of some demesne. Trees will do well in this case; for at that considerable distance the green sward forms a relieving back ground to the stems, while the [illegible] which you dislike. [illegible] nearer home—so near that you [illegible] between the stems, and [illegible] place Trees; and if the [illegible] —so that it consist[illegible] man on—that [illegible] them, as in the [illegible] planted in front of [illegible] the trees may be [illegible] the shrub must present [illegible] the eye. Sir [illegible] Park [illegible] usual, entertaining [illegible] of Fir, in his [illegible] glee Master's line.

"[illegible]
In masses; [illegible]
And [illegible]"

"Just as if," he adds, "a cake or [illegible] upon the horizon of [illegible] hedge, with a few trees [illegible] to grow wild, is a mock [illegible] screen: but there are [illegible] Hollies are mixed with [illegible] thick from the ground upward— [illegible] their light and shade that [illegible] them with pleasure, [illegible] neither see through them, *on account of their compact aspect, their want of depth*." Can the best words describe admirably the real purpose of a screen. But while we grant the [illegible] a hedge over a screen composed of [illegible] think that no person would ever form a screen of Firs alone, even though the object to be concealed should stand at a very great distance. Variety is an essential element in garden beauty, and there can be no variety where there are only Firs.

That the Larch Fir, however, may be well used as a screen is manifest. The following statement and annexed woodcut with which we have been furnished by J. WARREN, Esq., of Pitmaston, are very interesting to landscape gardeners: "About 40 years ago I planted various ornamental Trees in my garden of no great extent, the whole being not more than 25 acres of land. Amongst other Trees were some Larch Firs. One of these, from its situation, when grown tall, I thought would shade a large ornamental piece of artificial rockwork made to hide my [illegible] and Kitchen Garden from the dining and drawing-room windows. I cut off the leading shoot of the Larch at the height of about 12 or 13 feet from the ground. The head of the Larch soon began to send out numerous lateral branches; and for many years *one* of the annual shoots endeavoured to resume its natural conical shape, which at the end of each autumn was regularly cut off. At last Nature gave up the point, and all the shoots proceeded in ramified lateral directions. The late Mr. SABINE paid me a visit many years ago on a garden tour. The Larch caught his eye. He said: 'You have got a new variety of Larch?' My answer was as I have above stated. 'Well,' he said, 'it makes a most picturesque Tree.' Since that time no person visits my garden without noticing this Tree." =

CAPE HEATHS.—No. V.

Pruning.—Before the Heath grower has recourse to the knife he must determine which of two objects he intends to effect—to improve the natural habit of his plant or to induce a perfectly artificial one. By the former he procures the greatest amount of fine blooming branches, and at the same time preserves the natural characteristics of the plant; by the latter a beautifully symmetrical plant, with its natural character destroyed, is obtained, and with what would have been noble masses of bloom broken into a host of small spikelets. The prevailing practice of tying and clipping a plant into a perfect pyramid is, I conceive, at variance with good taste, sacrificing, as it does, in many instances, noble bearing, graceful and picturesque outline, at the shrine of unmeaning formality. Gardeners who profess to take Nature as their preceptress would better illustrate her precepts by improving than by creating.

There are many Heaths which never require the knife. Their natural disposition of growth is such that

its application would mar instead of improve them. Of such may be instanced tricolor, Banksiana, aristata, its varieties and allies. These are only instanced at random to illustrate the method of growth alluded to. They are naturally bushy and symmetrical, but without artificial formality. The vestitas are disposed to grow naked; they can be improved by the judicious application of the knife, but to tie and cramp them into pyramids is to destroy the noble appearance they would otherwise assume. Again, pyramida'is, trossula, persoluta, Willmorei, Pattersoniana, admit of an extensive use of the knife. Some, as cerinthoides and its varieties, with costata superba, exhibit peculiarities of growth unperceived in any others. The former is continually throwing out young shoots from its collar; stem, it cannot lay claim to any. The latter throws up blooming shoots 12 or 18 inches in height, bearing whorls of bloom at intervals of four or five inches. Cerinthoides can at any time be induced to form a bushy plant by cutting it down to the Cycas-like protuberance at the collar. With costata superba little can be done besides cutting off the blooming stalks immediately after flowering, as its disposition of growth does not admit of the use of the knife in its adult state.

There are two periods of Heath pruning. In each a different object being in view, the principle of pruning must of course be varied. In the one case the object is to form the plant; in the other to induce it to produce bloom. The foundation of the future plant can, in the majority of cases, be formed in one season, if pruning is necessary. If the species be of the kind not admitting the knife, it will form itself; but of these we have nothing to do at present. Presuming a plant is well formed and full of promise for future excellence, it now arises, how can it be induced to retain the character and reward us by a rich display of bloom. When a Heath has produced its bloom for the season, it immediately commences producing wood for the next period of blooming. And as the Heath, in common with many genera to which it is allied, increases its growth in the main by the simple elongation of the growing points, or by laterals near those extremities, and as the foliage is permanently cast from the wood of more than two seasons' growth, it follows that if shoots of 8 or 10 inches in length are left from year to year, the appearance of the plant will be anything but pleasing after a few seasons' growth. As soon as possible after the flowers begin to fade on the free growing kinds, bring the knife into requisition; and in the use of it some little practice is necessary, not so much in the mere mechanical application as in judging of the most suitable places in which to apply it. Physiology teaches us, and the theory is correct, that those parts of a plant possessing the greatest amount of fully organised cellular tissue, or that substance from which all the several parts of a plant, including the reproductive system, derives their formation and nourishment, will produce the most perfect branches, if means are taken for their proper development. It follows that the pruning of any given shoot should take place precisely at the point exhibiting these characteristics in the highest development. This being done, the otherwise dormant buds in the immediate vicinity of the incision will immediately start into activity, and the result will be strong and vigorous shoots, which, if left untouched, will continue to grow up to the expansion of their flower buds. In fact, a Heath can scarcely ever be said to be wholly inert; for, except when under the liberal application of the knife, when of course the system receives a partial check, it is perpetually growing.

I have said if the shoots produced after pruning are left to themselves, they will continue elongating till the flowers begin to expand. Now, in many cases, and in the formation of the formal specimens before alluded to, it is indispensable that these shoots should again be topped; the result is for every shoot which, if left untopped till after blooming, would have produced 9 or 12 inches in length adorned with bloom, 3 or 4 inches each occupy its place, producing a more bushy and pyramidical plant, it is true, but far deficient in nobleness of appearance.

In conclusion, I would say, never prune beyond the current season's growth; if so, the result will be puny and sterile shoots, a prey to insects and such as will never reward you with a creditable bloom. I ought to mention that in pruning E. mirabilis great caution is necessary, if, indeed, it should be pruned at all; blooming, as it does, the whole season, it is apt to exhaust itself, producing blooms at the top of nearly every shoot when scarcely an inch in length. The tendency should be checked by pinching off a portion of the flowering tops immediately they can be recognised, which is all that can be done in the way of pruning it. In those species which never require the knife, the blooms, immediately they begin to fade, should be removed. As they are invariably produced at the points of the shoots, great care is necessary that the bud from which the future shoot is to spring is not injured or destroyed in performing the operation. The best apparatus is a sharp pair of scissors. If the bud is injured, no bloom is produced the following season.—*G.*

ASPARAGUS.

The notice in your Calendar of Operations last week, that "Asparagus beds must be manured and pricked over," reminds me of an intention formed long ago of offering a remark or two on the general management of Asparagus beds, which I now ask permission to do.

I am not aware that any writer has ever attempted to explain how it is that the market-gardener and the gentleman's gardener differ so very widely in their mode of treating Asparagus. The former makes it a rule to cover early in spring the surface of his beds to a considerable depth with earth taken from the alleys between them, leaving the top of each smooth and flat; in which form they remain throughout the growing season. A similar operation is performed annually by the latter, but he chooses autumn as the time for it; and in the spring he forks the soil off again, leaving his beds in the shape of a half cylinder, with the convex side presented to the sun.

Now, if it be admitted that any advantage is derivable from covering up at all, I contend that it is secured by the market-gardener's plan alone. He, by covering at this time of the year, places the crowns of his plants in a temperature far more congenial to healthy vegetation than that to which the alternations of April's daily sunshine and nightly frost subject those lying barely beneath the surface of the ground. Not less advantageous is it to the plants, as the season advances, to have their roots protected from the direct influence of the solar rays, whose exciting tendency is to force the whole crop at once to maturity, leaving nothing for the latter part of the Asparagus season but small, and therefore almost worthless shoots. As a regulator of heat, then, we must, I think, acknowledge this covering to be exceedingly valuable; but this is not its only, or, indeed, most important office; it prevents the rapid abstraction of moisture from about the roots, which would otherwise take place, just at the time when the nature of the plant most of all demands it.

Now on the other hand what, I ask, can be said in favour of covering in winter? Is artificial covering necessary to an indigenous plant whose natural hardihood art has not impaired? Of what value is manure (if that be urged as a reason for covering the beds in autumn) to a plant at a time when its functions are suspended, and therefore its assimilation of the elements of manure impossible? And, lastly, why should the surface of the beds be kept flat at that time of the year only when rain is most abundant and least serviceable? In submitting these questions to those of your readers to whom they may apply, I beg respectfully to inform them that I have not taken a mere theoretical or superficial view of the subject: I have fairly tried both plans, and for several years, from which experience I pronounce that of the market gardeners to be immeasurably superior to the other.

I may add, in conclusion, that previously to my covering the beds in the month of March with 3 inches of earth, I give them annually a good coat of rotten dung sprinkled well with common salt. From the soluble parts of this mixture being carried by each shower of rain to the active roots of the plants, in connexion with the other benefits of covering noticed above, all that can be expected or desired in Asparagus culture is, I think, realised.—*W. Sherwood, Englefield Green.*

NEW PLANTS.

Amongst the most beautiful and rare plants which promise soon to enrich our collections, the following have come under my notice in bloom:

Rhododendron javanicum. — A neat intermediate-sized shrub, producing large, very compact heads, of rich lemon-coloured cup-shaped flowers, verging off towards the centre with a darker tint, approaching to crimson, and still further enhanced in beauty by the rich crimson styles, surmounted with deep bronze-coloured anthers. The chaste outline and firm substance of the individual blossoms, with their highly coloured tubes, contrasted with the dark green Laurel-like leaves, will ere long find this species as pre-eminent in beauty amongst its tribe as the Azalea sinensis hitherto has been amongst its allied species, with this difference, that R. javanicum appears to lack no feature that constitutes perfection of beauty.

Ixora tenuifolia is a slender growing species, with narrow attenuated leaves and clusters of bloom, after the style of I. rosea, but having long flower-tubes of a richly shaded bright crimson, exceedingly beautiful and distinct.

I. superba possesses a more compact habit than I. coccinea, with uniformly broader tipped leaves, and apparently of a healthier green aspect, producing more hemispherically round heads of bloom, and of a richer flame-colour.

Æschynanthus longiflorus is distinguished from others by its long trumpet-shaped flowers of a remarkably rich shaded crimson tint.

Achimenes venusta and *A. floribunda elegans* are two exceedingly beautiful hybrids, which, for neat, compact, dwarf habit, profusion of bloom, chaste outline, richness of colour, easy culture, and adaptation to small collections, will prove universal favourites; and amongst the smallest of free-flowering plants, are models of perfection in all the desirable features of pot plants. The rich violet-purple crimson of the former, with orange centre, spotted with brown, and the bright rosy carmine of the latter, place them far in advance of all others yet introduced. In habit of growth they are equal to A. rosea, but combining much larger blossoms, with treble the number.

Epacris hyacinthiflora candidissima. — This is at present the *ne plus ultra* of white-flowered varieties, forming, as it does, a beautiful and striking object in the most valuable genus of spring-flowering greenhouse plants.

E. impressa candida is also a clear white-flowered variety, more compact in habit and profuse in bloom, less stately than the preceding one, but the most valuable for the market; both are far in advance of older white varieties.—*Wm. Wood.*

Home Correspondence.

The Abele Poplar (*Populus canescens.*)—The writer of the articles, "Hints for Planters," in your Paper of Feb. 5, page 85, speaking of the Abele, has these remarks:—"The Abele is also of rapid growth, and is, I believe, useful timber. As an ornamental tree it is not so much planted as it deserves. No tree forms a finer mass of dark foliage, with which its silvery bark forms a striking contrast." I, too, can testify that the Abele is a fast grower, and a useful timber and ornamental tree, growing to gigantic size. The wood of it is also highly ornamental, as the specimen sent will show. There are many articles made of it here both for ornament and use, and hardly any stranger, however conversant in woods, can guess what it is; it will be seen that it takes a beautiful polish. The tree from which the specimen was taken, was blown down several years ago, and when prostrate measured 123 feet in length, with about 50 feet of clear stem, averaging 9 feet in circumference; it was never touched by a pruning instrument.—*Quercus.* [This tree we have ascertained to be Populus canescens; the wood is more like fine Satin-wood than anything to which we can compare it.]

Potato Disease.—I take this opportunity of mentioning what occurred at West Dean House last year, with respect to some Potatoes: not that I attach any importance to it; but it is an additional fact in the history of their disease which may have some interest. They were imported from Adelaide, in Australia, in the summer, and consequently too late for a crop, and I intended to plant them in the autumn, but they would not wait. They sprouted so vigorously that I was compelled to let them have their own way. They were placed in a cold frame in July, but uncovered until the end of September, and then only at night, to protect them from early frosts. At that time they filled the frame with the most luxuriant growth; not a speck upon any of their leaves, which had the dark green of perfect health. About the middle of October I left home, but I learned from my gardener that soon after they began to show black spots, and in two days there was not a particle of green remaining; they had resisted the atmospheric influences which had demolished the haulm of the other Potatoes six weeks before—if the cause of the disease is to be sought in the atmosphere—and there was no perceptible change of temperature or condition to account for their sudden death. The tubers were sound, though, of course, small, but, as young Potatoes, very good.—*L. Vernon Harcourt.*

Conifers in the South of Ireland.—The following is some account of plants which have only been planted out from 2 to 3 years, and which were from 6 to 18 inches high when put out:— Pinus insignis, a fast grower, inclined to become top heavy; Abies Douglasii promises very well; Araucaria imbricata takes longer to establish itself than most others, but does very well when established; A. Brasiliensis has stood the two last winters pretty well, but is rather sickly; Cupressus thurifera was to all appearance killed by the frosts of 1846-7, but is now making very rapid progress; Pinus excelsa is not so fast a grower as P. insignis, but stands wind better—the two trees form a very good contrast in colour, being different shades of green; P. patula promises to be a handsome tree—it stood this year's frost well; P. macrocarpa is a free grower and very hardy; Abies Morinda, healthy, but not a free grower; A. Menziesii ditto; Picea cephalonica, healthy, not a fast grower; Cedrus Deodara, a very fast grower, the most ornamental tree of any I have named.—*R. M., March* 4.

Holly Planting.—In my employer's pleasure ground were Hollies of some 20 years' growth, which were moved about the middle of last May, care being taken to keep the roots and the earth that adhered to them as entire as possible; they were occasionally watered during the summer months, and they now look as healthy as if they had never been moved. Some of their stems are not less than 18 inches in circumference.—*E. X.*

Pears on Quince Stocks.—So far from Pears not growing and fruiting on Quinces, or the fruit being bad, we find most of them improved in quality, the tree quite as healthy, and bearing, for their size, ten times more fruit. Louise Bonne is so much better and finer in colour from the Quince than from the Pear, that it can hardly be said to be the same thing, and this is the case with many other kinds. As to their not bearing, we have plants not 2 feet high, full of fruit buds. Three years ago I planted two trees of Louise Bonne side by side, of the same age, one on the Quince the other on a Pear stock, both being about 5 feet high; the first produced 7 fine Pears in the first year, 17 the second, and 25 last year: the latter presents an appearance of bloom; both are in fine health. Then as to the beauty of the trees; let any one procure "Le Traité sur la Taille des Arbres Fruitiers, par C. Dalbret, Paris," (I think that is the title of the work), and see if the figure of a pyramidal Pear, given there, is an ugly thing; nothing could be more beautiful than a tree trained as he directs. —*J. R. Pearson, Chilwell Nurseries, Nottingham.* [The French Pyramidal Pears are the most perfect specimens of scientific art that *we*, at least, ever beheld.]

Shanking of Grapes.—I cannot agree with "T. A. K." at page 157, that shanking arises from the roots being outside the house; for from a statement by me at page 5, 1845, it will be seen that the Grapes in a large Vinery were rendered nearly useless from shanking,

and in that case the whole of the Vines were planted inside the house, and I imagine it will clearly prove, that whether planted inside or outside it has nothing whatever to do with the matter; on the contrary, I believe that shanking depends principally, if not entirely, upon the state of the border, as it certainly was in the case just referred to. The remedy applied speedily showed its effect in the improvement of the Vines, and in the ultimate perfection of the fruit, for in a short time the evil was entirely got rid of, and at that time (1832,) I was quite convinced of the superiority of outside over inside planting; and subsequent experience bears me out in that opinion, provided the borders are properly made with suitable materials.—*C. F., Chelsea, March* 8.

Vines and Fixed-roofed Houses.— Some remarks having been made relative to the effects of frost on Vines, and the unsuitableness of fixed-roofed houses for them, I beg to state that in the spring of 1846, my late Vinery, which is 45 feet in length by 12 feet in width, was standing open, in order to keep it as late as possible. In the beginning of April a very sharp and unexpected frost set in, and the Vines being broken some 2 inches in length, the buds were all destroyed, together with almost all the previous year's bearing wood. I imagined the crop would be entirely destroyed, but to my surprise the Vines broke afresh from the old wood, and produced plentifully and to spare. I do not agree with those who ridicule the idea of fixed-roofed houses producing as good Grapes as those with sliding sashes, (see p. 750, 1847). My Vinery is a curvilinear one, with a fixed roof, and aired by ventilation at top and bottom. If it has a fault, perhaps it lies in having too little space to admit air when the Vines are not in leaf. I have had this house under my charge for a number of years, and I have always had good crops in it. In fact each year is better than its predecessor in this respect. Last year I had a most abundant crop, and at present, so far as appearances go, I could not wish for better bearing wood for next year's crop than this house contains. So much for fixed roofs.—*A. G. N.*

Singular Precocity in a Seedling Citrus.—Some time early in the spring of 1846 I brought home one of the West Indian Citrus, called Forbidden Fruit, to show my children, and finding that it contained an abundance of seeds I sowed them in a pot in my stove. They came up in numbers, and some 12 or 18 were potted off when quite small, two or three in a pot. Removed to the greenhouse they grew slowly during the summer, and when they had ripened their wood in autumn were from 3 to 6 inches in height. Great was my surprise in the spring of 1847 to perceive that one of these seedlings, which had not more than nine leaves (I believe it had only seven), besides its seed leaves, which remained on, had formed a flower bud at the extremity of its axis, where I naturally looked for growth. The bud appeared perfect, but I expected that it would fall off when the season of growth came. Contrary to my expectations, when the other plants began to grow, the flower upon this plant expanded perfectly, exhibiting both stamens and pistil. Having secured its fertilisation, I watched it for some weeks; the fruit swelled and became the size of a large Pea; beyond this it did not proceed. During my frequent absence from home proper watering was neglected, and from this cause I believe the fruit fell off. I much regret that I did not forward you at the time a sketch of what appeared to me so singular a curiosity. The plant is still alive, but has made little growth, and the whole batch of seedlings (with one exception, which is thorny and somewhat more rampant), exhibit a singularly dwarf habit. They have thrown out numerous short shoots, more like those of the Myrtle-leaved Orange than anything to which I can compare them, not exceeding 3 inches in length, and are becoming bushy. They are now nearly two years old, but are only 7 or 8 inches high, and I purpose this year to try whether larger pots and more liberal culture will alter their habit, or whether they are naturally dwarfish. I should be glad to know if any of your correspondents have observed similar phenomena; for myself, I should precisely as soon have expected to see an Acorn on the summit of a year old sapling as a flower and fruit on these Shaddocks; nor was there anything in their cultivation which could explain such a result. They were neither exposed to excessive light, nor an extreme high temperature; and from the size of the fruit which yielded them I should have expected luxuriant rather than dwarfish growth.—*John Rogers.*

Profitable Employment of Railway Embankments.—Some time ago attention was drawn to the subject of planting railway embankment with Vines; but I agree with you that this scheme would not answer, our summers being too short for out-door Grapes to ripen with any degree of certainty. To turn those now large tracts of waste land to a source of profit, and at a comparatively small expense, they should be planted with Larch. Then sleepers, of which immense numbers are wanted, could be grown by the companies themselves, and would realise a handsome profit after all expense as to labour, &c., was paid; for not only could each company grow sufficient for its consumption, but would every year be able to sell quantities for hop-poles. The number of plants required for an acre would be, say 4000 at 10*s.* per 1000, or 2*l.* per acre. About 2*l.* per acre would also be expended in labour, making a total expense of about 4*l.* per acre. I should plant a portion of line each year, and when the poles become sufficiently large, which will be in eight or nine years, in favourable situations, thin for hop-poles. In about 14 or 15 years from the time of planting, the remainder would be fit to cut for sleepers. I would then clear off and replant the ground in the same season, and so continue cutting, clearing, and planting a portion with young plants each year. It may be said this plan will not pay; but look at the beautiful young plantations of Larch which have sprung up in the barren wastes of Scotland, even in some places where there scarcely existed soil to plant in; yet they thrive, and where this plan is carried out, large unproductive wastes will be turned to good account in a pecuniary point of view. And had the plan been adopted on railway embankments when the lines were completed, the different companies might now have been enjoying the profits of their labours.—*E. F. G.*

Fumigation.—In order to facilitate the fumigation of some plants, I tried, by way of experiment, the effect of damping the tobacco with a strong solution of saltpetre, and then drying it. The plants being small were placed under a handglass, and some of the tobacco treated as above put with them, and ignited. The experiment perfectly succeeded so far as rendering the tobacco like touch-paper, but the leaves were affected, those of a Cineraria turning brown; the blossom, however, was unaffected. Do you think the saltpetre was the cause?—*Horticulus.*

Pinus Austriaca.—During the last few years a great deal has been said in favour of this kind of Fir, with the view of bringing it under the notice of landed proprietors interested in planting, and from what I have seen of it, I am inclined to think it not undeserving some of the encomiums which have been bestowed upon it, being of rapid growth, thriving in soils of indifferent quality, and bearing exposure to the sea breeze quite as well as the Pinaster, with which it forms a striking contrast, from being of a darker hue, and more compact and bushy in its habit. There can scarcely be a doubt of its becoming a very valuable tree for introducing largely in new plantations as a nurse, for which it is admirably adapted, along with the Pinaster and others of the Fir tribe. The greatest difficulty it has to contend with appears to be rabbits, who are remarkably fond of it, and commit sad havoc on newly planted trees, when not of sufficient height to be beyond their reach. In situations where these pests abound, I would advise larger-sized plants of this Fir to be planted than are usually recommended, otherwise they are sure to be damaged, and the attempt to rear them will end in disappointment.—*Wm. B. Booth.*

Calculations respecting Hedgerow Timber of 100*l.* value, on 100 acres of land, if left to stand 24 years; also if cut down and sold now, and the money invested in the 3 per cents. and allowed to accumulate, with interest and compound interest for 24 years:

1st. Average value of timber on 100 acres	£100	0	0
2d. Let it stand for 24 years, and the improvement in value will be 30*s.* per annum or 1½ p. cent.	36	0	0
	£136	0	0
3d. Sell the same now	£100	0	0
Interest and compound interest for 24 years at 3 per cent. will produce	100	0	0
4th. Tenant paying 2*s.* per acre additional rent, with interest and compound interest on the same, will amount at 3 p. cent. for 24 years to	346	0	0
	£546	0	0
Brought down	£136	0	0
Saving in 24 years on 100 acres	£410	0	0

Saving on 100 acres for 24 years, if cut down, 410*l.*; if 48 years, 820*l.* Ditto on 1000 acres for 24 years, 4100*l.*; if 81 years, 8200*l.*—*J. Warner, Hoddesdon.*

Vineyards in New South Wales.—In the fair climate of New South Wales exists a wide field and pleasant occupation to the colonist in the way of Grape-growing and wine-making. This, I am aware, is no mystery to many of your readers; still it may be interesting to some to learn that colonial wine is made extensively in some districts at present, and as the Vineyards increase in size and age, so will the wine increase in quantity and quality, affording a pleasant beverage to the colonist, with a certainty of deriving a considerable pecuniary profit from the surplus produce, as a ready market will always be found among their neighbours in Van Diemen's Land and other colonies, as well as in the Indian market. New South Wales can boast of having a good collection of Vines, for which it is indebted chiefly, I believe, to a Mr. Busby, who visited the wine countries of Europe purposely to collect the most approved varieties, and to make notes on the process of making the different wines. These notes were afterwards published in the form of a small book, and circulated in the colony. The cuttings were forwarded as soon as possible, and, by consent of Government, were placed in the Sydney Botanic Gardens, there to be cultivated, and cuttings, in turn, from them to be distributed among the colonists upon application. The site for the Vineyard being fixed upon—a north exposure preferred—the ground trenched or dug, according to circumstances, the cuttings were at once planted where they were to remain, giving them 3 feet distance in the rows, and 6 feet from row to row, in order to allow of a free circulation of air, and of getting a one-horse or bullock plough among them. When this cannot be afforded, the ground is tilled with the spade. Strong stakes were firmly driven into the ground, to which the tender shoots, as they elongated, were carefully tied; and nothing is more efficient for the latter purpose than New Zealand Flax (Phormium tenax), a most economical plant, as it will grow freely in any wet soil which would otherwise be worthless. The operation of tying is rather a tedious one, but has a double advantage to recommend it, viz., of preventing the fruit from touching the soil, and of exposing it to a free circulation of air. This plan has a great advantage over that adopted at the Cape; but in these extensive plains wood is not at all times easily procured, and hence the difficulty of finding stakes. No fruit is allowed to be produced until the third year, and then only a partial crop; but after that time full crops are allowed. After a season's active industry in keeping down weeds, tying in the young wood, and, as the fruit ripens, fully exposing it to the sun, the month of January has arrived, the latter end of which and the month of February is usually the vintage season—a merry time, and the only time when the settler can willingly get the aborigines to work.—*Alex. Burnett, Roby-hall, near Liverpool, Feb.* 19.

Ipomœa Batatas.—Some of the tubers of this plant, the Sweet Potato, procured from a fruiterer here, proved to be diseased, and exactly in the same way as our common Potato, and differing only, when boiled, in having a strong rose odour. The substance was light brownish, the hard patches near the outer surface dark brown, and the parts over them soft and putrefying externally. There were many of the tubers in a similar state, all from Madeira; so that the crop there must have been diseased, as the Potato crop was with us, and to quite as great an extent. The tuber in question is a real root, not of the nature of a stem, as that of the Potato is; so that those who ground theories respecting the nature of the late epidemic in the peculiar structure of the plant, as also its mode of propagation by budding instead of seeds, seem to err. There is some affinity between the orders to which the two plants belong, which may account for a like disease attacking them, there being thus a similar predisposition to disease. Orders far removed from these, and exhibiting marked differences, as the Umbelliferæ and Cruciferæ, are less liable to the disease, as is evidenced in the case of those useful esculents the Carrot, Parsnip (and perhaps, too, the Bunium and Arracacha) Turnip, &c.—*W. Mateer, London, Jan.* 13.

Owls.—In reply to "A Bucks Yeoman," I beg to state that the young of the white or barn owl are as easily bred or tamed as those of the brown. Mice are their principal food, which they devour greedily, swallowing them whole. If taken from the nest when very young, like balls of wool, they may be fed for a time with fresh minced meat, small birds or mice, three or four times a day, and attended to again in the evening. But in a short time a whole mouse, small bird, or bit of meat, will be a welcome meal to each. It is astonishing to see the number of mice an old owl will swallow, one after another, even five or six, till the tail and part of the body of the last may be seen sticking in its wide throat, and this without causing any uneasiness to this excellent mouser, and too often persecuted friend of man. Perhaps there are no other birds so readily tamed as owls, nor any which accommodate themselves to places so widely different from their solitary places of abode in a wild state. I have known a barn owl that seemed contented enough in a noisy tap-room amongst the fumes of tobacco. And an acquaintance of mine in Newport market has a very fine brown owl, who is apparently as much at home perched above his butcher's stall as if hooting from an "Ivy-mantled tower." This London owl is between five and six years old, and is the largest of the sort I have seen; his great supply of food may account for his size; generally he keeps good hours, and really seems to know about the time the shop is closed. On one occasion, however, he was shut out, and fell into the hands of the policeman, who took his prisoner to the station-house, but being known there, he was carefully restored to his master. I may observe that though the owl is, perhaps, the shortest-necked bird we have, yet he can turn his head and look behind him, even without moving his body. But I question if he can reach his tail with his beak, like most other birds, nay, half way down his back. Consequently, will "D. S. L." explain by what means owls obtain oil from the supposed gland in the rump to dress their feathers.—*J. Wighton.*

Hedgerow Trees.—In a recent number I enumerated a variety of the evils resulting from the extensive prevalence of hedgerow trees, and, among others, the injury occasioned by the interception of the sun's rays, meaning thereby the illuminating rays. But an equally injurious influence is simultaneously occasioned by these trees in intercepting the calorific, or heating rays of the sun, an evil which my experience enables me to say increases with the latitude, and is especially injurious in late harvests, when the atmosphere happens to be distinguished by humidity. To such a degree is this the case, that I have seen in a northern county the grain crop on a field of limited area surrounded by trees, so retarded in its ripening and drying subsequent to reaping, that the crop on the centre of the field has been harvested, while that on the borders has remained outstanding, and been completely destroyed, solely by the interception of the sun's heat by the bordering trees. The injurious effects of hedgerow timber hitherto enumerated have been those which militate against the interest of the cultivator, but their baneful influence does not stop here, it extends itself to the pocket of the proprietor, and that in a way not generally comprehended. Anything which injuriously affects a tenant must indirectly affect his landlord, but the hurtful influence above referred to is direct, not indirect. Persons acquainted with the best cultivated parts of the country know that the most densely wooded districts contain the best Wheat producing soils, parts of Essex, Kent, and Sussex for example: and as land of good quality when under the plough makes a far higher return to its proprietor than when oc-

cupied by wood, it follows that the occupation of so much superior land by timber trees, is a direct and positive disadvantage to the owners of the land; irrespective altogether of the injury occasioned to the farmers' crops. The public too, have an interest—a deep and vital interest in these days of teeming population—in the proper use of the soil; and as the superficial area of our sea-girt isle cannot be augmented, it becomes all having their own as well as the public interest at heart, to see that the food-producing surface, and fertility of the soil, are increased to the very utmost.—*George Kirk, Kingston, Surrey.*

Polmaise Heating.—I have noticed a paragraph having reference to my plan of a cylindrical stove as shown in your Paper of the 12th of Feb., and signed "Buffer," who asks "of what use is it to fill the grooves in the brick-work with sand if the ends of the cylinder are securely closed?" I would first point out, as I did before, that the sand was intended to prevent all chance of deleterious gases escaping into the house; and, in the next place, it must be borne in mind that all the iron-work must be so perfectly free from the brick-work, to allow for the requisite expansion when heated. The space or groove thus required must be filled with some loose material, or if left open the cold air would pass through it, from the stoke-hole into the hot-air chamber, and thus diminish the heating power of the cylinder. I shall be glad to find out any method of simplifying the casting of the cylinder, but I rather think the parts, as I have arranged them, will be cast more perfectly, and perhaps cheaper, if made separately than if united in one casting. It is well known that small castings are less liable to defects than large ones, and the parts can always be put together without difficulty. It would be easy for any iron-founder to estimate the expense of a heating apparatus of the size given in the *Chronicle* of the 12th ult. Smaller ones might be made, say 1 foot diameter only, to suit small greenhouses. I should think it would be worth the while of some person having work in hand to cast one, and publish the cost as "Buffer" recommends. The side bars of the fire-grate should be of wrought iron.—*C. C.*—Some of your readers may like to hear of the following plan, by which I have successfully adopted the principle of the Polmaise system. My greenhouse, which is 60 feet by 12, with a span roof, is newly built, and glazed with long squares; consequently it is more air-tight than most others. I mention this lest any person whose house admits more air should trust too much to the stoves I am using. I have two of the common close iron stoves called Chunk stoves. One is placed near each extremity of the house, and round each is an iron cylinder which fits close to the pavement of the house, and is about 10 inches larger in diameter than the stove itself. A kind of door hung on hinges is cut in each of these cylinders, and these doors are opened when it is necessary to attend to the stoves. Large zinc pans stand on the tops of the stoves, in which the water is nearly at boiling heat when the stoves are in full work, consequently sufficient moisture is given off to restore the air to its proper quality. Two distinct air drains are made, commencing near the centre of the house, and terminating with a hole in the pavement directly underneath each of the stoves; thus the heated air, as it rushes between the stove and the cylinder is replaced by the colder air which is drawn along the drains, after having entered them near the centre of the house. As a proof of its success, I need only copy from my register the lowest state of the thermometer each night during the fortnight, which included that severe frost, which was at its height on the 28th January. Commencing, then, on the 20th January, the numbers are as follow:—46°, 43°, 42°, 44°, 43°, 42°, 40°, 42°, 41°, 44°, 41°, 44°, 44°, 45°. By closing the dampers of the stoves, or by regulating only one instead of both, nearly the same temperature is kept in the mildest weather. For instance there was only one night during the following fortnight when the quicksilver rose above 47°. I only trouble you with this statement that justice may be done to the principle of the Polmaise system, for I wish to name several disadvantages attending the plan I have adopted. Close stoves, though they waste none of their heat, only act well when every circumstance is favourable. If there be not a rapid draught through the chimney the stove cannot throw out the required heat. To effect this there must be the least possible distance between the stove and the point at which the chimney takes its perpendicular direction. Both of my stoves act so perfectly in this respect that others ought to do the same. A greater difficulty still is to find a stove of this description which will burn with full force from 9 o'clock till 6. My gardener was obliged, during that very severe frost, to put on fresh coals at 3 or 4 o'clock in the morning, which ought of course to be avoided. Another inconvenience is the necessity of robbing some other fire of its live coals each time the stove requires lighting. With me this is no difficulty, as the furnace of my hothouse always gives me as much live coal as is required. My only reason for adopting my own plan instead of the regular Polmaise system was the impossibility of placing a Polmaise stove where it would not have been a great eyesore. My building is ornamental, and stands in a situation where its effect would have suffered too much by any such erection. I may add that my stoves are no disfigurement to the building. —*W. C. K.*

Societies.

Horticultural, *March* 7.—R. Hutton, Esq., in the chair. J. A. R. Jackson, M.D., and Mr. A. Henderson, nurseryman, Wellington-road, were elected Fellows.—Of novelties, Messrs. Veitch and Son, of Exeter, sent a tall plant of Siphocampylus microstoma, a greenhouse Lobeliad, with which few can vie in brilliancy of colour; the flowers, produced in dense terminal clusters, are each fully 2 inches in length, and of an exceedingly rich scarlet crimson. Of this fine plant, which was detected in New Grenada by Mr. Purdie, there are two varieties—a darker and a paler, this being the darker one. It appears to be a free bloomer; and flowering as it does at this season, it will prove invaluable for cut bloom, as well as for early spring decoration. A Banksian medal was awarded it. A similar award was also made to Messrs. Fairbairn, of Clapham, for a remarkably fine specimen of Erica aristata major, measuring 2½ feet high and as much through, finely flowered.—Of Orchids, Messrs. Rollisson, of Tooting, sent a nice collection, consisting of the violet-flowered variety of Lycaste Skinneri, and three others; a Vanda from Java nearly related to Roxburghi, but handsomer, and a good specimen of the somewhat scarce Ansellia africana, a Palm-like Orchid from the island of Fernando Po, bearing great panicles of yellowish green flowers spotted with brown, and one of the few specimens of the vegetation of that island to be found in gardens. A Banksian Medal was awarded for these.—From Mr. Williams, gr. to C. B. Warner, Esq., was an admirable plant of the white-blossomed Odontoglossum pulchellum, with eight spikes of flowers, which smell as sweetly as those of the Lily of the Valley; a small plant of O. cordatum, and a truss of Schomburgkia undulata. A certificate was awarded the Odontoglossum pulchellum.—Mr. Rae, gr. to J. J. Blandy, Esq., sent from Reading Lælia flava; Oncidium cornutum, a pretty and rather scarce epiphyte; the beautiful orange scarlet flowered Sophronitis grandiflora, a perfect gem of its kind, seldom seen anywhere, though abundant on the Organ Mountains at no great elevations; Chysis bractescens; Lycaste Skinneri; the white-lipped Miltonia cuneata; Cœlogyne cristata; the bad variety of Dendrobium secundum; and two Oncids. A Banksian medal was awarded the four first mentioned plants.—Finally, from Mr. Dobson, gr. to Mr. Beck, of Isleworth, came a small Odontoglossum pulchellum, and a Pelargonium of good colour and properties, a seedling of 1846, which had been forced with a view to ascertain whether Pelargoniums of better properties than those usually employed for forcing could not be successfully subjected to that process. The plant in question had been introduced into heat on the 27th of January, at which time the blossom-buds were just beginning to appear, and although the night temperature has been kept at from 55° to 60°, the blossoms were rich in colour, and the plant dwarf and short jointed. —Of miscellaneous articles, was a specimen of a mode of glazing hothouse sashes, by which the inventor (Mr. Rishton, of Kendal) stated that he had obviated breakage by frost and other evils to which common glazing is known to be subject. The remedy consisted in each pane having its own rebate, the upper end of which dipped so as to elevate the lower end of the pane a little above a cross bar of some metal, which receives the upper ends of the succeeding panes, and forms a receptacle for putty. The superincumbent pane is thus kept clear of the bar, and all collection of condensed water is consequently prevented, while free ventilation is afforded through the open lap. Whether this plan will fully answer all that it is said it will effect, however, remains in some measure to be proved.—From the Garden of the Society were various plants, comprising, among others, a finely flowered Epidendrum auranticum, one of the handsomest of the genus; the Violet-scented Burlingtonia rigida; Mr. Fortune's Daphne (D. Fortuni), just opening into beauty; the pretty little hardy Himalayan Primula (P. denticulata); the hardy Saxifraga thysanodes; a large Erica concolor, one of the best of the long, deep, red-flowered kinds; Kennedya Marryattæ, blooming well in a pot; and a new, gracefully-habited Acacia, dwarf, and therefore suitable for pot culture. Cuttings of the following Pears were distributed: March Bergamot, Shobden Court, Jean de Witte, and Thompson's. The first resembles the autumn Bergamot in size and form; it is an excellent Pear, ripening, as its name implies, in March, but will even keep later. The second is a middle-sized fruit, of ovate, rich, and sugary; ripe in January and February. This and the preceding are seedlings of the late Mr. Knight's—hardy, and, as yet, rather thorny, which is generally the case with recent seedlings. The thorns, Mr Knight observed, serve for the defence of the young plants; but their production gradually gives way to that of fruit spurs. The Jean de Witte is also a middle-sized Pear, obovate in form, partaking of the flavour of the Glout Morceau, but keeps longer; it ripens in January and February. The last, viz, Thompson's, is a seedling variety, which was sent with many others to the Society's garden by Dr. Von Mons, of Louvain; this, however, proved to be the best of them, and some are of opinion that its flavour is exceeded by that of no other Pear. It is middle sized, obovate, and ripens in November. All the above varieties are hardy, good bearers, and do not require walls.—It was announced that Part 3, Vol. III., of the "Transactions of the Society," being the last that will be published, was now ready for delivery, and that the garden exhibitions would take place on the following days, viz., May 20, June 10, and July 12.

After the business of the ordinary meeting had closed, the Society resolved itself into a Special General Meeting, summoned by advertisement and through the Post office, for the purpose of electing a new Member of Council, in the room of R. W. Barchard, Esq., deceased; R. Hutton, Esq., in the chair.

Mr. George Glenny moved that the meeting be adjourned. He charged the Council and officers with mal-administration, malversation, or he might even say embezzlement, to the extent of 3000*l.*, and 10,000*l.* (We could not catch whether the larger included the smaller sum, or was separate.) He complained that the Librarian and Accountant had been summarily dismissed after 27 years of service, because they did not choose to countenance these proceedings.*—The Chairman rose to order. The present meeting had been convened, according to the Bye-laws, expressly for the purpose of electing a new Member of the Council in the room of a gentleman who had been removed by death, and no other question could be entertained. Besides, it was not competent for a Fellow of the Society, not having made good his payments, to bring forward any motion whatever. Mr. Glenny *had not paid his subscription for four years*, and until he discharged this debt he had no right to occupy the attention of the meeting.—Mr. Glenny was not to be put down thus: it might be true that he owed the Society many years' subscription, but the Society owed him much more. [How, he did not explain.] He again charged the Council and officers with malpractices, and he complained that a boy had been prosecuted for merely defrauding the Society. [Here the meeting, which had long shown symptoms of impatience, broke into exclamations of "Chair! chair!"] —The Chairman again expressed his determination not to permit the rules of the Society to be infringed. If the speaker wished to call the Council to account, the Charter and Bye-laws prescribed the manner of proceeding, about which there was no difficulty. The Council were ready to give every facility for the prosecution of any inquiry which the Fellows of the Society might judge necessary.—Sir Charles Lemon said it was quite clear that the gentleman who had moved the adjournment had no right to address the meeting at all, until his debt to the Society was paid; that he had clearly disqualified himself by his own act; and he called upon the Chairman to enforce his authority.—The Chairman observed that although, if the meeting were adjourned, no other matter could be introduced at a future meeting than that which constituted the business of the day, yet he was ready to put the question of adjournment if it were seconded. This not being done, he directed the ballot to proceed.—Mr. Glenny complained that inquiry was stifled, and expressed his determination to agitate the question at the Anniversary in May.—The Chairman then appointed Peter Pole, Esq., R. S. Streatfield, Esq., and R. P. Pollard, Esq., to be Scrutineers, who reported that 23 Fellows of the Society had voted unanimously for W. W. Salmon, Esq., who was then declared to be duly elected.

Linnean, March 7.—The Bishop of Norwich in the chair. Joseph Dorrington, Esq., was elected a Fellow. A paper was read by Dr. Planchon on the structure and affinities of the Melianthus. After some introductory remarks, in which the author paid a just tribute to the memory of Adanson as a systematic naturalist, he gave an account of the genus Melianthus. There are several species described by botanists, but the two typical species were M. major and M. marianus. The former, a native of Africa at the Cape; the latter, of Asia, in the Himalaya. The other species of Melianthus the author proposed to erect into a new genus, and with the two genera thus formed he associated the genera Natalia now placed in Sapindaceæ, and Bersama placed in Vitaceæ. For these genera he proposed an order, Melianthæ, with a definition differing widely from that of Zygophylleæ. The order thus constituted has the strongest affinities with Sapindaceæ, and is related to Zygophylleæ, Leguminosæ, Oxalidaceæ, and Connaraceæ, which had certain points of structure and function in common, which separated them from the group of orders with which Melianthus was usually associated, as Rutaceæ, Xanthoxylaceæ, Meliaceæ, Simarubaceæ, Linaceæ, and to which the author believed should be added Aurantiaceæ.—Mr. Busk exhibited specimens of the Cordylophora lacustris, a fresh-water zoophyte, which had been discovered and described by Professor Allman, of Dublin. It had been found in emptying a cistern at Kennington, and was the second locality which had been recorded for this zoophyte.

[We venture to suggest to some of the gentlemen who attend the meetings of the Linnean Society that there is such a thing as decorum, which does not consist in talking aloud and ridiculing those who read papers, especially when the reader is a foreigner.]

Reviews.

An Account of the Cultivation and Manufacture of Tea in China: derived from Personal Observation during an Official Residence in that Country from 1804 *to* 1826; *and illustrated by the best Authorities, Chinese as well as European: with Remarks on the Experiments now making for the Introduction of the Culture of the Tea Tree in other Parts of the World.* By Samuel Ball, Esq., late Inspector of Teas to the Hon. United East India Company, in China. 8vo. Longmans: pp. 382.

This is an elegant volume, devoted to the history of the cultivation and preparation of Tea in China. The subject, which would at all times have commanded attention, has acquired peculiar interest since the plant has been introduced so advantageously into Indian cultivation, that it is certain to become a staple product of the Himalayas as well as of Assam. The experiments upon growing the Tea plant in northern India, first proposed by Dr. Royle, and since carried out by his successors in the Saharunpur Garden, have, as our readers probably know, been so successful as to have excited the serious attention of the Indian government. Mr. Ball says, "I have lately seen two samples of Tea, one black and the other green, made at Kamaon, in the upper provinces of India. They were both deficient in strength and flavour, but still excellent Teas. The Hyson Tea especially would find a good and ready sale in India and England." And yet it is certain that these Teas are all prepared from the southern species of Thea, which is admitted to be inferior in quality to that of the more northern Chinese provinces. Such being the important result of the Himalayan experiments in Tea cultivation, it will excite no surprize in our readers to learn that upon the recommendation of Lord Hardinge the Court of Directors have authorised the outlay of 10,000*l.* a year in extending and improving their plantations.

The appearance of Mr. Ball's work is peculiarly opportune; and it is the more valuable because it so completely explains the processes by means of which

* We presume that it is needless to say that the Council, among the active members of which are some of the highest gentlemen in this country, have a complete answer to these allegations.

the various qualities of Tea are obtained in China. In this respect, indeed, it may be said to have exhausted the subject. The author adopts the opinion that black and green Teas are both furnished by the same plant, and that the two qualities depend entirely upon the manner in which the leaves are dried. Upon this point we have the following statement.

"In black Tea, we find a mild, bland, fragrant, and agreeably astringent flavour, with a slight degree of sweetness, and both leaf and infusion of a reddish colour, apparently indicative of chemical change in its original constituents: which change has now been traced to a peculiar manipulation of the leaves previously to roasting. But if we attentively observe the flavour of Hyson Tea, however agreeable it may be when blended with rich cream and highly refined sugar, it undeniably possesses a raw astringent quality, and (if I may be allowed the expression without exciting alarm) even a poisonous flavour, which reminds one of the flavour of Bitter Almonds, of Peach kernels, and Laurel leaves. The manipulated leaf also retains much of its original colour, and the infusion is pale and yellow. Thus, both leaf and infusion seem to indicate little change in the constituents of this Tea, and the process it undergoes seems more immediately connected with simple desiccation. Thus it appears probable, as well from analysis as from manipulation, from examination of the infused leaves, the infusion itself, and the flavour, that green Tea retains more of its original vegetable properties and character unaltered than black Tea. Hence if there be anything narcotic or deleterious in the plant, as is generally surmised, these conditions may serve to explain why green Tea acts more powerfully and detrimentally on some nervous and irritable constitutions than black Tea. It must also be remembered that green Tea contains a larger quantity of the essential oil than black Tea, which Mulder considers of a highly poisonous character: it also contains more tannin; and green Tea is used somewhat stronger in infusion than black Tea, the quantity employed being regulated by measure, not weight."

All that we know of the effects of slight fermentation in other plants supports this opinion, about the accuracy of which there is in fact no longer room for doubt.

But it is not the same with the Tea plant. Some botanists believe that only one species exists; others that at least two, if not three, distinct species are employed in the fabrication of the Teas of commerce. Mr. Ball adopts the first opinion.

"I incline, then, to the belief of Kerr that there is only one species in China; by which I mean, that there is no *natural* difference in the plant. Whether any varieties have become permanent in the soils where they grow, that is, capable of propagation by seed, as appears to be the fact with the Honan plant at Canton, and apparently with the Ankoy plant near Amoy; or whether the plants, found in the black and green Tea districts, vary from each other, and are more suitable to the modes of manipulation adopted in each, is a question which can only be satisfactorily determined by examination and experiment on the spot."

No argument can be held upon this question until the meaning of the term species is settled. If by species is meant what botanists call a genus, we assent to Mr. Ball's opinion; but if the term is to be understood in its ordinary acceptation then we are compelled to differ from him. For example, if the Scotch Fir, Pinaster, and Aleppo Pines are called varieties of a species named Pinus, then we may acquiesce in the three kinds of Tea called Bohea *alias* Canteniensis, viridis, and Assamica being also varieties of a species called Thea. But if the three Pines are really so many species, as every one believes, why so also in that case must the three Teas in question be regarded as naturally distinct species. It may be true that dried specimens are not always distinguishable, but that does not really affect the question, because it continually happens among other plants that species, believed to be perfectly distinct, are not distinguishable when dried, unless characteristic specimens are preserved. That is remarkably the case with the Evergreen Oaks of Europe, and yet nobody would, we imagine, dispute the true specific distinction of the Ballota, the Ilex, and the Cork tree.

The simplest way of arriving at a conclusion upon this point is to compare the three Tea plants as found growing in botanic gardens. They may be seen by every one at Kew, where their differences and resemblances may be conveniently studied.

It is quite possible that in addition to these three species, each of which will furnish black and green Tea, the Chinese may cultivate varieties in which slight peculiarities of flavour may reside; but upon this point we have no information that can be depended upon. We should be more inclined to refer the minor differences in question to locality, or to cultivation, than to peculiar varieties; at least there can be no doubt that they, especially the former, must influence the quality of Tea in a marked manner. It is conformable to all experience that the leaves produced in high windy situations, and in a comparatively rarified atmosphere, will be of a different quality from those found in low, close, land-locked valleys. The old herbalists sought their drugs in mountainous places, because experience told them, what modern physiology explains, that there their virtues were greater than in the lowlands. So it may be expected to be with Tea. We, however, quite concur with Mr. Ball in his opinion that—

"It is impossible to foresee what improvements may be made in the plant, by the novel mode of cultivation which science has introduced into Europe. It has already been observed, more than once, that a vast improvement was effected by the Chinese in the single Tea by an improved mode of cultivation by which its value was enhanced in some cases nearly threefold. And though the Chinese cultivators of black Tea may not have received sufficient encouragement to attempt any great amelioration of the shrub, by improved methods of cultivation on an extensive scale (the great profit on black Tea having always been engrossed and monopolised by the Hong merchants at Canton), yet it by no means follows, when the superior activity, enterprise, skill, intelligence, and capital of Europeans shall be brought to bear on these points in our own colonies, that such efforts may not be rewarded with eminent success."

We should add that this work is peculiarly acceptable to horticulturists, on account of the information it conveys respecting the climate of China.

THE CLOSE-HEADED BEJARIA.

(*Bejaria coarctata*, Humboldt and Bonpland.)

This charming species has been raised from Peruvian seed by Messrs Veitch, of Exeter, under the name of B. grandiflora, for which Mr. Lobb mistook it. It has hairy branches, woolly flower-stalks, and a smooth calyx, with seven or eight smoothish, blunt, ovate sepals, whose edges are a little woolly. The flowers are purple, smaller than in B. aestuans, figured at p. 119, and more closely arranged. Each consists of seven or eight smooth petals. The leaves, when young, are woolly on the underside; when full grown are perfectly smooth, shining, rather convex, nearly sessile, and whitish, not white, on the under side.

It will be a half-hardy evergreen, requiring the cultivation of an Indian Azalea.

Messrs. Veitch are also in possession of a third species of this genus, with purple flowers, found on the Andes of Caxamarca, at the height of 8000 feet. Its flowers are very much injured in the specimen before us, but appear to be smaller than in the species now figured, and are arranged in a close panicle. The leaves are remarkable for being [illegible] the lower side with a [illegible] may be named

THE CINNAMON BEJARIA.

Sp. Char. — [illegible]

Garden Memoranda.

Mr. Morris's, Deepford, Kent. [illegible] testing the application of [illegible] to a house 30 ft. long by 15 [illegible] a bank and not wanting [illegible] with a stove constructed in every [illegible] its having an upright [illegible] like Mr. Veitch's, [illegible] 1847. The Palmetto [illegible] the floor for the [illegible] brickwork, and entirely [illegible] The system has been [illegible] tally and practically [illegible] alteration whatever. [illegible] experienced, and a temperature of [illegible] above the external [illegible] with ease, not having [illegible] reduce it, [illegible] furnaces. The [illegible] twice firing during [illegible] attention. A good [illegible] plant, Poinsettia, [illegible] healthy condition, and not [illegible] which are trained up [illegible] are short jointed, with no [illegible] within 4 feet of the [illegible] opinion that it will be found [illegible] air drains with a [illegible] sudden descent of the cold air into the [illegible] opening under the [illegible] ternal air, has been found of [illegible] secure economy of fuel, as [illegible] a good draught away from the fire, [illegible] through it a position. By this [illegible] attendance upon the fires avoided [illegible] with fuel. It may be added [illegible] light pit heated from a [illegible] hole, has been found to [illegible] attention than the Pinery in question.

Miscellaneous.

Herons.—We cannot take leave of [illegible] without putting our readers on their [illegible] very dangerous instinctive faculty [illegible] of depriving their assailants of eyesight. [illegible] they will allow a dog to approach [illegible] apparently listless manner, when an [illegible] aim, dart at its eye with a [illegible] which it is almost impossible to [illegible] We remember a gentleman who [illegible] as he conceived, shot a heron [illegible] large pocket of his shooting jacket: [illegible] as he was walking on, happening to [illegible] insinuating itself between his arm [illegible] time to save his eye, could [illegible] the bittern, which had been [illegible] act of lancing itself, with the [illegible] neck, towards his face. This [illegible] entirely confined to either the heron [illegible] extends itself to other species, as appears from the [illegible] escape of a naval officer on the coast of Africa. "I winged," says he, "a beautiful white [illegible] passing over head, and brought it to [illegible] as I was in the act of picking it up it struck at my eye with its beak, and had it not been [illegible] inevitably have reduced it to perpetual darkness." "I have since," he adds, "heard of a gentleman who, under similar circumstances, was not so fortunate: he still lives, and I shall feel pleasure if, by stating this incident, it should be the means of saving others from so distressing a circumstance.—*Bishop Stanley's History of Birds.*

Calendar of Operations.

(*For the ensuing Week.*)

CONSERVATORY AND GREENHOUSE.

While the variable weather, which usually characterises March, continues, attention must be paid to the conservatory, that a uniform temperature be preserved. The violent showers and boisterous gales which frequently occur at this season succeeded by intervals of fine weather [illegible]

[illegible]

NEW GARDEN PLANTS, PUBLISHED IN BOOKS.

N.B.—* = Very handsome. † = Second rate. ‡ = Third rate. ¶ = Unimportant.

Name.	Where Published.	Name of Country.	Quality.	Natural Order.	Colour of Flowers.	Time of Flowering	When first Flowered.	Where.
Oncidium luridum purpuratum ... ** The Purple-stained Oncid.*	Gard. Chron., 1848. p. 159	?	S. ♌ (epiphyte)	Orchids	Purple	September	1847	Loddiges'.
Primula Stuartii ..... ** Stuart's Primrose.*	Bot. Mag., t. 4356	Nepal	H. ♌	Primworts	Yellow	Summer	1847	Hort. Soc., Chisw.
Mammillaria clava ..... *† Club-shaped Mammillaria.*	Bot. Mag., t. 4358	?	G. ♌	Indian Figs	Yellow	June	1847	Bot. Gard. Kew.
Achimenes coccinea ..... *† Egglettes Achimenes.*	Bot. Mag., t. 4359	Panama	S. ♌	Gesnerworts	Scarlet	Winter	1847-8	Bot. Gard. Kew.
Sida insignis ..... *‡ Ivy-leaved Sida.*	Bot. Mag., t. 4360	New Grenada	S. ♑	Mallowworts	Yellow	May	1847	Bot. Gard. Kew.
Aristolochia anguicida ..... *‡ Snake Birthwort.*	Bot. Mag., t. 4361	Tropical America	S. ♑	Birthworts	Yellow-brown.	December	1845	Bot. Gard. Kew.

some, render some management necessary. Fires should be dispensed with as much as possible, and air admitted on all favourable occasions; on still nights the house may be damped and the syringe used, and, as the plants exhibit vigour, atmospheric moisture may be increased generally. In the greenhouse continue the necessary operations of shifting, training, and the general arrangement of the plants. The employment of soil containing a considerable portion of decomposed vegetable fibre, must obviously be more suitable to dwarf-growing plants, whose natural habit leads us to the supposition that such soil, existing on the surface of the earth, must form, from its being readily available to them, their congenial and natural food. Many plants, intended for the flower-garden, may be removed to frames, to make room for the increasing stock propagated for the same purpose. As the blossoms of Euphorbia jacquiniflora fade, the plant should be cut down, and kept comparatively dry until it breaks, when it may be repotted and encouraged to grow.

FRUIT FORCING.

Vines recently put in action will undoubtedly be benefited by a slight border heat; a thermometer should be kept on the border covering, and any indication of a too violent fermentation repressed. It is injudicious to allow shoots to exceed a prescribed development, as the young wood and its immature buds must receive injury from severe shortening. Allow of no depression of heat in the forward house, and keep the atmosphere in motion when the Vines are in blossom. *Peach-houses.*—Late trees swelling their buds must be kept in a moist atmosphere; the use of the syringe should be discontinued before the full expansion of the flower, as the pistil is usually protruded before the petals open. In earlier houses prevent luxuriant shoots from carrying away an undue amount of sap, by early topping. *Pines.*—Select favourable opportunities for shifting the succession plants; it would be extremely unwise to expose them to the influence of chilling March winds; remove only those roots really dead, and a few of the lower leaves may be removed with advantage. Shut the pits up close and keep up a moist heat of 75° for some days after the operation. Sow Melons. Let Strawberries in blossom have abundance of air.

FLOWER GARDEN AND SHRUBBERIES.

We frequently find on old lawns Moss predominating over Grass One cause is doubtless the frequent injury inflicted on the tender blades by the scythe, and another the exhaustion of the soil from the constant presence of hungry roots. In such cases it is best not to mow too soon in the season, but to encourage the Grass by the application of manure water, wood ashes, or any fertilising substance, previously disturbing the Moss by a good scarifying with a bush-harrow; where it can be done, a few sheep penned on the lawn will effectually cure the evil. The propagation of plants intended for the flower garden should be proceeded with; it is a great advantage to possess strong healthy plants for the purpose. The preparation of flower beds should not be delayed until the moment of planting. Continue to prune Roses; examine the stakes of tree Roses, and in exposed situations allow a length exceeding the stem Dahlias for the pleasure ground may be put in action and propagated. Roll walks, destroy weeds, and attend to artificial rock-work.

FLORISTS' FLOWERS.

Ranunculuses.—In planting the roots of this beautiful flower, we would advise the surface of the beds not to be higher than the surrounding soil; a margin of slate has a very neat appearance, and is cleaner and more durable than wood. We generally prepare our beds in the autumn; but do not disturb them after the new year comes in, as the Ranunculus delights in the substratum being rather retentive than otherwise; previous to planting, the beds should be forked over to the depth of 2 inches, and the roots may be planted that depth. Where the number of roots are properly registered, number pegs are not required; and when the bulbs are covered, the surface should be gently beaten with the back of the spade. Keep Ranunculus seedlings, which in many instances are just emerging, secure from cutting or drying winds. *Polyanthuses.*—Seedlings of last season will now be expanding fast. As these are generally bloomed on the open border, some protection will be necessary; perhaps the most simple and efficacious method is to obtain some small pegs, half an inch square; saw these at various heights about one-third through with a small saw; in the serrature a pane of window glass may be inserted horizontally, which will be found one of the best coverings possible. If seed is not already sown, let it be done directly, placing the pans or pots in gentle bottom-heat. *Auriculas* will now begin to require constant attention; give air whenever possible, bearing in mind that if confined, the trusses of flowers which are now making their appearance will be drawn up weak. Protection must be given whenever there is the slightest appearance of frost, by covering with mats, &c. *Carnations, &c.*—Parties who require layers for blooming had better immediately make their purchases. They are generally speaking very healthy, and those which have to bear carriage may be potted rather earlier than those which are on the spot, and which can be removed with their balls entire.

KITCHEN GARDEN AND ORCHARD.

The late heavy rains will have tested the efficiency of drains employed to carry off the superabundant water from the vegetable quarters. The advantages derived from the use of drains in heavy adhesive soils will be more particularly evident at this season, when operations are forwarded or retarded by the state of the soil. In localities subject to the inundations of rivers, it is always advisable to delay the sowing of Onions, Carrots, &c., until the full dikes of February and the angry storms of early March have expended their forces. The preparation of the land intended for Asparagus should be completed. Continue to employ all favourable opportunities for getting the land in a condition suitable to receive the various crops intended for it. Successional sowings of Peas, Beans (Broad, Windsor, and Longpod), Turnips, and Spinach, should be made. Proceed also with Potato planting. Select vegetables for seed, such as Broccoli, Cabbage, &c., which have been found excellent.

State of the weather near London, for the week ending March 9, 1848, as observed at the Horticultural Garden, Chiswick.

March.		Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. ...	3	27	30.064	29.876	49	23	35.0	N.	.03
Satur..	4	28	30.123	30.000	48	32	40.0	S.	.04
Sun. ..	5	●	29.898	29.742	42	36	39.0	S.	.41
Mon...	6	0	29.859	29.787	46	28	37.0	N.W.	.00
Tues...	7	1	30.177	29.997	46	22	34.0	E.	.00
Wed...	8	2	30.262	30.088	50	41	45.5	S.W.	.02
Thurs.	9	3	29.960	29.654	53	35	44.5	W.	.01
Average...			29.993	29.844	47.7	31.1	39.4		0.50

March 3—Low clouds; very fine; partially overcast.
— 4—Hoar frost; slight haze; overcast.
— 5—Rain; constant heavy rain; densely overcast.
— 6—Cloudy; fine; partially overcast at night.
— 7—Foggy; slight haze; clear; frosty.
— 8—Frosty and foggy; overcast; slight rain.
— 9—Overcast and mild; slight rain.

Mean temperature of the week 2 deg. below the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending March 18, 1848.

March.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 12	51.4	31.3	41 3	10	0.22 in.	3	2	2	3	1	4	4	2
Mon. 13	52.4	35 9	44.1	10	0.70	1	2	3	3	1	5	6	2
Tues. 14	50.0	36 8	43 4	9	0.48	2	3	4	2	1	4	5	1
Wed. 15	51.2	38.6	44.9	12	0.49	1	5	2	1	1	3	5	1
Thurs. 16	53.5	35.9	44.7	8	0.25	1	4	1	2	1	3	3	1
Fri. 17	50.6	34.7	42 6	5	0.36	2	3	2	1	1	3	5	3
Satur. 18	50.5	33 8	42 1	4	0.05	3	5	1	1	1	3	5	2

The highest temperature during the above period occurred on the 12th, 1841; 15th, 18.8; and 18th, 1843 —therm. 67 deg.; and the lowest on the 13th, 1845, therm. 13 deg.

Notices to Correspondents.

BOOKS—*Tyro*—Dr. Lindley's "School Botany." ‡

FRUIT-TREES—*Amateur*—Draining is the most effectual remedy for moss and canker in orchard trees. Paving is advantageous, but its advantages are secondary to those derived from draining ‖——*Amateur Gr*—You might have had fruit sooner on your trained-in laterals, as you observe; but, ultimately, we do not apprehend you will regret the proceeding of spurring them back, provided you rightly manage the summer pruning. Summer pruning is proper for standard trees as well as for dwarfs; and so is a little shortening of the shoots in winter where they are likely to run away naked. ‖

FUCHSIAS—*R F*—Smith's Ne plus Ultra is a very pretty flower, rather small, but well formed, with reflexed petals showing to advantage the corolla. Criterion and Enchantress we have not seen, but hear them well spoken of. Mr. Storey's flowers will not be sent out this season.*——*Fair Play*—Mayles' Purity is the flower you should procure.*

GOOSEBERRY VINEGAR—*Alpha*—The object gained by placing this fluid in the sun is to keep it warm and fully exposed to air, in order to accelerate the acidifying process. It is useless to leave it out of doors in winter; bring it in now and put it into a warm cupboard near the kitchen fire, or in some such place. Leave the bung out.

HONEY—*Admirer*—This undergoes little or no refining process in the bees; it is deposited in the cells nearly in the condition in which it is abstracted from flowers, varying in quality according to pasturage. When they store up other sorts of nourishment it is not altered in quality; if otherwise, feeding those little chemists with sugar might be turned to profitable account by its being converted into honey. Place your bees in a sunny situation, taking care, however, to shield the hives from very hot sunshine. *W.*

HOP-POLES—*W*—Full particulars respecting the mode of raising Hop-poles in Kent have been given at p. 270 of our volume for 1843, to which, seeing you possess all the volumes of the *Chronicle*, we beg to refer you.‡

INSECTS—*A Northern Reader*—The insects sent are the Mussel Scale (*Gardeners' Chronicle*, 1843, p. 736). The trees may be washed with water heated to 140°, especially at the time when the eggs are hatched. *W.*——*Tourist*—The small black insects observed hopping on the snow in innumerable quantities in the northern part of America were, evidently, not fleas, but the Podura nivalis. See *Gard. Chron.*, 1847, p. 221. *W.*——*Lady Sub*—There are 30 species of British Ladybirds (Coccinella), and innumerable varieties which associate together, and are the remains of the great numbers which were observed to follow the great flights of plant lice last autumn upon which they feed. *W.*——*C E S*—The caterpillars found on the Cineraria are those of the common Quaker Moth (Œthosia stabilis). "British Moths and their Transformations," vol. i. pl. 28, f. 1; pl. 29, f. 20. *W.*

MELONS AND CUCUMBERS—*G Armstrong*—The best and hardiest Melon for this case would undoubtedly be the Beechwood Green-flesh, if true. You can scarcely hope to succeed by mixing Cucumber and Melon cultivation together. As far as mere temperature is concerned, the plan may answer; but other and serious questions arise. The amount of dryness in the atmosphere necessary to give flavour to Melons would almost destroy your Cucumbers, and would in all probability engender a host of thrips, red spider, &c. Let us advise you to try another frame, and watch our "Calendar of Operations" for further advice.‡

NAMES OF FRUITS—*W A*—Dumelow's Seedling ‖——*Pomme, Wexford*—Apparently the Golden Russet. ‖

NAMES OF PLANTS—*Tyro*—Sea-weeds and Lichens have nothing to do with gardening.——*G S W*—It is the *spawn* of some dry-rot fungus: but the species cannot be determined.

PANSIES—*A B C*—Try the following 12 varieties:—Youell's Supreme, Thompson's Pizarro, Gosset's Lord Hardinge, Collison's Perseus, Hoo per's Nonpareil, Turner's Optimus, Chater's Model of Perfection, Thompson's Duchess of Rutland, Cook's White Serjeant, King's Sulphurea elegans, Hall's Rainbow, Hooper's Berryer.*

PINE PLANTS—*B H*—Your question is not susceptible of an answer, so much depends upon your own skill and the sorts you grow. It is always better to buy good successions than fruiters; for the latter are very apt to "start," and then you have small fruit. Four months will bring you the fruit, if you manage properly.

PORTUGAL LAURELS—*B O B*—Trees do not like to have their roots buried deeper than usual, because they are thus cut off from air. If your plant suffers run some 4-inch drains, radiating towards the circumference. If, however, the earth is only heaped up near the stem no injury will occur, because the feeding roots are at the circumference, beyond the spread of the branches. Fruiting does the Portugal Laurel no harm.

SEEDS—*George Bentham*—We are unacquainted with Judas seeds. If they belong to the Cercis you can treat them like Laburnum seeds—the plant being a hardy tree.

SHADE OF WALLS OR OTHER OBJECTS—*S*—The relation between the height of a wall or other object, and the length of its shadow, horizontally, at noon, on the shortest day, or on any other day of the year, depends on the latitude of the place, and the sun's declination. The latitude can be found by a Gazetteer or map; and the sun's declination for every day in the year is now inserted in many of the almanacks. The object, and the length of its shadow on the ground, form the perpendicular and base of a right-angled triangle, of which the hypothenuse is represented by the sun's rays from the top of the object to the ground. This hypothenuse, or direction of the sun's rays, at noon, always forms with the ground line an angle equal to the compliment of the latitude, *plus* the sun's declination from the 20th March till the 22d of September, but *minus* the sun's declination in the period between the 22d Sept. and the 20th March. Having found this angle, and the perpendicular or height of the object, you can find all the other parts of the triangle by the rules of trigonometry. In latitude 51½° N., corresponding with that of some parts of London, a wall 12 feet high will shade at noon on the shortest day a distance of 44 feet 7½ inches. If you cannot geometrically, nor by trigonometry, solve the problem from the data pointed out, you may obtain a close approximation by the following simple process:—Multiply the height of the object, in latitude 51½°, by 3 719; 52°, by 3.852; 53°, by 4.149; 54°, by 4.432; 55°, by 4.893; 56°, by 5.369; 57°, by 5 944; 58°, by 6.651; the product will give the length of shadow at noon on the shortest day; for example, in latitude 52°, a wall 10 feet high will cast a shadow to the distance of 38½ feet; in latitude 58°, at the same time, the shadow of a wall 10 feet high would extend 66½ feet. ‖

THE ARROW-ROOT PLANT—*A M S*—This is the Maranta arundinacea, a native of the West Indies. It requires a stove, or a warm Cucumber pit; but as it grows 2 feet high, at least, it will not have headroom there, except while young. Plant it like a Potato, in deep rich loam and peat, well drained. The tubers may be cut into sets as the Potato. When it has completed its growth, and not till then, it may be placed for a few months in a cool place, kept pretty dry, and allowed to become shabby.

TUBEROSES—*G W*—The best soil for these is light sandy earth, mixed with one-third part very rotten cow-dung. About the middle of April prepare your bed by clearing it out to the depth of 3 feet, and fill it nearly to the top with fresh stable dung that has been cast into a heap to heat a fortnight before, treading it firmly. Upon this lay 18 inches in depth of compost, sloping it to the south. In a day or two after, plant your roots 5 inches distant from each other, just covering the tubers with earth. Shut up the bed at night, especially if frosty; or if in the open air cover it with a double mat till the leaves appear; but give little or no water, and protect it from heavy rains. When the leaves have grown about an inch long add a little compost to the surface. If the season prove dry your bed will now require watering, and towards the end of June and in July, when the leaves are in full vigour, very copiously; from this period till the beginning of winter nothing more is necessary. About the first week in December thatch the bed over with dry straw, if in the open air; and about the middle of February, if not prevented by frost, take up the roots, preserving their fibres, and pack them in very dry sand in cellars till April, when they must be replanted as before. The taking up disposes them to form their flower-stems earlier. Offsets will by this time have made their appearance round each root and must be removed. This second year some of the largest roots will probably flower, and if early, they may be allowed to blossom in the open air; but if later than July, they should be potted and placed under glass. Such is an outline of the general management of Tuberoses in the open air or in a frame; but for particulars we recommend you to read the excellent paper on this subject, published at p. 101 of our volume for 1847.‡

WINDOW GARDENING—*O*—Your plants cast their flowers because the air of your sitting-room is dry, and the large evaporating surface of your pots rapidly carries off the moisture of the soil. Perhaps double pots may help you. The system of lighting rooms with gas always causes the air to be unusually dry. It may be that the atmosphere is also contaminated; but we should not expect that. A bell-glass over your plants, in addition to a double pot, would probably put you right, or even syringing once a day.

MISC—*William St A*—We invariably answer all questions that concern the objects of this Paper, except legal ones. We are sorry for your disappointment, but can assure you that your inquiry was never delivered to us.——*R F*—We are unacquainted with Mr. Harrison's nursery. The Aquilegia glandulosa is called a species by botanists. The wild flowers of British America are perfectly well known, but they do not like our cold summers and snowless winters. We should, however, be much obliged by seeds; drawings would be needless.——*Z Z*—With good management, a nice airy pit, like yours, well protected by mats in frosty weather, will suit most kinds of greenhouse plants; but would it not suit your purpose better to Polmaise it? It might be done cheaply.‡——*P S*—Unless you wish to encourage some of your smaller plants you had better wait till August or September before your repot your Roses.‡——*Rusticus*—Early York Cabbages. Sow as soon as possible. Manure with stable-yard manure before you plant.‡——*Sub*—Cut down one-half of your large Spurge Laurel in April; the other part next year. You may allow your young Peach trees to produce a few fruit this summer if they are vigorous, but not otherwise. Plant out your Cyclamens in summer; lift them carefully and repot them in autumn, placing them on shelves near the glass; they will bloom well with you next spring.‡——*A B*—It is not necessary to root prune Fuchsias when they are repotted in spring, unless you wish to shake the soil from them and put them into smaller pots. ‡.——*B K*—Under ordinary circumstances, a good gardener, with the means you mention, ought to cut Cucumbers early in March. ‡.——*Sul*—Few dwarf greenhouse plants bloom between Nov. and May, except such things as Cyclamens; Primulas; winter flowering Heaths, as hiemalis, gracilis, regerminans, &c.; Cinerarias, Fairy Roses, and perhaps some of the other neater-growing kinds; Hyacinths, and other spring bulbs. For your small stove, Franthemum pulchellum, Centradenia rosea, Euphorbias, Justicias, Burchellia capensis, and Gesneras, particularly zebrina, might possibly answer your purpose. We never recommend dealers. ‡——*A Market Gardener*—Dealers in gutta percha are now so numerous that we imagine it may be obtained almost anywhere in London. ‡——*Amateur Gr*—Grafts of new fruits are obtained by or through members of the Horticultural Society from their Garden.——*Sub*—Prune in your Hollies, and common and Portugal Laurels, in April. ‡

SEEDLING FLOWERS.

CINERARIAS—*No. 9 L*—The petals of your seedling are broad and finely formed. It is also very fine in colour, being of a deep and brilliant blue. But as a show variety, it is deficient. The petals being irregularly placed round the disk, gives it a rough appearance.*——*G G*—Your seedlings are very deficient in the qualities looked for in the present race of Cinerarias.*

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those numerous correspondents, the insertion of whose interesting contributions is still delayed.

SEED WHEAT.—The April Wheat (the true Triticum æstivum) for sale at Whitfield Farm, Wotton-under-edge, Gloucestershire. Price 60s. per quarter, or 8s. per bushel.—J. Morton, March 11.

FINEST LAWN GRASS SEEDS, Carriage free to London or Bristol.—The great expence of cutting and laying turves may be avoided, and a very superior FINE GRASS LAWN produced in a short time by sowing "Sutton's Lawn Grass Seeds," consisting solely of the fine short growing kinds, perfectly free from weeds. The quantity required to make a new Lawn is 3 bushels to the acre, price 25s. the bushel, or 4s. per gallon. Also, PERENNIAL MEADOW GRASSES, mixed to suit the soil for which they are required, at 32s. per acre; or any of the kinds may be had separate.

White Belgian Carrot, Yellow Globe, and other Mangold Wurzels; Liverpool Swede and other Turnips of superior quality. Any information required will be supplied in answer to application made to John Sutton and Sons, Reading, Berks.

*** N.B. Carriage free to London or Bristol.

The Agricultural Gazette.

SATURDAY, MARCH 11, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

Wednesday, March 15—Agricultural Soc. of England.
Thursday, — 16—Agric. dtural Imp. Soc. of Ireland.
Wednesday, — 22—Agricultural Soc. of England.
Thursday, — 23—Agricultural Imp. Soc. of Ireland.

Farmers' Clubs.—March 14: Great Oakley, Yoxford, Moreton Hampstead.—March 14: Botley.—March 15: Barcaston.—March 16: Carlton-on-Trent.—March 17: Halesworth, Debenham, Uadleigh, St. Austle.—March 18: East Kent, Reading.—March 20: W. Market, W. Herefordshire.—March 23: Melrose.—March 24: Wadebridge.

We shou'd be glad to enlist the sympathies of our readers in behalf of a class by no means peculiar to Ireland, as many may have thought—a class very numerous in the Highlands of Scotland. Faming last year placed them in circumstances just as deplorable as those which the Irish experienced, for their normal condition was equally wretched—they lived equally near the zero of the social scale, enjoying at their best but little more than the bare possibility of living.

The culpable neglect of those on the spot, who have suffered such a state of things to arise in their neighbourhood, ought not to diminish the interest which the subject must everywhere excite: and, moreover we are glad to say it is fast giving way to a proper sense of the duties attaching to the relationship of "neighbour," so that those who would improve the condition of the Highland Crofter can now labour efficiently and economically through a local agency deeply concerned in the work.

The Scottish Patriotic Society, owing its existence to the zealous labours of Dr. Mackenzie, of Eilenach, near Inverness, and of Mr. Bond, now its energetic Secretary, though only 12 months old, has attained a most influential position: it is supported, though not so generally as it ought to be, by the gentry and noblemen of Scotland, and has lately been honoured by the patronage of the Queen: and it is now busily engaged, by the assistance of local associations, by the publication of its monthly "Industrial Magazine,"* and by the distribution of hand-sheets conveying information on cultivation, &c., in English and Gaelic, in the prosecution of its useful labours. It well deserves its name; and that, surely, is to say that it deserves the co-operation of all patriotic men.† It *requires* as well as deserves this co-operation: its task is both difficult and extensive, and the expenses attending it must be heavy.

The following extract from the Society's address in the last number of its Journal sufficiently defines its objects:—

"What, then, are the principal measures of amelioration adopted by the Patriotic Society? Knowing that youth is the most likely soil for improvement, it seeks to promote the introduction of agricultural education into rural schools. It seeks to afford correct information to parties desirous of emigrating, in order that they may not become the dupes of heartless traffickers, or make a false and irretrievable step, in the selection of their new home and country. It seeks to promote what is known as the allotment garden system, the benefits of which to the poor and to the community have surpassed the expectations of the most sanguine of its friends."

The efforts of the Patriotic Society to improve the husbandry of the crofters are equally important:

"This class comprises a vast number of individuals in the Isles and Highlands, who, with few exceptions, are now in destitution and misery; not after they have developed to the utmost the resources in their possession, but under the greatest possible waste of fertilising substances, and in violation of the first principles of good husbandry. No fresh remunerating field for the labour of these persons having been devised, it is only common sense to show them, as the Society does, the means whereby they may greatly augment their means and produce. It does not theorize with these people; the Society shows them what has been done, and what is now doing, with no greater advantages than they themselves possess. If it be beneficial to make two blades of Grass grow where only one grew before; by showing, as the Patriotic Society does, how the crofter may keep two or three cows on the same land on which only one is now half starved; how two, three, or even more good and valuable crops may be reared, where rarely one of an average quantity is now obtained; the person who would not promote such industrial development, must either be maliciously opposed to the happiness of his fellow beings, or utterly demented. To render the cottages of the peasantry, and the dwellings of the poorer classes in towns and cities, fit receptacles for human beings, where they may observe the decencies of life, instead of being so huddled together, without the means of cleanliness, as necessarily to propagate demoralization and pestilence, is another object of the Society, upon which it has already entered, and the necessity of which is self-evident. The improvement and extension of the fisheries is another of the Society's objects, about which no question can be raised. Its efforts to promote a feeling of independence, by assisting the industrious, under the Loan Fund system, to help themselves, instead of pauperising and debasing their spirits by almsgiving (apart from its financial economy, in maintaining, as a perpetually circulating fund, what would otherwise be frittered away in a season), carry their own recommendation: while its exertions to render its other efforts to improve the condition of the labouring classes effectual, by cultivating provident habits among them, at once complete, as far as can be well devised, a system of operation, which, if extensively acted upon, would soon materiallly improve the aspect and circumstances of classes which are now a source of expense and anxiety to the country."

It will convey a more accurate idea of the task which this Society has proposed to itself, if we give, as, through Dr. Mackenzie's kindness we are able to do, an account of the circumstances in which it is placed, and for the improvement of which it labours. The condition of the Highland crofter will appear from the following description of it on the Gairloch estate in Ross-shire, now under Dr. Mackenzie's management. There are 600 crofters on this estate. Till 1845, the conacre system prevailed amongst them to its fullest extent: every crofter in a township of, say 50 families, owned *for the year* the 50th part of every single strip of nominally arable land in that township; and as it extended in some cases a mile or more along the shore, a man sometimes had his crop in 100 different patches, the boundaries being all marked out by the tenants themselves every spring by means of miles of string. This was their plan of equalising their shares of the land in point of quality as well as quantity. It may be believed that little equality of temper was exhibited during the process: in fact, the mental storms at the spring equinox were far more violent than those of the elements.

As to their mode of cultivation after the land had been allotted: in the first place, no manure but sea-weed was attainable; for although a range of moor was attached to each township, and all the crofters had some cattle and sheep, no Grass, nor any green crop but Potatoes was ever grown on the property, and the cattle were always pastured on the moor, on Heather, except during the short time that the straw lasted, when they were kept at night in the house in the same room with the people. Even in October, however, the straw has often been so exhausted that dry, plucked Heather has on a stormy night been put before the cow for her supper; and not one cow in 50 on the estate could ever rise to her feet in spring till pulled up by the tail. It will thus be seen that dung was not likely to be very plentiful or very good; and, indeed, the people disliked it, as "it was so dirty:" and no wonder, for when used it was invariably carried to the field on the backs of the women in creels (baskets), which were filled and emptied by their *fair* fingers. Next, as to their rotation of crops: this was to grow Oats or Bere as long as the land would return the seed, and perhaps longer, and then Potatoes—the crops frequently not being all laid down till the middle of June, from fear of "weakening the land," if they turned it over in winter. The climate and soil is so wet that frequently the Potato planter in May has to lay the set on the surface of the land as the only means of keeping it out of water, covering it with a spoonful of earth with the odd kind of spade they have used for probably the last 1000 years. With this implement—a bent branch of a tree shod with iron of the size and shape of the hand, and having a wooden peg driven in for the foot, the handle being about 6 feet long—they slice over the soil about 2 inches deep, and as it makes a long slice and turns over, say 18 inches by 6, they get quickly over a great deal of ground, careless, though below 2 inches it has never been stirred. Of course their crops have hitherto been miserable; and they have never dreamed of paying rent from the land, but raised cattle or on the herring fishery. When they did pay rent, when it failed they paid none, and no year passed over without there being some trouble between the time of the old and the new crops.

Dr. Mackenzie took charge of the estate five or six years ago, and after much time spent in procuring a thorough acquaintance with the soil, he employed a surveyor to mark out every township, in square blocks, averaging 4 acres or 5, according to the quality or *improvable* of the soil; desiring that every crofter should have what would make 4 acres of good land in one of these ground. A great number of the people were squatters who paid no rent, and were a curse to the landlord, and many were subtenants to crofters. Having settled every family on these lots, giving the best characters first choice, the rest being fixed beforehand, he then turned to the squatters and offered them the alternative of taking arable lots, or quitting the estate immediately. Of course they all took lots. Formerly all the houses were close to the sea, or in a knot, so that the cattle when coming home from the moor mix and pass over the arable land. But now every tenant was obliged to shift his house to his own lot; wood was given them gratis, and they were obliged to build their houses after models which were erected for their imitation, and which, costing no more than their old houses, provided for separation of the [illegible] and for isolation of the cattle, a thing previously unknown, and still much ridiculed. A tank for liquid manure is attached to every house, into which all waste water runs.

The next step in the process was to introduce a better system of cropping. As a commencement, every tenant was obliged, in the winter of 1846, to prepare a plot of ground for green crop, trenched and thorough drained under the eye of inspectors for the various districts. And here they last year grew almost without exception as fine Turnips, Carrots, Cabbages, Mangold Wurzel, Beet-root, and Parsnips, as ever were seen; a little guano having been added to their sea-weed and dung.

There was much indignation among them at their time being wasted, as they thought, in trenching and draining—things utterly unheard of till then—and much ridicule at the idea of expecting good from the little "grains" of seed given out to them; but the tune soon changed, and though all but force was obliged to be used to make them drain and sow, many of them have now acknowledged that it was impossible to tell the benefit they had gained by the whims, as they supposed them, which Dr. Mackenzie was thus carrying out at their expense.

The difficulty of directing such a mass of people to do things in time and by rule, seeing that nine-tenths of them have never had any education whatever, must have been enormous: and this is probably the cause why many persons who have tried to improve their condition have abandoned the task, and pronounced the people impracticable. Dr. Mackenzie was possessed of firmer resolution. He knew when he started his plans, that the people were children, and he treated them as such: and though it is not easy managing grown up children, yet by a little kindly despotism, which can be exhibited in the Highlands, quite on the old feudal plan, success was secure, and has been obtained. This spring the Gairloch crofters are all to sow Clover for the first time with their Bere, after green crop, and they will have double the quantity of green crop; and thus they will soon come to have manure, proper cattle, milk, and all the results of good cultivation.

We are very much indebted to Dr. Mackenzie for the above interesting particulars; and we are sure the country generally is deeply indebted to him for the valuable example he has given of what benevolent resolution can do. It owes it to him, and to Mr. Bond, as we have said, the establishment of the Patriotic Society: and he has started it with an admirable lesson, how to meet the difficulties with which the present condition of the crofters and squatters in Ireland and the Highlands of Scotland at present encumbers individual proprietors, and embarrasses the nation at large.

Lord George Hill, on whose doings at Gweedore we commented in our first number for the present year, has proved that similar methods are as certain of success in Ireland as in Scotland: and both examples surely ought to furnish encouragement to the bewildered landowners of the former country.

FORMATION OF BUTTER.

This subject, as stated in your number of the 19th, may deserve more public attention than it has yet received; for if (as I suspect) the secret may be found in the regulation of the temperature, and construction of the churn, differences in the formation of the churn and management of the milk probably influence the product and profit more than is generally supposed.

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† Application for information may be made to its Secretary, Mr. Bond, 75, Princes-street, Edinburgh.

To avoid encumbering your columns with theory and explanations, which may eventually prove inapplicable, it will be best first to have the facts before us: and if "D.," and other dairy masters, will collect and report the conditions or circumstances in which the butter fails to "come" (*i. e.* to separate or coagulate) I will gladly join in the discussion, and endeavour to lay open the causes and remedies. The form and kind of churn has, doubtless, much to do with the question, and what would succeed with one may be unsuited to another. There are two classes of churns acting on somewhat different principles. 1. Those turning on a horizontal axis, and coagulating the butter chiefly by friction amongst the globules; and 2, those which are stationary and upright worked with a sort of pestle, beating the globules together, whilst also giving the cream (or milk) a rotary motion. Of each of these there are several varieties, the construction and management of which, briefly described in your columns, may not only shew which does best, but indicate a form assembling the advantages of all, and thereby avoiding their defects. Such an one I have in view, but should like first to know what has been done, and with what success. Leaving, then, theory and explanation until we have the facts before us; in which I hope others of your dairy-practised readers will co-operate with "D.": let me conclude this with a simple case, laying open a few very general principles.

"D." is no doubt aware, that milk is seen, under the microscope, to consist of globules, floating about freely in a transparent liquid, without any disposition to cohere. But if we gradually and gently raise the temperature, the globules not only rise (by specific levity) but cohere more or less as the temperature rises, until they clot pretty firmly together; this is our Devonshire scalded cream; but not butter, though if the temperature is raised to boiling, the globules melt together into oil, which floats on the surface, and is clarified butter. Now this scalded cream does not require churning: much of the butter made here is formed (or separated) by mere stirring round with the hand, constantly in the same direction; the first formed clots continually attaching others, like a rolling snow-ball.

Thus the globules once brought into cohesive condition by warmth, appear to require mere opportunity of contact to unite afterwards; an apparent advantage over raw cream: beside which I apprehend the butter is more and better than that made from raw cream; whilst the "scalded" milk remains richer, to the palate at least, than milk skimmed cold.

"D" will find a good deal to guide him in this enquiry in the 2d edition of Professor Johnston's "Agricultural Chemistry and Geology," the most cautious, complete and trustworthy work on the the subject in this or any other language, within my knowledge: which should be in the hands of every educated farmer, as well as all farmers' clubs; and which records the great progress of the Scotch Agricultural Chemical Society in establishing by analysis and experiment a multitude of conjectures and inferences offered in the first edition; beside a mass of new matter, not then anticipated.—*J. Prideaux.*

"D." makes some enquiries in your Paper of the 19th Feb., touching the formation of butter. It is well known that temperature is most important to the operation, and a great saving of labour in winter is effected by churns which are now made, wherein one interior vessel containing the cream is kept immersed in a larger outer case, the interstice between the two vessels being filled with warm water of such a degree of heat as to keep the cream in the interior vessel at the temperature most favourable for the formation of butter: that temperature has been stated in your pages within the last year. But another most important circumstance in the making of butter, and one which I learned now near half a century since, from the chemical lectures either of Dr. Bourne at Oxford, or of Sir Humphry Davy, at the Royal Institution, is, that butter is formed by the union of the oil with oxygen gas; therefore "D.'s" project of agitating the cream *in vacuo* is not likely to produce him much butter. A proof is to be seen in the operation which was formerly employed, though now disused, of preparing trifles for the table by blowing the mixture into a froth with the nozzle of a small pair of bellows immersed below the surface; when a mass of butter was very speedily formed, enveloping the nozzle of the bellows. I wonder that none of our agricultural chemists or mechanists have yet turned their attention to some contrivance by which a greater proportion of oxygen than is found in atmospheric air may be forced into contact with the cream during the operation of churning, a process which probably would not only shorten the labour, but might considerably improve the quantity of the butter to be produced from a given quantity of cream. At all events it would be well worth while to institute a series of experiments for making the most and the best butter by means of any variation in the chemical combination from a given amount of cream. I should be induced also to expect that highly oxygenated butter would keep longer and better than that which was made in the common way. All ordinary churns are so constructed as to provide little or no change in air which comes in contact with the cream. Even if no greater proportion of oxygen were applied, it would not be difficult so to arrange a pair of bellows that the same person who agitated the fluid should force in a fresh supply of atmospheric air by the same movement, and in winter the air ought to be previously brought to the most favourable temperature by passing it through Polmaise, or through tubes immersed in hot water. If an increase of oxygen could be forced into the combination, it would doubtless add to the weight of the butter, which would be favourable to the dairyman; and if to the sweetness, also, that would be equally favourable to the consumer.—*Hantoniensis.*

ON THE DOMINION OF MIND OVER MATTER.

The quantity of fruit produced by the earth bears a certain relation to the human mind. The limit of the earth's fertility has not yet been attained; neither hath the limit in the moral improvement of the human mind. Famines have been far more frequent in the early stages of civilisation than they are at the present day, although those who eat are every day increasing, and the extent of the earth's surface remains ever the same. The human mind is not so much an agent in the improvement of the earth as a concomitant. The intelligence of the human mind is itself acquired, and its moral qualities developed by the exertion of improving and cultivating the earth. The soil and the human mind act and react upon each other. To say therefore that the intelligence of the human mind produces the earth's fertility is about as just and becoming language as it would be to say that the branch produced the leaf. The branch is not an agent in producing the leaf, it is simply a concomitant and fellow worker with the leaf in producing a greater ulterior result. As they have one object, viz., the production of fruit, to which they are both subservient, so they also acknowledge one common master, who holds them in subjection.

How much in harmony with these views is the progress of civilisation from east to west; like a tide of mind slowly traversing the earth's surface but raising up everything with it, and for awhile bearing it upon its bosom! What indubitable evidence have we that the soil of Egypt produced at an early period of the world's history an infinitely greater quantity of corn than it does at this day! How undeniable the proofs that the intellectual vision of man was then clear, and the faculties of his mind powerful and gigantic as the structures which it produced! Nowhere else hath the earth attained the standard of Egypt's fertility, and nowhere else hath the spirit of man left upon matter so durable an impress of of its own eternity. The tide of mind, the tide of population, and the means of feeding that population, the tide of fertility, have subsided together as they rose together in that country. Why ascribe the fertility of Egypt to the intelligence of the human mind, when all that we can say of it is that it was a concomitant of the other two?

If we follow the progress of civilisation into Syria, the same evidences meet us at every step. The country of the wisest man produced fruit for the food of man, and maintained a number of inhabitants to which we can find no parallel in the present day. Why did it so happen that the wisest man sat upon the Jewish throne at the culminating period of Jewish prosperity and civilisation. Was Solomon the agent in producing that prosperity? No; certainly not. Then it must indicate a remote controlling cause, like the master moving power of a clock, which so guides and controls the hands that although they are divergent and travel separately the greater part of the day, meet at the moment of striking 12. Judæa's neighbour, the land of Teman, was famed for its wisdom, and its present desolation affords no greater evidence that wisdom hath departed than that the feet of busy crowds carrying out seed in spring, and bringing back sheaves in harvest have also departed.

Greece's most celebrated republic, Attica, was an importer of corn. The Athenian mind, very partially connected with agriculture, was more remarkable for its elegance and refinement than for any exhibition of great and noble qualities. Conceiving and describing noble qualities, it had not resolution to act upon them. And when this is the case, honesty and truth, the substantial virtues upon which society is built, will ever be wanting. The advantages of agriculture to the health of a state did not escape the observation of her greatest philosopher. "The best nation," says Aristotle, "is a nation of agriculturists."

Rome, not less than Judæa, was indebted to the soil for her men of wisdom. At the culminating period of her glory, also, her finest literature was derived from it. As we descend from that period, we find her neglecting agriculture, her citizens depraved, her senators wanting in honour and wisdom, her literary men increasing in wit and refinement, but losing in strength, purity, and life. There is, therefore, no difficulty in connecting an abundance of the earth's fruits with a certain condition of the human mind. At every stage of the world's civilisation the mind of man has stood in a particular relation to the quantity of fruit which the earth produced. Now it becomes a matter of the first importance to ascertain what that relation was. Was it a relation of intelligence? that is, did the human mind stand in the capacity of an agent acting by means of its intelligence upon the susceptibility of improvement which the soil of itself possesses? If this was the relation of the human mind to the soil, then ought we to find the soil of Rome yielding its fruits more thankfully and abundantly in the days of Seneca and Sallust than in the age which preceded the vices and the songs of Virgil. Sallust and Seneca were far more intelligent men than Virgil. In comparing different generations together, we may safely take the greatest names in literature as examples; for the literature of a country is but the flowers the national mind puts on in the time of its exuberance. If it is intelligence that fills up the relation between the soil and the human mind, then we ought to find the soil of Ireland yielding its increase far more thankfully and liberally to its present inhabitants than it did to the man who tilled it 300 years ago; for the former have it in their power to carry a greater amount of intelligence to the cultivation of the soil than ever their ancestors possessed. But perhaps it may be said that the inhabitants of Ireland do not avail themselves of that intelligence. If not, what is the intention of their agricultural societies? and what are we to infer from the fact that the desire of obtaining knowledge by the young exists to a greater extent in that country than in any other portion of the empire. Do not the owners of her soil draft multitudes of men out of this country of the highest education to be employed in improving its cultivation. These men are masters of Professor Johnston's "Principles of Agricultural Chemistry," but their minds are also in harmony with the moral atmosphere of our cities. In place of employing these men, let Irish landlords try men whose hands have never touched dice or cards, and whose minds, in place of deriving their chief delights from the literature of the day (consisting of fiction and poetry, whose representations bear no relation but that of contrast to truth), seek their chief enjoyment from watching the progress of infant life either in the animal or vegetable kingdom. I say, let Irish landlords employ such men, and see if their soil remains as obdurate in refusing to yield her increase. If the relation of the human mind to the earth's fertility were filled up simply by intelligence, then ought we to find the fertile fields of rich and Catholic Italy in the middle ages yielding far more abundant increase than the hill-sides of the Vaudois. For the resources both of mind and soil were greatly in favour of the former.

If the soil has in all ages been a correct image or reflection of the minds of the inhabitants, think you that the caricatures of truth which the modern intelligent mind loves to contemplate in "Punch" and other similar publications, will not come in course of time to imprint themselves upon the soil. In alluding to the moral atmosphere of our cities, I do not mean to charge the city with vices which do not belong to it. For as compared with the man of the country, the man of the city stands a model of every excellence. But the misfortune is that he stands such a model, while the principle of evil may exist within him, perhaps unsuspected by himself. He is at least careful that it shall not find expression in his actions. In the country men are under less restraint. There the feelings of the heart move the hands and the feet, and the man stands abashed at his own depravity. In the vices of the countryman there is truth, but there is not always truth in the virtues of the citizen. From this it follows that if you imbue men in the country with the desire of those virtues which men are under the necessity of practising in the city, they will assume a more active form, and become more beneficial to society. Our cities are the marts of intelligence. But the great evil connected with intelligence is, that it regards the fruits of the human mind, unlike all other fruits, as capable of being imparted by teaching and strengthened by rules. Virtue is a plant growing connected with the source and fountain of life. Intelligence is the fruit of the same plant gathered.

Communities are composed of individuals. The reasoning which applies to a community is also suitable to the case of individuals. Now, in the same country, in the same county, in the same district of that county, individual success varies from the highest point to the lowest of the scale. Where neither climate nor soil vary the different degrees of success which attend different individuals must have reference to something peculiar to each. Now I ask any man who has given his attention to these things, if an individual's success bears a proportionate relation to the amount of skill and intelligence possessed by that individual. I may safely assert that it will be found to bear a closer affinity to the moral than to the intellectual endowments of his mind. When the former are present, the latter, in relation to the every-day business of life, cannot be altogether wanting.

If it is true that success in farming depends more upon the moral than the intellectual attainments of the human mind, then it follows however intelligent we may be, there may be states of the human mind in which the earth will still refuse to yield her increase. The aspect of things affords indubitable evidence that God delights in life, but abhors death. Indications of his will in this respect are stamped upon every atom of creation. Every nook and crevice in Nature is full to overflowing with animated things; and no sooner is the principle of life separated from an animal body, than the material which had been collected and agglomerated by the principle of life becomes available for other classes of animated creatures. These rush forth from the secret places of creation like the inhabitants of a besieged city taking possession of the booty of a camp which their enemy had deserted through false alarm in the night.

The breath of early spring raises up herbs here and there, and flowers of the humblest pretension. These quickly give place to others in infinite numbers, of nobler forms of beauty. And so on in rapid succession, until God in autumn manifests his intention of feeding higher orders of existence. Upon the fruits of autumn man chiefly subsists. How fit is it, then, that he should be furnished with care and intelligence to husband these fruits. By means of them he and his fellows of the animal creation are carried safely over a period of death that falls upon all Nature beside. A plant dies, and by means of its decay affords a well-grounded prospect of

being able to raise two in its place. Thus in creation is there provision made for extending the enjoyment of life to an indefinite extent. We have good reason to believe that this extension can only take place side by side with the moral improvement of the human mind. Until we see the limits of that improvement, we have no reason to believe that we will see the limits of the earth's fertility.

Thus the world of matter affords an analogy of the operations of spirit in civilising mankind. In both we still see life surmounting death, and erecting the cities of a large empire out of the ruins of a former. The man whose sympathies are gathered towards himself, has his eye mournfully fixed upon the termination of mortal existence, and his spirit quails before the triumph of death. But he whose sympathies embrace a wider range, and whose intellectual vision is more elevated, attunes his song to the triumph of life over death.

If, then, it is the will of the Divine Being that life should triumph, and that this world, so long as it lasts, should be full of living creatures, it is necessary that these should be fed. On this account, if on no other, that condition of mind into which communities so often fall, in which the earth refuses to yield her increase, must be inwardly offensive to the governor of the world. Man, in these circumstances, resembles the steward of a household, who should give himself up to drinking or revelry, or have his mind absorbed in his own petty concerns at a time when he should be making provision against meal time, when the family come home, or the servants return from the fields. Perhaps nothing in the sacred history has given greater offence to certain minds than the mission of extermination with which the descendants of Jacob were charged against the inhabitants of Canaan; but viewing it in this light, the command of vengeance becomes a behest of mercy.—*John Russell.*

ON THE AGRICULTURAL LABOURER.

In your Paper of the 29th ult., a correspondent, "E. X.," again calls attention to this much neglected class of men, and as, being connected with that class, I feel it my duty to my brethren of the field to say a few words in their behalf, trusting you will favour me with a corner of your earliest number. Your correspondent "E. X." asks a question which may be solved in a few words, viz. :—"Why the English labourer should not be as well off as the Scotch?" In answer to this I would say, the Scotch labourers are better remunerated for their labour. 2. They are more industrious as a body. And 3. They are more economical in their habits, which renders them more healthy and wealthy, and their wisdom in these things consequently makes them more independent in their circumstances. In Scotland, able-bodied single men can earn as much, nay, more in many instances, than married men, and these earnings, carefully expended, go far to give them a footing in the world, and many of them (to their praise be it said) raise themselves far above the grade of an agricultural labourer. On the other hand single men in England are generally kept on very low wages, having less in many cases than the married man, though performing nearly double the work; by what criterion employers are guided in this system, I have never been able to find, unless it is for the purpose of preventing them from rising higher than their forefathers. Merit alone should regulate this; but such is not the case. Many young men, therefore, in order to receive a little more remuneration, rush into a married life, which only tends to increase their misery; having nothing to begin their keeping house with, they run upon credit, paying, of course, a heavy per centage upon all they consume. Hence, among agricultural labourers, merit has not a due weight with employers, and no stimulus given to encourage it, as among other classes of tradesmen. As to industry, the Scotch labourer is seldom or never idle. If his body is worn out with the labours of the day, his mental energies are still vigorous; if he is prevented from cropping his garden or his field by any casuality, his mind is set to work, either by improving himself, by whatever means are in his power, or attending to the cultivation of the minds of his family, by testing, as far as practicable, what progress they have made at school, or examining them as to how they are prepared for acquitting themselves on the succeeding day. In the other case how differently matters seem to be conducted with the English labourers after the allotted hours of labour have expired. In the summer season you may see them grouped by dozens in the most public or prominent place in their respective villages (literally a confused arrangement of huts), idling away their time in frivolous gossip, demoralising their own characters, and proving a perfect nuisance to every passer by. If the season forbid such meetings in the open air, you have only to visit the most popular alehouse in the vicinity, to hear and see their obscene language and reckless conduct, spending their means to procure their god, beer drugged in the highest degree, unfitting them for the duties of social or domestic life, wasting their health and strength in vain, and rendering them subject to become inmates of the workhouse or the hospital when the least adversity of circumstances occurs.

As to economy, a few words will suffice; but I would say, by paying strict attention to this, there are few labourers who have not some chances of saving a little. There are seasons when they receive more for their labour than others; measured work very frequently comes to their share. Hay-making and harvest are also accompanied by more remuneration. But what does it matter; they must have an extra allowance of beer, or, it may be, a more expensive dinner, though not more nutritious; they have no thought of to-morrow, otherwise they might add little to little, which would prevent them from being so soon at the mercy of those immediately above them. Now what I have stated is from what I have seen in both countries, having traversed hundreds of miles in both, and in immediate contact with the classes of which I have written. I have stated my convictions truly, without regard to party spirit, which in very frequently too much displayed in writing; and having glanced at the habits and manners of the said class, I would add a few words upon what are style labourers' cottages; and this I consider a very important part, for let any man be situated ever so well as to food and clothing, if his dwelling is uncomfortable he feels very little contentment, and if the labourer is blameworthy for his conduct, the landlord is no less culpable in compelling him to live in huts where he would be afraid of putting his carriage or saddle horses. What, I ask, can be the motive which induces a landlord to remove (as I have known) a quiet, inoffensive, and valuable labourer from one cottage to another three or four times successively during the short period of six months? and at last allowing him to console himself in a house of two small rooms, with six of a family, the majority of whom had reached the age of maturity, his frail furniture almost rendered useless from being so often loaded and unloaded? or what sympathy can a landlord feel for his trustworthy labourer if he compels him to live in a hovel where, when he retires to rest his weary limbs, he can see the stars through his roof, or listen to the rain and rotten thatch tumbling from it by his bedside. Again, what idea can a landlord form of the nature of a labourer when he puts him into a cottage where the windows are nothing but perforated wood-work, glass being considered unnecessary in warm weather. I ask any unbiassed man, be he what he may, if glass has not been necessary within these last few weeks? necessary or not, they are still in the same state. If the inmates wish to enter the rooms, they must do so with the aid of a lighted candle, at noonday. True it is

"Man's inhumanity to man,
Makes countless thousands mourn."

It may be said—Well, but perhaps these landlords do not know of such being the case, from having a personal knowledge of the facts. I am enabled to state that in the instances to which I refer the fact is otherwise. Professing to be agriculturists, wasting their means in feeding stock for Smithfield, they neglect the poor; but it is not to be said these are men that care nothing for the poor. Oh no! they are men, and gentlemen who give away coals and blankets in their season to the poor, as being objects of their charity. Would the maxim were attended to, "let not thy left hand know what thy right hand doeth." Much has been done for the labouring man in the way of giving allotments, and many other little things; but is their condition improved? Verily, no. The present generation, generally speaking, is very little in advance of their progenitors, and the succeeding one is making but a tardy movement. I would say, in conclusion, cultivate the soil properly, pay your labourer commensurately, and this will comparatively free you from the supporting of workhouses.

If you deem this worth a place in your *Gazette*, I will have a word to the labouring class shortly.—*A Labourer.*

BOX FEEDING.

[To the Rev. George Wilkins.]

Dear Sir,—I am not ashamed to acknowledge that I take the Bible as the guide for my advocacy of Flax-growing and box-feeding, as much as you can do for opposing them. From the experience of many eminent agriculturists, as well as from my own, I find that I have been rightly directed. It would, therefore, be a senseless waste of time to enter upon a lengthened refutation of the rodomontade you have offered in reply to my letter of the 12th ult.

I must also avoid provoking you to a repetition of those disgusting descriptions which, I repeat, are as totally at variance with truth as they are to that refinement and good taste which alone become the columns of the *Gardeners' Chronicle and Agricultural Gazette.* Let it suffice, that the injunctions of the inspired Moses are never violated upon my premises; nor the still more weighty admonition of our Lord, respecting the economical use of the gifts of Providence: "Gather up the fragments that remain that nothing be lost." Nor have I been unmindful of the designs of the Creator, having invariably made them the objects of my research and the foundation of my advocacy.

Thus, I arrived at satisfactory conclusions; and, in promulgating my discoveries, am rewarded by seeing them daily rise in public estimation; while the preposterous propositions of modern theorists, though enforced by rank, wealth, and eloquence, are daily sinking into merited oblivion.

If I felt inclined to be amused at one thing more than another that you have advanced, it is at the Quixotic "blow" which you assert has laid my system irrecoverably prostrate. But, unlike La Mancha's knight, who warred against phantoms, your "blows" are levelled at truth, and therefore must recoil upon yourself. As a lively illustration, I subjoin the following communication from Henry C. Seymour, Esq., the Hon. Secretary of the Wiltshire Flax Association.

"Vice-Admiral the Hon. D. P. Bouverie in the chair. It was proposed by George Brown, Esq., and seconded by Thomas H. T. [illegible], Esq., M.P., and carried with acclamation; that the thanks of this Association be tendered to Mr. Warren [illegible] has drawn in the county [illegible] attention to Flax cultivation; and [illegible] from our experience [illegible] we were led to [illegible] yet be more [illegible] increased success."—*Feb. 3.*

I could produce a [illegible]; but of what use would it be to [illegible], who "refuse to hear the voice of [illegible] he never so wisely."

I should, however, [illegible] to expose [illegible] you had not descended [illegible] writings for the purpose of [illegible]. You cannot be excused on the plea of [illegible], because, as a gentleman, [illegible] the following passage [illegible] another. "But [illegible] and home's plea,' [illegible] more severe, and [illegible] able,' I must leave the [illegible] adopted that system. [illegible] tions of the originator [illegible] such offensive and [illegible]

Originator of [illegible] call "bodies," and [illegible] mine? The inventor, you know, [illegible] Huxtable and that I [illegible] originator," to that gentleman. [illegible] now left you, but [illegible] of your error, and to [illegible]

Far from attempting to "[illegible] plates, I have ever been [illegible] whom I differ; and to [illegible] Thus, the following extract [illegible] edition of my book on my [illegible] be received as a [illegible] charge. "I have no intention [illegible] of invention or of originality in any of the [illegible] that I have made. Were I to [illegible] myself upon a level with the [illegible] obtained patents for their discoveries, [illegible] inventors both of the great and [illegible] ingenuity.

"The system of feeding cattle in [illegible] partially practised in various parts [illegible] the growth of Flax, from time [illegible] fattening of cattle with Linseed [illegible] by the Hindoos 1500 years ago, and [illegible] in England, particularly in Norfolk, [illegible] were made by the most experienced [illegible] use of Linseed, with all success. [illegible] in stalls or houses [illegible] on the Continent and in Ireland. In Mr. B.'s valuable essay on the improvement [illegible] of small farms by house-feeding cattle on green crops, I discovered the great benefits to be derived from that system.

"On Mr. Baker's premises, at [illegible] and sheep fattened in [illegible]; and, in the experiments of the patriotic Sir Edward [illegible], I added the Linseed [illegible], and thus produced incomparable cattle [illegible]. I may claim for myself the merit of [illegible] the [illegible] plans of others, in such a [illegible] permanent support to every [illegible] an effectual protection to the interests of the [illegible], and a remedy for the present distress arising from the want of employment."

You admonish me that, "Cattle, as well as ourselves, are the creatures of that Great Being to whom we must account for their treatment." True, I readily admit; and crave permission to observe, that we are more responsible for the treatment of our dependant fellow-creatures; to advance what no [illegible] sophistry can evade. "The wolf, the fox and the polecat," for whom you express so much sympathy, can exist happily without our aid. "The dog and cat" can easily be dispensed with; but let us pity the poor, [illegible] state is deeply to be deplored, and demands all [illegible] efforts to alleviate. Every year increases the number who call upon us for work in vain. To meet this growing evil, I propose an extended culture of Flax, to which you also object; and have thus incurred an [illegible] responsibility.

If through adverse circumstances, or [illegible], you are prevented from [illegible] at all events, to throw [illegible] in the way of those who can: let us avoid [illegible] and henceforth prove [illegible] good works alone.—*J. [illegible]*

RECORD OF WEATHER.

Agreeing [illegible] with the remarks of Mr. Lawes, in a late Gazette, on the "Influence of Climate upon Agriculture," and being pleased at hearing that a number of gentlemen have announced to him their intention of establishing rain gauges and thermometers upon their farms, it has struck me that a form of register may not be unacceptable to these parties. The annexed differs somewhat, I believe, from most other printed forms, and, after six years experience, I may venture to recommend it as sufficient for registering the thermometer, rain meter, and [illegible] which is joined a column for entering the [illegible] and [illegible] the wind, whilst the division [illegible] the 24 [illegible] eight portions enables the weather [illegible] to be noted accordingly. I have filled up the sheet sent herewith with a copy of

my register for December. The black line shows the exact altitude of the barometer; the dotted line gives the mean temperature. Perhaps Mr. Lawes, or some of your readers, can suggest some improvement, of which I shall be happy to avail myself.

Allow me to add, in conclusion, that, in addition to the interest which attaches to the study of meteorology, I have found my register practically useful to me as a farmer; indeed, it is impossible to watch closely the changes of the weather, and record them and their signs for future reference, without becoming better prepared to guard against similar changes on future occasions.—*Robert B. Harvey, Pulham, Harleston.* [The great expense of engraving the form with which Mr. Harvey has favoured us, leaves us the only alternative of attempting to describe it. It consists of a series of columns one for every day of the month, crossed by a number of rules: one of them giving room for a daily memorandum of the rain, another for the wind, a third for the minimum, and a fourth for the maximum of the thermometer. Besides these there are other 8 rules across these columns, at intervals of 1 inch. These intervals, according to one statement, represent the scale of a thermometer, the 1st from 0 to 10°, the 2d from 10° to 20°, and so on up to 80°. According to another statement they are intended to represent the scale of the barometer; the 1st two from 27 to 28, the 2d two from 28 to 29 inches, and so on up to 31 inches. According to a third idea these intervals represent the 8 watches of the day (3 hours a piece). The curved line across the columns commencing at 44 on the one side, and oscillating to and fro and ending at 36° on the other side, represents the daily mean temperature for Dec. last, which was 44° on the 1st of the month, variable during the month, and 36° on the last day. Another oscillating line crossing the columns, is regulated by the barometric intention of the cross rules, and represents the variation of the barometer during the month; while the writing scattered up and down each column refers to the character of the weather in each day; and its position in the column, regulated by the third meaning of the rules, marks the particular "watch" to which the characteristic adjectives "stormy," "fair," &c. refer. If any one fails to understand the matter from the above, we shall be happy to lend him the specimen in our possession.]

THICK AND THIN SOWING, AND BOX AND STALL FEEDING.

Experiments made with care, and accurately reported, must be admitted to be the only satisfactory means of testing the comparative value of these improvements in practical agriculture, which are from time to time brought under discussion. Any indulgence in personalities can never be sufficiently deprecated, and must invariably form an obstacle to the development of the truth or falsehood of theories which require patient and dispassionate investigation. It is seriously to be lamented that some of your correspondents have of late deviated from this unexceptionable principle. Arguing as the "thick and thin" advocates in support of this or that system, they would appear to be carried away by something more than even mere enthusiasm—they might almost be termed the victims of positive agricultural fanaticism. Some observations made by the Rev. Mr. Wilkins and his antagonists on the relative merits of thick and thin sowing, and box and stall feeding, would appear to be fairly open to these objections.

To improve the quality of farm-yard manure, and prevent any material deterioration by exposure to the atmosphere is very generally admitted to be the great desideratum in farm management. Upon this point the real ultimate economy of keeping stock, and the most profitable means of keeping them, must depend—in proportion too as the article we manufacture is improved in quality, the more value we ought to attach to those means by which we are enabled, if we may be allowed the expression, to "keep our powder dry." It is undeniable that the waste of the active principle of farm-yard manure is at this moment enormous, and as every link which tends to complete the chain of evidence on a matter of such importance is not without value, I beg to offer you the result of a few experiments made by myself on a small scale during the last five years.

After having previously examined a certain number of farm yards, I built a range of cattle sheds capable of holding 18 beasts, and altered one or two already standing on my premises, upon a plan which I have once found to be perfectly efficient with respect to ventilation, drainage, the facilities of feeding, and other general arrangements. As regards the comfort and health of the animals, I have no wish to make any alteration, but I am by no means satisfied with respect to the daily removal of the litter, and its subsequent accumulation in the yard, in which is a tank to collect the liquid manure, and no rain-water falls upon it from the eaves of the buildings. I have this year cut the litter with a horse-power chaff-cutter on Cornes' principle, which does its work satisfactorily, and I have fed on boiled Linseed, Barley-meal, and cut straw. The beasts have done remarkably well, and their condition found perfectly satisfactory to the butcher. So far there is no cause of complaint, but I have no hesitation in saying, had I to build again, I should adopt Mr. Warnes' plan of boxes, as being no less calculated, as far as I can judge, to secure the health of the animal, than as the very best means yet discovered of making and preserving superior farm-yard manure. I have invariably observed the condition of animals in boxes to be unexceptionable, and have never detected any unpleasant smell as evidence of an appreciable amount of fermentation, and the consequent disengagement of ammonia. The comparatively trifling cost too for which they may be erected, places them within the reach of every tenant-farmer.

The experiments published by Mr. Lawes in the last number of the Royal Agricultural Society's Journal, which go far to establish the principle that the importation of food for stock, and the consequent accumulation of nitrogen in the soil, is a more certain and economical means of maintaining fertility than the direct application of artificial manures, attach an additional interest to these very important considerations. The remarks made by that gentleman on the influence of climate, on the appropriative powers of plants, and the absolute necessity of a certain mechanical condition of the soil, dependent upon efficient cultivation, are full of sound instruction. If these incidental causes had received more general attention, and been subjected to the test of more direct and repeated experiments, mere abstract principles would not have been so often enumerated, and many failures and much disappointment, to say nothing of the loss of much valuable time and money, would have been avoided. To what other causes can we attribute the stubborn fact that the *vexata quæstio* of thick and thin sowing does really now appear to be as far removed from a satisfactory solution as when first brought before the public. The somewhat premature denunciation by Mr. Huxtable, at Sturminster, on thin sowing, as humbug No. 1, and the extravagant encomiums passed lately upon the "rational system of thin seeders," by the Rev. Mr. Wilkins, are rather calculated to excite an irritable controversial spirit than to promote a calm habit of inquiry. They are, therefore, equally to be discouraged. I must confess that, after watching carefully for five years an average breadth of more than 30 acres of Wheat, on which I have tried a great variety of experiments, and have, as a general rule, reduced the amount of seed to 6 pecks per acre, I am more than induced to admit that (taking into consideration the very great variation of soils, the uncertainty of seasons, and the undeniable influence of climate) truth may fairly be said to lie between the extremes. In my limited practice I have experienced results which are hardly reconcileable on any other principles. In 1846, for instance, I had a really splendid crop of Spalding Wheat from 6 pecks per acre, drilled at 9 inches, full 40 bushels per acre; which far exceeds our usual average on this soil—a thin loam on gravel, with a chalk subsoil. In 1847, from 4 pecks of seed (drilled at 12, 9, and 6 inches), sown in September, I had the very worst crop I have yet grown; judging from what I have already threshed, it is not likely to yield more than 25 bushels per acre. In whatever district I make inquiries on this subject, I find uniformly a great diversity of opinion. That a very large amount of seed is still most unnecessarily wasted there can be no moral doubt, but it is equally certain that the subject in all its bearings is well worthy of the most careful, and, as I have before said, the most dispassionate investigation. A principle correct in itself may yet be pushed too far in practice. It is precisely for the purpose of defining accurately these limits, so far as the subject under discussion will admit of direct proof, that those interested in promoting agricultural improvement are called upon to throw overboard all minor differences, and co-operate in a candid and amicable spirit.—*A Subscriber, and Member of the R. A. Society; Feb.* 14.

Home Correspondence.

Fossil Phosphates.—If your correspondent, Mr. Clutterbuck, were to examine his neighbourhood, he would probably find some places not covered up by diluvial detritus, where the precise junction of the galt with the lower green sand can be recognised; and he would be able to discover whether the fossils abound there as in Surrey and Hampshire, in a similar position. Perhaps, too, he would kindly ascertain if the upper green sand of which he speaks is not in fossils; I have heard the contrary, when a general allusion has been made to the upper green sand in the west of England. Some other correspondent, too, who signs himself "Lower Green Sand" is quite correct, so far as his remarks relate to the Isle of Wight; there are many localities there in which I feel confident rich beds may be found. I also suspect that the enormous landslips which form the under-cliff were occasioned by the fossils below the galt, which, as I have before stated, form so compact a mass that water cannot penetrate; and between the upper and second bed of the fossils of the lower green sand in this vicinity there is invariably a thin seam of iron sandstone; this seam is persistent here for many miles. If, therefore, the same thing exists at the back of the Isle of Wight, though a simple it is a sufficient cause of the landslips; I am happy to be able to inform your readers that some beds very rich in fossil phosphates have been found both in the upper and lower green sand, in the neighbourhood of Guildford; and in precisely the same position as at Farnham. —*J. Manwaring Paine.*

Farnham Fossil Phosphate Bed.—It was with great interest that I read in a late Number of the *Gazette*, the account by Mr. Paine of his discovery of a rich bed of fossil manure, which will doubtless be a great acquisition to agriculture. Any assistance from either science or art must now be hailed with pleasure by the farmer, who has so many difficulties to contend with; and this discovery may be expected to aid him in several ways: not merely by the amount of manure thus brought to light, but also by stimulating enterprise, which may result in similar success. I have for three years been drawing clay (thrown out of a railway cutting) to my light land, and I think with advantage: but previously to doing so, I had a sample analysed, and the report was extremely favourable. Since reading the article above referred to, I have turned my attention to this subject, and upon referring to the analysis, find that among its component parts is phosphoric acid, to the extent of 2.222 per cent. From this datum, a ton of clay contains nearly 50 lbs. (49.72) of phosphoric acid, and as I can draw and spread the clay upon the land for 1*s.* 6*d.* per ton, the application of 1 cwt. of phosphoric acid will cost 3*s.* 4*d.* Surely this cannot be a very high price for it, while superphosphate of lime is sold at 7*l.* per ton, with an additional expense of 5*s.* for carriage.—*B. J. W.*

Native Phosphate of Lime.—Mr. Paine's discovery of phosphatic nodules in the upper green sand, in Surrey, is not so complete a novelty as he seems to suppose. The editor of the *Bury Post* has obligingly sent me a letter, which I published in his Paper of 3d July, 1845; and perhaps it may encourage to further researches, if it were now to be reprinted in the *Agricultural Gazette.* In addition to what is there stated, I may remark that a short abstract of the communication to which it alludes is given in the Reports of the British Association for 1845; and that a further communication on the subject was made at the Oxford meeting last year, of which a notice will appear in the forthcoming reports. At the Ipswich museum dinner it was stated that a gentleman present was raising the nodules at Felixstow at the rate of 60 tons weekly, and that he hoped to increase this rate, so as to be able to supply many thousand tons within the year. These notices appear to have escaped the various agricultural journals. Mr. Paine seems to have traced the nodules into strata both above and below that one in which they more especially abound at Cambridge.—*J. S. Henslow.* [The following is the most material part of the letter above referred to]:—It was in the summer of 1842 that my attention was directed to certain nodules in the red crag, between Felixstow and Bawdsey, which, at first, I considered to be hardened masses from the London clay, that had been rolled at the bottom of the ocean, during the period when the crag was forming. Such was the opinion also, as I afterwards ascertained, of some eminent geologists. In the summer of 1843, I paid closer attention to these nodules, and, after inspecting a very considerable number of them, I arrived at the conclusion that their origin was somehow or other connected with the decomposition of animal matter. In October of that year, I read a short notice of these nodules before the Geological Society, and suggested that they were probably of coprolitic origin, by which I mean matter that has been more or less digested by fish or other marine animals. Liebig, in his Letters, has suggested the possibility of true coprolites being made available for agricultural purposes, even though the specimens to which he referred contain a comparatively small per-centage of phosphate of lime. My supposition that the nodules alluded to were of coprolitic origin, induced Mr. Potter (well known as the manufacturer of an artificial guano) to analyse a specimen; and the result was the detection of 56 per cent. of phosphate of lime in it. At his request, I gave him my opinion that those nodules might be obtained from the cliffs on the Suffolk coast, in sufficient abundance to make it a profitable speculation to collect them as a source for supplying an important ingredient in his guano. In 1844, I enquired of a person at Felixstow, engaged in collecting the iron-pyrites which are strewed along the coast, wherever the London clay is exposed, as far as the Isle of Sheppy, and which is collected in large quantities for the manufacture of green copperas; and he agreed with me in considering that the nodules might be collected at a much cheaper rate per ton than the iron pyrites; and also that many hundreds of tons could be procured with very little trouble. Mr. Solly, who has paid so much attention to agricultural chemistry, afterwards visited the locality, for the purpose of making more specific enquiries. Mr. Lawes wrote to me, not long since, for particulars concerning these nodules. He was contemplating sending an agent to Spain, for the purpose of investigating a bed of phosphate of lime which occurs in Estramadura, of which no very certain information had been obtained before Dr. Daubeny and Captain Widdrington undertook a mission to inspect the locality where it occurs. The result of their observations was laid before the Geological Society in February of last year, and has been reprinted in the fifth volume of the "Journal of the Royal Agricultural Society." As that report was not favourable to the opinion that the mineral could be profitably wrought, Mr. Lawes had 2 tons of the Suffolk nodules collected by way of trial, and he finds that the mean analysis of these furnishes 53 per cent. of the phosphate of lime. He, however, abandoned the idea of their being a source to which he can have recourse, in consequence of the absurd notions which have got abroad of the extreme value of these nodules. He has been asked twice as much for them per ton as he sells the manufactured article itself! Mr. John Brown, of Stanway, has also ascertained that similar nodules occur in the London clay about Hampstead. He has had some of them analysed by Mr. Phillips, in London, who has found as much as 59 per cent. of the phosphate in some

of them. It occurred to me that possibly certain nodules of an anomalous character abounding in the upper green sand, in the neighbourhood of Cambridge, were in some respects allied to those in the crag, and would possibly be found to contain phosphate of lime. Upon directing the attention of Mr. Deck, of Cambridge, who is a practical chemist, engaged in making analyses for agricultural purposes, to these nodules, he readily detected in them the presence of earthy phosphates, in proportions varying from 57 to 61 per cent. Whether these various nodules, thus abounding in phosphate of lime, can be made available for agricultural purposes, must depend upon the possibility of their being collected at a cheaper rate than an equal quantity of bones can be. Perhaps this is a point not yet sufficiently determined; though my own opinion is decidedly in favour of their being sufficiently abundant in some places to make it worth while to collect them.—*J. S. Henslow, Hitcham, July* 3, 1845.

Mr. Dickson's Flax Scutcher.—I promised to give some little account of the success of my Flax cultivation before the season of sowing; I am sorry to say I cannot do this so fully as I could have wished, owing to the horse-power of my threshing machine continually breaking when put on to the Flax machinery, so that I determined to keep my Flax till I have erected a steam engine, which I hope shortly to do; however I tried it enough to prove it does its work well, and to convince me that in the opinion of first-rate judges I can grow long Flax and of good quality. From the short time I used Mr. Dickson's mill I purchased at Northampton, I have no hesitation in saying I shall be able to water Grass and scutch Flax at about 2*s.* 6*d.* per stone, and it is allowed on all sides that Flax scutched by machinery is worth more in the market than hand scutched; how then could Mr. Warnes's man, in writing to the *Wiltshire Independent* paper, put scutching alone at 3*s.* 6*d.* per stone? I intend growing a good many acres this year, and I sincerely hope many of my friends and neighbours will do the same. I will gladly give them every facility for so doing, and will dispose of the Flax for them, and water Grass and scutch it for them if they like, having a very superior man from the north of Ireland to manage it for me. It is a very simple plant to cultivate, but according to my experience the different items of cultivation are different from those who have written upon the subject, especially in weeding, which does not cost me more than 2*s.* per acre. The plan is to get your land clean, and a day or two before you sow your seed move the surface soil, and then the weeds can make no head against the Flax, which is of very quick growth. I cannot get the pulling done under 14*s.* or 15*s.* per acre, and rippling the seed is nearly as much, if the Flax is not quite ripe, which it should not be unless saved for seed; when pulled not quite ripe I have the seed kiln-dried and the stalks at once put into water: the seed is quite as good for seeding purposes. Another great point is to procure good seed of the best Flax. Some of my friends having failed in this (obtaining a sort of dwarf Flax) are disgusted with it, and will not try it again. I have been at great pains getting some first-rate foreign seed, and will spare a little to anybody who may like to try it.—*T. B. Browne, Salperton, Andoversford, Sudbury, Gloucestershire.*

Cantelo's Hydro-Incubator.—Will you have the kindness, through the medium of your widely-circulated Paper, to grant me the favour of giving the public a little matter of fact information regarding my system of hatching and rearing poultry, especially as "Punch," that most facetious writer, has been pleased to do me the honour of taking notice of my invention in his own very peculiar style, which, however, may to some minds convey the idea that it is only deserving of ridicule. I beg to apprise you that I have brought to complete practical purpose my system of rearing poultry, by means of warm water at 106°. That that is the blood-heat of the feathered tribe I was the first to discover; and by adopting it as the basis of my system, instead of taking 98°, as was formerly supposed to be the blood-heat of fowls, and by applying "top contact heat," two temperatures instead of one, and abandoning the principle of an oven heat, which former experimentalists had tried without any real practical success, I have been enabled by my apparatus to hatch and rear on an average 75 chickens from every 100 eggs—thousands at a hatch. I can produce 18 broods a year instead of two of 15 or 16 chickens, which is all the domestic hen does. My system is now in complete operation, and I am daily hatching poultry from the eggs of pullets now laying, which were only themselves hatched out last September and October, and which any one may see by visiting the temporary model farm here. I rear and fatten my poultry for market in 13 or 14 weeks, and have done so ever since I commenced. I am now selling as many as I can produce, and could sell thousands more if I had them. Many have looked upon my invention merely as a sight to be gazed at, and as a wonder of no use. It is not so. It is of extensive practical value, and I shall go on till I can produce poultry for the million. I have stated that large profits are to be gained by the business, and have been asked if that be the case, what do I want the matter to be made public for? In reply I will ask, did the inventors of gas light or the steam-engine introduce all the light and power themselves throughout the country? Neither can I raise all the poultry. For as much as is seen in the shops, poor people seldom taste it, and why? because it is too dear. When my system is carried out I have not the slightest doubt that our soldiers and sailors, schoolboys and factory girls, paupers and the sick, may for a change get a chicken for dinner. Notwithstanding all that farmers may say, I can affirm that poultry can be fed to the same weight in a tenth of the time and at less than half the cost of mutton, beef, or pork. It may ere long be no great wonder to see the business of producing poultry taken up by manufacturers in the same way that the distaff was superseded by the spinning jenny. Not very long since all the yarn used to be spun by farmers' wives and daughters; at present they produce all the poultry. The time of home-spun yarn is gone; and soon, I doubt not, the day will arrive when a poultry farm will be seen in a piece of waste land not far from a cotton factory or a colliery, or near a Birmingham forge. A company, it is said, is in formation to carry out my plan extensively. I shall be glad to see it start; I will render it every assistance in my power. There is scope for hundreds of companies. At present the supply is not half a fowl a year to every member of the community, and it would take from 25 to 30 millions of money embarked in the business to give every one a chicken once a month. I shall, however, continue on in the even tenor of my way, and bide my time, to see the invention which with much labour I have matured, extensively practised for the welfare of the community.—*W. J. Cantelo, Poultry Farm, Chiswick.*

Thick and Thin Seeding.—I have tried both thick and thin Wheat sowing, and have arrived at the conclusion that the higher the condition of the land the more seed should be sown, and the thicker the crop it is capable of bringing to perfection—as a stout horse in good condition will bear a load that it is useless to attempt to move with a weak animal. Early sown Wheat no doubt stools much, but there are many disadvantages in early seeding. I plant 9 pecks to the acre, and commence in November. My yield of last harvest will average, as near as I can tell, 48 bushels per acre (41 acres); but mine is not strong Wheat land. To insure large produce, the land being in high condition, much depends on a proper selection of seed. I grow Red Cluster; it has a short stout straw, stands up well in a heavy crop, and is not inclined to mildew. This is important to be remembered, Wheat likes a hard mattress and not a feather bed to lie on; there will never be a great produce unless the land is firm. Do not bruise the plant in frosty weather, nor eat off later than February. I had lately the pleasure of going over Mr. Woodward's farm at Cumberton; he is a thick seeder, and I hold him to be inferior to none as an agriculturist. His crop of Wheat last year was 200 acres, a great portion of it averaged upwards of 60 bushels; one field of 14 acres, planted with 3 bushels, produced 68 bushels, all best corn, and more than 3 tons of straw to the acre. Lord Talbot, I am told, who paid Mr. Woodward a visit shortly before harvest, and has discernment in these matters, said, on viewing this field (the first he came to on the farm), he had never seen a "crop of Wheat" before. The land was in high condition, and had morever 2 cwt. of Peruvian guano to the acre before drilling, on Bean stubble. The thin seeding theory has arisen, and been put down, in past years, time after time; it may be adapted to land not capable of bearing a crop.—*Georgos.*

Flax Culture and Box-feeding.—I think it very important that gentlemen, when they put forward pet schemes in farming, ought to be as correct, full, and fair in their statements as possible, giving in every instance an account of failure as well as of success, otherwise the incautious may be misled and seriously injured. I observe what I fancy an error in Mr. Warnes's statement lately, of Barley-meal consumed in feeding 28 beasts—only 4*l.*! If I recollect, Mr. Warnes's compound is composed of one part Linseed and three parts meal; in this case the account would be 14 quarters Linseed, 35*l.*; and 42 quarters Barley-meal, at 30*s.* per qr., 63*l.*; together 98*l.*, instead of 39*l.*, as stated. I am accustomed to sow 8 to 10 pecks of Wheat per acre, and often find some part (from many causes) thin of plant; what would be the case if I only used 3 to 5 pecks? I sowed 9 pecks per acre on a field of 35 acres; 5 acres were so thin of plant in May last that I was about to plough it up. I did not, however, do so, and I got 4½ qrs. per acre from it; but where there was plenty of plant, I had 6 qrs., and a better sample by at least 3*s* per qr. Mr. Mechi is a great advocate for thin seeding; will he kindly account for a considerable part of his Wheat, last year, being so thin as to induce him to drill Barley amongst it, another part being ploughed up and sown with Oats in May, another having red Wheat transplanted amongst the white in the spring to fill up, and his thickest Wheat very thin in many places? I imagine if he had used another bushel of seed per acre, he would at least have saved 1 qr. for every bushel.—*Guy.*

On the subject of Thin Sowing.—I would say, in determining the quantity of seed, regard should be had to the state and quality of the land, and the time of the year. If it be early autumn, and the land be in good heart and condition, and of good quality, a bushel of Wheat will seed an acre as well as a sack. The same with Oats or Barley sown early in spring on land such as I have described. It is because very much of our land is in bad condition, or of bad quality, and because there are so many afternoon farmers, that three or four bushels instead of three or four pecks of seed, are necessary. I cannot, however, go the length of your intelligent correspondent Mr. Mechi as regards thin sowing, and still less as regards grubbing trees and hedgerows. He would, it appears to me, convert an arable farm into one large field without tree or hedge-rows. I admit that our inclosures are generally too small, that there are too many trees about them, and that often instead of being ornamental, they are more like mops or naked savages than trees; but I am very sure that trees or hedges on the north or north-east sides of fields or farms are beneficial to all kinds of crops. They protect them from cutting winds and hailstorms; they do not deprive them of solar light, so essential to their health, and the injury which their roots might do may be prevented by, from time to time, opening a deep narrow trench, about 3 feet, on the land side, from them. A few trees disposed judiciously over a farm give it a park-like appearance, and gratify the man of taste. Whatever conduces to the health and happiness of man should be promoted; and I am bound to say, that a cultivated mind derives more pleasure through the medium of the eyes and ears than through the mouth. I read with delight the recent communication in your Paper from the Hon. and Rev. L. Vernon Harcourt, and I hope you will receive many more from him.—*A Yeoman of South Bucks.*

Thin Seeding.—Is not the fact inexplicable, according to reason, that the grain of Wheat should be so prolific as to return 2000 or 3000 fold, when room has been given it to attain its natural growth, yet the practice of farmers should be such as to return them only ten times the seed they sow? Surely nothing farther than this can be necessary to show the error of using the amount of seed usually sown. Until latterly, no one appears to have considered the mischief which must ensue from generating too many plants, by too liberal a supply of seed, upon a space insufficient to afford room for the whole to continue growing up to maturity. In the practice of gardeners and foresters, familiar examples are afforded of the advantage from giving room for the development of each plant. My object here is not to go into any argument to show the occasion for thin seeding, as respects obtaining larger returns; I have done that in my little work "On the Injury and Waste of Corn from too Thickly Sowing;" but to remark that in gardening I have frequently been led to reflect how much we owe to the careful selection and treatment of individual plants, and the gradual advance in all desirable qualities which has been made in fruits and vegetables cultivated for our use: and seeing that to the thin seeding and planting practised in gardens and nurseries much of this is due, a very important consideration has arisen—namely, how far might not Wheat and other grain be improved by the adoption of a similar care? But the practice of thick seeding must undoubtedly be a bar to the increase in size and yield of the fruit of Wheat, as it would have been in changing the wild Strawberry into Myatt's superb British Queen. In my farming, which is carried on greatly on gardening principles, one of the advantages I have felt from thin seeding and keeping my land clean, has been a surprising maintenance of fertility, with but little consumption of manure; and I have reason to think from the crops I have raised that there is far less exhaustion of the soil by sowing thin. The luxuriance of my Wheat sown on poor land the fifth year since the application of manure, can only be accounted for by supposing that it arises from saving the ground from premature exhaustion resulting by the later occupation of all space which proceeds from thinner sowing. Two bushels of Wheat sown per acre, broadcast or in narrow drills, will occupy the whole of the ground long before tillering would commence; whereas 3 pecks leave much space unoccupied and unexhausted until tillering has filled up the intervals. Certain I am, thin seeding, as practised by me, gives me larger crops, and with less occasion for manure.—*Hewitt Davis, 3, Frederick's-place, Old Jewry, London, Feb.* 1.

Farmers' Clubs.

READING, *Feb.* 19: *Expence of Feeding Cattle.*—Mr. WM. STEPHENS said that on the present occasion he should lay before the meeting some account of the expence of feeding cattle, and the advantages to be derived from steaming the food before it was given to them, which he had reckoned, so far as his experiments had yet been tried, that food consisting of two-thirds of Swedes and one-third hay chaff was increased in weight from 18 to 25 per cent. by steaming. Having had the advantage in the early part of his life of a knowledge of the saccharometer, he had applied it in testing the qualities of roots, and found the results to be as follows:—

The saccharine of Red Mangold Wurzel is 1-20th part of the saccharine of malt.
The saccharine of the Globe Mangold Wurzel is 1-8th part.
The saccharine of Swede Turnips is 1-11th part.
The saccharine of Red Carrots is 1-5 part.
The saccharine of White Belgian Carrots is 1-7th part.
The saccharine of Parsnips is more than 1-4th.

He had 21 oxen in sheds, in which he fed them, and did not often remove their excrement. He could not yet speak as to the comparative effect of steamed food on oxen; but as to sheep he could give some little information of its effects. This year he had had a considerable number of ewes prove barren, and on the 12th of last month he took 36 barren ewes promiscuously, and divided them into two lots—18 in each, and then had them weighed. One lot weighed in the aggregate 2,120 lbs.; the other, singular to relate, weighed 2,117 lbs. With one lot no pains were taken, they were fed in the same yard in the ordinary way, with 4 lbs. [illegible] weight of Turnips and hay. The other 18 were fed upon the same quantity of food (steamed), in equal proportions, four times a day. At the end of four weeks both lots were weighed, and it was found that the 18 which

had been fed in the usual way had only increased 148 lbs. on the original weight, while those which had been fed upon the same weight of food steamed had increased collectively 220 lbs., being on an average above 12 lbs. each, and the others about 8 lbs. each on an average. This gave a difference in favour of the steaming system of an increase of a stone and a half against a stone, in the same time, under the old plan. And he remembered the remark one of the men made on the occasion, which was that those who had partaken of the steamed food were "very sweatty." All the sheep were kept in one shed. Mr. Stephens also stated that the tops and bottoms of hay ricks cut into chaff and steamed are readily eaten by cattle. He had in his yard 21 head of cattle, 12 heifers, 36 sheep, 17 pigs, besides other pigs which were occasionally in the yard, and that it required about 2 cwt. of coals per day to steam the food for these animals. The cost of the coals was 2*s.* 4*d.* per day. All the expenses, including interest of money, he had calculated amounted to 9*s.* 9*d.* per day. At their next monthly meeting he should be enabled to give the increased amount of weight in the sheep from this system, which he should lay before the meeting.

Calendar of Operations.

MARCH.

BEDFORDSHIRE FARM, *March* 1.—The horses were employed in drawing clay upon light land, in the frosty days of February. About 60 tons of clay were applied per acre, at an expense of nearly 3*l.* In fine weather the horses have been kept to plough on sandy soils; in wet weather dung and gravel carting has occupied them. We drilled some white Peas on the 4th of the month, about 4 bushels of seed were used to the acre; the Peas are now above ground. The manual labour of the farm has consisted in threshing and dressing corn, in hedging, ditching, draining, dibbling Beans, digging gravel, planting trees, putting down new quick fences, and attending upon stock. The draining was upon a stiff marly clay, 4 feet deep, and cost 2*s.* 2*d.* per imperial chain. Some stiff clay land, drained 4 feet deep, years ago, is kept perfectly free from injury by surface water, even with the excessive quantity of wet which has lately fallen. I have seen land completely saturated with water, where the drains were only 2 feet deep. The Wheat plant looks generally well. Winter Beans are rather too forward: in general far too thick. The pastures have a beautiful green, summer-like appearance. The prospect of agricultural matters in general are not discouraging.—*R. V.*

BERWICKSHIRE MERSE FARM, *March* 3.—Since last report we have been ploughing Grass land for Oats, leading Turnips to the store, the women pulling up and filling the carts. Carrying Wheat to Berwick, and loading home with drain-slates; carting coals, threshing and dressing Barley, and threshing Oats (water power); a woman with the shepherd cutting Turnips; a man and a boy feeding the cattle.—*J. B.*

EAST LOTHIAN FARM, *March* 4.—Weather continues unsettled, with showers of rain that retard farm operations at this important season, such as ploughing Turnip land intended for spring Wheat; the sowing of Beans and other spring corn is also delayed from the same cause. Except threshing for litter for the feeding courts, &c., work during the week has been trifling.—*S.*

NORTH LINCOLNSHIRE FARM, *March* 4.—We have been engaged since last report in leading manure, delivering Oats to market, leading straw to cover staddles, getting in Mangold Wurzel from store, cleaning round buildings, carting coals, and threshing Wheat two days.—*J. U.*

PEMBROKESHIRE FARM, *March* 1.—[Extent 400 acres, the greater part clay soil, 250 of which are under a rotation of crops, and 150 in permanent pasture.] The young Wheat (56 acres) looks healthy, sown in Sept. and Oct. at the rate of 1½ to 2 bshls. per acre; 3 acres of which was transplanted the first week in Nov., from seed sown in the end of July, has stood the winter well, and now looks promising. Land intended for Beans (16 acres) manured with 15 tons of farm-yard dung per acre, now ploughed in ready for sowing. When weather permits, ploughing lea for Oats is the present operation; when unfavourable, threshing with 4-horse machine, which does all at one operation, dressing the corn ready for market; it is made by Riddle, of Berwick. We have fattened two dozen oxen on Turnips, straw, and hay, 12 of them on steamed Turnips, the other 12 on raw; there is scarcely any difference in either lot, one fattening as soon as the other; part of each lot sold at from 16*l.* to 18*l.* a head. All the other stock are getting Turnips and straw in open sheds. The cows have nearly all calved, which are all kept for stock. Breeding ewes are now getting Swedes and hay; they will lamb this month, and all are intended to be kept for stock. Labourers employed taking down old banks and enlarging fields, likewise repairing hedges; boy with horse and cart taking home Turnips, constantly, and one man pulling them. All urine from stables, cowhouses, piggeries, &c., collected in tanks, and applied to the dungheaps occasionally. We prefer keeping the dung in the pit until it is required, rather than carting it to field before it is wanted, as the turning of it up sets free a quantity of the ammonia. Working horses allowed 1 bushel of Oats per week, with a stable pailful of boiled Turnips and chaff, with a little hay, at night.—*J. H.*

SOUTH HAMPSHIRE FARM, *March* 4.—Since our last report the weather has been unusually wet and stormy, so as to completely prevent any horse labour being done upon the land. We have in consequence employed our horses in threshing Barley and Oats, also Talavera Wheat with machine; carting gravel for road repairs; carting Barley to the maltsters three days, returning with town manure and Peruvian guano to be stored in readiness for the Turnip crop; carting faggots, and drawing timber from the sides of fields, where it has been recently cut, as much injury has been done to the corn crops by it for many years past, carting ashes from heaps which have been carefully thatched during the past winter for various purposes; carting dung from the stalls, and all parts of the farm-yard where accumulations have taken place, and spreading it equally over the yard, and mixing the different kinds of manure as much as possible. Our plan being to apply the farm-yard manure to the Wheat crop only, it becomes a matter of much importance how it can be kept during the summer months with the least loss, both of bulk and quality, and we have found for some years past that the manure is more valuable after remaining in the yard than under the former plan of carting into heaps in the field two or three times in a year; thus instead of the farm-yard being considered the place for cattle to feed together promiscuously as formerly, we think it much better used as a repository, or store for manure, the cattle all being fed in stalls or loose boxes, and the manure to be removed as cleanliness and convenience require, and whenever the manure is removed to the yard during the summer, it should be covered with fresh litter or straw immediately, to prevent evaporation and the escape of ammonia. Our labourers have been employed several days with the threshing machine, also in winnowing the corn; when the weather has been fine the out-door work has been levelling old banks, grubbing borders round the fields, erecting new banks, and planting Blackthorns, which we find grow better than Whitethorns, and answer a better purpose when we intend to have a base fence, as their roots intersect the bank in every direction, striking up young plants which most effectually bind the clods together and prevent their founder-ing; the Blackthorns will also grow and flourish without the care and cleanliness required to raise a good fence from Whitethorns. Some of our men have been cutting a very deep drain in a quicksand for the purpose of taking off a very strong spring in meadow land, which we do with tiles, 2½ inch arch tile with soles. Some men have been cutting and tying Oziers, which we sell to the basket makers. Our shepherds have had a heartless task in tending their flocks during the late stormy weather; we do not recollect a season when so large a portion of the Turnip crop has been consumed with so little advantage to the stock. The lambing season is now brought to a close, and we know in many cases with calamitous results, by the loss of many, both ewes and lambs, arising mostly from the effect of the epidemic, which we are sorry to say is doing great mischief in this neighbourhood.—*J. B.*

STIRLINGSHIRE CARSE FARM, *March* 4.—This week being very wet at the commencement, we were employed in preparing Barley, Beans, and Oats, for our Stirling spring show; but yesterday and to-day being fine and dry we are going on with the Bean land ploughing, which appears in a fine state for a seed-bed, as we term it.—*W. F.*

SUSSEX FARM, *March* 6.—Ploughing Grass land for Oats, Turnip land for Barley; carting litter from plantations to yards. The land is very wet with yesterday's rain, but if it continue fine for a few days as it is to-day, we shall sow Peas and Oats, and Tares for the sheep. Threshing Oats for seed; carting dung for Turnip land; earth to cover dungheaps; liquid manure on meadow land; lime to mix with earth from hedge-banks for Turnip land; men making hedges and cleaning out ditches; repairing roads, top dressing Wheat with guano, draining, &c. Our ewes will begin to lamb next week; they are at present getting Swedes and hay, which they do well on.—*J. B.*

WEST SOMERSET FARM, *Feb.* 29.—For the last week we have been finishing drilling Wheat with three horses; two harrowing; sown after Swedes and Turnips drawn for the fatting oxen. They were put in on an old pasture pared and burnt, with 4 bushels of superphosphate of lime, ½ cwt. of guano, and about 80 bushels of fine ashes per acre, and had it not been a very dry season would have been an excellent crop. Seven horses employed hauling 65 tons of Mangold Wurzel from a neighbouring farm, bought at 12*s.* the ton, for the use of the oxen, which comes in useful as the Swedes are finished. Until lately they have had boiled Linseed mixed with their chaff, steamed, added to which a little meal made of Oats and Beans. Remainder of the horses have been hauling out manure for Mangold Wurzel and Turnip land; hauling coal, stones, and Thorns. Six men and seven women pulling, and as it is termed here, clamping Turnips for the sheep, of which there are 750, chiefly Southdown wethers. They are folding off a field of Red Globe Turnips (which will come to Oats afterwards) and have had, besides, Oats or meal mixed up with Sainfoin hay, cut up in troughs. This is given morning and evening, and the Turnips cut up for them in the afternoon. One man and boy are draining, doing the work at 1*s.* 6*d.* per rope. Two cutting down useless trees, and grubbing out an old hedge.—*H. E.*

Notices to Correspondents.

ADULTERATIONS—*Merseman*—Thanks for the hint.

AMMONIA—*B B*—Cinder ashes, charcoal, and burnt clay, all detain ammoniacal and offensive exhalations. Use them in great excess, so as to dry up the material. The substance alluded to in 1845 was probably green vitriol (sulphate of iron), which should be applied in solution at the rate of about four for every one of ammonia that the mass is likely to create.

BUCKWHEAT—*H B*—It cannot be sown in successive years on the same ground without repeated manurings. Sow about the middle of May.

CARROT-SEED, &c.—*An Improving Subscriber*—We would mix with damp sand not more than a week before sowing. It is better to sow Kohl Rabi and transplant in drills 30 inches apart and 18 inches from plant to plant. Sow Swedes on drills 26 inches apart, and single out to 12 inches.

DRAINAGE—*R*—The only explanation is by an admission of error. We shall get it corrected. The table you refer to is, we imagine, one published by Mr. Charnock in a late volume of the *Agricultural Gazette*. We have nowhere seen it published in a separate sheet.

FLAX—*A New Subscriber*—Mr. Nichols has republished his Treatise from the "Journal of the English Agricultural Society." Sproule's pamphlet on the subject, published in Dublin, is also a good one.

GAMMON'S FARM—*Dombey*—We published the case as bearing on the question of the maximum yield of Wheat. No doubt this is affected by the quantity of game. But as no personal matters were exposed in the statement kindly furnished us by the present occupant, we must decline to give the subject a personal bearing now.

HARRISON'S RAT PILLS.—How strange that these are not advertised: I want them much. *T. W. L.*

IS TWO-YEAR OLD TURNIP-SEED ALIVE?—*Dubitans*—It may be; but we should prefer purchasing fresh seed to running the risk.

ITALIAN RYE-GRASS—*Clericus*—We should prefer the stable manure; but you must not add lime along with it. Lime should be applied some months after the manure, as it will dissipate the ammonia which the latter contains. It might be applied after slaking as a top dressing, before winter, without injury to the Grass.——*J H D*—We have *heard* of it being sown now and yielding a good crop this spring or in early summer.

LINSEED—*Novice* says, "Could any of your correspondents give me the result of any trials of feeding cattle on ground Linseed in a raw state, *i. e.*, not being boiled or made into a compound, but simply mixed with the chaff. Why should the Linseed be boiled?" [Because thus only can it be thoroughly commixed with the chaff.]

MEASURE-WORK—*Th V Denny*—"Seven yards square" are 49 square yards. It is a square perch where, as in some districts, the perch is 7 yards long.

TEXAS—*H M* wants information in reference to its agricultural and other capabilities. Where can it be had?

WHITE GUINEA-FOWL—*A H J*—An entirely white variety does exist, but the peculiar beauty of the original plumage is ill exchanged for a covering of not the purest white. Their infrequency sufficiently shows that they are neither produced nor propagated in great numbers, if that is what is meant by their being profitable. People, however, seldom keep rare birds from mere motives of gain. "A. H. J." should read the article on Guinea-fowl which appeared in the *Gazette* of Sept. 18, 1847. He will find full details about rabbits in "Moubray on Poultry, &c." (8th edition), p. 180; in "Farming for Ladies," p. 322; and in Cobbett's "Cottage Economy." *D.*

*** Communications reaching town after Wednesday cannot be answered till the following week.

Markets.

POTATOES, SOUTHWARK, WATERSIDE, March 6.

The Committee report that the arrivals during the past week have not been many, notwithstanding which our market is well supplied, and prices continue to have a downward tendency. The following are the present quotations:—York Regents, 140s to 160s; Shaws, 120s to 130s; Kent and Essex Regents, 100s to 110s; Kidneys, 120s to 130s; Wisbeach Regents, 80s to 120s; Kidney, 100s to 120s; Scotch Cups, 100s to 120s; Whites, 90s to 100s, Dutch Whites, 70s to 80s; Belgian do., 80s to 100s.

HOPS, FRIDAY, March 10.

Messrs. PATTENDEN and SMITH report that the market remains in the same state as for some weeks past.

Mid. & East Kents, p. cwt.	78s to 105s	Yearling Kents, p. cwt...	48s to 60s
Weald of Kents	56 — 72	Yearling Sussex	46 — 68
Sussex	54 — 70	Old Hops	20 — 40
Farnhams	84 — 126		

COVENT GARDEN, March 11.

The market continues to be well supplied with Vegetables and with most kinds of winter Fruit. Pine-apples, however, are scarcer. The supply of foreign Grapes is well kept up. Pears and Apples are as plentiful as could be expected, considering the season. Of the former, specimens of Beurré Rance, Easter Beurré, and Ne Plus Meuris may be bought at from 3*s.* to 4*s.* per dozen. Nuts are sufficient for the demand. Filberts fetch from 14*s.* to 20*s.* per 100 lbs. Oranges are abundant. Lemons are moderately plentiful. A few forced Strawberries have made their appearance. Of Vegetables, Cauliflowers, Broccoli, Greens, &c., are plentiful. Asparagus and Seakale may be obtained at last week's prices. A few French Beans have been sold at from 3*s.* to 4*s.* per 100. Carrots and Turnips are good in quality. Potatoes realise high prices. Lettuces and other salading are sufficient for the demand. Mushrooms are cheaper. Cut Flowers consist of Heaths, Eclargoniums, Gardenias, Camellias, Fuchsias Azaleas, Hyacinths, Acacias, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 4*s* to 7*s*	Lemons, per 100's, 6*s* to 14*s*
Grapes, Portugal, per lb., 1*s* to 2*s*	Almonds, per peck, 6*s*
Apples, dessert, per bush., 3*s* to 6*s*	— sweet, per lb., 2*s* to 3*s*
— kitchen, p. bush., 2*s* 6*d* to 5*s*	Walnuts, pe bush. 12*s* to 18*s*
Pears, per hali sieve, 3*s* to 10*s*	Nuts, Barcelona, per bush., 20*s* to 22*s*
Oranges, per doz., 9*d* to 2*s*	— Filberts, per 100 lbs., 14*s* to 24*s*
— per 100, 5*s* to 12*s*	— Cob, per 100 lbs., 25*s* to 30*s*
— butter, per 100, 8*s* to 16*s*	— Brazil, per bush., 12*s* to 16*s*
Lemons, per doz., 1*s* to 2*s*	Chestnuts, per peck, 3*s* to 6*s*

VEGETABLES.

Asparagus, per 100, 2*s* to 6*s*	Onions, pickling, p. hf. sieve, 2*s* to 3*s*
Savoys, per doz., 4*d* to 1*s*	Shallots, per lb., 6*d* to 8*d*
Cabbages, Red, per doz., 2*s* to 4*s*	Garlic, per lb., 8*d* to 1*s*
Greens, p. doz bunches, 1*s* 6*d* to 2*s* 6*d*	Spinach, per sieve, 1*s* to 1*s* 6*d*
Cauliflowers, per doz., 3*s* to 5*s*	Seakale, per punnet, 9*d* to 2*s*
Broccoli, per bundle, 1*s* to 3*s*	Rhubarb, per bundle, 6*d* to 1*s* 6*d*
Brussels sprouts, p. hf. sieve, 1*s*	French Beans, per 100, 3*s.* to 4*s.*
Sorrel, per half sieve, 6*d* to 9*d*	Radishes, per punnet, 1*s* 6*d* to 2*s.*
Potatoes, per ton, 120*s* to 190*s*	Art chokes, Jerusalem, p. hf. sieve, 1*s*
— per cwt., 6*s* to 10*s*	Lettuce, Cab., per score, 4*d* to 9*d*
— per bush., 1*s* to 6*s*	Endive, per score, 1*s* to 3*s*
— Kidney, p. r bush., 4*s* to 6*s*	Mushrooms, per pottle, 6*d* to 1*s*
Turnips, p. doz. bunch., 1*s* 6*d* to 2*s* 6*d*	Small Salads per punnet, 2*d* to 3*d*
Red Beet, per doz., 6*d* to 1*s*	Fennel, per bunch, 2*d* to 3*d*
Horse Radish, per bundle, 1*s* to 6*s*	Savory, per bunch, 3*d* to 6*d*
Cucumbers, each, 2*s* to 3*s*	Thyme, per bunch, 2*d*
Leeks, per doz., 6*d* to 1*s*	Watercress, p. 12 small bun., 6*d* to 9*d*
Celery, per bundle, 6*d* to 1*s* 6*d*	Parsley, per half sieve, 1*s* to 1*s* 6*d*
Carrots, per doz. bunches, 2*s* to 4*s*	— Roots, per bundle, 1*s* to 1*s* 6*d*
Onions, per bush, 2*s* to 3*s*	Mint, green, per bunch, 4*d* to 8*d*
— Spanish, per doz., 1*s* to 4*s*	Marjoram, per bunch, 3*d* to 4*d*

SMITHFIELD, MONDAY, March 6.

We are but moderately supplied with Beasts to-day, and the best qualities are readily disposed of at fully late rates. In some cases, 4*s.* 10*d.* is made of choice descriptions, but our top average quotations cannot be called more than 4*s.* 8*d.* We have 228 from Holland, 58 from Spain, 200 from Scotland, 100 from Ireland and 1800 from Norfolk and Suffolk. The supply of Sheep is unusually small, and quickly cleared off at an advance of fully 2*d.* per 8 lbs. We have several short Sheep in market to-day. The weather is hardly settled enough to cause a brisk demand for them, in consequence of the scarcity, however, they make a fair price, varying from 4*s.* 8*d.* to 5*s.* 2*d.* We have from Holland 270 Sheep and 70 Calves. Although the supply of Calves is small trade is dull for them, and Friday's prices with difficulty supported. Trade continues good for Pigs, the number on hand being but small.

Per stone of 8 lbs.—s d	s d	Per stone of 8 lbs.—s d	s d
Best Scots, Herefords, &c. 4	6 to 4 8	Best Long Wools 4	10 to 5 2
Best Short Horns 4	4 to 4 6	Ditto Short	....
Second quality Beasts .. 3	6 — 4 0	Ewes and second quality 4	2 — 4 8
Calves 4	4 — 5 4	Ditto Shorn	....
Best Downs & Half-breds 5	4 to 5 8	Lambs	....
Ditto Shorn	....	Pigs 4	8 — 5 6

Beasts—2962. Sheep and Lambs—13,670. Calves—117. Pigs—295.

FRIDAY, March 10.

We have a good supply of Beasts to-day as to number, but the best qualities are not very plentiful, consequently these are readily disposed of, but we cannot quote more than 4*s.* 8*d.* for anything. Indeed, Monday's quotations for all kinds remain unaltered. Some second rate remain unsold. Sheep are rather more plentiful than of late, and of better quality. Trade is brisk at Monday's prices. Short Sheep and a few good Lambs are readily disposed of, the weather being mild. Good Calves are in request; 2*d.* per 8lbs. advance is pretty generally obtained. Trade continues steady for Pigs. From Holland we have about 250 Beasts, 200 Sheep, and 46 Calves; 280 Beasts from Scotland, and 160 Milch Cows from the home counties.

Best Scots, Herefords, &c. 4	6 to 4 8	Best Long Wools..... 4	10 — 5 2
Best Short Horns 4	4 — 4 6	Ditto Short	....
Second quality Beasts .. 3	6 — 4 0	Ewes and second quality 4	2 — 4 8
Calves 4	6 — 5 6	Ditto Shorn	....
Best Downs & Half-breds 5	4 — 5 8	Lambs.....	....
Ditto Shorn	....	Pigs 4	8 — 5 6

Beasts—614. Sheep and Lambs—2950. Calves—196. Pigs—290.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, March 9.

Prime Mead. Hay	66s to 72s	New Hay	—s to —s	Straw	24s to 28s
Inferior ditto	55 63	Clover	75 92		
Rowen	50 55	New Clover	— —	J. COOPER.	

CUMBERLAND MARKET, March 9.

Prime Mead. Hay	70s to 75s	Old Clover	81s to 95s	Straw	28s to 32s
Inferior	50 60	Inferior	70 84		
New Hay	— —	New Clover	— —	JOSHUA BAKER.	

WHITECHAPEL, March 9.

Fine Old Hay	65s to 72s	Old Clover	88s to 95s	Straw	24s to 28s
Interior Hay	55 60	Inferior	70 80		
New Hay	— —	New Clover	— —		

MARK LANE, MONDAY, March 6.

Messrs. KINGSFORD and LAY report that the supply of English Wheat by land carriage samples this morning was moderate only, and disposed of on fully the terms of this day se'nnight. Foreign was in fair request, principally for the country, but we are unable to alter our quotations.—Barley, Beans, and Peas are a heavy sale, and 1*s.* the two latter rather cheaper.—Oats are held firmly, and in some instances for more money, which impedes business.—Barrel Flour is a free sale.—Rye-meal remains unaltered in value.—American letters of the 16th ult. quote a rise of 6*d.* per barrel in flour, and the continental markets have also improved 1*s.* to 2*s.* per quarter for Wheat.

BRITISH PER IMPERIAL QUARTER.	*s*	*s*		*s*	*s*
Wheat, Essex, Kent, and Suffolk ..... White	50	60	Red.....	42	52
Norfolk, Lincolnshire, and Yorkshire	48	52	White ..	48	52
Barley, Malting and distilling, 28*s* to 28*s*	Chevalier	28	32	Grinding	23	26
Oats, Lincolnshire and Yorkshire	Blands	22	25	Feed	19	23
Northumberland and Scotch	Feed	20	23	Potato ..	22	25
Irish	Feed	18	22	Potato ..	22	24
Malt, pale, ship		—	—			
Hertford and Essex		—	—			
Rye		28	32			
Beans, Mazagan, old and new .. 37*s* to 40*s*		Tick..	28	42	Harrow ..	30	44
Pigeon, Heligoland	32	50	Winds	46	Longpod	32	35
Peas, White	32	38	Grey Maple	35	Grey	33	35

FRIDAY, March 10.

This morning's market has been moderately supplied with all sorts of grain and Flour, and having but a small attendance, the business transacted was limited for Wheat, but its value fully maintained.—Barley is unaltered in value. Beans and Peas sell slowly.—The Oat trade remains the same as on Monday, and the same may be said of Flour.

ARRIVALS IN THE PORT OF LONDON THIS WEEK.

	Wheat. Qrs.	Barley. Qrs.	Oats. Qrs.	Flour.
English	4850	5910	3 80	3090 sacks.
Irish	—	—	700	
Foreign	4380	2360	8720	— barrels.

IMPERIAL AVERAGES.	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
Jan. 29	52*s* 0*d*	30*s* 8*d.*	21*s* 3*d*	30*s* 6*d*	38*s* 7*d*	43*s* 5*d*
Feb. 5	51 2	30 9	20 7	32 6	38 5	42 9
— 12	51 0	31 2	20 7	30 5	38 1	43 2
— 19	50 11	31 3	21 1	32 4	37 10	42 5
— 26	50 2	30 9	20 8	30 3	38 0	41 7
March 4	49 11	30 8	20 5	30 5	36 9	41 8
Aggregate Average	50 10	30 11	20 9	31 1	37 11	42 6
Duties on Foreign Grain	7 0	2 6	2 6	2 6	2 6	2 6

Fluctuations in the last six weeks' Corn Averages.

PRICE.	Jan. 29.	Feb. 5	Feb. 12.	Feb. 19.	Feb. 26.	March 4.
52*s* 0*d*		...	...	...	...	...
51 2	...	...	...	...	...	...
51 0	...	...	...	...	...	...
50 11	...	...	...	...	...	...
50 2	...	...	...	...	...	...
49 11	...	...	...	...	...	...

SEEDS, MARCH 10.

Canary ..... per qr.	60*s* to 70*s*	Linseed-cakes, Foreign, p. ton.	8*l* to 10*l*
Caraway ..... per cwt.	35 37	Mustard, White, p bush, 6*s* 0*d* to 8*s* 0*d*	
Clover, Red, English	50 52	Superfine p. bush,	— —
— Foreign	35 50	Brown, per bush.	— —
White, English	40 52	Rapeseed, Eng., per last.....	28*l* 32*l*
— Foreign	40 50	Rape-cakes ..... per ton	8*l* 10*s* 6*l*
Coriander.....	10 20	Sainfoin	— —
Hempseed ..... per qr.	38 42	Tares, Eng., winter, p. bsh.,	7*s* 0 8*s* 0
Linseed	42 43	Foreign, per bush.,	6*s* 6 6*s* 0
— Baltic.....	— —	Trefoil	17*s* 0 21*s*
— Cakes, Eng. p. 1000,	13*l* to 13*l* 5*s*	Turnip—too variable for quotation.	

Sales by Auction.

MR. J. C STEVENS will sell by Auction, at his Great Room, 38, King-street, Covent-garden, on Friday next, 17th March, at 12 for 1 o'clock, the COLLECTION OF ORCHIDS of a Gentleman, consisting of well-established Plants in fine health of Vandæ, Saccolabiums, Aerides, Phalænopsis, Dendrobiums, Oncidiums, Odontoglossums, and other favourite genera. Also some fine specimens of Cacti of various species, a small importation of Orchids from St. Thomas, Central America, Palms, Tree Ferns, &c.; 100 plants of Araucaria imbricata from 12 to 15 inches high, and 50 plants of Cedrus Deodara from 6 to 8 inches high.—May be viewed the day prior and morning of Sale and Catalogues had.

TO NOBLEMEN, GENTLEMEN, FLORISTS, & OTHERS.
IMPORTANT SALE OF CARNATIONS AND PICOTEES.

MESSRS PROTHEROE AND MORRIS are instructed by Mr. John Dickson, of Acre-lane, Brixton, to submit to public competition at the Auction Mart, Bartholomew-lane, on Thursday, March 16th, and Tuesday 21st, 1848, at 12 o'clock, about 1000 pairs of first rate CARNATIONS and PICOTEES, selected with great care from his well established stock; also a splendid assortment of Standard and Dwarf Roses, consisting of all the leading varieties, choice Fuchsias, Verbenas, Dahlias in dry roots, a variety of plants in bloom, &c.—May be viewed the morning of sale, and Catalogues had, of Mr. J. Dickson; at the Auction Mart, and of the Auctioneers, American Nursery, Leytonstone.

P. and M. feel great confidence in calling the attention of Amateurs and Florists to this sale, as they presume the name of the grower is a sufficient guarantee.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will submit to public competition, at the Auction Mart, Bartholomew-lane, on Wednesday, March 15th, 1848, at 12 o'clock, a very rich collection of CARNATIONS and PICOTEES, comprising all the esteemed varieties; also a splendid assortment of Standard and Dwarf Roses, fine Auriculas, choice Dahlias in dry roots, with a collection of fine Lancashire Gooseberries, new Currants, &c., the property of Mr. Willmer, sen., of Sunbury.—May be viewed the morning of sale, and Catalogues had, at the Mart, and of the Auctioneers, American Nursery, Leytonstone.

TO NURSERYMEN AND SEEDSMEN.

TO BE DISPOSED OF, and entered upon immediately, the Goodwill (with the Stock in Trade, &c.) of a highly respectable and flourishing NURSERY AND SEED BUSINESS, in one of the most prosperous and increasing towns in England, 36 miles from London, and in which is held a very large weekly Corn Market. The Nursery consists of about five acres of ground, held on lease at a moderate rent, in the immediate neighbourhood of the town. The Premises are situated in one of the finest agricultural districts in the kingdom, having a numerous resident gentry, and the business is offered for sale in consequence of the retirement of the proprietor. Railway and canal carriage to all parts of the kingdom. Part of the purchase-money may remain on approved security.—Apply (by letter, from principals only) to ADAM BURN, Esq., Great Carter-lane, Doctor's-commons, London.

MR. J. J. FOSTER, of Edgeware and Stanmore Nurseries, intends selling at the London Auction Mart, on Tuesday next, 14th March, at 12 for 1 o'clock, a superb collection of carefully selected ROSES, consisting of Standard, Moss, Hybrid Perpetual, or Autumnal Roses, Bourbons, Chinas, Persian Yellow, &c., together with Ornamental Trees, &c., for Lawns, all from a first-rate grower, and warranted true to name.—To be viewed on the morning of sale, and Catalogues had at the Mart, and 24, Mark-lane.

WANTED TO RENT, A SMALL FARM.—A moderate sized but gentlemanly Cottage, with from 100 to 150 acres, chiefly arable. It should be within 20 miles of town, unless near a railway, and the western road would be preferred.—Address particulars to Messrs. BROOKS and GREEN, Estate Agents, 28, Old Bond-street.

FARMS WANTED.

WANTED, A FARM, of from 150 to 300 Acres. The Advertiser has ample capital, and would be a desirable acquisition on any estate. The land must be suitable for Turnips and Barley, and have a comfortable House, &c., upon it. If within 50 miles of London, so much the better. Also a FARM of from 100 to 150 Acres. Particulars to be sent to Messrs. WEST and BAILEY, Land Agents, 4, Great Queen-street, Westminster.

TO NURSERYMEN AND OTHERS.

WANTED, A SMALL NURSERY AND SEED BUSINESS, where a good Retail Trade is carried on; or a House with a few acres of land in or near a town.—Letters prepaid, with all particulars, to be addressed to A. B., Mr. Sewell's, Surgeon, Clarence-street, Greenwich, Kent.

REGISTERED FEB. 15, 1847.—No. 962.

PATENT GALVANISED IRON HOTHOUSES, GREENHOUSES, CONSERVATORIES, FORCING PITS, &c. Horticultural Buildings of this material are greatly superior to any that have been built before—for their light and handsome appearance and great durability, not corroding, and never requiring painting—for the great quantity of light they admit, and being perfectly water tight, the largest roof not requiring more than 1¼ inch of the light to be taken up where the sashes slide together, and not being more than half the weight of wood, and being stronger and cheaper than any others that have yet been made.—Manufactured only by the Inventor, E. PENCH, Hurstpierpoint, near Brighton, where may be seen Hothouses, Forcing pits, &c., in full work, of the same material.—Hothouses, Forcing pits, &c., heated with hot water on the most approved methods. Cucumbers cut to order every week in the year. Cucumber plants for sale.

STEPHENSON AND CO., 61, Gracechurch street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of Scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory 17 New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most Ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

TO MANURE DEALERS, &c.

PREPARED BONE MANURES AND VITRIOLISED BONES.—The results of the past years have proved the above tillages (when properly prepared) to be the best and cheapest in use, and are now guaranteed of uniform and superior quality.—For samples and prices, apply to J. T. PEARSON, Manufacturer and Agricultural Chemist, Leeds.

HOT-WATER APPARATUS AND HORTICULTURAL BUILDINGS.

DANIEL AND EDWARD BAILEY, of 272, Holborn, construct and erect Hot-water Apparatus for Warming Horticultural Buildings, Dwelling-houses, Churches, and Manufactories, in a simple and effectual manner, on moderate charges. They have erected Apparatus in England, Scotland, and Ireland for many noblemen and Gentlemen. They had the honour to be employed in heating the range of Hothouses and Pits in HER MAJESTY'S NEW CAPITAL AT FROGMORE, and in executing the work of the splendid Conservatory erected by the Horticultural Society at Chiswick, and also in the erection of the Conservatory attached to the Parish on Bayswater.

D. and E. BAILEY, who were the first to introduce into the Curvilinear Hothouse to Horticulturists, continue to make alterations of Horticultural Buildings and execute such Timber work at their Manufactory, 272 Holborn.

WARMING BY HOT WATER AND ALSO BY AN IMPROVED POLMAISE STOVE.

COTTAM AND HALLEN, ENGINEERS, SMITHS, AND IRON FOUNDERS, No. 2, Winsley-street, Oxford-street, and Cornwall-road, Lambeth.

CONSERVATORIES, FORCING HOUSES, and every description of Horticultural Buildings, Churches, Dwelling-houses, &c. perfectly warmed by the circulation of Hot Water through cast iron pipes; the principle being rendered very simple in construction, effective in operation, and economical in the cost of the apparatus and consumption of fuel—the result of the great experience which C. and H. have obtained by their warming buildings for every possible purpose for many years past.

AN IMPROVED POLMAISE STOVE, exposing a much larger heating surface than flat plates.

Horticultural Buildings erected of Iron or Wood, or of Iron and Wood combined; Verandahs, Ornamental Iron and Wire Work, Hand glass frames, Flower Stakes, Hurdles, and every description of Fencing; Bedsteads, brass and iron; the patent Rheocline or Spring Bedstead; Stoves, Ranges, Furnishing Ironmongery, Agricultural Implements, &c.

Show Rooms for every description of Iron Work, &c. at the Manufactory, No. 2, Winsley-street, and 76, Oxford-street, three doors from the Princess's Theatre.

THE LONDON MANURE COMPANY beg to offer the under-mentioned MANURES on the best terms:—The URATE of the LONDON MANURE COMPANY, for Turnips, Tares, Oats, Barley, and all other Spring Crops.

GENUINE PERUVIAN GUANO, DIRECT FROM THE IMPORT WAREHOUSE.

Nitrate of Soda—Petre Salt for dressing old Pasture—Agricultural Salt—Superphosphate of Lime—Soda Ash—Pure Gypsum—Bone Sawdust—Sulphuric Acid—Sulphate of Ammonia, and every other artificial Manure. E. PURSER, Sec.

No. 40, Bridge-street, Blackfriars, March 11.

THE following MANURES are Manufactured by Mr. LAWES, at his Works at Deptford-creek:—

Corn Manure	14l. per ton.	Grass Manure	14l per ton.
Clover do.	14l ,,	Turnip do.	7l. ,,

Superphosphate of Lime, 7l. per ton.

Mr. LAWES has also made preparations for supplying the various artificial MANURES of commerce, and if Agriculturists will trust the selection of them to him, and will furnish him with the necessary information, he will supply those which he considers most suitable to the soil and crops. A paper containing the questions required to be answered will be forwarded upon application to his Office, 69, King William-street, City, London.

GUANO AND OTHER MANURES ON SALE.—Guano, Peruv. & British; Superphosphate of Lime; Bonedust and Bone Sawdust; Dried Night-soil. Urate. } For Wheat, Oats, Barley, Grass Seeds, Turnips, Mangold Wurzel, Potatoes, &c.

Gypsum, for Clover, Cinquefoil, &c.; Nitrates of Soda and Potash, as stimulants; Petre Salt, for dressing old Pastures; Agricultural Salt, for Compost-heaps, &c.; Sulphuric Acid, for dissolving bone; Soda Ash, a destroyer of Wireworm; and all other Manures of known value. Also Horticultural Glass, Milk Pans, &c.—Apply for prices current, to MARK FOTHERGILL, Office 201 A, Stores 40, Upper Thames-street.

POTTER'S GUANO.—SEVENTH YEAR.—TESTIMONIALS. Whittington, near Lichfield, Aug., 1847.

Mr. Potter.—Sir—I have tried your Guano in several ways against the best Peruvian, and *find it superior*; which I hope will be a convincing proof for another season.—I am, sir, your obedient servant, W. WARD.

Experiment of the Earl of ZETLAND—Potter's Guano against Peruvian, on Grass.

	Tons	Cwt.	Qr.
POTTER'S GUANO, 2 cwt.—Hay per acre	2	8	0
Peruvian Guano, 2 cwt. ,, ,, ...	1	18	0
In favour of Potter's	0	10	0

Numerous Testimonials will be sent on application per post. The price of Potter's Guano is much under the Peruvian.

POTTER'S PURE SULPHATE OF LIME.—GYPSUM.

TESTIMONIAL.—Sir—I have had your Sulphate of Lime examined by an excellent Chemist, who speaks very favourably of it. Please send 2 tons direc ed to ASHBURST MAJENDIE, Hedingham Castle, Essex.

This is the *cheapest* article sold, being much under the usual price.—Factory, 28, Clapham-road-place, London.

*** Sulphate of Ammonia, Superphosphate of Lime, Oil of Vitriol, Burnt Bones, Bone Dust, &c., &c., at lowest prices.

MR. J. C. NESBIT'S CHEMICAL MANURES.

THE LONDON MANURE COMPANY beg to announce that they have undertaken the exclusive manufacture of the manures recommended by Mr. J. C. Nesbit. The substances used in their preparation will be subjected to Mr. Nesbit's analysis, and every care will be taken in their manufacture. Hop Manure, Superphosphate of Lime Wheat and Clover Manure. A Pamphlet on Artificial Manures, by Mr. J. C. Nesbit, now ready.

The London Manure Company have also made arrangements for a large supply of Fishery and other Salt, which they can offer on good terms.

E. PURSER, Secretary, 40, Bridge-street, Blackfriars.

PERUVIAN AND BOLIVIAN GUANO [illegible]

THOMAS WHALLEY [illegible]

ABRAHAM HARDY [illegible]

CHARLES SHARPE, [illegible]

AGRICULTURAL SEEDS.—[illegible] their Tenants with Seeds can be [illegible] and prices at wholesale rates by THOMAS WHALLEY [illegible], Liverpool.

AGRICULTURAL SEEDS.

THOMAS WHALLEY begs respectfully to inform his friends that his price [illegible] season is now ready, and may be had [illegible] tion. T. W. has published a [illegible] FLOWER SEEDS, which will be [illegible] and may also be had free on [illegible] Seed Warehouse, 12, St. [illegible] Liverpool.

MANGOLD WURZEL.—[illegible] 1s. 6d. per lb. [illegible] The above are warranted.—WM. JAMES [illegible] Seedsman, Maidstone.

ROBINSON'S PORTABLE STEAM [illegible]

THOMAS WHALLEY begs to call [illegible] the above valuable APPARATUS, which [illegible] Premiums of the Royal Agricultural Society [illegible] 1847 and 1848, besides many local prizes. The [illegible] sufficient food for 3 head of cattle per [illegible] that any farm labourer can manage it. The [illegible] cluding free delivery in many parts [illegible] may be had on application.

Seed and Implement Warehouse, 12, St. [illegible] Liverpool.

BEE-HIVES.—All persons desirous of Cultivating that pleasing and profitable [illegible] the Honey Bee—are respectfully informed that NEWMAN and SON, that they have prepared for the [illegible] supply of their various improved BEE-HIVES, which consists of "Nutt's Collateral Lever," "The Improved Cottage Hive," "The [illegible] Hive," "Taylor's Bar Hive," &c. [illegible] Honey may be taken at any time [illegible] and may be worked with a [illegible] most timid and unaccustomed to Bees. [illegible] tive paper, with drawings and prices, [illegible] receipt of a postage stamp.—[illegible] house, 127, High Holborn, London.

NUTT ON BEES [illegible]

PORTLAND CEMENT.—[illegible] all quarters prove this CEMENT [illegible] perty of withstanding the severest [illegible] superior to every other [illegible] and lining of Reservoirs, Cisterns, [illegible] external plastering and [illegible] colour for paint. It never requires [illegible] to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, [illegible]-street, Westminster.

IMPROVED FARMING [illegible]

THRESHING MACHINES [illegible] Power, doing from 25 to [illegible] of Wheat-straw per [illegible]—straw undamaged, price of quietness, including carriage and horse-power. A GORSE MACHINE, [illegible] hour, will prepare 50 bushels per day, price [illegible]. WEEDING MACHINE will cut 200 bushels per day, price [illegible]. Dressing Machine [illegible]. TURNIP CUTTERS, [illegible] Stubble Rake, Oil-Cake Breaker, [illegible] and Cast Ploughs, Essex Ploughs for 2 horses, Subsoil Plough, [illegible] Field Roller, &c. Seed Machines from [illegible] to [illegible] according to length. References given and testimonials produced of superiority.—MARY WEDLAKE, 118, Fenchurch-street.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK AND TILE MACHINE COMPANY (James Smith, Esq., of Bearnston, Chairman) invite attention to their IMPROVED BRICK and TILE MACHINES, which are to be seen at work at Alperton, and at the Company's Office, 193A, Piccadilly, from 10 A.M. to 5 P.M. Mr. Robert Scrivener, who has been appointed Manager in the room of Mr. John Ainslie, will show the Machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, 193A, Piccadilly, London.

These Machines may also be seen at Mr. Slight's, Leithwalk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill, 135, Buchanan-street, Glasgow; Mr. Robert Charles, Mill-hill, Leeds; Messrs. Perry and Finch, Penkeridge, Staffordshire; Messrs. Drummond and Son, Dublin; and at Mr. John Connor's, Newtown Limavady, County Derry.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c., of at least 100 sorts and sizes. In addition to the numerous purposes to which it is applied already this material may be moulded into a great variety of articles required either at home or abroad by the nobility, clergy, gentry, architects, civil engineers, and builders; also by owners and occupiers generally of land, mines, railways, buildings, gardens, and other property. See advertisement, with figures, in the Builder of the 2d, 16th, and 30th October, and 13th November last, also the 1st instant. Lists are ready, containing prices, both per number and also per square, per yard, per foot, &c. Applicants would oblige by stating if they want the prices in London or in Staffordshire.—4 Wharf, City-road-basin.

HYDRAULIC ENGINES.

J. LEGG begs to return thanks to his patrons and friends, and also to inform them that he continues to erect his improved Hydraulic Engines, Water Ram, &c., suitable for all situations where a fall can be obtained, also Engines for Deep Wells. J. L. also begs to inform his friends that he has made several improvements on his Hydraulic Machines, and flatters himself that he is able to compete with any parties of the present day in the construction of the above machines.

Apply to JOHN LEGG, Cheltenham.

FLEXIBLE INDIA RUBBER PIPES, FOR GARDENING AND AGRICULTURAL PURPOSES.

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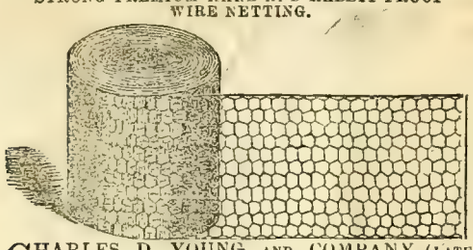

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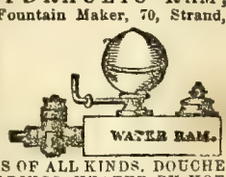

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THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News. The Horticultural Part Edited by Professor Lindley.

No. 12.—1848.] SATURDAY, MARCH 18. [PRICE 6d.

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Salpiglossis, every variety mixed, per lb., 36*s.*; per oz., 2*s.* 6*d.*
,, new yellow, true, per packet, 1*s.*
Schizanthus Grahamii, per lb., 60*s.*; per oz., 4*s.*
,, retusus or Hookerii, per lb., 60*s.*; per oz., 4*s.*
Schizopetalon Walkerii, per oz., 7*s.*
Thunbergia alata, per oz., 6*s.*; aurantiaca, per oz., 7*s.* 6*d.*; alba, per oz., 8*s.* Tropæolum pentaphyllum, per oz., 6*s.*
Sold by J. G. WAITE, at his Seed Establishment, 181, High Holborn, London, with every other description of Flower Seeds, &c., for which see his unrivalled Catalogue. Catalogues may be had on application.

NEW MOSS ROSE, "LANEII."—This Rose has been exhibited and well proved. In colour it is a beautiful shaded carmine; very large and double, with very sweet foliage. Price 10*s.* 6*d.* each (standards and dwarfs). Discount to the trade when six plants are taken. The Catalogue may be had by enclosing two penny stamps; it contains notes of those best suited for pot culture, training on walls, trellis, and grouping; also a List of those established in large pots for early forcing, the plants of which are very strong.
H. LANE and SON, Great Berkhamstead.

MESSRS. NESBITS' CHEMICAL AND AGRICULTURAL SCHOOL, 38, Kennington-lane, London.—A sound practical knowledge of Analytical and Agricultural Chemistry, Geology, Surveying, Levelling, Railway Engineering, &c., may be obtained in Messrs. NESBITS' Academy, in addition to a good modern education.
Mr. NESBIT'S works on Arithmetic, Mensuration, Gauging, Land-Surveying, English Parsing, &c., are published by LONGMAN and Co., and may be had of all Booksellers.
The terms of the School can be had on application either personally or by letter.

MANGOLD WURZEL.—Yellow or Orange Globe, 1*s.* 6*d.* per lb. Ditto Long Giant Red, 1*s.* 6*d.* per lb. The above are warranted.—WM. JAMES EPPS, Agricultural Seedsman, Maidstone.

BASS AND BROWN'S DESCRIPTIVE PRICED CATALOGUE OF SEEDS FOR 1848 will be sent free by post on application. For Advertisements of a few select VEGETABLE SEEDS from the Catalogue see *Gardeners' Chronicle* dated Jan. 8th, page 18; Jan. 22d, page 49; and Feb. 5th, page 82.

SELECT AND CHOICE FLOWER SEEDS sent free by post with full directions for sowing, heights, colours, &c., viz.:—

	s.	*d*
100 varieties best and newest annuals, including choice Stocks, Asters, Zinnias, &c.	15	0
50 varieties ditto for 8*s.* 6*d.*, 30 for 5*s.* 6*d.*, 20 for	4	0
20 varieties best dwarf kinds in larger packets, suited for filling beds on lawns, 7*s.* 6*d.*, or 12 ditto	5	0
20 varieties best Greenhouse Annuals, including very splendid Balsam, Phlox Drummondi, Brachycome, Mesembryanthemum tricolor, Portulaca, Rhodanthe, Thunbergia, Martynia fragrans, &c.	7	6
20 varieties choice Greenhouse Perennials, including choice varieties of Calceolaria, Cineraria, Fuchsia, Petunia, &c.	10	6
20 varieties choice Hardy Biennials and Perennials	5	0
36 varieties imported German Stocks	6	0
20 ditto ditto	4	0

For List of Flower Seeds selected from the Catalogue, see *Gardeners' Chronicle* of Feb. 19, p. 128; and March 11, p. 170.
VEGETABLE SEEDS complete in Selections for small and large gardens, embracing the choicest and newest kinds at 10*s.*, 25*s.*, 42*s.*, and 63*s.* Should certain vegetables not be required, enlarged quantities of others will be sent in the selection.
Our Descriptive Priced Catalogue for 1848, of NEW and SELECT GERANIUMS, FUCHSIAS, DAHLIAS, PETUNIAS, VERBENAS, CHRYSANTHEMUMS, and GREENHOUSE and STOVE PLANTS, may be had gratis on application. Also our Priced Catalogue of HARDY HERBACEOUS PLANTS. Remittances with orders are requested from unknown correspondents. Postage stamps received in payment for small amounts. In consequence of recent post office arrangements, money orders can now be made payable to BASS and BROWN, instead of either names in full length.
Seed and Horticultural Establishment, Sudbury, Suffolk.

AMERICAN TREE AND SHRUB SEEDS, just received, likewise strong heath plants of [illegible] purpurea, Trillium grandiflorum, T. erectum, T. pictum, and Erythronium americanum, a priced Catalogue of which is published, and can be had on application.
Vegetable and Flower Seeds, comprising all the most approved varieties, together with every description of Agricultural Seeds, viz., Turnips, Grasses, Cereals, Mangold Wurzel, Carrots, &c., of which prices can be had.
INDIAN CORN, the best and earliest varieties for sowing in this country, either in ear or loose.
POTATO SEED, English, German, and American.
Prices of any of the above, or estimates for any quantity of land, immediately attended to, by GEORGE CHARLWOOD, 15, Tavistock-row, Covent Garden, London.

SUPERB FLOWER SEEDS.

WM. JAMES EPPS, F.H.S., descriptive Catalogue of Flower Seeds is now ready, which can be had by enclosing a postage stamp. Purchasers may depend upon their being new and genuine, as the whole are saved and collected under his own superintendence.

	s.	*d.*
No. 1 collection, 100 packets of the leading and newest kinds	10	6
,, 2, 60 packets, do.	5	0
,, 3, 30 do. do.	2	6
,, 4, 20 do. do.	1	6

High-street, Maidstone, Kent.

DOUBLE STOCKS EXTRAORDINARY.

H. J. HARDY begs respectfully to thank his numerous Friends and the Public for the kind patronage, and to inform them that he has a [illegible] of his SPLENDID DOUBLE GIANT STOCK, which is now coming out in packets 1*s.* each, or 12 packets for 10*s.* 6*d.* This brilliant scarlet, grows 4 feet high, flowers from the very bottom to the top, very thick, and very large [illegible]. The flowers are as large as the [illegible] of a [illegible], very full, and very double. All lovers of superb flowers must have a succession of this.
H. J. H. also has the finest collection of Double Larkspurs, German Asters, and Ranunculus in Europe, at 1*s.* per collection. 100 Choice Annuals, 5*s.*
H. J. HARDY, 7, Windsor-row, City-road, London.

HART AND NICKLIN, Florists, Guildford, Surrey, beg to announce that they intend sending out the undermentioned Seedling PANSY.
SOUTHERN STAR (Self), [illegible] and bearing purple top petals, and bearing large [illegible] 1*s.* 6*d.*
They have good plants of the [illegible] Brutus, Cassandra, Great Britain, Lady Sale, Lord Gough, and Matilda—Hoopoe's. Superior Yellows, Sultana, Duchess of Rutland, Thomson, Hamlet, Hall's, The Duke, Cook, Beauty of Guildford, Othello, &c.
GERANIUMS.—The following [illegible], free to London: Arabella, Desdemona, Isabella, Marc Antony, Orion, Pet, Imperatrice, Shakspeare, Rosy Circle, and Zenobia.
FUCHSIAS, 12*s.* the dozen.—Beauty of Islington, Carolina, Delicata, Duke of Leeds, Duke of [illegible], Exmouth, Monarch, Napoleon, Queen of the Isles, Prince Albert, and Sanspariel.—Catalogues may be had on application.

MYATT'S LINNÆUS RHUBARB.—Spring being the usual planting season, Messrs. Myatt respectfully request early orders, that they may have sufficient time to supply them with their commands, as [illegible] already parted with. The LINNÆUS is the variety cultivated largely by the Messrs. Myatt in the London market, being remarkably early and unusually productive. The stalks are large and free from filaments, and are admirably adapted for preserving and all other culinary purposes. Other planting roots, 3*s.* 6*d.* each; also Myatt's Royal Albert, Victoria, and Myatt's "Victoria," 1*s.*, with the usual trade allowance.
Manor Farm, Deptford, March 18.

CHOICE AZALEAS, AND OTHER RARE PLANTS.

MESSRS. J. AND H. BROWN beg to inform the Nobility and Gentry they are supplying the undermentioned SHRUBS and PLANTS, carefully packed for any part of the Kingdom or the Continent.

	s.	*d.*
25 Azaleas, New Hardy Pontic or Ghent varieties, the finest the crown roots, with flower buds, one of each sort by name	20	0
25 Azaleas, American varieties, ditto, ditto	10	0
6 Andromedas, of sorts, including [illegible]	5	0
12 Hardy Climbers, of sorts	[illegible]	
New Double-flowering Spiræa, each	[illegible]	
Lilium album and punctatum, fine flowering mature, strong roots, per dozen	12	0
25 Small Hardy flowering Shrubs, one of a sort	10	6
12 Rhododendrons, including scarlet, white, and rose, hardy varieties	12	0
12 Hardy Dwarf [illegible]	[illegible]	
New Yellow [illegible], each	[illegible]	
6 Fine Hardy Magnolias, fit for planting	[illegible]	
12 Rare Hardy [illegible]	[illegible]	
Magnolia grandiflora, [illegible] each	[illegible]	
100 Dwarf Roses, [illegible]	[illegible]	
50 Ditto ditto [illegible]	[illegible]	
Standard [illegible]	[illegible]	
12 Climbing [illegible]	[illegible]	
Cloth of [illegible]	[illegible]	
12 Tea [illegible]	[illegible]	
50 Choice [illegible]	[illegible]	
Arabian [illegible]	[illegible]	
[illegible] per dozen	[illegible]	
Choice [illegible]	12	0
25 Verbenas, [illegible]	[illegible]	
12 [illegible]	[illegible]	
New [illegible] each	[illegible]	
Cinerarias, all [illegible]	2	0
Best Petunias, Verbenas, Geraniums, Fuchsias, Pentstemons, Heliotropiums, Lobelias, and Phloxes, for planting in flower beds, per dozen	4	0

25 Papers of Choice Flower Seeds, 7*s.*; 50 ditto, 12*s.*, sent free by post; also List of Greenhouse Plants, &c. All kinds of Horticultural and Agricultural Seeds supplied.
Albion Nursery, Stoke Newington, London, March 18.

PRESENT PRICES OF SEEDS.—

	Per lb.—s. d.		Per lb.—s. d.
White Belgian Carrot ...	2 6	True Ashcroft Swede Turnip	2 0
Largest Red Cattle Carrot	2 6	Laing's Improved Swede	2 0
Large Guernsey Parsnip	2 0	Red and Green Tankard	1 0
Orange Globe Mangold Wurzel	2 0	Large White Globe Turnip	1 0
Red Globe ditto	2 0	Dale's Hybrid Green topped	2 0
Sutton's Improved Long Red ditto	2 0	Sutton's Hybrid Purple do.	2 0
Sutton's Improved Long Yellow ditto	2 6	Lucerne, fresh imported, fine	1 0
Skirving's Liverpool Swede	2 0	Perennial Meadow Grasses, per acre	32 0

The above SEEDS may be had of very best quality, all grown from selected Bulbs, of JOHN SUTTON and SONS, Reading, Berks.

*** Carriage free to London, Southampton, or Bristol.

WOODLANDS NURSERY, MARESFIELD, NEAR UCKFIELD, SUSSEX.

WM. WOOD AND SON beg leave to draw attention to their very extensive collection of HERBACEOUS PLANTS, which they have much pleasure in offering on the following terms, when the selection of sorts is left to themselves, viz.—

	per doz.	per 100.
Distinct and showy kinds	6s. ...	42s.
Very superior ditto	9 ...	60
Extra Superb ditto	12 ...	75

PHLOXES.

Fine varieties	per doz.—6s.
Choice ditto	,, 9
Very select ditto	,, 12

Catalogues of the above, also of Roses, Seeds, Greenhouse Plants, and Shrubs, may be had Gratis on application.

JOSEPH HOOPER begs to return his sincere thanks to his friends and the public in general for their kind support in purchasing the PANSIES advertised in the *Gardeners' Chronicle* of Oct. 9th, 1847 (a few plants of which are still on hand), and begs to offer the following eight varieties, viz.: "Shylock," "Felix," "Jenny Lind," "Lady Peel," "Venus," "Commander," "Sir H. Smith," and "Star," at 30s. the set; the whole of which J. H. can with confidence recommend as the best in cultivation. A Post-office order, payable in Bath, is requested, and early orders, as the stock is very small.

Freshford Rectory, Bath, March 18.

MAJOR'S NEW PANSY, "MILTON."

HENRY MAJOR, Knosthorpe, near Leeds, has healthy plants of the above beautiful PANSY now ready, and may be had at 5s. each, or six plants for 25s., p. free. Colour, primrose ground, with fine rich eye; the upper petals are deep purple, and a broad and well-defined margin of the same surrounds the lower ones. It possesses fine form, good substance, and flatness. Also may be had, for 24s., p. free, 12 fine Show Pansies, selected from the new varieties of last spring, "Milton" included. Select Pansy seed, 2s. 6d. per pckt.

H. M. will have ready in April, 12 of his best shrubby CALCEOLARIAS, sent out for the first time last spring, price 25s. Select Calceolaria seed 2s. 6d. per packet. From unknown correspondents a remittance is respectfully requested with the order. A descriptive list of H. MAJOR'S beautiful new seedling Calceolarias, together with a descriptive list of the most popular Pansies may be had on pre-paid application.—March 18.

SEED POTATOES.

CHARLES SHARPE, NURSERY and SEEDSMAN, respectfully begs to direct the attention of the Nobility and Gentry to his superior sorts of POTATOES, which, having been grown on the Lincoln and Cambridgeshire marshes, has afforded the advertiser ample opportunity to witness their progress for the last three seasons; he is, therefore, able to recommend the following sorts as being very productive, and the least affected by the disease, and offers them at the following prices, packing included:—

Early Cockneys, fine for forcing	7s.	per bushel of 56 lbs.	
Fox's Seedling, ditto	ditto... 7s.	,,	,,
American Natives,	ditto... 5s.	,,	,,
Ash-leaf Kidney	... 8s.	,,	,,
York Regents	... 5s.	,,	,,
White Kidney, very fine...	... 5s.	,,	,,
Early Shaws	... 8s.	,,	,,
Kentish Pink Kidneys ...	... 5s.	,,	,,

The above will be forwarded immediately after the receipt of a Post-office Order, and the greatest care will be taken to ensure their safe delivery.—Direct, prepaid, to CHARLES SHARPE, Wisbeach, Cambridgeshire.

CABBAGE PLANTS.

THOMAS WELLAND, Wheeler-street Gardens, near Godalming, Surrey, begs to inform Gentlemen, Gardeners, and others, that he has for sale a large quantity of EARLY BATTERSEA, EARLY YORK, EARLY IMPERIAL, and DRUMHEAD or CATTLE CABBAGE, all of which are warranted true in their kinds, at 4s. per 1000, packing crates included. Also Cauliflower plants, 2s. 6d. per 100. Orders likewise received by Mr. Wm. Young, Milford Nursery. The above Gardens have been established for more than 60 years, and several acres of ground are devoted to the growth of the above plants.

FLOWER SEEDS.

CLARKE AND CO., SEEDSMEN, 86, High-street, Borough, London, beg to offer the Nobility, Gentry, and Public the following choice Annuals:

Brachycome, white and blue	Double mixed Larkspurs, 15 colours
German Asters, fine mixed (imported)	Cockscomb, fine dwarf
German Stocks, 36 colours mixed	Coreopsis nigra, new, very dark
Clintonia pulchella	Zinnia coccinea
Phlox Drummondi	Double Balsam, mixed, splendid colours
Dianthus imperialis (new)	Petunia, fine dark
Cuphea silenioides	Double white Indian Pink
Martynia fragrans	Portulaca splendens

The entire collection sent to any part free of charge for 4s.

Any variety separate, 4d. per packet.

65 sorts of choice Annual Flower Seeds.. .. .. 10s. 0d.
30 do. do. do. 5 0

General Catalogues may be had on application.

Mayle's new White FUCHSIA, "Enchantress" .. 10 6
,, ,, VERBENA, "Ruby Superb" 7 6

Pronounced by all who have seen them to be the most splendid varieties extant.

IMPORTANT SALE OF CARNATIONS, PICOTEES, AND PINKS.

N. NORMAN, being compelled, by more important engagements, partly to relinquish the trade in these flowers, has instructed Mr. J. W. NEWHALL to offer the first portion for sale by Auction, at the Mart, Bartholomew-lane, on Thursday, the 23d inst., at 12 o'clock. The collection comprises the "gems of the season," including Edmonds's Jenny Lind, Burroughes's Amy, Headley's Venus and King James, and about 500 pairs selected from one of the best and most unique collections of these splendid flowers in the kingdom.

Catalogues (now ready), may be obtained of the Auctioneer, 86, Powis street, Woolwich; at the Mart; of Messrs. Hurst and McMullen, Leadenhall-street; Messrs. Flanagan and Sons, Mansion-house-street; Messrs. Noble, Fleet-street; Mr. J. Kernan, 4, Great Russell-street, Covent-garden; and at the *Gardeners' Chronicle* office.

N.B.—The remaining portion of the above Stock will be sold at the Mart on Thursday, March 30.

SAMUEL COCKING, Sen., SEEDSMAN, &c., Biggleswade, Bedfordshire, has the satisfaction of informing his friends and agriculturists in general, that he has an excellent stock of the Liverpool and every other description of TURNIP SEED, &c., which he can strongly recommend.

	s. d.
SKIRVING'S LIVERPOOL IMPROVED YELLOW SWEDE	s. d.
TURNIP SEED ... per lb.	1 6
Purple-topped Swedes do.	1 3
Green-topped do. ...	1 3
Russian do.	1 3
Tankard do.	1 0
Hybrid do.	1 0
Yellow Aberdeen do. ...	1 0
Long Yellow Pudding do.	1 0
Green Tankard do. ...	0 9
Red do.	0 9
White do.	0 9
White Pudding do. ...	0 9
Decanter White do. ...	0 9
White Loaf do.	0 8
Green Globe do.	0 8
Round Green do. per lb.	0 8
Round Red do.	0 8
Pomeranian do.	0 8
Norfolk White do. ...	0 8
Green Bullock's Heart do.	0 8
Red Biffin do.	0 8
White Globe do.	0 8
Red Globe do.	0 8
Early Stone do.	0 9
White Belgian Carrot Seed	2 0
Red Altringham do. ...	1 6
Surrey do.	1 6
Long Red Mangold Wurzel	1 6
Red Globe do.	1 6
Yellow Globe do.	1 6
Long Yellow do.	1 6
Large Cattle Parsnip Seed	1 0

S. C. begs to state the Seeds here offered may be relied on, as they are of his own growth.

NEW AND SELECT PLANTS.

BENJAMIN W. KNIGHT, FLORIST, &c., Tivoli, near St. Leonard's-on-Sea, Sussex, begs to call the attention of his friends and the public to the following choice and select Plants, which are now ready for delivery:—

12 choice and distinct FUCHSIAS, fit for exhibition, for 6s.; 12 extra first-rate, very distinct, new varieties, for 12s. 12 fine distinct VERBENAS for 3s. 6d; 12 extra new varieties, quite distinct, for 6s. 12 fine distinct PETUNIAS for 4s.; 12 extra new and distinct varieties for 6s. 12 good distinct CINERARIAS for 6s. 12 fine distinct ANTIRRHINUMS for 3s. 6d.; 12 extra superb and distinct varieties for 6s. 12 fine SALVIAS for 4s.; 12 HELIOTROPIUMS for 4s.; 12 CUPHEA STRIGILLOSA (the best for bedding out), for 4s.; 12 choice bedding out Plants, such as Lobelias, Senecias, Ageratums, &c., for 4s.; 12 extra fine varieties for 6s. The above can be sent post free, securely packed, without any risk of perishing.

Choice varieties of HARDY HERBACEOUS PLANTS, 12 fine varieties for 6s.; 12 extra fine varieties for 9s.; 50 fine varieties for 21s.; 100 fine varieties for 40s.; securely packed, and additional plants put in gratis for carriage. No charge for hamper.—Catalogues of the above may be obtained on prepaid application, enclosing a postage stamp. A remittance or reference is respectfully requested from unknown correspondents.

TO THE TRADE.

CLARKE AND CO., SEEDSMEN, 86, High-street, Borough, London, beg to offer the following SEEDS, warranted first-rate quality.

Dwarf Blue Scimetar Peas	... 12s.	per bushel	
Improved Early Green Marrow do.	... 15s.	,,	
Fine selected Altringham Carrot ...	... 4l.	per cwt.	
Fine large White Carrot	... 1s. 6d.	per lb.	
New Long Red Mangold Wurzel ...	... 1s. 3d.	,,	
New Globe Yellow Do. Do. ...	... 1s. 3d.	,,	
Sword Longpod Beans (fine large sample)	6s. 6d.	per bush.	
Ashleaf Kidney Potatoes	... 6s.	,,	
Lawn Grass, consisting of 10 of the best Grasses (no better mixture can be had ...	10s.	,,	
Fine new White Globe Turnip ...	... 18s.	,,	
Large Hollow-crowned Parsnip ...	... 1s.	per lb.	
New Mignonette	... 4s.	,,	

A remittance or reference from unknown correspondents.—General Catalogues may be had on application.

GARDENERS' REGISTER OFFICE.

HORTICULTURAL ESTABLISHMENT.

J. WEEKS AND CO., King's-road, Chelsea, Architects and Builders of Hothouses, Greenhouses, Conservatories, &c., beg to inform the Nobility and Gentry that they have erected, on their premises, for the purpose of inspection, a variety of Horticultural Buildings, showing all the various modern improvements of the day.

J. WEEKS AND CO.'S PATENT HOT-WATER APPARATUS is unrivalled for simplicity and efficiency. The whole apparatus, in various forms, may be seen in action on their premises. Boilers of all sizes, which only require attendance once in 12 hours.

J. WEEKS AND CO. have, in addition to their Horticultural Manufactory, established an extensive Ornamental Nursery. The buildings, which are now nearly completed, are allowed to be the finest in the country; as also the complete arrangements of the Heating Apparatuses. The whole combining economy with utility and elegance.

There is a rare and most esteemed Collection of Stove and Greenhouse Plants, Catalogues of which will be forwarded.

THEIR SEED CATALOGUE IS NOW READY.

The prices at this Establishment will be found considerably lower than those at any other. Plans, Estimates, and Catalogues furnished free.

A REGISTER OF EVERY CLASS OF GARDENERS requiring situations, classed according to their various qualifications, offers to the Nobility and Gentry an easy means of selecting those best adapted to their purpose.

GARDENERS in want of situations will be furnished with a printed form upon application.

SEEDS, CHEAP AND GENUINE, WARRANTED.

J. WEEKS AND CO., King's road, Chelsea.— The prices at this establishment are not more than half those usually charged. Catalogues of Stove and Greenhouse Plants, Seeds, &c., furnished free.

The Nobility and Gentry supplied with Gardeners, Bailiffs, &c.

COOPER'S PATENT APPARATUS for preserving Fruits, by which process they are perfectly secured for many years, on sale, by JAMES COOPER, at No 8, St. John-street, Clerkenwell, London. Sample Hampers will be delivered at any part of London, for TEN SHILLINGS each, containing fruit in considerable variety, in half-pints, pints, and quart bottles, some in syrup, others plain, with a cork-machine.—Particulars and testimonials will be forwarded by post when requested.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

LINGHAM, BROTHERS, 170, Little Hampton-street, Birmingham, sole Manufacturers of the improved wood MENOGRAPH or LABELS for Garden-borders, Flower-pots, &c., have now perfected several patterns in Zinc suitable for the same purposes, which can be written upon with the greatest facility with their Metallic Ink, prepared exclusively for this purpose, and when dry an indelible inscription is secured. Directions for use sent with each box.

Sole agents in London, G. and J. DEANE, Horticultural Implement Warehouse, 46, King William-st., London-bridge.

NEW AND SUPERB VERBENAS, PANSIES, AND CHRYSANTHEMUMS.

JOHN BELL having purchased the entire STOCK of the under-mentioned SEEDLING VERBENAS, PANSIES, and CHRYSANTHEMUMS, from the respective raisers, can with confidence recommend them as possessing every property requisite in a first-rate flower. Descriptive Catalogues, with Notices by the Editors of the *Gardeners' Chronicle* and Journal may be had on application at the Horticultural Establishment, Bracondale, Norwich.

The following New and distinct VERBENAS were raised by Thomas Edmonds, gr. to Lady Lacon, Ormsby Hall, Norfolk:

EDMONDIANA, fine crimson scarlet	5s. 0d.
VULCAN SUPERB, bright crimson	5 0
PERFECTION, large, light purple	5 0
TRICOLOR, lavender, yellow, and dark	5 0
LYCHNIS, dark scarlet	5 0
OCHROLEUCA, a beautiful straw-colour	5 0
BELLIANA, fine bright crimson	5 0
JENNY LIND, a beautiful rosy salmon	5 0
QUEEN OF PERPETUALS, a beautiful three-coloured flower	5 0

The following Six Seedlings, raised by Mr. Martin Edmonds, gardener to the Rev. R. Forster, Scratby Hall, Norfolk:

WHITE GIANT, the finest white out	5s. 0d.
MARTIANA, fine bright purple	5 0
GULIELMUS, dark purplish crimson	5 0
QUEEN VICTORIA, fine rosy lilac and white	5 0
ACHILLES, light lavender, very large	5 0
MARQUIS OF DOURO, bright purple	5 0

The following Four Seedlings, raised by Mr. Gill, jun., Martham, Norfolk; recommended to surpass any yet sent out:

DUKE OF NORFOLK, brilliant scarlet, yellow eye	5s. 0d.
PETOII, fine large, bright blue	5 0
SUPREME, light pinkish salmon	5 0
GILMANII, rosy vermilion	5 0

The following NEW PANSIES, raised by Thomas Edmonds, gardener at Lady Lacon's, Ormsby Hall, Norfolk, and sent out for the first time last autumn, may still be had, with Descriptive List, on application:

Aurora	5s. 0d	Hector	3s. 6d
Nigricans	5 0	Ne Plus Ultra	3 6
Prince Albert	5 0	Queen of Sheba	3 6
Lady Lacon	5 0	Beauty of Bracondale	3 6
Mars	3 6	Jenny Lind	3 6
Queen of Yellows	3 6		

The following Twelve New and Beautiful Pansies, raised by Mr. Hutchinson, will be sent out the first week in April, at the following prices:

YELLOW CLIMAX, pale yellow, fine form and substance	5s. 0d.
NORFOLK CHAMPION, fine dark	5 0
BEAUTY OF KESWICK, light peach and white	5 0
COUNTESS OF LEICESTER, light variety	5 0
DUCHESS OF NORFOLK, bright claret and yellow	5 0
FAVOURITE, yellow and dark claret	5 0
GUINEA-PIG, bright orange yellow	5 0
NORFOLK HERO, plum-colour and yellow	5 0
PURITY, white and peach-colour	3 6
BELINDA, pearl white, fine eye	3 6
JOHN BLANCHARD, dark purple and white	3 6
ZOE, white and lavender	3 6

The following Five New and Beautiful Seedling CHRYSANTHEMUMS were raised by Mr. Short, gardener to H. N. Burroughes, Esq., M.P., Haneton Hall, Norfolk, and will be sent out in May, 1848, strong Plants, at the following prices:

STANDARD, bright purple, fine broad incurved petals	5s. 0d.
NONPAREIL, bright rose, very broad petals, large, and finely incurved	5 0
MESSENGER, bright rosy purple, yellowish centre, beautifully incurved petals	5 0
NE PLUS ULTRA, fine rose-colour, broad petal, and beautifully incurved	5 0
NYMPH, blush white, tinge of rose on the outside of the petal, finely incurved	5 0

Choice Pansies of last year, including Youell's "Supreme" and Bell's "Climax," 18s. per dozen.

*** Full Sets of any of the above sent free to London or Hull.

Bracondale Nursery, and 3, Exchange-street, Norwich.

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HORTICULTURAL SOCIETY OF LONDON.—Notice is hereby given, that the EXHIBITIONS OF FLOWERS AND FRUIT, in the Society's Garden, in the present season, will take place on the following days, viz.: SATURDAY, May 20; SATURDAY, June 10; and WEDNESDAY, July 12; and that TUESDAY, April 18, is the last day on which the usual privileged Tickets are issued to Fellows of the Society.
21, Regent-street.

NEW AND GENUINE SEED.

WILLIAM E. RENDLE AND Co., Plymouth, beg respectfully to refer the Readers of the *Chronicle* to their List of Agricultural, Kitchen-garden, and Flower Seeds in the *Gardeners' Chronicle* of last week.

TO MELON GROWERS.

H. LANE AND SON, Great Berkhamstead, have been favoured with SEEDS of the most successful at the London Shows for the last two seasons.

Fleming's New Hybrid Persian	2*s.* 6*d.*	per packet.
Ispahan, Genuine Fruit, weighing 12 lbs.	1 6	,,
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The Gardeners' Chronicle.

SATURDAY, MARCH 18, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

TUESDAY	March 21	Horticultural	3 P.M.
		Linnean	8 P.M.
SATURDAY	— 25	Royal Botanic	4 P.M.
WEDNESDAY	— 29	Microscopical	8 P.M.

WE formerly entertained a hope that the STAY-MAKERS' TRADE was approaching its end. There certainly was, at one time, fair ground for the expectation that tight lacing would disappear before expanded intellect, and that gentlewomen would be permitted to move their limbs in freedom. It is clear, however, that fashion is a sovereign not to be easily resisted; rather than oppose her will, grace, health, and convenience pass into voluntary exile, and the unthinking crowd clings as devotedly to stiffness and deformity as it once did to powder, patches, and pomatum. We could be contented, however, with this folly, which, indeed, it is no business of ours to expose, were it but confined to the drawing-room; but, unfortunately, it is contagious; it has already spread to the garden, and for anything we can tell, it may be imitated by gardeners themselves. Against that it is our duty to protest; it will never do for a gardener to put either his plants or himself into stays; but if one or the other be inevitable we must beg that it may be himself.

From this it will be seen that we are men of the Old School, notwithstanding what some of our friends are pleased to think. We hate innovation, unless it be improvement; and we altogether object to the system practised by some persons of pushing forwards by walking backwards. We most especially admire the ancient system of Nature, and infinitely prefer her mode of working to some monstrous inventions of modern origin. Our maxim is to let well alone, and only to better what is bad. Acting upon this principle, we strenuously protest against putting plants into stays.

Those who remember the great floral exhibitions held last year about London, saw some instructive examples of this practice. It was among the Pelargoniums more especially that the art of the stay-maker was conspicuous: by the assistance of wood and bast, instead of jean, steel, and whalebone, the growers contrived to lace up their plants till they were as starch and straight as a line of foot-soldiers on parade. Such things are, however, not confined to exhibitions: there is no lack of them elsewhere; they may be found any day in the early spring in forcing-houses, where unhappy Hyacinths and spindling Roses bear witness to the preference shown to stay-making over gardening; so inveterate, indeed, has the practice now become, that we have seen even forest-trees tortured by it, and Deodars 10 feet high laced to the very point of their leading shoot.

To be serious, this is a great evil, and demands correction. It sometimes arises from an anxiety to carry care and neatness into every corner of a garden, and is then but an example of care and neatness misapplied; but it is also connected with bad gardening and an ignorance of what conduces to vegetable health. One of the first causes of robust health in plants is their being kept in active motion. There can be no doubt that exercise is as needful to plants as to animals, and it is as amply provided for them in a state of nature. In forcing-houses, however, it is prevented, or greatly impeded, by the peculiar construction of those buildings; and, to make matters worse, gardeners deprive plants of the little exercise they can take there by putting them into stays. What with the heat at night, the suffocation and the stillness of such houses, they remind us of nothing so much as the places where Strasburgh geese are tortured into disease for the sake of their greasy livers.

"The effects of motion on the circulation of the sap," says Mr. KNIGHT, "and the consequent formation of wood, I was able to ascertain by the following expedient. Early in the spring of 1801 I selected a number of young seedling Apple trees, whose stems were about an inch in diameter, and whose height, between the roots and first branches, was between 6 and 7 feet. These trees stood about 8 feet from each other; and, of course, a free passage for the wind to act on each tree was afforded. By means of stakes and bandage of hay, not so tightly bound as to impede the progress of any fluid within the trees, I nearly deprived the roots and lower parts of the stem of several trees of all motion, to the height of 3 feet from the ground, leaving the upper parts of the stem and branches in their natural state. In the succeeding summer, *much new wood accumulated in the parts which were kept in motion by the wind; but the lower parts of the stems and roots increased very little in size.* Removing the bandages from one of these trees in the following winter, I fixed a stake in the ground, about 10 feet distant from the tree, on the east side of it; and I attached the tree to the stake, at the height of 6 feet, by means of a slender pole about 12 feet long, thus leaving the tree at liberty to move towards the north and south, or more properly, in the segment of a circle of which the pole formed a radius; but in no other direction. Thus circumstanced, the diameter of the tree from north to south, in that part of its stem which was most exercised by the wind, exceeded that in the opposite direction in the following autumn, in the proportion of 13 to 11.

"These results appear to open an extensive and interesting field to our observation, where we shall find much to admire, in the means which Nature employs to adapt the forms of its vegetable productions to every situation in which art or accident may deposit them. If a tree be placed in a high and exposed situation, where it is much kept in motion by winds, the new matter which it generates will be deposited chiefly in the roots and lower parts of the trunk; and the diameter of the latter will diminish rapidly in its ascent. The progress of the ascending sap will of course be impeded; and it will thence cause lateral branches to be produced, or will pass into those already existing. The forms of such branches will be similar to that of the trunk; and the growth of the insulated tree on the mountain will be, as we always find it, low and sturdy, and well calculated to resist the heavy gales to which its situation constantly exposes it.

"When a tree is wholly deprived of motion, by being trained to a wall, or when a large tree has been deprived of its branches, to be regrafted, it often becomes unhealthy, and not unfrequently perishes, apparently owing to the stagnation of the descending sap, under the rigid cincture of the lifeless external bark."

There can be no doubt that these statements are strictly true; and it is equally certain that they are totally forgotten by many gardeners, who allow their plants to become drawn up, weak, sickly and miserable, and then imagine that they cure the evil by the application of stays. Such men imitate the physician who imagines that a dying patient is strengthened by being enclosed in a coat of mail.

If garden staymaking were discouraged garden skill would be promoted. It would in fact become indispensable. Hyacinths and Pelargoniums in a forcing house, unskilfully heated and constructed as such places usually are, become so feeble as to be incapable of bearing their own weight; the remedy for this is better houses or better cultivation, not a pair of stays. In the open ground the Hyacinth and Pelargonium want nothing of the sort: they are short, stiff and sturdy, and defy the storm which rushes over them. Be it observed, however, that gardeners are not necessarily blameable for the bad condition of their greenhouse plants; the blame may, and very often does, lie with those who construct and heat their forcing houses; in the eyes of whom it is only necessary to coddle a plant in order to keep it in condition. The Scythians are said to have plunged their newborn children in the icy waters of their rivers, in order to harden them. The example might be followed with advantage in gardening, where, as we have formerly stated, the fire-king does much more injury than the ice-king. Were this but done the office of the staymaker would certainly become a sinecure in gardens.

Stays are used because plants are weakly: render plants robust, which is the great object of a gardener, and stays become needless. This requires no further argument.

FROM what we have already said concerning DOWNING, our readers will infer in what spirit he should fairly be judged. We are to allow for mere American notions and language—for the novelty of this the earliest attempt at a regular publication on the subject in a country where it was almost entirely new—and for the fact that an unpretending man, labouring under many [illegible] freely and candidly the results of [illegible] and experience.

Acting in this spirit [illegible] pondered him [illegible] with [illegible] re-quote the [illegible] the language of which he [illegible] to comprehend, and could [illegible] ridicule. "The [illegible] Landscape Gardening [illegible] beauty: or to [illegible] characterised by simple and [illegible] expressed by striking [illegible]

What on earth is there [illegible] incomprehensible in the [illegible] sight, the phrase *general* [illegible] seem to answer the purpose [illegible] clearly. But a little [illegible] that there is no [illegible] Downing means to [illegible] beauty of the earth's surface and [illegible] are (as in almost everything [illegible] the exception:—that the rule [illegible] "beauty characterised by [illegible] —the exception, that expressive [illegible] lar-spirited forms." I not that [illegible] may find in one district [illegible] nearly altogether prevalent—in another [illegible] the striking, the grand. But [illegible] surface into the imagination, and [illegible] denied that the simple flowing [illegible] vastly prevail. Where is the [illegible] terming this the *general* species [illegible] far fewer cases on the other hand [illegible] displaying sublime, grand, and [illegible] Why is it wrong then to style this species [illegible] the *picturesque*? It is just the sort [illegible] would attract and fascinate the [illegible] he would be delighted to embody in a picture.

But it is only fair to Downing to let him speak for himself. It will be seen that in writing more fully on these principles, he does not enunciate nonsense. "In Nature you may [illegible] gently undulating plain covered with [illegible] partially or entirely encompassed by rich rolling outlines of forest canopy—its [illegible] broken by noble groups of [illegible] there interspersed with single specimens whose trunks support heads of foliage flowing in outline, or drooping in masses to the very turf beneath them. In such a scene we often behold the [illegible] heaven and its silvery clouds, and the [illegible] of the luxuriant branches reflected in the placid bosom of a sylvan lake—the shores of the [illegible] swelling out and receding in gently curved lines—the banks sometimes covered with soft turf sprinkled with flowers—sometimes [illegible] masses of verdant shrubs. Here are all the elements of what is termed natural beauty—[illegible] characterised by simple, easy, and flowing lines." Can our critical correspondent give us [illegible] as simple yet as beautiful as this? [illegible] is, not only in itself, but as illustrating the principle laid down. Now hear DOWNING when he describes the contrasting beauty. "Let us take a [illegible] the nearest woody glen in the neighbourhood—perhaps a romantic valley, half shut in on [illegible] more sides by steep and rocky banks—partially concealed and overhung by clustering Vines and [illegible] thickets of deep foliage. Against the sky [illegible] breaks the wild and irregular form of some old, half decayed tree—or the horizontal branches of the Larch or Pine with their strongly marked [illegible] Rough and irregular stems and trunks—[illegible] covered with Mosses and flowering plants—[illegible] glades of bright verdure opened to [illegible] bold shadowy foliage—[illegible] in the foreground. If water enliven the [illegible] shall hear the noisy brook—or the [illegible] the cascade. Let the stream turn [illegible] well-worn wheel of the old mill in the [illegible] ground—and we have an illustration [illegible] beauty." And properly enough he [illegible] CLAUDE LORRAINE as the chief [illegible] of the first species of Landscape [illegible]—SALVATOR ROSA, as by far the leading [illegible] of the second. While there is the fair inference [illegible] his remarks [illegible] as in natural scenery both these species of beauty exist, so should they both be elements in Landscape Gardening—yet he modestly makes this qualifying statement: "In giving these illustrations of [illegible] beauty, we have not intended them to be understood in the light of *exact* models for imitation in Landscape Gardening, but only as striking examples of expression in natural scenery."

What does he mean, then? We will now see. And as our correspondent threw down the gauntlet to us, we challenge him in return to show whether the principle laid down in the following passage is sound or not: "Although in nature many Land-

scapes partake in a certain degree of both these kinds of beauty, yet it is *no doubt true* that the effect is more satisfactory *where either the one or the other predominates.*" Is this correct? May not both be well united in the same Landscape?=

EXTRACTS FROM MY NOTE-BOOK.

(*Continued from p.* 157.)

Luzula arcuata, Hook.—This other Rush from the highest highland mountains has also nothing but its extreme rarity to recommend it. It should be grown in pots, in peat, sand, and charcoal, and placed in a shaded situation among alpines. It may be increased by dividing it in spring.

Cotyledon Umbilicus, L., succeeds well on an elevated part of rock-work in sandy loam, mixed with broken crocks and charcoal; in more moist situations it is apt to perish in winter. It may also be grown in well drained pots, placed among other alpine plants, and should be kept rather dry in winter.

Myosotis alpestris, Schmid., is a beautiful free-flowering alpine, deserving of cultivation; it grows only a few inches high, and does best in pots filled with peat sand and a little loam, using plenty of drainers. It may be slowly increased by dividing in spring. It also succeeds on rockwork or in a shaded peat bed, in which situations it requires to be examined in frosty weather, in order to replace its roots in the soil, if they have been thrown out by frost.

Saussurea alpina, D. C., may be grown successfully in a damp bed of peat and loam; it may be increased freely by dividing in April; it will also do well potted in peat and loam, and placed among the alpines.

Hippocrepis comosa, L., is rather a local plant, except in the chalk districts, in some places of which it is abundant, growing most luxuriantly on the margins of banks which are undermined by the soil falling away from under the turf, a fact which would indicate that it requires a dry bottom; the beauty and profusion of its flowers make it worthy of cultivation, as well as its singular seed-vessels. It should be grown on an elevated situation on rockwork, where abundant drainage is afforded it. When cultivated in pots the soil should be well mixed with charcoal, and it should be placed where it will be tolerably dry in winter. It likes a soil composed of loam and sand.

Asperula cynanchica, L., grows in situations similar to the last, and is often found intermixed with it. It does best in pots in loam and sand, and rough pieces of charcoal mixed with crocks; it requires to be kept rather dry in winter. It may be increased by dividing in spring. Being a showy plant when in flower, it is well worthy of cultivation.

Carum verticillatum, Koch, is a rather rare Umbellifer, seldom cultivated, even in botanic gardens; it grows freely in pots, in a mixture of peat and charcoal, and admits of dividing occasionally. It may also be grown in a shaded, rather damp peat border.

Genista pilosa, L.—This dwarf, compact, prostrate-growing and free-flowering shrub seldom attains more than 15 inches in height; it succeeds in any common soil, even where mixed with clay. As a dwarf shrub, either for rockwork or borders, this is one of the most showy, for its size, under cultivation.

G. anglica, L., is another neglected plant which forms a handsome bush of about 2 feet in height, and flowers freely in common garden soil; both species are readily increased by layers, which ought not to be removed for at least two years.

Limbarda crithmoides, Hook.—This, being a seaside plant, does not survive our winters out of doors; it requires frame protection during that season, when it should also be kept rather dry. It likes a light sandy loam, mixed with charcoal, and should be placed among alpines, in a sunny situation during summer. It admits occasionally of increase.

Hutchinsia petræa, R. Br., is a very humble Cruciferous plant, requiring to be potted in peat sand and charcoal, and kept among alpines. It ripens seeds freely, by which it is perpetuated, being reckoned an annual; but I have often found it, under cultivation, to last for two or three years.—*David Cameron.*

(*To be continued.*)

ENTOMOLOGY.

The New Indian Silk Moth.

The recent discovery of a new species of moth in India, closely allied to the well known Chinese silk-moth, Bombyx Mori, capable of producing silk, is of sufficient importance (in connexion with the question of the advantages derivable from extending the natural resources of our Indian territories), to induce us to depart from our usual practice, in these articles, of illustrating the insects of our own country. This new species was discovered in India by Captain Thomas Hutton, from whom we received specimens accompanied by the following interesting observations on its habits. "I have the pleasure of sending you a species of Bombyx, which, I think, will prove new. It is an inhabitant of these hills (Mussooree), and the caterpillar, like that of B. Mori, feeds on the leaves of the wild Mulberry, which grows here in our forests. Unlike the larva of B. Mori, however, the present species has the caterpillar covered with long spines, although in colouring and shape there is a great similarity between the two. The cocoon is spun on the leaf, which is drawn round it; and the silk is very fine and of a very pale yellow tint. I have inclosed an empty cocoon, in order that you may, if you please, give me your opinion, and that of those interested in such things, as to whether it might not be turned to good account; as I think I could succeed in growing it here, if the silk is approved of. I discovered this species on the 7th May, 1842, on some Mulberry trees growing at an elevation of about 6500 feet above the sea, with a southern aspect. Some of the caterpillars were of large size, and nearly full-grown at this time, whilst others were in all the intermediate stages of growth. The caterpillar is of a pale yellowish cream-colour, mottled or marbled down the back and sides, with a mixture of grey, yellow, and rufous or brownish lines; the anterior segments of the body are mottled above with livid grey, and ornamented with four blackish, oblong spots, or ocelli, placed obliquely: along the back are two rows of long, black spines, curving backwards; and on the anal segment is one long spine in the middle. The two anterior pair of spines spring from the ocelli, and the last pair are curved forwards, instead of backwards, like the rest. There is also on each side a row of short spines springing from the base of the true legs. The anterior segments swell up into a hump like those of the larva of B. Mori. As the caterpillar becomes mature, the rufous colouring fades away, and gives place to a mottling of pale livid grey; the head is also mottled. It grows to about 2½ inches in length, and spins on the leaf early in May. They are double brooded, for mine all hatched in June, and deposited their ova, a few of which produced caterpillars that year, but the greater number remained until the following spring."

The perfect insect measures about 2½ inches in the expansion of the fore wings, which are falcated at the tips, and of a greyish buff colour, with two or three very indistinct darker strigæ before the middle, and two straighter beyond the middle, followed by a submarginal paler space, which is contracted into a pale striga towards the tip by a large black apical patch: the hind wings are chocolate-brown, with paler veins and with a whitish curved submarginal striga. The anal margin is obliquely streaked with white and with a tuft of dark scales at the anal angle. The body is of a mouse-brown, with a dark bar across, behind the insertion of the hind wings. A coloured figure of the moth (to which we have applied the name of Bombyx Huttoni), is given in the "Cabinet of Oriental Entomology," pl. 12, fig. 4. In the wood-cut given above we have represented the female moth, together with the cocoon opened, shewing the empty chrysalis, from which the moth has escaped through the upper end of the cocoon (thereby spoiling the silk), and also the cast skin of the caterpillar.

It will not fail to be observed that there are four circumstances which will probably render the cultivation of this newly-discovered species eminently serviceable as an article of commerce; namely, 1stly, the species is an indigenous native, instead of being an imported species, as is the case with B. Mori; 2dly, the species comes very close in the natural system to the old known species just mentioned, whence we may conclude that its silk will approximate much nearer to that of B. Mori in its qualities than the silk obtained from the Kolisurra and other Indian silk moths which belong to a distinct genus; 3dly, that the new species is double-brooded; and, 4thly, that its food is identical with that of the caterpillar of B. Mori, which is a further reason why its silk should assimilate to that of that species—Professor Royle having shown that the silk bears an intimate relation to the nature of the plant upon which the insects feed.

We have more recently received specimens of the silk from Capt. Hutton, reared on the wild Mulberry at Mussooree, in the Himalayas, in 1847. Some of these specimens consisted of skeins of the single or natural fibre, and others with silk, the threads formed respectively of 3, 6, 9, and 12 fibres. Those with 9 and 12 fibres had been examined by the Delhi shawl workers, who had pronounced them to be worth 25 rupees per seer, that is at the rate of 25*s.* per lb. at 2*s.* the rupee. The silk is remarkably strong, but it possesses a less silky feel than that of B. Mori, which is, however, probably owing to the gum not having been washed out in reeling it off the cocoon. We have sent portions of these several specimens of the silk to the Society of Arts in the Adelphi.—*J. O. W.*

MANAGEMENT OF WOODS.

In your paper of the 26th of February, I observed an article headed as above, and signed Mr. Young, of Perth, in which he goes on to say that the system of planting and thinning, as recommended by me in "The Forester" "is wrong in principle, expensive to proprietors, and ruinous to plantations." All that I know of Mr. Young is, that he is an advocate for the planting of forest trees at 8 feet apart, and from his advocating such a system, I, doing my duty to the landed interest of the country, am bound to state of him that he, from the holding of such opinions, cannot have ever been a practical forester; consequently, his instructions must have a tendency to mislead planters.

Mr. Young signs himself "A Surveyor of Woods," but I beg to state that a surveyor of woods is a very different business from a grower of woods, and I would ask Mr. Young to prove wherein the system which I recommend in "The Forester" is wrong in principle, expensive to proprietors, or ruinous to plantations? and I beg to say that I am happy he has given me an opportunity of publicly treating upon a subject which I have so much at heart; namely, the most profitable method of rearing healthy timber in high districts of our county. Again, I would ask Mr. Young, if he is aware of the nature of the duty of a practical forester? and if he is not, I will give him an outline of it. A truly practical forester is one into whose hands a proprietor puts all the land that may be under plantations upon his estate, and from whom he receives a rent for that land far exceeding that which he could receive from his land steward or tenant were it occupied by them in agricultural cropping. Now, it appears very evident to me, that if Mr. Young were to occupy the situation of forester, or wood grower, upon a gentleman's estate, he would, if allowed to act according to the system which he advocates, make a very unprofitable job indeed; I have no doubt but that he will give gentlemen very fair theoretical lectures upon the subject, but the practical forester who is called upon to produce the reality must act otherwise. Mr. Young says relative to planting at 6 or 8 feet apart, "I will defend the principle;" but it is only by the test of practical experience that his theory must be proved.

Of this system of planting young trees, at from 6 to 8 feet apart, being one likely to mislead a few of the landed proprietors of the country, because it holds out the appearance of saving in the meantime, I consider it to be particularly my place to point out the evils which might be expected to arise, were our woods to be so managed, and I will here briefly endeavour to do so. In the management of woods, he is decidedly the best practical forester who can raise upon a given quantity of land the greatest bulk of valuable timber within a given time, and who can produce the quickest and most permanent effect in sheltering the neighbouring fields. Now, if the proprietor of an estate, the altitude of which is from 600 to 800 feet above the level of the sea, were to plant with Firs (one year transplanted) any given number of acres, upon a high-lying heathy part, at 7 feet distance, or 1117 plants to the acre, what would be the probable state of such a plantation when of 20 years' standing? During the first three years after planting, there would be very little progress in the growth of the young trees, and from the extremely thin scattering of plants over the ground, the death of a very few plants per acre would cause very large blanks in the plantation, there being no provision made for the going back of a few plants, as is the case when the trees are planted pretty closely. During the fourth year, the young trees would show more vigorous symptoms of growth, and would spread out, particularly their under branches, upon the surface of the heath, in order to support themselves from the effects of the storms (this is always a provision of Nature in such high parts); but they would not make a corresponding growth upwards until the fifth year, when they would be settled in their site, both as regards roots and lower branches. During the sixth and seventh years, they would become strong, bushy, set plants, but still would not be inclined to grow so much to height as to breadth of branches; and in the same manner the trees would continue to grow until they had got so close to one another as to be a little confined in the side branches by one another, when they would begin to grow taller than to breadth; and this state of the trees, very probably, upon a high site, would not take place till they had attained the age of 20 years; and if the soil were not very favourable for the growth of the kinds of trees planted, they very probably would not be in a healthy state when they were of the age stated, but would, from the want of shelter, be hide-bound and altogether worthless, either as timber, or for the producing of shelter; and were the soil to be favourable to the growth of the trees planted, they would, from being long exposed, and not producing shelter to one another for a long time, become a mass of strong side branches with an extremely coarse enequal bole; and even when the trees became confined in side branches, and had begun to shoot up tall, they would ever after be trees of a rough knotty cast, and never would make fine timber. And here, too, at 20 years of age, we have such a plantation, under its most favourable circumstances, without having produced one shilling of profit to the proprietor; no, not even has a stob or a rail been got from it for the purpose of mending the fence which surrounds it. And what I have stated, I beg to say, is no imaginary idea; it is taken from observation upon thin parts of plantations, as I have myself found them to exist, accidentally, and this at once points out the impropriety of thin planting.

Thin planting can only be necessary and commendable in one case, and that is upon steep banks and slopes of glens; and even there Mr. Young would find, that although he should plant upon the surface of the bank or slope at 7 feet distance, measuring upon the slope, the boles of the trees when they grow up alongside of one another, would be found to stand about the

distance which I recommend for the planting upon bad ground, viz., from 3 to 4 feet. Upon the other hand, if a proprietor were to plant the same piece of ground with Firs from 3 to 4 feet apart, the result, as I have well experienced, would be very different from that as stated in the former instance.

During the first four or five years the growth of the young trees would be much the same in both cases; but after the sixth year, when the young trees began to grow vigorously and to give a little shelter one to another, instead of the energies of the plants being directed to the throwing out of side branches, they are directed to the forming of a proportionate bole and to the height of the tree at the same time, which is the very model of perfection in the growing of timber; and indeed this constitutes the particular art of foresting, not to allow the trees in any plantation to become either too bushy or too tall, but to direct the growth in the middle course, so as to form both proportionately at the same time.

Were proprietors to adopt the system of thin planting, as strongly recommended by Mr. Young, no profitable return could be derived from land much within a period of 30 years, more particularly in a high lying situation, and even then a return would in many cases be out of the question, for in an uncongenial soil trees planted upon it thinly never will succeed; but where shelter is produced, even in an uncongenial soil, trees will often do well and become of useful size.

By the system which I practise in the management of woods, and as detailed by me in the "Forester," a profitable return is very quickly made, and I here assert, without fear of contradiction, that by the system of planting from 3 to 4 feet apart, I will pay the proprietor his original outlay for planting and fencing, with double the original rent of the land, a considerable time before Mr. Young could have a plantation of the same standing, and managed according to his method, ready for the first course of thinning; and at the same time have as many and as valuable trees left upon the ground for an ultimate crop as he had.

Mr. Young goes on to say further, "that a young plantation, managed as I have advised, and left to itself for 10 or 12 years, is ruined almost beyond recovery." In asserting this, Mr. Young could not have given a plainer proof of his inexperience; he does not take into account the effects of climate and soil upon the growth of trees; but as he appears to lack knowledge of this kind, if he will come to Arniston in the month of June, I will show him a plantation of young trees from 8 to 10 feet high, and from 3 to 4 feet apart, in perfect health; and, moreover, I will also show him trees standing at only 16 feet apart, in perfect health, and containing each from 70 to 100 cubic feet of timber. Now, if Mr. Young cannot understand how small trees 10 or 12 feet high could be in health when standing at about 4 feet apart, how will he believe his judgment if he sees trees containing 90 feet of wood only standing 16 feet apart.—*James Brown, Arniston, March* 6.

(*To be continued.*)

POMERANIAN CABBAGE.

(*Chou conique de Poméranie.*)

In the "Journal" of the Horticultural Society of Macon, for January, 1848, the market-garden culture of this very distinct and excellent variety of Cabbage is detailed by A. Barbet-Perrin. He recommends it as being very hardy; and states that it withstood the rigours of the preceding winter, in a northern exposure, the plants having been taken up when full grown, and laid sloping to the south; and so deep as to admit of the soil being close to the neck of the Cabbage. It is sown in March for summer use, and in May for autumn and winter. It requires, like other Cabbages, a good soil well trenched and manured; and it is planted 2 feet apart. It is liable, like other species and varieties of the genus, to be attacked by the flea and aphis. In order to get rid of the first, the leaves are powdered over with wood-ashes, and this operation should be performed in a dewy morning, or after the plants have had a good watering. A solution of black soap is employed for the aphis.—The Pomeranian Cabbage was introduced to this country, from Paris, by the Horticultural Society of London. It forms a good-sized firm-hearted Cabbage, conical, tapering to a remarkably sharp point. It is a variety highly deserving of cultivation; and it appears from the above extract that it is well adapted for being taken up from the quarters and laid in to the neck, nearly close together, before winter; thus leaving the quarters free for other crops ||

Home Correspondence.

Forced Asparagus.—I have been much interested in Mr. Roberts's paper on the above matter, at p. 157, March 4th. It is by such free discussion amongst experienced gardeners, conducted of course with a due respect both towards each other and the public, that important facts become elicited, and both the merits and demerits of various plans placed in a striking point of view. In very many cases of this kind, as connected with horticulture, nothing but a choice between evils remains, after investigating different systems; and he is the wiser man who can so combine the merits of each plan, and in such a way, as to escape with the least amount of evil. I cannot, however, permit Mr. Roberts to dispose of my old-fashioned plan in so jaunty a manner without venturing a few words in its defence. I urged some time ago, in showing the bearings of this mode of forcing Asparagus, that the loss of land, if any, which is said to occur through this system, is more than compensated by the state the land is left in after a bed of Asparagus has been removed. It will indeed not be easy for those who do not pay much attention to the rotation of crops, and to the extreme exhaustion occasioned by the very frequent repetition of the Brassica families in a modern kitchen garden of any extent or repute, to estimate duly the value of soil thus prepared. Fallow or rest is in general out of the question in kitchen gardens. Such a crop, therefore, as the Asparagus, is, in my opinion, the next best thing, and if any man charges me with a waste of ground in forcing one bed of Asparagus of 40 yards every year, and of course planting an equivalent, I will invite him to examine my crops and my system, and enquire how the family is supplied. To judge my plan, therefore, without reference to these things, will prove a most fallacious proceeding. I here beg to correct Mr. R.'s statement of the necessity of 1 acre of ground being requisite for the supply of a large family. To be sure the term "large family" is capable of such varied construction, that little argument can be built on such a phrase. I will, however, proceed to facts: the kitchen gardens at Oulton are not above 4 acres, and somewhere about 70 poles of ground are at present occupied with Asparagus; therefore I conceive that certainly not more than one-tenth of the garden is under this crop. In judging this matter, not only quantity but quality must be taken into consideration, for we do not grow drumstick Asparagus here. I this winter, in the early part of November, broke up, according to usual practice, one bed of Grass about 40 yards in length. This bed has supplied our family (which is anything but a small one) from some time in December until the present period. In fact the last batch of roots are just peeping, and will continue for three weeks longer, when late Melons will succeed them. The number of dishes furnished I cannot say, but we have supplied on an average at least three dishes per week for a quarter of a year—and this in a continuous way. This I consider good work; and I have yet to learn what mode will excel it, taking quality into consideration also. I have no particular objection to hot-water piping for these things, although I strongly suspect that it will not be easy to supersede the old dung bed, provided it form part of a system as before observed; and that high cultivation is carried out. Hot-water piping, however, and beds partially covered with glass, are indeed a ducal affair; few country gentlemen will be at the expense of such things as this, and heating their ordinary Vine borders; together with hot walls for Peaches, &c. &c. Again, as to waste of land. Mr. R. talks of having "a series of beds, so as to rest them two or three years." Pray what is to pay the rent of the ground, together with the interest of the outlay in the shape of pigeon-holed brickwork, glazed shutters, piping, manures, &c. &c.? Methinks it would not suit a commercial gardener, to lay in fallow for two or three years. Having stated thus much in defence of the old dung-bed system, I may now be permitted to advert to the out-door supply, which with me is woven in with the system which supplies the forced Asparagus. I am not aware that any garden produces on the whole Asparagus finer in quality than the Oulton gardens—few so fine. As to quantity, we can cut at least one large dish every day (from the early part of May until the season is closing) of stout, tender, first-rate Grass. We could indeed cut much more; it is not, however, needed, and we therefore suffer many fine heads to escape after the end of May, contrary to market garden practice; these of course organise the buds which produce the best early Grass of the ensuing year. I must now express a hope that before the poor old dung bed is repudiated in too summary a way, the above facts will be taken duly into consideration; and, above all, that the value of this crop as a sweetener or preparer for others, may be duly estimated.—*Robert Errington, Oulton Park.* —— As a means of forcing Asparagus, I have hitherto not found sufficient reason to abandon the old mode of using fermenting material for the purpose, and it is perhaps doubtful whether the expensive hot-water pit can give evidence of its superiority, when all things are considered. It is certain that the dung-bed is much more economical; and if an article can be produced almost if not equal in quality, and at considerably less expense than the same at considerable cost, surely most persons will advocate the former, for obvious reasons. I could point to a place where a liberal but limited sum was expended in obtaining the usual garden productions of the first class; Asparagus pits were erected which in the main were considered no improvement on the dung bed; had the same amount been applied to the erection of pits for general purposes the place would have supplied ample means for many other purposes. I have had a good supply of Asparagus from the last week in December to the present time, furnishing a good dish every day except 13 days, the quantity being from 100 to 120 heads; an ordinary two-light frame was filled with roots from a well established bed in the second week in December, another in the first week in January; the succeeding bed was made in a Vinery, which it was required to commence forcing, the dung being introduced more with a view to assist the Vines in "breaking" than for forcing Asparagus; the extent of bed broken up, I find, was 50 feet in length, by 3½ feet in width; an equal extent will be planted in another place this spring. The chief objection to this plan is the destruction of some extent of old beds, but certainly to no great extent. One of the best plans, however, of forcing Asparagus without either the expense of a pit or the extent of ground required to allow for breaking up every year for a supply, is by taking out the whole of the soil from the Asparagus alleys, and filling up the space with warm dung and leaves, the beds being covered with either well thatched hurdles, or a frame covered with wooden shutters, or what is still better, glazed lights, as they may be made useful when not required for Asparagus forcing; the roots are not taken out of the alleys until the following season, when forcing begins, being left to feed the Asparagus during the summer after forcing.—*J. H., March* 11.

Calceolaria Disease.—In reference to your remarks on the disease among Calceolarias near London, I beg to observe that about the 20th of December last I obtained a plant from Messrs. * * *, which when I potted it was well rooted, and apparently remarkably healthy. About three weeks or a month afterwards, the leaves began to droop, as if lacking moisture, but on examination I found the soil sufficiently wet. The plant, however, soon shrivelled away, as described by you at p. 171. On removing the pot I perceived that the stem was diseased, quite brown in colour, and considerably decayed. No other plant on the same stage appeared the least affected. I had a communication from Messrs. * * * last week, who state that, owing to some disease that has affected their Calceolarias, they are at present unable to supply a single order, having lost almost every plant they had. I mention this circumstance because I received the plant per post, without any soil at the roots, and it was planted into the same compost as my other plants, which are all strong and healthy. If, therefore, any disease existed in the soil, it must have been that in which the cuttings were rooted, and absorbed by them in striking, and to this opinion I strongly incline.—*M. W., Whitby.*

Legg's Hydraulic Engine having been in use on my premises for two years, and during that period having only cost me 2*s.* 6*d.* for repairs, I can safely repeat the assertion I made when it was first erected, "That it is the most valuable and cheapest means of raising water that I know of." I speak from experience, and hope it will satisfy individuals who doubted its efficiency. I shall not trouble you any more on the subject, as the trial I have given the engine must convince the most sceptical of its utility.—*Hydrangea.*

Sudden Change of Temperature in Fifeshire.—In reply to your query if there was no mistake in a statement of temperature I sent you, I have to explain that the thermometer from which I take my observations does not mark any lower degree of cold than zero, and as the mercury in it was altogether in the bulb, I took the degree of cold (—4°) from a thermometer in the garden, observed by the gardener. Since your query, I have compared the two thermometers, and find them mark the same temperature. I have also made a series of experiments as to the difference in temperature between their respective positions, viz., one outside a window, and the other in the middle of a garden, and not in the vicinity of any buildings, at 9 P.M. I find that when there is wind there is no difference, though when calm there is a difference of from 2° to 5°. But as there was a considerable breeze on the evening of the 29th Jan., there is consequently no mistake in the statement made at p. 117. I may mention that at a place two miles distant from this, the thermometer, at 5 A.M., on the 29th, was at 5° below zero.—*R. B. D.*

Calculations respecting Hedgerow Timber.—Nothing is an easier instrument of deception than figures. They look so scientific, so practical! But some will mischievously inquire where the data are found. Mr. Warner proves incontrovertibly that if 100*l.* worth of hedgerow timber, standing 24 years, improve only 30*s.* per cent. per annum on the original value, making no compound interest, the 100*l.* will only increase to 136*l.* But what is his authority to prove the timber will increase only at the rate of 30*s.* per cent.? We have only his supposition for it. He gives us no evidence. Now, I will give chapter and verse of a case very similar, with, at least, one fact. Mr. Warner gives no facts. I caused to be measured and numbered for sale a lot of stag-headed, scrubby, low, small Oaks, of great age, standing along the outside edge of a coppice, adjoining to an arable field, on a sort of poor, flinty, calcareous loam, very few inches deep, on a chalk subsoil, unfavourable to the growth of Oak, and in size, shape, and quality very much like hedgerow timber. They did not sell. Ten years afterwards I caused the same lot, still being all alive and all marked, to be measured again by the same measurer, and certainly, if in 420 acres of wood which are in the parish, any trees could be expected to have stood 10 years unprofitably, these were the trees. However, the second admeasurement proved that these ragged old stumps had increased 6 per cent. per annum in bulk during the whole 10 years, or, rather, to speak more accurately, they had increased 60 per cent. in bulk in the 10 years. So that, assuming their first value to be 100*l.*, they were now worth 160*l.* The 100*l.*, if they had been cut 10 years since, would by this time have amounted, at 3 per cent. compound interest, only to 143*l.*, by which cutting I should have incurred loss, 17*l.* Then, as to the increase in the value of the land to be obtained from cutting down the trees. Suppose that Oak timber, with its top and bark sells at the very low price of 2*s.* per foot: then 100*l.* worth of timber would be 1000 feet. Assume that the trees contain 15 feet each; then we have 61 trees. The more compact the land lies, the more crowded, and consequently the more injurious to it, will be the trees. Throw it, then, into a square of 100 acres, one side whereof will be 220 yards long; and put these trees all on the southern side, if

you will, since there they will do the most harm; they will stand distant 10 feet 9½ inches from centre to centre. Hedgerow timber is usually low; and 15 feet would probably be a sufficient height to assign to it. It may be admitted that the shade will be more injurious immediately under the trees than it will at a greater distance; but let us admit (which is, surely, too much) that the average injury is equivalent to the absolute destruction of the crop over one length and a half of the tree; that is, for nearly a rod and a half out from the base. Then there are 60 rods of land rendered unproductive. Take the average value of English arable at 25*s.* an acre, which is more than it is—some writers put it at 18*s.*—there is 10*s.* 4½*d.* worth of land spoiled annually. What a wise farmer he must be, who will, as Mr. Warner says he will, pay 10*l.* a year, or 2*s.* an acre on 100 acres, to save 10*s.* 4½*d.*! This 10*s.* 4½*d.* at simple and compound interest (see 2 Milnes, 666; Table 45), in 10 years will accumulate, at 3 per cent., to the immense sum of 5*l.* 19*s.* 2*d.*, which being deducted from the foregoing balance of 17*l.*, leaves 11*l.* 0*s.* 10*d.* balance in favour of keeping the trees standing; not to mention the benefit, yes benefit, Mr. Warner, of having some harbour for the slender-billed birds, who destroy our caterpillars and insects; together with the breaking of the cold winds, which blow away the soil from the roots of the Wheat, and leave it to perish. If the farmer finds the influence of the timber so injurious to a given space of the field, it would be prudent in him not to cultivate or sow that extent of ground which it injures; but to keep it as a way for his harvest waggons and manure carts, and for a hard, solid ground for his sheep and other stock to stand on in wet seasons, rescuing them, the sheep especially, out of the miry fold; for which single purpose, in lambing time, such a strip of land, sheltered by trees from the south-westers, is often worth more to him in a single night than his whole 10*s.* 4½*d.* rentage, or the whole 10 years accumulation of it. Much has been written against trees, more than is sound or good. But le tenants reflect that if landowners give ear, and destroy their trees, so as to render the country unfit for a gentleman, a man of taste, or an Englishman to live in, is it to be thought that in the same sordid spirit which leads them to sacrifice all to gain, they will not indemnify themselves for their exile from their native seats — their now frightfully denuded estates — by screwing out the last farthing of rent for the site of the grubbed-up hedgerows and naked plains, which they concede to the prayers of their tenantry? The latter may rely on it that an acre of grubbed hedgerow will be the dearest they ever will rent.—*Hantoniensis.*

Yew Poisonous to Cattle.—I beg to send you two pieces of Yew. The one marked poisonous is supposed to have killed a valuable horse belonging to one of my neighbours, on Saturday last, which died in a few hours after being seen to bite off a small portion of it, but which the carter observed, and took out of his mouth, and thought it could not have swallowed any of it. The other Yew is supposed, in our neighbourhood, not to be poisonous. I shall be glad if you will make this case known for the benefit of the public, and at the same time give your opinion whether either or both are poisonous; and if so, whether there is any antidote? —*Edward Hales.* [One of the Yews is the common kind, the other looks like the Irish. Both are equally poisonous. The danger lies in the leaves. The succulent fruits are harmless. We cannot undertake to prescribe in such cases, beyond emptying the stomach as quickly as possible.]

Rose Tree Luxuriance.—In a certain locality my notice was particularly attracted by the luxuriant wide spreading extent of a yellow Rose tree, which covered the whole front and part of the two sides of a very pretty cottage by the road-side. It had been trained against the walls for several years, and with the exception of pruning, the only care bestowed upon it was accomplished by the old lady of the house, who watered it occasionally in the morning, with the cold tea after the teapot had been used by the family on the evening before. The gardens round about had been the burial ground of an old monastery, the mould black and rich beyond anything I had seen before. They grew in it bulbous roots of enormous size, particularly Hyacinths, 1½ foot high, as large as Spanish Onions.—*D. S. E.*

Railway Sleepers.—"E. F. G." says, that sleepers may be grown in "about 14 or 15 years;" but sleepers are usually 9 feet long by 9 inches in diameter, that is 9 inches by 4½ inches when split up, and if "E. F. G." can show a mode by which Larches can be grown 9 inches in diameter in 15 years, at 9 feet from the base, he will oblige—*Yorick.*

Fumigation.—The trouble required to make tobacco burn induced me to try the expedient of moistening it with a saturated solution of the nitrate of potash, and drying it afterwards either in the sun or at a distance from a fire. When dry it may be inflamed by means of a small piece of touch-paper without the aid of bellows. My mode of using it is to place portions of the tobacco so prepared in common garden saucers or pans in various parts of the house, which soon fills with the smoke, or, if a single plant requires fumigation, some of the tobacco may be put into an iron ladle and held under the para-petticoat described at p. 459, 1846. I always damp my tobacco on sheets of whity-brown paper, which becomes saturated with the solution, and when dry furnishes touch-paper. This simple process saves my gardener much trouble, and the annoyance usually caused by respiring tobacco-smoke. If it be desirable to make the combustion slower, some raw tobacco may be mixed with the prepared, or a weaker solution of the salt may be employed.—*F. L.*—— Tobacco-smoke, if confined for too great length of time, will unquestionably affect Cinerarias or any other tender plants, as described by "Horticulus" at p. 173, without the solution of saltpetre. Whether any solution of this kind may exaggerate the effect produced or not I cannot say, but that tobacco-smoke alone will injure tender plants is certain; that is, if the fumigation be very strong and closely confined. This, however, in a greenhouse would be difficult to accomplish, but under a hand-glass, or in a small pit or frame, is easily attained, and consequently ought to be guarded against. I once lost a great number of young Calceolarias by too strong fumigation with tobacco, and those that survived were much injured. The leaves were shrivelled and turned quite brown. Amongst ordinary greenhouse plants fumigation is harmless enough. I find the Balsam, Cineraria, and Calceolaria (whilst young) the most susceptible of injury therefrom, but even to the most delicate plants it may, with caution, be administered with perfect safety.—*W., Whitby.*

Evaporating Hollow Bricks.—A well constructed heating apparatus, amply provided with the means of evaporating moisture, is an object of the first concern to those who would cultivate plants or fruits successfully, more especially during winter and spring; but there are certain conditions of the atmosphere, and periods at which vegetation may have arrived when an excess of hot and dense vapour, proceeding from smoke flues or hot-water pipes, is by no means conducive to a healthy development of vegetable structure. The whole of the stoves and forcing-houses at this place, present alike an extended surface for the radiation of heat and moisture, whether from smoke-flues or hot-water pipes; but I have found during periods of severe frost, or cold and cloudy weather, and particularly during the period when Strawberries or Vines are setting their blossoms, that a greater control is requisite over the moisture in the atmosphere than can be attained by the evaporation of water in large quantities from the immediate surface of the heating apparatus. To remedy this defect, I have had recourse to a very simple expedient, viz., the employment of a soft and porous hollow brick 11 inches long, 6 wide, and 2½ thick, and hollowed out in the centre. These are placed on the heating apparatus at such distances as may be required, on to which the water readily percolates, and is then evaporated into the atmosphere of the house, avoiding at once an excess of vapour or any heating to dryness. On smoke flues I have long considered these evaporating bricks as altogether indispensable by reason of the brick-work inbibing too much water when thrown on continuously. These bricks, too, possess a considerable advantage over pans or other description of pottery of too hard a nature to prevent percolation.—*James Duncan, Basing Park, March* 10.

Habits of the Yellow or Grey-headed Wagtail.—Three months ago I sent you some account of the practices of a bird of the wagtail genus on the windows of my house. It was there stated that it was constantly in the habit of fluttering up to, and tapping the glass, sometimes of one window and sometimes another, at all hours of the day, but that a glass door on the garden side was its favourite resort. There it would often perch for a few seconds on the window-sill and peck on the glass, but in general it did it on the wing. This practice was continued up to about Christmas, but not so actively as the weather grew colder, and since that time the bird has not been seen about my premises. For anything that could be observed during the six weeks or two months that this was going on, the little animal seemed to have no other inducement for its exercise than such amusement as the sound given by the glass might afford, or the view of the imperfect reflection of its own image there. I am not sure whether the subject of this notice was the Budytes flava (Cuvier), Motacilla flava (Ray), the Yellow Wagtail, or the B. neglecta, or Grey-headed Wagtail: I think the latter. Both these species are only occasionally seen in this neighbourhood, and always as solitary birds. The flava is a very shy bird, and is only met with in hollow ways and near streamlets; it is slenderer also, and of a brighter yellow tint than the late inmate of my garden, which was a robust, though elegant bird. Both varieties are very pleasing objects. If the visit be repeated next year, I propose to hang out a looking-glass, to test the motive of the practice above spoken of.— *P. P., Pulborough, Feb.* 7.

Manure for Hollies.—On a trip into Ware, Hertfordshire, I met with a hedge of Hollies, and some Holly-trees, in the most beautiful state of luxuriance; and was informed that this was mainly owing to the accidental contiguity of the house-drain and cess-pool, which lay near and parallel, and into which the roots of the Hollies had made access. Soap-suds and lye, in particular, the owner had used elsewhere in another garden, and found equally beneficial to them. I have known a Vine to avail itself of a contiguous drain, and prove most luxuriant and fruitful in consequence.—*D. S. E.*

The Banana.—In the Azores I have often met with this picturesque and beautiful tree, in the highest state of luxuriance, with a succulent trunk 10 feet and more high, the bright light green leaves upwards of 10 feet long, hanging gracefully from the top of the trunk, out of the centre of which, on a long stem, protrudes the fruit, about 4 or 6 inches long, consisting of green pods in bunches. I observed that it grew best in deep rich mould in moist and shady spots. The fruit would not ripen on the tree, but, after arriving at a certain state of maturity, the bunch weighing several pounds, it is severed from the tree, and hung up yet green in the house, when the pods turn nearly yellow, which is a sign of ripeness —*D. S. E.*

Hints and Recollections.—Very early in life, and I now count above 60 years, I resided some time in Russia, and I well remember many things which then caught my attention, and which even now, trivial as they are, I might record as they again place themselves in my recollection. In those northern countries it is common to cut a branch from a tree; say, for example, that of the Prunus Padus, or Bird Cherry, and placing the same in a pitcher of water in their warm stoved rooms, it bursts into full and vigorous leaf and flower in four or five days. Having repeatedly tried to produce the same effect in this country, I have always been unsuccessful, both as to time and growth; a few sickly pretences towards leafing and flowering have invariably followed. The habit of the plant is different, and its appliance causes me to ask why should not our early Peas, &c., be imported from the north; for one round of vegetation at least the seed would not lose its early propensities. It would astonish the English gardener to behold the short period it takes to pluck the pods from the time of sowing.—*C. P.*

Societies.

Royal Caledonian Horticultural, *March* 2.—W. Crawfurd, Esq., in the chair. Notwithstanding the general lateness of the season, the hall of the experimental garden exhibited a brilliant display of flowers, and the weather being propitious, there was a large attendance. For the six finest varieties of Camellias, a 1st prize was assigned to Mr. Foulis, gr. to J. Tytler, Esq., whose kinds were imbricata, cruciata, involuta, alata, alba, and alba fimbriata; and a 2d premium to Mr. Stewart, gr. to Professor Dunbar, for Press's Eclipse, maculata, amabilis, Binneyi, coronata, and Double-striped. For the finest varieties of Epacris, the prize was awarded to Mr. Reid, gr. to J. Syme, Esq.; the kinds being E. impressa, E. grandiflora speciosa, and E. bicolor. For the two finest flowered specimens of Cineraria, a premium was voted to Mr. Addison, gr. to the Earl of Wemyss; the sorts being Addison's Triumph and Sir Robert Peel. For the two finest specimens of Spring-flowering Cape Heaths, the silver medal was awarded to Mr. White, gr. to Mrs. Haig, whose kinds were E. hiemalis, and E. Lamberti rosea; and a 2d prize to Mr. Reid, for E. tenella and E. melanthera, the latter 10 feet in circumference around the branches. For Chinese Azaleas, two premiums were also awarded, the 1st to Mr. Reid, for A. exquisita, and the 2d to Mr. White, for indica alba. For the six finest Hyacinths, in pots, the silver medal was awarded to Mr. Young, gr. to T. Oliver, Esq., whose kinds were, Grande Vidette, Grande Vainqueur, Sans Souci, tubiflora, Laurens Koster, and Prince Albert. For dessert Pears, the premium was assigned to Mr. Allan, gr. to Sir A. Dunbar, Bart., the kinds being Easter Beurré and Swan's Egg. For the best six stalks of forced Rhubarb, a 1st prize was voted to Mr. Goodall, gr. to the Marquess of Lothian, for a variety named Prince Albert, and a 2d to Mr. Foulis, for Victoria Rhubarb. Various extra articles of interest were sent for exhibition only. Mrs. Haig exhibited a collection of very fine plants, including Dendrobium nobile, Begonia manicata of very large size, Franciscea hydrangeæformis, also the curious Spiranthes picta and Anæctochilus setaceus; for these the silver medal was unanimously voted. Honorary awards were also made to Mr. Cossar, gr. to Lady Hay, for a well-bloomed plant of the Black Arum (A. orientale), from the neighbourhood of Jerusalem; to Messrs. Dickson and Company, for a magnificent display of admirably grown Hyacinths in pots; to Messrs. James Dicksons and Sons, for beautiful Hyacinths, and a well-bloomed plant of Erica melanthera, 7 feet in height; to Mr. Carstairs, for fine Hyacinths and Rhododendrons; to Mr. J. H. Mackenzie, for well-flowered specimens of the Intermediate Stock; to Mr. Maclean, gr. to W. F. Mackenzie, Esq., for a rich display of Camellia blooms; and to Mr. Reid, gr. to Colonel Harvey, for large and well-grown specimens of Citrons. Votes of thanks were passed as follows:—to Professor Dunbar, for Camellia Binneyi and Le Duc de Reichstadt; to Mrs. Brown, for Acacia affinis; to Mr. Kelly, for Rhododendron splendidum; to Mr. Macnaughton, for Camellia Marthii; to Sir W. C. Trevelyan, Bart., for Lemons grown at Wallington, Northumberland; and to Mr. Douglas, Grange House, for forced Rhubarb. Several articles of interest were exhibited from the Society's Garden. Among these may be mentioned some well-marked varieties of hybrid Rhododendrons and Azaleas, being seedlings raised by Mr. J. M'Nab. A rich display of Epacris plants in flower, attracted much notice, being all trained in the balloon form. The shoots being annually tied down, the plants are led to produce innumerable spikelets of flowers all over the surface. Several of the rarer varieties of Camellia were exhibited; but two specimens deserve particular notice, from their being suspended in balls of hypnum moss, and supplied with moisture by means of worsted syphons; both specimens were now in flower (Double White and Reevesii), having been under this treatment since July 1847. A fine flowering specimen of Strelitzia reginæ also adorned the table; this plant was also suspended, and wholly grown in hypnum moss, having moisture supplied as in the case of the Camellias; in this situation it has remained for the last three years, and, what is remarkable, it has never failed to produce its gorgeous

flowers twice in the course of each year, in spring and in autumn, during the months of February and March and also during August and September—while in the ordinary mode of culture it is not easy to get it to flower once every year. Professor Dunbar mentioned the satisfactory progress made in procuring loans and donations towards the formation of the projected "Winter Garden;" and the object was strongly recommended from the Chair as well deserving the support of all the members of the Society. Six different communications were read to the meeting (Mr. Robert Girdwood, Professor Balfour, and Mr. M'Nab, occasionally relieving Dr. Neill, the Secretary, in the reading of them). Of these communications we can only at present give the titles, viz.:—On the cultivation of Gladiolus cardinalis, by Mr. Mackenzie, gr. at Blairadam; on the propagating or increasing of Mushroom spawn, and on the raising of Mushrooms during winter, by Mr. Lyall, gr. at Pinkie; on the advantages of repeatedly transplanting fruit-trees, by Mr Cathie, gr. at Airthrey; on the beneficial effects of the root-pruning of fruit-trees, by Mr. Gardiner, at Oxenford Castle; on the cultivation of the Chinese Chrysanthemum, by Mr. Addison, gr. at Gosford; and on the raising of the Chinese Primrose from seed, by Mr. Hankin, gr. at Hunmanby. After hearing the opinions of Mr. Milne, Dr. Balfour, and Dr. Fleming, as to the useful character of these communications, the meeting unanimously remitted to the Council to take the most expedient measures for making them known to the members of the Society.

Botanical Society of London, *March* 3.—The Treasurer in the chair. Donations to the library were announced and two new members elected. Specimens of some of the plants distributed by the Society in 1848 were exhibited. Mr. H. Watson exhibited a specimen of Caltha palustris as one of the connecting links between that species and the C. radicans; having the leaves just intermediate between those of the two figures in English botany, but still more acutely crenate or dentate even than those of C. radicans are represented.

Entomological, *March* 6.—W. Spence, Esq., F.R.S., President, in the Chair. The President distributed copies of his address delivered at the anniversary meeting. He also communicated extracts from local newspapers relative to the attacks of insects upon Swedish Turnips, described as a grey grub which feeds on the leaves, a globular species of Poduridæ, apparently a species of Smynthurus and a flea beetle (Haltica); likewise a notice on the destruction of Turnips in Canada; and on a "small white tree bug," which has attacked the Potato crops near Melbourne, in New South Wales. He likewise referred to a late notice in the *Gardeners' Chronicle* (p. 605), on the destruction of Broccoli plants, Savoys, &c., supposed to have been caused by the larvæ of Anthomyia Brassicæ, but which he doubted, as the habits of that species do not agree with the account alluded to. He also distributed specimens of Leiodes Cinnamomea, the Truffle Beetle, procured by Sir J. P. Boileau, and made some observations as to the origin of the dipterous larvæ found in the Truffles which Mr. Westwood had exhibited at a former meeting, and he read a communication from Mr. Turner, of Manchester, to Professor Royle, on the insects which injure the Cotton crops in North America, suggesting that the Bolt Worm was a coleopterous insect (perhaps a Curculio) which feeds on the pods, and Mr. E. Doubleday stated that Dr. Harris had sent him a specimen of the Army Worm, one of these Cotton destroyers, which was a lepidopterous caterpillar, allied to Ophiusa, which had reduced the crop of Cotton between 300,000 and 400,000 bales. Mr. White exhibited a box of interesting insects recently collected at Hong-Kong by Mr. Bowring; Mr. Westwood a box of rare dipterous insects, belonging to the family Nemestrinidæ; Mr. Saunders a number of rare coleoptera from Port Philip; and Mr. Evans a specimen of the cocoon and perfect Diaphonia frontalis, from New Holland. Notes were read from Mr. Newman about the coupling of wasps; from Mr. Sachse about communications with the Entomological Society of Stettin; from Mr. Keferstein on recently published works on lepidoptera; and from Mr. Douglas on a remarkable variety of Segetia xanthographa, on the nomenclature of a species of Prædisca, and on the regular arrival at the perfect state of Catocala sponsa and promissa between 11 and 12 o'clock at night, observed by Mrs. Vines; and Mr. Gillatt sent some corks from wine bottles burrowed into by a small lepidopterous caterpillar.

Reviews.

The Florist. Nos. I to III. 8vo. Chapman and Hall.

Conducted under the superintendence of E. Beck of Isleworth, in *Monthly Numbers.*

The expectations which we formed of this work, when it was announced, have not been disappointed. It deserves to be recommended as an honest authority in florists' flowers; and, together with the "Midland Florist," has restored the agreeable pursuit that it illustrates to the position which it deserves to hold among the pleasures and minor sciences of a refined nation. Each number contains one coloured plate, from 20 to 32 pages of letter press, and some good woodcuts; it is well printed, clearly arranged, and sold for a shilling. In addition to other good points we would especially invite attention to the florists' calendar, the directions in which are supplied by Messrs. Neville, Turner, Dobson, Tyso and Son, and Hunt, each of whom is well known to be peculiarly skilful in his own department of floriculture. We should therefore say that it is not only good, but very cheap; for such works must not be compared with newspapers, as one of our correspondents suggests. It is not possible to publish them on similar terms. The coloured plates alone sufficiently explain why, to say nothing of the small sale which such works usually obtain. In the "Florist" the coloured plates are excellent; if otherwise they would be worthless, like those with which every one acquainted with the cheap periodicals of the day is familiar. That alone is an element of expense which no amount of sale can reduce one fraction.

The third number contains an account of the winter hiding-place of the Rose maggot, selected as a specimen of a work to which we wish all possible success.

"Doubtless you have been troubled, like ourselves, with this destructive visitor, and have wondered whence he came, at the very moment we could best have spared his company, just as the buds of our favourite Roses were rising from out of their tender foliage. Well, let us take this drawing of Miss Drake's in our hand, and see if we cannot discover our enemy where he lies hid, awaiting those warmer days which mature his growth, and provoke his appetite while they are fast developing the food he loves. Sharpen your knife to its keenest edge, and put on your gloves, for your hand must go to the very heart of your Rose-bush. Look, there is an old spur like the piece in No. 1; now, just cut off the top of it and see if there is not a small hole, as in the piece No. 2. Yes, there it is; very small, but very distinct. Now, cut it out and let us seek the enemy in his own quarters. Ah! you have not gone low enough; you have cut him in halves; and [illegible] upon his winter's rest. Try [illegible]—[illegible] to the should[illegible]—that's well done; you have [illegible] of his large proportions behind. [illegible] length says, and there you have [illegible] little gallery in the pith, and at himself. You don't see him? Where's your magnifying [illegible] not get one? then you should [illegible] amateur or professional, ought ever to be without one in his pocket. I [illegible] recommend you to get one immediately; [illegible] and Co., in Coventry street, London, and supply you and. But now [illegible] and what you supposed was a small speck of dirt you will see is a [illegible] black headed maggot (Cimbex [illegible] 3), the greatest enemy the Rose-tree has. By [illegible] down the pest you have ruptured the [illegible] which he lay, comfortably and warmly [illegible] [illegible] exactly in its cradle; but you have done a good deed, saved yourself the trouble of hunting for him [illegible] and very likely saved your Rose-tree into the bargain. Now I must leave you; but take my advice, and [illegible] your Rose-trees are pruned or not, go over them carefully and cut out every bit of old wood similar to that shown in No. 1, and burn it. Cut and spare not until you have removed every appearance of a perforation, and if by this means you find your Rose much [illegible] with the adversary, thank Mr. Knight, of the Exotic Nursery, Chelsea, for he first gave us the [illegible], which being carefully attended to with our pot [illegible] season, we have not yet seen a single maggot upon our plants, though their buds are in many instances fully developed."

Garden Memoranda.

Messrs. Chandler's Nursery, Vauxhall. Lovers of Camellias (and who are not?), will be glad to learn that the extensive collection of this favourite flower, for which this nursery is celebrated, is now in full bloom. When we state that they form a bank 100 feet in length and some 8 or 10 feet deep, some idea will be gathered of the kind of entertainment which it may be expected a visit to so large a display will afford. It is but right to state, however, that they are hardly so rich in blossom as in former years, a fact which appears to be general this season, and that seekers of novelty may possibly be somewhat disappointed; for although several have been added, they have either turned out worthless or have not been sufficiently proved to admit of being exhibited. Of well tried varieties, however, such as Chandleri; Woodsii; Double White; Triumphans; Elegans, some of whose flowers were at least 6 inches in diameter; King; Albertus, one of the best Carnation-striped varieties; Imbricata; Donkelaari; Vandesii superba, a sort in the way of Elegans, but darker; and many others, there is no lack. The whole collection is neatly arranged in excellent order, and will amply repay a visit.

The show-houses were gay with spring-flowering bulbs and other forced flowers, as Rhododendron canadensis, Ledum thymifolium, Azaleas, Lilacs, intermixed with the better varieties of Correas, Epacrises, Chorozemas, Diosma ambigua, whose tufts of white flowers serve to keep up a little display at this season, when greenhouse flowers are scarce, and some others. It may also be added that the Glycine sinensis, trained along the inside angle of the roof of a span-roofed house here, promises a finer display of flowers this year than usual.

Calendar of Operations.

(For the ensuing Week.)

CONSERVATORY AND GREENHOUSE.

Let the occupants of the conservatory beds and tubs receive a proper degree of that attention which is demanded by all greenhouse plants at this season, especially in regard to the supply of fresh mould and other necessary stimulants to active growth. Mandevilla suaveolens, the Kennedyas, Passifloras, and Bignonias will require regular supplies of water, and possibly further supplies of rich mould. Air should be admitted cautiously, the amount regulated by the state of the weather. As the greater proportion of the plants under glass are in activity, the necessity of affording an unlimited supply of an agent so important must be easily apparent. In introducing Roses, Pinks, and other plants from the forcing-pit see that they are free from insects. Plants infested within the show house should be removed and fumigated. Some greenhouse plants as circumstances render the operation advisable. In some cases an alteration in the [illegible] of training may be procured by varying the time of pruning and proportion of nutriment. Permit no decay of the at

NEW GARDEN PLANTS, PUBLISHED IN BOOKS.

N.B.—* = Very handsome. † = Second rate. ‡ = Third rate. ? = Unimportant.

Name.	Where Published.	Name of Country.	Quality.	Natural Order.	Colour of Flowers.	Time of Flowering.	When first Flowered.	Sent.
Cuphea silenoides .... † *Catchfly Cuphea.*	Bot. Mag., t. 4362	Mexico	H. ⊙	Loosestrifes	Crimson	Summer	1844	Bot. Gard., Kew.
Bejaria coarctata ..... * *Close-headed Bejaria.*	Gard. Chron., 1848, p. 175	Peru	G. ♄	Heathworts	Purple	.....	.....	Veitch and Son.
Bejaria cinnamomea ..... * *Cinnamon Bejaria.*	Gard. Chron., 1848, p. 175	Peru	G. ♄	Heathworts	?	.....	.....	Veitch and Son.
Æschynanthus speciosus	Bot. Mag., t. 4320	Java	S. ♃	Gesnerworts	Scarlet and yellow.	May	1847	Veitch and Son.
entstemon Gordoni ..... * *Gordon's Pentstemon.*	Bot. Mag., t. 4319	Rocky Mountains.	H. ♃	Figworts	Pale blue	June	1847	Bot. Gard., Kew.
Liebigia speciosa ..... ‡ *Showy Liebigia.*	Bot. Mag., t. 4315	Java	S. ♃	Gesnerworts	Cream and blue.	February	1847	Veitch and Son.

in the Gardenia pit when, as it not unfrequently happens, they are infested with the scale; syringe the plants with tepid water, and afterwards rub the insect off with a sponge. Sow Citron pips for stocks, and work Oranges on last year's plants. Exclude grafted plants as much as possible from air and the direct action of light. Give air and water to Indian Azaleas.

FRUIT FORCING.

Pines.—Proper provision should be made to afford that amount of atmospheric humidity so essential to growing Pines; the syringe only is insufficient for the purpose. Pits constructed to receive the advantage of a dung lining, in addition to the means of heating afforded by hot-water pipes, are, of all others, perhaps the best calculated for fruiting Pines. Where Pines are turned out in beds, encourage the roots towards the surface by keeping it well moistened. Remove gills and suckers when they are likely to divert too much sap from the parent plants; 70° to 75° is a good medium heat when the weather is unsettled and gloomy. *Peach-house.*—Pursue without deviation the practice of reducing the temperature at night, and let the day heat for the early house rise to 75°. Apply tepid water once a week. In later houses attend to thinning, arranging, and stopping the shoots. Inattention to ventilation can easily be perceived in Peach-houses, by the very palpable odour they exhale, being powerful or but slightly perceptible. *Figs* in pots may be introduced into a late Vinery with a fair chance of success. In the Fig house an uniform temperature should be maintained, averaging 60°. Avoid excess in every particular, syringing twice a day. *Cherry-house.*—Air on all favourable occasions, judicious watering, and the destruction of insects, is all that can be recommended here at present. *Vineries.*—We should always bear in mind that the progressive development of plants depends on the presence of certain circumstances of soil and humidity, and that any limitation of these agencies checks the general action of the tree, and limits its power of bringing to perfection its proper organs. Mistakes of treatment are as readily exhibited by a Vine as almost any plant. See that the border of the early Vinery is properly supplied with moisture; provide for the regular admission of air, and repress excessive luxuriance by stopping. Bunches will colour better when exposed to the action of the light. *Melons.*—A system should at once be arranged, that a supply may be obtained successionally through the season. Establish the plants in pots before they are ridged out, and retain a few extra pots to supply any deficiencies. Sow the thin-skinned Melons at present, and the larger sorts, such as Cantaloupes, Ispahans, and Cabul, for the succeeding supply. Melons with a thick rind require all the advantage of our sunny weather to give them flavour, or perfect skin. Stop the plants at present ridged out, when they have developed six or seven leaves, and do not allow a plant to swell a fruit until sufficiently strong to sustain it. Keep up a moist heat of 70° and upwards in sunny weather.

FLOWER GARDEN AND SHRUBBERIES.

All rubbish thrown upon lawns by tempestuous weather, or otherwise, should be carefully removed before the roller is used, or ultimately mowing will be much impeded; the planting of herbaceous plants should be completed without delay, and the beds they occupy dressed with fresh soil. China, Tea, and Bourbon Roses if not already pruned ought no longer to be left without that essential attention. It is our practice to defer the operation of pruning Roses which have been recently transplanted, until vitality is decidedly manifested in the buds, as we imagine in removing a large proportion of young wood the powerful excitement which it undoubtedly offers to the roots in influencing them to action is diminished. Sow hardy annuals. There are some flowers, which on account of their humble proportions cannot very well be received in association with the proud beauties that usually ornament our flower-beds, such as Campanula carpatica and Lobelia gracilis; nevertheless they should not be neglected, as they can be introduced with excellent effect as edgings round beds filled with plants of more luxuriant growth. In propagating for the flower garden, Cuphea platycentra must not be omitted; it forms an elegant and striking bed. In the selection of Verbenas for the same purpose, the habit of the variety should be considered, however fine the trusses of some new sorts may be, several are entirely unsuited for bedding.

FLORISTS' FLOWERS.

Tulips now begin to want warm and fine weather; where unprotected, the late hailstorms have done considerable damage to the foliage, and canker in many places has made its appearance. In the north we hear of several beds being wholly destroyed, apparently with a disease similar to that which has affected the Potatoes. Every bed of any pretension should now be covered with a net, and every attention possible bestowed upon the growing plants; we need not here reiterate the instructions lately given. *Pansies.*—These will require considerable attention during the present month. Sheltering, cleaning, &c., must be sedulously attended to. Seedlings will be expanding their blooms, but we would caution the grower not to remove those that are promising. After their good qualities are fully ascertained, it will be advisable to take off greater part of the main stem, which will induce the production of laterals; these should be put in, and will readily strike root. *Carnations and Picotees.*—Plants newly bought in, which have come a considerable distance this spring, should on receipt be carefully examined, particularly that part of the root where the severance from the parent plant took place. If any symptoms of decay are perceptible, carefully remove them with a sharp knife; also take away any bruised leaves. They should then be planted in the pots for blooming; these having been previously well drained, must be carefully filled with compost, the plants placed in the centre of each pot; they may then be covered with a handglass for a few days, till they have taken root. The general stock should now be potted.

KITCHEN GARDEN AND ORCHARD.

As soon as Broccolies and other winter greens are headed, they should be removed, and the ground turned over and prepared for another crop. Early Peas are peculiarly liable to the attacks of slugs; dust them with soot or lime, and send a boy every wet and mild morning in pursuit of the depredators. If any abatement of wet or stormy weather occurs, the principal sowing of Parsnips and Carrots may be made. Sow Basil, Tomatoes, Capsicums, in pans in a warm frame; Cabbage, Cauliflower, Lettuces, and Savoys sown now will prove useful. Keep up a regular supply of French Beans in the forcing-pit. Turn over and prepare droppings for successional Mushroom-beds; allow of no diminution of heat in the Cucumber-pit, and sow for a succeeding frame. Sow Rhubarb; sow and plant Seakale and Asparagus; let the Asparagus-beds run east and west, and if the land is light, with a dry porous subsoil, there will be less necessity for raising the beds, or at least for planting with that intention. Alluding to a recommendation in a previous Calendar, respecting the treatment of Asparagus-beds, a correspondent in last week's *Chronicle* takes occasion to argue against the practice of manuring Asparagus-beds in the autumn, and the system practised by private gardeners generally, in their treatment of Asparagus. We hold with him generally that nutriment is most properly applied to plants when in a state of activity, but still we submit that in the case of Asparagus there exists a reason for autumn manuring, in the fact that the roots are distant from the surface, and manure, to reach them at a period when they are likely to benefit by it, must be applied some time previously. In regard to spring treatment, we are willing to admit and recommend the application of a few inches of fine pulverised soil to the beds; we have, in fact, invariably pursued the same practice.

COTTAGERS' GARDENS.

Where the ground has been ridged up, a few fine days will render it fit for working; it will then be advisable to mark out a space sufficient for the Onion, Carrot, and Parsnip beds: these should be sown in drills. If any well-rotted manure be at hand, it can be employed on the Onion bed. A patch of Turnips, a row or two of Peas and Windsor Beans may be put in, a line of Spinach can be sown between the Pea rows; a warm spot should be selected for sowing Radishes, Lettuces, Leeks, York Cabbage, and Cauliflower; if it be the intention to crop the ground completely, the various sorts of pot herbs may be planted by the side of walks; they should occupy a place in every cottage garden. Winter Greens occupying land required for cropping, may be taken up and heeled in. Early Potatoes may be planted and Rhubarb sown.

State of the weather near London, for the week ending March 16, 1848, as observed at the Horticultural Garden, Chiswick.

March.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 10	4	29.349	29.301	49	38	43.5	S.W.	.29
Satur.. 11	5	28.942	28.745	47	35	41.0	S.W.	.20
Sun. .. 12	D	28.909	28.697	44	34	39.0	N.W.	.07
Mon.. 13	7	29.471	29.204	44	36	40.0	N.W.	.18
Tues.. 14	8	29.874	29.758	49	24	36.5	N.E.	.00
Wed.. 15	9	29.779	29.389	52	30	41.0	S.W.	.06
Thurs. 16	10	29.585	29.472	44	36	40.0	N E.	.26
Average .		29.443	29.296	47.0	33.3	40.1		1.06

March 10—Rain; hail showers; fine; cloudy.
— 11—Rain; boisterous with showers.
— 12—Cloudy; showery; densely overcast.
— 13—Cloudy and cold; heavy rain at night.
— 14—Cloudy and damp; fine; clear and frosty.
— 15—Slightly overcast; showers; heavy showers in afternoon.
— 16—Overcast and damp; rain; overcast.
Mean temperature of the week, 3½ deg. below the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending March 25, 1848.

March.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 19	51.3	34.4	42.8	4	0.02 in.	1	3	3	—	2	6	5	2
Mon. 20	51.0	35.0	43.5	9	0.13	1	1	3	—	1	9	2	1
Tues. 21	52.0	36.7	44.4	10	0.21	4	1	1	2	3	6	4	2
Wed. 22	51.0	36.0	43.5	9	0.25	3	1	2	1	4	5	4	3
Thurs.23	50.5	35.7	43.1	11	0.40	4	2	1	1	3	5	3	6
Fri. 24	50.1	32.9	41.5	7	0.11	2	4	2	—	5	2	3	2
Satur. 25	51.6	34.3	42.4	9	0.50	3	4	6	—	2	1	6	3

The highest temperature during the above period occurred on the 19th and 20th, 1846—therm. 69 deg.; and the lowest on the 20th, 1845—therm. 16 deg.

Notices to Correspondents.

AMERICAN BORDER PLANTS—*W Z A*—Plant the following:—Andromeda floribunda, speciosa, axillaris, and mariana; Azalea ovata and sinensis, A. calendulacea rubicunda, A. c. grandiflora, A. c. splendens, A. coccinea major, A. c. serotina, A. nudiflora flore-pleno, A. n. versicolor, A. pontica ignescens, A. p. pallida, A. viscosa vittata, A. v. alba, A. hybrida thyrsiflora, and A. h. regalis; Rhododendron Nobleanum and its varieties; catawbiense and hybrids; dauricum atrovirens; ferrugineum, red and white; ponticum pleno and dark varieties; Lowii, venustum, aureum, Smithii and varieties, campanulatum, and robustum; Kalmia latifolia, glauca, and angustifolia; Vaccinum ovatum.¶

BOOKS—*C D C*—Newman's "Ferns," Hooker's "Muscologia Britannica."——*Georgius*—If you *know* the name of a plant you will find it convenient to ascertain its place in a classification by means of an index. Then, having found it, to compare it—1, with the character of the natural order; 2, with that of the genus; 3, with that of the species. By doing this very often with many different plants you will find that the distinctions will become familiar to you, without your being under the necessity of committing anything to memory. Begin with "School Botany."

CAMELLIAS—*Vicarius*—Many reasons may be assigned for your Camellia dropping its flower-buds, as for instance sudden changes in temperature, &c.; a sudden rise of temperature causes them to push rapidly; on the contrary a decrease of warmth at that time checks growth, and from both causes buds will fall. The variation of a few degrees will considerably affect them when in that state, particularly in winter. If the soil in the pots is allowed to get dry during autumn, or after the buds are set, that will cause the plant to cast its buds; for if the interior of the ball has become dry during summer (which is frequently the case with large plants) all slight watering afterwards only moistens the outsides of the ball. The best remedy for this is to take a blunt pointed stick and pierce holes through the centre of it, and give a good soaking of water. In your case administer a good top-dressing of fresh loam and well decayed cow-dung (three parts of the former to one of the latter) just before housing for the winter, and afterwards occasionally during the winter stir the surface with a blunt pointed stick; this will keep the soil light. Allow moisture to pass through freely, and with a little heat and moisture applied in November, most probably your flowers will expand freely; for in nearly all cases like yours, when flower-buds fall off in winter, the evil either arises from want of heat or moisture. The Camellia is one of those patient plants which does not show injury for months after it has received it, unless the injury is very great indeed; for the Camellia, like all true evergreens, is not actually in a state of rest at any time of the year.¶

CONIFERS—*J L*—Your question requires a longer answer than we have space for. Professor Balfour is right, as you will see if you read the articles Gymnosperms and Conifers in the "Vegetable Kingdom." It happens that neither the Yew nor Juniper bears a berry properly so called.

EMIGRANTS—*H M*—With good health, a determined mind, and sound advice on landing, a man may make his way in Texas, as others have done. But it is wiser to take a British colony. We prefer Canada, or, if you can afford to reach it, New Zealand. For the further information you require, you must apply to your bookseller, who will furnish you with books relating to any part of the world. We have nothing to say in favour of the climate of Texas.

FLOWERS—*A R D K*—As we have no information about the size of the beds, we hardly know how to advise you. 3, scarlet Pelargonium; 10, 9, 13, 6, scarlets; 1 and 5, yellow; 11 and 7, white; 8 and 12, purple; 14, 15, 2, 4, blue. All these colours may be had with Verbenas, Petunias, Anagallis, and various annuals.

GLASS—*J T*—Why not let down your upper sashes when the day is too hot? Back ventilators are of little use, unless they are much larger than usual. The whole of each end should also be open in such houses. A canvas blind is troublesome, dear, and perishable, and of but little use after all. It is not possible to say more without seeing the place; but your own good sense will tell you how to apply this advice to your own case.

GINGER WINE—*A B*—Try the following:—To 18 lbs. of sugar put the peel of 6 lemons, 9 oz. of ginger, and 6 gallons of water, boil all together well, skimming it, one hour; let it stand till lukewarm, then add the juice of the lemons, 4 lbs. of raisins cut small, and put all into the cask, with two or three spoonfuls of yeast; stir it daily for a week, then dissolve ½ oz. isinglass, put it to the wine with one pint of brandy, and stop it close for six weeks, then bottle it; if a larger quantity be made, it will require to remain longer in the cask. A *very hot* ginger wine may be made thus:—To 10 gallons of water put 30 lbs. of lump sugar, and to every gallon 3 oz. of ginger tied up in a muslin bag; boil this half an hour, and skim it clear; when it is sufficiently cold, add two or three spoonfuls of yeast, and work it three or four days, or as long as it may require. Before you barrel your wine prepare 20 lemons by peeling off the rind and pressing out the juice upon it, adding its weight in sugar; put it together in a basin, and cover it close from the air; rinse your cask with a pint of brandy, then tun your wine and put in your lemon-juice, keep it close for a week or ten days, stirring it every day, then bung it up, and add a little more brandy, if you think proper.

GLOXINIA FYFIANA—*J F*—This was exhibited last year near London. It is a curious plant and handsome; but is no longer new. How did you raise it?

INSECTS—*J B*—The minute insects you have found in such profusion on your Cucumbers and Melons, are a species of spring-tailed wingless insect (Podura sp.), which we were not aware to be so injurious, as it has been doubted whether they even fed upon living vegetable matter. If tobacco, brimstone, and Laurel leaves fail, try a weak solution of corosive sublimate as a wash. *W.*

NAMES OF PLANTS—*An Inquirer*—Surely you have never read the request made by us week after week, that specimens sent for names should be good and perfect. Yours are execrable and unexaminable. 4 is Aubrietia deltoidea; 6, Sedum Telephium?; one without a number, Pulmonaria grandiflora. ——*C W*—Senecio populifolius ——*G Bentham*—Your Judas is the Judas tree or Cercis siliquastrum. —— *Dakry*—The Iris is reticulata, the other is too miserable to be named. *B F*—Oncidium luridum guttatum.

POLMAISE—*R I E*—Follow in every particular Mr. Meek's plan published at p. 573, 1847, which will answer your purpose perfectly. You may, however, add a 4-inch opening under the stove communicating with the external air, as in Mr. Morris's case, which secures a good draught, and also forms a first-rate fumigator.‡

PEAS—*T T*—We believe them to be pigeon Peas.

ROSES—*L H, Kent*—We do not know; you can easily learn by an advertisement.——*P T O*—We know of no difficulty in making the Burnet-leaved Rose flower: perhaps yours is too much under the shade of bushes. Duranta Ellisii is a stove plant. Ipomœa Quamoclit is a "tender annual," and must be raised in a brisk heat. Make no more jams at a time than you want for the year. If they are kept longer they become candied, and must be re-boiled, which injures their flavour.

SPECIMEN PAPER—*M A*—Your paper is too thin. Use very good foolscap cut into half sheets. The foolscap size is most convenient.

WATER PLANTS—*Clericus*—Seeds of Water Lilies are not sold. You should pull up from the bottom of some pond the roots (rhizomes) of the Nymphæas, and place them on the mud of your pond before you fill it; or you may sink them afterwards by weights. The roots of these things may sometimes be had in the nurseries, but they are not usually kept. Procure, if you can, Butomus umbellatus, Aponogeton distachyon, Villarsia nymphoides, Nuphar Kalmiana, and advena, Hottonia palustris, Menyanthes trifoliata, and even Hydrocharis Morsus Ranæ. They will all thrive with you. You will, however, hardly find them except by keeping a look out during summer. The Auvergne Pea is a capital sort.

MISC—*Verbum sat*—We are much obliged; if you had any means of judging about the extreme difficulty of keeping up a succession of such matter you would not wonder at its occasional slackness. We are most anxious to procure it whenever it can be had in a *trustworthy* form; and if you can tell us where to find it, we shall make it our business to meet your wishes. Some of your suggestions are, in fact, in progress; but writers are difficult to stimulate. We must add, however, that our returns do not at all confirm one part of your anticipations: *quite the contrary.*——*A Gall*—Now is as good a time as any for treating your Larches in the manner you mention.‡——*S S*—It is the bark of the root of Daphne Mezereum. It is best procured at Butler's, Herbalist, Covent-garden Market.——*J L* is thanked for calling attention to the Advertisement. We never insert bills in the Paper ourselves, and unfortunately cannot control booksellers who occasionally make a practice of doing so; we can only regret the bill being of such a nature.——*D H G*—You may prune your Hollies and clip your Holly hedges any time during next month.‡——*Reader*—For the management of Tuberoses, see last week's Number, p. 176.‡——One Shilling each will be given for No. 36, 1846, and No. 40, 1847.

AGRICULTURAL SEEDS.

THOMAS WHALLEY begs respectfully to inform his friends that his priced CATALOGUE for the present season is now ready, and may be had post free upon application. T. W. has published a DESCRIPTIVE LIST OF FLOWER SEEDS, which will be found useful to purchasers, and may also be had free on application.
Seed Warehouse, 12, St. George's Crescent, Liverpool.

WHITE BELGIAN CARROT SEED.
SKIRVING'S LIVERPOOL SWEDE.
YELLOW GLOBE MANGOLD WURZEL.
RED GLOBE MANGOLD WURZEL.
LONG YELLOW MANGOLD WURZEL.
LONG RED MANGOLD WURZEL.

FINE NEW SEED of the above, all grown from selected BULBS, may be had of JOHN SUTTON and SONS, Reading, Berks. Priced Lists will be forwarded post paid. Orders for large quantities will be executed at considerably less than the usual prices. Natural and Artificial Grasses for Permanent Pasture at 32s. per acre, of superior quality.
*** Carriage free to London or Bristol.

AGRICULTURAL SEEDS OF THE FINEST QUALITY.

		s.	d.
CARROT, large White Belgian	per lb.	2	0
,, Long Green-topped Red Altringham	,,	1	3
,, Improved Long Red do.	,,	1	9
PARSNIP, large Cattle	,,	1	6
MANGOLD WURZEL, Long Red	,,	1	6
,, ,, Long Yellow	,,	1	9
,, ,, Globe Yellow	,,	1	6
,, ,, Globe Red	,,	1	6
CABBAGE, superior Cattle Drumhead	,,	2	6
TURNIP, Skirving's Swede	,,	1	6
,, fine Purple-top Swede	,,	1	6
,, Norfolk Green Round	,,	0	8
,, Norfolk White Round	,,	0	8
Other varieties of the best kinds.			
GRASSES, fine selected, mixed in proportionate quantities of the most useful kinds for PERMANENT PASTURES, suitable to different descriptions of soils, requiring 3 bushels per acre	per bush.	10	0
Do., finest mixed dwarf varieties for lawns	per lb.	1	3

Do., Pacey and Italian Rye-grass; and all other articles in the Seed Trade, true, and of fine quality.
Remittances with orders or reference from unknown correspondents. Orders of 20s. and upwards delivered free to London or on the Eastern Counties line.
BASS and BROWN, Seed Establishment, Sudbury, Suffolk.

ALSIKE HYBRID CLOVER.—This valuable variety was introduced from Sweden; it is a cross between the White and Red Clover, having all the properties of the former, with the abundance of the latter, none of our Meadow or Pasture Lands should be without it—it should always form part of a Clover layer. Price of seed under 1 cwt. 1s. 9d. per lb.; for 1 cwt., or more, 1s. 6d. per lb.
The PURPLE KOHL RABI, or HUNGARIAN TURNIP, is equally hardy as the Swedish Turnip; it has in several instances surpassed this root in weight of crop and nutritive support; it is perfectly hardy. Price of seed, 2s. 6d. per lb.
GEORGE GIBBS and Co., Seedsmen, &c., to the Royal Agricultural Department of Belgium, &c., 26, Down-street, Piccadilly, London.

The Agricultural Gazette.
SATURDAY, MARCH 18, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY, March 22—Agricultural Soc. of England.
THURSDAY, — 23—Agricultural Imp. Soc. of Ireland.
WEDNESDAY, — 29—Agricultural Soc. of England.
THURSDAY, — 30—Agricultural Imp. Soc. of Ireland.
FARMERS' CLUBS.—March 18: East Kent, Reading.—March 20: W. Market W. Herefordshire.—March 23: Melrose.—March 24: Wadebridge.

THE DIBBLE is, in theory, manifestly the most satisfactory of all our sowing machines. If we imitate Nature in the process, our object will be to give every seed we sow a separate position in the soil; for almost all seeds are furnished with the means of obtaining this isolation for themselves. A Thistle or Dandelion head produces many seeds, but they do not all fall together: they ripen indeed in one place, but before they reach the soil they are scattered widely—borne by their feathery sails far from one another, and from the stem which produced them. The chaff of the Wheat and the Oat, like the down of the Thistle, may serve the same purpose of scattering the grain it envelopes. And in Barley, where the husk adheres to the grain, the same end is attained by the bearded awn which it bears. Its barbed coating of spikelets permits it to move only in one direction, and thus its alternate contraction and expansion consequent upon alternate drought and dampness pushes the seed, worm-like, step by step from its original position in the soil. The inference is one which might indeed have been asserted *à priori*—that every seed should have a separate locality in which, uncrowded, it may germinate and produce a plant which shall bring its fruit to maturity.

Broadcast sowing is more in accordance with this theory than drilling: seeds scattered equidistantly, if they could be buried uniformly and perfectly, ought to be more productive than when crowded into rows. In practice, however, even supposing all these conditions to be fulfilled, and that the grain were perfectly scattered and perfectly buried, such a result might not follow. The theory requires supplementing: it does not take into account the fact that the land bears weeds as well as Wheat, and that apart from this it is the better for cultivation during the growth of a crop. If this be kept in mind it will be seen how the theoretically inferior process may in practice be better than the other—how there is a necessity for crowding the plants in lines that intervals wide enough for the hoe may be left on the surface they cover.

The superiority of dibbling both to drilling and hand sowing consists in its uniting the merits and avoiding the faults of both. It produces a crop of equi-distant plants at intervals wide enough for the hoe. It buries the seeds as perfectly as the drill, and scatters them more perfectly than the hand. Fewer plants are needed per acre, for each is in the condition most perfectly adapted to its productiveness: and fewer seeds are required to ensure a given number of plants, for each is made to suffer the minimum of risk. A large saving of seed is thus one of the manifest advantages of this method of sowing.

We must confess, however, that we have been speaking of the possible rather than the actual. In theory dibbling may possess all the merits we claim for it, but as the practice has hitherto existed, it brings plants out not in individuals but in clusters. In the holes made by the man with the dibbling irons, the children who follow him place any quantity of seed that numbed and careless fingers allow to escape them. "On making inquiries of many intelligent farmers in Essex, I was given to understand, that the number of grains dropped in each hole by the existing method, varied from *nil* up to 30."

We quote this testimony from a lately published pamphlet which brings more ingenuity to bear upon this question than any publication that we have read,* and we strongly recommend it to the attention of our readers. The great difficulty hitherto in the way of dibbling has been the want of an efficient dibbling machine, and they will find in this pamphlet a description of what is unquestionably the best hitherto invented. We have seen this machine and used it; and though, on land certainly in the best order for dibbling, yet the construction of the instrument, and the mode of working it, justify us in believing that, more than any other we know, it is able to contend with untoward circumstances.

There has been a great deal of ingenuity displayed of late years in the construction of hand-dibbling machines; we have examined, we believe, all of them, and have no hesitation in pronouncing this to be the best of the number. By means of it a man deposits the seed for eight plants at once, placing them 4 inches apart. Supposing him to leave an interval of 9 inches between the rows, and to make within the minute 15 of the double strokes with the machine in which its operation consists; then in the course of 10 hours he will have sown exactly 2000 square yards of land, or nearly half an acre. And we do not doubt that with this instrument Wheat may be dibbled for 5*s.* or 6*s.* per acre. No wonder the practice has not extended beyond its birthplace, when such wastry and expense attend it as its present method renders unavoidable. The only wonder is that anywhere it could have contended with the broadcast system or the drill machine. We firmly believe, however, that as the implement described in this pamphlet, and invented by the writer of it, shall become known, its use and the practice of dibbling will obtain and extend.

It is difficult to convey an idea of the instrument by description: but let the reader imagine a seed-box, somewhat deep, and of considerable length, having along the bottom of it a longitudinal slit, about ¾ of an inch wide, and as long as the box itself. This slit is just wide and long enough to allow a flat sheet-iron box to slide up and down in it—which, at its highest, has its upper edge 6 inches within the seed-box, and its lower edge 6 inches without it. The bottom of this slide-box is, in the act of sowing, kept pressed to the surface of the land by the foot resting on a step projecting from one of its sides. Moreover, its bottom is pierced with cylindrical holes at proper intervals, through which the seed is delivered. At the top of the *seed*-box dibble rods are attached which traverse the inner slide-box, as we shall call it, and protrude at the holes along its lower edge. As by its handle the seed-box is lifted up and down, while the foot on its step keeps the edge of the *slide*-box close to the ground, it is manifest that the dibbles will act: they will protrude and be pressed into the earth when the box is forced down, and be drawn within their sheath as the box is raised again. Now the same motions in which this process consists ensure, at the same time, the delivery of the grain into the holes which these dibbles have made. The dibbles are forced into the soil, and, as they are lifted, seed drops through the slide box into the holes they have made: and they are then forced out again to push the grain to its place; and the process may then be repeated 8 or 10 inches farther on. The delivery of the grain is effected thus:—The inner or slide box is not empty: the intervals between the traversing dibble rods are filled by pieces of wood, which occupy their whole depth [illegible] (for the most part) within, too. [illegible] of wood are so shaped, [illegible] that each next the sliding [illegible] half way up its length, [illegible] and the dibble rod, [illegible] of the chamber, is made [illegible] position, there is a [illegible] the higher chamber and the [illegible] it higher there is a [illegible] chamber and (through the dibble slots) the land below; while in another position [illegible] nection between the one [illegible]

It will have been understood [illegible] box is drawn up, and the slide by the [illegible] pressed down, it upper edge [illegible] which the former contains. In this position, if the lower chamber of each dibble contain grain, it will drop through to the land, and [illegible] on the descent of the rod [illegible] are pushed into the land they will have [illegible] seed below them to its proper depth in the soil: and in doing this the upper edge of the dibble emerges from the corn in the [illegible] that descends. Now along this upper edge little cups are cut, one at the side of each [illegible] of sufficient size to hold about two grains of Wheat: each cup therefore retains two grains of the corn as it emerges from the descending slide, and as soon as the dibbles have sunk to their lowest, that part of the rod of each having cups opposite those cups, when a connection is opened to the upper chambers mentioned before, their contents immediately drop. From these chambers, at another stage of the process, they drop into the lower ones, and thence, when the dibbles are drawn up, and the cups are being filled again, to the land. The dibbles then descend, push the deposited grain into the land, and when at their lowest again recede into their respective chambers the contents of the seed-cups, to be deposited at their next position in the field.

Notwithstanding the difficulty of describing this instrument, which, by the way, has been patented, it is in reality of simple construction and not likely to get out of order. The large sizes are rather heavy, when full of corn, and we would recommend the inventor* to make them so as to be worked by two men to each, one at either end: they might then be made somewhat longer, to which, on level land, there would be no objection.

* "England a Self-supporting Country, or a Method of Forcing every perfect Grain into a Plant," &c. By a Practical Farmer. Hatchard, Piccadilly, London.

FOSSIL PHOSPHATES.

IT is not my intention to occupy the pages of your Paper or the time of your readers with any lengthened observations of a personal or controversial character; but in consequence of Mr. Henslow's letter in the last *Gazette*, I think I am called upon to offer a few brief explanatory remarks, no less in justice to that gentleman than to myself.

In the first place, I candidly acknowledge that when I published an account of the phosphatic strata in your Paper, I was ignorant of the observations made by Professors Sedgwick and Henslow on the same subject at the Meeting of the British Association in 1845. It so happened, indeed, that from some accidental circumstance I did not read the Report of the Association for that year; and I read it for the first time about a week ago. This is the sole cause of my omitting to refer to the prior researches of these gentlemen. I should have been truly glad to have derived assistance from previous investigations, as I neither had, nor have, any other object in view than the elucidation of certain scientific facts which have hitherto remained unrevealed; for this purpose I hunted up every authority which I thought likely to contain information on the subject, and all that I could find were Berthier's analyses, which I copied into my statement. Unfortunately, I overlooked the Report of the British Association, or I should have been rejoiced to have obtained help from fellow-labourers in the same field of research, and to have acknowledged their claims.

I now quote, as reported in the *Athenæum*, the information given at Cambridge at the Meeting of the British Association in 1845, relative to the phosphates found in the "upper green sand."

Professor Sedgwick stated that "between the chalk and galt is a stratum not more than a few inches thick, of upper green sand, full of black nodules containing 50 or 60 per cent of phosphate of lime, and many shells." And Professor Henslow, that "the stratum of green sand, although never more than a foot thick, occurred near the surface over many square miles in the vicinity of Cambridge: and the pebbles it contained yielded 61 per cent. of earthy phosphates, and 24 carbonate of lime, the rest being insoluble. These were also considered coprolitic by Mr. Henslow: they frequently contained vertebræ and teeth of fishes, crab-shells, and other substances half digested."

I take no notice of the Suffolk coprolites. Everybody is acquainted with them, and with their manufacture into superphosphate of lime. There is nothing mysterious in their origin, or singular in their composition; the phosphate of lime in the fossilised excrements

* "The inventor of the 'Economic Seed Dibble,' Post-office, Tunbridge Wells, Kent."

of saurians and large fishes being derived from the bones of the smaller animals upon which they subsisted.

I have no wish to detract from the merit of Professors Sedgwick and Henslow's discovery of the existence of phosphate of lime in the upper green sand, though I regret that this information was not more generally known and practically acted upon. But if the report which I have quoted be correct, it appears that the only disclosure given at the meeting at Cambridge was that there existed in the above stratum certain nodules, which Mr. Henslow "considered to be coprolitic." This information (if correct as to the nature of the substances in which the phosphates were found) was far too scanty to be of much agricultural value; and it remained to be afterwards shown that the phosphoric matter existed in far larger quantities than could have been attributed to mere animal exuviæ. And in fact, at the meeting, Dr. Buckland expressed his doubt as to the coprolitic origin of the nodules.

I cannot, in truth, therefore, disavow my claim, in conjunction with Professor Way, to the discovery of three distinct strata, the fossils of which are saturated with phosphoric acid; as also that the green sandy marl, in which the fossils of the upper green sand are enveloped, is likewise very rich in that valuable substance; and that it can be worked with agricultural advantage. It is also to be remembered that the large majority of the fossils are decidedly not coprolitic, but that they consist of corals, sponges, echini, a great variety of shells, ammonites, wood bored by tenedines, other Coniferous wood and its cones, nodules of every size, bearing no resemblance either internally or externally to coprolites, &c. &c. I recapitulate the fossils, in order to show that there were periods in ancient geological history, when large outpourings of phosphoric acid occurred, sufficient to saturate the substances with which it came in contact, after the original carbonic acid, through some equally unknown cause, had been expelled. Moreover, it appears from present evidence that this substitution is a local, not a general fact; that is, that it has not been observed, excepting in the three geological positions I have enumerated, viz., "the true upper green sand," "the galt," and the upper part of the "lower green sand." I have, indeed, some negative evidence tending to this inference; for I have examined a great many fossils from other formations in my geological cabinet, and I find them all deficient in phosphoric acid, whilst carbonic acid abounds. This is remarkable in several fossils, both of wood and shells, taken from the lower part of the lower green sand at Shanklin, in the Isle of Wight.

I have no desire to seek any credit for myself; the inquirer of Nature is amply repaid by her revelations; and if I have succeeded in arousing the attention of intelligent agriculturists to the subject of the hidden treasures, which may be locked up beneath their own lands, I shall neither regret my personal trouble nor the expense which I have incurred in pursuing my investigations. Reverting to the communication which gave occasion for these remarks, I still maintain that whether regarded in its chemical, geological, or agricultural bearings, the discovery does possess some novelty. —*J. Manwaring Paine.*

THIN SEEDING AND BOX-FEEDING.

I recollect having seen, some months ago, either in the horticultural or agricultural department of your most useful and instructive Paper, some very pertinent strictures on the offensive style and manner of some of your controversial contributors.

I lauched for some time afterwards that they had been effective, but I regret to see they have ceased to operate. Politics, religion, and subjects of a kindred nature are highly exciting and stir men's minds, and are apt to bring all their impurities to the surface, and a quiet spirit, on perusing the controversies of the day, must be prepared for encountering many a rude shock; but on turning out of those rough walks into the tranquil and refreshing paths of science, it is a horrid nuisance to meet with such offences there. I do hope that as a very large proportion of your readers are persons of education and cultivated minds, you will reject communications of the description referred to, as the only effectual mode of checking a tone and style which is not only offensive to the taste of those readers who resort to your Paper for information, but which has a tendency to destroy all confidence in the opinions and statements of the writers. A letter in your Number of the 20th February, from a very frequent contributor, very much in the same style, has induced me to offer these observations. I know nothing of him but by his letters in the *Agricultural Gazette*, from which I feel confident he is a very unsafe guide.

I am glad at length to see a correspondent on the subject of thick and thin seeding, who appears to me to have taken a safe and sensible view of the subject. I have long arrived at the same conclusion, which in substance is this—that it is altogether a question to be determined by the particular circumstances of each particular case. It has been treated in the *Agricultural Gazette* as one of the immutable laws of Nature, which are of universal application. The consequence has been that many of the younger race of farmers, who are looking out for information in the periodicals of the day, have been induced, by the class of writers to which I have referred, to use a minimum or even a medium quantity of seed, under circumstances altogether unsuitable to the attempt, by which means a practice, sound in principle, and which has been proved to be economical and highly remunerative, under proper conditions, has been brought into disrepute. If land be thoroughly clean, and in high condition, and it be sown early, a farmer may in most situations safely depend on 6 or 7 pecks per acre, in some cases no doubt less; but in the actual condition of a very large proportion of the arable land in this country, sown as it for the most part is in November, and even in December, no prudent man can be advised to rely on so small a quantity of seed. The safest course is for every man on his own farm to sow each field of Wheat in, say three divisions, on the same day—one with 6 pecks, one with 8 pecks, and one with 10 pecks, and carefully watch the result, and thus work out his own experience on his particular land.

I observe, with regret, a very rude attack on Mr. Warnes and the systems he has recommended. To those of your readers who may not have the advantage of knowing Mr. Warnes, and who may feel an interest either in the cultivation of Flax, or in the feeding of animals, I would recommend a visit to Trimingham. I went there as a perfect stranger, without the advantage of any introduction, merely to inspect the latter process; the plan as respects manure being obviously the most scientific and perfect, but with strong misgivings as to the comfort, health, and condition of the animals. That was in all respects so entirely satisfactory, that but for the recent description given in your *Gazette* by Mr. Nicholls, which I confirm in every particular, I should have enlarged on the subject.

My visit chanced to be at the period of the Flax harvest. I had felt no interest in this matter, not having any idea of cultivating Flax; but the philanthropic zeal of my worthy host was evidently great; I could not therefore do less than accompany him, on his invitation, round his farm, to see the whole process of the Flax culture, dressing, &c. That which I undertook as a sort of task, became a source of real pleasure and satisfaction; for though, from all I saw, I could entertain no doubt of the mercantile advantage of the crop under the careful and intelligent superintendence of Mr. Warnes, it was evident that an extended and benevolent philanthropy was the mainspring which had set, and kept in motion, all I saw going on at Trimingham. I have real pleasure in bearing the testimony of a stranger, until this visit, to the worth and usefulness of Mr. Warnes, whom I have not seen since.

I could not but express my surprise at the perfect sweetness of the boxes, and the cleanliness and comfort of the animals, so contrary to my preconceived opinions, when Mr. Warnes explained that in consequence of the free action of the animals in all directions, the litter was trod so firmly as to exclude the air from the mass immediately under the surface, which prevented fermentation, the cause of the disagreeable effluvia in ordinary stables and stalls.

I then visited some three or four other farms on which the system had been adopted, in consequence of Mr. Warnes' successful experiment. I found in every case the exact reverse in every particular of the statements contained in the communication I have before referred to, and in every instance entire satisfaction with the change of system the parties had effected.

Under these circumstances I determined on adopting the system myself. Many gentlemen and farmers have visited my boxes as a novelty in my neighbourhood. It has been evident to me they come to see a "stinking dungeon," for the almost universal expressions are, "How perfectly sweet the stalls are!" "What comfortable berths!" "How the animals seem to enjoy themselves!" Those who are more frequently with them, observe the gusto with which they devour this prepared food, the whole range lying down with one accord, as soon as it is finished, in undisturbed tranquillity; the rising up, as the time draws near for the next feed, the extension of the legs, sinking of the back, and twist of the tail, in fact a good long stretch of every fibre in the body, the fine feel of condition, after a few weeks' occupation of their separated yet social apartments, their antics under the herdsman's brush, will be satisfied that, "the ox has not been muzzled," "that a righteous man has regarded the life of his beast," and if he asks the beasts, they shall teach him not to deal a blow to lay such a system prostrate, but would say unto him, "Go thou and do likewise."

P.S. I observed an inquiry, in a recent number of the *Gazette*, whether box feeding or stall feeding involved the greatest consumption of straw for litter; and a reply that the former consumed most. I should have expressed the contrary opinion, though with some diffidence, having had little experience of littering stalls. I give the grounds of my opinion, which may enable your inquirer to form some estimate. My steam-engine being at work, on the 29th December, threshing and crushing Linseed, or bruising Peas and Beans, I set Cornes' chaff-cutter on to cut straw in about 4 or 5 inch lengths for litter, reckoning that during a couple of days while the engine was going, I might usefully employ the extra power in cutting litter enough for two or three days by way of experiment. The produce of the two days' cutting, to my astonishment, littered 20 stalls, 9 feet square, and two larger ones containing two beasts each, up to the 1st of February. The engine was at work on the 1st and 2d February, and the chaff-cutter on those days cut a stock of litter which supplied the same stalls to the 1st of March, three or four days less than the former cutting. The weight of straw not having been ascertained, and compared with a similar weight used for the same number of beasts for the same period, these facts are of no further value than for the inferences which may be drawn by those who feed in stalls.—*C. L.*

LAND DRAINAGE REPORTS.—No. VIII.

I beg to send you an account of the cost of part of the draining done in the latter part of 1846, and in the last and part of the present year on an estate in Northamptonshire. The tiles are made on the estate, and are drawn by the tenants, who pay the landlord 5*l.* per cent. on the outlay. Much dissatisfaction was felt by the tenants when this system of draining was introduced, but I am glad to say it is now warmly approved by them.

On Farm A.—33 acres.

Labour, including Mr. Parkes' commission of 5*s.* per acre		£113	8 5
The following pipes used:			
14,000—1½ inch pipes, at 17*s.*			
13,800—1¼ ,, at 15*s.*	..	37	16 3
1000—2 ,, at 22*s.*			
5390—3 ,, at 37*s.*			
(4*l.* 11*s.* 7*d.* per acre.)	Total	£151	4 8

The drains are 4 feet deep and 12 yards asunder. The soil of the farm varies in every field—chiefly a heavy clay with occasional veins of gravel and sand, and most part of the land very full of water.

On Farm B.—61a. 0r. 31p.

Labour, including Mr. Parkes' commission as above		£152	11 0
Pipes: 47,400—1½ inch			
36,000—1¼ ,,	same prices as before	77	12 8
2100—2 ,,			
4950—3 ,,			
(3*l.* 15*s.* 5*d.* per acre.)	Total	£230	3 8

Drains 4 feet deep and 12 yards asunder. The greater part of this land is clay—some yellow, and digs very soft; some of it stiff clay with frequent veins of gravel.

Farm C.—16 acres.

Labour, including Mr. Parkes' commission, as before		£46	18 3
Pipes: 9500—1½ inch			
7200—1¼ ,,	same prices as before..	20	9 6
2700—3 ,,			
2000—2 ,,			
(4*l.* 4*s.* 2*d.* per acre.)	Total..	£67	7 9

Four feet deep, 10 to 11 yards asunder. A strong, tenacious clay.

Farm D.—16 acres.

Labour, including Mr. Parkes' commission, as before		£60	15 7
Pipes: 9400—1½ inch, same price as before ..			
3800—1¼ ,, ,, ,,			
800—2½ ,, at 27*s.*			
300—2 ,, same price as before ..		15	14 2
850—3 ,, ,, ,,			
600—5 ,, at 8*s.*			
(4*l.* 15*s.* 7*d.* per acre.)	Total..	£76	9 9

This draining was nearly all done by the day work—the land being very strong. Drains 4 feet deep and 13 yards asunder.

Farm E.—20 acres.

Labour, including Mr. Parkes' commission, as before		68	16 8
Pipes: 22,500—1½ inch			
6840—1¼ ,,	same prices as before	25	2 6
1144—3 ,,			
300—2½ ,,			
(4*l.* 12*s.* 11*d.* per acre.)	Total..	£93	19 2

The drains are 4 feet deep, 10 yards asunder. The soil chiefly a weak blue clay.

Farm F.—46 acres.

Labour, including Mr. Parkes' commission, as before		£165	4 5
Pipes: 32,300—1½ inch			
24,700—1¼ ,,	same prices as before	55	15 6
4160—3 ,,			
2600—2 ,,			
(4*l.* 16*s.* 1*d.* per acre)	Total	£220	19 11

The drains are 4 feet deep and 12 yards asunder. The soil, with the exception of 8 acres 2 roods, is a whitish clay of a very stubborn kind, and in some places filled with small limestones.

Farm G.—13 acres.

Labour, including Mr. Parkes' commission, as before		£49	8 7
Pipes: 12,000—1½ inch			
4700—1¼ ,,			
200—2½ ,,	same prices as before	17	15 6
1300—2 ,,			
1000—3 ,,			
300—5 ,,			
(5*l.* 3*s.* 4*d.* per acre)	Total	£67	4 1

The drains are 4 feet deep and 11 and 12 yards asunder. The land partly a strong clay and gravel, hard to work, at 3*s.* and 2*s.* 9*d.* per chain.

Farm H.—12 acres.

Labour, including Mr. Parkes' commission, as before		£36	12 7
Pipes: 9500—1½ inch			
5200—1¼ ,,	same prices as before	14	3 9
400—2 ,,			
953—3 ,,			
(4*l.* 4*s.* 8*d.* per acre.)	Total	£50	16 4

The drains are 4 feet deep and 12 yards asunder. The soil is a thin poor whitish clay, with an occasional bed of gravel.—*H. S.*

Home Correspondence.

Box Feeding.—Pray allow me a short space for a few words on box-feeding, in reply to your correspondent Mr. Wilkins. I will pass over his scriptural quotations, which I think admit of a very different interpretation, and confine myself to the practical question, viz: Can a greater amount of weight be produced with the same quantity of food when an ox is confined in a stall, or when he is allowed to range the yard at his pleasure? Is it not strange that this question is still *sub judice*, and that the matter has not long ago been determined in such a way as to place it beyond a doubt? But let us view the subject physiologically. To fatten an animal in a short time, the four essentials are, rest, warmth, ventilation, and proper food, given at regular intervals; and these I think can all be attained in a more perfect manner in what Mr. Wilkins calls a dungeon, which, please to observe, may be warm, and yet well ventilated. Then comes the question whether the poor animals are cruelly treated, and whether they are injured by their excrement? I believe that this is all

moonshine, and that animals so fed have a greater amount of animal enjoyment (as far as the stomach is concerned), than any in existence. Their blindness to the future prevents all mental suffering, and they too much resemble many bipeds, who live to eat. And now for a dirty subject; but it is an important one. Is the excrement of the ox injurious to the animal when the coat is kept clean, and a proper amount of straw is supplied? Does Mr. Wilkins know that pigs readily feed on the dung of cake fed oxen? Is the reverend gentleman aware that some of the London cowkeepers mix cow-dung with the milk to give it a rich yellow flavour, and to enable them to add more water? Has Mr. Wilkins seen the ruddy, healthy countenances of the men in these dungeons? Why, the fattening of an animal is altogether an unnatural process, and we must have recourse to artificial means to accomplish it. In France, ortolans which feed only at day-light are fattened in dark chambers, and the light admitted three or four times daily, so that the birds get four meals instead of one. All this is very unnatural; but I doubt whether a bad shot, who often wounds without killing, does not commit more cruelty in a week than all the ox and ortolan feeders in a year.—*Stearine.*

To a Landowner.—I at once confess to you, with all the aids that improved farming affords, I cannot see any prospect of our being able to continue to farm to a profit the inferior soils of Britain, whilst their produce shall realise only the low prices it is now fetching, "unless the land be first brought into order and condition" so as to admit of being made the most of. Before these can be worked to advantage, they must be trenched, drained, and freed of surrounding trees and unnecessary hedges; that is to say, "the soil must be deepened," to afford a continuance of growth and nourishment to the growing crops, through the heat of summer; "drained," that it may attain the highest temperature, be early warmed in the spring, and gather from the descent of the rains all the nutriment they leave when they percolate into the earth, and have the advantage of the earlier tillage, seeding, and extended rotation of cropping which dry land affords over wet; and "the growing crops must have given them the full influence of unrestricted light and air." I look at the position of the farmers of inferior land that is subdivided into small enclosures and shaded by trees and high hedges, as most unfortunate. Their labour is being thrown away, their capital is dwindling to nothing, and notwithstanding heavy privations and constant anxiety and toil, I am convinced there is no other hope for them than from the occasion which sooner or later will be pressed on the landowners, to afford them the assistance I point out as indispensable to amend their farms. As regards your farm at ——, I have now done nearly all I can to amend it, my further progress is arrested by the trees and hedges, and the restrictions you have put upon me, and which I will not at all disguise from you, are fatal to views of profit in farming it. With respect to your observations as to the loss in my attempting to cultivate highly the small enclosures and headlands near to the trees, I beg to represent to you, that I understand the term "cultivation," as being only applicable to an expenditure that produces a return, and I cultivate highly to give a proportionate larger return. I am quite sure judicious improved tillage is ever desirable, and becomes the more essential the poorer the soil, and is made necessary by the progress that others are making, and the larger returns that better soils naturally yield; indeed the worse the land the greater occasion there is for higher cultivation, to bring it into successful competition with richer. In my opinion there is not (or should not be) a question between high or low cultivation, but there may be between high and no cultivation. I admit of no other test of farming as applicable to the merits of any system, than that of figures. I hold he is the best farmer who raises produce "at the lowest cost;" but I must add, that this is nearly equivalent to the commoner one, "of largest amount," for I believe corn can be best raised cheapest by developing the returns of the earth to the greatest extent. In writing thus much to you, I have rather in view the interesting you and benefiting the numerous tenants with whom you have relations, than a mere reply to your letter, as it applies to ——. —*Hewitt Davis, 3, Frederick's-place, Old Jewry, Mar 7.*

Hard Water: precipitation of the Lime.—The precipitant for the lime asked for at page 166, depends on its state of combination in the water; whether sulphate or bicarbonate. For the sulphate, the most general cause of hardness in water, the readiest precipitant is soda ash, where it can be obtained good; the small portion of caustic alkali it contains, seizing on the carbonic acid in the water, which would otherwise hold in solution a part of the carbonate of lime, produced by the mutual decomposition of the sulphate of lime, and carbonate of soda. But as soda ash varies much in quality, often containing a considerable proportion of common salt and sulphate of soda, besides some offensive sulphurets, a more generally applicable precipitant is the common crystallised soda sold by the grocers for washing. This (unless adulterated) is pretty free from other substances, and effectually decomposes the sulphate of lime; but leaves, as above stated, a little of the carbonate produced in solution by the carbonic acid contained in the water; which may however be got rid of by exposure to the air, by heat, or by quick-lime (as in the following process). In some localities, the chief cause of hardness is carbonate of lime, held in solution by carbonic acid. In these cases the best precipitant is quick-lime, stirred in immediately after slaking; which neutralising and carrying down the free carbonic acid, precipitates therewith the carbonate of lime which it held in solution. Of course in either case, excess is to be avoided: too much soda would render the water mawkish and alkaline; too much lime would convert it into lime water: 1 lb. of the crystallised soda; ½ lb. of soda ash; or 1 oz. of lime; will be generally enough for a hogshead of water; though some will require more, and some less. But as it often happens, that both sulphate and carbonate are concerned, the best general rule may be; first, to stir in fresh slaked lime, at the rate of an ounce to a hogshead; and when this is thoroughly stirred in, add 1 lb. crystallised common soda dissolved; mix well, and let the whole settle together. The lime carries down the free carbonic acid, and carbonate dissolved by it; and the soda following, precipitates not only the lime of the sulphate, but also any quick-lime that may have been dissolved; thus answering all the purpose of soda ash, without the chance of its contaminations. As before said, the true proportions must be adapted to the case and will be ascertained by experience. But there is a little pamphlet published by Professor Clarke of Aberdeen, price 6*d.*, which throws much light on the subject, and explains a ready method of ascertaining the proportions; too long for your columns.—*J. Prideaux.*

Thin Seeding.—"Ars candor dat viribus."—Whether I deserve the censure heaped upon me by your correspondent Mr. Wilkins, I must leave your readers to determine. The object of my letter was to complain of the insufficiency of the evidence adduced by both parties, and my opinion was certainly in favour of the thin-seeder; I have long thought that the writings of some of your correspondents on this subject have had too much of a party bias, and that they have not been supported by such an amount of evidence as to entitle them to much attention; and I think this will apply in an especial manner to the statements of your reverend correspondent. I am sure Mr. Wilkins would not make an assertion that he believes to be incorrect; but I think his zeal for the cause he advocates gets the better of his judgment, and hence the following assertions, which have, I am sure, misled many. Mr. Wilkins has spoken of his fields, so that some of his readers have supposed that he was a large occupier; thus one gentleman talks of Mr. Wilkins' "estate." Again Mr. W. stated that his Barley had yielded 16 coombs per acre when he had not threshed it, and he now tells us that some of his neighbours are carrying out his views (I suppose sowing 2¾ pecks* per acre) but he does not mention their names or the result. Mr. W. has moreover asserted that the ancients (who he says were thin seeders) grew more corn than we do, but he omits to mention the source from whence he derives his information. It is this loose style of writing and this kind of evidence that I deprecate, for it must necessarily lead to error and confusion. If Mr. Wilkins, in his future contributions, will give names, dates, authorities, exact quantities &c., and avoid all speculative questions, he will do more to convince his readers than he has hitherto done; and though "weak, defenceless, and unshielded," he may look upon the "jackalls" with as much indifference as he does his friends the birds, wireworms, and slugs. The inference drawn from my letter respecting the advantage of small occupations I believe to be a very false one; but I will not now take up more of your valuable space upon a subject which is likely to lead to no profitable result.—*Investigator.*

Drumhead Cabbage.—In a late Paper a correspondent recommends the growing of this plant, on account both of its convenience and great weight of produce. I can, from experience, add my testimony to its excellence, having grown very heavy crops, and had plants of 40 lbs. weight in field culture. I think a good method of managing this crop is to sow the seed in August, and prick out the young plants into beds for the winter. And at planting I found it advantageous to lay the plants on the side of the furrow at the last ploughing, and cover them with the succeeding one; if any plant chance to be displaced, a woman or lad following the plough will set them right, and the plants have the advantage of the fine soil to their fibres, and grow away at once. They should not be nearer than 4 feet from plant to plant every way if it be expected to have them large.—*Lusor.*

Flax.—In reading the interesting statement in a late *Agricultural Gazette*, of Mr. Sotheron's experiments in growing Flax and Linseed, I was surprised to see the value which that gentleman set upon his Linseed. His calculations of the profit which he made by his crop are in a great degree founded upon the realised or estimated value of the Linseed per bushel. I see by his figures that he values this at 9*s.* per bushel. If he actually sold it at this amount, of course he had a right to make his calculation accordingly. But I do not think that growers generally may reckon upon selling their Linseed at anything like such a price. I have been for some time in the habit of using Linseed for stock. The cost to me has generally been about what it at present is, 6*s.* per bushel, and I know that large occupiers, who can buy it in more wholesale quantities, obtain the article considerably cheaper than I do. It has been much used this year for sheep and bullocks in this district, crushed, and mixed (unboiled) with Barley-meal and Pea or Bean-meal, in these proportions: 2 bushels of crushed Linseed, 1 bushel of Barley, and 1 do of Bean or Pea meal; and the stock are said to have thriven upon it very satisfactorily.—*Norwich.*

Pleuro-pneumonia, &c.—It is from seeing what appears to me very injurious advice given by high authorities, that induces me to say what my experience of pleuro-pneumonia has been: I never have, under any circumstances, ... no hay, no dry food, until the animal is evidently recovering, and then let the animal graze for an hour or two each day. In the first instance, give a dose of oil, and from the moment the animal is discovered, give a small dose of arsenic three times a day until well, for which I will be if the treatment is strictly followed, as I have proved in my own stock and that of a great number of others. Some time since I saw a query as to the best sort of carriage for one horse to draw the produce to and on. About a week ago an ordinary horse was entered me [illegible] of stone cwt. which he drew on a colliery dray (two wheels) for [illegible] miles on a heavy and a hilly road, the driver (a small man) keeping up the hills. From 25 to 30 cwt. is the ordinary load for small, ill conditioned horses, no matter what carriage, on these drays. [Will you be so good as to describe these drays.] We are all making preparations for Potato sowing, and a very large breadth will be planted this year by all classes.—*J. L. N.*

* Or this autumn, one peck.

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A Weekly Council was held at the Society's House in Hanover-square on Wednesday last, the 15th March: present; Sir John V. B. John[illegible], Bart., M.P., in the chair; Mr. Aimack, Mr. Bo[illegible], Dr. Calvert, Mr. B. E. Hall, Mr. Fisher Hobbs, Mr. Wren Hoskyns, Mr. Kinder, Mr. Majendie, Mr. Mi[illegible], M.P., Mr. Nesbit, Prof. Sewell, Prof. Simonds, Mr. Stanfield, M.P., Mr. Trench, Mr. H. Tull, and Mr. Tweed.

The following new members were elected:

Baker, George, Williams, Park Farm, Wo[illegible], Bath.
Read, Richard, 56, Regent Circus, London.
Stock, Samuel, Blackley Hurst, [illegible], Lancashire.
Turner, Lieut.-Col. Henry, [illegible], Lincoln.
Kyrke, Richard Venables, [illegible], Cottage, [illegible], Denb.
Lopes, Massey, Maristow, Plymouth, [illegible].
Paul, Joseph, Thorpe Abbotts, [illegible], Norfolk.
Hoskinson, John, Mayor, Wimmera, [illegible], Australia.
Carring[illegible], E. A., Henrietta-street, Covent-garden, London.

The names of nine candidates for election at the next meeting were then read.

Wheat.—The Chairman called the attention of the Council to a variety of bearded Wheat which, for the last three or four years, had been cultivated in Yorkshire, and found exceedingly well adapted to the moor-land districts of that county. Although sown so late as the 28th of April, the resulting crop was found to be quite equal, both in amount and quality, to those of the ordinary creeping Wheat sown in November. This Wheat was one of the red varieties, and originally obtained from Wiltshire. An extensive trial was in progress this season throughout Yorkshire on its cultivation, the result of which he would communicate to the Council. The Wheat in question was not thick-skinned, and it yielded a flour for which the millers gave the same price as for that obtained from the autumn-sown varieties. It was well adapted to their light burning soils, as furnishing a convenient substitute for Barley.—An interesting discussion then ensued, in which Mr. Fisher Hobbs and Mr. Tweed favoured the Council with the result of their practical experience on the comparative values of different varieties of Wheat for the miller.—The Chairman also took that opportunity of calling the attention of the Members to some valuable deductions drawn by Mr. Thompson from a series of experiments made on the Hackness estate, for the purpose primarily of testing the value of Liebig's patent manure for the Wheat crop in comparison with guano and farm-yard manure. The statement of these experiments, and Mr. Thompson's appendix to it, would be found in the Part of the Transactions of the Yorkshire Society (No. 10, page 72), just published, and a copy of which was then lying on the table. The points to which these deductions had reference, were:—1. The effects of Liebig's manure; 2. The time for using guano; and 3. The comparative value of ammoniacal and mineral manures: and the results were, the failure of Liebig's manure for the Wheat crop under circumstances where nitrogenous matter was accidentally absent: the decided advantage of using guano on heavy soils in the autumn at the time of preparation for sowing (when the Wheat is not sown earlier than November,); and the strong corroboration afforded to the views of Mr. Lawes in the last Part of the Journal of the Royal Agricultural Society of England,—"That nitrogenous manures" (to use Mr. Thompson's own words, "are of the first importance, as far as the Wheat crop is concerned; and that if these are deficient, mineral manures cannot, by any means, supply their place." Mr. Thompson considers that in the case of lighter soils, the time for employing the guano would be more dependent on the discretion of the cultivator, but that its early use in the spring, under such circumstances of soil, would be attended with great advantage.

Potatoes.—Mr. Miles, M.P., favoured the Council with a supply of seeds of the Potato plant, selected from the mountains of Cuili, and imported direct to this country, and in fine condition, from that region of the Southern Hemisphere, by Mr. Bright, of the firm of Messrs. Gibbs, Bright, and Co., merchants. At the suggestion of Mr. Miles, these seeds were distributed among the members then present, with a request that they would furnish the Council on a future occasion with the result of their respective trials.

Italian Rye-Grass.—Mr. Rotwell, of Alderton Hall, transmitted to the Council specimens of the pale

and brown varieties of Italian Rye-grass grown with Barley on his estate in Suffolk. They were sown in April, 1847, and gathered on the 29th Feb., 1848; and Mr. Rodwell remarked that on comparing with each other the specimens then submitted to the Council, it would again be found that the superior growth of the brown variety fully bore out the opinion formerly given of its value in the Journal of the Society, vol. v., p. 284.

Fossil Phosphate of Lime.—Mr. Nesbit detailed to the Council the researches in which he had been engaged since November last, for the discovery of sources of phosphoric acid in different soils; and, on the motion of Mr. Fisher Hobbs, the Council voted him their thanks for this statement, with a request that he would communicate it in writing to Mr. Pusey, M.P., the Chairman of the Journal Committee.—The Chairman thought it possible that the existence of this acid would be ascertained in many of the mineral groups in different parts of the kingdom, and especially in the Yorkshire hills, in the west of England, where there ran a district along the foot of the Wolds remarkable for its fertility.

Bones.—Mr. Miles, M.P., remarked that he had found, in repeating the important process of disintegrating bones for manure without the use of acid, as described by Mr. Pusey in the last part of the Society's Journal, that instead of sand, ashes, or earth, it was a great improvement to use sawdust as the material for covering up the heaps; double the amount of heat being evolved, and the disintegration being effected much more rapidly and effectually. He piled up the bones into a heap, which he moistened well with water, and then covered over to the depth of 2 or 3 inches with sawdust, a process by which not only the bones themselves were rapidly converted into manure, but the sawdust itself also. This plan, he observed, only differed from that of Mr. Pusey in adopting, instead of earth or other mineral substance, the use of sawdust as a vegetable substance, generally at hand on all farms in great abundance.—Mr. Nesbit remarked that he feared that by this process of decomposition much ammonia in a volatile state would be developed and escape; but the Chairman conceived that, even should such be the case, and the chemical action be different in this process from what it is in dissolving bones by means of sulphuric acid, still in reference to the growth of Turnips, it had been shown by the experiments of Mr. Way and Mr. Lawes that such loss of ammonia would not be of much consequence, as it is the phosphoric acid chiefly (however obtained, and under whatever condition presented), and not so much the volatile alkali, that the Turnip seeks for its food and the source of its nourishment and increase. It was also remarked that Mr. Hudson, of Castleacre, in Norfolk, and also an extensive farmer in Oxfordshire, had found by practical trial the most decided advantage in this mode of preparing bones as recommended by Mr. Pusey.

Pleuro-pneumonia.—Mr. Evan Davies, of Patton, in Shropshire, transmitted to the Council a statement of the successful administration of a remedy for the prevalent disorder amongst stock, along with a copy of the report made by the Wenlock Farmers' Club on the subject. Thanks were ordered to Mr. Davies for these communications, which were referred to Prof. Sewell for the favour of his examination and report to the Council in reference to the remedy proposed.

Australian Barley.—Mr. Baker, of Cottesmore, transmitted his report on the Australian Barley sent to him for trial, for which thanks were ordered on its being referred to the Journal Committee.

Library.—Mr. Turner presented a copy of the Lecture on Manures delivered by Mr. A. Gyde before the North Staffordshire Agricultural Society; Mr. Chandos Wren Hoskyns, a copy of the Report of the Society for Promoting the Amendment of the Law, on the Law of Landlord and Tenant; Mr. Fisher Hobbs, a copy of Mr. Corbet's Prize Essay on Tenant Right; Mr. Spence, President of the Entomological Society, a copy of his Anniversary Address; Mr. Patterson, Vice-President of that Society, a copy of his paper on the Study of Natural History as a Branch of General Education; Mr. George Ransome, a statement of the advantages of the Ipswich Museum of Natural History for the working classes; Mr. Trench, a copy of a work by his relative the Hon. Charles Trench, containing designs of houses for labourers and farmers in Ireland, with estimates and explanatory details; Mr. Thom, a copy of his work on the statistics of Ireland; and from Mr. Brabazon, a copy of his work on the Deep Sea and Coast Fisheries of Ireland:—for which donations the usual thanks of the Council were ordered.

Council Meetings.—Mr. Miles, M.P., having informed the Council of the great inconvenience with which those of their members who were in Parliament were now enabled to attend their meetings, in consequence of a change which had been made in the arrangement of the public business of the House of Commons, by which the country bills were brought under their consideration on the Wednesday, gave notice that, at the monthly Council in May next, he should move an alteration in that part of the Bye-laws of the Society which prescribes the day and hour of the meetings of the Council.

The Council then adjourned to Wednesday next.

Northampton Meeting.—A handsome service of plate, and a public dinner, were given last week to Thomas Sharp, Esq., the late mayor of Northampton, in testimony of the valuable services that gentleman had rendered to the town, as its chief magistrate, during the period of the country meeting of the Royal Agricultural Society of England for 1847, held, by invitation, within the precincts of that borough in July last, in his having so successfully united all parties, without any reference whatever to their political feeling, to co-operate with himself in promoting the honour of the town, and the national objects of the Society, on that memorable occasion.

Farmers' Clubs.

Witham, *Feb.* 29: *Thin Sowing.*—The Rev. George Wilkins, of Wix, delivered a lecture on this subject at the Institute in this town. Amongst the gentlemen present were—Mr. Hewitt Davis, Dr. Newington, Mr. Mechi, &c. Mr. Hutley in the chair. Mr. Wilkins said—

"I shall assume that every grain of corn is perfect in its kind; that a grain of Wheat is as perfect as a Windsor Bean, or an acorn, and is quite as capable of germinating, and of arriving at perfection. Let us also bear in mind that an acre of land consists of 43,560 square feet; and that a bushel of Wheat per acre, which consists of about 470,000 grains, will allow of 11 grains nearly to be planted in every square foot of ground. Two bushels of seed Wheat will put upwards of 20 grains, and 3 bushels upwards of 30 grains upon every square foot of ground. In endeavouring, as far as I have been able to obtain the quantities of seed Wheat planted in the different counties of England at the present time, I have had returns of 4, 3, 2½, and 2 bushels per acre. But I will place the general average at 2½ bushels. In the county of Essex, I think this quantity is rather too high; but in several others it is, I think, below the quantity; but I will say 2½ is the average. In endeavouring also to ascertain the average yield of crops, some returns have given 26 bushels, some 24, and some as low as 20 bushels per acre; but I will assume here that 24 bushels is the general average of the Wheat crops in England, though there are gentlemen of very high authority who maintain that the general average at this time is not more than 20 bushels per acre throughout the kingdom. On the thick sowing system, taking therefore the general average of seed to be 2½ bushels, and the general average of the crop to be 24 bushels, we have a general average of increase of crops of Wheat over the average quantity of seed sown of 8 3-5ths bushels on the present system of farming. If we examine the results of thin seeding in the same manner, we shall find the account to stand thus; and as I wish here to be very particular, I will observe that I shall willingly give any gentleman the authorities I have referred to. The highest quantity under the head of thin seeding which I shall give is 6 pecks an acre, and the lowest quantity is 2¾ pecks. I have certain returns of

	Seed.	Produce.
Rev. G. Burmester	6 pecks	17 coombs.
Mr. Mechi	5 ,,	14 ,,
Mr. Mechi	4 ,,	14 ,,
Mr. Davis	3 ,,	— ,,
Mr. Piper	3 ,,	11 ,,
Rev. G. Wilkins	2¾ ,,	13 nearly.

or, on the average, 55 1-5th bushels from 1 bushel of seed. Thus by the thin-seeding system of husbandry 1 bushel at present has been the average quantity of seed Wheat seeded. The average quantity of crop has been 55 1-5th bushels, and the average increase of crop over the seed used has been in round numbers 54 fold; or every bushel of seed Wheat used by this system has yielded 54 fold of increase on an average. Should the advocates of the system of thick sowing bring examples wherein they themselves and their friends have arrived at different results, and wherein their trials of thin seeding have partly or entirely failed, I observe again, that I have given examples from gentlemen who have pursued the system; and it is the system of thick sowing and thin seeding which I am endeavouring to investigate and elucidate, and not any particular cases of failures of thin seeding by those gentlemen who adopted all the preliminaries of the thick sowing system, and merely engrafted one part of the thin seeding system, like engrafting an Apple tree on an Elm, on their general thick sowing practices. I have taken no small pains to examine many of the reported failures, and in every case I have known I should have pronounced that they must have failed, before the trials were made, if I had been informed beforehand of the means about to be used for the trials before the trials were made. But let us now briefly state the reasons upon which the two systems are said to be founded, and afterwards we will examine the grounds why they are persevered in. And first as to thick sowing: The advocates of thick sowing plead the numbers who pursue it, and its antiquity. 'I have always sown so much,' say they, 'and so have all my neighbours, relatives, and friends, and I know it is right, and I will not try any other plans; thin seeding will not do on my land.' 2. They must sow, they continue, much more seed than can grow, on account of the ravages of wireworms, and other insects and birds, and the injury done to the young plants by frost and wet. 3. Thin seeding also, they maintain, is more liable to mildew, and all other vegetable maladies, than thick sowing is; indeed, that thin seeding is always mildewed, and it will not do on their land. 'Have you tried it?'—'No; and I never will.' 4. Thin-seeded grain, they also say, is coarse and large, whilst thick sown is delicate and fine. 5. They are likewise quite satisfied with their present practice, and therefore why should they change it? Such, I believe, are the principal reasons given by the advocates of thick sowing. I now show the reasons for thin seeding:—1. I observe that it is the system of Nature, which the Creator himself has taught us, and which he himself continually practises, and shows us by example. 2. As far as we are enabled to learn from the annals of mankind, as learning and civilisation increased among the different nations of antiquity the quantity of seed was gradually diminished. It has been the same also in our own country. 3. Thin seeders also, whilst performing all their operations on scientific principles, do not, like thick sowers, fear the insect tribes, let them be what they will, and as for birds, moles, &c., and especially moles and partridges, rooks, and the whole tribe of small birds, they encourage them rather upon their lands, and rejoice to see them, knowing that the former are the appointed instruments for destroying wireworms and other insects, and that the latter, such as larks and small birds, feed upon the seeds of weeds, and thus remove them off our lands. 4. Thin seeders neither do fear mildew, nor the other train of vegetable maladies, which thick sowers so much and justly dread, since they know that it is a gross absurdity, and hold it to be such, to suppose that an abundance of food, and an exposure to the genial influences of the atmosphere, warmth, and light, can produce vegetable diseases. They are aware that formerly mildew was attributed to the Berberry bush, an opinion which is now nearly exploded as absurd. But in their investigation to find out the causes of things, they can prove to a demonstration upon the most unerring principles of scientific practice, that instead of thin seeding generating mildew, it is the only preventative of it. 5. Thin seeders do not fear the coarseness of grain so that it will fill the bushel and sell for a good market price, which is always the case; but they deny it to be coarse. 6. Thin seeded grain likewise always insures a standing crop; it cannot become laid or lodged by winds or rain. 7. Thin seeding, also by exhausting the soil less than thick seeding, enables the farmer to grow grain crops oftener than it is possible for him to do by thick seeding. Modern agriculturists sow from 20 to 30, and some upwards of 40 grains of Wheat on a square foot of ground, which is very much more than can by any possibility arrive at perfection on any kind of land; and they tell us that the smaller quantity of the food of plants there is in a soil, and the poorer it is, the more seed they sow; but the same persons do not increase the number of sheep in proportion to the poverty of their pastures; nor do they place more pigs in a sty because they are short of food for them. From very many experiments which I myself have made, I am perfectly convinced that not more than four grains of Wheat on a square foot of ground, or the third of a bushel of seed, can be germinated and fully developed on an acre of land, and some very long-strawed kinds of Wheat would not require more than three grains on a square foot of land; and yet the general average throughout England is, as I have stated it to be, about 27 grains on a square foot. The quantity of land seeded with Wheat in this country is also variously given by various persons, but the lowest estimate which I have seen is sufficient to prove that the saving of only a bushel of seed per acre would almost render importation unnecessary; or it is certain that the saving of a bushel of seed would be the same thing as the adding a bushel to the increase of crop; and thus were one bushel of seed only used, instead of the general average of the country of 2½, so many bushels of seed would be saved as there are acres of grain tilled. But gentlemen, let us return to that most wretched of all excuses for thick sowing, which asserts that mildew affects the thin seeded corn more than the thick. One would suppose that at this enlightened period, educated men could not advance such an easily refuted absurdity. For what is mildew? When on the wet walls of a church, it is called green mould; when in an undrained meadow, it is called moss; and when on corn, it is called mildew or rust. But wherever found, wet in some shape or other is the cause of mildew, and the remedies are scientific drainage, the throwing down many small enclosures into one large field, the destroying of thick hedges, and the felling of all hedgerow trees. Let farmers and landlords do these things, and let them rationally see to their land, and the parasite mildew will be impossible to be generated on their corn crops. Many districts in England, which years back were greatly injured by mildew, are now almost and some entirely free from it, and wherever this change has taken place there the country has been thrown more open, and the lands have been better drained. But an advocate of thick sowing says, 'I sowed three bushels of Wheat an acre in my field, and I had a very thin plant, and afterwards my crop was all mildewed.' Another thick sower says, 'I sowed a whole field with three bushels of seed, and on half the field I had a full plant, but on the other half the plant was very thin and poor, and on that the crop was mildewed, but not on the other half.' And so they reason and persevere; they refuse to meditate on or investigate causes, and so the evil is handed down from generation to generation, and public writers and orators plume themselves that they exhibit their wisdom by publicly fostering the delusion. But, gentlemen, the real cause of mildew is as I have always stated it to be, wet in some shape or other, and the remedy perfect dryness. It is, says the learned writer, a malady caused by wet mist and dew, by which the stalk becomes black; but it is destroyed by the drying heat of the sun. A more correct account of the mildew than this could not be given by the most learned and scientific of men of the present day. Therefore, as far as you can, destroy all hedgerow trees, grub up three-quarters of your hedges, and keep the remainder within proper bounds; drain your lands wherever you can get a sufficient fall full 5 feet deep, and sometimes 6, 7, or 8, or 10, and rationally seed your fields, so that the sun and air may dry your crops as fast as they are made damp or wet, and you will bid defiance to mildew for ever—it will not, cannot appear on your corn. Another advantage will arise from the following of this advice; your corn will never be what is called lodged or laid, but it will stand firm against all weather, stiff and firm, like sticks or reeds. You will find the silicate of potash glazing and stiffening the straw throughout, not merely at the top or within a foot of the ears, but it will become the stronger, and firmer, and heavier, near the bottom, where nature designed it to be, and firmness and strength are the most required, to support the ripening grain; and when the corn shall be threshed, on account of the superior quantity of the inorganic matter in the straw, it will make better manure, and be more valuable for every purpose for which you may require it. One more authority I must beg you to allow me to present to you in favour of thin or rational seeding of land for grain crops. God himself teaches us by beautiful illustrations, that two grains of seed should never be placed in juxta-position with each other; but in enlightened England at the present day, we see holes bored into the ground with an instrument in shape like this glass I now hold in my hand, making complete cups of water, and into these holes or cups so made women and children are employed to drop 10, 12, sometimes 20, 25, and 30 grains and more into each; I myself have taken out frequently between 30 or 40; and the lecturer at Northampton last summer, at the Royal Agricultural meeting, is reported to have said, as an example of thin seeding, that he ordered such holes to be bored into his land, and not fewer than 6 grains to be dropped into each hole, and how many more were dropped in he did not inform his auditors, but probably three or four times, and perhaps frequently five or six times that number. A more irrational farming operation could not have been performed in the darkest ages of our history, nor at the present day by the most ignorant of nations now existing on our globe; yet we read that the lecturer was applauded, and that when thick or thin seeding was put to the vote, the lecturer's friends and admirers predominated by a large majority over the thin or rational seeders."

Mr. Hewitt Davis addressed the meeting in support of the principle of thin sowing, observing that all he could do was to bring forward in another form the remarks Mr. Wilkins had presented.

The subject of thin sowing appeared to be intimately connected with scientific farming, for if they put an undue quantity of seed on the land, the effect would be the same as if they appropriated an insufficient quantity of food to a given number of animals. If they had provided food for six large hogs, and then shut up 12 pigs in the sty, for a time there would be food for them; but after a while the limited supply would be felt, and when they expected to find 12 full-grown healthy hogs, they would find that out of the 12 only 6 remained. And would they be in a healthy state? Far from it; they would be starved from want of the food wasted when there were 12. They would have imbibed disease, they would be stunted in their growth, and the pigs would present a different quality to what they would if there had been only six there from the first. Where was the difference with respect to Wheat? If they planted 12 grains where only six could arrive at maturity, it would be seen, as was the case with trees in a plantation, they would grow up weakly, disease would follow, and in the end there would be a less quantity of corn. He began farming as a thick sower, and his thin sowing had been the work of years, adopted from close observation and reflection. He saw that in the headlands and other places where the drill had deposited more seed than in the rest of the field, in spring the thick sown plant was always the first to turn sickly, and in harvest instead of more there was less corn. He therefore reduced his seed from 2½ bushels to 2, from 2 to 1½, from 1½ to 5 pecks, from 5 pecks to 4, and from 4 to 3. For some time his sowing had been limited to 3 pecks. He had farmed 800 acres for himself, and three times that for other people, and much of his success in obtaining farming for others had been owing to the success on his own farm by thin sowing. He did not begin as a rich man—farming had been to him a means of bread; and though rich men might afford what farmers could not, he could assure them these were not experiments he should have continued at

a loss. Mr. Wilkins had told them that the subject of thin sowing was an important one—that the saving of seed by it was more than equivalent to all the corn this country drew from abroad, and was sufficient to feed four millions of people; and and he (Mr. D.) maintained that the mere waste of seed from thick sowing was equivalent to a loss of 10s. an acre on the land so cultivated. Therefore it was important to every one that the right quantity of seed should be ascertained. All wrong quantities must be injurious. But less so if they sowed too small a quantity of seed, for it was wonderful to observe the power which Providence had given to make up for that; a grain had been shown to be capable of producing 2000 or 3000 fold; and therefore if they did commit an error it was better to sow too thin than too thick. If they sowed four grains where only three could come to maturity, disease must follow; if they sowed 101 where only 100 could come to perfection, disease of the whole must be the consequence, for the evil would be felt not only by the supernumerary, but by all, and the whole 101 would become diseased. It they went into a field of thick sown corn at harvest, and gathered the ears, they would find that many had but four or five grains, and not one with the same number of grains as from a thin sown ear; while the number of plants they had uselessly fed and lost they could not tell, because they had gradually disappeared. To show that the question of ascertaining the right quantity of seed was not a new one, he read extracts from two old works, one of 1771, the other of 1730, which stated facts and arguments in favour of thin sowing; and this, he said, would show gentlemen who were wedded to their old practices that the matter had excited the attention of their forefathers, and that there were men by whom thin sowing would then have been carried out, but from the want of machinery to do it. It was extraordinary to hear men argue against thin sowing as if it could produce disease. Why should it produce mildew? If they had a piece of Wheat thinned by wireworm, &c., then they found mildew; but was not the mildew the consequence of the injury that had caused a portion of the Wheat to die? Would any one going into a town thinned by fever, and finding the inhabitants few, pale, and ghastly, say that it was unhealthy from being thinly populated? He contended that so far from injuring it, the health of the plant was promoted by thin sowing; and by keeping the land clean and sowing thin he believed the land was less exhausted. By leaving more space between the plants in their early growth, he kept much food unexhausted till the latter part of the growth of the crop, and therefore his thin sowing gave him larger crops with a less quantity of manure. His own practice has been a successful one—his crops had been open to the world—they had gained him credit, and he thought it right to declare that to thin sowing did he owe the crops he had grown.—Mr. BARKER asked the quality of Mr. Davis's land.—Mr. DAVIS said all qualities except rich; he had farmed thin soil on chalk—and he had land broken up from Bagshot Heath, the present being the first crop of Wheat on it.—Mr. MECHI said he would state a curious fact: a person who had been travelling at Wigborough, said he had been looking at Mr. Hutley's Wheats, which were looking beautiful, but they were a great deal too thick; he (Mr. M.) asked what quantity he thought was put on, and the person said 2 bushels or 10 pecks, by the look of the crop; to which he (Mr. M.) replied—I can assure you that all Mr. Hutley's Wheat at Wigborough, drilled early in the season, is only 5 pecks to an acre.—Mr. HUTLEY: Some is six or seven.—Mr. MECHI said on good land thin sown Wheat did not long look thin. In one of his fields last year he believed no person could find out the difference between 5 pecks and 2 bushels. He got a guinea an acre more from thin sowing than from thick. If they would come to his farm in June or July they would be able to draw their own conclusions, as he had several acres sown with different quantities, that he might satisfy his own mind, and those who were doubtful in the district. He urged upon them to try it in the same way as he had before they condemned it.—Mr. H. DIXON said, he did not stand there as the advocate of thick seeding, but he had been an observer for 50 years of what his neighbours had done, and he felt that the subject on which the rev. gentleman had given them a lecture was one of great importance, because if he was wrong it would lead to disastrous results, and if he was right the sooner they followed it the better. He thought that gentleman rode his hobby uncommonly hard—(Laughter)—and he must question some of his statements. Now on the subject of mildew. No doubt the condition of the land was the cause—that was, that there was not a sufficiency of sun and air to produce a healthy plant; but then he appealed to the farmers present whether that was not more common to a thin plant than a thick one. It was a fact, as far as he had noticed, that thin plants were more subject to mildew than thick. He would appeal to the farmers on that, for as far as his observation went he had come to that conclusion. Now there had been a little facetiousness about the Berberry tree, or what was called Pepperidge; on this point he had seen two facts, and occasionally when he saw a thing he believed it. (Laughter.) In one case where a Berberry tree had stood for 20 years, for some yards about it there was not a grain of corn; and in all classes of works on agriculture the Berberry tree had been alluded to as the cause of blight in corn. If the rev. gentleman had seen, as he had done, the Berberry-tree growing in the corn, and the blight all round it, he thought he would agree with him that that was the cause of the blight, for not only was a little of the corn around it affected, but the entire corn was destroyed. The rev. gentleman said that thin planted corn—and he (Mr. D.) was a thin planter himself—was never blighted; but he thought that was going too far, because storms and wet, the violence of wind and hail, would lodge any corn. Mr. Davis said he farmed poor land, and that he failed with thick and succeeded with thin sowing. Now he (Mr. D.) affirmed that thick and thin seeding were relative terms. Mr. Davis said, he used from 3 to 4 pecks an acre; but there was a gentleman in this neighbourhood who farmed successfully, whose crops had been large, who had sown Wheat on the same land for 20 years, and the yield was seldom less than 40 or 50 bushels an acre, and he had sown 3 bushels an acre. If it were true that a man was successful with a large quantity of seed, it followed that if the thin seeder got a large crop, so did the thick seeder. He had known that person put in 7 bushels of Beans an acre—from keeping his land clear he was less liable to damage from insects—and he had seen something like 7 or 8 quarters of Beans where he put in from 5 to 7 bushels of seed. Therefore something could be said in favour of thick seeding, for he believed no farmer there had grown on the same kind of land the same quantity of corn. Mr. Mechi: Does it not depend on manure? Mr. Dixon: Then comes the question—it is manure after all. He (Mr. D.) put in 6 or 7 pecks an acre to Wheat, which he thought was enough. He put in last year 3 pecks of Peas an acre; it was a bad Pea year, but he had a good crop, while his neighbours had not half the quantity. So far it came out in favour of thin-seeding.—Mr. D. then read the following extract from a letter signed "A Thin-seeder," in the *Agricultural Gazette*: "It is 30 years since I fell into the cry of thin seeding; I have followed it through evil report and good report, and I believe I have sacrificed thereby as much Wheat as ever I have harvested. The best crop I ever had was one which I severely blamed my drillman for sowing too thick. I thought to have a magnificent crop last year, on excellent land, broken up from five years' Grass, sheep fed all the time, and highly manured, late sown; it was a splendid sight to the eye, if there had been four times as much on the ground, and I threshed out 10 bushels an acre, a great part of it chubbings, and the grain never got thoroughly dry, and was musty before I could eat it. Now, before I practise any more thin seeding, I wish to see a detail of all circumstances attending the successful thin sown crops, such as may encourage me to persevere therein on such land as I have, and with such culture as it suits me to bestow." In making these observations, he (Mr. D.) felt that if anything could be brought forward to increase the production of the soil, it would advance the wealth and happiness of the people, because they might be assured that the wealth of this country consisted in the production of the land and the employment of the labourers. His feeling was, that if they universally used thin seeding as their principal reliance, they might sometimes fail, and great would be the failure; but he trusted they would have energy and skill enough to cultivate the little bit of land they had so as not to impoverish ourselves, and not to be indebted to other countries for food.—Mr. MECHI said, in the letter from which Mr. Dixon had read, it was asked "how much the frost or the Couch-grass and other weeds after harvest was worth?" (laughter.)—The CHAIRMAN said he had been practising thin sowing to a considerable extent; last year he began with 6 pecks in October and finished three days before Christmas, and never altered the drill at all, and he must say he never had so large a crop of Wheat in his life. This year he sowed 5 pecks in some places—but he did it on this principle—the higher the cultivation the less seed. It was of no use to put a little corn where they expected to be filled with weeds, but with their land thoroughly cleaned from all weeds he contended they might do so.—*Abridged from the Chelmsford Chronicle.*

Reviews.

Table showing the Value of Tithe Rent Charges for the Year 1848; *&c.* By Robert Lethbridge. Hamilton, Adams, and Co., London.

This is simply what it professes to be—information for the current year. The deduction by property tax is calculated in all the instances.

Prize Essay on Thick and Thin Sowing. By Matthew M. Milburn, Land-agent, Thirsk. Simpkin and Marshall, London.

A pamphlet containing, along with additions to it, the Essay on the Sowing and Seeding of Wheat to which the prize of the Yorkshire Agricultural Society was awarded. It conveys the opinions of the author as rightly deducible from his own experiments; those of Mr. Thompson, of Moat-hall, near York; and those of Mr. Watson, of Esperton, Fushie-bridge, N.B.: all of which are described in detail.

"1. That thin sowing, and especially dibbling, is a very unsafe process, as regards quantity per acre of produce. 2. That despite hoeing, where it can be practised, it encourages weeds. 3. That it grows coarser produce, and of less value to the miller. 4. That it does not ripen so early. 5. That on a sandy soil, very dry, and not productive, it was unsuccessful in the writer's own experience. 6. That on gravelly clay, with a higher elevation, it was unsuccessful, with Mr. Watson's experiment. 7. That on very productive land, in a rich state, it was also unsuccessful in Mr. Thompson's experiment."

Mr. Milburn's experiments seem to have been fairly conducted, and their result certainly bears out the above conclusions as regards the season and locality in which they were made. Mr. Watson's experiments are not given in sufficient detail, or with sufficient explanation, to render them altogether intelligible. It appears from the statement that he dibbled 15 lbs. of Barley on an acre, and the cost of the operation was 1*l.* 9*s.*! And it also appears that, by way of contrast, he sowed broadcast, on the same extent, 4 bushels of Barley, the cost of the operation being 6*d.*, independently of the difference of cost. There was a result in favour of the broadcast sowing by 30*s.* per acre. But the contrast was excessive in this case: we do not suppose that even Mr. Wilkins would recommend so small a quantity per acre as 15 lbs. of seed in the case of spring sown grain: and our only wonder is that so thin a seeding should have produced so well.

Calendar of Operations.

MARCH.

BERWICKSHIRE MERSE FARM, *March* 10.—Since last report we have been employed leading Turnips to the store, and going to land intended for Turnips; one man, with a pair, delivering Wheat at Berwick, and loaded home with coals. We have been threshing Oats for seed and Wheat for the market; a woman cutting Turnips for the hogs, the shepherd attending the ewes and lambs, and a man and a boy attending the cattle.—*J. B.*

EAST LOTHIAN FARM, *March* 11.—Except two dry days in the middle of the week, the weather continues showery, and prevents sowing being proceeded with to any extent. Work upon the farm during the week has been sowing with Oats a small part of a field where thin of soil and dry; likewise threshing and carting Wheat to market, except a few samples for seed. Markets are steady in price for all sorts of grain.—*S.*

LAMMERMUIR SHEEP FARM, *March* 11.—The past month has well sustained its old character of:—

"February fill the dyke,
With either black or white."

And March has hitherto been of the same stamp. During the last few weeks we have scarcely had a really fine day. The ground is soaking, and though neither the Heather nor the Grass is so dead as it was 12 months ago, yet the sheep are in worse condition than they were then. This arises partly from their never having fairly got over the effects of last spring. Sheep were so much reduced then that they never got into right condition all the summer, and were consequently in a bad state for standing the rigours of another trying winter. Besides this, the late short and frequent storms, which though too slight to require the use of hay, were still too severe to permit them to get a sufficiency of ordinary food. Following on the back of these, the continual rains and sleet have reduced the stock terribly. Fortunately for the stock-master there is an enormous crop of Turnips everywhere in Berwickshire and the Lothians, letting at 2*s.* a week for ewes, and in some cases even less. This has induced most of the farmers in this district to send their ewes to Turnips. All our Cheviot ewes are now getting them. Some are netted close on; others during a part of the day, having a run off during the night; while others have some carted out to their grazing-ground, at the rate of a cart-load to 150 sheep. A few of the heaviest of the black-faces are already on Turnips, and some more of them will be put on next week. This treatment will be continued till the lambing begins, which will be in about five weeks. Besides the immediate benefit which the sheep derive from the Turnips, the pastures will be cleaned and freshened when they return to them, and better enable them to maintain the improved condition they have received from the Turnips. Owing to the wet, there has been no ploughing for some time. Carting home seed Oats, guano, coals, wood, lifting accumulations of earth, and supplying some of the sheep with Turnips, have been our employments. The cows and young cattle are now getting nearly as many Turnips as they eat, with a little Hay. A few men draining fallow land for Turnips.—*A Lammermuir Farmer.*

NORTH LINCOLNSHIRE FARM, *March* 11.—We have been engaged since last report, when the Turnips were finished, in bringing in Mangold Wurzel from the clamp, threshing Oats, bringing coal, leading manure, cutting straw, and preparing Turnips for ewes. We commenced sowing Barley on the 10th, 20 acres.—*J. H.*

SOUTH LINCOLNSHIRE WOLD FARM, *March* 11.—We have been occupied during the past week in threshing and preparing Turnips and Hay for Barley, carting home Turnips, Barley, trimming hedges, sowing out small manure on Grass, and picking Turnips for the sheep. The sheep are now entirely upon Hay, not a grain of artificial food having been given to them for some weeks.—*W. H.*

SOMERSET FARM, *March* 11.—The weather during last week still continued unfavourable for field operations. We have been employed in hoeing and thinning Beans, preparing ground for Spring Corn, and getting out manure on the Grass land from the heaps. Boiling Grains and Turnips for the cows, and giving straw for litter to the cattle in yards, cutting Chaff for the ducks, turning Potatoes, and repairing the drains intended for seed.—*R. C.*

SUFFOLK FARM, *March* 11.—The weather during last week has been very wet, by which we are prevented from making much progress in the Peas. To-day is fine, and if it continues we shall sow Tares for the sheep, after which Peas and Beans will have still been pre-ented from sowing the greater part of the Wheat, but we shall do so the first opportunity. Carting out Yard Manure, Mangold Wurzel and Swedes, hoeing Beans, harrowing Grass, rolling with gypsum added on Grass land, carting materials for building a new cottage, as we have now erected a water-mill to saw our own timber, &c. &c. The saw-mill is working very successfully; digging stones to make new road to the mill, as the present land is in such a state of mire, we intend burning as much as possible this year: threshing and cleaning Oats for seed: preparing, mixing, and covering dung-heaps with earth. The farmer must be a useful implement in a season such as the present, and there is some sort in use for dibbling Beans, but for the Wheat, I am told a man can do an acre a day. When it is finished I hope the seeds drop at the same time. I have not had the opportunity of seeing it as yet.—*J. B.*

Notices to Correspondents.

APOPLECTIC FOWLS.—*A Cockney.*—It is difficult to pronounce a correct judgment on the case of your hen without a sight of the patient, or at least a fuller detail of symptoms. You say "she appears to have fits at certain times, spins round and round, and is only now kept alive by feeding by hand. She will stand in the same spot for a long time quite listlessly, and seems to pine away. I am told that it is apoplexy, &c." My own belief is that cases of apoplexy never occur among fowls that are at liberty, and are supplied in the ordinary manner. Birds that are kept in confinement, confined in coops, as on board ship, would be liable to attacks of the disease; but we do not hear of it appearing among poultry, and if we did, the affection does not exist in such a way as probably assume an epileptic rather than an apoplectic character. However, cases often occur among fowls that run at large, which we might easily suppose to be apoplexy, but which strict investigation discovers to be cases of cruelty—by wanton blows with sticks, stones, or worse, by intentional maltreatment, either for the base gratifying a barbarous spirit of destructiveness or to injure the owner of the victim by cruelly injuring the living creature to which he is attached. "Does such atrocious conduct ever take place?" many readers will ask. I would not write it if I were not sure of it; and I do reluctantly write it, in order, if possible, to put a check on the repetition of such atrocities. "A Cockney," who seems to be a resident amongst those who have access to the fields, and knows whether there be no ill-natured person in the neighbourhood, or the poor hen may have received an "apoplexy." I sincerely hope these suspicions are wrong, but cannot help fearing there may be grounds for them. Several cases have come where the eyes are bunged by a discharge of pus to the head, acutely inflamed, and the bird weak, and ultimately killed by starvation the consequence of blindness and debility, sometimes produce symptoms similar to those described. The among the poor thing unfortunately, and the only remedy there is of saving it, point out the most humane means of relief to be by knocking it on the head. The patient is generally too exhausted to bear depletion, otherwise a leech or two might do good. Sponging with lukewarm water is a temporary ease, and also restores the sight for a time. But it is to be said with probability, the purulent matter is advancing to the head of the grinders in the jaws, the task of wringing it must be very safe for those who happen to have a cut or a thimble on the finger. "A Cockney" will see at once what must be done, is rough or not. When she is dead, as she may be by the time, he should get some surgical friend to examine if there be any bruise on the neck, or slight fracture. The [illegible] A report of the result, mentioning the treatment, [illegible] would oblige. When the Domestic Fowls appear in the *Gazette*, the subject will necessarily be resumed. [illegible] regard to the wholesomeness of the birds [illegible] only reply that if the thinks of eating it [illegible] with him that day. Its diseases unwholesome [illegible] ful; for certain matters that are [illegible] the flesh, are said to be innocuous when [illegible] stomach. But a cook question [illegible] such a meal, which would certainly [illegible] an extra glass of wine after dinner.—*A.*

ASHES FROM A SMITH'S FORGE.—*A.*—Worthless: probably poisonous.

CABBAGE SEED PER ACRE.—*C R.*—Five pounds.

BUTTER.—*D.*—When the cream is [illegible] churn, it causes the cream to froth, and consequently prevents the butter from coming. This may be your case.—*A Constant Reader.*

CHICORY.—*Constant Reader.*—*A Subscriber* [illegible] plants a foot apart, in deep, well-prepared ground, about the middle of May, not [illegible] as it is apt to run to seed. Thin out the plants to a foot apart when [illegible] inches high.—*J. C.*

COWS.—*C.*—It would be [illegible] effect of relief of about 6 lbs. of blood each, and it [illegible] to reduce the bulk.—*W. C. S.*

DRUMMAH CATTLE.—*J. N.*—See a short article in our Home Correspondence.

FOWLS OF WESTON REGISTER.—Mr. Lowe directs the attention of "An Enquirer" to the known [illegible] of the Royal Agricultural Society, [illegible] to be had at Mr. Cattle, 20, Pall-mall, near the Bank.

GRASS SEEDS.—*J.*—For [illegible] Lowe's recommendation of 2 bushels per acre in mixture [illegible] *Alopecurus pratensis*, 4 lbs.; *Arena flavescens*, [illegible] lbs.; Timothy, 2 lbs.; Festuca duriuscula, [illegible] lbs.; *F. pratensis*, 2 lbs.; *F. rubra*, 2 lbs.; Lolium [illegible] 2 lbs.; *L. perenne*, 2 lbs.; *Poa nemoralis*, 2 lbs.; *P. pratensis*, [illegible] Meadow-cat, 2 lbs.; Trifolium pratense perenne, [illegible] *T. repens*, 4 lbs.: 28 lbs. per acre.

GOOLE PINE CHAFF CUTTER.—*F N.*—It is a very good one. Remarkably neat and simple. A long crank certainly is awful, but one which may be corrected by making the connecting rod longer, so that the thrust in the knife may not be very oblique to the path in which the knife has to move.

GUINEA FOWL—*F W T* begs to inform "A. H. J." that in Yorkshire there is a white variety of the Guinea Fowl, also grey speckled and white, and that they are equally hardy and profitable.

HEIFER—*Country Rector*—Having kept the heifer so long, and being of a breed not well adapted for the butcher, we would advise you to keep her on. If the udder is properly formed, and equally developed, it is very possible the malformation of teats may not affect her milking qualities, always supposing that there is no actual disease going on in the parts. *W. C. S.*

PARIS PLASTER—*Plasterer*—You may apply it very usefully in your garden. Break or grind it small enough, and spread it over your land, and dig it in, or make a compost of it, thus reduced, along with the manure you have to apply. It will retain the ammoniacal matter of the manure or that of rain water, and it will of itself act as food for plants: in both ways it is useful to all crops; in the latter, chiefly to leguminous crops.

PLEURO-PNEUMONIA—*D Mackie*—If the pleuro-pneumonia is established, and the beasts are half fat, it will be better to kill them than to risk the treatment, for, do what we will, the deaths are more numerous than the recoveries. In the early stage, bleeding, blistering, and even firing the sides of the chest, setons in the brisket, mild aperients, and powerful sedatives, such as Hellebore, form the best plan of treatment, but after the disease has made a certain progress, bleeding becomes injurious. Every precaution should be used so as not to admit fresh animals amongst those diseased, or even into their houses, until they have been thoroughly cleaned and purified *W. C. S.*

SALT FOR HENS—*C W* is referred to "D.S.E.'s" article in No. 25, 1847,—"salt in liquid acts as an emetic with fowls as with dogs."

SAMPLES OF FLAX—*J H Dickson*—Thanks. The specimens of English and Belgian growth appear of nearly equal quality.

SOFT SANDY SOIL—*Ceres*—Oats are probably the best grain crop. But if they grow very much to straw, as is probable, they will stifle the Grass, so that probably your best plan is to sow 1 bushel of Rye per acre along with the following Grasses:—Alopecurus pratensis, 1 lb.; Avena flavescens, ½ lb.; Dactylis glomerata, 5 lbs.; Festuca duriuscula, 2 lbs.; F. pratensis, 2 lbs; F. rubra, 2 lbs.; Lolium perenne, 12 lbs.; Poa pratensis, 1 lb.; Medicago lupulina, 1 lb.; Trifolium pratense perenne, 4 lbs.; T. repens, 5 lbs.: 36 lbs. *Lawson.*

VALUE OF CROPS AS FOOD:—*H Cottrell*—The following is extracted from Johnston. He has put the crop, per acre, of Wheat, 30 bushels; Barley, 40; Oats, 50; Rye, 30; Beans, 30; Peas, 25; Potatoes, 12 tons (too high); Turnips, 30 tons (too high for England); M. Wurzel, 20 tons (much too low for south of England). But it is from the first series of columns that you will gather the answer to your question. The quantity of water present indicates the *quantity* of FOOD negatively—and the quantity of albumen, &c., of fat, and of starch, &c. indicate its *quality* positively.

Name of Crop.	Water.	Husk, Woody fibre, &c.	Gum, Starch, Sugar, &c.	Albumen, Gluten, &c.	Fatty Matter.	Saline Matter.	Weight of crop per acre.	Pounds of Gluten per acre of
Wheat	15	15	60	10 to 15	2 to 4	3	lbs. per acre.	
Barley	15	15	60	12 to 15	2 to 3	3	1 8 0	
Oats	16	20	50	14 to 19	5 to 7	3 to 4	2,100	
Rye	12	20	60	12 to 15	3 to 4	4	2,100	
Indian corn	15	10 to 20	60	10 to 15	5 to 9	2	1,800	
Buckwheat	14	12	70	10 to 12	4	4	1,6 0	
Rice	12	6	75	7	0.7	0.4	1,300	
Peas	14	3	50	24 to 28	2 to 3	3	1,900	
Beans	14	8 to 11	50	24	2.1	3	1,600	
Potatoes	75	4	18	2	0.3	0.4	27,000	
Carrots	85	9	9	1.5	0.3	1	56,000	
Turnips	88	5	7	1.5	0.3	1	45,000	
Mangold Wurzel	85	2	11	2.1	0.3	1	45,000	
Meadow hay	14	30	40	9.3	2 to 3	5 to 10	3,400	
Pea straw	14	25	40	7.1	3 to 5	9	4,500	
Clover hay	14	25	45	12.3	2 to 3	6	2,700	
Oat straw	12 to 15	45	35	1.3	0.8	2	3,500	
Wheat straw	12	50	30	1.3	0.8	2	3,600	
Barley straw	12	50	30	1.3	0.8	2	3,600	
Rye straw	12	45	30	1.3	0.8	2	3,600	
Indian corn straw	10 to 15	45	30	1.3	0.8	2	3,600	
Hemp (dry)	10.8	27.2	43.3	28.1	24.7	1.6	1,8 0	
Flax seed (dry) ..	10.8	45 9	43.3	18.4	18.8	3.1	1,800	
Flax seed	10	27.2	..	..	22.8	1.6	1,800	

	Husk.	Starch.	Gluten.	Fat	Salts
Wheat (Bucholz)	270	990	180	36 to 72	36
Barley (Leo. Meier)	315	1260	250 to 350	48 to 64	64
Oats	420	1260	250 to 350	48 to 64	64
Rye	100	960	250 to 310	32 to 48	64
Beans	320	650	100 ?	5 ?	64
Peas	160 to 320	760	150 to 538	33 to 57	57
Potatoes (Gyde)	1260	4560	380	84	48
Turnips	1260	4560	900	170	240
Carrots	1260	4560	900	?	240
Mangold Wurzel	1260	4560	420	70 to 225	400
Meadow hay	675	1260	330	135 to 225	220
Pea straw	1120	1800	420	70 to 170	400
Oat straw	1020	1350	300	70 to 120	350
Wheat straw	1260	1800	840	?	800
Barley straw	1260	1800	840	?	800
Rye straw	1260	1800	840	?	800
Indian corn straw	1260	1800	1000	200	800
Hemp (dry)	1260	6000	540	90	240
Flax seed (dry)	1260	4860	540	84	240
Flax seed	1260	4860	1080	90	240

WEEVILS—*D S E* says "I recollect seeing some warehouses full of Wheat infested with these insects, into which several lobsters were thrown (whether boiled or not, recollection does not favour me for the purpose of destroying them; this they did effectually."

*** Communications reaching town after Wednesday cannot be answered till the following week.

Markets.

POTATOES, SOUTHWARK, WATERSIDE, March 13.

The Committee report that the market is well supplied, both coastwise and from the Continent. The demand during the past week has been very limited, consequently lower prices have been again submitted to. The following are the present quotations, which may be considered nearly nominal as regards the higher prices, as the bulk is bearing old at the lower quotations:—Yorkshire Regents, 90s to 140s; Shaws, 80s to 120s; Kent and Essex Regents, 100s to 120s; Kidneys, 100s to 130s; Wisbeach Regents, 80s to 120s; Kidney, 100s to 120s; Scotch Cups, 100s to 120s; Whites, 90s to 100s; Dutch Whites, 70s to 80s; Belgian do., 80s to 100s.

COVENT GARDEN, March 18.

The market continues to be well supplied with Vegetables and with most kinds of winter Fruit. Pine-apples, however, are scarcer. The supply of foreign Grapes is well kept up. Pears and Apples are as plentiful as could be expected, considering the season. Of the former, specimens of Beurré Rance, Easter Beurré, and Ne Plus Meuris may be bought at from 3s. to 4s. per dozen. Nuts are sufficient for the demand. Filberts fetch from 14s. to 20s. per 100 lbs. Oranges are abundant. Lemons are moderately plentiful. A few forced Strawberries have made their appearance. Of Vegetables, Cauliflowers, Broccoli, Greens, &c., are plentiful. Asparagus and Seakale may be obtained at last week's prices. French Beans fetch from 3s. to 4s. per 100. Carrots and Turnips are good in quality. Potatoes realise high prices. Lettuces and other salading are sufficient for the demand. Mushrooms have not altered in price since last week. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Camellias, Fuchsias, Azaleas, Hyacinths, Acacias, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 4s to 7s	Lemons, per 100s, 6s to 14s
Grapes, Portugal, per lb., 1s to 2s	Almonds, per peck, 6s
Apples, dessert, per bush., 3s to 6s	— sweet, per lb., 2s to 3s
— kitchen, p. bush., 2s 6d to 5s	Walnuts, per bush., 12s to 18s
Pears, per half sieve, 8s to 10s	Nuts, Barcelona, per bush., 20s to 22s
Oranges, per doz., 9d to 2s	— Filberts, per 100 lbs., 14s to 24s
— per 100, 4s to 12s	— Cob, per 100 lb., 25s to 30s
— bitter, per 100, 8s to 16s	— Brazil, per bush., 12s to 16s
Lemons, per doz., 1s to 2s	Chestnuts, per peck, 3s to 6s

VEGETABLES.

Asparagus, per 100, 2s to 6s	Onions, pickling, p. hf. sieve, 2s to 3s
Savoys, per doz., 4d to 1s	Shallots, per lb., 6d to 8d
Cabbages, Red, per doz, 2s to 4s	Garlic, per lb., 8d to 1s
Greens, p. doz bunches, 1s 6d to 2s 6d	Spinach, per sieve, 1s to 1s 6d
Cauliflowers, per doz., 3s to 5s	Seakale, per punnet, 9d to 2s
Broccoli, per bundle, 1s to 3s	Rhubarb, per bundle, 6d to 1s 6d
Brussels Sprouts, p. hf. sieve, 1s	French Beans, per lb., 3s. to 4s.
Sorrel, per half sieve, 6d to 9d	Radishes, per punnet, 1s 6d to 2s.
Potatoes, per ton, 120s to 190s	Artichokes, Jerusalem, p. hf. sieve, 1s
— per cwt., 6s to 10s	Lettuce, Cab., per score, 4d to 9d
— per bush., 4s to 6s	Endive, per score, 1s to 3s
— Kidney, per bush., 4s to 6s	Mushrooms, per pottle, 6d to 1s
Turnips, p. doz. bunch., 1s 6d to 2s 6d	Small Salads per punnet, 2d to 3d
Red Beet, per doz., 6d to 1s	Fennel, per bunch, 2d to 3d
Horse Radish, per bundle, 1s to 6s	Savory, per bunch, 3d to 4d
Cucumbers, each, 2s to 5s	Thyme, per bunch, 2d
Leeks, per doz., 6d to 1s	Watercress, p. 12 small bun., 6d to 9d
Celery, per bundle, 6d to 1s 6d	Parsley, per half sieve, 1s to 1s 6d
Carrots, per doz. bunches, 2s to 4s	— Roots, per bundle, 1s to 1s 6d
Onions, per bush., 2s to 3s	Mint, green, per bunch, 3d to 4d
— Spanish, per doz., 1s to 4s	Marjoram, per bunch, 3d to 4d

SMITHFIELD, MONDAY, March 13.

Our supply of Beasts to-day is large; the choice qualities are, however, readily sold at Friday's quotations. For middling descriptions trade is slow, but almost all are disposed of, all other kinds of provisions being scarce. We have a few more Sheep; the number is, however, still very small. Trade is hardly so brisk as on Monday last, but prices remain about the same Friday's quotations for Calves are with difficulty maintained. There is a good demand for Pigs at late rates. From Holland we have 244 Beasts, 490 Sheep, and 60 Calves.

Per stone of 8 lbs.—	s	d	s	d
Best Scots, Herefords, &c.	4	6 to 4	8	
Best Short Horns	4	4 — 4	6	
Second quality Beasts	3	6 — 4	0	
Calves	4	6 — 5	6	
Best Downs & Half-breds	5	4 to 5	8	
Ditto Shorn				

Per stone of 8 lbs.—	s	d	s	d
Best Long Wools	4	10 to 5	2	
Ditto Shorn				
Ewes and second quality	4	2 — 4	6	
Ditto Shorn				
Lambs				
Pigs	4	8 — 5	6	

Beasts—3309. Sheep and Lambs—14,840. Calves—116. Pigs—300.

FRIDAY, March 17.

We are not very largely supplied with Beasts to day; there are, however, quite enough for the demand, which is very limited; the weather also is unfavourable. The best qualities, being rather scarce, make quite as much as on Monday, but it is very difficult to reach that day's quotations for second-rate, and several remain unsold. There are 100 from Holland, 11 from Spain, 200 from Scotland, and 150 Milch Cows. The number of Sheep is small; there are, however, but few wanted. Trade is very slow, and prices must be quoted 2d. per 8 lbs. lower, although perhaps in a few instances good Downs make about the same as on Monday. There are 240 from Holland, and 51 Calves. Trade is very dull for Calves, and 5s. 4d. is with great difficulty obtained for a choice one. On the average, prices are fully 4d. per 8 lbs. lower. Pigs are not selling quite so well.

Best Scots, Herefords, &c.	4	4 to 4	8	Best Long Wools	4	8 — 5 0
Best Short Horns	4	2 — 4	4	Ditto Shorn		....
Second quality Beasts	3	4 — 4	0	Ewes and second quality	3	10 — 4 4
Calves	4	4 — 5	2	Ditto Shorn		....
Best Downs & Half-breds	5	4 — 5	6	Lambs		....
Ditto Shorn		....		Pigs	4	6 — 5 4

Beasts—873. Sheep and Lambs—2310. Calves—207. Pigs—300.

HOPS, FRIDAY, March 17.

Messrs. PATTENDEN and SMITH report that the market remains in the same state as for a long time past, both as to demand and prices. The present wet weather is considered to be very unfavourable to the coming crop of Hops.

Mid. & East Kents, p. cwt. 65s to 109s	Yearling Kents, p. cwt..	48s to 60s	
Weald of Kents .. .. .. 56 — 72	Yearling Sussex	46 — 58	
Sussex .. .. .. 54 — 68	Old Hops	20 — 40	
Farnhams .. .. .. 84 —126			

HAY.—Per Load of 36 Trusses.

SMITHFIELD, March 16.

Prime Mead. Hay 65s to 74s	New Hay .. —s to —s	Straw .. 24s to 30s	
Inferior ditto .. 53 — 63	Clover .. 75 — 94		
Rowen .. .. 50 — 58	New Clover .. — —	J. COOPER.	

CUMBERLAND MARKET, March 16.

Prime Mead. Hay 70s to 75s	Old Clover .. 90s to 91s	Straw .. 28s to 32s	
Inferior .. .. 50 — 63	Inferior .. 77 — 84		
New Hay .. .. — —	New Clover .. — —	JOSHUA BAKER.	

WHITECHAPEL, March 16.

Fine Old Hay .. 76s to 72s	Old Clover .. 88s to 95s	Straw .. 24s to 28s	
Inferior Hay .. 53 — 60	Inferior .. 65 — 75		
New Hay .. .. — —	New Clover .. — —		

MARK LANE, MONDAY, March 13.

Messrs. KINGSFORD and LAY report that the supply of English Wheat by land carriage samples this morning was small, and the stands were quickly cleared at an advance of fully 1s per quarter. Having a good attendance of country buyers, foreign met an improved demand, and some qualities commanded a slight advance.—Barley must be written 1s. per quarter dearer.—The supply of Beans exceeds the demand, and they are 1s. per quarter cheaper.—Peas are very difficult of disposal and we reduce our quotations 2s. per quarter on all descriptions.—Oats are the turn dearer.—Barrel Flour is in demand, and taken freely at late prices.—Good Tares continue to be inquired after at our quotations.

		s	s		s	s
BRITISH PER IMPERIAL QUARTER.						
Wheat, Essex, Kent, and Suffolk	White	50	60	Red	44	52
Norfolk, Lincolnshire, and Yorkshire		48	52	White	48	52
Barley, Malting and distilling, 26s to 29s	Chevalier	28	33	Grinding	25	26
Oats, Lincolnshire and Yorkshire	Polands	22	25	Feed	19	23
Northumberland and Scotch	Feed	20	23	Potato	22	24
Irish	Feed	18	22	Potato	22	24
Malt, pale, ship		—	—			
Ditto, Suffolk and Essex		—	—			
Rye		28	32			
Beans, Mazagan, old and new	27s to 38s	28	42	Tick	28	42
Pigeon, Heligoland	31	50	Winds	40	52	Longpod
Peas, White	32	36	Maple	35	37	Grey

Harrow	30	44	
Longpod	30	34	
Grey	32	33	

FRIDAY, March 17.

The arrivals of Grain and Flour coastwise during the week have been moderate, those of Oats from abroad good. The attendance at market this morning was not large, and the business transacted chiefly of a retail character. The value of Wheat, English and foreign, is nevertheless fully supported.—Fine Barley is scarce, and in demand at rather improving prices.—Beans and Peas are difficult of disposal.—The Oat trade is heavy, and the turn cheaper.—Flour sells freely at our quotations.

IMPERIAL AVERAGES.	Wheat.	Barley	Oats.	Rye.	Beans.	Peas.
Feb. 5	51s 2d	30s 9d	23s 7d	32s 6d	38s 5d	42s 9d
— 12	51 0	31 2	20 7	30 5	38 1	43 2
— 19	50 11	31 3	21 1	32 4	37 10	42 5
— 26	50 2	30 9	21 8	30 3	38 0	41 7
March 4	49 11	30 8	20 5	30 5	36 9	41 8
— 11	50 2	30 4	20 2	33 4	36 2	39 0
Aggregate Average	50 7	30 10	20 7	31 6	37 6	41 9
Duties on Foreign Grain	7 0	2 6	2 6	2 6	2 6	2 6

Fluctuations in the last six weeks' Corn Averages.

Prices.	Feb. 5	Feb. 12.	Feb. 19.	Feb. 26.	March 4.	March 11.
51s 2d		...	...	...	...	...
51 0	...		...	...	...	...
50 11	...	...		...	...	...
50 2	...	...	...		...	...
50 2	...	...	...	...		...
49 11	...	...	...	...	...	

SEEDS, March 17.

Canary ..... per qr.	68s to 68s	Linseed-cakes, Foreign, p. ton	8l to 10l		
Caraway ..... per cwt.	34	36	Mustard, White, p. bush	6s 0d to 8s 0d	
Clover, Red, English	35	52	Superfine p. bush	—	—
— Foreign	35	50	Brown, per bush.	—	—
White, English	40	52	Rapeseed, Engl., per last	29l	32l
— Foreign	30	30	Rape-cakes ..... per ton	5l 10s	6l
Coriander	10	20	Saunfoin	—	—
Hempseed	38	42	Tares, Eng., winter, p. bush.	7s 0	8s 0
Linseed	42	43	Foreign, per bush.	4s 6	6s 0
— Baltic	—	—	Trefoil	17s 0	21s
— Cakes, Eng., p. 1000	13l to 13l 5s		Turnip—too variable for quotation.		

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND CO., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS CUT TO SIZE UP TO 40 INCHES LONG.			SMALL SQUARES of SHEET.		
16 oz. to the foot	3½d.	per foot	4 by 3 and 4½ by 3½	1½d.	per ft.
21 ,,	5	,,	5 ,, 3	5½	,,
26 ,,	7½	,,	6 ,, 4	6½	,,
32 ,,	10	,,	7 ,, 5	7½	,,
			8 ,, 6	8½	,,
			Not above 10 ,, 8	3	,,

GLASS MILK PANS, PROPAGATING GLASSES, AND BEE GLASSES. GLASS TILES AND SLATES.

CREAM POTS, from 3 to 24 quarts, at 6d. per quart.

CUCUMBER GLASSES, from 12 to 26 inches long, 1d. p. inch.

LACTOMETERS for trying the quality of Milk, 4 tubes 7s. 6d., 6 tubes 10s; and every article in the trade.

BEE-HIVES.—All persons desirous of Cultivating that pleasing and profitable branch of rural economy—the Honey Bee—are respectfully informed by G. NEIGHBOUR and SON, that they have prepared for the season an extensive supply of their various improved BEE-HIVES; their collection consists of "Nutt's Collateral Hive," "The Single Box Hive," "The Improved Cottage Hive," "The Ladies' Observatory Hive," "Taylor's Bar Hive," &c., from either of which the Honey may be taken at any time without injury to the Bees, and may be worked with safety, humanity, and profit, by the most timid and unaccustomed to Bee-manipulation. A descriptive paper, with drawings and prices, will be forwarded on receipt of a postage stamp.—Apiarian Depot and Honey Warehouse, 127, High Holborn, London.

NUTT ON BEES (6th Edition), just published.

HOT-WATER APPARATUS AND HORTICULTURAL BUILDINGS.

DANIEL AND EDWARD BAILEY, of 272, Holborn, construct and erect Hot-water Apparatus for Warming Horticultural Buildings, Dwelling-houses, Churches, and Manufactories, in a simple and efficient manner, at moderate charges. They have erected Apparatus in England, Scotland, and Ireland for many Noblemen and Gentlemen. They had the honour to be employed in heating the ranges of Hothouses and Pits in HER MAJESTY'S NEW GARDENS AT FROGMORE, and in executing the works of the splendid Conservatory erected by the Horticultural Society of London in their gardens at Chiswick, and also in the erection of the Conservatory attached to the Pantheon Bazaar.

D. and E. BAILEY, who were the first to introduce Metallic Curvilinear Hothouses to Horticulturists, erect various descriptions of Horticultural Buildings, and execute all kinds of metal work at their Manufactory, 272, Holborn.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

PERUVIAN AND BOLIVIAN GUANO ON SALE,
By THE ONLY IMPORTERS,
ANTONY GIBBS AND SONS, LONDON;
WM. JOSEPH MYERS AND CO., LIVERPOOL;
And by their Agents,
GIBBS, BRIGHT, AND CO., LIVERPOOL and BRISTOL;
COTESWORTH, POWELL, AND PRYOR, LONDON.

To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

THE LONDON MANURE COMPANY beg to offer the under-mentioned MANURES on the best terms:—The URATE of the LONDON MANURE COMPANY, for Turnips, Tares, Oats, Barley, and all other Spring Crops.
GENUINE PERUVIAN GUANO, DIRECT FROM THE IMPORT WAREHOUSE.
Nitrate of Soda—Petre Salt for dressing old Pasture—Agricultural Salt—Superphosphate of Lime—Soda Ash—Pure Gypsum—Bone Sawdust—Sulphuric Acid—Sulphate of Ammonia, and every other artificial Manure. E. PURSER, Sec.
No. 40, Bridge-street, Blackfriars, March 18.

THE following MANURES are Manufactured by Mr. LAWES, at his Works at Deptford-creek:—

Corn Manure ..	14l. per ton.	Grass Manure ..	14l. per ton.
Clover do. ..	14l. ,,	Turnip do. ..	7l. ,,

Superphosphate of Lime, 7l. per ton.

Mr. LAWES has also made preparations for supplying the various artificial MANURES of commerce, and if Agriculturists will trust the selection of them to him, and will furnish him with the necessary information, he will supply those which he considers most suitable to the soil and crops. A paper containing the questions required to be answered will be forwarded upon application to his Office, 69, King William-street, City, London.

POTTER'S GUANO.—SEVENTH YEAR.—TESTIMONIALS. Whittington, near Lichfield, Aug., 1847.

Mr. Potter.—Sir—I have tried your Guano in several ways against the best Peruvian, and *find it superior*; which I hope will be a convincing proof for another season.—I am, sir, your obedient servant, W. WARD.

Experiment of the Earl of ZETLAND—Potter's Guano against Peruvian, on Grass.

	Tons	Cwt.	Qr.
POTTER'S GUANO, 2 cwt.—Hay per acre	2	8	0
Peruvian Guano, 2 cwt. ,, ,, ...	1	18	0
In favour of Potter's	0	10	0

Numerous Testimonials will be sent on application per post. The price of Potter's Guano is much under the Peruvian.

POTTER'S PURE SULPHATE OF LIME.—GYPSUM.

TESTIMONIAL.—Sir—I have had your Sulphate of Lime examined by an excellent Chemist, who speaks very favourably of it. Please send 2 tons direc ed to ASHBURST MAJENDIE, Bedingham Castle, Essex.

This is the *cheapest* article sold, being much under the usual price.—Factory, 28, Clapham-road-place, London.

*** Sulphate of Ammonia, Superphosphate of Lime, Oil of Vitriol, Burnt Bones, Bone Dust, &c., &c., at lowest prices.

Sales by Auction.

TO NOBLEMEN, GENTLEMEN, FLORISTS, & OTHERS.
IMPORTANT SALE OF CARNATIONS AND PICOTEES, and about 300 packets of Seeds imported from Gotha.

MESSRS. PROTHEROE AND MORRIS will submit to public competition, at the Auction Mart, Bartholomew-lane, on Tuesday, March 21st, 1848, at 12 o'clock (by order of Mr. John Dickson, of Acre-lane, Brixton), about 500 pairs of first-rate CARNATIONS and PICOTEES, selected with great care from his well established stock, and comprising all the newest and approved varieties; also a collection of Seeds imported from Gotha, selected with great care, and comprising varieties of summer and winter Stocks, Asters, Hollyhocks, &c.; together with a splendid assortment of Standard and Dwarf Roses, Fuchsias, Verbenas, Dahlias in dry roots, &c.—May be viewed the morning of sale, and Catalogues had at the Mart, of Mr. J. Dickson, and of the Auctioneers, American Nursery, Leytonstone.

P. and M. feel great confidence in calling the attention of Amateurs and Florists to this sale, as they presume the name of the grower is a sufficient guarantee.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will submit to Public Competition, at the Auction Mart, Bartholomew-lane, on Thursday, March 23, 1848, at 12 o'clock, 200 pairs of first-rate CARNATIONS and PICOTEES (the property of Mr. Franklin), consisting of all the leading varieties. Also a Collection of SEEDS imported from Gotha, together with about 500 fine Standard and Dwarf ROSES, comprising Noisettes, Hybrids, Bourbons, Perpetuals, Moss, Chinas, &c. Choice Fuchsias, Verbenas, Pinks, Dahlias in dry roots, &c.—May be viewed the morning of Sale, and Catalogues had at the Mart, and of the Auctioneers, American Nursery, Leytonstone.

TO AMATEURS, &c.

TO BE SOLD, on advantageous terms, for cash, a good collection of ORCHIDACEOUS PLANTS.—For list and particulars, apply to C. C. ROBINSON, Esq., Stuart Lodge, St. Helier's, Jersey.

TO GRAPE-GROWERS, MARKET-GARDENERS, & Others.

TO BE DISPOSED OF, in consequence of the death of the Proprietor, a compact Concern, in good working condition, consisting of six Graperies, Dwelling-House, Cottage, and about two acres of Ground, with immediate possession.—For particulars enquire of Messrs. JACOB WRENCH and Sons, London-bridge, or Mr. JOSEPH PERKINS, 68, Coleman-street, Bank.

TO BE LET, and entered upon immediately (on Lease of 21 years, if desired). A very desirable DAIRY FARM in Buckinghamshire, consisting of a capital Farm House, convenient out-buildings, and about 280 acres of land.—Direct to Mr. JOHN KING, Land Agent, Winslow, Bucks; or to 42, Leicester-square, London.

GUANO AND OTHER MANURES ON SALE.—
Guano, Peruv. & British
Superphosphate of Lime
Bonedust and Bone Sawdust
Dried Night-soil. Urate.
} For Wheat, Oats, Barley, Grass Seeds, Turnips, Mangold Wurzel, Potatoes, &c.

Gypsum, for Clover, Cinquefoil, &c.; Nitrates of Soda and Potash, as stimulants; Petre Salt, for dressing old Pastures; Agricultural Salt, for Compost-heaps, &c.; Sulphuric Acid, for dissolving bone; Soda Ash, a destroyer of Wireworm: and all other Manures of known value. Also Horticultural Glass, Milk Pans, &c.—Apply for prices current, to MARK FOTHERGILL, Office 201 A, Stores 40, Upper Thames-street.

MR. J. C. NESBIT'S CHEMICAL MANURES.

THE LONDON MANURE COMPANY beg to announce that they have undertaken the exclusive manufacture of the manures recommended by Mr. J. C. Nesbit. The substances used in their preparation will be subjected to Mr. Nesbit's analysis, and every care will be taken in their manufacture. Hop Manure, Superphosphate of Lime, Wheat and Clover Manure. A Pamphlet on Artificial Manures, by Mr. J. C. Nesbit, now ready.

The London Manure Company have also made arrangements for a large supply of Fishery and other Salt, which they can offer on good terms.

E. PURSER, Secretary, 40, Bridge-street, Blackfriars.

DRESSINGS FOR GRAIN ROOT CROPS, &c. &c.

THE INORGANIC MANURE COMPANY, Bow, London, with great confidence recommend their Patent Manures (prepared under the inspection of Mr. CHARLES B. BOAST, M.R.C.S.L.) they having now been in use for upwards of six years with unrivalled success. These manures are prepared on the only true principle of supplying to the soil all the substances removed from it by the crops, their effect being really to enrich and not to exhaust land. They were the first and only manures offered to the Agriculturist based on a scientific principle, proved by practice to be correct; a distinct and special manure being prepared for each crop adapted to its particular wants. The cost per acre varying according to crop from 30s. to 40s.

Testimonials, with directions, &c., for using the manures, sent post free on application to Mr. PIKE, Inorganic Manure Works, Bow, Middlesex where may be had also genuine,
SUPERPHOSPHATE OF LIME.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK AND TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their IMPROVED BRICK and TILE MACHINES, which are to be seen at work at Alperton, and at the Company's Office, 193A, Piccadilly, from 10 A.M. to 5 P.M. Mr. Robert Scrivener, who has been appointed Manager in the room of Mr. John Ainslie, will show the Machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, 193A, Piccadilly London.

These Machines may also be seen at Mr. Stirlit's, Leith-walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill, 135, Buchanan-street, Glasgow; Mr. Robert Charles, Mill-hill, Leeds; Messrs. Peany and Finch, Penkeridge, Staffordshire; Messrs. Drummond and Son, Dublin; and at Mr. John Connor's, Newtown Limavady, County Derry.

CHEAP AND DURABLE ROOFING.—Houses of all descriptions can be roofed at less than one-half the ordinary cost, by using the
PATENT ASPHALTED ROOFING FELT,
Manufactured by
FRANCIS RITCHIE AND SONS, BELFAST,
who also make INDOROUS FELT for lining damp walls under paper in place of lead. Samples, directions, and all necessary information sent free, on application to the Manufacturers, or any of the following Agents:—

Bristol—Trattman, Brothers.
Carlisle—Edward Jobling.
Hull—Thomas Flint.
Liverpool—Chapman, Bowman, and Co.
London—Hay, Anderson, and Sangster, Newington Butts
Hurst and M'Mullen, Seedsmen, 6, Leadenhall-street, London.
Manchester—James Hurst, 14, High-street.
Newcastle-on-Tyne—Richard Warham
Southampton—John Vaux
Whitehaven—Randleson and Forster.

AGRICULTURAL SEEDS.—Gentlemen supplying their Tenants with Seeds can be furnished with samples and prices at wholesale rates, by THOMAS WORSLEY, Seedsman, Liverpool.

IMPROVED FARMING IMPLEMENTS.

THRESHING MACHINES (Four-horse Power) doing from 25 to 35 loads of Wheat-straw per day, straw undamaged, price 60 guineas, including carriage and horse-power. A CORN MACHINE, hand power, will prepare 30 bushels per day, price 10l. 10s.; WEDLAKE'S CHAFF MACHINE will cut 200 bushels per day, price 7l. 7s.; Horse Hoe, Dressing Machine (7l. 10s.), TURNIP CUTTER, Turnip Drill, Stubble Rake, Oil-Cake Cracker, Bean and Oat Crushers, Essex Ploughs for 2 horses, Subsoil Plough, Double Field Roller, &c. Seed Machines from 3l. 5s. to 5l. 10s., according to length. References given and testimonials produced of superiority. MARY WEDLAKE, Hertford-street.

FLEXIBLE INDIA RUBBER PIPES, FOR GARDENING AND AGRICULTURAL PURPOSES.

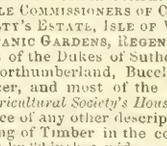
THE PATENT VULCANISED INDIA RUBBER PIPES AND TUBING are made to stand BOILING LIQUOR WITHOUT INJURY, do not become stiff or hard in any temperature (but are always perfectly flexible); and as they require no application of oil or dressing when out of use, are well adapted for Fire-engines, Pumps, Brewers' use, Gas Fitters, Beer-engines, and all purposes where a perfectly flexible pipe is required. Madwall sizes, from ¼ inch bore upwards, and of any length to order. Sole Manufacturer, JAS. LYND. HANCOCK, Goswell-mews, Goswell-road, London.

Vulcanised India Rubber Washers, all sizes for Steam and Hot-water Pipes, and articles of India-rubber Manufacture generally.

DRAINAGE.

CHARNOCK & DENTON'S SUBSOIL PROBER.—A simple Instrument for ascertaining, with rapidity and convenience, the nature of the Subsoil in works of Drainage, instead of digging trial holes. It is also useful for Tapping Springs, Boring, &c. Price 20s., prepaid.—Orders addressed to Mr. J. H. CHARNOCK, Wakefield; or Mr. J. BAILEY DENTON, 9, Gray's-Inn-square, London, will have prompt attention.

CHEAP AND DURABLE ROOFING.

BY HER MAJESTY'S  ROYAL LETTERS PATENT.

F. M'NEILL AND Co., of Lamb's-buildings, Bunhill-row, London, the Manufacturers and only Patentees of THE ASPHALTED FELT FOR ROOFING Houses, Farm Buildings, Shedding, Workshops, and for Garden purposes, to protect Plants from Frost.

At the Great National Agricultural Shows, it is this Felt which has been exhibited and obtained TWO SILVER MEDAL PRIZES, and is the Felt SOLELY patronized and adopted by
HER MAJESTY'S WOODS AND FORESTS,
HONOURABLE BOARD OF ORDNANCE,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE COMMISSIONERS OF CUSTOMS,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANIC GARDENS, REGENT'S PARK,
And on the Estates of the Dukes of Sutherland, Norfolk, Rutland, Newcastle, Northumberland, Buccleuch (at Richmond), the late Earl Spencer, and most of the Nobility and Gentry; and *at the Royal Agricultural Society's House, Hanover-square.*

It is half the price of any other description of Roonug, and effects a great saving of Timber in the construction of Roofs. Made to any length by 32 inches wide.

PRICE ONE PENNY PER SQUARE FOOT.

*** Samples, with Directions for its Use, and Testimonials of seven years' experience, with references to Noblemen, Gentlemen, Architects, and Builders, sent free to any part of the town or country, and orders by post executed.

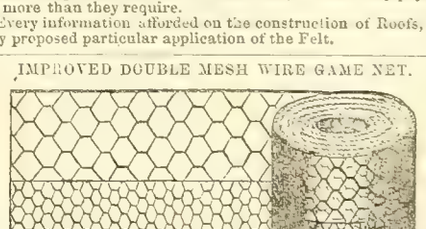
☞ The Public is cautioned that the only Works in London or Great Britain where the above Roofing is made, are
F. M'NEILL AND CO'S
Patent Felt Manufactory, Lamb's-buildings, Bunhill-row, London, where roofs covered with the Felt may be seen.

The new Vice-Chancellor's Courts, at the entrance to Westminster Hall, were roofed with F. M'NEILL and Co.'s Felt about two years since, under the Surveyorship of Chas. Barry, Esq., R.A. Her Majesty's Commissioners of Woods and Forests are so satisfied with the result that they have ordered the Committee Rooms at the Houses of Parliament to be roofed with their Felt. Quantity altogether used, 24,000 feet.

Note.—Consumers sending direct to the Factory can be supplied in lengths best suited to their Roofs, so that they pay for no more than they require.

Every information afforded on the construction of Roofs, or any proposed particular application of the Felt.

IMPROVED DOUBLE MESH WIRE GAME NET.



BARNARD AND BISHOP, Norwich, can strongly recommend the above NET to the notice of the Nobility and Gentry, as being the cheapest yet introduced: it has met with general approbation, and has been found most efficient in the preservation of young Trees, Gardens, &c., from the depredations of game. The extra strong 2 inch is the same strength as the stoutest article in the market. On inspection, it will be found better manufactured than anything else of the kind, and 20 per cent. cheaper. It is sent out in rolls of 50 yards, or any other length, at prices as under

					per yard—s. d.
Double Mesh Net 24 i n. wide, 1½ & 3½-in. mesh,				strong	0 3
...	...	...	...	strong	0 4
...	...	2 & 4	...	extra strong	0 5
...	...	...	...	extra strong	0 7
Single Mesh	...	1½	...	light	0 7
...	...	...	...	strong	1
...	...	...	...	extra strong	1
...	...	2	...	light	0
...	...	...	...	strong	0
...	...	...	...	extra strong	0

The prices quoted for double net are for equal proportions of each mesh, which may be varied if required, thus, three parts fine to one of coarse, or vice versâ, at prices accordingly; and it can be made any mesh and width to 7 feet.

A finer description for Aviaries, Pheasantries, &c., sparrow proof, 3d. per square foot; or, if made in copper, at 5d. per square foot. The Iron Wire Nets is twice dipped in anti-corrosive composition, and sent free to London or Hull.

Patterns forwarded per post, free of expence.

DRAINAGE—ENGLAND & IRELAND. Drainage and Reclamation of [illegible] Contracts [illegible] and UNDERTAKEN [illegible] ing the Country, [illegible] spired, and agreements [illegible] ately. Offices, [illegible] tract, post paying [illegible] here [illegible] to 6 [illegible] court, The quarters [illegible]

PORTLAND CEMENT.—To [illegible] all quarter from the Coal [illegible] parts of the Country [illegible] superior to Roman [illegible] and lining of Reservoirs [illegible] external plastering and [illegible] colour can be [illegible] to paint one [illegible] owner's [illegible] Manufactory, J. B. White and [illegible] Westminster.

SHANKS' IMPROVED GRASS [illegible] AND POLLARD MACHINE.

The complete success which has [illegible] the Improved Machine for [illegible] tion for cutting the Grass of Lawns [illegible] the numerous testimonials [illegible] common use, particulars at [illegible] Kimbleth[illegible], Lei[illegible] ber, and at many other [illegible] England, as well as abroad. The [illegible] breadths of 12, 15, or 20 inches, as [illegible] adapted to hand-power. The Machine [illegible] case, producing a beautiful smooth surface, [illegible] great saving in subsequent labour.

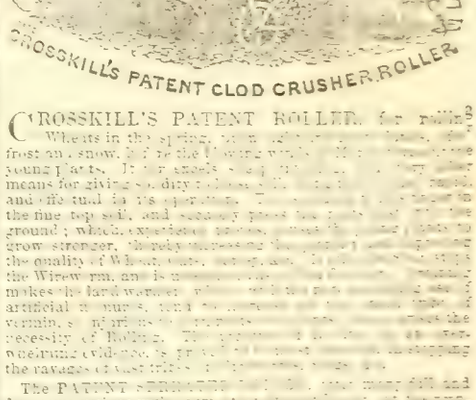
Orders may be addressed to Messrs. ALEX[illegible] SON, Machine-makers, Arbroath, N[illegible] containing letters of recommendation, [illegible] whom further particulars will be given.

Messrs. P. and J. Dickson, Nurserymen, [illegible] J. and C. LEE, Nurserymen, Hammer[illegible] ply any nobleman or gentleman with the above.

STARR'S PATENT PROTEAN JET—[illegible] yet effective JET, is the most [illegible] brought before the public for both [illegible] jets] ates the necessity of changing a variety [illegible] forms, as in the Protean Jet they are [illegible] the change immediately effected by turning a [illegible] purpose. They can readily be fitted to any [illegible] den Engine now in use.

T. S. STOCK'S REGISTERED PORTABLE FIRE AND GARDEN ENGINE.—The [illegible] its possessing great power, combined with [illegible] struction, portability, and economy.

The above are manufactured [illegible] by Messrs. [illegible] and SHARP, Temple-street, Birmingham, [illegible] through any respectable Plumber or [illegible]



CROSSKILL'S PATENT ROLLER. [illegible] Wheats in the spring, [illegible] frost and snow, [illegible] to the [illegible] young plants. It [illegible] means for giving a [illegible] and effectual in its [illegible] the fine top soil, and [illegible] ground; which, [illegible] grow stronger, thereby [illegible] the quality of Wheat, [illegible] the Wireworm, and [illegible] makes the land warmer, [illegible] artificial manures, [illegible] vermin, [illegible] the necessity of Rolling, [illegible] wheat[illegible] evidences [illegible] the ravages of [illegible]

The PATENT [illegible] many [illegible] and free competition [illegible] the principal Agriculturists [illegible] awarded the [illegible] Prize [illegible] Implements, as [illegible] Pamphlet, [illegible] England, as [illegible]

Cash Prices, with [illegible] delivered in York—7 feet [illegible] 8 feet [illegible] 9 feet [illegible] 10 feet [illegible] 12 feet [illegible] 14 feet [illegible] 16 feet [illegible] Delivered in Norfolk [illegible] extra. [illegible] extra. [illegible]

CROSSKILL'S PATENT WHEELS and AXLES, [illegible] unfailingly strong. [illegible] The Wheels are [illegible] and [illegible] Patent Wheels [illegible] machinery is devoted [illegible] supplies [illegible] this art of manufacture. [illegible]

CROSSKILL'S [illegible] CARTS, Light, but very strong and [illegible] with [illegible] legs. Complete [illegible] will carry [illegible] Also, CROSSKILL'S [illegible] Patent Portable Manure Broadcast [illegible] Liquid Manure Carts, &c. &c.

For further particulars, apply per post, enclosing six penny stamps, to cover postage, and New Illustrated Catalogues will be sent.—WM. CROSSKILL, Iron Works, Beverley.

MOWING MACHINES.—Budding's Patent Machines for cutting Grass Plots, Pleasure Grounds, Bowling Greens, &c. Manufactured and sold by JOHN FERRABEE, Phœnix Iron Works, near Stroud, Gloucestershire. The utility of these Machines has been confirmed by a sale of nearly 3000, and their adoption is rapidly increasing by all who admire a verdant and well kept lawn. The use of them offers many important advantages over the ordinary method of cutting with a scythe. The work is performed far more expeditiously. The machines may be so adjusted as to leave the Grass passed over by them of any regular length, at the pleasure of the operator; they leave a more even and uniform surface than can be produced by the most skilful mower, and as they can be used best in dry weather, the gardener is enabled to cut his lawns at the most convenient time, instead of being obliged, as with a scythe, to wait for rain or heavy dews. They are very durable, easily sharpened and kept in order, and their management is extremely simple. Hand Machines are made of three sizes, cutting the several widths of 16, 19, and 22 inches, and Horse Machines of larger dimensions.

Sold by Messrs. RANSOMES & MAY, Ipswich, General Wholesale Agents; also by Mr. Wm. Drury, Ironmonger, Castle-st., Liverpool; Mr. T. Johnson, Ironmonger, Leicester; Messrs. Lister and Lees, Ironmongers, Cateaton-street, Manchester; Messrs. Mapplebeck and Lowe, Ironmongers, Bull-ring, Birmingham; Mr. Herbert Room, Ironmonger, Bull-ring, Birmingham; Messrs. J. Nelson and Sons, Ironmongers, 47, Briggate, Leeds; Mr. R. Stratton, Agricultural Repository, Clarke-street, Bristol; Messrs. Stothert and Walker, Ironmongers, Bath; Messrs. F. W. and T. Richmond, Ironmongers, Victoria Bridge, Salford.

JOHN FERRABEE also manufactures Steam Engines, Water Wheels; Machines for Threshing, Winnowing, and Bagging simultaneously; Horse Powers for driving Machinery, Threshing Machines, Chaff-cutters, Cultivators or "Ducie" Drags, Cultivators combined with Norwegian Harrows, Horse Hoes, Subsoil Ploughs, Clod Crushers, Land Rollers, Hay-making Machines, Corn and Linseed Crushers, Turnip Slicers and Cutters, Scotch and "Richmond" Carts, Cart and Waggon Arms and Axles, Steaming Apparatuses, Hot Water Apparatuses, and a variety of other Agricultural Machines, Tools, &c., lists of which may be had on application to JOHN FERRABEE, Engineer, Millwright, Mechanist, Iron and Brass Founder, and Manufacturer of Agricultural Implements, Phœnix Iron Works, near Stroud, Gloucestershire.

ROYAL PAPIER MACHE AND JAPAN WORKS.

JENNENS AND BETTRIDGE, Manufacturers to HER MAJESTY and the ROYAL FAMILY, 6, Halkin-street West, Belgrave-square, London, and also at Birmingham. At these Works are Manufactured Papier Mache Trays, Tables, Chairs, Cabinets, Desks, Inkstands, &c. &c.

JENNENS and BETTRIDGE'S Manufactures can be had at the Establishments above named, and of the principal Wholesale and Retail Houses in the United Kingdom. Also of their correspondents in every important city in the world.

N.B. All goods marked with JENNENS and BETTRIDGE'S names are warranted.

SMOKY FIREPLACES PREVENTED.

W. AND M. FEETHAM take leave to acquaint their Friends and the Public that they undertake to prevent this evil effectually and to construct Brick or Metal Flues to descend or otherwise for Heating or Ventilating, likewise Churches, Large Rooms, &c. Warmed by Stoves or Water on the most economical principles. — Apply at their Stove Warehouse, 9, Clifford-street, or at the Manufactory, No. 422, Oxford-street.

MECHI, 4, Leadenhall-street, London, with his accustomed spirit, is determined that no one in the trade shall excel him either in novelty, variety, quality, or price. His principle is to warrant every article, and to exchange or return the money for any found to be the least defective. Many of his articles are manufactured on the premises, and most of his patterns are invented by himself. Owing to the increase of novelties in papier maché, MECHI has devoted additional show rooms to these manufactures, which the public are always welcome to inspect. His cutlery, strops, ladies' and gentlemen's dressing cases, writing desks, work boxes, and every article for the toilet and work table, as well as for presents or for amusement, form a "tout ensemble" rarely to be met with. N.B. MECHI keeps working cutlers on the premises, so that every description of cutlery may be ground and repaired daily. Table cutlery, razors, strops, &c., for shipping. Bagatelle tables for public rooms.

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THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News. The Horticultural Part Edited by Professor Lindley.

No. 13.—1848.] SATURDAY, MARCH 25. [Price 6d.

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UNIVERSITY COLLEGE, LONDON.—ELEMENTARY COURSE OF BOTANY.—Professor LINDLEY will commence a Course of Lectures on Botany to a Junior Class, on Monday, April 3d, at 8 o'clock, A.M. Subjects: The Distinctions between the principal National Classes and Orders of Plants belonging to the Flora of Europe. The Course is adapted to persons commencing the study of Botany. Fee, 2*l*. The Course to the Senior Class will commence on 1st May.

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„ grandiflora
Lobelia ramosa
Lupinus Cruikshankii
Martynia fragrans
Marigold, Superb French
Mesembryanthemum tricolor
Nemophila striata
Phlox Drummondi
Podolepis gracilis alba
Rhodanthe Manglesii
Schizanthus Grahamii
„ Hookerii
Schizopetalum Walkerii
Stocks, fine German
„ Victoria
„ White Pyramidal
Thunbergia alata
Tropæolum canariense
Viscaria oculata
Zinnia coccinea.

With all the most popular Hardy, Half hardy, and Tender Annuals; an assortment of which can be made from our General Catalogue, to be obtained on application.

All Goods not thoroughly approved of will be exchanged, and it is particularly desired that any deficiency in quantity, or inattention to orders, will be immediately communicated to us.

N.B. All Orders above 2*l.* will be delivered (package and carriage free) to any station on the Great Western Railway.

A General Catalogue of Agricultural, Kitchen-garden, and Flower Seeds to be had gratis on application. Cash payments, or reference in London, is desired from unknown correspondents.

WILLIAM E. RENDLE and Co., Plymouth. Established 178 .

FREDERICK WATKINS begs to refer the [illegible] and the public to his Collection of [illegible] FLOWER and VEGETABLE SEEDS, [illegible] cultural Cabinet" for the present month [illegible] the novelties of the season. F. W. [illegible] mend his stock and Gentleman's [illegible] Wurzel, Long Red, and Long [illegible] Yellow ditto; Carrot, White Belgian [illegible] ham, Aveling Green. Catalogues [illegible] 28, Cornhill, London. March 5.

NEW AND SUPERB [illegible]

YOUELL AND CO have great [illegible] the following six [illegible] properties which cannot fail [illegible] equal to the approbation [illegible] premie," sent out by them last season, [illegible] principal metropolitan Exhibitions, and [illegible] the very best Pansy of the day.

MARCHIONESS OF LOTHIAN.—Finest [illegible] large, of exquisite shape, large dark eye, and [illegible] 7*s.* 6*d.* per plant.

COUNTESS OF STRADBROKE.—Richest velvety [illegible] with yellow eye, large, and of exquisite [illegible] guaranteed to surpass any flower of the [illegible] per plant.

MRS. COOPE.—Rich velvety brown, of [illegible] texture, large, of fine shape, a valuable [illegible] 5*s.* per plant.

MRS. PLTO.—A beautiful pure white [illegible] dark eye, thick texture, of the finest shape, [illegible] show flower. 5*s.* per plant.

LADY LENNOX.—A brilliant bronzy red, [illegible] ground, fine eye, large, thick, and well shaped, [illegible] show flower, 5*s.* per plant.

LADY CHARLOTTE PALMER.—Rich [illegible] of exquisite shape, thick texture, and the [illegible] per plant.

* When the above Six are taken they will be charged [illegible] or with 12 other of the finest first-class show varieties [illegible] "Supreme," Two Guineas.—Great Yarmouth Nursery, March [illegible]

DAY'S "PRINCE OF WALES" CLOVE, the most splendid dark variety known. 1*s.* 6*d.* per [illegible]

DAY'S "QUEEN VICTORIA" YELLOW PICOTEE, [illegible] dant bloomer, hardy, and very sweet-scented. 2*s.* per [illegible] These are two excellent varieties for bedding out.

A choice collection of 50 fine varieties of Carnations and Picotees at moderate prices. Imported Stocks, Auricula spurs, &c. See Advertisement in *Gardeners' Chronicle*, March 4, 1848.

HURST AND M'MULLEN, 6, Leadenhall-street, London.

CORNWELL'S VICTORIA RASPBERRY.—Persons desirous of [illegible] better apply directly, as there are [illegible] this season. To be had of [illegible] dener, Barnet; Mr. [illegible] Messrs. W. and J. NOBLE, 152, Fleet-street, at 2*l.* per [illegible] per dozen.

CAMELLIA "STORYII."

MESSRS. VEITCH AND SON, NURSERYMEN, Exeter, have the pleasure of stating that they have purchased the entire Stock of the above splendid Camellia, [illegible] raised by W. H. STORY, Esq., Ugbrooke, Newton Abbot, Devon. It was exhibited at the Horticultural Society's Meeting, in Regent-street, on Tuesday last, and received [illegible] Medal. It was declared to be the finest flower in the room. Plants, when ready, will be sent out at two guineas, with the usual allowance to the Trade.—Exeter, March 20.

MILLER'S SEEDLING GERANIUMS.

Scarlet Defiance	£1	11	6	Rosa Mundi ...	£1	1	0
Queen of Kent ...	1	1	0	Distinctum ...	1	1	0
Admiration ...	1	1	0	Valquis ...	1	1	0
Conspicabundum ...	1	1	6	Flora's Flag ...	1	1	0

The set 8*l.* 8*s.*, with the usual allowance.

Fireblaze	0	10	6	Garnet	0	7	6
Eclipse	0	15	0	Meteor Superb ...	0	5	0
Telegraph	0	15	0	Beauty Surpass ...	0	7	6

The six 3*l.*, with the usual allowance.

New Forcing GERANIUM, "PURPUREUM MULTIFLORUM," 10*s.* 6*d.* each.

N.B.—Good strong plants, with cuttings, are now ready to send out. The whole set of 15 distinct varieties a real bargain, 10*l.* 10*s.*, with usual allowance to the trade.

Providence Nursery, Ramsgate.

HOPE NURSERY, NEAR BEDALE, YORKSHIRE.

WILLIAM MAY, F.H.S., begs to appraise his Friends and Horticulturists generally, that [illegible] a large supply of hardy, showy HERBACEOUS PLANTS, [illegible] select varieties, at 40*s.* per 100. The [illegible] proved, of all shades, at 4*s.* per 100. Select [illegible] Roses, 100 sorts, named, strong plants, [illegible] Flowering Shrubs, 50 fine sorts, named, [illegible] 40*s.* per 100. Superb collection of Calceolarias, [illegible] named, for 20*s.* Superior collection of Cinerarias, [illegible] named, for 20*s.*, with every article in the Nursery line. Catalogues of which may be had on application.

N.B. To those forming new gardens, or making alterations, the above offers a very advantageous opportunity of [illegible]

HART AND NICKLIN, Florists, Godstone, Surrey, beg to announce they intend sending out the undernamed Seedling PANSY.

SOUTHERN STANDARD.—Yellow ground, [illegible] purple top petals, and belong large size. Price, per plant, 1*s.* 6*d.*

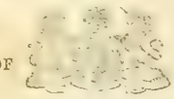
They have good plants of the undernamed [illegible] Brutus, Cassandra, Great Britain, Lady [illegible] and Matilda.—ROBERTS. Superme.—YOUELL'S. [illegible] Duchesse of Rutland, Thomson, Fair Rosamond, [illegible] Cook, Beauty of Gunnersbury, Othello, &c.

GERANIUMS.—The following sorts, free to London: Arabella, Desdemona, Isabella, Marc Antony, Orion, Miss [illegible] later, Shakespeare, Rosy Circle, and Zenobia.

FUCHSIAS, 12*s.* the dozen.—Beauty of Exmouth, Corallina, Delicata, Duke of Leeds, Duke of Norfolk, Exmouth, [illegible] sum, Napoleon, One in the ring, Pink Globe, Prince Albert, and Sans parcil.—Catalogues may be had on application.

MYATT'S LINNÆUS RHUBARB.—Spring being the usual planting season, Messrs. MYATT respectfully request early orders from those who have not yet favoured them with their commands, as half the available stock is already parted with. The LINNÆUS is the variety cultivated so largely by the Messrs. MYATT for the London markets, being remarkably early and unusually productive. The stalks are large and free from filaments, and are admirably adapted for preserving and all other culinary purposes. One-year planted roots, 3s. 6d each; also Mitchell's "Royal Albert," 3s. 6d., and Myatt's "Victoria," 1s., with the usual trade allowance.

Manor Farm, Deptford, March 25.

UNDER THE PATRONAGE OF  THE QUEEN AND PRINCE ALBERT.

JOSLING'S ST. ALBAN'S GRAPE.—The above has been patronised by Professor LINDLEY, the Horticultural Society of London, Mr. R. Thompson, Superintendent of the Fruit Department in the Hort. Soc. Gardens; and the Editor of the Gardeners' Journal, as being an excellent variety; fleshy, rich, and sugary, with a Frontignan flavour, and is deserving of extensive cultivation. Plants well established in 6-inch pots, free to London, on receipt of a post-office order for 21s. Usual allowance to the trade if three are taken.

ROBERT JOSLING, Seedsman, St. Alban's, March 25

DOUBLE STOCKS EXTRAORDINARY.

H. J. HARDY begs respectfully to thank his numerous Friends and the Public for their kind patronage, and to inform them that he has a little seed left of his SPLENDID DOUBLE GIANT STOCK, which he is sending out in packets 1s. each, or 12 postage stamps. It is of a brilliant scarlet, grows 4 feet high, flowers from the very bottom to the top, very thick, and very large bushy plants. The flowers are as large as the the top of a common-sized tea cup, and very double. All lovers of superb flowers should have a succession of this.

H. J. H. also has the finest collection of Double Larkspurs, German Asters, and Hollyhocks in Europe, at 3s. 6d. per collection. 100 Choice Annuals, 20s.

H. J. HARDY, 7, Windsor-place, City-road, London.

CAMELLIAS FOR STOCK.

RENÉ LANGELIER, of the Clarendon Nursery, St. Helier, Jersey, has a few thousands of the above plants, well established in pots, at 50s. and 70s. per 100, well worth the attention of Camellia growers.

Also, several thousands of EVERGREEN OAKS, fine, clean, and healthy plants, from 2 to 3 feet high, well prepared for the purpose of planting out. Price, 25s. to 30s. per 1000.

A superb Collection of Yellow PICOTEES and CARNATIONS, well established in pots, for travelling at any time and season. Price, 2s. to 2s. 6d. per pair. None but the best are kept by R. L.—A remittance or reference requested from unknown correspondents.

NEW AND SELECT PLANTS.

BENJAMIN W. KNIGHT, FLORIST, &c., Tivoli, near St. Leonard's-on-Sea, Sussex, begs to call the attention of his friends and the public to the following choice and select Plants, which are now ready for delivery:—

12 choice and distinct FUCHSIAS, fit for exhibition, for 6s.; 12 extra first-rate, very distinct, new varieties, for 12s. 12 fine distinct VERBENAS for 3s. 6d.; 12 extra new varieties, quite distinct, for 6s. 12 fine distinct PETUNIAS for 4s.; 12 extra new and distinct varieties for 6s. 12 good distinct CINERARIAS for 6s. 12 fine distinct ANTIRRHINUMS for 3s. 6d.; 12 extra superb and distinct varieties for 6s. 12 fine SALVIAS for 4s.; 12 HELIOTROPIUMS for 4s.; 12 CUPHEA STRIGILLOSA (the best for bedding out), for 4s.; 12 choice bedding out Plants, such as Lobelias, Semecias, Ageratums, &c., for 4s.; 12 extra fine varieties for 6s. The above can be sent post free, securely packed, without any risk of perishing.

Choice varieties of HARDY HERBACEOUS PLANTS, 12 fine varieties for 6s.; 12 extra fine varieties for 9s.; 50 fine varieties for 21s.; 100 fine varieties for 40s.; securely packed, and additional plants put in gratis for carriage. No charge for hamper.—Catalogues of the above may be obtained on prepaid application, enclosing a postage stamp. A remittance or reference is respectfully requested from unknown correspondents.

TO FLORISTS, NURSERYMEN, THE NOBILITY, AND PUBLIC GENERALLY.

JAMES WHITEHORN respectfully announces that he has purchased the entire Stock of Choice Plants, the property of the late Mr. Robert Oakley, and that the business will be carried on in future under the superintendence of Mr. John Bushrod, foreman to the late proprietor, by whom all orders will be executed for the celebrated DAHLIA "GEM," which obtained so many prizes during the last season, as well as for the new Seedling "BRUTUS" and all other first-rate sorts. Also for the finest varieties of Geraniums, Fuchsias, Heaths, Bedding-out Plants, &c.; the true Aberdeen Beehive Strawberry, strong plants of Victoria Rhubarb, Asparagus, Fruit-trees, Shrubs, &c. Catalogues may be had, prepaid, on application to Mr. WHITEHORN, or Mr. JOHN BUSHROD, Nursery Grounds, Bedford-place, Southampton.—March 25.

BASS AND BROWN'S DESCRIPTIVE PRICED CATALOGUE OF SEEDS FOR 1848 will be sent free by post on application. For Advertisements of a few select VEGETABLE SEEDS from the Catalogue see *Gardeners' Chronicle* dated Jan. 8th, page 18; Jan. 22d, page 49; and Feb. 5th, page 82.

SELECT AND CHOICE FLOWER SEEDS sent free by post with full directions for sowing, heights, colours, &c., viz.:—

	s.	d.
100 varieties best and newest annuals, including choice Stocks, Asters, Zinnias, &c.	15	0
50 varieties ditto for 8s. 6d., 30 for 5s. 6d., 20 for	4	0
20 varieties best dwarf kinds in larger packets, suited for filling beds on lawns, 7s. 6d., or 12 ditto	5	0
20 varieties best Greenhouse Annuals, including very splendid Balsam, Phlox Drummondi, Brachycome, Mesembryanthemum tricolor, Portulaca, Rhodanthe, Thunbergia, Martynia fragrans, &c.	7	6
20 varieties choice Greenhouse Perennials, including choice varieties of Calceolaria, Cineraria, Fuchsia, Petunia, &c.	10	6
20 varieties choice Hardy Biennials and Perennials ...	5	0
36 varieties imported German Stocks	6	0
20 ditto ditto	4	0

For List of Flower Seeds selected from the Catalogue, see *Gardeners' Chronicle* of Feb. 19, p. 128; and March 11, p. 170.

VEGETABLE SEEDS complete in Selections for small and large gardens, embracing the choicest and newest kinds at 15s., 25s., 42s., and 63s. Should certain vegetables not be required, enlarged quantities of others will be sent in the selection.

Our Descriptive Priced Catalogue for 1848, of NEW and SELECT GERANIUMS, FUCHSIAS, DAHLIAS, PETUNIAS, VERBENAS, CHRYSANTHEMUMS, and GREENHOUSE and STOVE PLANTS, may be had gratis on application. Also, our Priced Catalogue of HARDY HERBACEOUS PLANTS. Remittances with orders are requested from unknown correspondents. Postage stamps received in payment for small amounts. In consequence of recent post office arrangements, money orders can now be made payable to BASS and BROWN, instead of either names in full length.

Seed and Horticultural Establishment, Sudbury, Suffolk.

HENRY GROOM, Clapham Rise, near London, by Appointment FLORIST TO HER MAJESTY THE QUEEN, and to HIS MAJESTY THE KING OF SAXONY, begs to recommend to the attention of the Nobility and Gentry the following new and good plants:

	s.	d.
Anemone japonica	0	9
Calystegia pubescens ...	0	9
Dichorisandra ovalifolia	2	6
Epacris miniata	3	6
Forsythia viridissima ...	1	6
Gloxinia alba sanguinea	2	6
Indigofera decora	2	6
Jasminum lancifolium ...	2	6
,, nudiflorum ...	2	6
Ribes sanguineum, double	2	6
Rondeletia speciosa major	2	6
Spiræa prunifolia pleno..	1	6
Tetratheca verticillata ..	2	6
Weigela rosea	2	6

H. GROOM begs to say his Catalogue will be sent on application.

JAMES MATHEWSON, NURSERYMAN, FLORIST, STRAWBERRY GROWER, and general Agent to the Trade, Cunnigar-hill, Aberdeen, most respectfully begs to solicit your attention to his new Seedling STRAWBERRIES, more especially the "Aberdeen Beehive," so extensively circulated and highly appreciated throughout Great Britain, France, and America the last two seasons, as being a variety superior to all others in cultivation, and is now able to offer an extensive stock of well rooted plants at 8s. per dozen, or 2l. 10s. per 100; likewise established in pots for exportation, or forcing, at 12s. per dozen. A Descriptive List, with Prices of all the best and newest sorts, may be had on application.

N.B.—Wanted, an experienced FORESTER for the South of Scotland; apply as above.

FINE GRAVEL, for Garden Walks, 3s. 6d., and Stones, 2s. 6d. per yard, on sale in Roehampton-lane. It is of the most binding nature, and the colour is brilliant.—Apply to WM. GRAY, at the Gate House, opposite the Barnes-common Station of the Richmond Railway.

AGRICULTURAL SEEDS OF THE FINEST QUALITY.

	s.	d.
CARROT, large White Belgian ... ... per lb.—	2	0
,, Long Green-topped Red Altringham ,,	1	3
,, Improved Long Red do. ... ... ,,	1	9
PARSNIP, large Cattle ... ... ,,	1	6
MANGOLD WURZEL, Long Red ... ... ,,	1	6
,, ,, Long Yellow ... ... ,,	1	9
,, ,, Globe Yellow ... ... ,,	1	6
,, ,, Globe Red ... ... ,,	1	6
CABBAGE, superior Cattle Drumhead ... ... ,,	2	6
TURNIP, Skirving's Swede ... ... ,,	1	6
,, fine Purple-top Swede ... ... ,,	1	6
,, Norfolk Green Round ... ... ,,	0	8
,, Norfolk White Round ... ... ,,	0	8
Other varieties of the best kinds.		
GRASSES, fine selected, mixed in proportionate quantities of the most useful kinds for PERMANENT PASTURES, suitable to different descriptions of soils, requiring 3 bushels per acre ... per bush.—	10	0
Do., finest mixed dwarf varieties for lawns ... per lb.—	1	3
Do., Pacey and Italian Rye-grass; and all other articles in the Seed Trade, true, and of fine quality.		

Remittances with orders or reference from unknown correspondents. Orders of 20s. and upwards delivered free to London or on the Eastern Counties line.

Bass and BROWN, Seed Establishment, Sudbury, Suffolk.

NEW AND SUPERB VERBENAS, PANSIES, AND CHRYSANTHEMUMS.

JOHN BELL having purchased the entire STOCK of the under-mentioned SEEDLING VERBENAS, PANSIES, and CHRYSANTHEMUMS, from the respective raisers, can with confidence recommend them as possessing every property requisite in a first-rate flower. Descriptive Catalogues, with Notices by the Editors of the *Gardeners' Chronicle* and Journal, may be had on application at the Horticultural Establishment, Bracondale, Norwich.

The following New and distinct VERBENAS were raised by Thomas Edmonds, gr. to Lady Lacon, Ormsby Hall, Norfolk:

EDMONDIANA, fine crimson scarlet	5s. 0d.
VULCAN SUPERB, bright crimson	5 0
PERFECTION, large, light purple	5 0
TRICOLOR, lavender, yellow, and dark	5 0
LYCHNIS, dark scarlet	5 0
OCHROLEUCA, a beautiful straw-colour	5 0
BELLIANA, fine bright crimson	5 0
JENNY LIND, a beautiful rosy salmon	5 0
QUEEN OF PERPETUALS, a beautiful three-coloured flower	5 0

The following Six Seedlings, raised by Mr. Martin Edmonds, gardener to the Rev. R. Forster, Scratby Hall, Norfolk:

WHITE GIANT, the finest white out	5s. 0d.
MARTIANA, fine bright purple	5 0
GULIELMUS, dark purplish crimson	5 0
QUEEN VICTORIA, fine rosy lilac and white	5 0
ACHILLES, light lavender, very large	5 0
MARQUIS OF DOURO, bright purple	5 0

The following Four Seedlings, raised by Mr. Gill, jun., Martham, Norfolk; recommended to surpass any yet sent out:

DUKE OF NORFOLK, brilliant scarlet, yellow eye	5s. 0d.
PETOII, fine large, bright blue	5 0
SUPREME, light pinkish salmon	5 0
GILMANII, rosy vermilion	5 0

The following NEW PANSIES, raised by Thomas Edmonds, gardener at Lady Lacon's, Ormsby Hall, Norfolk, and sent out for the first time last autumn, may still be had, with Descriptive List, on application:

Aurora	5s. 0d	Hector	3s. 6d
Nigricans	5 0	Ne Plus Ultra	3 6
Prince Albert	5 0	Queen of Sheba	3 6
Lady Lacon	5 0	Beauty of Bracondale	3 6
Mars	3 6	Jenny Lind	3 6
Queen of Yellows	3 6		

The following Twelve New and Beautiful Pansies, raised by Mr. Hutchinson, will be sent out the first week in April, at the following prices:

YELLOW CLIMAX, pale yellow, fine form and substance	5s. 0d.
NORFOLK CHAMPION, fine dark	5 0
BEAUTY OF KESWICK, light peach and white	5 0
COUNTESS OF LEICESTER, light variety	5 0
DUCHESS OF NORFOLK, bright claret and yellow	5 0
FAVOURITE, yellow and dark claret	5 0
GUINEA-PIG, bright orange yellow	5 0
NORFOLK HERO, plum-colour and yellow	5 0
PURITY, white and peach-colour	3 6
BELINDA, pearl white, fine eye	3 6
JOHN BLANCHARD, dark purple and white	3 6
ZOE, white and lavender	3 6

The following Five New and Beautiful Seedling CHRYSANTHEMUMS were raised by Mr. Short, gardener to H. N. Burroughes, Esq., M.P., Haneton Hall, Norfolk, and will be sent out in May, 1848, strong Plants, at the following prices:

STANDARD, bright purple, fine broad incurved petals	5s. 0d.
NONPAREIL, bright rose, very broad petals, large, and finely incurved	5 0
MESSENGER, bright rosy purple, yellowish centre, beautifully incurved petals	5 0
NE PLUS ULTRA, fine rose-colour, broad petal, and beautifully incurved	5 0
NYMPH, blush white, tinge of rose on the outside of the petal, finely incurved	5 0

Choice Pansies of last year, including Youell's "Supreme" and Bell's "Climax," 18s. per dozen.

*** Full Sets of any of the above sent free to London or Hull, Bracondale Nursery, and 3, Exchange-street, Norwich.

AGRICULTURAL SEEDS.—

Epps' Long Giant Mangold Wurzel	per lb.—1s. 6d.
Yellow or Orange Globe do.	1 6
White Belgian Carrot	2 0
Hollow Crown Parsnip	1 0
Improved Purple-top Scotch Turnip	1 6
Laing's Swede	1 6
Negus's Golden do.	1 6
Skirving's Liverpool do.	1 6
Smart's Improved White Round Turnip ...	1 0

The above are from the best selected stock grown in Kent.

WM. JAMES EPPS, Seed Merchant, Maidstone.

KINGHORN'S SEEDLING CALCEOLARIAS are now ready to send out. The following are some of the best: Refulgens, Van Tromp, Washington, Conrad, Ardens, Chieftain, Punch, Perfection, Alice Grey, Advice, Attraction, and Alonzo. GAINES'S SEEDLING DAHLIAS for 1848, to be sent out in May next: Mont Blanc, pure white; Primrose Superior, primrose shaded; Sir Harry Smith, dark claret; Negro, dark plum-colour; Pre-eminent, white tipped with cherry. The Dahlias gained seven first-class prizes and one silver medal; a Descriptive List of them and other plants may be had by applying at GAINES'S Nursery, Surrey-lane, Battersea.

MOSS ROSES.

RICHARD PERRY, of Broomhouse, Fulham, begs to call the attention of the Public to his stock of MOSS ROSE PLANTS. They are strong and well rooted, in excellent order for potting or border planting, at 20s. per 100. Also his stock of Moss Roses in pots, which have been potted one season, and now fit for forcing, at 6s. per doz., or 42s. per 100.

A COLLECTION OF RARE AND HARDY CONIFERÆ for £5.—The following Collection of CONIFERÆ is offered by YOUELL and Co. in very healthy plants, in pots, for 5l., package included, and carriage paid to London or Hull:

Pinus insignis	Abies Douglasii
,, Montezuma	,, Khutrow
,, Winchesteriana	,, orientalis
,, cembroides	,, Menziesii
,, Gerardiana	Picea Pindrow
,, excelsa	,, Webbiana
,, australis	,, Pinsapo
,, Grenvillea	Cupressus torulosa
Araucaria imbricata, 3 plants, fine	Taxodium sempervirens
	Juniperus excelsa
Cedrus Deodara, 3 plants	,, Uhdeana

OR THE ABOVE, INCLUDING THE FOLLOWING, for 10l.

Cryptomeria japonica	Pinus Lambertiana
Picea religiosa	Juniperus Bedfordiana
,, Nordmaniana	,, chinensis
,, nobilis	,, squamata
,, cephalonica	Thuja pendula
,, Frazerii	Cedrus Libani, fine

THE FINEST CARNATIONS, PICOTEES, AND PINKS.

	per doz. pairs—	£	s.	d.
The selection left to Y. & Co.,	24s. and	1	10	0
A selection of the newest and very finest first-class Show Flowers		2	10	0
Fine mixed border		0	12	0
Pinks, finest show varieties, by name		0	12	0

FUCHSIAS,—per dozen.

All the best varieties of 1847	12s. to	1	1	0
Verbenas, ditto ditto	6s.—	0	10	0
Pansies, extra fine show varieties		0	10	0
,, extra extra best ditto, including their celebrated variety, "Supreme"		0	18	0
Cinerarias, extra fine for blooming this spring, 12s. to		0	18	0
Standard and half-standard Roses, of the finest sorts,	12s. to	0	18	0

30 pkts. of newest and choicest Flower-seeds, per post, free, 6s.

STRAWBERRIES.

The following are warranted true to name.

	per hundred—s.	d.		per hundred—s.	d.
Dickson's Royal Pine ...	5	0	Roseberry	5	0
Princess Alice ...	3	6	Black ditto	5	0
Keens' Seedling ...	3	6	Turner's Pine	5	0
Caroline ...	3	6	Swainton's Seedling	5	0
Myatt's Eliza ...	3	6	Couls' late Scarlet	5	0
,, Prolific ...	7	6	Downton ...	5	0
,, Mammoth ...	10	6	Swainston's Seedling Pine	5	0
,, Globe ...	12	6	Hooper's Seedling ...	7	6
,, Pine ...	5	0	La Liegeoise ...	7	6
,, British Queen ...	3	6	Aberdeen Bee Hive, per doz. ...	18	0
Elton ...	3	6			

Strong Giant Asparagus, 3 years old, per 100—3s. 6d.
Ditto ditto 2 years old, ,, 2s. 6d.
Strong Sea Kale ... per dozen—2s.

DESCRIPTIVE CATALOGUES MAY BE HAD ON APPLICATION.—Great Yarmouth Nursery.

SLATE WORKS, ISLEWORTH.—The following articles, manufactured in Slate for Horticultural Purposes, may be seen in use at Worton Cottage, upon application to the Gardener, Sundays excepted:—Orange Tubs, Plant Boxes, Tanks, Cisterns, Shelves, Garden-path Edging, Hot-water Tank Covers, Flower Beds for Balconies, Shelves fitted to hold water for Orchidaceous Houses, &c. Estimates given for work as shown upon Drawings and in Specifications.

A large Stock of Slate Slabs, of all sizes and thicknesses, kept on sale.

SEEDS.—CORNER OF HALF-MOON-STREET.

THOMAS GIBBS AND CO.,

(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND,"

Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

Priced Lists of Agricultural Seeds are always ready, and may be had on application.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

MILTON'S BEE-HIVES, in every variety, for the purpose of taking the Honey without killing the Bees. Bee Glasses of various sizes. Also may be had, Illustrations of Hives and Boxes, a Sheet, price 1s. "The Practical Bee-keeper," on the Management of Bees, 4s. 6d. By JOHN MILTON.—Apiarian Warehouse, 10, Great Marylebone-st., Wimpole-st.

CUCUMBER AND MELON BOXES AND LIGHTS.—One hundred 1, 2, and 3-light Boxes and Lights of all sizes ready for immediate use. Warranted best materials, packed and sent to all parts of the kingdom; 2-light Boxes and Lights from 1l. 6s. Garden Lights of every description, Conservatories, Green and Hot-houses made and fixed in all parts of the kingdom. References given to the Nobility, Gentry, and the Trade, in most of the counties of England.

Eleven Good 2-inch lights 6 ft. 2 by 3 ft. 3, with iron bar to each, glazed with sheet glass 9 inch by 6 for sale; been in use 2 years, quite as good as new, price 7l.

JAMES WATTS, Hothouse Builder, Claremont-place, Old Kent-road, London.

HORTICULTURAL SOCIETY OF LONDON.—Notice is hereby given, that the EXHIBITIONS OF FLOWERS AND FRUIT, in the Society's Garden, in the present season, will take place on the following days, viz.: SATURDAY, May 20; SATURDAY, June 10; and WEDNESDAY, July 12; and that TUESDAY, April 18, is the last day on which the usual privileged Tickets are issued to Fellows of the Society.
21, Regent-street.

ROYAL SOUTH LONDON FLORICULTURAL SOCIETY.—Under the Patronage of her most Gracious Majesty the QUEEN.—The Exhibitions of the above Society for 1848 will take place as follows at the Horns Tavern, Kennington, on WEDNESDAY, the 19th April, and at the Royal Surrey Zoological Gardens on
WEDNESDAY, 17th May,
TUESDAY, 20th June,
TUESDAY, 18th July, and
WEDNESDAY, 13th September.
Ebenezer House, Peckham. J. T. NEVILLE, Secretary.
Subscriptions 20s. per annum, entitling each Member to the privilege of attending all Flower Shows, Lectures, and Meetings of the Society, of exhibiting Flowers, Fruit, and Plants, their own growth, in competition for Prizes, without any charge of entry, and also to have two free admissions for friends at each Flower Show, Lecture, or Meeting.

SAMUEL WIDNALL begs to inform his friends and the Public generally, that his CATALOGUE of STOVE and GREENHOUSE PLANTS, with Dahlias, Fuchsias, Verbenas, and Bedding Plants, is now ready, and will be forwarded on application.—Grantchester Nursery, Cambridge, March 25.

SCIONS of the TRUE "ASHMEAD'S KERNEL" APPLE, will be sent free by post to any part of the Kingdom, on the receipt of 3s. 6d. worth of postage stamps. This delicious Apple "unquestionably ought to be in every good collection."
J. C. WHEELER, Kingsholm Nursery, Gloucester.

A NEW SEEDLING FUCHSIA, "GLOBOSA CARNEA."—A new and distinct variety, of good habit; in form resembles Globosa, with a pink tube and sepals, crimson corolla, and would form a singular contrast if added to any collection. Strong plants 5s. each. For description see *Gardeners' Chronicle*, August 21, 1847, p. 560.
WESTMACOTT'S Descriptive priced Catalogue of new and choice Flower and Kitchen Garden Seeds for 1848, is now ready, and may be had by addressing to ROBERT WESTMACOTT, Seedsman and Florist, 156, Cheapside (opposite St. Paul's), London; or at Stuart's Grove Nursery, Fulham-road, Chelsea.
The following, kept in sealed packages, are well adapted for large or small gardens, and are easily transmitted by post:

12 varieties Hardy Annuals named	..	..	2s.	6d.
12 ,, Choice ,, ,,	..	..	5	0
25 ,, Hardy ,, ,,	..	..	5	0
25 ,, Choice ,, ,,	..	..	10	0
50 ,, Hardy ,, ,,	..	..	10	0
50 ,, Choice ,, ,,	..	..	18	0
100 ,, Hardy ,, ,,	..	..	20	0
100 ,, Choice ,, ,,	..	..	32	6
100 Wooden Labels for Annuals	..	..	1	6

AMERICAN TREE AND SHRUB SEEDS, just received; likewise strong healthy plants of Sarracenia purpurea, Trillium grandiflorum, T. atropurpureum, T. pictum, and Erythronium americanum, a priced Catalogue of which is published, and can be had on application.
Vegetable and Flower Lists, containing all the most approved varieties, together with several quite new Agricultural Seeds, viz., Turnips, Grasses, Clovers, Mangold Wurzels, Carrots, &c., of which prices can be had.
INDIAN CORN the best and earliest varieties for sowing in this country, either in ear or loose.
POTATO SEED, English, German, and American.
Prices of any of the above, or estimates for any given quantity of land, immediately attended to, by GEORGE CHARLWOOD, 14, Tavistock-row, Covent-Garden, London.

The Gardeners' Chronicle.
SATURDAY, MARCH 25, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY	—	29—Microscopical	8 P.M.
MONDAY,	April	3—Entomological	8 P.M.
TUESDAY	—	4 { Horticultural / Linnean	3 P.M. / 8 P.M.
FRIDAY,	—	7—Botanical	8 P.M.
SATURDAY	—	8—Royal Botanic	4 P.M.

THERE are no classes of the community that are not interested in SANITARY REFORM. It will not, therefore, be a matter of surprise if we refer to the second Report of the Metropolitan Sanitary Commission. Few persons could read it without feeling that they were personally interested in its disclosures, and we refer to it for the sake of saying a few more words about the health of gardeners. We are the more anxious to do this because we know from experience that, unless they are aware of the many sources of disease and short life to which they are exposed, and exert themselves individually for their removal, little will be done for their relief.

One of the most remarkable points in the Report before us, is the demonstration that it affords of the dependence of disease and mortality upon deficient drainage. During the last three months London has been visited by an epidemic which has been far more destructive of human life than Asiatic cholera when it prevailed in the same districts. On an examination of the registry of deaths which is now kept in London with so much care, it was found that during the late epidemic the greatest mortality did not occur in the crowded and ill-ventilated courts of the metropolis, but in its more open and airy suburbs. It was, in fact, in the districts in which the drainage was most imperfect that disease was most fatal. Let us inquire, then, how it is that imperfect drainage acts so as to give both intensity and fatality to disease. And we use the word disease generally, for it is not one disease but many that have contributed to the late mortality. Typhus, small-pox, scarlet fever, influenza, have all assisted to swell the mournful register of death. It appears, then, that deficient drainage acts in two ways. First, by allowing animal and vegetable matters, more especially the latter, to collect and decompose, filling the air with poisonous particles which, inhaled into the system, produce in some cases real disease, and in others predispose the system to the action of other poisons. Second, by allowing water to collect in the soil, which is constantly being carried into the atmosphere, so that wherever the drainage is bad the air is charged with moisture, and the state of the atmosphere not only itself acts injuriously on the system exposed to its influence, but is the most effectual means of conveying the poison of decomposing organic matters and contagious disease into the animal body. Even where the general drainage of a district is good there may be spots which are exposed to the influence of the injurious effects of want of drainage that we have mentioned. In gardens the health of the plants demands attention to the drainage, but that which is carefully provided for a bed of Tulips is too often denied to the gardener himself. Some of the men whose daily occupation it is to secure the conditions of health in plants, are deprived of the possibility of such conditions for themselves. They are frequently compelled to take up their residence in sheds and outhouses, surrounded by the elements of disease in the form of decomposing vegetable matter, whilst the deficient drainage and ventilation of the places where they sleep, charge the atmosphere with a moisture that makes it a ready vehicle of poisonous matter.

The diseases thus produced are known by the name of fevers. These fevers destroy 50,000 persons annually in this country, a population as great as that of some of our counties. The majority too thus destroyed are adults, who are most liable to these diseases. And all this death from removable causes. It must not be supposed, because these fevers exist among the population generally, that they must necessarily also exist in gardens. The fact is they are all dependent on removable causes, or causes that require so small an amount of individual and combined exertion for their removal, that it is astonishing they should exist at all in countries claiming to be regarded as civilised. The larger proportion of the fevers of this country, including ague, and to these some medical writers add rheumatism, are dependent on decomposing vegetable matter. Although the particular form which the elements of plants assume in order to produce disease has escaped detection, there can be no doubt of the fact. The evidence collected by medical writers on this subject is of the most extensive and convincing kind. The name given to this substance or influence is *malaria*, and there are few pages of the history of disease more interesting than those which detail the laws which regulate the operation of this subtle agent on the human frame. In the dense forests of Africa and Asia it produces the fevers known by the name of jungle fever. In the West Indian islands, America, and other parts of the world, it produces yellow fever. In the borders of the Mediterranean, and in many parts of Europe, it causes the well-known remittent and bilious fevers. In our own country the continued remittent and intermittent fevers, which are sources of so large a mortality, are due to the same cause.

The only conditions which are necessary to render even a small amount of vegetable matter capable of exerting its destructive influence on the system, are a certain amount of heat and moisture. Hence in our own country we find fevers prevail most during the spring and autumn months. The renewal of the temperature in spring permits decomposition to go on in matter that throughout the winter has lain dormant; but when we have spring temperature throughout the winter, as we have during the last four months, then we find these vegetable poisons as active as ever. In the autumn the cause of the disease is due to the increase of moisture in the atmosphere, but in wet summers fevers prevail as much as in autumn. Last summer was remarkably dry, and consequently free from the general prevalence of malarious fevers.

The way in which malaria acts upon the system seems to be analogous to the way in which certain ferments act on vegetable compounds. When we add yeast or decomposing vegetable matter to sugar, it communicates to the sugar the same state of decomposition in which it is in itself, and chemical change is the consequence. So it appears with malaria: it enters the blood, and apparently produces in that fluid changes which are made evident by the derangements of the functions of the animal body, which we call fever.

Now this malaria, which requires heat and water in the vegetable matter itself to develope its detrimental properties, is much more readily diffused where, in addition, the atmosphere itself is charged with moisture. A damp atmosphere may be the result of meteorological causes, over which man has no control; but it appears very evident, from the report of the Metropolitan Sanitary Commission, that those districts in which [illegible] most charged with [illegible] of drainage, favored the [illegible] demic. [illegible] a state of the atmosphere [illegible] land, it is under the control of man.

We have dwelt [illegible] their cause in order that [illegible] tion of all [illegible] are convinced that [illegible] gardener [illegible] the causes of disease [illegible]. If this should meet the eye of [illegible] is conscious of showing [illegible] is much worse, to sleep [illegible] disease to which we [illegible] not to allow another day to [illegible] ing the evil.

Humanity and [illegible] in the question. To [illegible] poison of malaria [illegible] killing by the poison [illegible] impossible for any one to [illegible] of the nature of malaria [illegible] evidence made public by the [illegible] vinced, however, that the continued presence of the sources of fatal disease [illegible] bothy system is by no means [illegible] on the part of landlords; it [illegible] unacquaintance with the terrible consequences inseparable from it. And we confidently hope that in a few months it will be as difficult to find young gardeners lodged in [illegible], as it was, half a century ago, to find them anywhere else.

THERE are few books which yield more amusement from their perusal than Sir W. CHAMBERS's Dissertation on Oriental Gardening, and the amusement is made up of various elements. At first [illegible] the English artist would regard the Chinese gardener with the spirit of despairing envy — [illegible] of excellence utterly unapproachable. For we are told that while "Chinese gardening for efficacy *in moving the passions* yields to few other arts whatever—their gardeners are not only [illegible] but also *Painters* and *Philosophers*: [illegible] *knowledge of the human mind*, and [illegible] by which its strongest feelings are excited. It is [illegible] in China, as in Italy and France, [illegible] architect is a gardener; [illegible] famous country, where peasants emerge from the Melon grounds to take the periwig and turn professors." These last words are intended to convey a very facetious hit at BROWN.

What then is the first great principle of these wonderful professors? "The Chinese gardeners take Nature for their pattern, and their aim is to imitate all her beautiful irregularities." And an admirable principle this is, if [illegible] for human nature! These [illegible] must be slaves to the caprices of their employers. "They are attentive to the *wealth* or *indigence* of the patron by whom they are employed—to his age, *infirmities, temper, amusements, connections, business*, and *manner of living*." Exquisite Chinese gardening! There must be a youth-garden. But the youth comes to middle age. Then it must be metamorphosed into a [illegible]. But the mature man sinks into the vale of years. Presto! One wave of the wand—and the senility-garden starts into life and beauty. Then there must be a garden style for the gouty—another for the asthmatic—another for the passionate—another for the melancholy—another for the grocer, the tailor, or the butcher—another for the temperance advocate—and another for the three-bottle man. Verily, the English [illegible] may well gaze on his Chinese harlequin rival in utter despondency!

Look again at the buildings with which a capricious Chinese garden is studded—in [illegible] artificial ornaments of every sort. And [illegible] the logic with which the artists [illegible] their theory. "It is absurd to [illegible] with disorderly rude vegetation: [illegible] diamond set in lead. . . . Nature produces nothing either boiled, roasted, [illegible] we do not eat raw meat: [illegible] with any other tools than [illegible] have saws, hammers, axe, and a thousand other implements. There is scarcely anything in which art is not apparent. Why then should its appearance be excluded from gardening only?" So far so good: it is amusing enough. But the good man go on to out-herod HEROD. "The scenery of a garden should differ as much from common Nature as an heroic poem doth from a prose relation: and gardeners, like poets, should give a loose to their imagination: and *even fly beyond the truth* wherever it is necessary to elevate—to embellish—to enliven—or to *add novelty to their subject*."

Novelty with a vengeance, if truth is to be left behind! Buildings then in various styles are to be dotted over the grounds—to be seen at different points of view. There is no harm in that. But they are to strike the eye—like the gardens themselves—by their successive stages from nascent infancy to anile evanescence. From the half-finished foundations to the scaffold-surrounded shell—and the completely finished structure, and the partial or dilapidated ruin—every possible specimen of these *beauties* is to charm the spectator whichever way he looks. Well—we certainly live and learn.

Another favourite maxim of theirs is this: "the perfection of gardens consists in the number and diversity of the scenes displayed"—nay there must be "*different scenes for different times of the day.*" But besides these elements of beauty, there is another which adds charms to each peculiar scene. It is the introduction of living creatures, forming a most inharmonious medley—at least according to our degenerate taste. "Gold and silver pheasants, pea-fowls, partridges, bantam and golden hens, quail, and game of every kind swarm in the woods. Doves, nightingales, and a thousand melodious birds perch upon the branches; deer, antelopes, musk-goats, *spotted buffaloes*, and *Tartarean horses* frisk upon the plains." And all this is gravely advised for introduction into England! Well does the satirist paint the practical result:—

"Nor rest we here, but at our magic call
Monkies shall climb our trees and lizards crawl:
Huge dogs of Tibet bark in yonder grove,
Here parrots prate—there cats make cruel love:
In some fair island will we turn to Grass
(With the Queen's leave) her elephant and ass,
Giants from Africa shall guard our glades,
Where hiss our snakes, where sport our Tartar maids"

But these Chinese artists know well the essential importance of Contrast. If, therefore, they create scenes of pleasure—scenes of *terror* are indispensable. We have not space for their full description of this awful scenery, which contains every thing that is tremendous or repelling in natural objects, as well as all that is revolting and thrilling, from the records of human crime. How was this system to work in England? Our poetical friend gives a capital answer:—

"Now to our lawns of dalliance and delight,
Join we the groves of horror and affright:
This to achieve no foreign aids we try,
Thy gibbets, Bagshot, shall our wants supply:
Hounslow, whose heath sublimer terror fills,
Shall with her gibbets lend her powder-mills.
Here, too, O King of Vengeance, in thy fane
Tremendous Wilkes shall rattle his gold chain:
And round that fane, on many a Tyburn tree
Hang fragments dire of Newgate history."

This is really no exaggeration of the feature of the terrible enforced by Chambers seriously as an element of what he would have English Landscape Gardening to be. But we have only tasted a few of the dishes that grace this wonderful banquet of gardening art.=

ENTOMOLOGY.

The Watercress Fly.

As the period is arrived when Watercresses are eaten in great numbers, it may be as well to warn our readers against a small insect which we doubt not is often unconsciously eaten, the larva affixing its cocoon very firmly to the underside of the leaves and the stems of that and other water plants.

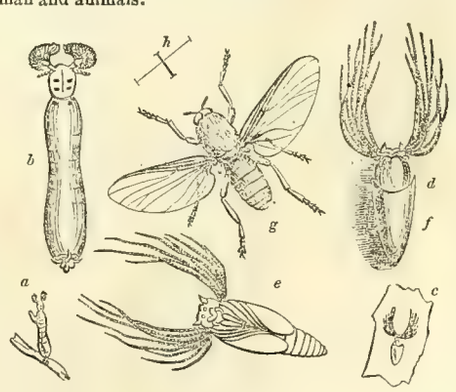
This insect belongs to the order Diptera, family Tipulidæ, and genus Simulium, of which there are about a dozen British species, the most common of which is the Tipula reptans of Linnæus (sericeum, Gmelin). The transformations of this species have been observed by Fries,* Verdat,† and Planchon.‡

The larvæ are aquatic, living on the stalks of Sium latifolium, Phellandrium aquaticum, &c. These larvæ are cylindrical, rather slender in the middle of the body, with the head distinct; furnished, in addition to the parts of the mouth, with two short antennæ, and two singular flabelliform appendages; the thoracic part of the body has a thick conical and retractile tubercle beneath, and the hinder extremity is furnished with several curved appendages, which Dr. Planchon regards as organs of respiration.

Our figure *a* represents the larvæ in an erect position, seen sideways, showing the conical tubercle on the underside of the thorax, and figure *b* the larva seen on the back, showing the singular appendages of the head, which are doubtless of use in forming currents of the water by their vibratory motion, whereby particles of food are brought to the mouth.

When full grown, this larva forms a thin oval membranous cocoon, attached, as above-mentioned, to water plants, and within which it becomes a pupa. From observations communicated to us by the late Professor Audouin, it appears that this cocoon is at first formed entire, closely resembling the half of a diminutive egg cut lengthways, and attached with the flat surface to the leaf; the upper end is, however, subsequently eaten away as far as a thickened arch previously formed; the object of this contrivance, which is not at first sight very evident, shows an admirable instance of adaptation to the wants of the creature, when we examine the structure of the inclosed pupa. In this state the insect is quiescent, with the wings and legs inclosed in short cases upon the breast; but it is moreover furnished on each side of the front of the thorax with eight long, threadlike filaments, about as long as the entire body, arising in pairs (analogous to the appendages of the pupæ of the dancing midges, Chironomus), and it is necessary that these filaments should be subjected to the action of the water, as it is doubtless that they serve to disengage the oxygen for the support of the insect whilst a pupa. It is in this state that we have met with the insect upon the Watercresses upon our breakfast-table. Our figure *e* represents the pupa disengaged from the cocoon, and seen on its ventral surface; fig. *c* represents it of the natural size within its cocoon, seen on its dorsal surface, which is magnified at figure *d*, *f* being the cocoon, with the upper part cut away, as above described.

Another remarkable and interesting provision of Nature is further shown by this insect: from the position in which the pupa is attached, the perfect fly is hatched under water, a condition which would at once destroy thousands of species, but this insect is provided with a silken coat, which repels the action of that element, and enables it to creep unhurt to the surface. The perfect insect is represented in our figure *g*, and its natural size is indicated by the cross lines marked *h*. The males are black, with a golden silky coating, and the females blackish-brown, with a grey silky coat; in both sexes the thorax has a narrow silvery lateral border, interrupted near the head; the legs are naked and brown; the fore tibiæ white on the upper side, the posterior ones white at the base, and the basal joint of the hind tarsi also white; the wings are hyaline, with the veins, except those near the fore margin, very delicate. These insects are found in damp, marshy places, the males especially, flying in great swarms; and as all the parts of the mouth are fully developed (as ascertained by Mr. Curtis), they are enabled to inflict a very severe wound; in fact some of the species of the genus are amongst the greatest torments to mankind, as well as to domestic animals. Although not so stated by Mr. Curtis, it is, however, the females only which have the mouth organised for penetrating the skin; and this peculiarity is also found in the gad flies (Tabanidæ) and the real gnats (Culicidæ), which are so pre-eminently obnoxious to man and animals.



The species above described is especially troublesome in high latitudes, where its attacks are quite equal to those of the musquito; in fact it is only by rubbing the exposed parts of the body with a greasy mixture that the Laplanders can defend themselves against its innumerable hosts, as fully confirmed by the most trustworthy writers (Zetterstedt, Ins. Lapp., p. 802, Fries, &c.). But it is not to the old world nor to high climates that these insects are confined, for Pohl and Kollar have described a Brazilian species equally obnoxious, stating that it is called a musquito by the Portuguese Brazilians, whilst in northern America, where it is equally troublesome, we have been informed that it is distinguished from the real musquito (which is a species of Culex), under the name of the black fly. It is also a species of this genus which attacks the cattle in the Banuat and Servia, often driving them nearly wild, and not unfrequently even killing them in the space of four or five hours. Great swarms of them are seen hovering in the air, and we learn from a gentleman who has recently travelled in that country, that the villagers affirm that they are hatched from the carcase of the lion destroyed by St. George, which they suppose to be deposited in a cavern on one of the adjacent mountains.—*J. O. W.*

* "Observationes Entomologiæ," Lund, 1824, Part I.
† "Thorig Archiv.," vol 2.
‡ Hist. d'une larve aquat. Montpellier, 1844. 4to.

PÊCHE PUCELLE DE MALINES.

(The Maid of Malines Peach)

In the "Journal d'Horticulture de Gand," for Jan., 1843, there is a figure of this new variety; and a description by M. de Bavay. It is stated to have been raised by the late Major Esperen, who devoted much of his time, in his retirement, to the raising of new fruits.

The tree is fertile and vigorous; leaves long, smooth, finely toothed. The fruit is large and handsome, though somewhat variable in form; generally its transverse diameter exceeds its height; but sometimes it is longer than broad, and in this case it has a pointed apex. The skin is very fine, separating easily from the flesh; it is marbled throughout, somewhat yellow where shaded, and of a red more or less intense on the side exposed to the sun. The footstalk is short and placed in a deep cavity, so that it frequently happens that the branch makes an impression on the base of the fruit. The flesh is fine, tinged with red at the stone, from which it parts readily; exceedingly melting and juicy, with a rich, vinous, musky, and sugary flavour (*goût relevé, vineuse, musquée, et sucrée*). This Peach, which is the best I know, adds M. de Bavay, ripens in the beginning of September.

Culture.—The tree will succeed in warm soil, on an east aspect wall. In heavier, colder soil, it requires a south aspect; a west aspect is stated to be unsuitable for it. ||

PRACTICAL INSTRUCTIONS FOR AMATEURS AND SMALL GARDENS.

A consideration of the circulation of the *Gardeners' Chronicle* brings before us several classes who apply to it for information, the interests of all of whom we are anxious to promote. Farmers patronise us on an extensive scale, and for them agricultural science is treated on, and practical lessons are obtained from sources of the best authority. Then follow the large class of professional gardeners, who invite discussion and canvass novel theories by their contributions, and for whom all new plants and observed phenomena are recorded. Ladies and gentlemen who keep gardeners also consult our pages, partly from a love of gardening and rural pursuits, and partly, perhaps, to keep an eye on those whom they employ. For these, our papers on the principles of taste in horticulture, and our Calendars, are presumed to be appropriate. These various classes are, we believe, sufficiently provided for.

But we have another description of patrons, very extensive, very influential, and very interesting, whom we are also desirous of pleasing and instructing; we mean the amateur gardeners, who love flowers so well as to cultivate them with their own hands, and the very large class who have a small plot of ground adjoining their homes, which they make conducive to use and ornament. These subscribe to our Journal to a large extent, and for their benefit a series of papers bearing the above title will be written. This task is entrusted to one who for years has managed his own garden, and is intimately acquainted with the details necessary for those who do so. Our object is, that all who garden at all, whether ladies or gentlemen, should be assisted in their pleasing employment by advice founded on experience, so that the knowledge gained by much toil and observation may be rendered easily available to their advantage. This paper will be preliminary, but next week we shall proceed in good earnest with practical matters.

Of all the pursuits which are presumed to tend to the improvement of the mind and the heart of man, gardening will yield to none, when regulated by the principles of reason and sound taste. The ground may be dug, seeds sown, and flowers and vegetables produced, by brute force and the lowest kind of handicraft, as is doubtless the case every year in thousands of instances. There is a voice in Nature which some are too obtuse and besotted to hear, but which is sweetly modulated to the organ of thoughtful observers. For such every season has its charms. The furious winds and driving snows of winter are gracefully instructive to them, while the sweet gales and diffused perfumes, and varied beauties of spring and summer, delight the senses and the imagination. Such results being in part dependent on culture, the faculties of the understanding are called into exercise, and the manipulation demands healthful bodily exertions. Gardening, in this manner, benefits and pleases our various bodily and mental powers, and enables us to make joyous scenes more bright, and to beguile hours of sadness.

If horticultural pursuits required the open country, and could not be successfully cultivated in the vicinity of towns and cities, the greatest part of human beings would be debarred from the pleasures just referred to. But this is not the case; for there are few spots, even metropolitan alleys and back windows not excepted, which Flora refuses to honour. The broken bottle or water-jug of the poor, turned into a flower-pot, will grow fine Wallflowers and fragrant Mignonette even in St. Giles's and Rosemary-lane; and therefore the multitudes who have little gardens before or behind their houses must possess, comparatively, rare advantages. To make these small domains as conducive to pleasure and ornament as possible, should be the object of their possessors, and in many cases they are admirably successful. Neglected grounds of this description are often the consequence of low habits in their occupiers, but quite as frequently they lie almost waste, because the knowledge requisite to make them beautiful is wanting. While, then, our papers will not pass by the pursuits of the more practical amateur, they will have a special reference to the holders of small gardens. First principles will not be taken for granted, but stated; and those details which are presumed to be known from their simplicity, and yet often constitute the real stumbling-block, will be lucidly set forth. We hope in this way to interest a large number, and to secure by this series of papers many gardening disciples.—*H. B.*

VENTILATION OF HOTHOUSES.

Amongst the many points necessary to successful gardening, which have received an extra share of attention during the last few years, the ventilation of hothouses seems to have been least considered, or at least handled in too cursory a way. There seems to have hitherto prevailed but one general notion on the subject, viz. the throwing open back and front sashes the moment the sun shines; and this happens to be precisely the moment, in many cases, when an accumulation of heat would be beneficial, provided sudden scorchings could be avoided. True it is Mr. Penn set the

world a thinking whether motion in the air might not be desirable, independent of the question of the mere escape of heat. Polmaise, too, another step in a similar direction, has again aroused the slumbering question; but this seems for a time enveloped in a kind of mist, and until this is somewhat dispersed by the sunlight of experience, we shall not be able to see our way clearly in this affair. The question being open, I may I trust be permitted to offer my views on the subject.

I must set out with declaring my opinion, that before many years have passed away, no mode of heating will be considered complete which does not provide for a system of ventilation, or rather purification, both day and night. What I would in the first place object to, is the necessity that exists in the majority of cases of permitting the accumulated heat to escape, at the highest level, at the back of hothouses. If nothing however, but the mere escape of heat was involved in this question, I would forbear to argue further; but with the heat the moisture also escapes, and this is not at all times desirable. It has been stated that the laps of glass in ordinary houses, are in the main sufficient to provide a sufficiency of fresh air. This is a doctrine I must seriously protest against as to its applicability to the majority of artificially heated structures. If we ought to take Nature for our model, how can we persuade ourselves that an atmosphere of this kind is precisely the same as that we breathe in the open plain or the shady grove? I do not ask for a Tornado in a hothouse; but is an atmosphere of the kind the sort of place for an invalid to recruit his strength in! If storms and tempests are necessary out of doors, in order to purify the air (which becomes corrupt or stagnant, even though trifling be the impediments offered to its circulation), how much more so one might imagine, in the narrow compass of a hothouse, where, in addition to the want of a thorough circulation or motion, may be added the incessantly deteriorating effects of many square feet of heated iron?

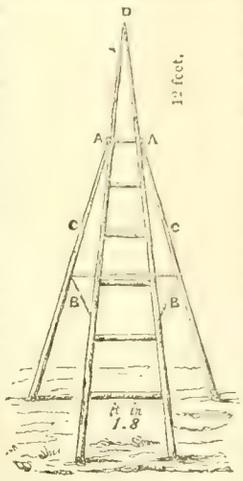
From observation I am persuaded that it would be better in the great majority of cases to make moisture-loaded air traverse the whole interior area of the houses, without permitting it to escape at the back; allowing it to enter by a low level and departing by a high one, both at front, by means of a copious provision at the front of the house for that purpose. To put a case:—Suppose a house, a lean-to, 7 feet high at the front above the interior floor level, and that floor level 1 foot above the ordinary ground line outside. Suppose also that sliding ventilators were placed in the front wall at the very lowest point, say at the floor level, and that these ventilators lengthwise occupied nearly one half the frontage of the house, sliding or otherwise. So much for ingress; now for the egress:—Suppose again that the front sashes (which meet the wall plate where the roof terminates in front) were made to drop 6 inches; what then, I say, would be the motion, or rather direction, of the air through the body of the house? This I have long since proved, and according to my thinking it throws some light on ventilation matters. The cold air coming in at the lowest level, proceeds at once along, or just over, the interior floor line, passes up the back wall, and returns down the roof, passing out at the front apertures at the top of the sashes; and as to speed—in a corresponding ratio to the discrepancy between the outer and inner temperatures. Now if this air be duly charged with moisture and warmth on entering the house, it is obvious that it will deliver more of these two in thus returning over the surface of the plants than it would if hurried out of the back lights or ventilators. True, it will not drive so keenly through in one given line; it will, however, do more in the way of purification; it will traverse, in an equal way, the whole interior extreme outline, causing all extraneous or stagnant air to fall into a sort of whirlpool, from which it cannot escape without purification. Now this is beyond a mere ideal affair. I have proved it repeatedly. This then, although perhaps not the most complete mode, furnishes, as I think, a hint which may be rendered of service.

If the principle of a special ventilation night and day may be admitted, it only follows that enough of interior heating be furnished, in order to be enabled to carry out such plans; for, be it remembered, that although ventilation be desirable, warmth is equally so; and the poor unlucky wight who (deficient of heating apparatus to begin with), should set his mind on carrying out this principle, would find his Pines in a queer way before long, if, to gain the desired point, he suffered his temperature to remain awhile at from 45° to 50° at certain periods. In speaking of the interior heating being ample, I set aside the question of boilers; it is piping in abundance, or its equivalent, that I mean. Too much fuss by half has been made over boilers; for my part, I scarcely care how they are formed, provided they do not leak. These rogues of fancy boilers have, I fear, swallowed up in some cases the expense which would have been better applied to an increased amount of piping. I am perfectly aware of the loss of heat at the chimney top, which may occur through badly set boilers; but this is frequently not so great as the loss of fuel which occurs when the grate will not hold sufficient, and when by an over frequent raking, or stirring of the fire, much of the coal, if small, is lost in the ash-pit. The interior of houses should be fitted up in as simple a manner as possible; all dips or lower levels are but so many reservoirs of stagnant air. All obstructions to a free circulation, as pits, or solid walls, in the interior, should be studiously avoided; and such work, as much as possible, formed on open arch-work or pigeon holed. Some piping should by all means be placed tolerably close to the front lower ventilators, and the air should, I think, in most cases, enter immediately below such piping. With such, and a copious supply of moisture to attemper the air at its entrance, I am of opinion that a slight amount of ventilation should be kept up day and night, both winter and summer, provided, as before observed, sufficient warmth can be guaranteed through a liberal amount of piping or otherwise.

I do not intend in offering these opinions to be understood as asserting that all back ventilation may be entirely done away with; it is very probable that in very many cases a provision of this kind must exist, in order to meet extreme cases during very hot weather. I merely contend that such a mode of ventilation will be found more beneficial than the back ventilators (which are but robbers) during three parts of the year, and that it will economise both heat and moisture, and keep the air constantly in motion. In conclusion, I would merely express a hope that whatever errors there may be in the opinions here expressed, that they may at least serve to direct a little more attention to a point worthy of every consideration, for I must persist in thinking that much of the ventilation of the present day is by no means adequate to the progress, and I may add the demands of modern horticulture.—*Robert Errington, Oulton-park, Jan.* 17.

Home Correspondence.

Pruning Ladder.—I have a ladder by which I can nicely reach the branches of my fruit trees, and a pair of nippers for pruning, in long handles. The ladder, of which the accompanying is a representation, I think much superior to the one figured in your columns some time back. At A A are iron loops, by means of which the legs, C C, work in every direction, and by which they can be stretched to a proper distance. The legs, C C, fold up to the ladder when removed, or if not required when in use. A person can easily carry it about, and put it under cover. The sharp point D enables it to be pushed up through the branches, and is useful for the operator to take hold of when using his nippers. The ladder is invaluable in gathering fruit. I have no doubt it may be improved upon, being the first attempt. B B are cords to prevent the legs from slipping out, but they are unnecessary. The sides of the ladder and steps are made broad like a step ladder, but very light and tapering to nothing at the top. With this ladder, a hook in a long handle, and a pair of shears or nippers also in a long handle, any pruning may be executed.—*An Amateur Gardener.*



Fuel.—I have been using Beech-mast as a substitute for coal, in the forcing houses, during the present season, preferring it to wood, as there is no labour in cutting it up ready for use, as in the case of wood; and in a part of the country where coal is 30*s.* per ton, it is desirable to turn to the best account anything which can be used as fuel. I have hitherto used no coal whatever; but I, however, consider that a mixture of Beech-mast and coal would make a good and economical fuel in places at a distance from either coal or railway, as a means of conveyance. I also find I have a large heap of good ashes from burning Beech-mast, which will be an excellent manure, much superior to coal, and not inferior to wood-ashes. Employment is, in consequence, found for women and boys in sweeping up the mast during a season when there is little out-door work for this class of labourers; and when it is considered that, for the sake of neatness in places which are in sight, the mast should be swept up, even if taken to the rubbish-heap, I think that for these reasons the subject is worthy of consideration and trial, on account of its economy, as well as being the means of employing labourers during winter, to say nothing of the neatness produced by keeping the Grass and walks clean.—*J. H., March* 21.

The Hyacinth forms an excellent greenhouse ornament during winter. The bulbs should be potted any time in September in 5-inch pots. On the crocking, put 2 inches of well-rotted dung, and on this a soil consisting of two parts good loam, one part well-rotted cow dung, one part leaf mould, and one part river sand, filling the pots to within 2 inches of the top. Then place the bulb in the centre, and fill up the pots. When the whole are potted they might be placed in a cold pit and covered to the depth of 6 inches with old tan, in which they might remain till they are wanted to be brought into flower, which is effected by placing them for a few days in the temperature of a stove, from whence they may be removed to the greenhouse.—*W. H.*

The Weather.—As notices of the weather frequently find a place in your columns, I am led to report to you that in this district the number of days in the past month of February on which there was rain or wet weather amounted to 21, leaving only 8 for the fair or dry category; whereas the result of seven years' successive observations is an average of 14 wet and 14 dry, with the benefit of a fair extra one for Leap year. In further illustration also of the extraordinary prevalence of damp during this season, I may add that out of 13 days in this month 11 have been wet. March being one of the drier months in general.—*H. H.*

The Larch.—The remarks on the Larch in the article on Landscape Gardening, reminds me of a very singular tree of that species. Close by the gate house of Cloone, in the county of Leitrim, there stands what tradition asserts to be the first Larch planted in Ireland. It is a most singular tree, the stem, which is from 15 to 16 feet in diameter, is not 10 or 12 feet high, and then it is divided into a number of great branches, some nearly upright, others inclined to the horizontal. It has a very curious but at the same time a very ornamental appearance, more so than any other tree, but less like the rest of its own species.—*Carnensis.*

Hints relative to laying out Pleasure Grounds in connection with Villas.—In laying out three or four acres of pleasure ground in connection with a villa, plant a belt of ornamental trees round the outer boundary, leaving openings for the approaches to the building, and skirt the interior of the belt with shrubs, under-shrubs, and flowers, which, if judiciously planted, will form a beautiful belt of variegated foliage; but do not mix the sorts of trees too much, for planting a few of each sort together, makes a more bold and beautiful variety. When the trees grow up, should any views into the open country be worth preserving, openings might be made that would permit a sight of the beauties of the scenery; but in doing this caution and judgment must be used. A good part of the ground should be planted with low-growing trees and shrubs, through which should wind paths for the light footsteps of pleasure and shady walks in summer, but do not adhere too much to the serpentine; for circular segments, where the ends of the walks would otherwise meet and form angles, might be sufficient, and more consistent with nature. A portion of the ground in front of the building should form a lawn (which is one of the greatest ornaments of an English garden), not cut up with walks, but continuing unbroken to the belt on one side with shrubbery on the other, and extending much wider than the building. A carriage road must lead from the end of the approach or road leading to the ground, and continue in a beautiful curve to the villa, thence to another entrance, or return with a sweep such as the ground would admit of. All this might be designed on paper, but few painters know much of planting, and a picture is of very little use to copy a garden from; most depends on the planter, who must have a sufficient knowledge of trees and shrubs to make the various hues of foliage harmonise.—*A Reader.*

The Calceolaria Disease.—I lost some plants last season from the disease you describe. The diseased plants here differed somewhat from those mentioned by "M. W.," inasmuch as the disease did not make its appearance until May, the flower spikes at the time being from a foot to 18 inches long. The plants to all appearance looked healthy a short time before they were attacked, and promised to bloom well. They, however, made no progress for a short time prior to the leaves flagging, and for a few days afterwards the least excitement caused the leaves to flag as if they wanted water. Concluding something was wrong, I examined one of the plants and found the extremity of the roots to all appearance healthy; I then examined the collar, and there found symptoms of disease similar to those described. I do not think the disease is contagious, having the whole of my Calceolarias in the same house at the same time, and, with the exception of four plants, all continued quite healthy. Neither do I think the soil was the cause; that is, after they were in my possession, as I used a similar compound for all the plants. The system of the plants, as "M. W." justly observes, might have absorbed something pernicious from the soil they were previously grown in; but other causes might occur to produce the effect. Of these, I thought the most probable one might be hard forcing: for I had to force hard to obtain a sufficient stock to meet the demand, thereby weakening the plant to such an extent as not to leave a sufficient store of matter in it to carry out its economy; or the evil might have been produced from what is termed high breeding, arising from intercrossing nearly allied varieties with each other. It is generally found that one of two things is the eventual result of such crosses: it debilitates the system of the off-spring so much as to make it either difficult to cultivate or shy of blooming. Should I be troubled with the same disease this season I will forward some account of it.—*J. C., Birmingham, March* 21.

Hand-glass Economy.—The economy of the means by which plants are protected from the severity of the weather, during winter and the early spring months, is an object of eminent consideration in all gardening establishments; and this position will be fully acquiesced in by those who have not only the embryo display of a highly ornamental flower garden to protect and care for, but also the esculent wants of a numerous household to provide. With these objects in view I have had recourse to a very ready method of doubling the quantity of hand-lights here for the spring cultivation of Cauliflowers. In the early part of March I remove from the hand-lights the superfluous plants that had been placed there for protection in the winter, leaving only a sufficient quantity to come to perfection; the plants so removed are now planted on previously-prepared ground, and the hand-glass tops placed over them on corner brick supports; on the bottom part

of the hand-lights from which the tops have been taken, a thin wooden cover, with an attached handle, for the purposes of removal and replacement, is substituted; and for all practical purposes at this period of the season, is as effectual as the glazed top which has been removed, and which is now performing the functions of a complete hand light. And where hand-glasses are resorted to, for the purpose of protecting lawn plants, an opaque and non-conducting roof will be more effectual than a glazed one; and on the other hand it will be equally obvious that Cauliflowers, Lettuces, &c., will be as efficiently preserved in the winter months by having a wooden bottom of a few inches in height, on which a glass top may rest; but these matters need no detail, gardeners will readily apply them as their several wants may require.—*James Duncan, Basing Park.*

Asplenium marinum.—Some of your correspondents having requested information respecting the cultivation of this and the undermentioned plant, I beg to supply the following particulars:—I do not consider Asplenium marinum to be a hardy plant; it requires to be treated as a frame plant, and may be successfully grown in a greenhouse. When Mr. Newman stated that it could only be grown near the sea, he no doubt did so on account of the seasons being milder near the coast than inland, for it is warmth and not sea air which is necessary for its successful cultivation. I have myself grown it in the very centre of England as luxuriantly as ever it was seen wild on cliffs by the sea shore; and also had seedlings produced there, but it was treated either as a frame or a greenhouse plant. In its native habitats by the coast, it is most generally found growing in caverns and recesses of rocks, and frequently several yards back from their entrance; and, in many of these places during winter, a moist vapour rises, which makes the place quite as warm as a greenhouse. To have any chance of succeding in growing it, as a hardy plant, it should be first potted in a mixture of loam, charcoal, and broken brick-bats, firmly pressed, and placed in a cold, shaded frame, or under a hand-glass, until the plants are well rooted, when they may be turned out, balls entire, and planted in an elevated recess in rock-work, sheltered from sun and wind. During winter a glass may be placed over them, and some branches of Spruce Fir, or other protective substance, stuck into the entrance of the recess, which will yield shelter, but not create damp. It may be successfully grown in a sitting-room, by placing the pot inside one of a larger size, filling up the space between the pots with sphagnum moss, and placing a glass over the plant; it will not require water oftener than once in one or two months, and then more frequently on the moss between the pots than on the soil contained in them. *Hymenophyllum Wilsoni* should be fastened to a soft sand-stone in a pot filled with sphagnum moss and charcoal; the stone with the plant being placed on the top, and sphagnum carefully put over the roots and pressed rather firmly. If placed in a sitting-room, it should have a glass over it. From the localities in which it grows, any attempts to make a hardy plant of it will end in disappointment; it may, however, if covered with a glass, be preserved in a cold, shaded frame. If a piece of the plant could be got attached to a stone it would grow still more readily. Sphagnum is the best description of moss; it retains moisture for a long time, but never causes plants to perish from damp as other species of moss do.—*David Cameron.*

Populus alba (*Abele Poplar*).—In the month of December, 1761, several young trees of this variety of Poplar were planted on the village green of Amport, Hants. The best of these trees have from time to time been cut down, and one of them only now remains, which is a very beautiful object, spreading out its numerous branches, and never failing to excite the admiration of passers-by. Its present dimensions are—height, 75 feet; girth of trunk at 2 feet from the ground, 15½ feet; circumference of ground on which the tree drips, 282 feet.—*J. H., March* 21.

Railway Embankments.—However enterprising and industrious a farmer may be, if he has a slovenly neighbour who allows his Coltsfoot, Thistles, and weeds, to run to seed, he cannot escape the injurious consequences of such unneighbourly proceedings. In this sense railroads are great enemies to farmers, arising from the slopes being left frequently to run waste and wild. Unsightly as these lines of railway are throughout the country (save to engineers' eyes), still for their usefulness, the comforts and advantages that follow in their train, we like to have them near us. Their unsightliness, however, might be greatly lessened if they were kept clean, tidy, and well dressed. Two contributors to your Paper, however, desire to go beyond the simple modesty of well-mown slopes; the one is for having Vineyards on the banks, the other has an £ *s. d.* plan of growing Larches on the slopes; to provide sleepers when required. I have no doubt forest trees would grow very satisfactorily from the slopes of an embankment, in the loose stuff; but on the slopes inward, into a cutting, unless the ground was well trenched, planting timber would be fruitless labour. But granting that Larch would grow and flourish on the inner slopes, would a continued hedge of them be at all pleasing to the eye; moreover, I apprehend the sunlight and air that would be excluded might be considered a detriment to the road itself. To soften the unpicturesque line of railroad, I beg to offer a few suggestions,—of planting the slopes, wherever the soil is suitable, with Hollies, Evergreens, and the common and ornamental Thorns, allowing them to grow into a dense and massive fringe, interspersed here and there with the Cedar, Cypress, Deodara, Araucaria, or any other specimen plants; and near a station house, where fruit trees would have protection, those suitable to the soil; the roots I need hardly say will strengthen and keep up the embankments, and possibly if a train should get off the line, instead of the carriages making a summerset off the bank, they would be lodged in the thicket, saving life and limb. At any rate, if directors have no eye for fanciful landscape decoration, they should be compelled to cut their weeds before they seed.—*A. B. C., March* 14.

—— Pray do not advocate "E. F. G.'s" plan of planting railway embankments with Larches. Upon reading the paragraph on this subject in your Number for March 11, three objections immediately presented themselves to "E. F. G.'s" proposal of making such a use of the land running along the sides of the roads. If the Larches are ever to be used as he proposes, they must be allowed to remain standing till they have attained sufficient height, bulk, and age. Were the plants never to grow beyond a foot or two out of the ground, they would only be pretty, and do no harm: they would, however, soon lose their harmless character, for by degrees they would darken and shade the road, would prolong the twilight, and the stems would produce a most unpleasant dazzling effect by the appearance of rapidly passing each other while the trains glide by. Though railways are often made for a few miles direct and straight, like an arrow, yet very frequent bends or sweeps in the line occur. At such parts of the road, often where the embankments are low, any obstruction can be seen from a distance, the curve not in that case producing any difficulties, as far as an uninterrupted sight goes; but anything planted which would ever grow beyond a foot or two out of the ground, might, in many instances, prove the cause of accidents and collisions, which might, had the view been unimpeded, never have taken place. These three objections, viz., shading the road, unpleasant effect upon those who see them, and obstructing the clear view of the line, might soon be added to, but I have too long intruded on your time. The Larches will be sure to be blown down.—*A. F. G.*

Landscape Gardening.—"That the Larch Fir, however, may be well used as a screen is manifest." This appears at page 171 of the current volume. The Larch I consider as useless a plant for such a purpose as can be found in the whole list of our hardy trees. In fact, it is just as bad as the Birch or the Lombardy Poplar, and no one who understands the appropriation of suitable trees to exclude unsightly objects, which obtrude themselves in landscape scenery, would ever dream of planting either, or he must have a limited knowledge of the numerous kinds of trees eligible for such a purpose. In the same article from which the above quotation is made, the following occurs, "It would be monstrously absurd to plant Firs there for the purpose of a screen." The context certainly does not reconcile these two extracts, at least as far as I can read them. The least useful tree amongst the whole tribe of Conifers it is stated may be well used as a screen, while those which are really suitable, and there are many species which are excellent for such purposes, are overlooked or condemned. Firs may be recommended as screens, firstly, because numerous evergreen sorts are of rapid growth; secondly, the foliage of many is densely thick, through which no eye can penetrate, particularly the sections Cedrus, Abies, and Picea. The Larch being destitute of foliage one-half of the year, and having thin branches, forms a striking contrast to the above. That Firs will get naked, when planted thickly, and never thinned afterwards, is quite true; but I should like to know what trees will not. It is no uncommon circumstance to find the Spruce, Silver, and Balm of Gilead Firs feathered to the ground, with abundant branches and massive foliage. Such trees, however, have not from their infancy been crammed together, on the contrary, they have had ample room, with light and air, to develope themselves.—*R. Glendinning.*

Intermitting Springs.—In your Number for Jan. 29 it is stated that great gardeners find it very convenient to understand the subjects of pneumatics and hydrostatics. I would say that they are also very useful to gardeners of the smallest calibre. If they would but turn their attention to such subjects many natural things would be explained at a glance which have remained mysteries to a whole country side for ages. I once lived in a parish that had many fine springs of water in it, and wells that had been in repute for centuries. There was this saint's well and the other saint's well, our lady's well and our laird's well, and there was an excellent spring which had something rather peculiar about it, but I never heard of it being named after any respectable person; and although there was no fault found with the water, yet the people who were acquainted with it thought that there was something relating to the invisible world connected with it. It appeared to be a greater wonder than Tantalus's cup, or Hero's fountain, or artesian fountains, or even the hydrostatic paradox. Many a long-winded story might be told about it, and those who professed to know something about it did not escape public notice, for it was thought that they were in connection with an evil agent; old lucky M'Nicke was set down for a witch because she knew about the time when to get water from it, while young lasses would at times scarcely get as much as would fill their teakettles; at times the spring would flow abundantly, then stop for a time, then flow again, and varied according to the season of the year. Now, a few minutes' teaching of the principles of the siphon might soon have completely cleared up the whole matter. The following extract on intermitting springs from Brande's Dictionary may be found useful by some of your readers:—Intermitting springs are springs which after having run for a certain time stop altogether, and after a time begin to run again and then stop, and so on alternately, the flowings and intermissions generally succeeding each other at pretty regular intervals; these phenomena are explained on the principle of the siphon. Suppose a cavern in a mountain and a channel communicating with it, and terminating in the side of the mountain or adjacent plain; and let us suppose the cavern to be fed by small streamlets of water, of which the united supply is less than can be discharged by the channel; let the cavern be supposed empty, the waters from the rills or fissures by which it is fed will collect in the bottom, and as it rises in the cavern will also rise in the channel till it reaches the highest level, when it will begin to flow out, and by the property of the siphon still continue to flow till the whole cavern is drained. The cavern then begins to fill anew, and the same series of phenomena is repeated at intervals, of which the length depends on the relative capacity of the cavern and channel, and the abundance of the supply through the fissures. When the supply is constant the intervals of intermission will be equal. Some springs of this kind do not cease altogether to flow, but only discharge a much smaller quantity for a certain time, and then a greater quantity. In this case they are called variable or reciprocating springs. They may be caused by the circumstance of a smaller fissure connecting the cavern with the lower part of the channel, through which a portion of water continues to flow, while the main discharge is stopped, or there may be several siphons, all communicating with a common outlet. It is easy to imagine a combination of circumstances by which the discharge of water will be greatly increased by the elastic force of air compressed at the top of the cavern. This will take place when the fissures which communicate with the external atmosphere are filled with water, and there is, in consequence, no opening by which the air in the cavern can escape; the water will then be propelled through the channel with considerable force, or even raised in a jet by the very same principles as in the fountain of Hero. In the Philosophical Transactions there is an account given of an intermitting, or rather a variable spring at Laywell, near Torbay, in Devonshire, by Dr. Atwell; perhaps some of your correspondents could inform us whether it is still in existence or not.—*Peter Mackenzie, West Plean, Feb.* 1.

Societies.

Horticultural, *March* 21.—J. R. Gowen, Esq., in the Chair. R. Creyke, Esq., and Mr. G. Wheeler, Nurseryman, Warminster, were elected Fellows. Mr. Robt. Gordon put in a letter which had been addressed to him by Joseph Davis, a clerk who had been dismissed from the Society's service, after many years' employment. The letter alleged that the proceedings of the Society would not bear investigation, and he requested that it might be brought under the consideration of the Council. The Chairman stated that Joseph Davis had been dismissed by the Council after the fullest consideration, that the Council had placed the pecuniary affairs of the Society in the charge of a public accountant, and that the letter in question should be laid before the Council. The business of the meeting then proceeded. A Banksian Medal was awarded to Mr. Carson, gr. to F. G. Farmer, Esq., for a new Dendrobium, apparently a variety of D. Griffithi, but a striking one, the flowers being white, relieved in their centres by a broad patch of orange.—Messrs. Veitch and Son, of Exeter, sent a new Tropæolum, apparently an annual, raised from seeds received from the Andes of Cuenca; to the flowers of Moritzianum it added the foliage of canariense; a certificate of merit was awarded it. The same nurserymen also sent a small plant of their beautiful Rhododendron Javanicum, grafted on the common Tree Rhododendron, and a Camellia called Storeyi, for which a Banksian Medal was awarded. The latter had a clean, somewhat ample, fine-looking foliage, and flowers like those of Imbricata, but as full and finely imbricated as those of the Double white.—Messrs. Loddiges, of Hackney, sent a nice collection of Orchids, consisting, among other things, of Phaius Wallichii; the Brazilian Brassavola Martiana; Odontoglossum Cervantesii; several Oncids; and two well-flowered specimens of Dendrobium macrophyllum, which is one of the more showy-flowered species, but whose blossoms smell incurably of Rhubarb. A Banksian Medal was awarded the Dendrobiums. —Messrs. Rollisson, of Tooting, sent a tall Begonia, from Oaxaca, apparently B. platanifolia; one of the best of the many varieties of Lycaste Skinneri; a small plant of Cyrtoceras reflexum and Franciscea hydrangeæformis, with its pale variety. A certificate was awarded the Begonia.—Two Azaleas, not different from Gladstanesii, were produced by Messrs. Ivery, of Dorking; and from Mr. Low, of Clapton, came an Epacris, named bicolor, a seedling which had been raised by Mr. Willmore, of Birmingham.—Mr. Kendall, of Stoke Newington, produced a seedling Cineraria of great beauty, which was raised by him last year and called "Newington Beauty." A singular circumstance belonging to it, and which constitutes one of the principal characteristics of its beauty, is the fact of its never having, under any treatment, produced pollen. It belongs to the tricolor section,

the points of the petals being a deep crimson purple with a centre of the same surrounded by a well-defined belt of white. The absence of the yellow pollen not only improves the appearance of the centre, but from that circumstance the white is preserved perfectly pure, rendering the flower clean and attractive. A certificate of merit was awarded it. The specimen in question was grown and bloomed in Mr. Kendall's Polmaise house, from which also came cut specimens of Pelargoniums, which were again exhibited as evidence of the efficiency of this mode of heating, which Mr. Kendall has found perfectly suited for forcing such things. Other evidence in support of Polmaise was also furnished, in the form of Kidney Beans, which were sent by Mr. Todd, gr. to Sir E. Filmer, Bart., from a Polmaise house at East Sutton Park. These were sown in the last week in January, at which time forcing was commenced, and it was stated that since that period this mode of heating had given perfect satisfaction, and that even during the greatest cold that has been experienced since that time, a temperature of from 70° to 80° could be maintained with ease and little care. It was mentioned that Cucumbers grew well in the same house, and were now showing fruit.—Mr. Silver, gr. to the Rev. H. Pole, sent a cut specimen, in flower, of Weigela rosea, with a view to prove that this hardy plant (one of the best of Mr. Fortune's Chinese introductions) forces well. The plant was placed in a Vinery, "at work," and, on showing flower, was removed to a conservatory, adapting itself to the most common-place treatment. It need hardly be remarked that the colour of the flowers was much fainter than that of blossoms produced out of doors; but the flowers were equally numerous and large.—Of miscellaneous articles, Messrs. Warner and Sons, of Jewin-street, sent a garden engine, whose novelty consisted in its having attached to the top of the tube a flat shovel-like plate, moving on a spring, for spreading the water. This invention was so contrived that tubes and plates of different sizes could be put on or taken off at pleasure. —Specimens of fabrics, made in Madagascar from the Raphia Palm tree, were exhibited by Admiral Sir W. Gage. One was a mat of some beauty; the other was a striped cloth, which it was mentioned was probably prepared from the fibre of the leaf. —From the Society's Garden came various Orchids and other plants. Among the former was the pretty little Orchis Branciforti, and a good specimen of Epidendrum Stamfordianum; and among the latter were Mr. Fortune's Forsythia viridissima, which has been found to force well, the golden-yellow flowers producing a fine effect though unaccompanied by leaves; the sweet-smelling Trymalium (T. odoratissimum), Azalea obtusa and squamata, Echeveria rosea, whose red leaves and blossoms serve to enliven our glass houses at this season; and the true Greek Cyclamen (C. repandum), whose sweet-smelling purple blossoms render it one of the best spring-flowering plants we possess.—Seeds of Berberis asiatica, a half evergreen shrub, which has been found to be very suitable for cottage-garden fences, and of the true Killerton Asparagus, of whose merits most of our readers are aware, were furnished by Sir Thomas Acland, Bart., M.P., and distributed among the Fellows. In reference to the Asparagus it is but right to mention, however, that probably more importance is to be attached to good cultivation than to the sort of Asparagus cultivated; for experience only serves to confirm the opinion that there is but one sort of Asparagus, the differences in vigour and appearance which it sometimes exhibits being due to the degree of skill and care bestowed on its cultivation, and to other local circumstances belonging to the place in which it is grown.—Cuttings of the following Pears and Apples were also distributed:—Comte de Lamy, a middle-sized, roundish Pear, whose flesh is melting, and tastes like sugar rendered delicious by the addition of the Pear flavour; it ripens in October; the tree bears well as a standard. Althorp Crassane, an excellent standard Pear, raised by the late Mr. Knight, at Downton Castle; it is figured and described in the Society's "Transactions," and the variety has since fully maintained all the good qualities ascribed to it; it ripens in October and November; the tree is hardy and a good bearer. Boston Russet, one of the few American Apples which prove to be adapted for our climate. Attempts to grow the celebrated Newtown Pippin have generally resulted in the production of something so different from the original as scarcely to be recognised, but the Boston Russet is a valuable acquisition as a dessert Apple from January till April; it is a middle sized fruit, whose flesh is rich and sugary, with somewhat of the Ribston Pippin flavour; and, finally, Mere de Ménage, a good late-keeping kitchen Apple; it is of German origin. The tree is vigorous and a good bearer, the fruit being very large, roundish, and dark red.

Reviews.

Des Végétaux qui croissent sur l'Homme et sur les Animaux Vivants. Par M. C. Robin. Paris, 1847. 8vo: pp. 120. Tab. III. Williams and Norgate.

This useful little work does not make any pretensions to much originality. Its object is to collect together all the information that is scattered upon and over the growth of moulds on living animals, to which the author has added a few observations of his own. Few of our readers, perhaps, would imagine that he could have referred to no less than 111 treatises, to which number even additions might be made, especially from English and German journals. The subject, however, is daily attracting more attention; and it appears highly probable that these minute parasitic agents will be found to act a part scarcely less extensive in animal than the uredos and moulds do in vegetable.

M. Robin inclines to the view that a general morbid state is requisite for the development of these parasites, exactly as it is so commonly believed that in the vegetable kingdom they will not grow on healthy tissues; but most positive facts on either side may be brought forward in contradiction of such preconceptions. Without going the length of authors who would attribute the origin of influenza and cholera to cutaneous fungi, on which latter point a treatise (which we have heard highly spoken of, and whose author we know to be a person of ability) has just appeared, there is good reason for believing that they act a very important part in many diseases, and it is highly desirable that those who wish for information should be at once able to lay their hand upon the most important facts which have at present been ascertained, and the treatise under notice is exactly what is wanted.

Some of the more obscure vegetable forms are pretty constant attendants on certain diseases. In cancerous diseases of the intestines, for instance, *sarcina ventriculi* will probably be generally found in the matter thrown up from the stomach. We have ourselves had an opportunity of examining this curious production, without, however, being able to satisfy ourselves as to its affinities.

Unfortunately, in the greater number of instances, the observations have been made by mere anatomists, without any knowledge of the structure of the parasites, and consequently the figures are too often imperfect, or evidently incorrect, from the acknowledged difficulty, or even impossibility, of representing correctly objects of which the general structure is not understood; and these matters seldom fall in the way of the botanist. M. Robin has not attempted to refer the several moulds to their proper genera or species, an attempt which in many instances would be hopeless in the absence of specimens. He has wisely judged it better to reproduce the description or figures, and to leave to future observers the task of correcting previous errors.

A Descriptive Catalogue of Hardy Trees and Shrubs; Ditto of Fruits; and Supplement to the same. By Thomas Rivers, Nurseryman, Sawbridgeworth. 8vo. These very useful pamphlets, being usually given to his customers by Mr. Rivers, are hardly open to criticism; and if we had a word to say in their dispraise we should not feel justified in drawing public attention to them. But in truth they are unpretending works of great utility, and such as would save planters much disappointment and unnecessary trouble if they were to consult them frequently. The classification adopted by Mr. Rivers is not systematical but horticultural, in which he has shown his usual good sense, and the remarks on the routine of management, scattered among the lists, are a welcome addition to the information otherwise given. Those who possess Mr. Rivers's Rose lists will be able to form an idea of the way in which these others are drawn up.

Miscellaneous.

Locusts.—Of locusts there are undoubtedly two species, exceedingly distinct, and which migrate in swarms, doing intense damage:—one, a pink underwinged kind with fuscous patches on the upper wings; the other with yellow underwings, and in other respects nearly similar, except that instead of being tawny it is of bright yellow, and which is far more common than the former. Again, there are three other species which are not so abundant, but still do much damage. These I have only observed in loose flocks, and have never taken them in the larva state. The whole country has suffered severely from the ravages of [illegible] two first species noted, [illegible] last year and the latter end of [illegible] wing specimens [illegible] of the Himalaya [illegible] Almorah, that the [illegible] which they [illegible] large a [illegible] The [illegible] are [illegible] absolutely to [illegible] to lay [illegible] every step [illegible] about the [illegible] to the middle of [illegible] of the yellow [illegible] previously at [illegible] colour is more [illegible] quarrelsome of race they [illegible] fresh or late [illegible] very pale pink, [illegible] In old and [illegible] a dirty claret and [illegible] Of the yellow-lined [illegible] at Nurseeabad [illegible] I had never [illegible] during 10 years' [illegible] numerous as their [illegible] and crawling all over the [illegible] hills near the above-[illegible] a portion of the [illegible] The larva is very [illegible] yellow and black; the [illegible] orange-yellow, the portion behind and [illegible] dark maroon. Legs [illegible] banded with black: wings [illegible] with dusky connecting spots. [illegible] two first joints yellow. But [illegible] delineation, or the insect itself, can give [illegible] its handsome markings.—*Annals of Natural History.*

The Poison Ash.—In the same work [illegible] specimen of the Poison Ash (*Rhus venenata*) remarkable for the injurious effects [illegible] certain constitutions, and their absence [illegible] respect to others. To the latter [illegible] lington and myself, [illegible] the tree [illegible] smallest noxious influence; while to [illegible] the present occasion, it proves [illegible] unable to gather a leaf, nor even [illegible] the tree without experiencing severe [illegible] ened, however, by the impunity [illegible] had a little before taught me [illegible] two scarcely less virulent shrubs of the same genus, namely, the Poison Vine and Poison Oak (*Rhus radicans* and *Toxicodendron*). I [illegible] to this western Upas tree; and [illegible] culum with a subtle energy [illegible] rubbed the bruised leaves over [illegible] pores being then free [illegible] of the weather. I [illegible] like myself, unsusceptible of the virus [illegible] two other venomous Sumachs; but [illegible] those of my own acquaintance who [illegible] me their dread of contact [illegible] these shrubs, clearly show that [illegible] injury extends to a large [illegible] haps as much as one [illegible] friend the Rev. Dr. Bachman of Charleston, S. C., related to me that being once on a [illegible] with some friends in the neighbourhood of that city, they came upon a specimen of the Poison tree in the low country of Carolina, [illegible] of these present had never seen [illegible] and not naturally desirous of gathering specimens [illegible] This they proceeded to do, although [illegible] consequence likely to accrue [illegible] by the doctor, who stood aloof from a danger which he knew to be inevitable in his own person on [illegible] The result was, some of the party suffered severely [illegible] the inflammatory action reaching up the arms to the trunk in one, in another only as high as the elbows; whilst in a third, the effects were confined to the hands, which, as is usual in these cases, became badly swollen, inflamed, and finally ulcerated. [illegible] escaped the poison. On his return home, Dr. B. found a branch of the shrub in his vasculum, which had been put there by some sceptical fellow-traveller out of the party, who affected disbelief in the virulent properties of the plant. This [illegible] who was not susceptible of the poison, to take out of the box and destroy, but at her suggestion permitted it to be dried for his herbarium. The next day symptoms

NEW GARDEN PLANTS, PUBLISHED IN BOOKS.

N.B.—* = Very handsome. † = Second rate. ‡ = Third rate. ¶ = Unimportant.

Name.	Where Published.	Name of Country.	Quality.	Natural Order.	Colour of Flowers.	Time of Flowering.	When first Flowered.	Where.
Pentstēmon lanceolātus.....	Ann. Gand., t. 173	Mexico	H. ♌	Figworts	Purple	Sept., Oct.	1847	Ghent.
* *Lance-leaved Pentstemon.*								
Cattlĕya sphenophŏra	Ann. Gand., t. 175	Brazil	S. ♌ (epiphyte)	Orchids	Buff and purple.	Summer	1847	Ghent.
* *Wedge lipped Cattleya.*								
Camellia jap. *Leda alba*.....	Ann. Gand., t. 177	Gardens	G. ♑	Theads	White and rose.	Spring	1847	Ghent.
* *Camellia Leda.*								
Oncidium Geertianum	Ann. Gand., t. 179	Guatemala	S. ♌ (epiphyte)	Orchids	Yellow	.....	1847	Ghent.
† *Van Geert's Oncid.*								
Camellia jap. Borgia	Ann. Gand., t. 182	Gardens	G. ♑	Theads	Crimson and white.	Spring	1847	Ghent.
* *Camellia Borgia.*								
Native imbricāta	Ann. Gand., t. 183	Teneriffe	G. ♌	Leadworts	Blue	September	1847	Paris.
* *Imbricated Sea Lavender.*								

of poisoning came on: intumescence of the entire body and lower extremities, attended with intolerable pain and irritation, confined him to bed for several days; nor was it till after many weeks that the ill effects had so far subsided, that he was able to resume his usual clerical duties: so violent indeed were the symptoms, that serious results were for some time apprehended. For several years after this accident my friend was subject to a periodical recurrence of the erisypelatous inflammation which marks this particular poison.—*Dr. Broomfield, in Hooker's London Journal of Botany.*

Calendar of Operations.

(For the ensuing Week.)

CONSERVATORY AND GREENHOUSE.

The judicious regulation of temperature in plant-houses, with adequate attention to the admission of fresh air and supplies of humidity, are recommendations which demand attention, but which the uncertain and ungenial weather renders of somewhat difficult application. The great proportion of greenhouse plants are now in activity, and a great deal depends on the treatment they receive at this moment; rain-water, where it can be collected, should always be prepared for watering. Continue the propagation of Heliotropes (H. Voltaireanum is a desirable variety), Verbenas, and bedding plants generally; sow such plants as Balsams, Thunbergias, Cinerarias, the Chinese Primrose, Cockscombs, &c. The practice of dwarfing trees, shrubs, &c., which the Chinese pursue with such assiduity, is diametrically opposed to our method, which generally consists in developing things to their utmost power of expansion, yet admitting the absurdity of a fashion that would strive against Nature, we might, nevertheless profit by a lesson from them when, restricted in space, we are yet compelled to retain a certain number of decorative greenhouse plants, which, if permitted to increase in size, would occupy an unfair proportion of the plant-house. It becomes then necessary to adopt the Chinaman's custom, and restrict those circumstances that conduce to luxuriant growth, and in some cases still following his practice, use the pruning-knife to both branch and root, to adapt the unfortunate subject to the limited accommodation.

FRUIT FORCING.

At no period is the invigorating influence of sunshine more generally advantageous than at the present. Our Vines, Peach-trees, Strawberries, Melons, receive from it an impulse which no artificial substitute can give them. The weather lately has compelled us to exercise all our art to produce an imitation of those circumstances generally known as suitable to the subjects under our care; inattention at this critical period would prove fatal to them. *Early Vinery.*—If the Grapes are colouring, a free circulation of air, accompanied with a high temperature, will be advantageous. In later houses no circumstances will justify a reduction of heat to Vines developing the bunch previous to blossoming. *Strawberries.*—To set the blossom they should enjoy a position that ensures the full advantage of light and air; such a place should be reserved for them, and after the fruit is set they can be removed without danger of injury to a stove or house possessing a higher temperature. Ants are apt to attack the early fruit; take measures to prevent loss from such a quarter.

FLOWER GARDEN AND SHRUBBERIES.

Repair displacements of soil or gravel on slopes or precipitous walks with as little delay as possible, for every shower will widen the channel. Gravel put on sloping walks should be almost in the state of mortar prepared for use; well trodden and afterwards rolled, it forms a hard and durable walk. Roll and mow Grass, trim edgings, and finish rough digging in the pleasure grounds. It is often desirable to keep Ivy close to a building against which it clings, in that case it should be defoliated every year about this time, and it will again speedily be covered with fresh and vigorous leaves. Half-hardy annua's judiciously distributed about the flower garden will materially aid in its embellishment; as soon as the ground is sufficiently dry they may be sown; a certain proportion may also be sown in pots for transplanting. Make an early arrangement of plants for bedding out, such as Fuchsias, Pelargoniums (Lucia rosea makes a charming bed), Calceolarias, &c., and keep them in pots with but little heat. Dress or shift Agapanthus, Fuchsias, &c., for vases.

FLORISTS' FLOWERS.

Tulips.—The late heavy rains have been by no means congenial to these roots; in fact, unless the beds are situated on a porous subsoil, or well drained, it is attended with positive injury. The meshes of the nets used to protect the beds ought not to be very small, otherwise the foliage is apt to be drawn up, and the stems will rise weakly. Particular attention must be paid to those whose foliage is cankered, cutting it away to the quick with a sharp knife. As soon as the beds are sufficiently dry, the surface soil should be carefully stirred, if not previously attended to. *Polyanthuses.*—Where the seed was sown early and placed in heat to vegetate, the pans or boxes should be removed to a cooler situation, gradually inuring the tender plants to the open air. As the trusses of the old plants rise, if intended for exhibition, they should be carefully examined and the pips thinned out according to the strength of the plant. Occasional waterings with weak liquid manure will be found serviceable. *Auriculas* will require the greatest attention possible, the lights of the frames should be carefully examined, in order that drip may be prevented, for should a drop of water fall into the expanding pip of an Auricula, it will inevitably be spoiled for exhibition, and the sooner it is cut away the better. Cover well at night, with one or two mats, especially if there is the least indication of frost. During the day every possible means must be adopted to ensure plenty of air, to prevent the plants being drawn. *Carnations and Picotees.*—No time must be lost in getting the stock potted off. As new flowers of considerable merit, we may venture to enumerate the following:—Scarlet Bizarres: Holliday's Grand Master, and Lord Rancliff. Crimson Bizarres: Slater's Gladiator, and Holliday's Thomas Hewlet. Purple Flakes: Barringer's Earl Spencer, and Holliday's Queen of Purples. Scarlet Flakes: Hollyoake's Dido and Holliday's Scarlet Gem. Rose Flakes: May's Ariel and Lorenzo. *Ranunculuses.*—If seed is not already sown, sow immediately. Attend to directions previously given. *Pansies.*—This is a good time to strike cuttings; put them in round the sides of small pots, plunge in sand, on a north border, and cover with a hand-glass.

KITCHEN GARDEN AND ORCHARD.

Every important operation out-of-doors has been interrupted the greater part of the last week by the incessant rains, which have saturated and chilled the ground. Reference had better be made to our last week's Calendar, as the works there recommended have doubtless been delayed. The forward Beans and Peas should be protected with boughs. The necessity for some sort of protection for early Carrots, Radishes, &c. against the driving storms of hail has been latterly tolerably evident. Sow Peas and Beans; the Prolific and Knight's Marrow Pea are suitable for this sowing. Plant Oxalis Deppei in rich soil, in rows 10 inches apart Sow Carrots, Parsnips, Onions. Plant Potatoes. Employ all available means of affording efficient protection to early wall trees. Whatever material be employed, it should be devised that it may be speedily removed at will, to allow the trees the advantage of fine weather. Prune and nail Figs.

State of the weather near London, for the week ending March 23, 1848, as observed at the Horticultural Garden, Chiswick.

March.	Mo. n's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 17	11	29.401	29.330	42	36	39.0	S.	.15
Satur.. 18	12	29.401	29.245	54	27	40.5	S.E.	.00
Sun. .. 19	○	29.174	29.005	53	29	41.0	S.W.	.15
Mon... 20	14	29.005	28.910	53	30	41.5	S.W.	.36
Tues.. 21	15	29.448	28.736	50	25	37.5	W.	.08
Wed.. 22	16	29.638	29.574	56	47	51.5	S.W.	.02
Thurs. 23	17	29.870	29.673	58	44	51.0	S.W.	.00
Average		29.498	29.294	52.3	34.0	43.1		0.76

March 17—Rain throughout; densely overcast.
— 18—Foggy and damp; fine; partially overcast.
— 19—Foggy; fine; rain commenced 9 past 8, P.M.
— 20—Constant heavy rain; heavy clouds, showers and sun occasionally.
— 21—Hazy and damp: cloudy; showery; clear; slight frost. [night.
— 22—Cloudless; slight haze; fine; cloudy; boisterous, with rain at
— 23—Cloudy; fine; partially overcast.
Mean temperature of the week, equal to the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending April 1, 1848.

March, and April.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 26	53.3	34.0	43.6	8	0.12 in.	1	2	4	3	4	1	3	5
Mon. 27	54.6	35.5	45.0	7	0.37	1	3	2	1	3	7	1	—
Tues. 28	53.7	33.7	43.2	9	0.68	2	5	4	1	3	4	4	1
Wed. 29	53.6	34.6	44.1	4	0.12	1	3	4	2	1	4	3	4
Thurs. 30	53.5	31.8	44.1	7	0.50	3	4	3	1	1	7	3	2
Fri. 31	54.6	33.8	45.2	7	0.26	1	6	2	2	2	4	2	2
Satur. 1	52.9	35.4	44.6	12	0.76	3	2	3	2	3	4	1	4

The highest temperature during the above period occurred on the 27th 1830—therm. 75 deg.; and the lowest on the 1st, 1838—therm. 16 deg.

Notices to Correspondents.

ACHIMENES—*O P*—Perhaps it is not known to amateurs, although it is to gardeners, that the Achimenes may be abundantly increased by means of its curious scaly bulbs, which are sometimes called tubers. In such species as A. pedunculata, they may be preserved in paper, and will be sure to push in the spring like the sample you have enclosed to us. They are a beautiful proof that a bulb is only a short branch.

ASPARAGUS—*M T*—Make your beds 4 feet wide. Trench deeply and manure heavily with well decomposed farm-yard manure; you might plant 4 rows in a bed, but 3 are preferable; place the plants 9 inches apart in the rows. Plant in spring ‡

BACK NOS.—*Frere*—We have only the years 1842, 1845, and 1847.

BEES—*R B*—Your question involves the whole theory and practice of bee keeping; it is difficult to say which is the most approved plan of establishing an apiary under your particular circumstances. Much depends upon the situation, and upon the system you mean to follow. That, however, which gives the bees the most shelter from the vicissitudes of the seasons, and affords free access to the hives, is the best. In dry situations the hives may be sheltered by a sort of shed similar to the one recommended by "Wighton on Bees," a book which also gives a good illustrative drawing of that shelter. But if economy is not an object, you may construct a bee-house somewhat on the dove-cot plan, about 6 or 8 feet in the clear, more or less, according to the number of hives it is desired it should contain. The hives should be arranged upon a shelf about 4 feet from the floor, close to a hole or doorway in the wall for the bees to enter by. A tower of this sort having several stories of hives, near good pasturage, might not only be profitable but very interesting; especially if constructed in that style recommended by Dr. Bevan in the "Honey Bee." It is a well-known fact that bees prosper best in high and dry situations; at present we have a strong colony in a garret, the bees entering to their hive through a pigeon-hole; in short the dove-house is turned into an apiary. It should be observed, however, that perhaps there may be more trouble in securing the swarms from such places, in consequence of the bees starting from a higher point; when on the wing they may take further flight and settle or cluster on the tops of trees, or out of reach, or on a neighbour's premises. With regard to hives we advise you to adopt straw ones on the depriving system; for however wooden or glass ones may be available for experiment, they are not so suitable for bees in our changeable climate. *W.*

COUVE TRONCHUDA—*H F S*—Sow this in May. It possesses merit as an autumn vegetable; but being rather tender it requires protection from severe frosts. The stalks of the leaves are eaten like Sea-kale.‡

FILBERTS—*Marie*—These trees are not usually grafted; nor is this operation necessary, unless to change the sorts. ‖

FRUIT-TREES—For either N. E. or N. W. aspects—Pears: Jargonelle, Marie Louise, Suffolk Thorn, Thompson's Apples: Wormsley Pippin, Early Harvest, Pitmaston Nonpareil, Ribston Pippin. Plums: 2 Early Orleans; 2 Purple Gage, Washington, Royale Hâtive. Cherries: 2 May Duke; 2 Elton, Knight's Early Black. ‖

GRAFTING WAX—*Juvenis*—See p. 8 of our first Number for the current year.‡

HEATING—*A Young Gardener*—We do not object to flues for certain purposes, provided they are well constructed and covered in with dished tiles. Such either do or did recently exist in some of the forcing-houses at Chatsworth, where they answer well enough. But Polmaise is much better. If the latter is employed it will be desirable to let each house have its own furnace, as in a flued house; or if two houses are to be heated by one furnace then it should be at the junction. The existing fire-places could be easily Polmaised.

INSECTS—*G S*—The white downy secretion on the boles of the Beech trees is deposited by a species of Aphidæ with its eggs, analogous to the American Apple-blight. We shall be glad of specimens later in the season The trees should be cleansed from it by washing them with soap-suds and gas-tar water. *W.*

MANURES—*B B and Constant Reader*—The strength and quantity of liquid manure, should be varied to suit the constitution of the plants to which it is administered. What might benefit one plant might injure another. Therefore exact quantities cannot be given. You should ascertain by experiment what strength your plants will bear, and use that. As a safe rule, however, we should say use small applications, weak, and as often as they can be given with advantage.‡

NAMES OF FRUITS—*J Thomas*—Not known; appears to be a seedling resembling the Api petit, or Lady Apple. ‖

NAMES OF PLANTS—*G L*—It appears to be Pulmonaria angustifolia.——*J B*—The common Plane tree.——*Berkshire Sub*—Very fine Neapolitan Violets.

PINE PLANTS—*Mr J Lyon*—Much obliged. We do not happen to know any one ‡

PLUMS—*D W G*—In the case of your Coe's Golden Drop tree, which does not bear well, prevent the growth of all strong shoots by timely stopping in summer, and so as to have but little cutting in winter. Observe to prune the upper part of the tree several days or a week before the lower, in summer. ‖

POLMAISE—*P W J*—We should think that a letter addressed to Mr. M. would meet with a favourable reception.

PROPAGATION BY LEAVES—*C T J*—The term bulb could not have been worse applied. The substance which appears at the end of leaf-stalks used as cuttings is an expansion of cellular matter called a callus, or callosity. A bulb is a collection of scales or rudimentary leaves. The person who insisted that the callus was a bulb might as well have called his head his heart.

RAIN GAUGE—*R S D*—The rain-gauge now employed at the Horticultural Society's Garden at Chiswick, consists of a funnel-shaped copper receiver, exactly 12 inches diameter at top, where it is joined to a rim everywhere of the same width of 12 inches, and ¾ inch deep. Across this a small brass rod extends diametrically; it has a loop in the middle to admit an index-rod attached to a copper float to slide up and down. The funnel tapers internally till it leaves an opening little wider than the thickness of the index-rod. Externally it fits a copper cylinder about 5 inches in diameter, furnished with a stop-cock at bottom. The capacity of the cylinder is of course in proportion to that of the top of the funnel, as the squares of the respective diameters, or as 25 is to 144. An inch of rain on the surface will therefore raise the float in the cylinder 5.76 inches. This distance, graduated into 100 parts on the index-rod, admits of the depth of rain being ascertained to one-hundredth of an inch. This supposes a cylinder exactly 3 inches diameter; but as this cannot be truly formed of sheet copper, the maker, Mr. Newman, graduates the scale by actually observing the elevation caused by the introduction of proportionate quantities of water. It is necessary to observe that when rain-gauges are constructed with a float, the latter should have no more than just room to move freely in the cylinder; for otherwise there is a loss by evaporation. In frosty weather the float should be suspended out of contact with the water, and let down only when observations require to be taken. ‖

SEEDS—*C H*—1 is a Convolvulus; 2 is probably some Hardenbergia, which is all we can say about them.

SHADING—*W C K*—The material is too close, unless it is only used for a few hours in hot sunshine, and then it is proper.

TEMPERATURE—*Iciolist*—The temperature at Chiswick is recorded from the indications of registering thermometers. Against the day of the month is placed the highest temperature of that day and the lowest temperature of the night following; also the amount of rain, if any, for the same day and night, from 8 till 8 A.M. The barometer is observed at 8 A.M., 1 and 9 P.M. ‖

TREES—*C H K*—Consult any of the general catalogues, or Mr. Rivers's List, noticed in the Reviews to-day.

VINES—*Beginner*—If your border is not covered, you may fork it up with advantage now.‡

MISC—*W L O*—Many plants are sweet at night and scentless by day. Yours may have been the Mathiola odoratissima. ——*A Gardener*—We never meddle with our neighbours, and therefore we can only thank you for your note. With a little experience you will learn the true value of professions; we much prefer performance. Depend upon it, he who talks loudly of what he will do, will do nothing. It is the quiet dog who bites.——*G Mitchell*—We think your waterproof cloth would be a good substitute for shreds.——*J G D*—Rhubarb plants will derive little injury from being removed now. You had better apply to the agent who supplies you with the Paper ‡——*W C H*—Prune in your Laurel branches to about half their length, and keep the sheep off them. If that does not answer the end, you had, perhaps, better head the plants down a little.‡——*Sub*—Mildew might be engendered by any of the causes you mention; but most probably by the two latter.‡——*R E*—Lady Larpent's Leadwort may be had anywhere in the trade. It does not seed that we know of.——*Clericus*—Plant your Glad oli, as soon as they show symptoms of growth, in a light dry border. To be successful in blooming such things you must take care of the foliage in autumn. That is the main point. ‡——*S S*—Tecoma jasmino des will do better planted out in a border in your greenhouse than in a pot. It likes a sunny situation. ‡——*S A*—The best mode of dealing with your Holly hedge, which has become bare at bottom, is to cut it down—an operation which may be done with advantage next month. ‡——*A Z*—Cactuses will do well in loam mixed with cow-dung, and a little sand or lime rubbish. Gesnera zebrina in peat and loam. ‡——*T I.*—Seed of Dwarf Rockets might be obtained we should think of any respectable seedsman. We never recommend dealers.‡ ——*G M H*—R. Richardson, 21, Tonbridge-place, New-road, London.

SEEDLING FLOWERS.

CAMELLIAS—*Storeyi · Veitch and Son*—This variety resembles C. imbricata in form, the petals being rather small, but stout and gently reflexed, with a well-elevated crown; in colour it is a light rose in the centre, gradually becoming of a rosy red, and darker towards the outside petals. The plant is handsome, well clothed with large fine foliage; it is a desirable variety.*

CINERARIAS—*W P*—Your seedling possesses a well-formed petal, but in colour and character it is not uncommon.*——*M H*—The failure in both your seedlings is in the narrowness of the petals, they want substance also; No. 1 is very pretty, from the brilliancy of the tip.*——*M F*—Your flower is a good common variety; it is very inferior to the sorts cultivated for showing.*——*Newington Beauty: Kendall.* This is a good and showy variety: the flower is round, well formed, and slightly cupped; disk very dark, surrounded with a ring of white to which succeeds rosy crimson, the ends of the petals being tipped with blue; the habit of the plant is good, it blooms freely, and retains its lively appearance to the last, the disk being destitute of pollen.*——*M.* No. 2 is the better seedling—1 cups rather too much; they are neither of them novel in colour, but they form a good variety in a collection.*

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.—PRIZE-LISTS and Printed Forms of Certificate for the entry of Live Stock and Agricultural Implements, for exhibition, at the Country Meeting of the Royal Agricultural Society of England, to be held at the City of York, in the week commencing Monday, the 10th of July next, may be obtained, on application, either personally or by letter, of the Secretary of the Society, 12, Hanover-square, London; with whom all entries for Implements must be made on or before the 1st of May, and all entries for Stock on or before the 1st of June.

MESSRS. NESBITS' CHEMICAL AND AGRICULTURAL SCHOOL, 38, Kennington-lane, London.—A sound practical knowledge of Analytical and Agricultural Chemistry, Geology, Surveying, Levelling, Railway Engineering, &c., may be obtained in Messrs. NESBITS' Academy, in addition to a good modern education.

Mr. NESBIT's works on Arithmetic, Mensuration, Gauging, Land-Surveying, English Parsing, &c., are published by LONGMAN and Co., and may be had of all Booksellers.

The terms of the School can be had on application either personally or by letter.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK AND TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their IMPROVED BRICK and TILE MACHINES, which are to be seen at work at Alperton, and at the Company's Office, 193A, Piccadilly, from 10 A.M. to 5 P.M. Mr. Robert Scrivener, who has been appointed Manager in the room of Mr. John Ainslie, will show the Machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, 193A, Piccadilly, London.

These Machines may also be seen at Mr. Slight's, Leithwalk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill, 135, Buchanan-street, Glasgow; Mr. Robert Charles, Mill-hill, Leeds; Messrs. Penny and Finch, Penkeridge, Staffordshire; Messrs. Drummond and Son, Dublin; and at Mr. John Connor's, Newtown Limavady, County Derry.

MR. J. C. NESBIT'S CHEMICAL MANURES.

THE LONDON MANURE COMPANY beg to announce that they have undertaken the exclusive manufacture of the manures recommended by Mr. J. C. Nesbit. The substances used in their preparation will be subjected to Mr. Nesbit's analysis, and every care will be taken in their manufacture. Hop Manure, Superphosphate of Lime, Wheat and Clover Manure. A Pamphlet on Artificial Manures, by Mr. J. C. Nesbit, now ready.

The London Manure Company have also made arrangements for a large supply of Fishery and other Salt, which they can offer on good terms.

E. PURSER, Secretary, 40, Bridge-street, Blackfriars.

GUANO AND OTHER MANURES ON SALE.—Guano, Peruv. & British; Superphosphate of Lime; Bonedust and Bone Sawdust; Dried Night-soil. Urate. } For Wheat, Oats, Barley, Grass Seeds, Turnips, Mangold Wurzel, Potatoes, &c.

Gypsum, for Clover, Cinquefoil, &c.; Nitrates of Soda and Potash, as stimulants; Petre Salt, for dressing old Pastures; Agricultural Salt, for Compost-heaps, &c.; Sulphuric Acid, for dissolving bone; Soda Ash, a destroyer of Wireworm: and all other Manures of known value. Also Horticultural Glass, Milk Pans, &c.—Apply for prices current, to MARK FOTHERGILL, Office 201 a, Stores 40, Upper Thames-street.

The Agricultural Gazette.

SATURDAY, MARCH 25, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY, March 29—Agricultural Soc. of England.
THURSDAY, — 30—Agricultural Imp. Soc. of Ireland.
WEDNESDAY, April 5 { Highland and Agri. Society. Agricultural Soc. of England.
THURSDAY, — 6—Agricultural Imp. Soc. of Ireland.
FARMERS' CLUBS.—March 31: Stranraer.—April 1: Newcastle, Reading, East Kent, Durham.—April 3: London, Clayton.

A TRACT ON DISTRICT MODEL FARMS* has lately been published, which deserves more than a passing notice. In so far as its argument blames the method in which Agricultural Societies at present use the means at their command we heartily commend it. There can be no doubt that instruction by an exhibition of processes and their results, which district model farms would convey, would be far more influential than that at present communicated by the after-dinner speeches at the annual meetings of district Agricultural Societies. We doubt, however, whether the scheme is likely to be adopted by voluntary associations amongst agriculturists: if ever it be carried out efficiently, it will, we suspect, be as it has hitherto been—by the liberality or the far-seeing sound sense of individual landowners. Besides, the policy is doubtful which would allow the balance-sheet of such an establishment, on which of course all its authority will depend, to run the risk attending the trial of new practices in agriculture.

A model farm ought to adopt none but thoroughly approved practice: the suggestions of scientific men, the rival recommendations of controversial writers, should either be left for determination on an EXPERIMENTAL FARM, or what would be less expensive, submitted to experiment by committees of the existing societies. "A Farmer's Son," who writes the tract we have alluded to, recommends that an experimental department should be connected with each of his local example farms: we think the better way would be to have central institutions of this description under the management of our national Agricultural Societies.

The Horticultural Society does not confine itself to the publication of information on horticultural subjects, or to the award of prizes at horticultural exhibitions; it has its horticultural experimental institution, in which knotty points and novelties of all kinds are deciphered, so to speak, for the benefit of its members. Why cannot our Agricultural Society adopt the methods of improving Agriculture which have proved so successful in the case of the sister art? It is not sufficient answer to say that farm circumstances vary within the limits of her jurisdiction so much that her decisions would not be generally applicable. It is true enough that horticulture can create its soil and its circumstances to suit every particular case, and that what is true in one hothouse may be true in every hothouse. It is true that we cannot say this of agriculture, or of out-door cultivation; but still the great majority of disputed points in farm practice may be determined in the course of years in one locality. The whole practice of cattle feeding may be elucidated in this way; and if the farm were well selected, most of the points connected with the cultivation of the land might also be determined. Five hundred acres may easily be obtained with soils sufficiently various to furnish a conclusive answer to all the questions on tillage and drainage that can be put.

But we must let "A Farmer's Son" speak for himself. The following extracts sufficiently illustrate the nature of his views.

"The stimulus given to inquiry into almost every subject at all bearing upon agriculture, and the immense amount of good which has arisen to the agricultural interest by the establishment of the Royal Agricultural Society, is universally admitted; nor can I forbear singling out the Yorkshire Society from among the local societies as one producing almost incalculable benefit, from its able management. Highly, however, as I value these institutions, I feel as some of our principal writers appear to feel, when they say that hitherto the mass has not been moved—the 'people' have not been reached. I will, then, propose the establishment of institutions or societies which, I firmly believe, would produce the same effect upon the great body of farmers which the cheap literature (peculiar to this age) has produced upon the humbler classes of society, viz., furnishing them, in a clear and convincing way, with a vast amount of useful information, which they would not have acquired under previous arrangements.

"I have no doubt that in almost every district of England a farm might be selected which would pretty nearly represent every description of soil in the neighbourhood. On this farm the practice of the most antique and the most modern farmers should be adopted simultaneously. It is often said by farmers who advocate shallow drains and large tiles that the water cannot get into the deep drains, particularly if laid with small pipes; some also argue that as the water which enters a drain does so immediately above the drain, it cannot get to the tiles if the clay is 'puddled' above the tiles. Now, to my mind, how easily all these debated points might be settled—by the clearest of all evidence, ocular demonstration.

"A correct journal of the various operations and the results should be kept by a disinterested person, paid to superintend, and constantly on the farm. The farm to be open for inspection at any time; and on certain days, at given times; the superintendent to show visitors round the farm, and give all needful explanation of the various modes of culture. Meetings at convenient periods of the year to be held for the exhibition of implements (old and modern) at work. Let notice be given of a public inspection of the various departments of the farm, holden (say) when the cattle are ready for the butcher, immediately before Wheat shearing, and at the time Turnip and other root crops are ready to take out of the ground. Let the inspections be followed by public meetings, while the subjects are fresh on the minds of the visitors. Discussions upon the causes of the different results would arise. Let accounts of the results of the various modes of culture be published (at the times stated for the inspections), and circulated through the districts. I have no doubt editors of newspapers would most willingly open their columns to such reports."

We have not room for more: it must suffice to say that, in addition to the experimental, this writer recommends the adoption of an "example" department, where good management of a tried sort may be exhibited; and he very justly says regarding it—

"There is, I fancy, more or less in all minds, a tendency to seek out for an authority on all matters of human speculation, to refer to for a final decision. I hope I shall not be thought over sanguine when I state my belief that a well-managed farm of this character would be an authority on which farmers would rely."

The chief argument against the adoption of this plan, in a large number of instances, is the expense attending it: the funds of our local societies could not, and, we fear, cannot be expected to meet it. Those, however, of our central societies are equal to the task. We see they are funding considerable sums—their income exceeds their expenditure. Might they not find in the ideas broached by "A Farmer's Son" methods of employing the excess for the benefit of those who have contributed? The existing times—not those which are to come—ought to receive the immediate advantage of this superfluity of means. It is no disadvantage to say this; for we are sure that the spread of practical knowledge and right principles now, to which the excess rightly applied would contribute, will in all probability have infinitely greater effect on the future, than, however, the mere existence of the endowment which they will create is likely to do.

At a late meeting of the [illegible] AGRICULTURAL SOCIETY, it was unanimously resolved to open a subscription for the purpose of presenting a service of plate, to be presented to JOHN GRAY BELL, Esq., of Dilston, in testimony of respect for his character, and gratitude for the signal services he has rendered to the cause of agriculture in general, and to that of the county of Northumberland in particular. We have no doubt that the resolution will be speedily responded to throughout the [illegible] counties.

ORNAMENTAL POULTRY.

THE WHITE-FRONTED LAKE GOOSE.

ORNAMENTAL Poultry may be divided into three classes; not with reference to their beauty or their natural arrangement, but in respect of their capabilities for domestication. The first class comprises those that are really domestic (if we derive the word from a house), that unhesitatingly confide themselves to the protection of man, and may be trusted with a complete liberty, in the certainty that they will prefer the shelter of his roof, at proper times and seasons, to a state of nature. This would include cocks and hens, pigeons, turkeys, the common domestic and the China goose, the musk duck, and a few others.

The second class includes those birds which are restrained from resuming their original wild habits more by the influence of local and personal attachment than from any love they seem to have for the comforts of domestication; which may be trusted with their entire liberty, or nearly so, but require an eye to be kept on them from time to time, lest they stray away and assume an independent condition. In this class we have the pea-fowl, the white-fronted goose, the widgeon, the Canada goose, the Egyptian goose, and others.

The third class embraces all those birds which, however familiar they may become, so as even to eat from the hand of their keeper, are yet in their hearts as untameable as a fly; and must, therefore, be kept in complete, though to many eyes invisible restraint, lest they withdraw themselves completely from all human control; and whose taste for domestication does not seem to increase, though many successive generations of them have been bred in captivity. In this class we have the swan, the teal, the common gambuse, the pheasant, the nycthemerus, and indeed all the inmates of our cages, aviaries, and menageries, that are not included in the first and second classes.

It is clear that from the second class alone can we hope to obtain any useful and profitable addition to our stock of poultry. A bird must be found to belong undoubtedly to that before it can be promoted into the first class. The great difficulty in looking over this unlimited third class is to discover which species may be advanced into the second. Some are decidedly hopeless cases. The swan, for instance, and the pheasant are no more likely at this moment to become domestic, than they were when first discovered amidst the streams and copses of Western Asia. Ages before the discovery of America, while the turkey remained yet unsuspicious of the settler's rifle, they were as domestic as they now are, and as they are ever likely to be. It is true Jemmineh speaks of the *Cygne Domestique*, and says that it "vit en domesticité dans la plupart des pays, très abondant en Hollande;" but the term domesticity appears only likely to lead into error, when applied to a creature that hates the confinement of a house, pining and wasting, if compelled to remain long in one: the use of whose wings is obliged to be curtailed by amputation, which is kept within bounds on a stream only by mutual jealousy and the difficulty it has in travelling far by land, to say nothing of park-palings and mansions.

It is doubtful whether the collections of the Ornithological and Zoological Societies, valuable and most interesting as we see them to be in St. James's and the Regent's parks, are likely to do much in increasing our knowledge of the capabilities of domestication inherent in various birds. The specimens are so much under control, so completely circumscribed and dependent, that it is impossible to say whether they belong to our third or second class. If there were in these collections any unsuspected first-class bird, already disciplined for full liberty and domestication, its merits and claims could hardly be discovered in the restraint of a menagerie: its prolific powers would certainly be cramped and checked. On the other hand, who, seeing the water-hens there, and knowing their familiar, half-domestic habits, in situations of less restraint, would suspect how invincibly they resist all real domestication, being, as the Rev. R. Lubbock says, in his delightful "Fauna of Norfolk," "a very difficult bird to retain in captivity, even when deprived of the power of flight. A walled-in garden has proved insufficient. The trees against the wall are made use of, and the captive claws up by degrees to the top, tumbles down

*"District Model Farms;" by a Farmer's Son. GROOMBRIDGE and SON, Paternoster-row, London.

upon the other side, and walks off with the air of a Jack Sheppard."

Much ornithological information has of late been obtained, though unfortunately little has been published, by gentlemen who have the means of giving full scope to a few favourites; and if the societies in question are anxious to effect one of the objects of their institution, namely, the domestication of new and valuable birds and animals, they must enlist the aid of the educated amateur, the resident squire, the intelligent and influential steward, the farmer, and the country clergyman.

The white-fronted goose is an excellent example of our second class, and well deserves the patronage of those who have even a small piece of Grass. Its natural history in a wild state is fully detailed in Mr. Yarrell's valuable "British Birds;" the figure also is very good, though it is a pity that a pair of geese were not given; but as the works of that gentleman, like every other original book on the subject, have been largely drawn upon, I refrain from borrowing what he has written, particularly as the object of these articles is, not to encroach upon the department of the systematic naturalist, but merely to state what has been observed of birds that have been reclaimed.

The first impression of every one who saw the white-fronted goose in confinement, would be that it could not be trusted with liberty; and the sight of it exercising its wings at its first escape would make its owner despair of recovering it. A pair of young ones that were bred in this country were kindly supplied to me, and though they were evidently not wild, their friskiness and vivacity were such that it appeared best to shorten the quill feathers of one wing, and so deprive them of the power of flight till their next moult. Long before that time, however, their confidence and attachment removed all hesitation as to the future. Now, at the most distant sound of my voice, they will come flying, like pigeons, to alight at my feet; and occasionally, particularly in winter and spring, perform graceful evolutions in the air, that show great power of wing and enjoyment in its exercise. They are perfectly unrestrained, except that the kitchen-garden is forbidden to them. During the severe weather last winter, while the herbage was buried deep under the snow, we feared they might be tempted to join some of their travelling relations that now and then passed overhead; but we swept a spot bare in the orchard, to amuse them with the idea of Grass, threw down a few Savoy Cabbages, gave them a little extra corn, and though they would fly over the house to get at a spring where the water was still unfrozen, they showed no wish to seek their fortunes elsewhere, or desert their old companion, a China goose, who could only proceed on foot to take her draught at the brook.

We have now had them more than three years. In the spring of 1846 the goose laid some eggs in an exposed spot, and dropped one or two others here and there, which were added to them, and she then sat as well as goose could sit. But owing to the persecutions of an ill-natured Canada gander, whose delight it was to drive her from her nest, and waylay and beat her as she was returning to it from grazing, the eggs were all addled, and the poor bird, for some time afterwards, showed her dejection and disappointment. Her mate did what he could to protect her from the assaults of her enemy, but his inferior size and strength rendered him powerless. She did not produce a second laying, as is the case with many birds under similar circumstances. In the meanwhile, the truculent Canadian has been banished, and this spring (1847) she selected a better place for her nest. She scratched a hollow in the ground, at the edge of a Grass walk, under a Whitethorn, about 18 inches above the surface of the water. The eggs were removed as laid, and, when she began sitting, restored to her, with a bunch of straw, which she arranged according to her own pleasure, and with which she could cover her eggs whenever she had occasion to leave them. She began sitting on the 7th of April; on the 7th of May two very pretty goslings came forth; the next day they were missing, and the rat-catcher explained the cause of their disappearance by extracting an enormous rat from a hole immediately under the nest. The remaining eggs proved untertile; doubtless from the gander being permitted to enjoy the society of the above-mentioned China goose. After the loss of her young, and the abstraction of her worthless eggs, she still persevered in sitting with vain expectation on the empty nest. To prevent this, we filled the hollow with Thorns. She then betook herself to watch the success of her rival, the China goose, who was still sitting. When the little ones came forth from their shelly prison, she assisted in affording them a mother's care, leading them to the tenderest herbage, brooding them under her wings, and accompanying all their movements with their real parent.

The eggs are smaller than those of the common goose, pure white, and of a very long oval; whether this is a specific, or only an individual peculiarity, I am unable to say. The shell is also thinner than most other goose's eggs. The flesh, both of the wild and of the tame bird, excellent. In hard weather, they are frequently to be had at the poulterers' shops, and generally at low prices, in the provinces at least, owing to an unfounded supposition that their flesh would be fishy, as in the scarcely eatable Brent goose. But those who are fond of game, will find it, if hung up long enough, a dish for an epicure.

If my own birds are to be taken as specimens, the white-fronted goose is a pattern of all that is valuable in anserine nature, gentle, affectionate, cheerful, hardy, useful, self-dependent. The gander is an attentive parent, but not a faithful spouse. Indeed, it is time to contradict what has been published on this latter point, and to caution amateur breeders that ganders have not the virtues of Scipio. Two treatises, now before me, have the following passage, differing slightly from each other in the wording.

"It has been ascertained, by M. St. Genis, that geese will pair like pigeons and partridges; in the course of his experiments, he remarked, that, if the number of the ganders exceed that of the geese by two, and even by three, including the common father, no disturbance nor disputes occur, the pairing taking place without any noise, and no doubt by mutual choice. Besides the common father, he left two of the young ganders unprovided with female companions; but the couples which had paired, kept constantly together, and the three single ganders did not, during temporary separations of the males and females, offer to approach the latter."

Acting on this advice, I permitted pairs of four different species of geese to associate together last year (1846). Three ganders of the four appeared to think that each goose, except his own, was at liberty to be unfaithful; and that every gander, except himself, was wrong in committing an infidelity. What with their jealousies before laying time, and their quarrels after it, with plenty of eggs, we did not get a single gosling of any sort during the whole season.—*D.*

HIGHLAND COTTER SYSTEM.

In a late number I observe with regret that you mention Mrs. Davies Gilbert's "self-supporting" schools at Eastbourne, to have proved unable to "stand alone" after her death. I regret to hear this, because when I visited them in 1841, I could see no reason why they could not be carried on without aid from any source except the 1*d.* a week and labour for some hours of each boy attending the school. I made very minute enquiry into the income and expenditure of some of the schools; and unless I was wilfully deceived, which I cannot believe, I hope some of your correspondents will (if they have been given up), state the cause of their failure. Perhaps if you ever have spare room in your Paper, you would interest some of your readers by printing the accompanying letter in whole or part. Our cotters generally in Scotland are in a miserably neglected state, and I do believe require nothing but the encouraging hand and advice of their landlords to become a most independent and valuable class of the community, instead of a mere burden, as they are at present.—*J. Mackenzie, M.D., Inverness.*

The following are extracts from the letter referred to, originally published in the *Inverness Herald*.

The Highland Cotter System.—By J. Mackenzie, M.D.—Passing by the small allotment system, as comparatively unknown and unrequired as yet, in our northern counties, I will examine first the general state of our cotter population, and I will take one of that class, not as in my eye on this estate or that estate, but as common on all estates that have come under my inspection. I find him then occupying, say 10 acres of arable land, and two of what he calls his "pasture," and which consists, with few exceptions, of moorish ground mostly under Heath, Broom, Furze, or Juniper, with, here and there interspersed, a few blades of Grass. His house has, probably, been built by his grandfather, and, as he has hardly done anything to it, except, perhaps, give it a new roof and thatch, or put a buttress to support the clay walls where they threatened to give way, there is nothing to admire either in the architecture or internal arrangement; on the contrary, it too frequently happens that the whole house consists simply of an outer room or kitchen, and an inner bed-room, where father, mother, sons and daughters, of all ages, sleep together in one indiscriminate mass, so as totally to destroy every feeling of decency or propriety. In front of the door is a hole dug out of the soil, into which everything in the shape of dung and filth is cast, and the very smell of which, added to the want of proper sized windows to show the dirt in the inside of the house, is sufficient to account for the great disregard of cleanliness so frequently met with among our peasantry. He possesses also a small barn, a byre, and stable, and his stock probably consists of a horse, a cow, a withered calf, a pig and some poultry, with a cart, plough, harrow, spade and pick, hoe, and a few barn and byre implements. He believes firmly that his land is very inferior to that of the neighbouring large farm (from which it may be separated only by a dike),—and to all proposals of adopting a better system of husbandry, his reply is, "Such might answer on good land, but on his poor land it is impossible." Even in the vicinity of excellent farming, it is quite common to meet with the following rotation on cotter land: Oats, Oats or Barley, Potatoes with one or two drills of Turnips, Barley, Grass, and again two white crops, &c. The land is not ploughed till just before seed-time, and the plough, drawn by the cotter's starved horse, and a neighbour's, lent for the day, in equally low condition, seldom turns up above 3 inches of soil; indeed, owing to the land never having been trenched, there is little more to turn over. The Grass has, of course, been bad, and the half-starved cow and horse having spent three-fourths of their time on the "pasture" land, or trespassing in the neighbouring plantations, little or no droppings have fallen on the soil to enrich it. The ploughing then being completed about the time when the large farmer hard by has finished all his sowing, the cotter commences to sow, but so little is he aware of the value of early sowing, that even then a job, or wedding, or market, or funeral, casting up, will invariably tempt him away to lose some more valuable time. The consequence is that while the neighbouring large fields are covered over with a luxuriant growth, the dry spring weather sets in, and permanently stints his crop, which never covers the ground, and threshes out even worse than it looks,—nothing being more common than the saying, "I sowed more Oats in that field than I threshed out of it. I never saw such bad land: how is a person to pay rent with such land as this?"

When the Oats are removed, nothing is done to the land till close upon the time for sowing a second white crop, which, of course, is worse than the first, and the third year sees the Potatoes planted late upon a hastily turned up furrow, perfectly matted with weeds, which he either cannot spare time or expense to clear off. The drills are formed about a foot to 18 inches apart, and the splits set within 3 or 4 inches of each other, and if you observe that the large farmer has 24 to 30 inches between each drill and 12 to 18 inches between each split, the answer is sure to be "that may do in his fine land, but our poor land requires quite different treatment." Of course, when the large farmer gets 30 to 40 bolls of Potatoes per acre, the cotter rarely gets 10, and the great bulk of these of the size of Walnuts, owing to the sets being too thickly planted. He commonly keeps down the blade of the Couch-grass and weeds in his Potatoes, by the hoe, but the roots are as plenty as ever under the surface, and show strongly with the next Barley crop, so much so that when asking a cotter why he did not sow Grass seed with his Barley, I have often been told it was not needed, as plenty Grass grew naturally with it. As to Turnips, I might almost say that none are grown by the cotter, for the two or three drills grown are hardly worth counting. In one estate in my eye, I do not think 100 cotters of average size of lots, could show 5 acres of Turnips, were they all clubbed together, and yet, on no estate in Scotland can better farming be seen than in the immediate vicinity of these lots, where the usual proportion of land under Turnips yearly is about 8-50ths of the whole farm, so that on a lot of 10 acres, instead of a few drills, there should be at least 1½ acres under Turnips every year, if properly farmed. I am frequently told that "there is no use in sowing Turnips, as the hares and rabbits eat them all up." And so they do, because there is just enough sown to keep a supply to the hares and rabbits in the neighbourhood, whereas, if each 10 acre cotter had 1½ acres under Turnips, no person would ever complain of loss from hares and rabbits, unless they became far more abundant than they are ever likely to be in any estate in these northern counties.

We have now followed the cotter from ploughing up his lea till his Grass or weeds are ready for hay or pasture, and his crop ready to cut. Whether he makes hay or pastures his land, the crop is always a starvation one for his poor unfortunate animals, who never know what it is to get a bellyful, and are, consequently, always in some thieving scrape or other, whether on the neighbouring lot, or farm, or in the proprietor's plantations. Harvest being over, he commences to thresh out his grain and send it to the mill. The result is invariably a wretched return. While the active and skilful farmer threshes out, perhaps, 10 to 12 returns, the cotter frequently is content with two, often indeed no more than he sowed, and is forced to be satisfied with having gained almost as much straw as will keep the horse and cow alive till spring. From such return, good or bad, he is to find meal for his family, Oats for his horse, seed for next crop, and rent for the landlord, which at, say 15*s.* an acre, amounts to 7*l.* 10*s.* He seldom sows less than one qr. of Oats, and six bushels of Barley to the acre, which, at two returns, will, perhaps, thresh out 16 quarters in all. His family will consume all the Potatoes grown, and 8 bolls of meal of 15½ lbs. each, which will account for at least 7 qrs. of Oats, and as the horse cannot be allowed to die, or the land be without seed, the landlord might whistle for his rent, were it not for the other string to the cotter's bow, viz., labour from home.

I have no hesitation in asserting that in our northern counties not one of a thousand cotters, such as I have been describing, pays his rent and supports his family, from his 10 acre lot of land, and I am sure that factors or proprietors who collect their own rents are well acquainted with a few of the following excuses for the 7*l.* 10*s.* not being forthcoming at rent day, viz.—"Please, sir, I had such a miserable crop last year, that I was obliged to buy hay for my horse, or he would have died," or, "I bought some corn and straw at —— roup to keep the cow and horse alive through the winter, and the bill is not paid yet, and the lawyers are like to destroy me for it," or, "I have been sickly a long time and could not go from home for work," or, "it defied me to get work in the country, and how in the world can a man be expected to pay his rent when there is no work going on any where; but I hope to get work soon, and as sure as death I'll leave every shilling in my employer's hands till the rent be paid up, if you'll not put me to expenses now." In fact, the difficulty of getting rent from such a tenantry is so notorious, that many persons who wish to buy land in our northern counties, ask first if there are many cotters upon it, and if the answer be yes, never think again of the estate, while others (and I am happy to say the number is very small), think no more of cleaning their properties of these unfortunate, neglected, poor, and ignorant, yet warm-hearted creatures, than if they were a drove of sheep ordered off to Falkirk market. I believe that I have neither over nor understated the condition of the above class of tenantry, although I have omitted many items of mismanagement, both in respect of their cattle, land, dung, &c. It comes next to be inquired what is to be done to alter such a wretched state of matters.

One councillor advises the whole of this class to be got rid of, and thrust into towns and villages, or transported to Canada or New South Wales, or New Zealand, where there is room for them; as in Great Britain there is not room for the population, while their small lots being joined together would make proper sized farms, and give a handsome well-paid rental. One of the most eminent philanthropists and agriculturists that Great Britain has ever produced—Mr. Blacker, of Armagh—some years ago, advised, as a more rational plan, that proprietors should inquire first whether these poor ignorant creatures are not capable of improvement and instruction, and he has carried this plan, through the medium of agriculturists, whose time is wholly devoted to instructing the cotters, into such effect on large estates under his charge in the north of Ireland, that it would raise a blush on the cheeks of our "rooting out" proprietors, were they to visit the estates where his system has been pursued, and contrast them with those where the good old system of neglecting the people (expect on rent day) has been the rule. Nor has the system been confined to estates under Mr. B.'s charge, for he has had the satisfaction of supplying considerably above 100 proprietors in different parts of Ireland, and even in England, with agricultural teachers for their cotter tenantry, and with the most gratifying results, to which I can speak from personal inspection. This system has now been in full operation for, I believe, about ten years in Ireland, and it is high time that Highland proprietors would inquire into its success, if only so far as profit and loss is concerned, irrespective of the incalculable benefit to the poor cotter tenant. And if Paddy can be taught by precept and example, is it to be believed that Donald will be less willing to receive instruction? In Ireland, the agriculturist says to a cotter who holds his lands only from year to year, "If you please, Pat, did you ever see Turnips growing in a field?" "None of your Scotch blarney," says Pat, "I know they'll grow in a garden if its warm, but my father had a cousin who tried them in a field and surely one trial served him." "Well, but (says the agriculturist, speaking as if to the proprietor of the estate), perhaps you will allow me to show you a new way of growing them in the fields?" and, after some coaxing, Pat consents, as a great favour, to try the thing. Of course he is charmed with the result, and needs no more lectures on the advantage of green crops. Now, in this country, our cotters would not hesitate for a moment to take the advice of a properly qualified agriculturist; and, if such advice were given and taken, I need hardly say that landlords and factors would soon cease to dread the result of "collection-day." In fact, much of the cotter land in this country is naturally as good as that of the neighbouring large farms, although it has been injured by neglect and injudicious management, and a very few years would soon restore it to the capability of giving adequate returns of every kind of crop. I have met with some persons who were convinced that there was nothing like example to teach the cotter class, and who were satisfied, if they would not thus learn to crop their land like the large farmer at their elbow, there was no use in trying them with an agriculturist. Others have imagined, if rules were laid down for them in leases, with restrictions as to cropping, or books published and circulated, giving the best and most concise directions for managing their land, that this would work a charm. While others declared that they were a stupid, obstinate, ungrateful set, who are incapable of learning or doing any good whatever, and were all a set of thieves and scoundrels, whom a man was a fool if he allowed to remain on his property.

I dissent entirely from all these opinions. Mr. Blacker, some years ago, published an invaluable small work, entitled

"An Essay on the Improvement to be made on the Cultivation of Small Farms," and imagined that it would work wonders among his cotters, since he clearly proved that their system was ruinous to themselves and their landlord, while by his system they were sure to thrive. But, finding that all his proofs were thrown away, he then fortunately fell on the plan of appointing a well qualified person to advise and reason with the tenantry. A Highland proprietor lately published "Hints for the use of Highland Tenants and Cottagers," in the full expectation that everything was ended in his work so recently and forcibly as to convince the most stupid or lazy, and force him to change his system; I doubt much, however, if one single individual has altered his course a hair's breadth on account of the good advice contained in that excellent work.

In fact there is no use trying to reason in print with many one of this class of tenants. Print what you will, the answer or the conviction is, that "all this is very well if I had good land, but with my miserable land there is no use attempting any other system than the one I pursue." Indeed, not a few have told me, when pointing out what a pity it was that they had not put a drain here or there, ploughed their land sooner, or weeded their land better, and that if they had done so and so they would have had very different crops. "Well, no man alive can do more for the miserable land than I do; on that piece of Potatoes I put —— loads of the best dung ever I had, and see what a poor crop there is," forgetting entirely that the land perhaps had been a bog all winter for want of draining, that it was then a mass of weeds, and that nine-tenths of the dung he laid on consisted of till or clay dug from a deep pit or bank, and mixed with a little rapless cow or horse dung, owing to his animals having no proper soft food to convert into liquid manure. But, indeed, it is needless saying more of what they fail in, and what they want. It must be obvious to every one acquainted with agriculture, who will enquire into the mismanagement of their lands.

The great error of the cotter system, in this part of Scotland, consists in their having too much land. There can be no more positive axiom than that a tenant who is to live by his land, should have only as much as he can cultivate with the spade, or as much as will employ one or more pairs of horses. This will not, I believe, admit of denial. There can be no medium quantity without great loss, either from the necessity of keeping too much strength for the quantity of land, or from the land being neglected for want of proper strength to cultivate it. The mass of our cotter population are unable to cultivate the land they possess by the spade, and their lots are too small to support horses. It is therefore necessary, in order to bring them to a healthy independent state, and enable them not only to live well by their land, but also to pay their rents punctually and without difficulty,

1. To reduce the size of their lots to four or five imperial acres each, or thereby, that being the size which a man and his family, if industrious, can properly cultivate with the spade alone, without aid from a horse, but with occasional aid from his cows in carting out dung and carting home crop.

2. To appoint a well educated agriculturist, whose whole time will be devoted to instructing a certain number of cotters in the most approved methods of growing all kinds of produce, taking note of the more industrious for rewards, and the idle and those who will not take advice, for removal.

I am quite aware that there are difficulties to be overcome before this change can be fully accomplished on any estate, but I think they are by no means so serious on close examination as they appear at a distance. Let us take one of our Highland estates as an example to begin upon, and say there are 100 cotter tenants upon it in five different townships of 20 each. Township A contains 20 lots of different sizes; No. 1 being 15 acres; No. 2, 4 acres, and so on. The tenant of No. 1 will make a grievous lamentation at the certain ruin impending over him should 10 of his acres be cut off, and either thrown waste or given to other two new tenants, or added to the neighbouring lots which have less than the proper number of acres. Argue as you like, you never will convince him that 5 acres of average land can support a family and pay 1*l.* of rent per acre. He will perhaps tell you, as a cotter told me a few weeks ago, when urging the advantage of spade husbandry, that "his neighbour, ——, (who had only about 2 acres of land, and kept no horse, but borrowed one occasionally), dug part of his land every year, and never had so good a crop on what he dug as what was ploughed; therefore, it was clear, spade husbandry would never answer in our country, whatever it might do in Holland or elsewhere." There is therefore no use in arguing with him. He is ignorant and cannot comprehend your arguments, besides that, feeling how little interest in his prosperity hitherto has been taken by his landlord or factor, provided he paid his rent, he is almost excusable in suspecting that there is some conspiracy on foot to screw more out of him, without any commensurate advantage to himself. It is therefore necessary to act for him, and turn a deaf ear to all his remonstrances—in fact, to force him to benefit himself. He must be restricted to the given number of acres, and obliged to labour these entirely with the spade. This will appear to him a Herculean task, but it is so only in appearance. Others find it perfectly easy when properly timed; and what man has done man can do.

It may be that No. 1, however, holds a lease, and thus prevents your benefiting him against his inclination. This is, of course, an obstacle, but I believe not insurmountable. From some experience in the management of Highland properties, I can say that in this class few, one year with another, are prepared with their rent on the term day, and I would have no hesitation in letting such cotters know, that if they were resolved to adhere to one part of their lease they must expect to adhere to it in every point, and that the smallest infraction would immediately be taken advantage of, in order to remove them from the estate, which their ignorance and prejudice hindered from being improved. It is possible that this may be thought harsh by many, but I feel that it is the harshness of a parent correcting his child for his future benefit.

I believe I may now leave the cotter in the hands of the agriculturist, for I do not conceive it necessary that I should here fully enter upon the details of spade husbandry. These can easily be learned elsewhere, and are as simple as need be, the keystone of the whole system being feeding the cows during the whole year round in the house, collecting the whole liquid manure in proper vessels, and applying it immediately to the land wherever it is most required.

[Dr. Mackenzie then gives an account of what had been done in Sussex by the late Mrs. Gilbert.]

As not one individual out of a thousand would, probably, have the energy and perseverance of Mrs. Gilbert, so as to order everything, and see these orders obeyed, day after day, and year after year, till the fruit was set, ripe, and gathered, I would recommend that a proprietor who has a number of cotters on his estate, such as I have described, should first of all search for and procure an intelligent agriculturist, taking care that, although ignorant of the spade husbandry and liquid manure system, he be not prejudiced against it or any other theory, but be willing either to work under his employer's direction, however chimerical the theory may seem to him, or follow general directions, which may easily be put on paper for his guidance. Such persons are not difficult to procure in Scotland at a moderate salary, and their undivided attention being given to the subject, it is perfectly certain that by reasoning, coaxing, or threatening, they will have no difficulty whatever in accomplishing the object desired in a very short time.

—With regard to the fear of a diminution of food for the supply of large towns, &c., were the spade system carried into general effect, I would beg leave to draw attention to the amount of food which Dumbrell [one of Mrs. Gilbert's tenants] on 3 acres of land has raised for the market. I regret that I am not able to give a statement of his crop for 1847, as it is not yet ascertained, but he informed me that in 1846 he grew the following amount of crop:—Potatoes, 20 bushels; Wheat, 24½ bushels; and Oats, 16 bushels; Carrots (about 50*l.* worth), 1253 lbs. butter, the cattle, pigs, and poultry consumed on the premises were concealed by the cows, and besides Winter greens, there was also the Potatoes, &c., required for seed, all of which must be taken off the land, in the produce of which I have therefore reckoned the cost of manure, &c., as the per centage on the rent of the land, as the per centage [illegible]

Some people will say that, [illegible] different grain and green crops, with butter and cheese, [illegible] to the cows in the yard [illegible] be grown in rotation and [illegible] It will not be denied that pot[illegible] under such a system, but I will be [illegible] she can be grown without [illegible] per acre on half an acre of [illegible] to a disquisition on [illegible] that genuine or pertaining [illegible] that must disappear ere long, [illegible] will come, though it may yet be [illegible] believe that the [illegible] most imagine we were indeed [illegible] animal to destroy as much [illegible] have supported two or three [illegible] therefore, consider that Dumbrell's [illegible] duced, 1847, the following [illegible] and pendent of several items which [illegible]

	£	s.	d.
80 bushels of Potatoes, at [illegible]	4	0	0
214 bushels of Wheat, at 7[illegible]	7	10	0
11 bushels of Oats, at 8[illegible]	7	4	0
Two calves sold for	5	10	0
423½ lbs. of butter, at 6*d.*	17	12	11
	£41	17	5

A farm of 100 acres ought to yield, in proportion [illegible] is under what is considered the best rotation, viz., the five-course), a return of 1000*l.*, or the cash-rents.

Now, I hesitate not to say, that such a return from a farm of 100 acres, cultivated in the usual way, is quite unknown. On the contrary, I assert that 600*l.* may be considered a fair average return, from a well-cultivated 100 acre farm. To prove this, we must consider the farm as in the best condition in every respect, of numerically equal sized fields, viz., 20 acres each, &c., &c. In both cases, I omit seed, though as Dumbrell dibbles his corn, and the large farmer sows broadcast, the difference must be materially in favour of the small farm system.

	£	s.	d.
No. 1.—10 acres Wheat, at 4 qrs. at 56*s.*	112	0	0
10 acres Barley, at 6 qrs. at 30*s.*	90	0	0
No. 2.—20 acres Oats, at 5 qrs. at 24*s.*	120	0	0
No. 3.—20 acres hay, at 150 stones at 8*d.*	100	0	0
No. 4.—2 acres Potatoes, at 20 bolls (of 8 bushels) at 8*d.*	24	0	0
8 acres Turnips, for cows, &c.	0	0	0
8 acres others will feed wedders, say they gain 15 lbs. each of mutton at 5*d.*	25	0	0
2 acres Tares for horses	0	0	0
No. 5.—20 acres pasture for cows and horses	0	0	0
Produce of 10 milk cows, say	100	0	0
10 calves, say	27	10	0
100 acres, giving return of	£598	10	0

It may be objected that, in the 100 acre farm return, I put no value on the 8 acres of Turnips used by the cows, &c., nor on the Tares nor pasture, and that 25*l.* is too little profit on the 8 wedders. The other items will, I believe, be acknowledged as fair average crops, and the prices are the same as those in Dumbrell's list.

My agricultural readers hardly need to be told that 10 cows and 4 horses will easily manage to consume 8 imperial acres of Turnips, during the 6 or 7 months that Turnips are provender for them on all good farms. Dumbrell omits his hay, Turnips, Mangold Wurzel, as these are consumed by his cows; but he valued them per ton, my eye deceives me much, if the return from the two farms would not thus be made to differ even still more widely than they do. The horses will consume the Tares, and the pasture will beef and a bare enough allowance for the horses, cows, and calves, by any one who tries the thing practically. I credit the large farm with 100*l.* for hay sold, but I would like to know the 100 acre farm that sells hay to the extent. On the contrary, it is considered bad farming to sell hay at all, or even to make it; and, if the hay be consumed on the land, I doubt its producing anything like 5*l.* per acre, except as benefiting future crops. In almost every farm the hay is consumed by the horses and cows, &c., so that I might fairly have deducted the 100*l.* credited for hay, although, wishing to let the large farm show off as well as it could, I have given it credit as above. Feeders of sheep, I believe, admit than 10 wedders will consume an imperial acre of average Turnips, and that 15 lbs. is a fair average increase of weight to be counted on in each sheep, when fat. I might also fairly deduct 20 qrs. of Oats required for the 4 horses, from the gross marketable amount of the large farm, but I do not need to go to work so very closely, nor need I enter further into particulars to show the great loss to the nation, which occurs under the large farm system. It is quite obvious that the small spade cotter is the most desirable tenant that the public can have, and, if most desirable for the public, he must also be most desirable for the landlord.

Home Correspondence.

Flax Dressing.—In your Paper of the 11th inst., Mr. Browne, of Salperton, refers to a letter of mine in the *Wiltshire Independent*, and asks, "How could Mr. Warnes's man put scutching alone at 3*s.* 6*d.* per stone?" May I therefore beg the favour of a small space to explain the circumstances under which I made that assertion. My attention was directed last November to a letter in the above named Paper, headed "the advantages of Flax dressing by machinery compared with dressing by hand." Having from boyhood been accustomed to the management of Flax at Courtrai, in Belgium—possessing also some knowledge of scutching mills—and being a practical instructor in the most approved modes of steeping and preparing the plant, I considered that I ought to attempt the correction of the mistakes which the writer had made. Accordingly, after briefly pointing out the disadvantages of machinery, I proposed to test the merits of the human over the iron arm by dividing a given quantity of stalks into two equal parts, one to be dressed by Dickson's scutching mill, the other by the hand. I also offered to dress one portion myself, if sent to Trimingham, or to repair to any part of the kingdom, and show the impossibility for the breaking and scutching mills exhibited at Northampton profitably to compete with the hand implements. I also observed that "we were not wholly opposed to the use of machinery; for that all our Flax at Trimingham was broken by rollers, and the most ordinary scutched by the mill. But having, from repeated experiments, found that Flax, dressed by [illegible] could be [illegible] used by [illegible] and that Flax [illegible] [illegible] [illegible]

of his heart have not been quite correct. In justice to the system, I am able to say that for cart-horses, cows, calves, steers, heifers, and pigs, I have for years past found it to be profitable.—*Spectator.*

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A Weekly Council was held at the Society's House in Hanover-square on Wednesday last, the 22d March: present—Mr. Raymond Barker, in the chair; Sir John Johnstone, Bart. M.P., Mr. Bramston, M.P., Dr. Calvert, Mr. F. C. Cherry, Mr. Sandham Elly, Mr. Fuller, M.P., Mr. Fisher Hobbs, Mr. R. Jennings, Mr. Kinder, Mr. Majendie, Mr. Miles, M.P, Dr. Newington, Mr. Parkins, Prof. Simonds, Mr. Reynolds Solly, Mr. F. Tull, Mr. Thomas Turner, Mr. Tweed, Prof. Way, and the Rev. J. C. Wharton.

The following new members were elected:

Webber, Thomas, Escott Lodge, Honiton, Devon
Reddaway, John, Inwood-Leigh, Okehampton, Devon
Deane, George, King William-street, City of London
Beck, John, jun., Congham, Castle-Rising, Lynn, Norfolk
Deane, John, King William-street, City of London
Milne, David, York-place, Edinburgh
Hubbersty, John, C. E., 34, Blandford-square, London
Jordan, Francis, Easton, Bridlington, Yorkshire
MacLean, Allan, M.D., Colchester, Essex

The names of seven candidates for election at the next meeting were then read.

Dibbling.—Dr. Newington, a Member of the Society, residing at Knowle Park, near Tonbridge-wells, presented to the Society one of the Economic Hand-dibbling Machines of his invention; and favoured the members on that occasion with an explanation of what he conceived to be its peculiar advantages, as well as with a detailed statement of the satisfactory results in the economy of seed, its regular and proper deposition, and the free and vigorous growth of the plants, which in his opinion would be found to attend its use. He also called their attention to the practice of frequently stirring the soil between the rows of a crop, for the purpose of promoting the free ingress of atmospheric air, and thus accelerating the decay of dead vegetable matter as manure, and exerting a most beneficial influence on the growth and character of the living plants. —The thanks of the Council were voted to Dr. Newington for his attention in making this present, and in submitting these statements to their notice.

Sulphate of Lime.—Mr. Majendie submitted to the inspection of the Council a sample of sulphate of lime—a substance which, in its native mineral and impure state, is well known to farmers under the name of gypsum or plaster of Paris, but which, as an artificial and pure compound of sulphuric acid and lime, is known to chemists as sulphate of lime. He stated that this sample of sulphate of lime was obtained as a refuse by the tallow-chandlers in their process of making the "composition" candles, and was to be purchased at a cheap rate. Its peculiarity consisted in the minute state of division to which its particles were reduced by that chemical process, a condition which, it was conceived, would greatly accelerate its action when applied as a dressing for the Clover crop. Professor Way had made for Mr. Majendie an analysis of this substance, and found it to be composed as follows:—

Sulphate of lime	66 40
Free sulphuric acid	3.18
Accidental water	17 01
Combined water, and a little fatty matter	12.86
	99.45

Mr. Majendie, at a future meeting, would report the price at which it could be obtained as an article of commerce. Professor Way, who was present, explained that the tallow-chandlers, in order to obtain from tallow the stearine, of which their composition candles were made, boiled the tallow along with quicklime, for the purpose of effecting that separation; and that the quicklime was afterwards precipitated from the remaining component parts of the tallow by means of sulphuric acid, and formed the sulphate of lime in a highly comminuted state, of which a specimen was then submitted to the Council by Mr. Majendie. He regarded this sulphate of lime as bearing the same relation to the common gypsum as the superphosphate to the common phosphate.

Maltese Clover.—Mr. C. Majendie also presented to the Council some plants (with roots and earth attached), grown in his garden at Hedingham Castle, from the seeds of a plant known at Malta as the Sulla or Maltese Clover. He also presented a supply of the seeds of the production in question, which he had ascertained to be known to botanists as the Hedysarum coronarium. Thanks having been ordered for these communications, and for presents made to the library by the Earl of Lovelace and Mr. Sandham Elly, the Council adjourned to Wednesday next, the 29th inst.

Highland and Agricultural, *March* 1: *Drainage of Land.*—The Secretary read a communication from Mr. Simson, of Pitcorthie, in Fifeshire, in reference to the drainage of his estate on what is termed the deep system. The subsoil at Pitcorthie is very variable—muirband, till, or stiff dry clay, rock, and peat, all rapidly interchanging; some fields have a sandy and others a loamy substratum. The general declivity of lands admit of easy outfalls. In every field where no natural obstacles presented themselves, the minimum depth of drain stipulated for with the tenant was 4 feet, and the minimum distance from drain to drain 36 feet. These were in many instances much exceeded. In some particular fields, on the other hand, a stratum of what is called "draining metal" was found, and in such places the drains were found to work sufficiently well at a depth of 3 feet. A diminution of depth generally involved that of distance, and a consequent additional outlay for drains and pipes, though, in a flat part of the estate, where the outfall could not command a greater depth than 3 feet, the drains have done their duty at a distance of 54 feet; this, however, was in porous peat moss. Mr. Simson made particular reference to one field at Pitcorthie, where the drains were set out by Mr. Parkes' foreman at a uniform depth of 4 feet; the sub-soil consisted of the stiffest and most obdurate clay, apparently impervious to water, and contained large masses of stone; the drains were cut when the ground was in its hardest condition, and labour at its highest rate. The depth of the drains in this field had been objected to by some, and though Mr. Parkes did not contemplate immediate success, the result has been most satisfactory; during the late tremendous rains the outfalls have been in full operation, and not a drop of water has been lodged on the surface. The materials used at Pitcorthie were pipes, varying in size from 1 to 3 inches in diameter, according to their different purposes: in some cases from deficiency of supply of these, horse-shoe tiles and soles were used. The pipes were generally secured by collars or rings. The draining tools were manufactured by Messrs. Linden, of Birmingham, and furnished by Messrs. Redpath and Brown, of Edinburgh. A great portion of the work was executed under circumstances the most unfavourable in point of cost, from the time at which it was done, the high price of labour, and the difficult nature of the land; the actual average cost, however, including all charges except that for carriage, amounted to 3*l.* 17*s.* per acre. Similar operations have been carried on at Letham, another property of Mr. Simson's, with results equally satisfactory, but attained with greater ease and at less expense, owing to the more favourable nature of the soil and locality. Mr Simson, on the whole, expresses himself as sufficiently imbued with the spirit of deep draining to recommend a uniform depth of 4 feet, and some of his tenants, who at first entertained and had put in practice very different opinions, were now convinced of their error, and converts to the deep system.—Mr. Dickson, Saughton Mains, said, that when in the neighbourhood of Pitcorthie in October last, he had much pleasure in witnessing the drainage works carrying on there, and he thought much was due to Mr. Simson for the very spirited manner in which he had adopted Mr. Parkes' system. So far as he observed, a considerable portion of Mr. Simson's lands seemed well adapted for the system of deep drainage. But he did not agree with those who thought that any given depth can be fixed as suitable for all soils and subsoils, and he must say that all his experience led to the very opposite conclusion, namely, that the depth of the drains, and the distance between them, must be regulated by the nature of the soil and subsoil. He frequently found it expedient on the same farm, and occasionally on the same field, to vary the depth of the drains and the distance between them to suit the varieties of the subsoil. He by no means, however, objected to the depth of 4 or 5 feet, on the ground, which he had often heard stated, that the water would not get into the drains from the surface, for he had no fear for such a result; but as he found it to be requisite on a large portion of the lands now requiring drainage, in order thoroughly to dry them, that the distance between the drains should not exceed from 15 to 20 feet, whatever might be their depth; in such cases the expence of making the drains so deep would preclude the execution of the work altogether. He was aware that some parties held that every description of land might be drained at a much greater width between the drains than he had stated, provided the drains be made sufficiently deep; but he knew several instances where land had been drained at the depth of 4 feet and 36 feet apart, which, after several years' trial, was found to be only half drained, and, in order to the completion of the drainage, it was found requisite that an additional drain should be made between the old ones. He had also observed, in going along the sides of cuttings in railway lines, through undrained lands, that where the cuttings were above 10 feet deep, in some fields the ground on each side of the cutting was laid dry for 20 or 30 feet; while in other fields, at the same depth of cutting, the land was not laid dry for more than 8 or 10 feet. It was thus obvious that the same system of drainage could not be judiciously applied in both cases He would mention a case as an example of what frequently occurred: on the farm of Chestertown on the estate of Largo, in the county of Fife, the soil being a strong clay, the tenant had commenced draining his lands at the depth of 2½ feet, with an interval of 18 feet between the drains; the subsoil to this depth was a retentive clay. At the earnest request of the agent of the proprietor he tried one-half of a field with drains 4 feet deep and 36 feet apart. On getting to the depth of 3 feet the subsoil changed to gravel and sand, in which there was an immense flow of water, and the result was that that portion of the field was more thoroughly drained than the other, and at much less expense, which induced him to drain the remainder of his farm with deep drains, and the same method had also been adopted by the tenant of the adjoining farm with complete success. On other two farms, however, on the same estate, he found that a similar system of drainage would not answer, and that it was necessary to lessen the distance between the drains in some fields to 24 feet, and in others to 18. He had also seen, in the same county, on a neighbouring property, an experiment of the same kind tried with the opposite result, the subsoil being a very retentive clay. Here one-half of a field was drained at the depth of 4 feet and 36 feet apart, and the other half at the depth of 2½ feet and 18 feet apart, and the result was most decidedly in favour of the 2½ feet deep drains, with an interval of 18 feet between them, the other portion of the field appearing to be only half drained. He had no doubt, however, that time would improve the deeper drainage. He lately inspected two farms in the neighbourhood of Paisley, of flat clay land, which had been thoroughly drained at considerable expense 15 years ago, but in consequence of the drains having been made too shallow, and engine ashes and small stones placed above the tiles, which afforded too ready access for the surface water to the drains, carrying with it the finer portions of the soil and manure. He found the drains completely choked up and useless, and was obliged to have them lifted and re laid at greater depth. In his opinion, one reason which had conduced in this country to the general adoption of too shallow and superficial a system of drainage was, that it had been carried on to a great extent by the tenants at their own expense, who naturally adopted such a plan as would insure them the best return during the currency of their lease, without considering the sufficiency or permanency of the works, when it would have been greatly to the advantage of all parties had the proprietor been his share of the expense, and had the drainage executed in a more durable manner, as he was clearly of opinion that tile drains, properly constructed with sufficient outfall, would continue to improve in efficiency the longer they ran. With regard to the use of pipe tile, and tile and sole, for laying the drains, he held it to be immaterial which of them was used, except in so far as regarded the difference of expense. He would not use pipe tiles without collars where there was any moss, quicksand, or a stony, unequal bottom; and he preferred the size of the 2-inch pipe or tile for the ordinary drain, as, although the 1-inch tile or pipe might be large enough to contain all the water, he considered it desirable that there should be room also for a current of air to pass along the drain, and the larger tile afforded a greater allowance for any inaccuracy the workmen might make in laying them In offering these remarks he might state he had had considerable opportunities of observing the results of draining in varieties of soil and subsoil for the last 20 years, and had at present drainage works carrying on under his superintendence in nine different counties.—Mr. Scott, Craiglockhart, said—That, not having had an opportunity of seeing the lands on which Mr. Simson's drainage operations had been executed, it would be unwarrantable in him to express any opinion as to their efficiency; but some of the statements, however, were at variance with what he conceived to be the proper principle of draining, and with the result of his own experience. They were told that on all soils, whether muirband, till, or stiff dry clay, sand, gravel, or moss, a minimum depth of 4 feet drains is stipulated for, and a minimum distance of 36 feet apart, although drains 3 feet deep had been tried, and with such success that a concession had been made from the strictness of the principle laid down. While, however, he differed with Mr. Simson and Mr. Parkes as to the distance at which drains ought to be put in apart, he perfectly agreed with them in opinion that hitherto, in our system of furrow draining, we had erred, both in making the drains too shallow, and also in using unnecessarily expensive material; but to suppose that a uniform depth of drains and distance apart could be laid down for all soils, would just be as reasonable as that a uniform mode of working and cropping would be applicable to all lands, without paying any attention to the nature of the subject you had to deal with. The result of his experience had been, that while it may be necessary, in order to effect the thorough drainage of some lands, that the drains be put in to the depth of four, five, or even six feet, the object was generally effected by drains 3 feet in depth, the distance apart being regulated by the nature of the subsoil; and when he talked of thorough drainage, he meant that both the soil and subsoil, to a reasonable depth, should be rendered permanently dry—that is to say, that no more water shall be permitted to remain in the soil than what it is capable of absorbing, and although it may perhaps be impossible, by any ordinary drainage, to prevent water running on the surface during very heavy rain or the melting of heavy falls of snow, yet so soon as these causes have ceased, no water should be seen on or in the soil, and upon hard impervious clays he had not been able to effect this by drains placed 36 or even 30 feet apart. He had seen the attempt made by drains 4 feet deep, placed 36, 32, and 30 feet apart, also by drains 3 feet deep, placed 24 feet apart, but in all those cases the result was unsatisfactory; unquestionably, in every one of these instances a great quantity of water was carried off by the drains, and the land was very much benefited, but still the soil was not brought into that state in which its greatest fertility could be called into operation, and in effecting this purpose upon lands which had been previously under cultivation, and laid off in ridges which were generally considerably raised in the centre, he had in general found it necessary to put a drain in every furrow, and if these be 18 feet apart, and put in to the depth of 2½ feet, when the land is levelled the drains will be nearly 3 feet in depth. Mr. Scott here entered into a calculation, for the purpose of showing the cost of drains 3 feet deep, and at different distances, according to the porousness of the subsoil. The expense of drains 18 feet apart, exclusive of outfalls and carriage, would be 5*l.* 5*s.* 2*d.*; 24 feet apart, 4*l.* 12*s.* 4*d.*; 30 feet apart, 3*l.* 14*s.* He was aware that a great prejudice existed in the minds of many persons as to the use of pipes in draining. When he first recommended the use of pipes parties asked, how is the water to get into them? His reply was, suppose you wished to carry water along the surface of a sandy soil, do you think you could do so by the use of these? Oh no, they replied, it would all run out by the joinings. Well, if you place these in the bottom of a drain where water exists, in like manner it will all run into the pipes. Oh, then they say, these are far too small; they won't carry off half the water. All that he could say is, that he had never yet seen as much water in any ordinary furrow drain as would fill one of these. The aperture of an 1½ inch pipe was equal to 1.76 square inches, and if you discharge 20 of these into a main drain, it would require a tile having an aperture equal to 35 square inches to carry off the water, or a circular tube of very nearly 7 inches diameter. He certainly would not recommend the use of pipes without some means of forming a connection between them; but this could be effectually done by laying a half sole below each end of the pipes, and if, when laid, a small piece of stone or a little earth be packed in at each side of the pipe, to prevent them shifting laterally, a straight and continuous tube would be formed from the one end of the drain to the other. Besides the saving effected in the original purchase of tile pipes in comparison with tiles and soles, a very great saving was effected in the cartage. A well-made 1½ inch pipe, 15 inches long, would weigh 2¼ lbs., and a half sole to each 1 lb.; so that 600 tile pipes, with a sufficient quantity of soles to lay them, would weigh 18¾ cwt., whilst 300 tiles and soles in common use make a very full load. In conclusion, while he was not prepared either to recommend the use of 1 inch pipes, or draining at those distances apart which have been advocated by our southern friends, he was perfectly satisfied that the more our attention is directed to the use of well made pipes and to draining at a greater depth than we have been accustomed to do, the more we would be satisfied with the prosperity of its practice, and those who adopt it would profit by so doing. — Mr. Finnie, Swanston, said that draining seemed to be the all engrossing subject of the present day amongst agriculturists, and he was not aware of any other more deserving of the attention and consideration of practical farmers. It was quite obvious there were two champions in the field, one might be styled deep drainer and the other shallow drainer. He did not intend to be bottle-holder to either, as he was much disposed to conclude that the controversy between them bore a strong resemblance to all domestic squabbles, which, when investigated, were found to arise from faults on both sides What, therefore, he would propose to his brother farmers to do under the circumstances was, in the most respectful way to disarm both combatants by simply putting to the test, in a small way at first, the system recommended by each. This he was assured of, that landlords would never carry on any successful system of drainage unless they carried along with them the practical farmers of the country, and secured their co-operation in this, as it had been found to be necessary in every other improvement. He believed, to drain properly, you must neither go too deep, too wide, nor too shallow; and he would ask, therefore, in what way was an approximation to the truth to be arrived at. He did not think 10,000 pamphlets would serve the purpose; but farmers should just do in this as they were accustomed to do in other matters connected with their business; for instance, when a particular kind of Oats, Barley, or Wheat was recommended and held up to the agricultural community as being more prolific than any other kind known, did farmers instantly sow their whole Oat, Barley, or Wheat break with this new variety? No; like prudent and sagacious men, they, in the first place, purchased a boll or two, compared the produce with the other kinds on their farm, and then followed the good and safe maxim, that the proof of the pudding is in the eating of it. Now, it was as easy to follow the same course with draining. Let an acre or two be drained at 2 feet, as much at 2½ feet, then as much at 3, 4 and 5 feet, and the result, he would pledge himself, would dissipate every prejudice where such existed, and by-and-bye, if deep draining was found the most effectual, the tenants of the country would be the first to adopt it. He saw no reason for all the clamour about farmers' prejudices. Once show a farmer where he is to obtain profit, and he must be widely different from any of his fraternity if he objected to avail himself of the right course to secure it. In this, as well as in every other thing, a little trouble must be taken, and far better adopt the conciliating and convincing course, for, depend upon it, publications alone would never secure the advancement of agriculture in this or any other country. Far be it from him to discourage the dissemination of agricultural knowledge, but unless theory can be borne out by practical results, it would soon be abandoned. He would, in a very few words, before sitting down, give a short account of his experience in drains. Since he became a farmer, he had expended of his own capital from 3000*l.* to 4000*l.* in draining the lands of others. He generally took the precaution, before commencing

operations, to dig pits throughout his fields from 4 to 5 feet deep, and then regulate his proceedings according to the nature of the subsoil. He had springs to contend with on land naturally dry otherwise, and to have attempted to make his drains any uniform depth would have been impossible, unless he had excavated the rock at an expense that would have purchased the ground. Often he could not lead his drains to any natural outlet, but was obliged to make wells in the rock, and allow the water to escape the best way it could. On those parts of his farm where rock did not interpose an obstacle to the proper depth of drains, he had often to restrict his depth from want of proper levels. But where he had level at disposal, he made his drains, upon all land where the subsoil was uniformly retentive, 18 feet apart and 3 feet deep; and were he to drain the same ground over again, he would follow the same course. Occasionally he found, where gravel or sand was present in the subsoil, that 36 feet apart was sufficient, and if necessary to reach a gravel or sand bed, he never hesitated to go 4 feet deep. When he drained on hill ground, he found 2½ feet, at 36 feet apart, answer all his purposes.—Mr. MACLEAN, Braidwood, for the last 30 years had been draining land on the base of the Pentlands, where springs abounded in the high lands. The cross drains formerly in use proved very beneficial, and for the purpose of catching the springs they were cut to various depths, from 3 to 6 feet. When thorough draining first became general, the depth usually was from 18 to 26 inches; and the tiles were at first used without soles. The inefficiency of this was soon found, as well as the necessity for going deeper. Accordingly the use of soles became general, and a minimum depth of 30 inches had been adopted by him with very satisfactory results. He had no experience in draining above 3 feet deep, but did not doubt its efficiency. It was difficult to assume any given depth or distance for drainage: these must be regulated by the nature of the subsoil. The permanency of drains was much secured by cutting drains at every 70 or 80 yards across the parellel drains, and a few inches deeper, so as not to allow the passage of a free current of air, which would facilitate the percolation of water from the surface. He was in favour of a deeper system of draining, to allow facilities for subsoiling and deep working, without any chance of injury to the drains.—Mr. LINDSAY CARNEGIE, of Kinblethmont, informed Mr. Smith as to the condition of a field, regarding the draining of which he had spoken to him about twelve months ago. The drains in one part of it were 4 feet deep and 36 feet apart, in another part 30 inches deep and 18 feet apart. He formerly mentioned to Mr. Smith that he thought the 4 feet drains were the most efficient; farther experience confirmed him in this opinion. A few days ago, when the whole country was drenched with rain, he directed his land-steward, a strong advocate for shallow drains, to inspect the two divisions of the field, and he reported that the side where the deep drains were was the driest; and when he himself afterwards inspected them he found this to be very apparent. The ground there was dry and firm, while over the 30-inch drains it was soft, the soil being filled to the surface with water, like a sponge.—Mr. CAMPBELL, of Craigie, said that he had begun draining by shallow drains 22 or 24 inches deep, placed in the furrow 15 or 16 feet apart; and in one instance, where the ground was flat and without furrows, only 12 feet apart. He did not find them efficient, and when placed so close to each other the ground still remained marshy; he deepened each alternate drain to 3 feet, leaving 24 feet between the deepened drains: he considered the ground now quite dry. He treated a greater part of the ground drained at 15 or 16 feet in the same way, in general deepening each alternate drain; but in a few instances, where the subsoil was deep and unbroken by any foreign matter, he deepened each drain. He thought these drains had proved efficient, except, perhaps, in one field, deepened alternately, where there were stiff clay spots which still looked wet. He thought 3 feet drains 30 feet apart generally answered on his land. He had had no experience in draining 4 feet, but he had last autumn looked at a field of Mr. Ross, of Lesnessock, with a gentleman present and the Government inspector, where the drains were 4 feet deep, and 40 feet apart; it appeared dry, and bore an excellent crop of Turnips.—Mr. SMITH, of Deanston, said his proposition had always been thorough draining, in whatever way it was to be accomplished, and he had laid down the mode which seemed to him, after much experience, most generally applicable to the soils of this country. The subsoils were very various, and to a certain extent required treatment suitable to their varying nature. He had the honour on a previous occasion of laying before the Society his theory of thorough draining, and therefore it was unnecessary that he should on this occasion repeat his views. He was not bigoted to any precise mode of operation, and therefore he was delighted to find anything which seemed to offer an improvement either as to efficiency or to cheapness; and he gave all due heed to the statements regarding deep draining; but the test of a fair experiment by comparison was the only result he would depend upon, and so far as his observation and experience had led him during the last 40 years, his opinion was in favour of moderate depths and moderate distances, and he had invariably found that when drains were placed at great distances—say from 30 to 40 feet—there never was perfect dryness for a considerable period after rain, on the surface soil towards the middle between the drains. It was not necessary for him to tell practical men how desirable it was to obviate this. The cutting of drains to the depth of from 3½ to 4 feet could hardly be accomplished at any cost in some of the subsoils in this country; and even in clay soils free from stones, the additional expense of deep cutting was considerable. Mr. Smith here referred to a table, in which the cost of drains at different distances and depths was estimated, and according to which, drains, at a distance of 21 feet, if 2 feet deep, would cost 3*l.* 17*s.* per acre; 2½ feet deep, 4*l.* 12*s.* 3*d.*; 3 feet deep, 5*l.* 12*s.* 3*d.*; and if 4 feet deep, and 42 feet apart, 4*l.* 1*s.* He was convinced that no experienced farmer would grudge the difference of 11*s.* 3*d.* between drains 2½ by 21, and those 4 feet by 42. He had never seen, in the whole of his experience, clay lands thoroughly dried with drains at 42 feet apart, however deep the drain. He was aware that when a bed of open sand or gravel extended under the whole surface of a field of clay soil, even at the depth of 4 or 5 feet, thorough dryness could be obtained by cutting deep enough to tap that bed. This might be accomplished with drains at even greater distances than 42 feet; but where there was a stiff tenacious subsoil of tile clay or mortar drift, deep wide set drains were not applicable. He would wish to lay aside all theory, and confine himself to the test of actual comparative experiment. He had only lately been able to find a case of such a comparative experiment, which had been made upon a field on the estate of Sir Ralph Anstruther, in Fifeshire. The tenant preferred drains at 2½ feet deep and about 18 feet apart, whilst the proprietor's opinion was in favour of 4 feet deep by 36 feet apart. It was agreed that the experiment should be tried by draining half of a field on the one system and half on the other. The surface of the field had a moderate slope, and the drains were executed some time in the spring. The field was afterwards worked for Turnips; and when he saw it, there was a good crop. There had been some rain for several days previous, and on the morning of the day on which the field was inspected, it had rained till nine o'clock. On that part of the field where the shallower and more frequent drains were, the ground was quite firm under foot, although a little moist on the immediate surface; the other half was found to be soft and wet, the foot sinking deeply into it, and on that part water was generally standing in the bottom of the furrows of the drills, where there was any hollow, indicating the saturated condition of the soil, and a much slower escape of the surface water than on the portion of the field where the shallower and nearer drains were. The outlets were so arranged as to discharge the water from an equal extent of surface on both portions of the field. He had no means of measuring the water being discharged, but it appeared to be pretty nearly equal from both outlets. The deeper drains would probably be carrying a portion of under water. It would be very important to watch this experiment further: the subsoil was a stiffish yellow clay. He had an opportunity of witnessing the effects of an experiment made on the estate of Colmess in Lanarkshire, where two drains, 4 feet deep and 36 feet apart, had been put down three years ago. The land had been in Wheat last year, and the stubble was evidently much stronger near the drains, becoming weaker and thinner as it approached the middle point between them. The farmer stated that the land was always damp in the middle for a considerable time after rain had fallen. He had heard from an intelligent person of a similar result on a field drained in Surrey, where the dampness between the drains was quite evident. He had never seen an instance of thorough draining by deep and distant drains, whilst all over the country land was to be found thoroughly dried from the effect of drains, from 2 to 2½ feet deep, and from 15 to 20 feet apart. Indeed, he had never seen nor heard of a failure wherever drainage had been properly executed at such depths and distances. Disrepute had been brought upon the system in many instances by having the drains only 16 or 18 inches deep, and by bad execution with improper materials. The subject of deep draining was of vast importance, and he trusted that many comparative experiments would be made to test its merits, and he would willingly go a great distance to see an example of land thoroughly drained by deep drains at wide distances. An experiment had been made by Mr. Hope, Fentonbarns, in East Lothian, which went to show that better crops had been raised over the shallower than the deeper drains. The retention of a supply of moisture, at a distance not too great from the surface, Mr. Smith considered to be of importance for the growth of plants; the depth of 2½ to 3 feet appeared to afford a sufficient depth of soil for all working purposes, whilst the presence of water at that depth would afford moisture for the plants in dry seasons. In Lincolnshire, where it is a flat country, they dam up the water in the ditches until it reaches within 2 feet of the surface, which in a dry season always insures a heavy crop. He considered that deep drains would not be so permanent as shallow, being more liable to be silted up.—Mr. DICKSON, Saughton Mains, in reply to what had been stated by Mr. Smith, as regards the experiment at Balcaskie, which Mr. Smith had just commented on, and although the result there was in favour of the shallow and frequent system, could by no means allow that that experiment was a fair or conclusive one. The expense was nearly as 4*l.* for the deep is to 6*l.* for the shallow method. Had the same money, however, been expended on both, the 4 feet drains would have then been only 24 feet apart, when the result might have been very different. Besides, the deep drains had not had time to be fairly tested within six months of their completion, nor had the land been subsoiled or deeply worked after the draining. At the same time, he did not think this was a suitable subject for draining at so great a width, being a very retentive sub-oil. Speaking of subsoil ploughing, he might state that having taken the additional farm of Featherhall, he had drained since Martinmas last 80 acres of it, and with the exception of one field, where the outfall was deficient, the drains average 3½ feet deep, and 30 feet apart. He had subsoiled to the depth of 16 inches as much of it as he could overtake in one season, and in this wet weather the difference of the state of the land which had been sub-oiled, compared with that which had not, was very great, giving ample encouragement to go over the whole as soon as it could be done. The view taken by Mr. Smith of the permanency of the deep and shallow drains, viz., that the 4 feet drain will not be so permanent as the 2½ feet drain, on account of the likelihood of its being sooner filled up with sediment, appeared to him quite contrary to common sense and all former experience. His comparison of an open cutting and a covered drain was by no means a fair one, the action of the atmosphere on the one being quite different from the other. He did not pretend to discuss with him the theory of filtration; but it seemed clear that the deeper the subsoil is through which the water has to filter before reaching the drain, the more likely is that water to be pure and free of sediment; and, in point of fact, it was well known that in wet weather the water from shallow drains was frequently discoloured, when the water from deep drains was running quite pure, and he had often seen drains inoperative in this respect from being too shallow, but never from being too deep.—Mr. SMITH said that he would endeavour to inspect the experiment at Chesterton referred to by Mr. Dickson. He was wedded to no particular system, but was anxious for comparative experiments, and when such were made, he would like to be informed of the results. Upwards of 20 years ago the Society had offered a premium for thorough draining in the carse land in Perthshire, where the drains were fixed at 3 feet deep, and placed from 36 to 40 feet apart, being the width of the ridges there at that time. The land was very much improved thereby, but the tenant found it necessary, many years after, to put in a shallower drain betwixt every two, which effected a thorough dryness, and a stiff clay soil soon became a uniform Turnip mould. Many more instances could be named of the conversion of a very stiff clay soil into a mould, which carried splendid crops of Turnips.—Lord WILLIAM DOUGLAS said that the Turnips on the field referred to at Balcaskie had been weighed, and he believed that the crop grown on the shallow-drained portion was about a third heavier than the other.—Mr. CAMPBELL, of Auchindarroch, mentioned that he had instituted an experiment on a field of 2 acres, the subsoil of which was an impervious clay, one-half of which was drained 2½ feet deep by 16 feet apart, the other 4 feet deep by 21 feet apart. He had inspected them a few days ago; the water from the shallow drains was much discoloured, and was to a certain extent, he thought, carrying away the soil, while the water from the deep drains was as clear as crystal.

Calendar of Operations.

MARCH.

AMATEUR FARM NEAR MONMOUTH (90 acres), *March* 22.—The wet weather has prevented our getting in six acres of Potatoes, which we had hoped to cover before Christmas. On Tuesday the ground was tolerably dry, and on that day we planted an acre; but the rain returned, and has settled matters against us for another week. One great advantage attending the autumn planting of Potatoes is, that every shoot tells: whereas, if they be left till spring, the tender spurts are broken and bruised in carting and handling, an occurrence much to be avoided. *Our Cattle Houses.*—Your columns have been much occupied lately by the arguments, *pro* and *con*., respecting the advantages of feeding cattle on the Warnesian system, and I, for one, have been much interested in this "debate of learned heads." Such discussions indicate greater attention, in practice, to the various necessary details and minutiæ, and elicit valuable remarks from intelligent minds. We have, at present, 11 cattle in stalls, and five in boxes. Unfortunately, I have not room for a sufficient number on the box system, or I should keep the whole on that plan. My experience is confined to two seasons only, but I am convinced, by careful observation and close attention to the matter, that the stalls are inferior, in every sense, to the boxes. To me it is painful to see, whenever I enter the former, the animals riveted down to a fixed position, and it is by no means agreeable to witness the clotted dung which, even with regular attention to cleanliness, will adhere to them. Tied up to a post like Smithfield martyrs, no choice is left to them but to lie down in their excrement. In the boxes, on the contrary, the beasts will not lie down in their own ordure if they can avoid it. Mine are perfectly clean and healthy, and I present a picture of complete repose and enjoyment. They move when they like, and lie down when they like. When they desire to scratch themselves, they do so; and when a yawn-like stretch becomes an exercise in their round of luxurious indolence, they enjoy it to their heart's content. In the stalls there is always more or less of [illegible] perceptible, particularly when the [illegible] the most," three times a day. In the boxes [illegible] itself by the hour, and no unpleasant [illegible]. In the morning fresh straw is [illegible] portion are removed and placed [illegible] at 6 o'clock the evening [illegible] care taken by the attendant to [illegible] to be done in, a process they can [illegible] being, but which, to me, is [illegible] placed on or carbonic acid gas [illegible] detect in the boxes, but are [illegible] most on the surface, [illegible] coaches, all is dry, warm, [illegible] correct of carrying out [illegible] necessary regard [illegible] the part of the man. My [illegible] will be found to be [illegible] are "cabined, cribbed, confined," they are [illegible] clearly heads, which is [illegible] attended to [illegible] now for the "head of the system." [illegible] When, about six weeks ago, [illegible] three months, had been [illegible] huge mess of the richest [illegible] in the best state [illegible] bearing farmers around [illegible] precious treasure, which [illegible] be to practice and [illegible] that in this district [illegible] bay, roots, [illegible] your readers will [illegible] cultivate. Having already [illegible] structive columns, I will detain [illegible] next.—*J. B.*

BERWICKSHIRE MERSE FARM, *March* 17.—[illegible] report we have been employed [illegible] and delivering Wheat at mill, [illegible] and tiles for drains, a woman [illegible] the shepherd attending the [illegible] and [illegible] feeding the cattle; four men cutting thistles. [illegible] wet that we cannot [illegible].—*J. B.*

EAST LOTHIAN FARM, *March* [illegible].—The [illegible] of the week has been showery, and returns [illegible] cern. Very little has been done upon the [illegible] week, except that we have finished sowing [illegible] about 10 acres, noticed in last report; [illegible] and carting the same to market. Grass [illegible] for pasture, are letting at considerably lower rents [illegible] with previous seasons.—*S.*

NORTH ESSEX FARM, *March* [illegible].—The weather during the [illegible] three or four weeks has been extremely [illegible] operations; indeed, we scarcely ever [illegible] to continuance of wet weather at this season of the year. [illegible] have been employed in various ways. We have [illegible] siderable quantity of Beans sown, having [illegible] perience the great injury sustained by the crops [illegible]. We have also been cutting [illegible] hedges, [illegible] clearing out ditches, turning over dung [illegible] for Mangold Wurzel, carting manure from the yards [illegible] for the horses, sheep, &c. Within the last [illegible] we have commenced draining a field in which [illegible] Barley. The soil in the most part is a stiff clay. We are making the drains [illegible] feet apart, and laying in 1½ inch pipes at the depth of [illegible] feet. Our ewes and lambs are doing as well as can be expected [illegible] keeping them on the driest pastures, giving them [illegible] headed Cabbages and white Turnips, with a little hay occasionally in the yards. The fat beasts we are feeding with Mangold Wurzel, Bean-meal and cut hay, and the store beasts with cut straw and white Turnips. We are now every day [illegible] hoping the weather may clear up, so that we may [illegible] with the spring sowing.—*J. E.*

NORTH LINCOLNSHIRE FARM, *March* 18.—We have been engaged since last report in carting away [illegible] ploughing, filling drains, cutting hedges, [illegible] to mend roads, in harrowing, in dressing Wheat [illegible] for road, filling road scrapings, rolling [illegible].—*J. C.*

SOMERSET FARM, *March* 20.—For the last week we have been engaged in ploughing for Beans; but the weather [illegible] continuing very changeable, we have not put in any [illegible] threshing Beans; hauling and mixing [illegible] crop; dressing Flax; draining and [illegible] weeds. [That's right: will you give us [illegible] your arrangement with them by-and-bye.] [illegible] 4 feet deep at 30 feet apart.—*L. C.*

SOUTH HAMPSHIRE FARM, *March* 18.—Since our last report, the weather (with the exception of two or three days) has been of the same stormy and unsettled character as we have experienced for two months past. The operations of the farm have been so far impeded, that unless we get dry weather within a very short period, the sowing season of the [illegible] must be very backward; indeed, a large portion of land intended for Barley must now be sown with other grain, the season being so unfavourable for we find that when we can sow our Barley on land in good order some time during the month of March, we cannot often obtain a good malting sample. Our horses have been engaged in ploughing for Mangold Wurzel. Turnips have been fed off for sheep, also in ploughing and [illegible] for early Potatoes where Turnips have been [illegible]. At the land turns up in a very cold and unsatisfactory state. In ploughing land for Barley after Turnips [illegible] we commonly allow the land to remain long enough to [illegible] the surface before we commence ploughing: it [illegible] our practice to plough but once for Barley. We [illegible] to the plough, finding the land were more [illegible] when ploughed before the sowing season, or [illegible] than when ploughed, as in the latter case. We find [illegible] to come on the surface, and we cannot get a [illegible] sary both for Barley and the young [illegible]. The same observations apply more particularly [illegible]. I am unable to plough our horses have been [illegible] and repairs, carting Swedes for pigs and cows, [illegible] getting faggots, and feeding seed [illegible] and [illegible]. Our labourers have been employed [illegible] hedges, draining in meadow and [illegible] low ground a-going, and [illegible] in the meadows; at the same time [illegible] have prevented our [illegible] and sheep. Some men have been employed [illegible] and we have just commenced cutting a very large [illegible] which has been recently [illegible] a light texture, with subsoil [illegible] spring, and presenting every [illegible] an experienced farmer. Our sheep [illegible] the [illegible] of the unpleasant task of tending sheep in such wet weather. Our [illegible] very dear, we have been [illegible] connection with it lately for our ewes and lambs, and find it answer very well. It being cheap in comparison with [illegible] acre. We have scarcely seen a field in which [illegible] examination, even under [illegible], during the past [illegible], the weather having been so wet. We cannot help saying that it [illegible] ever pay for [illegible], as compared with [illegible] land, it must [illegible] a season like the present.—*C. S.*

NORTHAMPTONSHIRE LARGE FARM, *March* 18.—The beginning of this week being fine we were engaged in completing [illegible] drains, also in drilling some very [illegible] at the rate of 3 bushels per [illegible] acre; the land [illegible] was manured and ploughed in autumn. Since [illegible] the weather has been wet, and since then we have been [illegible] putting in drains 27 inches deep, laying with pipes, drawing

manure from Stirling, Turnips from the store heaps for the cattle, thatching straw stacks, cleaning the barn yards, &c.—*J. A.*

Sussex Farm, *March 20.*—Delivering Peas and Wheat sold; threshing Oats; carting litter to yards and faggots to servants; making and repairing roads. Spring Wheat, Talavera, sown 4th March, is now beginning to come up. We have sown a few acres of spring Tares. As the weather still continues wet we have no prospect of sowing corn for a few days: if we are prevented from sowing we shall commence to plant the Potatoes on a piece of new ground after Furze, very dry, well drained, and subsoiled.—*J. B.* [*M. R.* asks you to be so good as state the kind of saw you referred to last week; its cost, the power required, the quantity cut in a given time, and whether it is adapted for any depth of cut.]

Notices to Correspondents.

Apoplexy in Fowls—*D S L* says that "A Cockney" is informed that his fowl has "the measlims." Give one or two teaspoonfuls of the following (if in time) for two or three mornings in succession, and every other morning after (occasionally) until cured. Two parts of castor oil, one part of syrup of white Poppies, and one part of syrup of ginger. This never fails, and is useful in "the pip," and "the chip," with young chickens. "The megbrims" is evidently an affection of the brain, which may be caused by bad stomach, and often shows itself in the shape of "croop," when the bird makes a painful cry.

Arsenic—*Pleuro pneumonia*—What does "J. L. U." call a small dose of arsenic?

Double Culture of Turnips between Peas—We have to thank Mr. Hannam for a copy of his Essay on this subject, as published in the English Agricultural Society's "Journal." And, for the benefit of readers, we make the following extract from it:—"The portion of the farm intended for common Turnips (Swedes I have never attempted as a double crop) being ploughed as usual in the winter a good depth, is niggetted or stirred as much before the 1st of April, or after the pressure of Barley season, as possible, and 3 cwt. of good Peruvian guano, mixed with an equal quantity of light mould, sown broadcast in the track made by the tines of the niggett [this is a grubber or scarifier], being covered in immediately by the harrow which precedes the Pea-drill; 4 bushels of Early Frame Peas are deposited in rows of 12 to the rod [what length is a rod?] wide, and as soon as high enough are hand-hoed at 3*s.* 6*d.* per acre, then horse-hoed, then quickly hand-hoed again, and at the last slightly earthed as the horse-hoe follows, by means of a band tied above the plate, the final horse-hoeing being timed just before the Peas meet together. The Turnip-drill should now follow immediately, and if convenient for drilling 12 furrows to the rod, will take three or more furrows at a time; forked irons are attached to the drill, which drawing a line on either side of each furrow, closes the earth upon the seed lightly, and while it is moist. If the land is very clean, the first hand-hoeing may be omitted; indeed, unless despatch is made there is little time for two, as the Peas soon shake hands across the furrow, and to attempt to hoe after they have done so, or have squatted, will of course be an injury by the passage of the implement over the Pea-crop. I have named the 1st of April as the time for putting in the Peas, as a guide of time only, the pressure of Barley season being seldom over before; but white Peas and all Peas avoid the dolphin, and crop generally best when put in as early in the year as the land will suit; by the same general rule I name the 1st of June for the Turnips, whereas it may happen, if the Peas are forward, the Turnips must be drilled in May. The Peas are cut by Dutch hoes or shoveshims, with a cross piece to the handle, a boy attending with a hay-fork and clearing the Peas out of the way of each man as he severs them; this work costs 5*s.* per acre. When fit to get together, the men takes the boys' forks, and with the boys picking up after them, place the Peas in narrow rows, at 2*s.*, or half the cutting price, per acre. If the same set of men and boys can be spared, they may now begin to set out the Turnip plants (the boys singling after the hoes) at 6*s.* or 7*s.* per acre, the narrow rows of Peas being turned over by old men or women as the Turnips under them, or the Peas, or the setting out require. The second hoeing should, if possible, be done by the same men as set them out, each to his own ground, at say 5*s.* per acre more."

Fatal Disease among Lamb Hogs—*Leicestershire Farmer*—As you neither mention the symptoms before, nor the appearances after death of the sheep, it is quite impossible to suggest any mode of treatment or precautionary measures. If you will supply this needful information we will endeavour to assist you. *W. C. S.*

Gorse—*R D C*—On dry sandy land, well cleaned, sow 4 or 5 lbs. of seed in a week's time, in drills 15 inches apart. It will be ready for cutting in the winter of 1849-50, and you may cut the alternate rows of it every succeeding winter.

Sheep and Pasture—*G J*—Excuse a week's delay.

Sickly Plant of Wheat—*Mr. Horace*—Is the wirewoim at work? If it be owing to starvation, sow some ammoniacal manure over it—soot, guano, &c. That will turn its colour.

Unfermented Bread—*J Johnson*—To make white bread, take of flour, 3 lbs. avoirdupois; bicarbonate of soda, in powder, ½ oz Troy; muriatic acid (spec. grav. 1.17), 5 fluid drachms; water, 26 fluid oz.; salt, ⅔ oz. Troy. First mix the soda and flour as thoroughly as possible, which is best done by shaking the soda from a small sieve over the flour with one hand, and stirring the flour all the while with the other. In general this will answer sufficiently; but the end will be attained more certainly if the mixture be passed afterwards once or twice through the sieve. Next dissolve the salt in the water, and add the acid to it—taking care to perfect the mixture by stirring. Then mix the whole intimately as speedily as possible, using a wooden spatula for the purpose. The dough thus formed will make two loaves somewhat larger than half quarterns. They should be put into a quick oven without loss of time. This is most conveniently done in long tins. The above is from a small tract on making unfermented bread, by a physician; Taylor and Walton. The advantage of the process is the alleged easier digestibility of the article, and the fact that there is no waste of material, such as always attends fermentation.

Erratum—For "portion," in the 17th line of col. *c.* p. 193, read "position."

⁂ Communications reaching town after Wednesday cannot be answered till the following week.

Markets.

POTATOES, Southwark, Waterside, March 20.

The Committee report that the arrivals during the past week, both coastwise and from Belgium, have been more than equal to the demand, which is very limited, and trade is heavy at the following prices:—Yorkshire Regents, 90s to 140s. Shaws, 100s to 110s; Kent and Essex Regents, 100s to 120s; Goldfinders, 110s to 120s; Wisbeach Regents, 80s to 110s; Kidneys, 100s to 120s; Scotch Cups, 100s to 120s; Whites, 90s to 100s, Reds, 120s; Dutch Whites, 70s to 80s; Belgian do., 80s to 100s.

HAY.—Per Load of 36 Trusses.

Smithfield, March 23.

Prime Mead. Hay	68s to 75s	New Hay	—s to —s	Straw	24s to 30s
Inferior ditto	60 65	Clover	75 95		
Rowen	50 57	New Clover	— —		J. Cooper.

Cumberland Market, March 23.

Prime Mead. Hay	70s to 77s	Old Clover	90s to 94s	Straw	28s to 32s
Inferior	55 65	Inferior	75 84		
New Hay	— —	New Clover	— —		Joshua Baker.

Whitechapel, March 23.

Fine Old Hay	65s to 72s	Old Clover	80s to 95s	Straw	24s to 28s
Inferior Hay	50 60	Inferior	70 80		
New Hay	— —	New Clover	— —		

COVENT GARDEN, March 25.

The market continues to be well supplied with Vegetables and with most kinds of winter Fruit. Pine-apples, however, are scarce. The supply of foreign Grapes is well kept up. Pears and Apples are as plentiful as could be expected, considering the season. Of the former, specimens of Beurre Rance, Easter Beurré, and Ne Plus Meuris may be bought at from 3*s.* to 4*s.* per dozen. Nuts are sufficient for the demand. Filberts fetch from 14*s.* to 2*s.* per 100 lbs. Oranges are abundant. Lemons are moderately plentiful. A few forced Strawberries continue to make their appearance. Of Vegetables, Cauliflowers, Broccoli, Greens, &c., are plentiful. Sealale may be obtained at last week's prices. Asp ragus is dearer. French Beans fetch from 3*s.* to 4*s.* per 100. Carrots and Turnips are good in quality; the latter is somewhat dearer. Potatoes realise high prices. Lettuces and other salading are sufficient for the demand. Mushrooms have not altered in price since last week. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Camellias, Fuchsias, Azaleas, Hyacinths, Acacias, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 4s to 7s	Lemons, per 100s, 6s to 14s
Grapes, Portugal, per lb., 1s to 2s	Almonds, per peck, 6s
Apples, dessert, per bush., 3s to 6s	— sweet, per lb., 2s to 3s
— kitchen, p. bush., 2s 6d to 5s	Walnuts, pe bush. 12s to 18s
Pears, per half sieve, 8s to 10s	Nuts, Barcelona, per bush., 20s to 22s
Oranges, per doz., 9d to 2s	— Filberts, per 100 lbs., 14s to 24s
— per 100, 3s to 12s	— Cob, per 100 lbs., 25s to 30s
— bitter, per 100, 8s to 16s	— Brazil, per bush., 12s to 16s
Lemons, per doz., 1s to 2s	Chestnuts, per peck, 3s to 6s

VEGETABLES.

Asparagus, per 100, 2s to 10s	Onions, pickling, p. hf. sieve, 2s to 3s
Savoys, per doz., 4d to 1s	Shallots, per lb., 6d to 8d
Cabbages, Red, per doz, 2s to 4s	Garlic, per lb., 8d to 1s
Greens, p. doz. bunches, 1s 6d to 2s 6d	Spinach, per sieve, 1s to 1s 6d
Cauliflowers, per doz, 3s to 5s	Sea-kale, per punnet, 9d to 2s
Broccoli, per bundle, 6d to 3s	Rhubarb, per bundle, 6d to 1s 6d
Brussels sprouts, p. half sieve, 1s	French Beans, per 100, 2s. to 4s.
Sorrel, per half sieve, 6d to 9d	Radishes, per punnet, 3d to 1s
Potatoes, per ton, 120s to 190s	Art chokes, Jerusalem, p. hf. sieve, 1s
— per cwt., 6s to 10s	Lettuce, Cab., per score, 4d to 9d
— per bush., 1s to 6s	Endive, per score, 1s to 3s
— Kidney, per bush., 4s to 6s	Mushrooms, per pottle, 6d to 1s
Turnips, p. doz. bunch., 1s 6d to 3s	Small Salads per punnet, 2d to 3d
Red Beet, per doz., 6d to 1s	Fennel, per bunch, 2d to 3d
Horse Radish, per bundle, 1s to 6s	Savory, per bunch, 3d to 4d
Cucumbers, each, 2s to 5s	Thyme, per bunch, 2d
Leeks, per doz, 6d to 1s	Watercress, p 12 small bun., 6d to 9d
Celery, per bundle, 6d to 1s 6d	Parsley, per half sieve, 9d to 1s
Carrots, per doz. bunches, 2s to 4s	— Roots, per bundle, 1s to 1s 6d
Onions, per bush., 2s to 4s	Mint, green, per bunch, 4d to 8d
— Spanish, per doz., 1s to 4s	Marjoram, per bunch, 3d to 4d

SMITHFIELD, Monday, March 20.

We have a good supply of Beasts to-day; and although trade is rather slow, prices are well supported. From Holland we have 360, about 2100 from Norfolk and Suffolk, 140 from Ireland, and 100 from Scotland. There are a few more Sheep than of late, still the number is small; the dead markets being low, considerably affect our trade, and everything meets with a dull sale. The best qualities suffer a reduction from Monday last of 2d per 8 lbs., and inferior fully 4d. The best Shorn Sheep make from 4*s.* 6*d.* to 5*s.* From Holland we have about 600 Sheep and 84 Calves. The Calf trade is very dull, and but few reach 3*s.* 2*d.* Pigs are a heavy trade, at rather low rates.

Per stone of 8 lbs.—s	d	s	d	Per stone of 8 lbs.—s	d	s	d
Best Scots, Herefords, &c. 4	6	to 4	8	Best Long Wools 4	8	to 5	0
Best Short Horns 4	2	— 4	4	Ditto Shorn	....		
Second quality Beasts .. 3	4	— 4	0	Ewes and second quality 3		— 4	4
Calves 4	0	— 5	2	Ditto Shorn	....		
Best Downs & Half-breds 5	4	to 5	6	Lambs	....		
Ditto Shorn	....			Pigs 4		— 5	4

Beasts—3229. Sheep and Lambs—16,770. Calves—129. Pigs—290.

Friday, March 24.

Our supply of Beasts to-day is larger than of late; the demand is very limited, owing to the dull trade in the dead markets. Sales are very slowly effected, and although 4*s.* 8*d.* is, in a few instances, obtained for a very choice Beast, it cannot be made an average of the best qualities. Inferior kinds are decidedly lower, and several remain unsold. From Holland we have about 160: from Scotland, 260; Ireland, 70; and about 150 Milch Cows from the home counties. We are scantily supplied with Sheep. The best qualities are readily disposed of at Monday's quotations; but second-rate meets with a and make from 4*s.* 8*d* to 5*s.* There are some very good Lambs on offer to day, dull sale, and late rates are barely supported. Shorn Sheep are more in request, a few choice ones from the Isle of Wight making 6*s* to 6*s* 4*d*. Trade is more cheerful for Calves. A good one makes 5*s.* 4*d.* without difficulty. The demand for Pigs is not very brisk. Prices remain about the same.

Best Scots, Herefords, &c. 4	4	to 4	6	Best Long Wools..... 4	8	— 5	0
Best Short Horns 4	0	— 4	4	Ditto Shorn	....		
Second quality Beasts .. 3	2	— 3	10	Ewes and second quality 3	6	— 4	2
Calves 4	4	— 5	4	Ditto Shorn	....		
Best Downs & Half-breds 5	4	— 5	6	Lambs	....		
Ditto Shorn	....			Pigs 4	4	— 5	4

Beasts—950. Sheep and Lambs—2340. Calves—197. Pigs—380.

HOPS, Friday, March 24.

Messrs. Pattenden and Smith report that the market continues the same.

Mid. & East Kents, p. cwt. 65s to 100s	Yearling Kents, p. cwt...	48s to 60s	
Weald of Kents .. .. 56 — 72	Yearling Sussex	46 — 58	
Sussex .. .. 54 — 88	Old Hops	20 — 40	
Farnhams .. .. 84 — 126			

MARK LANE, Monday, March 20.

Messrs. Kingsford and Lay report that the supply of English Wheat by land carriage samples this morning was small, and taken by the millers at an advance of 1s per quarter over the prices of this day se'nnight; foreign was in f. ir demand, and some qualities commanded a similar improvement.—Fine Barley is much wanted, and all descriptions must be noted 1s. per quarter dearer.—Beans and Peas are exceedingly difficult of disposal.—Having a good show of foreign Oats the trade rules dull, and to make any progress with sales a reduction of 6d. to 1s. per quarter is necessary.—The late value of Flour is fully supported.

British per Imperial Quarter.	s	s		s	s
Wheat, Essex, Kent, and Suffolk ..... White	50	62	Red.....	44	52
Norfolk, Lincolnshire, and Yorkshire	48	52	White ..	49	52
Barley, Malting and distilling, 27s to 30s	Chevalier	30	34	Grinding	25	27
Oats, Lincolnshire and Yorkshire.....	Polands	22	25	Feed ...	19	23
Northumberland and Scotch	Feed	20	23	Potato ..	22	25
Irish	Feed	18	22	Potato ..	22	24
Malt, pale, ship.....		—	—			
Hertford and Essex		—	—			
Rye.....		28	32			
Beans, Mazagan, old and new ..27s to 38s....		Tick..	28	42	Harrow..	30	44
Pigeon, Heligoland 31	50	....Winds	40	52	Longpod	30	34
Peas, White.....	32	36	....Maple	35	37	Grey	30	32

Arrivals in the port of London last week.

	Flour, 13227sks — 100 bls	Wheat. Qrs.	Barley. Qrs.	Malt. Qrs.	Oats. Qrs.	Rye. Qrs.	Beans. Qrs.	Peas. Qrs.
English.....	4459	6412	6496	4001	—	748	589
Irish	—	—	48	4386	—	—	—
Foreign.....	2139	2435	—	21483	—	1101	205

Friday, March 24.

The supply of all descriptions of grain during the week has been moderate, but the attendance at market on Wednesday and this morning was limited, and a retail business only transacted in all articles on the terms of Monday last, with the exception of Oats, which are the turn cheaper.

Arrivals in the port of London this week.

	Wheat. Qrs.	Barley. Qrs.	Oats. Qrs.	Flour.
English.....	2320	1090	2180	2110 sacks.
Irish	870	—	6310	—
Foreign.....	2780	1300	7520	— barrels.

Imperial Averages.	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
Feb. 12	51s 0d	31s 2d	20s 7d	30s 5d	38s 1d	43s 2d
— 19	50 11	31 3	21 1	32 4	37 10	42 5
— 26	50 2	30 9	20 8	30 3	38 0	41 7
March 4	49 11	30 8	20 5	30 5	36 9	41 8
— 11	50 2	30 4	20 2	33 4	36 2	39 0
— 18	50 4	30 5	20 4	28 6	36 2	39 10
Aggregate Average	50 5	30 9	20 6	30 10	37 2	41 3
Duties on Foreign Grain	7 0	2 6	2 6	2 6	2 6	2 6

Fluctuations in the last six weeks' Corn Averages.

Price.	Feb. 12.	Feb. 19.	Feb. 26.	March 4.	March 11.	March 18.
51s 0d	—	...	...	...	...	...
50 11	...	—	...	...	...	...
50 4	...	...	—	...	...	...
50 2	...	...	...	—	...	...
50 2	...	...	...	...	—	...
49 11	...	...	...	...	...	—

SEEDS, March 24.

Canary.....per qr.	60s to 68s	Linseed-cakes, Foreign, p. ton.	8l to 10l
Caraway .....per cwt.	34 36	Mustard, White, p. bush., 6s 0d to 8s 0d	
Clover, Red, English	35 52	Superfine, p. bush., — —	
— Foreign	35 50	Brown, per bush.. — —	
White, English	40 52	Rapeseed, Eng., per last.....28l 32l	
— Foreign	40 50	Rape-cakes .....per ton 5l 10s 6l	
Coriander.....	13 20	Sainfoin	
Hempseed .....per qr.	38 42	Tares, Eng., winter, p. bush., 7s 0 8s 0	
Linseed.....	42 43	Foreign, per bush., 4s 6 5s 0	
— Baltic.....	— —	Trefoil 17s 0 21s	
— Cakes, Eng. p. 1000, 13l to 13l 5s		Turnip—too variable for quotation.	

GLASS FOR CONSERVATORIES.

James Phillips and Co., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

Horticultural Glass cut to size up to 40 inches long.				Glass for Conservatories. Small squares of sheet.			
16 oz. to the foot	3½*d.* per foot			4 by 3 and 4½ by 3½			..1½*d.* per ft.
21	,,	5	,,	5 ,, 3	5½ ,, 3½		..2 ,,
26	,,	7½	,,	6 ,, 4	6¾ ,, 4½		..2¼ ,,
32	,,	10	,,	7 ,, 5	7½ ,, 5½		..2¼ ,,
				8 ,, 6	8½ ,, 6¾		..2¾ ,,
				Not above 10	,, 8		..3 ,,

Glass milk pans, propagating glasses, and bee glasses. Glass tiles and slates.

Cream pots, from 3 to 24 quarts, at 6*d.* per quart.

Cucumber glasses, from 12 to 26 inches long, 1*d.* p. inch.

Lactometers for trying the quality of Milk, 4 tubes 7*s.* 6*d.*, 6 tubes 10*s.*; and every article in the trade.

STRONG HORTICULTURAL 16-OZ. SHEET GLASS FOR CONSERVATORIES,

GREENHOUSES, PITS, FRAMES, &c.—Further Reduction.

Hetley and Co. publish Prices in the *Gardeners' Chronicle* the first Saturday in every month. Wholesale and Retail Glass Shade, Sheet, Crown, and Patent Plate Glass Warehouse, 35, Soho-square, London.

Stephenson and Co., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

HOT-WATER APPARATUS AND HORTICULTURAL BUILDINGS.

Daniel and Edward Bailey, of 272, Holborn, construct and erect Hot-water Apparatus for Warming Horticultural Buildings, Dwelling-houses, Churches, and Manufactories, in a simple and efficient manner, at moderate charges. They have erected Apparatus in England, Scotland, and Ireland for many Noblemen and Gentlemen. They had the honour to be employed in heating the ranges of Hothouses and Pits in HER MAJESTY'S NEW GARDENS AT FROGMORE, and in executing the works of the splendid Conservatory erected by the Horticultural Society of London in their gardens at Chiswick, and also in the erection of the Conservatory attached to the Pantheon Bazaar.

D. and E. Bailey, who were the first to introduce Metallic Curvilinear Hothouses to Horticulturists, erect various descriptions of Horticultural Buildings, and execute all kinds of metal work at their Manufactory, 272, Holborn.

PERUVIAN AND BOLIVIAN GUANO ON SALE,

By the only Importers,
ANTONY GIBBS and SONS, LONDON;
Wm. JOSEPH MYERS and Co., LIVERPOOL;
And by their Agents,
GIBBS, BRIGHT, and Co., LIVERPOOL and BRISTOL;
COTESWORTH, POWELL, and PRYOR, LONDON.

To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

THE LONDON MANURE COMPANY beg to

offer the under-mentioned MANURES on the best terms:—The URATE of the LONDON MANURE COMPANY, for Turnips, Tares, Oats, Barley, and all other Spring Crops.

GENUINE PERUVIAN GUANO, DIRECT FROM THE IMPORT WAREHOUSE.

Nitrate of Soda—Petre Salt for dressing old Pasture—Agricultural Salt—Superphosphate of Lime—Soda Ash—Pure Gypsum—Bone Sawdust—Sulphuric Acid—Sulphate of Ammonia, and every other artificial Manure. E. Purser, Sec.

No. 40, Bridge-street, Blackfriars, March 25.

THE following MANURES are Manufactured by

Mr. LAWES, at his Works at Deptford-creek:—

Corn Manure .. 14*l.* per ton.	Grass Manure .. 14*l.* per ton.		
Clover do. .. 14*l.* ,,	Turnip do. .. 7*l.* ,,		

Superphosphate of Lime, 7*l.* per ton.

Mr. Lawes has also made preparations for supplying the various artificial MANURES of commerce, and if Agriculturists will trust the selection of them to him, and will furnish him with the necessary information, he will supply those which he considers most suitable to the soil and crops. A paper containing the questions required to be answered will be forwarded upon application to his Office, 69, King William-street, City, London.

POTTER'S GUANO.—SEVENTH YEAR.—TESTIMONIALS.

Whittington, near Lichfield, Aug., 1847.

Mr. Potter.—Sir—I have tried your Guano in several ways against the best Peruvian, and *find it superior;* which I hope will be a convincing proof for another season.—I am, sir, your obedient servant, W. Ward.

Experiment of the Earl of Zetland—Potter's Guano against Peruvian, on Grass.

	Tons	Cwt.	Qr.
Potter's Guano, 2 cwt.—Hay per acre	2	8	0
Peruvian Guano, 2 cwt. ,, ,, ...	1	18	0
In favour of Potter's	0	10	0

Numerous Testimonials will be sent on application per post. The price of Potter's Guano is much under the Peruvian.

POTTER'S PURE SULPHATE OF LIME.—GYPSUM.

Testimonial.—Sir—I have had your Sulphate of Lime examined by an excellent Chemist, who speaks very favourably of it. Please send 2 tons directed to Ashhurst Majendie, Hedingham Castle, Essex.

This is the *cheapest* article sold, being much under the usual price.—Factory, 28, Clapham-road-place, London.

⁂ Sulphate of Ammonia, Superphosphate of Lime, Oil of Vitriol, Burnt Bones, Bone Dust, &c., &c., at lowest prices.

PORTLAND CEMENT.—Testimonials received from

all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as building and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. White and Sons, Millbank-street, Westminster.

Sales by Auction.

TO NOBLEMEN, GENTLEMEN, FLORISTS, and Others.

MESSRS. PROTHEROE AND MORRIS will submit to public competition, at the Auction Mart, Bartholomew-lane, on Tuesday, March 28th, 1848, and two following days, at 12 o'clock, about 1000 very fine STANDARD ROSES, consisting of all the leading varieties; also 100 double Camellias, from 2 to 5 feet, the whole beautifully furnished with bloom-buds; a very rich collection of American Plants, comprising Ghent and other Azaleas, Hybrid Rhododendrons, Andromeda floribunda, Magnolia, &c.; about 500 pans of first-rate Carnations and Picotees, comprising all the approved kinds; the newest varieties of Fuchsias, Verbenas, Pinks, Heartsease, Peonies, Dahlias in dry roots, Plants in bloom, &c.—May be viewed the morning of sale, and Catalogues had, at the Mart, and of the Auctioneers, American Nursery, Leytonstone.

TO BE SOLD BY AUCTION, on Thursday next, the 30th inst., at the Auction Mart, Bartholomew-lane, at 12 o'clock, the remaining portion of the stock of CARNATIONS, PICOTEES, and PINKS, the property of Mr. N. NORMAN. Catalogues to be had as per advertisement of last week.

TO GRAPE-GROWERS, MARKET-GARDENERS, & Others.

TO BE DISPOSED OF, in consequence of the death of the Proprietor, a compact Concern, in good working condition, consisting of six Graperies, Dwelling-House, Cottage, and about two acres of Ground, with immediate possession.—For particulars enquire of Messrs. JACOB WRENCH and Sons, London-bridge, or Mr. JOSEPH PERKINS, 68, Coleman-street, Bank.

TO BE LET, at Southampton, handsomely Furnished, or Unfurnished, or Furniture to be taken at a valuation, a compact and eligible VILLA RESIDENCE, in a state of substantial repair, and well adapted for the occupation of a genteel Family; with a Lawn, Pleasure-grounds, productive Garden, and four acres of Grass Land. The Villa is situated in a very healthy and dry locality, two miles from Southampton, and commands beautiful and varied prospects of the Southampton water and surrounding country. Ten minutes' walk from the parish church. A Post-office delivery twice a day.—For further particulars and rent, apply to Mr. CHARLES BROOKS, Estate Agent, 8, Above Bar, Southampton.

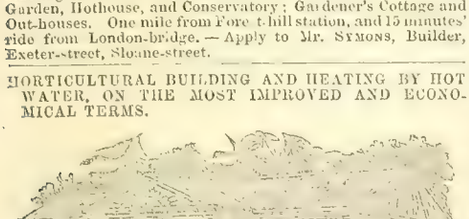
TO BE LET, at Headley, near Epsom, an upland FARM, consisting of about 280 acres of Arable, Pasture, and Woodland, in good condition; an excellent Farm-house, just erected in the Ornée style, and beautifully situated; suitable Farm-buildings; and near to good Markets. Rent and rates moderate.—Apply to Mr. W. BULCHER, Epsom.

TO BE LET ON LEASE, with possession from Michaelmas, worthy the attention of the Man of Business or Gentleman of Property, a FARM of 300 Acres (about 60 acres meadow and pasture), with suitable Buildings, and Five Labourers' Cottages. The residence is pleasantly situated and the neighbourhood respectable. A Gentleman fond of Sporting might have 150 Acres of Copse and Cover in addition to the above. The Farm is Tithe-free; the rent of the whole would not exceed 300*l.* per annum. It is about 60 miles from London, and two miles from South Coast Railway.—For particulars apply to Mr CHARLES LEWIS, Estate Agent, Havant, Hants; or Messrs. WINTER, WILLIAMS, and Co., Solicitors, 16, Bedford-row, London.

SYDENHAM, KENT.

TO BE LET, with Two Acres of Land, or more, if required, an excellent FAMILY RESIDENCE, containing three reception and twelve bed-rooms, with suitable offices, stabling for five horses and double Coach-house. Walled Garden, Hothouse, and Conservatory; Gardener's Cottage and Out-houses. One mile from Fore-hill station, and 15 minutes' ride from London-bridge.—Apply to Mr. SYMONS, Builder, Exeter-street, Sloane-street.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER, ON THE MOST IMPROVED AND ECONOMICAL TERMS.



GRAY, ORMSON, AND BROWN, Danvers-street, Chelsea, solicit the attention of the Nobility, Gentry, and Gardeners, to their superior manner of Erecting and Heating every description of Building connected with horticulture.

Extract of a Letter, dated June 10.—"I am happy to say the work you have done here is perfectly satisfactory to his lordship and me. The apparatus by which you have heated three houses and three pits, from one boiler, I believe to be the most complete I have ever seen, having well tested it through the late severe winter. In the coldest weather I had no difficulty in keeping the top and bottom to the desired temperature. I have now plenty of fine ripe Melons that were planted the 1st of April; and I find that both Melons and Cucumbers do quite as well, if not superior, on your Tank System, with less expense and considerably less labour than on dung beds. The Span-roofed house and other buildings you erected here are equally satisfactory, and I should be happy to show the work, or answer any references you may please to direct. F. KINGHORN, Gardener to the Earl of Kilmorey, Orleans-house, Twickenham, Middlesex."

Plans and Estimates furnished free; and their works seen at the principal London nurseries.

DRESSINGS FOR GRAIN, ROOT CROPS, &c. &c.

THE INORGANIC MANURE COMPANY, Bow, London, with great confidence recommend their Patent Manures (prepared under the inspection of Mr. CHARLES B. BOAST, M.R.C.S.L.) they having now been in use for upwards of six years with unrivalled success. These manures are prepared on the only true principle of supplying to the soil all the substances removed from it by the crops, their effect being really to enrich and not to exhaust land. They were the first and only manures offered to the Agriculturist based on a scientific principle, proved by practice to be correct; a distinct and special manure being prepared for each crop adapted to its particular wants. The cost per acre varying according to crop from 30*s.* to 40*s.*

Testimonials, with directions, &c., for using the manures, sent post free on application to Mr. PIKE, Inorganic Manure Works, Bow, Middlesex, where may be had also genuine,

SUPERPHOSPHATE OF LIME.

WARMING BY HOT WATER AND ALSO BY AN IMPROVED POLMAISE STOVE.

COTTAM AND HALLEN, Engineers, Smiths, and Iron Founders, No. 2, Windsor-street, Oxford-road, and Cornwall-road, Lambeth.

CONSERVATORIES, FORCING HOUSES, and every description of Horticultural Buildings, Chandeliers, Reading Desks, &c. perfectly warmed by the circulation of Hot Water through cast iron pipes; the principle being universally acknowledged construction, effective in operation, and economical in the cost of the apparatus and consumption of fuel—the result of the great experience which C. and H. have obtained by their warming buildings for every possible purpose for many years past.

AN IMPROVED POLMAISE STOVE, exposing a much larger heating surface than the plates.

Horticultural Buildings erected of Iron or Wood, or of Iron and Wood combined; Verandahs, Ornamental Iron and Wire Work, Hand-glass frames, Flower Stoves, Hurdles, and every description of Fencing; Bedsteads, brass and iron; the patent Rhenoline or Spring Bedstead; Stoves, Ranges, Furnishing Ironmongery, Agricultural Implements, &c.

Show Rooms for every description of Iron Work, &c., at the Manufactory, No. 2, Windsor-street, and 76, Oxford-street, three doors from the Princess's Theatre.

BEE-HIVES.—All persons desirous of Cultivating that pleasing and profitable branch of rural economy—the Honey Bee—are respectfully informed by G. NEIGHBOUR and SON, that they have prepared for the season an extensive supply of their various improved BEE-HIVES: their collection consists of "Nutt's Collateral Hive," "The Single Box Hive," "The Improved Cottage Hive," "The Lodge Observatory Hive," "Taylor's Bar Hive," &c., from either of which the Honey may be taken at any time without injury to the Bees, and may be worked with safety, humanity, and profit, by the most timid and unaccustomed to Bee-management. A descriptive paper, with drawings and prices, will be forwarded on receipt of a postage stamp.—Apiarian Depot and Honey Warehouse, 127, High Holborn, London.

NUTT ON BEES (9th Edition), just published.

ALSIKE HYBRID CLOVER.—This valuable variety was introduced from Sweden; it is a cross between the White and Red Clover, having all the properties of the former, with the abundance of the latter, none of our Meadow or Pasture Lands should be without it—it should always form part of a Clover layer. Price of seed under 1 cwt. 1*s.* 9*d.* per lb.; for 1 cwt., or more, 1*s.* 6*d.* per lb.

The PURPLE KOHL RABI, or HUNGARIAN TURNIP, is equally hardy as the Swedish Turnip; it has in several instances surpassed this root in weight of crop and nutritive support; it is perfectly hardy. Price of seed, 2*s.* 6*d.* per lb.

GEORGE GIBBS and Co., Seedsmen, &c., to the Royal Agricultural Department of Belgium, &c., 26, Down-street, Piccadilly, London.

AGRICULTURAL SEEDS.

THOMAS WHALLEY begs respectfully to inform his friends that his priced CATALOGUE for the present season is now ready, and may be had post free upon application. T. W. has published a DESCRIPTIVE LIST OF FLOWER SEEDS, which will be found useful to purchasers, and may also be had free on application.

Seed Warehouse, 12, St. George's Crescent, Liverpool.

WHITE BELGIAN CARROT SEED.
SKIRVING'S LIVERPOOL SWEDE.
YELLOW GLOBE MANGOLD WURZEL.
RED GLOBE MANGOLD WURZEL.
LONG YELLOW MANGOLD WURZEL.
LONG RED MANGOLD WURZEL.

FINE NEW SEED of the above, all grown from selected BULBS, may be had of JOHN SETTON and SONS, Reading, Berks. Priced Lists will be forwarded post paid. Orders for large quantities will be executed at considerably less than the usual prices. Natural and Artificial Grasses for Permanent Pasture at 32*s* per acre, of superior quality.

Carriage free to London or Bristol.

THE IMPROVED HYDRAULIC RAM, fixed by FREEMAN ROE, Fountain Maker, 70, Strand, London, can be worked by a small stream of half-an-inch, where a fall of two feet can be obtained. The same RAM, without the aid of a Tank or Cistern, arranged to throw a Jet of Water constituting a Fountain with the head of water beneath.

ENGINES FOR DEEP WELLS OF ALL KINDS, DOUCHE AND OTHER BATHS. BUILDINGS HEATED BY HOT WATER. WATER WHEELS to work Small Pumps, from 15*l.*

Estimates given for the supply of Towns, &c.

A newly invented PORTABLE VAPOUR BATH all complete for 4*l.*

FLEXIBLE INDIA RUBBER PIPES, FOR GARDENING AND AGRICULTURAL PURPOSES.

THE PATENT VULCANISED INDIA RUBBER PIPES AND TUBING are made to stand BOILING LIQUOR WITHOUT INJURY, do not become stiff or hard in any temperature (but are always perfectly flexible); and as they require no application of oil or dressing when out of use, are well adapted for Fire-engines, Pumps, Brewers' use, Gas Fitters, Beer-engines, and all purposes where a perfectly flexible pipe is required. Made all sizes, from ½ inch bore upwards, and of any length to order.—Sole Manufacturer, JAS. LYNE HANCOCK, Goswell-mews, Goswell-road, London.

Vulcanised India Rubber Washers, all sizes for Steam and Hot-water Pipes, and articles of India-rubber Manufacture generally.

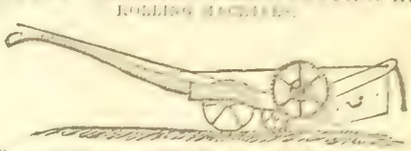
HYDRAULIC ENGINES.

J. LEGG begs to return thanks to his patrons and friends, and also to inform them that he continues to erect his improved Hydraulic Engines, Water Ram, &c., suitable for all situations where a fall can be obtained, also Engines for Deep Wells. J. L. also begs to inform his friends that he has made several improvements on his Hydraulic Machines, and flatters himself that he is able to compete with any parties of the present day in the construction of the above machines.

Apply to JOHN LEGG, Cheltenham.

MOWING MACHINES.—[illegible] Patent Machine [illegible] Green, & [illegible] Hire. [illegible] County of these Machines has [illegible] durable, [illegible] Price [illegible] Subsoil Ploughs, [illegible] and ANDREW [illegible] of Wrought [illegible] Works, near Stroud.

SHANKS' IMPROVED GRASS CUTTING AND ROLLING MACHINE.



The complete success which [illegible] this Improved Machine for [illegible] tion for cutting the Grass of lawns, the numerous instances [illegible] commendation, particularly at [illegible] Kew Gardens, Petworth [illegible] ber, and at many other [illegible] England, as well as [illegible] and. The [illegible] breadth of 32 [illegible] adapted to hand-power. [illegible] case, producing a [illegible] great saving in [illegible] cutting.

Orders may be addressed to [illegible] Son, Machine-makers, [illegible] containing letters of recommendation may be [illegible] whom further particulars will be [illegible]

Messrs. F. and J. [illegible], Nurserymen, [illegible] J. and C. Lee, Nurserymen, [illegible] ply any needful information [illegible]

MOWING MACHINE.

SHANKS' IMPROVED [illegible] GRASS CUTTING and ROLLING MACHINE. [illegible] Being in the only [illegible] Satisfactory reasons can be given [illegible] lent Machine, and other particulars [illegible] Post-office, Godalming, Surrey.

J. R. AND A. RANSOME, AND C. MAY, Ipswich Patentees and Manufacturers [illegible] IMPLEMENTS AND MACHINES [illegible] nounce that they have now [illegible] enlarged edition of their DESCRIPTIVE CATALOGUE, illustrated by upwards of sixty [illegible] on application by letter, inclosing a [illegible] the postage.

A TREATISE ON AGRICULTURAL IMPLEMENTS. By J. ALLEN RANSOME, published [illegible] had through any Ironmonger, price [illegible]

TO NURSERYMEN, MARKET-GARDENERS, and others.

GREAT SAVING OF LABOUR.

THE PATENT WATERPROOF CLOTH makes the best shreds for Walls. It [illegible] to secure newly planted Standards [illegible] The Waterproof Mixture cannot [illegible] stand in any climate, and quite [illegible] is very strong and durable, and [illegible] very thin and pliant. Price [illegible] make 1000 shreds. Carriage [illegible] Applications for Town and Country [illegible] Mr G. D. MITCHELL, Agent, [illegible] Gardens, Wandsworth.—[illegible]

THE ECONOMICAL HAND DIBBLE.—"The great difficulty hitherto in the way of [illegible] the want of an efficient dibbling [illegible] the pamphlet styled 'England's [illegible] a description of what is [illegible] vented. This pamphlet brings [illegible] the subject of drilling Corn [illegible] read. We have seen this [illegible] struction of the machine and [illegible] us in believing that, more than [illegible] to contend with and want [illegible] we believe, all [illegible] this the best [illegible] struction, and not [illegible] may be seen at [illegible] Ransome-Fields. [illegible] Ransome, Ipswich, and [illegible]

TENDERS.—Tenders [illegible] Tendering for the Erection of a FARM HOUSE and BUILDINGS, on Raddon Court Estate, in the parish of Thorverton, in the county of Devon, can see the drawings and specification at the office of the Architect, Mr. Hayward, Exeter, of Messrs. and of Mr. Lowcock, the Tenant of Raddon Court, or of Messrs. Smith, Solicitors, Crediton, any further particulars may be ascertained. The Tenders to be sent, free of expense, to Messrs. SMITH, on or before Saturday the 29th of April next. Raddon Court Estate is about one mile from the river Exe, six from Crediton, seven from Exeter, and seven from Tiverton.

N.B. The Proprietor does not pledge himself to accept the lowest Tender, and will require security for the due performance of the works.—Crediton, March 15.

IMPROVEMENT IN FARMING IMPLEMENTS.

LINSEED CRUSHER, simple in construction, for hand or horse-power, 11*l.* 11*s.*; ditto, doing Beans, Linseed, and Oats, by the same engine or horse-power, 10*l.* 10*s.* A smaller Implement for Linseed only, 7*l.* 15*s.*

THRESHING MACHINE.—A Four-horse Power, doing from 25 to 35 loads of Wheat-straw per day, without damaging the straw, may be had of MARY WEDLAKE and Co., 118, Fenchurch-street, opposite Mark-lane, London, (references to numerous persons farming extensively, and who use this new machine), price 60 guineas. Smaller machines at a less price.

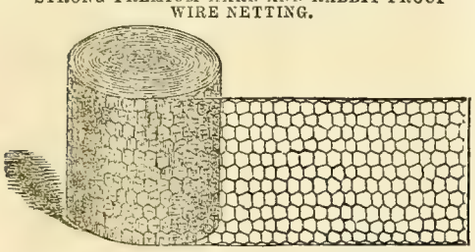
GORSE-BRUISING MACHINES, price 10*l.* 10*s.*, will prepare 40 to 50 bushels of food a day for cows, horses, and other cattle.

MARY WEDLAKE & CO.'S CHAFF-CUTTING MACHINE will do 100 or 200 bushels a day. Price 7*l.* 7*s.*, and a smaller machine 5*l.* Horse-hoe, Dressing-Machine, Turnip Cutter, Turnip-Drill, Stubble-rake, Oil-cake Breaker, Bean and Oat Crushers, Essex Ploughs for two Horses, Subsoil Plough, Double Field Roller, &c. Hay-making Machine, 14*l.* 14*s.*

MARY WEDLAKE and Co., 118, (The City of London Repository for Agricultural Implements), Fenchurch-street, opposite Mark-lane.

PEAKE'S TERRO-METALLIC TILES, PIPES, &c., of at least 100 sorts and sizes. In addition to the numerous purposes to which it is applied already this material may be moulded into a great variety of articles required either at home or abroad by the nobility, clergy, gentry, architects, civil engineers, and builders; also by owners and occupiers generally of land, mines, railways, buildings, gardens, and other property. See advertisement, with figures, in the Builder of the 2d, 16th, and 30th October, and 13th November last, also the 1st instant. Lists are ready, containing prices, both per number and also per square, per yard, per foot, &c. Applicants would oblige by stating if they want the prices in London or in Staffordshire.—4 Wharf, City-road-basin.

STRONG PREMIUM HARE AND RABBIT PROOF WIRE NETTING.



CHARLES D. YOUNG AND COMPANY (LATE W. AND C. YOUNG),
MANUFACTURERS OF IRON AND WIRE WORK, &c.,
128, HIGH-STREET, EDINBURGH; and 32, ST. ENOCH-SQUARE, GLASGOW,

Beg respectfully to call the attention of Landed Proprietors and others to their strong Wire-Net Fence, for excluding Hares and Rabbits from Gardens, young Plantations, Nurseries, &c.

This Net was exhibited at the Show of the Highland and Agricultural Society of Scotland, held lately at Inverness, where its Efficiency, Great Strength, and Exceeding Cheapness attracted general attention, and had awarded from the Judges the Society's Silver Medals, with high commendations.

The immense damage done by Hares and Rabbits in Garden and Young Plantations, is often so great, that in the course o[1] a year or two it will amount to more than the entire cost o protecting them with this Net. It is so durable, that when Plantations are sufficiently advanced to be independent of its protection, it can be removed to other exposed situations with the greatest facility, by any labourer. As a Fence against Hares and Rabbits, it is of itself quite sufficient, having only to be unrolled and attached, with small wire sent for that purpose, to wooden stakes driven into the ground, about every six or seven feet apart. It is, besides, peculiarly adapted for rendering Hedges, Paling, or other existing Fences, *completely impervious* to such vermin: and by being cut up into small pieces of three or more feet, as required, it forms a most efficient guard, at little expense, for individual Plants and Shrubs.

PRICES.—18 ins. high, 9*d.*; 24 ins., 1*s.*; 30 ins., 1*s.* 3*d.*; and 36 ins., 1*s.* 6*d.* per lineal yard.

Or a web of 100 yards, 18 ins. wide, will cost	...	£3	15 0
Do. of 100 yards, 24 ins. wide	...	5	0 0
Do. of 100 yards, 30 ins. wide	...	6	5 0
Do. of 100 yards, 36 ins. wide	...	7	10 0

If more or less than a web is required, it would be charged at the same rate per yard.

This Netting is also admirably adapted for Pheasantries and Poultry-yards, and is charged at the same rate. As carriage has, in many instances, been an obstacle to parties at a distance requiring this Net, C. D. Y. and Co. have made arrangements by which they will undertake to deliver it at any of the principal ports of Scotland, England, and Ireland, for One Halfpenny per lineal yard.

C. D. YOUNG and Co. cannot give a better idea of the great strength of their Premium Wire Netting than by stating that the weight of one yard of their 24-inch at 1*s.* is equal to 2¼ yards of another article in the market, the same width, at 9*d.* per yard. Samples for inspection sent free of expense.

C. D. YOUNG & Co. manufacture every description of IRON and WIRE WORK required for this and foreign countries.

Workmen sent to all parts of Scotland, England, and Ireland.

STARR'S PATENT PROTEAN JET.—This simple, yet effective JET, is the most useful and economical hitherto brought before the public for horticultural purposes, as it obviates the necessity of changing a variety of jets to produce various forms, as in the Protean Jet they are all comprised in one, and the change immediately effected by turning a handle for that purpose. They can readily be fitted to any description of Garden Engine now in use.

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THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News. The Horticultural Part Edited by Professor Lindley.

No. 14.—1848.] SATURDAY, APRIL 1. [Price 6*d*.

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BOTANICAL AND HORTICULTURAL SOCIETY OF DURHAM, Northumberland, and Newcastle-upon-Tyne.—THE MIDSUMMER EXHIBITION of the above Society will take place on Tuesday and Wednesday, the 13th and 14th June; and the Autumn Exhibition on Wednesday and Thursday, August 30th and 31st, at the Society's Show Ground, Banas Bridge.—To meet the wishes of several Friends to the Society, one of the Marquees will be exclusively appropriated to the sale of Plants, which, together with the Nurseryman's Classes, will be open to all England.—Rules and Lists of Prizes can be had, on application to the Secretaries, on enclosing a Postage Stamp.—George Belt, Thomas Ferguson, Secretaries, Newcastle-upon-Tyne, April 1.

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H. J. H. also has the [illegible] German Asters, and [illegible] lection. 100 Choice [illegible]

H. J. HARDY, 7, [illegible]

CINERARIA, "NEWINGTON BEAUTY."—This Splendid [illegible] be the most beautiful of the [illegible] the Certificate of Merit [illegible] Meeting in Regent-street, [illegible] which is fully described [illegible] 18 and 25, will be sent out [illegible] Price 10*s*. 6*d*.—A. Frost.

JAMES MATHEWSON, Nurseryman, Florist, Strawberry Grower, and general [illegible] Cunnigar-hill, Aberdeen, most respectfully [illegible] attention to his new [illegible] STRAWBERRIES, especially the "Aberdeen Beauty," [illegible] highly appreciated throughout Great Britain, [illegible] and America the last two seasons, [illegible] others in cultivation, and is now able to offer an extensive stock of well rooted plants at [illegible] per dozen, [illegible] likewise established in pots for exportation, or [illegible] per dozen. A Descriptive List, with Directions [illegible] newest sorts, may be had on application.

N.B.—Wanted, an experienced FORESTER for the North of Scotland; apply as above.

NEW PETUNIAS.

JOHN MOORE, Nurseryman, &c., Perry Hall, near Birmingham, begs to offer the following new—

No. 1.—JENNY LIND, [illegible] pink, with [illegible]
2.—DELIGHT, crimson.
3.—ROSY CIRCLE, light rose with [illegible]
4.—PRINCESS ROYAL, white, striped with [illegible]
5.—ARGENTEUS, silvery pink, very [illegible]
6.—DISTINCTUS, crimson purple, [illegible]

Price—No 1, 5*s*.; 2 to 5, 2*l*. 2*s*. each; the set [illegible] Trade discount. Plants of the above will be ready to [illegible] in April. See *Gard.* [illegible] p. 672. P[illegible]—J. P.—Your seedlings are very [illegible] and pretty; [illegible] appear to have been [illegible] pink, with white centre; [illegible] all are [illegible] cate and pretty.—[illegible] Agents. Messrs. Elliot and M'Mullen, 6, Leadenhall-street.

NEW SPLENDID SEEDLING PETUNIAS AND VERBENAS.—The Representatives of the late [illegible] beg to announce to the Floricultural [illegible] that they will commence sending out the above on the first of April, in strict priority as ordered, viz.—

PETUNIA, "LADY MIDDLETON."—Bluish, striped with deep crimson, fine form, and decidedly the best in its [illegible] dark throat, quite distinct from all others [illegible]

VERBENA, "BLUSHING BRIDE."—Pale, waxy blush, fine form, and fragrant [illegible]

"ROSA."—Bright rose pink, with large and well formed trusses [illegible]

They also beg to remark that their extensive collection of DAHLIAS, consisting of nearly every novelty of the season, both English and Continental, including their beautiful seedlings, Boule de Feu, Samuel Gurney, Jenny Lind, Acme, Remembrance, &c., &c., will be ready in fine plants by the 1st of May. Descriptive Catalogues of which may still be had.

All orders thankfully received and promptly attended to. Plants added to defray the expense of their carriage, &c.

Communications to be addressed to T. Baines, Lancaster Nurseries, Stowmarket.

DAHLIAS.—QUEEN OF ENGLAND, (Keynes'.) White, deeply-edged lake. One of the finest [illegible] Dahlias in cultivation. [illegible] a first-class prize at Chelsea, where only three varieties were placed out of 40 varieties exhibited. First class prize at Salisbury. This is the most beautiful flower J. Keynes has ever [illegible] and will be a standard in [illegible] [illegible] 10 6

WALTER HILSON, (Keynes'.)—True crimson. This flower, for form and colour, is the best [illegible] First-class prizes, and warranted by J. Keynes [illegible] 10 6

NELL GWYNNE, (Keynes'.)—True primrose, [illegible] shading. Two first-class prizes in London. Beautiful form, purest colour, the only [illegible] 10 6

HAMLET, (Brown's.)—Deep crimson, [illegible] shaded, first-rate in every respect, has never been exhibited, only one bloom [illegible] Warranted by J. Keynes 10 6

WAR EAGLE, Keynes'.—Bright [illegible] This flower was purchased, late in the season, by J. Keynes. It obtained a first-class Certificate at the Great Metropolitan Show, the only place where it was exhibited. Beautiful form, first rate [illegible] 10 6

COMPACTA, (Pope's.)—[illegible] first-rate [illegible] 10 6

AMY, (Cook's.—Shape, [illegible] 7 6

BELTED KNIGHT, [illegible] —Orange, dotted with deep buff, first-rate fancy flower, very double, fine form and constant [illegible] 7 6

TOISSON D'OR, (Mattock's.—Golden orange [illegible] 10 6

PIUS IX., (Cassart's.—Rose and white [illegible] 10 6

CARDINAL FERRETTI, Van Rensselaer's.—Red [illegible] 10 6

GLORI DE PECK, (Parker's.—Flesh white [illegible] 10 6

J. Keynes, with the greatest confidence, intends sending out the above in May next, trusting that the general satisfaction given in former years will be a safe guarantee for his selection.

J. Keynes will have a good stock of YELLOW STANDARD, CAPTIVATION, LADY OF THE LAKE, and ANNE BOLEYN, four of the best flowers of last year sent from his establishment.

All the new flowers of the season will be supplied on receipt of early orders.—Salisbury, April 1.

SUPERB FLOWER SEEDS.

WM. JAMES EPPS' (F.H.S.), descriptive Catalogue of Flower Seeds is now ready, which may be had by enclosing a postage stamp. Purchasers may depend upon their being new and genuine, as the whole are saved and collected under his own superintendence.

	s	d.
No. 1 collection, 100 packets of the leading and newest kinds	16	0
,, 2, 60 packets, do.	10	0
,, 3, 30 do. do.	5	0
,, 4, 20 do. do.	3	6

High-street, Maidstone, Kent.

GEORGE SMITH begs to refer the readers of the *Gardeners' Chronicle* to his Advertisement of Feb. 12th and 19th, for a description of his universal SEEDLING FUCHSIAS and VERBENAS. G. S.'s Catalogue contains of the above every novelty of the season, which can be had on the receipt of one postage stamp.

Tollington Nursery, Hornsey-road, Islington.

GERMAN STOCK GILLIFLOWERS.—Received from F. W. Wendel, Florist to the King of Prussia, and celebrated for the cultivation of this splendid flower—a new consignment of the Seed—in 10, 12, 18, 27, and 30 varieties, at 1*s.* 3*d.*, 1*s.* 6*d.*, 2*s* 3*d.*, 3*s.*, and 3*s.* 9*d.* the packet. Also POTATO SEED, at 12*s.* 6*d.* per lb., or 1*s.* per ounce. Each plant will produce 12 to 20 Potatoes of a good size, and warranted free from the disease.—Orders, verbal or written, to G. VON ZABIENSKY, 75, Cheapside, London, will meet prompt attention.

TO FLORISTS, NURSERYMEN, THE NOBILITY, AND PUBLIC GENERALLY.

JAMES WHITEHORN respectfully announces that he has purchased the entire Stock of Choice Plants, the property of the late Mr. Robert Oakley, and that the business will be carried on in future under the superintendence of Mr. John Bushrod, foreman to the late proprietor, by whom all orders will be executed for the celebrated DAHLIA "GEM," which obtained so many prizes during the last season, as well as for the new Seedling "BRUTUS" and all other first-rate sorts. Also for the finest varieties of Geraniums, Fuchsias, Heaths, Bedding-out Plants, &c.; the true Aberdeen Beehive Strawberry, strong plants of Victoria Rhubarb, Asparagus, Fruit-trees, Shrubs, &c. Catalogues may be had, prepaid, on application to Mr. WHITEHORN, or Mr. JOHN BUSHROD, Nursery Grounds, Bedford-place, Southampton.—April 1.

SPLENDID NEW MARROWFAT PEA.

JAMES SALTER respectfully offers to the Public the most valuable Marrowfat Pea in cultivation, Salter's "IMPROVED VICTORIA," possessing the combined qualities of the Incomparable and Victoria Peas, and preferable to either from its dwarf habit, not usually growing more than 4 feet high. It is an abundant bearer, and its flavour is most delicious. Price 1*s.* 6*d.* per quart.

True Incomparable Pea (or British Queen), 3*s.* per quart.

Also all the most approved Peas and Beans recently introduced, the prices of which will be found as low as at any of the respectable Seed Establishments.

J. S. begs to state that, owing to the very fine season last year, Flower Seeds of all descriptions are particularly good; and having for many years raised his own Flower Seeds, he is enabled to make such selections as he can with confidence recommend. He begs also to add, that his connection with some of the most respectable growers on the Continent facilitates his submitting all kinds of Flower Seeds of foreign and home growth, particularly German Stocks, Asters, &c., at the most moderate prices.

Orders for Flower Seeds above 10*s.* will be forwarded through the post prepaid, and all orders for Vegetable and Agricultural Seeds of 20*s.* and upwards will be delivered free at any station on the Great Western or Gloucester Railways.

Price List of Seeds will be forwarded on application.

Superior Bog (or Peat) Earth constantly on sale, and if taken in large quantities, delivered carriage free at any station within 30 miles of Bath.

Experienced Bailiffs and Gardeners recommended.

JAMES SALTER, General Seedsman, Bath.

SELECT PLANTS.—The following choice assortments of our own selection now sending out, strong plants.

		£	s.	d.
100	HARDY HERBACEOUS PLANTS, showy vars., by name	2	10	0
50	Do. do. do. ..	1	10	0
25	ROCK PLANTS, in fine varieties, by name	0	12	0
12	Do. do. do.	0	7	6
50	GREENHOUSE PLANTS, distinct species & vars.	2	10	0
25	Do. do. do.	1	8	0
25	GERANIUMS, superb show vars., 21*s.*, or 12 do.	0	12	0
25	Do. superb new vars., 50*s.*, or 12 do.	1	10	0
12	Do. good showy varieties.. .. 6*s.* to	0	9	0
25	FUCHSIAS, fine vars., 10*s.*; 25 superior do. ..	0	17	6
12	Do. fine vars., 5*s.*; 12 superior do. ..	0	9	0
12	PETUNIAS, fine vars., 4*s.*; 12 superior do. ..	0	9	0
12	ACHIMENES, fine distinct varieties	0	9	0
12	ANTIRRHINUMS, superb varieties	0	7	6
25	HOLLYHOCKS, in fine distinct varieties	0	7	6
	CARNATIONS, 12 pair choice varieties	1	0	0
	PICOTEES, 12 pair choice varieties	1	0	0
	PINKS, 12 pair choice varieties	0	10	0

Our Descriptive PRICED CATALOGUE of PLANTS, for 1848, forwarded on application. Remittances with orders are requested from unknown correspondents. Goods carriage free to London, and with all orders of 2*l.* and upwards plants presented extra. Post-office orders made payable to

BASS AND BROWN,

Seed and Horticultural Establishment, Sudbury, Suffolk.

CABBAGE PLANTS.

THOMAS WELLAND, Wheeler-street Gardens, near Godalming, Surrey, begs to inform Gentlemen, Gardeners, and others, that he has for sale a large quantity of EARLY BATTERSEA, EARLY YORK, EARLY IMPERIAL, and DRUMHEAD or CATTLE CABBAGE, all of which are warranted true in their kinds, at 4*s.* per 1000, packing crates included. Also Cauliflower plants, 2*s.* 6*d.* per 100. Orders likewise received by Mr. Wm. Young, Milford Nursery. The above Gardens have been established for more than 60 years, and several acres of ground are devoted to the growth of the above plants.

SCOTCH RYE-GRASS SEED.

ARCHIBALD STURROCK, SEEDSMAN, 31, Sandgate, Ayr, begs to call the attention of Agriculturists to his large and superior stock of RYE-GRASS SEED, which he can offer as follows.

FINEST PERENNIAL RYE-GRASS SEED, weighing 27 and 28 lbs. per bushel, at 4*s.* per bushel.

FINE do., weighing 24 and 25 lbs. per bush., at 3*s.* per bush.

ANNUAL do., weighing 23 and 24 lbs. p. bsh., at 2*s.* 9*d.* p. bsh.

ITALIAN RYE-GRASS SEED, at 7*s.* per bushel.

All warranted genuine and pure, and clear of weed seeds.

Also, TIMOTHY-GRASS SEED, at 4*d.* to 5*d.* per lb.; and COCKSFOOT-GRASS SEED, at 5*s.* per bushel.

All other sorts of Agricultural and Garden Seeds on the most moderate terms.

FLOWER SEEDS, 50 packets, containing 50 varieties of the best and most esteemed Annuals, forwarded to any part of the kingdom, free by post, for 6*s.*

Goods delivered free of carriage in Glasgow, Belfast, Londonderry, or Liverpool. A reference required from unknown correspondents, if not paid cash.—Ayr, April 1.

ON SALE.—SELECTED TURNIP SEEDS from the Lothians and Highlands of Scotland:—Pollexfen's Yellow Bullock Turnip; Hood's Imperial Yellow Bullock do.; Gordon's Aberdeen Bullock and Gordon's Ayrshire Bullock do.; Border Imperial Bullock do.; Skirving's Imperial Yellow Scotch do.; Dale's Hybrid do. Also Skirving's Liverpool Swede; Ashcroft's Purple-top do.; Laing's Prize do.; Cox's Imperial Hybrid do.; with all other kinds of White and Yellow Field Turnips. Mangold Wurzel and Sugar Beet, six varieties. Large White Belgian Horse Carrot; and Large Green-top Altringham do.—HENRY CLARKE, Seed Merchant, 39, Kingstreet, Covent-garden.

TO BE SOLD, a beautiful Collection of YOUNG CHINESE PIGS.—Apply for particulars, prices, &c., to Mr. JAMES DRINKWATER, Enstone, Oxfordshire.

TO BE SOLD, from 100 to 700 yards of DWARF BOX EDGING, at 4*d.* per yard, in capital order. One yard warranted to plant three. Delivered free of expense to any part of London.—Apply to C. F. HARRISON, Vine Cottage, Addlestone, Chertsey, Surrey.

OIL JARS.—A Quantity of OIL JARS for Sale. These Jars, of the size of 20 gallons each, when cut in two form very useful large-sized pots; the upper part forming a bowl which may be made very ornamental in gardens. The wear is strong and durable, and they are better than tubs for Orange Trees, &c. Price 3*s.* each, at SAMUEL HICKSON & SON'S, 72, Welbeck-street, London.

DEANE'S WARRANTED GARDEN TOOLS.—Horticulturists, and all interested in Gardening pursuits, are invited to examine G. and J. DEANE'S extensive Stock of GARDENING AND PRUNING IMPLEMENTS, best London made Garden Engines and Syringes, Coalbrookdale Garden Seats and Chairs,

Averuncators	Garden Scrapers	Pick Axes
Axes	Grape Gatherers and Scissors	Potato Forks
Bagging Hooks	Gravel Rakes and Sieves	Pruning Bills
Bills	Greenhouse Doors and Frames	,, Knives, various
Borders, various patterns	Hammers	,, Saws
Botanical Boxes	Hand-glass Frames	,, Scissors
Cases of Pruning Instruments	Hay Knives	,, Shears [riety.
Chaff Engines	Hoes of every pattern	Rakes in great va-
Chaff Knives	Horticultural Hammers and Hatchets	Reaping Hooks
Daisy Rakes	Hotbed Handles	Scythes
Dibbles	Ladies' Set of Tools	Scythe Stones
Dock Spuds	Labels, various patterns, in zinc, porcelain, &c.	Shears, various
Draining Tools	Lines and Reels	Sickles
Edging Irons and Shears	Marking Ink	Sickle Saws
Flower Scissors	Mattocks	Spades and Shovels
,, Stands in Wires and Iron	Menographs	Spuds
Fumigators	Metallic Wire	Switch Hooks
Galvanic Bordersand Plant Protectors	Milton Hatchets	Thistle Hooks
Garden Chairs and Seats	Mole Traps	Transplanting Tools
,, Loops	Mowing Machines	Trowels
,, Rollers		Turfing Irons
		Wall Nails
		Watering Pots
		Weed Extractorsand Hooks
		Wheelbarrows
		Youths' Set of Tools

G. and J. DEANE are sole Agents for LINGHAM'S PERMANENT LABELS, samples of which, with the Illustrated List of Horticultural Tools, can be sent, post paid, to any part of the United Kingdom.—DEANE'S Horticultural Tool Warehouse, opening to the Monument, 46, King William-st., London-bridge.

COOPER'S PATENT APPARATUS for preserving Fruits, by which process they are perfectly secured for many years, on sale, by JAMES COOPER, at No. 8, St. John-street, Clerkenwell, London. Sample Hampers will be delivered at any part of London, for TEN SHILLINGS each, containing fruit in considerable variety, in half-pints, pints, and quart bottles, some in syrup, others plain, with a cork-machine.—Particulars and testimonials will be forwarded by post when requested.

PREPARED PARCHMENT, for labelling Flowers, Plants, Seeds, &c.—Ladies and Gentlemen are respectfully informed that the Prepared Parchment is peculiarly adapted for Gardening, &c., on account of its great strength, and the resistance it affords to damp, heat, or rain; and can be applied to a variety of other purposes, such as labelling keys, &c., but more especially for Railway or Steam-boat luggage, as the annoyance and even loss by miscarriage would be entirely obviated if Parchment were used.

Sold in packets, 1*s.* each, by A. WILLIS, Parchment and Vellum Dealer, 8, Newgate-street, London.

Unless the Wrapper bears the name and address, as above, the Parchment it contains is not genuine.

N.B. Market Gardeners, Seedsmen, Florists, &c., supplied with large quantities at wholesale prices.

A. W. has also a large stock of Prepared Parchment Skins for writing Wills, Deeds, &c. Fine Prepared Vellums for Drawing, Painting, &c. Vellum Skins for Drum-heads, Tambourines, Banjos, &c.

MILTON'S BEE-HIVES.—An Extensive Assortment of each variety of Glass and Straw Hives, arranged for the season. "The Improved Huber," "Hexagon Apiary," and "The Box Hive," are particularly worthy of attention, as they have been extensively patronised, and worked with complete satisfaction and profit to the purchasers. Bee-Glasses of all sizes. Illustrations of Hives 1*s.*, at MILTON'S, 10, Great Marylebone-street, Wimpole-street, London.

THE PRACTICAL BEE-KEEPER. 4*s.* 6*d.*

GUANO AND NITRATE OF SODA.

PERUVIAN GUANO of the best quality, now ready for delivery in any quantity direct from the Import Ship or Warehouse, at the reduced prices.—Apply to JOHN CLARANCE and Co., 19, Cullum-street, Fenchurch-street, London.

DR. RICHARDSON'S PREPARED BONE MANURES.

		per ton—£	s.	d.
B	Manure for Turnips, Potatoes, &c.	8	0	0
C No. 1	For the Straw of Wheat, Oats, &c. ..	7	0	0
C No. 2	For the Grain of ditto, ditto	12	0	0
L No. 1	For the straw of Beans, Peas, &c. ..	7	0	0
L No. 2	For the Seed of ditto ditto	12	0	0
H —	For Hops, Flax, Clover, &c.	9	0	0
G —	For Garden Produce in general ..	10	0	0
S —	For Sugar Cane	9	0	0
	SUPERPHOSPHATE OF LIME	7	0	0

The above Special Manures are manufactured by Messrs. RICHARDSON, CUBRIE, and Co., at their Chemical Works, Blaydon, near Newcastle-on-Tyne, and may be had in London, of their Agents, Messrs. John Clarance and Co., 19, Cullum-street, Fenchurch-street.

Testimonials and directions for its use on application.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as building and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

SEEDS.—CORNER OF HALF-MOON-STREET.

THOMAS GIBBS AND Co.,

(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND,"

Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

Priced Lists of Agricultural Seeds are always ready, and may be had on application.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK AND TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their IMPROVED BRICK and TILE MACHINES, which are to be seen at work at Alperton, and at the Company's Office, 193A, Piccadilly, from 10 A.M. to 5 P.M. Mr. Robert Scrivener, who has been appointed Manager in the room of Mr. John Ainslie, will show the Machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, 193A, Piccadilly, London.

These Machines may also be seen at Mr. Slight's, Leithwalk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill, 135, Buchanan-street, Glasgow; Mr. Robert Charles, Mill-hill, Leeds; Messrs. PERRY and Finch, Penkeridge, Staffordshire; Messrs. Drummond and Son, Dublin; and at Mr. John Connor's, Newtown Limavady, County Derry.

CHEAP AND DURABLE ROOFING.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

F. M'NEILL AND Co., of Lamb's-buildings, Bunhill-row, London, the Manufacturers and only Patentees of THE ASPHALTED FELT FOR ROOFING Houses, Farm Buildings, Shedding, Workshops, and for Garden purposes, to protect Plants from Frost.

At the Great National Agricultural Shows, it is this Felt which has been exhibited and obtained TWO SILVER MEDAL PRIZES, and is the Felt SOLELY patronized and adopted by

HER MAJESTY'S WOODS AND FORESTS,
HONOURABLE BOARD OF ORDNANCE,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE COMMISSIONERS OF CUSTOMS,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANIC GARDENS, REGENT'S PARK,

And on the Estates of the Dukes of Sutherland, Norfolk, Rutland, Newcastle, Northumberland, Buccleuch (at Richmond), the late Earl Spencer, and most of the Nobility and Gentry; and *at the Royal Agricultural Society's House, Hanover-square.*

It is half the price of any other description of Roofing, and effects a great saving of Timber in the construction of Roofs. Made to any length by 32 inches wide.

PRICE ONE PENNY PER SQUARE FOOT.

*** Samples, with Directions for its Use, and Testimonials of seven years' experience, with references to Noblemen, Gentlemen, Architects, and Builders, sent free to any part of the town or country, and orders by post executed.

☞ The Public is cautioned that the only Works in London or Great Britain where the above Roofing is made, are

F. M'NEILL AND CO.'S

Patent Felt Manufactory, Lamb's-buildings, Bunhill-row, London, where roofs covered with the Felt may be seen.

The new Vice-Chancellor's Courts, at the entrance to Westminster Hall, were roofed with F. M'NEILL and Co.'s Felt about two years since, under the Surveyorship of Chas. Barry, Esq., R.A. Her Majesty's Commissioners of Woods and Forests are so satisfied with the result that they have ordered the Committee Rooms at the Houses of Parliament to be roofed with their Felt. Quantity altogether used, 24,000 feet.

Note.—Consumers sending direct to the Factory can be supplied in lengths best suited to their Roofs, so that they pay for no more than they require.

Every information afforded on the construction of Roofs, or any proposed particular application of the Felt.

FLEXIBLE INDIA RUBBER PIPES, FOR GARDENING AND AGRICULTURAL PURPOSES.

THE PATENT VULCANISED INDIA RUBBER PIPES AND TUBING are made to stand BOILING LIQUOR WITHOUT INJURY, do not become stiff or hard in any temperature (but are always perfectly flexible); and as they require no application of oil or dressing when out of use, are well adapted for Fire-engines, Pumps, Brewers' use, Gas Fitters, Beer-engines, and all purposes where a perfectly flexible pipe is required. Made all sizes, from ¼ inch bore upwards, and of any length to order.—Sole Manufacturer, JAS. LYNE HANCOCK, Goswell-mews, Goswell-road, London.

Vulcanised India Rubber Washers, all sizes for Steam and Hot-water Pipes, and all articles of India-rubber Manufacture.

MOWING MACHINES.—Budding's Patent Machines for cutting Grass Plots, Pleasure Grounds, Bowling Greens, &c. Manufactured and sold by JOHN FERRABEE, Phœnix Iron Works, near Stroud, Gloucestershire. The utility of these Machines has been confirmed by a sale of nearly 3000, and their adoption is rapidly increasing by all who admire a verdant and well kept lawn. The use of them offers many important advantages over the ordinary method of cutting with a scythe. The work is performed far more expeditiously. The machines may be so adjusted as to leave the Grass passed over by them of any regular length, at the pleasure of the operator; they leave a more even and uniform surface than can be produced by the most skilful mower, and as they can be used best in dry weather, the gardener is enabled to cut his lawns at the most convenient time, instead of being obliged, as with a scythe, to wait for rain or heavy dews. They are very durable, easily sharpened and kept in order, and their management is extremely simple. Hand Machines are made of three sizes, cutting the several widths of 16, 19, and 22 inches, and Horse Machines of larger dimensions.

Sold by Messrs. RANSOMES & MAY, Ipswich, General Wholesale Agents; also by Mr. Wm. Drury, Ironmonger, Castle-st., Liverpool; Mr. T. Johnson, Ironmonger, Leicester; Messrs. Lister and Lees, Ironmongers, Cateaton-street, Manchester; Messrs. Mapplebeck and Lowe, Ironmongers, Bull-ring, Birmingham; Mr. Herbert Room, Ironmonger, Bull-ring, Birmingham; Messrs. J. Nelson and Sons, Ironmongers, 47, Briggate, Leeds; Mr. R. Stratton, Agricultural Repository, Clarke-street, Bristol; Messrs. Stothert and Walker, Ironmongers, Bath; Messrs. F. W. and T. Richmond, Ironmongers, Victoria Brigge, Salford.

JOHN FERRABEE also manufactures Steam Engines, Water Wheels; Machines for Threshing, Winnowing, and Bagging simultaneously; Horse Powers for driving Machinery, Threshing Machines, Chaff-cutters, Cultivators or "Ducie" Drags, Cultivators combined with Norwegian Harrows, Horse Hoes, Subsoil Ploughs, Clod Crushers, Land Rollers, Hay-making Machines, Corn and Linseed Crushers, Turnip Slicers and Cutters, Scotch and "Richmond" Carts, Cart and Waggon Arms and Axles, Steaming Apparatuses, Hot Water Apparatuses, and a variety of other Agricultural Machines, Tools, &c., lists of which may be had on application to JOHN FERRABEE, Engineer, Millwright, Mechanist, Iron and Brass Founder, and Manufacturer of Agricultural Implements, Phœnix Iron Works, near Stroud, Gloucestershire.

HORTICULTURAL SOCIETY OF LONDON.—Notice is hereby given, that the EXHIBITIONS OF FLOWERS AND FRUIT, in the Society's Garden, in the present season, will take place on the following days, viz.: SATURDAY, May 20; SATURDAY, June 10; and WEDNESDAY, July 12; and that TUESDAY, April 18, is the last day on which the usual privileged Tickets are issued to Fellows of the Society.
21, Regent-street.

ROYAL SOUTH LONDON FLORICULTURAL SOCIETY.
Under the Patronage of Her Most Gracious Majesty the QUEEN.
The First Exhibition for the season will take place at the Horns Tavern, Kennington, on WEDNESDAY, April 19th, 1848. Open to all Exhibitors. Prizes will be awarded for the following productions, viz.: Miscellaneous Plants, Auriculas, Hearts-ease, Cinerarias, Polyanthuses, and Azaleas. In addition to which, the ROYAL ADELAIDE CUP, presented by Her Majesty the QUEEN DOWAGER, will be given for the best collection of Miscellaneous Plants. A Musical Band will be in attendance. Admission to non-members, from 1 to 6 o'clock, 1s. each. Lists of Prizes, and Rules of the Society, may be obtained from
JOHN TAYLOR NEVILLE, Secretary,
Ebenezer House, Peckham.
Subscriptions 20s. per annum, entitling each Member to the privilege of attending all Flower Shows, Lectures, and Meetings of the Society, of exhibiting Flowers, Fruit, and Plants, their own growth, in competition for Prizes, without any charge for entry, and also to have two free admissions for friends at each Flower Show, Lecture, or Meeting.

The Gardeners' Chronicle.

SATURDAY, APRIL 1, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

MONDAY,	April	3—Entomological	8 P.M.
TUESDAY	—	4 { Horticultural { Linnean	3 P.M. 8 P.M.
WEDNESDAY	—	5—Society of Arts (Anniversary)	8 P.M.
FRIDAY,	—	7—Botanical	8 P.M.
SATURDAY	—	8—Royal Botanic	4 P.M.

ARE YEW-TREES POISONOUS? This is, at first sight, a medical question, rather than one concerning gardening or even rural economy. Nevertheless we are tempted to discuss it, in consequence of a reply, lately made by us to one of our correspondents, having been questioned. Our statement was that the leaves are poisonous, the fruit not. Upon this "A Bucks Yeoman" makes the following observations.

"Allow me to come to the rescue of the Yew tree, and to assure your correspondent, EDWARD HALES, that its leaves are not poisonous. It was as little guilty of killing his neighbour's horse as the poor kestrel of killing the good housewife's chickens. Should your correspondent ever travel the Portsmouth road, he will observe thousands of Yew trees in the glens and on the slopes of those charming hills, the South Downs. Many of the trees are of very ancient date, and are, it may be, descendants of those from which our sturdy forefathers made their bows. On those trees, when their shoots are tender, or when the ground wears a mantle of snow, may be seen horses, sheep, and cattle feeding. I know a clergyman who some years ago planted several Yew trees in his churchyard, but a mischievous horse cropped them so severely just as they were beginning to flourish, that they are still struggling for existence, whilst the horse received no injury from its unlawful repast. Would Yew trees, if poisonous, have been so long suffered, nay, encouraged, to grow in our churchyards, in which horses and other cattle are too often seen feeding? Let it be demonstrated to the satisfaction of the chemist, on opening any animal supposed to have been poisoned by having eaten the leaves of the Yew that it was so, and then, and not till then, let one of our most ornamental trees be condemned as poisonous."

When we made the reply which elicited this reproof, we were by no means ignorant that the poisonous nature of the Yew has been disputed. In reply to the old history of the Gaulish King CATIVOLUS or CATTIVULCUS, who killed himself with a decoction of Yew leaves, it has been alleged that the Taxus of CÆSAR may not have been our Yew, but was possibly the Savin. HALLER, after mentioning the opinions current in his time, says he never heard of anybody having been hurt by eating the fruit: he, however, does not contradict the venomous nature of the leaves. The author of the "New Planters' Kalendar" agrees with our Bucks friend that the Yew is perfectly harmless.

That the fruit, if separated from the stone, is harmless we believe. Professor ACHILLE RICHARD has often eaten them in abundance without inconvenience. Dr. PERCY also maintained their harmlessness—their insipidity indicates it; and ORFILA relates that Professor GROGNIER, of Lyons, administered a strong decoction to a dog, fasting, without the animal's suffering any injury.

It does not, however, follow that the stones are also harmless. It is true that the same M. GROGNIER could not succeed in affecting a horse with them; but it is to be observed that he gave them to the animal mixed with twice the quantity of Oats. MATHIOLUS mentions, on the contrary, a case in which some shepherds were attacked with fever in consequence of having eaten Yew berries. Mr. TAYLOR, in his valuable work on Poisons, quotes the case of a child which died in convulsions at Mansfield after eating a quantity of Yew berries. As in these cases the stones were probably swallowed, the mischief may be attributable to these alone.

Whatever may be the fact as regards the fruit or stones, there can be no reasonable doubt about the leaves being a dangerous poison. Not to mention the well known instance, long ago published by Dr. PERCIVAL, of Manchester, of three children killed in consequence of their mother having given them a decoction of Yew-leaves, as a cure for worms, books contain too many examples of the same result to leave any doubt upon the subject. LOUDON mentions a young lady and her servant who both died in consequence of drinking Yew-tea instead of Rue tea. Mr. TAYLOR quotes an Irish case, where a lunatic died at Dublin in consequence of chewing leaves of this tree. In LOUDON'S "Arboretum," various examples are collected of horses, asses, poultry, sheep, and cows having perished from the same cause. But in order to show that no mistake can be supposed to have occurred in these matters, direct experiments on the action of Yew-leaves on animals have been tried, and they led ORFILA to the conclusion "that the Yew is a narcotic poison, and that the conflicting accounts of authors arise from their having examined plants of different ages and growing in different places." ("*Traité de Toxicologie*," 2, 278.) Mr. TAYLOR, too, asserts from medical evidence, that "there is no doubt that the Yew is a powerful poison of the narcotico-irritant class." ("*Poisons*," p. 790.) M. POUCHET also concludes, from the experiments of M. DE MONTGARNY that there can be no doubt about that fact. ("*Traité de Botanique*," 1, 321.)

Finally, in order to place the question beyond controversy, we may quote the statement of BURNETT, that Yew leaves were employed in the practice of an Italian physician, who found them exercise the same dangerous power over the heart and arteries as Foxglove, and in too large doses to be as certainly fatal. ("*Outlines*," 1, 507).

Against this evidence a few exceptional cases cannot be allowed the least weight. Peculiar constitution, season of the year, a full or empty stomach, may all explain them, to which may perhaps be added the possibility of young, or perfectly fresh Yew leaves being different in their action from old leaves, or leaves sometime gathered and partially dried.

ASSUMING DOWNING'S definition of GENERAL and PICTURESQUE BEAUTY in LANDSCAPE GARDENING to be correct, is his assertion that the one or the other should predominate in any created scene, equally correct? There seems very little difficulty in answering the question, if it be only fairly examined.

There are two views of the case. The one is involved by a consideration of the author's avowed design. He speaks distinctly of having regard to grounds of *moderate extent*. And there is no doubt that the occupiers of such grounds form the great majority of those whom Landscape Gardening ought to interest. They are the many: the possessors of widely spread scenery—the vast canvas over which the genius of the artist can freely range—are the few. Now, in respect to the gratifying of the taste of these many, the author is undoubtedly correct. Nothing would be more unpleasant to the eye than such a combination of contrasting elements in the same scene. It would be variety, not only without harmony, but with most painful discord. Only imagine that from any one point you can take in at a glance the whole scenery yielded by the grounds. What could be more ridiculous than to crowd into that narrow space miniature specimens of the wild and the sublime—so deprived of their very character of wildness and sublimity—interspersed with little bits of the calm and the graceful? In limited grounds, then, there appears to be no doubt that the one character or the other should decidedly, if not entirely and completely, predominate.

But even in this case there is another consideration involved. Should the grounds, thus limited, be laid out in harmony with the surrounding scenery, or in perfect contrast? Amid a wild and rugged landscape, should your own grounds be wild and rugged too? Or should the eye find relief by resting in repose on the smooth and slightly undulating surface—the still water—the green and well-shorn lawn—and all that can give the idea of calm gracefulness? And again—if from the point on which you dwell, the whole landscape, every way to the horizon, is a champaign country—varied by smoothly-flowing streams, and evenly-growing vegetation—should you render your own particular spot more markedly beautiful by the contrast which objects of wild and sullen grandeur yield? As ADDISON wrote on a very different subject—"there is much to be said on both sides;" and the reason for this difference of opinion is very simple. Each man's opinion would spring from his own inborn Taste. And so long as each man's Taste should remain the same (which is pretty certain) the controversy would never come to an end. The truth is that, in respect to this question—each man must make his home what he best likes it to be in itself. Let him only avoid the absurdity of uniting together within so small a space characters which become most palpably incongruous (very like the Siamese twins, if one were black and the other white)—and it matters little which character he prefers—whether it be that of harmony, or contrast, with surrounding Nature.

But the case is very different when we have to deal with really extensive grounds. The contrast is no longer painfully close. The incongruity is no longer harshly repulsive. And the solution of this apparent inconsistency is very easy. An extended landscape can be realised in extended grounds: the varieties existing in a natural landscape can be reproduced in this artificial scene. And here is the case in which almost endless charms may be created—beautiful surprises brought into existence—and the Taste gratified by a series of changes differing in principle essentially from each other, and yet forming in combination one harmonious whole.

It is very true—as we have before remarked—that the arrangement of small Villa-gardens in a tasteful style is a problem yet to be solved. But that is a case in which art alone is avowedly concerned. The only object aimed at is to produce the most pleasing result from avowedly artificial designs and combinations. But with regard to a very large expanse of ground, the Landscape-Gardener has tests to undergo hardly less severe, but which his genius must stand, if he would have his profession and himself take the high place which all would wish to see attained. One—and the first test is this—whether he can measure with an artist's eye, and appreciate with an artist's genius—the capabilities of the spot with which he has to do. On this rock alone the majority of Landscape-Gardeners have split. They have too often aimed at carrying out a preconceived system in every instance alike—and without regard to the peculiar nature of the existing scenery. But it is clear as that a proper appreciation of these capabilities alone can decide the character of the scene to be eventually designed. It is now seen effectually whether the "*ars celare artem*," is in the grasp of the artist or not—whether he can introduce principles and objects the most various, yet harmonising beautifully together—whether we shall wander amid scenes which, when recalled by memory, strike us for their singular contrasts, and yet, while wandering amid which, as we passed from one to the other, each only yielded at the time a most pleasing and delightful change—whether he shall thus give a healthful and gratifying banquet of multiplied delicacies to eye, and mind, and fancy; or, aiming at nothing but variety—merely and only as variety—shall surfeit eye, mind, and fancy with an absurdly mingled mass of utterly indigestible food. But this opens out a field for farther inquiry—involving as it does the important question of PROPORTION. =

WITH reference to a SALE OF ORCHIDS advertized in another column for Tuesday next, it may be useful to mention the value of two of the plants then to be brought forward. The first, Sobralia dichotoma, is a plant with the habit of the genus, but bearing a branched spike of flowers as large as Cattleya Forbesii, and of a rich purple colour. The other is the famous long-tailed Cypripedium of Peru. The flower stem of this plant grows 2 feet high, and bears two or three flowers at a time. A dried specimen of one of these measures 9 inches across, and the tails, of which each flower has two, are 1½ foot long. We have nothing in cultivation so singular as this. We hear that the plants are in excellent health.

THE METHOD OF DR. J. F. KLOTZSCH TO PROTECT POTATOES AGAINST DISEASE.

You had the goodness to insert, in No. 38, 1847, my communication respecting Dr. Klotzsch's discovery of a method to protect the Potatoes against disease. A commission has since been appointed to investigate this method, and the Prussian Government have promised the discoverer a reward of 2000 dollars if it should be found practicable. To this effect his treatment of the Potato plant has been made public, and the following is a full translation from the German of this interesting paper, under the hope that the simple method may be tried in England, and the result be communicated for general information.—*Robert Schomburgk, Schomburgk, Surrey, Mar.* 5 29.

"The Potato plant, which is an annual, represents in its tubers, which are developed from the stem, the perennial part of a plant. Though it resembles in its duration an annual, its functions are analogous to those of Dicotyledonous shrubs and trees. The Potato differs, therefore, from all other food plants which are cultivated in Europe, and it can only be compared to the tuberous of the Salep, a plant which belongs to the tribe Orchydeæ, of the natural order Orchidaceæ, the cultivation of which has not been attempted as yet. The

tubers of both these plants belong to that class which afford nutriment and possess in their cells amylaceous granules, and more or less azotised mucus (Stickstoff-haltigen Schleime). The cellular membranes have the peculiarity of becoming gelatinous and nutritive when boiled in water. While, however, the tuber of the Salep produces only one bud or germ, that of the Potato developes several, sometimes even numerous buds.

"The Potato possesses, like other annual plants, the property of directing its main efforts to the production of flowers and fruits. It agrees, likewise, in this with the function of other annual plants, that it shortens the period of its development according to the limitation of the functional powers of its tubers, or prolongs it if these powers are increased. We observe in nature that plants with limited power in their roots possess frequently a weak and miserable appearance, but that they commence to flower and produce fruits at an earlier period than vigorous plants, the roots of which are provided with more powerful activity. In a perennial plant we observe another effort, which consists in preparing and reserving nutriment for its consumption. The preparation of the nutritious properties is effected by the physiological activity of the leaves, and with co-operation of the roots; the more vigorous and the larger that the leaves are, the more restricted is this activity. The nutritive matter is stored up by shrubs and trees in the coloured layers of the bark, and by the Potato and Salep plants in their tubers. Not only the nutritive matter but the cells likewise, owe their origin to the physiological activity of the leaves and roots.

"If we take these points into consideration, it becomes evident that the cultivation of the Potato plant requires a greater attention than it has received. The method of cultivation consisted hitherto merely in clearing it of weeds, and in heaping up the earth around it. Both these proceedings are requisite, but they are not sufficient, because we do not cultivate the plant for the sake of its fruits, but for the production of its tubers; hence our method of cultivation must be regulated accordingly.

"The chief points for effecting this object consist—1, in increasing the functional powers of the tubers; 2, in restricting the metamorphosis of the leaves. We effect both these points in the following manner:—During the 5th, 6th, and 7th week after the tubers have been planted, or in the 4th or 5th week after the planting of rooted shoots, or at any time when the young plants have reached a height of 6 or 9 inches above the ground, the tops of the branches are lopped or clipped by means of the thumb and first finger to the extent of half an inch.* This operation must be repeated the 10th or 12th week after planting, it being immaterial at what hour of the day.

"This process produces a check to the development of the stem and branches, the consequence of which is an increased effort of the nutritive and assimilating substances, not only upon the functional powers of the tubers, but likewise upon the branches of the aerial stems, which not only benefits the functional powers of the root, but strengthens likewise its leaves and branches so materially, that the nutritive substances increased through the physiological activity of these parts are now employed for the improvement of the tubers; besides which, the more vigorous branches and leaves prevent the direct influence of the sun upon the soil and the injurious effect of desiccation. By checking the metamorphosis of the leaves, their transmutation into calyx, corolla, organs of fructification, and petioles, is prevented, which parts are produced at the expense of the nutritious substances reserved in the plant; hence by preventing the metamorphosis of leaves, these substances benefit the development of the tubers.

"Actuated by such considerations, I tried the experiment, in 1846, of clipping the extreme points of the branches of some Potato plants which I marked for the sake of distinction. They distinguished themselves in their growth so strikingly by a stronger ramification, larger and darker leaves, from the other plants, that it did not require any marking on my part to recognise them again. The produce of tubers was abundant, and they were quite sound, while the other plants in the neighbourhood upon which I had not tried the experiment, produced without exception not only a much smaller quantity, but the surface of the tubers was likewise uneven, and suffered in numerous instances from the prevailing epidemic. Though I considered this experiment imperfect, and not quite certain in its results, it gave me, nevertheless, encouragement to renew it.

"I repeated the experiment in April, 1847, upon a low-situated piece of land, with the white round Potato usually cultivated here, and which suffered only slightly at the period that the disease showed itself for the first time in 1845. They were planted by a farm-servant well acquainted with the method of planting. After they had been weeded, towards the end of May, I tried again my experiment by clipping the tops of the plants of every alternate row; which process was repeated towards the end of June. The success surpassed all my expectations. The stems of the plants which had not been clipped were slender, weak, and possessed only a few leaves.

"On a neighbouring piece of land tubers of the same quality had been planted on the same day as mine, the herbage of which was left to nature. It looked healthy, even luxuriant, during the first six weeks, but as the plants approached the state of flowering and fruiting, it assumed a more meagre appearance, and resembled the herbage of those plants on my land on which I had not tried the experiment of clipping. The crop commenced upon this neighbouring land in the middle of August: it was only moderate. The tubers were smaller than usual, very much pitted (pockig) on the surface, and in many instances suffering from rottenness (wasser Fäule). At the end of August the contrast of the plants in the rows which had been experimented upon, in comparison to those which had been left to nature, was so great that it attracted the general attention of the persons who laboured in the neighbourhood, who continually inquired after the cause. At that period the stems of those which had been left to nature were withered or dried up, while the others, which I had treated in the manner just described, looked quite luxuriant; the herbage was ample and the leaves were large, and of a dark-green colour, which circumstance caused the greater number of people to believe that these rows had been planted at a later period. The difference in the production of the tubers was equally striking, not so much with respect to the size of the tubers as to the quantity. They were neither pitted (pockig) nor did they show any other disease, only a few were not quite round, which must be ascribed to a late rain, in consequence of which they did not acquire a perfect development. On the other hand, the tubers of the plants which had not been experimented upon fell off from the stem in spite of the most careful proceedings, and disease and rottenness increased rapidly among them.

"Far be it from me to assert that I am able to explain the nature of the disease which has recently shown itself among the Potatoes; but I am certain of having found a remedy which invigorates the Potato plant in such a manner as to enable it to resist the influence of the prevailing disease.

"If any person should feel inclined to relinquish the cultivation of the Potato for fear of the trouble connected with this operation, which might be done by children, I would remind him that from an equal area of land twice the number of persons may find nutriment if planted with Potatoes as if planted with Wheat."

* It would be a sad disappointment for the purpose of producing the desired result if the process of clipping the branches exceeded half an inch.

CHOU-LESOINNE, OU CHOU À CÔTES BLANCHES D'AVILÈS.

(Lesoinne, or White-ribbed Aviles Cabbage.)

THE following is an extract from a long account of the above, by M. Morren, in the "*Journal d'Horticulture de Gand*," for January, 1848.

The introduction of the Italian varieties of the Cabbage is attributed to the Roman legions under Julius Cæsar. For those of Spain, Belgium is indebted to Professor Lesoinne, of Liege, who has introduced two excellent varieties with white ribs, one forming a heart, and the other remaining an open Cabbage. These, it is to be observed in the first place, were not purchased from the Paris or London seedsmen, but directly introduced by the gentleman above mentioned, from the vicinity of Aviles, in Asturias, on the coast of the Bay of Biscay, in lat. 43° 36′ N.; yet it is said to be quite as hardy as the Brussels Sprouts. Professor Lesoinne has estates in Asturias, and likewise in Belgium; on the latter he has cultivated the Cabbages from Aviles for six years. They are allied to the Portugal Cabbage, or Couve Tronchuda, and consist of two varieties (α), an open Cabbage; and (β), which forms a heart; both possess the characteristic of having white ribs and stalks.

The variety (α) which does not Cabbage or heart, has a strong branching stem, 2 to 3 inches in diameter, and from 20 to 30 inches in height. The leafstalk is about 8 inches in length, thickened at the base, flattened, and channelled, with lobes irregularly pinnatifid, and auricled. By degrees the stalk spreads in a palmate manner, but still preserves its white colour throughout its principal and even its secondary ramifications in the leaf. This variety produces lateral branches, each terminating in a Cabbage less, of course, than that in the centre; but as nearly all the leaves are eatable, as many as 43 of such may be reckoned as the produce of a plant.

The variety (β) resembles the other as regards the whiteness of the ribs, but it forms a close heart; and it is not so tall. It is probable that the seeds of both varieties will continue to reproduce themselves; but as both are equally good to eat, this is of less importance. They are cultivated as white Cabbages generally are for autumn and winter use.

The Cabbages of Asturias are not eaten as sour-kraut—*trahit sua quemque voluptas*. The following is the exquisite mode of preparing them. They are cut, divested of superfluities, and boiled whole. This is the first procedure. The second consists in selecting a baking-dish (*Terrine à pâté*) capable of sustaining the heat of the oven. Slices of soaked bread are laid in the bottom of the dish; on this a layer of Cabbage, boiled; and over the Cabbage some Parmesan cheese, well dried and grated; or if Parmesan cheese cannot be had, dry, high-flavoured Dutch may be substituted. Proceed with other layers of soaked bread, Cabbage, cheese, alternately, till the dish is full, taking care, however, to finish with the cheese. The whole, seasoned with salt, pepper, and other aromatics, is sprinkled with boiling water, and then put into the oven, where it is left till it acquires the requisite degree of tenderness, *secundum artem*. In the third place they serve up, hot, the *Garbure*, for so this delicious dish is termed in the Pyrenees. M. Lesoinne had a medal awarded by the Royal Horticultural Society of Liege for his vegetables, and particularly the Chou d'Avilès; but he deserved another for the art of rendering them a dish worthy of Julius Africanus. ‖

SELECT SPRING-FLOWERING PLANTS FOR BEDDING, &c., IN THE FLOWER-GARDEN.

SPRING-FLOWERING plants possess a twofold recommendation; first they greet our welcome after the necessary repose of winter, and second they form the first step to a successive display throughout the season. The following (some of which are well known) deserve a place in every flower-garden.

Saxifraga oppositifolia is a small, dwarf, compact pot plant, barely covering the surface of the soil, with numerous short, close, dark green, imbricated, leaf-like decumbent stems, and ornamented from March until April with a profusion of comparatively very large lively rosy-purple, salver-shaped blossoms, sitting close upon its bosom, thus forming a very beautiful and picturesque object either for a cold pit or frame, from whence as it progresses in bloom it may be removed to the greenhouse or drawing-room conservatory, returning it immediately after the flowers have decayed.

S. oppositifolia pallida, or major.—These are probably but one variety, though at present sold as distinct kinds. The former produces larger blossoms than the plant last described, and so far it promises to be a desirable improvement upon its prototype. Its permanent merit will eventually depend upon its producing an equal amount of bloom.

S. oppositifolia alba is a white-flowered variety, of equally interesting habit, producing abundance of bloom, and of a clear colour.

Scilla bifolia is a small, hardy, bulbous-rooted plant, of neat, compact growth, seldom more than 6 ins. high, producing numerous one-sided racemes of rich marine-blue, starry-formed flowers during the month of March.

S. præcox, or sibirica.—If there be any real difference in these, it is so trifling that the two plants may be safely cited as one. It is a hardy bulbous plant, of neat habit, about 4 inches high, producing small spikes of beautiful azure-blue, pendent, bell-shaped flowers.

S. bifolia alba is equally hardy and dwarf as those described, and interesting from its clear colour, forming a lively contrast with that of its prototype (S. bifolia). This variety appears to bloom later than the last mentioned species; therefore where it is required they should grow and bloom together, the bulbs of this should be planted nearer the surface than those of the blue one (bifolia). The Vernal-flowering Squills (Scilla), form one of the most interesting and attractive families of early flowering plants, which, thriving as they do in ordinary soils, being perfectly hardy, and multiplying tolerably freely, every body must appreciate. The first-named species (bifolia), from its profuse bloom, would form an exquisite object for a small parterre, and its still more brilliant ally (S. præcox), though not so abundant in flowers, would appear yet more beautiful, where a group or parterre could be formed. Being less productive it is less plentiful than the others. Gardens, from which these plants are absent, lack their choicest spring ornaments.

Viola stricta is a hardy, half-shrubby, evergreen-leaved species, of neat compact habit, growing from 6 to 8 inches in height, and producing numerous purplish-lilac flowers throughout April and May. Though probably incorrect in its present appellation, it is the name by which it is known in nurseries. It forms a very desirable object in common borders, or towards the front or margin of rock-work, and it appears still more valuable for producing effect, *en masse*, in situations where its long-continued bloom, and soft, yet pleasing colours, previous to the appearance of gayer flowers, comports well with the grey dawn of spring, and the bright green aspect of surrounding plants.—*William Wood, Fishergate Nurseries, York.*

PRACTICAL INSTRUCTIONS FOR AMATEURS AND SMALL GARDENS.

ON SEED SOWING.—This season of the year will render more appropriate than at any other time some observations on what is a most important subject, although it may appear to some readers too plain and commonplace to need any comment. As the commonest terms employed in the language of ordinary life are those around which ambiguities and errors are found to cluster, so in all arts and sciences first principles demand earnest consideration as the fruitful source of success or failure. Most observant persons must have remarked that in gardening, in all its branches, a few scientific rules rationally observed are the strongholds of the best cultivators. Let these be understood, and after processes are easy; let them be neglected, and no other advantages will compensate for the loss.

In March and April all the main crops in the fields and gardens are expected to be in the ground, and Divine Providence has given to this time a seasonal character, adapted expressly to this important end. The temperature is raised; the soil is made dry and light by continued winds; while frequent showers support the germ until its deeply struck roots make it less dependent on the state of the surface. Contemplating this arrangement with docility, we shall imitate it in our little operations. A finely pulverised soil pressing on all sides of the seed is found to assist its germination; too much moisture causes it to rot, while a moderate degree of humidity is favourable to a vigorous growth. We shall apply these general remarks to the various departments of seed-sowing which are interesting to gardeners, both in the flower and the culinary departments.

Never attempt to sow vegetable seeds when the soil

is so moist as to stick to your feet. The month of March this year has been sadly trying in this respect, for on some lands no days have been favourable for sowing. Patience is exercised by delay, but the rule ought to be adhered to, for Peas, Beans, Onions, &c., put into the ground when it does not crumble under the touch of the hoe cannot do well. The soil cannot be pressed on the seeds except in a hard clayey texture, inimical to growth, and the surrounding land will be rendered hard and impervious to light and air by the treading. The same remark fully applies to Potatoes, for the lighter the soil is the better the crop will be.

If we follow Nature we shall not sow very deep, for all observation shows that even without any covering, seeds will germinate and prosper. Acorns, Nuts, Peas, &c., left where they fall and undisturbed are sure to push roots downward. It would not do to place our rows of Peas on the surface, for they would be disturbed in various ways; but when we cover them with soil, let it not be too deeply. If the ground is in a proper state, seeds should be trodden or rolled in. Last year I took the advice of a writer in the *Chronicle*, and rolled my Onion-bed, when sown, with a heavy garden roller. I think I perceived the advantages of the plan; and the crop was certainly excellent, less disposed to run to neck than ordinarily. After sowing, if the beds or rows are not too extensive, it is better to guard at once against birds and cats by a slight covering of brushwood. I use Pea-sticks, laying them along the rows of Peas and Beans, and upon seed-beds. As soon as the Peas are up, the sticks are on the spot for their destined service.

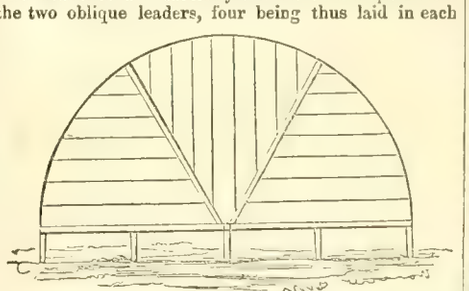
In reference to annuals and other flower-seeds, the same rules apply. Flower-seeds, sown in the open air, should not be put in too early, however inviting the weather may be. Stocks, Marigolds, &c., sown in the end of April, will often be more forward than those put in in March. Heavy rains and cold winds stunt the growth of the seedlings, and frosts sometimes destroy them altogether. But my plan is always to sow annuals in a frame and transplant them. When this is done, the beginning of April is early enough. In sowing, care is required, or the moist heat of a frame will rot the seeds. The soil should never be wet. It will be found that small seeds will grow in mould which appears dry better than in that which is sensibly wet. Abundance of air must be given.—*H. B.*

Home Correspondence.

Transplanting Evergreens.—It is getting rather late in the season for transplanting evergreens, and perhaps out of season for writing about such operations, but gardeners have often to work when there is little hope of their labour being successful. Some time ago, when alterations were taking place, a large Portugal Laurel was required to be removed; it was about 14 feet high and 12 feet in diameter. It was taken up with great care, and a good ball of earth adhered to the root. It was hard work for 12 men to remove it to its new situation, which was only a few yards from the spot where it had grown for years. A proper pit was prepared for the roots, and they received water without measure, to supply their wants. I had read Mr. M'Nab's work on evergreens, and have also assisted at the planting of them under his superintendance, and I think he would have been satisfied with the quantity of water the plant was supplied with, for a sprinkling would not please him. It was in the month of April when the plant was removed. After it was planted, dry weather set in, and with all the water the root received, morning and evening, day after day, the leaves began to droop, and I began to think that the labour had all been in vain. I got, however, some consolation from the "Theory of Horticulture." It says—"It is generally believed that leaves absorb fluid from the air, and their stomates appear well adapted for that purpose, by their position being in most abundance on the under side of the leaves; and the possibility of recovering drooping or sickly plants by syringing their epidermis copiously, seems to render this fact almost certain. It is, however, thought by some that leaves have no power of absorbing water even in an elastic state, and that the renovation of plants by syringing is owing to a diminution of perspiration." I did not wait until vegetable physiologists would settle these points. I thought any of them would answer my purpose, so by means of water and a garden engine, the under sides of the leaves were copiously watered, and the ground beyond the boundary of the plant was also watered. This was done with the intention that when evaporation took place in still weather, the leaves would be in a somewhat humid atmosphere. The plant recovered from its sickly appearance; however many of the leaves fell off, which is no uncommon thing in newly-planted evergreens, and we believe fewer would have fallen had the watering of the leaves commenced sooner. Because a large Portugal Laurel lived, however, that was removed in April, I would not on that account recommend planting at such a season, but I merely show what may be done should such things be required.—*Peter Mackenzie.*

Some Remarks relating to the Fall of Rain.—As deductions from meteorological journals which have been carefully and regularly kept must, at least, be interesting to most people, and, I may say, useful to the horticulturist and farmer; I shall therefore offer a few remarks relative to the pluvial subsidency of the atmosphere over our locality. From a register of the fall of rain which has been kept here for the last 26 years, ending December 31, 1847, it appears there fell in that time 690,728 inches; which gives an annual mean of 26.56646 inches. But as the depth of rain has been falling off for the last four years, the above mean will be found to be too little for our locality; hence, by interpolation we obtain the following annular constant: 26.67457 inches for Epping, and which will not be much affected by the inequalities of subsequent years in this part of England. This is a useful point gained for a comparison of future years, at least in this part of the country. On collating the last four years with the above mean, I find there was a decrease in the depth of rain equal to 9.2401 inches, equal to 3871 hogsheads per acre, and in the last year only there was a decrease of 5.4196 inches, or 2270 hogsheads, for the same area of ground. Hence the dryness of the soil, even to the end of the year, may be readily accounted for. By the same parity of reasoning that has been used for finding the standard annual mean, we readily find the monthly averages as deduced from the observations taken during the above-mentioned period of 26 years; and they are as below, in inches and decimals of an inch, viz.: January, 1.7704; February, 1.8272; March, 1.5662; April, 1.7021; May, 1.8671; June, 2.178; July, 2.364; August, 2.6017; September, 2.8235; October, 3.0539; November, 2.8079; and December, 2.1125. Now as these may be considered permanent or constant quantities for each month in this place and neighbourhood, we shall, by comparing past and future years, readily ascertain not only the useful excess or deficiency of any year under examination, but also the same for the monthly divisions of the said period. For instance, let us take the last year (1847) as an example, and we shall see in what months the depths of rain have been plus or minus, relative to the standard mean of the respective months. Hence January, 1847, will be found to have been + .002; February — .53; March — .645; April — .38; May + .519; June + .154; July — 1.401; August — 1.16; September — .535; October — .942; November — .942; and December + .472. Subsequently we may conclude that for a time January, May, June, and December will be somewhat under the means; and, on the contrary, the other eight months may be expected to be above the standard of the respective months, especially July and August—not a favourable view for the coming harvest!—*T. Squire, Epping, March* 28.

Fruit Tree Training.—A proper distribution of the sap in fruit trees is an essential requisite to their healthy growth, and as an overabundance or deficiency of this may affect their fruitfulness, I send you a sketch of rail by which this is kept in view, which I have sometime ago put up in my little spot, on pins of Larch. The branches are carefully trained on the spars from the two oblique leaders, four being thus laid in each



season. The whole is sooner stocked, and one-half of the branches being horizontal, while the other is perpendicular, causes in my opinion a distribution of sap suited for productiveness in any season. Their appearance is very ornamental, and much more airy than the old stiff rail; by being a few feet distant from each other, and a dwarf standard planted between them, the effect is heightened. They are possessed also of this advantage, that when the trees are full grown they can be retained *in situ* by a semicircular iron rod after the rail has failed, which still keeps up the original appearance. The same mode of training is applicable to wall trees, and enables us to have the walls covered in half the time. My trees have not been long enough under this mode of training to enable me to give you practical results of the fruiting of the several parts, but I am every way satisfied with their appearance in regard to the formation of buds.—*J. B. Weir.*

Birds Friendly to Gardeners.—During last summer I passed several times through a field of Swede Turnips, which proved all but a total failure; and the farmer, in order to obtain a crop, resowed the ground with Stone Turnips, which were just in the rough leaf when an unusual flock of water wagtails among them caught my attention. I halted, and soon found that they were collecting flies off the young leaves, and so intent were they on their work, that they allowed me to go within a few yards of them. The plover, which Carnation growers like in their gardens, also lives on insects, particularly on the wireworm, and it is easily domesticated. The rook, too, every gardener and farmer should encourage. If there must be Game-laws, such game as these is truly worth preserving. The field in which the Swedes grew was much infested by small grubs; the same ground is, however, now well covered with Wheat. During the last month rooks have daily traversed the ground, collecting the grubs, but I cannot find that they injure the Wheat.—*R. A. C. K., March* 28.

Cottage Garden Allotments.—About six weeks ago I wrote to you, requesting information upon the best mode of framing conditions for prizes for occupiers of cottage garden allotments. In the manner best calculated to elicit such information, you very kindly asked your correspondents to furnish your readers with practical directions on this subject, and some of them have as kindly responded to your appeal. I have derived from their suggestions all that I desired, and now request permission to thank them for the expression of their experience; and it may not, perhaps, be altogether uninteresting to them to be informed that in consequence of their remarks, the gentry and principal farmers of this district have just formed an Association for promoting and encouraging industrious and provident habits amongst the labouring classes, and have agreed to print and circulate among them a hand-bill, of which the following is substantially a copy. "Chipperfield Association for promoting and encouraging industrious and provident habits among the labouring classes." Committee: the gentry and the principal farmers. Conditions upon which the following prizes are offered for the year 1848, for the best cultivation and specimens of produce. 1st Class Prizes, neatest and best cultivation: 1st prize, 10s.; 2d do., 7s. 6d.; 3d do., 5s.; 4th do., 3s. In addition to the money a hoe and rake to each of the successful competitors. Three judges—Mr. ——, Mr. ——'s gardener, and Mr. ——, to inspect the allotments in May, July, and September, and report to the committee on the day of exhibition, which is fixed for 11th October, which four of the tenants have best manured, weeded, and cropped their gardens, as well as kept the main road and fences surrounding them in the most perfect order. 2d Class. Specimens of vegetables to be exhibited on the day of show. Carrots and Parsnips, best bunch of 12 of each: 1st prize, 5s.; 2d do., 4s.; 3d do., 3s.; 4th do., 2s. Onions, a string of the best 20: 1st prize, 5s.; 2d do., 4s.; 3d do., 3s.; 4th do., 2s. Turnips: a prize of 5s. for the best crop produced from not less than one pole of ground, the seed to be sown not earlier than the 10th of July. Three extra prizes, to the amount of 10s., offered for any other specimens of vegetables, particularly Cabbages, deemed by the judges to possess extraordinary merit. No tenant entitled to compete for, or receive, any of the above prizes, who has not strictly observed the printed rules and regulations. Our Association, I may remark, will this year confine its attention to offering and distributing prizes, as the conditions state, for the best cultivated cottage gardens, and the finest specimens of the most serviceable vegetables; but in future years our object and design will be to adopt measures as far as practicable for promoting and encouraging the comfort and raising the moral character of the labouring classes, by stimulating them to general good conduct, sobriety, contentment, forethought, cleanliness, well regulated management of their families, obedience to lawful authority, and other commendable habits, which so essentially conduce to their welfare and the proper discharge of their duties in life. These desirable attempts we propose to carry out by distributing amongst them plain and practical tracts upon these important subjects; by occasional visits to their cottages; and by rewards of implements, and, in some cases, of articles of furniture, which are now very cheap, but of which many poor families are miserably destitute. And I venture to declare my conviction that if proprietors of cottagers generally had a more kindly consideration for the comfort, convenience, and morality of their tenants, never in any case permitting a family with children to occupy a cottage which has not two bedrooms, they would in no small degree be aiding in the prevention of much of the obscenity, immodesty, and unchastity which, in many places, so grievously prevail. It is no unusual circumstance, as medical men, clergymen, and relieving officers particularly, can painfully testify, to find whole families, consisting of the father and mother, and six or eight of their children of various ages, male and female; others who have lodgers; and some even of three generations sleeping in the same close and unwholesome apartment. From this indiscriminate and promiscuous herding together, what can be expected but vulgarity, gross immorality, and pollution of body and soul? Happily, however, these painful facts do not evince themselves to the same extent here as in densely crowded towns and manufacturing districts, for I have the satisfaction of knowing that the habitations of the poor in this place are more roomy and less thickly planted than in most localities. And not only without affectation, but with sincere thankfulness, I may add that the proprietors of land and houses, and the agriculturists of this neighbourhood, take a lively and praiseworthy interest, as in most other places in our highly favoured and hitherto peaceable land, in promoting the general comfort of the labourer, by aiding in support of clothing and coal clubs, relief and friendly societies, and other similar useful institutions. I trust I shall be acquitted of presumption in making these observations, which to some of your readers may appear irrelevant to my present object in writing to you. I trust, also, I shall not incur a like imputation if I further venture to hope that the formation of our Association, insignificant as its beginnings confessedly are, may excite a universal resolution to adopt some such plan for bettering the condition of the labouring classes. I am fully persuaded, from many years' experience of letting out allotments, though I have not until last year distributed prizes for the culture of vegetables, that such a mode of encouragement very greatly contributes, in many respects, to the happiness, order, and prosperity, not only of a neighbourhood but of the community; for, certainly, it must be acknowledged that whatever conduces to improve the moral character and industrious habits of our labourers;

to sweeten their toil, and to make their homes more comfortable; and especially to promote a reciprocal feeling and good understanding between the employer and his servants, who are of course mutually dependent on each other, is a patriotic intention, and a most likely means of begetting and preserving happiness and contentment. The present season of the year is most favourable for the commencement of granting allotments to labourers; and the disorganised state of continental Europe (and it is impossible to foresee what evils may result from recent tumults, and what may be the effect even upon the quiet habits of the English labourer from such a lamentable precedent) demand of every one who has it in his power to alleviate the necessities and to mitigate the privations of our labourers, as well as to remove all just cause for murmuring and discontent, and to make them sensible of the blessings of order, harmony, and peace. For all of us in our several positions and grades of society to do our duty in that station of life in which it has pleased God to place us, and to fill up our proper place in improving, faithfully and diligently, and wisely. The talents and tasks committed to us is no ideal and transitory notion or fallacious beguilement of "liberty, equality, and fraternity," but a permanent source of peacefulness, happiness, and satisfaction.—*H. D., Chipperfield, Rickmansworth.*

The Banana.—I doubt not but many objections will be made to the introduction of this rarity to the dinner table as one of our regular dessert fruits, but I am confident that if the cultivation of Musads was better understood, these would in a great measure, if not altogether, be removed. I shall just deal at present with one or two of the principal objections which I have heard made. The first is, and a very plausible one too, that the growth of the Banana is too large for our small stoves, and that, unless in a house set apart wholly for its cultivation, it would be impossible to give it justice without interfering with and injuring other plants. In answer to this objection I will endeavour to give some account of a very nice plan which once came under my observation, and appeared to be successful in the highest degree. The house was a curvilinear Pine stove, of ordinary dimensions, with a pit for the Pine plants in the centre, and along the back wall a pathway about 3 feet wide; the wall was built a little thicker than usual, with recesses every 3 feet, the dimensions of which were, as well as I can remember, 3 feet 6 inches broad, 1 foot 6 inches deep, and 9 feet high, with an arched top. A plant was placed in each of these recesses, and the large and luxuriant leaves, when it had attained its full size, partially overshadowed the pathway, and formed an object of beauty, without interfering in the least with the cultivation of the Pines or any of the other fruits grown in connection with it. The plants may be either grown in tubs, to be conveniently carried to the ball-room, if necessary, for decoration, and in which the fruits may be cut as required; or with a slab of stone built into the wall at either side of the recess, forming a kind of border for each plant. The latter plan would perhaps be most advisable, as the stem, when the fruit is matured, being of no use, might be cut down and used for decoration without the inconvenient appendage of a tub. Of Musads, M. Cavendishii is deserving of cultivation, not only on account of its dwarf habit, but because it fruits more abundantly than any other sort. It seldom attains a greater height than 6 or 7 feet, and sometimes fruits when even less. It is, therefore, evident that with the dimensions above stated, in a house 60 feet long, there may be 10 specimens grown to perfection, each producing on an average about 40 fruits; indeed, I have myself seen several bunches of from 60 to 90 well coloured and well flavoured fruit on one plant. Another objection often made is, that Musas require a long time before they come to maturity, or are even fit for fruiting. This will, of course, depend on the strength of the sucker when removed from the parent plant, and the attention paid to it during its growth. If properly taken care of, and a good rich soil with plenty of pot room allowed, it will make rapid progress in the temperature necessary for a Pinery, and under such treatment after three years I have seen the brilliant bracts making their appearance, and I have no doubt when the cultivation of Bananas is better understood, even much less time will be required to fruit them; and though the above may appear a long time, yet with a proper succession of young plants, each space may always contain a well-grown specimen either coming into flower or in fruit. I have known some cases in which the suckers were not removed from the parent plant, but were allowed to grow on, the strongest generally taking the lead, or perhaps two of them of about equal strength. In this case the tub or border should be top dressed with some rich material, and a liberal supply of liquid manure allowed, as the former plant will have quite exhausted the soil. The supply of liquid manure should be withheld about a month before the fruit becomes perfectly ripe, in order to improve its flavour.—*J. C. N.*

Ventilating Machine.—Much has lately been said in your columns relating to the important desideratum of ventilating hothouses. It is plain there is much difficulty in obtaining such ventilation as is wanted, from time to time, independently of the degree of heat requisite to be maintained for the various purposes for which the house is being used. Would it not be easy to introduce in each house a small machine, made on the principle of a winnowing-fan? The farmer obtains a very powerful current of air in a small compass by this means. I think the same advantage might be had at no expense and bulk, disproportionate to its advantage, in the gardeners' houses. It might be wound up like a clock, when its gradual action would produce a gentle and continued breeze; there should also be attached to it a winch or handle, so that a man, by turning it, might increase the degree of wind to any extent desired, as often as wished, for as long a time in continuance, or with as often recurrence. The current of air could also easily be diverted by the interposition of any light substance, such as canvas or thin boarding, from injuring plants. As I have not seen the above idea suggested before, I venture to submit it to your approbation.—*Rusticus, March* 29.

Railway Embankments.—In reply to your correspondent "Yorick," I beg to state that with proper management Larches may be grown fit for sleepers in the time I mentioned. When I say proper management, I mean keeping them free from weeds when the trees are small. Is not "Yorick" mistaken when he says that railway sleepers are 9 feet long. I have been at some pains to ascertain their length, and I find that on the lines of the London and South Western and Greenwich Railways the sleepers are about 7 feet in length. My object is to befriend the farmer by preventing the growth of seeding weeds, for which purpose Larch is very suitable. Is "A. B. C." serious when he recommends planting Araucarias, Deodars, &c.? is he aware of the price of those plants? surely not. Evergreens mixed with Conifers, the different varieties of Crataegus, &c., would look very beautiful, but the expense would be considerable, whereas planting with Larch is not expensive, and there is certainty of pecuniary return. A word or two to "A. F. G." and I have done. His chief objection is that the trees would dazzle the sight, and that the lines would be darkened and obstructed; but the Larch is not a sombre looking tree; and, besides, it is deciduous, and as to obstruction, I should think with a little judicious planting, where bends and sweeps occur, this difficulty would be obviated. By planting at different periods, too, the monotony of a continued belt of trees would be prevented, and where the landscape was beautiful I would in no case plant it out.—*E. F. G.*

Cottager's Frame.—I beg to send you what I conceive to be the most economical rotation for a cottager's garden frame. In March sow Cauliflowers, Brussels Sprouts, &c.; in June plant out the above, and put in cuttings of Pansies, Double Wallflowers, and China Roses; in October plant out the above and prick in Cauliflower for spring use; in March plant out the above, protecting with Larch branches from frost, and sow as above. Such a memorandum I have found most useful, even although all that it contains is commonplace, but the fancy of individuals may vary its contents—*W.*

Miscellaneous Scraps.—As a substitute for the grafting wax in common use, gutta percha will be found much superior. Can you tell me whether any one has ventured to try the vapour of chloroform for the destruction of Aphides? Two or three drops on a bit of rag put under a hand-glass with a plant affected by the Aphis, is worth a trial; and will not collectors of insects find it useful in putting their poor moths and butterflies very comfortably to rest? Has anything been produced between the Gesneras and Achimenes or Gloxinias? [Not that we know of.]—*S. J.*

Foreign Correspondence.

Paris: Exhibition of the "Société centrale d'horticulture," ci-devant Société Royale.—The annual show of this Society was held on the 23d March and three following days, at the grand gallery of the Luxembourg Palace, under any but auspicious circumstances; in fact I believe no other city in Europe would have attempted such a thing at such a time; but the French are totally unlike any other people, and it is not fair to judge them by the same rules. At the very moment I was looking at the flowers, some thousands of persons were congregated in the gardens of the Luxembourg, almost close under the windows of the gallery, shouting the "Marseillaise;" but all this is now looked for as a matter of course, and no one thinks anything about it; even on the Wednesday and Thursday, in the height of the revolution, all the theatres and places of amusement were as much crowded as at any other time; therefore, after all, there is nothing very strange in having a flower show, especially as the motive is patriotic. The great thing now wanted is something that will calm the passions of the people, no very easy task, for such a revolution as this is unexampled in history. Anything that will tend towards this is praiseworthy, therefore the Society deserve credit for their good intentions, and the exhibitors for exposing their flowers. Considering all things, the show was much better than could have been expected. The weather has been miserable for the last month; scarcely a glimpse of sun, nothing but rain and wind. Even the famous Chestnut tree of the Tuileries has refused to unfold its leaves on its anniversary. The Rhododendrons of M. Lémichez were beautiful, and every way worthy of the Gold Medal. In his collection were some well-bloomed plants of R. carneum, elegantissimum, magnificum, Duke of Cornwall, rubricaulis, Yellow Superb, Mathilde, aureum, triumphans, Queen Victoria, strictum, Ne plus Ultra, cinnamomeum, rubrum verum, Criterion, Smith's Buff, nobilissimum, superbum, and Pardolotrum. —M. Margottin was awarded the large Silver Medal for Chinese Azaleas. The collection was not very large, but nicely grown and covered with bloom. The most conspicuous were A. variegata, dilatata, exquisita, Prince Albert, rosea elegans, calamistra, delicatissima, refulgens, eximia, magniflora, formosa, Victoria, optima, colorans, dilecta, and leucomegista.—The 2d Silver Medal was awarded to M. Lémichez, for Diana, variegata, Marianne, exquisita, Perfection, fulgens, picta, Reine des Belges, Prince Albert, Fortuneana, ignescens, and dilecta.—M. Michel was awarded a Gold Medal for a very pretty collection of Ericas and Epacrises. Every plant was well bloomed, and did credit to his skill as a florist; the following were particularly fine—E. vernix, Linnæoides, Westphalingia, mundula, mirabilis, cerinthoides, vernix coccinea, and rubra.—Messrs. Thibaut and Ketteléer gained the Silver Medal for the finest collection of plants in flower. Among them were Camellias, Saccoi nova, very fine shaped, flesh colour; Innocenza, a beautiful pure white; and Colderara; a fine Gesnera verticillata and subalba, a very pale pink; Tremandra verticillata, Ribes albidum, together with some Epacrises, Gloxinias, &c.—M. Chauvière gained the Silver Medal for Cinerarias, and M. Bruneau the second prize; the greater part of these appeared to be seedlings.—The Silver Medal for the finest plant in flower was awarded to M. Chauvière, for Epacris Wilmorei; he had also some good plants of Gloxinia Handleyana, Strelitzia reginæ, Franciscea hydrangeæformis, and a seedling Veronica, which was too much like speciosa to be of any value.—M. Pelé was awarded a Silver Medal for a miscellaneous collection of open ground plants (but bloomed under glass) consisting of Primulas, Anemones, Hyacinths, Narcissi, Violas, Campanulas, &c.—M. Mathieu had a splendid collection of Hyacinths, for which he was awarded the Silver Medal, but as no names were attached I am not able to send particulars. —Fruit was not forgotten; Messrs. Jamin and Durand as usual took the 1st prize with some finely preserved Pears and Apples; but that which attracted most attention was an enormous Pear "Royal d'Angleterre or Belle Angevine," which could not, I think, have weighed less than 1½ lb.; besides these there were fine fruit of Pears, Bergamotte Bernard, de Pâques, Fortuné, Doyenné d'Hiver, Catillac, Colmar Van Mons, Passe tardive, Bellisime de Berlin, Leon Leclerc, Eliza d'Heyot and Partheney.—Among the Apples were some good Calville blanc and rouge, Reinette de Berlin, de Caux, St. Sauveur, and Belle Josephine.—Such has been the first horticultural show under the Republic of France; very shortly there will be another for Camellias by the Cercle Générale, if things remain quiet.

Societies.

Microscopical, *March* 29.—G. Busk, Esq., President, in the Chair. A paper was read from Dr. Adam Clarke on the microscopical structure of the skin of Muræna. The details of the appearances presented by the skin of this fish were minutely detailed, some of the facts throwing light on the structure of the cutaneous apparatus in higher animals.—A communication was read from Mr. Warrington on media for preserving microscopical objects. One of the best means of preserving animal and vegetable bodies was in glycerine, a body separated from the fixed oils by the formation of soap. This substance, which might be obtained in any quantity, was thrown away as waste at the soap-boilers. It might be used pure or diluted with water. No decomposition or attack of fungi ensued upon the use of this substance. As a means of preserving crystalline bodies, as the various salts, the author had found cold drawn castor oil the most valuable medium. If the castor oil threw down stearine in cold weather, which it ought not, it would be valueless. —The President inquired if glycerine could be used for preparations of greater bulk than those for the microscope, which Mr. Warrington answered in the affirmative.—Dr. Lankester stated that a cheap and efficient medium for the preservation of animal and vegetable substances had long been a desideratum, and alluded to the disadvantages of those at present used.—Mr. Bowerbank hoped that Mr. Warrington would still further test the use of glycerine.

Reviews.

Journal of a Residence at the Cape of Good Hope; with Excursions into the Interior, and Notes on the Natural History and Native Tribes. By C. J. F. Bunbury, F.L.S. 8vo. Murray. Pp. 297.

No one who wishes to be acquainted with the Cape colony and its present state can dispense with reading this volume, in which the author relates his observations on the people, as well as the country, up to the limits of Caffreland. He gives a clear and highly useful history of the causes of the Caffre war, concerning which he discovered that a few facts are worth a ship-load of assertions and arguments.

"In what," says Mr. Bunbury, "relates to disputed questions of colonial policy, and especially to the character and treatment of the Caffres, some inconsistency may be observed between the opinions expressed in my journal and those in the chapters subsequently written. I went out to the Cape strongly prepossessed in favour of the views entertained on these subjects by what is called the 'religious' party, or that of the missionaries; and it was only by degrees that my prejudices yielded to a more intimate knowledge of the real state of affairs, and to the influence of subsequent events."

It is, however, with the vegetation that we have to occupy ourselves, and we cannot but express our regret that one so well qualified to gather information should have given his readers so little on this interesting subject. What we do find, however, contributes essen-

tially to an understanding of the climate of the Cape of Good Hope, and of the causes which affect its peculiar vegetation. What a boon to the public it would be if some gardener, with the requisite amount of skill and industry, were to extract from the endless works of value, written by travellers, that which is most essential, and work it up into a consistent whole!

Mr. Bunbury gives us the following account of a Cape winter, which may possibly surprise those who forget that, at the antipodes, the seasons are reversed.

"*Jan.* 28.—Since the cessation of the south-easter, we have had very hot weather, as is usual at such times; on the 25th, the thermometer stood at 91° in the shade, and yesterday at 90°. This is the most unfavourable season of the year for botanising, on account of the long-continued heat and drought: all the bulbous, and most of the herbaceous, plants are withered and dried up; yet, even now, there are many interesting things to be found. The general aspect of the vegetation, at this time of year, is certainly rather stunted, harsh, and rigid; and though there are some brilliant flowers, there is no fine verdure nor development of foliage. The soil, composed of a hard red clay, mixed with the detritus of the sandstone rock, which lies immediately beneath it, is covered with Heaths and other slender, small-leaved shrubs, intermixed with prickly bushes, somewhat resembling Furze, tufts of slender wiry Grasses, and hard, tough, rush-like plants of the Restio tribe; and these do not cover the ground closely, like the vegetation of our northern heaths and commons, but are rather thinly scattered, leaving spaces of bare soil between them. Among these appear, even now, the bright blossoms of a few herbaceous plants, in particular a beautiful pink-flowered Chironia, and two Lobelias, one with golden yellow flowers (an unusual colour in that tribe of plants), and the other rivalling the Gentians of the Alps in the splendid blue of its corolla. One of the most abundant shrubs is the Struthiola erecta, a neat little heath-like plant, bearing a profusion of delicate white flowers, deliciously fragrant. I found also the Erica cerinthoides, with its fine scarlet blossoms; a pretty little Milkwort; several everlastings (Helichrysum); the Muraltia Heisteria, a prickly, Furze-like shrub, with small bright purple flowers peeping from among its spiny-pointed leaves."

"*Feb.* 19.—Although this is the least favourable season of the year for botany, yet the variety of plants on the Flats is still very great. The Heaths are particularly beautiful: some are tall, stately shrubs, as high as a man, while others rise only a few inches above the ground; some have scarlet flowers, some crimson, some purple, some pale pink, some white; in some the corolla is long and trumpet-shaped, in others tubular with a contracted mouth, in others short and bell-shaped, in others, again, almost globular. Intermixed with these grow numerous Brunias, Struthiolas, and Gnidias; beautiful rose-coloured Chironias, Lobelias with brilliant blue or yellow flowers; a variety of Papilionaceous-flowered plants, Proteas, Cliffortias, Rush-like Restiones, &c."

One of the more interesting paragraphs is that which relates to the Disa grandiflora, perhaps the most brilliant of all the race of Orchids. A walk of 2½ hours brought the author and his companion, Dr. Harvey, (Feb. 28) to the summit of Table Mountain, 3582 feet above the sea.

"The sun was now up, and the air around and above us quite clear, but it felt cold and damp, and the herbage was all dripping wet; I could have fancied myself in quite a different latitude from Cape Town. We proceeded immediately in search of the Disa grandiflora, the celebrated beauty of Table Mountain, which had, in fact, been our chief inducement to ascend at this season. The top of the mountain, though varied with rocky knolls in some places, and marshy depressions in others, is in general singularly level, and forms a narrow plain about two miles long, extending from S.E. to N.W., with a precipitous descent on each side: a large part of its surface is a kind of pavement of flat or rounded rocks, with herbs in the interstices; other parts are swampy, and covered with Moss, or with tall Rushes and Fern. The Disa grandiflora grows in a marshy hollow near the eastern extremity, where it is abundant among the Rushes on the margins of small pools and streamlets, in a black boggy soil; this is the only known locality. It is certainly one of the most splendid flowers I ever beheld, and may rank, I think, among the very first, even of the lovely Orchis tribe. Besides this, we gathered two other rare species of Disa (D. ferruginea and tenuifolia); a delicate cream-coloured Gladiolus; the brilliant Crassula coccinea; several pretty Heaths, some peculiar to this elevation, others common to the summit and base of the mountain; some curious Ferns; a variety of Compositæ, &c. Penæa mucronata is one of the most abundant plants on the top of the mountain. A large and handsome Fern (Todea africana) grows plentifully in the wet hollows and among rocks in the Poort."

Those who wish to grow Cape Disas should carefully study this description. We had marked some other passages for extract, but our limits are already exceeded, and we must endeavour to return to the subject on another day.

THE ROUND LEAVED PROSTANTHER.

(Prostanthera rotundifolia, R. Br.)

Among the pretty Prostanthers which are now known in gardens, this is one of the gayest, and deserves to be universally found in greenhouses. It forms a close dwarf shrub, whose foliage is almost concealed by the vast quantity of large violet flowers with which the branches are loaded. The surface is covered with a grey short glandular pubescence. The leaves are nearly round, on short stalks, with 3 or 5 slight notches on the edge, and are slightly aromatic.

The species is a native of Van Diemen's Land, where Mr. Ronald Gunn has found it abundantly. Where it is to be found in England we know not, the specimen now figured having been sent us last year by an anonymous correspondent. It is a hardy greenhouse plant, requiring the same treatment as Boronias, Correas, and similar plants. What that treatment should be is at present imperfectly understood, and will some day be made by us the subject of a special communication.

Garden Memoranda.

Peradenia Botanical Garden, Ceylon.—We cannot conceive a day more pleasantly spent than in surveying the beauty of arrangement, and examining the botanical treasures, which now distinguish the Peradenia Garden; which, is superintended by a gentleman of the highest qualifications, imbued with an enthusiastic love for his profession, and the most intense and persevering industry in following out the researches and pursuits connected with it. The results are visible all around, in the shape of order, luxuriance and brilliance. Passing through an avenue of handsome and clean-limbed India-rubber trees, entwined occasionably with serpent-like creepers, the visitor on entering the gateway finds immediately in front of him a magnificent group of Palms. Conspicuous amongst these stands that glory of Ceylon the Talipat—one leaf of which will shelter 20 men, and which after flourishing green and beauteous for a quarter of a century, finally obeys its mysterious instinct by bursting forth into flowers and fruit as the last expiring effort of nature. This tree is often confounded with a similar Palm that may be found close at hand. This is the Palmyrah (Palm rah), which flourishes in the south of Ceylon and south of India, yielding a crop of fruit, annually, when the spatha is not wounded for the sake of its delicious and richly saccharine juice. The leaf of this tree is infinitely smaller than that of the Talipat, while its fruit is much larger. Mr. Lee in his recent work has fallen into the strange mistake of talking of the Talipat as bearing no fruit, while the Rev. Hobart Caunter spoke of having fruits of the Talipat as large as 24 pounds each. He [illegible] Palmyrah fruits, the inspissated juice of which forms a popular and favourite article of food amongst the Tamul people of southern India. The Talipat is, we believe, a native of the lower mountain regions of Ceylon and the Malabar country, while the Palmyrah flourishes on the sand and alluvial plains, in situations where even the Cocoa-nut will not grow. From the Talipat leaf large fans are made, which are held over the native chiefs by their attendants, while the Palmyrah leaves, [illegible] into small fans, are used to [illegible] and manure. In this clump of Palms may also be seen a fine specimen of the Anowe Palm of the Malays, of which there are very few in the island, the others, we believe, growing in the vicinity of Galle. The one in the Peradenia Garden is bearing a large crop of fruit this year for the first time, and we trust the superintendent may succeed in raising a large number of young plants, as we know the tree to be a most valuable one to the Malays, who manufacture cordage from the long black [illegible] fibres which hang down from the bottom of the leaves, and which is renowned for its power of resisting rot. Like that of our own Jaggery tree, the juice is either drunk as toddy or made into sago; and the heart of the young fruit preserved in sugar, forms one of the well known preserves of the straits. Even as an [illegible] tree is highly ornamental, from its handsome foliage. Here also was pointed out to us the Cardage Palm of the West Indies, an elegant one introduced from Madagascar, in aspect not unlike a miniature Talipat, and the true Eastern Rattan. To the right and left of this group are two others filled with plants belonging to those tribes which yield the Arrowroot and Cardamoms, many of them with a remarkable aspect, bearing handsome clusters of flowers of all colours. In the centre of each of these beds stands towering above their more lowly companions, a single plant of the grotesque yet elegant Traveller's Palm, the stem of which looks like that of the Cocoa-nut, while the Plantain-like leaves are widely spread out on two sides like an expanded fan. Till now we were under the impression that the tree had the power to generate water at the top of its stem, by puncturing which the weary and thirsty traveller might refresh himself, when he was fortunate enough to encounter it; but this, like many other of those travellers' tales of which we fortunately have much fewer now than in the times of old, becomes common-place when properly explained. Instead, as we have been led to suppose, of the tree growing naturally in dry arid regions, we now learn that it is a native of swampy tracts in the island of Madagascar, and that the water which is found at the bottom of the leaves is merely that which is collected in the sheath during rain, and that in dry weather none is to be found.

Leaving this imposing portion of the grounds, we pass on the right hand side of the spice garden, in which we saw magnificent specimens of the Nutmeg tree loaded with the Pear-like fruit, a few only of which were ripe enough to exhibit the bright scarlet Mace by which the Nut is surrounded. Here also flourish in perfection the Clove and the All-spice, and in the shade beneath them a plantation of the more humble Cardamoms. In this vicinity may also be seen the Cacao or Chocolate-nut tree, but which we were told does not succeed so well at Peradenia as in the hot humid climate of South America. The little squirrels seem to have acquired a strong relish for this favourite article; not, however, in its fluid state, but for the green nut, every pod nearly as they ripen being attacked by them. Near these trees grow also a few plants of Tea recently introduced to the garden. On the left hand side, or that opposite the spice grounds, there is a large space allotted for the purpose of a nursery, principally of fruit trees, supplies of which, as well as of all other plants, are always on sale, and for which we were informed there is a considerable demand. A little beyond the entrance to this nursery, the visitor should have pointed out to him another Malay tree, that from which the Calepati oil is obtained. This, the only specimen in the island, is not unlike the weeping Birch in its general appearance, and the way in which the outer layers of bark

NEW GARDEN PLANTS, PUBLISHED IN BOOKS.

N.B.—* = Very handsome. † = Second rate. ‡ = Third rate. ¶ = Unimportant.

Name.	Where Published.	Name of Country.	Quality.	Natural Order.	Colour of Flowers.	Time of Flowering.	When first Flowered.	Where.
Cantŭa bicŏlor ..... * *Red and Yellow Cantua.*	Ann. Gand., t. 184	Peru	G. ♄	Polemoniads	Red and yellow.	Nov. to Feb.	1847	Ghent.
Cattlĕya elĕgans..... * *Elegant Cattleya.*	Ann. Gand., t. 185	Brazil	S. ♌ (epiphyte)	Orchids	Purple	.....	1847	Ghent.
Thibaudĭa pulcherrĭma..... * *Beautiful Thibaudia.*	Bot. Mag., t. 4303	N. India	G. ♄	Cranberries	Red variegated.	April	1847	Lucombe and Co.
Gardenĭa malleifĕra ..... * *The Clapper Gardenia.*	Bot. Mag., t. 4307	Sierra Leone	S. ♄	Cinchonads	Cream colour	.....	1847	Kew.
Acacĭa celastrifŏlia ..... * *Celastrus-leaved Acacia.*	Bot. Mag., t. 4306	Swan River	G. ♄	Leguminous plants	Yellow	March	1847	Kew.
Berbĕris ilicifŏlia ..... * *Holly leaved Berberry.*	Bot. Mag., t. 4308	Terra del Fuego.	H. ♄	Berberids	Orange	March	1847	Kew.

peel off increases the resemblance. In passing along the great centre walks, leading from the entrance, which is about half a mile in length, the eye is constantly attracted by a succession of rare and beautiful plants. A gaudy little fellow, with bright crimson leaves, was pointed out to us as one only very recently introduced to the country; and here was also an elegant little shrub bearing long spikes of delicate rose-coloured blossoms—a native of our island, having been brought from the neighbourhood of Adam's Peak by Mr. Gardner, which has been selected to bear the name of the illustrious Baron Humboldt. A little further on, the walk passes through a small circle planted chiefly with fleshy or succulent plants, consisting of Aloes, different kinds of Cactuses and Euphorbias. In this circle was the Boabab or Monkies'-bread-tree of Africa, which is considered to be the tree with the thickest stem of any in the world, measuring at times as much as 90 feet in circumference. Such trees have been calculated to be upwards of 6000 years old. The tree at Peradenia is only about 6 years old, and certainly shows a great thickness of stem for its years. It is now naturalised on the Malabar coast, and at Manaar and Putlam in Ceylon. About half way down this walk the visitor suddenly comes upon a large circle, including about 3 acres which are laid down in Grass, and by being constantly cut has formed into a turf quite equal to any thing seen in England. There is a drive round it, and the main walk passing through its centre, broken only in the middle by a circular clump of shrubs surrounding a young Talipat Palm. On an eminence to the left of this lawn, and seen through the large and wide-spreading trees that surround it, stands the new residence of the superintendent—a lovely and retired spot, well suited to one whose habits, like his, are studious.

Retracing our steps a short way, we diverged to the left, and leaving part of the orchard on the right, came to another large lawn-like space, also kept in Grass, but planted with the different kinds of fruit trees which stand the climate. Here along with the Orange, the Shaddock, the Loquat, the Avocado Pear, the Rambotan, the Leechee, the Star-apple, and the Bread-fruit, we saw the Peach, the Cherry, and the Apple, all of which grow freely, but produce no fruit. Passing into the kitchen garden, what most interested us was a large square planted with Orange trees—a present lately received from the Pacha of Egypt. Out of the lot which arrived only one half died, and it is much to be hoped that Mr. Gardner will succeed in propagating them, as they are said to be of the best varieties, and it is well known how much Ceylon stands in need of good Oranges. Another interesting plant was pointed out to us near the Oranges, and one which may ultimately be of much service in the colony, the Log-wood of Jamaica, where it is said to be much used for fences. Seeds of it were received from the Botanic Garden in Java only about two years ago, and the plants grown from them are this season bearing seed. In this part of the garden the visitor will be rewarded by the sight of a truly noble Talipat Palm, the stem of which is about 50 feet high, and measures upwards of 11 feet round at the base. It is known to be about 19 years old, and it is expected to flower in the course of a very few years more. Leaving this part of the grounds, and passing onwards, with a patch of the different kinds of Plantains on the left, and another portion of the orchard on the right, we arrived at the place where rare and recently introduced plants are kept till they are multiplied in sufficient numbers to be added to the list of those kept for general distribution. We were here shown a few young plants of the Doom or Ginger-bread Palm of Upper Egypt, raised from seeds presented by the Hon. Sir J. E. Tennent; and one of the famous Wax Palm of the Andes of Peru, recently received from the Royal Botanic Gardens at Kew. From the wax which exudes from the surface of its stem, the Peruvians make their candles, mixing it with a small proportion of tallow.

We close this slight sketch of the vegetable treasures brought together from many lands, which are to be met with scattered through the length and breadth of the grounds, with a hope that the same spirit which animates the present management of the garden will continue to keep itself alive to the interests not only of science, but that of the colony and the colonists, in endeavouring to bring within the reach of the latter the useful productions of other countries.—*From the Ceylon Overland Observer, Dec.* 15, 1847.

Calendar of Operations.

(For the ensuing Week.)

CONSERVATORY AND GREENHOUSE.

The regular admission of air, qualified in amount by the state of the weather and the period of the day, will not only be advantageous to the health, but conduce to the preservation of the blossom, of the many elegant plants which decorate conservatories at this moment. While excessive humidity must be repressed, atmospheric moisture cannot entirely be dispensed with; during the occurrence of sunshine the paths and exposed surfaces should be kept damp. Wherever sufficient space can be spared in a large house, Acacias should share in the preference of selection—such varieties as A. rotundifolia, eriocarpa, pubescens, diffusa, especially. Chorozema cordatum and varium, Hovea pungens, Celsii, Pimelea linifolia, Epacris miniata, Salvia tubifera, and the old Pelargonium Gloryanum, are all useful as highly decorative greenhouse plants for this season. Continue to shift those greenhouse plants which require it. Pelargoniums and Calceolarias for early flowering may be kept comparatively close and syringed daily. Propagate Ericas and other greenhouse plants. In the stove the beauty of the Begonias will perhaps soon begin to decline; they may therefore be reduced and potted in smaller pots, and kept close for some time afterwards. Stove creepers will require daily attention. Shift Achimenes, Gesneras, and pot others for succession. *Stove.*—Orchids will require increased humidity, as the increasing power of the sun will induce a more rapid evaporation. Provide efficient material for shading every portion of the house, and proceed with the potting and general regulation of the plants. Dendrobium nobile will remain in bloom for a length of time if removed to the stove. *Pits.*—Scarlet Pelargoniums, Petunias, Verbenas, and other plants for bedding out, should be removed to a cold frame, that a hardy habit may be induced preparatory to being planted out. Pot off annuals and cuttings generally. Give air abundantly to Neapolitan Violets. Propagate Dahlias.

FRUIT FORCING.

Pines.—A slight advance in the average temperature of the pits generally should be secured. To maintain that uniform degree of atmospheric humidity which is essential to growing Pines, recourse should be had to every reasonable expedient to produce it. No benefit can, but direct injury may accrue from surcharging the atmosphere with steam. Succession plants should be kept comparatively close in a moist atmosphere for a fortnight after potting or planting, while plants already established must have as much air as can consistently be given. The practice of shutting up early on sunny days should be regularly pursued. *Vineries.*—Keep a watchful eye on the growth of Vines in every stage of their progress. It must be remembered that a due proportion of healthy leaves is essential, not only for the immediate exigencies of the ripening fruit, but for the elaboration of a perfect bud for a future season. If the red spider appears, and the syringe is found insufficient, lose no time in applying sulphur; it may be stirred up in soap and water, and spread over the affected parts with the aid of a soft brush. Where the intention exists of planting Vines this season, and the house intended for them cannot immediately be appropriated to the purpose, as it is important the Vines should receive the full benefit of our summer season, they should be started in peat, planted in coarse wicker baskets, and kept partly plunged. At a convenient time they might be removed with little chance of injury to the border intended for them; the baskets would speedily decay, and therefore offer no obstacle to the progress of the roots. *Peach, Cherry, and Fig-houses.*—Preceding instructions regarding the regulation of temperature may still be applied with propriety. Disbudding, stopping, and thinning, must progressively be practised in the Peach-house; air should be admitted freely on all favourable occasions, and the syringe employed daily. Keep the Figs supplied with water both atmospheric and condensed, and stop the shoots when they reach 5 inches in length. *Melons*—Badly glazed, dirty frame-lights should not be employed for covering Melons. Light, heat, and humidity, at a tropical average, induce a luxuriant development of this excellent fruit. Ridge out succession plants, obtaining first the assurance that the burning heat and rank steam from the linings are reduced; 70° may be the average night heat.

KITCHEN GARDEN AND ORCHARD.

As the opportunities of proceeding with work here have been but occasional, owing to the frequent occurrence of rain, every favourable chance for completing the important operations which belong to this period should be employed. If previously delayed, the main crop of Onions, Carrots, and Parsnips should be sown; and also adequate proportions of Broccoli, Cauliflower, Spinach, Turnips, Lettuce, Celery, Parsley, and Thyme. Plant Potatoes, prick out Cabbage, Cauliflower, and Lettuce. Give air abundantly to early Potatoes, Carrots, and Radishes. Sustain the heat in Cucumber pits; a few Fir boughs tacked over fruit trees recently planted will be found advantageous, as the trees will thus be relieved from the glare of the sun, and protected from the severity of night frosts. Herring net doubled and strained over Peach trees in blossom will break the force of a shower, and interfere but little with the action of light. Graft Apples and Pears.

State of the weather near London, for the week ending March 30, 1848, as observed at the Horticultural Garden, Chiswick.

March.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 24	18	30.105	29. 94	55	30	42.5	N.W.	.00
Satur.. 25	19	30.140	30 015	55	35	45.0	N.W.	.00
Sun. .. 26	20	29 858	29 714	54	39	46.5	S.W.	.05
Mon. .. 27	21	29.669	29 605	57	40	48.5	S.W.	.24
Tues.. 28	22	29.841	29 731	59	41	50.0	S.W.	.21
Wed.. 29	23	29.899	29 831	61	32	46.5	S.W.	.60
Thurs. 30	24	29 841	29.760	62	39	50.5	S.	.02
Average ...		29 901	29 813	57.5	36.5	47.0		0.52

March 24—Cloudy and fine; densely overcast at night [overcast.
— 25—Uniform haze; fine, with heavy clouds and very clear intervals;
— 26—Overcast throughout, slight rain at night.
— 27—Foggy and drizzly; cloudy and mild; rain.
— 28—Fine; very fine, with white clouds; rain.
— 29—Hazy and damp; fine; partially overcast.
— 30—Foggy with slight drizzle; rain at night.
Mean temperature of the week, 3° deg. above the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending April 8, 1848.

April.	Average High Temp.	Average Low Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 2	54.3	36.3	45.5	10	1.19 in.	3	2	1	1	2	6	3	3
Mon. 3	55.4	34.5	45.0	4	0.07	4	3	2	1	1	4	3	3
Tues. 4	55.2	36.6	45.9	9	0.45	3	5	1	1	2	1	3	3
Wed.. 5	56.0	37.2	46.6	10	0.65	1	3	3	1	2	4	7	2
Thurs. 6	56.2	36.8	46.5	5	0.30	3	3	2	1	4	7	1	1
Fri. 7	57.3	38.1	47.7	11	0.40	2	4	2	2	1	7	4	1
Satur. 8	56.4	36.1	47.2	7	0.50	1	4	4	1	3	4	5	1

The highest temperature during the above period occurred on the 8th, 1833—therm. 74 deg.; and the lowest on the 6th, 1845—therm. 22 deg.

Notices to Correspondents.

Bees—*T H*—Try if possible to preserve your bees in their frail hive by covering it with another, or giving some other protection, till they swarm. The fresh colony will be far more suitable to establish your set of collateral boxes than the old bees would be, forced into an empty hive, especially if it contains no comb. If, however, there be a sufficiency of comb, and you contrive to maintain your bees till the weather permit them to begin afresh, it would be about a month before any young bees were bred to fill the places of the old ones dying off. Consequently it would perhaps take them nearly the whole season to gain the strength lost, when deprived not only of their store of honey, but also of pollen and brood, which are of much consequence to the prosperity of the future colony. *W.*

Books—*Murray*—Neill's book is one of the best for young gardeners, and they should all possess it. If the man is very ill informed, perhaps the "Manse Garden" might suit him better; it is a good book.

Conifers—*A Gardener*—We should like to hear of your plan, and will examine the question carefully.

Fir Trees—*Abies*—They may be struck from cuttings when the wood is just hardening; but seeds are much better. Get the seeds out of the cone before you sow them. If you place the cone in the sun for a day or two, it will open and allow the seeds to fall out. Sow them now.

Heating—*P*—One moderately large Rivers' stove will heat both your pits, provided you place it in the partition wall, the greatest radiating surface being in the pit which is to be kept warmest.‡

Honey—*Admirer*—In answer to your queries, where do bees obtain honey, and does it undergo change in bees? we beg to refer you to our Paper of the 11th of last month, where you will find these things explained. *W.*

Insects—*L F*—The mealy bug is one of the most difficult of all insects to extirpate. Washing is the usual remedy, but it is a mere palliative, and a poor one. We could never find the advantage of using Hereman's Dilutium. If it were not for the risk of injuring the plant, we should advise you to try the effect of applying camphine, or spirit of tar, with a fine brush. A new edition of Paxton is about to appear.——*H W*—The insects which have attacked the Mummy Wheat are three kinds of Hundred legs (Myriapoda). See *Gardeners' Chronicle*, 1841, p. 196. They are exceedingly difficult to extirpate. Your ground must have been very foul. Saturate it well with a weak solution of corrosive sublimate, and bury some slices of Potato or Turnip as a decoy, and examine them every morning. There are also a number of the larvæ and chrysalids of a Dipterous fly (Muscidæ), which we will endeavour to rear, which will be destroyed by the same means. *W.*

Names of Plants—*G O*—Certainly not an Aphelandra. It is a fine thing, with which we are unacquainted, and we cannot just now spare the time required for making out its name. ——*A Muscovite*—Mimulus Moschatus. It prefers damp, shady places, and propagates abundantly by seeds.——*Layton, C*—1, Ionopsis tenera; 2, Dendrobium cucullatum.

Paint—*C M S*—The best paint for iron-work is the protoxide paint, advertised at p. 600 of our volume for 1847. *S.*

Pears—*Sub*—You will find Knight's Monarch Pear described in No. 7 of the *Gardeners' Chronicle* for 1842, p. 109; Beurré d'Aremberg, No. 43, 1844, p. 716; Mareh Bergamot, No. 6, 1845, p. 85; Hacon's Incomparable, No. 11, 1842, p. 172.‖ ——*Lancashire Sub*—On an east aspect, try the Winter Nelis.‖ ——*D C*—The varieties you mention have been but recently introduced to this country, consequently their merits in it are not sufficiently known; in fact, scarcely at all known. ‖

Sawdust—*Mechanic*—The fluid you mention is much better than that of animals. Pour it over the heaps and let them lie to ferment beneath a shed. You will not want any addition, but you had better cover it in with old plaster rubbish, if you have any, or with earth.

Screens—*G P*—What you require cannot be done very quickly. Trees are years before they get 30 feet high. You had better cover your wall with the Virginian Creeper and Irish Ivy, trenching the border well, so as to encourage them to grow fast. In front plant Poplars, Lime-trees, and Cœrulean Willows, to get up fast: and among them introduce Spruce Firs, Scotch Firs, Evergreen Oaks, and the like, in favour of which the fast-growing deciduous trees should be cut away as occasion offers.

Strawberries—*G T*—We cannot advise you. The cause of the injury can only be determined upon inspection of the plants, and after a full knowledge of all the circumstances. Does wet lodge among the flower heads? or is the soil wrong?

Misc—*F C*—Thanks. You misunderstood us. We are well acquainted with the seeds of the Judas tree, but not with "Judas seeds."——*Botanicus*—The plate of Passiflora quadrangularis is rather over coloured; otherwise we see nothing in it to object to. Aristolochia labiosa.——*Anon*——Daphne Mezereum may be increased by layering in autumn; but the handsomest plants are obtained from seeds, which it produces in abundance.‡——*Recips*—Burnows and Thoms, Chemists, Strand, London.‡——*T R*—Budding's mowing machine does its work as efficiently as any machine of that description; but we greatly prefer a good scythe to all such contrivances.‡——*J B*—The Vines need not be turned out of your Vinery in winter, if it is kept quite cool. Nor will Vines sustain much harm from being wintered in your greenhouse, provided the temperature in the latter does not range higher than 40°.‡——*J B W*—It is impossible to ventilate your house efficiently in the way you describe.‡——*M B*—By no means use dung fresh from the cow-shed for your Cactuses; it will probably kill them. It should be well rotted and incorporated with the loam, sand, &c., and then it can only be used with advantage for tall Cacti. The dwarf kinds like a very light soil, as sandy loam mixed with lime rubbish, &c., and require very little or no manure. Shift after flowering, if the plants require it; but do not over-pot. Aloes do not require treatment essentially different from that of Cacti.‡——*Clio*—One sort of sand is as good as another for the purposes you mention.‡——*X*—Budding's mowing machine. On no account manure your Deodar.‡——*E A*—Cucumbers ridged out in a good dung bed in January should be in cut now, we should think, even under your unfavourable circumstances. But it must be obvious that such questions are not susceptible of a definite answer.‡ ——*P*—To be able to offer any opinion in the case of your Dahlias, we must be made acquainted with the conditions under which they have been wintered. If you will be kind enough to supply that information we will endeavour to advise you. There has been no disease among Dahlia roots this winter that we know of. ‡

SEEDLING FLOWERS.

Cinerarias—*R D O*—No. 1 is pretty and attractive, from the coloured terminations to the petals, but they are narrow and deficient in substance; No. 2 is very common in colour.*——*J E*—Your seedling is common in colour, and the white surrounding the disk is not sufficiently pure; there are many very superior varieties, similar in colour and marking.*——*J D M'D*—The petals of your seedling are too long and narrow, they show spaces between them quite down to the disk; it is of no use*——*G B*—The bright blue flower is the best among your seedlings, the form is good and the petals are well rounded.*

Fuchsia—*J D M'D*—There is great want of novelty in your seedling: it has too much colour in the sepals, and the shape of the flower is not good; its having continued to bloom throughout the winter is its chief recommendation*

Erratum—*Rain Gauge*—In the notice respecting this at p. 208, line 18, col. *c*, instead of "3 inches," read "5 inches."‖

AGRICULTURAL SEEDS.

THOMAS WHALLEY begs respectfully to inform his friends that his priced CATALOGUE for the present season is now ready, and may be had post free upon application. T. W. has published a DESCRIPTIVE LIST OF FLOWER SEEDS, which will be found useful to purchasers, and may also be had free on application.

Seed Warehouse, 12, St. George's Crescent, Liverpool.

AGRICULTURAL SEEDS OF THE FINEST QUALITY.

		s.	d.
CARROT, large White Belgian	per lb.–	2	0
" Long Green-topped Red Altringham	"	1	3
" Improved Long Red do.	"	1	9
PARSNIP, large Cattle	"	1	6
MANGOLD WURZEL, Long Red	"	1	6
" " Long Yellow	"	1	9
" " Globe Yellow	"	1	6
" " Globe Red	"	1	6
CABBAGE, superior Cattle Drumhead	"	2	6
TURNIP, Skirving's Swede	"	1	6
" fine Purple-top Swede	"	1	6
" Norfolk Green Round	"	0	8
" Norfolk White Round	"	0	8

Other varieties of the best kinds.

GRASSES, fine selected, mixed in proportionate quantities of the most useful kinds for PERMANENT PASTURES, suitable to different descriptions of soils, requiring 3 bushels per acre ... per bush.– 10 0

Do., finest mixed dwarf varieties for lawns .. per lb.– 1 3

Do., Piercy and Italian Rye-grass; and all other articles in the Seed Trade, true, and of fine quality.

Remittances with orders or reference from unknown correspondents. Orders of 20s. and upwards delivered free to London or on the Eastern Counties line.

BASS and BROWN, Seed Establishment, Sudbury, Suffolk.

AGRICULTURAL SEEDS.—

		s.	d.
Epps' Long Giant Mangold Wurzel ..	per lb.–	1	6d.
Yellow or Orange Globe do.		1	6
White Belgian Carrot		2	0
Hollow Crown Parsnip		1	0
Improved Purple-top Scotch Turnip		1	6
Laing's Swede		1	6
Negus's Golden do.		1	6
Skirving's Liverpool do.		1	6
Smart's Improved White Round Turnip ..		1	0

The above are from the best selected stock grown in Kent.

WM. JAMES EPPS, Seed Merchant, Maidstone.

DRESSINGS FOR GRAIN, ROOT CROPS, &c. &c.

THE INORGANIC MANURE COMPANY, Bow, London, with great confidence recommend their Patent Manures (prepared under the inspection of MR. CHARLES B. BOAST, M.R.C.S.L.) they having now been in use for upwards of six years with unrivalled success. These manures are prepared on the only true principle of supplying to the soil all the substances removed from it by the crops, their effect being really to enrich and not to exhaust land. They were the first and only manures offered to the Agriculturist based on a scientific principle, proved by practice to be correct; a distinct and special manure being prepared for each crop adapted to its particular wants. The cost per acre varying according to crop from 30s. to 40s.

Testimonials, with directions, &c., for using the manures, sent post free on application to Mr. PIKE, Inorganic Manure Works, Bow, Middlesex, where may be had also genuine,

SUPERPHOSPHATE OF LIME.

POTTER'S GUANO.—SEVENTH YEAR.—TESTIMONIALS.

Whittington, near Lichfield, Aug., 1847.

Mr. Potter.—Sir—I have tried your Guano in several ways against the best Peruvian, and *find it superior;* which I hope will be a convincing proof for another season.—I am, sir, your obedient servant, W. WARD.

Experiment of the Earl of ZETLAND—Potter's Guano against Peruvian, on Grass.

	Tons	Cwt.	Qr.
POTTER'S GUANO, 2 cwt.—Hay per acre	2	8	0
Peruvian Guano, 2 cwt. " "	1	18	0
In favour of Potter's	0	10	0

Numerous Testimonials will be sent on application per post. The price of Potter's Guano is much under the Peruvian.

POTTER'S PURE SULPHATE OF LIME.—GYPSUM.

TESTIMONIAL.—Sir—I have had your Sulphate of Lime examined by an excellent Chemist, who speaks very favourably of it. Please send 2 tons direct to ASHBURST MAJENDIE, Hedingham Castle, Essex.

This is the *cheapest* article sold, being much under the usual price.—Factory, 28, Clapham-road-place, London.

*** Sulphate of Ammonia, Superphosphate of Lime, Oil of Vitriol, Burnt Bones, Bone Dust, &c.. &c.. at lowest prices.

GUANO AND OTHER MANURES ON SALE.—

Guano, Peruv. & British
Superphosphate of Lime
Bonedust and Bone Sawdust
Dried Night-soil. Urate.

} For Wheat, Oats, Barley, Grass Seeds, Turnips, Mangold Wurzel, Potatoes, &c.

Gypsum, for Clover, Cinquefoil, &c.; Nitrates of Soda and Potash, as stimulants; Petre Salt, for dressing old Pastures; Agricultural Salt, for Compost-heaps, &c.; Sulphuric Acid, for dissolving bone; Soda Ash, a destroyer of Wireworm: and all other Manures of known value. Also Horticultural Glass, Milk Pans, &c.—Apply for prices current, to MARK FOTHERGILL, Office 201 A, Stores 40, Upper Thames-street.

THE following MANURES are Manufactured by Mr. LAWES, at his Works at Deptford-creek:—

Corn Manure .. 14*l.* per ton.		Grass Manure .. 14*l* per ton.	
Clover do. .. 14*l.* "		Turnip do. .. 7*l.* "	

Superphosphate of Lime, 7*l.* per ton.

Mr. LAWES has also made preparations for supplying the various artificial MANURES of commerce, and if Agriculturists will trust the selection of them to him, and will furnish him with the necessary information, he will supply those which he considers most suitable to the soil and crops. A paper containing the questions required to be answered will be forwarded upon application to his Office, 69, King William-street, City, London.

THE LONDON MANURE COMPANY beg to offer the under-mentioned MANURES on the best terms:—The CRATE of the LONDON MANURE COMPANY, for Turnips, Tares, Oats, Barley, and all other Spring Crops.

GENUINE PERUVIAN GUANO, DIRECT FROM THE IMPORT WAREHOUSE.

Nitrate of Soda—Petre Salt for dressing old Pasture—Agricultural Salt—Superphosphate of Lime—Soda Ash—Pure Gypsum—Bone Sawdust—Sulphuric Acid—Sulphate of Ammonia, and every other artificial Manure. E. PURSER, Sec.

No. 40, Bridge-street, Blackfriars, April 1.

MR. J. C. NESBIT'S CHEMICAL MANURES.

THE LONDON MANURE COMPANY beg to announce that they have undertaken the exclusive manufacture of the manures recommended by Mr. J. C. Nesbit. The substances used in their preparation will be subjected to Mr. Nesbit's analysis, and every care will be taken in their manufacture. Hop Manure, Superphosphate of Lime, Wheat and Clover Manure. A Pamphlet on Artificial Manures, by Mr. J. C. Nesbit, now ready.

The London Manure Company have also made arrangements for a large supply of Fishery and other Salt, which they can offer on good terms.

E. PURSER, Secretary, 40, Bridge-street, Blackfriars.

IMPROVED WHITE SWEDE TURNIP.—This fine large Swede Turnip is of quick growth, and is found to succeed well in cold climates and shallow soils, and resists well. Price of Seed 1*s.* 6*d.* per lb., delivered free in London, Bristol, or any intermediate station on the Great Western Railway. Also True Skirving's Liverpool Swede, Laing's Purple-topped Swede, White Belgian Carrot, Yellow Globe, and other Mangold Wurzels, at low prices, if in considerable quantities, or small quantities at the usual market prices. True Italian Rye Grass, 7*s.* per bushel. Particulars may be had by post on application to JOHN SUTTON and SONS, Seed Growers, Reading, Berkshire.

The Agricultural Gazette.

SATURDAY, APRIL 1, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY, April 5		Highland Society of Scotland.
		Agricultural Society of Inverness.
THURSDAY,	—	Agricultural Society of Bedford.
WEDNESDAY,	—	12—Farmers' Club, Star and Garter, Richmond.
THURSDAY,	—	13—Agricultural Improvement Council.

FARMERS' CLUBS.—April 4: Newcastle, Reading, East Kent, Dunmow. April 5: London, Clayton. April 11: London. April 12: Great Ouse, Carlton Forest. April 14: Halesworth, Wadebridge, Tiverton, Great Ouse, St. Austell.—April 15: Northampton.

OUR readers will learn with regret that Mr. BLACKER, so well known in the agricultural world, has resigned the AGENCIES which he had so long and so usefully held in the North of Ireland. They will find in an adjoining page the report of a meeting lately held at Armagh, for the purpose of agreeing upon an address in which his valuable exertions for the benefit of that neighbourhood should be appropriately acknowledged. This was only justice: his immediate neighbourhood and the estates under his charge have no doubt benefited the most directly by Mr. BLACKER'S abilities and benevolence; but all Ireland is equally indebted to him for the example he has set her landowners and tenantry, and for the methods suggested by him, which are only now being generally adopted, for the improvement of her agriculture. We allude to the employment of "agriculturists," for the instruction of the peasantry—a scheme which, under Lord CLARENDON'S energetic patronage, has lately been so greatly developed. And England, too, owes much to Mr. BLACKER: his writings have been of the greatest use on both sides of the Channel. We are sure, therefore, that all must unite with respect and good will in the Armagh expression of gratitude for the many eminent, local, patriotic, and philanthropic services of this gentleman.

WE referred some weeks ago to the controversy on FLAX CULTURE AND ITS PROFITS, which had been raging in the columns of our contemporaries. It took its rise in the discussions on that subject at the last annual meeting of the Yorkshire Agricultural Society. That important Association has just published its annual volume of Transactions—a most interesting and instructive work* containing trustworthy information on many of the chief points of farm practice—and we find in the annual address of the Council an allusion to the topic of Flax culture in which the conclusions regarding it, to which intelligent practical men have been led, are so well put and defended that we are glad to place the following extract thus prominently before our readers.

"All cultivated crops may be divided into two classes:—1. Those which deprive the land of certain elements of fertility, and may be called exhausting crops. In this class must be included all crops which are allowed to ripen their seed. 2. Those which add to the store of fertilising ingredients in the soil, and may be called restoring or fertilising crops. The plants in this class collect the elements of their growth from the soil and atmosphere, and store them up in a form in which they are readily available for the supply of succeeding crops. It is on this account that in every good rotation, Turnips, Clover, or some other green crop, is introduced after each exhausting crop, and thus one crop restores to the land what the preceding one had taken from it, and its fertility remains unimpaired. It must never be forgotten, however, that although green crops are, as well from their own nature and habits of growth, as from their mode of cultivation, especially adapted for fertilisers, yet that they immediately become exhausting crops if removed from the land, instead of being consumed upon it by stock, or ploughed in as tillage. Even the valuable faculty which these crops possess of collecting food for the succeeding corn crop, renders them the more certainly injurious, if they and their store of nutriment be altogether removed from the land. An objection may possibly be made to this rule, on the ground that Turnips are pulled off, and Clovers made into hay; and still, that on well managed farms good corn crops follow. This objection does not really militate against the rule laid down; as, where Turnips are pulled off, if the land is still able to produce a good crop of corn, it is due not to the Turnip crop, but to the remains of the manure applied to the Turnips, and to the thorough exposure of the land to the atmosphere during the process of fallowing; and, in the case of the mown Clover, the remaining leaves and roots which are ploughed in, are, in some soils, sufficient for the succeeding crop of corn. If, however, Turnips were grown without manure, and were pulled off, or if the whole of the Clover, root and leaves, were removed from the soil, the fertile effects of these crops would be in very small compass.

"It now remains to apply this rule to the case of Flax; and, as it is a crop which not only removes to mature its seed, but a principle by the removal of which entirely removed from the land, it cannot be ranked in the class of exhausting plants; and as it cannot be used in any rotation, as an important to bear as much, there one more exhausting crop has to be added to the list, and that, to keep up the condition of the land, some fertilising crop must also be added to the rotation, or an additional restoring crop. In confirmation of these views, it may be useful to refer to the experience of Flax-growers on this point. At the [illegible] Mr. Maw stated that in his opinion a crop of Flax which ripened its seed was as exhausting as a crop of Wheat. Mr. Bayldon stated that he had [illegible] always found their crops after it. Mr. [illegible] a clause in his lease which compelled him to [illegible] per acre of the best manure on the land after that crop; and, to give an instance of a more general kind, the Belgians, who may be called a nation of Flax growers, manure more highly for Flax than even for a corn crop. Both theory and practice, therefore, agree in stating that Flax is a decidedly exhausting crop; and the next question to determine is, to what extent the manure so produced is removed, if the seed be consumed on the farm. Unquestionably the manure is greatly improved by this practice, but as the whole of the straw is sold, and a portion of the seed itself consumed by the animals fed with it, and converted into meat and manure; it is plain, that the return to the land in the shape of manure, is much less than what has been extracted from it. On the other hand, if the [illegible] the use of Linseed should induce farmers to [illegible] their young stock instead of starving them as [illegible], the advantages of Flax growing would be great as a few quarters of Linseed when made into [illegible] on Marshall's or Warnes' systems, (both of which have been described at length in the Transactions,) would enable a farmer to turn his spare Turnips and [illegible] corn to the most profitable use, and at the same time, add so much both to the quantity and quality of the manure, as greatly to outweigh the exhaustion [illegible] by the growth of the small acreage of Flax required.

"The second question proposed at the commencement of this inquiry was, whether Flax was a profitable crop for the tenant? The remaining [illegible] considering the preceding part of the subject, will apply to this also, as it never can be permanently [illegible] a tenant to follow any system which [illegible] the fertility of his land. It has been shown above that Flax must be considered as exhausting a crop [illegible]: each occupier will therefore decide for himself, whether under his own peculiar circumstances of [illegible], climate, &c., a crop of corn or a crop of Flax is likely to be the most remunerating. For the information of those who are practically unacquainted with the cultivation of Flax, an interesting report has been extracted from the Journal of the Royal Agricultural Improvement Society of Ireland, giving the details of an experiment tried with a view to ascertain the comparative value of a Flax and a Wheat crop. It would not be safe to attach much importance to the results of this experiment, as the produce of Wheat per acre was extremely large, whilst that of the Flax was not above an average; but the details will be found highly instructive. The fact noticed by Mr. Fagate, that the cost of bringing the Flax to market amounted to 51 per cent. of its gross value, whilst on the Wheat the expenses were only [illegible] per cent., is a point of the utmost importance, as it leads directly to the conclusion that the profit arising from the growth of Flax is in great measure dependent upon the price of labour: on further examination this becomes still more evident, as labour is only cheap where the labour market is overstocked, and where, therefore, there is a heavy pressure on the poor rate, the principal burden of which falls on the occupier: so that where the population is redundant, and wages low, there is a twofold inducement to the cultivation of Flax. 1. That it can be grown at less expense. 2. That the extensive employment afforded by this crop has a direct tendency to reduce the charges on the land.

"Another point of importance is, that Flax growing is best adapted for small farms. Where a man occupies but a few acres, especially if his family be large, a profitable mode of employing his wife and children is of great advantage to him, and the constant superintendence which he is able to give to the small farm, is exactly what is required to bring Flax to market in perfection. Where, however, farms are even moderately large, it is for the interest of both farmer and labourer that the same principle of [illegible], as far as practicable, be employed all the year round. The master finds his advantage in having [illegible] men who are anxious to give him satisfaction, and are acquainted with his system, and who, consequently, perform their work with greater regularity and despatch: to the men, these advantages of regular employment are too obvious to require mention. Many of the best improvements in agriculture, such as [illegible] in an open, sloping farm-yard, [illegible] cattle, &c., &c., tend directly either to increase the quantity of work at the dead time of year, or to distribute it at the busy season, and their universal tendency is to furnish steady employment through the several seasons of the year. The introduction of the Flax crop would at once undo all that has been accomplished in this re-

* Published by RIDGWAY, Piccadilly.

spect, as it is a crop which, at certain seasons, employs numerous hands, and demands most attention at the time when the Turnip crop requires all the force of the farm. It is, therefore, evident that one of these important crops would be neglected, unless there was in the neighbourhood a large supply of unemployed labour. These views are strongly confirmed by the fact, that Flax growing, to any considerable extent, is chiefly confined to those countries or districts where the land is divided into small holdings. In Ireland and Belgium this is strikingly the case, and though some exceptions to this rule might be pointed out in the southern and eastern counties of Great Britain, it is chiefly in those districts where high rates and low wages act as a direct stimulus to its cultivation.

"The council have entered into the consideration of this question at greater length than is usual in an address, because, on the one hand, they consider it highly important that the general bearings of the question should be fully understood, before any change is made in established systems or rotations; and, on the other, they are desirous that a crop should not be hastily rejected which, when introduced with judgment, and cultivated on sound principles, adds largely to the stock of employment for man and of food for beast. The following deductions may be regarded as a summary of the foregoing remarks:—

"1. That Flax is decidedly an exhausting crop.

"2. That if Flax be introduced into any rotation, and the supply of manure be not increased, it is necessary to omit one crop of corn previously grown in that course or shift; or, if the same number of crops of corn be grown, and Flax be added as 'a stolen crop,' it is necessary that an additional manuring be given.

"3. That as there are few situations where manure can be purchased with advantage, the best way of bringing land into sufficient condition to grow Flax without injury, is to fatten an additional number of live stock on the farm.

"4. That landlords may safely permit their tenants to grow Flax, wherever the number of live stock fattened bears a proper ratio to the size of the farms, and provided that the number of such stock be increased in proportion to the acreage of Flax grown.

"5. That as the advantages of feeding with Linseed compound may be equally well obtained by purchasing the seed as by growing it, it will be for the occupier to decide whether it be most profitable to purchase Linseed for feeding purposes, and thus increase his crops of corn, or to become a Flax grower himself.

"6. That in deciding on the expediency of growing Flax in any district, the amount of unemployed labour, and the rate of wages, are the most important considerations to be taken into account.

"7. That Flax growing is best adapted for small farms.

"Practical men will not be slow to perceive that, as far as the question between landlord and tenant is concerned, the four first of these propositions warrant the following conclusions:—That if bad farmers be allowed to grow Flax, both they and their land will ultimately be the poorer for it; but that good farmers may safely be permitted to grow Flax or any other crop that they may find profitable; and that, with reference to the present question, the only safe way of deciding whether a man is a good or a bad farmer is to ascertain what quantity of live stock is maintained on his farm in a healthy and thriving condition."

ON IRISH POOR-LAWS.—No. I.

In 1832, when the question of Poor-laws for Ireland became a subject of common discussion, I expressed an opinion, communicated to the public through the *Londonderry Journal*, that the country could not support a system of poor relief similar to that of England, and I proposed the substitution of one of parochial poor farms, in which I produced calculations in proof that by the labour of the able-bodied poor the entire of the poor might be supported,—as to poor, I confined myself not to the absolutely destitute, but I took in the comparatively so, the unemployed labouring class,—that they might be supported at an expence little exceeding the rent of the land on which they raised their food, amounting on an average to little more than one farthing a day for each individual relieved, and to one-third of a farthing a day on each person taxed with the relief, a sum in its totality which, relieving and tending to enrich 2,000,000 of persons, would not have exceeded that which, in the system subsequently adopted, has been required for the support and degradation of 80,000 persons—a relief uncalled for, as these persons were generally supported by those on whom they had natural calls for support, their relations and friends, and were not as imaginative people put forth, chargeable on the community at large, the way-faring beggar rarely becoming an inmate of the poorhouse—a relief utterly ineffective to any improvement in the condition of the humbler classes of society, and depriving the persons relieved of any chance of providing for themselves by taking them far away, in most cases, from the neighbourhoods in which they might have found employment.

It was alone with a view to the bettering the condition of the partially employed labourer, of making him independent of the conacreing system, and of bringing him more into the state of a money paid labourer, that I was one of the few in Ireland who advocated the establishment of Poor-laws. Unhappily those who legislated for Ireland could not comprehend such views, and indeed, in Ireland itself, they received little encouragement, almost the only one besides the editor of the *Londonderry Journal*, who cheered me forward, and he wrote despondingly, was the Roman Catholic Bishop Doyle, and I feel it due to his memory here to give his letter; indeed it is with some consciousness of pride I do so.

Carlow, July 15, 1832.

Dear Sir,—I feel much indebted for the plan of relief for our poorer countrymen which you enclosed to me. It appears to me comprehensive, wise, and beneficent, but to carry it into effect great energy is required on the part of Government; and a stronger sense of the justice and utility of improving the condition of the lower classes of the people than now appears to exist. In advocating a provision for the poor, I have at all times been prepared to accept of and assist in promoting almost any scheme for their relief; and of the many schemes or plans for the attainment of that object which I have read or heard of, few if any were so comprehensive as yours; but when the most simple, the most obvious, the least expensive, and even the narrowest plan of relief is postponed by Government, neglected by Parliament, and objected to under false pretences or unfounded fears by many who should be foremost in their support, what reasonable hope can we at present entertain that a plan so comprehensive as yours will be favourably received or entertained by those who could enforce it? There is much in the administration of our social affairs to excite sorrow and disgust, but I know nothing which can occur in a Christian state so calculated to perpetuate crime and misery, and to avert the blessings of Heaven, as the insensibility occupying all the high places to the suffering and demoralisation of the poor. I have the honour to be, dear sir, with the highest sentiments of respect, your most obedient servant, ✠ J. Doyle."

"J. M. Goodiff, Esq., Killybegs."

Under the peculiar circumstances of Ireland—with a crowded population, without manufactures, and therefore wholly depending on agriculture for support, and a system of agriculture that only afforded employment for a few months in the year, the tillage farmers being, almost without exception, wholly devoid of capital, a practice naturally obtained of paying labourers in kind, and indeed of obtaining from the labourers a 6 or 12 months' credit for their wages, as the amount of wages was not, or barely was sufficient for the support of the labourer while employed, and as the employment of labourers did not average more than three months out of the twelve, it became part of this system to find the labourers means of support when they were not employed, and this was effected by letting small portions of land for a Potato crop—the conacreing system; this same system was partially extended and still exists in a yet viler form among more respectable—respectable in name—holders of land, and even among some pseudo-landlords in conacreing land for Oats, the whole produce of the ground in Potatoes, grain, and straw being by this generous management carried off the land for five or six successive years. Oh, Saxon misrule—can we wonder at the poverty of the land? By the conacreing of Oats some persons partially derived support, but by the conacreing of Potatoes the whole mass of the labouring population, employed or unemployed, was supported; the Potato disease was not only the annihilation of the food of the country, but of the conacre system of employment and of support, and this annihilation has left the people destitute, this destitution continues and must continue until either the conacre system of support is again in full operation, or until some employments are found to enable the labouring people to support themselves on the wages of their labour, and means are found by the employers to pay those wages in money instead of land.

It is from want of a due consideration of these difficulties in our several positions, or it is from an unaccountable ignorance of them, that expedient after expedient has been adopted, fertile each in increased disgrace and in greater prostration of an unfortunate country. With an obstinacy equal to that which has brought a revolution upon a neighbouring country, Ireland is forced to a vain effort to maintain her working population in idleness or—still more demoralising—in useless and unprofitable labours.

In 1832 I calculated the number of persons supported by unemployed labourers at 2,000,000, that is by means of the conacre; the commissioners subsequently appointed by Government rated the number something higher, this number has been much increased by the loss of the Potato tillage, which took up at least three-fourths of the labour of the people. The vast extent of, and the very general destitution thus produced has forced attention to means of relief similar to those I proposed in 1832, that is, to rendering the labour of the unemployed poor available to their support in producing their food.

Such a plan of relief was one among those measures proposed, early in 1847, in the Reproductive Committee and Irish Council as demanding the undivided advocacy and support of the Irish members in the houses of Parliament; how with them it became in the ensuing sessions as the baseless fabric of a vision, let history to their honour record; perhaps she may tell the story that Ireland owes more of her degradation to the imbecility of her sons than to the misrule of the Saxons. Such a plan has also been for some months past strongly and ably advocated in the *Farmers' Gazette* of Dublin. It is a proposition that must daily gain ground, for it offers the only choice between the conacre system and the irrevocable ruin of the country; the death of the people and their support from the imperial treasury.

The conacre system (by giving the labouring classes Potatoes sufficient for their support, whether employed or unemployed, at the cost alone of labour at extra hours or when they could not hire themselves to work; for the rent of the conacre, or an equivalent to it, was generally found in the swine fed by the refuse of the Potatoes) enabled them to work at very low wages Deprived of this cheap mode of subsistence, these wages are insufficient; and there neither exists the disposition to give them higher wages, nor are the farmers of the country, under present circumstances, able to do so. The labourers therefore, when unemployed, must fall upon the poor relief. If in England, with wealth flowing in from a thousand sources, the providing such relief for her labourers whose wages were found inadequate to their support, together with her impotent poor, were found intolerable—what must be the situation of Ireland, her only source of wealth almost dried up, with one-third of her population existing in idleness, or worse than idleness, on the scanty means of the remaining two-thirds? Whilst of her small farmers (a class including in it over 2,000,000 individuals, many of whom are a great part of their time unemployed, and in destitution but little removed above the labourers), a large part will rather require assistance in the transition to a better system of general support, than be able to contribute to the poor-rates; indeed, before the in-door relief became chargeable upon them, I believe there was scarcely a petty sessions held in the country before which numbers of these small farmers were not brought for the recovery of rates of a few shillings each.

The tendency of the present system is evidently to drag down all classes into the vortex of destitution, and the progress of this tendency can only be checked by decreasing the expense of the support of the unemployed poor; the only eligible way of doing which appears to be in employing them to produce their own food until time be afforded for the development of those resources of the country, especially of her agricultural, as will give full employment to her people.—*J. M. Goodiff, Granard, March* 3.

FERMENTED BONES: MR. PUSEY'S METHOD.

In the last report of the Weekly Council of the Royal Agricultural Society of England, as well as at preceding meetings, much attention appears to have been called to the preparation of bones for the Turnip crop, and more particularly to the plan recommended by Mr. Pusey, of decomposing them by fermentation, with the assistance of ashes, or, as Mr. Miles prefers, by the aid of sawdust. Now I cannot help thinking that much misconception exists with reference to these subjects, and that false hopes of economical saving are likely to be engendered.

It appears that on Mr. Nesbit expressing an opinion that by thus fermenting bones a portion of the ammonia would be lost, the chairman of the Council viewed this as of little consequence, inasmuch as Mr. Lawes had shown that ammonia was not essential to the Turnip crop; so that while from high authority, both in science and practical farming, we are very properly recommended to endeavour by all possible means to prevent the escape of ammonia from dung, and in order to accomplish this to make use of sulphuric acid or sulphate of iron, or sulphate of lime, yet we are here assured that in preparing manure for the Turnip crop it is of no consequence whatever whether the ammonia escapes or is retained.

Now surely when we pay so large a price for ammonia, whether in the shape of Peruvian guano or any other nitrogenised manure, when we know how essential this element is to the production of grain, that it is in a great measure owing to its presence that land which formerly produced 16 bushels of Wheat per acre now readily yields 36 or 40, that, in fine, it distinguishes the enriched and therefore productive fields of Lincolnshire or the Lothians from the impoverished soil of many half-farmed districts. Surely when these facts are well known to the farmers of England they will find some little difficulty in crediting that it is of little or no importance whether the ammonia is dissipated from bones or not. If not so essential to the Turnip crop, it is surely of the greatest importance to the grain crops which succeed. In fact, amongst all the various elements of which natural or artificial manure does, or ought to consist, it is the most costly and valuable.

Now let us consider what are the great advantages of fermenting bones according to the plan lately recommended. It is a fact which has long been known that when ground bones are moistened and placed in a heap, great fermentation takes place; the heat becomes so great that the hand can scarcely bear it. In fact, the same result takes place as in an ordinary dung-heap, *i. e.*, by the combined agency of moisture and the atmospheric air interposed amongst the bones, fermentation takes place, the oxygen of the atmosphere unites with the carbon of the mass, and sets it free in the form of carbonic acid, whilst the nitrogen of the bones unites with the hydrogen of the water, and forms ammonia, which, meeting with the carbonic acid, escapes in the garb of a carbonate. The great loss which occurs from the fermentation of bones is so well known to the bone-grinders that they never keep together a larger heap of ground bones than they can help, nor commence grinding till shortly before the demand for them takes place.

The practice of fermenting bones is, however, by no means new; it has long been practised in Yorkshire, and I am informed by a Yorkshire farmer that the practice has been, to a great extent, relinquished from its doubtful effects. A few days since I was informed by a large farmer in Hampshire that he had many years ago fermented his bones in the manner stated, but had given up the plan after several trials, not finding it beneficial. Two other cases I could mention of a similar nature. However, dismissing all these facts, and granting that a smaller portion of bones will have a greater effect if fermented than otherwise, as stated by Mr. Pusey, let us inquire if there is any practical gain to the farmer.

In the two experiments in question, it appears that in the one case—

	Per acre.—Tons cwt.
17 bushels of ground bones produced	13 5
4½ ,, sulphated bones ,, ...	14 5
8½ ,, heated bones and sand ,, ...	13 5

being a difference of 1 ton in favour of sulphated bones, whilst in the second experiment, the manure in each case being increased one-half, the largest yield was produced by the fermented bones. It appears that these experiments were instituted on land very favourable to the action of bones; if otherwise, the probability is that the difference in favour of sulphated would have been much greater; and it may be also observed that if the bones were vitriolised, by being placed on a heap of ashes and the vitriol poured over them, the mixture was imperfectly accomplished, and the result was not so favourable as if the union had been more perfectly effected. Now, it is a most important fact that in both instances, but more particularly in the first, the crop was very indifferent, amounting, in five instances out of six, to only 13 to 14 tons per acre, and in the single case to 17 tons. It is therefore reasonable to infer from these very inferior crops, that the system of manuring adopted was by no means the best calculated for raising a heavy crop of Turnips, and this inference is supported by a comparison of the crops in other places where another system was adopted.

In my own district large crops have been obtained, and the results have been publicly stated in the report of a recent Turnip show.* In one case upwards of 30 tons of Swedes were raised by means of 8 bushels of bones and 4 bushels of compound superphosphate of lime (so called because while three-fourths consists of the superphosphate, the remaining fourth contains, though in small proportions, the various other constituents required by the Turnip). The second crop was raised by means of one-half the same manures as in the former case. In a third instance the manure consisted of compound superphosphate of lime and guano. In each of these cases to which prizes were awarded, the great advantage of varying the manure so as to force the plant in the early stage and support it in the latter, and supplying it with appropriate food through every period of its growth, is strongly shown, for the produce doubled that of Mr. Pusey's, though the cost of the manure was little if any more.

I had the pleasure a few weeks since of looking over the Swedes and Turnips of Mr. D. Fooks, of Whitechurch, in Dorsetshire, to which the prize cup of 20*l.* was awarded, as being the best exhibited in the county of Dorset, and a beautiful and even crop they certainly were; and how were they raised? Fifty acres of Swedes were manured with the compound superphosphate of lime before spoken of and Patagonian guano, at the expense of 26*s.* per acre, the crop being upwards of 20 tons to the acre. I could readily multiply these instances, but enough has been stated to show the great importance of varying the manure, when a large crop is desired, and not confining the Turnip to one sole food, cooked or prepared in the same manner. Mr. Pusey states in his paper that the Turnips raised with sulphated bones looked much better in the early stage than those manured with fermented bones. Now, we take it thousands of farmers will attest the importance of forcing on the young plant, out of the way of the fly, and bringing it early to the hoe; besides which, the earlier and the more the leaves are expanded, the greater the nourishment derived from the atmosphere. From the facts and reasons we have thus stated, the following conclusions may, we think, be justly inferred. 1. That the plan of fermenting bones by means of moisture and ashes is not of practical importance, inasmuch as a better effect may be produced by the use of superphosphate of lime and common bone-dust, the former forcing the plant in the early and the latter supporting it in the later stages, or a still better effect may be produced by the addition of guano (not Peruvian, but the other kinds richer in the phosphates) to the bones and the superphosphate before mentioned.† 2. That besides the important chemical changes effected on the bones by means of sulphuric acid, the latter is a most desirable and necessary constituent in the Turnip crop, for it has been shown by Sprengel that the ash of the Swede contains 800 lbs. of sulphuric acid in every 100,000 lbs., whilst the proportion of phosphoric acid is only half this amount. 3. That it has been fully shown that the use of superphosphate of lime is extremely favourable to the succeeding crops—a fact proved by practical results and supported by the principles of chemical science.

In conclusion, I cannot forbear noticing the statement made by Mr. Pusey, that by fermenting bones with ashes the ammonia is preserved, whilst in vitriolising the bones it appears to escape. Now with all due submission to so respected an authority, and one to which agriculture in this country owes much, we must venture to differ *toto cœlo* from this hypothesis, believing that the very contrary is the fact. That whilst it is impossible to ferment bones or any other animal matter without causing the escape of ammonia (provided no chemical means are adopted to secure it), on the other hand, there is no agent so effectual for the fixation of ammonia as sulphuric acid. It is well known to chemists that there are few bodies in nature between which the affinity is so strong as between ammonia and sulphuric acid. The latter will leave iron and lime and magnesia, all for the sake of its darling ammonia. As well may the heron attempt to escape from the talons of the hawk, or the trembling antelope from the claws of the lion, as one particle of ammonia from the sovereign domain of sulphuric acid. No; watery vapour may fly off in abundance from the vitriolising mixture, carbonic acid will be liberated from the carbonate of lime, sulphuric acid gas may also possibly escape, but when sulphuric acid commands the ammonia to stay, not a single atom can possibly escape—not one.—*W. C. Spooner.*

* Report of the Botley Turnip Show. See *Hants Advertiser*, Dec. 25th, 1847.

† It remains yet to be shown whether in the admixture above alluded to there is any advantage in fermenting the bones. It may possibly be desirable to ferment a portion of them, which may be done a few days before being used, means being taken to secure the ammonia.

ORNAMENTAL POULTRY.

THE PHEASANT BREED OF FOWLS.—The pheasant breed of fowls is highly valued by many farmers, not on account of its intrinsic merits, which are considerable, but because they believe it to be a cross between the pheasant and the common fowl, than which nothing can be more erroneous. The pullets and cockerels are excellent for the table, and when brought to market meet with a ready sale, less because they are really fine birds, than because the seller assures his customers, in perfect sincerity, that they are half-bred pheasants; and the buyer readily pays his money down, thinking that he has got a nice fowl, and a taste of pheasant into the bargain—something like the Frenchman, who was delighted, at breakfast, on finding that he was eating a little chicken, when he had only paid for an egg.

So gross an error in natural history ought to be cleared away, as a belief in it might cause disappointment to poultry fanciers; and particularly since the able author of "British Husbandry" has given the weight of his authority to the notion. He speaks of the hybrid between the hen and the pheasant having "succeeded;" and adds "Their flesh, however, has so much of the game flavour of the pheasant, coupled with the juiciness of the fowl, as to be greatly prized by connoisseurs in good eating; and therefore attempts are often made to propagate the breed by those who are careless of trouble and expense."—*Farming for Ladies.*

To prevent this trouble and expense being thrown away, it should be clearly known that the pheasant breed of poultry fanciers is no more a mule between the hen and the pheasant, than the Cochin China or ostrich fowl is a half-bred ostrich, or that the bustard breed of turkeys sprung from a commixture with the great bustard. Dr. Latham has an owl pigeon and a turkey pheasant on the same principle of nomenclature. The really half-bred pheasant, which is indeed obtainable by trouble, expense, and above all by patience and perseverance, is not unfrequent in museums and collections. Any offspring of these mules is rare: so that no breed is originated; only a set of isolated monsters. Mr. Yarrell describes and figures several other mules between the pheasant and one or two gallinaceous birds nearly allied to it. Those between the common fowl and the pheasant which I have seen, bore, in their outline, great resemblance to the genus Nycthemerus, the golden and silver pheasants: thus supporting the position assigned to those birds by Mr. Swainson, namely, between the fowls and the pheasants. And the great and varied talents of that gentleman must claim respect from every student of nature, even though they may not be complete converts to his circular system and quinary arrangement. But, in confirmation of his views, it may be urged that existence is not a chain, a simple series, as some have described it, but an infinite net-work extending in all directions, developing itself not superficially but cubically, like the spherical undulations of light that flow from every fixed star. Each animated being is a portion of this network; and from each, as from a centre, may be traced affinities and relationships to all surrounding beings that are endued with life.

The Nycthemerus and the mule pheasant have tails more or less horizontal. The hen of the pheasant breed carries hers in a particularly upright and hen-like manner; the cock has the curved and flowing feathers of the tail, and every other mark of true gallism. The pheasant breed hen has semi-oval markings on the breast, and shining blue-black hackle on the neck mixed with dark brown, which do bear some distant resemblance to the plumage of a cock pheasant, and might give rise to the false notion of her origin; but a glance at the cock bird shows how nearly he is related to the game fowl, and that he proceeds from some cross which the "red birds" of the pit had been the means of improving.

Fowls of the pheasant breed are large, well flavoured, good sitters, good layers, good mothers, and in many points an ornamental and desirable stock. Some hypercritical eyes might object to them as being a little too long in their make; but they have a healthy look of not being overbred, that would recommend them to those who rear for profit, as well as pleasure. The eggs vary in size, some very large in summer, smooth but not polished, sometimes tinged with light buff, balloon-shaped, and without the zone of irregularity. Six eggs in December 1847 weighed very nearly 12 oz. The chickens when first hatched are all very much alike; yellow with a black mark all down the back. The cock has a black tail, with black on the neck and wings, and a rose comb; frequently they have a large flat comb; in which case they are often condemned to the coop.

I have been favoured with a communication from Mr. A. Whitaker, of Beckington, Somerset, whose observations on domesticated birds I know to be so accurate as to render him an authority. He says, "I do not feel quite certain as to the particular sort of birds indicated under the title of the 'pheasant breed.' I have seen so many and such diverse sorts called pheasant fowls that I have long ceased to attach any definite idea to the designation.* I beg concur in all you say in contravention of the popular notion of the existence of a prolific hybrid between the fowl and the pheasant."

"I have for seven years had a race of fowls the progenitors of which were sent to me in Hampshire market as 'Pheasant Malays.' The cocks are a large sized bird, of a dark red colour, with a single comb, but the beauty of the breed is with the hens, which are of a pheasant colour in all parts of the body, and a very dark black neck. The shape of both cock and hen is good. The cock is long and (as we should say of a race) high crested, giving them an appearance quite peculiar to other fowl in that particular. The colour of the hens varies from the warmth of the plumage of the cock pheasant to the cooler hue of the hen pheasant; but as I have always bred from the high coloured hens, I now have the better coloured pheasant plumage. The eggs are white, and also the hens. They are excellent fare on table both as to quality, shape, and size. They have no resemblance to the Malay, except that the cocks are rather high on the legs, the hens being the reverse. The comb of the hens are very small. The hens never have a foul feather, but I have never seen a cock which does not show some small patch of white on one of his tail feathers. You will observe in the hens of the pheasant Malay that the two longest tail feathers are somewhat curved, which when the hen is full grown, and in full feather, materially improves the appearance. They do not arrive at their full size until the second season. They lay well, but late. Their eggs are very small in proportion to the size of the hens. I say, I say that, their weight was on the average above that of the black Spanish, while their eggs are a third smaller. Baker, of London and Chelsea (one of the best fancy dealers), told me that they were a breed from Calcutta. They are certainly tender, and apt to die in the moulting, but the hens in my opinion are unrivalled in beauty, while the cock is a fine bird though not so uncommon in appearance, except to an experienced eye, which will detect peculiarity of growth."

"If you do not know the pheasant Malays (which is merely a market name), I will send you with pleasure a pullet and a late cockerell; the latter will be quite a chicken, as I have just given away my best early cock. I am sorry that I cannot send an earlier cock bird, as I apprehend that now sent will not attain average size. The plumage of the pullet promises well. The hens have scarcely any comb. The cocks always have a comb extending but a very little way backward, but standing up so high as always to fall a little over on one side. I have never seen any variation as to the combs or the colour of the neck and tail feathers, either of males or females, which indicates them to be a real variety. The only variation I have observed is in the body-colour of the hens, and this not in the marking, but merely in the ground colour, which is sometimes paler and duller than is the case with that of the pullet I send. I would most cheerfully inclose some eggs, but I have none, as they very rarely lay in winter. The eggs are quite small, but of excellent flavour, neither very white nor brown; the shape varies considerably. The chicks are of a yellowish colour, with sometimes two brown stripes down the back and a few specks about the head, but more usually without either. They have, however, invariably the hinder part of the back of an intenser or browner yellow, almost amounting to a warm fawn colour. I think that the chicks should not be hatched before May."

The birds thus kindly offered were thankfully accepted; and after a railway journey of more than 200 miles, stepped out of their hamper uncramped, uninjured, and undismayed by curious inspectors, and with evidently an appetite for breakfast. The pullet was certainly a great beauty; and I was pleased to find them of the same type as the pheasant breed with which I had been previously acquainted. Their richness of colour, and increase of size, being the result of skilful selection and feeding for several generations. The term "Malay" has doubtless been affixed by the dealers to indicate size. That some breeders wish to encourage an upright and others a rose comb, merely shows a difference of taste, which however, ought to be decided by the fancy one way or the other, in order to maintain the purity of the race. This comparison of individuals, bred more than 300 miles apart, establishes the existence of the pheasant breed as a permanent variety of fowls. The only discrepancy, which is more apparent than real, lies in the varying size of the eggs; but I have seen so many changes, in that respect, in the same hen, under altered circumstances, as to attach no importance to variation of size, unless shape and colour were also found to be different.—*E. S. Dixon, Cringleford.*

* In Mr. Murray's work, the admirable and learned engraving of Sebright's Spangled Bantam, is entitled "Bantam or Pheasant Fowls."

FLAX DRESSING BY MACHINERY.

CONFIDENT that one of my men, Andrew Caughly, will be found a match for Joseph Fison and his master, Mr. Warnes, of Framingham, who appear in partnership in their efforts to misrepresent the efficacy of my Flax breaking and scutching mills, I shall be obliged again to occupy some of your space, although I might be content with requesting you to publish a letter written by Caughly on the first, while engaged watering and Grassing the produce of a small field of Flax, which I understand he has done to the satisfaction of the gentleman I sent him to, Lieut. General Trevor, Glynde near Lewes, Sussex. The letter he sent for insertion to the

proprietor of the *Wilts Independent*, and it appeared in that journal on Thursday last. The Belgian's challenge would have been accepted long ere this, if Mr. Browne had not kept my millwright from me near to 3 months, enlarging the mill he had from me in Northampton, so that the old rickety threshing machine power, as my man anticipated, would not drive the mills sufficiently and that caused his (Mr. Browne's) determination on having a steam engine; therefore none of my men had any chance till now, to let the farmers of England see that one of them can dress or scutch as much, if not more Flax in one day in my mill, as the Belgians can do by hand, in one week.

As it is generally said that "opposition is the life of trade," I can assure those infallible, but zealous Flax instructors and zealous advocates of manual labour, in opposition to mechanical inventions, that I feel much obliged to them for keeping my invention before the public, by misrepresenting, in their ignorance, its powers.

My mills will be at work early next month, and in answer to my opponents I hereby offer to break and scutch Flax for those who send it to me, at 1*s.* 8*d.* per stone of 14 lbs.; out of this I shall pay my men 8*d.* per stone in lieu of 6*d.* per stone, which is all they get in Ireland, and as in those old fashioned Irish mills, they can scutch 6 stones per day, I will be much disappointed if they cannot earn from 4*s.* to 5*s.* per day in my mills. I am getting an 8-horse engine, and as it will drive a scutching mill five times as large as the one I had at Northampton, the readers of your Paper may judge from this fact whether I have said more than I am likely to be able to prove, and whether the opinion of those in opposition, who assume the seat and office of "judge and jury," as well as a knowledge of Flax scutching machinery, are more to be relied on. If being the proprietor of Flax scutching mills in Ireland for many years, in which I have so frequently scutched Flax as to be able to prepare it as well as any of the men I had in my employment, and if my having acquired a general knowledge of machinery in extensive corn mills and distilleries (in which we had 12 pairs of stones at work with elevators, and mashing machinery), and in what was then one of the largest, and is now the most extensive Flax spinning establishment in Europe. If I say, this experience will not be a guarantee and answer to their repeated attacks on me, I must wait with patience, as my man has placed them on "their defence," until my mills are at work—

> And when the wheels of my invention,
> Will put an end to all contention.

My efforts to promote Flax culture in England has been from a decided conviction that it could only be made general by enabling the farmers to prepare Flax that might not be worth more than 7*s.* per stone, for, from 6*d.* to 8*d* per stone, which they can do, by having one of my mills, or if they prefer sending it to me, I shall scutch it for them for 1*s.* 8*d.* per stone, which will be better for them than to scutch it by hand, at a cost of 2*s.* 6*d.* to 3*s.* per stone, which is near to half its value, if 7*s.* Flax. I am aware that if a farmer wished to deepen, say a 10 acre field, he could do so effectually by a number of men, with spades, by deep trenching, and give thereby great employment; but as good plouguing, and subsoil ploughing, has been found of late to answer the same purpose, the answer to the question would depend upon the fact that time is an object. The scutching of Flax by hand and the scutching of Flax by machinery is just similar, in fact, it is like the old way of travelling from London to Liverpool by the royal mail coach, taking up two days, whilst we now can see Liverpool in 7 or 8 hours.—*J. Hill Dickson, British Flax Scutching Mills, Skinner-street, Bishopsgate-street.*

[The following is the letter, somewhat abridged, which our correspondent alludes to]

"*To the Editor of the Wiltshire Independent.*—Sir, I am by trade a Flax-scutcher, and one of those stupid Irish whose ability or industry seems so doubtful with some of your correspondents, both native and foreign. Unlearned and un-English though my plain statement may be, I entreat its insertion, were it for no other purpose than to convince the understanding of Mr. Warnes, Joseph Fieux, and the Editor of the *Mark Lane Express*, to acknowledge and admire, if they will not imitate, truth. Returning from the farm of E. Spencer Trover, Esq. whose Flax I mill-scutched, much to that gentleman's satisfaction, I presented my employer, Mr. Dickson, with specimens of my work, which, on inspection by most experienced judges, were pronounced equal to the best Courtrai Flax, samples of which Mr. Dickson proposes to transmit to you, to prove, as he says, that however Irishmen may, out of courtesy and kindness to their English brethren, confess their agricultural pre-eminence, they (the Irish) are neither inferior, nor indebted to the Belgians for their skill in the management of Flax. A Belgian has, through your journal, vainly attempted to malign the motives, and disparage the inventions of Mr. Dickson, whose exertions to cherish a thriving system of Flax-growing, and linen manufacture, are too well known, and his book on that subject too extensively supported by landlords and manufacturers, to require one in his employment to be evidence of these facts. However, as he is charged with interested motives, I will ask whether the gratuitious distribution of his book to farmers, bears out that charge?

"A word with Belgian 'Joseph,' who in his condemnation of English Flax machinery apologizes for his imperfect acquaintance with the English language, in newspaper paragraphs which Lindley Murray could not condemn nor Cobbett distinguish from any Trimingham communication. He has been more successful among parts of speech than the swingles. I congratulate him. He boasts of having taught the Irish to scutch Flax; out of his former employers I look for the result. Alas, we cannot vaunt very much of the Belgian school of scutching, for according to the printed report of the Belfast Flax Society, a man after many months' training from Belgian teachers, contrived to scutch from 3 lbs. to 4 lbs. of Flax per day; whilst a woman in the north of Ireland, without any foreign tutor, scutched from 8 lbs. to 10 lbs. per day. This requires no comment. Now as Irish linens have been, and English linens shall, I hope, be the indissoluble bond between the agricultural and manufacturing interests, the subject must be important which leads the inquiring mind to ask what are the easiest means to accelerate the growth of Flax in England? To this I reply—machinery. Since the cold-blooded cupidity of the French court revoked the Edict of Nantes, and the expatriated Huguenots fled from the Loire to the Bann, the fibrous plant has flourished in the country in which it is my pride and my misfortune to be born. From the descendants of these men I have acquired the knowledge of grassing, watering, and scutching Flax. When they reared the looms, plied the shuttle, and bleached their yarns, beside the flowing rivers of Erin, I have watched the growing prosperity of our Flax growing districts, and from 1830 have seen Flax rise from 8*s.* per stone to 14*s.*, 16*s.*, and 18*s.*, per stone in Tanderagee; and this rise and reward to farmers is attributed to the erection of Flax mills. 'Joseph' has derided machinery and asserted that manual was superior to mechanical labour. I challenge him to the task. Let us divide 1 cwt. of last year's Flax, undried by fire, between us. Be his means of scutching, his brawny arm and swingle; be mine, the scutching-mill of my employer, Mr. Dickson, at present erecting in Skinner-street, Bishopsgate; and if I do not there prove the twenty fold advantage farmers have in patronising the machine system, in preference to the tedious, expensive handwork, I consent to forego my long boasted name as an expert scutcher, and permit Belgian correspondents to traduce the Irish whom he came to teach, but could not learn.

"In conclusion, I beg to state that in Ireland I have never experienced any difficulty in scutching 6 stone of Flax per day; each stone containing 14 pounds. I have often scutched 8 stone; and with Mr. Dickson's improvements I am not afraid to exceed my former efforts. However, as trial is beyond assertion, if the Belgian accept my challenge he can either by public or private letter choose the time next month, as I then expect Mr. Dickson's mill to be in operation.—*Andrew Cloughly, Glynde, near Lewes, Sussex, March* 14."

Home Correspondence.

Lord Eldon on Leases.—It may possibly reconcile leases to some of those landlords who object to grant them, if they are made aware of the opinion on the subject of the late Lord Eldon, who will hardly be set down as an innovator, free trader, or Radical. At one of his tenant dinners, his lordship expressed himself in the following words. "Gentlemen,—I thank God, that it hath pleased him to allow me once more the happiness and pleasure of meeting you all again. It also gives me great satisfaction to tell you that I have been informed by those from whom alone I can receive accurate information on the subject, that you have all of you, made improvements in the management of your farms. For this I thank you; *and I cannot but attribute these beneficial effects, in a great measure, to the alteration which you have made in the tenure of your farms*, in taking them for a term instead of from year to year. It is evident to me, as it must I think be to you all, that a tenant who is liable to be removed in a year from his farm, cannot satisfactorily to himself make those improvements which he will do, when he is sure that he can remain on his farm long enough to reap the benefit to himself of these improvements. I thank you all for your improved management. I will come among you as long as it shall please God to allow me. I wish you all, yourselves and families, health and happiness; and I shall never while I live, cease to consider my tenantry as part of myself." *Campbell's Lives of the Chancellors*, vii. 600.—*A Landlord.*

Agricultural Statistics.—Mr. Labouchere, when recently asked in the House whether the Government intended to proceed with the bill for obtaining such returns, replied "that the expense would be 40,000*l*, and that the Chancellor of the Exchequer could not spare the money." We differ widely with this government estimate, being satisfied that effective returns might be obtained for England, Scotland, and Wales for one-sixth of the sum, and the necessary agents of Government amply remunerated. The following are our suggestions for such annual return to be made on the 25th of November. 1. Is the appointment of an intelligent agriculturist as the Government inspector and receiver of returns for each county. 2. The appointment of a collector, to be the parish officer, who receives the assessed taxes, and who, on obtaining the blank forms from the inspector, shall deliver them to each farmer, requiring them to be filled up and returned to him within 14 days, under a penalty of 40*s.* Such returns may be sealed, and only to be opened by the county inspector; 1*s.* to be paid the collector for each return by the overseer of the poor when certified by the inspector. 3. The inspector, on receipt of such returns, shall enter them in a proper book, and adding together the whole of the parish returns, and carefully noting any variations from previous years as to the acreage of different crops, &c., he shall within 10 days report the results to the Board of Trade. 4. In the county of Herts there are 1900 farmers and 135 parishes; the entering of the returns, and their classification, and the superintendence of the distribution and collection of the returns, could only occupy the inspector a few days; and 50*l.* salary, and 10*l.* for contingent expenses, would be sufficient remuneration. 5. There are 85 counties in Great Britain, which at 60*l.* each gives 5100*l.*, to which add 900*l.* for stationary, &c., at the Board of Trade, and thus 6000*l.* would cover the whole expenditure. 6. Not a single additional clerk would be required at the Board of Trade, and from the secretary's well-known anxiety for statistical information, we believe he would freely give up a couple of hours to put together the 85 returns, and the Government would then be in possession of all the required information as to the harvest by the middle of December. 7. There are 11 unions in this county, and we are further of opinion that if the inspector selected the returns made by one or two of the most intelligent farmers in each union, that he would arrive at juster conclusions as to the results of the year's crop, than from any estimates made by professional valuers (incurring an enormous expense) when the crops were in a growing state. 8. We make the returns on the 25th of November with the view of ascertaining the average of each description of crop grown the past harvest, the quantity of old Wheat that may be left on hand, the quantity of Wheat sown, or likely to be sown for next crop, the number of fleeces of wool clipped, the number of animals bred on the farm during the year, and the stock on hand at the date of the return, and a report from each occupier of the probable yield and quality of the Wheat, Barley, and Oat crops, which in most cases will have been sufficiently tested by that time.—*S. S.*

New Work on Farming.—In an editorial article, of July 3d, 1847, you mention that "upwards of 20 of the best agricultural and scientific writers of the day are engaged, each in his own department, on an agricultural work." As a work so produced ought to be far superior to any of the "systems" we possess, may I beg, for the information of those who, like myself, wish at present to purchase a complete treatise on farming, to ask when the work alluded to is likely to appear, and whether it will be published entire, or in the dangerous form of parts?—*C.* [It will commence publication, in monthly parts, in autumn.]

Pleuro-pneumonia.—I am glad to say my cattle are now in perfect health, and I attribute this wholly to the prescription of "W. C. S." When I received yours, inclosing his letter on the subject, five of my cattle evinced symptoms of the distemper; these consisted in an unusual and total prostration of strength, a grinding of the teeth, watering of the eyes, and violent heaving of the flank. These I had severely bled and blistered, and a seton was placed in the brisket of each, as recommended. At the same time we administered internally some Epsom salts and powder of hellebore in gruel of Oatmeal and Linseed. The result has been most favourable, and the disease seems arrested in its progress; those referred to being now as well as any of our other stock. At the suggestion of our local veterinary surgeon, I placed a seton in the dewlap of each of the others as a preventative of the disease, had each animal bled, and administered 1 lb. of Epsom salts, as in the case of the others diseased, and since the date of these applications we have not had the slightest appearance of pleuro-pneumonia. I think it but honest to make this announcement, as I shall be most glad to satisfy the minds of any party on this subject, should they do me the honour of calling and inspecting the cattle on my premises. Those of our diseased cattle which were not bled or blistered all died in eight or ten days from the commencement of the disease, hence I would most decidedly recommend the above mode of treatment. In no case would I allow the animals to be shut in a house during their illness, as is too often the case, and which I believe to be a most destructive and pernicious practice; rather drive them out to a good pasture field for two or three hours each day, and thereby afford them an opportunity of eating if so inclined. Having derived so much advantage on this and other important subjects through the medium of the *Agricultural Gazette*, I beg to acknowledge, with much pleasure, my sense of the obligations on my part arising therefrom. And at the same time I beg to convey my warmest thanks to "W. C. S." for his valuable prescription. Should it again be my misfortune to have a recurrence of this disease, I shall at once have recourse to his plan of treatment, convinced that when the disease is taken in time some good may be effected.—*David Mackie, Cauldside, Wigtonshire.*

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A Weekly Council was held at the Society's house, in Hanover-square, on Wednesday last, the 29th of March: present—Mr. Raymond Barker, in the chair; Sir John V. B. Johnstone, Bart., M.P.; Mr. Almack, Mr. Brandreth, Mr. Cherry, Mr. Cottam, Mr. G. Dyer, Mr. Brandreth Gibbs, Mr. B. E. Hall, Rev. C. E. Keene, Mr. Kinder, Mr. Majendie, Mr. Parkins, Prof. Sewell, Mr. Smith, of Burley, Mr. R. Solly, Mr. Stansfield, M.P., Mr. T. Turner, Mr. Tweed, Prof. Way, and Mr. Bullock Webster.

The following new members were elected :—
Poulton, Wm., Head-Master of the Norwich Diocesan School
Eames, James, Beck Farm, Beaulieu, Southampton
Chambers, Dr. W. F., Brook-street, London
Pippet, William, Downside College, Bath
Sherriff, William, Treworgan, Monmouth
Lowndes, William Layton, Binfield, Berkshire
Bright, Dr. John, Manchester-square, London.

The names of 11 candidates for election at the next meeting were then read.

Dibbling.—Mr. Cottam, of 76, Oxford-street, favoured the Council with an inspection of Mr. Nichols's hand-dibbling machine, and explained in detail the mechanical principles of its construction and the peculiar advantages of its simple but most efficient mode of action; for which the Council voted to Mr. Cottam their best thanks.—Mr. Smith, of Burley, stated that he was well acquainted with Mr. Nichols and the dibbling-machine of his invention, then submitted to the Council by Mr. Cottam. It had been extensively employed in the county of Rutland, and he could bear the strongest testimony, from his own experience, and that of his neighbours, to its practical excellence. Its peculiar advantages were derived from the double action, by which the seed was deposited and covered in with pressure at the same time; and it was adapted with equal facility to dibble seed of any size, from the largest seed ever used in dibbling, down to the smallest Turnip seed.

Miscellaneous Communications.—From Sir John Lubbock, Bart., a report of experiments in progress on the growth of Wheat and the comparative effects of artificial manures; from Col. Le Couteur, High Sheriff of Jersey, a report, on a nine years' trial, of a variety of Wheat from Chili; from Prof. Way a report from Mr. Lawes that he had not found the precipitated sulphate of lime obtained in the manufacture of tartaric acid (though in a highly comminuted state, to be purchased at a cheap rate and in great abundance), of sufficient value as a top-dressing to be recommended for the use of farmers; from Mr. Bullock Webster, a statement on the advantages of employing the waste-water on estates in hilly countries to the purposes of a motive power, by having it conveyed in pipes to turn a water-wheel, working an exhausting pump, and connected with a small oscillating engine; from Mr. Kinder, a request on the part of Mr. Lawes to be allowed to explain at a future meeting the experiments on Seed-Wheat, and the effects of different manures, in which he had been so long engaged; from Mr. Smith, a report on Pleuro-pneumonia; and from Mr. Glover, a copy of the report of the Newcastle Farmers' Club, containing the following communication from Prof. Dumas, the celebrated French chemist, on the result of his own inquiries and those of his colleague, M. Milne-Edwards, on the use of salt in agriculture: "I quit England with the conviction that the problem of the employment of salt in agriculture is chimerical. We have been sent from county to county without result. Here they send us into the neighbourhood of the salt mines; when we were there, we were told that salt was not a prophet in its own country. I am convinced that the most desirable mode of preparing a good manure is by employing the phosphates and ammoniacal salts, rather than sea salt, however cheap the latter."—Prof. Way, being present, begged to express his dissent from the general conclusion thus arrived at, even by Prof. Dumas, for whose high character, however, and standing in the chemical world he entertained the sincerest respect.

Thanks were ordered for these communications, and the Council adjourned to Wednesday next.

A MEETING TO ADDRESS W. BLACKER, ESQ.

Feb. 28.—A meeting of the tenantry on the Market-hill, Graham, and Baleek estates of the Earl of Gosford, was held in the Court House, Markethill, to consider the propriety of presenting an address to W. Blacker, Esq., on his retiring from the agency of those estates.

Joseph M'Kee, Esq., J.P., was called to the chair, on taking which he said—No person could have exerted himself with greater zeal and perseverance for our improvement than Mr. Blacker has done since he came amongst us. Of the utility of his plans it is unnecessary that I should speak; that is fully proved by the prosperous and thriving condition of the tenants on this property, and still more by their general adoption throughout Ireland; and now, when advanced years and declining health have obliged him to resign his office, we should, I think, be deeply ungrateful did we, who have benefited so largely by his labours, permit him to retire without testifying our appreciation of his services.—Charles M'Anally, Esq. then proposed—"That an address be presented to Mr. Blacker on his retiring from Lord Gosford's agency." He said—During the 30 years Mr. Blacker has spent among us, he has spared neither his mind, his body, nor his purse in exertions for our improvement. The success of these exertions must be apparent to all; but perhaps they cannot be more clearly shown than by the fact, that while the tenantry are in as prosperous—if not more prosperous condition, than those in any other property, there will scarcely be a tenant in arrear on the next gale day. From Mr. Blacker's agricultural plans I have derived the greatest benefit, and I have no hesitation in saying that the better these plans are known, and the more fully they are tried, the more clearly will their wisdom and utility appear. I will only add in conclusion, that it gives me very sincere gratification to propose the resolution which has been entrusted to me.—George Gray, jun., Esq., of Glennan, in seconding the resolution, said—Though my residence on this property has been but short, I have seen sufficient to convince me that Mr. Blacker well deserves the gratitude of the tenantry, for the zeal and ability with which he has discharged the general duties of an agent, and more especially for his wise and judicious advice on the cultivation of land, by drainage and green cropping, to which I think we must in a great measure ascribe it that these estates suffered so little from the loss of the Potato crop.—Doctor Lynn said—Our country is deeply indebted to Mr. Blacker, as being the first to introduce this class of "practical instructors" into Ireland. Men who go about from farm to farm, imparting most valuable information in the best possible way. And I am delighted to find that our excellent viceroy with his well known acumen, has seen the value of, and is now giving his powerful co-operation to carry out Mr. Blacker's suggestions. For upwards of 16 years, Mr. Chairman, I have, through my professional avocation, been intimately acquainted with the farmers of this district. I have again and again heard them speak of the pleasing change which has been effected in these estates during the past 30 years. I have been often amused by hearing old men, and some young ones too, relate the opposition they once gave to Mr. Blacker and his agriculturist; and I have heard the very same individuals lately say, that they are now pursuing the very plans, to their own manifest advantage, which they formerly resisted with almost open violence. But I myself am a living witness of the great change produced within the last 16 years. When I look around me, and view the altered face of the country, the result of straightened marches and levelled ditches, when even a sea furrow draining is found in every part of these estates; when an abundance of green crops beautifies almost every farm; and when we add to these the increasing of cattle, and the overflowing supplies of milk and butter arising from such green crops, we are constrained—yes, irresistibly constrained, to acknowledge Mr. Blacker as one of the greatest benefactors of our race. That Mr. Blacker's mind was far in advance of the age is now manifest to us all; his clear intellect and powerful understanding was able to take in at one mighty grasp the entire subject. Yes, he saw the end from the beginning, and we can now look back, and see with wonder and admiration, how well his plans were calculated to effect this object, viz., our amelioration, &c. With what indomitable energy and perseverance he followed up his views from year to year, through good report and through evil report, until all are at length brought to confess that he has proved himself a truth the "Farmers' Friend." One of the many pleasing and substantial proofs of the value of following such advice is found in the fact, that, in the midst of the frost and snow of the past winter, upwards of 20 cwt. of fresh butter was sold weekly in our market, every pound of it the produce of this immediate locality. Let me ask the farmers present, who can remember the state of matters here 16 years ago, how much milk and butter could you then sell off your farms, from the 1st of November till the 1st of March? Your cows were then wandering all day long through a bare stubble, making mortar of the land, shivering with cold, and starving from hunger, and, to complete the picture, each poor beast was tied up at night to a stake, with a lock of dry straw for food! How, in the name of common sense, let me ask, could a cow so treated give either milk or butter? Contrast that with the present state of things, and ask yourselves through whose instrumentality has this gratifying, this wonderful change been produced? Must we not one and all acknowledge that we are now with our eyes beholding, and our hands reaping the benefits resulting from Mr. Blacker's labours.—The Rev. Charles Slavin said—It is unnecessary for me, in this place and surrounded by this assemblage, to enter upon a particular statement of Mr. Blacker's merits. The improved condition of these estates, and the comfortable and highly respectable appearance of the tenantry, are proofs open to the inspection of all, and sufficient to satisfy the most sceptical. It is stated in the address, "That we are now reaping the benefits of Mr. Blacker's exertions;" but in truth, sir, what we now enjoy is but the first fruits. The harvest will be reaped by others—our children or our children's children will be better able to appreciate his merits.—*Much abridged from the Armagh Guardian.*

Farmers' Clubs.

East Ilsley, *March* 22: *The Necessity of regular Farm Accounts as the "Key to Success in Practical Agriculture."*

Mr. Fordham, of Snelsmore, Hill East, said he considered it an object of such vast importance for the right management of any farm, that the necessity of correct accounts cannot be too strongly impressed upon the minds of the members of the Club, not only to record the pecuniary transactions, but a book as a memorandum of the tillage, expense, and return of each field, according to its productiveness, without which it is impossible to calculate the advantage of different systems. He instanced a farm of 300 acres in the neighbourhood, where every working transaction was entered throughout the whole cropping, and this had been done in so correct a manner that the land was referred to as an example. A very minute account of this farm, as to stock, implements, and general tillage was given, which gave great satisfaction to a large assemblage of members. [Could you not furnish us with it?] *Amicus*

Reviews.

On the Means of Facilitating the Transfer of Land. In Three Lectures. By James Stewart, of Lincoln's Inn, Barrister. 8vo. London: Longmans.

We are glad to see Mr. Stewart's invaluable lectures on the transfer of land, already fully reported in our columns, thus published in a separate form. They constitute a volume which the landed interest cannot too carefully study. In addition, we find two letters on the same great subject, addressed to the *Times* newspaper some time since.

The Herd Book of Hereford Cattle. By T. C. Eyton, Esq. London: Longmans.

A work well known among the breeders of Herefords, and deservedly receiving their patronage. The present number is neatly illustrated by a coloured print of "Hope," No. 439, a bull of the "white face" section of the breed.

Farming Essays. By Hewitt Davis. Ridgway, London.

Mr. Davis is too well known as an agricultural writer to require any introduction from us. The present work is a collection of the essays with which he has favoured our own columns, and those of other agricultural periodicals, during the past few years. They relate to a great variety of subjects, which are treated in a sensible practical style, and they will repay a reperusal. We are glad to find among them passages designated as extracts from "a forthcoming work on agriculture."

Calendar of Operations.

MARCH.

Berwickshire Merse Farm, *March* 24.—Since last report we have been employed in ploughing Turnip land for Wheat, carting dung to land for Turnips, threshing Wheat and Oats: three men with six single-horse carts carrying Wheat to Berwick and loaded home with coals and drain slates; five men digging drains; a woman cutting Turnips for the horses: the shepherd attending the ewes and lambs; a man and boy feeding the cattle.—*J. B.*

Dorset Farm, *March* 25.—Since last report we have had very backward weather for field work, and the consequence is that little has yet been sown. We have had more or less rain every day for the last three weeks, but at length it has cleared up, and given us some prospect of being able to get the seed into the ground; but except in very open subsoils the land is still far from workable. We have been employed carting dung to the Turnips, ploughing for Barley and Turnips, [illegible] for labourers, and carting for [illegible] designing very extensive improvements [illegible] for the last few days, sowing Barley and [illegible] are threshing Barley, home dung [illegible] making manure, cleaning of lake, and [illegible]

East Lothian Farm, *March* 25.—The weather [illegible] settled and unpropitious for the most part [illegible] but on the land during [illegible] Turnip land intended for [illegible] laying into heaps a remainder of [illegible] wet weather permits. The [illegible] supply of this root. [illegible] cart, we have [illegible]

Galloway Farm, *March* 27.—[illegible] weather has delayed the [illegible] and Oats were sown about [illegible] year, but in [illegible] they were not [illegible] of April. The land [illegible] for spring grain the [illegible] weather continues [illegible] ewing Beans has been [illegible] Barley. We have been [illegible] Wheat for seed, and [illegible] sowed with as many Turnips [illegible] bulk of this crop [illegible] them all eaten [illegible]

North Devon Farm, *March* [illegible] fine mixed weather, [illegible] since last report. Grass [illegible] with Barley, which was [illegible] following after. The early [illegible] buildings; two [illegible] cutting bullocks, weaning [illegible] cleaning round [illegible] for Turnip crop. Intend sowing Oats [illegible] continue dry.—*A. C.*

Sussex Hill Farm, *March* 27.—[illegible] week has been very [illegible] been engaged this week in [illegible] putting them in at [illegible] April Wheat, part of which we [illegible] will be heavy to work. The rain [illegible] stopped us from sowing Peas, [illegible] ther clear up in a day or two, we [illegible] Oats. Threshing Barley, [illegible] ings for Turnips, making and [illegible] cover dung-heaps, time to mix with [illegible] liquid manure on Grass Lands; men at [illegible] and cleaning out ditches; and we [illegible] seeds. Our shepherd is very [illegible] season, having only lost one lamb. [illegible] supply of Grass for our ewes and [illegible] grass, 5 inches in height, part into the [illegible] Our Wheat looks very well: part [illegible] guano now begins to show its effects—[illegible] questions concerning the saw mill: [illegible] 16 feet diameter, 1-horse power, [illegible] minute, with 7 feet head of water. [illegible] circular, the smallest one 20 inches [illegible] 84 inches; cost price, 42s. The next [illegible] ter; depth of cut, 1½ inches; [illegible] is 30 inches in diameter; depth [illegible] 72s. When cutting deals, the saws [illegible] minute, but on rough work 400 [illegible] ficial feet per hour. We can cut as [illegible] inch to any thickness wanted. We [illegible] one saw. If required, the water-wheel will [illegible] much as cleaning-machine, two saws, [illegible] cutter. In a short time we shall work the [illegible] same power.—*J. B.*

West Somerset Farm, *March* 28.—The weather has returned us in our field operations: we have only [illegible] of Oats which have gone in well [illegible] up before Christmas. The Wheat drilled in [illegible] 9 pecks of seed an acre, after Turnips [illegible] sheep, appears thin, much of the [illegible] the continued wet state of the land [illegible] looks remarkably strong and healthy [illegible] When the men cannot stand out [illegible] at other work, they are employed [illegible] manures which we purpose drilling [illegible] Turnip this season. The land we [illegible] for Mangel, muckled and folded and ploughed [illegible] sufficiently dry, will be dragged [illegible] planting this most useful root will be [illegible] by 12, with half a pint of artificial manure [illegible] mixture of ashes, superphosphate of lime, and [illegible] each hole by women, children following [illegible] Our markets continue very dull for [illegible] descriptions of live stock command [illegible] prices.—*E. H.*

Notices to Correspondents.

Addled Eggs—*S. S.*—Did "S. S." examine the addled eggs to ascertain whether the contents were [illegible] embryo, or were yellow and unfecundated [illegible] decide the goodness or badness of the [illegible] meddled with, unnecessarily turned with [illegible] they do not require, the yolk always [illegible] the nests airy, good clean straw used, [illegible] the nests regularly to feed, and return [illegible]

Alluvial Meadow—*J. [illegible]*—We should prefer [illegible] furrows, but would greatly prefer both [illegible] circumstances. You had better get [illegible] empty at A, and have some arrangement [illegible] (which should be large enough [illegible] hindering the entrance of [illegible]

A Steel for Mangold Wurzel Seed—[illegible]—Pure water. Sir H. Davy found chlorine water [illegible] We conclude the idea of improving the [illegible] seed is a mistake.

Books—*Miss—*I. Low's "Elements of Agriculture" [illegible] can wait, a fresher mine will be [illegible] parts, as an Encyclopædia of Agriculture [illegible] autumn. Talbot's [illegible] on Agricultural Chemistry [illegible] in 1.

Cart-horses in [illegible]—*Subscriber.*—Have any of the readers had one or two years' experience in keeping [illegible] in lieu of [illegible] If so, perhaps they would be kind enough to state whether they have found it in any respect prejudicial to the [illegible] seen why it should be so, though that seems [illegible] general impression. The [illegible] would add the two more and [illegible] more perfect rest, and in a much better [illegible] than any stables I have yet seen attached [illegible] to your question about labourers,—you will be able to [illegible] constant employment for 8 men and 2 boys; you will want another boy through winter, and you will want a woman through the spring and summer, for [illegible] harvest work. All this is on the supposition that you [illegible] husbandry, with Clover at least six years [illegible]

Castrated Swine's Leaden Pumps—*A. [illegible]*—Can any one give their experience as to [illegible] durability, &c.

Chemical Action—*An Old Sub.*—It is very rare between dry bodies. The chloride of sodium, nitrate of soda, and sulphate

of ammonia wou'd mix in peace. But your lime would take the acid from the ammonia salt and set the ammonia free. It would not act on the common salt. If it were a carbonate it would, for though its affection for muriatic acid will not unaided overcome that of soda (in possession) for the same, yet if it were assisted by the affinity of soda for carbonic acid it would.

CHICORY SEED—*N C*—Any respectable seedsman can procure it for you if he chooses. Sow 3 or 4 lbs. per acre. See p. 196.

CONTROVERSIAL TOPICS—*E B*—You must not think all the views advocated by our correspondents have our sanction. How, then, could discussion and the maintenance of opposite views be carried on in our columns. All we can do in the matter is occasionally, and with reference to the more important subjects, state our views in Leading Articles. In reference to the point you select for illustration, we have already more than once stated our opinion. See page 57.

GRASSES—*Young Farmer*—You must enrich the land and clean it before you can expect a good sward. Lawson recommends for light soils, with a crop of Barley—Alopecurus pratensis, 1 lb.; Avena flavescens, 1 lb.; Dactylis glomerata, 2 lbs.; Festuca duriuscula. 2 lbs.; F. heteropbylla, 1 lb.; F. rubra, 2 lbs.; Lolium italicum, 3 lbs.; L. perenne, 5 lbs.; Poa nemoralis, 2 lbs.; P. pratensis, 1 lb.; Medicago lupulina, 1 lb.; Trefolium pratense perenne, 3 lbs.; P. repens, 4 lbs. 28 lbs. in all. Any seedsman will understand these names. ——*R W*—We do not know the address of the party you inquire about.

GUANO—*O'Brian*—Apply 3 cwt. per acre broadcast the first showery weather after this. It is better to mix it with old ashes, because you can spread a larger quantity with greater accuracy than a small one, because the mixture may retain some of the volatile parts of the manure, and because the ashes themselves are a useful top dressing.

LIQUID MANURE—*A Subscriber*—1. We know of no instance where the liquid manure falling on so large a space is collected for sale. Of course you intend to divert the rain water, excepting during the time of market, as otherwise the liquid will be so dilute as to be not worth the expense of its carriage to any distance. Liquid manure will run down a slope of 1 in 60, if it be unobstructed. Your evaporation scheme, we fear, will not pay. Can you from so dilute a solution extract the matter dissolved for 3*l*. or 4*l*. per ton?

MANURE—*D Mackie*—All we can say is that your proposed dressing appears abundant, and ought to grow Turnips; but as your Oat crop—so poor—does not indicate any over fertility, you may perhaps benefit by adding 6 bushels of bones per acre, previously well wetted and then subjected for some days to the action of 50 lbs. of sulphuric acid—in a heap, covered over with ashes. This quantity of acid would dissolve out enough of the phosphate of lime for the Turnip crop, and leave some bones untouched for slower use in the subsequent Grass crop.

MR. WARNES—*A Sub*—Trimingham, North Walsham, Norfolk.

PEAS AND TURNIPS—*W Denny*—Having had some experience in the double culture of beans and Turnips, we save Mr. Hannam the trouble of answering by saying that the young Turnips receive and *bear* a great deal of very rough treatment during the harvesting of the grain crop. They come to a very fair crop notwithstanding.

PRICES—*S T T*—Thanks for your hint, which we will endeavour to remember at the end of the year. The prices for the past years have been—

	Wheat.	Barley.	Oats.
1840	66*s.* 4*d.*	36*s.* 5*d.*	25*s.* 8*d.*
1841	64 4	32 10	22 5
1842	57 3	27 6	19 3
1843	50 1	29 6	18 4
1844	51 3	33 8	20 7
1845	50 10	31 8	22 6
1846	54 8	32 8	23 8
1847	69 9	44 2	28 8

PROTECTION OF WOOD—*R W* wishes to know of a method by which timber exposed to salt spray may be preserved from the ravages of a "sea worm," which always destroys them after a few years.

SALT—*C*—Can any of our correspondents state the effect of salt on the old slate soils containing large quantities of iron? [What do you mean by doses of sulphuric acid and salt? No one mixes the two for manuring.]

SUNDRIES—*A Cottager*—You had better sow your guano with coal ashes first; rake it into the ground and *then* sow. You had better not mix the seed, coal ashes, and guano together. Frost will not injure manure under any circumstances; but exposure to air, whether frosty or warm, *will*. Oat shellings might be given as food to cows, but we should not think it worth more than Oat straw for that purpose.

TILES—*X M N* says: I should feel particularly obliged to any of your correspondents who would favour me, through the medium of your Paper, with information respecting the largest kind of tiles for main drains in general use in their districts, whether they are made by machine or by hand, and whether pipe-tiles are to be used with soles, their general form and dimensions, and the price per thousand at the kiln. If, in addition to this information, they would kindly state the neighbourhood in which such tiles are made, I might possibly be able to procure a specimen thence at small expense—the production of which to the tile-makers of this district would probably do more to induce them to make a similar article than any other argument I could offer.

TITHES IN KIND—*Henricus*—We do not know.

TUSSAC GRASS—*C*—Peaty soils near the sea are its habitat. Inland peat is not likely to suit it.

*** Communications reaching town after Wednesday cannot be answered till the following week.

Markets.

POTATOES, SOUTHWARK, WATERSIDE, March 27.

The Committee report that the arrivals from the Continent continue to increase, and most of them are of very fair quality, which prevents our market recovering from its former depression; some few fine samples of Yord Regents are making better prices, but all other sorts are nearly the same as last week. The following are the present quotations:—Yorkshire Regents, 90s to 150s; Shaws, 100s to 115s; Kent and Essex Regents, 110s to 120s; Goldfinders, 120s to 130s; Wisbeach Regents, 90s to 120s; Scotch Cups, 110s to 120s; Whites, 90s to 100s; Reds, 120s; Dutch Whites, 60s to 80s; Belgian do., 80s to 100s.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, March 30.

Prime Mead. Hay	70s to 76s	New Hay	.. —s to —s	Straw	.. 25s to 30s
Inferior ditto	.. 63 68	Clover	.. 80 98		
Rowen	.. .. — —	New Clover	.. — —		J. COOPER.

CUMBERLAND MARKET, March 30.

Prime Mead. Hay	72s to 78s	Old Clover	.. 90s to 95s	Straw	.. 28s to 32s
Inferior	.. 55 66	Inferior	.. 78 86		
New Hay	.. — —	New Clover	.. — —		JOSHUA BAKER.

WHITECHAPEL, March 30.

Fine Old Hay	.. 68s to 72s	Old Clover	.. 90s to 95s	Straw	.. 24s to 30s
Inferior Hay	.. 50 60	Inferior	.. 70 80		
New Hay	.. — —	New Clover	.. — —		

ENGLISH TIMBER AND BARK, APRIL 1.

Round Timber. Per Load.	Plank. Per Foot, Cube.	Inch Board. Per Foot, Superficial.
Oak ....£9 10 to £8 0	3*s* 0*d* to 5*s* 0*d*	0*s* 4½*d* to 0*s* 7½*d*
Ash ..... 4 0 — 6 10	2 3 — 3 6	0 3 — 0 4
Elm..... 3 0 — 4 5	1 6 — 2 3	0 2½ — 0 3½
Beech.... 2 10 — 3 5	1 3 — 2 3	0 2 — 0 2½
Lime .... 3 5 — 4 10	2 0 — 2 9	0 3½ — 0 4½

Bark, per load of 45 cwt., 10*l.* to 12*l.* J. S.

COVENT GARDEN, APRIL 1.

The market continues to be well supplied with Vegetables and with most kinds of Fruit. Pine-apples are more plentiful. The supply of foreign Grapes is well kept up; a few hothouse ones have just made their appearance. Pears and Apples are as plentiful as could be expected, considering the season. Of the former, specimens of Beurré Rance, Easter Beurré, and Ne Plus Meuris may be bought at from 3*s.* to 4*s.* per dozen. Nuts are sufficient for the demand. Filberts fetch from 14*s.* to 20*s.* per 100 lbs Oranges are abundant. Lemons are moderately plentiful. A few forced Strawberries continue to make their appearance. Of Vegetables, Cauliflowers, Broccoli, Greens, &c., are plentiful. Seakale may be obtained at last week's prices, as may also Asparagus. French Beans fetch from 2*s.* to 3*s.* per 100. Carrots and Turnips are good in quality; the latter is somewhat dearer. Frame Potatoes may be bought at from 1*s.* 6*d.* to 2*s.* 6*d.* per lb. Lettuces and other salading are sufficient for the demand. Mushrooms are cheaper. Cut Flowers consist of Hyacinths, Pelargoniums, Gardenias, Camellias, Fuchsias, Azaleas, Hyacinths, Acacias, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 4*s* to 7*s*
Grapes, Portugal, per lb., 1*s* to 2*s*
Apples, dessert, per bush., 3*s* to 6*s*
— kitchen, p. bush., 2*s* 6*d* to 5*s*
Pears, per half sieve, 8*s* to 10*s*
Oranges, per doz., 9*d* to 2*s*
— per 100, 3*s* to 12*s*
— bitter, per 100, 8*s* to 16*s*
Lemons, per doz., 1*s* to 2*s*
Lemons, per 100*s*, 6*s* to 14*s*
Almonds, per peck, 6*s*
— sweet, per lb., 2*s* to 3*s*
Walnuts, per bush., 12*s* to 18*s*
Nuts, Barcelona, per bush., 20*s* to 22*s*
— Filberts, per 100 lbs., 14*s* to 24*s*
— Cob, per 100 lbs., 25*s* to 30*s*
— Brazil, per bush., 12*s* to 16*s*
Chestnuts, per peck, 3*s* to 6*s*

VEGETABLES.

Asparagus, per 100, 2*s* to 10*s*
Savoys, per doz., 4*d* to 1*s*
Cabbages, Red, per doz, 2*s* to 4*s*
Greens, p. doz bunches, 1*s* 6*d* to 2*s* 6*d*
Cauliflowers, per doz., 2*s* to 4*s*
Broccoli, per bundle, 6*d* to 2*s*
Sorrel, per half sieve, 6*d* to 9*d*
Potatoes, per ton, 120*s* to 190*s*
— per cwt., 6*s* to 10*s*
— per bush., 4*s* to 6*s*
— Kidney, per bush., 4*s* to 6*s*
Turnips, p. doz. bunch., 1*s* 6*d* to 3*s*
Red Beet, per doz., 6*d* to 1*s*
Horse Radish, per bundle, 1*s* to 4*s*
Cucumbers, each, 2*s* to 5*s*
Leeks, per doz., 6*d* to 1*s*
Celery, per bundle, 6*d* to 1*s* 6*d*
Carrots, per doz. bunches, 3*s* to 5*s*
Spinach, per sieve, 1*s* to 1*s* 6*d*
Onions, per bush., 2*s* to 4*s*
— Spanish, per doz., 1*s* to 4*s*
Onions, pickling, p. hf. sieve, 2*s* to 3*s*
Shallots, per lb., 6*d* to 8*d*
Garlic, per lb., 3*d* to 1*s*
Seakale, per punnet, 9*d* to 2*s*
Rhubarb, per bundle, 6*d* to 1*s* 6*d*
French Beans, per 100, 2*s* to 3*s*
Radishes, per punnet, 8*d* to 10*d*
Art chokes, Jerusalem, p. hf. sieve, 1*s*
Lettuce, Cab., per score, 4*d* to 9*d*
Endive, per score, 1*s* to 2*s* 6*d*
Mushrooms, per pottle, 3*d* to 9*d*
Small Salads per punnet, 2*d* to 3*d*
Fennel, per bunch, 2*d* to 3*d*
Savory, per bunch, 3*d* to 4*d*
Thyme, per bunch, 2*d*
Watercress, p. 12 small bun., 6*d* to 9*d*
Parsley, per half sieve, 9*d* to 1*s*
— Roots, per bundle, 1*s* to 1*s* 6*d*
Mint, green, per bunch, 4*d* to 6*d*
Marjoram, per bunch, 3*d* to 4*d*

SMITHFIELD, MONDAY, March 27.

We have to-day a large supply of Beasts, and a very limited demand; the trade is consequently heavy, at reduced prices. From Holland we have 415, from Scotland, 210; from Norfolk and Suffolk, about 2100. The best Scots made about 4*s.* 6*d.*; this however is an extreme quotation. Many inferior qualities remain unsold. There is again a short supply of Sheep, especially of middling quality. The best Downs make 5*s.* 8*d.* in the wool. Shorn Sheep did not meet with a very ready sale; the weather is rather against them; prices range from 4*s.* 8*d.* to 5*s.* 2*d.* A few good Lambs are on offer, and make about 6*s.* 8*d.* Trade is very slow for Calves, at a reduction of about 2*d.* per 8 lbs. From Holland we have about 600 Sheep and 80 Calves. Pigs are more plentiful; trade for them is dull, and late prices barely maintained.

Per stone of 8 lbs.—s d	s d	Per stone of 8 lbs.—s d	s d
Best Scots, Herefords, &c. 4 2 to 4 6		Best Long Wools ..... 5 0 to 5 4	
Best Short Horns ..... 4 0 — 4 4		Ditto Shorn	
Second quality Beasts .. 3 0 — 3 8		Ewes and second quality 4 0 — 4 8	
Calves ..... 4 0 — 5 2		Ditto Shorn.....	
Best Downs & Half-breds 5 4 to 5 8		Lambs.....	
Ditto Shorn		Pigs ..... 4 4 — 5 4	

Beasts—3367. Sheep and Lambs—15,850. Calves—131. Pigs—369.

FRIDAY, March 31.

The supply of Beasts is but moderate, larger, however, than the demand. The glutted state of the dead markets and mildness of the weather cause a very heavy trade, at an average reduction of fully 2d. per 8 lbs., although in some instances rather over 4*s.* 4*d.* is obtained for a choice article. The number of Sheep is larger than we have had for weeks past. Trade is dull, and 5*s.* 6*d.* is the extreme price of best Downs in the wool, and 5*s.* shorn; Longwools, 4*s.* 8*d.* to 5*s.* Lamb is more in request, although not yet come into general trade; a few choice ones make rather over 6*s.* 8*d.* Trade is much as before. Calves, and it must be something very choice to make over 5*s.* Trade is heavy for Pigs at less money. From Holland there are about 200 Beasts, 300 Sheep, and 62 Calves; from Scotland, 200 Beasts, and about 160 Milch Cows.

Best Scots, Herefords, &c. 4 2 to 4 4		Best Long Wools..... 4 8 — 5 0	
Best Short Horns ..... 3 10 — 4 2		Ditto Shorn	
Second quality Beasts .. 3 0 — 3 6		Ewes and second quality 4 0 — 4 4	
Calves ..... 4 0 — 5 6		Ditto Shorn	
Best Downs & Half-breds 5 2 — 5 6		Lambs.....	
Ditto Shorn		Pigs ..... 4 0 — 5 2	

Beasts—872. Sheep and Lambs—3440. Calves—239. Pigs—370.

HOPS, FRIDAY, March 31.

Messrs. PATTENDEN and SMITH report that the market continues in the same state as for some time past, with but very few Hops on offer.

Mid. & East Kents, p. cwt. 60s to 100s		Yearling Kents, p. cwt... 48s to 60s	
Weald of Kents .. .. 56 — 72		Yearling Sussex .. .. 46 — 58	
Sussex .. .. .. 54 — 58		Old Hops .. .. .. 20 — 40	
Farnhams .. .. .. 84 —126			

MARK LANE, MONDAY, March 27.

Messrs. KINGSFORD and LAY report that the supply of Wheat this morning from Essex, Kent, and Suffolk was moderate only; nevertheless little progress could be made with sales until a decline of 1*s.* to 2*s.* per quarter upon the rates of this day se'nnight had been submitted to, and the stands were not cleared at a late hour. In foreign, transactions were of a very limited character, and prices barely supported.—Barley is inquired after, and 1*s.* per quarter dearer.—In the value of Beans and Peas we observe no alteration.—The Oat trade is heavy, and 6*d.* to 1*s.* per quarter cheaper.

BRITISH PER IMPERIAL QUARTER.	*s*	*s*		*s*	*s*
Wheat, Essex, Kent, and Suffolk .....White	50	62	Red.....	44	52
Norfolk, Lincolnshire, and Yorkshire	48	52	White ..	48	52
Barley, Malting and distilling, 27*s* to 30*s* Chevalier	30	34	Grinding	25	27
Oats, Lincolnshire and Yorkshire.....Polands	21	24	Feed ...	19	23
Northumberland and Scotch .....Feed	20	22	Potato ..	22	24
Irish .....Feed	18	21	Potato ..	21	23
Malt, pale, ship.....	—	—			
Hertford and Essex	—	—			
Rye.....	28	32			
Beans, Mazagan, old and new ..27*s* to 38*s*....Tick..	28	42	Harrow..	30	44
Pigeon, Heligoland 31	50	.... Winds	30	52	Longpod	30	34
Peas, White.....32	35	.... Maple	35	37	Grey	30	32

ARRIVALS IN THE PORT OF LONDON LAST WEEK.

Flour, 8046 sks — 43 bls	Wheat. Qrs.	Barley. Qrs.	Malt. Qrs.	Oats. Qrs.	Rye. Qrs.	Beans. Qrs.	Peas. Qrs.
English.....	2867	2095	4098	1931	—	709	90
Irish	870	—	10	10843	—	—	—
Foreign.....	3471	1300	—	8864	—	940	309

FRIDAY, March 31.

The attendance at market on Wednesday and this morning was unusually small, and the demand for all descriptions of grain equally limited. We observe no alteration in the value of any, but to have forced sales lower prices must have been submitted to.—Flour is also neglected.—The weather has become fine and warm.

ARRIVALS IN THE PORT OF LONDON THIS WEEK.

	Wheat. Qrs.	Barley. Qrs.	Oats. Qrs.	Flour.
English.....	4720	8090	4480	4080 sacks.
Irish	—	—	15220	
Foreign.....	2450	1670	4800	— barrels.

IMPERIAL AVERAGES.	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
Feb. 19	50*s* 11*d*	31*s* 3*d*	21*s* 1*d*	32*s* 4*d*	37*s* 10*d*	42*s* 5*d*
— 26	50 2	30 9	20 8	30 3	38 0	41 7
March 4	49 11	30 8	20 5	30 5	36 9	41 8
— 11	50 5	30 4	20 2	31 4	36 2	39 0
— 18	50 4	30 5	20 4	28 6	36 2	39 10
— 25	51 4	30 11	20 4	30 4	35 5	38 2
Aggregate Average	50 6	30 9	20 6	30 10	35 9	40 5
Duties on Foreign Grain	7 0	2 6	2 6	2 6	2 6	2 6

Fluctuations in the last six weeks' Corn Averages.

PRICE.	Feb. 19.	Feb. 26.	March 4.	March 11.	March 18.	March 25.
51*s* 4*d*	...	...	...	...	...	...
50 11	—	...	...	...	...	...
50 4	...	—	...	...	...	...
50 2	...	...	—	...	...	...
50 2	...	...	...	—	...	...
49 11	...	...	...	...	—	...

SEEDS, MARCH 31.

Canary .....per qr.	60*s* to 68*s*	Linseed-cakes, Foreign, p. ton.	8*l* to 10*l*
Caraway .....per cwt.	34 36	Mustard, White, p. bush , 6*s* 0*d* to 8*s* 0*d*	
Clover, Red, English	38 52	Superfine, p. bush , — —	
— Foreign	35 50	Brown, per bush.. — —	
White, English	40 52	Rapeseed, Eng., per last.....	28*l* 32*l*
— Foreign	40 50	Rape-cakes .....per ton	5*l* 10*s* 6*l*
Coriander.....	10 20	Sainfoin	— —
Hempseed .....per qr.	38 42	Tares, Eng., winter, p. bsh., 7*s* 0	8*s* 0
Linseed.....	42 43	Foreign, per bush., 4*s* 6	6*s* 0
— Baltic.....	— —	Trefoil	17*s* 0 21*s*
— Cakes, Eng. p. 1000,	13*l* to 13*l* 5*s*	Turnip—100 variable for quotation.	

BEE-HIVES.—All persons desirous of Cultivating that pleasing and profitable branch of rural economy—the Honey Bee—are respectfully informed by G. NEIGHBOUR and SON, that they have prepared for the season an extensive supply of their various improved BEE-HIVES; their collection consists of "Nutt's Collateral Hive," "The Single Box Hive," "The Improved Cottage Hive," "The Ladies' Observatory Hive," "Taylor's Bar Hive," &c., from either of which the Honey may be taken at any time without injury to the Bees, and may be worked with safety, humanity, and profit, by the most timid and unaccustomed to Bee-manipulation. A descriptive paper, with drawings and prices, will be forwarded on receipt of a postage stamp.—Apiarian Depot and Honey Warehouse, 127, High Holborn, London.

NUTT ON BEES (6th Edition), just published.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—251, Oxford-street, near Hyde-park.

GLASS FOR CONSERVATORIES, GREENHOUSES, PIT FRAMES, &c.

HETLEY AND CO. are supplying the above article, packed in boxes containing 100 square feet each, of BRITISH Manufacture, at the following reduced prices for cash A reduction on 1000 feet.

Sizes. Inches.			Inches.			Per foot.	Per 100 feet.
From 6 by 4	to		8 by 6	at		2½*d.* is	£1 0 10
8 „ 6	„		10 „ 8	„		2¾*d.* „	1 2 11
10 „ 8	„		14 „ 10	„		3*d.* „	1 5 0
14 „ 10	„		20 „ 12	„		3½*d.* „	1 7 1
20 „ 12	„		40 „ 14	„		3¾*d.* „	1 9 2

21 oz. from 3*d.* to 5½*d.*, per square foot, according to size.
26 oz. „ 3½*d.* 7½*d.* „ „ „
32 oz. „ 4*d.* 9½*d.* „ „ „

GLASS TILES AND SLATES made to pattern any thickness. PROPAGATING, FLOWER, FRUIT, AND VEGETABLE GLASSES of every size and description.
BEE HIVE GLASSES from 4 to 12 in. diameter.
GLASS MILK PANS, from 12 to 26 in. diameter.
GLASS SHADES, as ornamental to, and for the preservation of every description of goods susceptible of injury by exposure. Prices, since the removal of the Excise duty, reduced one-half. List of Prices forwarded on application to JAMES HETLEY and Co., Glass Shade, Sheet, Crown, and Patent Plate Glass Warehouse, 35, Soho-square, London.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND CO., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS FOR CONSERVATORIES. CUT TO SIZE UP TO 40 INCHES LONG.			SMALL SQUARES of SHEET.		
16 oz. to the foot	3½*d.* per foot		4 by 3 and 4½ by 3½..1½*d.* per ft.		
			5 „ 3 „ 5½ „ 3½..2	„	
21 „	5 „		6 „ 4 „ 6½ „ 4½..2½	„	
			7 „ 5 „ 7½ „ 5½..2½	„	
26 „	7½ „		8 „ 6 „ 8½ „ 6½..2½	„	
32 „	10 „		Not above 10 „ 8 ..3	„	

GLASS MILK PANS, PROPAGATING GLASSES, AND BEE GLASSES. GLASS TILES AND SLATES.
CREAM POTS, from 3 to 24 quarts, at 6*d.* per quart.
CUCUMBER GLASSES, from 12 to 26 inches long, 1*d.* p. inch.
LACTOMETERS for trying the quality of Milk, 4 tubes 7*s.* 6*d.*, 6 tubes 10*s*; and every article in the trade.

PERUVIAN AND BOLIVIAN GUANO ON SALE,
By THE ONLY IMPORTERS,
ANTONY GIBBS AND SONS, LONDON;
WM. JOSEPH MYERS AND Co., LIVERPOOL;
And by their Agents,
GIBBS, BRIGHT, AND Co., LIVERPOOL and BRISTOL;
COTESWORTH, POWELL, AND PRYOR, LONDON.
To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.
S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.
Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

CLARK'S METALLIC HOTHOUSE WORKS, 55, Lionel-street, Birmingham.—Proprietor, Mr. THOMAS CLARK; Manager, Mr. JOHN JONES.
Mr. CLARK presents his grateful thanks to the Nobility and Gentry for their liberal patronage of the above Establishment, during a period of thirty years, and begs to state that the repeal of the duty on Glass enables him to offer his METALLIC HOTHOUSES at a greatly reduced price. These Houses are glazed with British Sheet Glass, in panes of from 24 to 30 inches in length, and of such thickness as to preclude all danger of accidental breakage, whilst that which arises from the action of frost is effectually prevented by the peculiar mode of glazing adopted. As a sample of his Metallic Hothouses, in which all the most recent improvements are happily combined, Mr. CLARK refers to the magnificent range erected by him in the new Royal Gardens at Windsor, admitted by competent judges to be the most complete of its kind in the world.

ALSIKE HYBRID CLOVER.—This valuable variety was introduced from Sweden; it is a cross between the White and Red Clover, having all the properties of the former, with the abundance of the latter, none of our Meadow or Pasture Lands should be without it—it should always form part of a Clover layer. Price of seed under 1 cwt. 1*s.* 9*d.* per lb.; for 1 cwt., or more, 1*s.* 6*d.* per lb.
The PURPLE KOHL RABI, or HUNGARIAN TURNIP, is equally hardy as the Swedish Turnip; it has in several instances surpassed this root in weight of crop and nutritive support; it is perfectly hardy. Price of seed, 2*s.* 6*d.* per lb.
GEORGE GIBBS and Co., Seedsmen, &c., to the Royal Agricultural Department of Belgium, &c., 26, Down-street, Piccadilly, London.

EAST INDIAN AND PERUVIAN ORCHIDS.

MR. J. C. STEVENS will sell by Auction at his Great Room, 38, King-street, Covent-garden, on Tuesday next, April 4, at 12 for 1 o'clock precisely, a small but very choice parcel of ORCHIDS, from Peru, including that most remarkable plant, the CYPRIPEDIUM CAUDATUM and the magnificent Sobralia dichotoma, just received in glass Wardian cases, in the best possible condition; also a few fine plants of the grand Grammatophyllum speciosum in fine health, and the rare Nepenthes Rafflesiana and Loddigesii, received by overland route from Singapore. On view the morning of Sale, and Catalogues had.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will submit to public competition, at the Auction Mart, Bartholomew-lane, on Tuesday, April 4th, and Thursday, the 6th, 1848, at 12 o'clock, about 400 pairs of first-rate CARNATIONS and PICOTEES, consisting of all the leading varieties. Also a splendid assortment of Fuchsias, Verbenas, Heartsease, Roses, Pinks, Climbers, a variety of Plants in bloom, choice Dahlias in dry roots, &c., together with a collection of Seeds imported from Gothn.—May be viewed the morning of sale, and Catalogues had at the Mart, and of the Auctioneers, American Nursery, Leytonstone.

MR. J. J. FOSTER, of Edgeware and Stanmore Nurseries, intend to submit to public competition, at the London Auction Mart, on Tuesday, the 4th April, at 12 for 1 o'clock, a superb COLLECTION OF SELECTED ROSES, consisting of Standard and Dwarf Moss, Union Weepers, Hybrid Perpetual, Bourbon, Provence, Persian Yellow, &c., together with ornamental Trees for Lawns, Climbing Plants, new French Irises, Double Rocket, &c., all being from a very first-rate grower, and warranted true to name.—To be viewed the morning of Sale, and Catalogues had at the Mart, and 24, Mark-lane.

TO BE LET, in BERKSHIRE, A Compact FARM, well situated near Newbury, containing 380 Acres of good Land, chiefly Arable, with some excellent Water Meadow. To be let on Lease from Michaelmas next. For Particulars, apply to Messrs. CHAPMAN, WEBB, and CHAPMAN, Land Agents, 3, Arundel-street, Strand, London.

TO BE LET, at Southampton, handsomely Furnished, or Unfurnished, or Furniture to be taken at a valuation, a compact and eligible VILLA RESIDENCE, in a state of substantial repair, and well adapted for the occupation of a genteel Family; with a Lawn, Pleasure-grounds, productive Garden, and four acres of Grass Land. The Villa is situated in a very healthy and dry locality, two miles from Southampton, and commands beautiful and varied prospects of the Southampton water and surrounding country. Ten minutes' walk from the parish church. A Post-office delivery twice a day.—For further particulars and rent, apply to Mr. CHARLES BROOKS, Estate Agent, 8, Above Bar, Southampton.

SEED BUSINESS TO BE DISPOSED OF, principally Garden; Old Established, with a wide light country connexion; a good House, Stable, Coach-house, &c.; low rent, coming-in easy. Age and declining health is the reason for advertising the above.—Apply to Mr. DAVIES, Seedsman, 8, Great Dover-street, Borough, London.

FARMS WANTED.

WANTED, A FARM, of from 150 to 300 Acres. —The Advertiser has ample capital, and would be a desirable acquisition on any estate. The land must be suitable for Turnips and Barley, and have a comfortable House, &c. upon it. If within fifty miles of London, so much the better. Also, a FARM of from 100 to 150 Acres. Particulars to be sent to Messrs. WEST and BAILEY, Land Agents, 4, Great Queen-street, Westminster.

IMPROVEMENT IN FARMING IMPLEMENTS.

LINSEED CRUSHER, simple in construction, for hand or horse-power, 11*l.* 11*s.*; ditto, doing Beans, Linseed, and Oats, by the same engine or horse-power, 10*l.* 10*s.* A smaller Implement for Linseed only, 7*l.* 15*s.*

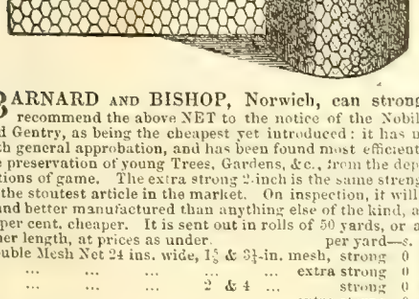
THRESHING MACHINE.—A Four-horse Power, doing from 25 to 35 loads of Wheat-straw per day, without damaging the straw, may be had of MARY WEDLAKE and Co., 118, Fenchurch-street, opposite Mark-lane, London, (references to numerous persons farming extensively, and who use this new machine), price 60 guineas. Smaller machines at a less price.

GORSE-BRUISING MACHINES, price 10*l.* 10*s.*, will prepare 40 to 50 bushels of food a day for cows, horses, and other cattle.

MARY WEDLAKE & CO.'S CHAFF-CUTTING MACHINE will do 100 or 200 bushels a day. Price 7*l.* 7*s.*, and a smaller machine 5*l.* Horse-hoe, Dressing-Machine, Turnip Cutter, Turnip-Drill, Stubble-rake, Oil-cake Breaker, Bean and Oat Crushers, Essex Ploughs for two Horses, Subsoil Plough, Double Field Roller, &c. Hay-making Machine, 14*l.* 14*s.*

MARY WEDLAKE and Co., 118, (The City of London Repository for Agricultural Implements), Fenchurch-street, opposite Mark-lane.

IMPROVED DOUBLE MESH WIRE GAME NET.



BARNARD AND BISHOP, Norwich, can strongly recommend the above NET to the notice of the Nobility and Gentry, as being the cheapest yet introduced: it has met with general approbation, and has been found most efficient in the preservation of young Trees, Gardens, &c., from the depredations of game. The extra strong 2-inch is the same strength as the stoutest article in the market. On inspection, it will be found better manufactured than anything else of the kind, and 20 per cent. cheaper. It is sent out in rolls of 50 yards, or any other length, at prices as under.

				per yard—	*s.*	*d.*
Double Mesh Net 24 ins. wide, 1⅝ & 3¼-in. mesh,				strong	0	6½
...	...	...	... ...	extra strong	0	9
...	...	...	2 & 4 ...	strong	0	5½
...	...	...	.. ...	extra strong	0	7½
Single Mesh ...	...		1⅝ ...	light	0	7
...	...	...	... ...	strong	0	9
...	...	...	2 ...	extra strong	1	0
...	...	...	2 ...	light	0	6
...	...	...	... ...	strong	0	7½
...	...	...	... ...	extra strong	0	10

The prices quoted for double net are for equal proportions of each mesh, which may be varied if required, thus, three parts fine to one of coarse, or *vice versa*, at prices accordingly; and it can be made any mesh and width to 7 feet.

A finer description for Aviaries, Pheasantries, &c., sparrow proof, 3*d.* per square foot; or, if made in copper, at 5*d.* per square foot. The Iron Wire Net is twice dipped in anti-corrosive composition, and sent free to London or Hull.

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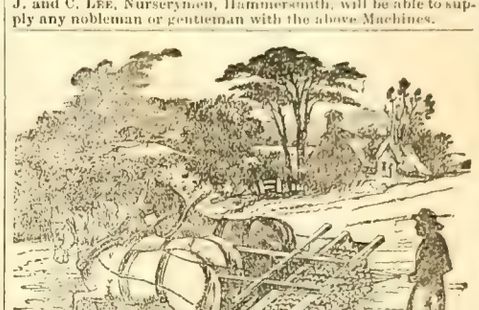

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Cervicaria	... 0 9	,, alba	... 0 9
Elegans	... 0 9	Punctata	... 1 0
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Grossekii	... 1 0	Speciosa	... 0 9

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Divaricata	... 0 9	Van Houttii ...	... 1 0
Lœta	... 0 9	Verna	... 0 9
Longiflora	... 0 9	,, cœrulescens	... 1 0

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Flexuosa	... 0 9	Purpurea	... 1 0
Florentina... ...	... 0 9	Ruthenica	... 0 9
Germanica... ...	... 0 9	Sibirica pleno ...	1 0
Humei	... 1 0	Squalens	... 0 9
Hungarica... ...	... 0 9	Sulphurea	... 0 9
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Pseud Acorus variegata	0 9	Variegata	... 0 9
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Campestroni, bronzy purple
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Comte de Rautzou, red chestnut
Defiance, pure white
Doria (Salter's), yellow
Duc de Conighana, crimson
Formosum, sulphur
Gen. Morceau, salmon
Grand Napoleon, crimson
Incomparable, buff
Julius Cæsar, bronzy red
Lady Hunlohe, yellow
Lamarque, bright yellow
Louis Philippe, rosy purple
Madame Pompadour, purple
Madame Salter, crimsony red
Malvinia, crimson purple
Marshal de Crequi, purple
Marshal Soult, bright yellow
Orlando (Salter's), purple
Phidias, deep pink
Prince Albert, deep crimson
Queen, pinkish white
Queen of the Yellows
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Danielsiana ...	... 1 6	,, punctata ...	... 2 6
Double Crimson ...	... 2 6	Semiduplex rosea	... 2 6
Excellens	... 2 6	Semipleno ...	... 2 6
Fastuosa	... 1 6	Speciosissima ...	... 2 6
Georgiana	... 1 6	Splendens	... 2 6
Gledstanesii excelsa	... 2 6	Variegata	... 2 6
Incarnata	... 2 6	Ventricosa ...	... 2 6
Jenkinsoni	... 2 6	Woodsii	... 1 6

MISCELLANEOUS PLANTS.

	each.—s. d.		each.—s. d.
Abelia rupestris ...	... 1 6	Gloxinia insignis...	... 1 6
Abutilon striatum	... 1 0	,, rubra ...	... 1 6
,, venosum ...	... 1 6	,, speciosa ...	... 1 6
Achimenes argyrostigma	1 0	,, tubiflora ...	... 1 0
,, coccinea ...	... 0 9	,, ,, rosea ...	1 6
,, grandiflora...	... 1 0	Gmdia imberbis ...	... 1 6
,, hirsuta ...	... 1 0	Habrothamnus elegans...	1 6
,, Liepmanni...	... 1 0	,, fasciculatus	... 1 6
,, longiflora ...	... 1 0	Hoya carnosa ...	... 2 0
,, patens ...	... 1 0	Hydrangea hortensis	... 1 0
,, picta	... 1 0	,, japonica ...	... 1 6
Æschynanthus Boschianus	1 6	Hypericum ægyptiacum	1 0
,, grandiflorus	... 1 6	Inga pulcherrima	... 1 6
,, Horsheldii ...	... 1 6	Iochroma tubulosa	... 1 6
,, Lobbianus ...	... 2 6	Iris chinensis ...	... 1 6
,, pulcher ...	... 2 6	Ixora coccinea ...	... 2 0
,, radicans ...	... 2 6	Jasminum affine...	... 1 6
,, zebrinus ...	... 2 6	,, grandiflorum	... 1 6
Amaryllis, 1*s.* 6*d.* to	... 5 0	Justicia carnea ...	... 1 6
Amyena zygomeris	... 1 6	,, M'Donnellii	... 2 6
Anagallis grandiflora	... 0 6	Kennedya longeracemosa	1 6
Angelonia Gardneriana	1 6	,, monophylla	... 1 6
Anemone japonica	... 0 9	Lantana crocea ...	... 1 0
,, rivularis ...	... 1 0	,, formosa ...	... 2 0
Ardisia crenulata ...	1 6	,, malvifolia ...	... 1 0
Balsamina latifolia	... 1 6	,, pulcherrima	... 2 0
Begonia coccinea ...	1 6	,, Sellowi ...	... 0 9
,, fuchsoides ...	... 1 6	Lilium eximium ...	... 1 0
,, hydrocotilifolia	... 1 6	,, lancifolium	... 2 0
,, insignis ...	... 1 6	,, ,, punctatum	... 3 6
,, nitida	... 1 6	,, ,, roseum	... 7 6
,, parvifolia ...	... 1 0	Linaria tristis ...	... 1 0
,, semperflorens	... 1 6	Linum flavum ...	... 1 0
Boronia serrulata	... 1 6	,, trigynum ...	... 1 6
Bouvardia flava ...	... 1 0	Lophospermum Hendersoni	1 0
,, splendens ...	... 1 0	Lycopodium cæsium	... 1 0
,, triphylla ...	... 1 0	Mahernia incisa ...	... 1 0
Burchellia capensis	... 1 0	Manettia bicolor ...	... 1 6
Cactus speciosissimus	... 2 6	Maurandia Barclayana...	1 0
Calceolaria floribunda	... 0 9	,, semperflorens	... 1 0
,, viscosissima	... 0 9	Mimulus conductus	... 1 6
Calla æthiopica ...	... 1 0	,, Mackleanus	... 1 0
Calystegia pubescens	... 1 0	Morina longiflora	... 1 0
Camellias, 2*s.* 6*d.* to	...10 6	Mussænda frondosa	... 2 0
Centradenia rosea ...	1 6	Myrtus tenuifolius	... 1 6
Cestrum aurantiacum	... 1 6	Nierembegia gracilis	... 1 0
Chirita sinensis ...	... 1 0	Nordmannia cordifolia	... 1 0
Chænostoma polyantha...	1 0	Passiflora alata ...	... 2 6
Cinerarias, 1*s.* to...	... 2 6	,, Bonaparte ...	... 2 6
Clematis smilacifolia	... 2 6	,, cærulea ...	... 1 6
,, nutans ...	... 2 6	,, ,, racemosa	... 1 6
Clianthus puniceus	... 1 6	,, Loudoni ...	... 2 6
Columnea splendens	... 1 6	,, Mayana ...	... 1 6
Crassula coccinea	... 1 6	,, Mune's hybrid	... 1 6
Cuphea decandra	... 1 6	,, palmata ...	... 1 6
,, miniata ...	... 0 9	,, princeps ...	... 2 6
,, platycentra	... 0 9	,, quadrangularis	... 3 6
,, strigulosa ...	... 0 9	,, racemosa ...	... 1 6
Cypripedium insigne	... 2 0	Pavetta indica ...	... 2 6
Delphinium, Barlow's	... 1 0	Pentas carnea ...	... 1 6
,, bicolor ...	... 1 0	Phaius grandiflorus	... 2 6
,, sinense ...	... 1 0	Platycodon grandiflorus	2 6
Deutzia staminea	... 1 6	Plumbago capensis	... 1 0
Diplacus puniceus	... 1 0	Porphyrocoma lanceolata	2 6
Donchos lignosus	... 1 6	Primula cortusoides	... 1 0
Diosma capitata	... 1 6	,, rubra	... 0 9
,, fragrans ...	... 1 6	Rhodochiton volubile	... 1 0
Drymonia punctata	... 1 0	Rhynchospermum jasminoides	... 5 0
Echeveria rosea ...	... 2 6	Ruellia macrophylla	... 2 0
,, secunda ...	... 1 6	,, montana ...	... 2 0
Epacris Attleana ...	2 6	Saxifraga sarmentosa	... 1 0
,, autumnalis	... 2 6	Scutellaria splendens	... 1 0
,, ceracnora ...	... 2 6	,, Ventenatii ...	... 2 6
,, coccinea ...	... 3 6	Siphocampylus bicolor	... 1 6
,, coruscans ...	... 2 6	,, lantanifolius	... 1 6
,, Cunninghamni	... 2 6	Silene Schafta ...	... 1 0
,, grandiflora	... 1 6	Solandra grandiflora	... 2 6
,, impressa ...	... 1 6	Solanum jasminoides	... 1 6
,, microphylla	... 1 6	Spiræa prunifolia pleno...	1 6
,, miniata ...	... 2 6	Stachys aurantia...	... 2 0
,, mutabilis ...	... 1 6	,, inodora ...	... 1 0
,, nivalis ...	... 1 6	,, speciosa ...	... 0 9
,, paludosa ...	... 1 6	Statice pseud-armeria	... 1 0
,, purpurascens	... 1 6	Stephanotus floribundus	3 6
,, pulchella ...	... 1 6	Stigmaphyllon ciliatum...	2 6
Eranthemum pulchellum	1 6	Struthiola erecta ...	... 1 6
,, variabile ...	... 1 6	Thunbergia chrysops	... 1 6
Erica, of sorts ... 1*s.* to	5 0	Torenia asiatica ...	... 1 0
Eutaxia myrtifolia	... 1 0	,, concolor ...	... 1 0
Fabiana imbricata	... 1 0	Tremandra Hugelii	... 1 0
Forsythia viridissima	... 1 6	Tropæolum crenatiflorum	1 0
Franciscea angusta	... 3 6	,, Moritzianum	... 1 0
Funkia grandiflora	... 5 0	Tacsonia mollissima	... 2 6
Gesnera longifolia	... 1 6	Veronica Lindleyana	... 1 0
,, Herberti ...	... 1 6	,, salicifolia ...	... 1 0
,, oblongata ...	... 1 6	,, speciosa ...	... 1 0
,, Suttoni ...	... 2 0	Vinca rosea ...	... 1 0
,, zebrina ...	... 1 0	Violet, Double Tree	... 1 0
Gloxinia candida...	... 1 6	Weigela rosea ...	... 2 6
,, Cartoni ...	... 1 6		

DAHLIAS.

Admiral Stopford	... 1 0	Lady Grey	... 1 0
Alba purpurea grandiflora	1 0	Lady St. Maur ...	... 1 0
Alice Hawthorn ...	... 1 0	Louis Philippe, Turner's	2 0
Antagonist	... 1 0	Madame Miellez ...	... 1 0
Aurantia	... 1 0	,, Schunenfeld	... 1 0
Beauty of Sussex	... 1 0	,, Villebois ...	... 1 0
Beeswing	... 1 0	Marchioness of Ormond	1 0
Berryer, Turner's	... 2 0	Master George Clayton...	2 0
Bloomsbury ...	... 1 0	Monsieur J. Walner	... 1 0
Bouquet de Breuil	... 1 0	Pomona, Girling's	... 1 0
Duchess of St. Alban's...	1 0	Queen of the Fairies	... 1 0
Dupetit Thouars ...	... 1 0	Reine des Fees ...	... 1 0
Emperor of the Whites...	1 0	Standard of Perfection...	1 0
Essex Triumph ...	... 1 0	Star, Bragg's ...	... 2 0
Eveque de Tournay	... 1 0	Striata delicatissima	... 1 0
Fancy, Teebay's ...	... 1 0	Vanguard, Girling's	... 1 0
Fulwood Hero ...	... 1 0	Vesta, Knight's ...	... 1 0
Harlequin	... 1 0	Victory of Sussex	... 1 0
Hermione... ...	... 1 0	Virgil	... 1 0

Selection left to R. C., 6*s.* per dozen.

Large Collections of Rock and Herbaceous Plants, Auriculas, Pæonies, Picotees, Roses, and Plants for bedding out.

Printed by William Bradbury, of No. 7, York-place, Stoke Newington, and Frederick Mullett Evans, of No. 7, Church-row, Stoke Newington, both in the county of Middlesex, Printers, at their office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the Office, No. 5, Charles-street, in the parish of St. Paul's, Covent-Garden, in the said county, where all Advertisements and Communications are to be addressed to the Editor.—Saturday, April 1, 1848.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News. The Horticultural Part Edited by Professor Lindley.

No. 15.—1848.] SATURDAY, APRIL 8. [Price 6*d*.

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SUPERB FLOWER SEEDS.

WM. JAMES EPPS' (F.H.S.), descriptive Catalogue of Flower Seeds is now ready, which may be had by enclosing a postage stamp. Purchasers may depend upon their being new and genuine, as the whole are saved and collected under his own superintendence.

	s	*d*.
No. 1 collection, 100 packets of the leading and newest kinds	16	0
,, 2, 60 packets, do.	10	0
,, 3, 30 do. do.	5	0
,, 4, 20 do. do.	3	6

High-street, Maidstone, Kent.

GEORGE SMITH begs to refer the readers of the *Gardeners' Chronicle* to his Advertisement of Feb. 12th and 19th, for a description of his universal SEEDLING FUCHSIAS and VERBENAS. G. S.'s Catalogue contains of the above every novelty of the season, which can be had on the receipt of one postage stamp.

Tollington Nursery, Hornsey-road, Islington.

TO MELON GROWERS.

H. LANE AND SON, Great Berkhamstead, have been favoured with SEEDS of the most successful at the London Shows for the last two seasons.

Fleming's New Hybrid Persian	2*s*. 6*d*.	per packet
Ispahan, Genuine Fruit, weighing 12 lbs.	1 6	,,
Seymour's Golden Perfection	1 6	,,
Seymour's Red Matchless Celery	2 6	,,

MILLER'S SEEDLING GERANIUMS.

Scarlet Defiance	£1 11 6	Rosa Mundi	£1 11 6
Queen of Kent	1 1 0	Distinctum	1 11 6
Admiration	1 1 0	Valquis	1 1 0
Conspicabundum	1 1 0	Flora's Flag	1 1 0

The set 8*l*. 8*s*., with the usual allowance.

Fireblaze	0 10 6	Garland	0 15
Eclipse	0 15 0	Meteor Superb	0 10
Telegraph	0 15 0	Beauty Surpass'	0 10

The six 3*l*., with the usual allowance.

New Forcing GERANIUM, "PURPUREUM MULTIFLORUM," 10*s*. 6*d*. each.

N.B.—Good strong plants, with cuttings, are now ready to send out. The whole set of 15 distinct varieties a real bargain, 10*l*. 10*s*., with usual allowance to the trade.

Providence Nursery, Rumsgate.

UNDER THE PATRONAGE OF THE QUEEN AND PRINCE ALBERT.

JOSLING'S ST. ALBAN'S GRAPE.—The above has been patronised by Professor LINDLEY, the Horticultural Society of London, Mr. R. Thompson, Superintendent of the Fruit Department in the Hort. Soc. Gardens; and the Editor of the Gardeners' Journal, as being an excellent variety; fleshy, rich, and sugary, with a Frontignan flavour, and is deserving of extensive cultivation. Plants well established in 6-inch pots, free to London, on receipt of a post-office order for 21*s*. Usual allowance to the trade if three are taken.

ROBERT JOSLING, Seedsman, St. Alban's, April 8.

ON SALE.—SELECTED TURNIP SEEDS from the Lothians and Highlands of Scotland.

Pollexfen's Yellow Bullock Turnip	Skirving's Imperial Yellow Scotch ditto
Hood's Imperial Ye'low Bullock ditto	Dale's Hybrid ditto
Gordon's Aberdeen Bullock do.	Skirving's Liverpool Swede
Gordon's Ayrshire Bullock do.	Ashcroft's Purple-top ditto
Border Imperial Bullock do.	Laing's Prize ditto
	Cox's Imperial Hybrid ditto

With all other kinds of White and Yellow Field Turnips, Mangold Wurzel and Sugar Beet, six varieties. Large White Belgian Horse Carrot; and Large Green-top Altringham ditto. Mixed Grass Seeds of the best varieties, suitable for laying down Pasture Land.

HENRY CLARKE, Seed Merchant, 39, King-st., Covent-garden.

DOUBLE STOCKS EXTRAORDINARY.

H. J. HARDY begs respectfully to thank his numerous Friends and the Public for their kind patronage, and to inform them that he has a little seed left of his SPLENDID DOUBLE GIANT STOCK, which he is sending out in packets 1*s*. each, or 12 postage stamps. It is of a brilliant scarlet, grows 4 feet high, flowers from the very bottom to the top, very thick, and very large bushy plants. The flowers are as large as the top of a common-sized tea cup, and very double. All lovers of superb flowers should have a succession of this.

H. J. H. also has the finest collection of Double Larkspurs, German Asters, and Hollyhocks in Europe, at 3*s*. 6*d*. per collection. 100 Choice Annuals, 20*s*.

H. J. HARDY, 7, Windsor-place, City-road, London.

ORNAMENTAL BEDDING PLANTS.

WILLIAM WOOD AND SON beg leave to offer strong established Plants of the following, the selection of sorts being left to themselves.

ROSES ON THEIR OWN ROOTS.

Hybrid Perpetuals	per doz.	12*s*., 18*s*., 24*s*.
Isle de Bourbon	,,	12*s*., 18*s*., 24*s*.
China	,,	12*s*., 18*s*.
Tea-scented China	,,	12*s*., 18*s*., 24*s*.
Noisette	,,	12*s*., 18*s*.

*** The present month and May is recommended for planting out the above.

FUCHSIAS.

All the most esteemed varieties, per doz., 6*s*., 9*s*., 12*s*., 18*s*. 50 fine varieties for 25*s*.; 50 superb do., for 40*s*.

VERBENAS.

All the best varieties, per doz. 6*s*., 9*s*., 12*s*. 25 fine varieties for 15*s*.; 50 fine do. for 25*s*.

PETUNIAS.

All the best named varieties, per doz. 6*s*., 9*s*., 12*s*.

CINERARIAS.

Extra fine varieties, per doz. 9*s*., 12*s*.

GERANIUMS.

Very choice assortments, per doz. 9*s*., 12*s*., 18*s*. 50 very fine varieties for 40*s*.

CHRYSANTHEMUMS.

The most esteemed varieties, per doz. 6*s*., 9*s*., 12*s*., 18*s*. 25 good varieties for 15*s*.; 25 extra fine for 20*s*.

PHLOXES.

Choice selections, per doz. 6*s*., 9*s*., 12*s*.

HARDY HERBACEOUS PLANTS.

Distinct and showy kinds	6*s*. per doz.,	42*s*. per 100.
Very superior ditto	9*s*. ,,	60*s*. ,,
Extra superb ditto	12*s*. ,,	75*s*. ,,

Also an extensive Collection of Miscellaneous Plants, adapted for grouping; Catalogues of which may be had gratis on application. Woodlands Nursery, Marestield, near Uckfield, Sussex.

A NEW SEEDLING FUCHSIA, "GLOBOSA CARNEA."—A new and distinct variety, of good habit; in form resembles Globosa, with a pink tube and sepals, crimson corolla, and would form a singular contrast if added to any collection. Strong Plants 5*s*. each. For description see *Gardeners' Chronicle*, August 21, 1847, p. 560.

WESTMACOTT'S Descriptive Priced Catalogue of new and choice Flower and Kitchen Garden Seeds for 1848, is now ready, and may be had by addressing to ROBERT WESTMACOTT, Seedsman and Florist, 156, Cheapside (opposite St. Paul's), London: or at Stuart's Grove Nursery, Fulham-road, Chelsea.

The following, kept in sealed packages, are well adapted for large or small gardens, and are easily transmitted by post:

12	varieties	Hardy Annuals, named		2*s*. 6*d*.
12	,,	Choice ,, ,,		5 0
25	,,	Hardy ,, ,,		5 0
25	,,	Choice ,, ,,		10 0
50	,,	Hardy ,, ,,		10 0
50	,,	Choice ,, ,,		18 0
100	,,	Hardy ,, ,,		20 0
100	,,	Choice ,, ,,		32 6
100	Wooden Labels for Annuals			1 6

THE NEW SCARLET VERBENA, "ROBINSON'S DEFIANCE."—So much has been said in favour of this variety by the best judges, that C. TURNER has only to announce that the 20th of April is the day fixed for sending out Plants, which will be strong and healthy, at 7*s*. 6*d*. each. The usual discount to the trade, and one over for every three ordered.—Chalvey, Slough.

HELIOTROPIUM PERUVIANUM VAR. VOLTAIREANUM.—This beautiful variety (fine blue violet, with light centre, immense trusser, and more odorous than the old one) is still on sale. Well-established plants, 6*s*. and 9*s*. per dozen. A few extra size, autumn-struck plants, 1*s*. 6*d*. each. See Advertisement 4th March.—PHILIP CONWAY, Earl's-court Nursery, Old Brompton-road, April 8.

BASS AND BROWN'S DESCRIPTIVE PRICED CATALOGUE OF SEEDS FOR 1848 will be sent free by post on application. For Advertisements of a few select VEGETABLE SEEDS from the Catalogue see *Gardeners' Chronicle* dated Jan. 8th, page 18; Jan. 22d, page 49; and Feb. 5th, page 82.

SELECT AND CHOICE FLOWER SEEDS sent free by post with full directions for sowing, heights, colours, &c., viz.:—

	s.	*d*.
100 varieties best and newest annuals, including choice Stocks, Asters, Zinnias, &c.	15	0
50 varieties ditto for 8*s*. 6*d*., 30 for 5*s*. 6*d*., 20 for	4	0
20 varieties best dwart kinds in larger packets, suited for filling beds on lawns, 7*s*. 6*d*., or 12 ditto	5	0
20 varieties best Greenhouse Annuals, including very splendid Balsam, Phlox Drummondi, Brachycome, Mesembryanthemum tricolor, Portulaca, Rhodanthe, Thunbergia, Martynia fragrans, &c.	7	6
20 varieties choice Greenhouse Perennials, including choice varieties of Calceolaria, Cineraria, Fuchsia, Petunia, &c.	10	6
20 varieties choice Hardy Biennials and Perennials	5	0
36 varieties imported German Stocks	6	0
20 ditto ditto	4	0

*** For List of Flower Seeds selected from the Catalogue, see *Gardeners' Chronicle* of Feb. 19, p. 128; and March 11, p. 170.

VEGETABLE SEEDS complete in Selections for small and large gardens, embracing the choicest and newest kinds at 15*s*., 25*s*., 42*s*., and 63*s*. Should certain vegetables not be required, enlarged quantities of others will be sent in the selection.

Our Descriptive Priced Catalogue for 1848, of NEW and SELECT GERANIUMS, FUCHSIAS, DAHLIAS, PETUNIAS, VERBENAS, CHRYSANTHEMUMS, and GREENHOUSE and STOVE PLANTS, may be had gratis on application. Also, our Priced Catalogue of HARDY HERBACEOUS PLANTS. Remittances with orders are requested from unknown correspondents. Postage stamps received in payment for small amounts. In consequence of recent post office arrangements, money orders can now be made payable to Bass and Brown, instead of either names in full length.

Seed and Horticultural Establishment, Sudbury, Suffolk.

PELVILAIN'S NEW STRAWBERRIES—"DUCHESSE DE PARIS" AND "PRINCESS ROYAL."

MESSRS. MYATT have a limited quantity of excellent runners of Pelvilain's two new varieties to offer, at 3*l*. per 100. Princess Royal is M. Pelvilain's favourite for the 1848, to be sent out in May next. Myatt's Eleanor, 5*s*.; Goliath, 5*s*.; Myatt's Prolific, 5*s*.; Myatt's Primrose Superior, primrose-shaded pine; Harry Smith, dark claret; Negro, dark plum-colour. Pre-engagements are required with cherry. The Dahlias gained seven first prizes and one silver medal; a Descriptive List of them and other plants may be had by applying at Gaines's Nursery, Battersea.

NEW AND SELECT PLANTS.

BENJAMIN W. KNIGHT, Florist, &c., Tivoli, near St. Leonard's-on-sea, Sussex, begs to call the attention of friends and the public to the following choice and [illegible], which are now ready for delivery:—

12 good distinct FUCHSIAS, for exhibition for 6*s*.; 12 [illegible]-rate, very distinct, new varieties, for 12*s*. 12 fine VERBENAS for 2*s*. 6*d*.; 12 extra new varieties, quite distinct, for 6*s*. 12 fine distinct PETUNIAS for 4*s*.; 12 extra new and distinct varieties for 6*s*. 12 good distinct CINERARIAS for 6*s*. 12 fine distinct ANTIRRHINUMS for 6*s*. 6*d*. 12 extra superb and distinct varieties for 9*s*. 12 fine SALVIAS for 4*s*.; 12 HELIOTROPIUMS for 4*s*.; 12 CUPHEA STRIGILLOSA the best for bedding out, for 4*s*. 12 more bedding out Plants, such as Lobelias, Senecios, Alternanthera, 4 for 1*s*.; 12 extra fine varieties for 1*s*. The above can be sent post free, securely packed, without any risk of [illegible].

Choice varieties of HARDY HERBACEOUS PLANTS, 12 fine varieties for 6*s*.; 12 extra fine varieties for 9*s*.; 25 fine varieties for 21*s*.; 100 fine varieties for [illegible], securely packed, and additional plants put in grats for carriage. No charge for hamper.—Catalogues of the above may be had gratis on prepaid application, enclosing a postage stamp. A reference is respectfully requested from unknown correspondents.

SCOTCH RYE-GRASS SEED.

ARCHIBALD STURROCK, Seedsman, 31, Sandgate, Ayr, begs to call the attention of the gentry to his Large and superior stock of RYE-GRASS SEED, which he can offer as follows:

FINEST PERENNIAL RYE-GRASS SEED, weighing 27 and 28 lbs. per bushel, at 4*s*. per bushel.

FINE do., weighing 24 and 25 lbs. per bush., at 3*s*. per bush.

ANNUAL do., weighing 20 and 21 lbs. per bush., at 2*s*. 6*d*. per bush.

ITALIAN RYE-GRASS SEED at 7*s*. per bushel.

All warranted genuine and pure, and clear of weed seeds.

Also, TIMOTHY-GRASS SEED, at 4*d*. to 6*d*. per lb. and COCKSFOOT-GRASS SEED, at 7*s*. per bushel.

All other sorts of Agricultural and Garden Seeds on the most moderate terms.

FLOWER SEEDS, 50 packets, containing 70 varieties of the best and most esteemed Annuals, forwarded to any part of the kingdom, free by post, for 6*s*.

Goods delivered free of carriage in Glasgow, Belfast, Londonderry, or Liverpool. A reference required from unknown correspondents, if not paid cash.—Ayr, April 8.

FOR SALE, a Lot of Genuine HARE RABBITS. Apply to F. C. BALL, Nursery, Taunton.

JAMES MATHEWSON, Nurseryman, Florist, Strawberry Grower, and General Agent to the Trade, Cunnigar-hill, Aberdeen, most respectfully begs to solicit your attention to the subjoined list of STRAWBERRIES grown by him, more especially the ABERDEEN BEEHIVE, so extensively circulated and highly appreciated the last two seasons throughout Great Britain, France, and America, as being superior to all others in cultivation. The earliest, highest-flavoured, and the most prolific—one plant producing a number equal to 20 of any other sort: each plant throws from 50 to 120 clusters, forming a top resembling a beehive, so regularly do they ripen, that they may be gathered in bunches of from 12 to 30 bright scarlet berries, of a round shape, garnished with a green husk, falling towards the stalk: the extraordinary appearance of the Fruit is more than can be comprehended but by those who have seen them on the ground or table, where they have been greatly admired; they make a transparent preserve, the interior being the same as the exterior. Upwards of 200 specimens of Fruit were sent out last season, which is sufficient to establish its merits. Plants in pots, for exportation, 12*s*. per doz.; from the Nursery bed, 2*s*. 6*d*. per 100, or 4*s*. per 200, forwarded by post or otherwise to any part of the kingdom. Richland Chief, 7*s*. per 100; Black Prince, 4*s*.; Comte de Paris, Princess Royal, 3*s*.; Eleanor, 3*s*.; Globe, 2*s*.; Myatt's, 5*s*.; Prolific, 3*s*.; Hooper's Seedling, 3*s*.; Hooper's Seedling, 4*s*.; Milne's Seedling, 2*s*. 6*d*.; Little Apes, 3*s*.; Early Prolific, 3*s*.; Thomson's King, 3*s*.; Trollope's Royal Pine, 3*s*.; Princess Alice Maud, 4*s*.; Cornwall's Pine, 3*s*.; Swainson's Seedling, Extra, 4*s*.; Lindley Crown, 4*s*.; Scott's Drop, 15*s*.; Eliza, 3*s*.; Myatt's Pine, 3*s*.; Keen's Seedling, 3*s*.; Malcolm's Seedling, 2*s*. 6*d*.; Improved Pine-shape, 3*s*. 6*d*.

KITCHEN GARDEN SEEDS, ALL OF THE BEST QUALITY.—In the Answers to Correspondents of the *Gardeners' Chronicle*, Dec. 18, 1847, a statement is there given of the necessary quantity of VEGETABLE SEEDS for cropping one acre.

	£	*s*.	*d*.
The entire collection may be had for	2	0	0
A smaller collection, including the same articles	1	0	0
25 varieties showy hardy Annuals	0	5	0
12 ditto ditto	0	3	0

No charge for Packages.

N.B. A General and Descriptive Catalogue for the present year may be had on application to WILLIAM DENYER, Seedsman and Florist, 82, Greenchurch-street, near the Spread Eagle, London. Many years with Warner's, of Cornhill.

S. WALTERS' DESCRIPTIVE CATALOGUE of Geraniums, Fuchsias, Dahlias, Verbenas, Calceolarias, Petunias, Cinerarias, Phloxes, Pansies, Chrysanthemums, Miscellaneous Greenhouse Plants, &c. &c., for the spring of 1848, may be had on application.—Hilperton, Trowbridge, Wilts.

ORCHIDS.—Wanted, a small collection of ORCHIDS in Exchange for a stock of Pine Plants, chiefly Queens, and in good order.—Address to the Gardener, Castle House, Wallingford.

CHOICE AZALEAS, AND OTHER RARE PLANTS.

MESSRS. J. AND H. BROWN beg to inform the Nobility and Gentry they are supplying the undermentioned SHRUBS and PLANTS, carefully packed for any part of the Kingdom or the Continent.

	s.	d.
25 Azaleas, New Hardy Belgian or Ghent varieties, on their own roots, with flower-buds, one of a sort, by name	20	0
25 Azaleas, American varieties, ditto. ditto	15	0
6 Andromedas, of sorts, including floribunda ...	8	0
12 Hardy Climbers, of sorts, in pots	6	6
25 Small Hardy flowering Shrubs, one of a sort ...	10	6
12 Rhododendrons, including scarlet, white, and rose, hardy varieties	12	0
12 Hardy Hybrid Rhododeudrons	6	0
New Yellow Rhododendrons, each	10	6
6 Fine Hardy Magnolias, one of a sort	10	0
12 Rare Hardy Pinus, one of a sort	20	0
Magnolia grandiflora, 8 to 10 feet, each	10	6
12 Climbing or Pillar Roses, one of a sort	8	0
Cloth of Gold and New Persian Yellow Rose, each...	2	6
12 Tea Roses for greenhouse culture, one of a sort ...	9	0
50 Choice Greenhouse plants, one of a sort by name ...	45	0
Azaleas Indica, choice varieties, and Camellias, fine blooming plants, per dozen	30	0
Choice Ericas, one of a sort, by name, per dozen ...	12	0
25 Herbaceous Border Plants, of choice species, for ...	7	6
12 Double White and Blush Pæonies, of sorts ...	6	0
New Petunia, Purple Queen, each	2	6
Cinerarias and Calceolarias, best new sorts, strong plants, per dozen	18	0
Best Petunias, Verbenas, Geraniums, Fuchsias, Pentstemons, Heliotropiums, Lobelias, Pansies, and Phloxes, for planting in flower beds, per doz.	6	0

STRAWBERRIES.

Mammoth and Globe ... ... per 100—	10	6
Royal Pine and Prolific ... ... ,,	7	6
British Queen, Princess Alice, and Prince Albert ,,	5	0
Elton, Downton, and Myatt's Pine ... ... ,,	3	6
The new Bee-hive Strawberry ... ... per dozen—	18	0
All the best sorts of Raspberry ... ... ,,	3	0
Strong Grape Vines, best sorts, in pots ... ,,	12	0

25 Papers of Choice Flower Seeds, 5*s.*; 50 Ditto, 10*s.*, sent free by post; also List of Greenhouse Plants, &c. All kinds of Horticultural and Agricultural Seeds supplied.

Albion Nursery, Stoke Newington, London, April 8.

JENNY LIND.

EDWARD TILEY begs to announce to the floricultural world generally, that he intends sending out the above beautiful FUCHSIA, feeling confident of its proving one of the greatest acquisitions to this popular class of plants ever yet offered to the public.

This is unquestionably the finest light variety ever yet raised. It has been considered by numerous amateurs and nurserymen, who have seen it, to be the best they ever witnessed. It will form the gem of any collection, for its noble and striking appearance.

Copied from the report of the Bath Horticultural Society, in the *Bath Chronicle*, July 1st, 1847.—"We should have stated that among the novelties of the day was a new seedling Fuchsia, exhibited by Mr. Tiley, of this city. It was remarkable for its size, and was considered superior to any previous variety of this beautiful class of plants. It is named 'Jenny Lind,' and obtained what it well deserved, an extra prize."

Taken from the *Bath and Cheltenham Gazette*, July 21st, 1847.—"We last week visited Mr. Tiley's collection of Roses and Fuchsias, and, in addition to the pleasure we experienced on viewing his nursery, we were much gratified to find that he has been fortunate in producing one of the most splendid seedling Fuchsias which have ever been submitted to the floral world. Like the fair and extraordinary vocalist whose name it bears, 'Jenny Lind,' it will doubtless receive at least a fair share of popular favour. It is difficult to convey a just appreciation of the merits of this beautiful plant. The deep rich green foliage contrasted with its delicate pearl-like flowers, at once gives it a pre-eminence when viewed in a collection. The habit of the plant is excellent, with good foliage; every joint gives out a continuous succession of well-proportioned flowers. It is of the light variety, and certainly stands the highest of its class. The tube is of a good size, with well reflexed petals, extending 3¼ inches from point to point, and of the most beautiful pearl-like colour. The corolla is very large and striking, being of a rich carmine. The plants are deserving of notice, and are daily visited by florists from other parts of the country."

Six plants were exhibited at the Bath Horticultural Society's Exhibition, June 24th, 1847, where it was the admiration of thousands of spectators, and was awarded an extra Certificate of Merit by competent judges; small plants not exceeding a foot in height had more than 50 immense blooms on them, and all expanded at one time. Above 80 were ordered last season by Amateurs and Nurserymen who have seen it in bloom.

Strong healthy plants will be sent out after the 17th of April, at 10*s.* 6*d.* the plant; the usual allowance to the trade where three are taken. A remittance will secure the plants postage and package free.—EDWARD TILEY, Nurseryman and Florist, General Seed Shop, 16, Pulteney-bridge, Bath.

SCARLET PELARGONIUMS.

PHILIP CONWAY has now ready a splendid Stock of well established Plants of the following desirable varieties, viz.:

	s.	d.		s.	d.
Conway's Brompton Hero	2	6	Prizefighter improved ...	1	0
,, Prince of Wales ...	2	6	Mrs. Maylor	1	0
Mitchell's Ibrahim Pacha	3	6	Shrubland Superb ...	1	0
Phenomenon	1	6	Comet	1	0
Tom Thumb	1	0	Goliah	1	0
Eclipse	1	0	Pink Nosegay	1	0
Frogmore improved ...	1	0			

Or the Set of 13 for 15*s.*, basket included.

P. CONWAY can confidently recommend the undermentioned as being the most desirable varieties for bedding:

Brompton Hero, splendid sort ...	18*s.*	0*d.* per doz.
Prizefighter improved	9	0 ,,
Tom Thumb	9	0 ,,
Queen and Frogmore improved ...	6	0 ,,
Shrubland Superb	9	0 ,,

P. C. has also ready Calceolaria viscosissima. This variety is proved to be the best yet raised for bedding, as it retains its fine deep orange flowers in all sorts of weather better than any of its class. 9*s.* per dozen.

Calceolaria Kayii, yellow	6*s.*	0*d.* per doz.
,, aurantia multiflora ...	6	0 ,,
Cuphea platycentra	6	0 ,,
Neirembergia philicaulis ...	6*s.* to 9	0 ,,

Campanula carpatica (colour, light blue), makes a fine showy and permanent bed, flowering from May to September. It is grown largely at the Duchess of Bedford's, where it attracts the particular attention of visitors. 6*s.* per dozen.

Earl's Court Nursery, Old Brompton-road.—April 8.

GENUINE SEEDS.

CLARKE AND CO., SEEDSMEN, 86, High-street, Borough, London, beg to offer the following articles, for present sowing, warranted true and good.

True Dwarf Blue Scimetar Peas	per quart	0*s.*	8*d.*
Improved Early Green Marrow ditto	,,	0	8
Flack's Dwarf Blue Victory ditto	,,	0	8
Early Wonder Long-pod Beans...	,,	0	4
Taylor's Windsor ditto	,,	0	6
Fine White Globe Onion	per ounce	0	6
Brown Deptford ditto	,,	0	4
Long Salmon Radish	per pint	1	0
Fine mixed Lawn Grass	per lb.	0	9
New Shilling's Queen Cabbage ...	per ounce	0	8
Large White Victoria Broccoli ...	,,	0	8
Chappel's Cream ditto	,,	0	6
Improved Altringham Carrot ...	,,	0	2
,, White Cos Lettuce ...	,,	0	8
Large Guernsey Parsnip	,,	0	2
Early White Nonsuch Turnip ...	,,	0	2
True Ash-leaf Kidney Potatoes...	per peck	1	6

The following 30 choice ANNUALS, forwarded free to any part, on receipt of a post-office order for 5*s.*

Fine Double Balsam	Gaillardia coccinea
Phlox Drummondi	Double German Aster
Lobelia ramosa	Didiscus cœrulea
Mimulus moschatus	Portulaca splendens
Zinnia elegans coccinea	Erysimum Perofskianum
Nolana paradoxa	Carthamus tinctorius
Splendid German mixed Stock	Collinsia bicolor
Coreopsis nigro (very dark)	Papaver fimbriata
Splendid mixed Petunia	Sanvitalia procumbens
Datura ceratocaulon	Madia splendens
Schizopetalon Walkerii	Salpiglossis picta
Double White Indian Pink	Schizanthus retusus
Brachycome iberidifolia	Gilia nivalis
Thunbergia alata	Nemophila insignis
Double German Larkspur	Lupinus nanus.

Mangold Wurzel, Turnips, Carrot, Parsnip, Lucerne, Grasses, and every description of Farm Seeds. Prices will be forwarded on application.

*** General Catalogues may be had.

TO FLORISTS, NURSERYMEN, THE NOBILITY, AND PUBLIC GENERALLY.

JAMES WHITEHORN respectfully announces that he has purchased the entire Stock of Choice Plants, the property of the late Mr. Robert Oakley, and that the business will be carried on in future under the superintendence of Mr. John Bushrod, foreman to the late proprietor, by whom all orders will be executed for the celebrated DAHLIA "GEM," which obtained so many prizes during the last season, as well as for the new Seedling "BRUTUS" and all other first-rate sorts. Also for the finest varieties of Geraniums, Fuchsias, Heaths, Bedding-out Plants, &c.; the true Aberdeen Beehive Strawberry, strong plants of Victoria Rhubarb, Asparagus, Fruit-trees, Shrubs, &c. Catalogues may be had, prepaid, on application to Mr. WHITEHORN, or Mr. JOHN BUSHROD, Nursery Grounds, Bedford-place, Southampton.—April 8.

SEEDS.

WILLIAM DENYER, SEEDSMAN and FLORIST, 82, Gracechurch-street, near the Spread Eagle, London (many years with Warner's of Cornhill), begs to offer the following New and Choice FLOWER SEEDS:—

Brachycome alba superba.	Marigold, Usher's, superb double, gold-striped, French.
Castilleja lithospermoides.	Do. do. African, orange, and lemon.
Heliophila trifida.	Salpiglossis grandiflora aurea.
Ipomopsis Beyrickii.	Tropæolum Brickwoodii.
Lathyrus nigrescens superba.	Zinnia coccinea splendens.
Phlox Drummondi Leopoldii.	
Senecio elegans rosea plena.	

The entire collection, including the postage, 5*s.*; but if in part, 6*d.* each paper.

Also the following GERMAN SEEDS in small collections:—

Asters imported, 12 distinct colours ...	2	6	Larkspurs imported, six distinct colours ...	1	6
Balsams, 6 do. do. ...	1	6	Stocks do., 20 do. do. ...	3	0
Hollyhock, 6 do. do. ...	1	6	Zinnia elegans, 6 do. do.	1	6

N.B. A general and descriptive Catalogue may be had on application, in which will be found all that is new and rare, besides the most approved and useful varieties of Vegetables, Flower Seeds, &c.

GRASS SEEDS.

THOMAS GIBBS AND CO., the SEEDSMEN to the Royal Agricultural Society of England, beg to call attention to their mixtures of selected NATURAL GRASSES for laying down land to permanent Meadow and Pasture. In giving orders, it is necessary that the nature of the soil, &c., should be stated, in order that the kinds may be duly apportioned. Directions for sowing and management accompany the Seeds.

They beg also to call attention to their Renovating Mixtures, for refreshing and improving land already in Grass; to their general stock of Grass Seeds, Italian and other Rye Grasses, Belgian and other Carrots, Mangold Wurzel, Turnips, and other Seeds.—THOMAS GIBBS and Co., Corner of Half-moon-street, Piccadilly, London.

SEEDS.—CORNER OF HALF-MOON-STREET.

THOMAS GIBBS AND Co.,

(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND," Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

Priced Lists of Agricultural Seeds are always ready, and may be had on application.

CUCUMBER AND MELON BOXES AND LIGHTS.—One hundred 1, 2, and 3-light Boxes and Lights of all sizes ready for immediate use. Warranted best materials, packed and sent to all parts of the kingdom; 2-light Boxes and Lights from 1*l.* 6*s.* Garden Lights of every description, Conservatories, Green and Hot-houses made and fixed in all parts of the kingdom. References given to the Nobility, Gentry, and the Trade, in most of the counties of England.

JAMES WATTS, Hothouse Builder, Claremont-place, Old Kent-road, London.

BEE-HIVES.—All persons desirous of Cultivating that pleasing and profitable branch of rural economy—the Honey Bee—are respectfully informed by G. NEIGHBOUR and SON, that they have prepared for the season an extensive supply of their various improved BEE-HIVES; their collection consists of "Nutt's Collateral Hive," "The Single Box Hive," "The Improved Cottage Hive," "The Ladies' Observatory Hive," "Taylor's Bar Hive," &c., from either of which the Honey may be taken at any time without injury to the Bees, and may be worked with safety, humanity, and profit, by the most timid and unaccustomed to Bee-manipulation. A descriptive paper, with drawings and prices, will be forwarded on receipt of a postage stamp.—Apiarian Depot and Honey Warehouse, 127, High Holborn, London.

NUTT ON BEES (6th Edition), just published.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

LINGHAM, BROTHERS, 170, Little Hampton-street, Birmingham, sole Manufacturers of the improved wood MENOGRAPH or LABELS for Garden-borders, Flower-pots, &c., have now perfected several patterns in Zinc suitable for the same purposes, which can be written upon with the greatest facility with their Metallic Ink, prepared exclusively for this purpose, and when dry an indelible inscription is secured. Directions for use sent with each box.

Sole agents in London, G. and J. DEANE, Horticultural Implement Warehouse, 46, King William-st., London-bridge.

STRONG HORTICULTURAL 16-oz. SHEET GLASS FOR CONSERVATORIES, GREENHOUSES, PITS, FRAMES, &c.—FURTHER REDUCTION.

HETLEY AND CO. publish Prices in the *Gardeners' Chronicle* the first Saturday in every month. Wholesale and Retail Glass Shade, Sheet, Crown, and Patent Plate Glass Warehouse, 35, Soho-square, London.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND CO., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS FOR CONSERVATORIES, CUT TO SIZE UP TO 40 INCHES LONG.			SMALL SQUARES of SHEET. 4 by 3 and 4½ by 3½..1½*d.* per ft.	
16 oz. to the foot	3½*d.*	per foot	5 ,, 3 ,, 5½ ,, 3½..2	,,
21 ,,	5	,,	6 ,, 4 ,, 6½ ,, 4½..2½	,,
26 ,,	7½	,,	7 ,, 5 ,, 7½ ,, 5½..2½	,,
32 ,,	10	,,	8 ,, 6 ,, 8½ ,, 6½..2⅝	,,
			Not above 10 ,, 8 ..3	,,

GLASS MILK PANS, PROPAGATING GLASSES, AND BEE GLASSES. GLASS TILES AND SLATES.

CREAM POTS, from 3 to 24 quarts, at 6*d.* per quart.

CUCUMBER GLASSES, from 12 to 26 inches long, 1*d.* p. inch.

LACTOMETERS for trying the quality of Milk, 4 tubes 7*s.* 6*d.*, 6 tubes 10*s*; and every article in the trade.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

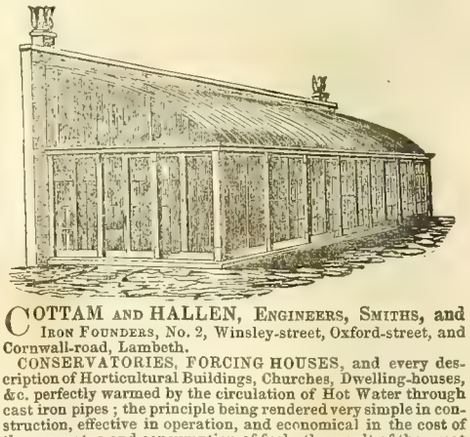
Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

HOT-WATER APPARATUS AND HORTICULTURAL BUILDINGS.

DANIEL AND EDWARD BAILEY, of 272, Holborn, construct and erect Hot-water Apparatus for Warming Horticultural Buildings, Dwelling-houses, Churches, and Manufactories, in a simple and efficient manner, at moderate charges. They have erected Apparatus in England, Scotland, and Ireland for many Noblemen and Gentlemen. They had the honour to be employed in heating the ranges of Hothouses and Pits in HER MAJESTY'S NEW GARDENS AT FROGMORE, and in executing the works of the splendid Conservatory erected by the Horticultural Society of London in their gardens at Chiswick, and also in the erection of the Conservatory attached to the Pantheon Bazaar.

D. and E. BAILEY, who were the first to introduce Metallic Curvilinear Hothouses to Horticulturists, erect various descriptions of Horticultural Buildings, and execute all kinds of metal work at their Manufactory, 272, Holborn

WARMING BY HOT WATER, AND ALSO BY AN IMPROVED POLMAISE STOVE.



COTTAM AND HALLEN, ENGINEERS, SMITHS, and IRON FOUNDERS, No. 2, Winsley-street, Oxford-street, and Cornwall-road, Lambeth.

CONSERVATORIES, FORCING HOUSES, and every description of Horticultural Buildings, Churches, Dwelling-houses, &c. perfectly warmed by the circulation of Hot Water through cast iron pipes; the principle being rendered very simple in construction, effective in operation, and economical in the cost of the apparatus and consumption of fuel—the result of the great experience which C. and H. have obtained by their warming buildings for every possible purpose for many years past.

AN IMPROVED POLMAISE STOVE, exposing a much larger heating surface than flat plates.

Horticultural Buildings erected of Iron or Wood, or of Iron and Wood combined; Verandahs, Ornamental Iron and Wire Work, Hand-glass frames, Flower Stakes, Hurdles, and every description of Fencing; Bedsteads, brass and iron; the patent Rheocline or Spring Bedstead; Stoves, Ranges, Furnishing Ironmongery, Agricultural Implements, &c.

Show Rooms for every description of Iron Work, &c., at the Manufactory, No. 2, Winsley-street, and 76, Oxford-street, three doors from the Princess's Theatre.

DRESSINGS FOR GRAIN, ROOT CROPS, &c. &c.

THE INORGANIC MANURE COMPANY, Bow, London, with great confidence recommend their Patent Manures (prepared under the inspection of Mr. CHARLES B. BOAST, M.R.C.S.L.) they having now been in use for upwards of six years with unrivalled success. These manures are prepared on the only true principle of supplying to the soil all the substances removed from it by the crops, their effect being really to enrich and not to exhaust land. They were the first and only manures offered to the Agriculturist based on a scientific principle, proved by practice to be correct; a distinct and special manure being prepared for each crop adapted to its particular wants. The cost per acre varying according to crop from 30*s.* to 40*s.*

Testimonials, with directions, &c., for using the manures, sent post free on application to Mr. PIKE, Inorganic Manure Works, Bow, Middlesex, where may be had also genuine,

SUPERPHOSPHATE OF LIME.

HORTICULTURAL SOCIETY OF LONDON.—Notice is hereby given, that the EXHIBITIONS OF FLOWERS AND FRUIT, in the Society's Garden, in the present season, will take place on the following days, viz.: SATURDAY, May 20; SATURDAY, June 10; and WEDNESDAY, July 12; and that TUESDAY, April 18, is the last day on which the usual privileged Tickets are issued to Fellows of the Society.
21, Regent-street.

EXHIBITIONS OF PLANTS, FLOWERS, AND FRUIT FOR PRIZES to be awarded by the ROYAL BOTANIC SOCIETY, Regent's Park Wednesdays, May 10th, June 14th, and July 5th. Tickets to be had at the Gardens by orders from Fellows. Price on or before Saturday, April 15th, 4s., after that day 5s., or on the days of exhibition, 7s. 6d. each.

ROYAL BOTANIC SOCIETY, REGENT'S PARK.—The Fellows and Members of this Society are reminded that SATURDAY, April 15th, is the last day upon which they may obtain packets of 30 TICKETS for the EXHIBITIONS for Five Guineas.

DAHLIAS.

C. TURNER begs to remind Dahlia growers that he holds the entire stock of the two leading Dahlias of the season, namely, Collison's "SHYLOCK," and Turvill's "FIRE KING," and will be prepared to supply strong plants of the above early in May, with every other variety worthy of notice. Catalogues on application.—Chalvey, Slough.

SUPERB SEEDLING PETUNIAS.

BASS AND BROWN are now sending out plants of the following superior and first-rate SEEDLING PETUNIAS, for description of which see their Advertisement in this Paper for January 8 and 15.

Emperor ...	each 5s. 0d	Painted Lady	each—5s. 0d
Empress ...	,, 5 0	Rosy Circle ..	,, 3 6
Diogenes ...	,, 5 0	Comus ...	,, 3 6
Chancellor ...	,, 5 0	Blanche ...	,, 3 6

The set, which are very distinct, 28s.; or the usual allowance to the trade on the eight, or for three plants of either sort. They will be forwarded free by post if desired.

We beg to recommend the following SELECT PLANTS, in choice assortments of our own selection now sending out strong.

		£	s.	d.
100	HARDY HERBACEOUS PLANTS, showy vars., by name	2	10	0
50	Do. do. do.	1	10	0
25	ROCK PLANTS, in fine varieties, by name	0	12	0
12	Do. do. do.	0	7	6
50	GREENHOUSE PLANTS, distinct species & vars.	2	10	0
25	Do. do. do.	1	8	0
25	GERANIUMS, superb show vars., 21s., or 12 do.	0	12	0
25	Do. superb new vars., 50s., or 12 do.	1	10	0
12	Do. good showy varieties.. .. 6s. to	0	9	0
25	FUCHSIAS, fine vars., 10s.; 25 superior do. ..	0	17	6
12	Do. fine vars., 5s.; 12 superior do. ..	0	9	0
12	PETUNIAS, fine vars., 4s.; 12 superior do. ..	0	9	0
12	ACHIMENES, fine distinct varieties	0	9	0
12	ANTIRRHINUMS, superb varieties	0	7	6
25	HOLLYHOCKS, in fine distinct varieties	0	7	6
	CARNATIONS, 12 pair choice varieties	1	0	0
	PICOTEES, 12 pair choice varieties	1	0	0
	PINKS, 12 pair choice varieties	0	10	0

Our Descriptive PRICED CATALOGUE of PLANTS, for 1848, forwarded on application. Remittances with orders are requested from unknown correspondents. Goods carriage free to London, and with all orders of 2l. and upwards plants presented extra. Post-office orders made payable to
BASS AND BROWN,
Seed and Horticultural Establishment, Sudbury, Suffolk.

The Gardeners' Chronicle.
SATURDAY, APRIL 8, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

TUESDAY	April 18	Horticultural	9 A.M.
		Linnean	8 P.M.
WEDNESDAY	— 19	—Royal South London...	1 P.M.
SATURDAY	— 22	—Royal Botanic	24 P.M.

THE solution of the POTATO PROBLEM is accomplished. At least Professor LIEBIG thinks so. In his last work * he declares that the Potatoes are attacked with influenza. "The cause of the disease is the same which, in spring and autumn, excites influenza; that is, the disease is the effect of the temperature and hygrometric state of the atmosphere, by which, in consequence of the disturbance of the normal transpiration, a check is suddenly, or for a considerable time, given to the motion of the fluids, which is one chief condition of life, and which thus becomes insufficient for the purposes of health, or even hurtful to the individual."

To say that the Potato crop has caught cold, is new. But when we read in the same place that the cause of the cold, or influenza, is impeded perspiration or "suppressed transpiration," the novelty ceases. "The Potato plant," says the learned chemist, "obviously (!) belongs to the same class of plants as the Hop-plant, namely, to that class which is most seriously injured by the stagnation of their juices in consequence of suppressed transpiration. According to KNIGHT, the tubers are not formed by swelling of the proper roots, but by the development of a kind of underground stalks or runners. He found that when the tubers under ground were suppressed, tubers were formed on the stalks above ground; and it is conceivable that every external cause which exerts a hurtful influence on the healthy condition of the leaves and stalks, must act in like manner on the tubers. In the districts which were most severely visited by the so-called Potato disease in 1846, damp, cold, rainy weather followed a series of very hot days; and in 1847, cold and rain came on, after continued drought, in the beginning of September, exactly at the period of the most luxuriant growth of the Potatoes."

In this at least there is no novelty. It is the same view as that taken by ourselves in this Journal in August, 1845, when the disease first broke out, which was very generally adopted, but which we have long since shown to be erroneous. The opinion was just that which would be formed upon the first hurried glance at the phænomena, but which a full knowledge of the facts soon compelled its advocates to relinquish. The only material difference that we remark between Professor LIEBIG's discovery and the old hypothesis now referred to, consists in his introducing it in 1848 as something new, and surrounding it with an array of quotation from the experiments of HALES which are familiar to every student of vegetable physiology, together with some observations of his own on the motion of fluids in living bodies, the connection between which and the Potato disease we fail to discover.

We wonder that Professor LIEBIG should not have perceived that the seasons of 1845, 6, and 7, in all which the disease was prevalent, were very dissimilar; we wonder still more that he should not have weighed the mass of valuable evidence that has been collected on the subject in every country in Northern Europe, before he jumped to his present conclusion. It is still more extraordinary that he should not have asked himself why impeded perspiration, influenza, cold, or whatever else he terms the disease, should not have attacked the Potato crop before the year 1845, and should have continued to do so every year since through seasons essentially different from each other.

It would seem, however, that men cannot reason calmly upon this subject. To our great surprise we find Dr. GREGORY, the translator of Professor LIEBIG's work, appending to it Dr. KLOTZSCH's proposition as confirming his author's speculation. What Dr. KLOTZSCH's proposition is, our readers have learned from Sir ROBERT SCHOMBURGK's translation of it in our last number. He thinks that by strengthening the Potato plant it will be better able to resist the disease, an opinion that we have expressed a hundred times. He believes that this strengthening may be effected by repeatedly stopping the growth of the branches by pinching off their shoots, so as to strengthen the tubers and prevent those changes which result in the production of flowers and fruit, or, as he terms it, "to restrict the metamorphosis of the leaves." What that has to do with impeded perspiration we are unable to perceive. His object is to give the plant more vigour, by diverting into a smaller number of leaves the food obtained by the roots and sent upwards into the stem, which food, under ordinary circumstances, is dispersed through a large number of leaves. In principle this method is like our English plan of destroying the flowers, and which has not been attended by success; for although in the experiments in the Garden of the Horticultural Society, in 1847, topped or stopped Potatoes were less diseased than others untopped, yet disease existed in both cases, and the difference was only as 9.56 to 13 per cent. There are, however, some peculiarities in the plan of Dr. KLOTZSCH which make it desirable to try it this year exactly in the manner which he indicates. So far, however, from pretending that the disease is impeded perspiration, he expressly declares himself "unable to explain the nature of the disease."

For ourselves we regard it with as much uncertainty as ever; of this, however, we are persuaded, that be it what it may, it is not explained by our own original hypothesis * now produced as a novelty by Professor LIEBIG.

A VERY conceited commentator on a somewhat odd original writer is very often a gem—a jewel *sui generis*. We have frequently quoted the opinions of Sir UVEDALE PRICE; but when Sir T. D. LAUDER steps forth and supplies PRICE's *deficiencies* in the higher department of taste, the thing becomes exquisitely amusing. We should not have alluded to the matter but that this Editor conceives his supplementary wisdom and erudition to be absolutely necessary to complete the education of the Landscape Gardener; for he announces with becoming sententiousness, and in large type, the fact of PRICE's "leaving untouched the deeper question—UPON WHAT PHILOSOPHICAL GROUNDS THESE PRINCIPLES REALLY ARE THE BEST."

How does the accomplished editor go to work? PLATO, he says, gave some faint indications of the *important truth*. "But from the days of PLATO downwards nearly to our own times, nothing exists to show that any writer had been *fully enlightened* on the subject." This is really rather rich: for none but a genius of the first water could dare to pass condemnation so summarily on the intellect and the imagination of so many ages. Accordingly the hitherto respected names of ST. AUGUSTIN, CROWZAS, ANDRÉ, SHAFTESBURY, HUTCHESON, and GERARD, are dismissed so peremptorily as no other man could [illegible] were all visionaries, and many [illegible] there is another name [illegible] by inferior minds will [illegible] ing often in true proportion [illegible] Even he is thrown overboard with the [illegible] *nonchalance*: [illegible] be such as to entitle [illegible] imputation."

"Well," we *mentally ejaculate* [illegible] that far—"the [illegible] We shall now have the principles of Taste [illegible] expounded, especially, in reference to Landscape Gardening. We have now to do with no mere original thinker [illegible] train) but with one to whose [illegible] cheerfully give in our adhesion."

Alas for deep *bathos*! The [illegible] dropped us down with so much [illegible] the earth—a [illegible] the glossy ice. The very next [illegible] that the inexorable [illegible] compiler. For [illegible] substance of ALISON and [illegible] this high theme—in other words, [illegible] densing the substance of some [illegible] copious scissor [illegible] Lord JEFFREY's article in the "Encyclopædia Britannica." We were [illegible] at such an unexpected illustration of the line

"Parturient [illegible]

Still we pored on with some curiosity to see if a man who commenced so [illegible] escape being guilty of at least some [illegible] And we were not disappointed. The self-appointed arbiter of Taste did, ere long, come out in [illegible] force. For example:

ALISON writes thus as to the sublime effect produced by thunder: "In the general [illegible] this sublimity is founded on awe and some [illegible] of terror. Yet how different is the emotion [illegible] it gives to the peasant who sees at last, after a long drought, the consent of Heaven to his prayer [illegible] rain—to the philosopher who, from the [illegible] the Alps, hears it roll beneath his feet—to the soldier who, under the impression of [illegible] stition, welcomes it upon the [illegible] ment as the omen of victory." Now [illegible] is beautifully true. But of course [illegible] genius soars to a far higher [illegible] "In support of this observation [illegible] may mention a common trick of my [illegible] I often performed to the *infinite alarm of certain ladies*. I used stealthily to [illegible] ing paper over the window, and [illegible] to listen as if I had heard the thunder afar [illegible] gently agitated the paper, and [illegible] exact imitation of the sound of its distant rolling to the great discomfiture of my audience." We confess that this comment greatly [illegible] But we sunk subdued. We confessed that the religious peasant—the [illegible] the highly excited warrior—[illegible] illustrate the varied effects of sublimity produced by real thunder—as the little [illegible] drawing paper could accomplish [illegible] mock imitation and bye-play. We [illegible] in ourselves. We were driven to the [illegible] that our own imaginations had been [illegible] same proportion that the fancy of the commentator had been rising to the skies.

We need hardly say that our views [illegible] be opened to the PHILOSOPHICAL [illegible] rest the principles of SUBLIME TASTE in LANDSCAPE Gardening. For he who [illegible] sublimity of *sound* will [illegible] equally truly sublimity of [illegible] further—for we were now absolutely spell-bound—fascinated into our onward and upward course. [illegible] oracular truth or sublimity [illegible] wonder into even awe [illegible] pound it? "The [illegible] of a summer's day is truly [illegible] mind." Before we read this [illegible] always found such [illegible] But we were wrong: it [illegible] a rattling peal [illegible] soothed our senses into [illegible] on we come to a most [illegible] "Nay, even the violent [illegible] sublime"—when a [illegible] a man sighing or wrongly [illegible] when [illegible] certainly [illegible] certainly, being bereaved of the sensation of the sublime.

Still all this paves the way to a true sense of the general principles of sublimity, without which no Landscape Gardener can be truly [illegible] Again shall we kneel and drink of this inspiring

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* "Researches into the motion of the Juices in the Animal Body." By JUSTUS LIEBIG, M.D. Taylor and Walton. 8vo.

* See *Gardeners' Chronicle*, Aug. 20, 1845.

spring. Meanwhile, venerating the Editor's expanse of intellect, let

"Our expressive silence muse his praise." =

WITH warm weather come INSECTS. Labour as to them during winter has been little, unless the gardener has had hothouses under his care, for insects love warmth above all things, and in cold weather are sleepy, stupid, and harmless. But flowers and leaves, themselves the children of warmth, are sure to bring as their companions all those insect traitors who reward their friends that sheltered them in winter by waging relentless war upon them the whole summer long. Now then is the time for the intelligent gardener to bestir himself, and hunt down his future enemies. A battue of insects in April is better than one of pheasants in October; is quite as exciting, and more harmless: for it involves no chance of a man's finding himself in jail as a poacher, for infringing the Game-laws, so justly the boast of humane and civilised England.

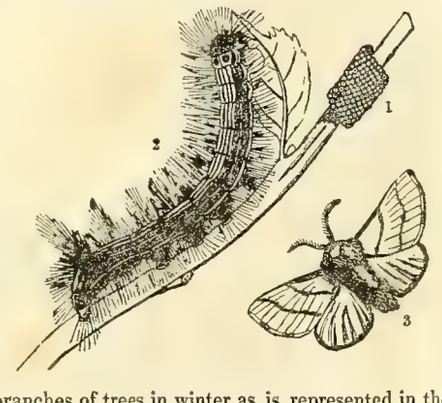
"But how," cries our friend, JASPER STANDSTILL, "is the gardener to attack these enemies? A man can't see such little things as them."—"Get a pocket lens, JASPER, and learn to use it. The price of a few pots of beer will set you up." "Well, and when I have got it, how am I to know where to look, or what to look at? How am I to tell what you gentlemen call friends from enemies? I have always heard that all insects are a gardener's plague."—"There you are wrong JASPER; you must study Entomology."—"Study what! Etymology? why what's that?" cried poor STANDSTILL, in affright.—"That my good man is the science which teaches you to tell one insect from another, to distinguish friends from foes, to know the ways of life of these creatures, where they hide, how and when they feed and breed, and how to kill or encourage them. If you are an Entomologist you will be able to do this: if you are not you will not."—"Well, Sir, I dare to say it's all very true what you say, but I can't do all that: I can't indeed!" Nor could he; for the poor man was too old to be taught how to think. Such things should have been learnt by him when a boy.

And is it not most discreditable to our school system that these subjects are never thought of—that natural history can neither be coaxed nor forced into the education of the masses—that poor boys who have to get their living by their labour, both of mind and body, should learn nothing of familiar things of vital importance to themselves and their country—yes, to their country; and of the most vital importance too, we repeat it. Are not millions of money wasted in superfluous seed-corn, for no reason whatever, except that the land of England is foul with legions of grubs and insects which the farmer must feed, although the poor are famished. And why is it thus foul? not because the labourers are lazy, but because they are ignorant; because they do not know the enemies who fatten on their substance; because they have never been taught how to wage war against the insidious foes which are out of sight; because those whose duty it is to secure for them that knowledge, fail in their duty: and most especially because men who now and then pretend to teach them, are so ignorant that they render the darkness which enshrouds popular natural history still more impenetrable. Take for example the case mentioned by the learned President of the Entomological Society at its last anniversary.

"In a work of which the second edition of a thousand copies has been lately published, entitled 'The Pests of the Farm,' the author, who is an ingenious man, and gives some curious facts as to the habits of a badger and an otter which he tamed—when he comes under the head 'Insects,' to speak of the Turnip-fly, begins thus: 'The Turnip-fly is a term applied indiscriminately to several species of larvæ!'—though in fact no larva is ever called the Turnip-fly, which is a name appropriated to the different minute skipping beetles of the genus Haltica which ordinarily attack Turnips; and though the Tenthredo (now an Athalia), whose larvæ occasionally do much mischief to them, may have been called in its winged state the Turnip-fly by some naturalists, its larvæ, in which state alone they are known to most agriculturists, are always called by them the 'Black Jack' or 'Nigger,' or some similar name, referring to the caterpillar and its black colour. After filling three or four pages with modes of destroying the Turnip-fly, which all refer to the Halticæ, though this name is never mentioned, the author proceeds to quote an account which informs us that rabbits that feed on Turnips affected by the Turnip-fly contract a vermicular disorder, the worm generated by the fly which is a Tenthredo (sic), being deposited in the shape of ova in the plant, and in that form taken into the animal's stomach, and then goes on to say that of these worms, which are short, flat, and white, nine are sometimes found in the hepatic lobes of one rabbit! A brilliant specimen, this, of the entomological knowledge of our own 'practical' men!" Such ignorance is a public disgrace: it is unworthy a nation of Hottentots. What then shall we call it when connected with so wise and good a Government as that of England certainly is in the main? Is there any one so prejudiced against learning, and with so bad an opinion of the working classes, as to believe that they would not learn Natural History if it were taught them properly, and that having learned it they would not know how to apply it? If there be any such persons we join issue with them, and at once declare that our experience of workmen, which experience is neither recent nor slight, is entirely opposed to such a conclusion. We firmly believe that if the lower classes of this kingdom had the opportunity of developing their faculties they would prove to be deficient in no respect, but that they would then be distinguished as much by their intelligence as they now are by their industry. A ploughman is not inferior in natural ability to a mechanic; but he is neglected and left to grow up as an animal, instead of being treated like an intelligent being.

It is more especially to country people that a correct knowledge of the general facts belonging to the habits, &c. of insects is important. Such men live where the ravages of insects are most felt; they pass their existence among them; they have the best means of counteracting them, but they know not how. The mere assertion that some insects are the friends of man, and others his most dangerous enemies, is a riddle which they can only solve by putting bees on one side as friends, and all the rest on the other side as enemies; and so an indiscriminate war is waged upon the insect race, and infinite mischief is committed.

Let us take a case. In the spring, trees are attacked by swarms of caterpillars which shelter themselves in a filmy web and devour the foliage. These caterpillars proceed from the Lappet moth, whose eggs form a broad spiral band round the



branches of trees in winter as is represented in the foregoing cut. Now, if gardeners while at work were to destroy all such bands, they would in each case annihilate some hundreds of caterpillars, all of whom may eventually become the parent of another banded colony of the same nature.

Hence an untaught person may infer that his business is to destroy all clusters of egg-like bodies found on branches in the winter; naturally, though wrongfully, imagining that they all bring forth caterpillars which devour leaves. Let a man, entertaining that belief, find such a cluster of oval bodies as is represented in the annexed cut, and destroy them, supposing them to be eggs. In that case he commits two mistakes. In the first place he does not destroy eggs, but cocoons, in which repose the pupæ of an insect about to come out; and secondly, he commits the more serious error of killing one of his best friends, a little winged insect (a Microgaster) which feeds upon the caterpillars who are his true enemies. This may be easily understood by looking at the general outline of the cut, which consists of about 50 cocoons, the mass of which represents the body of the caterpillar that was destroyed by them while grubs. In a word, the caterpillar was fly blown while alive, and perished by the grubs that fed upon it.

Hundreds of such cases may be named. But it is superfluous. It is obvious that if the depredations of insects are to be kept in check, it can only be done by knowing their habits of life: those habits cannot be understood without study, and at no time can the study be so well pursued as by schoolboys, who would certainly take more pleasure in such a pursuit than in learning by rote the traditional rubbish of their schoolbooks, or by trying to put together as many letters as will spell Nabuchodonozar.

We believe that the reasons alleged for not introducing the different branches of Natural History into schools are three. It is said that teachers are not to be found, that books do not exist at all suited to the comprehension of peasant children, and that expensive illustrations are required. If these are the reasons, we can only express surprise that they should be regarded as an impediment in the way of a good work. Let schoolmasters be asked for who possess the requisite knowledge; the talent will appear the instant there is a demand for it. Let books be written, if they are wanted; and as for illustrations, let them be furnished by Government, if necessary. We will engage to find persons capable of executing them; and, as to the cost, the money required for a year's pay of some useless public board would furnish a stock which half a century would hardly consume.

In the meanwhile, the young and diligent may help themselves. A pocket lens, Paterson's "School Zoology" (an excellent work), and access to the volumes of the Gardeners' Chronicle, or the "Penny Cyclopædia," will do a great deal towards clearing away the difficulties that exist in the way of applied Entomology.

As to young Farmers, we would only wish them to look into their granaries, their Wheat crops, their Turnip fields, their Clover leys, and the elaborate entomological articles by Mr. CURTIS in the volumes of the Royal Agricultural Society (*Oh! si sic omnia*), to learn how vast their loss from fighting insects in the dark. They may also, not unprofitably, peruse the following statement by Mr. SPENCE of the facts belonging to the Hessian fly, with which we conclude these remarks.

"The Hessian-fly (the Cecidomyia destructor of Say), which Dr. Fitch brings forward a considerable body of evidence to prove was really, as its name implies, introduced into the United States from Germany during the American war along with the straw used in packing the baggage of the Hessian troops; though a Cecidomyia, is a species perfectly distinct from the Cecidomyia Tritici of Kirby, attacking in the larva state the lower part of the stems of Wheat (occasionally Barley and Rye), and thus causing them to break and the plant to perish, whereas the larvæ of C. Tritici feed on the pollen of the expanding florets of the ears of Wheat, and cause them to be abortive. Were we in want of an incontrovertible proof of the importance, in every country, of studying Entomology as a science, it would be amply supplied by this little insect. Though from 1779 onwards doing vast mischief—'more,' says Dr. Barton, 'than would an army of 20,000 Hessians'—and thus constantly forcing itself on the attention of farmers and landowners, and though a few general facts of its history were observed, and endless letters written about it in newspapers and magazines, it was not till 1803 (24 years after its first appearance) that an attempt at a scientific and intelligible description of it was made by Dr. Mitchell; nor till 1817, 14 years later, that Mr. Say, the eminent American entomologist, by publishing a full description of it and one of its parasites, with figures, and giving it a single scientific name instead of the edifying aliases of 'Hessian-bug,' 'Wheat-fly,' 'grain-worm,' 'yellow-worm,' 'Wheat-worm,' 'the maggot,' &c. &c., by which it had previously been distinguished, enabled experimenters and observers to know what they were talking or writing about, and that they were not confounding the fly their enemy with their friends the little Hymenopterous parasites which feed on it and destroy probably nine-tenths of the race—a distinction so vitally important, but so entirely unknown to non-scientific 'practical' men, that, as Dr. Fitch has shown, the most plausible remedy, that of burning the stubble, recommended in ignorance of it, would have been worse than the disease. In fact, there can be little doubt that if Entomology had been early cultivated in the United States, and the true history and economy of the Hessian-fly had been attended to on its first showing itself, its ravages might have been prevented from extending, or greatly lessened, and a vast amount of needless anxiety and loss through a long course of years avoided."

PRACTICAL INSTRUCTIONS FOR AMATEURS AND SMALL GARDENS.

ON THE CHOICE OF FLOWERS.—We will suppose the possessor of a garden is desirous of making it as interesting and gay as possible during the coming season, and is asking our advice in the matter. The reply must be regulated by various circumstances which modify the arrangements necessary for this end, such as the present state of the garden, whether stocked with trees and shrubs or not, whether large or small, and whether much of it is laid down in Grass. Many things are essential to the beauty of a garden besides good flowers. In autumn and winter the general laying out should be attended to, and if alterations of taste are demanded in the arrangement of the grounds, they must be deferred for the present. Our advice will relate to the general question, and point out what productions will make a garden of ordinary size more beautiful and attractive.

The old custom is to sow seeds of annuals in every vacant spot, and let them take their chance for the summer. Now annuals are very well in certain connections, but their general growth is indicative of bad taste, for they are mostly of straggling habit, and soon lose their beauty. I would have very few annuals in

mall gardens, and they should be of the dwarf kinds, uch as Clintonia pulchella, the Mesembryanthemums, Nemophila, &c., which may be selected from a scientific catalogue, like that published by Mr. James Carter, f Holborn. This catalogue I have found of the greatest tility, as it describes the colour, size, time of flowering, nd general habits of all plants raised from seeds. As o Sunflowers and Hollyhocks, and all such giants, they re inadmissible in small gardens. The Hollyhock is a reat favourite of mine, but it must have room, and be een from a distance. Nothing can be more inimical o the good adjustment and tasteful appearance of a arden than a crowded state of vegetation, shading the eds. No plant will come to perfection in such circumstances, and before autumn there will be a mass f entanglement, defying all efforts to arrange it, and emanding rooting up as the only remedy.

The Rose naturally is first in the list of plants which very garden may properly cultivate. It will submit narrow limits, and may be had in pots for turning ut, so that an amateur may have a choice collection of oses at once. Beds of these are recommended, as well s isolated specimens. The China, Bourbon, and Hybrid 'erpetual varieties may now be procured cheap enough, nd if planted now, every advantage will be secured. et the purchaser be well convinced of the honesty f the parties from whom his stock is procured. The riter once ordered a small collection of Hybrid erpetuals in April, and received, instead of strong lants, little things which had been struck in heat, were arcely rooted, and which after three years still look warfish and sickly. Even nurserymen of first-rate haracter are apt to forget the impossibility of plants oing well, when removed from a greenhouse to a arden. Disappointments of this character, to our certain knowledge, injure and restrict the trade in flowers.

Next to Roses come the tribes of exotics, which are lapted to our summer climate and make such a gorgeous show. Scarlet Pelargoniums, Verbenas, Petunias, uchsias, Calceolarias, and many others, offer to the mateur opportunities of gratifying his taste at a small xpense. These may be arranged according to the arious colours, and will continue to bloom profusely ntil the autumnal frosts. They are, most of them, ompact in their growth; their foliage is less deciduous han that of annuals; and their whole appearance has that opical character which gives such a charm to gardens the present day. The expense may be an objection, t such things become cheaper every year, and if the ader is disposed to acquire the easy art of propagating apts for himself, the first expence is the only one. efore the summer is past, a few purchased plants will ave spread so as to allow many cuttings to be made om them, which in methods afterwards to be described ay be easily preserved during the winter. We lay uch stress on the employment of shrubby exotics for ie adornment of summer gardens, because it is found y experience they are kept in order easily, and are imitable in their power of furnishing exquisitely varied oups.—*H. B.*

PÊCHE REINE DES VERGERS.

(The Orchard Queen Peach).

The Pêche Reine des Vergers is stated in the "*Portefeuille des Horticulteurs,*" for December, 1847, to be ne of the most important introductions of the season, asmuch as it supplies the desideratum of a variety lapted for succeeding as a standard; for as such it oduces abundantly, and its fruit is equal in size and avour to the finest wall varieties. It was discovered y M. Jamin, two years ago, at Lorès, Department of aine-et-Loire.

The tree is vigorous; shoots of an intense violet-red xt the sun; the petioles, which are short and thick, e also tinged with the same colour, and are furnished ith several glands (which appear from the drawing to reniform). The fruit is somewhat oval, but depressed the summit like the Grosse Mignonne; it is 14 centietres, or 5½ inches in its vertical diameter, and 12 ntimetres, or 4$\frac{7}{10}$ inches transversely, and hence owards of 14 inches in circumference. The skin is of fine purple next the sun, and golden yellow where haded: the down is fine and short. Flesh white, rayed ith red at the stone, from which it parts freely, melting, perfumed, and vinous. The stone is large. The uit ripens towards the end of September; when ripe s perfume is powerful, and widely diffused.

When we take into consideration the superior climate France compared with that of England, we will not e disappointed should this variety be found not adapted r a standard in this country; but if it maintain a superiority on an east or west aspect, or even against a outh wall in situations where other varieties prove too nder, we may be satisfied with the acquisition.—‖

VERBENAS FOR 1848.

The best plants of any description are those which e the most useful, and the usefulness or adaptation to hich I refer, does not depend so much on the perfection of any one particular as on general excellence. pecial features of merit in flowers avail but little if ose properties which render them of permanent and creasing interest be absent. Admitting the correctss of these remarks, it follows that general excellence a higher recommendation than single features of erit, however perfect. For example, a well formed uss of flowers in connection with an unfavourable abit of growth, or a perfect outline in individual blosms in connection with a sparing amount of bloom, are alike objectionable. The longest continuance and richest display of bloom is the desideratum.

Where picturesque and general effect are sought, there are two defects which disqualify all flowers for such an object, however perfect they be in other respects, viz. a straggling and incompact habit, and scantiness of bloom. It is true that judicious training and management are intended in part to obviate these defects, but where an extensive arrangement of flower-beds or groups is required, it is of importance to possess those varieties whose growth is predisposed to afford the greatest display of bloom with the least artificial treatment after planting. The following list of the finest varieties which have come under my notice, is arranged strictly in accordance with the foregoing remarks.

Scarlet.
Wonder of Scarlets
Boule de Feu
Gladiator
White.
White Perfection
Mont Blanc
Mountain of Snow
Crimson.
Victory
Atrosanguinea
Barkeri
Red.
Speciosissima (Youell's)
Eliza
Salmon, shaded with rich Rose.
Incarnata perfecta
Standard of Perfection
Beauty Supreme
Gem of the West
Bright Self Carmine.
Beauty of Bath
Lord John Russell
Clear Pale Salmon.
Favourite
White shaded or margined with rich Cherry colour.
Rosy Morn
Blue.
Heloise
Imperatrice Josephine
Dark Maroon.
Louis Philippe
Henderson
Lady Harrow
Violet Crimson.
Western Rival
Lady Pakenham
Merry Monarch
Purple.
Emma
Lilac.
Lilac Perfection
Duchess d'Aumale
Beauty of Bridesdale
Princess Marie
Dark Rose.
Coronet
Duc d'Aumale
Comte de Paris
Excelsa
White, with Rose centre.
Modesta
Rosy Blush, with Carmine centre.
La Reine
Sanzye
White, with Carmine eye.
Reine de Francais
Rosy Red, with White eye.
Antagonist
Bright Flamed Scarlet.
Satellite.

The following is a selection of clear and rich-coloured varieties, forming fine single trusses of bloom.

Victory
Atrosanguinea
Teucrioides atrosanguinea
Gem of the West
Beauty Supreme
Eliza
Speciosissima (Youell's)
Excelsa
Coronet
Wonder of Scarlets
Beauty of Bath
Louis Philippe
Imperatrice Josephine
White Perfection
Rosy Morn

The following are adapted for late autumnal bloom.

Satellite, *bright flame red*
Mont Blanc, *white*
Arroya, *clear brick red*
Atrosanguinea, *large rich crimson*

In the above classes, the variety Victory takes the precedence of Atrosanguinea, solely in having a more prominent white eye, and preference is given to White Perfection over Mont Blanc for its fragrance. For special features, Gem of the West is conspicuous for its fine large truss of bloom; Rosy Morn for its lovely cherry-coloured margin; Beauty of Bath for its remarkably clear and bright carmine tint; Eliza for its exceedingly rich vermilion red; Atrosanguinea (or Victory), for its yet unequalled large heads of rich crimson; Barkeri for its neat, compact, and comparatively dwarf habit; Imperatrice Josephine for its interesting approach to a lively blue; and, lastly, the entire class of salmon shaded with rose, for beauty, delicacy, and perfection of form.

Cultivators who manage to grow Rosy Morn as I have seen it, will not easily forget it, and those who have it not may regret its absence.—*William Wood, Fishergate Nurseries, York.*

CAPE HEATHS.—No. VI.

Heath-house.—Next to the acquirement of the numberless items which make up the sum of a gardener's experience, coupled with a knowledge of vegetable physiology, there is perhaps no science or study which can be more profitably pursued by him than physical geography, in its relation to vegetable life. There are so many occasions in which such a knowledge is found to be desirable; and wanting, is so often poignantly regretted, that I cannot but urge on all aspirants for horticultural distinction to make it a prominent feature in their studies. The early annals of horticulture furnish abundant proofs of the disastrous consequences arising from a deficiency of such knowledge; and individual experience could furnish thousands more. But to our Heaths.

Jutting out into the vast Atlantic, the Cape of Good Hope—apart from the circumstance of its lying under the influence of the trade winds—must be subject to a constantly shifting atmosphere. The constitution of the Heath is peculiarly adapted to such; and being so adapted, it is absolutely necessary for the well-being of the Heath that a free circulation of air should constantly surround it. Upon this hangs much, very much of the success in the cultivation of the Heath; without it all other adjuncts are useless; with it every element of success is combined.

To grow the Heath well—using the term in its superlative degree—a house should be devoted entirely to the purpose, and that house should be a span-roofed one, constructed on the best principle, keeping aeration constantly in view. The time is arrived for discarding the old lean-to houses altogether, where plant-growing is to be a feature in their appropriation. For the Heath, a low span-roofed house should be employed with means of ventilation both above and below, so that any accumulation of stagnant air, for any length of time, can be avoided. The heating apparatus need not be of an expensive description if constructed expressly for the Heath, as its use will be limited, that being employed negatively, rather than positively, in reference to the Heath. A night temperature of 50° when the external air is below the freezing point is a safe position to assume. Mr. Forbes in the "Hortus Woburnensis" thinks a few degrees of frost rather beneficial than otherwise to Heaths. I cannot speak from experience as to the good results of such treatment, but should be very loath to try the experiment on a valuable collection. At all events, positive heat is decidedly prejudicial, producing etiolation of stem, foliage and flower. Plants subjected to its influence appear sickly, however fine in other respects; and if with this a deficiency of light be coupled, the rich tints of the flower are altogether wanting. Light, strong light, is necessary to develope the utmost capabilities of rich colouring in the flowers of the Heath, and where this rich colouring is wanting much of the beauty is destroyed; for rich indeed are the tints when exhibited in all their purity. The long panes of which glass used in the construction of modern greenhouses are admirably adapted for the Heath-house, provided some provision is made to afford shade at times, during April and May.

After a long interval of damp and dull, or foggy weather, or during the prevalence of wet, it may be found advisable to resort to artificial means to accelerate circulation in the air. For this purpose, when a circulation, by the aid of the furnace, has been induced, let the windows be thrown open. Without such a precaution, the fire aid will have been worse than useless. It is difficult to make some persons comprehend this, and many are the arguments I have had without being successful. It is a law of matter that air should hold in solution, in a gaseous or invisible form, a certain quantity of water, this quantity varying according to circumstances, from nothing up to the point of saturation; and further, that if the air so saturated come in contact with a body of a lower degree of temperature than the air itself, the moisture, or a portion of it contained in the air, becomes condensed on that body, and is visible in minute globules in the form of dew. This precisely occurs when an increase of temperature is afforded to the confined air of a greenhouse. The foliage of the plants becomes so many thousand condensers, and, a free circulation of air being denied, dampness begets mildew, and a host of parasitical pests follow in its wake. Therefore the first and great point to be considered in the management of the Heath in the house, is air. You may water assiduously, and shade cautiously: you may stake, and tie and clean, without intermission; but without this first and great principle, every leaf will utter, in the most significant language, "Air, air, air."

The Heath, at all seasons of the year, requires abundance of water, that is, if good drainage is afforded in the potting, and if no danger from over-watering need be apprehended. Of course, an unreasonable supply is not alluded to. Therefore, let not dull weather lull you into fancied security from the use of the watering pot. Let your examinations be frequent, and your scrutiny close. Trust not to the eye alone, the touch is often necessary. Heath soil being fallacious in appearance, and the Heath more so. I am minute in these particulars, because I feel convinced from experience that it is the sum total of the unmentionable minutiæ, of which no treatise can properly take cognizance, that make up success. We can point out general principles, but practice and perseverance can alone apply them.

The Heath being an evergreen, and always growing, its old foliage is constantly decaying; and in most species it remains attached to the wood. Such, if allowed to remain, gives an unsightly appearance to the plant, and furnishes a resort for spiders to spin their webs, and also of numerous insects, with all their paraphernalia of dust and dirt. The influence of such in the economy of vegetable life I need not point out, and the appearance to a tasteful eye is unquestionable. Let such, therefore, be constantly removed, or a better remedy is, never to allow it to accumulate in any quantity. Constant attention is necessary for the accomplishment of this, but the reward is ample. While the Heath is in-doors, I do not think the syringe can be used with propriety. During the winter months it is unnecessary, and in spring the plants being covered with bloom, its application is questionable. At all convenient times the pots and the material on which they are placed, with the floors of the houses, can be made receptacles for moisture to be given off by evaporation. Writers whose opinions are entitled to respect recommend shutting up early in the afternoon, with an increase of temperature, and giving air again later in the evening. I cannot subscribe to the practice. It produces weakness and etiolation already alluded to. I prefer a gradual decrease of temperature in the evening, bearing reference to that to which they were subjected at mid-day. There are various contingencies to which the Heath is subjected, which may appropriately be placed under the head diseases, although not strictly so. Of these we shall speak by-and-bye.—*G.*

Home Correspondence.

Planting and Management of Woods.—As it is of the greatest importance that landed proprietors, and the public in general, should be made acquainted with the unprofitable and uncertain results arising from the system of thin planting which has lately been so much recommended by Mr. Young, of Perth, I beg that you

will insert the following questions, which I hope will be answered by Mr. Young to the satisfaction of all interested in the welfare of timber growing:—1. Upon what landed property did Mr. Young ever act as a practical forester? 2. If he has acted as such, can he point out upon it any plantation, of 20 years of age, managed in the way he recommends, and which may be taken as a fair specimen of the results of his system of thin planting? 3. If he has never acted as a private, practical forester under any landed proprietor, can Mr. Young point out upon any estate a plantation planted and managed in his own way, and not less than 20 years of age, which may be taken as a fair specimen of the results of the system of thin planting; stating, at the same time, the height of the ground above the level of the nearest sea coast? 4. I am informed that the system of thin planting, as recommended by Mr. Young, has been tried upon the Earl of Fife's estate in Aberdeenshire, and that the trees planted are more than likely to prove a failure; will Mr. Young inform us as to the truth of this? 5. Will Mr. Young be kind enough to give the profitable returns arising from thinning at different periods the plantations planted and managed in the way he recommends? 6. In planting hard-wood at 28 feet apart, how does Mr. Young make up, in after years, blanks which have occurred from disease, bad shaped, or broken trees, &c.? 7. In planting with Pines in any high-lying situation, the trees are often much thinned from deaths arising from various causes; and as this will occur even when the trees have arrived at considerable age, how does Mr. Young make good his trees in such cases, seeing no provision has been made for such a state of things? 8. In many neighbourhoods, there is often a greater demand for small thinnings of both hard-wood and Fir, than for large wood, and even that sells at a much higher rate per foot in such cases; how could Mr. Young supply such thinnings from plantations managed in his own way? and if, seeing he could not, how is the proprietor to take advantage of the wood market when his hard-wood trees have been so planted that none could be spared until they are of full age?—*James Brown, Arniston.*

Poisonous Plants.—Whether the Yew-tree be poisonous or not, I agree with you, is not only a medico-physiological question, but one likewise of importance to agriculturists; it is therefore an agricultural question. Notwithstanding the denial of "A Bucks Yeoman," there is no doubt that if the Yew be eaten by horses it acts as a deadly poison. He is surely not acquainted with the operations of Nature in directing the instinct of animals, or he would know that in districts where this tree abounds, as well as other poisonous plants, instinct or habit, and the abundance of wholesome vegetables, teach them which to prefer whilst grazing amongst them. A plant may be poisonous to one species of animal and beneficial to another. I had some goats, and they ate the young and old shoots of a Yew-tree with the greatest impunity; and a horse can eat Monkshood, which proves fatal to dogs and goats, a circumstance which is accounted for by examining the very different conformation of the stomachs of these animals. A very remarkable instance analogous to the subject is related by Linnæus, who was sent for in order to ascertain the cause of the destruction of a number of cattle in certain districts. Upon investigation he found, that in consequence of the lateness of the spring that year, the animals had sought food among the water plants, many of which are highly deleterious; as for instance the Water Hemlock, which in other seasons they rejected. When a boy, I often sucked large quantities of the sweet glutinous red berries of the Yew tree, but always put away the bitter pips; others who were not so cautious, and cracked them, became very sick. Raw Beet-root once made me very ill for several hours. The boiled root everybody knows to be wholesome and delicious as a table vegetable. I have among my notes a list of plants which are deleterious to some animals, but which can be eaten with the greatest safety by others. In Russia many funguses are edible, but are poisonous when grown in this country. Parsley is detrimental to poultry, and will kill cage birds, which few people know.—*D. S. E.* [Could you favour us with a copy of your notes?]

Yew-trees Poisonous.—We know as certainly, in this part of the country, that Yew branches are as poisonous to horses or cattle eating them as arsenic would be; but they act in this way only when cut by an edged tool. A farmer in an adjoining parish last year turned three cart-horses into a field; they went immediately towards a hedge which had been mended with Yew-tree stakes, and fed upon the branches. In 24 hours the three horses, young and healthy before, were hanging in the fox-hounds' kennel. This is a well-known fact in this neighbourhood, in which a subscription was raised to enable him to replace them. Forty years ago, some clippings of a Yew-hedge having been dropped in a field, much fear was entertained lest the cattle should eat them; but the hedge from which they had been cut (a long one) was open to animals at all times, but their eating the twigs themselves off the hedge excited no apprehension whatever. I could give numbers of instances, did I recollect dates, of animals being poisoned by eating Yew; but whether the poisonous qualities are imparted to it by the edged tool, as has always been considered to be the case here, or whether it exists in greater quantity in withered twigs than in fresh ones, I leave to wiser heads to discover.—*Dyn-o-Gwent.*

Vipers.—Can any of your correspondents satisfactorily solve that *questio vexata*—Do the young of the viper shelter themselves, when alarmed, by running down the throat of the old one? Country people, in general, believe it to be a fact, but I have never yet heard of a well authenticated instance, and I know that the opinion of some eminent living naturalists is opposed to it.—*S. H. H., April* 5.

Railway Embankments.—In reply to my communication, "E. F. G." tells me that keeping Larches "free from weeds" when young, is the "proper management" by which sleepers are produced in "15 years." He also asks whether I am not mistaken in stating sleepers to be 9 feet long. I have no difficulty in proving that to be a fact. A railway in course of formation through my own land has all the permanent sleepers 9 feet long. The Midland has them of the same length, and on the Lancashire and Yorkshire they are the same; but supposing a sleeper to be only 7 feet long, I cannot think that simply keeping down weeds will produce it either 9, 8, or 7 inches in diameter in 15 years. I will try to illustrate the case by planting a Larch 7 feet in height; it has now 15 years to grow; and in that time it must produce a ring of wood every year half an inch in breadth; to be only 7 inches in diameter at the end of that time. Surely such a result in so short a time, is not likely to be obtained on the often poor subsoil of which railway embankments are composed; indeed it could scarcely be expected in good soil.—*Yorick.*

Felling of Timber, and at this season, more particularly Oak.—Every careful forester, I think, is anxious that the trees when peeled should put forth shoots from the roots, by which means a succession is generally produced. To ensure success I am of opinion that much depends upon the operation of felling. I have observed when a tree is cut down at the time of peeling, and particularly if the stump is left convex, it most frequently dies, consequently making no shoot. A better practice for the growth of a succession, as well as the seasoning of timber, is to peel standing, and not to cut down the timber peeled in the spring until the autumn of the same year. I have found this system to answer well in the woods I have the management of, and trust that some of your correspondents will take up this subject more fully, as all must admit that it is one of the utmost importance.—*W. C., Doncaster.*

Rain.—We have had in January, 4.876 inches and 13 wet days; in February, 13.404 ! inches and 25 wet days; and in March, 5.502 inches and 27 wet days. Total for the quarter, 23.782 inches and 65 wet days; for the quarter ending Dec. 31, 1847, 29.092 inches and 65 wet days. Wet days being so called when any rain, however little, has fallen during the 24 hours. Total for autumn, 1847, and spring, 1848, 52.874 inches and 130 wet days.—*T. S. P., Windermere.*——The following is the amount of rain which has fallen at Carisbrook in the first three months of 1847 and 1848.

	1847.	1848.
January	2·93 ..	.. 4·11
February	1·38 ..	.. 4·61
March	1·39 ..	.. 3·60
Inches ..	5·70 ..	.. 12·32

—*Anne, Carisbrook, Isle of Wight, April* 4.

Fumigation.—In one of your late Numbers I observed an article on the use of touch-paper in burning tobacco for the purpose of fumigating plant structures; having on every occasion suffered severely from sickness when I had to use the bellows for the purpose of fumigating, several years ago I was induced to try the use of touch-paper, but after repeated trials I found my plants always more or less injured, sometimes to the extent of my Fuchsias losing their foliage entirely; I was, therefore, under the necessity of submitting to the sickening fumes that issued from the bellows as formerly, until about two years ago, when I adopted the following method, by which my plant structures, which are extensive, can be fumigated in a few minutes. A common fire brick is introduced into the furnace of a stove (a common fire will do) until it is heated to redness; it is then taken out and placed on a common dust-shovel, and without loss of time placed in the passage of the house to be fumigated, and covered with very damp tobacco-paper, such as comes from under the press of the tobacco manufacturer; the quantity of course is regulated by the size of the house to be fumigated. I have then but to retire and shut the door, and the house is filled with smoke in a minute or two. By using tobacco-paper, which can be had at from 5*d.* to 8*d.* per lb., instead of tobacco, which costs from 3*s.* 6*d.* to 4*s.* per lb., there is a considerable saving, and I have never had a single plant injured by this mode of fumigating.—*W. Deans, Jedburgh, N. B.*

Societies.

Horticultural, *April* 4.—W. W. Salmon, Esq., in the chair. Col. Vernon Harcourt, the Rev. A. Clive, and J. S. Gregory, Esq., were elected Fellows. At this meeting a large number of flowering plants were assembled — a circumstance no doubt partly to be attributed to the unusual heat of the last few days, which has brought plants under glass so fast into beauty. It was stated that a thermometer in the shade stood in the Society's Garden on Monday last at 78°, and that the heat of the soil at 2 ft. from the surface was 49½°, and at 1 ft. 51°. This extraordinary fact accounts for the rapid progress vegetation is now everywhere making, and will, perhaps, continue to make; for though the temperature of the air should fall, it will be some time before the soil loses the heat it has acquired. In regard to subjects of exhibition, Messrs. Veitch and Son, of Exeter, again sent some remarkable plants, and foremost among them must be mentioned a magnificent new Vanda sent from Java by Mr. Lobb, having a glorious spike of large flowers, whose white petals were beautifully spotted all over with brown, the lip being violet. Of all the eastern Orchids which our gardens possess, we have, perhaps, none more beautiful than this. From the same nursery also came Vanda tricolor, a less handsome species, Houlletia Brocklehurstiana, and a plant of Æschynanthus speciosus, the most brilliant of the genus, bearing 6 terminal clusters, each consisting of some 18 or 20 long orange-scarlet flowers; also a plant of Æ. miniatus, whose dark red blossoms, though handsome, are somewhat lost amid the ample deep green leaves with which the plant is profusely clothed. A large Silver Medal was awarded for the first mentioned plant, and a Banksian Medal for the Æschynanthus speciosus. The same nurserymen also sent blooms of a new Fuchsia from Peru, remarkable for the great brilliancy of its colours, as well as for the size and form of its stigma, which is pure white, looking like a little ivory cross embosomed in the dark red-violet tinged petals, with which it nicely contrasts. The flowers are about the length of those of serratifolia, the tube and calyx being bright scarlet crimson, and it was stated that they grow horizontally from the axils of the leaves, which are large and deeply veined. What the habit of the plant may be, however, remains to be seen. —Mr. Mylam, gr. to S. Rucker, Esq., sent two species of Vanda; two plants of Phalænopsis amabilis, one larger and possessing more well-defined colour in the lip than the other, though not the large-flowered species figured at p. 39; the Duke of Devonshire's Galeandra (G. Devoniana); Cymbidium eburneum, the purity and size of whose white flowers make up for their scarcity; the curious, rather than beautiful, little spotted Ponthieva (P. maculata), and some others. A Knightian Medal was awarded for the Phalænopsis, Galeandra, and Cymbidium, and a Certificate of Merit for three well-grown species of Cape Heaths, which also accompanied them.—Various plants came from the Nursery of Messrs. Loddiges, of Hackney, among which were the purple bell-flowered Bletia (B. campanulata); a well-flowered Epidendrum Stamfordianum; Cymbidium eburneum; Denbrobium densiflorum, with eight large spikes of yellow flowers; D. anosmum, a beautiful species in the way of, though perfectly distinct from, D. macrophyllum; a red Camellia; a blush-coloured Rhododendron from the Himalayan mountains, and some other plants. A Knightian Medal was awarded the four first-mentioned Orchids. — Messrs. Henderson, of Pine-Apple-place, sent a large collection of Hyacinths in bloom, consisting of some of the newest and best varieties; also a new and rather pretty Oncidium from Brazil. A Banksian Medal was awarded the Hyacinths.—C. B. Warner, Esq., sent Odontoglossum maculatum, and Mr. Glendinning a Cyrtoceras reflexum, for which a certificate was awarded. Concerning the latter, it was stated that by a little care it could be made to produce its blossoms in great abundance at any period; that in fact it could be made to flower about every alternate month; the plant exhibited was stated to have bloomed three times during the past winter.—J. Montgomery, Esq., of Brentford, produced a Chinese Primrose, and a Gesnera remarkable for its graceful and airy appearance, being devoid of the forest of sticks to which such things are generally stiffly tied, and which so much detract from their beauty. A Certificate of Merit was awarded the latter.—Mr. Albert, nurseryman, Fulham, sent Statice frutescens and imbricata, two new varieties from the Canaries, but not being in bloom no opinion could be formed of them; and from Mr. Gregory, of Cirencester, came various Cinerarias. —Mr. Salter, gr. to G. Stone, Esq., of Parsons' Green, sent a rosy-crimson flowered Rhododendron, a hybrid from arboreum, with eight heads of flowers, each head forming a dense cone 6 inches deep, and as much across at the base.—From Mr. Cameron, nurseryman, Uckfield, was a dish of Apples called Mannington's Pearmain, in excellent condition even at this late season; it is a middle-sized variety, different from any in cultivation, reddish, somewhat russeted, and said to be remarkable for its late-keeping properties.—From the Garden of the Society were various plants, among which were some good Azaleas, more especially a large and finely-bloomed specimen of phœnicea; a white variety of the tree Rhododendron; a nice plant, somewhat injured by travelling, of the hairy-leaved Tetratheca (T. hirsuta); Ixora javanica, a comparatively new species, whose large heads of orange-red flowers render it one of the best of the genus; the double-blossomed Spiræa prunifolia, whose small white flowers are, however, we fear, too green to render the plant an acquisition; the white-flowered Henfreya scandens; and a plant in a pot of the little stemless Scurvy-grass (Cochlearia acaulis), a Portuguese annual, noticed in another column.

Linnean, *March* 7.—Mr. Westwood read a paper containing observations upon Bolboceras, a genus of Lamellicorn beetles, closely allied to Athyreus (upon which he had also read a paper at a late meeting of the Society), together with a synopsis of the New Holland species of the genus, originally established by Mr. Kirby, in the Linnean Transactions, upon the Bolboceras Australasiæ, which had been ascertained to be the female of the singular Scarabæus proboscideus, first described by Schreibers in the same Transactions, and subsequently raised into a separate genus, Elephastomus, by Mr. MacLeay. A number of the Australian species are remarkable for the singular horns upon the thorax, head, and jaws.

April 4.—E. Forster, Esq., Vice-President, in the

Chair. Numerous donations of books, including the Transactions of the Natural History Societies of Gottingen, Boston, and the American Society of Arts and Sciences, were laid upon the table, as well as Mr. Pamplin's neat Reprint of all the Botanical Works of Thomas Johnson, one of our earliest investigators of British plants (and which were originally published from 1629 to 1641), as well as a portrait of Hugh Cuming, Esq., by whom so many new plants have been introduced into this country. Mr. Fisher exhibited a specimen of Gordius marinus of Montague, from the north coast of Norfolk; Dr. Coggeswell the fruit of the Banana (Musa sapientum) in order to illustrate the statement concerning the origin of the superstition with which it is regarded by the natives in Madeira, who dare not cut it with a knife, as it is supposed to exhibit a representation of the crucifixion. Mr. Westwood exhibited the arista of a Himalayan Grass (probably Heteropogon contortus) possessing remarkable hygrometrical properties which he exhibited to the meeting. Some notes upon the vegetation of Scinde, in a letter addressed to Professor Royle, by Dr. J. E. Stocks, were read, in which the author points out the strong analogy between the plants of that district of India and Syria. He gave a list of the chief species, arranged according to their soils and localities into four chief groups; the Vulgares, plants found in cultivated or waste places wherever there was sufficient earth for their growth, Arenariæ, Rupestres (the latter growing on the spurs of the Beloochistan-hills), and forest-trees. He had directed much attention to the materia medica, and to the drugs of Khorassan, and had made some extensive observations on the gum of a species of Balsamodendron. He then reviewed the plants according to their natural orders, and stated that the Leguminosæ constituted at least one-seventh part of the whole; whilst the tropical natural orders were either wanting or at a minimum in Scinde. The Salsolæ were marked features in the flora of the country. The plants of the hills of Scinde were very similar to those of Arabia, and in parts like those of Egypt. The latter reviewed the synonyme of the plants described by Capt. Vickery in the "Calcutta Journal" of 1846. Thomas Worthington Barlow, Esq., was elected a Fellow of the Society.

Reviews.

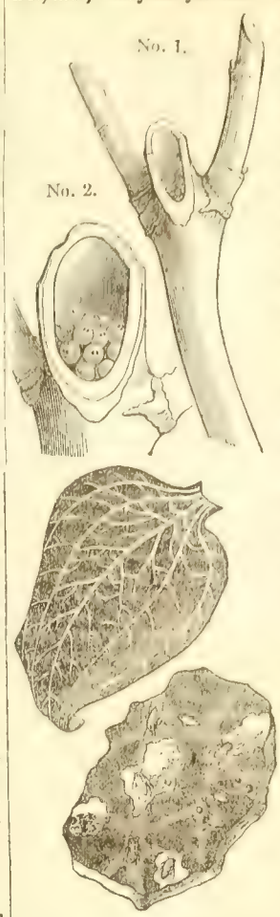
A Systematic Catalogue of the Eggs of British Birds, by the Rev. S. Malam (8vo, Van Voorst), is an octavo volume of 170 pages, containing the names of our British birds, with blank spaces in which memoranda may be made. It is thus intended to render marks on eggs in Musea superfluous, and to facilitate the preservation of order in collections. The idea is a good one, and deserves to be promoted.

Mr. Barlow's Field Naturalist's Note Book, issued by the same publisher, is a very neat, thin pocket-book, of convenient size, for the use of those who wish to record in a methodical manner the observations they may make on the facts that present themselves in their rambles. It has the advantage of drawing attention to the class of facts which it is desirable to observe.

The fourth Number of *The Florist* is before us, with a capital coloured figure of the Camellia called the Countess of Orkney. A correspondent reminds us that in our last notice of the work we omitted to do justice to the honourable course pursued by the editor in giving the public original matter and nothing else. He says, "In your review on the 18th of last month, you overlooked a part of its excellence which deserves notice. The book is composed of matter not extracted from other works, but contributed by men of high standing in floriculture, such as Messrs. Horner, Rivers, Storey, and others, whose names often appear in your own pages." We thought we had adverted to that point; it is no small praise at a time when brigands transfer their scene of operations from the Queen's highway to that of literature, that a young journal is found to join the band of exceptions to so disgraceful a fact; and "The Florist" may be mentioned as a work entirely free from all dishonesty of the kind. Perhaps we may some day think it worth while to point out some of the more flagrant of the delinquents to which we here allude; in the meanwhile, they may be left to enjoy the obscurity in which their safety consists.

The subject of insects, and the importance of studying their habits, is again adverted to in the Number before us, in the following paragraph:

"*Results of following Good Advice.*—Well, since we parted, I have acted upon your advice, and procured the magnifying-glass you recommended me to do; and that I have not been idle, this drawing will testify. But, first, I may tell you that I have found a surprising quantity of the little maggot we last talked about, particularly amongst my Hybrid Perpetual Roses, in the old crops of which, both in the dead wood and alive, I have sometimes found as many as two or three very active, and ready to emerge from their winter quarters. In some of the larger spurs I have found goodly sized green caterpillars, to whom the bud of a Perpetual in a young state would furnish but a scanty meal. But in the drawing before us you see a deposit of a different kind altogether. There is nothing in the appearance of No. 1 to arrest the naked eye; but placed beneath the magnifying-glass, a quantity of eggs are discovered, as in No. 2. So, again, with the leaf of Anœctochilus setaceus, or King of the Woods; a scarcely perceptible disfigurement of its surface induced me to examine it with my new pocket companion. I find it covered with a red spider, an insect that I verily believe becomes a grandfather in an hour, so rapidly does it increase.

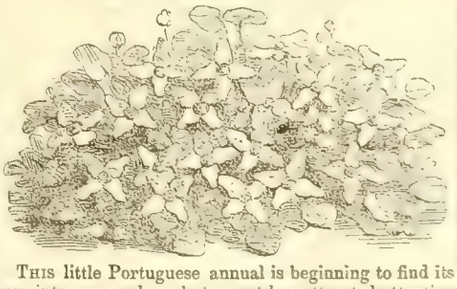


But what are these eggs? what enemy or friend to the florist will they reveal? Ah, there, you are asking for more than we bargained to tell. We are florists, not entomologists; but no doubt that, in the number of our readers, there is 'one of that gift,' who will, at a future time, help us to the information we both require, and shall be thankful for.—What do you pay for your glass? 12*s*. Well, it will last you a life, with common care; and I am sure you will now agree with me, that no gardener, amateur or professional, ought to be without one.—*Good Bye.*"

The eggs, No. 2, seem from the cut to belong to a snail, rather than to an insect. As to the price of the glass, we hope that such a sum will not be understood to be absolutely necessary: less than half 12*s*. will give a man's eyesight help enough for most purposes.

THE WINTER VIOLET GRASS.

(Ionopsidium acaule, or Cochlearia acaulis.)



This little Portuguese annual is beginning to find its way into our gardens, but as yet has attracted attention from very few persons. Its value is not known. As seen in the summer in flower pots or a sunny border, it forms a tuft of green round leaves, 5 or 6 inches high, a crowd of fugitive, pallid violet blossoms, and in a few weeks it disappears. Immediately afterwards, however, or at least as soon as rain comes, it again springs up, to grow in the same way as before. Under these circumstances it is a novelty and little else.

It is in midwinter, when snow is on the ground, and not a blossom more striking than Chickweed rewards the curious observer, that the Winter Violet Grass acquires its value. If it has been allowed to scatter its seeds on sand, or among peat, it will produce in abundance diminutive patches, like that represented above, in which its little cross-shaped, pale, but bright violet blossoms lie in such profusion as to almost hide the emerald foliage on which they rest. As long as the weather is cold, or cool, these gay patches are to be seen everywhere, and they only lose their brilliancy when a hot sun and a drying wind have breathed upon them. A patch of the plant in winter may be transported of the ground in a tablespoon, transferred to a saucer, and placed in the drawing-room, where, if [illegible] with water, it will continue to thrive for many days. Even in the summer it possesses a certain degree of attractiveness, if allowed to grow itself in the shade among bushes, or in such a place as the Moss plant (Mimulus moschatus) prefers.

It was sent from Portugal to the Horticultural Society by the Duc de Palmella a few years since.

Garden Memoranda.

Messrs. Fraser's, Lea-bridge-road.—The [illegible] here is now gay with Rhododendrons, Tulips, Hyacinths, Tree Violets, Fairy Roses, &c., intermixed with Azaleas, among which triumphans was in [illegible], Hovea Celsi, and other greenhouse plants, which, just bursting forth as they are into bloom, will serve to keep the house dressy and gay after the beauty of the spring-flowering plants has passed off. A portion of the back wall of this house was profusely ornamented with the bright-yellow flowered Acacia pubescens, one of the very best of the genus for planting out in the border of a conservatory. The Camellia-house, which was the show-house, was still rich in bloom, and promised to continue so for some time to come. In a frame we observed a nice collection of Primroses, consisting of white, lilac, red, and yellow—all double, perfectly hardy, and well-known sorts, but not so much grown as they deserve to be; for whether cultivated in pots, and neatly arranged on the greenhouse shelf, or planted out in the open border, we know of nothing more pleasing at this season of the year. To these might be added the Himalayan P. denticulata, and others from the same mountain region, which elevating, as they do, their pale lilac flowers on long footstalks, would contrast well with their more lowly flowering compeers. On the front shelf of a Pelargonium house we noticed a nicely-blossomed Mirbelia grandiflora, a plant whose golden yellow and brown flowers amply compensate for the difficulty sometimes experienced in growing it successfully. Associated with it was a small specimen in flower of Eriostemon scabrum, a somewhat new and neat species grafted on Correæa alba, a stock on which it takes freely, but whose habit of growth does not appear altogether to suit it; it was thought it might possibly be found to do better on its own roots. In the same house was a nice collection of young plants of the handsome genus Kalosanthes, than which we have nothing half so gay at the season in which they bloom. They succeed here under treatment not different from that of Pelargoniums, growing luxuriantly in the same kind of soil.

The Heath-house was filled with small plants of that interesting tribe. Among them was a variety of grandinosa, called nana, which, though little known at present, is sure to become a favourite, on account of its exceedingly neat habit and graceful spikes of small white bells, which are invaluable for bouquets. Near it, and contrasting well with it, was a plant of Acacia rotundifolia, of tiny dimensions; and on the same shelf was, in bloom, Boronia triphylla, a comparatively new species, whose rosy, star-shaped flowers render it one of the handsomest of its class. In the stove we remarked a seedling Azalea, in the way of Gledstanesii; but whose stripe, instead of being pink, was purple. Being placed in heat, however, it was not seen to advantage. Small plants of Franciscea Hydrangeæformis, in 5-inch pots, were blooming freely here; this is effected by putting in cuttings in autumn, from which nice little plants are obtained, which bloom in the succeeding spring. We now come to the specimen houses which contain the magnificent plants that were shown so successfully at our great metropolitan exhibition last year, and which will again very soon excite the admiration of thousands. Cultivation, one would imagine, could hardly be carried further than that exemplified by some of these plants, and yet every succeeding year steals a march on its predecessor in this respect, a fact which the specimen house here amply illustrated. Among so many fine plants it is difficult to particularise;

NEW GARDEN PLANTS, PUBLISHED IN BOOKS.

N.B.—* = Very handsome. † = Second rate. ‡ = Third rate. ¶ = Unimportant.

Name.	Where Published.	Name of Country.	Quality.	Natural Order.	Colour of Flowers.	Time of Flowering.	When first Flowered.	Where.
Goldfussia isophylla ..... † *Equal-leaved Goldfussia.*	Bot. Mag., t. 4363	E. Indies	S. ♄	Acanthads	Violet	.....	1847	Kew.
Smeathmannia pubescens..... † *Downy Smeathmannia.*	Bot. Mag., t. 4364	Sierra Leone	S. ♄	Passion-flowers	White	February	1848	Kew.
Lopimia malacophylla ..... ‡ *Soft Lopimia.*	Bot. Mag., t. 4365	New Grenada	S. ♄	Mallowworts	Rose	Dec., Feb.	1847	Kew.
Strobilanthes lactatus ..... † *Milky Strobilanth.*	Bot. Mag., t. 4366	E. Indies	S. ♄	Acanthads	Pale lilac	Dec., Feb.	1847	Low and Co.
Oxypetalum solanoides ..... ‡ *Potato flowered Oxypetalum.*	Bot. Mag., t. 4367	South Brazil	G. ♌	Asclepiads	Purple	June, July	1847	Kew.
Ipomœa pulchella ..... † *Handsome Ipomœa.*	Bot. Mag., t. 4305	Ceylon	S. ♌	Bindweeds	Purple	December	1845	Mrs. Sherbourne.

the names and sizes of the following, which are a few of the best, may however be interesting to some.

	High.	Wide.
Bossiæa disticha plumosa	4 ft.	by 3½ ft.
Eriostemon nereifolium	2	1½
Podolobium staurophyllum	3½	3
Boronia pinnata	3½	3
Chorozema Dicksoni	3	2½
C. Henchmanni	3½	3
Erica vestita coccinea	4	4
Tristania nereifolia	6	5
Eutaxia pungens	3	2
Crowea saligna	5	4
Pavetta caffra	4	3
Epacris grandiflora	7	6

These are as remarkable for their handsome appearance as for their size. The hot weather we have experienced during the last few days has caused some of the finest exhibition plants to come prematurely into blossom. They are therefore placed in back sheds, in order to retard them if possible till the days of exhibition.

Miscellaneous.

Sale of Orchids.—What sort of prices the small but important collection of Orchids sold by Mr. Stevens, on Tuesday last, realised, our readers will learn from the following account:—Plants of Sobralia dichotoma, noticed in our columns last week, fetched 2*l.*, 3*l.*, 4*l.*, 5*l.*, and 6*l.* each; the famous long-tailed Cypripedium (C. caudatum), also noticed last week, fetched 2*l.* 10*s.*, 4*l.*, 5*l.*, 6*l.*, 7*l.* 15*s.*, and 9*l.* 15*s.* each; Odontoglossums, from 1*l.* 8*s.* to 2*l.* 2*s.*; Grammatophyllum speciosum, from 1*l.* 10*s.* to 8*l.*; Nepenthes Rafflesiana, from 3*l.* 3*s.* to 4*l.* 5*s.*; and N. Loddigesii, from 2*l.* 2*s.* to 6*l.*

Calendar of Operations.

(*For the ensuing Week.*)

CONSERVATORY AND GREENHOUSE.

With the increased circulation of air, which the extremely mild weather will sanction, there will be a more evident necessity for increasing the supply of water to repair the loss which must inevitably ensue from a rapid evaporation. During strong solar light the paths of the houses may be damped, which will produce a gentle humidity extremely grateful to exhausted plants, many of which, having lately been shifted and made some little growth, will assuredly suffer from any deficiency of moisture. Shading material ought to be provided; there are few houses that can be said to be perfect without it. Pot off cuttings as soon as sufficiently rooted; nothing is more injurious to young plants than to allow them to remain crowded in the cutting-pots until the roots become matted together. Attention should be directed at an early period to the formation of specimen plants; judiciously stopped and trained when young, not half the trouble is incurred. Pot and prick off seedling plants, or remove them to a cool pit to strengthem them. Give abundance of air and water to early annuals.

FRUIT FORCING.

Vineries.—Until the welcome arrival of the genial weather we are now enjoying, we have been compelled to exert all our skill in providing artificial means to produce those circumstances essential to Vines in an advanced state of development. It is probable that a luxuriant but at the same time succulent habit has been induced by this necessary nursing. Endeavour to strengthen the leaves by reducing the humidity, which it was necessary to maintain with fire-heat, giving air freely during the occurrence of sunshine, and dispensing as much as possible with fire heat; as the vital energy of Vines in action will be increased, and the absorption of nutritious matter incessant, as solar light becomes more ardent, it will hence be necessary to give attention to the border at regular intervals, in providing sufficient heat and humidity to enable the roots to perform their functions effectually. Although it will be desirable to remove decayed materials from the borders, and allow them the advantage of an exposure to the influence of the sun, still it would be unwise to allow the border to remain unprotected, exposed to every alternation of weather. Late Vines will be excited by the high temperature of the weather; unless shaded, where they are in movement, it will be necessary to protect them from the possible occurrence of frost. *Peach-house.*—Endeavour to avoid excessive heat by an abundant admission of air in sunny weather. Attention to temperature is highly important as the Peaches approach that critical period that precedes the stoning process. Water at stated intervals. *Pines.*—Fruiting plants will be greatly benefited by strong solar heat. Under its influence evaporation will be rapid, therefore water must be applied to both roots and leaves. Succession Pines should be shaded during bright sunshine, and shut up early. In proportion as they are in activity, they will require watering, neglect of which will cause them to start prematurely. Keep up the dung linings. *Melons.*—The improved aspect of the weather will render it advisable to ridge out such plants as have been nursed in pots; for this purpose without delay employ rough turfy loam in adding to the ridge. Water frequently with tepid manure water.

FLOWER GARDEN AND SHRUBBERIES.

Those who have delayed the completion of planting and other arrangements in the flower-garden, in consideration of cold and ungenial weather, will have need to hasten all such operations, to meet the sudden and favourable change in the weather. Spring has arrived, and vegetation is obeying her behests with singular rapidity. Weeds must be repressed early. Roll and mow Grass. Turn edgings. Look to last year's budded Roses, and rub off wild shoots from the stock. Continue preparations for bedding out. Violent sun succeeding heavy rains causes the ground to cake; where seeds are sown the soil must be loosened. Where Pentstemon gentianoides has not suffered from the last winter, the long stems had better be cut back; the roots will throw up abundance of young shoots. Delphinium cæruleum and some Dianthuses must not be omitted from the list of decorative border plants. Note the colours and effects of early spring flowers, with a view to a future arrangement; enough attention has not yet been paid to the spring garden.

FLORISTS' FLOWERS.

Polyanthuses.—We are often somewhat puzzled at hearing our florist friends talk of cross breeding, or hybridising this flower, the stigmas of flowers fit for exhibition being concealed beneath the anthers, very great dexterity and patience would be necessary to remove them previous to the pollen escaping; we do not see that any objection can be made to fertilising flowers whose stigmas protrude beyond the anthers, in which case the operation is very easily performed; and from experiments made during a series of years, we have found that we have had as many Polyanthuses which do not show the pin or stigma, from the seed of pin-eyed flowers, as from those which have not this defect. From our own experience we would advise seed to be sown from all flowers of good shape and well defined colours. *Auriculas.*—As the truss grows, and previous to the pips expanding, it will be necessary to remove those which are malformed or over crowded. This must be done with a pair of small, very sharp-pointed scissors, bearing in mind that the less they are handled the better. Take care that seedlings which have just emerged are not exposed to the powerful rays of the sun. Many a promising crop has been sacrificed by inattention to this particular. *Dahlias.*—Continue to put in cuttings; pot off those already rooted, and harden those which are more advanced. *Carnations and Picotees* are in great demand this season, and should be potted off without delay. The late hot weather has been rather inimical to this operation, but it is advisable to place the pots under a light calico awning for a few days, or place them in a shady situation, out of the direct rays of the sun. *Pansies.*—Strike cuttings in the shade; sow seed in a similar situation. *Pinks.*—It is a bad time to get in Pinks from a distance, except they are transmitted in pots, and turned out into the place where they are to bloom, with the balls entire. *Tulips.*—In some localities we learn that on Sunday last, April 2, many collections have suffered severely from a hailstorm. We have recommended a piece of lace, which may be bought for a trifle, as the best preventive of this disaster; a damaged lace piece is the best covering we know of.

KITCHEN GARDEN AND ORCHARD.

An ever watchful attention is demanded of a gardener, promptitude in seizing and applying circumstances to his advantage at the right moment is one of the secrets of success as well in the peaceful pursuit of horticulture as in the iron game of war. All our antagonism should now be actively directed against the true enemy to the human race, unfertile earth. Planting Potatoes should be proceeded with and completed as soon as possible. Beans and Peas should be sown to succeed others a fortnight in advance; sow to keep up the supply of Radishes, Salads; prick out Lettuces, Cauliflowers, Celery; sow Capsicums and Tomatoes, keep down weeds, particularly Groundsel. Shade and syringe daily newly planted trees, supply tobacco-water to Peach trees as soon as the green fly appears.

State of the weather near London, for the week ending April 6, 1848, as observed at the Horticultural Garden, Chiswick.

March and April.	Moon's Age.	Barometer. Max.	Min.	Thermometer. Max.	Min.	Mean	Wind.	Rain.
Fri. .. 31	25	29.998	29.899	71	35	53.0	S.	.00
Satur.. 1	28	30.024	30.002	72	38	55.0	N.E.	.00
Sun. .. 2	27	29.984	29.881	75	40	57.5	E.	.00
Mon.. 3	28	29.991	29.848	78	36	57.0	S.	.00
Tues.. 4	●	30.003	30.015	75	41	58.0	W.	.00
Wed.. 5	1	29.989	29.736	61	40	50.5	W.	.61
Thurs. 6	2	29.853	29.633	53	31	42.0	N.E.	.00
Average.		29.953	29.871	69.3	37.3	53.3		0.01

March 31—Hazy and damp; very fine; clear at night.
April 1—Foggy; very fine; clear.
— 2—Foggy; very fine; clear.
— 3—Slight fog; unusually hot for the period of the season; clear.
— 4—Slight fog and fine; very fine; clear.
— 5—Fine; very fine; cloudy; slight rain at night.
— 6—Overcast; fine with white clouds; cool at night.
Mean temperature of the week, 7½ deg. above the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending April 15, 1848.

April.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 9	54.9	35.9	45.4	9	1.26 in.	3	2	5	—	3	4	4	1
Mon. 10	54.4	34.2	44.3	7	0.21	1	5	4	1	3	3	4	1
Tues. 11	55.0	36.0	45.5	11	0.61	2	4	2	1	3	7	2	1
Wed. 12	55.4	38.2	46.8	15	0.56	—	5	3	—	2	7	1	4
Thurs. 13	56.0	36.0	46.0	8	0.12	6	4	1	—	1	4	5	—
Fri. 14	57.2	38.4	47.8	0	0.31	2	5	—	2	2	4	1	6
Satur. 15	58.3	39.4	48.8	12	0.47	1	4	2	1	4	5	1	4

The highest temperature during the above period occurred on the 9th, 1844—therm. 73 deg.; and the lowest on the 11th, 1841—therm. 22 deg.

Notices to Correspondents.

Books—*A D*—"School Botany," price 6*s.*

Camellias—*H H*—Your leaves are scorched by exposure to bright light, dryness, and heat, after having been long kept cool and in the shade. It is not necessary to put such plants into bottom heat when they are cut down. Better not: for you will only make them form long, drawn, weak wood.

Fruit Trees—*T S P*—We see no reason why Mr. R.'s dwarf trees should not succeed. They may not be so dwarf in Cumberland as in Herts, but they will be dwarfer than any others. Trench your ground a spit and half deep when you are about to plant, not sooner.

Gardens—*A B C*—You should visit the gardens of the Horticultural Society, for which purpose you must procure a Fellow's order; also the principal nurseries, for which no order is given; they are all glad to see customers. Whether plants that die are paid for or not depends upon the understanding on the part of the seller at the time of sale. Nurserymen would not find their trade very profitable if they were to undertake to replace, *gratis*, all plants which accident or want of skill may cause to die.

Gardeners—*H Y*—As far as we can read your almost illegible scrawl, you appear to mistake the Gardeners' Benevolent Society, an excellent charity, which ought to be much better supported, for a register office for gardeners out of place. As to squabbles between masters and servants, we cannot undertake to meddle with them. Do learn to write and spell like an intelligent man.

Insects—*Dyn-o-Gwent*—Each of the Wheat plants sent had the heart close above the ground eaten away by a small grub which had already assumed the pupa state, and will produce a small two-winged fly (Chirorops pumilionis). The mischief is done for this year, but the plants do not appear much injured, as they have already thrown up strong lateral shoots. This enemy may therefore be combated by keeping the land in good heart. We should be glad of some more specimens, sent so as not to be crushed. *W.*—*Adolescens*—The eggs from the Greengage are those of the lackey moth, the striped caterpillar of which will soon be found in webs on different kinds of fruit trees, and should then be destroyed by hand picking; see *Gardeners' Chronicle*, 1843, p. 244. *W.*—*M D P*—The Cotoneaster *is* covered with the mussel scale. The eggs are not yet hatched. Examine with a lens when this takes place, and then wash the tree with hot water. The insects may be scraped off the worst parts of the tree with the nail, taking care to burn the scales and eggs which will fall off. *W.*—*E B*—We cannot determine your pest by your description; please to send specimens. If they are wireworms or millepedes, try the remedies proposed last week in reply to enquiry about Mummy Wheat. (*Gard. Chron.* p. 224.) Small pottles of damp moss sunk in the beds will also entrap them. *W.*—*Amateur*—The ants on the Apricot blossoms were most probably attracted there by plant-lice or scale insects. We do not think it likely that they would prevent the setting of the fruit. *W.*

Loose Gravel—*R A H*—By getting gravel and sand quite dry, and mixing them with boiling coal tar and lime or ashes, an asphalte may be made, which answers well for walks. For particulars see p. 308, 1847.

Names of Plants—*G O*—We cannot undertake to name florists' flowers.‡—*R A C*—1, Scolopendrium vulgare; 2, Asplenium Trichomanes; 3, A. Filix-fœmina; 4, 5, and 6, A. viride; 7, Lastrea dilatata; 8, L. Filix-mas; 9, L. dilatata; 10, do., in a young state; 11, apparently the same in a young state—specimens like these are useless; 12, L. Filix-mas; 13, do.; 14, Pteris aquilina; 15, Asplenium Adiantum nigrum; 16, Pteris aquilina *S.*—*Dick*—We will not waste time in naming plants not in flower, as we have stated over and over again.—*T H*—Illicium floridanum.—*J C P*—The common double flowering Peach.—*S E K*—It looks like a very young Nidularia, but it is so crushed among soil that we are not sure.

Norfolk Island—*Recipe*—Viscum complanatum is a Mistletoe. It will not grow with you; of that be sure.

Pansies—*A B C*—Try the following 12 varieties:—Youell's Supreme, Thompson's Pizarro, Gosset's Lord Hardinge, Collison's Perseus, Hooper's Nonpareil, Turner's Optimus, Charter's Model of Perfection, Thompson's Duchess of Rutland, Cook's White Serjeant, King's Sulphurea elegans, Hall's Rainbow, Hooper's Berryer.

Sleds—*M*—Sow them in pure loam, in a frame. It does not matter whether they are in pots or not, with the exception of the Rhododendron, which should be placed in a pan in a shaded place. You will have plenty of warmth. Celestial Barley is a well-known Himalayan species; its agricultural value has not been determined. If your frame is in a south aspect it will need to be shaded from a fierce sun.

Verbenas—*F S*—Try the following sorts:—Best scarlet, Robinson's Defiance; Virgin Queen, white; and Imperatrice Josephine, blue. Twelve varieties for bedding:—Miss Harcourt or White Perfection, white; Oberon, scarlet crimson; Imperatrice Josephine, blue lavender; Queen of Beauties, pink; Vixen, pale pink; Excelsa superb, deep rose; Amethystina, light lavender; Atrosanguinea, crimson, yellow eye; Reid's Beauty of Leith Hill or Wonder of Scarlets; Ruby Superb; Madonna, rosy pink; and Heloise, purple.—Erysimum Perofskianum, with the leading shoot cut out, to make the plants more busby and lasting, would have a good effect in a bed; and Œnothera speciosa, treated in the same way, for a bed of white flowers.*

Misc—*An Amateur* inquires whether it be possible or not to produce an imitation in any substances of a large basket of flowers, which would appear natural at the distance of 12 or 14 feet, and if so who are the parties he had better apply to?—*A B*—You have probably forced your Lilies of the Valley *too fast*. It should be a very slow process begun early. Start them in December, and keep them very cool till you want them, and then you may give more heat. A grey wash may be made as you propose, but you had better omit the sulphur. Soot will do as well as lamp black. Try Messrs. Hazard, of Bristol.—*G G*—Pray do not write questions on both sides the paper. You have no idea of the trouble it needlessly causes us.—*W D G*—We would recommend you to advertise your papers; the cost would not exceed 5*s.*—*H C*—Chicory is our wild Succory, and not at all like Dandelion. What "species" is the "Golden Nob?" We do not understand you.

SEEDLING FLOWERS.

Camellia—*P M*—The colour of your seedling is very good, and the two outside rows of petals are large and well-formed, even on the edge, and slightly cupped; but the centre is confused, composed of small petals, irregular in form and size, and mixed up with stamens. We have very superior sorts of the same colours.*

Cinerarias—*G R*—Your flower is good in colour, being a soft purple, the petals are, however, too narrow, and it is not equal to some of the same colour in cultivation.*—*W H E*—Your seedling white is a pretty flower, but not superior to sorts already cultivated.*—*B F*—Your flower can never rank as a show variety, from the narrowness of the petals; it is very inferior in form to many out; the colour on the tips of the petals is very brilliant *

Fuchsia—*No* 173—Fuchsias are raised in such quantities, that unless they possess unusual claims to fine form, or novelty of colour, they cease to be of value. Your flower appears to be a profuse bloomer, and from your description of its habit, very ornamental; but the flowers do not possess any superiority over others in cultivation. Tube and sepals delicate pink, with a bright rosy vermilion corolla. The flower is pretty and lively in colour, but not equal to some already in general cultivation.*

Polyanthus—*J W*—Your seedling is a very coarse and common flower, and is deficient in the qualities looked for in show varieties.*

Errata—In last week's Calendar, in the article on *Vines*, line 47, col. *b*, it is recommended to plunge Vines in "heat," not "peat," as printed.—In Mr. John Moore's advertisement, last week, front page, New Petunias should have been 15*s.* the set, instead of 1*l.* 1*s.*

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those numerous correspondents, the insertion of whose interesting contributions is still delayed.

J. R. AND A. RANSOME, AND C. MAY, Ipswich, Patentees and Manufacturers of AGRICULTURAL IMPLEMENTS AND MACHINES, have the pleasure to announce that they have now issued a new and considerably enlarged edition of their DESCRIPTIVE CATALOGUE, illustrated by upwards of Sixty Engravings, which may be had on application by letter, inclosing six penny stamps, to cover the postage.

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LINSEED CRUSHER, simple in construction, for hand or horse-power, 11l. 11s.; ditto, doing Beans, Linseed, and Oats, by the same engine or horse-power, 10l. 10s. A smaller Implement for Linseed only, 7l. 15s.

THRESHING MACHINE.—A Four-horse Power, doing from 25 to 35 loads of Wheat-straw per day, without damaging the straw, may be had of MARY WEDLAKE and Co., 118, Fenchurch-street, opposite Mark-lane, London, (references to numerous persons farming extensively, and who use this new machine), price 60 guineas. Smaller machines at a less price.

GORSE-BRUISING MACHINES, price 10l. 10s., will prepare 40 to 50 bushels of food a day for cows, horses, and other cattle.

MARY WEDLAKE & CO.'S CHAFF-CUTTING MACHINE will do 100 or 200 bushels a day. Price 7l. 7s., and a smaller machine 5l. Horse-hoe, Dressing-Machine, Turnip Cutter, Turnip-Drill, Stubble-rake, Oil-cake Breaker, Bean and Oat Crushers, Essex Ploughs for two Horses, Subsoil Plough, Double Field Roller, &c, Hay-making Machine, 14l. 14s.

MARY WEDLAKE and Co., 118, (The City of London Repository for Agricultural Implements), Fenchurch-street, opposite Mark-lane.

IMPROVED WHITE SWEDE TURNIP.—This fine large Swede Turnip is of quick growth, and is found to succeed well in cold climates and shallow soils, and stores well. Price of Seed, 1s. 6d. per lb., delivered free to London, Bristol, or any intermediate station of the Great Western Railway. Also True Skirving's Liverpool Swede, Laing's Purple-topped Swede, White Belgian Carrot, Yellow Globe, and other Mangold Wurzels, at low prices, if in considerable quantities, or small quantities at the usual market prices. True Italian Rye-Grass, 7s. per bushel.—Particulars may be had by post on application to JOHN SUTTON and SONS, Seed Growers, Reading, Berkshire.

MESSRS. NESBITS' CHEMICAL AND AGRICULTURAL SCHOOL, 38, Kennington-lane, London.—A sound practical knowledge of Analytical and Agricultural Chemistry, Geology, Surveying, Levelling, Railway Engineering, &c., may be obtained in Messrs. NESBITS' Academy, in addition to a good modern education.

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The terms of the School can be had on application either personally or by letter.

The Agricultural Gazette.

SATURDAY, APRIL 8, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY, April 12—Agricultural Soc. of England.
THURSDAY, — 13—Agricultural Imp. Soc. of Ireland.
WEDNESDAY, — 19—Agricultural Soc. of England.
THURSDAY, — 20—Agricultural Imp. Soc. of Ireland.

FARMERS' CLUBS.—April 11: Botley.—April 13: Carlton on-Trent.—April 14: Halesworth, Wadebridge, Hadleigh, Wakefield, St. Austell.—April 15: Northampton.—April 17: W. Market, Yoxford, Great Oakley.—April 19: Harleston.

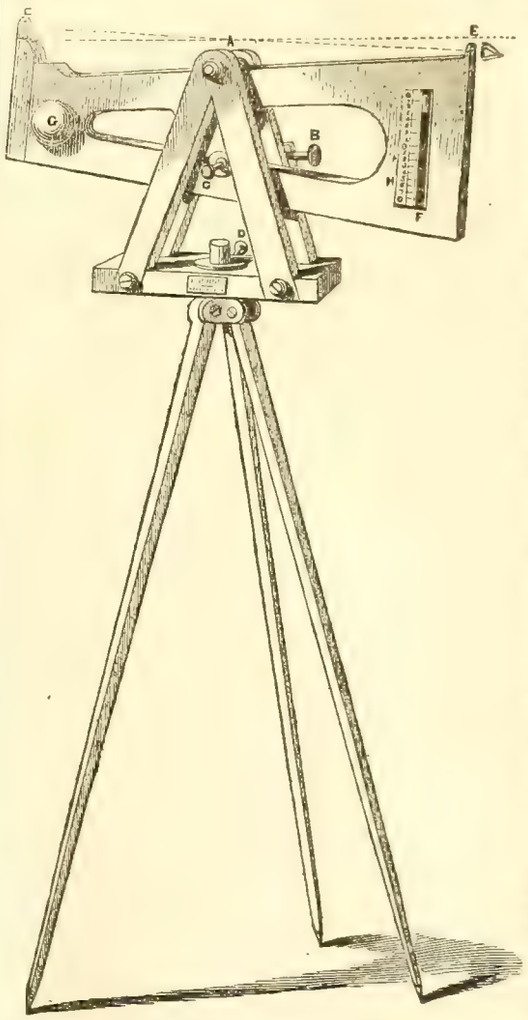
A CORRESPONDENT asks us to state the particular office which GYPSUM sustains when applied as a manure. In the present crowded state of our columns, he must be content with a short answer. Gypsum acts, we believe, in two ways:—directly, as food for plants, to which, being soluble in water, it supplies sulphur and lime; and, indirectly, by its action on the volatile carbonate of ammonia, which, wherever they meet, it "fixes." In this latter respect it acts in the soil on the ammonia of rain-water as it does when applied to our dunghills. Between sulphate of lime and carbonate of ammonia, when they meet in solution, a double action ensues; each of these salts is decomposed, and their elements unite in the forms of carbonate of lime and sulphate of ammonia: the advantage of the change arising from this latter salt of ammonia not being volatile as the carbonate is. The ammonia, the most important ingredient in manures, and the most fertilising element of rain-water, is thus retained for the benefit of the soil—safe from risk of loss by evaporation to the air again.

Gypsum has been found to benefit green crops, as the Turnip, Cabbage, Potato, &c., and leguminous crops, as the Clovers, &c., more than grain crops. The results of numerous experiments have been published: much greater importance was at one time attached to the manure, especially on the Continent, than subsequent experience has justified, and accordingly its influence on a variety of plants has been tested in every possible way. Those who are curious on the subject will find a long and interesting chapter upon it in BOUSSINGAULT'S "Rural Economy." JOHNSTON'S "Agricultural Chemistry," too, is as instructive upon the theory and use of gypsum as it is upon all the other points regarding manures, soils, and plants which come within its province.

As to the rate per acre at which this manure should be used, that of course is dependent upon the composition of the soil and of the plants for whose benefit it is to be applied: points so difficult and expensive to ascertain, that the common practice of sowing 4 or 5 cwt. per acre broadcast over the young plant in spring—a quantity, by the way, not much beyond what theory requires—must in general be adopted. And when applied along with farm-yard manure, too, for the purpose of retaining the ammonia evolved during the fermentation of the mass, it must generally be used in the same rough way. It is cheap enough, and of itself useful as a fertiliser, independently of its indirect value as a fixer of ammonia. The theory of its action in this latter respect would probably require in the case of rich manure nearly 1 cwt. of it to every ton—a quantity much greater than is *generally* used, though 20 cwt. and upwards per acre have been recommended by some writers.

THE following figure represents a DRAINAGE LEVEL, lately invented by Mr. ROBERT BLUNDELL,* Land Surveyor, which appears to us most ingeniously to unite simplicity with efficiency. It is simply an angular framework of wood, suspended on bearings in a vertical plane, having sights placed at either end of its upper edge. It is furnished with tangent and clamp screws for the purpose of gradually shifting the line of view, or of fixing it in any one position.

The "level," indicating the horizontal line, is of a peculiar construction. The spirit is contained in an endless tube, bent into a shape somewhat resembling an isosceles triangle, and having an enlarged globular chamber at the angle opposite the smaller, vertical, side or base of the triangle; the spirit is free to follow any course and travel the whole distance round this tube, the space unoccupied by the fluid being filled with atmospheric air; it is very closely fitted, and adjusted to the frame in such a manner that the surface of the spirit in the tube at the shortest side of the triangle rises and falls close to the graduated edge of an index, and indicates thereon the angle made by the line of sight of the instrument, with the line of true level.



The line of sight is horizontal when the spirit stands at zero on the scale, and it points down hill or up, according as the level of the spirit is below or above that point. The comparatively large globular vessel in which most of the liquid remains has this effect, that for small variations of level in the vertical part of the tube, along which the scale is written, that of the spirit in the globe (whose centre is that of the arc on which the index is recorded) may be considered constant: and thus equal divisions on the index will represent equal angles, or an equal rise or fall in a given horizontal distance. A little pamphlet has been published describing this instrument, which will be found perfectly to illustrate the mode of [illegible]. We add the following reference to the letters on the fig. [illegible]

A, is a point midway between the eyes and [illegible] between them; from this point to height of the instrument must be taken, it is, in fact, the height of the eye above the point from whence the measurements commence, and all distances must therefore be measured from the centre of the instrument. B, a tangent screw for the fine adjustment of the sights to the required angle. C, a clamping screw for fixing the tangent out of gear, and leaving the sights free to move up and down independent of it. This screw must be set so as always tightened before the level is used. D, a clamping screw which regulates the horizontal motion of the instrument, and also fixes the head or frame-work carrying the sights to the tripod. EE, the brass sights. F, the glass tube containing the coloured fluid. G, the globular chamber forming part of the endless tube. H, the graduated index.

The dotted lines are, one of them the line of sight, and the other, the line of true level.

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ON THE DOMINION OF MIND OVER MATTER.

If we take a syphon inverted, and pour water into one of its legs; after we have ceased to pour, the water will settle at precisely the same height in both legs. The syphon filled with water—the relation of the one side to its other—will correctly represent the relation of the mind of man to that part of creation which is placed under his dominion, or, in other words, to the fruits of the earth upon which depend all terrene existence. If we analyse the mind of man, and divide it into moral and intellectual endowments, we will find that according as we add to the former, the fruits of the earth will increase, but not in proportion as we add to the latter.

In very early history one man stands forward as remarkable for hospitality. It is said of the great man and his friend "that their flocks and herds were so great that the land was not able to bear them." The man's son was remarkable for the abundant returns which the earth yielded to him, and for the possession of numerous flocks and herds by him. He was neighbour to, or rather dwelt among the sons of Heth Abimelech. The latter contended for two wells which the former had dug. We find Isaac leaving the scene of strife and hatred, and peaceably settling down by one where there was room. In comparing Isaac with Abimelech, we find the greater endowment of the moral qualities belonging to Isaac, for he quickly left that which was a subject of strife. The subsequent history of the two men proves that the mind and fortunes of Isaac were in the ascending scale, while those of Abimelech were in the descending one. The man's son was also remarkable for the speedy increase of his flocks. At what time did this happen to live? Why, at the time that he was also remarkable for the patient endurance of injuries. Laban's mind and fortunes were on the decline; days of wages were on the increase. Laban cheated the latter of his wages and his son-in-law was the object of his crime.

The connection subsisting between men's outward condition and the moral qualities of their minds meets us at every turn. Job's pride was not overcome until his body, his family, his camels, and asses were all made to sympathise with the sufferings of his mind. The subjects of Pharaoh, who had previously exacted the part of merciless tyrants, suffered in their persons and their cattle, in direct connection with the deliverance of the people over whom they had exercised that tyranny. The same truth is illustrated in every page of profane history. It is emblazoned in the glories of Cyrus, and withstood the thousands of Asia at the Straits of Thermopylæ. It is illustrated by the rapid conquests of Hannibal and his more rapid defeat after his sojourn at Canna. It is equally evident in the success and heroic death of Cæsar, as it is in the pride, ingratitude, and ignominious death of Brutus.

If we take Cæsar dying, and exclaiming "*Tu quoque Brute*," as the apex of Roman heroism, and from it descend 300 years on either side, we shall find the human mind at the interval of 150 years presenting in everything points of contrast. At the earlier period we shall find greater ignorance, greater courage, greater patience, greater hope, greater confidence, and greater self-reliance. At the latter period we shall find more abundant intelligence; more active and versatile intellects, greater riches but less wealth; men knowing each other as well as to beget mutual distrust. In the early period the human mind was in the ascending scale, for out of it grew the greatness of the Roman Empire. In the latter period the human mind was in the descending scale, for every successive generation witnessed increased anarchy and confusion. Now who doubts that a colony of husbandmen drafted from each of these periods would have had their labours in cultivating the earth rewarded with very different success; and that success would have been proportioned not to the intellectual but to the moral endowments of their minds.

If the human mind is concerned in the affairs of life chiefly as an agent, then ought he to find success attending the labours of men in what is, notwithstanding, a declining state of society, rather than in what is, notwithstanding, an improving one; because the human mind in the former instance is far more acute, active, and intelligent than in the latter. Let us consider the human mind in another aspect—as the eye of all sublunary creation. We shall find that whatever is true

with respect to the eye is also true in a way of analogy of the mind of man in relation to animated existence. Extinguish the light of the eye and the body will perish. In the absence of the mind of man all that we prize in creation disappears. Let the eye be in a state of active disease, and the remotest parts of the body will suffer. Let the social relations of men which are dependent upon correct moral feelings be in disorder, and the disorder will write itself in characters of death in the remotest and minutest departments of terrestrial existence. Let the eye continually rest upon an object of hatred, and the body will speedily assume an aspect which indicates an absence of health. Let envy or hatred disturb the relations of a family or a community, and how speedily will the fields feel their influence.

On the other hand, let an object of love be presented to the eye, and the body's remotest pulsations will acknowledge their sympathy. Let the relations of landlord and tenant, of master and servant, be harmonised by love, and all nature will assume a more joyful aspect. There is a story told here of an old man who lamented to his master that the lark did not sing so sweetly as it did in his earlier years. I am inclined to believe that the old man's story was true, not only of the song's effect upon his ears, but true also in reality. For in his youth the relations of life were on a far truer foundation than they are at present, when the knife is ruthlessly thrust into the victim, and every object that is dear to the affections is offered in sacrifice to the god of ostentation. So quickly and so certainly does every province of animated existence sympathise with man.

Let the eye of the body be fixed on an elevated object, as the top of the mountain, and the limbs will be braced with new energy to carry it thither. Let the mind of man be fixed upon a distant and elevated good, all nature will be raised by the efforts he makes to carry himself thither. But if the mind of man stand in a corresponding relation to sublunary creation that the eyes does to the body, how unspeakably important must it be that its vision should be true. When this is the case, every department of life will make fresh additions to its enjoyment, and every province of nature will send forth fresh accessions to its happiness. When this is not the case, it will be perpetually meeting with objects of offence and throwing glances of hostility to them in return. Now under what circumstances is the intellectual and moral vision of man true? As the eye of the body is essential to the health of the latter, and is more frequently employed in adjusting its relations to material objects external to itself than in watching the bodily relations themselves; so we may conclude that the collective mind of man is only in a safe and true position when correctly adjusted to a mind external to itself. In other words it is all in vain to regulate the social relations of man if their religious ones are awry. The history of every eminent and happy man of antiquity, whether Jew or Gentile, will confirm this view of the subject. What was the object of supreme solicitude with the wise lawgivers of the Jews? It was to preserve the mind of the nation true and unsoiled in its aspect towards the Supreme Being. His language to them was—"If thou wilt diligently hearken to the voice of the Lord thy God, and wilt do that which is right in his sight, and wilt give ear to his commandments, and keep all his statutes, I will put none of those diseases upon thee which I have brought upon the Egyptians; for I am the Lord that healeth thee." The truth, guarded and fenced by the Jewish laws, and corroborated by the whole experience of their history, is this: that God is omnipotent, and that he helps in proportion to the intentness and singleness of the regards towards him.

At a period when darkness and folly overspread the earth, Mahomet arose with this declaration in his mouth, "There is one God, and Mahomet is his prophet." We, the wise men of this generation, invest Mahomet with the character of an impostor. But if he was an impostor his imposition produced a train of blessings to the people who owned his authority, which have been found to follow the steps of truth at every period of the world's history, and in every region of the globe. Now what is it that is in the declaration of Mahomet? It is this; there is one God, and he will help Mahomet. This is precisely the condition of mind which the Jews were required to cultivate, and which by their laws and by their history, so much pains were taken to inculcate upon them. Is the former prosperity of the Jewish nation, and their present condition so much in harmony with ancient predictions regarding them, a proof that God spake by the mouth of their lawgiver and their prophets? so also is the fabric of Mahometan power a proof that God helped Mahomet. In saying this, I do not involve myself in the necessity of justifying Mahomet's code of morals. This affects the relation in which Mahomet stood to his followers; it does not affect the singleness of the regards which he turned towards God as his help. If my eye is diseased in consequence of long confinement to a dark apartment, the first rays of day that fall upon it will be modified by that disease. At the time that the Mahometan power was being consolidated, folly and frivolity overspread Christendom. Men not only worshipped saints, but also desecrated the places of worship by processions of fools and asses; as if they thought that life, and the hopes of life, were altogether a farce. The Moor crossed the Straits and the Mosque was built in Spain. What aspect does Spain exhibit, compared with the rest of Europe immediately after the expulsion of the Moor? By this time the virtues or the vices introduced by the Mahometan power had ripened their harvest of weal or woe. It was an aspect of greater happiness and of greater nobility of character than European society had in any other country attained to; and this was the result of one earnest mind having turned towards the supreme light of the universe, and given itself up to the impressions that were imprinted upon it. Now what are we to suppose is the prevailing character of the Divine mind? Were we to form our estimate from a careful observation of things in the natural world, or of the events which have befallen the race of men during their troubled existence in this world, it would be that it is a love of life and hatred of death. A plant dies and by its death lays the foundation of increased life to its successor. It is so constituted, that when it falls below the point of health, and so becomes incapable of imparting the healthful enjoyment of life to other living things, every element of nature which gives life to other plants hastens its progress towards death, until a favourable crisis arrives, and it is no longer a thing of disease, but becomes a thing of health.

Every virtue inculcated upon us has in view the prolonged enjoyment of life. Peace, charity, hope, faith, temperance, and courage, are all subordinate to this object. The desolations of devoured cities which blacken the pages of the world's history warn us of a state of mind possessed by their inhabitants inimical to life. Those studies and researches of the human mind which have stood the test of all generations, have had in view the increase and prolonged enjoyment of life. If we seek to parallel these views, derived from an observation of men and things, with the intimations of the Divine will, given in the Book where these are recorded, we have not to search for proofs of their confirmation. The law of Moses permits the robbing of a nest of its eggs or of its young, but prohibits the capture of the dam. Thus elevating the character of the bird, and conferring upon it an inviolable privilege while engaged in the work of augmenting life. The Father of all the blessings to the human race stands out distinguished for his hospitality, or a desire to impart the enjoyment of life to others. Cheerfulness and alacrity characterised the minds of those servants of God who wrought miracles of healing. Anger alone overcame the obstinacy of those whose unhappy lot it was to work miracles of death, or to denounce judgments of woe. The glory of the Gospel consists in its having brought an increase of life and of its enjoyment to the sons of men. One miracle of death only is recorded in the New Testament; and that one was brought to punish the vices of deception and avarice. These vices are deeply interwoven into the texture of highly civilised communities, and are most inimical to the increase and enjoyment of life. The character of the tribe of Judah was symbolised "by teeth white with milk, and eyes red with wine." Solomon, the wisest man of the Old Testament, says to his disciple, "Go thy way; eat thy bread with joy, and drink thy wine with a merry heart." The Prince and Prophet of the New offers life in exchange for life; and he tells his disciples that the life which he has to offer shall exceed that with which Solomon was acquainted as much as the return at harvest exceeds the seed which was sown and died in spring.

These facts being present to our minds, we cannot come to any other conclusion than that a prevailing attribute of the mind of God is the love of life. If so, many opinions, habits, and motives of action, prevalent in modern society, respecting which our pulpits are silent, stand most directly opposed to that will. For example, in this view it cannot be very religious in a farmer to go to the market and engage a servant at the lowest terms that circumstances compel the latter to accept of. When it happens that the tenant holds his land at the highest rent that the competition of the public enabled the landlord to exact, and the servant curtails the years of enjoyment and breaks the spirit of his child by premature labour—when all this happens, this is society entering into a combination to thwart the will and defeat the plan of the Almighty. The landlord and tenant receive the fruits of the earth under one law, and dispose of them by another. The servant enjoys his life not in the faith of a God of love, but in the faith of his child's sorrow. A society of men having their relations regulated upon these principles is pursuing a headlong course to death. Because of the increase of population in the course of one century so far trenches on the means of subsistence as prematurely to rob the cheek of its bloom—the same evil progressively increasing in the course of succeeding centuries will substitute the coffin in place of the cradle. And death occasioned in this manner will be far worse than death occasioned by the invasion of an army, because it will still leave society destitute of that religious principle which can alone give life to it. Hence the necessity of living "by faith."

Wherever we find this principle of the human mind most prevailing, in that country or age do we find the most abundant happiness. But if we are to estimate the faith of this age by its deeds how puny must be its dimensions. By faith the Greeks repelled their invaders. By faith the Romans made themselves masters of the world. By faith a maiden cleared the green fields of France of the English army. By faith one man alone rescued this country from the ignominy of entire subjugation. By faith the men of this generation with its millions of tongues professing Christianity are unable to lift the load of oppression from the backs of their own children. Under faith—skill, chemistry, geology, and botany applied to agriculture, are the well-disciplined soldiers of the Roman army under Cæsar subjugating the world. Without faith the same sciences, together with the intelligence which the possession of them implies, are the well furbished weapons in the hands of the host of Midian which each man turned against his fellow.

He who holds this truth by every transaction of his life, must hold it against a world. And far more worthy of honour is this man than they of Thermopylæ. They withstood an enemy for the safety of themselves and their country. He, on the contrary, withstands an enemy for the security of those who contend against him. They protected the thousands of Greece against the millions of Asia. He holds open the only avenue by which the generations of this world with its myriads of things that live and move can escape.

Cobbett, a wise and sagacious man, uttered his curse against the Potato. He knew the tendency in population to outgrow the existing means of subsistence; and he foresaw that this tendency would be greater amongst men subsisting upon Potatoes than with men subsisting upon fruits matured by the sun. For the same reason that birds feeding upon the germs of young plants breed faster than those which live partly upon insects and partly upon grain. Cobbett's mind was surrounded by a horizon of gloom. How would he have rejoiced to have seen an opening in that horizon through which he might have looked into a brighter futurity. Cobbett foretold the calamity which has happened in our day. The prescience of Cobbett has been truer in its result than his was who went a day's journey among the men of Nineveh. And why was it truer? Not because Cobbett was wiser than Jonah, but because we have not been so wise as the men of Nineveh. And why was Nineveh spared? Not alone because of their repentance, but also because there were in the city "six score thousand persons that could not discern between their right hand and left hand, and also much cattle." Nineveh after repentance was indebted for safety to the same principle of the Divine mind, which dictated a law to protect the bird during her period of incubation.

The calamities of Ireland give statesmen restless nights and days of bootless toil. But the relations of society amongst ourselves indicate a propension towards the condition of Ireland. It is now common to connect the miseries of Ireland with the profession of the Catholic religion. But the day will come when it shall be bright with Ireland, and the day may come when it shall be dark with many of us. I know of no greater Popery than that which declares that the relation of landlord and tenant, of farmer and farm labourer, is a purely mercantile relation. Luther preached grace at Wirtemberg, Jesus Christ acted grace in the wilderness of Judæa, and God both preaches and acts grace every autumn upon the fertile fields of once merry England.

If our view of the character of God be a just one, that tone of mind cannot be much in harmony with religious feeling which prompts men to place themselves in a high social position, and to pinch their families in order to keep them there. It cannot be very religious in men possessing wealth and making an ostentation of it to harass themselves with cares, not to provide enjoyment for life adequate to that wealth, but to keep in repair the empty mansions of it.

That much-prized maxim of modern times, that saving is the sure way to wealth is neither in harmony with religion nor wisdom. Pinching economy may be the easiest way by which an intelligent mind accumulates riches, but wise liberality is the only true way to wealth, because it is the way of Nature. Nor is the saying of our forefathers in a much better situation, that a "penny hained is equal to a penny gained." A penny hained is better than a penny gained, if gained off an ignorant neighbour in the market-place, but it is not equal to a penny gained by the merchant in commercial enterprise, or by the farmer out of a fruitful field.—*John Russell.*

DISEASES OF POULTRY.

(*Continued from page* 642, 1847.)

Many narrow-minded persons are to be found in the higher walks of society, as well as among the lowest—quacks prone to the retaining of knowledge hidden within their own breasts; or, as they say, "keeping a secret to themselves." Much useful information on the Economy of Nature has been lost through the cupidity and meanness of this class of beings, whose miserable want of charity and humanity often inflicts most serious injury on others, without benefiting themselves. In my inquiries of "practical individuals," I have very frequently met with a refusal to part with "a secret." This is commonly the case with the illiterate, but is specially wicked in the better informed, who forget that he who can impart knowledge for the benefit of man may render himself a public benefactor.

Incubation. — The season being now at hand, I will take the opportunity to say a few words on this subject, in connection with hybridising and crossing, for the purpose of improving our several good varieties, creating new ones or races, and retaining pure the races or breeds famed for any particular excellence. Any one or all of them may one day become lost or extinct, owing to ignorance of, or the prevailing inattention to the simple and beautiful laws of Nature, which ought to guide us, and which regulate production and procreation. See article on "Poultry Breeding," in No. 25 of the *Agricultural Gazette*, June 19, 1847, page 411. I wish other correspondents would take up and aid in this inquiry. It is important and interesting to agriculturists in particular. There is a very old piece of advice, the reason for which is never stated, "Never to breed stock from your own fold or own bred eggs;" but eggs of the breed required obtained elsewhere from

an honest neighbour. This precaution will insure robust progeny, by preventing birds pairing with those of too near a kindred, which serves to account for the origin of stunted, ill-bred cattle, as well as poultry. In a domestic, artificial state, this is peculiarly likely to happen where the stocks are small; though where large, there is less danger of the commingling of birds of the same family or blood. No doubt exists that, in the wild state of Nature, where birds range the country at perfect liberty and freedom, the danger of birds of the same family mixing or pairing seldom or never occurs. The effect of breeding "in and in," as it is called, is well known to dog dealers; in the case of spaniels, for instance, the produce of near relations would not be worth so much as a sovereign, whereas a King Charles's spaniel puppy, out of distant and distinct families, with the "points," might be worth 20*l*. The commingling of most of those once beautiful races, and improper crossings of them, have spoilt the purity of some of those breeds, and caused the utter extinction of others, which now are only to be seen in old paintings. The like may be said of many of our breeds of cattle and of poultry. The same law of nature which operates in directing judicious crossings and the proper choice of eggs for breeding stock, should also guide us in the selection of "roosters"—an American term invented by transatlantic fastidious delicacy, instead of our own usual word for the male of our domestic Gallinaceous fowl—always to prefer those of the like breed reared elsewhere by some neighbour, rather than those from home broods, in order that the families may be distinct and distant.

Much yet remains to be said upon this very interesting and important topic—generally unknown to or unheeded by breeders of poultry, who are more intent upon the production of quantity than of quality, and who seldom combine science with practice. But a very little additional trouble, if any, given to the production of quality as well as quantity, would soon return a fourfold harvest, and this country would then become more famous than any other for its different sorts of poultry, as it is for cattle; or as are a few localities, such as Norfolk and Cambridge for turkeys; Surrey and Sussex for capons, and fowls of the Dorking breed. But the supply of these not being equal to one-third of the demand of our markets, they are consequently glutted with foreign productions, which keep down prices, and prevent our own breeders from meeting with that encouragement which remunerative prices always afford. If remunerating rewards and prizes were offered to cottagers for the largest capons and best reared poultry, or if poultry shows could be established in every district, like cattle and flower shows, every description of poultry would become improved, and great profits would be made by our cottagers, farmers, and breeders, now taken out of the country by foreign dealers, to whom we are obliged to look for our present requirements.

An article bearing on this subject, evidently filched from some American paper, was copied from the *Inverness Courier* into your Paper, No. 51, Dec. 18, 1847, p. 845, "To make hens lay all the winter;" also another article by an enquiring correspondent, signed Wm. Kidd, No. 3, Jan. 15, p. 44, both containing many good points, and some which require notice. In the first, I object to the rule laid down, "Keep no roosters." As usual, no reason is given for the recommendation. My fowls (the golden spangled tufted Polands), lay all the winter, when not moulting, until the last old feather drops from the tail, and the cocks are never absent. The same with another "everlasting layer," the Bolton Greys. In the wild state this rule is a law of nature, because in that state birds are subject to the peculiar influence of season, well fed in summer and ill fed in winter, generally moulting, pairing, laying; some species separating and meeting again for the purpose of incubation, at appointed times. In the artificial domestic state, this order is by no means (nor can be) always observed, and being more or less subject to a different order in these matters, their nature becomes somewhat changed—coddled and pampered, or at least sheltered, they are less hardy; highly fed throughout the year, moulting irregularly, the hens could not be tended by the cocks at one and the same time, as in the wild state; but of course always irregularly, and incubating irregularly and more frequently, from the cocks and hens never separating, the cocks knowing how to select hens in a proper state; therefore all the laws which are unerring in the wild state cannot be always made rules for them in the domestic state. The advice, "keep no roosters," in winter, I should say, cannot be followed, unless early moulters be separated from late ones, and each set have its respective cock in proper season. With respect to the enquiry of your intelligent correspondent, Wm. Kidd, regarding "the fecundation of eggs," it is by the aid of facts, obtained from "practical," often unscientific persons mentioned by him, that he and others can arrive at true principles. Such persons are often acquainted with facts, but the reasons, causes for effects, must be sought for from the "scientific—the philosopher." It is quite true that one tendance of a male can fecundate a whole season's batch of embryo eggs on the egg-cluster; but such instances are extremely rare, more so in polygamous than in monogamous birds, the wild and domestic states being so very different. It would be difficult to lay down any other general rule than that the continuous presence of the cock is the safest, unless the whole stock moulted and laid at stated times, as in the wild state. I am also inclined to believe that "habit" has much influence in regulating these matters. Hens that have been accustomed to the continuous presence of their lords, if suddenly deprived of them by death or otherwise, would not probably lay so many fecundated eggs, and *vice versa*. I had a most beautiful "thorough-bred" (without any impurity arising of his breed), golden-spangled cock, accidentally killed early in the spring, and the eggs from his hens hatched during the following summer produced chicks of his own image; but the next year's broods, from the same hens, were no longer so, even with a cock of his own breed. He originated from a most remarkable brood, the entire batch, not distinguishable from young partridges, turned out to be cocks, not a hen among them.

8th. *The Gapes*, (Bacciola, or worm in the windpipe).—This troublesome and often fatal disease, in young chicks and poults, is characterized by the accumulation of small white worms, adhering most pertinaciously to the whole passage down the windpipe, producing in time irritation to so high a degree as to reach the lungs, and very soon cause death. Much difference of opinion has long existed respecting it. Some have been guilty of a misnomer, confounding it with "the pip or scale," a distinct disorder in which gaping is also a symptom, as it is in almost all, and "the pip or scale" is again in its turn often used as a misnomer for disease of the oil-gland in cage birds. But when occasioned by the adhesion of worms in the windpipe, rather peculiar treatment is necessary.

The cause is the use of filthy sour diet, and drinking from dirty puddle water infected with putrid decaying substances. The symptoms are gaping, coughing, and sneezing, dullness and inactivity, ruffled feathers and loss of appetite.

The cure, although requiring sometimes a little dexterity, is by no means difficult, yet it should not be attempted at sight, nor without instruction, and a knowledge of the parts to be acted on. A few grains of salt placed gently into the entrance of the windpipe, occasionally, at the moment it opens and before it again closes, on the point of a feather, has sometimes succeeded at the commencement of the attack. A correspondent has suggested a minute drop of spirit of turpentine for the same purpose. But the most effectual remedy is that mentioned by two correspondents in Number 16, April 19, 1846, p. 266, and Number 29, July 18, 1846, p. 459 of your Paper. I had previously met with it in an American periodical, "The Albany Cultivator." It can be performed too by only one dexterous person, who holding the fowl secure, under the left arm, so as to prevent all movement or fluttering of the wings, and with the fore-finger and thumb of the same left hand, holding the beak open and neck stretched out in a direction to the light, so as to catch a clear view of the opening and closing again of the windpipe, operating with the right hand, quickly inserting the point of the feather about 2 inches (or soft straw) previously dipped in sweet oil. A vermifuge will be equally efficacious, in the subjoined form. Give for a few mornings early, about a quarter or half a teaspoonful, according to the size and strength of the bird, of the following mixture: 1 drachm (half a teaspoonful) of spirit of turpentine in 1 oz. of water. A correspondent suggests another equally simple mode. Incorporate half a teaspoonful of spirit of turpentine with a handful of Barley (or other food), to be given early in the morning, being sufficient for 20 chicks (more for larger birds). Absorption of the spirit taking place by the lungs, the breath becoming impregnated, the lacciolæ are destroyed by imbibing it. Moubray assumes that there is no such disease, and that the word has been coined by book-scribblers. But he is in error, as he is in doubting the existence of some others, because living in the country, where poultry having free range can help themselves to requirements they cannot obtain in confined places, he has not met with them. This and other disorders may be peculiar to confined situations and our London markets, where poultry are fed on hot food, often in a scalding state, and all manner of greasy filth. Whether this complaint belongs to the next division, affecting the respiratory organs, I shall not now enquire.—*D. S. E., 4, Union-place, Lambeth, London.*

[P.S.—Some of my "observations" appear to be at variance with the researches of your correspondent, "E. S. Dixon, Cringleford," for which I am not sorry, as these differences may lead to enquiry. Having seen the produce from a crossing of a pheasant with a common fowl, I am warranted in believing, that although a vast proportion of them are mules incapable of reproduction, yet as nothing is created in vain, a hybrid, capable of reproduction, may now and then, though perhaps very rarely occur. If so, what other origin can be given to the "pheasant" breed of fowls, of which there are now several very distinct families. Some have combs and wattles—large or small—others none of either; some lay large eggs, others small; some are good setters, others do not set at all, and are everlasting layers. These variations are the result of other crossings of the breeds. When it is well known that out of many millions of seeds, several sown acres (the Carnation for instance hybridised with several sorts) will produce but one good variety worth naming, often none at all new, why may not the like difficulty occur in creating new varieties of poultry, and account for the difficulty in ascertaining their origin—often accidental. The Turkey is another instance of the difficulty of origins.]—April 5.

PROFITS OF FARMING.

The letter of "Forester" on the profit of a home farm in a late Number, induces me to send you some notes of my experience in the same way.

Attached to the property I occupy, I rent a farm consisting of 36 acres; 6 acres pasture belonging to the house, are added to these; on the other hand, 2 acres are let out in cottage allotments and 2 more to a neighbour as accommodation land, both parcels paying me the rent I pay for the remainder; viz. 3*l*. 10*s*. per acre, to which the parish rates being added (there is no tithe), the charge under these heads amounts to 4*l*. 5*s*. per acre.

The house is the chief [illegible] and we pay no any other [illegible] sent in, with [illegible] were in the hands of a [illegible] carried all the produce to [illegible] established, I never [illegible] concern really stood. The farm [illegible] and minutely kept; the [illegible] current formed from the [illegible] receipt and [illegible] strues. The [illegible] be kept by my [illegible], that the cats and [illegible] expenditure [illegible] one minute. The land is [illegible] easy to work; and by dint of [illegible] has been [illegible] to a very fair [illegible] but capable of [illegible] quality, and of [illegible] is moderate and [illegible] produce, one year [illegible] as follows:—Wheat [illegible] Oats 10 qrs.; [illegible] much; Mangold Wurzel [illegible] patch on which some [illegible] ago produced [illegible] acre). The following [illegible] money produce of the two last years, and the [illegible] of stock on the 31st of December of each year.

Labour	£
[illegible]	
[illegible]	
Rent	
Seeds and grains	
[illegible]	
Rent and rates	
Totals	£
Dairy	£
Poultry and eggs	
Live stock	
Corn	
Hay and straw	
Sundries	
Totals	£
Stock [illegible] ..	£

The live stock, one year with [illegible] of five milk cows, two or three heifers, [illegible] their progeny fatted, a good stock of [illegible]. During this winter the cows are [illegible] on Mangold Wurzel [illegible] liquor and roots being poured [illegible] made in the proportion of [illegible] truss of straw, worked well together, and [illegible] warm meals to the animals. [illegible] the cheapest we have hitherto proved, the [illegible] thriven to admiration. It will be seen that no rent paid for my land is excessive. At an ordinary rate [illegible] would be a reasonable profit from the concern; it has cleared itself for some years past, and if farmed by a proprietor, he could not complain.—*Suburban, Tooting.*

Home Correspondence.

Highland (?) Cotter System.—I cannot but admire the feelings that dictated your Leader of the 11th ult., still you will allow me to animadvert a little on it, and on the indiscriminate use made by yourself and by the "patriotic society," of the term *Highland*, when speaking of the population of the northern part of our island. In its general acceptation, I understand it to be almost synonymous with "Gaelic speaking," and designates all such as "lisp the tongue," from the Mull of Kintyre to Cape Wrath, and the entire country from the south of the Grampians to the Pent and Frith. Now, sir, you must allow that to characterise so extensive a tract of country, and so wide-spread a population, whose means and modes of life, whose historical characters and systems of management, are

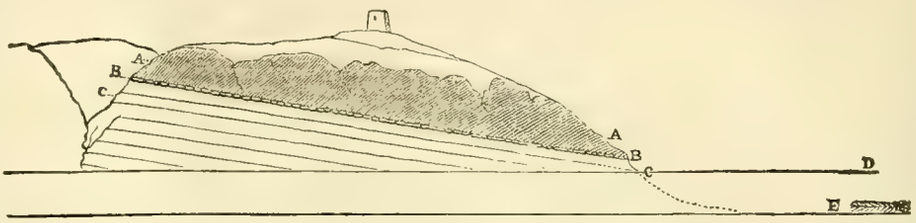
> "As various as the roads they take
> In journeying through life."

by a description from any one locality, must, to say the least of it, be partial and unsound. But to restrict the description given by you through the information of Dr. M'Kenzie, of Ellenach, of the Highland crofter, on the estate of Gairloch, as that of Highland crofters in general, is preposterous. It appears as if you had given the Doctor a perusal of the "Facts in reference," to which you allude in your Number of 1st January, and directed him to improve on these, in giving a Highland specimen. Without, however, going so minutely into statistics, and giving us the number of table-forks, feather-beds, coach-hens, and swine in the district, as the national teacher of Ellenach (this is as "Hieland" a term as in any Ross-shire has done), he tells us that in that concentrated locality their straw is exhausted in October (I have seen the crops in my neighbourhood unshorn on the 1st of November, and I believe it was the same in Ross-shire, about 10 years ago: but this, of course, could not have been the year he alludes to: and that "not one cow in 50 on the estate could ever rise to her feet in spring till pulled up by the tail." Really this and the sentence following it, about the "mucking o' Donald Byre," instead of exciting sympathy, as, I presume, was intended, is, I conceive, rather calculated to draw forth the smile of scorn, and a sneer, not so much against the Highland crofters of Gairloch as the proprietor on whose estate such a rotten state of things did exist—if the Doctor has not been, indeed, liberally drawing on his fancy.

Do not you think that Dr. M'Kenzie's fame for "patriotism" as a cottage and croft improver is purchased, in this instance at least, at the expense of the laird of Gairloch? But my object in noticing the article at all is not to object to any gentleman's giving specific descriptions—*à la* "Facts from Gweedore," &c.—on his own authority and authentication, but to protest against specimens being given or received as characteristic of an entire country, I had almost said kingdom. Such a description is at least libellous as against my brethren the Highland crofters of Perthshire. I know their mode of cultivation over most of the districts, from Birnam Hill to Cairn-Drum, and "down by the Tummel and banks of the Garry," and though not in every instance of the most improved kind [Will you give us it?], yet they would repudiate the idea of being classed with the Gairloch squatters, *i. e.*, as they were. Their system and management has been such, that not a particle or penny of the eleemosynary meal and money of the last two years was required among them. Their charity was rather ready to relieve their northern Highland brethren; but I dare say that if such representations as those of the quondam management at Gairloch had been before them, they would conclude that property had duties to perform which it should be forced to perform. They, however, wish the utmost success to the Patriotic Society.—*A Four-Acre Highland Crofter, Cille Bhraan, March* 22.

Why Wheels are "Dished."—Most farmers would no doubt admit that an advantage is gained by "dishing" the wheels of waggons, carts, &c. They have always been told that it is best to give that particular form to wheels, and therefore they believe it; while at the same time they, and many country wheelwrights too, are quite unable to explain how the advantage is gained. This being the case, a plain account of the matter may be acceptable to some of your readers. There can be no question that the spoke of a wheel is capable of supporting the greatest weight when it stands perpendicular, between the road and the nave of the wheel. Now this, which at first sight appears to be an argument against "dishing," is in fact the best argument in favour of that practice. Suppose that a waggon which weighs with its load 3 tons is travelling upon level ground; 1½ ton will of course rest upon the wheels on one side, and 1½ ton upon the wheels on the other side. But let the waggon come in the course of its journey to a part of the road higher on one side than on the other, the burden will no longer be equally divided among the wheels, but the greater part will be thrown upon the wheels on the lower side. Those on the higher side, for instance, may only carry 1 ton, while those on the lower will have to support the pressure of 2 tons. But if the wheels are "dished," the altered position of the waggon which throws upon them this greater burden, will also bring the spokes from a slanting into an upright posture; that is, it will give the wheels their greatest strength at the very moment when they have the greatest weight to bear. If, on the contrary, the spokes had been upright upon the level road, they must have slanted upon the sloping road, that is, they would have been strongest when they only support 1½ ton, and weakest when their burden was increased by half a ton more. It may be mentioned as another advantage that a cart with dished wheels stands upon a broader base, and is therefore less liable to be overset. The dished wheel, also, partaking of the nature of an arch, is better able to withstand those violent side-blows which the nave often receives from the jerk of a heavily loaded cart when it suddenly meets with some obstacle on the road.—*An Essex Man.*

Strata containing Phosphate of Lime in the Lower Green Sand.—I have lately examined the lower green sand at Folkstone, in order to ascertain whether "the strata containing phosphate of lime," described by Mr. Paine, are to be found there. The result of the search has been very satisfactory, and will probably be interesting to those of your readers whose attention has been directed to this subject. It is well known that the green sand formation, comprising the upper green sand, gault, and lower green sand, are largely developed in the neighbourhood of Folkstone. The town of Folkstone is built in and upon the sides of a ravine formed by the wearing of a small stream through the beds of the lower green sand. To the westward a natural section of this stratum forms the cliffs, which rise to an elevation of perhaps 150 feet above the sea, the strata dipping to the eastward. To the east of the town and harbour the lower green sand is capped by a bed of gault, which is again partially covered inland by a knoll of the upper green sand and trace of chalk marl above it, on which a Martello tower is built. The gault forms a great portion of the upper part of the face of the cliff to the eastward of the town, dipping conformably with the lower green sand in that direction to the tide level. Immediately between the gault and the lower green sand, or rather at the top of the latter, is a continuous seam varying from 6 to 12 inches in depth, containing a number of amorphous nodules, fossils, &c, which I have every reason to believe coincides with the bed discovered by Mr. Paine, at Farnham, and of which he has obligingly furnished me with specimens. By a rough analysis, these nodules appear to contain a large per centage of phosphate of lime, a small quantity of carbonate of lime, a moderate quantity of iron, and other substances, such as are detailed in the scientific account already published. At one spot only (that I have found) is this seam to be traced on the sea shore, where washed by the tide. It is possible that there may be other beds to be seen when the tides are very low. A considerable quantity of these nodules might be easily collected and removed, as large portions of the cliff have lately fallen, in consequence of the heavy rains bringing down the gault, together with fragments of the seam or band of nodules which lie on the shore in masses of various sizes, some weighing many hundred weight. To the westward the same band may be traced along the top of the cliffs, covered only by the natural soil, and beginning at a gateway close to the church, and extending westward for at least 500 yards. Considerable numbers of these nodules might be easily collected on the sloping sides of the cliffs, and would be reduced to a state in which they might be applied as manure, with very little labour, as from the action of the air they have become partially disintegrated. I send you a small section, showing the position of the strata, and I also send you the name of a gentleman who has kindly promised to forward specimens to those who require them for scientific investigation.—*J. C. Clutterbuck, Abingdon.*



Reference to Woodcut.—A A, Gault; B B, Band of Nodules; C C, Lower green sand; D, High water mark; E, Low water do.

Lucerne.—Now is the time for sowing Lucerne. The ground should be double dug, and the seed put in drills, 20 inches apart. I have a bed which has been cut 12 years, the first year twice, ever since three times. It is full of plants, and never produced so much as last year, owing to its having, in addition to the usual dressing of dung, an application of Mr. Lawes' Clover manure. It is important to keep the ground free from weeds, and we weed it after every cutting. It is necessary to keep the soil solid, and not to injure the roots. My plan of manuring is, instead of forking it in, to apply a dressing of rotted dung between the first and second rows; then, with a sharp spade or shovel, to take a slice of earth along the space between the second and third rows, and turn it over on the manure; then place manure between the second and third rows, and turn over on it a slice of earth from the next space, and so on to the end of the bed. By this means we avoid injuring the plants. My bed is only the eighth of an acre, but the quantity of produce is very great, and I find it excellent food for nag and carriage horses in summer.—*G. O.*

The Salt Question, so amply discussed of late in your columns, has, as might have been anticipated, produced a host of conflicting and contradictory statements. Many of these, it strikes me, might be in a considerable degree reconciled by taking into account the localities where the experiments were tried. It is well known that rain water contains a very considerable portion of salt; and, of course, the supply of that essential article in the food of plants and animals, must, in a great measure, at least be in proportion to the annual fall of rain in the district where the experiment is made. Experiments with salt, upon cattle and crops in the mountainous districts of the west side of Great Britain, where the annual fall is from 50 to 80 inches, would, of course, give very different results from the same experiments in the midland and eastern districts, where the annual fall varies from 25 to 30 inches. A fall of 10 inches of rain furnishes about 1 cwt.* of salt per acre; so that, whilst some parts of Westmoreland and the west of Scotland are annually supplied by Nature with 5 to 8 cwt. per acre, the midland and eastern counties receive only from 2½ to 3 cwt. The results of experiments, conducted under such different circumstances, cannot then be otherwise than contradictory.—*J. Little.*

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A MONTHLY COUNCIL was held at the Society's house, in Hanover-square, on Wednesday last, the 5th of April. The following Members of Council and Governors were present:—Mr. PUSEY, M.P., in the chair; Sir Francis Lawley, Bart.; Sir Robert Price, Bart., M.P.; Sir John V. B. Johnstone, Bart., M.P.; Mr. Raymond Barker; Mr. Barnett; Mr. Bennett; Mr. Bosanquet; Mr. Bramston, M.P.; Mr. Brandreth; Mr. Burke; Col. Challoner; Mr. Cherry; Mr. Garrett; Mr. Brandreth Gibbs; Mr. Grantham; Mr. Hamond; Mr. Fisher Hobbs; Mr. Law Hodges, M.P.; Mr. Hudson (Castleacre); Mr. Jonas; Rev. C. E. Keene; Mr. Kinder; Col. MacDouall; Mr. Miles, M.P.; Prof. Sewell; Mr. Shaw (London); Mr. Shelley; Mr. George Turner; Mr. T. Turner; Prof. Way; and Mr Wilbraham.

The following new members were elected:

Winn, Rowland, jun., Nostell Priory, Wakefield
Owen, John, Broadway, Churchstoke, Salop
Parker, Thos. Townley, Sutton-Grange, St. Helen's, Lanc.
Hensman, William, Woburn, Bedfordshire
Connel, Dr. (2d Life Guards), Montpelier-square, Brompton
Michelmore, Thomas, jun., Berry House, Totnes, Devon
Green, James, Wroxham, Norwich
Hensman, William, jun., Woburn, Bedfordshire
Kidstone, Thomas, Prospect Hall, Rickmansworth, Herts
Dickinson, John, Red How, Cockermouth, Cumberland.

The names of six candidates for election at the next meeting were then read.

FINANCES.—Mr. RAYMOND BARKER, chairman of the Finance Committee, presented to the Council the report on the state of the accounts of the Society on the last day of March just ended, from which it appeared that the invested capital of the Society, standing in the names of the trustees, had been increased, by the purchase of stock, from 8999*l.* to 9889*l.* stock in the public funds, agreeably with the official bank receipt, which the chairman submitted to the Council. He also reported that the current cash-balance in the hands of the Society's bankers was 1750*l.* (made up of 965*l.* as the special balance on the York subscription account; of 401*l.* the amount of life compositions, and 31*l.* that of arrears of subscriptions received; and of 353*l.* as the remaining available balance for current purposes). This report was unanimously adopted.

PRIZE ESSAYS.—The CHAIRMAN reported, on the part of the Journal Committee, the awards made in three classes of the Society's Prizes for Essays, which, on reference to the respective motto-papers, were found to be in favour of the following parties:

I. The Prize of 50*l.*, for the best Report on the Farming of the East Riding of Yorkshire, awarded to GEORGE LEGARD, of Fangfoss, near Pocklington.
II. The Prize of 20*l.*, for the best Essay on the Cultivation of Hemp, awarded to THOMAS ROWLANDSON, of Douglas-street, Bootle-lane, Liverpool.
III. The Prize of 30*l.*, for the best Essay on the Management of Grass Land, awarded to ROBERT SMITH, of Burley-on-the-Hill, Rutlandshire.

YORK MEETING.—Sir JOHN JOHNSTONE, Bart., M.P., reported, on the part of the General York Committee, their recommendation that there should be a Council Dinner this year at the York Meeting of the Society, to take place on Wednesday, the 12th of July, and to consist of not more than 300 persons; the Committee deferring to a future meeting their recommendations of arrangements, by which such dinner may be made the means of advancing the objects of the Society, by the communication of practical views or facts of interest and importance to the members on that occasion; as well as their recommendation in reference to the question of a lecture or lectures on topics connected with agricultural improvement, to be delivered during the week of meeting.—The Council decided accordingly that there should be a Council Dinner at the country meeting of the Society this year at York.

Messrs. Swann, Clough, and Co., of York, were unanimously appointed the local bankers of the Society during the period of the ensuing country meeting at that city in July next.

CONSULTING ENGINEER.—Mr. PARKES addressed a letter to the Council, expressing the sincere regret with which he felt himself under the necessity, on account of the great pressure of his other engagements, and his inability, from the circumstances under which he was placed, of drawing up such a report of the exhibition and trial of Implements at the Country Meetings of the Society as would be satisfactory to the Council, the exhibitors, or himself, of resigning the appointment, held by him so many years, of Consulting Engineer to the Society. Mr. Parkes added, that as his professional engagements were almost exclusively devoted to the permanent improvement of land by drainage, his efforts for the promotion of the useful objects of the Society would continue to be unabated.—Mr. Shelley, and Mr. Miles, M.P., as Stewards of the Implement Yard at the Country Meetings of the Society, bore their cordial testimony of many years to the efficient and zealous manner in which Mr. Parkes, in his capacity as the Consulting Engineer of the Society, had devoted himself to the promotion of its objects; and concluded by moving and seconding respectively, that the best thanks of the Council be conveyed to Mr. Parkes for the services he had rendered to the Society; and as a mark of the high estimation in which the Council held his scientific talents, that his name should be enrolled in the list of the honorary members of the Society. This motion was carried unanimously.

JUDGES.—Mr. MILES, M.P., in the absence of Mr. Milward (on account of severe indisposition), moved, and Mr. Shaw seconded, the amendment of which that gentleman had given notice, in the resolution for the nomination of Judges. The resolution, so amended, was accordingly decided by the Council to stand as follows:—"That any member of the Society who nominates a Judge be requested to certify, that of his own personal knowledge he knows him to be qualified and willing to act as a Judge *for the class for which he recommends him*; and who is unconnected with any exhibitor of stock or maker of implements, and has no direct personal interest in the stock exhibited, as the breeder of any particular animals upon which he might

* The annual fall of rain at Pennycuick, near Edinburgh, is 42 inches, which Dr. Madden found yielded 4 or 6 cwt. (I quote from memory) of salt per acre.

be called upon to adjudicate. That the list of names so proposed (stating by whom proposed), be as heretofore referred to the Committee of the Council, whereof the Stewards of the yard of the year preceding be *ex officio* members. That in case a sufficient number of competent persons is not proposed, the Committee are ordered to add the names of such other persons as they may know to be competent and willing to act." On the suggestion of Mr. F. Hobbs it was decided that a classification should be made of the implements to be exhibited at the Country Meeting of the Society, in order that members in nominating Judges in that department, as in the case of Judges of Stock, may be enabled distinctly to recommend them for that particular division only, for which their practical experience has rendered them peculiarly qualified.

On the motion of Mr. SHELLEY, the Implement Committee were requested to take into their consideration the arrangements rendered necessary on the retirement of Mr. Parkes, and to report their recommendations on the subject to the Council at their next monthly meeting.

CATTLE-YARD.—Lord PORTMAN gave notice that he should move at the next Monthly Council—"That on the Wednesday after all the awards are made in the Cattle-yard, Governors, in virtue of their subscription of 5*l.* per annum, be admitted at the usual rate of entrance on the Thursday (namely at 2*s.* 6*d.*), and all other persons at 1*l.* by tickets, to be obtained at the office of the Stewards of the Cattle-yard.

COUNTRY MEETING OF 1849.—Memorials were received from places situate within the eastern district, connected with the Country Meeting of the Society to be held in that part of England next year. The following Committee of Inspection were appointed, with a request that they would visit the proposed localities, and make their report to the Council at their monthly meeting on the 3d of May next, namely: Mr. Raymond Barker, Mr. Brandreth Gibbs, Mr. Jonas, Mr. Kinder, Mr. Shaw.

COUNTRY MEETING OF 1852.—On the motion of Mr. RAYMOND BARKER, seconded by Mr. Miles, M P., the Council determined the district for the Country Meeting of 1852 to be comprised of South Wales and the counties of Monmouth, Hereford, Worcester, and Gloucester; and to be designated as the "South Wales District."

BYE-LAWS.—Mr. MILES, M.P., intimated his intention, when moving an alteration of the time of the Council Meetings, at the next Monthly Council, of proposing "Monday at 1 o'clock" for the consideration of the Council, the day and hour to which the alteration should be made from the present time of meeting. —Mr. Raymond Barker intended also to move an alteration in that part of the bye-laws which determines the amount of life composition for Governors whose subscriptions have been paid up to the end of the previous year; and proposed to substitute the sum of 30*l.* for 50*l.* as the amount of such composition.

WHEAT AND MANURES.—Mr. KINDER intimated that Mr. Lawes would attend the next Weekly Council (on the 12th inst), at 12 o'clock, for the purpose of communicating to the members a detailed statement of his experiments on seed Wheat and the trial of manures.

The Council then adjourned to Wednesday next.

Farmers' Clubs.

FETTERCAIRN.—At a late meeting of this Club, Sir JOHN STUART FORBES, the President, explained the object and aim of such meetings in the following terms:

It is a trite remark that there are few occasions, whether in market or social meetings, where a man may not, by communication with his equals or superiors, gain some useful information by attention and reflection. Surely such a result is still more certain in a meeting like this. But we are met at the threshold by some who laugh at our attempt, and say they are practical men, and want no theoretical views. Let us examine this assertion more closely, and seek that definition of its terms, which should precede reasoning upon every proposition. It is absurd to use the term practical in such a way. The man whom these reasoners hold up to admiration is one who, because he has pursued a particular course for the last 40 years, will pursue the same, if he can, for 40 years more, against all evidence to the contrary—treading year after year in his own footsteps, like the brutes in his own threshing-mill. Such a man may be called a bigot, or a clodpole; but he certainly is not justly entitled to the appellation of practical or experienced. In like manner, it is ridiculous to confound rational theory with a wild and visionary speculation, as there is a wide and notable distinction between them. To discard theories altogether would be to banish ingenuity and genius from the world, and deprive ourselves of the chief means allowed us for improving our condition here. I shall now endeavour to explain, by illustration, the distinction between the different modes of theorising. In the first place, there are wild and visionary speculations, which appear either physically impossible or manifestly absurd, even at first sight. A good burlesque upon such foolish speculations is said to have been played off by King James I. of England on the Royal Society, which he had himself established. He asked that learned body how they could explain the fact, that if you filled a large tub quite full of water, a well-grown salmon might still be introduced into it without making it overflow? Some of the members saw through the hoax, but most of the scientific courtiers were blind to the absurdity of the proposition, and held a meeting, when, as was to be expected, no satisfactory solution was given. The King promised proof, and, calling the Society together, while the savans were gathered round the tub, to be ready to watch the phenomenon, caused the fish to be suddenly tumbled in, and enjoyed heartily the confusion, and the ludicrous appearance of their drenched figures. This species of theory is one which speaks for itself to any sensible person, but there are many others boldly set forth by writers and speakers now-a-days, which, though more plausible, are beyond the sphere of the steady, working practitioner. We may probably select as an example of this kind of theory the discussion about the effect of electricity on agriculture. Those who argue for its influence found upon its power in the general economy of nature; but the evidence they adduce is opposed by facts equally strong, and it would be premature to cover our fields with poles and wires while the question still wants the steady light of uniform result from a series of well-performed experiments. The true and safe theoretical enquiry in which any man, however practical, may rationally engage, without comprising his character, is generally suggested by some effect already observed, and may be explained and supported upon recognised principles, or by sound analogy from such. You may take as an example of such a theory the supposition that the fertility of the soil, in a great proportion of old cultivated land, may be increased by turning up the subsoil in certain quantities upon the surface. We may suppose this theory suggested by an accidental fact occurring to some agriculturist in the course of draining, or other improvement. The increase of the produce on that part of his field sets him to reason about the cause. He has heard of land growing sick of cropping, and having observed that the crops on this field were falling off, it appears possible that the subsoil, though not so rich, may have some effect, like lime, of stimulating and reviving the productive powers of the old loam. Some of his neighbours, to whom he has mentioned the fact, may have made a similar observation, without discovering a reason for it. This is a fair discovery on his part, and it does not detract from the good effect on his mind that it is not original. On the contrary, if he is induced to inquire further about it, and finds that the fact of vegetable matter without the stimulus of mineral compound becoming by long cultivation unproductive, and that in Belgium the practice of raising two inches of the subsoil by successive trenches all over a field, and in the nursery gardens round about London going by degrees as deep as 5 feet for a change, is common, it only gives him confidence in his own reasoning powers, which had enabled him to arrive at the same conclusion by an independent effort.— It remains only shortly to apply these remarks upon theorising in general, to the subject immediately before this meeting. Since the days of Adam, when the ground was cursed, it has been the constant object of human effort by industry to extract an increased return from an unwilling subject. But industry, unaided by ingenuity, would never have accomplished half what it has done. It is only of late years that agriculture has been elevated to its proper place, as uniting science with art in a superior degree to any other object of human pursuit. The range of information required to carry it forward to the best account is immense, as there is scarcely one of the physical sciences which will not throw light on its operations. How absurd, then, to treat it as a mechanical occupation, with which mind has nothing to do! Let us not degrade it so low, whilst its objects are so various, the elements upon which its operations work so subtle and so difficult of apprehension, and the causes which produce success or failure so secret and so apt to be misunderstood. I take it for granted that none of us would wish to stand still, thinking that our practice is perfect. But we must go farther than this. It is not even enough to be able to say that we adopt with sound judgment every new plan of management proved beyond dispute to be beneficial. We must try to advance the science by study. The truly practical agriculturist gathers experience by observation and reflection, he next generalises the results into theories well based upon experiments, and, finally, reduces them to practice, being ever ready to correct his conclusions by information daily supplied to him by his own intelligence. Among the thousand accidents produced by the ever-varying circumstances of soil, climate, and animal and vegetable life, there is no man of common intelligence who may not hope to extend the principles of science and the rules of art by attentive observation, accompanied by simple experiment. Let us not start at the word experiment. Every operation of agriculture is in some degree an experiment, as the circumstances vary from year to year, and from field to field; and as there is no pursuit which depends so much upon the exact circumstances under which its operations are conducted, so there is none where these can be more carefully noted or easily compared with their results as agriculture. To acquire this habit of minute attention and philosophical reasoning, we must avail ourselves of all the aids we can procure. It were to be wished that in Scotland at least, where it is our proud boast that the value of education is acknowledged, and its benefits sought for by all classes of the people, it could be found the first in some degree directed to the specific objects of the individual's future pursuits, and especially in the case of agriculture. But there are difficulties in the way of such early adaptation, and it is, perhaps, better merely to strengthen the reasoning powers by general exercise. I believe, however, there is no plan equally efficacious as meetings like the present for mutual improvement, when well arranged and spiritedly conducted. The free communication of ideas spreads the knowledge already gained, and elicits new combinations. It excites a generous rivalry, and leads to the undertaking by individuals, for the benefit of the whole, such trains of reasoning and experiment as may add to the general stock of information. Let us all turn improvers in this best of senses, not with the selfish object of increasing our own returns alone, but with the noble aim of turning what talents we may possess to the general benefit by a liberal communication of ideas, which enriches others without impoverishing itself, and helps on the common object, the advancement of agriculture the oldest and best pursuit of man, which is ever renewing itself by fresh acquisitions of knowledge upon its infinitely varied objects.

A discussion then ensued upon the subject of draining, which our limits do not permit us to give.—*Montrose Paper.*

Miscellaneous.

The Farm of the Chorlton Union.—By the official account of the produce and expenditure of the working farm at Trafford Moss, for the year 1847, it appears that the number of men employed was 553; with their wives (511) and children (1,505), depending on and living with them, making a total of 2,569 individuals, maintained by this means, at an average yearly cost per head (of the gross number relieved) of 5*l.* 1*s.* 3*d.* The following exhibits some of the statistics of the numbers offered work, and of those employed during the year.

	Men.	Females.	Children.
Men offered employment ...	844	770	1289
Men refusing work on the farm ...	291	259	784
Discharged, or left voluntarily ...	288	263	768
Men accepting employment ...	556	511	1505

Collective number of men employed 9246

or a weekly average of 244; collective number of days employed 15,734, or 3,933 per quarter; an average of 64 days per quarter. The average cost per day for each man employed was 1*s.* 4¼*d.*; the average cost per week per family for the year was 8¾*d* or 2*d.* per week for the gross number of persons. The average amount of relief per quarter for the men employed was 26*l.* 15*s.* 10*d*, and the saving by 72 men refusing employment, 139*l.* 18*s.* 5*d.* On the whole, therefore it seems that the farm, whether regarded as a test of willingness to work, or as a means of employment for able-bodied men, has been a tolerably satisfactory experiment during the past year. Where it most seems to fail is in the case of paupers accustomed to manufacturing operations or handicrafts, but having no practical notion of agricultural labour. We learn, however, that there exists amongst the guardians some desire to discontinue the working of the farm, and to set all the able-bodied paupers to oakum-picking in the workhouse. It is doubtful whether, either in a moral or pecuniary point of view, this will be any improvement.—*Daily News.*

Provisional Government of France.—At the sitting of the Academy of Sciences of Paris on Feb. 28, the Minister of Public Instruction addressed the following letter to the Chairman. "The original foundation (*organique*) of the Institute contains the two following clauses. I. The institute is annually to nominate publicly 20 citizens, whose duty it shall be to travel and make observations on agriculture both in the departments of the republic and in foreign countries. II. The Institute shall also nominate annually six of its members to travel either together or separately, in order to institute inquiries into various branches of knowledge not included in agriculture. The King's Government allowed these two important clauses to become obsolete. The Provisional Government desires to revive them, and to carry them out with all activity, and I have to request you will communicate this letter to the Academy, in order that immediate measures may be taken to furnish me with a plan suited to the present state of knowledge." The Academy resolved to take this communication into immediate consideration.

Calendar of Operations.

MARCH AND APRIL.

AMATEUR FARM, NEAR MONMOUTH. [illegible] A decided appearance for the worst in the Wheat district, and no promise of a change to the [illegible] All the heavy lands here are thoroughly saturated, and [illegible] will: the Swedes worst, and the Carrots [illegible] capitally. The Carrot crop, with the [illegible] Our cattle feeding continues to progress [illegible] animals are doing well in stalls and boxes, we give [illegible] Linseed, crushed by Parkes and Osborn's [illegible] which, although expensive, soon repays [illegible] is made into a compound with Bean, Rye [illegible] and my belief is that every feed pays [illegible] animals. Our pigs and horses have [illegible] Richmond's steaming apparatus. [illegible] given in a crude state, nor without being [illegible] as far as my experience goes, I believe that roots [illegible] &c., may be kept on and fed under cover [illegible] be all brought in. Our mode of mixing the compound and indeed of general feeding, is nearly similar to the plan recommended by Mr. Warren, which appears to answer very well.—*J. D.*

BERWICKSHIRE MELSE FARM, *March* 31.—[illegible] have been employed in leading dung for Turnip land [illegible] Wheat and carrying it to the market, and bringing home drain slates and coals: leading tiles for the drains [illegible] Oats on the 30th, and to prepare the land for [illegible] The women are employed turning [illegible] woman with the shepherd, a man and [illegible]—*J. D.*

DORSET FARM, *April* 3.—For the past week we have been employed sowing Peas and Barley, ploughing [illegible] and preparing land for Carrots. The weather is now [illegible] wish for, both dry and warm, and the ground [illegible] better working order. Both pasture and corn [illegible] ing by their luxuriant appearance that they feel [illegible] effects of sunshine.—*G. S.*

EAST LOTHIAN FARM, *April* 1.—About the middle of the week we experienced a very favourable change of weather for the important work of sowing, which has proceeded accordingly. We have finished sowing spring Wheat, but [illegible] depends on the season. We have [illegible] with Barley, and, if the weather continue favourable, we shall finish the sowing of spring corn next week, being considerably later than previous years.—*L.*

GALLOWAY FARM, *April* 3.—Fine weather having at last set in, we are busy sowing Oats broadcast, and drilling Beans. Land not working so well as last year. We find it a bad plan to store Turnips against a wall. Some land to against the stack-yard wall are rotting very fast, while those stored in conical heaps on the same [illegible] An interesting fact with regard to the thinning of Carrots has been elicited by Mr. Cumming of Ardkinglas, in Westmorland, which shows the disadvantage of thinning too [illegible] great a distance when grown in drills 27 inches apart. On 15th November, 1847, ten rows were weighed.

Yds.	No. of Carrots.	lbs.	Tons per acre.
19 unthinned	819	253 — 4	4 [illegible]
19 thinned to 8 and 4 ins.	151	151 — 2	7 [illegible] per acre

The land on which this crop was grown was a gravelly nature, under Potato crop, well manured the previous year. 1846; for the Carrot crop, guano was applied.

NORTH LINCOLNSHIRE FARM, *April* 1.—Since last Christmas we have been engaged in harrowing Oats, [illegible] Wurzel from store (a good many spoiled); leading chalk and gravel; wheeling out manure from [illegible] leading [illegible] straw.—*J. C.*

SOMERSET FARM, *April* 3.—With very fine weather this last week, we have been engaged in [illegible] harrowing, harrowing, and rolling for Potatoes, which we intend planting this week; ploughing for Flax; [illegible] to finish this week; turning dung into [illegible] —*R. C.* [Could you give us your experience in [illegible] its cost, and returns.]

SOUTH DOWN FARM, *April* 3.—[Concluding [illegible] formed on the four-course system, consisting of [illegible] five horses, five men, and a boy; [illegible] bullocks, and steaming Carrots for [illegible] during the past week has been very favourable [illegible] tions, enabling us to sow our Oats [illegible] ance of that complete farmers friend, Crosskill. [illegible] manured with 2 cwt. of Peruvian guano per [illegible] land intended for Barley previously [illegible] stiff clay, the rough drained with [illegible] Turnip crop was removed; sowing artificial [illegible] Clover, gathering stones off pasture and [illegible] seed; also examined working of [illegible]—*C. M.*

SOUTH HAMPSHIRE FARM, *April* 3.—[illegible] the weather has been very unfavourable [illegible] the advanced period of the season, and [illegible] sown, it must be considered very unusual [illegible] weather. We have been employed [illegible] few days in rolling Clover leys and the [illegible] pastures where manure has been [illegible] these few days the weather has been a little more [illegible] been ploughing for Oats, where Turnips have been fed off with sheep, but the land turns up very unkindly, and does not promise a good seed bed. We commenced sowing on March 9th, when the rain commenced and prevented our completing the work, but this day we have resumed the work, and finished it by sowing the Clover seeds. We sow in the White, Dutch, and Giles. Trefoil seeds mixed, per acre, without Rye-grass, for the purpose of obtaining the best [illegible] hay; in broad Clover sow 14 lbs. seed, mixed with 6 lbs. of Trefoil seed, and 1 peck of Italian Rye-grass, to obtain hay for general purposes. The land being seeded alternately, we find the broad Clover nearly sure to take, coming in this way once in 3 years. During the past few days we have been seeding our Wheat with half a bushel of Italian Rye-grass, and 6 lbs. of Trefoil seed per acre, for autumn feeding—we have not been able to harrow in the

seed as is our custom when the season permits; but this year the land is so cold, and the Wheat so strong and forward, we have preferred rolling in the seeds. Our labourers have been employed in various ways, viz., grubbing up old fences, levelling land where hedgerows have been grubbed, making new frontage to an embankment against the side, the object being to get a green sward, by placing the salt mud turf in a sloping position to prevent the action of the tide from carrying away the earth from the front of the bank. We have also had a strong job in hand, by making a bank fence, and straightening the course of a lake or rivulet which, has been allowed for many years to follow a winding course, having thereby made great encroachments upon the adjoining pasture land, and prevented the making of any secure fence against cattle. Our shepherds are now very busy, the flocks requiring their constant attention, and regular feeding being now especially required, as most of our lambs, and many ewes likewise, are approaching a condition for the market. We have been selling both Somerset and South Down lambs for some time past, but the trade not being general, they have not made satisfactory prices. Seven women are now fully employed in various ways, some are weeding the Wheat and Grass land, some are stone-picking on the pastures, others are employed in stacking Swedes for the sheep, and also in forking out Couch Grass from between the rows of Turnips and other green crops, such as Tares and Trifolium, as we find by taking out small portions of Couch, which may be found remaining at this period of the year, these crops are easily got in order for the succeeding crop of Turnips by one ploughing.—*J. B.*

Stirlingshire Carse Farm, *April* 1.—As the weather since Tuesday has cleared up, and has become both dry and warm, we have got the sowing of Beans finished in pretty good condition; they are later in being sown than usual; they were, however, as late in the year 1815, and there has scarcely been so good a crop since as we had then.—*W. F.*

Sussex Farm, *April* 3.—The weather is now beautiful for farming operations. We are busy finishing sowing Peas; sowing Oats and Barley; ploughing Turnip land for Oats; sowing Rye-Grass and Clover seeds; harrowing Wheat; rolling Peas, Oats, and Clover seeds. If the weather continue dry, we shall put the lambs on part of the Wheat, which is very forward. Men engaged with roads, clearing out water-furrows, and turning mixings. Women hoeing Wheat and sorting Potatoes. This farm has quite a different appearance at this season of the year than it had two years ago; this was formerly the hardest time for our ewes and lambs, but by the growing of Turnips, the change of crops, with good cultivation, our Clover-seeds are now nearly a month earlier.—*J B.*

Notices to Correspondents.

Addled Eggs—*D S E* will discuss some of the points in an ensuing article.

An Agricultural Library—*Constant Reader*—Have you our volume for 1845? See p. 843.

Arsenic—*J L W* has already been asked about his "small dose."—*W T* had better benefit by Mr. Mackie's experience of the prescription recommended by "W. C. S."

Birds—*T Decring* says: "I am swarmed with millions of chaffinches and other like small birds. They have just destroyed 30 acres of spring-sown corn. I have a bird-boy to every 5 acres nearly; but they can do nothing towards saving the grain. The finches scratch it up, and I have just sowed it a second time. Can you give me two receipts, one which I can steep my seed in, to make my seed corn unpalatable to the birds; and a second receipt, which will destroy the birds if they eat it. The latter receipt I shall keep *in terrorem*, in case the first should fail. I have tried mixing soot with the seeds; but that is of no use. The steeps should be easy of application, cheap, and effectual." *J.*

Boxes—*A new Sub*—A shed open in front, 10 to 12 feet wide, 8 feet high to the eaves, the roof supported by posts 8 to 10 feet apart, may be converted into capital boxes. Erect a wall 3 feet high close to the back wall—make it 2 feet wide and lay along its front edge a squared Larch pole about 4 or 5 inches square; bed it in mortar, and fasten it here and there to the cross divisions of the boxes; this will be the feeding trough. Knock holes in the back wall, one to each box, placing in each a frame with a moveable board fastening to it. These will be the feeding holes, the cattle being fed from behind the shed and littered from the front. The shed is to be divided by means of pairs of upright poles sunk in the floor and fastened to the cross beam resting on each pillar, and to the pillar and these uprights four or five horizontal strips may be nailed 1 foot apart. In front the security may be by means of sliding poles resting on these horizontal strips and kept in their places by an upright nailed to the strips, leaving between it and the pillars space just sufficient to hold them.

Box Feeding Farm Horses—*Anon*—There can be little doubt that this admirable practice is equally applicable to the management of cart-horses as of feeding cattle, and I fully intend to adopt it, having no fear of injurious results to the health of the animals; that fear has been set at rest by the practice of one of my neighbours, who, possessing ample stable room, is in the habit of permitting the manure to accumulate under his horses, which are ranged to a manger in the usual manner, until the quantity reaches 20 cart-loads and upwards. On first hearing of this custom I expressed a fear that the heels of the animals must sometimes be in a bad state; this I was assured was not the case, "for," said my informant, "I have had no occasion to employ a farrier during the 20 years that I have followed the custom, at the same time I get an advantage in making a double quantity of excellent manure." *J. B., Allesley.*

Capons—*Chirurgicus*—Pray wait.

Cart-horses in Boxes—*Anon* need not fear for their feet, if they are where they should be every day—at work. I have kept them in boxes every night for 10 months in the year for 10 years past, and I copied from others. It is an excellent plan. *A. Holt White, Sewald's Hall, Harlow, Essex.*

Cast Iron Pump—*An Enquirer*—I beg to say that a cast-iron pump may be put down to a 14 feet deep well for from 3*l.* to 4*l.*, and to a 90 feet deep well for from 15*l.* to 17*l.*: of course varying the price between the two depths. *W. S. J.*

Cattle Boxes—*N*—They should not be closed up. They are separated from one another by railing extending the height of the ox when the manure under him is thickest, and the same railing will suffice in front. This railing is made of horizontal bars a foot apart.

Comfrey Root—*Constant Reader*—The best mode of propagation is by dividing the roots and planting them in a good deep soil, in rows 2 feet apart, and at least 15 inches between plant and plant. Seeds seldom ripen in quantity, and seedlings are long arriving at maturity. *Lawson.*

Crossklll's Clod-crusher—*S B*—Has it been used advantageously in rolling Grass land? We should not like to take it over a bushy plant of Wheat already 5 inches high.

Flax—*J H S*—We do not suppose "a very retentive and poor clay worth per acre 15*s.* to 20*s.* annually" to be well suited for Flax. It must be made rich by good farming before you can grow Flax with a profit on it.

Drainage Table—*R*—The only error in the table at p. 147 which requires correction is in the first column, which, instead of giving 363, should have given 220, as the number of perches (5½ yards) of drainage per acre, where the drains are 12 feet apart; and the other figures in that column should have been in proportion.

Dunghеaps—*Improving Subscriber*—Your mixtures will suit all crops. The failure with the bones and sand we attribute to the use of too much sand and too little water. To get your heaps rotten, you should turn them *now*, making the men break it down well, and wet it with liquid manure as they proceed. You may advantageously add the bones as superphosphate by mixing 25 lbs. of acid with every 100 lbs. of bones. See page 141.

Highland Destitution—*To Readers*—Although the most princely and patriotic efforts have been made, by various landed proprietors, to support the people on their estates, who were reduced to destitution by the Potato failure of 1846–7, there are multitudes of the Highland peasantry and fishermen on properties less favourably circumstanced, whose existence is now preserved merely by rations of meal, in return for labour upon roads, &c.; and as there are no adequate fields of employment available for these persons, who are becoming more and more destitute, and who must, upon the stopping of the relief supplies, become the victims of famine, unless they are instructed, and enabled to raise their food, or a portion of it, from the land, the Committee of the Scottish Patriotic Society have determined to invite the aid of the friends of the Highlanders in their efforts to send Potato, Jerusalem Artichoke sets, Carrot, Parsnip, Onion, Beet-root, Mangold Wurzel, Turnip, early and late Cabbage seed, to those destitute districts in the Highlands, the population of which would otherwise be unable to attain what is necessary for cropping their crofts and gardens, and so preventing the famine which will otherwise result. In order to render the gift of Potato and garden seeds most useful, the Patriotic Society have issued instructions on cultivation in English and in Gaelic. They are organising branches of the society in every district or parish of the Islands and Highlands of Scotland, in order to secure, by the local co-operation of proprietors and influential residents, in connection with their own agency, those permanent improvements in the rearing of food, by the classes now in destitution, whereby alone there is any prospect of obviating perpetual destitution and famine. Contributions of Potato and garden seeds that can be relied upon, are invited, carriage or postage free, to the Society, 75, Prince's-street, Edinburgh; Messrs. Burns, Steam agents, Glasgow; and Mr. Biggs, 53, Parliament-street, London. As the Potato and Jerusalem Artichoke may be propagated from small sets, containing only one eye; by directing servants, when paring Potatoes, &c., to save the eyes with little more of the Potato than is usually thrown away, most families may save a quantity of sets in time for planting, and will be thankfully received at the above depots. The names of the Potatoes and of the seeds would be desirable. We understand that J. Mackenzie, Esq., M.D., and Mr. Bond, Secretary of the Scottish Patriotic Society, to whose useful labours we lately referred, have been appointed a deputation to hold a meeting in London in a few days, for the purpose of laying before the friends of the destitute Highlanders the position and prospects of these unfortunate people.

Mangold Wurzel—*A Learner* may grow it on the flat, but not so well as on the ridge. You must have 20 tons of green crop (may you calculate on that as your produce per acre?) for every eight to ten sheep which you intend to keep for 200 days in winter and spring. Determine on your quantity of green crop, and on your produce per acre; then ascertain the stock you will have to purchase by putting the consumption of large sheep as equal to ½ cwt. per diem, and horses and full grown cattle equal to the food of ten sheep.

Manures—*Inquirer*—It was meant that in ordinary farming the manure made, straw being used as litter, might be calculated as equal in weight to the green food consumed; or, if calculated by the straw used, as ten times the weight of the litter used. And this is true of the litter, whatever the quantity of green food used, because the straw will absorb rain water, &c.

Pasture—*Evesham*—Good Grass land should keep six or eight ewes and lambs per acre through the summer. Your land will not suffer under the proposed management.

Peat—*H Short*—You should get the sand and clay up, and spread it over the land before winter; and after the draining has begun to act, add lime. Then you may add superphosphate of lime, and sow Rape to be fed off by sheep. The land will then bear Oats, and may be seeded down with Grass seed; lie 2 or 3 years in Grass, and then be broken up for regular tillage. We shall, when possible, publish an article we have on the Silicates as Manure.

Poultry—*Cockney* is thanked for the polite offer communicated through the editor, but is advised to retain so remarkable a specimen at home. *D.*

Poultry Feeding—*Ignoramus* should read Mr. Cantelo's pamphlet; his bookseller will procure it.

Salt—*R H F*—Take ½ lb. of the soil; put it for a day or two in a glass vessel with as much water as covers it, and stir occasionally. Pour off the water, and pass it through a piece of filter paper. To the clear liquid add a drop or two of a solution of nitrate of silver (lunar caustic): if salt be present it will cause a white precipitate.

Size of Tiles—*X M N*—The size of tiles as used for main drains in the eastern district of Suffolk is 2½ inches by 1⅝, of shape like a donkey's hoof. A sufficiency are made in the form of a T to place at the mouths of the small drains; they are made here by a newly-invented machine called Smith and Whitemore's, which is offered to the public without patent; the round tiles are coming into more general use, but at present none have been made between a 1¼ and 3-inch bore: whole tiles are preferred. The price of the 2½ by 1⅝ bore, at the kiln, is 18*s.* per 1000.—*David Smith, jun., Easton, Woodbridge.*

St. John's Day Rye—*Inquirer* sowed seed, from Gibbs & Co.'s, on the 30th June, on light land, manured; a good deal of it, say from two to ten plants in a square yard, threw up seed stems, only one from a plant in September; these plants have died away, diminishing the crop which otherwise does not look very gay; not near so well as Cooper's early Rye, sown two months later.

Swedes—*Inquirer*—The cost of cultivation may be put thus, on land in fair cultivation:—On ploughing, 8*s.*; 4 harrowings, in spring, 2*s.*; 2 cultivatings, 5*s.*; gathering weeds, &c., 2*s.*; 1 ploughing, 6*s.*; 2 harrowings, 1*s.*; ribbing and manuring, 10*s.*; 20 cubic yards of manure, 3*l.* 10*s.*; Splitting the ribs and sowing, 3*s.*; Singling, 4*s.*; 2 horse hoeings, 3*s.*; Hand hoeing, 2*s.* Total, 5*l.* 16*s.*

Thousand-headed Cabbage—*T C C*—If we remember right, it was said that *in the Channel Islands* they would bear stripping for more than one year. Our own crop is already consumed by young stock, and yours should have been by the time they preaented indications of flowering. It may now be worth your while to allow them to seed.

*** Communications reaching town after Wednesday cannot be answered the same week.

Markets.

POTATOES, Southwark, Waterside, April 3.

The Committee report that our market continues to be supplied quite equal to the demand, and the following prices are supported with difficulty:—Yorkshire Regents, 120*s* to 160*s*; Shaws, 100*s* to 110*s*; Kent and Essex Regents, 120*s* to 130*s*; Goldfinders, 120*s* to 130*s*; Wisbeach Regents, 100*s* to 130*s*; Kidneys, 90*s* to 110*s*; Blues, 80*s* to 90*s*; Scotch Cups, 100*s* to 120*s*; Whites, 90*s* to 100*s*; Reds, 100 to 120*s*; Dutch Whites, 70*s* to 90*s*; Belgian do., 80*s* to 100*s*.

HOPS, Friday, April 7.

Messrs. Pattenden and Smith report that there continues a good demand for all Hops with colour and quality, particularly fine Sussex, which are very scarce.

Mid. & East Kents, p. cwt.	68*s* to 100*s*	Yearling Kents, p. cwt...	48*s* to 60*s*
Weald of Kents	56 — 72	Yearling Sussex	46 — 58
Sussex	54 — 58	Old Hops	20 — 40
Farnhams	84 — 120		

COVENT GARDEN, April 8.

The market continues to be well supplied with Vegetables and with most kinds of Fruit. Pine-apples are a little dearer. The supply of foreign Grapes is well kept up; a few hothouse ones have also made their appearance. Pears and Apples are as plentiful as could be expected, considering the season. Of the former, specimens of Beurré Rance, Easter Beurré, and Ne Plus Meuris may be bought at from 3*s.* to 4*s.* per dozen. Nuts are sufficient for the demand. Filberts fetch from 14*s.* to 20*s.* per 100 lbs. Oranges are abundant. Lemons are moderately plentiful. A few forced Strawberries continue to make their appearance. Of Vegetables, a few green Peas from Lisbon have been offered during the week. Cauliflowers, Broccoli, Greens, &c., are plentiful. Seakale may be obtained at last week's prices, as may also Asparagus. French Beans fetch from 1*s.* 6*d.* to 2*s.* 6*d.* per 100. Carrots and Turnips are good in quality; the latter are somewhat dearer. Frame Potatoes may be bought at from 1*s.* 6*d.* to 2*s.* 6*d.* per lb. Lettuces and other salading are sufficient for the demand. Mushrooms are cheaper. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Camellias, Fuchsias, Azaleas, Hyacinths, Acacias, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 6*s* to 8*s*	Lemons, per 100*s*, 6*s* to 14*s*
Grapes, Portugal, per lb., 1*s* to 2*s*	Almonds, per peck, 6*s*
Strawberries, per oz., 1*s* to 2*s*	— sweet, per lb., 2*s* to 3*s*
Apples, dessert, per bush., 5*s* to 12*s*	Walnuts, per bush., 12*s* to 18*s*
— kitchen, p. bush., 4*s* to 7*s*	Nuts, Barcelona, per bush., 20*s* to 22*s*
Pears, per half sieve, 8*s* to 10*s*	— Filberts, per 100 lbs., 14*s* to 20*s*
Oranges, per doz., 9*d* to 2*s*	— Cob, per 100 lbs., 25*s* to 30*s*
— per 100, 3*s* to 12*s*	— Brazil, per bush., 12*s* to 16*s*
— bitter, per 100, 8*s* to 16*s*	Chestnuts, per peck, 3*s* to 6*s*
Lemons, per doz., 1*s* to 2*s*	

VEGETABLES.

Asparagus, per 100, 2*s* to 10*s*	Onions, pickling, p. hf. sieve, 2*s* to 3*s*
Cabbages, per doz., 1*s* to 2*s*	Shallots, per lb., 6*d* to 8*d*
— Red, per doz., 2*s* to 4*s*	Garlic, per lb., 8*d* to 1*s*
Greens, p. doz. bunches, 1*s* 6*d* to 2*s* 6*d*	Seakale, per punnet, 9*d* to 2*s*
Cauliflowers, per doz., 2*s* to 4*s*	Rhubarb, per bundle, 6*d* to 1*s* 6*d*
Broccoli, per bundle, 6*d* to 2*s*	French Beans, per 100, 1*s* 6*d* to 2*s* 6*d*
Sorrel, per half sieve, 6*d* to 9*d*	Radishes, per punnet, 4*d* to 10*d*
Potatoes, per ton, 120*s* to 190*s*	Art chokes, Jerusalem, p. hf. sieve, 1*s*
— per cwt., 6*s* to 10*s*	Lettuce, Cab., per score, 4*d* to 9*d*
— new bush., 4*s* to 6*s*	Endive, per score, 1*s* to 2*s* 6*d*
— Kidney, per bush., 4*s* to 6*s*	Mushrooms, per pottle, 4*d* to 8*d*
Turnips, p. doz. bunch., 1*s* 6*d* to 3*s*	Small Salads, per punnet, 2*d* to 3*d*
Red Beet, per doz., 6*d* to 1*s*	Fennel, per bunch, 2*d* to 3*d*
Horse Radish, per bundle, 1*s* to 4*s*	Savory, per bunch, 3*d* to 4*d*
Cucumbers, each, 1*s* 6*d* to 3*s*	Thyme, per bunch, 2*d*
Leeks, per doz., 6*d* to 1*s*	Watercress, p. 12 small bun., 6*d* to 9*d*
Celery, per bundle, 6*d* to 1*s*	Parsley, per half sieve, 9*d* to 1*s*
Carrots, per doz. bunches, 3*s* to 5*s*	— Roots, per bundle, 1*s* to 1*s* 6*d*
Spinach, per sieve, 1*s*	Mint, green, per bunch, 4*d* to 8*d*
Onions, per bush., 2*s* to 4*s*	Marjoram, per bunch, 3*d* to 4*d*
— Spanish, per doz., 1*s* to 4*s*	

SMITHFIELD, Monday, April 3.

We have again a large supply of Beasts, and owing to the warm weather having suddenly set in, buyers are exceedingly cautious. The average quality was good, and all kinds were sold lower. Several remain unsold. From Holland there are about 500; from Scotland, 200; from Ireland, 50; and 2000 from Norfolk and Suffolk. We are also plentifully supplied with Sheep; trade is very dull at lower prices. The Shorn Sheep are more readily sold than those in wool, the weather being hot. Lamb is much in request, and we have but a short supply. The choicest qualities make from 6*s.* 8*d.* to 7*s.* Trade for Calves is considerably worse; it is difficult to make 5*s.* for the choicest. Figs are selling worse, owing to the weather. From Holland we have 700 Sheep and 56 Calves.

Per stone of 8 lbs.—s d s d	Per stone of 8 lbs.—s d s d
Best Scots, Herefords, &c. 4 0 to 4 2	Best Long Wools ..... 4 6 to 4 8
Best Short Horns ..... 3 10 — 4 0	Ditto Shorn ....
Second quality Beasts .. 3 0 — 3 8	Ewes and second quality 3 8 — 4 4
Calves ..... 4 0 — 5 0	Ditto Shorn. ....
Best Downs & Half-breds 5 0 to 5 4	Lambs..... ....
Ditto Shorn	Pigs ..... 4 0 — 5 0

Beasts—3183. Sheep and Lambs—17,000. Calves—122. Pigs—350.

Friday, April 7.

We are but moderately supplied with Beasts; the demand has considerably increased, owing to the favourable change in the weather. The best qualities are readily sold at 2*d.* per 8 lbs. advance on Monday's quotations. Trade is brisk for all kinds. We have about 260 from Holland, 200 from Scotland, and 141 Milch Cows. Good Sheep are by no means plentiful; trade is brisk for them, at fully 2*d.* per stone advance. Middling qualities make about the same as on Monday. There are nearly 400 from Holland, and 51 Calves. Choice Lamb is in demand, and makes from 6*s.* 8*d.* to 7*s.* The supply of Calves is much shorter than on Friday last, especially of the best description; in these there is an advance of fully 2*d.*, or in some instances nearly 4*d.* per 8 lbs. Pigs are selling better, in consequence of the favourable weather.

Best Scots, Herefords, &c. 4 2 to 4 4	Best Long Wools..... 4 8 — 5 0
Best Short Horns ..... 3 10 — 4 2	Ditto Shorn ....
Second quality Beasts .. 3 0 — 3 8	Ewes and second quality 3 8 — 4 4
Calves ..... 4 0 — 5 2	Ditto Shorn ....
Best Downs & Half-breds 5 2 — 5 6	Lambs..... ....
Ditto Shorn	Pigs ..... 4 4 — 5 4

Beasts—891. Sheep and Lambs—3460. Calves—196. Pigs—365.

HAY.—Per Load of 36 Trusses.

Smithfield, April 6.

Prime Mead. Hay	72*s* to 78*s*	New Hay	.. —*s* to —*s*	Straw ..	27*s* to 32*s*
Inferior ditto ..	65 70	Clover ..	.. 80 98		
Rowen	55 65	New Clover	.. — —	J. Cooper.	

Cumberland Market, April 6.

Prime Mead. Hay	72*s* to 77*s*	Old Clover ..	9*s* to 95*s*	Straw ..	28*s* to 32*s*
Inferior	55 65	Inferior ..	70 84		
New Hay	— —	New Clover ..	— —	Joshua Baker.	

Whitechapel, April 6.

Fine Old Hay ..	70*s* to 75*s*	Old Clover ..	90*s* to 95*s*	Straw ..	26*s* to 30*s*
Inferior Hay ..	60 65	Inferior ..	63 70		
New Hay.. ..	— —	New Clover ..	— —		

MARK LANE, Monday, April 3.

Messrs. Kingsford and Lay report that the supply of Wheat fresh up for this morning's market by land carriage samples from Essex, Kent, and Suffolk was small, but owing to its bad condition, and the very fine weather, no progress could be made with sales until a reduction of 2*s.* per quarter was submitted to. Foreign was also neglected, and business confined to retail sales, at 1*s.* to 2*s.* per quarter decline upon our former quotations.—With the exception of very choice samples, Barley must be written 1*s.* per quarter lower.—Beans and Peas are unaltered in value.—The Oat trade is heavy, and prices 1*s.* per quarter cheaper.—Flour is a dull sale.

British per Imperial quarter.	*s*	*s*		*s*	*s*
Wheat, Essex, Kent, and Suffolk ..... White	48	60	Red.....	44	52
Norfolk, Lincolnshire, and Yorkshire ...	46	50	White ...	46	50
Barley, Malting and distilling, 27*s* to 29*s*	Chevalier	30	34	Grinding	25	27
Oats, Lincolnshire and Yorkshire.....	Polands	21	23	Feed	18	22
Northumberland and Scotch	Feed	19	22	Potato ..	20	23
Irish	Feed	17	21	Potato ..	21	23
Malt, pale, ship.....		—	—			
Hertford and Essex		—	—			
Rye.....		27	30			
Beans, Mazagan, old and new ... 27*s* to 38*s*.	Tick ..	28	42	Harrow..	30	44
Pigeon, Heligoland	31	50	Winds	40	52	Longpod	40	54
Peas, White.....	32	35	Maple	35	37	Grey	30	32

Friday, April 7.

The arrivals of English Grain coastwise since Monday have been moderate, those from the Continent good. The attendance at market on Wednesday and this morning was small, and business very limited. Wheat, Beans, and Peas may be considered nominally the same as on Monday.—Barley supports our quotations of that day.—The Oat trade continues very heavy, and prices are rather in favour of the buyer.

Imperial Averages.	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
Feb. 26	50*s* 2*d*	30*s* 9*d*	2 *s* 3*l*	30*s* 3*l*	38*s* 0*l*	41*s* 7*d*
March 4	49 11	30 8	20 5	30 5	36 9	41 8
— 11	50 2	30 4	20 2	30 4	36 2	39 0
— 18	50 4	30 5	20 4	28 6	38 2	39 10
— 25	51 4	30 11	20 4	30 4	35 5	38 2
April 1	51 10	31 5	20 2	29 8	35 7	36 4
Aggregate Average	50 7	30 9	20 4	30 5	36 4	39 5
Duties on Foreign Grain	7 0	2 6	2 6	2 6	2 6	2 6

Fluctuations in the last six weeks' Corn Averages.

Price.	Feb. 26.	March 4.	March 11.	March 18.	March 25.	April 1.
51*s* 10*d*	...	...	...	...	...	...
51 4	...	...	...	...	...	...
50 4	...	...	...	...	...	...
50 2		...	...	...	...	...
50 2	...	...	...	...	...	...
49 11	...	...	...	...	...	...

SEEDS, April 7.

Canary.....per qr.	60*s* to 68*s*	Linseed-cakes, Foreign, p. ton.	8*l* to 10*l*
Caraway .....per cwt.	34 36	Mustard, White, p. bush.,	6*s* 0*d* to 8*s* 0*d*
Clover, Red, English	35 52	Superfine, p. bush ,	— —
— Foreign	35 50	Brown, per bush..	— —
White, English	40 52	Rapeseed, Eng., per last.....	28*l* 32*l*
— Foreign	40 50	Rape-cakes .....per ton	5*l* 10*s* 6*l*
Coriander.....	14 20	Sanfoin	— —
Hempseed .....per qr.	38 42	Tares, Eng., winter, p. bush.,	5*s* 0 7*s* 0
Linseed.....	44 54	Foreign, per bush.,	3*s* 6 5*s* 0
— Baltic.....	— —	Trefoil	17*s* 0 21*s*
— Cakes, Eng. p. 1000,	13*l* to 13*l* 5*s*	Turnip—too variable for quotation.	

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will submit to public competition, at the Auction Mart, Bartholomew-lane, on Tuesday and Thursday, April 11 and 13, 1848, at 12 o'clock, about 500 pairs of first-rate CARNATIONS and PICOTEES, comprising all the esteemed varieties. Also a splendid assortment of Fuchsias, Verbenas, Geraniums, Climbers, Pinks, Heartsease, Picotees, Cinerarias, Dahlias in dry roots, &c.—May be viewed the morning of Sale, and Catalogues had at the Mart and of the Auctioneers, American Nursery, Leytonstone.

PERUVIAN AND BOLIVIAN GUANO ON SALE,
By THE ONLY IMPORTERS,
ANTONY GIBBS AND SONS, LONDON;
WM. JOSEPH MYERS AND Co., LIVERPOOL;
And by their Agents,
GIBBS, BRIGHT, AND Co., LIVERPOOL and BRISTOL;
COTESWORTH, POWELL, AND PRYOR, LONDON.

To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

THE LONDON MANURE COMPANY beg to offer the under-mentioned MANURES on the best terms:—The URATE of the LONDON MANURE COMPANY, for Turnips, Tares, Oats, Barley, and all other Spring Crops.
GENUINE PERUVIAN GUANO, DIRECT FROM THE IMPORT WAREHOUSE.
Nitrate of Soda—Petre Salt for dressing old Pasture—Agricultural Salt—Superphosphate of Lime—Soda Ash—Pure Gypsum—Bone Sawdust—Sulphuric Acid—Sulphate of Ammonia, and every other artificial Manure. E. PURSER, Sec.
No. 40, Bridge-street, Blackfriars, April 8.

THE following MANURES are Manufactured by Mr. LAWES, at his Works at Deptford-creek:—

Corn Manure .. 14l. per ton.	Grass Manure .. 14l. per ton.
Clover do. .. 14l. ,,	Turnip do. .. 7l. ,,

Superphosphate of Lime, 7l. per ton.

Mr. LAWES has also made preparations for supplying the various artificial MANURES of commerce, and if Agriculturists will trust the selection of them to him, and will furnish him with the necessary information, he will supply those which he considers most suitable to the soil and crops. A paper containing the questions required to be answered will be forwarded upon application to his Office, 69, King William-street, City, London.

POTTER'S GUANO.—SEVENTH YEAR.—TESTIMONIALS. Whittington, near Lichfield, Aug., 1847.

Mr. Potter.—Sir—I have tried your Guano in several ways against the best Peruvian, and *find it superior;* which I hope will be a convincing proof for another season.—I am, sir, your obedient servant, W. WARD.

Experiment of the Earl of ZETLAND—Potter's Guano against Peruvian, on Grass.

	Tons	Cwt.	Qr.
POTTER'S GUANO, 2 cwt.—Hay per acre	2	8	0
Peruvian Guano, 2 cwt. ,, ,, ...	1	18	0
In favour of Potter's	0	10	0

Numerous Testimonials will be sent on application per post. The price of Potter's Guano is much under the Peruvian.

POTTER'S PURE SULPHATE OF LIME.—GYPSUM.

TESTIMONIAL.—Sir—I have had your Sulphate of Lime examined by an excellent Chemist, who speaks very favourably of it. Please send 2 tons directed to ASHBURST MAJENDIE, Hedingham Castle, Essex.

This is the *cheapest* article sold, being much under the usual price.—Factory, 28, Clapham-road-place, London.

*** Sulphate of Ammonia, Superphosphate of Lime, Oil of Vitriol, Burnt Bones, Bone Dust, &c., &c., at lowest prices.

DR. RICHARDSON'S PREPARED BONE MANURES.

		per ton—£	s.	d.
B	Manure for Turnips, Potatoes, &c.	8	0	0
C No. 1	For the Straw of Wheat, Oats, &c. ..	7	0	0
C No. 2	For the Grain of ditto, ditto	12	0	0
L No. 1	For the straw of Beans, Peas, &c. ..	7	0	0
L No. 2	For the Seed of ditto ditto	12	0	0
H —	For Hops, Flax, Clover, &c.	9	0	0
G —	For Garden Produce in general ..	10	0	0
S —	For Sugar Cane	9	0	0
SUPERPHOSPHATE OF LIME		7	0	0

The above Special Manures are manufactured by Messrs. RICHARDSON, CURRIE, and Co., at their Chemical Works, Blaydon, near Newcastle-on-Tyne, and may be had in London, of their Agents, Messrs. John Clarance and Co., 19, Cullum-street, Fenchurch-street.

Testimonials and directions for its use on application.

GUANO AND NITRATE OF SODA.

PERUVIAN GUANO of the best quality, now ready for delivery in any quantity direct from the Import Ship or Warehouse, at the reduced prices.—Apply to JOHN CLARANCE and Co., 19, Cullum-street, Fenchurch-street, London.

MR. J. C. NESBIT'S CHEMICAL MANURES.

THE LONDON MANURE COMPANY beg to announce that they have undertaken the exclusive manufacture of the manures recommended by Mr. J. C. Nesbit. The substances used in their preparation will be subjected to Mr. Nesbit's analysis, and every care will be taken in their manufacture. Hop Manure, Superphosphate of Lime, Wheat and Clover Manure. A Pamphlet on Artificial Manures, by Mr. J. C. Nesbit, now ready.

The London Manure Company have also made arrangements for a large supply of Fishery and other Salt, which they can offer on good terms.

E. PURSER, Secretary, 40, Bridge-street, Blackfriars.

GUANO AND OTHER MANURES ON SALE.—

Guano, Peruv. & British Superphosphate of Lime Bonedust and Bone Sawdust Dried Night-soil. Urate.	For Wheat, Oats, Barley, Grass Seeds, Turnips, Mangold Wurzel, Potatoes, &c.

Gypsum, for Clover, Cinquefoil, &c.; Nitrates of Soda and Potash, as stimulants; Petre Salt, for dressing old Pastures; Agricultural Salt, for Compost-heaps, &c.; Sulphuric Acid, for dissolving bone; Soda Ash, a destroyer of Wireworm: and all other Manures of known value. Also Horticultural Glass, Milk Pans, &c.—Apply for prices current, to MARK FOTHERGILL, Office 201 A, Stores 40, Upper Thames-street.

PROTOXIDE PAINT FOR STUCCO FRONTS, for Iron, Brickwork, and Wood. Manufactured only by CHARLES FRANCIS and SONS, Cement Works, Nine Elms.

AGRICULTURAL SEEDS.—

Epps' Long Giant Mangold Wurzel ..	per lb.—1s. 6d.
Yellow or Orange Globe do.	1 6
White Belgian Carrot	2 0
Hollow Crown Parsnip	1 0
Improved Purple-top Scotch Turnip	1 6
Laing's Swede	1 6
Negus's Golden do.	1 6
Skirving's Liverpool do.	1 6
Smart's Improved White Round Turnip ..	1 0

The above are from the best selected stock grown in Kent, WM. JAMES EPPS, Seed Merchant, Maidstone.

AGRICULTURAL SEEDS OF THE FINEST QUALITY.

		s.	d.
CARROT, Large White Belgian ...	per lb.	2	0
,, Long Green Topped Red Altringham	,,	1	3
,, Improved Long Red do.	,,	1	9
PARSNIP, Large Cattle ..	,,	1	6
MANGOLD WURZEL, Long Red	,,	1	6
,, ,, Long Yellow	,,	1	9
,, ,, Globe Yellow	,,	1	6
,, ,, Globe Red	,,	1	6
CABBAGE, superior Cattle Drumhead	,,	2	6
TURNIP, Skirving's Swede	,,	1	6
,, fine Purple-top Swede	,,	1	6
,, Norfolk Green Round	,,	0	9
,, Norfolk White Round	,,	0	9
Other varieties of the best kind.			
GRASSES, fine selected, mixed in proportionate quantities of the most useful kinds for PERMANENT PASTURES, suitable to different descriptions of soils, requiring 3 bushels per acre	per lb.	10	0
Do., finest mixed dwarf variation for lawns	per lb.	1	3
Do., Piercy and Italian Rye-grasses, and all other articles in the Seed Trade, true, and of fine quality.			

Remittances with orders or reference from unknown correspondents. Orders of 20s. and upward delivered free to London or on the Eastern Counties Line.

BASS and BROWN, Seed Establishment, Sudbury, Suffolk.

AGRICULTURAL SEEDS.

THOMAS WHALLEY begs respectfully to inform his friends that his priced CATALOGUE for the present season is now ready, and may be had post free upon application. T. W. has published a DESCRIPTIVE LIST OF FLOWER SEEDS, which will be found useful to purchasers, and may also be had free on application.

Seed Warehouse, 12, St. George's Crescent, Liverpool.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK AND TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their IMPROVED BRICK and TILE MACHINES, which are to be seen at work at Alperton, and at the Company's Office, 193A, Piccadilly, from 10 A.M. to 5 P.M. Mr. Robert Scrivener, who has been appointed Manager in the room of Mr. John Ainslie, will show the Machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, 193A, Piccadilly, London.

These Machines may also be seen at Mr. Slight's, Leith-walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill, 135, Buchanan-street, Glasgow; Mr. Robert Charles, Mill-hill, Leeds; Messrs. Penny and Finch, Penkeridge, Staffordshire; Messrs. Drummond and Son, Dublin; and at Mr. John Connor's, Newtown Limavady, County Derry.

CHEAP AND DURABLE ROOFING.—Houses of all descriptions can be roofed at less than one-half the ordinary cost, by using the
PATENT ASPHALTED ROOFING FELT,
Manufactured by
FRANCIS RITCHIE AND SONS, BELFAST,
who also make INDORous FELT for lining damp walls under paper in place of lead. Samples, directions, and all necessary information sent free, on application to the Manufacturers, or any of the following Agents:—

Bristol—Tratman, Brothers.
Carlisle—Edward Jobling.
Hull—Thomas Flint.
Liverpool—Chapman, Bowman, and Co.
London—Hay, Anderson, and Sangster, Newington Butts
Manchester—James Hurst, 14, High-street.
Newcastle-on-Tyne—Richard Warham
Southampton—John Vaux
Whitehaven—Randleson and Forster.
Hurst and M'Mullen, Seedsmen, 6, Leadenhall-street, London.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as building and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

HYDRAULIC ENGINES.

J. LEGG begs to return thanks to his patrons and friends, and also to inform them that he continues to erect his improved Hydraulic Engines, Water Ram, &c., suitable for all situations where a fall can be obtained, also Engines for Deep Wells. J. L. also begs to inform his friends that he has made several improvements on his Hydraulic Machines, and flatters himself that he is able to compete with any parties of the present day in the construction of the above machines.

Apply to JOHN LEGG, Cheltenham.

MOWING MACHINES.—Budding's Patent Machines for cutting Grass Plots, Pleasure Grounds, Bowling Greens, &c. Manufactured and sold by JOHN FERRABEE, Phœnix Iron Works, near Stroud, Gloucestershire. The utility of these Machines has been confirmed by a sale of nearly 3000, and their adoption is rapidly increasing by all who admire a verdant and well kept lawn. The use of them offers many important advantages over the ordinary method of cutting with a scythe. The work is performed far more expeditiously. The machines may be so adjusted as to leave the Grass passed over by them of any regular length, at the pleasure of the operator; they leave a more even and uniform surface than can be produced by the most skilful mower, and as they can be used best in dry weather, the gardener is enabled to cut his lawns at the most convenient time, instead of being obliged, as with a scythe, to wait for rain or heavy dews. They are very durable, easily sharpened and kept in order, and their management is extremely simple. Hand Machines are made of three sizes, cutting the several widths of 16, 19, and 22 inches, and Horse Machines of larger dimensions.

Sold by Messrs. RANSOMES & MAY, Ipswich, General Wholesale Agents; also by Mr. Wm. Drury, Ironmonger, Castle-st., Liverpool; Mr. T. Johnson, Ironmonger, Leicester; Messrs. Lister and Lees, Ironmongers, Cateaton-street, Manchester; Messrs. Mapplebeck and Lowe, Ironmongers, Bull-ring, Birmingham; Mr. Herbert Room, Ironmonger, Bull-ring, Birmingham; Messrs. J. Nelson and Sons, Ironmongers, 47, Briggate, Leeds; Mr. R. Stratton, Agricultural Repository, Clarke-street, Bristol; Messrs. Stothert and Walker, Ironmongers, Bath; Messrs. F. W. and T. Richmond, Ironmongers, Victoria Bridge, Salford.

JOHN FERRABEE also manufactures Steam Engines, Water Wheels; Machines for Threshing, Winnowing, and Bagging simultaneously; Horse Powers for driving Machinery, Threshing Machines, Chaff-cutters, Cultivators or "Ducie" Drags, Cultivators combined with Norwegian Harrows, Horse Hoes, Subsoil Ploughs, Clod Crushers, Land Rollers, Hay-making Machines, Corn and Linseed Crushers, Turnip Slicers and Cutters, Scotch and "Richmond" Carts, Cart and Waggon Arms and Axles, Steaming Apparatuses, Hot Water Apparatuses, and a variety of other Agricultural Machines, Tools, &c., lists of which may be had on application to JOHN FERRABEE, Engineer, Millwright, Mechanist, Iron and Brass Founder, and Manufacturer of Agricultural Implements, Phœnix Iron Works, near Stroud, Gloucestershire.

CHINA PIGS.—For SALE, TWO [illegible] breed CHINA SOWS. Both [illegible] price and particulars apply to [illegible] paris, Gravesend.

THE IMPROVED HYDRAULIC RAM, [illegible] London, can be worked by a small stream of [illegible], where a fall of two feet can be obtained. The [illegible] RAM, without the aid of a Tank or Cistern, arranged to throw a jet of Water considerably above the ram with the head of water [illegible] month.

[illegible] FOR DEEP WELL OF ALL [illegible] AND OTHER BATHS. SHELLDUCK HEATED BY HOT WATER. WATER [illegible]

Estimates given for the supply of Towns, &c.

A newly invented PORTABLE VAPOUR BATH [illegible] complete for 4l.

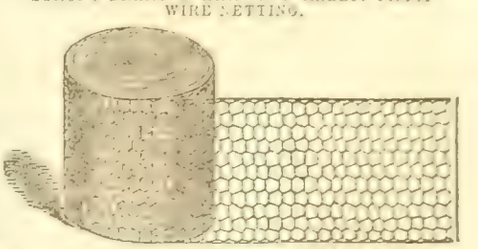
SHANKS' IMPROVED GRASS CUTTING AND ROLLING MACHINE.

The complete [illegible] of this Improved Machine for Mowing Grass [illegible] tion for cutting the Grass of Lawns, has [illegible] the numerous Machines which [illegible] common use, particularly in [illegible] Kinblethmont, Forfarshire; [illegible] England, as well as abroad. The Machines are made of breadths of 12, 16, or 20 inches, [illegible] adapted to hand-power. The Machine [illegible] ease, producing a [illegible] great saving in obtaining labour.

Orders may be addressed to Messrs. ALEXANDER SHANKS and SON, Machine-makers, Arbroath, N.B., by whom further particulars will be given.

Messrs. [illegible] and J. [illegible] Nurserymen, Chester, and Messrs. J. and C. LEE, Nurserymen, Hammersmith, will [illegible] apply any nobleman or gentleman with the above Machine.

STRONG PREMIUM HARE AND RABBIT PROOF WIRE NETTING.



CHARLES D. YOUNG AND COMPANY (LATE W. AND C. YOUNG),
MANUFACTURERS OF IRON AND WIRE WORK, &c.,
129, HIGH-STREET, EDINBURGH; and 92, ST. ENOCH-SQUARE, GLASGOW,

Beg respectfully to call the attention of Landed Proprietors and others to their strong Wire-Net Fence [illegible] and Rabbits from Gardens, young Plantations, [illegible]

This Net was exhibited at the [illegible] Agricultural Society of Scotland, held [illegible] where its Efficiency, Great Strength, and [illegible] attracted general attention, and [illegible] the Society's Silver Medals, with high [illegible]

The immense damage done by Hares and Rabbits in Gardens and Young Plantations, is often so great, that in the course of a year or two it will amount to more than the [illegible] protecting them with this Net. It is so durable that when Plantations are sufficiently advanced to be independent of its protection, it can be removed to other [illegible] with the greatest facility, by any labourer. As a [illegible] Hares and Rabbits, it is of itself quite sufficient, [illegible] to be unrolled and attached, with small wire sent [illegible] pose, to wooden stakes driven into the ground, [illegible] six or seven feet apart. It is, besides peculiarly adapted for [illegible] dering Hedges, Paling, or other existing Fences, [illegible] pered to such vermin: and by being cut up into [illegible] pieces of three or more feet, as required, it forms a most efficient guard, at little expense, for individual Plants and Shrubs.

PRICES.—18 ins. high, 2d.; 22 ins., 1s.; [illegible] 1s. 6d.; and 36 ins., 1s. 6d. per lineal yard.

		£	s.	d.
Or a web of 10 yards, 18 ins. wide, will cost		[illegible]		
Do. of 10 yards, 24 ins. wide	...	[illegible]		
Do. of 100 yards, 18 ins. wide	...	[illegible]		
Do. of 100 yards, 36 ins. wide		[illegible]		

If more or less than a web is required, it would be charged at the same rate per yard.

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C. D. YOUNG and Company [illegible] strength of their Premium. They [illegible] the weight of one yard of their [illegible] yards of another article in the [illegible] per yard. Samples [illegible]

C. D. YOUNG and Company [illegible] and WIRE WORK [illegible] Workmen [illegible]

PATENT FLEXIBLE [illegible] for RAILWAY [illegible] FIRE ENGINES [illegible] AGRICULTURAL [illegible]

THE PATENT VULCANISED INDIA-RUBBER HOSE PIPES [illegible] without injury [illegible] (but are not [illegible] cation of [illegible] where a portable hose of great [illegible] inch bore upwards, and of any length to order.

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April 8, 1848. D. W. MITCHELL, Secretary.

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THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News. The Horticultural Part Edited by Professor Lindley.

No. 16.—1848.] SATURDAY, APRIL 15. [Price 6*d*.

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April 15, 1848. D. W. Mitchell, Secretary.

GEORGE SMITH begs to refer the readers of the *Gardeners' Chronicle* to his Advertisement of Feb. 12th and 19th, for a description of his universal SEEDLING FUCHSIAS and VERBENAS. G. S.'s Catalogue contains of the above every novelty of the season, which can be had on the receipt of one postage stamp.

Tollington Nursery, Hornsey-road, Islington.

ROYAL NURSERY, SLOUGH.

MESSRS. CUTTER and CO. beg to acquaint their numerous patrons that their List of Show and Fancy DAHLIAS, PANSIES, CARNATIONS, PICOTEES, PINKS, FUCHSIAS, VERBENAS, &c. is now ready, and can be had on application. Anemone Japonica, 6*s*. per doz.; Gloxinia Fyfiana, 3*s*. 6*d*. each; Calceolaria aquatica, new species, 5*s*. each. Separate Lists of Greenhouse and Nursery Stock.

S. WALTERS' DESCRIPTIVE CATALOGUE of Geraniums, Fuchsias, Dahlias, Verbenas, Calceolarias, Petunias, Cinerarias, Phloxes, Pansies, Chrysanthemums, Miscellaneous Greenhouse Plants, &c. &c., for the spring of 1848, may be had on application.—Hilperton, Trowbridge, Wilts.

TO MELON GROWERS.

H. LANE and SON, Great Berkhamstead, have been favoured with SEEDS of the most successful at the London Shows for the last two seasons.

Fleming's New Hybrid Persian	2*s*. 6*d*.	per packet
Ispahan, Genuine Fruit, weighing 12 lbs.	1 6	,,
Seymour's Golden Perfection	1 6	,,
Seymour's Red Matchless Celery	2 6	,,

DOUBLE STOCKS EXTRAORDINARY.

H. J. HARDY begs respectfully to thank his numerous Friends and the Public for their kind patronage, and to inform them that he has a little seed left of his SPLENDID DOUBLE GIANT STOCK, which he is sending out in packets 1*s*. each, or 12 postage stamps. It is of a brilliant scarlet, grows 4 feet high, flowers from the very bottom to the top, very thick, and very large bushy plants. The flowers are as large as the top of a common-sized tea cup, and very double. All lovers of superb flowers should have a succession of this.

H. J. H. also has the finest collection of Double Larkspurs, German Asters, and Hollyhocks in Europe, at 3*s*. 6*d*. per collection. 100 Choice Annuals, 20*s*.

H. J. Hardy, 7, Windsor-place, City-road, London.

ON SALE.—SELECTED TURNIP SEEDS from the Lothians and Highlands of Scotland.

Pollexfen's Yellow Bullock Turnip	Skirving's Imperial Yellow Scotch ditto
Hood's Imperial Yellow Bullock ditto	Dale's Hybrid ditto
Gordon's Aberdeen Bullock do.	Skirving's Liverpool Swede
Gordon's Ayrshire Bullock do.	Ashcroft's Purple-top ditto
Border Imperial Bullock do.	Laing's Prize ditto
	Cox's Imperial Hybrid ditto

With all other kinds of White and Yellow Field Turnips, Mangold Wurzel and Sugar Beet, six varieties. Large White Belgian Horse Carrot; and Large Green-top Altringham ditto. Mixed Grass Seeds of the best varieties, suitable for laying down Pasture Land.

Henry Clarke, Seed Merchant, 39, King-st., Covent-garden.

SUPERB FLOWER SEEDS.

WM. JAMES EPPS' (F.H.S.), descriptive Catalogue of Flower Seeds is now ready, which may be had by enclosing a postage stamp. Purchasers may depend upon their being new and genuine, as the whole are saved and collected under his own superintendence.

		s.	*d*.
No. 1 collection, 100 packets of the leading and newest kinds		16	0
,, 2, 60 packets, do.		10	0
,, 3, 30 do. do.		5	0
,, 4, 20 do. do.		3	6

High-street, Maidstone, Kent.

THE NEW SCARLET VERBENA, "ROBINSON'S DEFIANCE."—So much has been said in favour of this variety by the best judges, that C. TURNER has only to announce that the 20th of April is the day fixed for sending out Plants, which will be strong and healthy, at 7*s*. 6*d*. each. The usual discount to the trade, and one over for every three ordered.—Chalvey, Slough.

DAHLIAS.

C. TURNER begs to remind Dahlia growers that he holds the entire stock of the two leading Dahlias of the season, namely, Collison's "SHYLOCK," and Turvill's "FIRE KING," and will be prepared to supply strong plants of the above early in May, with every other variety worthy of notice. Catalogues on application.—Chalvey, Slough.

CABBAGE PLANTS.

THOMAS WELLAND, Wheeler-street Gardens, near Godalming, Surrey, begs to inform Gentlemen, Gardeners, and others, that he has for sale a large quantity of EARLY BATTERSEA, EARLY YORK, EARLY IMPERIAL, and DRUMHEAD or CATTLE CABBAGE, all of which are warranted true in their kinds, at 4*s*. per 1000, packing crates included. Also Cauliflower plants, 2*s*. 6*d*. per 100. Orders likewise received by Mr. Wm. Young, Milford Nursery. The above Gardens have been established for more than 60 years, and several acres of ground are devoted to the growth of the above plants.

SUPERB SEEDLING PETUNIAS.

BASS and BROWN are now sending out plants of the following superior and first-rate SEEDLING PETUNIAS, for description of which see their Advertisement in this Paper for January 8 and 15.

Emperor ...	each—	5*s*.	0*d*	Painted Lady	each—	5*s*.	0*d*
Empress ...	,,	5	0	Rosy Circle ...	,,	3	6
Princess ...	,,	3	0	Comus ...	,,	3	6
Chancellor ...	,,	5	0	Blanche ...	,,	3	6

The set, which are very distinct, 28*s*.; or the usual allowance to the trade on the eight, or for three plants of either sort. They will be forwarded free by post if desired.

We beg to recommend the following SELECT PLANTS, in choice assortments of our own selection now sending out strong.

		£	*s*.	*d*.
100	HARDY HERBACEOUS PLANTS, showy vars., by name	2	10	0
50	Do. do. do.	1	10	0
25	ROCK PLANTS, in fine varieties, by name	0	12	0
12	Do. do. do.	0	7	6
50	GREENHOUSE PLANTS, distinct species & vars.	2	10	0
25	Do. do. do.	1	8	0
25	GERANIUMS, superb show vars., 21*s*., or 12 do.	0	12	0
25	Do. superb new vars., 50*s*., or 12 do.	1	10	0
12	Do. good showy varieties.. .. 6*s*. to	0	9	0
25	FUCHSIAS, fine vars., 10*s*.; 25 superior do. ..	0	17	6
12	Do. fine vars., 5*s*.; 12 superior do. ..	0	9	0
12	PETUNIAS, fine vars., 4*s*.; 12 superior do. ..	0	9	0
12	ACHIMENES, fine distinct varieties	0	9	0
12	ANTIRRHINUMS, superb varieties	0	7	6
25	HOLLYHOCKS, in fine distinct varieties ..	0	7	6
	CARNATIONS, 12 pair choice varieties	1	0	0
	PICOTEES, 12 pair choice varieties	1	0	0
	PINKS, 12 pair choice varieties	0	10	0

Our Descriptive PRICED CATALOGUE of PLANTS, for 1848, forwarded on application. Remittances with orders are requested from unknown correspondents. Goods carriage free to London, and with all orders of 2*l*. and upwards plants presented extra. Post-office orders made payable to

Bass and Brown,
Seed and Horticultural Establishment, Sudbury, Suffolk.

DAHLIAS.—QUEEN OF ENGLAND, (Keynes'.) White, deeply-edged lake. One of the finest edged Dahlias in cultivation. Took a first-class prize at Chelsea, where only three varieties were placed out of 40 varieties exhibited. First class prize at Salisbury. This is the most beautiful flower J. Keynes has ever offered, and will be a standard in its class. 3 feet 10 6

WALTER HILSON, (Dodd's.)—True orange. This flower, for form and colour, is the best yet offered. Three first-class prizes, and warranted by J. Keynes 10

NELL GWYNNE. (Pope's.)—True primrose, without shading. Two first-class prizes in London. Beautiful form, purest colour, the only primrose ever yet offered .. 10

HAMLET, (Brown's.)—Deep crimson, beautifully shaded, first-rate in every respect, has never been exhibited, only one blooming root. Warranted by J. Keynes 10 6

WAR EAGLE, (Keynes'.)—Bright red. This flower was purchased, late in the season, by J. Keynes. It obtained a first-class Certificate at the Great Metropolitan Show, the only place where it was exhibited. Beautiful form, first rate 10 6

COMPACTA, (Pope's.)—Rosy purple, first-rate 10 6

AMY, (Cook's.)—Blush, tipped pink 7 6

BELTED KNIGHT, (Dodd's.)—Orange, edged with deep buff, first-rate fancy flower, very double, fine form and constant 7 6

TOISSON D'OR, (Battsbe's.)—Golden orange 10 6

PIUS IX., (Fassart's.)—Rose and white 10 6

CARDINAL FURRETTI, (Van Rengnches.)—Red... 10 6

GLORI DE PECK, (Paris's).—Blush white..... 10 6

J. Keynes, with the greatest confidence, intends sending out the above in May next, trusting that the general satisfaction given in former years will be a safe guarantee for his selection.

J. Keynes will have a good stock of YELLOW STANDARD, CAPTIVATION, LADY OF THE LAKE, and ANDROMEDA, four of the best flowers of last year sent from his establishment.

All the new flowers of the season will be supplied on receipt of early orders.—Salisbury, April 15.

ORNAMENTAL BEDDING PLANTS.

WILLIAM WOOD and SON beg leave to offer strong established Plants of the following, the selection of sorts being left to themselves.

ROSES ON THEIR OWN ROOTS.

Hybrid Perpetuals ...	per doz.,	9*s*.,	18*s*., 24*s*.
Isle de Bourbon ...	,,	12*s*.,	18*s*., 24*s*.
China ...	,,	12*s*.,	18*s*.
Tea-scented China ...	,,	18*s*.,	24*s*., 36*s*.
Noisette ...	,,	12*s*.,	18*s*.

*** The present month and May is recommended for planting out the above.

FUCHSIAS.

All the most esteemed varieties, per doz., 6*s*., 9*s*., 12*s*., 18*s*.
50 fine varieties for 25*s*.; 50 superb do., for 42*s*.

VERBENAS.

All the best varieties, per doz. 4*s*., 6*s*., 12*s*.
25 fine varieties for 15*s*.; 50 fine do. for 25*s*.

PETUNIAS.

All the best named varieties, per doz. 6*s*., 9*s*., 12*s*.

CINERARIAS.

Extra fine varieties, per doz. 9*s*., 12*s*.

GERANIUMS.

Very choice assortments, per doz. 9*s*., 12*s*., 18*s*.
50 very fine varieties for 40*s*.

CHRYSANTHEMUMS.

The most esteemed varieties, per doz. 6*s*., 9*s*., 12*s*., 18*s*.
50 good varieties for 15*s*.; 25 extra fine for 24*s*.

PHLOXES.

Choice selections, per doz. 6*s*., 9*s*., 12*s*.

HARDY HERBACEOUS PLANTS.

Distinct and showy kinds ... 6*s*. per doz., 12*s*. per 100.
Very superior ditto ... 9*s*. ,, 18*s*. ,,
Extra superb ditto ... 12*s*. ,, 24*s*. ,,

Also an extensive Collection of Miscellaneous Plants, adapted for grouping; Catalogues of which may be had gratis on application.—Woodlands Nursery, Maresfield, near Uckfield, Sussex.

JAMES MATHEWSON, Nurseryman, Florist, Strawberry Grower, and General Agent to the Trade, Cunnigar-hill, Aberdeen, most respectfully begs to direct your attention to the subjoined list of STRAWBERRIES grown by him, more especially the ABERDEEN BEAUTY, so extensively circulated and highly appreciated the last two seasons throughout Great Britain, France, and America, as being superior to all others in cultivation. The earliest, highest-flavoured, and the most prolific—one plant producing a number equal to 20 of any other sort; each plant throws from 50 to 120 clusters, forming a top resembling a bouquet, so regularly do they ripen, and they may be gathered in clusters of from 12 to 30 bright scarlet berries of a round shape, garnished with a green base, rising towards the stalk, the extraordinary appearance of the fruit is more than can be comprehended but by those who have seen them on the ground or table, where they have been greatly admired; they make a transparent preserve, the colour being the same as the exterior. Upwards of 500 specimens of Fruit were sent out last season, which is sufficient to establish its merits. Plants in pots, for exportation, 12*s*. per doz.; from the Nursery bed, 2*l*. 10*s*. per 100, or 3*s*. per doz., forwarded by post or otherwise to any part of the kingdom. Eliza Cook, 70*s*. per 100; Black Prince, 21*s*.; Comte de Paris, 9*s*.; Princess Royal, 90*s*.; Eleanor, 50*s*.; Globe, 15*s*.; Mammoth, 15*s*.; Prolific, 5*s*.; Hooper's Seedling, 7*s*. 6*d*.; Black's Seedling, 6*s*.; Milne's Seedling, 2*s*. 6*d*.; Little Jane, 2*s*. 6*d*.; Old Early Prolific, 80*s*.; Thomson's King, 5*s*.; Dickson's Royal Pine, 15*s*.; Princess Alice Maud, 4*s*.; Carolina, 10*s*.; Turner's Pine, Swainston's Seedling, Elton, 4*s*.; Lindley Castle, 4*s*.; Scarlet Drop, 15*s*.; Eliza, 3*s*.; Myatt's Pine, 3*s*.; Keens Seedling, 2*s*. 6*d*.; Malcolm's Seedling, 2*s*. 6*d*.; Improved Devonshire, 2*s*. 6*d*.

JENNY LIND.

EDWARD TILEY begs to announce to the floricultural world generally, that he intends sending out the above beautiful FUCHSIA, feeling confident of its proving one of the greatest acquisitions to this popular class of plants ever yet offered to the public.

This is unquestionably the finest light variety ever yet raised. It has been considered by numerous amateurs and nurserymen, who have seen it, to be the best they ever witnessed. It will form the gem of any collection, for its noble and striking appearance.

Copied from the report of the Bath Horticultural Society, in the *Bath Chronicle*, July 1st, 1847.—"We should have stated that among the novelties of the day was a new seedling Fuchsia, exhibited by Mr. Tiley, of this city. It was remarkable for its size, and was considered superior to any sport or variety of this beautiful class of plants. It is named 'Jenny Lind,' and obtained what it well deserved, an extra prize."

Taken from the *Bath and Cheltenham Gazette*, July 21st, 1847.—"We last week visited Mr. Tiley's collection of Bijous and Fuchsias, and, in addition to the pleasure we experienced on viewing his nursery, we were much gratified to find that he has been fortunate in producing one of the most splendid seedling Fuchsias which have ever been submitted to the floral world. Like the fair and extraordinary vocalist whose name it bears, 'Jenny Lind,' it will doubtless receive at least a fair share of popular favour. It is difficult to convey a just appreciation of the merits of this beautiful plant. The deep rich green foliage contrasted with its delicate pearl-like flowers at once gives it a pre-eminence when viewed in a collection. The habit of the plant is excellent, with good trusses, every joint gives out a continuous succession of well-proportioned flowers. It is of the light variety, and certainly stands the highest of its class. The tube is of a good size, with well reflexed petals, extending 2½ inches from point to point, and of the most beautiful pearl-like colour. The stamens are very large and striking, being of a rich carmine. The plants are deserving of notice, and are daily visited by florists from other parts of the country."

Six plants were exhibited at the Bath Horticultural Society's Exhibition, June 24th, 1847, where it was the admiration of thousands of spectators, and was awarded an extra Certificate of Merit by competent judges: small plants not exceeding a foot in height had more than 50 immense blooms on them, and all expanded at one time. Above 80 were ordered last season by Amateurs and Nurserymen who have seen it in bloom.

Strong healthy plants will be sent out after the 20th of April, at 10*s*. 6*d*. the plant; the usual allowance to the trade where three are taken. A remittance will secure the plants postage and package free.—Edward Tiley, Nurseryman and Florist, General Seed Shop, 16, Pulteney-bridge, Bath.

CAPE HEATHS.

W. J. EPPS has the pleasure to offer the finest stock of YOUNG HEATHS in the country; they are very bushy and exceedingly healthy, in large 60 and 48 sized pots, consisting of the following kinds: Cunninghamii, Hartnellii, aristata major, retorta major, gemmifera, depressa, mundula, tricolor of sorts, odora rosea, Aitonia, Cavendishii, eximia, propendens, andromedæflora, intermedia, ventricosa grandiflora, Neilii, Juliana, &c, 12s. per doz., or 5l. per 100. Common varieties, 6s. to 9s. per doz. A liberal allowance to the trade.

A very extensive stock of new and choice Stove and Greenhouse Plants, &c.—Bower Nursery, Maidstone.

FINE PICOTEE SEED.

W. H. STORY, Esq., of Whitehill, Newton Bushel, Devon, having saved a small quantity of very superior PICOTEE SEED, has consigned the same to Messrs. VEITCH AND SON for disposal, of whom it may be had.

Large packets .. .. .. 2s. per packet.
Small ,, ... 1s. ,,

The large packets may be had free by post by forwarding 26, and the small packets, by forwarding 13 postage stamps.

CAMELLIAS, "COUNTESS OF ORKNEY" and "STORYII."

Messrs. VEITCH and SON having purchased the entire Stock of the above two beautiful Camellias, beg to refer inquirers to "The Florist" for this month, where full descriptions of both are given, with a figure of the "Countess of Orkney."

Exeter, April 15.

NEW AND SELECT PLANTS.

BENJAMIN W. KNIGHT, FLORIST, &c., Tivoli, near St. Leonard's-on-Sea, Sussex, begs to call the attention of his friends and the public to the following choice and select Plants, which are now ready for delivery:—

12 choice and distinct FUCHSIAS, fit for exhibition, for 4s.; 12 extra first-rate, very distinct, new varieties, for 9s. 12 fine distinct VERBENAS for 2s. 6d.; 12 extra new varieties, quite distinct, all sent out last season for the first time, for 6s. 12 fine distinct PETUNIAS for 3s. 6d; 12 extra new and distinct varieties for 6s. 12 good distinct CINERARIAS for 6s. 12 fine distinct ANTIRRHINUMS for 3s.; 12 extra superb and distinct varieties for 6s. 12 fine SALVIAS for 3s. 6d.; 12 extra fine distinct varieties, including mexicana, Camertonii, and gesneriaflora, for 6s. 12 HELIOTROPIUMS for 4s. 12 CUPHEA STRIGILLOSA (the best for bedding out), for 3s. 12 fine varieties of ACHIMENES for 6s. 12 ANAGALLIS, scarlet and blue, for 3s. 6d. 12 choice and distint CHRYSANTHEMUMS for 3s. 6d.; 12 extra fine very superb varieties for 6s. 12 fine bedding out Plants, such as Lobelias, Senecios, Ageratums, Alonsoas, &c., for 3s. 6d.; 12 extra fine distinct varieties for 6s. The above can be sent post free, securely packed, without any risk of perishing.

Choice varieties of DAHLIAS early in May, 12 fine show flowers for 6s.; 12 superior for 9s.; 12 extra new varieties for 15s.; 12 fine fancy varieties for 6s.

Catalogues of the above may be obtained on prepaid application, enclosing a postage stamp. A remittance or reference is respectfully requested from unknown correspondents.

GENUINE CIDER: GOOD FOR DRAFT OR BOTTLING.

DEVONSHIRE has for centuries been famous for its CIDER, and when obtained in a pure and genuine state, is much and deservedly esteemed.

Messrs. RENDLE and CO., 13, Octagon, Plymouth, beg to inform the nobility, gentry, and the public in general, that they can supply them with a first-rate article on the following terms. A new cask (value 8s.) containing TWELVE GALLONS of well-conditioned, bright, botthng CIDER (superior to some wine sold as champagne), will be forwarded, freight paid by steamer to London, Cork, Dublin, Belfast, Sligo, Southampton, or Falmouth,

For a Post-office Order value Twenty Shillings.

*** *To persons taking ten casks at one time, one will be given over, making eleven for* 10*l.*

WILLIAM RENDLE and Co., Cider Merchants,
April 15. 13, Octagon, Plymouth.

DAHLIAS, FUCHSIAS, PANSIES, GERANIUMS, CINERARIAS, VERBENAS, PETUNIAS, ANTIRRHINUMS, AND MISCELLANEOUS PLANTS.

GEORGE ROGERS (late WM. ROGERS and SON), SEEDSMAN and FLORIST, begs to inform his Friends and the Public generally that his DESCRIPTIVE LIST of the above plants is now ready, and may be had on application, prepaid. G. R. begs to offer the following at the very low prices annexed, in healthy, strong, well-rooted plants.

GERANIUMS.—Alarm, Gaines'; Lady Kitty, ditto; Mary Queen of Scots, ditto; Pre-eminent, ditto; Princess Olga, ditto; Lord Hardinge, ditto; Clara, Stewart's; Miss Harriet, ditto; Forget-me-not, Lynes'; The Peri, ditto; Remembrance, ditto; Sir W. R. Gilbert, ditto; Sir R. Sale, ditto; Mount Etna, Hoyle's; Isabella, ditto; Miss Holford, Gaines'; Edith, ditto; Orion, Foster's; The Vicar, Stewart.

12, selected by G. R., from the above, 50s.; 12, customer's selection, 70s.; fine older varieties, 9s. to 18s. per dozen.

CINERARIAS.—Conqueror, Ivery's; Duchess of Leeds, Jackson's; Mrs. F. Millbank, ditto; Flash, ditto; Empress, ditto; Surprise, Manley's; Pride of Goring, Gadd's; Floribunda, Willmer's; Brilliant, Youell's; Spectabilis, ditto; Maritima, Henderson's; Enchantress, Youell's; the 12 for 24s.

Fine older varieties, 12s. per dozen.

FUCHSIAS.—Atrosanguinea, Salter's; Madam Bravy, ditto; Madam Pell, ditto; Apollo, Rendle's; Duke of Cornwall, ditto; Rosalia, ditto; Star of the West, ditto; Beauty of Leeds, Nichol's; Beauty of St. Leonard's, Knight's; Constellation, Barkway's; Purity, ditto; Martha, ditto; Compacta, ditto; Goliah, ditto; Purity, Mayle's; Fairy, ditto, Ellen, Cripps'; Hebe, Bell's; Prince Albert, Jennings'; Renown, ditto; White Perfection, ditto.

12, selected by G. R., 15s.; customer's selection, 12 for 18s.; fine older varieties, 6s to 12s. per dozen.

VERBENAS.—Admiration, Knight's; Reine d'Amour, ditto; Attraction, Smith's; Delight, ditto; Grand Duke, ditto; Ibrahim Pacha, ditto; Lord J. Russell, ditto; Sir R. Peel, ditto; White Perfection, ditto; Heloise, Dufoy; Duchess d'Aumale, ditto; Comte de Paris, ditto; Reine des Francais, ditto; Tricolor, ditto; Antagonist, Pearson's; Satellite, ditto; Coronette, ditto; Mountain of Snow, ditto; Rosa Mundi, Salter's; Emperor of Scarlets, Gaines'; Rising Sun, Manley's; Victory, ditto; Gem of the West, ditto; Beauty of Bracondale, Bicolor, Grandiflora, Tres Bon, Bifrons, Dairy Maid, Girling's; Imperial Blue, ditto; Pourpre Superb, Youell's.

12 selected by G. R., 9s.; customer's selection of 12, 12s.

Fine older varieties, 6s. per dozen.

Salvia, new creeping species, Mexico, 5s. each.
Pentstemon gentianoides vera, fine blue. 1s. 6d. ea. or 12s. p. doz.
Heliotropium Voltaireanum, very fine, 1s. 6d. ea. or 12s. p. doz.
Anemone japonica, fine hardy and herbaceous plants, 1s. 6d. each or 6s. to 12s. per dozen.
Cuphea platycentra, beautiful for bedding, 6s. per dozen.
,, strigillosa, ditto 6s. ,,
Ageratum mexicanum, ditto 9s. ,,

Any of the above can be safely transmitted by post, except Geraniums. Every attention paid in packing all orders, either by post or otherwise, so as to ensure their safe arrival. No charge for hampers or package, when the order contains a remittance. The whole of the above are ready for delivery.

Uttoxeter, Staffordshire, April 15.

BROOKLANDS NURSERY, BLACKHEATH PARK, KENT.

W. P. AYRES having (by the permission of JAMES COOK, Esq.) commenced business upon the above premises, begs to intimate that he has an extensive collection of HEATHS, AZALEAS, PELARGONIUMS, FUCHSIAS, &c., as well as a general assortment of the finer kinds of Stove and Greenhouse Plants, among which are some of the finest specimens in the country. He has also, in addition to a general collection of Vegetable and Flower Seeds, a few packets of the following, which he can recommend with the greatest confidence, as being of very superior quality. The following are the prices per packet, free by post.

SUPERB LATE DWARF CAULIFLOWER, superior to Walcheren, 2s. 6d.

NEW RED SOLID CELERY, allowed by all who have tasted it to be superior in flavour to Seymour's Red Matchless, very thick in the leaf, and crisp, 2s. 6d.

COMPETITOR CUCUMBER, a very long, prolific, and fine-flavoured white-spined kind, 2s. 6d.

DWARF RED STONE TURNIP, the best known for garden purposes, bulbing almost as soon as a Turnip Radish, 1s.

SUPERB EXTRA CURLED GIANT PARSLEY; four plants of this, when properly grown, will cover a square yard, 1s.

MYATT'S VICTORIA RHUBARB, the best late kind known, 1s.

FLOWER SEEDS.

CAMPANULA CARPATICA, the best plant known for a permanent blue bed in the flower-garden. Plants from seed sown now, and forwarded in a little heat, will bloom splendidly in the autumn. This plant is grown extensively, and much admired in the garden of the Dowager Duchess of Bedford, 2s. 6d.

ERANTHIS HIEMALIS, or Winter Aconite seed, thrown on the shrubby borders now will bloom from January to March next year. Large packets, 2s. 6d.

SUPERB MIXED DWARF GERMAN STOCK, from 24 distinct varieties, 1s.

W. P. A. also begs to call attention to a choice assortment of Bedding Plants, selected more with a view to their qualities as bedding plants, viz.: compactness of growth, distinctness of colour, and profusion and durability of bloom, than to their claims as florist's flowers, and which he can confidently recommend, as well as most of the novelties of the season.

MANGLES' VARIEGATED PELARGONIUM, the best known as an edging for scarlet beds, 6s., 9s. and 12s. per dozen, according to size.

COMMON VARIEGATED, 6s. to 9s. per dozen.

SCARLETS OF KINDS.—Tom Thumb, Compactum, &c., 6s. to 9s. per dozen.

LUCIA ROSEA, beautiful pink, 9s. to 12s. per dozen.

Designs for Horticultural Erections, Flower Gardens, Lawns, &c., furnished on reasonable terms, and such works executed in any part of the country.

A remittance or reference in London indispensable from unknown correspondents. Post-office orders made payable at Greenwich to WILLIAM PORT AYRES.

TO BE SOLD, a beautiful collection of YOUNG CHINESE PIGS.—For particulars, and prices, apply to Mr. JAMES DRINKWATER, Enstone, Oxfordshire.

ROBERT M. STARK begs to intimate that he is now able to supply his horticultural friends with the different sorts of HARDY and HALF-HARDY FLOWERS for Spring Planting, including choice assortments of all descriptions of FLORISTS' FLOWERS for bedding out, named or in mixture.

GARDEN IMPLEMENTS, BOTANICAL APPARATUS, &c.

Nursery, North Merchiston, Fountainbridge; Seed Warehouse, 2, Hope-street, Edinburgh.

FIELD TURNIP SEEDS.

PETER BOOTH, NURSERYMAN, Falkirk, has for sale 150 bushels of Green and Purple-topped Yellow Bullock TURNIP SEED, including Skirving's Purple-topped Yellow; also Green-topped Swedish, and Laing's Purple-topped Swedish, all from excellent stocks, and will be glad to supply Seed Merchants and others with what may be wanted of it.

THE GENUINE HARE RABBIT.

THE LARGEST BREED KNOWN, WEIGHING WHEN AT MATURITY FROM 14 TO 18 POUNDS.

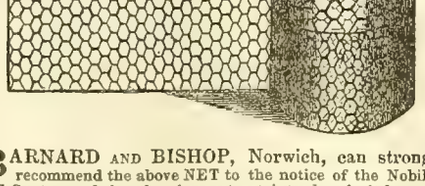
JOHN BRETT has a few pairs of the above extraordinary breed; they are of beautiful symmetry, possess great length of ear, which is perfectly erect, the colour greatly resembling the Hare, and the flesh scarcely to be distinguished from it. Fine young breeding Bucks and Does, 30s. per pair.

4 to 6 months old, 18s.; and 2 months, 10s. ,,

They can be forwarded with safety to any part of the kingdom.

Fuller's Hill, Great Yarmouth.

IMPROVED DOUBLE MESH WIRE GAME NET.



BARNARD AND BISHOP, Norwich, can strongly recommend the above NET to the notice of the Nobility and Gentry, as being the cheapest yet introduced: it has met with general approbation, and has been found most efficient in the preservation of young Trees, Gardens, &c., from the depredations of game. The extra strong 2-inch is the same strength as the stoutest article in the market. On inspection, it will be found better manufactured than anything else of the kind, and 20 per cent. cheaper. It is sent out in rolls of 50 yards, or any other length, at prices as under

				per yard—	s.	d.
Double Mesh Net 2¼ ins. wide, 1⅝ & 3¼-in. mesh,				strong	0	6¾
...	...	...	...	extra strong	0	9
...	...	2 & 4	...	strong	0	5¾
...	...	...	...	extra storng	0	7½
Single Mesh	...	1⅝	...	light	0	7
...	...	...	...	strong	0	9
...	...	...	...	extra strong	1	0
...	...	2	...	light	0	6
...	...	...	...	strong	0	7½
...	...	...	...	extra strong	0	10

The prices quoted for double net are for equal proportions of each mesh, which may be varied if required, thus, three parts fine to one of coarse, or *vice versa*, at prices accordingly; and it can be made any mesh and width to 7 feet.

A finer description for Aviaries, Pheasantries, &c., sparrow proof, 3d. per square foot; or, if made in copper, at 5d. per square foot. The Iron Wire Net is twice dipped in anti-corrosive composition, and sent free to London or Hull.

Patterns forwarded per post, free of expence.

READ'S GARDEN ENGINES, MACHINES &c.

READ, has made considerable improvements in his GARDEN ENGINES, MACHINES, and SYRINGES. The action of the Valves is so simple as to prevent the possibility of their getting out of repair; surpassing anything of the kind hitherto offered to the public. Manufactured only by the Patentee, 35 Regent Circus, Piccadilly; where they may be seen and proved.

GUANO AND NITRATE OF SODA.

PERUVIAN GUANO of the best quality, now ready for delivery in any quantity direct from the Import Ship or Warehouse, at the reduced prices.—Apply to JOHN CLARANCE and Co., 19, Cullum-street, Fenchurch-street, London.

SHETLAND CATTLE, PONIES, AND SHEEP.

THOMAS M. ADIE, MERCHANT, &c., Voe of Delting, Shetland, having had considerable experience in the purchase of Shetland Stock, begs respectfully to offer his services as Agent for procuring STOTS and QUEYS from one to four years old, Cows in Calf, Ponies, and Coloured Spotted Sheep, or Lambs: all of which it will be his endeavour to purchase at the lowest prices for parties honouring him with their orders.

CHEAP AND DURABLE ROOFING.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

F. M'NEILL AND Co., of Lamb's-buildings, Bunhill-row, London, the Manufacturers and only Patentees of THE ASPHALTED FELT FOR ROOFING Houses, Farm Buildings, Shedding, Workshops, and for Garden purposes, to protect Plants from Frost.

At the Great National Agricultural Shows, it is this Felt which has been exhibited and obtained TWO SILVER MEDAL PRIZES, and is the Felt SOLELY patronized and adopted by

HER MAJESTY'S WOODS AND FORESTS,
HONOURABLE BOARD OF ORDNANCE,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE COMMISSIONERS OF CUSTOMS,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANIC GARDENS, REGENT'S PARK,

And on the Estates of the Dukes of Sutherland, Norfolk, Rutland, Newcastle, Northumberland, Buccleuch (at Richmond), the late Earl Spencer, and most of the Nobility and Gentry; and *at the Royal Agricultural Society's House, Hanover-square.*

It is half the price of any other description of Roofing, and effects a great saving of Timber in the construction of Roofs. Made to any length by 32 inches wide.

PRICE ONE PENNY PER SQUARE FOOT.

*** Samples, with Directions for its Use, and Testimonials of seven years' experience, with references to Noblemen, Gentlemen, Architects, and Builders, sent free to any part of the town or country, and orders by post executed.

☞ The Public is cautioned that the only Works in London or Great Britain where the above Roofing is made, are F. M'NEILL AND CO.'S Patent Felt Manufactory, Lamb's-buildings, Bunhill-row, London, where roofs covered with the Felt may be seen.

The new Vice-Chancellor's Courts, at the entrance to Westminster Hall, were roofed with F. M'NEILL and Co.'s Felt about two years since, under the Surveyorship of Chas. Barry, Esq., R.A. Her Majesty's Commissioners of Woods and Forests are so satisfied with the result that they have ordered the Committee Rooms at the Houses of Parliament to be roofed with their Felt. Quantity altogether used, 24,000 feet.

Note.—Consumers sending direct to the Factory can be supplied in lengths best suited to their Roofs, so that they pay for no more than they require.

Every information afforded on the construction of Roofs, or any proposed particular application of the Felt.

CROSSKILL'S PATENT ROLLER, for rolling Wheats in the spring, upon light and heavy lands.

It far excels sheep treading, and every other means for giving solidity to loose soil, being more equal, rapid, and effectual in its operation. The serrated points finger in the fine top soil, and securely press the roots fast into the ground; which, experience proves, causes the young plants to grow stronger, thereby increasing the quantity and improving the quality of Wheat, Oats, Barley, &c. It kills the Slug, stops the Wireworm, and is unequalled as a Clod Crusher. Draining makes the land warmer, which, with the now prevailing use of artificial manures, tend to increase all the small tribe of vermin, so injurious to corn roots and plants; hence arises the necessity of Rolling. The practice of Rolling, by an overwhelming evidence, is proved to be most effectual in stopping the ravages of vast tribes of Wireworms, Slugs, &c.

The PATENT SERRATED ROLLER, after many full and free competitions with every other kind of Roller, at the principal Agricultural Meetings throughout the kingdom, was awarded the special Honorary Gold Medal, the highest mark of distinction, by the Royal Agricultural Society of England, as *"the most beneficial implement used in agriculture."*

Cash Prices, with Travelling Wheels complete, delivered in Hull—5 feet 6 inches (24 cwt.), 18*l*; 6 feet (26 cwt.), 19*l*. 10s.; 6 feet 6 inches (28 cwt.), 21*l*.

Delivered in Newcastle, Stockton, or York, 10s. extra.
,, London, Southampton, or Bristol, 20s. extra.
,, Northampton, Birmingham, or Liverpool, 30s. ext.

CROSSKILL'S PATENT WHEELS and AXLES, manufactured by steam machinery. The workmanship, materials, and low price of CROSSKILL'S Patent Wheels prove that machinery is destined to supplant hand labour, and perfect this art of manufacture. Price per set, to carry 30 cwt., 6*l*. 10s.

CROSSKILL'S "PRIZE MODEL" ONE-HORSE CARTS.—Light, but very strong and useful Carts, with Harvest Shelvings complete; to run easy with heavy loads, adapted for general Farm and Road Work. To carry 30 cwt, price 12*l*. 12s. Ditto, with Shelvings, &c., as a "Model" Cart, 14*l*.

Also, CROSSKILL'S Improved Prize Portable Manure Broadcast Drills, Liquid Manure Carts, &c. &c.

For further particulars, apply per post, enclosing six penny stamps, to cover postage, and New Illustrated Catalogues will be sent.—WM. CROSSKILL, Iron Works, Beverley.

FREDERICK WARNER begs to refer his friends and the public to his Catalogue of new and choice FLOWER and VEGTABLE SEEDS (in Harrison's "Floricultural Cabinet" for February and March), which contains all the novelties of the season. F. W. can with confidence recommend his stock of the following Agricultural Seeds:—Mangold Wurzel, Long Red, ditto Long Yellow, ditto Red Globe, ditto Yellow ditto; Carrot, White Belgian, ditto Improved Altringham; Alsike Clover. Catalogues can be had on application at 28, Cornhill, London.—April 15.

WM. CATLEUGH begs to offer to the cultivators of Strawberries a few of the new prolific HAUTBOIS, raised by Mr. Myatt, which is a great bearer, and larger than the old variety, at 50s. per 100. Also Comte de Paris, Princess Royal, Eleonora, Globe, British Queen, Prince Albert, Eliza, Alice Maud, Scarlet, Alpine, &c. Extensive collections of Geraniums, Carnations, Picotees, Chrysanthemums, Azaleas, Fuchsias, Cacti, Lilliums, Dahlias, Verbenas, &c.
Hans-street, Sloane-street, Chelsea.

NOW SENDING OUT BY YOUELL AND CO.
THE FINEST CARNATIONS, PICOTEES, AND PINKS, per doz. pairs—£ s. d.
The selection left to Y. & Co., 24s. and 1 10 0
A selection of the newest and very finest first-class
Show Flowers 2 10 0
Fine mixed border 0 12 0
Pinks, finest show varieties, by name 0 12 0
FUCHSIAS.—per dozen.
All the best varieties of 1847 ... ... 12s. to 1 1 0
Verbenas, ditto ditto ... ... 6s. — 0 10 0
Pansies, extra fine show varieties 0 10 0
" extra extra best ditto, including their celebrated variety, "Supreme" 0 18 0
Inerarias, extra fine for blooming this spring, 12s. to 0 18 0
Anagallis speciosa and Brewerii .. per dozen—0 6 0
Ageratum grandiflorum 0 6 0
Anemone japonica 0 9 0
Antirrhinums, finest in cultivation ... ... 6s. to 0 9 0
Calceolaria floribunda 0 6 0
Cuphea platycentra 0 6 0
Geraniums, scarlet, of the finest sorts for bedding 6s. to 0 9 0
Heliotropes ... ... 6s. to 0 9 0
Lobelia compacta, white 0 6 0
" grandiflora, blue 0 6 0
Night-scented Stocks 0 9 0
Phlox Drummondi 0 4 0
Double White Rocket 0 9 0
Silene Schafftii 0 6 0
Senecio, Double Purple 0 6 0
" filacina 0 9 0
Tree Violets 0 9 0
Verbenas, fine sorts by name ... 9s., 12s., and 0 18 0
Standard and half-standard Roses, of the finest sorts, 12s. to 0 18 0
Packets of newest and choicest Flower-seeds, per post, free, 6s.
STRAWBERRIES.
The following are warranted true to name.

per hundred—s. d.		per hundred—s. d.	
Dickson's Royal Pine ...	5 0	Roseberry ...	5 0
Princess Alice ...	3 6	Black ditto ...	5 0
Queens' Seedling	3 6	Turner's Pine ...	5 0
Caroline ...	3 6	Swainston's Seedling ...	5 0
Myatt's Eliza ...	3 6	Couls' late Scarlet ...	5 0
" Prolific ...	7 6	Downton	5 0
" Mammoth ...	10 6	Swainston's Seedling Pine	5 0
" Globe ...	12 6	Hooper's Seedling ...	7 6
" Pine ...	5 0	La Liegeoise ...	7 6
" British Queen ...	3 6	Aberdeen Bee Hive, per doz. ...	18 0
Elton ...	3 6		

Strong Giant Asparagus, 3 years old, per 100—3s. 6d.
Ditto ditto 2 years old, " 2s. 6d.
Strong Sea Kale ... per dozen—2s.
For particulars of their Superb Seedling PANSIES, see Advertisement of March 25.
DESCRIPTIVE CATALOGUES MAY BE HAD ON APPLICATION.—Great Yarmouth Nursery.

FINEST LAWN GRASS SEEDS, Carriage free to London or Bristol.—The great expence of cutting and laying turves may be avoided, and a very superior FINE GRASS LAWN produced in a short time by sowing "SUTTON'S LAWN GRASS SEEDS," consisting solely of the fine short growing kinds, perfectly free from weeds, price 25s. the bushel, or 4s. per gallon. Also, PERENNIAL MEADOW GRASSES, mixed to suit the soil for which they are required, at 32s. per acre; or any of the kinds may be had separate.
White Belgian Carrot, Yellow Globe, and other Mangold Wurzels; Liverpool Swede and other Turnips of superior quality. Any information required will be supplied in answer to application made to JOHN SUTTON and SONS, Reading, Berks.
* * N.B. Carriage free to London or Bristol.

CHOICE BEDDING PLANTS.
HOLDER begs to inform the Nobility, Gentry, &c., that he has on hand a large Stock of strong and healthy plants for bedding out, consisting of Fuchsias, Verbenas, Petunias, Salvias, Alonsoas, Calceolarias, Antirrhinums, Pentemons, Scarlet Geraniums, &c. &c., which can be had at 4s., 9s., and 12s. per doz when the selection is left to J. H.—Floral and Horticultural Establishment, Bedford-road, Clapham.

THANKS FOR PAST, AND GREATER THANKS FOR RENEWED FAVOURS.—Cash with the order.
HENRY WALTON, Edgend, Marsden, near Burnley, Lancashire. £ s. d.
The 20 following named varieties of GERANIUMS .. 2 10 0
1 of ditto, the purchaser's choice 1 12 6
1 of ditto, H. W.'s choice 1 5 0
Beck's Aurora, Hebe's Lip, Desdemona, Othello, Margaretta, Mare Antony, Mustee, Isabella, Arabella, Favorita, and Rosy Circle; Lyne's Forget-me-not, Remembrance, and Sir Robert Peale; Foster's Orion; Walker's Alpha; Saunders' Beauty of Clapham; Gaines' Lady Sale; Hoyle's Mount Etna and Isabella.—Other varieties of Geraniums at 6s., 9s., and 12s. per dozen, including Scarlets.
FUCHSIAS, new varieties, including One in the Ring, White Perfection, and Beauty of Leeds, 10s.
CINERARIAS, good varieties, including Rival King and Regina Victoria, strong and fine blooming plants, 9s.
CALCEOLARIAS, fine show, 12s.
PETUNIAS, equally good, 6s.
VERBENAS, best in cultivation, for 6s., others 4s.
CUPHEA PLATYCENTRA, 3s. 6d.
ROSES, good qualities, including Cloth of Gold, 9s.
TORENIA ASIATICA, 4s.
PANSIES, best mixed, 3s. 6d. DAHLIAS at all prices.
H. WALTON'S object is to meet the present tightness of the times, with plants honest in description, for little money.
Applicants for his Descriptive Catalogue will receive for their trouble and expense in postage a packet of DOUBLE GIANT ROCK SEED.
GERANIUMS.—Miller's, Beck's, Lyne's, Gaines', and other 47 Seedlings will be ready for sending out in autumn at greatly reduced prices; in that class he is at present prepared to send out a few good plants of Lyne's Jenny Lind, at 15s. 6d. each, last autumn advertised at 2l. 2s. Also Folley's Black Prince, for 5s. 6d. See Catalogue.
Post-office orders to be made payable at Burnley post-office.

ROYAL BOTANIC SOCIETY, REGENT'S PARK.—The days appointed for the Exhibitions this season, are Wednesdays May 10, June 14, July 5. Tickets can be obtained at the Gardens, by orders from Fellows of the society price 5s.; or on the days of the Exhibitions 7s. 6d. each.

SUMMER PLANTS.
J. FOWLE has great pleasure in offering to the public his fine collections of Antirrhinums, Verbenas, Petunias, Fuchsias, Geraniums, &c. &c., catalogues of which may be had on application. 12 first-rate Antirrhinums, 12s. per dozen; 12 good do., 6s. and 9s. per dozen. 12 first-rate Verbenas, including Smith's varieties of last year, 6s. per dozen; 12 first-rate Fuchsias, 12s. per dozen.
J. F. has still a few sets of his Three Seedling Antirrhinums, price 10s. 6d. the three.
Post-office orders made payable at Kennington-cross Post-office.—Holland Nursery, Holland street, Brixton road, Kennington, Surrey.

CHOICE PANSIES, &c.
HART AND NICKLIN, Florists, Guildford, beg to offer the following, good plants, at the undernamed prices.—PANSIES.—Southern Standard, Beauty Girl, Brutus, and Cassandra, 3s. 6d. each. Supreme, Gloria Mundi, Attraction, Garland, Red Rover, 2s. 6d. each.
The following for 20s.:—Lady Sale, Great Britain, Satirist, Duchess of Rutland, Victory, Joan of Arc, Rainbow, Othello, Optimus, Pizarro, Mary Jane, Mr. M. Hamilton, Dr. Wolff, Arethusa, Beauty of Guildford, Incomparable, Perfection, Companion, President, and Model of Perfection.
GERANIUMS.—Arabella, Isabella, Marc Antony, Desdemona, Orion, Shakespeare, Rosy Circle, Regulator, and Cleopatra, for 20s.
FUCHSIAS.—The best named flowers, 12s. per doz.
Pansies and Geraniums for bedding, 6s. per doz.

NEW AND SUPERB FUCHSIAS.
T. TURVILL, Florist, respectfully invites the attention of Florists and Amateurs, and the Trade, to his two Seedlings
BEAUTY OF CHELMSFORD is allowed by all who saw it growing to be superior to "One in the Ring." Fine habit, unquestionable in form, pure white, richly contrasted with brilliant corolla.
FOUNTAIN.—A bright scarlet, with purple corolla, the most elegant habit of the whole tribe: the stems are light and wiry; the branches growing upwards and falling over gracefully. These two novel and beautiful varieties (plants in May), 7s. 6d. each, and full allowance to the Trade when six Plants are taken.
T. T.'s Catalogue of New and Superb Fuchsias, Dahlias, Verbenas, &c., can be had on application.
Baddow-road, Chelmsford, Essex, April 15.

The Gardeners' Chronicle.

SATURDAY, APRIL 15, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

TUESDAY	April 18	{ Horticultural ...	3 P.M.
		{ Linnean ...	8 P.M.
WEDNESDAY	— 19	—Royal South London ...	1 P.M.
SATURDAY	— 22	—Royal Botanic ...	4 P.M.
WEDNESDAY	— 26	—Microscopical ...	8 P.M.

Mr. FEARGUS O'CONNOR is, for the present, released from his misery; we hope that the honourable gentleman's "stomach ache" has left him, and that the "coal of fire" which he so pathetically described at Kennington as burning in his breast (no wonder!) is by this time cooled. If it should be otherwise, we would advise him to seek relief in change of air: for it is evident that the House of Commons does not agree with his constitution. It is bad enough to stand alone on the floor there; and if to that is added the "awful badgering from Sir BENJAMIN HALL and Mr. DRUMMOND" which the honourable gentleman somewhat ludicrously complains of, we fear the stomach ache will become chronic, and the coal-fire fiercer.

The quiet people who read our pages may wonder what this has to do with gardening; and they may say to us "you promised not to meddle with politics, and now you are opening a political question by troubling us about Chartists, whom we would rather not hear of." We submit, however, that not being bound by the laws of Medes and Persians, we might for once open even a political question. Not that we intend to do so, or to meddle with principles that we do not understand; on the contrary, we merely purpose to put on record our views of the late movement in the metropolis, regarded as an attempt to disturb the peace.

We think it must be admitted that occasions may arise when it is the duty of all men, and most especially of those whose position enables them to influence the public mind, to express their opinions upon public events: and if so, there can hardly be a greater occasion than when attempts are made by traitors to overawe the legislature, overthrow the constitution, and substitute for the peace and order of a free country the anarchy and ruin that invariably attend the despotism of a republic. We, therefore, cannot permit the present opportunity to pass without declaring on the part of the thousands whom this paper represents, our abhorrence of the conduct of the miserable men who have lately tried, unsuccessfully, to throw this country into the deplorable condition of France, and our determination to oppose them by all the means at our command. On their part we tender our earnest thanks to Her Majesty's Government for the admirable measures employed by them to repel treason on Monday last, and to crush it for the future. We thank, too, that portion of the daily press of England which did not look coldly on, or, by faint praise, obstruct the efforts of the community to save their country and their property from sudden ruin, but which stood forth at the risk of all they possessed to guide the public aright, and to turn upon them the rage of the baffled delegates.*

Gardeners are a quiet and intelligent race: they have no love for disturbances: they appreciate the value of the mildest and best of human governments; and they will, as far as in them lies, support it. It is true that they are not to be numbered as some classes; but their education and habits of thinking give them a weight in the social scale beyond their numbers; and, whatever Messrs. Louis Blanc and Ledru-Rollin may say to the contrary, one intelligent and well-conducted gardener, having only ignorance and pay and labour to distinguish them. English Gardeners are honest, hard-working men: they cannot afford to lose their wages to satisfy the caprices of mischievous sedition-mongers; and they will oppose them to their utmost. When English Gardeners plant trees of liberty they take the British Oak, in the full vigour of its youth; they nurse it carefully as it grows, so that when arrived at maturity it may continue to flourish through centuries; and even if a limb is torn away by storms, or cut by the axe, the tough old trunk will put out other and stronger branches. They know better than to waste their time about the miserable Italian Poplar of the Parisians, rootless and sapless when planted, dead in a summer, and then but a rotten stick with a red cap—a fitting emblem of the false liberty it represents.

If any one desires to know what sort of liberty we should possess if Mr. O'Connor and his rabble could have their way, he may judge from the following extract from a letter dated Havre, April 10, the very day of the London demonstration. "The drum of the National Guard is just now beating for a turn-out against the workmen who refuse to receive the amount of wages fixed by the municipality which is 1½ franc a day. All the operations of commerce have ceased; there is no regular work: everybody suffers: and we have got up a subscription to enable these fellows to get some bread for their families; yet these caitiffs, who receive 1s. 3d. a day for doing nothing, talk of burning the town." We cannot afford such liberty in England.

It gives us the most unfeigned satisfaction to be able to state that, on this occasion, no class of men could be more loyal, or more zealous for the maintenance of order and the protection of the public, than the gardeners, who cannot fail by their excellent conduct to have increased their standing in society. They have gained a step: which in this world is not merely something, but much. No men could have shown more alacrity in volunteering as constables, or more willingness to act as such, if wanted. We have no perfect return of numbers, but the spirit which was manifested may be ascertained from a few cases. At Kew 108 were sworn in; in the Horticultural Garden 33. Syon 15, Chiswick House 9, Messrs. RONALDS' 21, Messrs. FARMER'S 20, Messrs. HENDERSON'S 40: and in all other cases that have come to our knowledge, the same good feeling prevailed, although owing to local circumstances no necessity arose for calling out the men. If there were a few disgraceful exceptions to this unanimity, they did not, we believe, reach beyond half a dozen, of whom four were Irish, one English, and one a foreigner. These we leave to their reflections, and to the consequences of their conduct. Reasoning is thrown away upon men wrongheaded enough to refuse to protect the property of those by whom they are themselves protected.

It has been pretended, indeed, that the Chartist delegates had no evil intentions; that they meant no harm; that they would only have walked to Kennington and back again, and that their talk of arms was all sound and fury signifying nothing. That what they say does signify very little we admit, but that it has a tendency to lead to the most dangerous results is what we at least cannot doubt. These men did no harm, because they could not; the Government and the people were too strong for them. That they had provided weapons to some extent is certain; that there were among them desperadoes, ready to be urged on by the cunning and cowardly delegates, if a chance of success had presented itself, admits of no contradiction; and that deplorable consequences must have resulted had a recourse been had to arms, few would deny. Not that any question exists as to the issue of a fight, but consequences would not have been otherwise than deplorable had the loss of life been wholly on the side of the crowd. Among that crowd would have been found many well-meaning misguided persons, and their leaders would have scampered off at the first volley, as they always do.

It is alleged that the threatened meeting was a mere exercise of a legal right, and that the Govern-

* It is on record that at one of the meetings of Chartist delegates, it was actually proposed to sack the office of the *Times*, and the language used at a recent meeting, especially by one HARNEY, sufficiently shows how deeply rooted is their hatred of the press.

ment, police, and people who broke it up acted in direct violation of the constitution. Those who argue thus forget that there is a law above all laws,—the law of self-preservation—and that on this occasion it became necessary to exercise it. The intended procession, if left to itself, must have produced a dangerous riot: the delegates themselves did not conceal their hope that it might have that effect; their scheme of going in procession to the House of Commons was for the mere purpose of provoking a riot. They found themselves over-matched, and backed out. With the tactics of their craft they then turned round, accused the Government and the people of attempting to bring on a riot, and execrated Sir George Grey for not permitting them to lay London in ashes. So it always is. "Telle est la tactique des fripons; ils vous volent, et crient au voleur; ils vous doivent, et vous réclament de l'argent; ils vous diffament, et vous demandent des dommages pour solde de leurs infamies; j'en sais même qui commettent les actions les plus basses, les plus dégoûtantes, dans l'espoir que les personnes qu'ils outragent porteront plainte, parce qu'alors, c'est eux qui se plaindront aussi, qui attaqueront et qui viendront se dire lésés dans leurs intérêts. Que voulez-vous? la friponnerie est devenue un commerce, et, comme les fripons connaissent leur code et toutes les ressources de la chicane, beaucoup mieux que les honnêtes gens, vous voyez les premiers en imposer à la justice."

In answer to the clamour which has been raised against the late measures, we shall content ourselves with asking reasonable men *where we should have been if those precautions had not been taken?* It was necessary to decide whether men's lives and properties were to be sacred or not; whether thieves and traitors were to sack London, or be sent to the treadmill; whether honest, industrious persons are to gain a livelihood, or be starved; whether our honest labourers, our tradesmen, our shopkeepers, our merchants, our fundholders, our landlords, our nobles, and our Queen, were to be trampled down by a crew of political ragamuffins. John Bull was not made of the stuff to submit to that.

We have before us the second edition of "Cosmos," by Alexander Von Humboldt.* Any work from such a man will be always hailed joyfully. And it is little to say that this does not detract from the splendour of his well-earned fame. The topics of which it treats are necessarily multifarious: and the varied knowledge required of the reader in appreciating their treatment is only the clearest proof of the versatility of genius possessed by the writer. Very many of these topics can scarcely with fairness be considered within the legitimate scope of our Journal. But there are one or two branches of his disquisitions which not only must be interesting to our readers, but are handled in a manner so original, and such stores of learning are brought to bear upon the subject, that a little contemplation of them, at least, will repay us for our trouble. And it should be borne in mind that these disquisitions are not the creation of a highly imaginative though deeply read and equally deeply reflecting author, who has never scarcely at all gone beyond the limits of his study, or his own native land. His own language speaks for himself: "I have enjoyed one advantage which few scientific travellers have shared to an equal degree, in having seen not merely coasts and districts little removed from the margin of the ocean, as in voyages of circumnavigation—but in having moreover traversed both in the new and the old world extensive continental districts, presenting the most striking contrasts; on the one hand the tropical and Alpine Landscapes of Mexico and South America, and on the other the dreary uniformity of the steppes of Northern Asia."

Remarks by such a man as this on the "Incitements to the Study of Nature," and on "Descriptions of Natural Scenery," must arrest our attention—the more so as they display, curiously blended, extensive reading, deep reflection, and the results of personal observation. The "incitements" he states to be more frequent in modern than in ancient times: and of these he more particularly marks out three. First, there is "the æsthetic treatment of natural scenery by vivid and graphical descriptions of the vegetable and animal world—which is a very modern branch of literature. 2d. Landscape painting, so far as it pourtrays the characteristic aspect of vegetation; and 3d. The more extended cultivation of tropical plants, and the assemblage of contrasted exotic forms." For the present we confine ourselves to the first head.

Is it not singular, then, "that if delight in Nature were not altogether unknown to the ancients, yet that its expression was more rare and less animated among them than in modern times?" Schiller, indeed, says of the Greek what is quite true in the main—that "he is in the highest degree exact, faithful, and circumstantial, but without exhibiting more warmth of sympathy than in treating of a garment, a shield, or a suit of armour. Natu e appears to interest his understanding rather than his feelings." Humboldt grants this to be correct, but he repudiates the restriction of antiquity to the Greeks and Romans exclusively: he asserts that "the profoundest feeling of Nature speaks forth in the earliest poetry of the Hebrews and of the Indians—and in nations, therefore, of very different descent, Semitic and Indo-Germanic." Be it so. But take the case of the Greeks. They lived in the midst of most beautiful and ever glorious scenery. Climate—habits—all—would seem likely, and have aided the scenery in inspiring them with deep admiration of the beautiful—the graceful and the sublime in Nature—until their emotions would find vent in "the thoughts that breathe and the words that burn." It is not so, however. On what theory then can this seeming paradox be accounted for? Why should inhabitants of the northern climate be warm and eloquent admirers and describers of the beauties of natural scenery—while those who lived among the far more enchanting beauties of southern climes were cold and indifferent, or even in their most powerful poetry made descriptions of natural scenes or objects quite subordinate?

Humboldt lays down as a maxim an idea which is assuredly well worthy of being weighed carefully before its truth is accorded. "In Grecian art all is made to concentre within the sphere of human life and feeling. The description of Nature in her manifold diversity, as a distinct branch of poetic literature, was altogether foreign to the ideas of the Greeks. With them the Landscape is always the mere background of a picture, in the foreground of which human figures are moving. Passion breaking forth in action riveted their attention almost exclusively: the agitation of politics and a life passed chiefly in public, withdrew men's minds from enthusiastic absorption in the tranquil pursuit of Nature." This view is laid down by him, and worked out most earnestly: how far in extent, or whether in principle, it is correct, is a matter for future application of thoughts and feelings.

Leaving for a moment his characteristic description of the same principle of taste as it existed among the Romans, we must allude to one which he quotes when he adverts to "diversities still more striking produced by differences of race and of mental disposition. How different in animation and in poetic colouring are the manifestations of the love of Nature and the descriptions of natural scenery among the Greeks—the Germans of the north—the Semitic races—the Persians—and the Indians! An opinion has been repeatedly expressed that the delight in Nature felt by northern nations, and the longing desire for the pleasant fields of Italy and Greece, and for the wonderful luxuriance of tropical vegetation, are principally to be ascribed to the long winter's privation of all such enjoyments."

With this opinion Humboldt does not altogether agree. Is he right or wrong? =

SELECT SPRING-FLOWERING PLANTS FOR BEDDING, &c., IN THE FLOWER-GARDEN.

Myosotis sylvatica.—For extensive adaptation, ornamental effect, and easy culture, this is by far the most interesting spring flowering plant I have yet seen. It is a neat habited, compact biennial herbaceous plant, growing from 4 to 6 inches in height, forming a carpet-like mass of innumerable small branching flower-stems, supporting multitudes of beautiful azure-blue blossoms, having a yellow eye or centre. This charming plant is adapted for a greater variety of ornamental purposes than any other of similar character. From its facility of increase it may be multiplied *ad infinitum;* its self-sown seeds afford an annual harvest of thousands. Its first practical application would be in producing an effect *en masse*, by planting out in autumn (August or September) sufficiently closely to admit of the bed being entirely covered in the following spring. The only precautions required are to free the plants from weeds, and to remove premature flower-stems by pinching them off close to the crown of leaves. The formation of beds for spring-flowering plants would be improved in their ultimate display by gently elevating the soil from the margin to the centre.

The effect of grouping this plant is exceedingly beautiful. Myriads of blossoms expand and disappear, and myriads more succeed them, until the entire mass appears one unbroken sheet of azure tint. When store plants are intended to occupy ornamental vases, boxes, or pots, it is not necessary to grow them throughout the season in such, nor is this necessary even if they were required to occupy any extent of ornamental marginal edging to borders. Where these objects are desired, it is only requisite to adopt a seed-bed, from whence clumps or groups of plants may be removed and potted at any period during the absence of sunlight, even up to the time of flowering.

The compact and close growth of this plant permits its removal without injury; if practicable, however, it should be placed in the shade, or on a north border, for one or two days, and amply supplied with water. Where continued growth is desired the plants should be placed in dishes, and supplied with water once or twice a week. This is a good method of watering all plants which secrete much water. I have seen large masses potted thus a few days previous to exhibitions, and obtain premiums. Such indeed is the facility with which this plant may be removed, that an immense bed might be distributed in groups throughout the flower-garden, if judiciously managed, without any apparent loss to growth or bloom.

For picturesque effect on lawns, or terraces, or rural slopes; for adorning porticoes, balconies, and drawing-room conservatories, this plant is unequalled, and seen in its rich, yet simple unadorned beauty, it will not fail to be recognised and appreciated as queen of British spring-flowers, and the "Forget-me-Not" of gardens.

> "Appealing, by the magic of its name,
> To thoughts enshrined within the heart,
> Like gold."

—*William Wood, Fishergate Nurseries, York.*

CAPE HEATHS.—No. VII.

Out-door Management.—The processes exhibited in the development of a shoot of any given plant, may, as a general rule, be advantageously studied under two heads—the elongating or developing process, and the maturing or solidifying process. And still, assuming general principles, for exceptions must be allowed, in proportion as a plant has been liberally treated in the preceding season of growth, so will the development of healthy and vigorous shoots take place in the present one. Not so with the solidifying process. The present circumstances are the only ones which can possibly affect that; and no intelligent gardener will deny that on the maturity of the branch depends the quantity and quality of both flower and fruit in any case in which either one or both may be desired.* And as it often happens that to accommodate a large stock of plants room has to be economised by crowding, if the wood of the current season has not been fully matured, fearful ravages are occasioned by damp, and the plants are fully alive to every external circumstance which could possibly affect them, which if properly matured they would have defied.

It is a matter of question, when all circumstances are considered, as to the policy of exposing exotics, under pot culture, to the ever varying influences of our climate in the summer months. But in the present state of horticultural buildings there is scarcely any alternative. As "much might be said on both sides," and as the more prevalent opinion and practice are in favour of summer exposure, I forbear agitating the question at present—a question, nevertheless, of paramount interest to gardeners generally.

As the Heath revels in a constantly moving and cool atmosphere, and as existing houses appropriated to plant culture do not furnish the means of affording such requisites, when the sun has obtained a moderate altitude removing to the open air becomes necessary. The choice of a situation is the first and great consideration and that the meridian sun should be prevented from exercising a direct influence, is indispensable. The plants should enjoy the full sun from rising till 10 A.M. and from 3 P.M. till setting. If no natural screen from trees can be made available to intercept the solar rays during the hottest part of the day, artificial appliances must be resorted to; but the former is preferable both as to economy in time, and the natural intervention being more congenial than an artificial one.

The season for removing the plants from the house must be entirely regulated by existing circumstances. Seasonal influences, and a thousand local considerations must determine the minutiæ of the matter. But it will be borne in mind that the whole of the stock will not require removing *en masse*. A plant in full bloom, or one barely established after repotting, will of course form exceptions. Progressive operations is the gardener's watchword, and in the subject under consideration superlatively so. You cannot take Nature by storm. Gardening in all its branches is an attempt to imitate natural phenomena by artificial means. Losing sight of this fundamental principle often leads to disastrous consequences. It has ever been a favourite operation with gardeners, where it is practicable, to plunge in some porous material all plants removed to the open air in the summer months; or perhaps I ought to write all delicate hair-rooted and hard-wooded plants similar to the genus under discussion. The practice undoubtedly in many cases is the best that could be adopted. A plant with a pot well filled with roots, which from its size or other circumstances it is not deemed advisable

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* Cosmos: Sketch of a Physical Description of the Universe, by Alexander Von Humboldt. Translated under the superintendence of Lieut.-Col. Sabine, R.A., For. Sec. R.S. Second Edition. London, 1847.

* To enter into the physiological why and because of the matters here alluded to would, perhaps, be out of place, and extend this paper to an undue length. Not that I deem such an exposition would be useless or pedantic, for intercourse with gardeners, as a body, not individually, far from it, assures me that the general principles of the physiology of vegetable life are not so well understood as they ought to be. And considering how useful such knowledge becomes when employed as an auxiliary to sound experience, it cannot be too much urged upon all members of the calling. Operations which in practice can only be rewarded by successful results after a circuitous and, in many cases, uncertain route, may, by bringing knowledge of physiology to bear upon the subject, be made certainty by a much shorter and more certain route. What good chart is to a traveller in a country comparatively unknown to him, a knowledge of vegetable physiology is to the gardener in the daily round of his operations.

repot, will of course be much less liable to suffer om drought, or from the influence of the heated pot on e delicate hair-like fibres plunged, than one wholly posed. In this case, and similar ones, plunging is adsable, but in others plunging is not only not beneficial t absolutely injurious, at least in my opinion. Scantily oting plants, or specimens in delicate health, should t be plunged at all. It impedes the free passage of isture from their roots, and induces saturation—two portant subjects to be considered. If it is thought visable to protect such roots in any way, the best ode is to place the pot inside another pot, with a strain of moss between, taking care that the drainage is t impeded.

In placing the stock of plants in their summer arters, the quick growing and robust specimens ould be separated from those of weaker growth or icate health; and some provision should be made protecting the latter from heavy rains. Violent under-storms arise very often during the night, when one is at hand to protect; and as much damage y ensue to the weak and delicate specimens from the lent rain generally accompanying such storms, it is the better and safer plan to secure an awning of ficient strength to break the violence of the rain. is can be placed the last thing at night over the ak or invalid portion, which, as it is hoped, will m but a small portion of the whole; the operation l not be attended with much difficulty.

.t is the presence of violent rains which will test and ve the efficacy of thorough drainage in the pot cultation of plants generally. If this particular has n neglected, much annoyance will be occasioned; refore, both after watering and fall of rain, examine plants. If any symptoms of their being "waterged" are observed, take remedial measures immetely, for you may rest assured that such being the e, all other attentions will be rendered neutral. plant can possibly flourish if such be the e, and the only remedy is thorough drainage. ring hot weather the application of water will form important feature in out-door management. Nor is ufficient that you supply it directly to the roots of the ats. After a hot day, and an hour or two before sun wholly leaves them, the syringe must be brought play; and during hot sunshine let the pots be often inged over, and the ground, both between the plants around them, often under the influence of the ering-pot. By these means a cool atmosphere will secured, for it is a law of matter that rapid evapora n produces coldness; and when a plant is in rapid wth a considerable quantity of moisture is absorbed the leaves, and by furnishing a constantly evapong surface the surrounding a mosphere is loaded h moisture. In the morning the application of the inge will scarcely be found neces-ary. Heavy dews, ept in cases of a cloudy atmosphere or drying winds, supply its place. And when you look upon them he morning, with every leaflet rejoicing in sunshine l moisture, and their whole foliage exhibiting a vivid en, you cannot but admire them, fancifully imagining t they welcome you with a gladsome look.

As the sun decreases in his altitude, and the young od begins to assume maturity, moisture in every n must, of course, be decreased in proportion. Soil ny well-rooted specimens will require constant ention in this matter. Few plants absorb more isture than Heaths in full vigour, other circumnces being similar. I should have observed before t many persons place porous stones, or pieces of potds, on the surface of the mould around the stems, prevent a too speedy evaporation. In this—

"The bane and antidote are both before us"

may possibly prevent evaporation; but, on the other nd, it prevents us ascertaining the degree of moisture the soil, and is apt to lead one into the belief that ter is not required, when the contrary is the case. erefore all auxiliaries of this kind had better be disded, relying entirely upon constant and assiduous ention.—*G.*

RACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

RHUBARB.—This wholesome and agreeable vegetable s become so popular as a substitute for fruit in the ly spring, that no garden should be without it. It l grow anywhere, is so hardy that no frosts will ure the roots, however much exposed, and is so pro- that a few plants will yield a plentiful supply of lks for a large family. Yet, notwithstanding the e with which it is cultivated, we often see it badly own, and sometimes hear the complaint that parties ve failed in their efforts to get a crop. Our remarks l obviate every objection, if attended to, and enable r readers to grow Rhubarb for themselves with ease l success.

Rhubarb has a hard underground stem, which shes forth buds plentifully at the crown, or rt nearest the surface; every one of these buds ken off with a portion of root adhering to it, will m a large plant in one season. If you wish to ake a plantation now (although the season is rather far advanced, it may still be done), get as many buds crowns as your bed will admit of, allowing each 2 or eet every way, according to the habits of the varies you prefer. The plan generally adopted is to purase as many roots as are necessary to fill the allotted ace, but this is a more expensive and far less eligible thod than the one now recommended. Last year a w sort of Rhubarb was offered in the neighbourhood of the writer at 5*s.* a plant. Some of his friends purchased four or five roots, but he was satisfied with one. On receiving it he placed it in a hole, and covered it up with soil until February, when, on examination, five good buds were developed. The root was then divided into five parts, each of which, at the present time, is a large, flourishing plant, equal to any of those which were not divided. A bed was thus obtained for 5*s.*, equal, indeed superior, to some costing 25*s.* We are convinced, from actual experiment, that Rhubarb may be brought to perfection in one year; that old beds are inferior to new ones; and that fresh plantations should be made every two years. The old plan of making a bed to descend to posterity should be exploded, in reference to many garden productions. Strawberries, Raspberries, Rhubarb, &c. &c., should be removed often, if fine healthy produce is wished for.

Having a sufficient number of buds or crowns, let them be planted in a well trenched and manured soil. If the leaves are developed, care must be taken to prevent their flagging. This may be done by placing over them some long litter, sufficient to answer the purpose without excluding light and air. The young plants will soon be established, and will grow rapidly. No leaves must be taken off the first year, as the object is to convey all the elaborated sap possible to the stem for future use. If the ground is good, and kept free from weeds, no more care is required, and abundance of fine stalks can be taken off next spring. An exposed situation, with plenty of sun and air, will of course bring this production to greatest perfection; but it will produce good crops without having these advantages fully. Every house with a garden, however small, may thus furnish the table of its owner, with little expense and trouble.

But Rhubarb possesses the advantage of being forced with as much ease and as cheaply as it is grown in the open air. This may be done by growing it against a wall in a sunny aspect, and covering it when required with pots or boxes, over which fermenting materials must be placed. But decidedly the best method is to take the roots into the house to be forced. For this purpose they must be grown exactly as recommended above, that as much power may be treasured up in the roots as possible. To take up exhausted plants from a crowded bed, which has been stripped of its leaves during the season, is to deprive them of their natural advantages, and to expend the forcing process on weakened and imperfect subjects. Let cuttings, with a crown to each, be now put in, in the best possible situations, and by autumn they will be admirably adapted to your purpose. When the foliage is withered take up the roots, and put them singly into large pots or boxes. These may be stood away anywhere, and introduced, two or three at a time, into a warm situation. The writer placed his pots this winter in a dark closet, at the back of a kitchen range, and the Rhubarb grew rapidly. Every house can find some spot having the advantage of greater warmth than the ordinary temperature. Rhubarb may thus be had at any time, and a good supply kept up until it is produced in the open air. It is very necessary to get it as early as possible, as its value is much lessened when Gooseberries are plentiful.—*H. B.*

EXTRACTS FROM MY NOTE-BOOK.

(*Continued from page* 188.)

Ajuga alpina, L., is a plant not difficult to cultivate in pots, in peat and sand, with plenty of drainers. It should be placed in a partially-shaded situation among alpines; it admits slowly of increase by dividing, and sometimes seeds, which produce the best plants.

A. pyramidalis, L., requires exactly the same soil and treatment as the species just mentioned.

A. Chamæpitys, Sm.—This is very different from all other species, having tripartite leaves and yellow flowers, and is annual. Seeds sown in a light sandy soil vegetate freely and flower well; it ripens seeds under cultivation, which should be collected for the following year's sowing.

Frankenia lævis, L., is a prostrate small Heath-leaved plant, requiring to be kept in pots in fine sandy peat mixed with charcoal; its stems should be pegged down to the soil as they advance in growth; it may be slowly increased by dividing, and should be placed in a sunny situation among alpines.

Arenaria verna, L., may be seen issuing out of crevices of rocks, or growing on steep declivities, and therefore requires good drainage. It is a showy plant when in flower, and may be grown well on rockwork, in a mixture of loam and sand, or in pots in the same kind of soil, placed in a sunny situation. It can only be increased slowly by dividing it, or from seeds, which it sometimes ripens.

Ranunculus alpestris, L., is a minute, very rare, and beautiful plant, producing large white flowers, although it grows only about 2 inches in height; it requires to be cultivated in well-drained pots filled with fine light sandy peat mixed with charcoal. It will endure the rigour of our winters, but from being so minute and difficult to obtain, if once lost, it is desirable to give it frame protection during severe weather; in summer it may be placed in a partially shaded situation; it seldom admits of increase.

Anthyllis vulneraria, L.—When in flower this is a showy plant, which will grow and blossom freely in any light garden soil; but being liable to perish by too much moisture in winter, it should be placed on well drained rockwork, in a mixture of loam and charcoal. Sometimes a red and also a white variety is to be met with.

Trichonema Columnæ, Reich, is a small and rare bulbous plant of no beauty, which requires to be kept in small pots in good sandy peat, with plenty of drainers. It should be placed during summer among alpines, but in winter it is safer in a cool frame.

Meconopsis cambrica, Vig.—Under cultivation this is a beautiful Poppy, which will grow in any common garden soil. The seeds appear to lose vitality in a few days. The safest plan, therefore, is to shake them out of the capsules, when ripe, on the spot where it is wished they should grow.

Sibbaldia procumbens, L., is a small and rare plant, found only on the summits of some of the highest mountains; it succeeds in a damp, shaded, peat soil, and admits of increase. It may also be grown successfully in pots, along with other alpines, in a mixture of peat and loam. It requires to be placed deeper in the soil once in two years, or oftener.

Scilla autumnalis, L.—This pretty little plant requires to be kept constantly in pots, in a mixture of peat, loam, and sand, mixed with charcoal. It should be placed in a sunny situation, among alpines, and kept rather dry in winter. It flowers freely in autumn, but seldom admits of increase.

Hypericum Elodes, L.—This little St. John's-wort grows in spongy bogs; it requires to be potted in sandy peat, mixed with sphagnum, and to be placed in a shaded situation, requiring to be kept moist. With such treatment it will spread rapidly by its running scions, allowing of division when required.

Tofieldia palustris, Huds., will grow successfully in a shaded damp peat border, but requires to be looked to in winter, to see that the frost does not throw the roots out of the soil. It also does well in pots in peat and sand, placed in a shaded situation; it may be divided readily in April.

Oxyria reniformis, Hook., is best kept in pots in very sandy peat with plenty of drainers; it may be increased by dividing it in April. It likes a sunny situation among alpines, and should be kept rather dry in winter. Its leaves have a pleasant acid taste.

Draba aizoides is a pretty little free-flowering plant, well worthy of cultivation. It will grow well in any light sandy soil, and admits slowly of increase; it may also be grown in pots, in a sunny situation, in loam and sand, with plenty of drainers.

Saxifraga rivularis, L.—This, one of our rarest British Saxifragas, requires to be kept constantly in pots in sandy peat, mixed with charcoal; it should have most of the old soil taken from its roots in April, and should be repotted in fresh soil. It likes a shaded situation all the year, and should have frequent light waterings overhead in dry weather; it is increased rather slowly by dividing when repotted.—*D. Cameron.*

Home Correspondence.

Prostanthera rotundifolia.—I was the unknown correspondent who sent this plant. It is one of the most beautiful greenhouse shrubs with which I am acquainted, and its not being more popular must I imagine arise from the fact that it has been hitherto found to be a shy flowerer. There is, however, probability that it will become, under good cultivation, a very beautiful plant; and even suppose it should be three or four years before it blooms, it will amply reward the cultivator for the time and attention bestowed on it, and when it once begins to flower, it will possibly continue to do so annually. Its habit, colour, and profusion of flowers will always render it a useful exhibition plant. I am glad to see that some of our beautiful old-fashioned plants are likely again to be brought into notice. Now that vegetable physiology and its concomitant, morphology, begin to be better understood by gardeners, much of the difficulty hitherto experienced in making plants flower will be alleviated, and a taste for plants long neglected will be called into existence which, but for such knowledge, might have remained in obscurity.—*J. Cole, gr. to J. Willmore, Esq., Oldford, near Birmingham, April* 12.

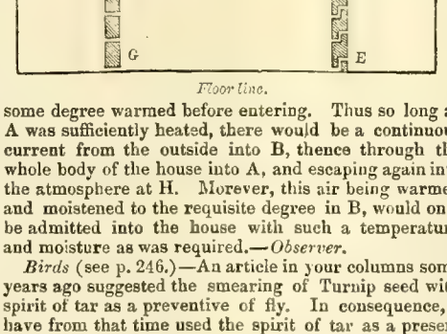
Fumigation (see p. 238.).—Mr. Deans misconstrues my meaning in regard to the utility of impregnating tobacco to be employed in fumigating greenhouses with nitrate of potash. If he will read the article again, he will perceive that I do not recommend touch-paper as the means of fumigation, but merely a "small piece" of it, to ignite the tobacco, previously impregnated with the salt. A piece of touch-paper 1 or 2 inches square would be sufficient to ignite any quantity of tobacco prepared in the way I described. Surely the small quantity of dangerous gas generated by so minute a scrap cannot endanger the health or life of plants. I am not surprised to learn that Mr. Deans caused a great mortality among his Fuchsias and other tender plants by the employment of touch paper in so considerable a quantity as would be required to ignite sufficient unprepared tobacco to fill a house with its fumes, and I apprehend that he will meet with a similar result from the combustion of tobacco-paper on a red-hot brick, as he suggests. Of tobacco-paper I profess to know nothing, but I presume that not a small quantity of it will be required, to generate as much of the fumes of tobacco as ½ lb. of that herb would yield; in which case, will not the carbonic gas arising during the combustion of so much paper prove quite as deleterious to the plant as the fumes of charcoal would? I usually consume 4 oz. of tobacco to fumigate a greenhouse 30 feet by 16. It is divided into two parcels, one of which is placed within a yard of each extremity of the apartment, away from any plants: then a piece of lighted touch-paper, the size of a shilling, is thrown into

the middle of each dish of tobacco, and a small pile of the latter is placed over the paper. The tobacco should not be over dry, or it will consume too rapidly, and yield too little of the fume; the proportion of nitrate of potash for the preparation of the tobacco should be only that which cold water will dissolve. My success in this very simple method has induced some of my neighbours to adopt it, and they, like myself, declare it to be perfectly innocuous.—*F. L., Bath Hampton.*

Vineyards in New South Wales.—When the vintage season draws near, the husbandman makes the requisite preparations for converting his Grapes into wine: he sees that his cellar is put in proper order, that the walls are whitewashed, the trestles examined, and, if decayed, made good; empty casks and other vessels are well scalded and turned up to dry; the latter is a particular point, the greatest care being taken not to allow a drop of water to mix with the juice. The utensils employed consist of a press, a fermenting vat, and a small vessel to receive the liquid as it flows from the former, and by which it is conveyed into the latter. The press usually in use resembles our cider-press, but in small establishments a more simple one is used, consisting merely of a cask minus one end, into which there is placed a perforated false bottom, and as the Grapes are thrown in they are smashed under the feet of a man, and the juice collected into a vessel below the tap. The Grapes are gathered at three different times, according to ripeness, and always when perfectly dry, as they have to be carried to the press carefully, and in small quantities, to prevent breakage and loss of juice. A man with a good going knife will keep several persons busy. Before committal to the press, each bunch is examined, and all unripe or decayed berries removed, operations in which the aborigines are found to be useful. If pale wine is wanted, white Grapes are pressed, although this may be, and often is, made from black Grapes, for the colouring matter lies in the skin only, and in the case of white wine they are squeezed gently, and afterwards thoroughly pressed for red wine. The Tincture Grape forms an exception; its juice is a deep red, and is used for imparting a high colour to red wines in general. The pressing for the time being over, the must will soon require close attention, as fermentation in those warm climates goes on at a rapid rate, and the moment you perceive it attain a vinous flavour, it must be drawn off into casks. If it is allowed to ferment beyond this point, while in the vat, all the art employed would not prevent it from going to vinegar. I ought to mention that, with the exception of a little sugar sometimes put to the last gathering, nothing whatever is added to the must, not even yeast. I have known some, it is true, who added a little brandy, but this is an exception to the common rule. The must will continue to ferment for some time after being put into casks, and of course should not be bunged down until fermentation has ceased; but the casks must be kept full, so as to prevent any vacuum in which air would accumulate and turn the wine sour. It will here remain for six months, when it is drawn off into clean casks and bunged firmly down, and at the end of 18 months or two years it is fit for use. Many are in the practice of saving all the stalks and skins until the vintage is over, when they are distilled for brandy; while others merely pour boiling water over them, and then expose it to sun and air until it becomes vinegar, which it never fails to do at the end of a few weeks. When this is intended, the pressing is not so severely performed as it would otherwise be.—*A. Burnett.*

Yew Poisonous to Cattle.—In confirmation of the "Bucks Yeoman's" opinion that the Yew is not poisonous to cattle (at least not so in every stage of its growth), I would mention that a few years ago I planted some young Yew trees (of the common kind, I believe) in a churchyard in Lincolnshire, which my sheep (a very small flock having access to the churchyard) cropped so close as to kill the trees, but, as far as I could discover, without the least injury to themselves.—*Clericus.*——As there seems to be a difference of opinion on this important subject, perhaps the following extract from White's "Antiquities of Selborne," may prove useful. "While mention is making of the bad effects of Yew berries, it may be proper to remind the unwary that the twigs and leaves of Yew, though eaten in a very small quantity, are certain death to horses and cows, and that, in a few minutes. A horse tied to a Yew hedge, or to a faggot stack of dead Yew, shall be found dead before the owner can be aware that any danger is at hand: and the writer has been several times a sorrowful witness to losses of this kind amongst his friends; and in the island of Ely had once the mortification to see nine young steers or bullocks of his own, all lying dead in a heap from browzing a little on a hedge of Yew in an old garden into which they had broken in snowy weather. Even the clippings of a Yew hedge have destroyed a whole dairy of cows when thrown inadvertently into a yard. And yet, sheep and turkeys, and as park-keepers say, deer, will crop these trees with impunity. Some intelligent persons assert that the branches of Yew while green are not noxious; and that they will kill only when dead and withered, by lacerating the stomach: but, to this assertion we cannot by any means assent, because amongst the number of cattle that we have known fall victims to this deadly food, not one has been found when it was opened but had a lump of green Yew in its paunch. True it is, that Yew trees stand for 20 years or more in a field, and no bad consequences ensue: but at some time or other, cattle, either from wantonness when full, or from hunger when empty (from both which circumstances we have seen them perish), will be meddling, to their certain destruction; the Yew tree seems to be a very improper tree for a pasture field."—*C.*——I extracted the following statement respecting the Yew tree, from a country paper some 5 years ago; at which time the question was discussed with the same discordant opinions as at present. "As a herd of very fine bullocks, the property of the Rev. R. Eden, were feeding in one of his pastures at Messing, some of them broke into a small plantation, and ate a quantity of Yew. On the following day, one beast was observed suddenly to drop down, and then another, without any apparent reason. Mr. Poulton, veterinary surgeon of Kelvedon, was sent for, who instantly bled the animals; and although fears were entertained for the whole herd, not more than four died. So perfectly healthy was their condition, that it was only on opening the paunch that the true cause of this serious disaster was ascertained." These facts will show how necessary it is that cattle should be kept from access to the Yew tree.—*J. M., Hammersmith, April* 11.

Ventilation of Hothouses.—Finding that a good system of ventilation is considered a desideratum by gardeners generally, I endeavoured to discover some method by which this object might be attained. The intention being to obtain a continuous current of air through the house, I directed my attention to the cause of winds in the atmosphere, in the hope that this might afford something which might be imitated artificially. When the atmosphere, from any cause, becomes heated in one region, the air expands and rises, and passes away above; a diminution of pressure in this region is the consequence, and a current sets in from a neighbouring region which is relatively colder, and where the pressure is consequently greater. This consideration suggested the following plan. I take the case of an ordinary lean-to house, of which only the roof and front are glazed, the ends being walled. The space H is the house; A, a chamber attached to one end, and closed on all sides, with the exception of one or more apertures, C, at the outer edge of the roof, and holes in the partition, DE. This chamber to be higher than the house. B, a chamber attached to the other end, with holes in the partition, FG. The chamber A being very highly heated, by means of a contrivance for the purpose, the air contained in it, finding vent upwards, will rise and escape through the aperture C. To supply this loss, air will enter from the house through the holes in the wall, DE; and this again will cause the air to pass from B into H, through the holes in the partition, FG. B is to be warmed by the same means as H, and is also to be supplied with means of furnishing moisture to the air; and air to enter into B from the open atmosphere, which might be through pipes passing through the external wall, and carried some distance along the hot-water pipes, so as to be in



some degree warmed before entering. Thus so long as A was sufficiently heated, there would be a continuous current from the outside into B, thence through the whole body of the house into A, and escaping again into the atmosphere at H. Morever, this air being warmed and moistened to the requisite degree in B, would only be admitted into the house with such a temperature and moisture as was required.—*Observer.*

Birds (see p. 246.)—An article in your columns some years ago suggested the smearing of Turnip seed with spirit of tar as a preventive of fly. In consequence, I have from that time used the spirit of tar as a preservative of Peas against the depredations of birds with perfect effect. But unless caution be observed in the use of it, the vegetation of the seed will be prevented or checked. I use the following mode, viz., put one part by measure of spirit of tar to six parts of sand, incorporating them well together; then to this mixture put an equal quantity of seed, and by shaking and stirring these together mix them so intimately that every seed shall be slightly smeared with spirit of tar. Now why should not the like mode be pursued with regard to corn, to prevent the depredations of birds thereon? Malt soaked in a strong solution of corrosive sublimate, and then drained and dried, is a strong and rather attractive poison for at least sparrows.—*R. H. W. I.*

Distance to which Roots will travel in quest of food.—In the month of November I found a healthy tuft of Grass growing in a decayed part of an old post; it appeared to be more healthy than the Grass in the field where the wooden post was. I thought at first that it was the rotten wood and moisture that was nourishing the plant so well, but when I examined the roots I found that they were not confined to their elevated situation, but had descended 2 feet 6 inches between the wood and the bark of the post to draw nourishment from the earth.—*Peter Mackenzie.*

New Food for Flowers.—Last spring I planted three dozen Dahlias, and, on the same day, my neighbour Mr. Neill did the same. Our gardens being only separated by a light iron railing, we could watch what attention each paid his favourite plants, and I can safely affirm that the golden fruit in the fabled garden of Hesperides, was not more unceasingly watched, watered, and weeded, than were his, Mr. Neill's, flower garden and mine. I remarked that his Dahlias, and those in the surrounding parterres, were dwarfish, discoloured, and broken in the beautiful contour such flowers should preserve, when approaching perfection. They seemed to droop, while mine rose to a towering altitude, casting disdainful glances of superiority on those of their class in my neighbour's garden, as well as on the lowlier inmates of my own. My friend was surprised at my success, and continued his floral labours with more zeal, but with little better results. My long acquaintance with Flax led me to observe the effects it had upon the waters in which it was submerged, preparatory to breaking and scutching; I found that animal life soon became extinct, whether in the running brook, or in the stagnant pond if Flax had been steeped there. Fish or insects could sooner exist in a vat of boiling liquid than in the steep water of Flax. The knowledge of this fact, together with the recollection of the good effects of steep water on Grass land, induced me to supply the roots of my Dahlias with small quantities of the steep water; and my anticipations that benefit would be derived from it were more than realised, as your readers are already aware. I also applied Flax water for the destruction of green fly, which continually infested my plants, and after an ablution of this water, I was glad to find they soon disappeared. In conclusion I may mention, that in order that this manure, which I have proved to be beneficial to Hydrangeas, Geraniums, Roses, &c., may be extensively tried, and as I am certain to have Flax steep water during the summer quarter, I shall be happy to accommodate any gentleman who may wish to try its effects with a supply.—*J. Hill Dickson, British Flax Scutching Mills, Skinner Street, Bishopsgate, London, April* 4.

Fertilising Melons.—The following plan for setting Melons was pointed out to me some time ago by Mr. Butcher, the nurseryman at Stratford-upon-Avon, as being very efficient and invariably attended with better success than the old system of fertilisation. The only difference this system claims over the old one is this. After being fertilised, the flowers are tied closely up with a piece of bast, and the flower and the fruit which is attached to it are buried overhead in the soil of the bed; in this manner they are left to grow out of the soil, a circumstance which takes place five or six days after fertilisation. I can vouch for the accuracy of this statement, having tried it myself at Blenheim, with success. In nine cases out of ten the Melons set admirably. Should any correspondents adopt this simple method, they will find the same happy results to ensue —*R. Cox, Exotic Nursery, Chelsea.*

Early Asparagus, &c.—I cut a good dish of Asparagus on the 5th of April. One year I cut on the 27th of March. I am 3 miles west of Abergele. By using leaves without manure, this year my Seakale has been very good, better than I ever had it.—*J. B. H., Abergele*

Railway Embankments.—Before your Larch-loving correspondent fills the banks of rail-roads with plants of this useful tree, I would recommend him to inspect the line from Wakefield quite away to Scarborough and he will see that the noxious smoke from the engines is inflicting disease and death on the timber in the vicinity.—*C.*

"The Florist" and the Rose Maggot.—Such of your readers as may have followed the advice contained in your extracts from the "Florist" in your reviews of that work, must not rest satisfied with having destroyed a vast number of maggots in removing all the old spurs and snags of their Rose trees. This they have undoubtedly done; but as the writer of the articles in question I am bound to inform them that we never found this pest so numerous or so destructive upon the out-door Roses as we find it this season. The subject is worthy the attention of the writer of the entomological articles for your Paper, and he would confer a lasting boon upon the cultivator of the queen of flowers if by his researches he could devise a plan for their destruction before they commence their ravages. A short time back I visited the conservatory of a gentleman in which the buds of a handsome collection of pot Roses were entirely destroyed, and this had been effected before one of them was developed. I carefully examined all the old spurs, and satisfied myself that the mischief had not proceeded from them, whilst in a neighbouring garden I found the enemy described in the "Florist" out of his winter quarters, and at work. At present we must content ourselves with nothing less than a frequent and careful search for this pest amongst the unfolding foliage of our Roses.—

Vipers.—If the following information be of any use to "S. H. H." it is at his service. Many years ago I killed two vipers, not 100 yards from each other, and observing them to be unusually thick, I had the curiosity to open them, supposing they might have gorged themselves with some whole animal as food; but to my surprise I discovered in one of them eight young vipers, and seven in the other; these were about 3 inches in length, and living. As far as I can remember they were not enclosed in any sac or membrane, but quite at liberty; and the impression on my mind at the time was, that they had sheltered themselves by running down the throat of the parent. My father told me, that he had once seen the young vipers run into their

mother's mouth. I have several times met with a kind of small serpent, mostly in the foot-paths. It was about 12 or 14 inches in length and very slender, not much thicker than a tobacco pipe; the ground colour was of a pale yellowish brown, and the markings on the back not unlike those on the common viper; were these young vipers?—*Lusor.*——With respect to vipers, a man, who works under me, saw 10 young vipers run down the old one's throat, and then he killed her. As soon as the young ones were all safe, the old one tried to escape. Two other men on the premises assert that they have seen a similar occurrence. Last year a little girl, 12 years of age, came and told me that she had seen a large viper, and that a great many young ones ran into its mouth. Lady Grenville very kindly gives 6*d.* a piece for all that are destroyed; I paid in one week this year for 14 large vipers, which are very numerous in the woods here.—*Philip Frost, Dropmore.*——I once saw, whilst walking in the New Forest, a viper or adder, as it is there called, basking in the sun, with a young one by the side of it; immediately they saw me, the parent opened its mouth and the young one ran into it. I killed the old one, opened it, and took the young one out of its throat alive. I have seen a great many adders in the New Forest, but it was only in the instance alluded to that I have seen an old one and a young one together.—*J. Potter, Whitchedswood, Southampton.*——Perhaps I cannot answer the question about vipers so satisfactorily as "S. H. H." may wish, never having seen the young ones in the act of running down the throat of the old one, but I have no doubt about their doing so, for I have taken young vipers out of the old one. On one occasion, when out shooting, I killed a viper as it was making its escape. Its unusual size attracted my attention, and on examining it a very lively motion in its belly induced me to suppose that, when it was disturbed, it had swallowed its young. I cut it open, and seven or eight young vipers, not one of which was less than 6 or 8 inches long, issued forth; they were strong and vigorous, and showed their vicious nature by putting themselves in attitudes of offence. From the fact of the viper being ovoviviparous, it may be said that these young ones had never seen the light, but their size, and their general appearance and behaviour, fully convinced me that they were many days old, and had sought refuge by running down their mother's throat. Mr. Blyth, in "Loudon's Magazine of Natural History" for 1837, p. 441, says that a man, on whose word he could fully rely, told him that he had seen 13 young vipers run down the throat of the old one.—*W. B.*

Societies.

Entomological, *April* 3.—W. Spence, Esq., F.R.S., President, in the Chair. Mr. Stainton was elected a Member of the Society. Mr. Douglas exhibited a new British moth belonging to the genus Porrectaria, from the neighbourhood of Edinburgh, and stated that he had seen a specimen of Vanessa atropos on the wing at Penge on the preceding day. Mr. Weir the winter case of Porthesia auriflua. Mr. Doubleday exhibited several species of a new and very singular genus of moths collected by Mr. Dyson in Caraccas, remarkable for their resemblance to small swallow-tailed butterflies. Mr. Moore distributed specimens of Alphitobius picipes. A monograph on Pœcilochroma, a genus of exotic Hemiptera, remarkable for their analogy to the Coccinellidæ in colours and liability to variation, was read by Mr. Dallas. A subscription for the purchase of a series of typical specimens of Tineidæ from Messrs. Zeller and Mann, of Vienna, was entered into. Mr. Spence read some notes on a great flight of Notonecta glauca, observed in North America by Sir G. Simpson, and which extended from 20 to 25 miles in length. Also on the disappearance of the honey-bees near Tiflis on the approach of the cholera; and on the remarkable instinct in the caterpillars of the Rosebud (observed by Mr. Beck and described in the "Florist") of burrowing into the pith of the spur to form their winter quarters. A somewhat similar habit had been observed in the caterpillars of the grain moth (Tinea granella) as noticed by Mr. Thwaites, and in those of the Vine moth, as observed by M. Audouin.

Reviews.

Journal of an Expedition into the Interior of Tropical Australia, in search of a Route from Sydney to the Gulf of Carpentaria. By Lieut.-Col. Sir T. L. Mitchell, Kt., D.C.L., Surveyor-General of New South Wales. 8vo. Longmans: pp. 437.

The great object of Sir Thomas Mitchell in this his last expedition was geographical discovery; he desired to ascertain the practicability of a northern land passage, from Sydney to the Gulf of Carpentaria, in order that hereafter an easy route may be established to India and China. To use his own words:

"The same attraction which drew the greatest of discoverers westward, 'al nacimiento de la especeria,'* seemed to invite the Australian explorer northward; impelled by the wayward fortunes of the Anglo-Saxon race already rooted at the southern extremity of the land whose name had previously been 'Terra Australis incognita.' The character of the interior of that country still remained unknown, the largest portion of earth as yet unexplored. For the mere exploration, the colonists of New South Wales might not have been very anxious just at that time, but when the object of acquiring geographical knowledge could be combined with that of exploring a route towards the nearest part of the Indian Ocean, westward of a dangerous strait, it was easy to awaken the attention of the Australian public to the importance of such an enterprise. A trade in horses required to remount the Indian cavalry had commenced, and the disadvantageous navigation of Torres Straits had been injurious to it; that drawback was to be avoided by an overland route from Sydney to the head of the Gulf of Carpentaria.

"But other considerations, not less important to the colonists of New South Wales, made it very desirable that a way should be opened to the shores of the Indian Ocean. That sea was already connected with England by steam navigation, and to render it accessible to Sydney by land, was an object in itself worthy of an exploratory expedition. In short, the commencement of such a journey seemed the first step in the direct road home to England, for it was not to be doubted that on the discovery of a good overland route between Sydney and the head of the Gulf of Carpentaria, a line of steam communication would thereupon be introduced from that point to meet the English line at Singapore.

"In this view of the subject it seemed more desirable to open a way to the head of the Gulf of Carpentaria, the nearest part of the sea, than to the settlement at Port Essington, on a presqu'isle forming the furthest point of the land; and, that the journey would terminate at the Gulf was therefore most probable. The map of Australia, when compared with that of the world, suggested reasonable grounds for believing that a considerable river would be found to lead to the Gulf of Carpentaria."

To mention the name of our gallant friend is to say that the object of the expedition was accomplished, and these most important questions set at rest. But it is not with territorial investigations that we have to deal. Vegetation is our field, and on that of the country he explored Sir Thomas Mitchell has brought home invaluable facts. His book is, indeed, such a mine of information on horticulture that we must treat the facts which he has placed on record in a more formal manner than is possible in this short notice. For the moment we will confine ourselves to the following extract. "Another frosty night succeeded a day of rain, and froze our tents into boards not easily to be packed this morning." What a lesson is this to the coddling, stewing, suffocating system of cultivation. In a country producing Zamias, Callitris, Acacias, delicate Ferns, Hoveas, Grevilleas, Solanums, Dodonæas, Myoporums, Erythrinas, Figs, Plumbagos, Caper bushes, and the like, *the tents were frozen hard* in latitude 24° 54′ S., at no higher an elevation than 1427 feet."

* To the region where spices grew.

Garden Memoranda.

Sheffield Botanical Gardens.—These delightful gardens possess a peculiar interest at the present period, when so many of Nature's productions are bursting forth with renewed life and beauty. The magnificent Banana and wide-spreading Palms in the conservatories seem to have increased with improved cultivation. The Acacias, the Norfolk-Island Pine, and Rhododendrons, are in perfection, while some of the Orange-trees are loaded with forthcoming fruit. Among the improvements in the gardens, we may mention that the bear pit has been converted into a romantic little retreat, filled with evergreens, the entrance to which is through one of bruin's former caves. Another improvement is a new lawn at the bottom of the gardens, intersected with flower-beds of different shapes. Passing from the ornamental part of the gardens, the propagating-house is an object meriting attention. This is a perfect *multum in parvo*, containing multitudes of seedlings of various kinds. The entrance to the gardens possesses the advantages of an asphalte pavement, and were this extended to the principal walks, the visitors would soon find the advantage of it. In fact, the proprietors would do the same, in a pecuniary view, for the first expense would be the only one [No.], and the future cost and labour of weeding and keeping the paths in order would be saved.—*Abridged from the Sheffield Iris.*

Miscellaneous.

The Woodpecker.—A clergyman, travelling in Turkey, was performing quarantine in a Turkish village, having passed through a district in which the plague was raging. He was confined in a wretched apartment, and had nothing to interest or amuse him during a tedious imprisonment, everybody keeping at a distance, for fear of infection, when one morning while at breakfast, a bird of the woodpecker species flew in at the window with, to use his own words, "all the familiarity of an old friend," hopping on the table and picking up the crumbs and flies. It had belonged to a young girl just buried, and by a singular instinct left the house of the dead, and flew into his room. Its habits were curious and so familiar that they were quite attractive; it climbed up the wall by any stick or cord near it, devouring flies. It sometimes began at his foot, and at one race would run up his leg or arm, or round his neck, and down his other arm, and so to the table. It would there tap with its bill with a noise as loud as a hammer, and this was its general habit, on the woodwork in every part of the room; when it did so, it would look intently at the place, and dart at any fly or insect it saw running, in all probability adopting this noisy mode of disturbing such insects as might be concealed within, that it might seize them the moment they appeared.—*Bishop Stanley's History of Birds.*

The Owl.—There are upwards of 60 species of owls widely spread over almost every part of the known world: of these, we may count not fewer than eight as more or less frequenting this country; of which by far the most beautiful as the great snowy owl, [illegible] which may fairly, from its size and noble appearance, be called the golden eagle, or very king of owls. It is a rare visitant, indeed, in England, only confining itself to the wildest and most desolate regions of the north, where, amidst almost perpetual snows it passes its solitary life. When in perfection, its plumage is of the most dazzling snowy white, with a few dusky spots chiefly about the head. Its thick feathery coating is most admirably adapted for the country in which Nature has appointed it to rove. During the three summer months in those inhospitable regions, the temperature of the air is not above the freezing point, and during the remainder of the year far below it; were it not, therefore, for the mass of thick down and feathers in which its body is shrouded, it must soon perish under the intensity of cold; but as it is, it has nothing to fear, for with the exception of the tip of its beak and the extremities of its long black claws, no part is exposed. And again, were it not for its colour, which renders it almost invisible as it silently glides over the snowy plains, the hares and other animals on which it preys would see its approach, and be prepared to escape. Of course the habits of a bird so rarely coming under human observation can be but little known; but the few particulars we have been able to collect appear fully justify the above remarks. Thus, that its snowy plumage is essential to its means of existence, may be gathered from circumstances relating to a couple that were shot in the severe winter of 1823, in Northumberland. They had, for some days before they were killed, been observed in the wild and rocky parts of an open moor, either perched upon the snow, or on some large solitary stone projecting from it, from whence, without attracting notice by any contrasting colour, they could look out for their prey, and be prepared to seize it as it incautiously approached. As the smaller species hunt for mice, so does this search for hares and rabbits, on which it pounces, and in a similar manner swallows them, when possible, whole; a fact ascertained in the case of one shot at and wounded in the island of Barra, which, on being approached, disgorged an entire young rabbit; another when taken had a sandpiper, with the whole plumage, in its stomach. As they were often found dead by Captain Sir Edward Parry, who spent so many months in their most frequented neighbourhood, it is concluded that they frequently perish from want of food; indeed, their eagerness to partake of the hunter's fare, and carry off the spoil in his presence, is a proof that they must often be severely pressed by hunger. Sportsmen in the north assure us, that they keep watch on some high tree or lofty rock, and the moment the gun is fired and the game killed, they descend, and skimming rapidly down, secure the prey before the shooter is able to get near it. Ptarmagans are a favourite food of these birds, and are well aware of their danger. Their mode of escape is, on perceiving the owl about to pounce upon them, to dive instantly into the loose snow, and make their way beneath it to a long distance.—*Bishop Stanley's History of Birds.*

Jamaica Fireflies: Pyrophorus noctilucus.—The light from the two oval tubercles on the dorsal surface of the thorax is very visible even in broad daylight. When the insect is undisturbed, these spots are generally quite opake, of a dull white hue; but on being handled they ignite, not suddenly but gradually, the centre of each tubercle first showing a point of light, which in a moment spreads to the circumference, and increases in intensity till it blazes with a lustre almost dazzling. The colour of the thoracic light is a rich yellow-green. In a dark room, pitch-dark, this insect gives so much illumination as to cast a definite shadow of any object on the opposite wall, and when held 2 inches from a book the whole line may be read without moving it. The under part of the thorax has a singular appearance when the tubercles are fully lighted up; for the horny coat of skin being somewhat pellucid, displays the light within redly and dimly, as if the whole thorax were red-hot, particularly at the edges, immediately beneath the tubercles. When left alone, the insect soon relapses into stillness, and the tubercles soon fade into darkness, either total, or redeemed only by a spark scarcely perceptible. I had been familiar with this firefly for some weeks, and had made the above observations on it, without being aware that it possessed any other source of light than the thoracic tubercles. I had indeed remarked that when flying at liberty the light which it diffused was of a rich ruddy glow, and yet these individual insects, if captured and held in the hand, showed only green light. I much wondered at this, but knew not how to account for it, until a friend explained it, illustrating his remarks by experiment. On the ventral surface, when the abdomen is extended, there is seen, between its first segment and the metathorax, an oval transverse space, covered with thin membrane, which glows with orange-coloured light; totally concealed however when the abdomen is relaxed, by the overlapping of the metathorax. When the insect is placed on its back it throws itself into the air like other Elaters; but if it be made to repeat this many times it appears to become weary, and endeavours to raise itself by bending the head and the abdomen back, so as to rest on the extremities, in hope to roll over. It is when thus recurved that the abdominal light suddenly appears, the oval space being uncovered. When held in the hand, the same effect is produced by forcibly bending back the abdomen with the fingers; but this is not very easy of accomplishment, on account

of the resistance of the closed elytra; but if these be held open with one hand and the abdomen recurved with the other, it is readily shown. As the open space, then, can be exposed only when the elytra are expanded, the reason is manifest why the red light is never displayed by the insect when walking or resting: the green thoracic light on the other hand may be displayed at any time; it is however very rarely shown during flight. On one occasion two or three fireflies, having entered the sitting-room in the evening, gave out the red light most brilliantly as they flew round near the ceiling, the spectators being beneath them; one of these, being alarmed by my efforts to capture it, gave out the thoracic light also very brightly; and the mingling of the green and red light in the evolutions of flight produced an effect indescribably beautiful.—*Gosse in Annals of Natural History.*

Calendar of Operations.

(For the ensuing Week.)

Disbudding.—In the case of several of our cultivated fruit trees, experience has abundantly proved that the removal of shoots at an early stage of their growth (which from the adoption of a system of training, or a tendency in the tree to excessive luxuriance, are deemed superfluous) is both advantageous to the health of the tree and favourable to the production of handsome fruit. Pruning may effect the result desired, but it is a violent remedy, although necessary in some degree. Disbudding, properly speaking, is the art of preventing the development of useless buds at the expense of those which should be preserved, as it must be more advantageous to check an unnecessary shoot at an early stage than to wait until it has exhausted the tree of a greater or less quantity of sap; as it is probable that a proportion of roots is directly connected with vigorous shoots, it follows that derangement in the distribution of the sap ensues from their removal at the period of their full development. It is, then, generally advisable not to wait until a badly placed shoot is developed, but to suppress it early. With Apples and Pears peculiar judgment and discrimination are necessary; stopping should systematically be practised. The excess of shoots produced by Peach trees invites the practice we recommend. The same attention should be directed to Vines. In our flower gardens much unnecessary growth may be prevented. Roses, for example, if judiciously disbudded, not only bloom better, but form finer and more vigorous plants. In fine, we advise a daily inspection of the sort of trees we have alluded to.

CONSERVATORY AND GREENHOUSE.

The variable nature of April weather (so fully evidenced lately), its fitful gleams of sunshine and cold searching blasts, render the task of sustaining an equable temperature ofttimes difficult. It must be remembered that the majority of the occupants of the greenhouse have, under the excitement of a genial temperature, developed their tender shoots; therefore direct injury would ensue from neglecting the precaution of regulating air and sustaining suitable heat. In introducing flowering plants, be careful that the specimen plants of the house are not crowded; the injury would be more direct at this season than at any time. In the small greenhouse the care most essential to the growing plants recently potted, is that of maintaining a moist active heat, and ensuring them regular supplies of water. It will be necessary to alter their arrangement occasionally, to allow increased room to the growing plants; repress the wild growth of some, and remove blossom buds from those plants that are required to make robust growth. *Stove.*—Those plants recently potted will be in motion; allow of no diminution of bottom heat, and keep a moist warm atmosphere; give air when the thermometer indicates 90°. Continue to shift Gesneras, Clerodendrons, &c.; regulate the position of the plants, following their natural peculiarities.

FRUIT FORCING.

Repress, in a degree, the humidity of the fruiting-pit when the majority of the plants approaches maturity. Allow a heat of 90° in clear weather. Particular caution is required for late fruiting plants, or a premature start will result; avoid extremes of temperature, and supply water according to the activity of the plants. *Vineries.*—Until the early Grapes are fully matured, it would be injudicious to remove the litter from the borders which have been protected by it; during the period of colouring, air should be supplied to the house constantly, and a brisk heat maintained; anything that would tend to diminish the healthy activity of the Vines would affect the progress of the fruit. Keep up a high temperature in later Vineries, where the bunches are in course of formation; it is a great thing to bring them out well. *Figs.*—Material fluctuation in the temperature of the Fig-house should be avoided, particularly about the period the trees are perfecting their early crop; a very little neglect will cause them to fall. *Melons.*—Ridge out when the state of your pits permits it to be done. Sow for successional pit. Stop and regulate the shoots early. Advance the heat with the weather from 70° to 90°.

KITCHEN GARDEN AND ORCHARD.

On the removal of Broccoli let the ground it occupied be immediately manured and dug. This has proved a favourable season for the production of Broccoli; therefore a good opportunity exists for noting and preserving the best varieties. Lose no time, if hitherto neglected, of getting in the Potato crop. Manure with wood ashes, lime, or soot, in preference to stable manure. Remove the greater portion of the litter from Seakale and Artichoke beds; dig and manure the latter. Jerusalem Artichokes may still be planted. Let newly planted Lettuces, Cabbages, &c., be examined, and slugs pursued and destroyed. Seed beds must frequently be looked to, and the same omnivorous depredators checked in their attacks on the seedlings. As an additional precaution dust the plants with lime or soot. Sow Kidney Beans in a warm situation. The removal of Fir boughs or other material from wall trees should not take place until the fruit is fairly set. Keep down the green fly as it appears on Peach trees. Omit no attention to transplanted trees. Water in dry weather and shade in sunshine. Disbud wall trees, commencing with the most vigorous. Let the operation be performed at intervals, and always with the utmost caution. Inspect frequently grafted trees; remove all shoots below the scion. Moisten the clay if cracked and dry. Look to last year's budded stocks, and search for caterpillars.

FLORISTS' FLOWERS.

Tulips are making very rapid progress; it will be requisite to pay them very strict attention. Sometimes, in consequence of the action of the wind on the flower stems, there will be a cavity in the soil immediately round them; such must be carefully filled up, and the surface of the bed kept free from cracks, weeds, &c. Hailstorms have been very prevalent this season; nets with small meshes are apt to draw the stems, if too close; still, for the effectual preservation of the advancing buds, they cannot be dispensed with till the top cloth or awning is put over them. *Carnations.*—Supposing that all layers are planted out, either in pots or on beds, the amateur may turn his attention to sowing any choice seed he may have by him; we prefer the 25th, or thereabouts. In the meantime the compost may be prepared, and some effectual means resorted to for destroying insects and their larvæ, by subjecting it to the action of a considerable degree of heat. *Ranunculuses.*—Keep seedlings very clean, and protect them from the direct rays of the sun. *Pansies.*—Propagate from slips and cuttings; if any seedlings of good properties bloom strike the cuttings, but by no means remove the parent plant till stock is secured. *Auriculas.*—Shade during the day from powerful sun, and cover close at night. Fertilise those flowers from which fine seed is required.

COTTAGERS' GARDENS.

Although the season cannot be called backward, the prevalence of wet weather in March has considerably retarded garden operations, particularly in the case of many of our cottage neighbours; when the opportunities of proceeding with them are so few, a little time would be a valuable and an appreciable gift to cottagers in arrear of work in their small holdings. It is time that all the Potatoes were in the ground; and if any space exists, Jerusalem Artichokes must not be omitted. Stick early Peas; earth up and prick out Cabbages; sow Long-pod Beans. As winter Greens have rarely been more abundant or acceptable than during this spring, their value has been discovered, and the importance of a garden fully estimated; ensure therefore a proper supply for a future season, by sowing at once such as Savoys, Brussels Sprouts, Scotch and Buda Kale.

State of the weather near London, for the week ending April 13, 1848, as observed at the Horticultural Garden, Chiswick.

April.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 7	3	29.391	29.440	47	36	41.5	N.E.	.04
Satur.. 8	4	29.460	29.494	43	38	40.5	N.E.	.01
Sun. .. 9	5	29.548	29.515	53	34	43.5	N.E.	.14
Mon. .. 10	☽	29.483	29.328	53	30	41.5	S.	.27
Tues... 11	7	29.759	29.653	59	42	50.5	N.W.	.12
Wed... 12	8	29.540	29.432	60	43	51.5	S.W.	.16
Thurs. 13	9	29.675	29.540	57	35	46.0	W.	.45
Average...		29.578	29.434	53.1	36.8	45.0		1.22

April 7—Fine; cloudy; overcast at night.
— 8—Rain; cloudy, with slight rain.
— 9—Rain; cloudy and cold; constant heavy rain and sleet at night.
— 10—Hazy and damp; fine; cloudy.
— 11—Fine; cloudy; rain at night.
— 12—Rain; showery throughout.
— 13—Partially overcast; slight showers; heavy rain at night.

Mean temperature of the week, 1 deg. below the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending April 22, 1848.

April.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 16	56.6	36.4	46.5	9	0.63 in.	1	5	3	1	1	3	2	2
Mon. 17	58.2	36.8	47.5	10	0.32	1	6	3	2	1	3	1	1
Tues. 18	57.5	37.8	47.7	5	0.49	3	5	2	1	2	2	4	3
Wed. 19	58.5	36.0	47.2	4	0.06	1	6	2	1	—	3	5	—
Thurs.20	59.4	36.5	48.0	9	0.22	1	5	—	—	—	6	5	2
Fri. 21	58.3	39.3	48.8	8	0.20	1	5	4	1	1	3	7	—
Satur. 22	59.5	39.3	49.4	11	0.32	3	6	3	1	1	3	5	—

The highest temperature during the above period occurred on the 17th 1844, and 22d, 1826—therm. 71 deg.; and the lowest on the 16th, 1847—therm. 20 deg.

Notices to Correspondents.

Asparagus—*B E*—The mould applied in autumn should be forked over, and if more than 6 inches in depth a part may fall into the alleys. The manure in the alleys must not be disturbed; in the course of the summer it will be filled with strong roots, which will much improve the shoots in the succeeding spring. The term "pricked over," in gardening parlance, signifies a very shallow digging or forking taking occasion to make the soil fine during the process. The fork is best for Asparagus beds. Raise your handglass on bricks for awhile, to harden the plants previous to their ultimate removal.‡

Birds' Nests—*A Subscriber* asks "What is the best method of preserving birds' nests in a cabinet of natural history, so as to protect them from the ravages of insects?"

Cauliflower, Broccoli, Turnip, and Cabbage Seed for a good sized Garden—*Sub*—By a good sized garden we may infer nearly a couple of acres; for such, in your case, the following will be requisite:—1 oz. of Cauliflower; 2 oz. of autumn Broccoli, in var.; 1 oz. of midwinter ditto, ditto; 1 oz. of latest spring ditto, ditto; 4 oz. of Dutch Turnips; 4 oz. of Stone ditto; 2 oz. of small early Cabbage seed for Coleworts, &c.; and 1 oz. of large late Cabbage.‡

Cuttings—*A Gardener*—We will answer you next week.

Disinfection—*N K*—Opinion runs in favour of Ellerman's deodorising fluid, but we have never been able to procure any of it for trial, nor can we say whether it affects the quality of manuré or not; probably not appreciably. Chloride of zinc is not fit for manure; chloride of lime is no doubt the best, but it is too dear. Gypsum and sulphate of iron are useful, but the former is weak, and the latter *in theory* rather objectionable. The other question we cannot answer, but will enquire.

Insects—*J H M*—The beautiful little insect from the Himalayan seeds is one of the small Chalcididæ, which destroys the authors of the mischief of which you complain. We do not know what species it is which has eaten the Deodar and other seeds. *W.*——*Sub*—Your lawn is infested with the grubs of the daddy-long-legs (Tipula oleracea). Saturate it well with a weak solution of corrosive sublimate, and employ children to kill all the daddy-long-legs when they make their appearance in the summer. *W.*——*A G*—The grub sent is the larva of the common cock-chaffer (Melolontha vulgaris.) We have not before heard of their peeling the roots of young trees. Are you sure that they are the real delinquents? Use the same remedy as is suggested against the grubs of the daddy-long-legs in the last answer, and pay children 1*d.* a quart for the chaffers when they appear in the summer. *W.*——*T Cox*—Your young Peas are nibbled by their well-known enemy the weevil, Sitona lineata, (see *Gardeners' Chronicle*, 1844, p. 388). We know no better remedy than to shake the Peas at night over a white cloth, when the weevils will fall, and may easily be destroyed. *W.*

Names of Plants—*C R*—Juniperus virginiana, or Red Cedar.¶ ——*A Z*—Convolvulus Cneorum.——*D*—Dillwynia cinerascens.——*Recips*—1, Genista canariensis, var.; 2, Coronilla glauca; 3, Edwardsia microphylla; 4, Commelina sp.? 5, Gymnogramma Colmelanos; 6, Asplenium decussatum; 7, Sempervivum cæspitosum; 8, Echeveria lurida? 9, Sempervivum? new ¶ ——*Dakry*—1, Anemone appennina; 2, Fumaria cava; 3, Sisirhynchium grandiflorum; 4, Borago laxiflora; 5, Ornithogalum umbellatum——*X Y and G M and Co*, will be answered next week.——*L Ballantyne*—The Brazilian Gesnera Douglasii, and not a Cape plant.

Peaches—*R N*—Dr. Neil is correct; the Royal George Peach has *small* flowers. It is the Madeleine Rouge à petites fleurs of the French. When it received the name of Royal George is not exactly known; but certainly before the reign of George the First such name was never heard of, although the variety was then in cultivation in this country. The Red Magdalen of Miller is the Madeleine Rouge, or Madeleine de Courson of the French; and it has *large* flowers. With regard to any one of the principal varieties of Peaches and Nectarines, every gardener ought to know whether it has large or small flowers; whether its leaves are glandless, or furnished with glands either globose or reniform; and whether the fruit is a clingstone or melter.‖

Ringed Branches—*L F*—Nothing can be more easy of explanation. When you removed the ring of bark you did not prevent the *ascent* of sap, for sap rises through wood; but you prevented the *return* of the woody matter formed out of the sap matured in the leaves. Returning through the bark this matter is stopped at the place where the ring was removed, and accumulating there thickens all the parts.

Roses—*M P*—The following are 6 of the best and most distinct Chinese Roses suited for bedding, viz.:—Archduke Charles, Augustine Hersent, Belle Emilie, Cels multiflora, Fabvier, and Madame Breon. Six Hybrid Perpetuals for the same purpose: Baronne Prevost, Dr. Marx, Duchess of Sutherland, Edouard Jesse, Madame Laffay, and Marquise Boccella. Six Tea-scented for do.: Bride of Abydos, Clara Sylvain, Bougère, Buret, Nitida, and Safranot. Six Bourbons for do.: Armosa, Comice de Seine et Marne, George Cuvier, Madame Neraid, Queen, and Souchet. Six Noisettes for creepers: Du Luxembourg, Grandiflora, Langevine, Cerise, Fellenberg, and Pourpre de Tyre ‡

Thermometers—*T S P*—We observe three apparent causes for the error of your thermometer, A. It is perhaps affected by radiation from the tree or bodies near it; its parasol should be placed on an open lawn. Or the wooden roof absorbs solar heat and communicates it to the instrument; the roof should be of painted canvas on a slight wooden frame. Or the soil over which it stands may itself be of a nature to absorb more heat than other places, which heat when radiated will affect the instrument. We see no other solution of the question.

Vines—*Enquirer*—You have nothing to do but to make a good border, introduce your Vines, train them to a trellis, and take great care of their having plenty of air.

Misc—*X*—There are no varieties of the Cedar of Lebanon, unless the Silver Cedar be a variety. It may be obtained in all respectable nurseries.——*T K W*—Nothing will thrive well in your damp, nearly sunless corner. You might, however, try some of the taller growing Phloxes, Irises, Scarlet Lychnis, Campanula grandis, Michaelmas Daisy, Lilium candidum, and some Lysimachias ‡——*X Y*—If you allow water to collect under your hotbed, you will lose your heat. ——*Enquirer*—We have read your statement carefully over, and we can find nothing in it that explains the cause of your Grapes going off in the manner exhibited by the specimen sent.——*L Z*—All greenhouse plants, which every gardener should be able to manage, with the exception of the Deodar and Pinus Gerardiana, which are hardy, and the Melons, which are managed like other Melons.——*A Lady*—Throw your Vinegar Plant into water just sweetened with sugar. ——*A Gardener*—Shake your Larch seed from the cones and sow it now, in shallow pans filled with pure yellow loam, and place them in a cold frame.‡——*F S*—Your seeds look like those of the common Palma Christi, or Castor-oil plant. Begonia Fuchsioides will succeed in peat and loam mixed with a little leaf-mould.‡——*Sub*—The Laburnum is sufficiently poisonous to render it dangerous to horses or other stock which bite its shoots, or eat the seed-pods and seed ‡ ——*A Correspondent* inquires after Mr. Ibbetson, Ganthorpe, Terrington, York. Last summer he says he requested Mr. I. to send him some dried Ferns, which Mr. I. had advertised for sale, and which the latter promised to send in September last, but he has not yet received them, nor any answer to his inquiries respecting them.‡——*G P*—The fruit of Pyrus japonica is a sort of Quince.——*A Lady*—Your Violet buds are probably eaten by slugs. For the latter use lime-water.

SEEDLING FLOWERS.

Auricula—*X X*—Your seedling will never rank as a show flower, the paste, instead of being dense and pure, is thin and watery in appearance; the other qualities of the flower are very pretty. *

Cacti—*W M*—Of the seedling Cacti sent, No. 1 is an attractive variety, rich and brilliant in colour, each petal having a stripe of scarlet in the centre, with a deep border of crimson purple; if a free bloomer it must have a brilliant appearance. Numbers 1 and 2, delicate rose-coloured varieties, are pretty, but they resemble too closely many of the cultivated sorts. *

Cinerarias—*B L*—Your blue seedling is good in colour, but deficient in form, the petals being too narrow; neither this nor the crimson flower are equal to similar coloured varieties already in cultivation. *——*M H*—If the habit of your seedling is good, it will be a desirable variety; it is good in form, the white pure, and the petals tipped with a decided blue. *

Fuchsias—*R A C K*—Your seedling is in the way of splendens very pretty, and well coloured. Call it vivida.

AGRICULTURAL SEEDS. —

Epps' Long Giant Mangold Wurzel	per lb.—	1s. 6d.
Yellow or Orange Globe do.		1 6
White Belgian Carrot		2 0
Hollow Crown Parsnip		1 0
Improved Purple-top Scotch Turnip		1 6
Laing's Swede		1 6
Negus's Golden do.		1 6
Skirving's Liverpool do.		1 6
Smart's Improved White Round Turnip		1 0

The above are from the best selected stock grown in Kent.
WM. JAMES EPPS, Seed Merchant, Maidstone.

GRASS SEEDS.

THOMAS GIBBS AND CO., the SEEDSMEN to the Royal Agricultural Society of England, beg to call attention to their mixtures of selected NATURAL GRASSES for laying down land to permanent Meadow and Pasture. In giving orders, it is necessary that the nature of the soil, &c., should be stated, in order that the kinds may be duly apportioned. Directions for sowing and management accompany the Seeds.

They beg also to call attention to their Renovating Mixtures, for refreshing and improving land already in Grass; to their general stock of Grass Seeds, Italian and other Rye Grasses, Belgian and other Carrots, Mangold Wurzel, Turnips, and other Seeds.—THOMAS GIBBS and Co., Corner of Half-moon-street, Piccadilly, London.

AGRICULTURAL SEEDS.

THOMAS WHALLEY begs respectfully to inform his friends that his priced CATALOGUE for the present season is now ready, and may be had post free upon application. T. W. has published a DESCRIPTIVE LIST OF FLOWER SEEDS, which will be found useful to purchasers, and may also be had free on application.
Seed Warehouse, 12, St. George's Crescent, Liverpool.

AGRICULTURAL SEEDS OF THE FINEST QUALITY.

		s.	d.
CARROT, large White Belgian	per lb.—	2	0
,, Long Green-topped Red Altringham	,,	1	3
,, Improved Long Red do.	,,	1	9
PARSNIP, large Cattle	,,	1	6
MANGOLD WURZEL, Long Red	,,	1	6
,, ,, Long Yellow	,,	1	9
,, ,, Globe Yellow	,,	1	6
,, ,, Globe Red	,,	1	6
CABBAGE, superior Cattle Drumhead	,,	2	6
TURNIP, Skirving's Swede	,,	1	6
,, fine Purple-top Swede	,,	1	6
,, Norfolk Green Round	,,	0	8
,, Norfolk White Round	,,	0	8

Other varieties of the best kinds.
GRASSES, fine selected, mixed in proportionate quantities of the most useful kinds for PERMANENT PASTURES, suitable to different descriptions of soils, requiring 3 bushels per acre ... per bush.—10 0
Do., finest mixed dwarf varieties for lawns ... per lb.— 1 3
Do., Pacey and Italian Rye-grass; and all other articles in the Seed Trade, true, and of fine quality.
Remittances with orders or reference from unknown correspondents. Orders of 20s. and upwards delivered free to London or on the Eastern Counties line.
BASS and BROWN, Seed Establishment, Sudbury, Suffolk.

GUANO AND OTHER MANURES ON SALE.—Guano, Peruv. & British Superphosphate of Lime Bonedust and Bone Sawdust Dried Night-soil. Urate. } For Wheat, Oats, Barley, Grass Seeds, Turnips, Mangold Wurzel, Potatoes, &c.
Gypsum, for Clover, Cinquefoil, &c.; Nitrates of Soda and Potash, as stimulants; Petre Salt, for dressing old Pastures; Agricultural Salt, for Compost-heaps, &c.; Sulphuric Acid, for dissolving bone; Soda Ash, a destroyer of Wireworm: and all other Manures of known value. Also Horticultural Glass, Milk Pans, &c.—Apply for prices current, to MARK FOTHERGILL, Office 201 A, Stores 40, Upper Thames-street.

POTTER'S GUANO.—SEVENTH YEAR.—TESTIMONIALS. Whittington, near Lichfield, Aug., 18.7.
Mr. Potter.—Sir—I have tried your Guano in several ways against the best Peruvian, and *find it superior*; which I hope will be a convincing proof for another season.—I am, sir, your obedient servant, W. WARD.
Experiment of the Earl of ZETLAND—Potter's Guano against Peruvian, on Grass.

		Tons	Cwt.	Qr.
POTTER'S GUANO, 2 cwt.—Hay per acre	...	2	£ 0	
Peruvian Guano, 2 cwt. ,, ,,	...	1	18	0
In favour of Potter's		0	10	0

Numerous Testimonials will be sent on application per post. The price of Potter's Guano is much under the Peruvian.
POTTER'S PURE SULPHATE OF LIME.—GYPSUM.
TESTIMONIAL.—Sir—I have had your Sulphate of Lime examined by an excellent Chemist, who speaks very favourably of it. Please send 2 tons directed to ASHBURST MAJENDIE, Hedingham Castle, Essex.
This is the *cheapest* article sold, being much under the usual price.—Factory, 28, Clapham-road-place, London.
*** Sulphate of Ammonia, Superphosphate of Lime, Oil of Vitriol, Burnt Bones, Bone Dust, &c., &c., at lowest prices.

DR. RICHARDSON'S PREPARED BONE MANURES. per ton—£ s. d.

B	Manure for Turnips, Potatoes, &c.	8	0	0
C No. 1	For the Straw of Wheat, Oats, &c.	7	0	0
C No. 2	For the Grain of ditto, ditto	12	0	0
L No. 1	For the straw of Beans, Peas, &c.	7	0	0
L No. 2	For the Seed of ditto ditto	12	0	0
H —	For Hops, Flax, Clover, &c.	9	0	0
G —	For Garden Produce in general	10	0	0
S —	For Sugar Cane	9	0	0
SUPERPHOSPHATE OF LIME		7	0	0

The above Special Manures are manufactured by Messrs. RICHARDSON, CURRIE, and Co., at their Chemical Works, Blaydon, near Newcastle-on-Tyne, and may be had in London, of their Agents, Messrs. John Clarance and Co., 19, Cullum-street, Fenchurch-street.
Testimonials and directions for its use on application.

The Agricultural Gazette.

SATURDAY, APRIL 15, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.
THURSDAY, April 20—Agricultural Imp. Soc. of Ireland.
WEDNESDAY, — 26—Agricultural Soc. of England.
THURSDAY, — 27—Agricultural Imp. Soc. of Ireland.
FARMERS' CLUBS.—April 15: Northampton.—April 17: W. Market, Yoxford, Great Oakley.—April 19: Harleston.—April 25: Stranraer.

THE student of what is called TENANT RIGHT has ample opportunities. The press teems with publications on the subject, and every aspect which it presents to all sorts of spectators has been reflected from each upon others by numberless essays and pamphlets. The subject has thus excited most extensive as well as very deep interest: perhaps no purely agricultural question was ever so generally discussed with such earnestness by the agricultural body. All classes connected with it urge their opinions, and interested as well as disinterested writers press their views upon the public: the cultivators of the land upon the one side, and, very generally at least, its owners upon the other, contend in public for their respective conclusions. Those who would acquire an opinion by weighing the opposing arguments should read the pamphlets of Mr. CORBET, Mr. NEWMAN, and Mr. WELCH*, who take one side of the question, and that of Mr. NEVILLE,† who takes the other. Those who would rather avoid this labour will probably find the fairest, as it is the most disinterested, judgment of the whole in the reports to the Law Amendment Society, by their Committee on the Law of Property. A special report on this very subject of Tenant Right has lately been presented, which well deserves the consideration both of those who desire and of those who deprecate Tenant Right legislation.

We do not propose to restate the argument for the legal recognition of "tenant right"; it is well known to rest for the most part on the personal injustice, and national impolicy of leaving the tenant's capital a prey to the caprice of those on whose land it is invested; our readers have already met with the whole statement often enough in these columns, and they will find it developed in every possible way in the pamphlets already alluded to. The difficulties in the way of such a course, however, are not so often insisted upon, and may be more usefully referred to.

They are admirably studied in the report to the Law Amendment Society already named. The whole subject is there set forth in the form of questions, which after full discussion receive the following answers:—

1. That a landowner ought not to be compelled to pay for an addition to his property for which he has not bargained: that the tenant of land binds himself by the mere occupation of it, to what in his neighbourhood is understood to be good husbandry; indeed, the art of cultivation being progressive, he is even bound to preserve his place in the movement: that where his improvements, however, involve *extra*ordinary outlay capable of reimbursement only after several years, they constitute an addition to the "corpus" of the landlord's property, and it may be advisable to enforce upon the latter a condition for their purchase.

2. That the improvements for which compensation should be thus allowed being dependent for their value, their cost, and their permanence on the circumstances under which they are made, it is impossible to frame any one statutory rule on the subject which would be fair for the whole country.

3. That the landlord ought to have the option of making the improvements himself.

4. That no way has yet been devised of valuing improvements for compensation ensuring justice to both parties. For, to take the increased value of the land at the close of the tenancy as the amount of the tenant's claim would not be just towards the landlord; it being only that portion of the increased value due to the improvements in question for which the tenant can contend. Land, it is well known, will increase in value as population increases, and as the ordinary good husbandry which the tenant has a personal interest in following takes its natural effect. And, on the other hand, to take the prime cost of the works, subject to an annual deduction during the continuance of the tenancy, as the basis of the calculation, might not be fair and would not be easy. Two methods of applying this principle have been suggested, which are thus referred to in the report:—

"First, the question may be reserved till the determination of the tenancy, and then settled on proof being given of the execution and cost of the work, subject to a deduction bearing for each class of improvements a different fixed proportion to the length of subsequent occupation by the tenant. To this there are several serious objections. The tenant's expenditure is under too little control: he may himself choose what improvements shall be made, without consulting the landlord. Again, the principle is not fair; for the prime cost of the improvement may bear no relation whatever to the increase of value in the land caused by it, which must depend on the skill and foreknowledge of the tenant, as well as on his expenditure, so that the landlord might have to pay very largely for a very small benefit, or the tenant receive an inadequate remuneration for a very large one. Lastly, it would be almost impossible to devise a general scale of deduction for subsequent enjoyment applicable to the whole country. ... an operation which improves the land for ... one district may be felt for three times that period in another: the materials used in one ... perishable; in another they may endure ... nite time. These objections it is not easy to ...

"It remains to consider the second way of applying the same principle. This is effected, as before, by making the amount of compensation bear some relation to the cost of the work; fixing its amount, however, at an earlier stage of the proceedings, before the work is commenced. This method requires, of course, that the landlord should have notice beforehand; and therefore, can easily be made available for carrying out the suggestion that he ought to have the option of doing the work. It also avoids the objection arising from the tenant's uncontrolled power; and, to a great extent, that arising from the unfairness of the principle, for the amount of compensation is settled and granted beforehand, if not by agreement, by a fair and competent arbitration; and being so, the work may be entered upon as a joint speculation of the landlord and tenant, in which each has agreed beforehand on the principle on which the profits are to be divided.

"The difficulty of making a general scale for execution for subsequent enjoyment, extending to the whole country, still remains. But supposing that objection to be met by some such means as have been suggested, your committee are unable, at any rate with no more resources than at present exist, to suggest any course by which this proposal could be carried into effect, which would be free from great complication and practical difficulty. If the proposed improvements are to be the subject of litigation before they are executed, and the fact of their proper completion open to dispute, as it must be, afterwards, proportionate opportunities are given for delay and vexation. The Government bill for Ireland, which seems to have been very carefully considered, is so good an illustration of the difficulties which beset this method, that it is worth while to give an outline of its provisions.

"Under it the tenant is, in the first instance, to give a notice, to which the landlord may accede, and either undertake the work himself, charging the tenant with additional rent at a rate fixed by the bill, or agree upon a compensation. If he does neither, the tenant may give a second notice; to this also the landlord may accede, and undertake the work, charging additional rent as before, or he may specify objections: in this latter case arbitrators are to be appointed, with an appeal to the assistant barrister. On the award being settled, the landlord may still do the work himself, charging additional rent. On completion, the person doing the work is to give a notice to the other. And upon this an appeal to the barrister lies, on the ground of imperfect execution: and in case of non-execution an appeal also lies. In case of non execution by the landlord, the tenant may complete the work himself, and recover damages. In case of execution by the tenant, the landlord may pay down the compensation at once, and claim the additional rent. The tenant's compensation is never to exceed three years' rent, and to be reduced in proportion to the period after the improvement during which he holds the farm; such proportion being fixed by the bill, and differing according to the species of improvement.

"All the notices, awards, and decisions are to contain minute specifications of time, cost, and description. There are no less than six which may, and four which must be made and delivered, in disputed cases, before compensation can be claimed. One arbitration is, in such cases, inevitable; two are probable; and from each an appeal lies. In addition to these proceedings, several registrations are necessary.

"Your committee think it probable that such a system would either be useless, from its complication and the difficulty of working it, or that it would produce frequent and long-continued litigation, expense, and delay. They also think that it would not be possible to amend the plan in such a way as to remove these objections."

The remaining portion of the report, which, although it points out desirable alterations, concludes without recommending any change of the existing law, suggests the establishment of a board similar to the former Board of Agriculture. Legal and agricultural knowledge should both be represented in it; and its work should be to ascertain the existing local customs affecting the law of landlord and tenant, with a view to their improvement and consolidation, and with the view moreover of ultimately becoming a tribunal by which, whether under tenant right legislation or not, the many mixed questions of law and agriculture constantly arising might have a chance of equitable solution. To such a board might also be most properly confided the work of collecting the agricultural statistics of the country.

The whole report to which we have thus called the attention of our readers well deserves, as we have said, their serious consideration. It exposes both the law and the equity of the subject more clearly than any other publication upon it that we have seen; and will no doubt tend by its statements

* The pamphlets alluded to are—1. On the Importance of a Legislative Enactment uniting the Interest of Landlord and Tenant, &c. By C. Newman, Court Farm, Hayes, Middlesex. Ridgway, Piccadilly.—2. Tenant Right: on the Necessity of some Legislative Enactment, &c. Prize Essay. By Henry Corbet, Secretary to the London Farmers' Club. "Farmers' Magazine" Office, 24, Norfolk-street, Strand.—3. Tenant Right: its Nature and Requirements, &c. By James Welch, of the Inner Temple, Esq., &c. &c. Ridgway, Piccadilly.

† The Justice and Expediency of Tenant Right Legislation, Considered in a Letter to P. Pusey, Esq. By Rev. C. Neville. Ridgway, Piccadilly.

on both heads to bring the parties to its discussion much nearer to one another. We must confess, however, to its having greatly diminished our expectation of useful tenant right legislation. The difficulties it exhibits appear so great and so numerous that the dependant condition of the tenantry, on which alone any reasonable call for such legislation can be founded, may almost be supposed capable of earlier removal by their progress, now so rapid, in intelligence and consequent influence. When both the parties concerned in the cultivation of the land shall at length perceive in what manner their own interests must affect the contract between them for its occupation, no change of law will be needed—all the benefits of legislation on such a subject will be then far more efficiently attained by personal and voluntary engagement. And there is one point of view, in which, by the way, those who contend for such legislation appear rarely to see it, in which a still greater obstacle appears to its utility, even if it were attained. Consider the means of opposition to any law on the subject which refractory landlords possess. They are well put in the following passage from Mr. Neville's able pamphlet, with which we shall at present conclude.

"Parliament has proclaimed that Protection is a mistake, and now proposes to take the tenants under its baneful care. You have told the landowner he is to fight all the world at immense odds, and you now wish to tie his hands behind his back by a string of compensation clauses—the plea is, he does not understand his own interest, or is too obstinate to follow it—necessity will soon teach him his own business better than you can, and all his prejudices must melt away before the sun of unlimited competition. If the light we have obtained really *is* light, let us not go back into the darkness from which we so lately professed to have emerged, by endeavouring to make the tenant prosper by Act of Parliament. It surely cannot be possible that the principle of legislative interference in a simple contract between two parties, who are both perfectly at liberty, can be sanctioned. Should the demand for farms at this moment happen to be greater than the supply, I cannot believe that land will be made an exception to all other commodities, by in the smallest degree dictating the terms on which it is to be let. If, however, I am disappointed, I shall immediately insert a clause in every agreement, binding the tenant not to take advantage of this new act. If such an evasion should be rendered impracticable by any compulsory provisions, I shall call my tenants together, and explain to them that I cannot allow *my* money to be spent at *their* discretion, and as I have no means of paying for the improvements they may think proper to make, I shall be under the necessity of giving any tenant notice to quit who attempted to improve his farm. If I stand alone in such a course, my obscurity will be my protection,—but should the larger landowners do the same thing, it would soon be found that the Act had failed. Some zealous member of Parliament, justly incensed at the practical defeat of the measure, would no doubt give notice of a Tenant Compensation *Amendment* Bill, and here I should agree with him. If the principle be good it ought to be followed to the last extremity.—Who would stop at the first step in the right direction? This second bill would be succeeded by a third, and when this branch of our legislation had reached its full perfection, I should find that my property was under the able management of an Agricultural Improvement Committee, appointed by the House of Commons, and that I had obtained what I certainly never asked for—a pension from the state."

ON THIN SEEDING.

Dark Ages versus Rational Seeders.—The great controversy upon this subject having apparently about subsided, it is fair to suppose the public ought to be in possession of sufficient evidence whereon to find a verdict, and I think it must be admitted that so far as the evidence has gone, upon paper, the self 'ycleped "rationals" have had a *leetle* the best of it; but were this verdict fraught with any consequences to any party, the "barbarians" might very fairly go for a new trial with a tolerably good chance of obtaining "a rule," inasmuch as there is no doubt but a great deal of fresh evidence might be got up on the part of the appellants. I'll be bound there's many a sanguine "book farmer" who could, if he chose to "come out," give a miserable account of sorry crops, through the indiscriminate use of the infinitesimal doses of seed, as recommended by Messrs. Davis, Mechi, and Wilkins, and all the "cognieuski" of rationals, while, on the contrary, there is little doubt but all who have succeeded have figured in evidence. When these gentlemen get upon their hobbies they appear to ride roughshod over all distinctions as to altitude, climate, geological formation, vegetable deposit, state of cultivation, &c.; and yet these philanthropists must know that these varieties do exist, and that to a great extent. No one has, I believe, doubted that three pecks of Wheat is sufficient seed for an acre of land at Spring Park, Tiptree, or at Wix; but to suppose that quantity to be equally adapted on all soils, and under all circumstances, is like saying that because Holloway's pills once cured a "bad case of sore leg" for the Earl of Aldborough, *ergo* they are a panacea for all the ills that flesh is heir to. What would be the result to many of our "shire farmers," (with whose cultivation Mr. Davis professes to have become acquainted in the course of his "agricultural surveys"), see p. 346, 1847, if they, upon their thin shale, upon Clover leys, were to sow three pecks only? Why, they must not be surprised if they reaped three sacks only; and Mr. Davis is probably aware that half the breadth of Wheat in the midland counties follows Clover. The settling of this question appears to lie in a nutshell. Even thus:—Say, as a medium, six pecks of Wheat, with a sliding scale to be regulated by circumstances, especial regard being had to the time of sowing: take as a minimum three pecks for the rationals, and let the ultra rational sow three pints in the garden at Wix if he likes; let the barbarians take as a maximum three bushels if they like; let each party be guided by their own judgment, and not cast any uncharitable reflections upon each other, or otherwise infringe upon the well-known precedent established by the Duke of Newcastle, *i. e.*, of allowing every man to do as he likes with his own.—*Miles's "Buttons."*

Home Correspondence.

Thick and Thin Sowing.—The Rev. George Wilkins, of Wix, has lately contributed many of his opinions on agriculture to the public through the medium of your *Gazette*, but it appears to me that he always starts with these premises: that what he asserts must be true because he has found it to be so, and that it is therefore incontrovertible; that he is one of the enlightened individuals who is to negative all the experience of those who have gone before, as well as of the majority of the present day, and to prescribe new rules for the guidance of all. I would refer the reverend gentleman to the fable of the chamelion, who replies to the confident statements of the travellers who had variously asserted that the colour of the animal was black, white, green, and blue:

"My children, the chamelion cries,
(When first the creature found a tongue),
You all are right, and all are wrong;
When next you talk of what you view,
Think others see as well as you."

I think it should always be borne in mind that the results of agriculture must necessarily be uncertain, as we are in so great a degree dependant on natural causes not under our control; and that however wise we may be in our own conceit, it is but little that our experience will avail us against the infinite wisdom of Divine Providence. The lecture delivered by the reverend gentleman at Witham on the subject of Thin Sowing, has particularly called forth these remarks. In order to answer "that most wretched of all excuses," as he terms it for thick sowing, that mildew affects the thin seeded corn more than the thick, he proceeds to enquire what is mildew? and after stigmatising the perversity of the thick sowers, who refuse to meditate on and investigate causes, he arrives at the conclusion that "the real cause of mildew is wet in some shape or other, and the remedy perfect dryness." "Therefore," he says, "as far as you can destroy all hedgerow trees, grub up three-fourths of your hedges and keep the remainder within proper bounds; drain your lands wherever you can get a sufficient fall full 5 feet deep, and sometimes 6, 7, 8, or 10, and rationally seed your fields, so that the sun and air may dry your crops as fast as they are made damp or wet, and you will bid defiance to mildew for ever; it will not, cannot, appear on your corn." This then is the reverend gentleman's opinion, and he further tells us that "a more correct account of the mildew than this could not be given by the most learned and scientific of men of the present day." I beg to differ from the reverend gentleman without wishing in any way to depreciate his own learning and experience; I think on consideration he will say that the definition of mildew he has given is not as satisfactory as it might have been. That too much moisture will produce mildew I freely admit, but that perfect dryness is the remedy, certainly is not correct. The reverend gentleman's remedy is as bad as the disease; it, in fact, induces the same disease, or another, its twin brother, blight. Plants, as we all know, take up their food in a state of solution; if then the ground is too wet their food is deficient in quality, which engenders the disease of mildew; but if, on the other hand, the ground is too dry, the plants cannot obtain food enough,—in either case then the same or a like disease, mildew or blight ensues,—starvation has commenced in either case, and generally at the time the plants require from nature the most liberal treatment in order to perfect their grain. If the reverend gentleman had put two bullocks in separate loose boxes, and had ordered the one nothing but water, and the other no food at all, would he expect that either would thrive? certainly not. Neither will corn plants thrive or arrive at perfection with too much moisture or in perfect dryness. The rev. gentleman knows how to take from the land surplus moisture without its having materially injured the plants (although exception might be taken to the depth of the drains he recommends), but does he know how to remedy a deficiency of moisture? Can he not from this perceive that the thick seeders may be right when they say that a thin plant is liable to become mildewed or blighted. The ground not being covered by the plants is exposed to the sun, by which moisture is evaporated and dryness creates the disease by means of starving the plants. The same case may arise from the ground being occupied by too many plants all requiring the same nutriment. We all know that 200 sheep require more food than 100, and that such is the variation in seasons that the same quantities of land that would feed 200 in a fertile season would barely support 100 in a barren one. Yet with all these facts before his eyes, of which the rev. and learned gentleman must be as well aware as myself, he would endeavour to lead those he addresses to believe that the quantity of corn their land may be made to produce is dependent on their own management, and he would almost tell them to a grain how many seeds they are to plant per acre, regardless of the uncertainties of seasons, differences of soils, temperature, moisture, dryness; in fact, of all natural causes. And not contented with propounding his own opinions with great assurance on subjects that he must know are only partially under human control, he denounces, in no very measured terms, the opinions of those who do not concur with himself.—*G. R. W., March* 21.

Laying down Grass.—Somebody having asked you for the best mode of laying down Grass, I will give you the simple plan adopted here. Requiring a large quantity of turf to lay down a new lawn, and not seeing a chance of getting any suitable, except from the pastures, I had a large quantity pared from the middle of the best pasture on the farm; the pieces left from trimming, and others that were got for the purpose, were cut into small pieces 4 or 5 inches square, and a small quantity of the soil moved, so as to place each piece securely in the soil, and trod well in. It is now almost as well covered with Grass as the rest of the field, and of a better quality; as after the turf was laid in, it was sown with Grass seeds, principally White Clover. I am well aware that this is what is called inoculation, but that system, as generally done, viz., just laying on the turfs, is ineffectual, as I have now an instance under my eye—a neighbour laying down a part of a field, and not taking the precaution to plant the turf, it was knocking about all the summer, and will be two or three years before it will have the appearance of an old pasture.—*E. X.*

Thick and Thin Seeding.—Any one who has weighed the arguments on either side must admit that thin sowing deserves the farmer's attention, and has in certain instances at least been successful, while the majority of failures have occurred from a want of knowledge or from inattention to the principles upon which thin sowing has alone been found to succeed; viz., 1st. The soil must be naturally or thoroughly under-drained. 2d. The subsoil moved to a depth of at least 14 inches. 3d. Early sown, and weeds exterminated by hand or horse hoe. 4thly. The alternate course of cropping strictly adhered to, and manure from cattle fed with oilcake frequently applied. These alone are the terms which Mr. Hewitt Davis advocates, and though condemned, in no qualified terms, by many of your correspondents who profess to have tried (qy.) his system—his foundation is forgotten, and the result has ended in disappointment and loss. Let me, therefore, caution farmers not to lose sight of the conditions while they attempt to carry out the principle. Mr. Hewitt Davis deserves universal thanks for the perseverance he has shown in contending for a system having both reason and Nature for its guide, and having borne the test of several years' practice. And although the day can hardly be said to have dawned when thin sowing can be received into general adoption, there ought not to be the slightest doubt in an unprejudiced mind of the truth of that theory. These remarks I am induced to offer, not only that others may not be deterred from making the trial, but rather to urge them in conducting their experiments to proceed upon a solid basis in order to insure success, and also, if possible, to reconcile the wide conclusions of the contending parties.—*C. P. D., Crookham.*

The Formation of Butter.—Upon this important subject I forward for insertion an article from the "Year Book of Facts" (1846); in which I think "Hantonienses" will see his idea fully carried out—the air-churn. "The Bishop of Derry has invented the atmospheric churn. Instead of the present unscientific mode of making butter by churning, his lordship accomplishes this measure by the simpler manner of forcing a full current of atmospheric air through the cream by means of an exceedingly well devised forcing-pump. The air passes through a glass tube, connected with the air-pump, descending nearly to the bottom of the churn. The churn is of tin, and it fits into another tin cylinder provided with a funnel and stopcock, so as to heat the cream to the necessary temperature. The pump is worked by means of a winch, which is not so laborious as the usual churns. Independently of the happy application of science to this important department of domestic economy, in a practical point of view it is extremely valuable. The milk is not moved by a dasher, as in the common churn; but the oxygen of the atmosphere is brought into close contact with the cream, so as to effect a full combination of the butyraceous parts, and to convert it all into butter. On one occasion the churning was carried on for the space of an hour and 45 minutes, and 11 gallons of cream produced 26 lbs. of butter."—*E. Hulme.* [The inventor is a Mr. Weston, of Liverpool—not the Bishop of Derry.]

Improvement in Churns.—Reference having recently been made, in the pages in the *Agricultural Gazette*, to an improved method of making churns, I am desirous, through the same medium, to express my regret that indifference to advancement in the art of making butter, on the part of our wives and daughters, should render any alteration in the churns in common use necessary. We think the Irish slow to learn, and reprobate; yet we shut our eyes to the fact that 50 out of every 52 of our farmers' wives and daughters in England and Wales will not submit to be improved in the simple matter of making butter. There are four or five months in the year when every woman accustomed to a dairy—and who understands that everything about her must be kept not only perfectly clean, but also be scalded every time before being used—may

make very good butter; but at other seasons it is more difficult. There is, in fact, but one system by which good butter can be assured at all seasons of the year alike, and under all circumstances alike, and that is, by the easy and inexpensive process of raising the cream by scalding the milk, as practised in Devon, and, for the most part, in Cornwall, but which process (superior as it indisputably is) every other county is slow to adopt. Ask our wives and daughters, and the reply will be, "I make my butter as my mother made it before me, and as all my neighbours make it, and why should I change; we cannot expect always to have good butter." And so we go on, and so till the end of time, I fear, we shall go on, and there will continue to be in the districts in which the milk is all churned, the everlasting unwashed crock, and two hours' convict-like labour, in churning; and elsewhere the slowly collected cream, waiting day by day until it becomes offensive, and this for seven or eight months out of every 12, with good butter occasionally, no doubt, but more frequently very indifferent, and sometimes very bad, however cleanly and careful may be the maker. I wish gentlemen, desirous to improve their estates and the condition of their tenantry, would set about to introduce Devonshire women into their dairies, that we might show our wives and daughters by example that "it is not good to be wise in our own conceits."—*H., Glamorganshire.*

Arithmetical Blunders.—What a pity it is that persons who write on agricultural matters should so constantly throw doubt over the whole of their statements by gross blunders in arithmetic! To prove that they do so, and to warn others against the like carelessness, allow me to bring forward a few instances. In an article on liquid manure (*Bell's Messenger*, Feb. 14, 1848), it is stated that a field, which formerly fed only two cows, now feeds 40 cows and four horses, its crops having been increased four or five-fold! At page 12 of "Johnson's Almanack" (1848), the number of agricultural labourers in Great Britain and the British isles is reckoned at 322,272, while at page 51 (and in "Modern Agricultural Improvements," p. 13) the adult male agricultural labourers alone number, we are told, 884,869. In the same almanack, page 50, decimal fractions are so carelessly mixed up in a Table with whole numbers that there appear to be 297,599 inhabitants to every square mile, and 5411 to every house in England; and, at the same time, 2150 acres for each person. Again, Mr. Foster, writing on hedgerow timber (*Gard. Chronicle*, Feb. 5, 1848), states that 100*l.*, at compound interest, will, in 28 years, amount to 400*l.*; this is tolerably correct. But he then goes on to say that 10*l.* per annum, for 28 years, will amount, at compound interest, to 377*l.* 12*s.*; the fact being that, at the same rate of interest (viz., 5*l.* per cent.), it will amount to about 584*l.*; and though the statement was revised by Mr. Mechi, this error appears to have been overlooked by our acute city friend. Then comes "Hantoniensis" (March 18, 1848) to set the whole matter right; and thus he begins: "Nothing is an easier instrument of deception than figures; they look so scientific, so practical. But some will mischievously inquire where the data are found" We pity you, poor man of Hants! Did you think that your figures looked "so scientific, so practical?" You, of course, did not intend to use them as an easy "instrument of deception;" still you cannot refuse us leave to pry "mischievously" into your "data." You assert that a square, one side whereof is 220 yards, will contain 100 acres; the truth being that it will only contain 10 acres. Yet, on this "datum," you build up your theory (absurd in several other particulars), that hedgerow timber should be allowed to stand. And, further on, you perpetrate another blunder, by saying that the rent of 60 rods of land, at 25*s.* an acre, will be 10*s.* 4½*d.*; whereas it will be only 9*s.* 4½*d.* I could multiply instances of such blunders, but these may, I hope, be sufficient to put others on their guard against similar mistakes.—*An Essexman.*

Farm Prejudices.—The farmers of this country are characterised generally as an uneducated, prejudiced race of beings, and perhaps many of us would properly plead guilty. There are also many to whom the term "uneducated" would not apply, certainly not to such men as the Rev. A. Huxtable, the Rev. G. Wilkins, Mr. Davis, Mr. Mechi, Mr. Warnes, and many others. Prejudice is said to be the "bane of agriculture," and I venture to say that your columns show the great extent to which it is carried by the gentlemen named above; what then can be expected from that large portion of us who are without education? Mr. Davis denounces all systems of seeding except by the drill. Now the dibble has been very successful in many parts of the country, and has given, perhaps, larger returns than the drill, though a little more liable to accident. The Rev. G. Wilkins takes the term "rational seeder" to himself, and those who think with him, and by implication calls all others irrational or senseless seeders. Mr. Mechi, who is perhaps the strongest advocate for thin sowing, is, I see, in your Paper, asked to account for some of his Wheat being so thin that he drilled Barley amongst it, and part so very thin that it was ploughed up in May, though transplanting had been tried. The Rev. A. Huxtable denounces thin seeding as humbug No. 1, and has brought his farm to a high state of cultivation, principally by box-feeding, which the Rev. G. Wilkins denounces in scarcely measured terms, and the contest between the latter and Mr. Warnes (each trying to obtain a triumph over the other) does not convey the information it is calculated to do, provided it was carried on in a different spirit. I have no doubt all the gentlemen named are able to give valuable information, but while they continue to cherish their prejudices, their writings will be comparatively useless. Really, sir, I wish you would bestow a leading article on this subject: it might produce much good, and would certainly make your correspondents more careful in their expressions towards each other.—*G. G.*

Mr. Cantelo's Egg-hatching Apparatus.—From the statements contained in the *Gazette* it would seem that Mr. Cantelo's plan must be practically superior to the oven system, of which, however, very marvellous stories among the Chinese are told. Would it not be desirable to inform the public by advertisement of the prices of various sized "incubators," and for Mr. Cantelo, who seems as liberal as ingenious, to state in your columns, or in any other way he may think best, his experience respecting the causes of success and failure in rearing the broods, as well as the best and quickest methods of fattening the poultry, subjects in which he must be better able to give advice than any other person. Every one cannot get to Chiswick, and many poultry-fanciers and breeders in the "north countrie" would, if they had the necessary information as to price of the machine, warnings of the causes of failure, plan for separating and rearing vast numbers of birds, &c., commence operations at once. Would it pay when fowls are 2*s.* or 3*s.* a couple, as in the north? Mr. Cantelo says 75 out of every 100 eggs on an average become chickens. Does any large proportion of these die in consequence of thus being "brought up by hand?" There are many little practical details the knowledge of which would preserve the unlearned from failure, and tend much to the successful extension of Mr. C.'s useful and benevolent views. Has he applied the system to the rearing of capons, turkeys, guinea-fowls, ducks, &c.? If so, his experience in the art of feeding these birds would be valuable.—*C.*

Agricultural Statistics.—I see that Mr. Labouchere states that to give the above information will cost the country 40,000*l.* a year; how could that be? Why not let the collector of the poor-rates leave proper papers to be filled up by the parties, and return them to the clerk of the Union, and he return them to the Government free of expense?—*T. W.*

Produce of Wheat.—I beg to inform you that the paragraph which appeared in your Journal at page 142 about the produce of my Wheat is not a correct account. The correct account you will find in the following extract from the *Bath Journal.*—*J. Nicholls, Pack Horse Inn, Bath, March* 20. "Mr. Nicholls, of the Pack Horse Inn, Widcombe, and who also occupies a few acres of land, had 147 perches (an acre less 13 perches) in Wheat last year. About April it appeared very irregular—in some parts too thick in others too thin—so much so that he was advised by many to destroy the crop, and plant Potatoes. He, however, by way of experiment, had, in the month of May, some of the thick removed and transplanted, so as to make the crop more regular. That crop, from that time, thrived well, and grew to the height of 7 feet. It has been threshed, and from these 147 perches of very middling land, he delivered to Mr. Brinkworth, miller, 67 bushels of best Wheat, sold one peck to Mr. Carter, of Wincanton, and two pecks to Mr. Perfect, of Mendip, for seed, and reserved to himself a bushel of tail, making together near 69 bushels. After the transplanting was finished, the plant was much thinner than is usually considered desirable in this part of the country. The stubble was allowed to remain till February last, when there were a great quantity of plants sprung up from the corn which dropped at the late harvest. Mr. Nicholls drew the whole of these plants, and replanted them, so that they now cover 42 lug of ground, and look in good condition."

Chicken Hatching in Egypt.—As the hydro-incubator is attracting much attention at present, the following brief extract from a very agreeably written work on the East just published, may amuse some of your readers. "In the evening we visited the manufactory of chickens. This kind of thing is called 'Makhmal' in Arabic, and consists merely of a long narrow chamber, with 5 or 6 double ovens at each side, around which the little eggs, in hundreds and thousands, are ranged. They are first heated in a lower oven, to a high temperature, for 10 days, and then for 11 days in an upper one, from which the fire has been removed; on the 21st day the chickens come out. The oven mouths require to be well closed. The chickens that we saw had been hatched the same morning, 4000 in all. It was curious to see their incessant waving motion as they were crammed together in two square compartments on the floor. There is an immense number of these establishments in Egypt. Mr. Lane states that in 1831, the

	Lower Egypt.	Upper Egypt.
Number of establishments for the hatching of fowls' eggs was ..	105	53
Number of eggs used	19,325,600	6,878,900
Number spoiled	6,255,867	2,529,660
Number hatched	13,069,733	4,349,240

Mr. Lane also states that each Makhmal receives about 150,000 eggs during the time it continues open (2 or 3 months in the year) one-quarter or one-third of which generally fail. One chicken is usually given for every two eggs that have been received."—*From "A Wayfarer's Notes," by Cuthbert G. Young, B.A.*

Hen Gossip.—Is it really proved that the banishment of the "rooster," by which we presume the cock is meant, and the abolition of nest eggs, is, as stated in a paragraph copied by the *Agricultural Gazette* from an American paper [illegible] the number of eggs in [illegible] connected with this, viz., to give the hens a [illegible] when about to lay, seems very [illegible] the nest egg and the rooster are so generally [illegible] or at least desirable, that one [illegible] than that of an [illegible] either or both. [illegible] this once so important [illegible]—*[illegible]*

Union Settlement.—[illegible] *Gazette* you have inserted a letter upon [illegible] question, I presume you [illegible] of the question also. [illegible] step could be [illegible] and as detrimental to [illegible] I have embodied some of my views [illegible] which I shall be glad if you [illegible] in any way you may think proper.

[illegible] infirmity, blindness, [illegible] partial, and [illegible] national charge [illegible] upon all property [illegible] local authorities, who shall [illegible] respective union [illegible] advisable.—2. All other [illegible] and administration [illegible] right, [illegible] local, but interested [illegible] strict expenses, and to arrange that work [illegible] by way of encouragement [illegible] rate upon parochial property [illegible] It is advisable that the present [illegible] as it is, because, 1. It is well [illegible] However beautiful it may be in theory, it [illegible] labourer in the aggregate to [illegible] best market. The able-bodied [illegible] highly skilled, do so now [illegible] family man will never be able, and must have some sort of monopoly or preference reserved for them. [illegible] will be to weaken the tie which exists between the [illegible] classes and their employers.—3. Par[illegible] common, turf, &c., will be [illegible] will ensue.—5. If it be proposed to [illegible] rate and settlement, we find already that [illegible] —inconveniently arranged—[illegible] large tracts of country are still [illegible] But as the present law of settlement is in [illegible] I would propose to re-arrange [illegible] —1. Let every man have his settlement in the [illegible] has resided, say (5) years, [illegible] now [illegible] a parish which next adjoins the one in which he is [illegible] case he shall retain his present settlement [illegible] apply in innumerable instances where men [illegible] work in the next) until the age of [illegible] to any parish, but shall receive relief when necessary from the national fund.—2. Any person removing from a parish in which he is now legally settled, may claim to be registered in a book kept for that purpose by the [illegible] that in case of his having [illegible] months standing in another parish and reduced to pauperism, he shall be able to declare his settlement to the union in which he becomes a pauper, and on this being proved (by letter, the amount of relief furnished shall be charged to the parish where he belongs, without his being removed.—3. But any householder neglecting this registry may after examination be removed home, though if his reputed parish chooses to acknowledge him, he may be relieved at its expense without removal.—4. All other persons becoming paupers shall be treated as casual poor, at the expense of the Union where they may be found, and removed or not, as is now found expedient. I do not venture upon the various details necessary to work out this plan, but I believe it will be found very suitable to all agricultural parishes at least, and to obviate many of the present difficulties; for by it all permanent infirmity will be more carefully protected, and its expenses more justly distributed over all property. Litigation between parishes will be infinitely lessened. The injustice of dismissing a non-parishioner to his own distant parish after his work is done will be abolished. Landowners, seeing themselves freed from the burden of the support of permanent infirmity, will be induced to build cottages, and not shrink from their share of casual misfortune. Parochial sympathies will still exist in full vigour. The labourer in the decline of his power (amounting probably to a third of the population), will not lose his local right of maintenance, nor the farmer, bewildered by the number of applicants, refuse to employ him; and lastly, we shall avoid the extreme, and, as I believe, fatal step of a national rate and open settlement, from which, if it fails, there can be no retreat, and which I feel sure will increase pauperism to an incalculable extent, for the labourers will underbid each other rather than leave their homes, and in times of distress or scarcity the guardians will afford relief recklessly, rather than see the miseries of Ireland renewed among ourselves.—[illegible]

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A WEEKLY COUNCIL was held at the Society's house, in Hanover-square, on Wednesday last, the 12th of April. Present:—Mr. RAYMOND BARKER, in the chair; Sir John M. Burgoyne, Bart.; Sir John V. B. Johnstone, Bart., M.P.; Sir Robert Price, Bart., M.P.; Mr. S. Bennett, Rev. E. R. Benyon; Mr. Bosanquet, Mr. Cherry, Col. Challoner, Mr. R. Clutterbuck, Mr. G. Dyer, Mr. Eggar, Mr. B. Gibbs, Mr. Fisher Hobbs, Mr. Kinder, Mr. Lawes, Mr. Lawrence, Mr. Nesbit, Prof. Sewell, Mr. Shaw (London), Mr. Robert Smith, Mr. C. T. Tower, Mr. I. Turner, Mr. T. R. Tweed, Prof. Way, and Mr. H. Wilson.

The following new members were elected:

Albright, Arthur, Edgbaston, Birmingham
Norris, Rev. G. P., Rosecraddoc House, St. Cleers, Liskeard
Hole, James, Knowle, Dunster, Somerset
Richardson, George, Bridlington Quay, Yorkshire
Day, Francis, Priory, St. Neot's, Huntingdonshire
Sheringham, William, Fakenham, Norfolk.

CONSULTING ENGINEER.—Mr. PARKES addressed a letter to the Council, expressing the great satisfaction it gave him to find that the only motive which had induced him to resign the post of Consulting Engineer to

the Society, had been deemed by them as honest and sufficient. He accepted with unfeigned gratification the highly flattering mark of distinction they had conferred upon him in electing him one of the honorary members of the Society; and it would be his constant and anxious endeavour to fulfil its duties with the same zeal for the interests of the Society, and the promotion of its objects, which he trusted had hitherto marked his conduct as an ordinary member, or as one of its officers.

Local Bankers.—Messrs. Swann, Clough, & Co., of York, addressed a letter to the Council, accepting the appointment of Local Bankers of the Society during the period of the York meeting.

Swedish Agriculture.—Count Athanase d'Otrante, of Nygard, near Söderköping, in Sweden, in transmitting through Mr. Tottie, the Swedish Consul in England, his composition as a life member of the Society, expressed to the Council the satisfaction it would give him to obtain for the Society any information connected with agricultural subjects which they might be desirous of obtaining from Sweden. The Council ordered their best thanks to be returned for this obliging offer.

Wheat.—Mr. Lawes, a member of the Society, residing at Rothampsted Park in Hertfordshire, and author of two highly interesting papers in the Journal on experimental results connected with agricultural chemistry, attended the Council on that occasion, for the purpose of explaining to the members the further results he had obtained, and of submitting to their inspection the specimens of Wheat produced in each case, as well as an analytical statement of their chemical differences. The Wheat from which all these samples were obtained was the old red Lammas variety, grown on his experimental farm at that place during the last four years, on a field of 14 acres which had been previously exhausted by the removal of four corn crops without manure; it was sown in 1844, 1845, 1846, 1847, the same space of ground being left each year without manure, while upon the rest of the field experiments with artificial manures from 20 to 40 in number were tried. The conclusions Mr. Lawes drew from these experiments were, that while the acreage produce was increased by means of artificial manures to the double of that obtained from the unmanured space, the quality of the corn, or weight per bushel, and the proportion of the grain to the straw, were very much the same, both in the spaces which had various artificial manures, and that which had none. Great differences in the quality of the corn and in the proportion of straw were, however, to be found in the produce of various years, which he attributed to variations in climate during the years of trial. In 1844, when there was the fewest days' rain between May and harvest, there were for every 1000 lbs. of straw, 821 lbs. of grain on the unmanured space, 892 lbs. on that which gave the highest yield, and 870 lbs. on the average of the whole experiments. In 1845, when the number of days' rain was above double that of 1844, the proportion of corn to 1000 lbs. of straw on the unmanured space was 502 lbs, on the space most highly manured 569 lbs., and the average on the whole number of experiments 500 lbs. In 1846, the proportion of corn to 1000 lbs. of straw was on the unmanured space 797 lbs., on the highly manured space 757 lbs., and the average of 56 experiments was 770 lbs. In 1847 the proportion of corn to straw was 590 lbs., 569 lbs., and 580 lbs. Mr. Lawes considered that the weight of the bushel was determined by the temperature. The hottest year, 1846, gave the greatest weight per bushel, the coldest year, 1845, the smallest weight per bushel. In 1846 the bushel of the unmanured space weighed 63½ lbs., of the highly manured space 62¾ lbs., the average of 36 experiments was 63 lbs. In 1845 the bushel of the unmanured space weighed 56½ lbs., of the most highly manured space 57 lbs., the average of the whole being 56¾. Taking into consideration the extremely artificial nature of the experiments, and the comparatively small differences observable, Mr. Lawes thought it might be assumed that in ordinary agriculture the influence of manure upon the quality of the grain, and the proportion of that to straw, were very small compared to the differences effected by variations in climate. He then referred to the opinion generally held by chemists respecting the composition of grain. It had been said that the nitrogen or nutritive elements of grain could be increased by supplying the soil with substances rich in nitrogen. The samples of corn which he then exhibited were, some of them, grown by means of mineral manures, and some by minerals with large quantities of ammoniacal salts. The sample of corn grown by superphosphate of lime gave, upon analysis, 3.03 per cent. of nitrogen; when ammonia was added the per centage of nitrogen was only 2.65. Liebig's Wheat manure, composed of mineral matter, gave 1.81 per cent. of nitrogen; when ammoniacal salts were added, only 1.69 per cent. A sample of Wheat, grown in Australia, of remarkably fine quality, gave 1.94 per cent. of nitrogen. Another of indifferent Wheat, grown on the borders of the Black Sea, and employed in making the finest description of maccaroni, gave 2.71 per cent. of nitrogen. He then concluded by remarking that while the produce is greatly increased by the employment of ammonia, it appears that the per centage of nitrogen in the grain is rather diminished. That under a proper temperature, starch is accumulated by the influence of ammonia, and that in general those Wheats which bear the highest price are comparatively poor in nitrogenous compounds. —Colonel Challoner inquired of Mr. Lawes the time and mode in which he applied artificial manures to his crop, and was informed that they were all drilled in below the seed at the time of sowing, an arrangement which was found by Mr. Lawes to produce the most regular effects in the growth of the plants, and he had reason to believe that the soluble manure was not washed out, as commonly supposed, by the rains occurring during such long period of its remaining in the ground; but that the manure so deposited along with the seed, assisted materially in affording support to the young crop during the winter season.—Mr. Bennett having ascertained from Mr. Lawes that his land was a Wheat soil resting on a chalky subsoil, stated, that had Mr. Lawes's land rested on a wet clay, he thought it probable, from his own experience, that there would have been found less straw and corn grown upon such land in a wet season.—Colonel Challoner then gave an interesting statement of the mode in which the Wheat intended in the south of Italy for the manufacture of maccaroni was managed. He stated that the best maccaroni was made between Naples and Salerno, and was known there by the name of "Maccaroni della Spiaggia." It was made from Wheat of the finest quality, and the grain after being threshed out (generally in the fields), was carefully spread out upon the flat roofs of houses, during the hot weather, and there left exposed to the sun during the day, and to the dews of the evening and the early morning, for a fortnight or three weeks; until, by these means, it had become quite hard and dry. It was also known by the name of "Maccaroni della Zitta."—Mr. Clutterbuck believed that in Australia the order of preparation for the Wheat crop was ploughing and a fallow, and that after the crop the straw was burnt on the land, when there was a repose for a year, then another crop, and so on; on which Mr. Lawes remarked, that in the year 1846, when there was the nearest approach to an Australian season, his Australian Wheat had succeeded the best.—Sir John Johnstone favoured the Council with a statement of experiments which he had made on a fair good Wheat soil, which came into his hands in a foul and exhausted state, in reference to the value of Liebig's patent mineral manure: that manure was found to produce the smallest results in comparison with the other artificial manures he had tried along with it, as shown by the tabular statement given in the last Part of the Proceedings of the Yorkshire Agricultural Society.—Mr. Nesbit conceived that both organic and inorganic manures must be employed in conjunction, as either alone would eventually diminish the crop.—Mr. Tweed favoured the Council with the results of his experience on the growth of Wheat.—Prof. Way considered that the agricultural public was much indebted to Mr. Lawes for his valuable investigations. He had read with great benefit the excellent papers of Mr. Lawes, published in the Journal of the Society, and although there were some views in which he could not entirely coincide, he felt convinced that Mr. Lawes was pursuing a system of inquiry which must ultimately elicit the true principles of agricultural science. Mr. Lawes had brought forward facts calculated to encourage the agriculturist in all reasonable hopes of improvement, but at the same time to dissipate the illusory notion that he could at any time become independent of season and climate. Mr. Way wished to correct an impression which appeared to have got abroad that the result of Mr. Lawes' experiments were entirely subversive of the principles of supplying to the different crops mineral manures after the composition of their respective ashes. It was quite true that those researches went to prove the impossibility of obtaining an agricultural result by the use of mineral substances alone, unless there were an abundance of matter in the soil capable of yielding the ammonia and carbonic acid necessary for vegetable growth. But Mr. Lawes had himself pointed out that a period had arrived in his experiments when the use of ammoniacal salts was no longer capable of producing a crop, and when it became necessary to supply artificially the mineral matters carried off by the successive crops. It was, therefore, far from Mr. Lawes' intention, he believed, to deny the interest and importance of a correct knowledge of the inorganic constitution of agricultural plants. Mr. Way also made some remarks upon the failure of Liebig's manure; he considered that in seeking to render the alkaline salts more permanently available to vegetation the mark had been overshot, and that the manure was not sufficiently soluble for the wants of the crop to which it was applied, at least he judged so from a sample he had himself analysed. This might be rectified by slight modifications in the relative proportions of the ingredients, and the process of its manufacture.—The Council then, on the motion of Colonel Challoner, seconded by Mr. Fisher Hobbs, voted to Mr. Lawes their best thanks for the very interesting explanation which he had furnished them of his important experiments.

Bearded Wheat.—Mr. Halcomb, of Poulton, near Marlborough, reported to the Council the success with which he had cultivated a new variety of Bearded Spring Wheat, adapted for soils not suited to Barley, or for late sowing after Turnips, from seed furnished to him by Mr. Eliot, of Jedburgh, in 1840, originally obtained from Mr. Dickson, of Hawick, by whom it had been introduced into Scotland from Russia. Mr. Halcomb put a portion of this seed into the ground on the 18th of March, and the remainder into an adjoining piece of the same land on the 3d of April, after a crop of Turnips fed off by sheep, and ploughed for seed early in March. The earlier sown was reaped on the 15th August, and the later sown on the 18th of the same month, having begun also at the latter date to reap his autumn-sown Wheat. Apparently there was no difference in these crops; but on threshing them the produce of the autumn-sown proved to be only 33 bushels per acre, while that of the spring-sown was 40 bushels. He had sown this new spring variety every year since, and had generally the same quantity per acre as from the autumn-sown Wheats. He had never found the crop deficient, excepting when he had been unable to get a fine tilth, after feeding off Turnips with sheep, with a subsequent dry summer. In a trial last spring, Mr. Halcomb grew in the former case, from 2 bushels of seed per acre, 32 bushels; and, in the latter, from 3 bushels of seed per acre, on the adjoining ridge and sown at the same time, 40 bushels of grain, which proved, to his surprise, of superior weight by 7 lbs. per sack. He had never grown more than 41 bushels per acre of this Wheat, but he had been told by other parties of their having grown, on superior land, 48 bushels, and, in one instance, 56 bushels. The price of this new variety in Devizes market was usually rather above that of the autumn Wheats. Mr. Halcomb conceived that its greatest advantage would be found in its suitableness for soils subject to blight. The last season, on land where the autumn Wheats were scarcely worth cutting, the "April" Wheat, to which Mr. Halcomb then called the attention of the Council, was estimated at 40 bushels per acre. He thought, also, that from its early maturity it would be found serviceable for making good deficiencies of plant in the autumn-sown.—The Council ordered their thanks to be returned to Mr. Halcomb for the favour of this communication.

Barley.—Mr. Harries, of Llanwnwas, near Haverfordwest, favoured the Council with a report on the growth of a variety of Barley he had discovered in a field of skinless Barley from seed furnished to him by the late Rev. Mr. Rham, and which he had found very productive. In the autumn he could furnish a supply of the seed.—Mr. Bennett was acquainted with a kind of Barley very similar to that transmitted to the Council by Mr. Harries; but he feared, from his own experience of its character, that it would not be found a variety of any value.

Flax.—Mr. Robinson, of Belfast, called the attention of the Council to his new process for steeping, breaking, and scutching Flax; and as he intended to exhibit his apparatus in full action at the ensuing York meeting, he solicited of the Council the favour of adequate means and opportunity being granted to him, in order that he might effect that object. He hoped by his new process to show that raw Flax could be rendered fit for the market, or for the mill or hand process, in one-fifth of the usual time.—The Council directed Mr. Robinson's letter to be referred to the stewards of the implement-yard at the York meeting.

Reaping Machine.—Mr. Hussey, of Baltimore, U.S., requested that his reaping machine might be subjected to trial in England under the orders of the Society.—The Council directed that Mr. Hussey should be informed that he was at liberty to enter his machine for the York meeting of the Society, when it would be subject to trial at the discretion of the stewards and judges of the Show on that occasion.

Tile kiln. — Mr. Charnock, of Wakefield, transmitted to the Council a plan and description of the model of a tile-kiln, exhibited by him at the Scarborough meeting of the Yorkshire Agricultural Society, for the Earl of Tyrconnel's Prize offered for the best plan of tile-kiln on that occasion.—Thanks were ordered to Mr. Charnock for this communication.

Steam-draught for Ploughs. — Mr. Cherry, of Clapham-common, Surrey, informed the Council that, in addition to the statements he made at a former meeting in explaining the operation of the apparatus for steam-draught for ploughs, which he exhibited to the Council, he had further to state, that great facilities may be obtained by the proposed arrangement in carrying on the operation of subsoiling, without exposing the subsoil, after having been loosened and rendered pervious by such process, to be again consolidated by the treading of horses employed in turning a succeeding furrow.

Draining.—Mr. Fisher Hobbs thought the Council would be glad to know that among the practical good results of the Newcastle Meeting of the Society, one had occurred from a casual circumstance which had furnished the farmers of that neighbourhood with a striking and tangible proof of the advantages of draining, a fact which had been communicated to him by Mr. Ramsay, a Member of the Society, who had felt a deep interest in the progress and success of that Country Meeting. By the requirements of the Society, it was necessary that the site of the Show-yard on the Town Moor at Newcastle should be drained sufficiently to prevent any inconvenience for the purposes of the Exhibition, should the weather at the time of holding the Meeting have proved unfavourable, and much rain have fallen. Such was the repugnance of the freemen at the breaking of the ground for this purpose, and the violation of their common rights in the supposed lasting injury that was in that manner about to be inflicted on their property, that it was only after the most obstinate struggle, and the united remonstrances of the authorities of the town, that such operation was allowed at length to be effected, agreeably with the regulations of the Society. The time had passed by, and the struggle was almost forgotten; but the area of common so drained (although not perhaps in the most complete manner, according to the experience gained at the present day) had remained a lasting instance of the striking effects produced by

that drainage. The Steward of the Herbage Committee, as well as many of the freemen, had now signified to Mr. Ramsay their entire conviction of the beneficial effects of draining, in consequence of the decided superiority of the Grass on the drained portion over that on the remaining undrained portion of the Town-moor. Mr. Hobbs further remarked, that, as an instance of the results attending the draining of a stiff soil, this casual circumstance had wrought a very favourable change in the opinions of many of the farmers in the neighbourhood.—Mr. Brandreth Gibbs, as the Director of the Show-yard at the Newcastle meeting, fully corroborated this statement.

Deodorising Liquid.—Mr. Towel, of Weald Hall, Essex, called the attention of the Council to the good effects he had found to arise from the use of the deodorising liquid of Mr. Ellerman, the component parts of which, according to the analysis he submitted to the Council, could not, he thought, but render the use of this preparation valuable as an agricultural as well as a deodorising agent.

Wireworm.—Mr. Dickinson, of Curzon-st., favoured the Council with the result of his endeavours to eradicate the wire-worm from his Italian Rye-grass, of which it had previously, on the same plot of ground, destroyed three crops. This result was attained by the application of volatile alkali as it exists in guano. This communication was received with the best thanks of the Council, and referred to the Journal Committee.—Mr. Bennett believed that the wire-worm was fonder of the root of the Rye-grass than of that of any other plant; and he had always understood that the great drawback in the cultivation of Rye-grass was the harbouring it furnished to those infesting insects. He considered, therefore, that this would prove an important discovery of Mr. Dickenson, should the same result be uniformly obtained. —Sir John Johnstone thought it desirable to ascertain whether the remedy would be equally effective in other cases; for instance, in that of a Clover-lay turned up for Wheat.—Prof. Way had no doubt that the Clover disease was the ravage of an insect.—Mr. Lawes conceived that it was in all cases owing to the unhealthiness of a plant, and an excess of organic matter, that worms and insects infested different crops.

Vetches.—Mr. Bury, of Hanslope Park, in Buckinghamshire, reported to the Council the fatal effects of a single feed of meal from Vetches, purchased at Liverpool, on nine of his pigs. The meal was made into porridge and given to the pigs the same evening; they were all found cold and dead on the following morning. —Prof. Way remarked that this poisonous effect was produced either from mineral poison mixed with the meal, or in consequence of some poisonous quality chemically engendered in the meal itself. He was inclined to think, from such a result in many vegetable substances, that the latter was the case.—This view was corroborated by Mr. H. Wilson, of Stowlangtoft Hall, who informed the Council that two of his fat porkers were both destroyed by having been fed for a week on meal ground from damaged Rice, purchased at a cheap rate, and its feeding qualities tried as an experiment upon the pigs in question.—Mr. Hobbs had found Vetches unfavourable, unless given with other food, and he conceived that no crop exhausted the land so much as Tares.—Mr. Bennett regarded Tares as an injudicious food for any animal. He spoke from his own experience, having used them extensively at one time for his sheep. The Tares he had used were the cheap foreign Tares of the market.

Dibbler.—Mr. Hodgkins, of Chipping-Norton, transmitted a statement of the peculiar advantages of his hand seed-dibbler, for which attention the thanks of the Council were ordered.

Presents.—Thanks were ordered to Mr. Nickolls for a copy of the new edition of his "Flax Grower;" to Mr. Hume for a copy of the last Report of the Guernsey Agricultural Society; to Mr. Bullock Webster for his present of Trug-baskets (cheap, light, and durable, as he described them, for farm or garden use); and to the donors of other presents to the Society.

The Council then adjourned, over the Easter Recess, to the 26th of April.

The following communications were received after the Council had broken up.

Pleuro-pneumonia.—Mr. Milward, a Member of the Council, residing at Thurgarton Priory, Nottinghamshire, enclosed for the information of the Members the following statement of treatment of cattle in cases of pleuro-pneumonia, which he stated had not been known to fail in a single instance, in effecting a recovery of the animal suffering under its attacks. The statement was copied from a letter received from Mr. Clater, of East Retford, a name well known and appreciated as connected with a popular work, on the diseases and treatment of cattle, which has already passed through 9 editions.

"On the *first appearance* of the disease, bleed freely: then give "½ lb. of Epsom salts, 4 oz. of sulphur, 1 oz. of nitre, and "2 drachms of emetic tartar, in 3 pints of gruel. Keep the "animal warm and clean. Should the symptoms not appear "to abate in 12 hours, give the following drink: ½ oz. of "nitre, 1 drachm of camphor, 1 drachm of emetic tartar, and "2 drachms of powdered ginger, in a pint of gruel; and "repeat this drink every 8 hours until the oppression in "breathing has nearly subsided. If the bowels do not act "properly, repeat the first drink in 3 pints of gruel, omitting "the emetic tartar. Feed sparingly on bran-mashes, grains, "and gruel, with crushed linseed; but with no roots, if there "be any inflammation."

Hove in Cattle, and Colic in Horses.—Professor Sewell, of the Royal Veterinary College, begged to observe, in reference to the cases of death arising from the meal of Vetches, that as animals frequently die soon after eating any particular kind of food, or even their ordinary kind of the best quality, it must not be inferred that such meal of Vetches contained poisonous matter. The result more commonly ensued from too much ordinary food being given at feeding time, or from voracious feeding on fresh succulent food obtained by the animals out of doors, or on that which is brought to the homestead and given immediately in its fresh state. He had known it occur from want of a sufficiency of water to moisten and dilute the aliment, and in some instances from offensive water which the animals refused. From either causes death often supervenes in a few hours, in some cases immediately. The evolution of gas is very rapid, distending the stomach, which, pressing forward on the lungs, impedes respiration and the action of the heart, an obstruction to these important vital functions, which combined with excessive irritation in the stomach, soon leads to a fatal termination. Meal acts differently, according to its weight and glutinous quality. He had seen it produce severe symptoms of acute indigestion in stalled bullocks, from not having been mixed with a sufficient quantity of cut chaff, which requiring mastication, caused a more gradual process of feeding, and promoted digestion. Very few farmers or owners of any kind of stock, he apprehended, had not at some period suffered losses from the foregoing causes, called hove in ruminants, and colic in horses. The first, he stated, was readily relieved by introducing a hollow probang through the mouth into the stomach of the animal, or by piercing the animal on its left side with the German trocar. This practice, he remarked, did not avail in the horse, but medicines well known to most scientific practitioners might be supplied and kept in readiness to administer, and which usually were found to succeed; but if a case became protracted, inflammation commenced which required the practitioner's judgment to combat. Mismanagement and irregular feeding sometimes led to fatal results without the cause being suspected. He had himself observed this in the public service as well as in private stables. He was called upon on one occasion to examine two horses of a team of four that had arrived off a journey at midnight, and were supplied with an undue quantity of good Oats, but neglected to be watered. Distention and irritation of the stomach ensued in both cases, and terminated fatally in less than six hours. An Essex farmer, in the neighbourhood of London, who sent produce of various kinds to the markets, requested Professor Sewell to investigate the cause of his losses, and gave him a list of the names of *ninety horses* which had died within two years. He found, upon inquiry, similar mismanagement, namely, too long fasting between the feeding times, and the frequent return of provender allowed, and sent to be given in feeding-bags at noon while from home, with similar consequences. Upon a change of hands, and instituting a careful superintendence, the losses ceased. He could quote many other instances of disease and death which might have been averted by system and good management. Professor Sewell presented to the Society, along with this communication, one of the trocars, or puncturing apparatus, to which he had referred. It consisted of a sharp stiletto sliding through a cylindrical case or sheath, on the sides of which were several openings for the escape of the gas. This instrument was intended to be thrust (stiletto and sheath together) through the animal's hide, into its rumen, or first stomach, and the stiletto then withdrawn, when the distending gas would rush through the lateral apertures of the sheath (left perforated in the skin and stomach) and thus rapidly make its escape. The trocar presented by Professor Sewell was made of German silver at a price of 12*s.*, but it would answer equally well made of brass, and, in that case, would cost only 5*s.* Professor Sewell remarked that it was adapted for neat cattle and sheep, and ought to be in the possession of every farmer.

Calendar of Operations.

APRIL.

East Lothian Farm, *April* 8.—We have been employed during the week in ploughing the remainder of Turnip land, part being rather stiffish, with carting off the crop; it had to get a second ploughing and harrowing, to reduce it. Also sowing part with Barley, the remainder to be sown with Oats. The weather, towards the end of the week, has been frosty, with slight showers of snow, which soon disappear.—*S.*

North Essex Farm, *April* 8.—The fine weather experienced during the last fortnight has enabled us to make considerable progress in sowing. We finished setting Beans on the 24th ult., and since then have been engaged with the Peas, Oats, and Barley. This year we are dibbling to a large extent, as we find this mode of depositing the seed answers better than any other in a dry summer, which there is reason to expect after so much rain. The cost of dibbling Wheat, Barley, Oats, &c, averages about 5*s.* per acre in this locality. We finished planting Potatoes on the 5th inst., and should the weather prove favourable, we hope to conclude Barley sowing in five or six days; we shall then, as soon as possible, sow our Carrots and Mangold Wurzel, for which crops we have made as much preparation as the weather would allow. The young Wheats, which have been hitherto looking well, are now beginning to show the effects of the wet weather on the cold clay soils.—*F. B.*

North Lincolnshire Farm, *April* 8.—We have been engaged since last Calendar in ploughing for and planting Beans, dibbled 6 inches apart, two being put into each hole, so that four bushels on two acres left very few. Harrowing Oats and seeds sown; ploughing; threshing Oats for seed. Commenced to roll Wheat on Grass land with Crosskill's roller.—*J. C.*

Pembrokeshire Farm, *April* 1.—Since last report we have been engaged in ploughing land for Barley after Turnips. Towards the end of last month the weather taking a favourable change, has allowed the sowing of Oats to be proceeded with, which we have now finished, the land being in excellent order (44 acres), sown at the rate of 5 bushels per acre. We have sown a field containing 16 acres with Potatoes intended for soiling, having been manured in addition at the rate of 14 tons to an yard dung per acre. At present we are engaged in sowing Beans in rows 2 feet apart, at the rate of 4 bushels per acre, which ought to have been done before our sowing commenced, but owing to the unsettled character of the weather, our clay soil was not in order till now. Our Wheat has a very healthy appearance, it has improved greatly the last few days. The acres transplanted in November from a seed bed [illegible] proved, continues to the eye. It was planted in rows 18 inches apart, and each plant in the rows 12 inches apart. The grass and Clover intended for hay cocks fresh, is preserving the greater part of it being in dry ricks in a state fit for use when wanted. Lambs nearly all landed, and are doing well, getting as many Swedes as they can eat with an allowance of hay. Cows are getting Mangold, Wurzel and hay. [illegible] oxen nearly all sold off, getting Swedes and hay. Store cattle are fed on Swedes and straw, and are put by themselves in pairs. When unable to proceed, threshing with the machine and carting fuel. Labourers employed putting down old hedges, and cutting ditto round those that have been lopped up for crop, like some repairing roads which have been much cut up with Turnip carts.—*Thomas Hall.*

Staffordshire Oak Farm, *April* 8.—During last week of very fine weather, we have been busily engaged with Oat sowing, but from the long continuance of wet weather for a number of weeks previous, it was not easy to get the land in such depth of mould as could have been wished; nevertheless, no doubt this dry weather will be favourable to forward the crop. In the end of the week we have been employed carting off the remainder of Turnips from the land previously [illegible] Barley sowing.—*R. F.*

South Devon Farm, *April* 10.—Since last report we have been busy working and ploughing the land for spring crops, in consequence of the late heavy rains and the nature of the soil (heavy clay), is no easy task, and with [illegible] rather late with our sowing. Horse and hand-hoeing [illegible] Wheat, drilled in a foot apart. The weather during the past week has completely changed from heat to cold, accompanied with showers, and has, I am afraid, checked the progress of vegetation; the showers, however, should be very [illegible] ing some nitrate of soda on young Corn, getting in some of land sown to Oats, which are branching well, and preparing the Carrot ground.—*J. M.*

Somersetshire Farm, *April* 10.—This last week we have been engaged in ploughing for Fallow, [illegible] and spreading dung for Potatoes. The dung is put in [illegible] inches apart, made by the plough. The Potatoes are planted on the dung, then covered in. *Sowing Wheat.*—The winter plant has made very rapid progress within the last ten days, and is now looking very well.—*R. C.*

Sussex Farm, *April* 10.—We had a heavy fall of snow last night—depth of snow this morning 6 inches. The ground is very wet. We are carting earth to dung heaps, other yards, liquid manure on Grass land, and dung heaps and stone to roads. In the time of sowing I allowed each horse on the farm 1 bushel of Oats extra per week, and as we made the most of the fine weather, we have finished sowing Peas and Barley, and shall finish Oats in one more day—all sown in capital order. We have still part of Clover seeds to sow and a few Tares. Planting Potatoes, scarifying, harrowing, and preparing the land for Mangold Wurzel and Carrots. [illegible] Mangold Wurzel, making and repairing roads, spreading burned earth, soil, and ashes round the [illegible] which has laid for a number of years. We shall begin [illegible] of good manure. Women cutting Potatoes, picking stones and hoeing Wheat.—*J. B.*

Notices to Correspondents.

We have to apologise to many correspondents for the great delay of their communications. We have an immense mass of correspondence in type; and it shall appear as soon as possible.

Chicory—*J. F. Power.*—It is of use as a herbage crop for cattle; and its root-are, after preparation, [illegible] 3 or 4 lbs. of seed per acre are sown in drills in March for herbage, or later for roots.

Farm Capital—*Lincolnshire.*—The schemes of cultivation by "M. S.," in last year's volume, refer to the subject, and we shall take it up again shortly in the leading articles.

Farm Profits—*B. B.* with thanks to "Subscriber, Teddington," for his notes on this subject, at page 24, [illegible] and requests information on the head of labour, whether upon husbandry or the plough was applied, and in each [illegible] what was the expense thereof for each acre under tillage and also under the head of live stock, whether that comprehends the purchase of the several animals, [illegible] the abstract.

Guano along with Manure—*A. M. N.*—5 cwt. per acre; or 8 to 10 bushels of bones in their place or what would probably be better than either, 1 cwt. of superphosphate of lime.

Lime every Five Years—*A. M. N.*—Forty to fifty bushels per acre each time will generally suffice.

Liquid Manure Wheelbarrow—*B. B.*—[illegible] where he can get a good one.

Mangold Wurzel—*Philo-georgos.*—5 or 7 lbs. of seed per acre. Dibble in rows 2 feet apart and 12 inches or more apart in the rows: the seed must not be put [illegible] inch deep. Hoe early thing, the land being previously manured to the extent of say 2 cwt. per acre, over the [illegible] when the plants are singled. We have no personal knowledge of the Giant Red. The Orange and Red Globes we believe to be the best.

Marl—*J. Brockton.*—Its usefulness to land depends not upon the crop—whether Grass, grain, or grain crop—but upon the character of the soil. It ought, more or less, to be applied to it. They should be applied before winter, and may be harrowed or bush-harrowed over the land in spring. [illegible] to [illegible] apply it compost with dung, or in a mixed [illegible]

New Work on Agriculture—*B. B.*—Farm buildings the subject is in able hands.

Spade Husbandry—*B. B.*—The whole subject will be discussed shortly in the leading articles.

The Vifer—*S. H. H.*—Their [illegible] is effected as that of fishes, and the eggs are contained in a [illegible] The [illegible] is situated on the underside of the [illegible] to which being near the tail, from which of the [illegible] time the embryos are ejected each in a little bag or [illegible] which is burst and shaken off. When [illegible] partially eaten and they [illegible] the sacs, until [illegible] This gives rise to the [illegible] of casual observers, that they [illegible] number of their young.—*J. S. S.*

Thrashing Machines—*C. Cook.*—Travelling machines may be objected to. A [illegible] machine to go permanently [illegible] in the yard [illegible] [illegible] [illegible] [illegible] prefer one per dream machine, but prefer the principle on which the others act.

White-skinned Horse—*Flintshire* should apply to one of the London poultry dealers who have been mentioned in [illegible] articles.

Winter Beans—*Tweedside.*—Their advantages are their earlier harvest, whereby the land may be in a manner followed for the succeeding Wheat, and the greater certainty of their seed time. Their earlier maturity diminishes their risk from insect attacks. Sow in October, 2 feet apart, 4 rows, 2 bushels per acre or less. They will ripen before August. Their produce is generally less, but more uniform than that of other kinds.

*** Communications reaching us after Wednesday cannot be answered in the same week.

Markets.

COVENT GARDEN, April 15.

The market continues to be well supplied with Vegetables and with most kinds of Fruit. Pine-apples are a little dearer. The supply of foreign Grapes is well kept up; small quantities of hothouse Grapes also continue to make their appearance. Pears and Apples are as plentiful as could be expected, considering the season. Of the former, specimens of Beurré Rance, Easter Beurre, and Ne Plus Meuris may be bought at from 3s. to 4s. per dozen. Nuts are sufficient for the demand. Filberts fetch from 14s. to 20s. per 100 lbs. Oranges are abundant. Lemons are moderately plentiful. Strawberries are cheaper. Of Vegetables, a few green Peas from Lisbon have been offered during the week. Cauliflowers, Broccoli, Greens, &c., are plentiful. Seakale may be obtained at last week's prices, as may also Asparagus. French Beans fetch from 1s. to 2s. per 100. Carrots and Turnips are good in quality. Frame Potatoes may be bought at from 1s to 2s. per lb. Lettuces and other salading are sufficient for the demand. Mushrooms are cheaper. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Camellias, Fuchsias, Azaleas, Auriculas, Acacias, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 6s to 8s
Grapes, Portugal, per lb., 1s to 2s
Strawberries, per oz., 1s to 2s
Apples, dessert, per bush., 8s to 12s
— kitchen, p. bush., 4s to 7s
Pears, per half sieve, 8s to 10s
Oranges, per doz., 9d to 2s
— per 100, 8s to 12s
— bitter, per 100, 8s to 16s
Lemons, per doz., 1s to 2s
Lemons, per 100s, 6s to 14s
Almonds, per peck, 6s
— sweet, per lb., 2s to 3s
Walnuts, per bush., 12s to 18s
Nuts, Barcelona, per bush., 20s to 22s
— Filberts, per 100 lbs., 14s to 20s
— Cob, per 100 lbs., 25s to 30s
— Brazil, per bush., 12s to 16s
Chestnuts, per peck, 3s to 6s

VEGETABLES.

Asparagus, per 100, 2s to 10s
Cabbages, per doz., 1s to 2s
— Red, per doz., 2s to 4s
Greens, p. doz. bunches, 1s 6d to 2s 6d
Cauliflowers, per doz., 2s to 4s
Broccoli, per bundle, 6d to 2s
Sorrel, per half sieve, 6d to 9d
Potatoes, per ton, 12½s to 190s
— per cwt., 6s to 10s
— per bush., 4s to 6s
— Kidney, per bush., 4s to 6s
Turnips, p. doz. bunch., 1s 6d to 3s
Red Beet, per doz., 6d to 1s
Horse Radish, per bundle, 1s to 4s
Cucumbers, each, 1s 6d to 3s
Leeks, per doz., 6d to 1s
Celery, per bundle, 6d to 1s
Carrots, per doz. bunches, 3s to 5s
Spinach, per sieve, 1s
Onions, per bush., 2s to 4s
— Spanish, per doz., 1s to 4s
Onions, pickling, p. hf. sieve, 2s to 3s
Shallots, per lb., 6d to 8d
Garlic, per lb., 8d to 1s
Scalions, per punnet, 9d to 2s
Rhubarb, per bundle, 6d to 1s 6d
French Beans, per 100, 1s to 2s
Radishes, per punnet, 8d to 10d
Art chokes, Jerusalem, p. hf. sieve, 1s
Lettuce, Cab., per score, 4d to 9d
Endive, per score, 1s to 2s 6d
Mushrooms, per pottle, 4d to 8d
Small Salads, per punnet, 2d to 3d
Fennel, per bunch, 2d to 3d
Savory, per bunch, 3d to 4d
Thyme, per bunch, 2d
Watercress, p. 12 small bun., 6d to 9d
Parsley, per half sieve, 9d to 1s
— Roots, per bundle, 1s to 1s 6d
Mint, green, per bunch, 4d to 8d
Marjoram, per bunch, 3d to 4d

SMITHFIELD, Monday, April 10.

There is a considerable falling off in the supply, and the demand rather increased; trade is consequently brisk, at an advance of fully 2d. per 8 lbs., indeed a few choice Scots have reached 4s. 8d. From Holland we have about 300; Scotland, 200; and Norfolk and Suffolk, 1800. The number of Sheep is again very limited; they are readily disposed of at advanced prices. Short Sheep are more in demand, making from 4s. 10d. to 5s. 2d. A few good Lambs make a high price. Choice young ones realise about 7s. Good Calves are scarce, and quickly sold, at rather more money. There are nearly 700 Sheep and 25 Calves from Holland. We have a pretty firm supply of Pigs. Trade remains about the same.

Per stone of 8 lbs.—	s	d	s	d	Per stone of 8 lbs.—	s	d	s	d
Best Scots, Herefords, &c.	4	4	to 4	6	Best Long Wools	5	0	to 5	4
Best Short Horns	4	0	— 4	4	Ditto Shorn	....			
Second quality beasts	3	2	— 3	10	Ewes and second quality	4	0	— 4	6
Calves	4	4	— 5	4	Ditto Shorn	....			
Best Downs & Half-breds	5	4	to 5	8	Lambs	....			
Ditto Shorn	....				Pigs	4	4	— 5	4

Beasts—2737. Sheep and Lambs—15,170. Calves—96. Pigs—365.

Friday, April 14.

We have rather more Beasts than of late: the demand is however large, owing to the short supplies to the dead markets since Monday; consequently everything is quite as dear, indeed 4s. 8d. is more generally obtained, and must be quoted for Scots, &c. Best Short-horns must be called 4s. 6d. The number of Sheep is also somewhat increased; they are, however, readily disposed of at fully Monday's prices, and in a few instances they are rather exceeded. Good Lambs in request at an advance of 4d. per 8 lbs. There are more Calves than on Friday last. Trade is brisk at Monday's quotations. Trade continues steady for Pigs. From Holland we have 53 Beasts, 100 Sheep, and 43 Calves; Scotland, 20 Beasts; and 152 Milch Cows.

Best Scots, Herefords, &c.	4	4	to 4	8	Best Long Wools	5	6	— 5	4
Best Short Horns	4	2	— 4	6	Ditto Shorn	....			
Second quality Beasts	3	2	— 3	10	Ewes and second quality	4	0	— 4	6
Calves	4	6	— 5	4	Ditto Shorn	....			
Best Downs & Half-breds	5	4	— 5	8	Lambs	....			
Ditto Shorn	....				Pigs	4	4	— 5	4

Beasts—971. Sheep and Lambs—3930. Calves—228. Pigs—358.

HAY.—Per Load of 36 Trusses.

Smithfield, April 13.				Cumberland Market, April 13.			
Prime Mead. Hay	70s to 75s	Clov Hay	—s to —s	Prime Mead. Hay	70s to 77s	Old Clover	90s to 95s
Inferior ditto	63	68 Clover	88 96	Inferior	55 65	Inferior	78 84
Rowen	54	63 New Clover	— —	New Hay	— —	New Clover	— —
Straw	27s to 32s	J. Cooper.		Straw	28s to 32s	Joshua Baker.	

Whitechapel, April 13.							
Fine Old Hay	70s to 75s	Old Clover	90s to 98s	Straw	26s to 32s		
Inferior Hay	55 60	Inferior	65 70				
New Hay	— —	New Clover	— —				

MARK LANE, Monday, April 10.

Messrs. Kingsford and Lay report that the supply of Wheat by land carriage samples this morning was small, but owing to the general excitement in consequence of the Chartist meeting in the vicinity of London, there was a very poor attendance at market, and the majority of the samples were withdrawn. In foreign, with the exception of the finest new, which met a moderate inquiry, little business was done, and prices of all sorts were the turn cheaper than on this day se'nnight.—Fine Barley was in fair request, and its value unaltered.—Beans and Peas remain as last quoted.—The Oat trade continues dull at last week's prices.—In Flour there is no alteration.

British per Imperial quarter.	s	s		s	s
Wheat, Essex, Kent, and Suffolk White	48	60	Red	44	52
Norfolk, Lincolnshire, and Yorkshire	46	50	White	46	50
Barley, Malting and distilling, 27s to 29s Chevalier	30	34	Grinding	25	27
Oats, Lincolnshire and Yorkshire Polands	21	23	Feed	18	22
Northumberland and Scotch Feed	19	22	Potato	20	24
Irish Feed	17	21	Potato	21	23
Malt, pale, ship	—	—			
Hertford and Essex	—	—			
Rye	27	30			
Beans, Mazagan, old and new 27s to 38s Tick	28	42	Harrow	30	44
Pigeon, Heligoland 31	36	Winds	40	52	Longpod 30 34
Peas, White 32	35	Maple	35	37	Grey 30 34

Friday, April 14.

The arrivals of Grain during the week have been moderate, with the exception of Foreign Wheat, which are large. The attendance at market on Wednesday and this morning was small, and sales of Wheat continue to be of a limited and retail character, without alteration in prices.—Barley, Beans, and Peas are unaltered in value. There is rather an improved inquiry for Oats, on fully Monday's terms.—In Flour little doing.

Imperial Averages.	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
March 4	49s 11d	30s 8d	20s 5d	30s 5d	36s 9d	41s 8d
— 11	50 2	30 4	20 2	33 4	36 2	39 0
— 18	50 4	30 5	20 4	28 6	36 2	39 10
— 25	51 4	30 11	20 4	30 4	35 6	38 2
April 1	51 10	31 5	20 2	29 8	35 7	36 4
— 8	51 6	32 2	19 7	29 6	35 3	38 3
Aggregate Average	50 10	31 0	20 2	30 4	35 11	38 11
Duties on Foreign Grain	7 0	2 0	2 6	2 0	2 0	2 0

Fluctuations in the last six weeks' Corn Averages.

Price.	March 4.	March 11.	March 18.	March 25.	April 1.	April 8.
51s 10d	...	...	...	...	...	...
51 6	...	...	...	...	...	...
51 4	...	...	...	...	...	...
50 4	...	...	...	...	...	...
50 2	...	...	...	...	...	...
49 11	...	...	...	...	...	...

SEEDS, April 14.

Canary	per qr.	60s to 68s	Linseed-cakes, Foreign, p. ton. 8l to 10l
Caraway	per cwt.	34 36	Mustard, White, p. bush., 6s 0d to 8s 0d
Clover, Red, English	....	35 52	Superfine, p. bush., — —
— Foreign	....	35 50	Brown, per bush. — —
White, English	....	40 52	Rapeseed, Eng., per last 28l 32l
— Foreign	....	40 50	Rape-cakes per ton 5l 10s 6l
Coriander	....	10 20	Sainfoin — —
Hempseed	per qr.	38 42	Tares, Eng., winter, p. bush., 5s 0 7s 0
Linseed	....	44 54	Foreign, per bush., 3s 6 5s 0
— Baltic	....	— —	Trefoil 17s 0 21s
— Cakes, Eng. p. 1000		13l to 13l 5s	Turnip—too variable for quotation.

WASP CATCHERS.

UNDERWOOD, Cutler to her Majesty, 56, Haymarket, begs to inform Amateurs, Gardeners, Nurserymen, and others, that in consequence of the great demand for the above article last season, he has been induced to manufacture a large and varied assortment of shapes and sizes. It being well known that every wasp caught in the spring is the destruction of a whole nest, an early application is recommended; see *Gardeners' Chronicle*, p. 299, 1846. A large assortment of Pruning Knives; also an improved Rose-budding Knife.

MILTON'S BEE-HIVES.—An Extensive Assortment of each variety of Glass and Straw Hives, arranged for the season. "The Improved Huber," "Hexagon Apiary," and "The Box Hive," are particularly worthy of attention, as they have been extensively patronised, and worked with complete satisfaction and profit to the purchasers. Bee-Glasses of all sizes. Illustrations of Hives 1s., at Milton's, 10, Great Marylebone-street, Wimpole-street, London.

THE PRACTICAL BEE-KEEPER, 4s. 6d.

BEE-HIVES.—All persons desirous of Cultivating that pleasing and profitable branch of rural economy—the Honey Bee—are respectfully informed by G. Neighbour and Son, that they have prepared for the season an extensive supply of their various improved BEE-HIVES; their collection consists of "Nutt's Collateral Hive," "The Single Box Hive," "The Improved Cottage Hive," "The Ladies' Observatory Hive," "Taylor's Bar Hive," &c., from either of which the Honey may be taken at any time without injury to the Bees, and may be worked with safety, humanity, and profit, by the most timid and unaccustomed to Bee-manipulation. A descriptive paper, with drawings and prices, will be forwarded on receipt of a postage stamp.—Apiarian Depot and Honey Warehouse, 127, High Holborn, London.

NUTT ON BEES (6th Edition), just published.

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JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

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DEANE'S WARRANTED GARDEN TOOLS.—Horticulturists, and all interested in Gardening pursuits, are invited to examine G. and J. Deane's extensive Stock of GARDENING AND PRUNING IMPLEMENTS, best London made Garden Engines and Syringes, Coalbrookdale Garden Seats and Chairs.

Averuncators	Garden Scrapers	Pick Axes
Axes	Grape Gatherers and Scissors	Potato Forks
Bagging Hooks	Gravel Rakes and Sieves	Pruning Bills
Bills	Greenhouse Doors and Frames	,, Knives, various
Borders, various patterns	Hammers	,, Saws
Botanical Boxes	Hand-glass Frames	,, Scissors
Cases of Pruning Instruments	Hay Knives	,, Shears [riety.
Chaff Engines	Hoes of every pattern	Rakes in great va-
Chaff Knives	Horticultural Hammers and Hatchets	Reaping Hooks
Daisy Rakes	Hotbed Handles	Scythes
Dibbles	Ladies' Set of Tools	Scythe Stones
Dock Spuds	Labels, various patterns, in zinc, porcelain, &c.	Shears, various
Draining Tools	Lines and Reels	Sickles
Edging Irons and Shears	Marking Ink	Sickle Saws
Flower Scissors	Mattocks	Spades and Shovels
,, Stands in Wires and Iron	Menographs	Spuds
Fumigators	Metallic Wire	Switch Hooks
Galvanic Bordersand Plant Protectors	Milton Hatchets	Thistle Hooks
Garden Chairs and Seats	Mole Traps	Transplanting Tools
,, Loops	Mowing Machines	Trowels
,, Rollers		Turfing Irons
		Wall Nails
		Watering Pots
		Weed Extractorsand Hooks
		Wheelbarrows
		Youths' Set of Tools

G. and J. Deane are sole Agents for Lingham's Permanent Labels, samples of which, with the Illustrated List of Horticultural Tools, can be sent, post paid, to any part of the United Kingdom.—Deane's Horticultural Tool Warehouse, opening to the Monument, 46, King William-st., London-bridge.

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HORTICULTURAL GLASS FOR CONSERVATORIES.

CUT TO SIZE UP TO 40 INCHES LONG.			SMALL SQUARES of SHEET.		
			4 by 3 and 4½ by 3½	..1½d. per ft.	
16 oz. to the foot	3½d.	per foot	5 ,, 3 ,, 5½ ,, 3½	..2	,,
21 ,,	5	,,	6 ,, 4 ,, 6¾ ,, 4½	..2¾	,,
			7 ,, 5 ,, 7½ ,, 5¼	..2¾	,,
26 ,,	7½	,,	8 ,, 6 ,, 8¾ ,, 6½	..2⅞	,,
32 ,,	10	,,	Not above 10 ,, 8	..3	,,

GLASS MILK PANS, PROPAGATING GLASSES, and BEE GLASSES. GLASS TILES and SLATES.

CREAM POTS, from 3 to 24 quarts, at 6d. per quart.

CUCUMBER GLASSES, from 12 to 26 inches long, 1d. p. inch.

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Testimonials, with directions, &c., for using the manures, sent post free on application to Mr. Pike, Inorganic Manure Works, Bow, Middlesex, where may be had also genuine,

SUPERPHOSPHATE OF LIME.

SEEDS.—CORNER OF HALF-MOON-STREET.

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Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

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STEPHENSON and CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

PERUVIAN AND BOLIVIAN GUANO ON SALE,

By the only Importers,

ANTONY GIBBS and SONS, LONDON;

Wm. JOSEPH MYERS and Co., LIVERPOOL;

And by their Agents,

GIBBS, BRIGHT, and Co., LIVERPOOL and BRISTOL;

COTESWORTH, POWELL, and PRYOR, LONDON.

To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

THE LONDON MANURE COMPANY beg to offer the under-mentioned MANURES on the best terms:—The URATE of the LONDON MANURE COMPANY, for Turnips, Tares, Oats, Barley, and all other Spring Crops.

GENUINE PERUVIAN GUANO, DIRECT FROM THE IMPORT WAREHOUSE.

Nitrate of Soda—Petre Salt for dressing old Pasture—Agricultural Salt—Superphosphate of Lime—Soda Ash—Pure Gypsum—Bone Sawdust—Sulphuric Acid—Sulphate of Ammonia, and every other artificial Manure. E. Purser, Sec.

No. 40, Bridge-street, Blackfriars, April 15.

THE following MANURES are Manufactured by Mr. LAWES, at his Works at Deptford-creek:—

Corn Manure	14l. per ton.	Grass Manure	14l. per ton.
Clover do.	14l. ,,	Turnip do.	7l. ,,

Superphosphate of Lime, 7l. per ton.

Mr. Lawes has also made preparations for supplying the various artificial MANURES of commerce, and if Agriculturists will trust the selection of them to him, and will furnish him with the necessary information, he will supply those which he considers most suitable to the soil and crops. A paper containing the questions required to be answered will be forwarded upon application to his Office, 69, King William-street, City, London.

MR. J. C. NESBIT'S CHEMICAL MANURES.

THE LONDON MANURE COMPANY beg to announce that they have undertaken the exclusive manufacture of the manures recommended by Mr. J. C. Nesbit. The substances used in their preparation will be subjected to Mr. Nesbit's analysis, and every care will be taken in their manufacture. Hop Manure, Superphosphate of Lime, Wheat and Clover Manure. A Pamphlet on Artificial Manures, by Mr. J. C. Nesbit, now ready.

The London Manure Company have also made arrangements for a large supply of Fishery and other Salt, which they can offer on good terms.

E. Purser, Secretary, 40, Bridge-street, Blackfriars.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK AND TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their IMPROVED BRICK and TILE MACHINES, which are to be seen at work at Alperton, and at the Company's Office, 193A, Piccadilly, from 10 A.M. to 5 P.M. Mr. Robert Scrivener, who has been appointed Manager in the room of Mr. John Ainslie, will show the Machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. William Gordon, Secretary, at the office of the Company, 193A, Piccadilly, London.

These Machines may also be seen at Mr. Slight's, Leithwalk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill, 135, Buchanan-street, Glasgow; Mr. Robert Charles, Mill-hill, Leeds; Messrs. Perry and Finch, Penkeridge, Staffordshire; Messrs. Drummond and Son, Dublin; and at Mr. John Connor's, Newtown Limavady, County Derry.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as building and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. White and Sons, Millbank-street, Westminster.

PROTOXIDE PAINT FOR STUCCO FRONTS, for Iron, Brickwork, and Wood. Manufactured only by Charles Francis and Sons, Cement Works, Nine Elms.

PATENT FLEXIBLE INDIA-RUBBER PIPES and TUBING for RAILWAY COMPANIES, BREWERS, DISTILLERS, FIRE ENGINES, GAS COMPANIES, GARDENING and AGRICULTURAL PURPOSES, &c.

THE PATENT VULCANISED INDIA-RUBBER HOSE PIPES are made to stand Hot Liquor and Acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible), and as they require no application of oil or dressing, are particularly adapted for Fire-engines, Pumps, Gas, Beer-engines, Gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes from ¼ inch bore upwards, and of any length to order.

Vulcanised India-rubber Garden Hose, fitted with brass taps, copper branch, and roses complete, ready to be attached to Pumps, Water-butts, or Cisterns.—Sole Manufacturer, James Lyne Hancock, Goswell Mews, Goswell-road, London.

N.B.—Vulcanised India-rubber Washers of all sizes for Joints of Hot-water and Steam Pipes, and Vulcanised Sheet Rubber, any thickness, for all kinds of Joints, and other purposes.

SALE OF THE VALUABLE COLLECTION OF HOTHOUSE AND GREENHOUSE PLANTS, in the finest possible condition, the property of Prof. SYME, Millbank, Canaan, Edinburgh.

MESSRS. C. B. TAIT AND T. NISBET beg to intimate that they will sell by Auction on the Premises at Millbank, Canaan, Edinburgh, on Wednesday, May 3, the valuable HOTHOUSE and GREENHOUSE PLANTS, collected by Professor SYME, consisting of numerous rare specimens of Cape and New Holland Plants, many of them unique, and all in the finest possible condition, including a large variety of free flowering Heaths, Epacris, Azaleas, &c., &c., together with a valuable selection of Stove Plants, Succession Pines, Bananas, &c.,&c. The Sale will also include several useful Hothouses, Greenhouses, and Pine Pit, with Frames, Flues, Furnaces, &c., &c., complete, in excellent order, having been very recently constructed. Catalogues are now ready, and will be forwarded to any part of the country on receipt of two postage stamps, on application to C. B. TAIT and T. NISBET, 11, Hanover-street, Edinburgh.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will submit to public competition at the Auction Mart, Bartholomew-lane, on Thursday, April 20th, 1848, at 12 o'clock, a splendid assortment of GERANIUMS and other plants in bloom; also a very rich collection of Fuchsias and Verbenas, comprising all the newest varieties; fine Carnations, Picotees, Pinks, Heartsease, Climbers, Dahlias in dry roots, &c.—May be viewed the morning of sale, and Catalogues had, at the Mart, and of the Auctioneers, American Nursery, Leytonstone.

TO NURSERYMEN, FLORISTS' AND OTHERS.
WEAR NURSERIES, DURHAM.

TO BE DISPOSED OF, either by proposal or valuation, or otherwise, by private contract, as may be agreed upon (by order of the Trustees of the Estate of Messrs. John Hancock and Son), the whole of the VALUABLE AND EXTENSIVE STOCK of and belonging to the Wear Nurseries, adjoining the street of Gilligate, in the city of Durham, consisting of a large and choice selection of hardy ornamental Trees and Shrubs, Greenhouse, Stove, and Miscellaneous Plants, Herbaceous and Bulbous Roots and Plants, a great variety of excellent Camellias, Ericas, Fuchsias, Geraniums, and other Flowers; a considerable quantity of Fruit and Forest Trees, and every other description of a general Nursery Stock.

The Grounds, which contain several capacious Greenhouses, Intermediate and Propagating Houses and Pits, all recently constructed, are most eligibly and pleasantly situated near and adjoining the banks of the River Wear, command a beautiful southern aspect, and are intended to be offered for sale by Public Auction at Durham, on the 2d of May next, and inasmuch as nearly the whole of the purchase-money for the premises will be allowed, if required, to remain on security of the property, the present is an opportunity very rarely to be met with by any party who may be desirous of establishing himself in this business in one of the best situations in the North of England, there being no other similar Nursery in or near the City of Durham, or within several miles distance; and the Wear Nurseries have, for many years past, been honoured with the patronage and support of the Noblemen, Clergy, Gentry, and Public generally of Durham and the surrounding districts.

Immediate possession can be had of the Grounds and Premises, in the event of the same being purchased, and further information and particulars obtained, on application to Mr. TIPLADY, Solicitor, Durham.—Durham, *15th April*, 1848.

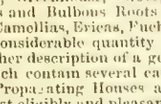
FARMS WANTED.

WANTED, A FARM, of from 150 to 300 Acres.—The Advertiser has ample capital, and would be a desirable acquisition on any estate. The land must be suitable for Turnips and Barley, and have a comfortable House, &c. upon it. If within fifty miles of London, so much the better. Also, a FARM of from 100 to 150 Acres. Particulars to be sent to Messrs. WEST and BAILEY, Land Agents, 4, Great Queen-street, Westminster.

TO NURSERYMEN, &c.

TO BE LET, a Square Plot of Excellent ARABLE LAND, about 4½ acres, unencumbered with trees or houses, only four miles from the City, and within 100 yards of the high road, with one side abutting upon another road. For a respectable tenant, the advertiser would be willing to erect a House, as a residence upon the property.—Apply by letter only to R.R., 10, Queen-street, Cheapside.

GARDENERS' REGISTER OFFICE.

HORTICULTURAL  ESTABLISHMENT.

J. WEEKS AND CO., King's-road, Chelsea, Architects and Builders of Hothouses, Greenhouses, Conservatories, &c., beg to inform the Nobility and Gentry that they have erected, on their premises, for the purpose of inspection, a variety of Horticultural Buildings, showing all the various modern improvements of the day.

J. WEEKS AND CO.'S PATENT HOT-WATER APPARATUS is unrivalled for simplicity and efficiency. The whole apparatus, in various forms, may be seen in action on their premises. Boilers of all sizes, which only require attendance once in 12 hours.

J. WEEKS AND CO. have, in addition to their Horticultural Manufactory, established an extensive Ornamental Nursery. The buildings, which are now nearly completed, are allowed to be the finest in the country; as also the complete arrangements of the Heating Apparatuses. The whole combining economy with utility and elegance.

There is a rare and most esteemed Collection of Stove and Greenhouse Plants, Catalogues of which will be forwarded.

SEEDS, CHEAP AND GENUINE, WARRANTED.

The prices at this Establishment will be found considerably lower than those at any other. Plans, Estimates, and Catalogues furnished free.

A REGISTER OF EVERY CLASS OF GARDENERS requiring situations, classed according to their various qualifications, offers to the Nobility and Gentry an easy means of selecting those best adapted to their purpose.

GARDENERS in want of situations will be furnished with a printed form of application.

NO CHARGE WHATEVER IS MADE.

BLUNDELL'S AGRICULTURAL DRAINAGE LEVEL.—This Instrument has received the highest praise from a great number of persons who have used it: its chief advantages over all other Levels of the kind are, the great ease and accuracy with which it can be used, its little liability to get out of order, and its simplicity of form, which enables every one to understand it without the slightest difficulty.—Made and Sold by Messrs. HORNE, THORNTHWAITE, and WOOD, 123, Newgate-street, London; and by the Agricultural Agents in provincial towns.

TO DEALERS IN AGRICULTURAL IMPLEMENTS, AND OTHERS.

BLUNDELL'S DRAINAGE LEVEL. Registered June 7, 1847.—The rapidly increasing demand for this instrument renders it necessary that it should be sold by the Agricultural Agents and others in the provincial towns. Messrs. HORNE, THORNTHWAITE, and WOOD, 123, Newgate-street, London, the sole Manufacturers, are prepared to receive orders from the trade.

IMPROVEMENT IN FARMING IMPLEMENTS.

LINSEED CRUSHER, simple in construction, for hand or horse power, 11*l.* 11*s.*; ditto, doing Beans, Linseed, and Oats, by the same engine or three power, 14*l.* 14*s.* A smaller Implement for Linseed only, 7*l.* 7*s.*

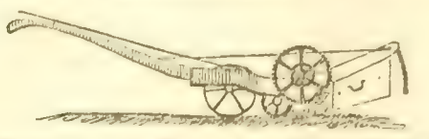
THRESHING MACHINE. A Four-horse Power, doing from 25 to 30 loads of Wheat straw per day, without damaging the straw, may be had of MARY WEDLAKE and Co., 11, Fenchurch-street, opposite Mark-lane, London, (celebrated to numerous persons farming extensively, and who use this new machine), price 65 guineas. Smaller machine of four horse power, 50 guineas.

GORSE BRUISING MACHINES, price 14*l.* 14*s.*, will prepare 10 to 50 bushels of food a day for cows, horses, and other cattle.

MARY WEDLAKE & CO.'S CHAFF CUTTING MACHINE will do 100 or 200 bushels a day. Price 7*l.* 7*s.*, and a smaller machine 5*l.* Horse-hoe, Dressing Machine, Turnip Cutter, Turnip-Drill, Stubble rake, Oil-cake Breaker, Bean and Oat Crushers, Essex Ploughs for two Horses, Subsoil Plough, Double Field Roller, &c. Hay-making Machine, 12*l.* 12*s.*

MARY WEDLAKE and Co., 11*a*, (The City of London Depository for Agricultural Implements), Fenchurch-street, opposite Mark-lane.

SHANKS' IMPROVED GRASS CUTTING AND ROLLING MACHINES.



The complete success which has attended the introduction of this Improved Machine for Mowing Grass, and its fine adaptation for cutting the Grass of Lawns, has been fully proved by the numerous instances where it has been tried, and now in common use, particularly at Rossie Priory, Camperdown, and Kinblethmont, Forfarshire; Broadalbane Perthshire; Clumber, and at many other noblemen and gentlemen's seats in England, as well as abroad. The Machines are made to cut breadths of 42, 30, or 20 inches, as required, the latter being adapted to hand-power. The Machine works with perfect ease, producing a beautiful smooth surface, and attended with great saving in abridging labour.

Orders may be addressed to Messrs. ALEXANDER SHANKS and SON, Machine-makers, Arbroath, N.B., by whom circulars containing letters of recommendation may be had, and by whom further particulars will be given.

Messrs. F. and J. DICKSON, Nurserymen, Chester, and Messrs. J. and C. LEE, Nurserymen, Hammersmith, will be able to supply any nobleman or gentleman with the above Machines.

SHAVING MADE A PLEASURE, by the invention of THOMAS FALL'S METALLIC RAZOR STROP, being the best article ever yet discovered whereby shaving is made pleasant and comfortable.—Sold wholesale by DIETRICHSEN and HANNAY, 63, Oxford-street, London; and all respectable hardware vendors and perfumers in town and country; and may be had of the inventor, THOMAS FALL, Stonegravels, near Chesterfield. Price 3*s.* 6*d.*; also pots of paste, 6*d.* each.

PREPARED PARCHMENT, for labelling Flowers, Plants, Seeds, &c.—Ladies and Gentlemen are respectfully informed that the Prepared Parchment is peculiarly adapted for Gardening, &c., on account of its great strength, and the resistance it affords to damp, heat, or rain; and can be applied to a variety of other purposes, such as labelling keys, &c., but more especially for Railway or Steam-boat luggage, as the annoyance and even loss by miscarriage would be entirely obviated if Parchment were used.

Sold in packets, 1*s.* each, by A. WILLIS, Parchment and Vellum Dealer, 8, Newgate-street, London.

Unless the Wrapper bears the name and address, as above, the Parchment it contains is not genuine.

N.B. Market Gardeners, Seedsmen, Florists, &c., supplied with large quantities at wholesale prices.

A. W. has also a large stock of Prepared Parchment Skins for writing Wills, Deeds, &c. Fine Prepared Vellums for Drawing, Painting, &c. Vellum Skins for Drum-heads, Tambourines, Banjos, &c.

HOLLOWAY'S PILLS, THE UNIVERSAL AND MOST POPULAR REMEDY FOR ALL DISEASES INCIDENTAL TO FEMALES.—The invigorating and purifying qualities of this Medicine are so peculiar, that females of all ages, suffering from any of the diseases to which they are more particularly subject, may with confidence have recourse to it for relief, a few doses of which will shortly alleviate their sufferings, and ultimately restore them to perfect health and strength. The remedy is safe and infallible, whether taken at the critical period of passing from childhood, or turning the meridian of life, and its beneficial effects are acknowledged by numberless mothers of families.—Sold by all Druggists, and at Professor HOLLOWAY'S Establishment, 244, Strand, London.

THE GROWTH AND PRESERVATION OF THE HAIR. ROWLANDS' MACASSAR OIL insinuates its balsamic properties into the pores of the head, nourishes the Hair in its embryo state, accelerates its growth, cleanses it from Scurf and Dandriff, sustains it in maturity, and continues its possession of healthy vigour, silky softness, and luxurious redundancy, to the latest period of human life. In the growth of WHISKERS, EYEBROWS, and MUSTACHIOS, it is also unfailing in its stimulative operation. For Children it is especially recommended, as forming the basis of a beautiful head of hair, and rendering the use of the fine comb unnecessary. A small pamphlet accompanies each bottle of ROWLANDS' MACASSAR OIL, wherein important hints and advice will be found on the Culture of the Hair of Infancy, and on its preservation and beauty through the several stages of human life. Price 3*s.* 6*d.*—7*s.* Family bottles (equal to four small), 10*s.* 6*d.*; and double that size, 21*s.* per bottle. Each bottle of the genuine article has the words, "ROWLANDS' MACASSAR OIL," engraved in two lines on the Wrapper; and on the back of the Wrapper nearly 1500 times, containing 29,028 letters.—Sold by them at 20, Hatton-garden, London, and by all Chemists and Perfumers.

METCALFE AND Co's NEW PATTERN TOOTH BRUSH and SMYRNA SPONGES.—The Tooth-Brush has the important advantage of searching thoroughly into the divisions of the teeth, and cleaning them in the most extraordinary manner, and is famous for the hairs not coming loose—1*s.* An improved Clothes Brush, that cleans in a third part of the usual time, and incapable of injuring the finest nap. Penetrating Hair-brushes, with the durable unbleached Russian bristles, which do not soften like common Hair. Flesh Brushes of improved graduated and powerful friction. Velvet Brushes which act in the most surprising and successful manner. The genuine Smyrna Sponge, with its preserved valuable properties of absorption, vitality, and durability, by means of direct importations, dispensing with all intermediate parties' profits and destructive bleaching, and securing the luxury of a genuine Smyrna Sponge. Only at METCALFE & Co.'s Sole Establishment, 130 B., Oxford-street, one door from Holles-street.

CAUTION.—Beware of the words, "From Metcalfe's," adopted by some houses.

NEW ZEALAND COMPANY'S

Rates of passage out

Per Cwt. per [illegible]

11 Years old

7 Years old

1 Year old

Under 1 Year old

The Company's vessels appointed to sail for the Port Nicholson, Wellington, Cook's Straits, New Zealand, viz.:—

For LONDON, Plymouth, or Falmouth

ZEALAND [illegible]

New Zealand [illegible]

PARR'S LIFE PILLS are now acknowledged to be the best Medicine in the world.—The Medicine has been before the British public only a few years, perhaps not as long as it would seem to merit, but in that short space of time, it has risen to a height of popularity unprecedented in the annals of Medicine. This Medicine only requires to be known, to be used, and to be used is to be approved. Many thousands have been restored to health by PARR'S LIFE PILLS, and many thousands more can bear testimony to their excellence. The surprising facts that were continually coming to light, and that at once removed a prejudice which, in the minds of many, existed against a proprietary medicine, and created a universal good wish to the Proprietor, have at length reached the ears of the Queen, and at the present time PARR'S LIFE PILLS are in the royal household, and are taken by the Queen herself, and by the Royal Children. Numerous testimonials, from persons of the highest rank and character, have been received, and are constantly arriving, from all parts of the United Kingdom, the Colonies, and the United States of America, and from China, have been made to the Proprietor, expressing the great benefit derived from the use of PARR'S LIFE PILLS in those countries, with the same results as in England.

The sale of PARR'S LIFE PILLS amounts to upwards of 1,600 boxes weekly, more than double the sale of any other Medicine in the world. This simple fact needs no further comment; it must be evident to every one that the Public have found out PARR'S LIFE PILLS to be the best Medicine in the world.

BEWARE OF SPURIOUS IMITATIONS.—Be sure to see that the words "PARR'S LIFE PILLS" are in the Lancet, and in a Red Ground, on the Government Stamp, pasted round each box; also the fac-simile of the signature of the proprietors, "T. ROBERTS and Co., Crane-court, Fleet-street," on the Directions.

Sold in boxes at 1*s.* 1½*d.*, 2*s.* 9*d.*, and family packets at 11*s.* each, by all respectable medicine venders throughout the world. Full directions are given with each box.

Now ready, to be had of all booksellers,

SUMMERLY'S ART-MANUFACTURES, by Bell, Cresswick, Dyce, Horsley, Maclise, Macready, Redgrave, Townsend, Westmacott, &c

	£.	s.	d.
Earthenware Salt-cellar		9	3
Gilt Decanters, each		9	9
Gilt Wine Glasses, each	0	9	0
Soda-water Glasses, various prices.			
Shaving Pot	0	4	0
Brush Dish	0	1	0
Urn and the Lion (Parian)	2	5	0
Dionysus (Bronzed)	1	1	0
Parian	2	2	0
Neptune Salt-cellar (Silver and Parian)	1	7	6
Kissing Children (Parian)	0	5	0
Bride's Inkstand (Parian)	1	15	0
Bronze Inkstand and silver)	0	6	6

Decanter Stoppers, various

Water Vases and Jugs, various

Fish Carvers, per pair

Tea Caddy in wood,

Bronze Inkstand,

Tea Caddy in wood, various

New [illegible]

Newspaper [illegible]

Vases [illegible]

The Art-Manufactures Circular, with [illegible] on receipt of 2 postage stamps, or in Gazette [illegible]

CAUTION TO COOKS.

J. L. BENHAM AND SONS beg leave to remind all persons having [illegible] of the necessity of having them [illegible] a year, either by a scraper or any other [illegible] the caked coke crust, commonly called "[illegible]," from the water, [illegible] butler to very soon, and often [illegible] in the action of the fire.—10, Wigmore-street, Cavendish-square.

CAPTAIN CHIOSSO assisted by his Son, PROFESSOR OF FENCING AND GYMNASTICS at the UNIVERSITY COLLEGE, LONDON, and author of a Treatise on Physical Education, respectfully begs to announce that he has Removed to 21, GOWER-STREET, NEW-ROAD where he continues to treat cases of SPINAL DEBILITY, CONTRACTION OF THE CHEST, DEBILITY, &c. &c. His system, for its simplicity and efficacy, is peculiarly beneficial to the youth of both sexes, as well as adults. As it is [illegible] ductive of no small [illegible] the muscles, [illegible] this account that it is recommended by the Faculty and [illegible] of the Medical Profession.

Captain C. may be consulted on Tuesdays and Thursdays between the hours of Two and Three.

SMOKY FIREPLACES PREVENTED.

W. AND M. FEETHAM take leave to acquaint their Friends and the Public that they [illegible] to prevent this evil effectually, and [illegible] Flues to descend [illegible] otherwise [illegible] wise Chimneys, large [illegible] &c. [illegible] Water on the [illegible] Stove Warehouse, 3, Castle-street, or at the Manufactory, No. 422, Oxford-street.

NATURE'S CHIEFEST ORNAMENT.—All who are aware of the great importance of fine hair, and its [illegible] have long [illegible] the [illegible] of ROWLAND'S MACASSAR OIL, which [illegible] and A. Gold Medal have the most convincing proof [illegible] its [illegible] and [illegible] [illegible] permanently [illegible] [illegible] The [illegible] strongly expressive of the [illegible] results [illegible] its use.

"The Palm, Isle of Wight, Feb. 1, 1848.—Gentlemen, In justice to your valuable [illegible] to say that your MACASSAR OIL has entirely restored my hair, which [illegible] a most prominent [illegible] West Indies, and [illegible] nearly all gone off. I began to use it. I have every reason to [illegible] your [illegible] name in any way as regards the sale of your BALM of COLUMBIA. I remain, [illegible] I owe to the public in general.—Your obedient servant, J. [illegible] WILSON."

"To Messrs. C. and A. Oldridge, 1, Wellington-street, the Second House from the Strand, London."

Price 3*s.* 6*d.*, 7*s.*, and 10*s.* 6*d.* per bottle. No other prices are genuine. Ask for OLDRIDGE'S BALM.

POPULAR TREATISES
ON PRACTICAL GARDENING; PRICE 1s. EACH

THE following Original Treatises, written exclusively for the HORTICULTURAL MAGAZINE, are all perfect and complete in themselves, and are sold separately, price One Shilling each.

CULTURE OF THE CARNATION.
Published in Part XX. of the Horticultural Magazine. Price 1s.
CULTURE OF SWEET WILLIAMS.
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Published in Part XXV. of the Horticultural Magazine. Price 1s
CULTURE OF CALCEOLARIAS
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CULTURE OF THE RANUNCULUS.
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No. 17.—1848.] SATURDAY, APRIL 22. [Price 6d.

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*12	ACHIMENES, fine distinct varieties	0	9	0
*12	ANTIRRHINUMS, superb varieties	0	7	6
	CARNATIONS, 12 pair choice varieties	1	0	0
	PICOTEES, 12 pair choice varieties	1	0	0
	PINKS, 12 pair choice varieties	0	10	0

BASS AND BROWN'S DESCRIPTIVE PRICED CATALOGUE OF SEEDS FOR 1848 will be sent free by post on application.
SELECT AND CHOICE FLOWER SEEDS sent free by post with full directions for sowing, heights, colours, &c., viz.:—

		s.	d.
100	varieties best and newest annuals	15	0
50	varieties ditto for 8s. 6d., 30 for 5s. 6d., 20 for	4	0
20	varieties best dwarf kinds in larger packets, suited for filling beds on lawns, 7s. 6d., or 12 ditto	5	0
20	varieties best Greenhouse Annuals	7	6
20	varieties choice Greenhouse Perennials	10	6
20	varieties choice Hardy Biennials and Perennials	5	0
36	varieties imported German Stocks	6	
20	ditto ditto	4	0

Remittances with orders are requested from unknown correspondents. Goods carriage free to London, and with all orders of 20s. and upwards articles presented extra. In consequence of recent post-office arrangements, money orders may now be made payable to BASS AND BROWN,
Seed and Horticultural Establishment, Sudbury, Suffolk.

C. TURNER [illegible]

KINGHORN'S [illegible]

W. J. EPPS has [illegible]

JAMES MATHEWSON, [illegible]

ON SALE.—SELECTED TURNIP SEEDS from the Lothians and Highlands of Scotland.

Pollexfen's Yellow Bullock Turnip	Skirving's Imperial Yellow Scotch ditto
Hood's Imperial Yellow Bullock ditto	Dale's Hybrid ditto
Gordon's Aberdeen Bullock do.	Skirving's Liverpool Swede
Gordon's Ayrshire Bullock do.	Ashcroft's Purple Top ditto
Border Imperial Bullock do.	Laing's Prize ditto
	Cox's Improved Hybrid ditto

With all other kinds of White and Yellow Field Turnips, Mangold Wurzel and Sugar Beet, six varieties. Large White Belgian Horse Carrot; and Large Green-top Altringham ditto. Mixed Grass Seeds of the best varieties, suitable for laying down Pasture Land.
HENRY CLARKE, Seed Merchant, 39, King-st., Covent-garden.

ORNAMENTAL BEDDING PLANTS.

WILLIAM WOOD AND SON beg leave to offer strong established Plants of the following, the selection of sorts being left to themselves.

ROSES ON THEIR OWN ROOTS.

Hybrid Perpetuals ... ... per doz.—12s., 18s., 24s.
Isle de Bourbon ... ... 12s., 18s.
China ... ... 12s., 18s.
Tea-scented China ... ... 12s., 18s.
Noisette ... ... 18s., 24s.

*** The present month and May is recommended for planting out the above.

FUCHSIAS.

All the most esteemed varieties, per doz. ... 6s., 9s., 12s., 18s.
50 fine varieties for 25s.; 75 superb ... for 42s.

VERBENAS.

All the best varieties, per doz. ... 6s., 9s., 12s.
25 fine varieties for 10s.; 50 ... per doz. for 18s.

PETUNIAS.

All the best named varieties, per doz. ... 6s., 9s., 12s.

CINERARIAS.

Extra fine varieties, per doz. ... ... 9s., 12s.

GERANIUMS.

Very choice assortments, per doz. ... 9s., 12s., 18s.
50 very fine varieties for 42s.

CHRYSANTHEMUMS.

The most esteemed varieties, per doz. ... 6s., 9s., 12s., 18s.
25 good varieties for 12s.; 50 extra fine for ...

PHLOXES.

Choice selections, per doz. ... 6s., 9s., 12s.

HARDY HERBACEOUS PLANTS.

Distinct and showy kinds ... ... per doz., 9s. per 100.
Very superior ditto ... ...
Extra superb ditto ... ...

Also an extensive Collection of Miscellaneous Plants, adapted for shrubberies. Catalogues of which may be had on application.—William Wood's Nursery, Mortlake, near Kew-bridge, Surrey.

LARGE WHITE BELGIAN CARROT per lb—2*s.* 0*d.*
LONG GREEN-TOPPED RED ALTRINGHAM do. 1 8
IMPROVED LONG RED ditto ditto 1 9

BASS AND BROWN are enabled to supply any of the above in large or small quantities of the finest quality of Seed and Stock. Also the finest MANGOLD WURZEL, CATTLE PARSNIP, TURNIPS, GRASSES for permanent pasturage, PACEY and ITALIAN RYE GRASSES, &c. Priced Lists of Agricultural Seeds; also Wholesale Prices to the trade on application.—Seed Establishment, Sudbury, Suffolk.

THE EARLIEST KNOWN RHUBARB, YES! RHUBARB.

BOTTERILL'S strong-rooted new seedlings of 1847, JAMESI and SANGUINEOUS, not before offered to the public, thus giving to the trade an equal opportunity to turn their purchase to equal advantage. The grower has now in the open air, upon the cold hills of Lancashire, a green plane, from which he is now pulling, and has pulled for market, 4 to 5 weeks back, 12 to 14 oz. stalks, and he has no doubt that in the southern counties it will be ready at the beginning of March. Jamesi, 4*s.* 6*d.*; Sanguineous, 5*s.* Trade as usual.
WM. W. BOTTERILL, Marsden, near Burnley, Lancashire.

NEW AND SELECT PLANTS.

BENJAMIN W. KNIGHT, FLORIST, &c., Tivoli, near St. Leonard's-on-Sea, Sussex, begs to call the attention of his friends and the public to the following choice and select Plants, which are now ready for delivery:—
12 choice and distinct FUCHSIAS, fit for exhibition, for 4*s.*; 12 extra first-rate, very distinct, new varieties, for 9*s.* 12 fine distinct VERBENAS for 2*s.* 6*d.*; 12 extra new varieties, quite distinct, all sent out last season for the first time, for 6*s.* 12 fine distinct PETUNIAS for 3*s.* 6*d.*; 12 extra new and distinct varieties for 6*s.* 12 good distinct CINERARIAS for 6*s.* 12 fine distinct ANTIRRHINUMS for 3*s.*; 12 extra superb and distinct varieties for 6*s.* 12 fine SALVIAS for 3*s.* 6*d.*; 12 extra fine distinct varieties, including mexicana, Camertonii, and gesneriaflora, for 6*s.* 12 HELIOTROPIUMS for 4*s.* 12 CUPHEA STRIGILLOSA (the best for bedding out), for 3*s.* 12 fine varieties of ACHIMENES for 6*s.* 12 ANAGALLIS, scarlet and blue, for 3*s.* 6*d.* 12 choice and distint CHRYSANTHEMUMS for 3*s.* 6*d.*; 12 extra fine very superb varieties for 6*s.* 12 fine bedding out Plants, such as Lobelias, Senecios, Ageratums, Alonsoas, &c., for 3*s.* 6*d.*; 12 extra fine distinct varieties for 6*s.* The above can be sent post free, securely packed, without any risk of perishing.
Choice varieties of DAHLIAS early in May, 12 fine show flowers for 6*s.*; 12 superior for 9*s.*; 12 extra new varieties for 15*s*; 12 fine fancy varieties for 6*s.*
Catalogues of the above may be obtained on prepaid application, enclosing a postage stamp. A remittance or reference is respectfully requested from unknown correspondents.

JENNY LIND.

EDWARD TILEY begs to announce to the floricultural world generally, that he intends sending out the above beautiful FUCHSIA, feeling confident of its proving one of the greatest acquisitions to this popular class of plants ever yet offered to the public.
This is unquestionably the finest light variety ever yet raised. It has been considered by numerous amateurs and nurserymen, who have seen it, to be the best they ever witnessed. It will form the gem of any collection, for its noble and striking appearance.
Copied from the report of the Bath Horticultural Society, in the *Bath Chronicle*, July 1st, 1847.—"We should have stated that among the novelties of the day was a new seedling Fuchsia, exhibited by Mr. Tiley, of this city. It was remarkable for its size, and was considered superior to any previous variety of this beautiful class of plants. It is named 'Jenny Lind,' and obtained what it well deserved, an extra prize."
Taken from the *Bath and Cheltenham Gazette*, July 21st, 1847.—"We last week visited Mr. Tiley's collection of Roses and Fuchsias, and, in addition to the pleasure we experienced on viewing his nursery, we were much gratified to find that he has been fortunate in producing one of the most splendid seedling Fuchsias which have ever been submitted to the floral world. Like the fair and extraordinary vocalist whose name it bears, 'Jenny Lind,' it will doubtless receive at least a fair share of popular favour. It is difficult to convey a just appreciation of the merits of this beautiful plant. The deep rich green foliage contrasted with its delicate pearl-like flowers, at once gives it a pre-eminence when viewed in a collection. The habit of the plant is excellent, with good foliage; every joint gives out a continuous succession of well-proportioned flowers. It is of the light variety, and certainly stands the highest of its class. The tube is of a good size, with well reflexed petals, extending 3½ inches from point to point, and of the most beautiful pearl-like colour. The corolla is very large and striking, being of a rich carmine. The plants are deserving of notice, and are daily visited by florists from other parts of the country."
Six plants were exhibited at the Bath Horticultural Society's Exhibition, June 24th, 1847, where it was the admiration of thousands of spectators, and was awarded an extra Certificate of Merit by competent judges; small plants not exceeding a foot in height had more than 50 immense blooms on them, and all expanded at one time. Above 80 were ordered last season by Amateurs and Nurserymen who have seen it in bloom.
Strong healthy plants will be sent out after the 17th of April, at 10*s.* 6*d.* the plant; the usual allowance to the trade where three are taken. A remittance will secure the plants postage and package free.—EDWARD TILEY, Nurseryman and Florist, General Seed Shop, 16, Pulteney-bridge, Bath.

THANKS FOR PAST, AND GREATER THANKS FOR RENEWED FAVOURS.—Cash with the order.

HENRY WALTON, Edgend, Marsden, near Burnley, Lancashire.

	£	s.	d.
The 20 following named varieties of GERANIUMS ..	2	10	0
12 of ditto, the purchaser's choice	1	12	6
12 of ditto, H. W.'s choice	1	5	0

Beck's Aurora, Hebe's Lip, Desdemona, Othello, Margaretta, Marc Antony, Mustee, Isabella, Arabella, Favorita, and Rosy Circle; Lyne's Forget-me-not, Remembrance, and Sir Robert Sale; Foster's Orion; Walker's Alpha; Saunders' Beauty of Clapham; Gaines' Lady Sale; Hoyle's Mount Etna and Isabella.—Other varieties of Geraniums at 6*s.*, 9*s.*, and 12*s.* per dozen, including Scarlets.
12 FUCHSIAS, new varieties, including One in the Ring, White Perfection, and Beauty of Leeds, 10*s.* Others, 6*s.* to 3*s.* 6*d.*
12 CINERARIAS, good varieties, including Rival King and Regina Victoria, strong and fine blooming plants, 9*s.*
12 CALCEOLARIAS, fine show, 12*s.*
12 PETUNIAS, equally good, 6*s.* Others, 3*s.*
12 VERBENAS, best in cultivation, for 6*s.*, others 4*s.* Others, 2*s.* 6*d.*
12 CUPHEA PLATYCENTRA, 3*s.* 6*d.*
12 ROSES, good qualities, including Cloth of Gold, 9*s.*
12 TORENIA ASIATICA, 4*s.*
12 PANSIES, best mixed, 3*s.* 6*d.* DAHLIAS at all prices.
H. WALTON'S object is to meet the present tightness of the times, with plants honest in description, for little money.
Applicants for his Descriptive Catalogue will receive for their trouble and expense in postage a packet of DOUBLE GIANT STOCK SEED.
GERANIUMS.—Miller's, Beck's, Lyne's, Gaines', and other 1847 Seedlings will be ready for sending out in autumn at equally reduced prices; in that class he is at present prepared to send out a few good plants of Lyne's Jenny Lind, at 15*s.* 6*d.* each. last autumn advertised at 2*l.* 2*s.* Also Folley's Black Prince, for 5*s.* 6*d.* See Catalogue.
Post-office orders to be made payable at Burnley post-office.

TURNIP SEED.

HARGRAVE AND ELLIS, of Caistor, Lincolnshire, beg to inform Agriculturists and Dealers, that they are prepared to supply Turnip seed of the finest quality, at very low prices for cash.

SCOTT'S HYBRID	per lb.	10*d.*
POMERANIAN GLOBE	,,	9*d.*
WHITE GLOBE	,,	8*d.*
GREEN GLOBE	,,	8*d.*

Other approved varieties on similarly low terms.
GERMAN RED CARROT ... per lb. 1*s.* 6*d.*
The Trade supplied at wholesale prices, delivered free at any port in England or Scotland, having direct communication with Hull, in quantities not under 4 bushels.
*** Scott's Hybrid, of all the white-fleshed varieties, is the hardiest, attains the largest size, and is the best substitute for yellows.

WHITE BELGIAN AND OTHER CARROT SEED, YELLOW GLOBE AND OTHER MANGOLD WURZELS, LIVERPOOL AND OTHER SWEDES.
The above-named articles may be had genuine, of home growth, carriage paid to London or Bristol; and if in considerable quantities, they will be charged at very reduced prices.
Priced Lists will be forwarded on application to JOHN SUTTON and SONS, Reading Nursery, Reading, Berks.

GENUINE CIDER: GOOD FOR DRAFT OR BOTTLING.
DEVONSHIRE has for centuries been famous for its CIDER, and when obtained in a pure and genuine state, is much and deservedly esteemed.
Messrs. RENDLE and CO., 13, Octagon, Plymouth, beg to inform the nobility, gentry, and the public in general, that they can supply them with a first-rate article on the following terms. A new cask (value 8*s.*) containing TWELVE GALLONS of well-conditioned, bright, bottling CIDER (superior to some wine sold as champagne), will be forwarded, freight paid by steamer to London, Cork, Dublin, Belfast, Sligo, Southampton, or Falmouth,
For a Post-office Order value Twenty Shillings.
*** *To persons taking ten casks at one time, one will be given over, making eleven for* 10*l.*
WILLIAM RENDLE and Co., Cider Merchants,
April 22. 13, Octagon, Plymouth.

SPANISH HENS' EGGS for Sale, at 6*s.* per dozen.—The Hens were imported the autumn before last from Andalusia. They are beautifully speckled, and much superior to the black Spanish. They are excellent as a breed by themselves, or for the improvement of our breeds. As layers they are unequalled, both in the size and number of their eggs.
The Advertiser begs to inform those Gentlemen who were disappointed in getting them last year, that they can now be supplied, as he got over last autumn some more of these Hens, amongst which were some fine white ones of great beauty. The Eggs are to be had of Mr. LEONARD BARBER, 5, Penton-street, Pentonville, where the Hens may be seen. They can be packed and sent by rail without injury.

W. J. CANTELO, the Inventor and Patentee of the HYDRO-INCUBATOR for Hatching and Rearing Poultry, (which is manufactured solely by Samuel Gant, 19, New Road, near Gower-street,) continues to receive orders for his Apparatus. A single-tray machine for 100 eggs is 20 guineas; a two-tray ditto is 40 guineas, and others according to size, 20 guineas being the price of every tray for 100 eggs.
The second edition of Mr. CANTELO's Pamphlet is published by W. STRANGE, Paternoster-row, and may be had for 6*d.*; post free 4*d.* extra.

SEEDS.—CORNER OF HALF-MOON-STREET.
THOMAS GIBBS AND Co.,
(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND,"
Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.
Priced Lists of Agricultural Seeds are always ready, and may be had on application.

CUCUMBER AND MELON BOXES AND LIGHTS.—One hundred 1, 2, and 3-light Boxes and Lights of all sizes ready for immediate use. Warranted best materials, packed and sent to all parts of the kingdom; 2-light Boxes and Lights from 1*l.* 6*s.* Garden Lights of every description, Conservatories, Green and Hot-houses made and fixed in all parts of the kingdom. References given to the Nobility, Gentry, and the Trade, in most of the counties of England.
JAMES WATTS, Hothouse Builder, Claremont-place, Old Kent-road, London.

BEE-HIVES.—All persons desirous of Cultivating that pleasing and profitable branch of rural economy—the Honey Bee—are respectfully informed by G. NEIGHBOUR and SON, that they have prepared for the season an extensive supply of their various improved BEE-HIVES; their collection consists of "Nutt's Collateral Hive," "The Single Box Hive," "The Improved Cottage Hive," "The Ladies' Observatory Hive," "Taylor's Bar Hive," &c., from either of which the Honey may be taken at any time without injury to the Bees, and may be worked with safety, humanity, and profit, by the most timid and unaccustomed to Bee-manipulation. A descriptive paper, with drawings and prices, will be forwarded on receipt of a postage stamp.—Apiarian Depot and Honey Warehouse, 127, High Holborn, London.
NUTT ON BEES (6th Edition), just published.

LINGHAM, BROTHERS, 170, Little Hampton-street, Birmingham, sole Manufacturers of the improved wood MENOGRAPH or LABELS for Garden-borders, Flower-pots, &c., have now perfected several patterns in Zinc suitable for the same purposes, which can be written upon with the greatest facility with their Metallic Ink, prepared exclusively for this purpose, and when dry an indelible inscription is secured. Directions for use sent with each box.
Sole agents in London, G. and J. DEANE, Horticultural Implement Warehouse, 46, King William-st., London-bridge.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.
S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.
Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

WASP CATCHERS.

UNDERWOOD, CUTLER TO HER MAJESTY, 56, Haymarket, begs to inform Amateurs, Gardeners, Nurserymen, and others, that in consequence of the great demand for the above article last season, he has been induced to manufacture a large and varied assortment of shapes and sizes. It being well known that every wasp caught in the spring is the destruction of a whole nest, an early application is recommended; see *Gardeners' Chronicle*, p. 299, 1846. A large assortment of Pruning Knives; also an improved Rose-budding Knife.

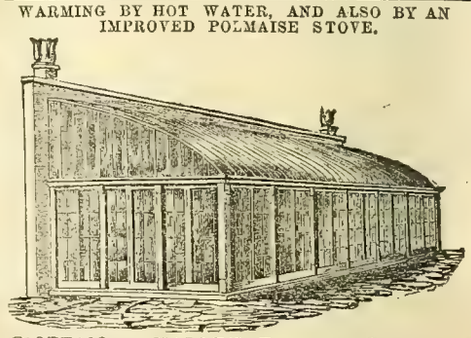
FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

HOT-WATER APPARATUS AND HORTICULTURAL BUILDINGS.

DANIEL AND EDWARD BAILEY, of 272, Holborn, construct and erect Hot-water Apparatus for Warming Horticultural Buildings, Dwelling-houses, Churches, and Manufactories, in a simple and efficient manner, at moderate charges. They have erected Apparatus in England, Scotland, and Ireland for many Noblemen and Gentlemen. They had the honour to be employed in heating the ranges of Hothouses and Pits in HER MAJESTY'S NEW GARDENS AT FROGMORE, and in executing the works of the splendid Conservatory erected by the Horticultural Society of London in their gardens at Chiswick, and also in the erection of the Conservatory attached to the Pantheon Bazaar.
D. and E. BAILEY, who were the first to introduce Metallic Curvilinear Hothouses to Horticulturists, erect various descriptions of Horticultural Buildings, and execute all kinds of metal work at their Manufactory, 272, Holborn.

WARMING BY HOT WATER, AND ALSO BY AN IMPROVED POLMAISE STOVE.



COTTAM AND HALLEN, ENGINEERS, SMITHS, and IRON FOUNDERS, No. 2, Winsley-street, Oxford-street, and Cornwall-road, Lambeth.
CONSERVATORIES, FORCING HOUSES, and every description of Horticultural Buildings, Churches, Dwelling-houses, &c. perfectly warmed by the circulation of Hot Water through cast iron pipes; the principle being rendered very simple in construction, effective in operation, and economical in the cost of the apparatus and consumption of fuel—the result of the great experience which C. and H. have obtained by their warming buildings for every possible purpose for many years past.
AN IMPROVED POLMAISE STOVE, exposing a much larger heating surface than flat plates.
Horticultural Buildings erected of Iron or Wood, or of Iron and Wood combined; Verandahs, Ornamental Iron and Wire Work, Hand-glass frames, Flower Stakes, Hurdles, and every description of Fencing; Bedsteads, brass and iron; the patent Rheocline or Spring Bedstead; Stoves, Ranges, Furnishing Ironmongery, Agricultural Implements, &c.
Show Rooms for every description of Iron Work, &c., at the Manufactory, No. 2, Winsley-street, and 76, Oxford-street, three doors from the Princess's Theatre.

POLMAISE.—Cast and Wrought Iron Dome Cover in lieu of brick arch or iron plate.—The complete success of the Dome Cover has fully established its superiority over any other Polmaise apparatus yet made, numbers have already been fixed, and they continue to give the most perfect satisfaction. The dome, if required, may be made of BOILER-PLATE-IRON any thickness required.—Manufactured by SMITH SMITH and JAMES, Eagle Foundry, Leamington; and may also be had of all respectable ironmongers.
N.B. Hot-water apparatus of every kind, with double corrugated boilers. Iron gutters 12 in. and 18 in. wide for hotbeds at 6*s.* and 3*s.* per foot, ready for fixing.

SLATE WORKS, ISLEWORTH.—The following articles, manufactured in Slate for Horticultural Purposes, may be seen in use at Worton Cottage, upon application to the Gardener, Sundays excepted:—Orange Tubs, Plant Boxes, Tanks, Cisterns, Shelves, Garden-path Edging, Hot-water Tank Covers, Flower Beds for Balconies, Shelves fitted to hold water for Orchidaceous Houses, &c. Estimates given for work as shown upon Drawings and in Specifications.
A large Stock of Slate Slabs, of all sizes and thicknesses, kept on sale.

STRONG HORTICULTURAL 16-oz. SHEET GLASS FOR CONSERVATORIES, GREENHOUSES, PITS, FRAMES, &c.—FURTHER REDUCTION.
HETLEY AND CO. publish Prices in the *Gardeners' Chronicle* the first Saturday in every month. Wholesale and Retail Glass Shade, Sheet, Crown, and Patent Plate Glass Warehouse, 35, Soho-square, London.

GLASS FOR CONSERVATORIES.
JAMES PHILLIPS AND CO., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS FOR CONSERVATORIES. CUT TO SIZE UP TO 40 INCHES LONG.	SMALL SQUARES of SHEET.
16 oz. to the foot 3½*d.* per foot	4 by 3 and 4½ by 3½..1½*d.* per ft.
	5 ,, 3 ,, 5½ ,, 3½..2 ,,
21 ,, 5 ,,	6 ,, 4 ,, 6½ ,, 4½..2½ ,,
	7 ,, 5 ,, 7½ ,, 5½..2½ ,,
26 ,, 7½ ,,	8 ,, 6 ,, 8½ ,, 6½..2¾ ,,
32 ,, 10 ,,	Not above 10 ,, 8 ..3 ,,

GLASS MILK PANS, PROPAGATING GLASSES, AND BEE GLASSES. GLASS TILES AND SLATES.
CREAM POTS, from 3 to 24 quarts, at 6*d.* per quart.
CUCUMBER GLASSES, from 12 to 26 inches long, 1*d.* p. inch.
LACTOMETERS for trying the quality of Milk, 4 tubes 7*s.* 6*d.*, 6 tubes 10*s*; and every article in the trade.

GLASS.
APSLEY PELLATT AND CO. (late PELLATT and GREEN), Falcon Glass Works, Holland-street, Blackfriars, have always on hand, Bee Glasses 1*s.* 6*d.* per lb., Cucumber Glasses, 1*s.* 6*d.* per lb.; Milk Pans, 18 in., white glass, 5*s.* 6*d.* each; Propagating Glasses, white, 1*s.* per lb., do. green, 10*d.*, do. Condensing, 2*d.* per lb. extra; Asparagus Tubes, 18*s.* to 21*s.* per gross; Grape Shades, 1*s.* 6*d.* to 2*s.* each; Fish-bowls, from 1*s.* 6*d.* each; Wasp and Fly-traps, 40*s.* per gross, or 3*s.* 6*d.* per dozen. By the use of these traps fruit may be preserved from (otherwise certain) destruction.

HORTICULTURAL SOCIETY, 21, REGENT-STREET, April 21, 1848.

NOTICE IS HEREBY GIVEN, that the ANNIVERSARY MEETING of the Society, for the Election of President, Council, and Officers for the year ensuing, and for receiving the Annual Report of the Auditors, will take place at the House of the Society, No. 21, Regent-street, on Monday, the 1st of May next. The chair will be taken precisely at One o'clock.

J. R. Gowen, Secretary.

ROYAL BOTANIC SOCIETY, REGENT'S PARK.—The days appointed for the Exhibitions this season, are Wednesdays May 10, June 14, July 5. Tickets can be obtained at the Gardens, by orders from Fellows of the Society price 5s.; or on the days of the Exhibitions 7s. 6d. each.

HEARTSEASE SOCIETY.—The next SHOW of the above Society will be held at Mr. Liddard's, the Thatched House Inn, Hammersmith, on Wednesday, May 3. Amateurs to exhibit 24 blooms, Nurserymen 36 blooms. Subscription 10s. For further particulars apply to Mr. R. S. Mountjoy, Ealing.—April 22.

NEW DAHLIAS.

CHARLES TURNER, being in possession of the entire stock of the following proved varieties, will be prepared to supply strong plants early in May, 1848.

SHYLOCK (Collison), scarlet, 4 feet, 10s. 6d. This variety has obtained 11 prizes in 1847. See "Gardener," Oct. 2.—Report of the Metropolitan Show: "We must not, however, omit to state that Collison's Shylock supported the pre-eminence it has already obtained, there being no less than 22 blooms in the room." Also the "Gardeners' Journal" of the same date:—"Shylock, a scarlet variety, superior to any of its class. It has been shown in first-rate style from beginning to end of the Dahlia season." Finally, see "Chronicle," Nov. 6th.—Report of Exeter Dahlia Show: "First class certificate to Collison's Shylock, a noble variety, vivid scarlet, with high centre, and first-rate general form; it appears to possess that essential good quality—constancy, in an eminent degree."

FIRE KING (Turvill), oriental orange, of the most attractive and brilliant shade, 5 feet, 10s. 6d. See "Gardeners' Journal," Sept. 18th.—Report of the Surrey Show: "This variety should be grown in every collection, from its splendid colour." Also, "Chronicle"—"A first class certificate was awarded to Mr. Turvill for Fire King, novel and striking in colour, being a bright scarlet orange, large, fine in form, good petal, and fine outline."

GIPSEY (Skynner), maroon, fine symmetry, 4 to 5 ft., 10s. 6d.

WHITE ADMIRAL (Skynner), the best white, 4 feet, 10s. 6d.

CANARY (Turner), primrose, tinged, 3 to 4 feet, 7s. 6d.

PRIVATEER (Turner), yellow edged red, 4 feet, 7s. 6d.

ELIZA MIELLEZ (Turner), yellow shaded with crimson purple, 4 feet, 7s. 6d.

THE HERO (Turner), large constant rose, 5 feet, 7s. 6d.

The last four named varieties for 20s. Also every other variety worthy of notice.

C. Turner's collection of fancy Dahlias is very extensive, and comprises the best in cultivat on. Catalogues on application.—Chalvey, Slough.

The Gardeners' Chronicle.

SATURDAY, APRIL 22, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

Wednesday	April 26	Microscopical	8 P.M.
Monday	May 1	Horticultural (Anniversary)	1 P.M.
		Entomological	8 P.M.
Tuesday	— 2	Horticultural	3 P.M.
		Linnean	8 P.M.
Wednesday	— 3	Society of Arts	8 P.M.
Friday	— 5	Botanical	8 P.M.

A reader in the West of England assures us that although "he keeps his Vinery as close as he can, using no fire-heat, and opening the door only for the purpose of nailing and pruning, or in the winter, during sunshine, in order that the buds may not prematurely swell, yet his Vines are healthy, and he has plenty of fruit every year." A volume might be written on such a text; we can only spare a column.

The seven years during which we have been striving to dissipate errors of this kind have been unprofitably consumed, if many persons are still to be found who entertain the same opinion as our correspondent; and he must excuse us if we venture to say that he represents the practice of the darkest ages of gardening. The very foundation of good gardening, that to which all other things are subsidiary, is the great principle that "the artificial conditions to which cultivated plants are necessarily subjected should be made to harmonise as far as possible with their natural conditions." In truth this is the alpha and omega of horticulture. That it is in many cases practically disregarded is no proof that the violation is right; it only shows that gardening is still very imperfect, or that the application of principles may be surrounded by difficulties that are insurmountable by such means as we at present possess. In that case we must approach the truth as near as our means permit.

There is no fact more universally true than that plants are naturally exposed to a free circulation of air and a temperature varying perhaps from hour to hour. When cultivated they should enjoy the same advantage. No philosophy, no vegetable physiology, is required to demonstrate that: it is distinctly manifest to unassisted common sense. What, then, shall we say of the gardener who keeps his Vinery "as close as he can," unless it be that he has never learnt the rudiments of his profession. As close he can! Why, if that were right, a Vine would thrive better in a Ward's case than in a Vineyard on a hill side. Let any one just try the experiment of growing a Vine in an absolutely close house; it will show him the consequence in a manner not to be mistaken. We happen to have tried it ourselves, and can tell what happened. The Vine, a very strong, healthy plant, broke well, grew rapidly, formed fair leaves, but was long-jointed and brittle. Presently its bunches of bloom appeared: but they formed small leaves instead of flowers, or became blind. Next came the breaking of all the eyes in the bosoms of the leaves: away went the Vine, growing and branching, but becoming weaker and weaker every day. After a time, a third set of eyes formed branches, weak and spindling, however, with a great inclination to die off at the points; the vigour of the strong old stock was gone: three months had effectually exhausted it.

It may be said that this was what is called an *experimentum crucis*—an experiment pushed to extremities and beyond all reason. It was so. But by such experiments great truths are quickly elicited. The opposite experiment was the growth of a similar plant in the open air, free and unconstrained; there we had strong, stiff, short-jointed branches; broad, black, thick leaves, with the digestion of a ploughman; hard wood; no bursting into laterals; fine plump clusters of blossoms, perfect flowers, and huge berries, hard, sound, and thoroughly prepared for colouring. The observer was thus placed between two extremes: the most unnatural of all conditions at one end of his line of sight, and the most natural at the other. As he approached the one, he saw debility and disease increasing at every step, while a robust health and strength welcomed him as he advanced to the other.

But our correspondent assures us that though he keeps his house "as close as he can, nevertheless he obtains plenty of fruit." That is conceivable. His house may, like some old Vineries, have open laps, broken glass, rickety doors, and crazy sashes: all his care will not suffocate his Vines under such circumstances. It is possible that he may there obtain plenty of fruit: but what sort of fruit? He may tell us that it is good: perhaps we should dissent from that opinion if we saw it. Good and bad are relative terms, and convey no distinct ideas. We have seen people maintain the excellence of forced Roses which they ought to have been ashamed to acknowledge as their own. We have seen Grapes, too, as large as Peas, and as red as claret, pronounced capital by their innocent owners. We do not say that our correspondent's Grapes are of that sort: we hope and believe not: but we certainly should like to enjoy the opportunity of judging for ourselves about the quality of Grapes reared in a Vinery "kept as close as it can be;" the amount of closeness being at the same time described.

We trust that these remarks will be taken in good part, as they are intended, and that the gentleman whose practice has called for them will try the effect upon his Vines of a more rational system of management.

We have seen enough of the Essay on the Origin of Taste, prefixed to Sir Uvedale Price's work, to appreciate the Editor's peculiar *calibre* of mind when he leaves Alison and Jeffrey to indulge in his own lucubrations. He is assuredly not less amusing when he interpolates passages into Sir Uvedale's chapters, with the express view of rendering the book more completely serviceable to the Landscape Gardener.

It is needless to enforce at any length, or to do more than lay down, the self-evident maxim, that no man can bring true Taste to bear upon Landscape Gardening until he have become imbued with the spirit of that Taste, and have acquired its first great principles. To the instilling of this true Taste, then, Price devotes himself in the first instance: and although, at a cursory glance, the student may deem all this to be of a purely abstract nature, yet he will find that when he comes to practise his art, those principles will develop themselves almost unconsciously to himself, and that spirit will direct his eye and hand in creations or improvements which he may attempt. Take one branch of the subject, handled as it is by Price with his usual acuteness, without his occasional extravagance.

He has treated of the Picturesque in reference to form, light, and shade. He has distinguished it from the sublime and the beautiful, while he has shown the influence of breadth on them all. He now goes on to show "how far the same general principles operate with regard to Colours." Here at once he is at open issue with his philosophically-minded Editor as to the opinions of Burke. He says plainly thus: "Mr. Burke's idea of the beautiful in colour seems to me *in the highest degree* satisfactory, and to *correspond with all his other ideas of beauty*." He then makes what really appears to be a most just as well as acute remark—one on which every Landscape Gardener should ponder well. "I must observe, at the same time, that the *beautiful* in colour is of a positive and independent nature, whereas the *sublime* in colour is in a great degree relative, and depends on the circumstances and associations by which it is accompanied. "A beautiful colour" is a common and just expression. no one [illegible] would give that title to the leaf of a [illegible] or to the smallest bit of it: but though the [illegible] of the sky before a storm, and [illegible] on all Nature be sublime, no one would [illegible] colour (whether a dark blue, or purple or [illegible] might be a sublime colour, it [illegible] known to him without the other accompaniment."

Now what can be more [illegible] than this principle, that *sublimity* in colour [illegible] dependent on accompanying circumstances and associations? But genius can add fresh colour to the Rose, and perfume to the Violet. How on earth, then, is accomplished what, to mortals, would be a work of supererogation? The [illegible] writes thus—partly, doubtless in the way of contrast—partly with the design of making the reader soar to higher objects of admiration—to more [illegible] skies: "Yet let us test the opinion. Let us suppose that a fragment of the most beautiful Rose-leaf that can be found shall be applied to the *tip of the nose of a lovely young woman*, in a manner so perfectly *natural* as to lead the spectator to believe that the hue is native of the spot and *essentially belonging to it*; how would the eyes of all strangers be directed *a chance* towards it with curious enquiry—and how would they recoil from it as something *fearfully strange and unnatural*."

At first, in our simplicity, we took this to be a new but designed specimen of the Lusus *bathos*. But he could hold no reader so cheap as to suppose that. Taking the other view, however, that it was not only seriously intended, but intended as an improvement on Price, we became involved in a perfect maze of difficulties. Why should the tip of a respectable young woman's nose be chosen as a ground for illustration at all? and if it were, how could it be a climax to the illustration so happily given by Price? Why, again, should any thing but a fully on-laid Rose-leaf seem so "*fearfully strange* and unnatural," when we are expressly told that the spectator is led "to believe that it was [illegible] of the spot, and essentially belonging to it?" And why must the spectator be necessarily a *stranger*—and look *askance*, instead of taking a plain, honest front view? All these ideas thronged upon us; but there remained the greatest difficulties of all. What was the real bearing of this mysterious illustration? And what was the nature of the test thus said to be applied? What had it to do with Price's principle in any conceivable way?

A great genius never stops in his career of triumphant progress. Having [illegible] by this unaccountable test, the Editor [illegible]: "There can be no doubt that Rose-leaf [illegible] the colour of the Rose itself, be it observed, [illegible] acquired its beauty in the eyes of mankind from the immediate association which it awakens in every one's mind with the rich fragrance of the flower itself." In other words, the Editor lays down as *his* maxim—that beauty of colour depends on associations in the mind with [illegible] SMELL. Unquestionably, Sir Uvedale could never have made such a discovery as this. It [illegible] the Chinese Gardeners' system—of adapting the laying out of grounds according to the feelings and habits of the owner. For example—"there can be no doubt that *peculiar shades of green* have acquired their beauty in the eyes of an alderman,—from the immediate association which it awakens in every *alderman's* mind with the rich fragrance of a *haunch of venison*." We have underlined the words which we have [illegible] in the Editor's text, to show how universally applicable his principle must be found.

O Landscape Gardener!—never mind the increased price which you are thus made to pay for Price's work. Without these [illegible] comments it would have been utterly [illegible].

ON THE ASPARAGUS OF THE COSSACKS.

[The following is extracted from an article by M. Morren, in the "*Journal d'Horticulture de Gand*," for March, 1848.]

The authors of a humorous publication at Brussels introduced, in 1847, the subject of the Potato disease into their pages. They have enumerated, in verse, the names of varieties of the famous Solanum tuberosum, and have called the attention of horticulturists to the Potato of Bokhara, that reputed happy capital, inhabited by Tartars, Jews, Turcomans, Mussulmen, and Cossacks. Our friends, however, have humbly acknowledged that they are entirely ignorant of the nature of this Potato; but, thanks to the kind of freemasonry which exists among botanists throughout the world, we are enabled to put this extolled plant into the hands of these same friends. We at last obtained the Potato of Bokhara; but, behold, on opening the box, we soon perceived that it was not a Solanum, but a totally different plant, with which we had long been familiar; and [illegible] referring to Dr. Clarke's Travels, we found we had before us the history of this pretended Potato of the Bokhariens.

The plant which they eat instead of Potatoes is an aquatic. For three centuries it has been called by the French, *Marteau* or *Masse*; the Greeks have named it *τοφη*; the Latins, *Typha*; the Germans, *Quarrenkolben* or *Liefsknopsen*; the Flemings, *Lisch-dodden*, or, simply, *Donsen*. It is the *Typha latifolia* of botanists.

We cultivate the Typha latifolia as an ornamental plant in ponds; but it naturally abounds in our waters where the depth is not too great. M. De Pitteurs-Hiegaerts had many thousand stems from the Lake of Léau; and if we are correctly informed, the leaves were only employed for litter, and the dried stems and rhizomes for fuel. What a glorious feast they would have afforded, when young, for the Cossacks! In the Campine Limbourgeoise the ponds are full of these plants; and they have commenced to propagate themselves in the pieces of water on the line of the Vesdre, on both sides of the railroad.

Of all the authorities we know, Dr. Clarke is the one who gives the fullest details respecting the utility of the Typha. He found the inhabitants of Tcherkask so enthusiastic with respect to the excellence of the shoots of the Typha, that they regarded it as a sacred plant, a special gift of Providence. The lower parts of the stem are brought to the tables at every meal; and in every house bundles are to be found, about 3 feet in length, tied like Asparagus, ready for use. It is sold in the markets, and amongst the provision merchants. It is best used in spring, like our Asparagus, when the plants begin to shoot. It is said that in this state it forms a dish which those that have once partaken desire again with increasing relish.

The Cossacks are still more choice in their use of the Typha. They peel off the cuticle and select the blanched tender part, usually about 18 inches in length, near the root; and this constitutes a dish cool, agreeable, and wholesome. The Cossacks, rich or poor, says Dr. Clarke, young or old, prefer this vegetable to all others; and from his own experience, during his sojourn among the inhabitants on the banks of the Don, he could testify that the Typha was a very nutritious and excellent dish.

The Typha is prepared like Asparagus, being cut, like the latter, when the young shoots are pushing; the tender blanched part is boiled in water seasoned with salt, and served up in the same way as Asparagus. The various culinary preparations to which the Asparagus is subjected is equally applicable to the Typha; for it may be cut, stewed, prepared for serving up with yolk of eggs, enhancing the flavour with nutmeg and salt. The Typha, therefore which ornaments the sides of our lakes and ponds with its elegant foliage and singular tops, may be turned to useful account; for although the plant is eaten both by Tartar and Cossack that is no reason why one, being neither, should not avail himself of that which God has created good. Even the French cooks employ various culinary plants for which we are indebted to the Cossacks, among which we may mention Tarragon, and a delicious Rhubarb. [It is stated in the "Vegetable Kingdom," page 126, that "the rhizomes of Typha abound in starch." This being the case, its nutritious qualities cannot be doubted.]—‖

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

TREATMENT OF PLANTS IN POTS.—Most persons who patronise horticulture have plants in pots, which, having escaped all the mischances of winter, are now beginning to put on their new foliage, and to prepare for the development of bloom. Even the meanest cottages have often floral pots, which, after being covered with dust in the dreary season, are now exposed on rainy days as the spring advances. The experienced amateur has been training his exotics for months past, whether he has a greenhouse or is contented with a frame and a parlour window, and they are now in good order, and making rapidly their new growth. But there are many devoted lovers of flowers who are not experienced amateurs, and their little stock of plants in pots now engages their attention for the first time. What had we better do with them? is now asked, as Pelargoniums, Fuchsias, &c., are brought out on a sunny day. This question we shall endeavour to answer, so that the least practical hand may not be misled.

Repotting is demanded by at least two important principles in the economy of vegetation — the dependance of the plant on the state of the root, and the quality of the soil. Turn out one of your last year's Pelargoniums, and you will find the pot so full of roots that you will wonder what has become of the bulk of mould they have displaced. These roots have evidently been seeking after more house-room, for they have wandered round and round the pot in curious spiral forms, until at last no place remains for their lively wanderings, and they grow wearied with the search, remain motionless, and stiffen in their texture. In this state no healthy growth of the plant can take place, and the first thing to be done is to cut away large portions of the old roots, leaving only those which are youngest, in greater or less quantities, according to the size of the head they are to sustain. When this is carefully done, and the plant has been in its new circumstances for a few days, fresh spongioles or little roots will push forth, and a corresponding healthy growth of the foliage be developed. It must be observed that this treatment will not answer if the plants have made much progress. The autumn is the proper time for root-pruning, and the plants should be cut down in proportion as the roots are cut away. But all deciduous plants, such as Fuchsias, which are just now pushing forth leaves, may be treated thus with advantage.

Repotting is demanded further by the deterioration of the soil. In the open ground plants are supplied with proper nutriment by the application of manure, and their roots being unconfined they can stray where they please in search of food; but in a pot these conditions are not fulfilled. A little soil only can be given, and however rich it may be in fertilising qualities, they are soon filtered away by artificial watering. Then again, soil should be porous and open for a healthy vegetation to be secured; and therefore, although liquid manure might supply the losses of the soil, it would not serve to keep it light and open. The next thing therefore to be done, after the roots are reduced in size, is to repot them into an appropriate soil. What that is depends, of course, upon the nature and natural circumstances of the plant; but, for general use, any rich mould which allows water to permeate freely will answer the purpose. If, when you have repotted your plant, you find the pot feels as heavy as lead—that water applied to the surface stops there, and only gradually disappears—you may be sure your labour has been thrown away; for no plant will remain healthy in such a mass of clay. On the other hand, if the mould feels elastic when pressed down, and water applied runs rapidly through it, your work may be considered properly done. What is called good garden mould, with about one-third its bulk in rotten leaves, and one-third of coarse sand, will make a compost adapted to general purposes.

Many gardeners mistake the requirements of plants by seeking for what they call fine mould; and some sift it to secure this fancied advantage. Coarse lumps, and even stones, will be of use rather than otherwise in keeping the drainage clear. Every pot should also have about 2 inches of broken crockery put into the bottom of it. For the same reason, water should always be supplied in very small quantities. As much as will moisten without running through should, if possible, be given, since every portion beyond that washes the soil of its best properties.—*H. B.*

*** A list of shrubby exotics, fit for bedding out, will be given next week.

EXTRACTS FROM MY NOTE BOOK.

(*Continued from page* 253.)

Saxifraga nivalis, L.—This succeeds best in pots in sandy peat mixed with charcoal, and fresh soil should be added to its roots every spring. It should be placed among alpines in a sunny situation, and should receive frequent slight waterings overhead during dry weather in summer. It increases but slowly.

S. aizoides, L., may be grown in a damp shaded peat border, and also in pots in peat sand and charcoal. It likes a sunny situation among alpines. It may be increased by dividing it either in September or in April.

Salix lanata, L., is a beautiful dwarf Willow, seldom attaining more than 2½ feet in height. It grows freely in a light peaty soil, and may be increased by layering. I have never succeeded in striking it from cuttings.

S. reticulata is another Willow, which seldom grows higher than 2 or 3 inches. It grows readily in light sandy soil or in peat, but care must be taken to peg down its prostrate creeping stems, so that they may root as they creep along the surface. It seldom allows of increase by division.

Eriophorum alpinum, L.—This small kind of Cotton-grass is supposed to be now extinct in Britain. It should be potted in light sandy peat mixed with charcoal, and placed in a partially shaded situation among alpines. It may be readily increased by dividing it in the spring.

Cerastium alpinum, L., requires to be kept constantly in pots, in light sandy peat, with plenty of drainers. It may be readily increased by dividing it in April. It likes a partially shaded situation among alpines, and is much benefited by being fresh surfaced occasionally. It should be kept rather moist during dry weather in summer.

C. latifolium, L., should be treated exactly like alpinum.

Paris quadrifolia, L., may be successfully grown in rather large well-drained pots, in a mixture of peat and loam. Its roots run freely in the soil, which should be partly renewed every spring, at which time the plant may also be divided, if increase is wanted. It should be placed in a shaded situation among alpines.

Hottonia palustris, L., is a beautiful aquatic, which should be placed in a pond where the water is not above 15 inches deep, and the more sheltered from the wind the better, being liable to be blown from its place to the side of the pond.

Astragalus hypoglottis, L., is a beautiful little free-flowering plant, well worthy of cultivation; it succeeds pretty well in light sandy soil, but does best kept in pots in sandy loam; it spreads rapidly by its running scions, and may be speedily increased by dividing it in spring. There is also a white-flowered variety, which is pretty.

Gnaphalium supinum, L., is a delicate little everlasting, requiring to be kept in pots in very sandy peat, mixed with charcoal; and in order to preserve it for any length of time, it should be kept constantly in a cold shaded frame.

Veronica alpina, L., is a very rare plant, which requires to be kept in pots in peat and sand, and to be frequently fresh surfaced. It will occasionally admit of increase. It should be placed in a partially shaded situation among alpines.

V. fruticulosa, L., does well in damp light sandy or peaty soil, in which self-sown seedlings frequently come up. It does best replanted every year, placing the roots 1 or 2 inches deeper in the soil. It divides readily.

Glaux maritima, L.—This, a running rooted plant of no beauty, should be kept in pots in peat sand and loam. It admits of increase readily by dividing it in spring.

Cyperus longus, L., is a rare kind of Sedge, which should be kept in rather large pots, in loam, peat, and sand, and placed in a shaded situation, where it can be kept rather moist in summer. It may be divided in April.—*David Cameron.*

Home Correspondence.

Yew Trees.—I live in a country where the Yew is the weed of the soil. In the woods, in the inclosed pastures, on the downs, in the fences, they are the greatest ornament and shelter to the country. In the parish in which I live 500 tons of Yew timber might be cut, if there were a market for it; those trees which grow in exposed situations have their lower boughs nibbled all round by the sheep, but we lose no sheep from that cause. It is believed that the withered foliage is highly deleterious, and there are well authenticated instances of horses and cows having been destroyed by eating of the green foliage of Yew. At a place called Queenwoods (where is a most admirable agricultural and chemico-agricultural college, on a practical and profitable scale of 500 acres, with a numerous class of pupils, the best college of the sort, probably, in England), there was, until within the last year and a half, an establishment of Socialists, who occupied the same farm. Three fine horses belonging to them engaged in ploughing were suffered to stop at the end of a furrow and browse on a Yew tree in the hedge; two died in an hour, and the other with difficulty recovered. My aged shepherd has a theory that there are only particular trees that are poisonous, and inquired of me whether there were ever a poisonous Yew tree in my parish, that he might avoid it. I put no faith in the distinction. I think it more probable that the cattle which are accustomed to see Yew all around them, tasting a little now and then, become proof-hardened by such small doses against its pernicious effects; and that, from its being no novelty to them, they are not induced to feed greedily on it, but obey the repulsive caution with which Nature has invested most poisonous plants. The bland and saccharine mucilage of the ripe berry is not perceptibly unwholesome. I have eaten of it largely, and it excellently assuages thirst; but if any one happens to bite the stone, its acrid and nauseous taste assures you in a moment that it is of a deleterious nature. Yet either some birds or mice eat even them with impunity, as may be seen by the great quantities of the shells of the stones found lying under the Yew-trees, with one side perforated, and the kernels extracted. I believe that in far the greater number of instances where mischief has been done by the Yew-tree in this country, either the animals have been confined in a small pasture, as a churchyard, where the herbage being exhausted, they were driven by hunger to eat largely of the Yew, to which they would have preferred any other kind of food if they could have got it, or else, that, like the Queenwood horses, they were new to the country, and not knowing the taste or quality of the Yew, nor being inured to its effects, they have eaten it for the first time in such quantity as to destroy them. It may not improbably be the case, that the withered foliage loses much of the repulsive taste or smell which warns the animals to abstain from the fresh plant, and that therefore cattle eat of it more freely. However, any one who would institute careful experiments on its effects, and substitute the results for such crude conjectures as those with which I have troubled you, would confer no small benefit on the inhabitants of those calcareous regions (whether the chalk or the mountain lime-stone), wherever this growth abounds. The Yew has always borne a bad character. Virgil speaks of Taxi nocentes; Dioscorides tells some curious tales of the Yew. The birds, he says, which eat the berries of the Italian Yew, turn black, and men who eat them are seized with diarrhœa. In Narbonne the Yew is so strongly poisonous, that, if any persons sleep under it, or even sit down in its shade, they are injured, and very often die. (I have a seat and a table fixed under a beautiful Yew-tree, my brother had another, where several of my relatives and others, and myself, have often sat, but never experienced any injury therefrom.) Matthiolus adds, that shepherds and wood-cutters, eating the berries of the Yew in the mountains of the valley Anania, fall into fevers and dysenteries. Theophrastus says, that, if horses eat the leaves, they die; that ruminant cattle are not affected by them (not true in England); and that the fruit is eaten by some men, and is sweet and innocent. Pliny says that the male Yew (Qy. What is that?) has a noxious fruit; and that in Spain the berries are a deadly poison; and that travellers' drinking-cups, made of the wood of the Yew-tree, have occasioned death when French wines are drank from them; also that, in Arcadia, the Yew-trees are of so rapidly poisonous a quality, that, if any persons take their meal or sleep under the shade, they die. But he gives an easy cure for these evils; for he says, it has been proved that, if a brass nail be driven into the tree, it becomes harmless. Galen also says, that the Yew is a tree of poisonous quality. Another fable current in this county is, that it is not poisonous unless it be cut with an iron tool.—*Hantoniensis.*

Allotments.—I have before stated that too often land let in allotments is charged nearly double the rent of that let to farmers; locality, description of soil &c.,

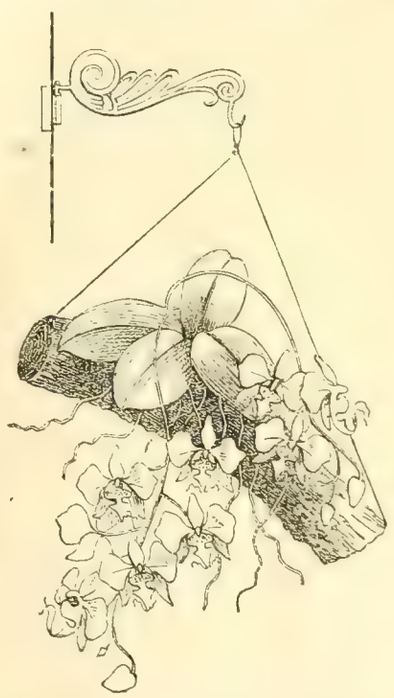
being the same, and not being considered garden or accommodation land. If ground is set apart for the benefit of the labourer, he should be permitted to reap the advantage of obtaining larger crops, by improved tillage, consequent upon spade husbandry. It is now well known what may be done, with the most dirty and unproductive soil, when under hand cultivation; that which was almost barren may be made "to blossom as the Rose." This however can only be accomplished by great attention, draining, deep digging, and the constant destruction of weeds, whenever and wherever they appear. It is unfair to tax the capital of the poor man (his bone and muscle) more heavily than that of the farmer; and let us hope it is not a common practice, which I should like to have confirmed by men living in the various districts throughout the country. We do not sufficiently consider the comforts of the common labourer; the more respectable we make him, by giving him opportunities to improve his condition and station in society, the better will it be for the country, as we thus interest him in preserving good order. It is only those who have nothing to lose who are ready to create disturbances, with the chance of getting something in a general scramble. Provide profitable work for the able bodied, and discontent will vanish.—*Falcon.* [Quite right. Deal fairly by poor men, and they will be the first to appreciate the act. To charge them more than land is worth is disgraceful and dangerous. No one can defend it.]

The Pine-apple.—At a late meeting in the Study, Exotic Nursery, Chelsea, Mr. Walton in the Chair, Mr. Watson read an essay on the culture of the Pine-apple. The soil he had seen the Pine grow best in, was slightly charred turfy loam and rough fibrous peat mixed in about equal proportions. He recommended that the soil to be used in spring be got from the field in the autumn previous, charred and stacked in a dry shed till wanted; by so doing, he said, worms and other insects would be destroyed and decomposition prevented. He said the Pine did not require what gardeners termed a strong rich soil, but a porous one, and the main object of the Pine-grower ought to be to keep it porous. To effect this he recommended thorough drainage, using the soil in a rough state, and frequently stirring it with a pointed stick. He recommended the use of weak manure-water on all occasions and in all seasons when water was wanted. Guano water was best when it could be got. Water off sheep and deer's droppings was also excellent. All sorts of manure-water he recommended to be used in as clear a state as possible. The Pine, he said, being a native of the tropics, required a greater amount of solar light than it was possible for it to receive in this country, consequently that Pine stoves should be so constructed as to catch every blink of sunshine. The stove that would best effect this would be a span-roofed ridge and furrow one. Pines in a house of this description would have the benefit of the sun several hours longer daily than those in a lean-to house. As to heat, seeing that Pines are wanted at all seasons, he said the gardener must use his own discretion. Mr. Watson did not approve of Mr. Hamilton's practice of keeping Pines shut up for about 20 hours out of the 24; he recommended a little air to be left on the houses all night, and as much as the weather would admit of during the day, his conviction being that the health and strength of the plants, together with the size and flavour of the fruit, would in a great measure be in proportion to the quantity of light and air they received. No plant, he said, required more atmospheric moisture than the Pine; if the house was properly constructed, and the air kept in continual motion, he considered it next to an impossibility to keep the atmosphere too moist in the spring, summer, and autumn months, except when the plants were in flower, or when the fruit was colouring. The system of cultivation he recommended for general supply was the Hamiltonian; he believed a greater quantity of fruit could be grown with less expense and less trouble by that system than by any other; but if large single fruit for exhibition were wanted, and trouble and expense no consideration, he recommended that the following system be pursued. As soon as the fruit made its appearance, one or more suckers invariably appeared along with it; all these, except one, should be removed with a sharp knife, and this one should have a quantity of loose fibrous soil laid against its base; thus by the time the fruit is ripe, this sucker will be a plant with plenty of roots, and with these roots to it let it be planted in a bed, there to remain till it fruits. For heating, he recommended hot-water pipes laid in gutters, such as are employed at Worsley Hall. An interesting and instructive discussion followed.—*John Patterson, Secretary.*

Cropping.—Pray use your influence to persuade the poor man to grow a large quantity of Parnips this year. They are most valuable as a crop. Animals fatten upon them, raw, particularly pigs; and when well boiled they are nutritious food for the household.—*Falcon.* [No advice can possibly be better: and we would advise all those who give seeds to cottagers to bear this in mind.]

Orchids.—You say, Mr. Reader, that you should like to cultivate Orchids, but that greatly as you admire them, you cannot encounter the heat and moisture of the houses in which they are grown—that the wetness of the floors, and the drip overhead, so frequently present in them, are sufficient to deter you from entering, and that from want of a more general bloom, they are not adapted for that display of flower you are so fond of witnessing, and which alone repays you for the expense of a greenhouse or conservatory. Let us think over the matter a little, and perhaps whilst I allow many of your objections, I may state advantages which may alter your opinion, and induce you to commence their cultivation. What plant is there that you can bring into the dwelling-house and keep for a week, a fortnight, or even a month in an inhabited room, and in winter time, without injuring it? This may be done with a great portion of the beautiful family we are now speaking of, and with a little watchfulness you will do them good instead of harm. In the accompanying illustration you have a basketful, overflowing with flowers. It hangs, as you will observe, to a bracket

fitting into a socket, and attached to the wall above the mantelpiece. It contains Dendrobium pulchellum purpureum, a native of the East Indies, and a plant of the easiest cultivation. There it hung and ornamented my room for these two weeks, whilst on the opposite side of the chimney-piece hung that queen of Orchids, the



Phalænopsis amabilis, with its flowers 3½ inches across, of the purest white, and of the most elegant shape. It is true that at this time of year the weather is mild, but in the depth of winter you could have found me as gay, or more so if number of plants is considered, for I remember that at one time I had Lælia autumnalis, two fine plants, one on each side, a good specimen of a variety of Brassavola glauca, a pretty plant of Odontoglossum membranaceum, and a basketful of the ever-flowering Epidendrum Skinneri. Speaking of the latter reminds me of additional evidence in favour of the value of these plants as ornaments to a room. I once lent a specimen of this species to a lady, to help to adorn her table for a party. Two weeks after, I called, intending to bring it home. I found its flowers as fresh as ever. I well soaked it with tepid water and left it with her; and two weeks after that had it back as fresh as the day it went from the Orchid-house. To resume, you will observe that in winter, in the coldest weather, the chimney shaft has been so warmed with the fire of the day, that it radiates abundant warmth to protect the plants during the night. Experience, that best of teachers, convinces me that Orchids may be safely introduced into such a situation, and [illegible] enjoyed, whilst all without is storm and [illegible]. How frequently have I, before retiring to bed, sat with my feet on the fender and my eyes on these lovely [illegible] and remembering their native habitat, been transported back in imagination to far distant lands, where, after lying beneath the grateful shade of tropical vegetation, I have speculated on what might be my fate [illegible] in days to come; but never in my wildest [illegible] did I picture myself sitting at an [illegible] with the productions of these burning climes [illegible] above my head. You say that your objection is [illegible] as to their making no general display. I grant that [illegible] profusion of [illegible] seem to [illegible] flower in any [illegible], but then you must remember that in a general collection there are always some displaying their [illegible], which must add to [illegible] in a room, as I have attempted to show, [illegible] and you the expense and trouble of the collection. And then look at their wonderful character—not a plant of Phalænopsis; ever I to hide the leaves and flowers, you would say it was only a block of wood with a little dry moss and [illegible] kind of roots upon it, and yet from that apparently lifeless mass spring the broad green leaves and these two spikes of flowers, fit to adorn the brow of the Queen of England herself. Go and [illegible] yourself a small house and begin, and sure I am that you will please the ladies of your family, if no one else.—*Verax.*

Familiarity of the Robin.—Within [illegible] yards of the place where I am now writing, a robin is at this time rearing her young in a saw-pit,—the young brood is nearly fledged; the men are at work here every day during the usual hours of labour, and could any time while at work place their hand on either the parent or her young, however she feels no alarm at their presence while at work, and during dinner comes very familiarly to pick up the crumbs. A wren followed the example, and so far succeeded as to build her nest under the same shed hard by, but the robin either from a feeling of jealousy or assumed authority, would not allow the wren to lay her eggs, and has now succeeded in expelling the latter.—*J. H., April* 19.

The Walcheren Broccoli, or Cauliflower.—This is unquestionably one of the most useful members of all the Brassica tribe, and in these days, when, by the exercise of a little care and judgment, Broccoli may be obtained nearly, if not all, the year round, the Walcheren is a most valuable acquisition towards the attainment of this object. From its general appearance this variety is often designated a Cauliflower, and certainly the line of demarcation between Broccoli and Cauliflower is difficult to define. The Walcheren, however, has a hardier constitution, both with respect to enduring drought and frost, than a Cauliflower. I am acquainted with a garden which, during a number of years, seemed incapable of producing a creditable Cauliflower for table; the circumstance was attributed to the fact of its being very old garden ground: however, the same garden produced admirable Walcheren Broccoli, measuring from 3 feet to 3½ feet in circumference, and very close, compact, and white; I have grown Walcheren Broccoli side by side with Asiatic and London Market Cauliflower, and had a number of good, close, white heads, 3 feet in circumference from it, while the latter were little more than half that size. Another fact with respect to Walcheren Broccoli, as to its constitution and the proper time for sowing, is worthy of notice. Three persons cultivated this Broccoli last year, the seed being all from the same parcel. Some account of its merits was requested; the answer of one party was, "I sowed early in April, placed great dependence in my Walcheren, and was much disappointed;" the second party said, "it was either worthless, or there was a mistake as to the seed." My first sowing was April 7th, and in August following I was both surprised and disappointed at finding my Walcheren much inferior to Cauliflower, which was contemporary with it; as the season advanced the case however became quite reversed. It is therefore probable that persons may have supposed they were supplied with a spurious article, when in reality the fault lay in too early sowing. From the third to the fourth week in April has been found to be the best time to begin sowing; from thence a small sowing about every three weeks should be made, until the end of July, which with care will give a supply until the end of January following: and sowings made in the end of August and beginning of September, and wintered in

frames or under hand-lights, will be found useful both for table or for seed.—*J. H., April* 19.

Vipers.—My few lines on this subject, published at p. 261, appear to be at variance with the numerous answers given at p. 254. I am not dismayed, however, much less shall I alter my position upon the authority of mere assertion. There are several species of Serpens and Coluber, all amphibious, some oviparous, and others viviparous, about one-sixth venomous, the rest quite harmless, large and small. The Coluber berus, or British viper, is venomous and viviparous; the eggs are hatched within the matrix or sack, situated as before described, the egress, ingress, and regress being near the tail. I was not absolutely correct in my comparison of vipers with fishes in general; few of them pair in the same way as other animals, but fertilise the spawn deposited on the gravel by aspersion. Many portions of the viper are said to contain medical properties, particularly the Egyptian species sold in the shops. The poison is contained in a small bag at the bottom of the fangs, which, being hollow, allow it to pass down into the wound, causing the most painful effects, and requiring immediate remedy. Extract these fangs with the poison bag and vipers then become perfectly harmless, and I have seen them quite tame. Three or four years ago I saw a man standing at the door of a house in which there was a show of curiosities, and in order to attract attention a very large and extremely beautiful boa constrictor was held coiled round his neck and arms. The only work on the subject to which I can refer, is the "London Encyclopædia," which, however, does not say more than what follows upon the question: "Mr. Pennant tells us he has been assured of a fact mentioned by Sir Thomas Brown, though denied by the viper catchers, that the young of the viper, when terrified, will run down the throat of the parent, and seek for shelter in its belly, in the same manner (?) as the young of the opossum and kangaroo retire into the ventral pouch of the old one; whence some have imagined that the viper is so unnatural as to devour its own young." Perhaps some of your country correspondents will take the trouble to inquire, and clear up the point in question, and also the question above stated. Vipers are easily and safely caught by getting the neck in a cleft stick, then holding the tail, place them in a cage. There are many harmless snakes, which are extremely useful in destroying destructive vermin, but their shape gives them a bad character.—*D. S. E.* [We do not approve of the objection to statements that they are mere assertions. What else can they be. Surely "D. S. E." must know that the question here opened is one of those which naturalists by profession cannot answer.]——I have seen young vipers enter the mouth of the old one. When a boy at work with my father, together with two other men, we saw five young vipers enter the old one's mouth; one of the men immediately cut the old one in two with a spade, and destroyed them all. I have since observed a similar occurrence. If any of your readers wish to know the best mode of catching vipers and making oil from them (which no bee-keeper ought to be without, it being a safe and sure cure for the sting of a bee), I will tell them if they will favour me with their addresses.—*J. Neal, Denmark-road, Camberwell.*

Foreign Correspondence.

Paris: Jardin d'Hiver.—The exhibition of the "Société Nationale d'Horticulture de la Seine," (ci-devant Cercle Générale d'Horticulture) was held in this magnificent building on the 14th, 15th, and 16th of April. This is the first time the Garden has been used for this purpose, for which, by the bye, it is exceedingly well adapted, there being ample space for a Show upon the most extensive scale, to say nothing of the thousands of visitors who may promenade with the greatest ease, At any other time it would, doubtless, have been thronged, but alas, "the times are out of joint," no one cares just now about such luxuries as flowers, it is with the greatest difficulty money can be got for absolute necessaries, and when I state that at this moment there are about 100,000 workmen thrown out of their regular employ, and entirely supported by Government and private subscription, it will readily be conceived how severe has been and still is the commercial crisis in France. "Courage et espérance" is upon every tongue, and the meeting of the National Assembly is as anxiously looked for as morning in a stormy night; but till then every one feels it his duty to assist. Balls, theatres, concerts, churches, are all put in requisition to keep the wheels going; and among others, this Society agreed to give the proceeds of the three days to the same purpose: the entrance fee was 1 franc each person. I have before described the Jardin d'Hiver, the most splendid building of the kind in the world. The flowers were arranged within the cross, upon the stages below the lower corridor, and had the specimens been as large as those usually exhibited near London the *coup d'œil* upon entering would have been superb; as it was the Azaleas, Rhododendrons, and Heaths made a very gay appearance. M. Lémichez shone pre eminently in Rhododendrons, and gained the Gold Medal; he had some capital specimens of R. aureum, variegatum, flavum, glaucescens, campanulatum, superbum, macranthum, robustum, pictum, album, &c.—M. Souchet was awarded the large Silver Medal for a collection, among which were R. aureum, Achilles, Cunninghamii, large buff, Rollissonii, campanulatum, robustum, Smith's yellowish white, and ochroleucum.—M. Michel was awarded the Gold Medal for a collection of Azaleas. The plants were not large, but exceedingly well bloomed. In it were A. mirabilis, lilacina, alba, grandiflora, punctata, delicata, Minerva, nitida, præstans, coccinea, rosea elegans, Prince Albert, variegata, exquisita, alba striata, excelsa, maculata, rosea superba, candida magnifica, and Danielsiana.—M. Paillet gained the large Silver Medal for the best collection of greenhouse plants in flower, in which I noticed some very fine plants of Rhododendron campanulatum, amabile, Watsonii, George Stone, aureum, roseum elegantissimum, Rollissonii, and ochroleucum; Azaleas exquisita, concolor, excelsa, Gledstanesi, variegata, King, Danielsiana, formosa, and lilacina striata, together with some good Ericas, Camellias, and Mimosas.—M. Jacquin Ainé was also awarded a Silver Medal for a miscellaneous collection of greenhouse plants, consisting of Ericas, Epacrises, Azaleas, Camellias, Cinerarias, Amaryllids, &c.—M. Michel gained the Gold Medal for a collection of Ericas, small, but bushy and well bloomed; among others were beautiful plants of E. mirabilis, Willmorei, rubra, superba, Linnæoides, procumbens, cylindrica, Hendersonii, andromedæflora, Patersonii; ventricosa coccinea, rosea, and superba; transparens nova, ceriuthoides, and vernix.—MM. Thibaut and Keteleer were awarded a Silver Medal for Conifers. M. Souchet was voted a Silver Medal for Camellias, but they were all but past, which was also the case with other collections. M. Lapipe gained a Silver Medal for Pelargoniums, consisting entirely of market flowers, but which, however, looked gay and very healthy. M. Chauvière gained a Silver Medal for Cinerarias (mostly seedlings), and M. Dufoy the 2d prize. There was but one collection of vegetables, and those very ordinary; but the fruit of MM. Jamin and Durand was still in good condition, and gained a Silver Medal. Among the Pears were fine specimens of Belle Angévine, Passe tardive, Elise d'heyst, Colmar des invalides, Tarquin, Léon Leclerc, Bergamotte de Pentecote and de Soulins, Rigouleau and Colmar. Apples: Calville blanc et rouge, Canada, Belle Josephine, and Reinette de Berlin.

Societies.

Horticultural, *April* 18.—R. Hutton, Esq., in the chair. W. W. Smith, S. Child, W. Campion, jun., and T. W. Blundell, Esqrs., were elected Fellows. From the Marchioness of Westminster was a coloured drawing of a curious and beautiful Rhododendron named Barbatum, which has lately flowered for the first time in this country at Eaton Hall in Cheshire. It was stated to have been obtained from the north of India; but unlike the Indian species, which generally have loose heads of flower, if we except the Ceylon R. zeylanicum, its flower-heads were close and compact, the individual flowers being short and round, and freer from spots than most other Indian kinds. The specimen from which the drawing had been made had been bloomed in a conservatory; but it was observed that it would no doubt prove as hardy as other sorts from the same quarter.—Messrs. Veitch and Son, of Exeter, sent a portion of a plant in a pot of the same handsome Fuchsia, a flower and a leaf of which was exhibited at the last meeting. It was stated to be not different from the Fuchsia loxensis of Humboldt and Bonpland, found on mountains in Peru, at elevations of from 6000 to 7000 feet, which elevations nearly correspond with those given by Mr. Lobb. The inspection of a better specimen only served to confirm the opinion that it will form one of the handsomest Fuchsias yet in cultivation; its dark green leaves and brilliant scarlet flowers, with which the white lobed stigma nicely contrasts, rendering it exceedingly attractive. It was mentioned that in its native habitat it grows from 2 to 4 feet in height. A large Silver Medal was awarded it. Messrs. Veitch also received a Certificate of Merit for a plant of the Pear-leaved Periphragmos (P. pyrifolia), a Peruvian Phloxwort of great rarity, but whose cream-coloured flowers, though produced in abundance, are too dingy-looking to render it a plant of first-rate character.—Mr. Kyle, gr. to R. Barclay, Esq., sent a specimen of Eriostemon neriifolium, for which a Knightian Medal was awarded. Than this, for its size, it was perhaps impossible to produce a better specimen of good gardening. It formed a dense pyramid nearly 5 feet high, profusely clothed with white starry blossoms to the very pot. A plant nearly 7 feet in height, well flowered, but less dense, of the same Nerium-leaved Eriostemon was also exhibited by Messrs. Henderson, of Pine-Apple-place; a Banksian Medal was awarded it, and a similar award was also made to Mr. Glendinning, of the Chiswick Nursery, for a tall specimen of the Sierra Leone Henfreya scandens, a stove climber of rather recent introduction, and of considerable beauty, but its white flowers are hardly pure enough; a deficiency made up, however, by their quantity and the length of time they continue to expand in succession.—Of Fruit, Mr. Davis, of Oak Hill, East Barnet, sent creditable samples, for the season, of Black Hamburgh and Sweet-water Grapes, for which he was awarded a Certificate of Merit.—From the Garden of the Society were various plants, among which were Epidendrum aurantiacum, one of the very best Orchids for small collections, both on account of its colour and the length of time it remains in blossom; an admirably flowered Cattleya Skinneri, and two other species; the brown-blossomed Oncidium guttatum, whose long, rambling flower-spike, coiled down on the plant, gave it a very ornamental appearance; the dingy-flowered Eria ferruginea, and two varieties of Oncidium ampliatum, one with very large blossoms, the other with them somewhat smaller. From the same collection also came a large and finely-flowered Pimelea spectabilis; Gompholobium capitatum and Tetratheca hirsuta, both useful plants for small collections; various Azaleas; a small Henfreya scandens; Euonymus fimbriatus, a greenhouse shrub from the north of India, whose flowers exhibit no great beauty, but whose pale-green, fringed leaves are handsome, especially in early spring. Along with these also came a tall plant of the Mexican Berberis pallida, a greenhouse shrub, which, grown as a standard, serves to break the uniformity which too often prevails in plant-houses; its gracefully drooping pinnated leaves, and long racemes of pale-yellow flowers, which are succeeded by a crop of black berries, rendering it by no means unornamental.—The fruit from the Garden consisted of specimens from a plant in the conservatory of what the French call the Hermaphrodite Orange, being an Orange and a Lemon apparently combined in the same fruit, a singular production found in Syria and Egypt, concerning the origin of which much speculation has been indulged in; but as yet without eliciting anything satisfactory. Most of the specimens were irregular in form, the larger portion of the surface exhibiting the rough, spongy exterior of the Lemon, the other portions having the colour and thin smooth skin of the Orange. This peculiarity, however, is never found to extend below the surface; on cutting one of the fruit open the interior proved to be all of one kind, and looked like that of a sweet Lemon.—It was announced that printed copies of the audited accounts of the Society were ready for delivery to Fellows.

Royal South London Floricultural, *April* 19.—This, the first meeting for the season, was held in the Horns Tavern, Kennington. The Show upon the whole was a very creditable one. There was a better display of Auriculas present than we remember to have seen in former seasons. In the Amateurs' Class for the best pan, the 1st prize was awarded to W. Ginger, Esq., for Hedges' Britannia, and Dickson's Duke of Wellington; 2d, to J. Chapman, Esq., for Mawes' Violet, and Hedges' Britannia; 3d, W. Trahar, Esq., for Dickson's Duke of Wellington and Unique.—For the best collection of four Auriculas, the 1st prize was again taken by W. Ginger, Esq., for Stretch's Alexander, Kenyon's Ringleader, Hedges' Britannia, and Dickson's Apollo; 2d, J. Chapman, Esq., Hedges' Britannia, Yates' Lord Collingwood, Dickson's Duke of Wellington, and Seedling.—In the Nurserymen's Class, Mr. James Dickson was awarded the 1st prize for Dickson's Duke of Wellington, Page's Champion and Defiance, and Dickson's Unique; 2d prize, Mr. J. Bushell, for Gorton's Champion, Dickson's Duke of Wellington, Taylor's Glory, and Gabel's Duke of Wellington.—Collections were exhibited by different growers, but not for competition.—For the best pair of Polyanthuses, J. Edwards, Esq., of Holloway, was awarded the 1st prize, for Freedom and Alexander.—Heartsease, 24 dissimilar blooms. In the Amateurs' Class, the 1st prize was awarded to J. Edwards, Esq., of Holloway, for Duke of Wellington, Almanza, Rainbow, Duchess of Rutland, Great Britain, Companion, White Serjeant, Norfolk Hero, Mr. Hamilton, Lady Sale, Shakspeare, Blooming Girl, Youell's Supreme, Model of Perfection, Mary Jane, Regulator, Optimus, Dr. Wolff, Constellation, Daughter of St. Mark, Hunt's Wellington, Bellissima, Prince of Orange, Wonderful; 2d prize, Mr. Over, Streatham, for Rainbow, Optimus, Mary Jane, Climax, Virgil, Jehu, Belvidere, Trefoso, Sappho, Pompey, Zabdi, Almanza, Pliny, Excellent, Goliah, Perfection, Madonna, Pulcher, Perseus, Duchess of Rutland, Euclid, Prince of Orange, Model of Perfection, Hampden; 3d, Mr. Bridges, Croydon, for Mary Jane, Goliah, Fanny, Companion, Almanza, Seedling, Trefoso, Blooming Girl, One in the Ring, Duchess of Rutland, Excellent, Optimus, Exquisite, Constellation, Superb, Hunt's Wellington, Tom Pinch, Perseus, Duchess of Norfolk, Rainbow, Candidate, Lord Hardinge, Perfection, and Iver Queen. In the Nurserymen's Class 1st and 2d equal prizes were awarded to Mr. Turner, of Chalvey, and Mr. Thomson, of Iver. Mr. Turner's stand contained:—Hooper's Blooming Girl, Thomson's Constellation, Hooper's Mary Jane, Hall's Rainbow, Nasmyth's Mr. Hamilton, Hooper's Duke of Wellington, Great Britain, Turner's Miss Edwards, Bragg's Goliah, Hooper's Lady Sale, Backhouse's Dr. Wolff, Thomson's Duchess of Rutland, Turner's Optimus, Example, and Caroline; Thomson's Zabdi, Chater's Model of Perfection, Thomson's Shakspeare, Hooper's Wonderful, Thomson's Dr. Hawtrey, Youell's Supreme, Ondine, Collison's Perseus, Bell's Climax. Mr. Thomson's flowers were:—Pre-eminent, Excellent, Almanza, Zabdi, Optimus, Constellation, Perseus, Aurora, Corsair, Pulcher, Lady Sale, Rainbow, Bridesmaid, Virgil, Sappho, Yellow Seedling, Gloria Mundi, Model of Perfection, Duke of Wellington, Duke of Rutland, Fair Flora, Youell's Supreme, Bell's Lady Lacon and Climax; 2d, Messrs. Bragg and Bright, for Hooper's Duke of Wellington, Hall's Rainbow, Optimus, Constellation, Hunt's Desirable, Bragg's Charon, Optimus, Hooper's True Briton, Almanza, Lady Sale, Seedling, Bragg's Clara, Dr. Wolff, Bragg's Colossus, Youell's Supreme, Perseus, Exquisite, Trefoso, Duchess of Rutland, Seedling, Duke of Rutland, Eliza, Mrs. Bragg, Thomson's Perfection; 3d, Mr. Cutter, Slough, for Rainbow, Seedling, Virgil, Curion, Perseus, Shakspeare's Goliah, Aurora, Supreme, Climax, Seedling, Magrath, Arethusa, Duke of Norfolk, Model of Perfection, Dr. Wolff, Seedling, Optimus, Apollo, Snowdrop, Perfection, Duke of Wellington, Duke of Rutland.—For the best 12 Cinerarias in pots, Mr. Ivery, of Peckham, received the 1st prize; his collection contained

Ivory's Anais, Purple Prince, Pet, Prime Minister, Maid of Artois, Conqueror; Goode's Compacta; Henderson's Maritima and Favourite, Beauty of St. John's Wood, and Isabella; Jackson's Countess of Zetland. An extra prize offered by J. Bright, Esq., for 8 Cinerarias in pots, from private growers, was awarded to to ——— for finely grown and well bloomed plants of Nobilis, Compacta, Beauty of St. John's Wood, Conqueror, Colossus, Beauty of Wenham, Pet, and Attraction.

Seedlings.—*Auriculas*: A 1st class Certificate was awarded to Mr. James Dickson for a seedling to be named Dr. Horner. This is a grey edged flower, of great merit, tube rather large, but neatly formed and well filled with the thrum, paste dense and pure, colour intense purple, pip flat. This flower promises to rank with the best. A Certificate was also given to J. Chapman, Esq., for a seedling self. *Pansies*: A Certificate to Mr. Turner for a seedling named Example, ground colour bright golden yellow, margin of medium width, of a bright bronzy-purple, petals smooth on the edges, good eye. To Messrs. Bragg and Bright for a seedling raised by Mr. Hunt, in the way of Rainbow, to be named D'Israeli. This flower is deeper in colour than Rainbow, and in general outline more circular. The same to Mr. Thomson, of Iver, for Privateer, bright yellow ground, deep purple maroon; broad margin, round, large, and even on the edge; eye clear of the margin. *Cinerarias*: 1st class Certificate to Mr. Atlee, for Satellite, a bright clear crimson variety; the same to Mr. Ivery, for Duchess of Sutherland, white, tipped with delicate lilac, dark disk—a very pretty and well formed flower; and to Mr. Bruce, for a seedling named Annette, a bright deep blue.

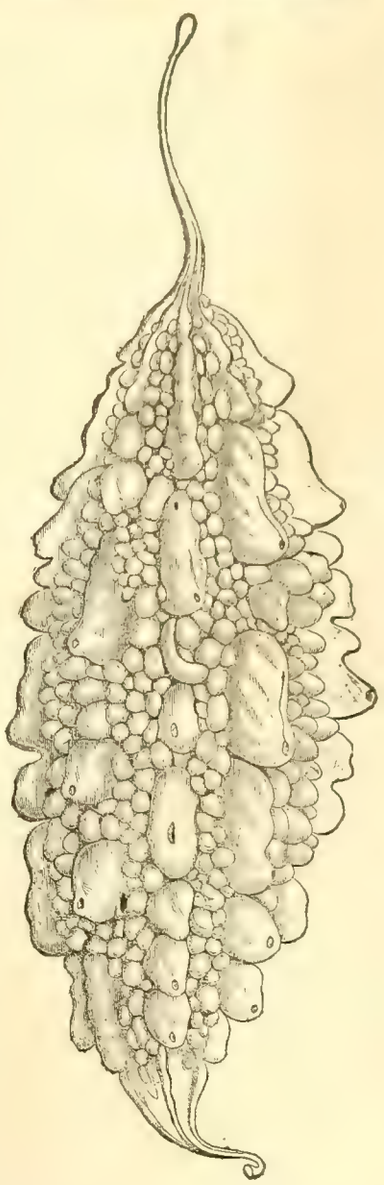
Of double Primulas, there was a nice collection from Mr. Fowles, of Sudbury.

Of Miscellaneous Plants, a goodly number was assembled, and generally speaking they were produced in good condition, both as regards growth and bloom. The collection to which the Adelaide Cup was awarded was exhibited by Mr. Cole, gr. to H. Colyer, Esq., of Dartford. It contained some well-grown plants, among which may be mentioned the Anemone-leaved Boronia (B. anemonæfolia); Adenandra speciosa, two species of Ixora, Chorozema angustifolium, the white-flowered Dracophyllum gracile, a beautiful Erica Hartnelli, Boronia pinnata, and other plants.—The next collection in point of merit was produced by Mr. Tye, gr. to W. H. Gilliat, Esq., of Clapham Park. It comprised a beautiful plant of Hovea Celsi, bushy to the pot and finely flowered; a spreading Erica propendens; Tropæolum tricolor, thinly diffused over a large circular trellis; Zichya inophylla, trained out in a similar manner; a little Pimelea spectabilis; various Azaleas, &c. The next best group was exhibited by Mr. Bruce, gr. to B. Miller, Esq., of Merton. In this were the useful Gnidia pinifolia; Boronia pinnata and the more recently introduced B. anemonæfolia; Acacia diffusa, a pretty species suitable for pot culture; a standard Epiphyllum Russellianum; a large and well-flowered Azalea pulcherrima; Hovea Celsi; Gesnera lateritia; and several Heaths. Next came a collection from Mr. Young, of Camberwell, the more remarkable plants in which were Cytisus rhodopnœus, forming a ball 3 feet through; Acacia cordata, Diosma capitata, Aphelexis humilis, Chorozema varium, and some Azaleas.—In Mr. Hamp's group we noticed a good Cytisus racemosus, and a luxuriant specimen of Pleroma heteromalla.—Mr. Pawley, of Bromley, sent a collection of 18 plants, among which were Chorozema Lawranceanum; a rampant Sinningia hybrida; the lovely Erica perspicua; the less showy, but not less interesting E. trossula; E. sulphurea, a species seldom seen, and other Heaths; together with Leschenaultia formosa, Hovea Celsi, Boronia pinnata and others.—For single specimens a 1st prize was awarded to Mr. Cole for an exceedingly neat plant of the larger variety of Erica aristata; a 2d, to Mr. Fairbairn for Erica elegans; a 3d to Mr. Hamp for Gloxinia alba sanguinea, a beautiful variety; and a 4th to Mr. Pawley for Erica elegans, measuring 2 feet by 2, and finely flowered. Finally, there were exhibited some good Cucumbers; and, for the season, a capital basket of British Queen Strawberries was produced by Mr. Webb, of Clapham.

THE BALSAM APPLE.

(*Momordica Balsamina*, Linn.)

Although this plant has no pretension to novelty, it does not the less deserve to be brought under the notice of gardeners; for we seldom see it, curious and beautiful as are its fruits when ripe. The manner of growth of the Balsam Apple is that of a Cucumber, and it requires to be raised from seed in the same way. During the summer it scrambles rapidly over Pea sticks, or along a piece of netting, or it may be conducted up the trellis of a verandah, all which it covers with a light, half transparent, green foliage, not very unlike that of the Bryony. The flowers are inconspicuous, but they produce an abundance of long, knobby fruits, which hang down among the foliage, are bright green till nearly ripe, then assume a yellow, changing to brilliant scarlet, and finally split into three or four fleshy pieces, which roll back, and disclose the seeds and the interior, both of which are of a glowing red. There is time enough to sow it now in a warm Cucumber frame, and by the end of June it will be early enough to turn it out of doors; there is, however, no necessity to defer doing so later than the discontinuance of north east winds.



The species is said to be a native of the East Indies, and its fruit, when young, to be an ingredient in pickles; we would, however, rather not try experiments with it in that way. As a medical plant it has some reputation; according to the American writers Wood and Bache, "a liniment formed by infusing the fruit, deprived of its seeds, in olive or almond oil, is applied to chapped hands, burns, old sores, &c.; and the fruit itself is sometimes mashed and used in the form of a poultice." When ripe it is a poison, if taken internally

Garden Memoranda.

Mr. Cuthill's, Denmark Hill, Camberwell.—A visit to this place at this season will not prove, we imagine, uninteresting. Plants of [illegible] in cultivating which gardeners in general find so much difficulty, were growing here luxuriantly, and young plants from seeds of [illegible] were making their appearance above the soil, although only three weeks [illegible]. In potting it from seed, Mr. Cuthill employs pans a foot wide, and 3 inches deep, in the bottom of which crocks are placed, to the depth of about one half inch, and the other half consisting of leaf, peat, or bog mould. On the top is placed an inch of sand; the latter is sifted, the seed is then sown, and a little sand is sprinkled over it. The pans are then placed in a heat of about 70°, with a propagating glass over them. The seed pan is placed in a deeper pan, which is constantly kept full of water, the former never being watered overhead. The [illegible] was somewhat advanced in a green state, and has been found to be very fond of rich manure water.

Early Cucumbers, in which production Mr. Cuthill is so successful, were strong and healthy, with plenty of well formed fruit hanging down from the trellises for the most part about a foot long, the blossoms still adhering to their points. The soil, rough, fresh, turfy material, was not remarkable for richness, a point about which Mr. Cuthill is not particular, for experience has proved to him that he can keep it in good heart throughout the season by the application of manure water. By having the soil very rough and porous at bottom in the first instance, and by means of manure water, the plants are preserved in excellent health, and after bearing a heavy spring and summer crop, are as healthy in September as they are now on the 22d of April. For watering, Mr. Cuthill is obliged to use spring water, but he is careful never to water, even in summer, with cold water, for he says he is certain that half the diseases of which gardeners complain arise from this very cause. Of insects, the only pest with which Mr. C. is troubled is the woodlouse, for whose destruction he generally keeps a number of toads in his frames; but having none this year, he has been induced to try whether or no he could not keep these depredators down by examining the pits every morning, and hunting all he could find; and in this way, by perseverance, he has been enabled to almost clear the whole from his pits; 4 inch pots filled with hay are, however, still placed on the trellises, to catch those which may have escaped observation.

Of Strawberries, Mr. Cuthill annually forces about 4000 pots, most of which were in flower, the blossoms being abundant, and those of the British Queen in particular more than usually large and numerous, standing well up on strong stems. A so-called new variety, which was exhibited last year at some of the metropolitan shows, was literally one mass of blossom, showing that it forces well; and it is one of the earliest in the open border. Its fruit is black, medium sized, and makes a good preserve. Two plants of the Beehive were here, but although strong plants, showed very little blossom, even under the same treatment as the others. In its present condition, however, it would be premature to offer any opinion respecting it.

Of the value of soot as a manure, Mr. Cuthill has a high opinion. He puts a handful in the bottom of each Strawberry pot. He turned several plants out of their pots, and it was found that the roots formed a perfect mass in the soot, and looked vigorous and healthy.

Potatoes treated in the manner described in Mr. Cuthill's pamphlet were some height above the ridges, indeed seldom have we seen Ash-leaved Kidneys look so well, even in the best of seasons; they were producing from one to five strong shoots each, for none are rubbed off before planting, and by wintering the sets as Mr. Cuthill does, he finds they can support all that spring with impunity, and a greater crop of tubers is of course the result.

Miscellaneous.

Peas.—The following varieties of Peas were sown, in contiguous rows, March 13th: 1. Pois le plus hatif (True Early Frame), from Vilmorin. 2 Early Frame, from Mr. Glendinning. 3. Early Frame, from Mr. Warner. The above proved the same and true—fit to gather June 9th. 4. Early Kent, Mr. Glendinning. Fit June 2d. 5. Warner's Early Emperor. Fit June 4th. The 4th and 5th are varieties allied to the Early Frame; from the latter the Early Kent differs in being a week earlier, and not so strong growing. Warner's Early Emperor is not quite so early as the Early Kent; and its growth is intermediate between that of the Early Kent and Early Frame. Fairbeard's Early Surprise Pea was sown April 23d, and was fit to gather June 27th. But the Early Frame sown at the same time was

NEW GARDEN PLANTS, PUBLISHED IN BOOKS.

N.B.—* = Very handsome. † = Second rate. ‡ = Third rate. ¶ = Unimportant.

Name.	Where Published.	Name of Country.	Quality.	Natural Order.	Colour of Flowers.	Time of Flowering.	When first Flowered.	Where.
Gesnēra breviflōra..... † *Short-flowered Gesnera.*	Hort. Soc. Journal, III., 165	Guatemala	S. ♃	Gesnerads	Bright red	September	1847	Hort. Society.
Iris reticulāta..... * *Netted Iris.*	Hort. Soc. Journal, III., 165	Crimea	H. bulb	Irids	Dark purple	February	1848	Hort. Society.
Cuscŭta ? californĭca..... ¶ *Californian Dodder.*	Hort. Soc. Journal, III., 167	California	H. ⊙	Dodders	White	October	1847	Hort. Society.
Lisiānthus acutangŭlus ..... ‡ *Sharp-edged Lisianth.*	Bot. Mag., t. 4324	Peru	G. ♂	Gentianworts	Green	Summer	1847	Kew.
Anigozānthos fuliginōsa ..... † *Sooty Anigozanth.*	Bot. Mag., t. 4291	Swan River	G. ♃	Bloodroots	Yellowish	.....	.....	.....
Æchmĕa discŏlor .... * *Crab's-eye Echmea.*	Bot. Mag., t. 4293	Brazil ?	S. ♃	Bromeliads	Crimson	.....	1847	Henderson's.

fit June 19th. Fairbeard's is therefore eight days later than the Early Frame; and consequently, according to the preceding statement, it would be a fortnight later than the Early Kent. Hence, although it is not a late Pea, yet it cannot rank amongst the earliest. It seems a variety of the Charlton; but owing to the excessively hot weather, nothing can be fairly stated with regard to its quality and bearing. The Transparent Pea from Mr. Charlwood proves to be the same as Farnes's Conservative Green Marrow, a singular variety, the foliage being destitute of the usual glaucous covering.—*Robert Thompson, in the Journal of the Horticultural Society.*

Calendar of Operations.

(*For the ensuing Week.*)

CONSERVATORY AND GREENHOUSE.

The prevailing humidity of the weather will unfavourably affect many greenhouse plants, if measures are not promptly pursued to counteract it. A free circulation of air on all opportunities, with a little fire heat occasionally, will prove advantageous. Creepers will require daily attention. Pelargoniums and Calceolarias must be kept moist and freed from the green fly; a few cuttings of the first may be put in for autumn flowering. Syringe occasionally Camellias, Rhododendrons, Indian Azaleas, after flowering, and shade from the effects of vivid sunshine; shading material generally ought to be provided. Continue to pot off Dahlias, Fuchsias, and bedding plants; give air on all favourable occasions to tender annuals. *Stove.*—Pot bulbs of Gesnera zebrina for late flowering; encourage Clerodendrons by an active moist heat. Shade Orchids, and pursue slugs, thrips, and other annoyances, on the first suspicion of their appearance.

FRUIT FORCING.

Peaches.—A slight advance of heat in the early Peach-house may be permitted, as by this time the fruit may be considered secure. At the same time a system must be established to provide air in sufficient quantities for the necessities of the trees; attention frequently bestowed to the task of arranging and laying in those shoots selected to remain, will be amply rewarded. The unusual quantity of rain which has lately fallen will render the application of water to the external borders for the present unnecessary. *Cherries, Plums, Apricots.*—A fair crop of fruit having been obtained, the object next to be desired is to add quality to quantity. Unless Cherries are well established, and in good health, the quality of the fruit they yield will assuredly be inferior, in spite of every atmospheric attention. The amount of fruit should be fairly apportioned to the strength of the tree. From the moment the fruit is set the healthy progress of the tree should be encouraged by every available art. Extreme variations in the temperature, or neglect in watering, injuriously affect the fruit. A free circulation of air, and partial exposure to the influence of sunlight, will assist healthy trees to ripen their fruit to the desired perfection.

KITCHEN GARDEN AND ORCHARD.

It is not improbable that the late drenching rains falling on land already surcharged with water may prove injurious to Carrots and other vegetables recently sown. Where there exists sufficient reason to apprehend a failure, it is advisable to sow a second time. Favourable opportunities should be employed, and situations chosen for planting out Cauliflowers and Lettuce; prick out Celery from the seed-pans into a cold frame. Sow Peas, and Windsor or Mazagan Beans, to support an uninterrupted supply, and look to the forward crops with a view of preventing the inroad of slugs; a row of Radishes may be sown between the line of Peas. Sow Sorrel, Beet, and Turnips. Collect droppings for Mushroom beds. Look over fruit trees attentively; the removal of superfluous buds and shoots may be proceeded with; an application of tobacco-water to Peach trees infested with the fly will be found eminently useful in repressing them. Avoid trampling about the roots of wall trees, particularly those newly planted; it is a good plan to spread ashes on the passage usually left fronting the wall. Examine frequently grafts, removing on every occasion the wild shoots; search for and destroy caterpillars, which frequently commit serious injury to the young shoots.

FLOWER GARDEN AND SHRUBBERIES.

The flower beds should be dug and fully prepared for the reception of the usual summer plants some time previous to planting. Disbud Roses. Proceed with weeding while the walks are damp. The extreme humidity of the weather renders mowing frequently necessary. The same circumstance has enabled evergreens to bear removal with less injury than otherwise would be sustained. Should dry weather ensue water had better be liberally supplied. Look over the stock for decorative purposes. Border off Fuchsias which have been protected for vases. Select tall plants of Fuchsia corymbiflora for bedding. Prick out and encourage the growth of seedlings of Campanula carpatica, Petunias, Lobelia ramosa, and similar plants. Remember that for effect in masses few plants excel the common White Petunia; the old "Nosegay" and Glorianum Pelargoniums are also excellent for display. Propagate Tagetes lucida, its bright yellow blossoms assist to give brilliance to the parterre.

FLORISTS' FLOWERS.

Dahlias.—Pot off seedlings, as they acquire strength, into thumb pots, and still retain them in the same temperature in which they were raised. Harden off cuttings which have been potted preparatory to planting out. *Auriculas.*—Seedlings must be very carefully kept from the sun; the direct rays will speedily destroy them. Seed may still be sown. The main stock will now be getting into full bloom; in order to prolong the season of these beautiful flowers, it will be necessary to remove them to a stage having a northern aspect, over which a light awning of calico must be spread. Attention should be directed to cross fertilisation or hybridising; never leave to chance what can be done effectually by a little perseverance; do not cross green, grey, or white-edged with selfs; and where purity of stock is required, Alpines or Auriculas having yellow grounds should not be cultivated. *Carnations and Picotees.*—At the latter end of the week, seed should be sown in vegetable mould, mixed with sandy loam; it is a bad plan to sow sooner, as the plants are apt to get gross in habit, and consequently unable to effectually withstand the effect of frost. Examine daily the traps for wireworms (slices of Potatoes) placed in pots or beds, where there is any suspicion of these pests lurking. *Pinks and Pansies.*—Top-dress the former and strike cuttings of the latter.

FORESTING.

Proceed with felling and barking Oak timber without delay. See that the bark is sorted and stacked with the utmost regularity. When much is in hand employ proportionate help. The removal of timber should be effected as soon as circumstances will allow.

State of the weather near London, for the week ending April 20, 1848, as observed at the Horticultural Garden, Chiswick.

April.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 14	10	30.069	29.853	55	29	42.0	N.W.	.00
Satur.. 15	11	29.994	29.881	55	42	48.5	S.W.	.28
Sun. .. 16	12	29.980	29.748	58	46	52.0	S.	.29
Mon. .. 17	13	29.693	29.619	61	32	46.5	S.W.	.11
Tues. .. 18	○	29.695	29.308	57	35	46.0	S.	.31
Wed. .. 19	15	29.334	29.292	61	36	48.5	S.	.00
Thurs. 20	16	29.389	29.304	59	46	52.5	N.E.	.59
Average..		29.736	29.570	58.0	38.0	48.0		1.38

April 14—Clear and cold; frosty at night.
— 15—Foggy; overcast; rain.
— 16—Hazy and damp; cloudy; constant rain at night.
— 17—Cloudy; showery in afternoon; cloudy.
— 18—Rain; overcast; heavy rain in the evening; clear; rain.
— 19—Cloudy throughout; fine, with scattered clouds at night.
— 20—Fine; constant rain commenced at 1 P.M.
Mean temperature of the week, 2 deg. above the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending April 29, 1848.

April.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 23	59.0	39.1	49.0	12	0.52 in.	1	3	3	1	4	2	4	5
Mon. 24	60.3	35.9	47.6	9	0.55	3	1	4	4	1	6	2	1
Tues. 25	60.1	39.5	49.8	9	1.40	5	3	2	2	6	3	1	2
Wed. 26	59.5	38.3	48.9	11	0.12	3	2	2	3	1	7	2	2
Thurs. 27	60.5	37.9	49.2	11	0.12	6	1	1	2	3	3	3	1
Fri. 28	62.1	38.0	50.0	8	0.10	1	1	4	4	2	4	3	2
Satur. 29	62.2	39.8	51.0	7	0.75	2	3	4	2	4	1	2	4

The highest temperature during the above period occurred on the 28th 1840—therm. 81 deg.; and the lowest on the 25th, 1827—therm. 25 deg.

Notices to Correspondents.

Books—*X X*—M'Intosh on the Greenhouse, Hothouse, and Stove will possibly suit you.‡——*A Z*—Mr. Stewart's Lectures are published by Longmans, or they may be had at the Society's rooms, 21, Regent-street.‡——*O P*—A new edition of Paxton's "Botanical Dictionary" is in the press, and will appear soon.‡ —— *W M* — See advertisement at p. 294 of last week's Paper.‡

Broom for Lawns—*W T H* says his gardener informs him that about 10 years ago the gentleman in whose service he lived brought from abroad some cane brooms for sweeping lawns; one of these lasted upwards of two seasons, and did the work in a more satisfactory manner than the common broom. He inquires where these brooms can be procured. The canes were about 2 feet long.

Conifers—*A Gardener*—We should like to know something of the details of your method of propagation. The samples are certainly very different; but they look as if the difference depended upon the part of the plant used for propagation. Your "new" plan appears to be superior to the other. Cryptomeria signifies "hidden parts," and alludes to the manner in which the parts of fructification are arranged.

Disturbers of the Peace—*One who refused to be a Special Constable*—You must excuse us. We cannot admit any discussion of this matter; in fact it is evident that you have misapprehended the whole scope of our observations. We have applied no term of opprobrium to Chartists; our language was applied to disturbers of the peace and would-be pillagers of property, who richly merit all the scorn that words can convey. We expressed no opinion upon the principles of Chartism; we confined ourselves to the necessity of preserving order. Do you think that wrong? The former would have been an impertinence, the latter was our bounden duty. We know and respect many very intelligent and excellent persons who entertain Chartist opinions; but they repudiate the acts of such persons as Mr. F. O'Connor and his London associates as much as we do. We could even name those who though Chartists were sworn in as special constables. Pray read again what we said, and you will find it does not bear the interpretation you have put upon it. Courteous therefore and complimentary as is your language, and much as we desire to oblige you, we feel it necessary to decline inserting your letter, a conclusion in the propriety of which we believe you will concur after reading this explanation. If we were to act otherwise we should permit a political discussion to take the place of a declaration to hold fast to the preservation of property. Our "logic" will not permit us to regard the two as identical.

Insects—*W S and Bruges Fry*—The Peas are devoured by the small Pea weevil in its perfect state. Its hard casing will prevent ordinary remedies from taking effect. We know nothing better than to place a white sheet close to the side of the Peas, and then shake them on it, which will at once dislodge the beetles. Perhaps it would be the easiest plan to attach a bag of canvas to a bow a yard or a yard and a half long; the straight or string side might then be pushed against the stems of the Peas close to the ground, and the plants lightly whisked with a small branch or twig, to dislodge the beetles. *W.*——*T C*—The common mullein moth, Cucullia verbasci. *W.*——*F H Rous*—The Raspberry buds are infested by the small grub of a moth, very similar to that which attacks the Rose buds at this season, as described in the last Number of the *Gardeners' Chronicle*. As the grub is closely shut up in the heart of the bud, fastening the leaves around it, we scarcely know any other plan than to pinch those buds which appear infested. Children might soon be taught the knack of doing this so as not to injure the growth of the plant, and yet to kill the insect. If the same plan were pursued with the Apricot and other wall-fruit trees, the benefit would soon be evident. *W.*——*Dyno-Gwent*—Thanks. The Wheat stems shall have our attention. *W.*——*T B C*—The odour from bruised Laurel leaves it is said will kill the thrips. The leaves should be dispersed all over the frame, but they must not be allowed to touch the plants. Shut up your frame, and allow it to remain closed for about two hours, then give a little air, allowing the Laurel leaves to remain for a few hours. After they are removed, syringe the plants well with warm water. By this you will possibly get rid of the pest.‡——*H B*—For ants try turpentine, but be careful not to injure your plants with it.‡

Names of Fruits—*Anne*—The Apples you sent are the Easter Pippin, or, as it is called by some, the French Crab ‖

Names of Plants—*C L*—Hippeastrum pulverulentum.——*M B P*—Species of Prunus without leaves cannot be named. No. 5 is some sort of Amelanchier.——*C Catling*—Stiftia insignis——*J Neville*—We are not aware that your plant has ever flowered in gardens, although very common there. It is *supposed* to be some Myoporum.——*E C*—We know of no such plant as Salvia dulcis. Persons who write popular books should use intelligible language, and not send their readers on a wild-goose chase.——*M D P*—Passiflora Lemicheziana is a plant in the way of P. Kermesina and Loudoni. We know of no merits peculiar to it, and discredit the tale of its being a cross from P. quadrangularis.——*P B*—Next week.——*Finus*—The word *australis* signifies southern. If it related to Australia it would be australasicus.——*G M & Co.*—The species of Canna are in such confusion that we cannot determine that which you have sent.——*X Y*—Plants, especially morsels, out of flower, cannot be accurately named without an amount of trouble which you would not ask us to take.

Poppies—*J B N*—Your plan of cultivation is right; but the time of ripening the capsules depends on the weather and other matters. Perhaps they may be ripe in two months, if the weather is favourable. You must raise Tomatoes in a hotbed; they may be planted at the foot of a dry bank, or against a trellis where they are not exposed to currents of cold air.

Rain-water—*Ignoramus* will feel obliged by information on the following subjects:—1st. Which is most nutritious, three hours' rain or three hours' snow; and what is the cause that the one should predominate over the other in nutrition? 2d. Why is rain or snow more nutritious in certain localities over others?

Thermometers—*T S P*—We do not suppose that the mere interception of heat from the soil can produce the effect of lowering the thermometer so much as you describe. It is probably owing to the loss of its own heat by radiation into the atmosphere. Place a screen over it on a clear night, and thus intercept radiation, and you will put this suggestion to the test.

Tobacco paper—*T Neal*—It is a principle with us not to recommend dealers ourselves nor to allow others to do so, except in cases of great necessity. In your instance the necessity does not exist, for any great Tobacco dealer can answer your question.

Vines—*Hants*—We presume that your Vines are too damp and ill ventilated; if drier the ventilation you employ might be sufficient, but if a moist atmosphere is employed you must moderate its action by free currents of air passing among the leaves——*R W B*—The shanking in your case appears to arise from your Vines being allowed to bear more bunches than they can carry. This affection arises, however, from so many causes that we cannot undertake to say whether we are right or not in our conjecture.

Wild Plants—*Ockham*—We have sent your letter to Mr. Cameron with a note in favour of your plan.

Misc—*P T O*—In moving your plants into larger pots do not disturb their balls beyond taking away the old crocks. Place them a *little* deeper in the new pots.‡——*H B*—Fish's Cantaloupe Melon requires the same treatment as other Melons.‡ ——*W H D*—Gardenia Rothmanni has been figured in the "Botanical Magazine" long ago at t. 690.‡ ——*A B C*—Gardenia radicans is a stove plant.‡——*R A C*—We have not a copy ourselves, but could probably purchase you one.——*R S*—For plants to grow in a sunless corner see last week's Paper, p. 256.‡——*Old Sub*—Seek for sphagnum in boggy places; it grows wild at Wimbledon.‡——*P S*—We cannot recommend dealers. We should think Pelargonium fulgidum, and other Cape species, can be had through the trade.‡——*J L*—Apply to the Secretary, 21, Regent-street.——*D S*—Your Roses are mildewed, a disease induced, in your case, we should think, through insufficient ventilation.‡ —— *George Mansfield*—Such questions as you have sent cannot be answered.‡

SEEDLING FLOWERS.

Calceolaria—*Anon*—The seedling sent is pretty but small, compared to the show flowers of the present day, and there is nothing either in the form or marking to distinguish it from thousands that are annually raised.*

Cinerarias—*A B C*—Your seedling is extremely pretty in colour, white tipped with light blue; it is faulty in form, the petals being too narrow, and they are also irregularly placed round the disk, so that spaces occasionally occur, having the appearance of a petal being removed.*——*A B C*—It is impossible that flowers can arrive in a proper state to judge of when packed up as your specimens were; they require to be sent in a tin box, packed in damp moss or paper. Judging from the form of the petals, No. 3 appears to be the best flower, and the lilac tip to the petal is very pretty. In Nos. 1 and 2 the ends of the petals are deeply serrated, which is considered a great defect; they are also common in colour.* ——*W D*—Your flower is pretty in colour, but the petals want both substance and breadth, the spaces between them being too great.*——*E R*—Nos. 1 and 6 are the best flowers among your seedlings, the petals are large, regular, and well formed. The colour in No. 1 is unusual, and the delicate tip to 6 is very pretty. The other specimens are common and less attractive than 1 and 6.*——*B B*—Your flowers are large and fine, and varied in colour and marking. No. 4 is the best, the white is pure round the disk, and the crimson purple terminations to the petals deep and rich; the flowers are slightly cupped. The next in merit is No. 5, a broad-petalled, handsome flower, dark disk, surrounded by a narrow ring of white, changing to crimson, which becomes a blue purple; the fault of this flower is, that it is slightly serrated at the tips. 9, too faint in colour; 13, large, light crimson, well formed, but common in colour; 84, blue lavender, broad petals, and well formed.*

Nemophila—*B B*—A fine flower certainly; but no opinion can be formed from a single blossom.‡

Pansies—*B B*—Your specimen, No. 15, is a large and bold flower, white ground with deep rich top petals of dark violet purple, and a broad margin of the same colour surrounding the lower petals. The eye is large and bold, but there are too many lines running into the ground colour towards the margin; the patches of dark composing the centre should leave off abruptly, and not be continued by line: the specimen accompanying your seedling is a fine example of this property. Your flower also wants a little more flatness: it is, however, with these defects, a fine large bold flower.*

Erratum—In the article on "Ventilation of Hothouses," at p. 254, col. b, line 4 from end of paragraph, "escaping again into the atmosphere at H," should be "at C."

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those numerous correspondents, the insertion of whose interesting contributions is still delayed.

EDUCATION in AGRICULTURAL CHEMISTRY.

DR. GILBERT has for some time been engaged in conducting experiments both in the field and in the laboratory, for Mr. Lawes, at his Farm at Rothamsted, Herts, and he is now authorised by Mr. L. to take a few PUPILS to watch the progress, and assist in the operations, of the investigation which is still proceeding, and the nature of which may be judged of, by the results which have been already published in the Journal of the Royal Agricultural Society, and elsewhere. The course which it is proposed to adopt is not intended, or calculated, to provide such rudimental and routine instruction as would suffice for those destined to become Professional Chemists on the one hand, or Practical Farmers on the other; but it is thought that gentlemen of the former class, who are already to some extent conversant with laboratory operations, and propose to prosecute Chemistry in its connection with Agriculture; or those of the latter class, who knowing something of Practical Agriculture, wish to become acquainted with the Principles of the Art, would find the combination of Farm with Laboratory practice, which an engagement at Rothamsted would afford, well adapted to forward their views.

Dr. GILBERT will be glad to answer enquiries as to terms and other matters of detail, either by letter, or in personal interview, by appointment, at Rothamsted or in London.—Address to Dr. GILBERT, Harpenden, St. Alban's.—April 22.

MESSRS. NESBITS' CHEMICAL AND AGRICULTURAL SCHOOL, 38, Kennington-lane, London.—A sound practical knowledge of Analytical and Agricultural Chemistry, Geology, Surveying, Levelling, Railway Engineering, &c, may be obtained in Messrs. NESBITS' Academy, in addition to a good modern education.

Mr. NESBIT'S works on Arithmetic, Mensuration, Gauging, Land-Surveying, English Parsing, &c., are published by LONGMAN and Co., and may be had of all Booksellers.

The terms of the School can be had on application either personally or by letter.

SHETLAND CATTLE, PONIES, AND SHEEP.

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HYDRAULIC ENGINES.

J. LEGG begs to return thanks to his patrons and friends, and also to inform them that he continues to erect his improved Hydraulic Engines, Water Ram, &c., suitable for all situations where a fall can be obtained, also Engines for Deep Wells. J. L. also begs to inform his friends that he has made several improvements on his Hydraulic Machines, and flatters himself that he is able to compete with any parties of the present day in the construction of the above machines.

Apply to JOHN LEGG, Cheltenham.

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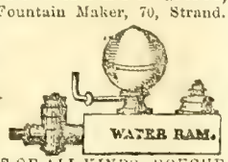

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THE AINSLIE BRICK AND TILE MACHINE COMPANY (James Smith, Esq., of Beaoston, Chairman) invite attention to their IMPROVED BRICK and TILE MACHINES, which are to be seen at work at Alperton, and at the Company's Office, 193A, Piccadilly, from 10 A.M. to 5 P.M. Mr. Robert Scrivener, who has been appointed Manager in the room of Mr. John Ainslie, will show the Machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytecinic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, 193A, Piccadilly, London.

These Machines may also be seen at Mr. Slight's, Leithwalk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill, 155, Buchanan-street, Glasgow; Mr. Robert Charles, Mill-hill, Leeds; Messrs. Penny and Finch, Penkeridge, Staffordshire; Messrs. Drummond and Son, Dublin; and at Mr. John Connor's, Newtown Limavady, County Derry.

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LINSEED CRUSHER, simple in construction, for hand or horse-power, 11*l.* 11*s.*; ditto, doing Beans, Linseed, and Oats, by the same engine or horse-power, 10*l.* 10*s.* A smaller Implement for Linseed only, 7*l.* 15*s.*

THRESHING MACHINE.—A Four-horse Power, doing from 25 to 35 loads of Wheat-straw per day, without damaging the straw, may be had of MARY WEDLAKE and Co., 118, Fenchurch-street, opposite Mark-lane, London, (references to numerous persons farming extensively, and who use this new machine), price 60 guineas. Smaller machines at a less price.

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S. TAYLOR respectfully announces to those who for so many years have been supplied by him with WIRE NETTING, that he is enabled to offer patterns of almost any given description, at a reduction of nearly 15 per cent. on his former very reasonable prices; and this not only without any deterioration but with a positive improvement in the quality of the article. None sent out without at least two coats of the best anti-corrosive mixture.—Apply to SAML. TAYLOR, Barton-street, Gloucester; or Robt. Woodcock, Stokeferry, Norfolk.

PATENT FLEXIBLE INDIA RUBBER PIPES and TUBING for RAILWAY COMPANIES, BREWERIES, DISTILLERIES, GAS COMPANIES, GARDENING and AGRICULTURAL PURPOSES, &c.

THE PATENT VULCANISED INDIA RUBBER HOSE PIPES are made to stand Hot Liquor and Acids without injury, do not freeze, are light, and at all temperatures they are always perfectly flexible, and so may be used for the application of cold or thermal, or any purpose, and prepared for Fire-engines, Pumps, Gas, Steam-engines, Garden, and all purposes where a perfectly flexible pipe is required. May be had from 1-inch bore upwards, and of any length required.

Vulcanised India-rubber Garden Hose, with Leather Joints, copper Unions, and brass couplings, ready for use, as used by Pumps, Water-butts, or Cisterns. Sole Manufacturer, JAMES LYNE HANCOCK, Gosnell Mews, Goswell-road, London.

N.B.—Vulcanised India-rubber Washers: all sizes for Joints of Hot-water and Steam Pipes, and Vulcanised Sheet Rubber, any thickness, for all kinds of Joints, and other purposes.

The Agricultural Gazette.

SATURDAY, APRIL 22, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY, April 26—Agricultural Society of England.
THURSDAY, — 27—Royal Dublin Society of Ireland.
WEDNESDAY, May 3—Royal Agricultural Society of England.
THURSDAY, — 4—Agricultural Society of Ireland.
FARMERS' CLUBS.—April 27—Stewartby, Bedford.—28—London, Claydon.—May 6: Newcastle, Durham.

IT has been of Late much recommended TO FED CATTLE ON COOKED FOOD: not to give them *all* their food thus prepared—this would be too expensive—but the farinaceous portion of it merely; that is, to replace their oilcake by a cooked meal of Linseed and Beans, or Linseed and Barley. The advantages of the practice are perfectly consistent with the theory of nutrition, and, what most of our readers will probably consider of even greater importance, they are consistent with experience. Of this, abundant evidence exists. Our own experience for the last few years is sufficient for our own assurance; and that which has been published on the subject is, we think, sufficient for the assurance of others. The most of this will be found in a little tract lately issued, which states the theory of the subject very satisfactorily, and the different methods of practising it very clearly. The cases described are selected from the counties of Norfolk, Suffolk, Cornwall, York, Wigton and Dumfries: some of them are new to us, others have already appeared in our columns. They all point to the fact that the use of cooked food is greatly more efficient and economical than that of the uncooked. We strongly advise those of our readers who wish to learn farther on the subject, to procure a copy of this tract, which, we perceive, is subscribed—THOMAS HARKNESS, Secretary to the Rhins Farmers' Club, Commissary Clerk's Office, Dumfries.

THERE can be no doubt of the impolicy of allowing the capital employed in agriculture to run all the risks under which most of it at present lies. There can be no doubt that those who own the land in which it is invested would benefit by the more ready and abundant investment of it which its greater security would insure: and as little can there be that the cultivator would himself reap more abundantly, were his means more liberally applied. TENANT RIGHT—the right to this security—is, unquestionably, a reality: and the general acknowledgment of it is greatly to be desired by all classes dependent on agriculture. All, however, are not agreed upon the justice of these propositions, or the acknowledgment of Tenant Right would be immediate and universal: the fact being that there is such little prospect of unanimity on the point, that the most zealous of its advocates contend for legislation, to bear down the opposition they encounter.

We referred last week to the difficulties which lie in the way of legislation—to the power of opposing landowners—to the difficulties, in framing a bill, of a valuation between landlord and tenant which should be just to both—the continual arbitration and litigation which would be sure to arise from any attempt to determine the award before the outlay, and the certain arbitrary injustice of any decision after it. On this latter point we have some further remarks to make.

The following is a passage from the report to the Law Amendment Society, which refers to a valuation of Tenant Right founded upon the increased value of the land at the close of a tenancy.

"The tenant would by it, so far as his acts are concerned, be held bound to restore the land in as good, but in no better condition than it was in when he took it; and for all increase of value, arising from his acts, he would receive an equivalent in money. But this method is unfortunately less easy of application than it is just in principle. In acting on it, the following data would be necessary, in order to come to a conclusion. 1. The annual value of the land at the commencement of the tenancy, which might, perhaps, be obtained by reference to the rent, and the poor-rate assessment. 2. The annual value of the land at the end of the tenancy, which would require a special valuation. 3. Proof of the fact that the improvements were made. 4. Proof of the extent to which the improvements were, as distinguished from other concurring circumstances, have affected the value. Now, without taking into consideration the three former requisites, the last proof alone it would be almost impossible to give. In a country where the state of trade, the making a road, canal, or railway, the building or extension of a town, and many other things, are daily changing the value of land, how is it possible to eliminate all these considerations, and to attribute to the improvement just so much of the increase of value as is due to it? It may be added, that so long as population continues to advance, the science of agriculture to improve, and the means and experiments of practical husbandry to increase, land must, as a general rule, become more valuable by the demand upon its resources, as well as by the extension of its capabilities, without any extraordinary expenditure on the part of the tenant."

The difficulty of this mode of valuation does not arise from the impossibility of extracting from it the causes of improved value, and their total effect, that and the result of it which the tenant may have put in action. Clearly he has no right to the whole difference in the value of his farm at the commencement and close of his occupation. That may have arisen from the increase of population, and of prices perhaps, from the improved social and physical condition of the people, from the neighbourhood of a lately constructed canal or railroad, or from the establishment of a manufacture in its neighbourhood. From these—causes in which the tenant has had no part—as well as from the fact that at such a date so much was spent in draining, liming, or manuring the land, his its increased value arose, and who is to eliminate that portion of the rent due to any one of its causes? It may be true, as the report already quoted states, that "there is no class of men who place more entire reliance on their own skill than those who are in the habit of being summoned to decide as arbitrators and umpires on questions of this kind. Yet they who know them best will be the most ready to admit that a large proportion of them are far from being possessed of anything beyond a most superficial and empirical knowledge of the subjects involved in the questions which they are called upon to decide; and, even if it were admitted that in some cases their familiarity with agricultural details might enable them, from a single survey, to form a tolerably accurate estimate of the change in the condition of the soil, yet it is clear, from the foregoing statement of the points which would arise, that much more than this would be necessary in order so to fix the fair amount of compensation as to give general satisfaction, and preclude further litigation."

And the fact is that the problem requiring solution is complicated even more than we have yet represented it. For a great *apparent* increase in the intrinsic value of an estate may often arise from a comparatively inexpensive act on the part of its cultivator. Draining, liming, or subsoiling, will sometimes increase the value of land far beyond the cost of the operation; but notwithstanding this, no claim can justly be made for *more* than this cost: its effect has been so great, not because it has added to the soil anything for which the tenant paid, but because it developed and brought into action that which though dormant there, had a pre existence as the property of the landowner.

The most fertile soil, if blocked up with water, loses its fertility; the roots of plants growing on it will exhaust their respective localities of the food proper for them, and then linger and die; but break up this stagnation, allow the water to circulate, as by drainage you may, and every successive shower will prepare fresh food, and as it passes those roots furnish them with fresh supplies of nourishment—of nourishment, observe, not added by the tenant, but existing in the land before he came to it. The increased fertility cannot be claimed as the tenants' own—the warehouse was full of food before his occupancy—he was only at the expense of the key. Here, then, is a new difficulty: What is to determine what portion of the increased value of the land is due to its cultivator as the addition of real material at his cost, and what portion of it is a mere alteration of character, due no doubt to him as the instrument, but which he could not have effected had not the very basis of that character already existed—the landowner's property—in the soil?

It is too much the custom to regard land in the country like land in the town as mere standing room for the property of another. But this is not an accurate comparison: it might indeed be accepted, and we might still prove our point by reference to the increased value of that land, quite independently of the tenant as wealth increased in its neighbourhood. But consider wherein it is fixity. Cultivated land is not mere standing room for a crop—it is not the mere ground plan of a manufactory whose machines and raw material

are furnished by its tenant. Its *owner* is the man who furnishes a great part of this machinery, and of this raw material also: and in considering the increased value of this manufactory, as indicated by its increased annual productiveness, to be all owing to the tenant, it is forgotten that it is partly due to an increased use and an increased consumption of another's property. The soil is not mere standing room for the plants which cover it: it is, even in its natural state—not to speak of that in which its present tenant may have received it—a storehouse of their food more or less accessible, and more or less fully stocked: its fertility depends on both of these circumstances; and while any improvement in the latter point is readily conceded as due to the cultivator, it is too much to suppose that he should be so willingly reimbursed for an improvement in the former also—for that which gives him a readier access to stores of another's goods as well as of his own. And the soil is not only a warehouse of food for plants—it is a laboratory too in which that food is prepared: and it contains both material and apparatus, the landlord's property, to which similar remarks apply.

Tenant Right is no doubt a reality: but we doubt if it is capable of enforcement by legislation. We doubt if any form of words will ever be invented to define it with justice so generally, and yet so definitely, as to be capable of application everywhere, and of misinterpretation nowhere. The only period, we suspect, at which it can be enforced successfully occurs in the case of every farmer just before he enters his farm. It is a subject proper for private agreement—not for public enactment.

But what an absurdity it seems that we should speak of *enforcing* this matter as against landowners, when of all the parties to the occupation of land they would benefit the most by an agreement which should leave it in an improved condition. It is decidedly for their own interest to be far more liberal in the encouragement of agricultural improvement than any law is ever likely to be.

FLAX AN EXHAUSTING CROP?

Flax has been assailed as a devourer and unprofitable. I deny that it is so. It is a tender plant and needs nourishment, and the greater the attention bestowed the more is its value increased. Its cultivation resolves itself into two heads; first, does it injure the land, and consequently defraud the landlord? secondly, is it such a non-productive crop as likely defeat the tenant's hope of remuneration? I shall briefly treat of it under those separate points. Professors Sir R. Kane and Johnston chemically explain that, "Flax is a less destructive crop than many other crops grown in England by farmers of experience," whether it be more productive and profitable or not, let us test it, thus; the grand question to solve is, if I plough down, say a 10 acre field of Wheat or Barley stubble in September or October and leave it over to the following March, then give it another ploughing and sow it with Flax early in April, will it pay me better than a crop of Oats, as land in such a course of rotation should produce prime Oats or Flax without manure.

Any farmer can calculate pretty correctly what Oats do one year with another realise per acre, and as T. H. S. Sotheron, Esq., M.P. for North Wilts, the most recent authority on the subject, acknowledges he had clear profit 18*l.* 8*s.* 6*d.* per acre by Flax culture, the farmers will judge whether I be or not their friend, if in their defence I defy every enemy of home produce, by advising them to turn their attention to cultivating Flax. Its enemies have failed in their efforts to extinguish the light that I have endeavoured to throw on the subject, inasmuch as they have not produced one grower to corroborate their calumnies, except one witness who, without any attempt to water, grass, or scutch his crop, sold it on foot, and he is still so silly as to denounce what he had not the energy or courage to try. As well might the miner say there was much darkness and more loss in his labour because he could not raise ready made ingots of gold and silver.

When will prejudice cease to be purblind? When will these theorists and agricultural antiquaries rub the rust from their eyes and take the gall from their pens? When will they condescend to be instructed in the art to which they pretend to have skill? If Flax has been a robber, they made it so by their mismanagement, for frequently they sacrifice the seed in their ignorance as to the practicability and possibility of obtaining from the plant seed for their cattle feeding, and fibre, as they should and can do, of much value; and if, in addition to this, they carry off seed and fibre to market, the exhaustion (under such circumstances) that cultivating the plant would create, must be made up by the purchase of artificial or other manures, otherwise the manure heap collected from the growth and consumption of other crops must be used, and the rest of the land deprived of the return naturally owing to it; such in my opinion must have been the system practised in 1531, 1767, and 1798, the year that the enemy of home production tells us Flax, like a dog with a bad name, got hunted from good society; and being found unprofitable, has not been introduced in the present century amongst the rotation of crops in England; and not contented with the booby experiments, want forsooth to ruin the good name of the harmless plant also. Oh, these theorist agriculturists! who with a stroke of their pen would

"Mar the excellence they cannot reach."

How desirable it would be if they would not be reiterating incongruities but soberly strive to learn, since they cannot teach.

"Seething the Lamb in its mother's milk"

does not furnish a more refined example of ignorance and avarice than those who would carry both fibre and seed to market, and leave the precious steep water unused, and cry out "Flax is a thief, it has impoverished our land;" nay, it is either their laziness or want of knowledge robbed them, for every gallon of the disposed steep water contains largely of fertilising and reproductive matter. It betrays a lamentable lack of prudence, to see the advocate of tenant right by his own perversity of opinion pushed back to the mists of the 16th century; and with a boldness that none but a blunderer could assume, refer to the cultivation of Flax in the year 1531, as a criterion to govern opinion in 1848. The hostility of the *Mark Lane Express* to Flax culture reminds one of the oft quoted rhyme,

"I do not like thee, Dr. Fell,
The reason why, I cannot tell;
But this much I do know full well,
I do not like thee, Dr. Fell."

But the truth is, the Flax growers of last year all acknowledge that the seed alone affords them ample remuneration, independent of the fibre; or as Sir Charles M. Burrell, Bart., asserts, that 12 loads of manure made from cattle fed on the usual portion of Flax seed are equal to 20 loads from cattle fed in the ordinary way without Flax seed, it must be confessed that the profits made by those who grow Flax and feed their stock on the seed must be considerable; nor could it be otherwise, unless they had preconcerted to mismanage every part of the simple instructions which, with increased industry, I have made known gratis, through the influence and indulgence of the press for several years.

I observe in the report given by Dr. Hodges of his analysis of the Flax fibre, that it contains but very little inorganic matter, and as that gentleman tells us what we must apply to restore to the land on which the Flax grew, and the ingredients that it extracts from it, I shall take leave to introduce his remarks on the subject.

Dr. Hodges, professor of chemistry to the Chemico-Agricultural Society of Ireland, in commenting on the reported powers of exhaustion in Flax, says—

"It is like every other plant that is cultivated for food and clothing, or springs up along the high way, it takes during its growth certain matter from the soil," and then he goes on to say, "though I admit Flax is an exhausting crop in the proper sense of the term, yet my analysis and calculations show me that it does not rob the soil half so much as some of the most favourite crops of the farmers."

Then he shows the amount of ingredients contained in a given number of plants, compared with that afforded by some of our common crops, from which it appears that the ordinary produce of Flax takes away from the soil, per acre, a less amount of valuable ingredients than either the Turnip or Potato crop. Doctor Hodges then shows that when the seed is consumed on the farm, the manure required to supply the loss occasioned by the sale of the Flax fibre may be had at the trifling cost of 11*s.* 6*d.* per acre; the manures he recommends are as follows.

	s.	*d.*
Muriate of Potash, 80 lbs.	2	6
Chloride of sodium (common salt), 1 cwt. ...	0	3
Burned gypsum, 34 lbs.	0	6
Bone dust, 54 lbs.	3	3
Sulphate of magnesia (Epsom salts), ½ cwt....	5	0
Total	11	6

If after this we hear that the question of the matchless and ruinous exhausting nature of the Flax plant has not been set at rest, when science tells us the small expence required to make good the loss caused by the sale of the fibre, and accurately explains the ingredients required to make up that loss, and if such will not satisfy the sceptical, I confess I shall have but little hope in the old school landlord class, lovers of old practice and restrictions, abandoning their views, especially as the *Mark Lane Express*, a Paper with such pretensions towards protecting the interest of the tenant farmers, continues to wage war with the advocates of Flax, although they are unable to produce, in support of their opinion, a solitary individual who has really grown Flax, watered it, grassed and scutched and brought it to market. Not one man of practical experience from the north of Ireland has helped them out of the dilemma and false position that they have been drawn into by their friends Messrs. Wells and Beamish.

The enemies of Flax having tried to prop up their hopeless case from the writings of Mr. M'Adam and Dr. Hodges, relative to the use and value of the water in which Flax is steeped, the properties of which, Professor Sir R. Kane asserts, are composed of ingredients that the Flax abstracts from the soil; obliges me to confess myself more in favour, and more confident in practice, than I am in the doctrine of the most learned chemists, and therefore I shall allow practical results from the use of Flax water, as directed by Professor Kane, to decide as to its real value.

At the Markethill Agricultural Society's meeting, in Ireland, the chairman, Mr. Blacker, said—

"It is, however, true that the charge against the Flax crop, of leaving no manure, is not strictly a fact, for the seed of the Flax is excellent feeding for cattle, and the Flax-water is a powerful manure; but then I have found it impossible to persuade people to take the trouble of availing themselves of these capabilities. It is now 12 years since I first directed attention to this in a small pamphlet addressed to the farmers on this estate; and I do not think there are more than half-a-dozen persons who have been induced to practise in this particular what I then recommended; but in the present day old prejudices are much shaken by the number of new things which have been brought forward, and which, contrary to expectation, have been proved to be useful improvements; and I have therefore hopes that it Dr. Kane, who has made the nature of this crop a subject of laborious and scientific research, shall be induced to let us know the result of his experiments, that a suitable impression will be made upon all present, and the value of his remarks be duly appreciated. Mr. Blacker then adds, 'after hearing from Dr. Kane what science points out, we shall then come with more advantage to the consideration of practical results, and what steps we ought to take. He would, in the meantime, call on those who had any experience in making use of the seed for cattle-feeding, or the Flax-water for manure, to state the results of their experiments.'—Mr. William King, of Corromannon, then rose and said, "Respecting the using of Flax-water, I have had two trials of it, and found benefit by it. I had 1 acre of two-year-old lea, which I got flooded with Flax-water, and I had a double quantity of Oats on it the next season, compared with its usual produce for 15 years previous. Last season I had a field of about 2 acres; and for the purpose of experimenting, I dressed 1 acre of it with about 20 barrels of lime, and procured Flax-water for the remainder. The portion to which the Flax-water was applied carried the best crop by 30*s.*; and if we count the cost of the 20 barrels of lime, and the labour attending its application, it will amount to about 30*s.* more."

By this statement Mr. King lost 3*l.* per acre by not using or applying the Flax-water to the other acre, as he expended 30*s.* for lime, and had a loss of 30*s.* Mr. King was then followed by Mr. Samuel Loudon, of Hamilstonbawn.

"When I first took into consideration the use of Flax-water, my Flax-pools being situated on the top of a hill, I thought it would not be expensive to try the experiment; and I, of course, applied the water to a small portion of ground, off which I had taken a crop of Oats. The next year I planted the field with Potatoes, when the advantage of the Flax-water was quite apparent, the portion of the field to which it had been applied carrying a double crop. Nor was the effect confined to the Potato crop. It was easily discernible in the succeeding crop of Flax. Last season I was more particular about the water and had it carefully put over a part of a field, from which I reaped 55 stooks of Oats, producing 128 stones. Of the part not watered, I reaped also 55 stooks, but the produce was only 96 stones. I have no doubt that, by judicious management, I might have increased this produce considerably; and I have no hesitation in stating the good opinion I entertain of the application of Flax-water to be such, that had I no other means of procuring it, I would pay for the carrying it to my fields in tin cans." Experiments such as these, tried by intelligent farmers on what I call the best-managed estate in Ireland, under the directions of an agent who studies the comfort and well-doing of the tenantry of Lord Gosford, should in my opinion, decidedly do away with the idle prejudice, that Flax is a more exhausting crop than any other that we can produce, and that it leaves nothing to manure or restore the soil.

Having adduced (would that others would imitate me in this respect!), as I always do, evidence illustrative of the benefits derivable from Flax, I feel almost disposed to be offended with myself for condescending to refute recondite statements abstracted from the works of the dead, and exhumed from the dust of libraries, as ghosts to affright the timid living like

"Darkness combating with Light."

However, as those in opposition to me can bring up no living authority in support of their views, I am bound to expose their blunders; it is evident, that error is interwoven in the random and reckless guesses of the campaigners against Flax culture.— *J. Hill Dickson*, 29, *Broad-street Buildings, London.*

ON THE VALUE OF SALT AS A MANURE.

In your Journal of April 8th, I read that Professor Dumas, who in conjunction with Mr. Milne Edwards, was engaged by the French Government to examine into the value of common salt as a manure, has recorded in the following terms the conclusions arrived at from their enquiries on the subject in England.

"I quit England with the conviction that the problem of the employment of salt in agriculture is chimerical. We have been sent from county to county without result. Here they send us into the neighbourhood of the salt mines; when we were there we were told that salt was not a prophet in its own country. I am convinced that the most desirable mode of preparing a good manure is by employing the phosphates and ammoniacal salts, rather than sea salt, however cheap the latter."

In my opinion the conclusion they have come to, viz., that salt is of very little value as a manure is perfectly correct. Opinions unsupported by facts or reasons are however not worth much, and as I am aware that many practical agriculturists advocate the employment of salt, I will endeavour to explain the grounds upon which I dissent from them. I am quite willing to admit that numerous experiments have been recorded, wherein a beneficial effect of salt upon the crop was sufficiently evident. The question with the French chemists however, and that to which the remarks I am about to make refer, has not reference to the special, or occasional, but to the general applicability of salt as a manure, and to its importance as such in a national point of view; I shall not therefore quote any particular experiments of my own, but shall endeavour to show: 1. That no substance can be nationally or universally useful as a manure, which is not largely exported from the soil. 2. That salt exists to a very small extent in the exported produce of a farm; and that it can never be substituted for those constituents which are largely exported, and in which most soils are more or less deficient. Considering a farm as a manufactory, of which the imported manures represent the purchased raw material, and from which the exported products are corn and meat, it is evident that the nature of the imports which it will be necessary to provide must depend upon that of the exports. The amount of such exports must vary according to climate, soil, and cultivation; but assuming the extreme case of an export of 50 bushels of corn from an acre of land one year, and 100 lbs. of live weight of animal the next, let us endeavour to estimate the loss to the land of several of its constituents by such means, and especially that of salt. Fifty bushels of grain may be said to contain 50 to 60 lbs. of mineral matter. In perfectly ripened grain, it is

doubtful whether either chlorine or sodium, the two constituents of common salt, exists; but the point of perfection in this respect is seldom attained in our climate, and it is probable, that it is owing to variations of this kind that the presence and amount of salt in grain ashes are found to be uncertain. The average quantity in such ashes may however be said to be probably little more than one per cent, if even so much as that; so that 50 bushels of grain would contain less than 1 lb. of salt. By direct experiment, I find that a lean sheep of 100 lbs. live weight, yields about 8 to 10 lbs. of bone, 12 lbs. skin, and 5 lbs. blood; the flesh, fat and entrails &c. comprising the remainder. The bone contains no appreciable amount of salt, whilst the total mineral matter of the other parts of the sheep amounts only to a few ounces, of which quantity a very small proportion must be estimated to be common salt. It is evident then that the amount of salt exported from a farm in corn and meat is exceedingly small; but if we look at the loss of phosphoric acid and of nitrogen which the farm sustains under the same system of sales or export, the case will be found to be very different.

Of the 50 or 60 lbs. of mineral matter contained in the 50 bushels of grain, about nine-tenths would be salts of phosphoric acid, and the sheep weighing 100 lbs. alive would carry off 3 to 4 lbs. of phosphate of lime in its bones, besides a few ounces of phosphoric acid salts in its other parts. Again, the 50 bshls. of grain may be said to contain 50 to 60 lbs. of nitrogen, and the 100 lbs. live weight of animal 4 lbs. of the same substance. It is seen, then, that whilst the soil would be exhausted in two years of 40 to 50 lbs. of salts of phosphoric acid, and of a still larger quantity of nitrogen, the amount of salt removed in the same period, and by the same course, would scarcely reach a pound. Some writers have said that farmers do not know their own interests when they purchase the expensive foreign guano, rather than the cheap salt of home resource, and employ the bones of distant countries instead of the sulphate of soda manufactured in our own towns; but no one who will carefully consider the statements given above can be at a loss to understand why salt and sulphate of soda cannot be substituted for phosphates and ammonia. It is worth consideration also, that in many parts of England thousands of acres have been brought from a barren waste into the highest state of fertility, by the importation in some form or other of phosphates and ammonia, without any direct supply whatever of common salt.

The employment of salt as manure cannot then, I think, be advocated as providing an important constituent of the ordinary exports of a farm, but only to be of limited necessity, and applicable with economy to a small extent, or in special and occasional cases. It is considered that when corn is used for corn crops, the straw is brighter and the grain of finer quality; but perhaps no one will maintain that it would increase the number of bushels upon a corn-exhausted soil; and if this be the case, but a low rank can be claimed for it by the side of manures which are known to enhance the produce of the land. I fully admit some beneficial influence upon the elaborative actions in the juices of plants under the agency of common salt, but it is probable that such an effect will generally be observed only in highly manured soils, where, under certain conditions of season, vegetation would be too luxuriant; and it may be doubted indeed whether even in these cases an equivalent supply of soluble saline matters, more essential as constituents of the fixed products of the plants, might not with advantage substitute the salt.

On the other hand, however, the ready solubility of common salt itself, as well as that of compounds which may result from its reactions on the contents of the soil, is a property which may render it of real service in cases of over luxuriance, arising from an otherwise too predominant supply of organic constituents to the plant. There are other instances than that afforded in salt, of mineral substances being of apparently great use in the juices of plants, without seeming to constitute portions of the fixed products of the plant; and we must be careful therefore not to deny the importance of the presence in the soil of any substance, merely because it does not exist in the exports of the farm; but at the same time it should be borne in mind that unless a substance be either sold off the farm, or diminished in quantity by drainage or actual waste, the renewal of a supply once provided can very seldom be needed.

The solubility of salt, already referred to, might be said to be a cause of its rapid exhaustion from a soil by drainage, but such loss will be frequently compensated for by the incidental import of salt for cattle, and by the small amount contained in artificial food. Again, it may be urged that a large proportion of farms export other articles beside corn and meat; but the same local circumstances which lead to such a cause, generally at the same time afford sources of manure not at the command of those circumstanced as our case supposes. Indeed, where town manures are used, the amount of salt provided must always be considerable. The discrepancies in the accounts that are published of the effects of salt as a manure need not lead us to doubt the correctness but only the completeness of the statement; and if, as I have shown above, this substance is not required in any material quantity as a constituent of the exports of a farm, and it it be also true that when useful as an agent it is so only under particular circumstances of excess of some substances supplied to the plant over others, the differences in result are what we should expect. In illustration of this point I may observe that a few years ago some experiments were carried on upon agricultural plants at the gardens of the Horticultural Society, at Chiswick, under the direction of Mr. Solly, and on comparing the results which he obtained by the application of various substances to a garden soil (probably already in a state of fertility far exceeding that which is usual under a high condition of field culture), with those obtained by the same substances upon exhausted land on my farm at Rothamsted, I found that in many important instances the effect seemed to be very beneficial in the one case, and not at all so in the other. Such facts as these plainly show us that upon soils where the essential elements of plant are wanting no benefit can be derived from the use of salt, or any other substance which does not become a constituent of the produce. Where, however, in the growth of grain all other essentials are provided, the use of salt may be advantageous by giving a healthy tone to the vital actions of the plant, and thereby improving the quality, and even to a small extent increasing the quantity of the produce also.

The effect of salt is, however, much more marked upon the green produce of a farm than upon corn crops, and the large quantity of it which is found in some plants of the former kind might well lead us to question whether it be not an essential element of such produce, as well as a useful agent in the processes of vegetation in such cases. Mangold Wurzel, for instance, contains comparatively speaking, a large amount of salt, and the effect of its application is perhaps more evident in the case of this plant than in that of any other. When, however, we bear in mind the small amount of selective action which is exercised by the roots of plants upon the soluble contents of the soil; that in the ash of the Mangold Wurzel, as well as in that of all other green produce, we have the saline matter of the juices mixed with those of the parts formed from those juices; and, further, that this plant, more particularly when fresh gathered, and before fermentation to some degree has taken place in its fluid contents, is known to act as a purgative to animals fed upon it, we cannot fail to admit the presence of a large amount of, as yet unorganised matter, and the probability also that some of it is extraneous and unnecessary to the growth of the plant; and in this latter supposition the existence of salt in the produce would show an ample resource of it in the soil, rather than prove its importance to the plant. Reasons of this kind must not, however, be taken as satisfactorily proving the non-essentialness of salt as a manure to those plants wherein we usually find it, but they should be considered more as pointing out the direction and the necessity of further experiment on the subject, and especially so when we find in the animal economy instances of a very analogous kind. Thus it is found that although the blood of animals, which may be compared to the juice of vegetables, contains a large amount of common salt, which cannot be supposed to be unessential to the healthy actions of the body, yet its presence appears doubtful in any of the resulting products of the processes of the animal. The question then of the use and importance of salt to some few plants, and under certain particular circumstances, is still open to investigation, and should it be decided affirmatively, we should yet have to determine whether or not it was necessary in such cases to employ it in any large quantities, or even directly as a manure at all. For the reasons I have adduced, I cannot but fully concur in the general opinion expressed by Professor Dumas, more especially as applicable to the state of agriculture in France at the present time, and I will venture to assume the following positions:—1. That salt can never be a substitute for the constituents ammonia and phosphoric acid. 2. That no soils exporting corn and meat can be restored to fertility without the application of these two substances. 3. That much of the money now expended in purchasing salt for agricultural purposes would be more profitably employed in procuring ammonia and phosphates. 4. That salt, although apparently essential in the animal economy, and perhaps in that of plants also, is exported from a farm in such small quantities that many soils will, under an ordinary system of cultivation, never require its direct application, and others will do so seldom, and to a small extent only.—*J. B. Lawes, Rothamsted.*

FLAX SOWING, &c.

The whole process connected with the growth and preparation of Flax is far more simple in practice than the pen can describe. Where the land has been ploughed the full depth before winter, it will only be necessary to reduce the soil to a garden-like state by the common farm implements. Supposing the land not to be in good condition, it will be necessary, to ensure a first-rate crop, to dress it with 4 or 5 cwt. per acre of guano, or Rape-cake, &c. My own Flax is mostly produced from box manure; but last year soot was applied to part of one field at the rate of 30 bushels per acre, and produced an excellent crop; to the other part, about 2 cwt. per acre of guano. The Flax upon the former was the tallest, and I intend to pursue the same plan this spring. The soot will be well harrowed in before seed is sown. Under any circumstances, whether ploughed in the autumn, winter, or at the present time, the land can scarcely be rendered too fine.

Just before sowing, a light roller should be used, in order that the seed may fall upon an even surface. If a return in Linseed or coarse Flax be the main object, 5 or 6 pecks per acre ought to be deposited by a drill at 7 or 8 inch intervals. If a crop of medium quality or quantity, 7 or 8 pecks sown broadcast; and so on to 13 pecks for very fine fibre. According to the quantity sown will be the return of seed, and quality of fibre. The most remunerative crop is generally obtained from 8 to 10 pecks. When sown, the ground ought to be sharp, and the crop should be lightly rolled in a light hushed gale; but when broadcast, very light harrows must be used. The seed should not be covered deeper than 1 inch in moist, or 2 in dry weather. The best plan of sowing broadcast is by the hand, for small seeds. Little or no weeding will be required where the land is properly tilled. It is only necessary to eradicate the larger weeds, as the smaller will soon be overtopped by the Flax plants, which grow with astonishing rapidity.

Fecundity and value of the Seed.—Perfection in the growth of Flax is said to be attained when only 1 boll is produced upon the stem of each stalk. This, however suitable to the manufacturer, is not so to the farmer, whose greatest interest centres in a good return of seed. Agreeable as it may be to send the prettiest article to market, yet if accompanied with less profit than the ordinary, pleasure soon vanishes, and the grower naturally reverts to that system which yields the best. Consequently the growth of a moderate quality of Flax, with about 20 cwt. of Lint per acre, will be found the most profitable crop. These are oftenest obtained from sowing 7 or 8 pecks, and I therefore continue to recommend that quantity. When Flax is more extensively cultivated, and hands more experienced are introduced into the country, the finer qualities may with greater safety be grown. The seed, nevertheless, must ever form an important item in the value of the crop. In general, English Linseed is sold at about 56 lbs. per bushel; this year it is even heavier; while foreign averages about 50.

Mr. Milburn, secretary to the Yorkshire Agricultural Society, lately paid me an interesting visit. Among numerous inquiries was one respecting the greatest quantity of Linseed grown per acre. I referred him to Mr. Bear, of Paston, North Walsham, who stated that he had grown Flax four years exclusively for the seed, and that the produce per acre, the first year, was 24 bushels, and the three last 28, on the average. Mr. Bear occupies 300 acres of fine and well cultivated land. He prefers to grow Flax upon Wheat stubble, instead of Turnips, reserving the manure for the following crop. According to the price of foreign Linseed in this neighbourhood, Mr. Bear's is worth 7*s.* 6*d.* or 8*s.* per bushel, making this part of the crop alone worth 10*l.* 10*s.* per acre. His seed weighs 33 stone 4 lbs. per quarter, and is perfectly clean; while the weight of the foreign is rarely 22 stone, and is full of wild seeds, dirt, &c. If weight can be considered a criterion of quality, the preponderance in favour of home-grown Linseed, for fattening cattle, must render its culture an object of primary importance to the grazier. Linseed, properly cleaned for sowing, seldom sells for less than 7*s.* per bushel. In Ireland it obtains much more, sometimes even 15*s.*, according to an official document for 1846, taken from the fifth annual report of the Irish Flax Society, and presented "by order of her Majesty." At Warrot, 27 bushels were produced from an acre and four rods of ground. But I never grew more than 26 bushels per acre myself. From the many statements forwarded to me during the past seven years, I feel justified in expressing the belief that, almost any description of land, in good condition, will produce similar quantities. I, however, repeat my conviction that the crop which yields 20 bushels per acre, with an average quantity of fibre, will prove the most remunerative. But were 10 or 12 only obtained, with between 40 and 56 stones of fine Flax, the seed might be reduced to meal, and used with advantage as direct manure, at the rate of 4 bushels per acre, more or less according to circumstances.

The hand-scutching of an acre of stalks yielding 45 stones of fibre, would afford employment and wages according to the following scale:

78 days, for a boy 16 years old, at 1*s.* 6*d.* per day; or
156 days, for one of 14, at 1*s.* per day: or
180, for a girl, at 6*d.* per day.

Greater or intermediate ages more or less in proportion. At this rate the grower would secure, through a good system of hand scutching, an acreable profit equal at least to that derived by the mill; and confer upon the juvenile classes all the present and future benefits arising from this great auxiliary to other employments. Thus might those children be early trained to habits of industry, who are now regarded as pests, rather than as blessings to their country. Harsh as this reflection may appear, it will nevertheless be confirmed by those who attend a Board of Guardians, or are surrounded by an unemployed population. Nor can the evil be removed except by employment. But how is employment to be had, except through those who possess the means of conferring it? Children nursed in the lap of indolence become, in after life, physically incapable of work. This is too truly evinced by the majority of the adult population in Ireland; and if the man of leisure, whose sinews were never braced by labour, could be induced to compete awhile, by way of experiment, with those inured to toil, the accuracy of my remark would be quickly perceived.

"Go, then! and see them rising with the sun,
Through the long day thy labourers repeat:
See them beneath the dog-star's raging heat:
When the blue tremble and the temples beat:
Behold! with what alacrity they run
To their hard work, and chearfully return
The instant signal to their evening rest."

The discerning reader will acknowledge that the poor brought up in idleness through necessity, are no more fit to enter the field of labour than the rich, and therefore merit our pity rather than our condemnation.

I daily witness the benefits derived by the junior

branches of the village population from the hand-scutching of Flax; and am convinced that were this means of employment judiciously introduced, a thorough reformation would ultimately be wrought in the habits and dispositions of the poor. For instance, my Flax establishment, that has been a refuge for numbers through the winter, is now comparatively deserted. The hands have left for other and more lucrative occupations, which, when completed, they will return. Thus, constant work at adequate wages is upheld; while the nominal poor-rates evince the excellency of the system, and render Trimingham an example for other parishes.

Lest it should be supposed that mental culture is lost sight of, I think it right to state that a school-room is attached to the scutching-house, where an opportunity is afforded to parents for the instruction of their children in reading, writing, and ciphering.

Under the above brief outline of "the blessings conferred upon the children of the poor," the reflective mind may perhaps be led to inquire whether similar benefits might not be conferred upon the youth of his own parish. "Of one fact we may rest assured, viz., that the spinners of Great Britain are anxious to circulate those millions at home which they now send abroad for Flax; and, when it is considered that the major part of those millions would be paid in wages to the weaker and juvenile population, who can but foresee the beneficial effects upon the habits and morals of the people? Thousands would be saved from early crime,—parish rates present a decrease in proportion to the money circulated,—property be rendered secure,—and pauperism, the disgrace of our land, be displaced by liberty and independence."—*John Warnes, Trimingham, Norfolk, March* 28.

Home Correspondence.

Suggested Conditions of an Agreement between Landlord and Tenant, giving security to the latter for any permanent improvement he may make, either party being at liberty to terminate the tenancy after 12 months' notice. 1. A tenant wishing to make any permanent improvement in his farm will give notice of his intention to the landlord in writing, stating the nature and amount of the proposed outlay; consent (also in writing) having been obtained, a surveyor or other person shall be chosen by mutual consent to superintend the work, which shall then proceed at the cost of the tenant, and when completed the amount expended shall be certified by the surveyor, and signed by both parties, and attested. 2. The tenant shall hold the farm without any increase of rent for the undermentioned terms of years, commencing from the date of the certificate; if he quit within two years, he shall be reimbursed the whole amount expended; after two years have elapsed, if he quit at any period short of the full term, he shall be paid the proportional amount of the whole outlay, that the number of years unexpired of the term bears to the whole term, after deducting the first two years, and after the term has expired, his claim shall cease. 3. He shall also receive from the incoming tenant (in addition to the usual valuation) half the amount that he has expended in the last year of his holding in oil-cake, guano, or other purchased food or manures, and one quarter of the amount expended the year preceding the last of his occupancy, the amount received for hay or straw sold in the same periods being deducted.

Terms of Years.

For sums expended in buildings of stone or brick, slated or tiled, 32 years.
Ditto ditto ditto of other materials, 14 years.
Ditto ditto in draining with stone, pipes, or tiles, 14 years.
Ditto ditto in liming, chalking, claying, or burnt clay, &c., 10 years.
Ditto ditto in roads, mounds, ditches, or grubbing, 10 years.

N.B. The mode and security for repayment will vary with the circumstances of the parties contracting, but must be settled previous to the outlay.—*R. J. B.*

[Will correspondents give their opinions?]

Peat Draining Pipes.—I should be much obliged if any of your readers would turn their attention to the perfecting of machines for making drain pipes of peat. They would be invaluable to the proprietors of many high lying sheep farms, where peat abounds and tile clay is scarce, by enabling them to substitute, economically, covered drains (on the superior advantages of which I need not enlarge) for open ones. In deep peat soil, a well-arranged shoulder drain is perhaps as good as any, but there are many more valuable tracts of wet land, without moss, or only a little on the surface, where the shoulder drain would soon be rendered useless from the crumbling in of the sides. Having a good deal of land of that description, I have lately devoted some attention to the subject, with the view of procuring an efficient machine. I have received much encouragement from Mr. Smith, of Deanston, who showed me some very good peat pipes, made, I understand, with an Ainslie's machine, having the rollers altered so as to carry on the peat, for it slips on a smooth roller; but the arrangement is rather complicated, and after some consideration and various trials, I incline to think that the piston machines would be preferable for peat. The great difficulty, however, is the presence of fibre, and this prevails more or less in all mosses. The fibre, unless perfectly decomposed, as in the blackest and hardest peat, clogs the die and also prevents the wire from cutting the pipe freely. There are also occasionally decayed twigs and roots to be got rid of. If these were screened out of the peat, it has occurred to me that the smaller fibres might be reduced by passing it through an apparatus of cutting knives, and even if they still impeded the ready action of the wire in cutting the pipe, I see no objection to the use of a sharp knife for that purpose, because peat would not stick to the blade as clay does. From the sketch I have seen of Scragg's pipe tile machine, I should think that a knife could be easily substituted in it for the cutting wire if necessary. It may be objected that these several processes of screening and milling with knives, preparatory to forming the pipe, will tend to enhance the price, and thus render peat pipes unprofitable; but it must be remembered that the material is soft, and besides they form the whole process in the manufacture, except exposure for a short time to the sun and air to dry them, so that a little extra cost of the machine, and extra labour in working it, may be afforded, and will be amply compensated for by the advantage of producing them on the spot. I believe that, owing to compression in the machine, peat pipes soon dry. I trust some ingenious machine maker will turn his attention to the matter, with the view of overcoming economically the difficulties pointed out. Perhaps some of your readers will, at all events, make a trial of the manufacture with different machines, and favour me with their suggestions as to combining some of those in use. Of course the sides of a peat pipe should be thicker than those of a clay one; say for one of 2 inch bore, a side of at least 1 inch in thickness, and so on.—*A Highland Proprietor.*

Feeding of Domestic Animals.—I have often observed how much many very interesting and instructive communications in your *Gazette* are deprived of a great part of their practical utility, from their want of exact and definite statement. And this is particularly the case with respect to the feeding of animals on a small scale, exact information upon which subject would be very useful in small establishments like my own. I will give one instance respecting my own case. The servant used, years ago, to allow my horse hay *ad libitum*. The consequence was he consumed, as nearly as I am able to compute, 30 lbs. per day, with ¾ peck of Oats, in three feeds. Not without some struggle with the groom I enforced the rule that he should be allowed only 12 lbs. per day, with the same Oats as before, and I find he works just as well, and is in as good condition as when he was on the former allowance, and my servant, also, is satisfied with the rule now he sees the effect. I am speaking with the experience of 10 years on the subject, and this knowledge would have been very useful to me when I first began horsekeeping, especially in a country where hay is seldom less than 5*l.* per ton. So with respect to the cow, I could furnish you with a statement how much by experience I have been enabled to save in her annual keep, but unfortunately have not kept a precise account of the weights and measures of the roots and her other food. An exact account of feeding of this animal by weight and measure would be very useful to many, for at my first setting out she was much more expensive to keep than my horse:—

"Verum hæc ipse equidem spatiis exclusus iniquis
Prætereo, atque aliis post commemoranda relinquo."

So again with regard to poultry, if it were exactly known what is the proper allowance of grain per day for each fowl, how many would keep them who are now deterred by the waste committed by servants who are as ignorant on such subjects as they themselves are. I am sensible the length of this letter precludes it from publication in your columns, but I have written it to suggest to you how easily, with your means of obtaining information, you might furnish us with a most useful paper on keeping the usual domestic animals, by stating their requisite allowances of the different kinds of food. But the practical value of such directions will entirely depend upon everything being stated in exact weight and measure; no such terms being used as "about so and so," "occasionally a few handfuls," or "now and then a little" of this or that.—*Corycius Senex.*

A Visit to Mr. Mechi.—My friend, the Rev. Mr. G. Wilkins, having undertaken to give a lecture at Witham on the subject of "Thick or Thin Sowing," (I wish I could introduce other relative terms to denote the question between the use of an unlimited quantity of seed, and the adoption of a proportion more relative to the number of plants there is room for at harvest), and having received a kind invitation from Mr. Mechi to pass a day at Tiptree Hall, I got into the train at Shoreditch, on Tuesday afternoon, and at 7 o'clock found myself taking tea, at Witham, with Mr. Wilkins, Mr. Mechi, and eight or nine intelligent farmers, who evidently had been drawn from a distance by an ardent desire to obtain information on a subject that practical men are beginning to attach the importance to that it deserves. At 8 o'clock we adjourned to the lecture-room of the Literary Institution. Although the evening was very wet, and most unfavourable for coming from a distance, the room soon filled, and with a class who evidently had come there for practical information. I shall not speak of the able lecture we heard. I saw several reporters taking notes, and I trust the heads will appear in the principal agricultural papers. The attention that was paid to it, the questions that were asked, the various and careful experimental sowings that had been tried, and were adduced by the farmers, all showed to me a rising spirit for improvement in that district, most gratifying to every well-wisher of his country, much of which may be traced to the labours of Mr. Mechi to advance a pursuit the most interesting to mankind. He spoke, and all he said was to the purpose, and was most attentively listened to. After the lecture I accompanied that gentleman home in the hope of inspecting his farm on the following day, but I regret to say, the continuance of the heavy rains kept me, and a party of farmers, who early joined us, and had also come some distance, from going over the land with the attention we were desirous of bestowing on it. Mr. Mechi showed us his cattle, pigs, sheep on boards, implements, steam engine, &c. Although I rather fall in with the opinion of Mr. Wilkins, as regards the box-feeding, and more particularly its application for rearing of young stock, I must confess I was astonished to find the sheep on boards had done so well. Considering that they had been shut up only three months, and their age was only a year (that is to say, the most unfavourable for confinement and laying on of flesh), I must admit that their improvement and condition were superior to what they would probably have been under old modes of treatment. My opportunity for seeing the land was so unfavourable, I can speak but little of its state. The Wheat plant appeared quite thick enough; the drains were fast carrying off the water; one was pouring out the largest volume I have ever seen issue from the mouth of a land drain. The undrained land of the farms around evidently contrasted with the state of things at Tiptree Hall. Among the farmers who had assembled at an early hour, was Mr. Wm. Hutley, whose farming 4 years ago I had the pleasure of seeing; it made a strong impression on me. I considered it to be the most spirited I had ever witnessed; and I think, altogether, he was then holding nearly 2000 acres of heavy arable land. A large party of agriculturists had assembled, and went over it, and I left with the conviction I had never seen heavy land so well managed, nor so large an average of grain grown per acre, as I saw upon Mr. Hutley's farms. The soil under his management was certainly most capable for it; but I believe land more dependant on skilful treatment, more difficult to manage, than is his principal farm, is hardly to be found. At this party I first heard of Mr. Mechi's farming—at that time it was rather a subject of mirth to the farmers, and certainly was by no means held up by them as a pattern. What can I say more favourable to all parties, than to tell the fact, that around Mr. Mechi, I met Mr. Hutley and his brother (also a large and intelligent farmer), and five or six other influential farmers, all sound practical men—all evidently attracted to see what was doing at Tiptree Hall?—*Hewitt Davis, 3, Frederick's Place, Old Jewry, London, March* 6.—P.S. I was pleased with the candid tone with which Mr. Hutley informed me that the 2 acres Mr. Mechi had undertaken to drain on his (Mr. H.'s) land, with 4 feet drains, for the purpose of showing the success of deep over shallow drains on heavy land, were drained. I recal the free opinions that old practical men had given, that in such land deep drains would not answer. I learnt, too, that Mr. Hutley is, comparatively, a thin sower; Mr. Mechi's principles, and Mr. Hutley's practice, are worthy every one's attention and inspection.

Vegetable Epidemic.—It has often been asked—Is there, in the history of cultivated plants, anything analogous to the Potato disease? Is the case of the failure of the Wheat detailed in the following extract an answer in the affirmative? If not, it is certainly a curious coincidence that the epidemic in Peru 100 years ago was "confined to the Wheat, and that vegetables and the indigenous grains were not affected." "Wheat was introduced into Peru by a lady from Truxillo, in Spain, about 1540, when, in favourable localities, it yielded 300 bush. for 1. In several of the lower parts of Peru, however, it appears that about a century and a half afterwards, the growing of Wheat materially declined, a circumstance attributed to an occurrence of the most fearful kind, which deserves some notice in this place. D. Miguel Feyjoo, a resident clergyman of the highest character, in 1761 wrote a 'Descriptive Account of the City and Province of Truxillo,' situated upon the coast, to the N. W. of Lima. In this work, speaking of the great change which had taken place, he remarks that since 1687 the lands in the vicinity of Lima had lost their fertility as regarded Wheaten crops, in consequence of the great earthquake which happened there on the 20th of October in that year. In the Peruvian capital this awful visitation, it is well known, caused the destruction of numerous edifices, attended with great loss of life; but Feyjoo assures us that in Truxillo, where he wrote, it was only perceived by a rumbling noise, and without any shock being felt. Nevertheless he proceeds to say, 'the falling off in the Wheat crops was equally noticed there, in places where the fecundity of the soil previously had been so great that this grain yielded as much as 200 for 1.' This failure Feyjoo attributes to some malignant influence in the atmosphere, which extended to a considerable distance along the coast, and by farmers called 'the epidemic among the Wheat.' So durable were the effects that for 30 years afterwards, the same author declares it was not even possible to obtain back the seed sown; for although the seed grew, no grain formed in it; but, adds he, the lost virtue of the soil is now (1761) gradually returning, as in the case in the Valley of Lima, where 25 bushels may at length be obtained from one. For this unexampled phenomenon, the truth of which is attested by other parties, as well as by the Government archives, it would be impossible to account. The Peruvian writers, however, agree in stating that the consequences were confined to the Wheat, and that vegetables, and the indigenous grain, were not affected, a circumstance which renders this occurrence the more extraordinary." From the January No., 1845, of the "Quarterly Journal of Agriculture."—*J. Little.*

Swedes as food for Horses.—Having for many years allowed my farm horses Swedes, and finding the benefit they derive from this food, especially in the spring of the year, I wish to direct attention to the advantages

his food. Many farmers physic, and shame be it en, bleed these useful animals in spring. If the er cannot spare his team Swedes, during the winmonths, we earnestly advise him to allow them e twice a day, towards the end of February, and ng the month of March; it cools their blood and medicinally. By the look of the animals' coats, he judge of their good effects. The Swedes must iven raw and not steamed; this is an egregious r, as the root loses much of its nutritious properties uch an useless culinary process.—*R. S. S.*

Management of Young Stock.—Having read several rs in your Paper on this subject, a friend of mine, has lately commenced farming on a large scale, has so much struck with the totally different plan purby his bailiff (a north-countryman), that he has me a description of his management, and wishes ave the opinion of your correspondents as to the ability or not of its answering. The undertaking is rious one, and as my friend understands but little of management of a farm himself, he is naturally ous to have the opinion of those who do. The farm been generally a dairy farm, and has answered well e tenant, but under the present plan no cheese is e worth mentioning, and the whole milk of from 16 0 cows is consumed by the calves. This plan is so rent from that of all the farmers in the neighbourl that he has many misgivings on the subject; but as not wished to interfere in the least, being willing ope for the best. His bailiff informs him that he shall ar much finer animals," but hitherto the result has anything but satisfactory. His young stock of last two years are greatly inferior to those of the ers around, brought up at a quarter of the expense, as he professes to expect to make his profit by fatng the animals for the butcher, it seems to be of the ost consequence that no more should be expended absolutely necessary.—*A Constant Reader.* The wing is a portion of the letter alluded to:—ave always understood that the earlier you can your calves, the stronger they are when winter es on. If my bailiff has a calf in December he it, and rears as late as June. He rears all sorts; calves of two-year-olds as well as of heifers and ; and all in the most expensive manner. He s them up for many weeks in dirty, close, dark , huddled a quantity together, where I have seen panting with heat in a hot spring day, and the e smelling horribly from want of clean straw. He s them (for 14 to 17 weeks) on two gallons of new per day, stuffed full of Linseed, besides giving malt dust occasionally. The animals fed in this ner look for a time very fat, but from being so fed r eat any Grass to speak of. They are weaned on med milk given to them quite cold for a month. when the Grass begins to run short they are e weaned; and last year were put first into a er aftermath, which seemed to disagree with them for they soon began to fall off and have complaints eir eyes. During the winter they had straw and ips, and are now as miserable a set of animals as be seen, and 10 out of 22 (managed as I have de-ed) have died at different ages, chiefly from 9 to months. Besides the above 22 brought up by hand, as allowed 13 other calves to run with their dams e field. This, I am told, is a most extravagant , though, as far as the calves are concerned, they thriven well, and not one of them has died; but cows seem to have suffered, and I fear what has gained by the calf has been lost by the cow." s, no doubt, is mismanagement. Read Mr. Wil-'s account of his method at page 29, 1844.]

ossil Phosphates.—My attention has been called to notices of this subject in your Paper. I send you emorandum of the extraordinary produce from a e of land in this parish, within a few yards of the where the outcropping of the green sand appears the road-side. One acre and a few poles were ted with 1 bushel 2 quarts of red Wheat, dibbled, roduce, not including tail, was 8 quarters 1 bushel; seed shed has been allowed to remain top dressed soot, and shows every appearance of producing 5½ quarters again this year. There was another e of 9 acres, within a quarter of a mile on same (Northumberland red), which but for a partial t near harvest, would have probably yielded as t a produce or more, but I am unable to give you details, as the crop has not been kept separate.—*R. nes, Ardington, Wantage.* [We have failed to rstand your postscript.]

Calendar of Operations.

APRIL.

DFORDSHIRE FARM, *April* 5.—Field operations are in r. Our horses during the late wet weather were emd in the carriage of sundries. We always endeavour to such arrangements that the horses may be constantly oyed whether wet or fine. The horse labour of the past week has been entirely confined to the cultivation and ng of the land. We have drilled Barley at the rate of 3 els per acre; set Oats with 2 bushels per acre; drilled 15 of Carrots at the rate of 4½ lbs. of seed per acre. The at present requires patient and peculiar management so much wet and sudden transition to dry; we prefer a well ared seed-bed at a considerable cost of labour, to a hurried mperfect mode of preparation, which endangers the crop. manual labour of the farm has consisted in draining, ing, grubbing up superfluous fences, sowing various ares upon Clover, Wheat, and fallow; hoeing Wheat and s. The draining upon Grass land, 3 feet deep, cost 1*s.* 3*d.* mperial chain; the hedging cost 2*s.* per chain; the grubcost 2*s.* 6*d.* per chain. 40 bushels of ashes and 1 cwt. o per acre were applied to the Clover; 16 bushels of soot of salt were applied to the acre of Wheat; about 6 cwt. lt per acre was applied on light land fallow. The Wheat crop looks exceedingly well in general; its rapid growth has prevented a due hoeing. Winter Beans are too forward and much too thick; spring Beans have made their appearance above ground in better order than was at one time expected. Grass land is as green and growing as could be desired. The rolling of Grass land and Clover, the harrowing of Wheat, the sowing of Barley, the preparation of fallows for Mangold Wurzel and Turnips, all demand immediate attention, which cannot be supplied by the ordinary strength of farms. *R. V.*

BERWICKSHIRE MERSE FARM, *April* 7. Since last report we have been employed ribbing land, sowing Oats and Beans, threshing Wheat and delivering it, laying down tiles for drains, &c. The women have been turning dung for Turnips, one assisting the shepherd, a man and a boy feeding the cattle, 5 men digging drains and one cutting thorns. *J. B.* *April* 14.—Since last report we have been employed in sowing Beans, Wheat, and Oats; threshing and dressing Oats; carting tiles and slates to the drains; one man with a pair delivering Wheat; the women turning dung for the Turnips, a woman assisting the shepherd, &c. The weather has been fine for sowing for two weeks past.—*J. B.*

DERBET FARM, *April* 10.—For the past week we have been employed in ploughing, harrowing, and cleaning land for Carrots and Turnips. Labourers gathering Swedes and preparing lime to be put on the Barley ground after the Grass seeds are sown; also winnowing Barley. We have had a very sudden change of weather, from the heat of June to the chilling blasts of November, with occasional storms. So far it has not impeded field work, but, on the contrary, where land was a little stiff, it has tended to pulverise it. Barley sowing is now all but finished, and under favourable circumstances.—*G. S.*

DOWNSIDE COLLEGE FARM, SOMERSETSHIRE, *April* 1.—Since our last report, which I think dates as far back as Jan. 11, the men have been engaged in a variety of work. The horses and ploughmen were engaged mostly till the end of January in completing the dunging of the fallows. From the end of January till the middle of March, they were principally occupied in hauling lime from the kiln to the ploughlands, at the rate of 200 bushels to the acre, and in ribbing up the same, and leaving it in a fit state to work in the spring. They have also hauled about 2000 bushels to road-dirt scrapings, to form a compost for top-dressing; also in hauling road-dirt from the parish roads, coal for the use of the house, gas, and engine consumption, Barley and Wheat to market, rolling Grass grounds, and various other odd jobs during the month of February. The first fortnight in March the horses and men were engaged in scarifying and preparing the ground for Peas, and drilling in the same. The first piece that was sown measured about 5 acres, and had Wheat in it last season. It was manured at the rate of 10½ loads of farm-yard dung per acre in the beginning of January, ribbed up, and then remained till the end of February. The method pursued in sowing the Peas is as follows: the horses and ploughmen leave the yard in the morning with the drill, and two "putts" or cart-loads of compost manure (consisting of superphosphate of lime, night soil, and coal-ashes intimately mixed, and in a fit state to pass through a drill), on reaching the field a putt is left at the top and another at the bottom of the piece; the cultivator or scarifier being previously set at work, the drill immediately follows with two horses, two men and a boy. The compost is taken in as required from the putts, and drilled with the Peas at the rate of 50 bushels to the acre. A pair of harrows immediately follow: all weeds are picked up and collected in heaps by women, and in this manner we finish about 2½ acres a day. The second week in March we put in about 10 acres more. Last week we drilled about 7 acres of Oats, at the rate of 5½ bushels to the acre, and since then have been busily engaged in preparing the land for Potatoes and Barley. The barnsmen have been occupied most of their time in threshing out and preparing Barley and Wheat for home consumption and for market, and in hauling the same from the yards to the barn. They are now threshing out and winnowing a large stack of April Wheat, and which from present appearances we presume will yield about 10 sacks an acre; weight, 62 lbs. per bushel. Two lads have been sorting, sifting, and crushing bones, of which we have sold about 80 quarters, besides our own consumption, and also preparing the superphosphate compost. Three men and two lads have been in constant attendance upon the stock in the yards; everything in that quarter has yet been very favourable, most of the cows have calved, and but few accidents. Two men have also been cutting down, repairing, and laying out hedges. The weather from the 20th of February till about a week ago has been excessively wet, and has put the farm-work out a great deal. This last week the weather has been very fine, with the exception of two or three wet mornings. Yesterday and to-day have been regular July days, the sun burning hot during the day, and things wear quite a summer aspect.—*W. S.*

EAST LOTHIAN FARM, *April* 15.—We have had a week of favourable weather for farming operations. Work during the week has been sowing remainder of Turnip land with Oats, likewise making up drills, carting and spreading manure and sowing Beans, which finishes the sowing of spring corn for the season, being considerably later than usual. Owing to the continued wet through the winter and spring, land is not reduced to that fine state we have seen it, being rather cloddy upon the surface. The roller has been applied to the autumn sown Wheat. We have now commenced preparing land for Potatoes and Turnips.—*S.*

GALLOWAY FARM, *April* 17.—The last week has been very favourable for completing the sowing of all kinds of grain, and the dry weather has been followed by a fine rain, which will braird the seed and bring away the Grass. We are finishing the Barley seed, and sowing Grass and Clover seeds among the Wheat. The rain having softened the clods, we are harrowing down the Bean drills, which, without rain, it would have been a very difficult thing to do. Advantage has been taken of the damp weather to sow guano, at the rate of 3 cwt. per acre, on the Italian Rye-grass. In a day or two we commence planting Potatoes. A large breadth of Potatoes will be planted in this district this season, confidence in the renewed vigour of the plant being very generally felt. The Turnip crop, though excellent last year, does not realise to the tenant so large an acreable money return in average of years as the Potato, nor is it in such certain demand; and though the house feeding of stock on Turnips is making great progress in this district, yet landlords are most unwilling to incur outlay in additional house accommodation, while at the same time they refuse to allow any deduction for the Potato failure, and the farmers therefore must hazard this crop, as by it in a great degree the present rental of land here is maintained. If the cultivation of the Potato is to be discouraged or abandoned, Potato rents cannot be exacted, and it is useless to tell the farmer he may change his system, while all substantial assistance to his doing so is withheld.

NORTH LINCOLNSHIRE FARM, *April* 15.—We have been engaged in sowing and harrowing Oats—60 acres; rolling Wheat and sowing small seeds; two men cleaning and mending fences; four men paring old sward for Turnips; cutting hay for horses and cattle one day; intend ploughing 11 acres, from which Swedes have been eaten by sheep for Oats.—*J. U.*

SOUTH HAMPSHIRE FARM, *April* 15.—Previous to the period of our last report we had no weather which would allow of sowing operations; but since that time we have had eight or nine days of splendid weather, during which time a great deal of seed was committed to the earth under favourable circumstances. We have again to report an unfavourable change, the land being now as wet as at any period during the past winter, which has again put a complete stop to the sowing of Lent grain, &c. During the fine weather just past, our horses were engaged ploughing and harrowing land for Oats, after Turnips fed off, which we have sown as far as the land was cleared of the Turnips. We have also planted an [illegible] our horses were engaged several days in [illegible] from the fold-yards, which had been [illegible] fermented for three weeks, on to the [illegible] was spread as required for ploughing and [illegible] time to employ an odd horse with carting [illegible] and pigs, and hurdles for the removal of sheep, [illegible] tiles and bushes for the drainers, carting [illegible] tures, &c. Our horses were engaged one day in [illegible] Southampton 2 tons of [illegible], and a quantity of [illegible] Beans for the sheep. The labourers are chiefly [illegible] draining, four men are cutting a very deep drain [illegible] soil is running sand, and in draining of [illegible] more than 2 feet deep, as we cannot find an outlet at [illegible] depth. Three men have been taking up drains [illegible] years ago, at 60 inches deep, the same [illegible] distance between the drains. We are now [illegible] again at 5 feet deep, in the same way as [illegible] ascertain, which we find to be [illegible] pay the expense, as the land [illegible] action of the shallow drains. [illegible] from Grass land, preparing [illegible] planting Potatoes, weeding Wheat, Peas, &c. The [illegible] menced on April 3 and [illegible] we intend to hold on for [illegible] Turnips will serve our sheep, [illegible] stock of ewes and [illegible] it is very desirable to retain the [illegible] has been various ways and in [illegible] different parties, we beg to state the most [illegible] for five years past, which we consider the best, [illegible] a number of other plans previously. Upon the [illegible] crop of Swedish Turnips which we [illegible] middle of the month of April, we [illegible] pick them and take them away, at [illegible] 30*s.* per acre, as soon as they are [illegible] the 1st of March; and about the last week in [illegible] women with the reaping-hook, and crown them [illegible] term it by cutting off the stem of the Turnip [illegible] rim on the crown of the Turnip formed by the [illegible] leaves, which operation requires to be done with great [illegible] and exactness; and when thus managed the [illegible] until an advanced period, retaining a great [illegible] nutriment. We have fed Swedes on the land with great [illegible] vantage to the sheep, until the last week in May, [illegible] seasons past; but in the years 1844 and 1845 we [illegible] feeding as late as the 3rd June, and by this means we [illegible] many years been enabled, with a large stock of sheep, to [illegible] hold feeding the arable Grass land until the hay crop [illegible] cleared off.—*J. B.*

SOUTH DEVON FARM, *April* 17.—We have had a wet [illegible] of showery weather, which has left the land in such a [illegible] state that it is almost impossible to enter on it for any operation; we have, however, been enabled to finish [illegible] our Wheat between the showers, and are now [illegible] the young Wheat to portions of the field missed by the [illegible] this plant has made rapid progress during the past week, and is now evidently showing the benefit of the [illegible] principal work during the week has been carting [illegible] covering manure heaps and mixing with liquid manure [illegible] tank house; also threshing out Barley and [illegible] bullocks are now getting Mangold Wurzel [illegible] peck of crushed Beans per day.—*J. M.*

SUSSEX FARM, *April* 17.—The land being in [illegible] last week, we have still a few acres of Oats, [illegible] to sow; ploughing, harrowing, drilling, [illegible] Potatoes; scarifying and harrowing [illegible] and Carrots, should the weather continue fine. We [illegible] and plant the end of the week. Men hoeing [illegible] and turning ditto; mixing heaps, repairing roads [illegible]; women planting Potatoes, pulling thistles out of Wheat, and cleaning Mangold Wurzel for weaning [illegible].—*J. B.*

STIRLINGSHIRE CARSE FARM, *April* 17.—The weather [illegible] tinuing still fine for tilling the land, although [illegible] much growth as last week, we have been employed [illegible] part of the week in rolling Beans and sowing Barley after [illegible] nips; and at the end of the week we are going on with [illegible] the second furrow to the Barley land after the Bean crop, [illegible] appears to work pretty well, considering the wet state it was in a few weeks ago.—*W. F.*

Notices to Correspondents.

AGRICULTURAL LIBRARY—*Choice*—*Periodicals*: Journal of English Agricultural Society, Quarterly Journal of Agriculture, Farmers' Magazine, the Veterinarian, [illegible] *Chronicle*. *Works on Agricultural Theory*: Johnston's Lectures on Agricultural Chemistry and Geology, Liebig's Agricultural Chemistry; Lindley's Theory of Horticulture, Morton on Soils, Von Thaer's Principles of Agriculture. *Works on Farm Practice*: Blacker on Small Farms; Quarterly Agriculture, by Sir J. Sinclair; Colman's Reports on European Agriculture, Hillyard's Practical Farmer and Grazier, Paterson on Waste Manures, Jackson's Treatises on Agriculture and Dairy Husbandry, Johnson's Fertilisers; the Horse, Cattle, Sheep, U. K. Soc.; Low's Elements of Practical Agriculture, Low on Landed Property, Lawson's Agriculture, Morton, Martin Doyle's Practical Husbandry; Stephens' Book of the Farm, Spooner on the Sheep, Tull's Husbandry.

BREEDS OF POULTRY—Observing that information on this head is sought for through your columns, it may be remarked that in Cumberland, in which county it has been stated, we [illegible] that breeders first cultivated the "Dorking" variety, are [illegible] are now very few to be seen round the [illegible] districts. [illegible] I believe they are almost as rarely to be met with [illegible] as the Black Spanish and Malay, a few specimens of [illegible] which may occasionally be seen. The favourite [illegible] with the pheasant), and many very fine-feathered [illegible] this breed, may be seen at the farm-yards. Dark [illegible] glossy plumage, and flat thick combs, characteristics [illegible] are good layers, but bad setters.

CATTLE AND MANURE—*Forres*—We are much obliged, but we shall be unable to give the information.

CHURNS—*R. G., An Old Subscriber, etc.*—Try Robinson's, of Limburn, Ireland.

COLT—*G. B. S.*—Certainly; he will regain his teeth. A colt has no permanent incisor teeth till he is 5 years old, and [illegible] only the two front or centre ones. *W. C. S.*

DISEASE IN SHEEP—*Lanarkshire Farmer*—In treating the sheep in the first instance the [illegible] too suddenly, and we would recommend [illegible] oil to be given with the mild astringent [illegible] diarrhœa. Linseed jelly will [illegible] indeed in some form or other [illegible] into the diet of the flock. Linseed [illegible] bined and given in troughs. With [illegible] attack on the lungs we would recommend [illegible] in the brisket, or the wool cut [illegible] square on each side, and some strong [illegible] rubbed in. The sooner this is [illegible] lungs on fire cut into by our [illegible] knees, or contain small [illegible] standing is denoted anterior to the [illegible] and the prospect of relief is rendered [illegible] probable. With regard to internal measures [illegible] may be tried:—Potassio-tartrate of [illegible] nitrate of potash, [illegible] eight sheep, and may be given daily [illegible] the secretions has ceased. We hope [illegible] be the year of improvement to [illegible] ters, etc. [illegible] *W. C. S.*

DAIRY ACCOUNTS—S[illegible] would much oblige us by the [illegible] of Farm Accounts, which, as stated in the article [illegible]

"Profits of Farming," in No. 15, "are simple enough to be kept by his manager's daughter, and so complete, that the date and amount of every item of receipt and expenditure throughout the year may be ascertained in one minute."

GAS LIME—*Amicus*—Use a waggon load per acre broadcast a month before your seed time, and let it be exposed to the air for weeks before covering it; it ultimately becomes perhaps three-fourths carbonate of lime and one-fourth gypsum. Gas water contains a variable per centage of ammonia; you should use it to soak your compost heaps; 200 or 300 gallons per acre.

HORSES—*A Sub*—We never knew them fed on oilcake. No doubt they would overcome their dislike to it: and it would nourish them as other cattle.

LIQUID MANURE—*Subscriber*—It is by no means certain that the solid matter obtained will be worth even 2*l.* per ton, let alone any excess as repayment of outlay. If the solid matter of urine could be obtained by itself, it might be worth 8*l.* per ton; but your mode of using gas lime (which by the way will be of little use until by long exposure to the air it has become gypsum) will greatly dilute the valuable part of it. The best way of fixing ammonia in urine is by the use of crude Epsom salts—worth 9*s.* a cwt.; its action is to throw down the triple compound of phosphate of lime and magnesia, while the sulphate of ammonia remains in solution.

LUPINS—*H Sims*—There are two kinds, the white and yellow. The yellow is frequently used for ploughing in as manure in the south of France. We know nothing of it for that purpose in England.

MANGOLD WURZEL—*Mangold*—Two cwt. of superphosphate of lime, two cwt. of guano, and two cwt. of common salt per acre, along with your "partial" dressing of manure, will, in ordinary cases, ensure a crop.

PIPE COLLARS—*E B H* recommends, in place of these, short horse-shoe tiles to cover the joints of pipes; we should prefer to place them under their joints, so as to carry, not cover.

PLEURO-PNEUMONIA—*W T*—See pages 198 and 228.

POTATOES—*A Subscriber*—The Potato water is harmless; that is all that can be said for it.

POULTRY: LOSS OF FEATHERS—*A T*—The cause of the disorder may be neglect, want of cleanliness, want of proper shelter under a dry shed in wet weather, as birds are very liable to take cold from getting "wet through." In the first place the dung on the tail feathers should be washed off with warm soap and water, or any dirt in the feathers which birds cannot eradicate. Have the feathers been examined about their roots to ascertain the presence of animalculæ (the itch)? Are they in a confined locality in the country? Are they supplied with hot greasy matters for food? Is the roosting-house water-tight, secure from drippings? Are the perches arranged so that birds above cannot dirty those below them? Upon what spot does the "rottenness" of the flesh show itself? and has the sore been occasioned by other birds pecking it? This is an incurable habit, soon initiated by others. Such birds should be got rid of.

PRESERVATION OF MILK—*V P T*—If milk be introduced into bottles, then well corked, put into a pan with cold water, and gradually raised to the boiling point; and after being allowed to cool, be taken out and set away in a cool place, the milk may be preserved perfectly sweet for upwards of half a year. Or it may be evaporated to dryness by a gentle heat and under constant stirring. A dry mass will thus be obtained, which when dissolved in water is said to possess all the properties of the best milk. It is called latteina in Italy. *Johnston.*

STILTON CHEESE—*J Cheeseman*—See p. 214, 1845. Where are the moulds, &c., to be had?

ST. JOHN'S DAY RYE—*Robert Gunter*—I had about 20 rods of the Rye, procured from Messrs. Gibbs and Co., sown the 8th of July on some light land; the birds who escaped notice punished it so much, and it came up so wide apart, that it was considered hardly worth remaining as a crop. It, however, so tillered out that there is quite plant enough. Any of your readers may judge of it for themselves by calling at Earl's Court Lodge, Old Brompton, two miles from Piccadilly.—*Inquirer* (page 246) certainly sowed mixed seed. I have for many years sown St. John's Day Rye in early summer, and never had a plant spindle till the following summer, unless a seed or two of common Rye had accidentally got mixed with it. Cooper's Rye ought to be, and is, much taller and forwarder now than St. John's Day Rye, but the latter, if genuine, will show a greater bulk when the Cooper's Rye is all eaten up. *Hantoniensis.*

SUNDRIES—*Anon*—If the cows do not wish to drink you will get no good by trying to force them. Cattle fed on succulent food in winter do not require water.—You will injure your Beans by topping them now. You may fold on Italian Rye-grass, and get a good crop afterwards.—Is it a bad practice in the cultivation of the Sunflower to pluck the smaller heads, in order to increase the vigour and growth of the larger ones? —It is a chance if you will be able to make good bacon so late as May.—If your Oats and Tares cover the ground it may be well to let them ripen, and use the whole unthreshed, cut into chaff. Italian Rye-grass may be used to soil sheep.

TAIL SOIL—*J Price*—Next week.

TILES—*X M N*—The use of tiles in my neighbourhood is very limited; tiles are all but superseded by pipes; the largest pipes that I use for main-drains are 2½ inches in diameter, except on extraordinary occasions; where I find a 2¾-inch pipe insufficient, I put in two, and occasionally I have put in three (one above two), in short drains; but it is very rarely that three, or even two pipes abreast, are required. For the common drains, that is, not main drains, I use pipes which vary in diameter from 1 inch up to 2½, beginning at the top of the drain with the inch pipes, and increasing the size as we descend to the main drain. The main drain pipes have circular holes punched in their sides, when being made for the insertion of the common drain pipe at the junction with the main. "X. M. N." surely never saw a draining pipe or a drawing of one, or he would not have inquired if pipes required "soles." Pipes may require collars, and in moist sandy lands, collars are useful in keeping the pipes from silting up. Pipes are made by machinery. The form of the pipe is cylindrical, and is usually about a foot in length. Pipes cost, at the yard—1 inch diameter, 12*s.* per 1000; 1¼ do., 16*s.*; 2 do., 20*s.*; 2½ do., 24*s.*; 3 do., 35*s.*; 4 do., 60*s.*; but may be had at rather less for cash, and when large quantities are taken. Since October last I have used upwards of 200,000 pipes, and taking all sizes, the average cost has been very nearly 18*s.* per 1000. Should "X. M. N." desire specimens, I will procure them for him, by receiving an intimation from him to that effect, or he may apply to the foreman of the tile-yards at Water Eaton, near Cricklade; Ashton Keynes, do.; Fairford, Gloucester; Stratton, near Highworth; Dimbleton, near Evesham; Oldbury, near Bristol; Winterbourne, do. *John Bravender, Cirencester.*

Markets.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, April 20.

Prime Mead. Hay	68s to 75s	New Hay	.. —s to —s	Straw	.. 27s to 33s
Inferior ditto	.. 60 65	Clover	.. .. 80 95		
Rowen	.. .. 54 63	New Clover	.. — —	J. COOPER.	

CUMBERLAND MARKET, April 20.

Prime Mead. Hay	72s to 78s	Old Clover	.. 90s to 95s	Straw	.. 28s to 32s
Inferior	.. .. 55 68	Inferior	.. 75 84		
New Hay	.. — —	New Clover	.. — —	JOSHUA BAKER.	

WHITECHAPEL, April 20.

Fine Old Hay	.. 70s to 75s	Old Clover	.. 90s to 95s	Straw	.. 26s to 32s
Inferior Hay	.. 55 60	Inferior	.. 70 80		
New Hay	.. — —	New Clover	.. — —		

COVENT GARDEN, April 22.

The market is well supplied with Vegetables and most kinds of Fruit. Pine-apples are sufficient for the demand. The supply of foreign Grapes is well kept up; small quantities of hothouse Grapes also continue to make their appearance. Pears and Apples are as plentiful as could be expected, considering the season. Of the former, specimens of Beurré Rance, Easter Beurré, and Ne Plus Meuris may be bought at from 3*s.* to 4*s.* per dozen. Nuts are sufficient for the demand. Filberts fetch from 14*s.* to 20*s.* per 100 lbs. Oranges are abundant. Lemons are moderately plentiful. Strawberries are cheaper. Of Vegetables, some green Peas from Lisbon have been offered. Cauliflowers, Broccoli, Greens, &c., are plentiful. Seakale may be obtained at last week's prices, as may also Asparagus. French Beans fetch from 1*s.* to 2*s.* per lb. Carrots and Turnips are good in quality. Frame Potatoes may be bought at from 1*s.* to 2*s.* per lb. Lettuces and other salading are sufficient for the demand. Mushrooms have not altered in price. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Camellias, Fuchsias, Azaleas, Auriculas, Acacias, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 6*s* to 8*s*	Lemons, per 100*s*, 6*s* to 14*s*
Grapes, Portugal, per lb., 1*s* to 2*s*	Almonds, per peck, 6*s*
Strawberries, per oz., 1*s* to 3*s*	— sweet, per lb., 2*s* to 3*s*
Apples, dessert, per bush., 8*s* to 12*s*	Walnuts, per bush., 12*s* to 18*s*
— kitchen, p. bush., 4*s* to 7*s*	Nuts, Barcelona, per bush., 20*s* to 22*s*
Pears, per half sieve, 8*s* to 10*s*	— Filberts, per 100 lbs., 14*s* to 20*s*
Oranges, per doz., 9*d* to 2*s*	— Cob, per 100 lbs., 25*s* to 30*s*
— per 100, 3*s* to 12*s*	— Brazil, per bush., 12*s* to 16*s*
— bitter, per 100, 8*s* to 16*s*	Chestnuts, per peck, 3*s* to 6*s*
Lemons, per doz., 1*s* to 2*s*	

VEGETABLES.

Asparagus, per 100, 2*s* to 10*s*	Onions, pickling, p. hf. sieve, 2*s* to 3*s*
Cabbages, per doz., 1*s* to 2*s*	Shallots, per lb., 6*d* to 8*d*
— Red, per doz., 2*s* to 4*s*	Garlic, per lb., 3*d* to 4*d*
Greens, p. doz. bunches, 1*s* 6*d* to 2*s* 6*d*	Seakale, per punnet, 9*d* to 2*s*
Cauliflowers, per doz., 2*s* to 4*s*	Rhubarb, per bundle, 6*d* to 1*s* 6*d*
Broccoli, per bundle, 6*d* to 2*s*	French Beans, per 100, 1*s* to 2*s*
Sorrel, per half sieve, 6*d* to 9*d*	Radishes, per punnet, 8*d* to 10*d*
Potatoes, per ton, 120*s* to 190*s*	Artichokes, Jerusalem, p. hf. sieve, 1*s*
— per cwt., 6*s* to 10*s*	Lettuce, Cab., per score, 4*d* to 9*d*
— per bush., 2*s* to 4*s*	Endive, per score, 1*s* to 2*s* 6*d*
— Kidney, per bush., 4*s* to 6*s*	Mushrooms, per pottle, 4*d* to 8*d*
Turnips, p. doz. bunch., 1*s* 6*d* to 3*s*	Small Salads, per punnet, 2*d* to 3*d*
Red Beet, per doz., 6*d* to 1*s*	Fenuel, per bunch, 2*d* to 3*d*
Horse Radish, per bundle, 1*s* to 4*s*	Savory, per bunch, 3*d* to 4*d*
Cucumbers, each, 1*s* 6*d* to 3*s*	Thyme, per bunch, 2*d*
Leeks, per doz., 6*d* to 1*s*	Watercress, p. 12 small bun., 6*d* to 9*d*
Celery, per bundle, 6*d* to 1*s*	Parsley, per half sieve, 9*d* to 1*s*
Carrots, per doz. bunches, 3*s* to 5*s*	— Roots, per bunch, 1*s* to 1*s* 6*d*
Spinach, per sieve, 1*s*	Mint, green, per bunch, 3*d* to 8*d*
Onions, per bush., 2*s* to 4*s*	Marjoram, per bunch, 3*d* to 4*d*
— Spanish, per doz., 1*s* to 4*s*	

HOPS, FRIDAY, April 21.

Messrs. PATTENDEN and SMITH report that the market is very firm for all Hops with colour and quality, at late prices, and that the accounts received from the plantations state that the continuance of wet weather is considered to be very injurious to the coming crop of Hops.

Mid. & East Kents, p. cwt. 68*s* to 100*s*		Yearling Kents, p. cwt...	48*s* to 60*s*
Weald of Kents	56 — 72	Yearling Sussex	46 — 58
Sussex	54 — 58	Old Hops	20 — 40
Farnhams	84 — 120		

POTATOES, SOUTHWARK, WATERSIDE, April 17.

The Committee report that the supply continues to be quite equal to the demand, which is limited, and sales very difficult to effect for all second-rate qualities. The following are the present quotations:—York Regents, 130*s* to 160*s*; Shaws, 90*s* to 100*s*; Essex Blues, 120*s* to 130*s*; Wisbeach Regents, 100*s* to 130*s*; Shaws, 80*s* to 100*s*; Blues, 80*s* to 90*s*; Scotch Whites, 90*s* to 95*s*; Dutch Whites, 80*s*; Belgian do., 80*s* to 90*s*.

SMITHFIELD, MONDAY, April 17.

The number of Beasts is large, and trade consequently worse. The extreme price for the best Scots is 4*s.* 6*d*, and 4*s.* 4*d.* is only obtained for choicest Short-horns. There are 311 from Holland, 220 from Scotland, and about 2000 from Norfolk and Suffolk. From Holland there are also 340 Sheep and 30 Calves. There are few more Sheep on offer, but the number is still small; trade is dull, but this is mainly attributable to high prices. Choice Lambs are in demand, and make from 6*s.* 8*d.* to 7*s.* 4*d.* Trade is cheerful for Calves, but at no advance. There is a good demand for Pigs at fully late prices.

Per stone of 8 lbs.—s d	s d	Per stone of 8 lbs.—s d	s d
Best Scots, Herefords, &c. 4 4 to 4 6		Best Long Wools ..... 5 0 to 5 4	
Best Short Horns ..... 4 0 — 4 4		Ditto Shorn	
Second quality Beasts .. 3 2 — 3 8		Ewes and second quality 4 0 — 4 8	
Calves ..... 4 4 — 5 4		Ditto Shorn	
Best Downs & Half-breds 5 4 to 5 8		Lambs.....	
Ditto Shorn ..... 5 0 — 5 4		Pigs ..... 4 4 — 5 4	

Beasts—3159. Sheep and Lambs—16,210. Calves—120. Pigs—310.

FRIDAY, April 21.

The supply of Beasts to-day is large, and the demand, as usual on this occasion, very limited; a reduction of fully 2*d.* per 8 lbs. is experienced on all kinds, and several remain unsold. We have nearly 200 from Holland, 125 from Spain, about 240 from Scotland, and 132 Milch Cows. There are a few more Sheep on offer, and not so many wanted; consequently trade is slow at a reduction of fully 2*d.* per 8 lbs. This being Good Friday, Lamb is the article principally in request. We have seen a larger number on former occasions, but the supply is tolerably good, and trade active. Choice young Lambs make about 7*s.*, and larger ones 6*s.* to 6*s.* 8*d.* Trade is very slow for Calves, at a reduction of fully 2*d.*, and, in most cases, 4*d.* per 8 lbs. There are 115 from Holland, and 420 Sheep. There is very little trade for Pigs, and prices are rather lower.

Per stone of 8 lbs.—s d	s d	Per stone of 8 lbs.—s d	s d
Best Scots, Herefords, &c. 4 2 to 4 4		Best Long Wools..... 4 10 — 5 2	
Best Short Horns .... 3 10 — 4 0		Ditto Shorn.....	
Second quality Beasts .. 3 0 — 3 6		Ewes and second quality 3 10 — 4 6	
Calves ..... 4 0 — 5 2		Ditto Shorn	
Best Downs & Half-breds 5 2 — 5 6		Lambs..... 6 0 — 7 4	
Ditto Shorn ..... 4 10 — 5 2		Pigs ..... 4 0 — 5 0	

Beasts—1032. Sheep and Lambs—7100. Calves—271. Pigs—220.

MARK LANE, MONDAY, April 17.

Messrs. KINGSFORD and LAY report that the supply of English Wheat by land carriage samples was moderate, and the condition being damp, prices of this day se'nnight could not be exceeded. The arrival of foreign is considerable, and meets an improved demand at former rates, but sales at any advance are confined to retail purchasers.—Barley, Beans, and Peas fully support our quotations.—The Oat trade is very heavy.—In Flour there is little doing.

BRITISH PER IMPERIAL QUARTER.	s	s		s	s
Wheat, Essex, Kent, and Suffolk ..... White	48	60	Red.....	44	52
Norfolk, Lincolnshire, and Yorkshire	46	50	White ..	46	50
Barley, Malting and distilling, 27*s* to 29*s* Chevalier	30	34	Grinding	25	27
Oats, Lincolnshire and Yorkshire..... Polands	21	23	Feed	18	22
Northumberland and Scotch ..... Feed	19	22	Potato ..	20	23
Irish ..... Feed	17	21	Potato ..	21	23
Malt, pale, ship.....	—	—			
Hertford and Essex	—	—			
Rye.....	27	30			
Beans, Mazagan, old and new ..27*s* to 38*s*.... Tick..	28	42	Harrow..	30	44
Pigeon, Heligoland .....31 50 .... Winds	40	52	Longpod	30	34
Peas, White.....	32	35	.... Maple	35	37	Grey	30	32

ARRIVALS IN THE PORT OF LONDON LAST WEEK.

Flour, 9040 sks — bls	Wheat. Qrs.	Barley. Qrs.	Malt. Qrs.	Oats. Qrs.	Rye. Qrs.	Beans. Qrs.	Peas. Qrs.
English.....	3654	2567	5929	628	—	539	69
Irish	—	—	36	9400	—	—	—
Foreign.....	23562	2092	—	5811	—	10656	—

WEDNESDAY, April 19.

The arrivals of foreign Wheat and Oats since Monday have been large; of other articles supplies have been but moderate. The attendance of buyers in Mark-lane this morning was very limited, notwithstanding that our market will not be held on Good Friday. English Wheat sold at late rates; and Baltic red Wheats, being plentiful, could be had on rather easier terms.—Barley remained its value.—Oats, although not a brisk sale, could not be bought cheaper.—Beans and Peas nominally the same as last quoted.

IMPERIAL AVERAGES.	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
Mar. 4	49*s* 11*d*	30*s* 8*d*	20*s* 5*d*	30*s* 5*d*	36*s* 9*d*	41*s* 8*d*
— 11	50 2	30 4	20 2	33 4	36 2	39 0
— 18	50 4	30 5	20 4	28 6	36 2	39 10
— 25	51 4	30 11	20 4	30 4	35 5	38 2
April 1	51 10	31 5	19 2	29 8	35 7	36 4
— 8	51 6	32 2	20 7	29 6	35 3	38 3
Aggregate Average	50 10	31 0	20 2	30 4	35 11	38 11
Duties on Foreign Grain	7 0	2 0	2 6	2 0	2 0	2 0

Fluctuations in the last six weeks' Corn Averages.

PRICE.	March 4.	March 11.	March 18.	March 25.	April 1.	April 8.
51*s* 10*d*	...	...	...	...	...	...
51 6	...	...	...	...	...	...
51 4	...	...	...	...	...	...
50 4	...	...	...	...	...	...
50 2	...	...	...	...	...	...
49 11	...	...	...	...	...	...

SEEDS, April 17.

Canary .....per qr.	60*s* to 68*s*		Linseed-cakes, Foreign, p. ton, 8*l* to 10*l*		
Caraway .....per cwt.	34	36	Mustard, White, p. bush., 6*s* 0*d* to 8*s* 0*d*		
Clover, Red, English	35	52	Superfine, p. bush.	—	—
— Foreign	35	50	Brown, per bush.	—	—
White, English	40	52	Rapeseed, Eng., per last.....	28*l*	32*l*
— Foreign	40	50	Rape-cakes .....per ton	5*l* 10*s*	6*l*
Coriander.....	10	20	Samoin	—	—
Hempseed .....per qr.	38	42	Tares, Eng., winter, p. bush., 5*s* 0	7*s* 0	
Linseed.....	44	54	Foreign, per bush., 3*s* 6	5*s* 0	
— Baltic.....	—	—	Trefoil	17*s* 0	21*s*
— Cakes, Eng. p. 1000,	13*l* to 13*l* 5*s*		Turnip—too variable for quotation.		

FIELD TURNIP SEEDS.

PETER BOOTH, NURSERYMAN, Falkirk, has for sale 150 bushels of Green and Purple-topped Yellow Bullock TURNIP SEED, including Skirving's Purple-topped Yellow; also Green-topped Swedish, and Laing's Purple-topped Swedish, all from excellent stocks, and will be glad to supply Seed Merchants and others with what may be wanted of it.

PROTOXIDE PAINT FOR STUCCO FRONTS, for Iron, Brickwork, and Wood. Manufactured only by CHARLES FRANCIS and SONS, Cement Works, Nine Elms.

GUANO AND NITRATE OF SODA.

PERUVIAN GUANO of the best quality, now ready for delivery in any quantity direct from the Import Ship or Warehouse, at the reduced prices.—Apply to JOHN CLARANCE and Co., 19, Cullum-street, Fenchurch-street, London.

DR. RICHARDSON'S PREPARED BONE MANURES.

	per ton—	£	s.	d.
B	Manure for Turnips, Potatoes, &c.	8	0	0
C No. 1	For the Straw of Wheat, Oats, &c. ..	7	0	0
C No. 2	For the Grain of ditto, ditto	12	0	0
L No. 1	For the straw of Beans, Peas, &c. ..	7	0	0
L No. 2	For the Seed of ditto ditto	12	0	0
H —	For Hops, Flax, Clover, &c.	9	0	0
G —	For Garden Produce in general ..	10	0	0
S —	For Sugar Cane	9	0	0
SUPERPHOSPHATE OF LIME		7	0	0.

The above Special Manures are manufactured by Messrs RICHARDSON, CUBBIE, and Co., at their Chemical Works, Blaydon, near Newcastle-on-Tyne, and may be had in London, of their Agents, Messrs. John Clarance and Co., 19, Cullum-street, Fenchurch-street.

Testimonials and directions for its use on application.

DRESSINGS FOR GRAIN, ROOT CROPS, &c. &c.

THE INORGANIC MANURE COMPANY, Bow, London, with great confidence recommend their Patent Manures (prepared under the inspection of Mr. CHARLES B. BOAST, M.R.C.S.L.) they having now been in use for upwards of six years with unrivalled success. These manures are prepared on the only true principle of supplying to the soil all the substances removed from it by the crops, their effect being really to enrich and not to exhaust land. They were the first and only manures offered to the Agriculturist based on a scientific principle, proved by practice to be correct; a distinct and special manure being prepared for each crop adapted to its particular wants. The cost per acre varying according to crop from 30*s.* to 40*s.*

Testimonials, with directions, &c., for using the manures, sent post free on application to Mr. PIKE, Inorganic Manure Works, Bow, Middlesex, where may be had also genuine,

SUPERPHOSPHATE OF LIME.

POTTER'S GUANO.—SEVENTH YEAR.—TESTIMONIALS. Whittington, near Lichfield, Aug., 1847.

Mr. Potter.—Sir—I have tried your Guano in several ways against the best Peruvian, and *find it superior*; which I hope will be a convincing proof for another season.—I am, sir, your obedient servant, W. WARD.

Experiment of the Earl of ZETLAND—Potter's Guano against Peruvian, on Grass.

	Tons	Cwt.	Qr.
POTTER'S GUANO, 2 cwt.—Hay per acre	2	8	0
Peruvian Guano, 2 cwt. „ „	1	18	0
In favour of Potter's	0	10	0

Numerous Testimonials will be sent on application per post. The price of Potter's Guano is much under the Peruvian.

POTTER'S PURE SULPHATE OF LIME.—GYPSUM.

TESTIMONIAL.—Sir—I have had your Sulphate of Lime examined by an excellent Chemist, who speaks very favourably of it. Please send 2 tons directed to ASHBURST MAJENDIE, Hedingham Castle, Essex.

This is the *cheapest* article sold, being much under the usual price.—Factory, 28, Clapham-road-place, London.

*** Sulphate of Ammonia, Superphosphate of Lime, Oil of Vitriol, Burnt Bones, Bone Dust, &c., &c., at lowest prices.

MR. J. C. NESBIT'S CHEMICAL MANURES.

THE LONDON MANURE COMPANY beg to announce that they have undertaken the exclusive manufacture of the manures recommended by Mr. J. C. Nesbit. The substances used in their preparation will be subjected to Mr. Nesbit's analysis, and every care will be taken in their manufacture. Hop Manure, Superphosphate of Lime, Wheat and Clover Manure. A Pamphlet on Artificial Manures, by Mr. J. C. Nesbit, now ready.

The London Manure Company have also made arrangements for a large supply of Fishery and other Salt, which they can offer on good terms.

E. PURSER, Secretary, 40, Bridge-street, Blackfriars.

PERUVIAN AND BOLIVIAN GUANO ON SALE,

BY THE ONLY IMPORTERS,
ANTONY GIBBS AND SONS, LONDON;
WM. JOSEPH MYERS AND CO., LIVERPOOL;
And by their Agents,
GIBBS, BRIGHT, AND CO., LIVERPOOL AND BRISTOL;
COTESWORTH, POWELL, AND PRYOR, LONDON.

To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

THE LONDON MANURE COMPANY beg to offer the under-mentioned MANURES on the best terms:—The URATE of the LONDON MANURE COMPANY, for Turnips, Tares, Oats, Barley, and all other Spring Crops.

GENUINE PERUVIAN GUANO, DIRECT FROM THE IMPORT WAREHOUSE.

Nitrate of Soda—Petre Salt for dressing old Pasture—Agricultural Salt—Superphosphate of Lime—Soda Ash—Pure Gypsum—Bone Sawdust—Sulphuric Acid—Sulphate of Ammonia, and every other artificial Manure. E. PURSER, Sec.

No. 40, Bridge-street, Blackfriars, April 22.

THE following MANURES are Manufactured by Mr. LAWES, at his Works at Deptford-creek:—

Corn Manure .. 14*l.* per ton. | Grass Manure .. 14*l.* per ton.
Clover do. .. 14*l.* „ | Turnip do. .. 7*l.* „
Superphosphate of Lime, 7*l.* per ton.

Mr. LAWES has also made preparations for supplying the various artificial MANURES of commerce, and if Agriculturists will trust the selection of them to him, and will furnish him with the necessary information, he will supply those which he considers most suitable to the soil and crops. A paper containing the questions required to be answered will be forwarded upon application to his Office, 69, King William-street, City, London.

GUANO AND OTHER MANURES ON SALE.—Guano, Peruv. & British / Superphosphate of Lime / Bonedust and Bone Sawdust / Dried Night-soil. / Urate. } For Wheat, Oats, Barley, Grass Seeds, Turnips, Mangold Wurzel, Potatoes, &c.

Gypsum, for Clover, Cinquefoil, &c.; Nitrates of Soda and Potash, as stimulants; Petre Salt, for dressing old Pastures; Agricultural Salt, for Compost-heaps, &c.; Sulphuric Acid, for dissolving bone; Soda Ash, a destroyer of Wireworm: and all other Manures of known value. Also Horticultural Glass, Milk Pans, &c.—Apply for prices current, to MARK FOTHERGILL, Office 201 a, Stores 40, Upper Thames-street.

Sales by Auction.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will submit to public competition at the Auction Mart, Bartholomew-lane, on Tuesday and Thursday, April 25th and 27th, 1848, at 12 o'clock, a very rich collection of GERANIUMS and other Plants in bloom; also about 300 first-rate Dahlias, a splendid assortment of Fuchsias and Verbenas, comprising all the newest varieties, about 100 pairs of fine Carnations, choice Heartsease, Climbers, Cinerarias, Azaleas, &c.—May be viewed the morning of sale, and Catalogues had, at the Mart, and of the Auctioneers, American Nursery, Leytonstone.

TO BE SOLD BY AUCTION, some time in June, as will be more particularly announced hereafter, if it be not previously disposed of by Private Contract—

POULTON, NEAR BLAKENEY, GLOUCESTERSHIRE, A FREEHOLD ESTATE of 100 Acres, or thereabouts, on the Western side of the Severn, and overlooking the river.

The whole is land of good quality, and in a high state of cultivation. Application for further particulars to be made by letter, post-paid, addressed to Mr. JOHN MORTON, Whitfield, Wotton-under-Edge, Gloucestershire.

TO NURSERYMEN, FLORISTS, AND OTHERS.
WEAR NURSERIES, DURHAM.

TO BE DISPOSED OF, either by proposal or valuation, or otherwise, by private contract, as may be agreed upon (by order of the Trustees of the Estate of Messrs. John Hancock and Son), the whole of the VALUABLE AND EXTENSIVE STOCK of and belonging to the Wear Nurseries, adjoining the street of Gilligate, in the city of Durham, consisting of a large and choice selection of hardy ornamental Trees and Shrubs, Greenhouse, Stove, and Miscellaneous Plants, Herbaceous and Bulbous Roots and Plants, a great variety of excellent Camellias, Ericas, Fuchsias, Geraniums, and other Flowers; a considerable quantity of Fruit and Forest Trees, and every other description of a general Nursery Stock.

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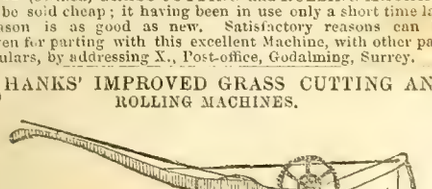

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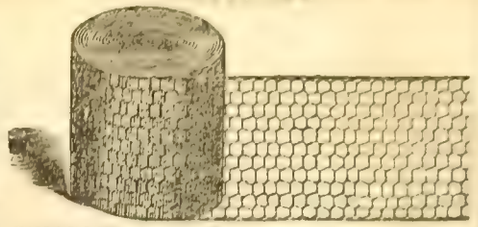

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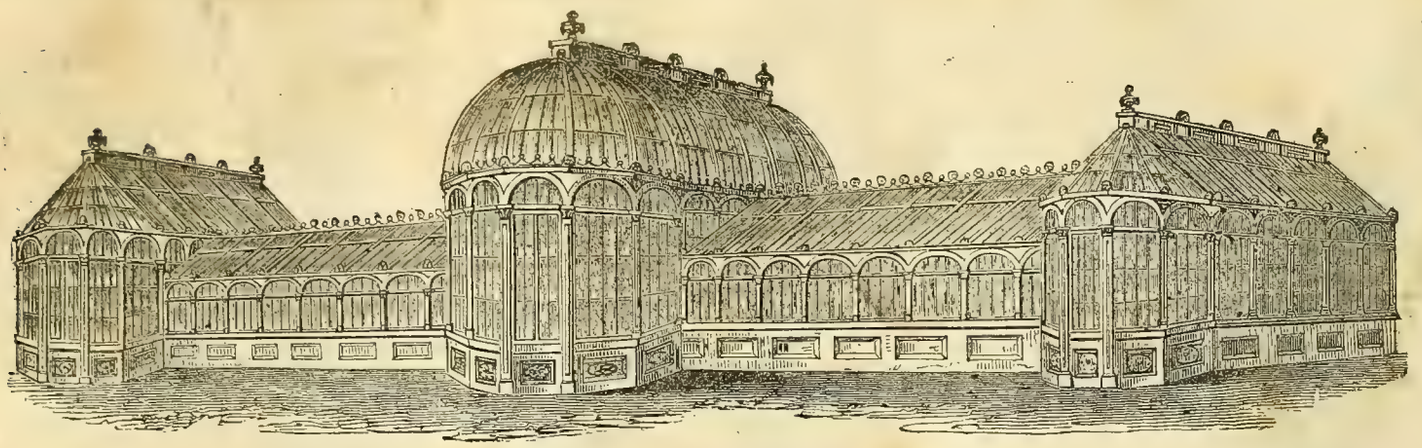

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THE GARDENERS' CHRONICLE

AND

AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News. The Horticultural Part Edited by Professor Lindley.

No. 18.—1848.] SATURDAY, APRIL 29. [Price 6*d*.

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EXHIBITIONS OF PLANTS, FLOWERS, AND FRUIT for PRIZES to be awarded by the ROYAL BOTANIC SOCIETY, Regent's-park, Wednesdays, May 10th, June 14th, and July 5th. Tickets to be had at the Gardens by orders from Fellows, price 5*s*., or on the days of exhibition 7*s*. 6*d*. each.

ZOOLOGICAL GARDENS, REGENT'S PARK.—Visitors are admitted, WITHOUT ORDERS, on the payment of SIXPENCE each on MONDAYS, and of ONE SHILLING each on the four following days. Children under 12 years of age on the payment of Sixpence each on all days, except those of Promenades.—By order of the Council,
April 29, 1848. D. W. MITCHELL, Secretary.

DAHLIA,—CHAPLIN'S "MONOURABLE MRS. YORK."

J. HARRISON begs to invite the attention of his Friends and the Public to this splendid DAHLIA, white, beautifully tipped with cherry, full and rising centre, constant through the season, 2 to 3 feet, 10*s*. 6*d*. The above Dahlia beat all other tipped and edged flowers, old and new, last season, at the Grand Open Show at York, Darlington, Barnard Castle, and other places, and as many orders were then taken for it as was thought the three roots would produce; however, as the roots have worked well, a few more orders can now be taken, and those who apply first will be supplied as far as the stock will go. N.B. The plants are strong and good J. HARRISON warrants this Dahlia to give satisfaction to the Grower. Catalogues on application.—Grove Nursery, York.

ROYAL NURSERY, SLOUGH.—DAHLIAS.

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Ackbar, fine purple.	Louis Philippe, crimson.
Andromeda, buff, pink tips.	Marchioness of Worcester, white, edged pink.
Berryer, fine dark extra.	Minn, rosy crimson.
Captivation, dark shaded puce.	Miss Vyse, white, edged with rosy lilac.
Cassandra, crimson.	Scarlet Gem, pale scarlet.
Hon. Mrs. Herbert, salmon, buff tipped.	Star, white, crimson tipped.
Lady of the Lake, white, purple tipped.	Venusta, blush white.
Lillywhite, blush, fine form.	Felix, deep rose.

A general list of Dahlias, Fuchsias, &c., the best show flowers of former seasons, at 9*s*. per dozen.

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GEO. SMITH has a few fine healthy plants of the above, which will please the most limited grower. For description, see Advertisement in this Paper of Feb. 12th and 19th, or G. S.'s Catalogue, which contains every novelty of the season, and will be immediately forwarded on receipt of one postage stamp.—Tollington Nursery, Hornsey-road, Islington.

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JOHN G. HINE, successor to Wm. Miller, Providence Nursery, Ramsgate, whose general list can be had on application, free.

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Chalvey, Slough, April 29.

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12 new Globe Germ. Asters	1	6
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10 new Globular do.	2	0
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30 do. do.	4	6
60 German Stock, various	9	0
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,, strigulosa	0	6
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,, splendens	0	6
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Schizopetalon Walkerii	0	6
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12 do. do.	5	0
25 fine Perennials	5	0
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Maurandya, 6 vars., mixed	1	0
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BIENNIALS, &c.

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April 29, 1848.

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*PETUNIAS	6*s*. to 10*s*. 6*d*.	per dozen.
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Those marked thus *, sent free by post.

A Descriptive Priced Catalogue of Geraniums, Fuchsias, Verbenas, Antirrhinums, Petunias, &c., sent free by post on application.—JOHN G. HINE (late Wm. Miller), Providence Nursery, Ramsgate.

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12 Choice Ericas, one of a sort, by name	12	0
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It will contain all the novelties of the season, at very reduced prices. Copies will be forwarded on application to

WILLIAM E. [illegible] and Co.

[illegible] PARALLEL [illegible]

EDWARD TILLY [illegible] *Gardeners' Chronicle* [illegible] April 22, for a description of [illegible] Jenny Lind. Plant [illegible] usual allowance to the Trade [illegible] tance will secure the Plants [illegible]
EDWARD TILLY, Seedsman and Florist, [illegible] 16, Pulteney-bridge, Bath.

GEORGE SMITH begs to refer the readers of the *Gardeners' Chronicle* to his Advertisement in the 15th and 19th, for a description of [illegible] FUCHSIAS and VERBENAS. G. S.'s Catalogue of the above every novelty of the season, [illegible] receipt of one postage stamp.
Tollington Nursery, Hornsey-road, Islington.

CAPE HEATHS.

W. J. EPPS has the pleasure to offer the finest stock of YOUNG HEATHS in the country, [illegible] bushy and exceedingly healthy, in large [illegible] consisting of the following kinds: [illegible] aristata major, retorta major, [illegible] tricolor of sorts, odoratissima, [illegible] pendens, andromedæflora, [illegible] 12*s*. per doz., or 5*l*. per 100. [illegible] doz. A liberal allowance to the trade.

A very extensive stock of new and choice [illegible] house Plants, &c.—Bower Nursery, Maidstone.

NEW DAHLIAS.

CHARLES TURNER, being in possession of the entire stock of the following [illegible] prepared to supply strong plants early in May [illegible]

SHYLOCK (Collison), scarlet, 4 feet, [illegible] has obtained 11 prizes in 1847. See "Gardeners' Chronicle," report of the Metropolitan Show. "[illegible] to state that Collison's Shylock [illegible] has already obtained there being [illegible] room." Also the "Gardeners' Journal" [illegible] "Shylock, a scarlet variety, [illegible] been shown in first-rate [illegible] Dahlia season." Finally, see "Chronicle" [illegible] of Exeter Dahlia Show: "First class [illegible] Shylock, a noble variety, good scarlet, with [illegible] first-rate general form; it appears to [illegible] good quality—constancy, in an eminent degree."

FIRE KING (Turvill), oriental orange, [illegible] most attractive and brilliant shade 5 feet, [illegible] "Gardeners' Journal," Sept. 18th.—Report of the Surrey Show: "This variety should be grown in every collection, from its great colour." Also, "Chronicle"—"A first class certificate was awarded to Mr. Turvill for Fire King, novel and striking in colour, being a bright scarlet orange, large, fine in form, good petal, and fine outline."

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WHITE ADMIRAL (Skynner), the best white, 4 feet, 10*s*. 6*d*.

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PRIVATEER (Turner), yellow edged red, 4 feet, 7*s*. 6*d*.

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The last four named varieties for 20*s*. Also every other variety worthy of notice.

C. TURNER'S collection of fancy Dahlias is very extensive, and comprises the best in cultivation. Catalogues on application.—Chalvey, Slough.

NEW DAHLIAS.

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HON. MRS. SHAW LEFEVRE (Elphinstone)—A most fancy known, being well up in the centre, and [illegible] either class: was awarded 1st Class Certificate at [illegible] London Show, Surrey Gardens, South, Norwich, [illegible] Wycombe, and the extra Prize Medal given for [illegible] at the Surrey Gardens; the gardening papers [illegible] the gem of the season. Colour, coral red and pure white. Height, 4 to 5 feet.

COUNTESS OF CLARENDON—Pure white, [illegible] well up in the centre, and very constant. 1st [illegible] Class Certificate at the South London Show, 1st [illegible] Class Certificate at Camberwell, the only [illegible] was shown; exhibited only one or two times [illegible] by Mr. Rudd, at Walworth, shown as Rudd's Fancy. Height, 3 feet.

MAID OF KENT (Batty)—Form of Princess Royal, [illegible] white, tipped with rose. Mr. Glenny's agent [illegible] "Edinburgh Journal:" "The best Dahlia we saw [illegible] Maid of Kent." 4 feet.

GOLDEN FLEECE—This flower needs no commendation, having been awarded five 1st Class Certificates this season [illegible] July. Colour, golden buff; [illegible] and extra fine.

FOREST FLOWER (Parker)—Lilac; took the [illegible] 1st Class Certificate at the Metropolitan Show, the [illegible] where it was exhibited; very constant. 4 to 5 feet.

MISS WELLER (Howard)—Dark blue: 1st Class Certificate at Slough. 3 to 4 feet.

Messrs. B. and B. are enabled to supply the following new Continental varieties, having worked [illegible] of each.

TISON POUR (Rattier)—Beautiful golden orange: [illegible] and high centre: first class show variety. 4 to 5 feet.

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Messrs. B. and B. are enabled to supply the most approved kinds of last and former years at moderate prices.

Messrs. B. and B. have likewise left a few of their [illegible] Seedling Pansies, Charon, Celeste, Clara, &c. Catalogues to be had on application.—Star Nursery, Slough, Bucks.

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J. HOLDER begs to inform the Nobility, Gentry, &c., that he has on hand a large Stock of strong and healthy Plants for bedding out, consisting of Fuchsias, Verbenas, Petunias, Salvias, Alonsoas, Calceolarias, Antirrhinums, Pentstemons, Scarlet Geraniums, &c. &c., which can be had at 4s., 8s., and 12s. per doz. when the selection is left to J. H.—Floral and Horticultural Establishment, Bedford-road, Clapham

S. AND J. DILLISTONE, Nurseries, Sturmer, near Haverhill, Suffolk, beg to offer the following, feeling confident they will give the greatest satisfaction, viz., DWARF ROSES, own roots, autumn struck plants for bedding, all the most showy of the Tea, Bourbon, Chinese, and Hybrid Perpetual varieties, 9s. and 12s. per doz.; good mixtures, 6s. do.; fine climbing 6s. do. Noisette, Cloth of Gold, Pourpre d'Tyre, &c., extra strong plants, 2s. each. The finest varieties of

Dahlias	Phloxes	Pansies
Fuchsias	Scarlet and other Geraniums	Chrysanthemums
Verbenas		Cupheas, &c.,
Antirrhinums	Petunias	4s., 6s., and 9s. per doz

A Catalogue of which may be had by enclosing one stamp. All orders to be accompanied with a Post-office order, from unknown correspondents. All the new Dahlias, Verbenas, Petunias, &c., of other growers at their Catalogue prices.

*** Carriage paid to London.

ON SALE.—SELECTED TURNIP SEEDS from the Lothians and Highlands of Scotland.

Pollexfen's Yellow Bullock Turnip	Skirving's Imperial Yellow Scotch ditto
Hood's Imperial Yellow Bullock ditto	Dale's Hybrid ditto
Gordon's Aberdeen Bullock do.	Skirving's Liverpool Swede
Gordon's Ayrshire Bullock do.	Ashcroft's Purple-top ditto
Border Imperial Bullock do.	Laing's Prize ditto
	Cox's Imperial Hybrid ditto

With all other kinds of White and Yellow Field Turnips. Mangold Wurzel and Sugar Beet, six varieties. Large White Belgian Horse Carrot; and Large Green-top Altringham ditto. Mixed Grass Seeds of the best varieties, suitable for laying down Pasture Land.

HENRY CLARKE, Seed Merchant, 39, King-st., Covent garden.

JAMES MATHEWSON, NURSERYMAN, FLORIST, STRAWBERRY GROWER, and General Agent to the Trade, Cunnigar-hill, Aberdeen, most respectfully begs to solicit your attention to the subjoined list of STRAWBERRIES grown by him, more especially the ABERDEEN BEEHIVE, so extensively circulated and highly appreciated the last two seasons throughout Great Britain, France, and America, as being superior to all others in cultivation. The earliest, highest-flavoured, and the most prolific—one plant producing a number equal to 20 of any other sort; each plant throws from 50 to 120 clusters, forming a top resembling a beehive; so regularly do they ripen, that they may be gathered in bunches of from 12 to 30 bright scarlet berries, of a round shape garnished with a green husk, folding towards the stalk the extraordinary appearance of the Fruit is more than can be comprehended but by those who have seen them on the ground or table, where they have been greatly admired; they make a transparent preserve, the interior being the same as the exterior. Upwards of 500 specimens of Fruit were sent out last season, which is sufficient to establish its merits. Plants in pots, for exportation, 12s. per doz.; from the Nursery bed, 2l. 10s. per 100, or 8s. per doz., forwarded by post or otherwise to any part of the kingdom. Highland Chief, 70s. per 100; Black Prince, 21s.; Comte de Paris, 90s.; Princess Royal, 90s.; Eleanor, 50s.; Globe, 10s.; Mammoth, 10s.; Prolific, 5s.; Hooper's Seedling, 7s. 6d.; Black's Seedling, 5s.; Milne's Seedling, 2s. 6d.; Little Jane, 2s. 6d.; Cole's Early Prolific, 80s.; Thomson's King, 50s.; Dickson's Royal Pine, 10s.; Princess Alice Maud, 4s.; Carolina, 15s.; Turner's Pine, Swainston's Seedling, Elton, 3s.; Lindley Castle, 4s.; Scarlet Drop, 15s.; Eliza, 3s.; Myatt's Pine, 5s.; Keens' Seedling, 2s. 6d.; Malcolm's Seedling, 2s. 6d.; Improved Devonshire, 2s. 6d.

DAHLIAS.—QUEEN OF ENGLAND, (KEYNES'.) White, deeply-edged lake. One of the finest edged Dahlias in cultivation. Took a first-class prize at Chelsea, where only three varieties were placed out of 40 varieties exhibited. First class prize at Salisbury. This is the most beautiful flower J. KEYNES has ever offered, and will be a standard in its class. 3 feet 10 6

WALTER HILSON, (DODD's.)—True orange. This flower, for form and colour, is the best yet offered. Three first-class prizes, and warranted by J. KEYNES 10

NELL GWYNNE, (POPE's.)—True primrose, without shading. Two first-class prizes in London. Beautiful form, purest colour, the only primrose ever yet offered... 10

HAMLET, (BROWN's.)—Deep crimson, beautifully shaded, first-rate in every respect, has never been exhibited, only one blooming root. Warranted by J. KEYNES 10 6

WAR EAGLE, (KEYNES'.)—Bright red. This flower was purchased, late in the season, by J. KEYNES. It obtained a first-class Certificate at the Great Metropolitan Show, the only place where it was exhibited. Beautiful form, first rate 10 6

COMPACTA, (POPE's.)—Rosy purple, first-rate 10 6

AMY, (COOK's.)—Blush, tipped pink..... 7 6

BELTED KNIGHT, (DODD's.)—Orange, edged with deep buff, first-rate fancy flower, very double, fine form and constant 7 6

TOISSON D'OR, (BATTEUR's.)—Golden orange 10 6

PIUS IX., (PASSART's.)—Rose and white 10 6

CARDINAL FERRETTI, (VAN RENYNGHES.)—Red... 10 6

GLORI DE PECK, (PARIS's.)—Blush white..... 10 6

J. KEYNES, with the greatest confidence, intends sending out the above in May next, trusting that the general satisfaction given in former years will be a safe guarantee for his selection.

J. KEYNES will have a good stock of YELLOW STANDARD, CAPTIVATION, LADY OF THE LAKE, and ANDROMEDA, four of the best flowers of last year sent from his establishment.

All the new flowers of the season will be supplied on receipt of early orders.—Salisbury, April 29.

NEW AND SELECT PLANTS.

BENJAMIN W. KNIGHT, FLORIST, &c., Tivoli, near St. Leonard's-on-Sea, Sussex, begs to call the attention of his friends and the public to the following choice and select Plants, which are now ready for delivery:—

12 choice and distinct FUCHSIAS, fit for exhibition, for 4s.; 12 extra first-rate, very distinct, new varieties, for 9s. 12 fine distinct VERBENAS for 2s. 6d.; 12 extra new varieties, quite distinct, all sent out last season for the first time, for 6s. 12 fine distinct PETUNIAS for 3s. 6d.; 12 extra new and distinct varieties for 6s. 12 good distinct CINERARIAS for 6s. 12 fine distinct ANTIRRHINUMS for 3s.; 12 extra superb and distinct varieties for 6s. 12 fine SALVIAS for 3s. 6d.; 12 extra fine distinct varieties, including mexicana, Camertonii, and gesneriaflora, for 6s. 12 HELIOTROPIUMS for 4s. 12 CUPHEA STRIGILLOSA (the best for bedding out), for 3s. 12 fine varieties of ACHIMENES for 6s. 12 ANAGALLIS, scarlet and blue, for 3s. 6d. 12 choice and distint CHRYSANTHEMUMS for 3s. 6d.; 12 extra fine very superb varieties for 6s. 12 fine bedding out Plants, such as Lobelias, Senecios, Ageratums, Alonsoas, &c., for 3s. 6d.; 12 extra fine distinct varieties for 6s. The above can be sent post free, securely packed, without any risk of perishing.

Choice varieties of DAHLIAS early in May, 12 fine show flowers for 6s.; 12 superior for 9s.; 12 extra new varieties for 15s.; 12 fine fancy varieties for 6s.

Catalogues of the above may be obtained on prepaid application, enclosing a postage stamp. A remittance or reference is respectfully requested from unknown correspondents.

BROOKLANDS NURSERY, BLACKHEATH PARK, KENT.

W. P. AYRES having (by the permission of JAMES COOK, Esq.) commenced business upon the above premises, begs to intimate that he has an extensive collection of HEATHS, AZALEAS, PELARGONIUMS, FUCHSIAS, &c., as well as a general assortment of the finer kinds of Stove and Greenhouse Plants, among which are some of the finest specimens in the country. He has also, in addition to a general collection of Vegetable and Flower Seeds, a few packets of the following, which he can recommend with the greatest confidence, as being of very superior quality. The following are the prices per packet, free by post.

SUPERB LATE DWARF CAULIFLOWER, superior to Walcheren, 2s. 6d.

NEW RED SOLID CELERY, allowed by all who have tasted it to be superior in flavour to Seymour's Red Matchless, very thick in the leaf, and crisp, 2s. 6d.

COMPETITOR CUCUMBER, a very long, prolific, and fine-flavoured white-spined kind, 2s. 6d.

DWARF RED STONE TURNIP, the best known for garden purposes, bulbing almost as soon as a Turnip Radish, 1s.

SUPERB EXTRA CURLED GIANT PARSLEY; four plants of this, when properly grown, will cover a square yard, 1s.

MYATT'S VICTORIA RHUBARB, the best late kind known, 1s.

FLOWER SEEDS.

CAMPANULA CARPATICA, the best plant known for a permanent blue bed in the flower garden. Plants from seed sown now, and forwarded in a little heat, will bloom splendidly in the autumn. This plant is grown extensively, and much admired in the garden of the Dowager Duchess of Bedford, 2s. 6d.

ERANTHIS HIEMALIS, or Winter Aconite seed, thrown on the shrubby borders now will bloom from January to March next year. Large packets, 2s. 6d.

SUPERB MIXED DWARF GERMAN STOCK, from 24 distinct varieties, 1s.

W. P. A. also begs to call attention to a choice assortment of Bedding Plants, selected more with a view to their qualities as bedding plants, viz.: compactness of growth, distinctness of colour, and profusion and durability of bloom, than to their claims as florist's flowers, and which he can confidently recommend, as well as most of the novelties of the season.

MANGLES' VARIEGATED PELARGONIUM, the best known as an edging for scarlet beds, 6s., 9s. and 12s. per dozen, according to size.

COMMON VARIEGATED, 6s. to 9s. per dozen.

SCARLETS OF KINDS.—Tom Thumb, Compactum, &c., 6s. to 9s. per dozen.

LUCIA ROSEA, beautiful pink, 9s. to 12s. per dozen.

Designs for Horticultural Erections, Flower Gardens, Lawns, &c., furnished on reasonable terms, and such works executed in any part of the country.

A remittance or reference in London indispensable from unknown correspondents. Post-office orders made payable at Greenwich to WILLIAM PORT AYRES.

LARGE WHITE BELGIAN CARROT	per lb—	2s. 0d.
LONG GREEN-TOPPED RED ALTRINGHAM	do.	1 3
IMPROVED LONG RED ditto	ditto ...	1 9

BASS AND BROWN are enabled to supply any of the above in large or small quantities of the finest quality of Seed and Stock. Also the finest MANGOLD WURZEL, CATTLE PARSNIP, TURNIPS, GRASSES for permanent pasturage, PACEY and ITALIAN RYE GRASSES, &c. Priced Lists of Agricultural Seeds; also Wholesale Prices to the trade on application.—Seed Establishment, Sudbury, Suffolk.

NEW AND SUPERB PLANTS.

JOSEPH HARRISON, FLORIST, &c., of Richmond, near London, and Downham, in Norfolk, begs leave to call the attention of floriculturists to his new and superb Seedling DAHLIAS, FUCHSIAS, VERBENAS, PETUNIAS, PANSIES, and CINERARIAS. J. H. trusts that his long experience in floriculture has enabled him to select such varieties as will give satisfaction, having been made out of very many thousands of plants. He can also supply, to any extent, strong plants of all the varieties of other growers of the above-named plants, as well as the best of Greenhouse and Hardy Herbaceous Border Plants. Plants for bedding out of all the most approved sorts, as Geraniums, Heliotropiums, &c.—A liberal allowance is made, in plants, gratis, to compensate for the cost of carriage. Descriptive Catalogues sent to order.

SUPERB SEEDLING PETUNIAS, &c.

BASS AND BROWN are now sending out plants of the following superior and first-rate SEEDLING PETUNIAS, for description of which see their Advertisement in this Paper for January 8 and 15.

Emperor ...	each—	5s. 0d	Painted Lady	each—	5s. 0d
Empress ...	,,	5 0	Rosy Circle ...	,,	3 6
Diogenes ...	,,	5 0	Comus	,,	3 6
Chancellor ...	,,	5 0	Blanche ...	,,	3 6

The set, which are very distinct, 28s.; or the usual allowance to the trade on the eight, or for three plants of either sort. They will be forwarded free by post if desired.

Our Descriptive PRICED CATALOGUE of PLANTS, for 1848, forwarded on application.

The following are now sending out, strong plants of our own selection. Those marked thus * by post, if desired.

		£	s.	d.
100	HARDY HERBACEOUS PLANTS, showy vars., by name	2	10	0
50	Do. do. do.	1	10	0
25	ROCK PLANTS, in fine varieties, by name	0	12	0
12	Do. do. do.	0	7	6
50	GREENHOUSE PLANTS, distinct species & vars.	2	10	0
25	Do. do. do.	1	8	0
25	GERANIUMS, superb show vars., 21s., or 12 do.	0	12	0
25	Do. superb new vars., 50s., or 12 do.	1	10	0
12	Do. good showy varieties.. .. 6s. to	0	9	0
*25	FUCHSIAS, fine vars., 10s.; 25 superior do. ..	0	17	6
*12	Do. fine vars., 5s.; 12 superior do. ..	0	9	0
*12	PETUNIAS, fine vars., 4s.; 12 superior do. ..	0	9	0
*50	VERBENAS, fine and selected varieties ..	1	0	0
*25	Ditto, fine, 8s.; 25 superior ditto	0	14	0
*12	Ditto, fine, 4s.; 12 superior ditto	0	7	6
*12	ACHIMENES, fine distinct varieties	0	9	0
*12	ANTIRRHINUMS, superb varieties	0	7	6
	CARNATIONS, 12 pair choice varieties	1	0	0
	PICOTEES, 12 pair choice varieties	1	0	0
	PINKS, 12 pair choice varieties	0	10	0

BASS AND BROWN'S DESCRIPTIVE PRICED CATALOGUE OF SEEDS FOR 1848 will be sent free by post on application.

SELECT AND CHOICE FLOWER SEEDS sent free by post with full directions for sowing, heights, colours, &c., viz.:—

		s.	d.
100	varieties best and newest annuals	15	0
50	varieties ditto for 8s. 6d., 30 for 5s. 6d., 20 for	4	0
20	varieties best dwarf kinds in larger packets, suited for filling beds on lawns, 7s. 6d., or 12 ditto	5	0
20	varieties best Greenhouse Annuals	7	6
20	varieties choice Greenhouse Perennials	10	6
20	varieties choice Hardy Biennials and Perennials ...	5	0
36	varieties imported German Stocks	6	0
20	ditto ditto	4	0

Remittances with orders are requested from unknown correspondents. Goods carriage free to London, and with all orders of 2l. and upwards articles presented extra. In consequence of recent post-office arrangements, money orders may now be made payable to BASS AND BROWN,

Seed and Horticultural Establishment, Sudbury, Suffolk.

SPLENDID SEEDLING ANTIRRHINUM, "UNIQUE."

W. H. CAPARN, SEEDSMAN and FLORIST, begs to inform the public that he intends sending out in the second week in May, his splendid ANTIRRHINUM, "UNIQUE," at 2s 6d., or, postage free, 3s. per plant. A remittance of Post-office order, or postage stamps, is respectfully requested from unknown correspondents.

See the *Gardeners' Chronicle* for the 28th August last, for DR. LINDLEY'S opinion, who says, "W. H. C.—Your seedling is a novel and beautiful variety; upper lip white, tube dark, lower lip deep purple crimson. This is a desirable addition to the best of the cultivated sorts."—Newark, April 29.

TURNIP SEED.

HARGRAVE AND ELLIS, of Caistor, Lincolnshire, beg to inform Agriculturists and Dealers, that they are prepared to supply Turnip seed of the finest quality, at very low prices for cash.

SCOTT'S HYBRID	per lb.	10d.
POMERANIAN GLOBE	,,	9d.
WHITE GLOBE	,,	8d.
GREEN GLOBE	,,	8d.

Other approved varieties on similarly low terms.

GERMAN RED CARROT ... per lb. 1s. 6d.

The Trade supplied at wholesale prices, delivered free at any port in England or Scotland, having direct communication with Hull, in quantities not under 4 bushels.

*** Scott's Hybrid, of all the white-fleshed varieties, is the hardiest, attains the largest size, and is the best substitute for yellows.

GENUINE CIDER: GOOD FOR DRAFT OR BOTTLING.

DEVONSHIRE has for centuries been famous for its CIDER, and when obtained in a pure and genuine state, is much and deservedly esteemed.

Messrs. RENDLE and CO., 13, Octagon, Plymouth, beg to inform the nobility, gentry, and the public in general, that they can supply them with a first-rate article on the following terms. A new cask (value 8s.) containing TWELVE GALLONS of well-conditioned, bright, bottling CIDER (superior to some wine sold as champagne), will be forwarded, freight paid by steamer to London, Cork, Dublin, Belfast, Sligo, Southampton, or Falmouth,

For a Post-office Order value Twenty Shillings.

*** To persons taking ten casks at one time, one will be given over, making eleven for 10l.*

WILLIAM RENDLE and Co., Cider Merchants,
April 29. 13, Octagon, Plymouth.

Kingston-on-Rail, Surrey, April 29.

JOHN SHILLING begs to offer to the public a new Red Speckled FRENCH BEAN, a climber, from 6 to 7 feet, requiring sticks; pod long, fleshy, smooth, and, when dressed for table, green, and quite equal to the best dwarf kinds; very prolific, larger, bearing soon, and continues to give a regular supply until changed by the frost. The seed resembles the Red Speckled handsome Dwarf. On enclosing 12 postage stamps 14 Beans will be immediately forwarded, free of postage, for trial, believing they will give general satisfaction, and cause a demand for them next season. J. S. will use his endeavour to be in readiness to give a supply.

WORTHY THE ATTENTION OF CULTIVATORS OF LAND.

JOHN SHILLING begs to announce that he continues to supply that most luxuriant, nutritious plant, the SYMPHITUM ASPERUM, or the PRICKLY COMFREY, so well adapted for food for cattle in general, particularly for stall-fed milch cows. On one postage stamp being inclosed, a full description of its growth, method of propagation, reference to those who grow it, and where it may be seen, will be immediately forwarded. Plants now ready for sale, at 5s. 6d. per 100.

Letters addressed JOHN SHILLING, Kingston-on-Rail, Surrey, will meet with immediate attention.

WILLIAM RUMLEY, FLORIST, Gilling, Richmond, Yorkshire, has to offer 12 of the following best show FUCHSIAS for 12s., or 6 for 7s., fine plants, in pots, hamper and package included, or free by post, securely packed, purchaser's selection: One of the Ring, Leucantha, Napoleon, Lady Julia, Sanspareil, Dr. Jephson, Nicholsii, Corallina, Purity, Acantha, Giant, Enchantress, Madame Thibaut, Mrs. Milbank, &c. The following 8s. per doz., or 6 for 4s 6d.; Dr. Jephson, Corallina, Duchess of Sutherland, Serratifolia, Cassandra, Foigh-a-ballagh, Sylph, Delicata, Nymph, Sir H. Pottinger, Lowryii, Flash, Mrs. Milbank, &c. Older sorts, 4s. 6d. per doz.—Scarlet Geraniums Tom Thumb, Huntsman, &c. 6s. per doz. Verbenas, Heliotropes, Cuphea platycentra and strigillosa, 4s. 6d. per doz. 12 choice Bedding Plants for 6s.; 12 choice Greenhouse Plants for 9s. New Fuchsia "Blood Royal," fine, 5s. each.—A remittance is respectfully requested from unknown correspondents.

BEAUTIFUL NEW SHRUBBY CALCEOLARIAS.

HENRY MAJOR, Knosthorpe, near Leeds, begs to remind the admirers of this beautiful tribe of plants that he intends sending out his new seedlings of acknowledged beauty, brilliant colour and variety, the first week in May, in two sets; first set of 8, 2l.; second set of 6, 1l. Twelve of his best seedlings sent out last year he offers for 25s.

At the same time, also, will be ready, his unbloomed seedling Calceolarias, saved from fine varieties, in parcels of 20, at 7s. 6d. per parcel, or three parcels for 1l., post free. They will all bloom the same year. Printed directions for the general management of the Calceolaria throughout the year, will be forwarded to every purchaser. Select Calceolaria seed, 2s. 6d. per packet.

A few plants of H. M.'s beautiful PANSY, "Milton," still remain at 5s. each. Twelve fine Show Pansies, selected from the new varieties of last spring, Milton included, 24s. Most of the leading varieties at moderate prices. Select Pansy seed 2s. 6d. per packet. A Descriptive List of the Seedling Calceolarias and Pansies may be had on prepaid application.

From unknown correspondents a remittance is respectfully requested with the order.

SEEDS.—CORNER OF HALF-MOON-STREET.

THOMAS GIBBS AND Co.,

(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND," Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

Priced Lists of Agricultural Seeds are always ready, and may be had on application.

BEE-HIVES.—All persons desirous of Cultivating that pleasing and profitable branch of rural economy—the Honey Bee—are respectfully informed by G. NEIGHBOUR and SON, that they have prepared for the season an extensive supply of their various improved BEE-HIVES; their collection consists of "Nutt's Collateral Hive," "The Single Box Hive," "The Improved Cottage Hive," "The Ladies' Observatory Hive," "Taylor's Bar Hive," &c., from either of which the Honey may be taken at any time without injury to the Bees, and may be worked with safety, humanity, and profit, by the most timid and unaccustomed to Bee-manipulation. A descriptive paper, with drawings and prices, will be forwarded on receipt of a postage stamp.—Apiarian Depot and Honey Warehouse, 127, High Holborn, London.

NUTT ON BEES (6th Edition), just published.

NEW AND GOOD PLANTS.

	£	s.	d.
Achimenes Skinneri grandiflora	0	15	0
(The best Achimenes in cultivation.)			
Francisecа undulata	0	15	0
,, gracilis	0	10	6
Gardenia Fortuni	0	7	6
,, longistyla	0	10	6
,, Devoniana	1	1	0
,, Whitfieldii	0	10	6
Gloxinia Wortleyana	0	10	6
Henfreya scandens	0	7	6

This is a very fine half climbing plant, remaining in bloom several months; a specimen exhibited by R. G. at the last meeting of the Horticultural Society of London was awarded a Banksian medal.

	£	s.	d.
Hoya imperialis	1	1	0
,, campanulata	0	7	6
Portlandia coccinea	2	2	0
Strophanthus Stanleyana	0	10	6
Daphne Fortuni (quite hardy)	1	1	0
Lindleya mespeloides	0	5	0
Berberis Fortuni (quite hardy)	1	1	0
Spiræa expansa	0	5	0
Cyrtoceras multiflorum	0	5	0
,, reflexum	0	3	6
Clerodendron macrophyllum	0	10	6

An abridged Catalogue of Plants may be had on application.
R. GLENDINNING, Chiswick Nursery, near London.

NOW SENDING OUT BY YOUELL AND CO.
THE FINEST CARNATIONS, PICOTEES, AND PINKS.

	per doz. pairs	£	s.	d.
The selection left to Y. & Co.,	24s. and	1	10	0
A selection of the newest and very finest first-class Show Flowers		2	10	0
The mixed border		0	12	0
Ranks, finest show varieties, by name		0	12	0

FUCHSIAS.—per dozen.

Of the best varieties of 1847	12s. to	1	1	0
Arbenas, ditto ditto	6s. to	0	10	0
Ditto ditto, including ROBINSON'S SCARLET DEFIANCE		0	14	0
Pansies, extra fine show varieties		0	10	0
,, extra extra best ditto, including their celebrated variety, "Supreme"		0	18	0
Calcearias, extra fine for blooming this spring,	12s. to	0	18	0
Pangallis speciosa and Brewerii	per dozen—	0	6	0
Cineratum grandiflorum		0	6	0
Clematis japonica		0	9	0
Convolvulus tirrhimums, finest in cultivation	6s. to	0	9	0
Cuphea lavendularia floribunda		0	6	0
Cuphea platycentra		0	6	0
Dahlias, fine sorts, by name	6s. to	0	9	0
Daphne cannus lychnedea		0	9	0
,, Kalmii, fine blue for bedding		0	6	0
Geraniums, scarlet, of the finest sorts for bedding	6s. to	0	9	0
Heliotropes	6s. to	0	9	0
Lobelia compacta, white		0	6	0
,, grandiflora, blue		0	6	0
Night-scented Stocks		0	9	0
Nemophilas, extra fine sorts, by name	6s. to	0	9	0
Phlox Drummondi		0	4	0
Double White Rocket		0	9	0
Rhine Schattii		0	6	0
Senecio, Double Purple		0	6	0
,, lilacina		0	9	0
Verbenas, fine sorts by name	9s., 12s., and	0	18	0

Standard and half-standard Roses, of the finest sorts, 12s. to 0 18 0

Pkts. of newest and choicest Flower-seeds, per post, free, 6s.
For particulars of their Superb Seedling PANSIES, see Advertisement of March 25.
DESCRIPTIVE CATALOGUES MAY BE HAD ON APPLICATION.—Great Yarmouth Nursery.

ROSES IN BLOOM.

EDWARD DENYER, NURSERYMAN, Brixton, near London, begs respectfully to inform the nobility, gentry, and his friends in general, that he has erected a spacious greenhouse exclusively for the growth of ROSES in pots, which are now in bloom, consisting of all the newest and most kinds. He has also a choice stock of Geraniums, Fuchsias, and greenhouse plants; and a large collection of plants ready for bedding out into the flower borders, unusually low, at very moderate charges, a list of which may be obtained by a pre-paid application. Orders to the amount of 40s. sent, carriage free, 50 miles; and to the amount of 5l. and upwards, 100 miles.

N.B.—E. D. respectfully informs his friends that he has no other place of business in London or elsewhere but the above.

The Gardeners' Chronicle.

SATURDAY, APRIL 29, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

MONDAY	May 1	Horticultural (Anniversary)	1 P.M.
		Entomological	8 P.M.
TUESDAY	— 2	Horticultural	3 P.M.
		Linnean	8 P.M.
WEDNESDAY	— 3	Society of Arts	8 P.M.
FRIDAY	— 5	Botanical	8 P.M.
WEDNESDAY	— 10	Royal Botanic Gardens	2 P.M.

THE injury committed among timber trees, especially Elms, by the ravages of certain INSECTS, is well known to those who have attended to such subjects. A remedy for the evil has, however, been hitherto sought in vain. It is not many years since the loss of Elm trees in the Birdcage-walk had become so extensive as to attract the notice of the English Government, naturalists were consulted without result, and the mischief has to this day remained unabated. The first cause was believed, and probably with justice, to be the ill health of the trees themselves, but a revival of their ancient vigour seemed as hopeless as the extirpation of their enemies. In France, however, it would seem that the problem has been solved; as appears, from the following extract from a late number of the "Comptes Rendus," in which we have an account of the highly interesting experiments of M. ROBERT. It has been ascertained that the Scolyti, the most mischievous of the races which attack the Elm, perforate the bark of certain trees, and then proceed to the surface of the young wood, gnawing in their progress the tissue of the liber and the sap wood in a longitudinal direction; the female deposits a quantity of her eggs on the sides of the gallery thus formed, and the larva gnawing in a similar way the surrounding tissue make a number of secondary galleries in a transverse direction, their diameter increasing as the parasite goes further from the place whence it started, and also as it, by becoming older, increases in size. The space thus pierced by a single family of these wood-eaters (Xylophagi) measures about 10 or 15 centimetres, and sometimes much more, in every direction; the rate, too, at which these insects are produced is very great; it therefore is quite a common occurrence to find the bark separated almost completely from the sap wood for a very considerable distance along the trunk and principal branches of the trees which these creatures inhabit.

It was remarked by M. ROBERT that the larvæ of the Scolyti quickly perish if they are not well protected from the drying action of the air; and he had also observed that considerable quantities of liquids in the vegetable tissue which they inhabit also destroy them. He had seen the female insect abandon the gallery she was piercing the moment that the sap arrived in any quantity, and that she then looked for a more convenient place to deposit her eggs in. He also found that the most troublesome species do not attack the young branches, and only bore their galleries under old, thick, and rugged bark. These circumstances led M. ROBERT to try whether the progress of the evil might not be stopped by splitting or removing the bark of trees infested by Scolyti.

M. ROBERT'S experiments were principally made on Elms, and had for their object the influence of severe wounds both on the Scolyti which were in the neighbourhood of the incisions, and on the vegetation of the tree itself. A certain number of strips of bark, 5 or 6 centimeters broad, were removed from the commencement of the great branches to the bottom of the trunk of the tree, and it was found, in consequence, that longitudinal lips were formed, in which the sap circulated strongly, the larvæ lodged in the galleries thus exposed, and often those in the neighbourhood, were destroyed, and lastly the bark, incompletely undermined, was consolidated, and the activity of vegetation in the tree was generally heightened. The success of this method induced M. ROBERT to try a still bolder way of proceeding, which consisted not in slitting the bark of the injured tree, but in removing all that superficial portion of the bark which, on the trunk, corresponds with the corky layer. This operation causes a great rush of sap in the liber thus disengaged; and whether the larvæ of the Scolyti lodged below are, as it were, drowned in consequence, or whether they suffer from the too direct action of the atmosphere, or whether lastly they fall with the old bark, they almost always quickly perish where the operation has been performed, and not only is the tree thus freed of these parasites, but the new bark with which it is again covered, being too smooth and thin for the development of these insects, the females come but seldom to lay their eggs there. This sort of barking, moreover, does not injure the tree; on the contrary it perhaps invigorates its vegetation; it has been an immemorial practice in Normandy, for the purpose of giving activity to old Apple trees; and the celebrated physiologist, Mr. ANDREW KNIGHT, found that the stimulus thus given to vegetation might cause the trunk of a tree thus treated to grow as much in a single year as an ordinary tree, imprisoned in its old bark, of the same age, would in four or five years.

This led M. ROBERT to make a great experiment on the Elms attacked by Scolyti along the avenue of Neuilly, the road from Sèvres, beginning at Point-du-Jour, the Boulevards, the Quay D'Orsay, &c. In several cases he was unable to save the life of the trees, but in many others he completely succeeded. The Commissioners of the Institute report that they have examined at two different periods the Elms experimented on by him, and found the vegetation of the barked trees in general more vigorous than that of the neighbouring trees whose bark was untouched. They have also inspected pieces of wood which M. ROBERT obtained from trees treated according to his method, and found them completely cured. He has already applied his process to more than 2000 injured Elms, and even in the cases of failure, the loss of the tree does not appear to have been owing to the operation in question. Hence the Commissioners infer that the remedies proposed by M. ROBERT may be very useful, and deserve serious attention. It appears clear to them that they cannot hope to cure all the trees ravaged by Scolyti; but they are convinced that if the plan recommended by M. ROBERT be followed in time, the evil will be generally stopped before it has become inveterate. By persevering in the employment of his method, or of barking, the multiplication of these noxious insects

[illegible] and but be greatly [illegible] by the Scotch, [illegible] a great part of the [illegible] France may be greatly [illegible]

In [illegible] that there [illegible] attention of [illegible] the Commissioners of Woods [illegible] ample means, at this [illegible] to the test the value of M. [illegible]

Our readers [illegible] that we have on several occasions called their attention to [illegible] culture which are not confined to the [illegible] British Isles, but which may, [illegible] the case of the cultivation of Tea on the Himalaya Mountains, be intimately connected with the prosperity of the British empire. [illegible] the history of these cultures, [illegible] an unnecessary, is often instructive [illegible] because the principles are the same as those which guide us in our operations at home, [illegible] in the open air or under [illegible]

After the Cereal Grasses, their [illegible] are intimately bound up with the continued prosperity of Great Britain than that of Cotton [illegible] whether we consider the vast amount of the capital in which this vegetable product is employed, or the numbers of our people who are employed in [illegible] it up into the manufactured article, [illegible] so large a portion, not only of our internal trade, but also of our exports to almost every quarter of the globe. If we consider that all this depends upon a regular supply, at moderate prices, of the raw material, and that this supply depends not only upon the varying product of different [illegible] but that it is liable to be interrupted by the changing hues of political events, we must admit that the subject is one of paramount importance, and that all are deeply interested in the question whether the sources of supply cannot be so multiplied as to neutralise the effects of the varying climate of any particular locality, and also whether our numerous colonies, stretching as they do through every climate, might not participate in some of the [illegible] of this culture, at the same time that they [illegible] our manufacturers less dependent than they now are on both the internal quiet and the external relations of foreign countries.

In order to determine the principles which should guide the cultivator in growing Cotton in [illegible] situations, we must first ascertain the places where Cotton is now grown, and in connection with these, the peculiarities of soil, climate, and [illegible] which ensure the production of remunerative crops of good Cotton. Though India is without doubt the country where one or more species of Cotton are indigenous, and where the manufacture seems to have originated, England was first supplied with Cotton wool from the Mediterranean and Levant: subsequently from the West Indies and South America. Cotton was then cultivated in Georgia and South Carolina, and of late years in greatly increased quantities in Alabama and the valley of the Mississippi. About the year 1820 the cultivation was commenced in Egypt, and it has been attempted on the west coast of Africa, and lately near Port Natal. Cotton has continued to be cultivated in almost every part of India, from the earliest periods to the present time. So also in China, where, however, they do not produce enough for their own consumption.

Seeing that Cotton is cultivated in so many different parts of the world, the intelligent cultivator will naturally and at once enquire whether it is the same species of Cotton plant which is cultivated in all these different localities? and whether the same kind of soil, either with regard to its physical state or chemical nature, and similar methods of culture, are equally suitable in the several countries above enumerated, and where there must necessarily be great diversities of climate, both with regard to heat and to cold, as well as to dryness and moisture and the course of the seasons. Some of these questions we shall endeavour to determine on future occasions, but will at present only point to a statement of the quantities in which Cotton was imported into this country during the year 1847, as this will afford an opportunity of referring to circumstances which, independent of seasons, interfere with the profits of the planter in other countries, except that which is the chief source of supply. There were imported into Great Britain during 1846:—

Of United States' Cotton	[illegible] bales of [illegible] lbs. each.
Brazil	[illegible]
East Indies	[illegible]
Egypt	[illegible]
West Indies	[illegible]

1,304,200 bales, or 25,085 bales per week.

During the year 1847, however, no less than 220,000 bales were imported from India, showing apparently a rapidly increasing commerce. But in the present year it is probable that not more than 100,000 bales will be sent here, indicating great

irregularity of the trade in Cotton with India, which is indeed its great characteristic. This necessarily operates as a discouragement to planters, who must be able to sell what they produce, subject of course to changes in price, dependent on the varying product of different seasons. But in this case the demand for the produce of other countries depends on the supply from America; and it is only when this is diminished, and an increase takes place in price, that sufficient inducement is offered to the merchant to import Cotton in larger quantities from other countries, such as India. As such questions must always have their due influence on the cultivator, it is necessary to keep them in view, though in our future observations we shall restrict ourselves to the principles required to be attended to in the culture of Cotton.

We learn that a fresh supply of Guatemala Orchids has arrived by the ship Agnes, and will be sold next Thursday. Among them are mentioned—"a new purple Epidendrum (?), a very long reed;" "the new white-spotted Epidendrum, and a new Sobralia;" also what is called "Lælia acuminata, with a snow-white flower;" and some other new plants.

LATE PEAS, THE SCARLET RUNNER, &c.

Amongst all the culinary vegetables Peas may be said to be the most universal favourite; and the great length of time they may be had in regular succession much enhances their value. I would here beg to offer a few hints on the best mode of obtaining a supply of late Peas. The Wrinkled Marrow class are above all others adapted to this purpose; and I know of none superior to the British Queen for late work. This Pea possesses the power, in an eminent degree, of forming a vast number of axillary shoots, provided an unceasing stimulus be kept up at the root. It therefore bears "stopping" frequently; and this indeed, with a powerful root action, will supersede the necessity for so many successive sowings of Peas, and most effectually ward off that destructive pest of late Peas, the mildew. I have for many years been convinced that mildew arises from mere torpidity of the roots; and that a sluggish action in these organs may be equally induced by the most opposite extremes—by drought accompanied by much solar light, or by long periods of wet, accompanied in the main by a low temperature. Many complain every season of their Peach mildew. As far as my memory reaches, I have not seen a mildewed leaf on any Peach tree under my care for many years; and why? The trees are planted in borders of moderate depth, stagnation through water lodgment is impossible; and the roots of these trees, being close to the surface, and the ground never dug, they are just in the position to receive benefit of an unfluctuating character from the application of a mulching, which forms part of my system, and which is applied in the end of May, provided the season is inclined to drought. Deep digging is one of the prime requisites in late Pea culture; and indeed it is the great secret in the cultivation of all vegetables, especially such as are required in long succession, or those liable to be injured by sudden drought. The roots of the Pea, especially those of the Marrowfat class, descend much deeper than people are commonly aware of; and to carry out good late Pea culture the soil should be at least 16 inches in depth, if 2 feet so much the better. I need say nothing about the benefit of fresh or maiden soils for the Pea; such, however, are not always to be obtained. To proceed: a trench should be excavated after the manner of the old Celery trench, 2 feet wide, and of the whole depth. Some very rotten manure should then be spread, and a sprinkling of the soil filled in, covering the manure 1 inch.

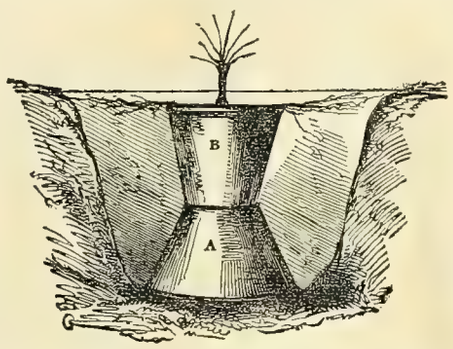
The next operation is to thoroughly saturate the whole with water; and whether the current weather be wet or dry is immaterial. This is to form a kind of reservoir for the hour of need, and to supersede in the main surface watering, which is seldom satisfactory. Thus much completed, another layer of manure should be added, and another watering; afterwards the soil may be filled in to within 6 or 8 inches of the ground level. I find it best not to have any manure close to the surface, as the object should be, not to render the young plant gross in its earlier stage, but to promote durability when established; more especially durability of moisture. The Peas may now be introduced in a slight drill, and covered with a good depth of soil—at least 6 inches—this, if the soil is deep, will throw the main body of the root beyond the reach of sudden droughts. This done, a little littery, half rotten mulch should be spread at least 2 inches thick on each side of the row, but not over it. This will control and regulate the parching effects of a dry air, and enable the plant to not only withstand, but to enjoy a bright and warm atmosphere. If these things be duly carried out, there will be little occasion for watering afterwards; indeed, generally none at all. The only remaining difficulty is to procure good stakes: these should be from 6 to 7 feet high—8 would be better still. The next great point in their culture is to pinch off their tops, when within 1 foot of the average height of their sticks: this serves two purposes—it prevents the possibility of their toppling over, and compels the plant to commence provisions for a long succession, by forcing out abundance of side shoots, before their energies become exhausted in the production of a great weight of terminal blossoms. I lay the utmost stress on this matter: without this, the previous labour expended will be in part thrown away, and indeed the plan decidedly incomplete. With it a row sown in the course of April will be found to produce abundance through the autumn months, without watering; and the mildew fungus, if it should appear, will never progress sufficient to cause alarm. In some cases the plants will become so robust, in spite of bearing abundantly, that they will again threaten to overtop their sticks; if this should prove the case, they must be topped or pinched again. It is truly wonderful what amount of produce will be obtained from a single row thus treated; and so it is with most of our other crops, which will in general amply repay the cost of an improved culture, provided the outlay is directed with judgment, based on a familiar knowledge of the habits of the respective kinds. We should hear little of the necessity for emigration if capital could thus be brought generally to bear on land. However, recommendations for a higher standard of culture are too often, unfortunately, regarded as mere theory; and thus it is that high cultivation still creeps where it ought to soar.

Before concluding, I would just remark that the Scarlet Runner, another of our most useful summer and autumn crops, requires nearly the same course of cultivation as the late Peas; at least, to insure the greatest amount of produce, combined with a never failing succession until the winter frosts set in. It is not so generally known as it ought to be, that the Runner will do on very low sticks, provided frequent topping be resorted to. I have known excellent crops produced from Runners only a yard in height. They require much water in dry periods, for if the land is light, and no extra preparation is made, they will fall off at the very period when most needed. The Runner will bear and enjoy watering as much as any culinary vegetable we cultivate. I need scarcely add that no more early seed pods should be left on than are absolutely necessary; they exhaust the late supply much.—*R. Errington, Oulton.*

A NEW METHOD OF PLANTING FRUIT TREES.

The following method of planting fruit trees promises to confer great advantages upon their cultivators, and with this conviction it is offered to the consideration of your readers.

The method is as follows:—Plant a young fruit tree in a full sized pot; then dig a deep pit in the place selected for the tree, sufficient to allow of an inverted Sea-kale pot being placed in the bottom, and upon it the pot containing the fruit tree. The pit must be of a sufficient depth to bring the edge of the upper pot from 6 to 8 inches below the surface of the soil. This description will perhaps be better understood by the aid of the annexed woodcut, in which A is the inverted Sea-kale pot, and B the pot containing the fruit tree; both placed as they should stand in the pit.



The advantages of this plan are—1. Perfect drainage. 2. Prevention of too rapid extension of roots, especially the tap root. 3. Promotion of the growth of fibrous roots growing near the surface of the soil. 4. Diminution of pruning, always "a violent remedy though necessary in some degree." 5. The earlier formation and maturation of woody fibres, and consequently early production of fruit. 6. Easy dressing.

It is proper to state that several fruit trees, chiefly Pears, have been planted according to this plan, and others at the same time according to the plan most commonly followed, and the difference now between the two sets of trees is such as to strike the eye of the most careless observer. The former are now bearing healthy, well-matured spurs, replete with blossom-buds, while the latter have long lanky shoots, and very few blossom-buds.—*E. R. W. and R. W. F., April* 18.

SELECT SPRING AND SUMMER FLOWERING PLANTS FOR BEDDING, &c., IN THE FLOWER GARDEN.

Lobelia Erinus compacta alba.—This exceedingly interesting variety is now to be found in our collections. The one described by me previously in the *Chronicle* under this name is ascertained to be *L. erinus lucida alba*, which, though a desirable plant, must give precedence to the one above named. It forms by far the most valuable white-flowered variety we have, being a remarkably neat dwarf compact evergreen plant, readily distinguished in its mature growth from *lucida alba* by its perfectly decumbent habit, far less robust, and circular smooth flat leaves, the whole plant not rising more than 2 inches high, even in bloom, when it is studded all over with a profusion of snowy-white blossoms throughout the summer and autumn months. For ma ginal effect to small parterres or borders, or for contra in separate masses, this exquisite little plant is witho a rival. It is, in fact, a valuable counterpart to beautiful azure-flowered prototype, and like it has premature tendency to form flower buds, to preve which, in order to obtain a vigorous and establish growth, the extremities should be uniformly pinched at repeated periods, until about the middle of May June. Where white flowers are required, this sing larly neat and compact plant is indispensable.

L. Erinus lucida.—This is an improvement upon t well-known and beautiful L. erinus grandiflora, differi from that variety in its more polished leaves a perennial-like habit; its blossoms are also of a rich blue, and prominently marked with white in the centr It is far less subject to injury from damp when pr served in cold pits or frames during winter, and al gether a neater plant than grandiflora, yielding a lon continued succession of bloom from June until Octobe

Narcissus tenuifolius is a hardy early spring flowe ing bulbous-rooted plant, of neat habit, with slend dark green rush-like leaves from 3 to 6 inches long, a comparatively large rich golden-coloured trumpet funnel-shaped flowers (with orange-coloured anther not rising higher than the leaves. The slightly pende flower-stems or scapes, and the massive rich golde yellow hue of the flowers, contrasted with the darken tint of the leaves, produce a very beautiful effect. a small parterre or bed it would look exceedingly p turesque during the latter part of March and Apr It is one of the class of plants which may be said yield an "over payment of delight" to a lover of flowe I can conceive nothing finer in its style. It is, as y far from being plentiful in nurseries.

N. Bulbocodium.—This is also an ornamental golde yellow flowered species, of similar growth, and har less beautiful than the preceding.

Iberis sempervirens is a neat hardy evergreen, h shrubby plant, of dwarf compact habit, with narr dark green leaves, and numerous terminal flat coryn of snowy-white blossoms. For forming an effect *masse* in large beds or groups, from the latter end April to the second week in June, this may be c sidered the plant best adapted in its class and colour.

I. saxatilis is also a hardy half shrubby species, similar but smaller and neater growth than the p ceding, blooming at the same period, and in equal p fusion. For a small parterre, or for single effect rockwork, this is preferable to the species just describ As early spring flowering plants with white flowe these are the best, and possess the neatest habit, they require to be established plants the season p vious to that in which they bloom.

Viola arborescens.—This, the "tree Violet" of the n series, is perfectly hardy, and though admirably adap for winter forcing, it is nevertheless equally adap for a spring flowering bed or border, without the of artificial heat. Though capable of becoming a dw single-stemmed tree-like shrub, which appears to be most suitable form for pot culture, it should, w intended for the hardy border, be permitted to assu its naturally decumbent habit. If planted out in spring or early summer months, and its growth enc raged by pinching off its blossoms until a vigor habit is induced, it will produce threefold the num of fragrant rich dark purplish-blue blossoms throu out March, April, and May, that is generally obtai from the old varieties of double Violets. As nea all varieties of Viola odorata are liable to prot their stems above ground, it is advisable to sprin a little additional soil over the bed in autumn. bank or bed of spring flowering Violets is a desi ratum in all gardens. A simple but efficient met of obtaining a wreath of Violets in the earliest spr months, is by placing a large portable single hand-gl by day, and a second large one over that, or other ternal covering by night, over a portion of the pla upon the bed. A similar plan may be adopted for mulating the bloom of the Myosotis, or "Forget me n —*William Wood, Fishergate Nurseries, York.*

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

Exotics for beds on Lawns &c.—"A. H." begs information respecting shrubby exotics proper for open air in the summer months, and my first intent was to furnish a list of those which are generally fou in first-rate gardens, giving the colour, habits, and s of each. But on after reflection, I have thought it b to confine my observations strictly to the results of own experience, as more appropriate to the large cl for whose benefit these papers are written. If, as hand-writing of "A. H." intimates, the applicant is a la I am sure I shall best consult her wishes by being plicit, and recommending a course of summer garden easily managed. Many exotics will do well only very warm seasons; others require much attentior produce effect; but there are many which yield beautiful display with moderate care. Persons w professional gardeners at hand do not need the adv requested by "A. H." and the very nature of the appli tion appears to indicate the kind of reply which will most acceptable.

Let me premise that the beds intended for effect summer should be unoccupied by herbaceous plants other productions which do not naturally decay at close of spring, as the old fashioned flowers of gardens do not harmonize well with greenhouse plan and besides this, each bed should be devoted to one k of flower. Some borders should be devoted to mis

laneous plants and shrubs, but a summer garden should be free at the proper time of bedding out exotics. My own plan is to fill beds on the lawn with bulbs in autumn, and these being past their beauty in May, the plants intended for summer are put in, and by the time they are ready to flower the bulbs can be removed; or their foliage having withered, they may be raked over and allowed to remain till another season. By confining each bed to one kind of plant, a better effect is produced, and it is more easy to attend to the cultivation. However, the circumstances of gardens are very various, and if your beds are partly occupied with fixtures, you must exercise your taste, and introduce exotics here and there, so as to harmonise best with the whole, and produce the best effect.

In my opinion, at the head of the class of plants now under consideration, stands the Scarlet Geranium, or, more properly, Pelargonium. Nothing can exceed the beauty of this in the open air, and nothing yields its flowers more abundantly, or demands less attention. There are many varieties now grown, 13 being named in a list advertised in the *Chronicle* of the 22d inst. These differ in height, intensity of colour, and character of foliage. By placing a strong plant of a robust, tall habit, in the centre of a small bed, surrounding it with a number of less stately growth, and forming the border of those of a dwarf development, a pyramidal bed is produced, the lustre and charming beauty of which are unsurpassed. Single plants may be introduced in vacant spaces, either trained upright to a stake, or, if of a dwarf kind, made to form a mass on the ground.

Next in durability and abundance of bloom come the shrubby yellow Calceolarias, contrasting so vividly with the scarlet Pelargoniums. These grow rapidly, and should be planted about 1 foot apart every way, so as to cover the bed. The herbaceous kinds look well, but are more delicate than the shrubby varieties; the large flowers of the superior seedlings now grown are only fit for days continuously warm and still. Wind and rain soon rob them of their beauty. Fuchsias deserve commendation on every account. They are graceful in their mode of growth, profuse bloomers, and continue gay till the frosts of autumn set in. These are so various in their heights, and in their colours, that they admit of the most charming combinations. Fuchsias have also the recommendation of living through the winter in open ground, if properly protected. From a bed occupied with Hyacinths and Tulips, Fuchsias may protrude without interfering with them.

The variegated Pelargoniums look magnificent in a bed, if varieties are selected for the purpose. They should be carefully trained in pots, and stopped from flowering, until a good compact head is secured; they will then bloom beautifully in a warm summer. Cinerarias admit of tasteful arrangement, and make handsome beds. I presume it is not necessary to say anything of Verbenas and Petunias, as they are found everywhere. Small round or oval beds surrounded with an ornamental edging of basket-work, either of wood or wire, are attractive objects when overflowing with Verbenas or Petunias. Phloxes, Antirrhinums, Mesembryanthemums, &c., form beds of various and durable beauty. The Phlox Drummondi is a great favourite with me, and it continues in bloom as late as anything of a tender kind in the open air. I have mentioned the above because I know how easily and successfully they may be cultivated; what beauty they are capable of producing; and what satisfaction the amateur will derive from a garden supplied with them. They may be all cheaply purchased, as may be seen from the weekly advertisements in the *Chronicle*.—*H. B.*

ON FORCING AIR OUT OF HOTHOUSES AND BLOWING THE FIRE WITH IT.

There is, perhaps, no subject connected with gardening that has been more fully discussed than the heating and ventilating of hothouses, for although heating may be considered one subject, and ventilating another, yet they easily resolve themselves into one, which may be designated the management of the air of artificial climates. To heat without ventilating is to kill by the most effective means, and so well is this matter understood by all who have excelled in gardening, that it were useless to give examples in proof of it. No art of man could regulate the ventilation of the atmosphere so well as the self-acting system that we see constantly at work; for every ray of heat that warms a living leaf causes a dislodgement of the air in immediate contact with its surface. Now this is precisely what we want in practical horticulture, to make the supply of fresh air a necessary consequence of the supply of heat, and however much we may disagree about the means, we must all agree that this would be a desirable end if it could be attained. Again, if to this we could add the cure, or even the lessening of the long acknowledged nuisance of conspicuous smoking chimneys in ornamental gardening, surely it would be a stride in the right direction, and few would cavil at any reasonable means being taken to gain so desirable an end.

In order to disarm any one who may already prejudge this paper, and think that I am coming forward patent in hand to burn smoke, and charge a swingeing remuneration for the secret of how to set it on fire, I may state that I have come forward with nothing of my own, and further, I give advice in this matter gratis. The late Mr. Anderson, of Chelsea, had his fire-place under the stage of his greenhouse, in order that the air taken up by the fire might be taken from the air of the greenhouse, and consequently replaced with pure air. Penn had a system of circulating the air in a hothouse by holes in the back wall of the house and drains under the floor. Now, if the hothouse had been air-tight, nothing could be more certain than that he would have attained the end; for the heated air must rise, and its place must be filled with the air below; but, mark well, no change of air is attempted in all this, no fresh air admitted, no ventilation. And if Penn's system were carried as far, and acted as perfectly as its most sanguine admirers could desire, it would still be in the eyes of calm reason like the puppy which, running round, pursues his own tail with his own teeth; for Penn's foul air was only succeeded by the same, and, whether in the front or in the rear, it was only the air of the hothouse chasing itself about the house.

It was but the other day I boarded one of those small steamers that fly, like gnats, adown and up the Thames, and never having sailed before in craft so small, I was amused to see the jointed chimney folded down to pass the bridges, and had scarcely ended that day's sailing before I heard a Scottish blacksmith make a fearful onslaught upon all tall chimneys in general, and upon steamers' in particular; and, being of a like opinion, I was, for want of any better employment, sympathising with him and condemning dense smoke as a nuisance in every place, by sea and land, when, to the dismay of some passengers, flame issued forth from the top of the chimney of a Gravesend steamer, and I, as well as most of my companions, were of opinion that this flame was continued from the boiler to the top of the chimney, but Mr. Haigh showed that it was not, and entered at some length (which I cannot do here) to explain the reasons for his holding this opinion. Suffice it to say that upon the same principle, or on one very similar to that of an Argand lamp burner, he explained that the smoke would not burn for want of atmospheric air in the funnel of the steamer, and only burnt when the gas got its proper complement of air. Mr. Haigh, it appeared, had got a knowledge of the necessary quantity of atmospheric air to be mixed with smoke to ensure combustion, and moreover had hit upon a plan for securing this desirable end; and I quote from memory when I say that he has obtained a saving in fuel of 30 or 40 per cent. By this system of blowing the fire, after his own fashion, and he was allowed to try his experiments on one of the Government steamers, and made that vessel sail with and against the tide without any smoke funnel on deck, to the astonishment of the watermen on the Thames.

Now, surely, no one will say that the fire necessary to generate steam enough to propel this vessel (formerly one of the Dover packets), would not be as large as any ordinary garden fire, and as wind is cheap enough, and coals dear enough, a saving of 6*s.* 8*d.* in every pound would be a strong temptation of itself, and when to this we add that what smoke is left unburnt does not "cumber upper air," but goes like other filth in a low channel, something after the fashion of pushing the smoke down or up a common sewer; for be it observed it is not allowed a choice, but is forced into the foul air drain by violence. By a valuable application of the same continuous blast-bellows which Mr. Haigh employs, he contrives to get a fire in about a quarter of an hour sufficiently strong to weld an axletree of a waggon; and the fire-box and bellows for this purpose require something much under a cubic yard. Could not such an apparatus be stowed into any ordinary stoke-hole in a garden? and if it were let us see what it could be used for.

The ordinary way of making a fire in a hothouse furnace about London is to cut up a piece of old dry bast matting, and the brush end of an old besom, and then the handle of the besom, and on these to lay coke, coals, &c., and by the time these materials get ignited, Mr. Haigh would have got the iron arms of axletrees at a welding heat; but it does not require any new invention to show the importance and the practicability of this blowing. We have only to look at the common forge in any blacksmith's smithy, and see the smith with about as much live coals as would lie upon the palm of one's hand, and neither bast nor besom, nor furnace bars nor furnace doors, nor any other expensive or complicated machinery, and with this handful of live cinders and his bellows he gets a fire kindled in one minute that sends up a flame a yard high, and this from wetted coals. Such a man may well—

> "Sing hurrah for his handywork
> As the red sparks lit the air."

For all other fire kindlers seem sorry wights when compared with him, and although it is not generally believed or understood, still there is no question as to the facts that wind or air added to fuel ignited is just so much more fuel added, and even water, wonderful though it may appear, makes tidy fuel when it is not put into the fire in excess, and I would only mention one highly important item as connected with this system, and it is this, which for the sake of giving a clear notion of its practicability, I must show in a particular light. It is well known that when a hothouse fire draws strongly we can burn wet ashes to a clinker when they are laid upon the fire, and as wet ashes are perhaps the worst kind of fuel to be found, if we except dry ashes, it is very clear that when we have a strong draught we can use inferior fuel. I have burnt powdered slack (dust of inferior coal) made into balls with common clay and used quite wet, and with these have got the firebricks to a white heat in a frosty night; but such a thing would have been impracticable if I had wanted a small fire in a short time, and still more so if the furnace had had only a weak draught. In short, it would be impossible to burn this kind of fuel without a large supply of air and water added to it. Surely these two latter articles, wind and water, are to be had in most places much cheaper than coals, and if clay is burnt the ashes will be more than a compensation for the interest on the outlay for a bellows.

But I must not forget to mention the fact that a small fire in a common furnace does no perceptible good, and that it is quite possible to burn 20 tons of coals a year quietly in a hothouse furnace, and let all the smoke pass through the flue, without raising the temperature of the house 5° all the while, and many a ton is thus burnt to waste at this time, for it is not the slow draught from about a solid foot of smouldering coke, or dense smoke from coals, that warms a flue at all, this only wastes coal, &c., and a flue cannot be heated to the length of 50 or 80 feet from the fire without a strong draught, or in another phrase, a rush of wind, heated; and if stokers would make always strong fires, and never weak ones, in the furnaces where flues are attached, the old flue system might get a better name, and the coal bills would assuredly be lessened. I need not say that so many puttings-out and kindlings would sadly puzzle those who have kept the fires in for a week smouldering in ashes, that they might be ready when wanted. At all events, it is quite clear that every furnace should have its bars all open, and its small coals wetted, to prevent waste from want of draught in the proper place; for if the draught is above the fire, and not under it, the heated air is carefully diluted with the cold air from first to last, and is consequently weakened in its heating powers in proportion to the quantity of cold air mixed with it; but, on the other hand, if a rush of cold air is passed through the flame from the bars upwards, the fuel that is contained in common air is added to the fuel ignited; and so beautifully is the supply regulated by the demand, and the demand by the supply, that flame creates draught; and want of air, although it may char a stick, will not support flame.

Some experiments made by the late Mr. Knight, and reported in the Horticultural Society's Transactions, on fuel for hothouses, showed that he succeeded better with wet fuel, such as green *fir*, *i. e.*, undried wood, and what might be called coal puddle, than he could with dry materials, to maintain a strong, steady fire. I saw, in one of Chambers's works, that he had succeeded in burning a great deal of the smoke from the furnace of his steam-engine, by feeding the fire with the waste steam from the engine, instead of admitting atmospheric air only. It is pretty clear, therefore, that air and water are necessary to maintain a healthy fire, as well as feeding it with more substantial combustibles. And if Mr. Haigh can produce the same amount of heat with one-third less fuel, and without tall chimneys, by means of ventilating the smoke, or, in other words, adding more atmospheric air to it, surely there is no class in the community that such a discovery so immediately concerns as that of gardeners; and if Vulcan is as civil now and obliging as he was in the days of yore, when he forged the armour for Achilles, it would surely be worth while for the elegant Flora to pass the compliment, and ask him for the loan of his bellows.

Since every ray of sun-heat causes a change of air, I would fain make artificial heat come under the same law; and it is clear enough that if no fire is used for hothouses except that which is blown, as a blacksmith's fire is, and if the fan or bellows that blows the fire is fed by the air of the hothouse, it is very clear that we can admit fresh air from openings in contact with the pipes, and pump the foul air into the fire at the contrary side of the house from the fresh-air openings, that is to have the draught-hole into the fan or bellows in the back wall near the ground, and the small gratings for the admission of fresh air in the front of the house, near the ground, so that the fresh air might enter the house immediately under the pipes, flues, &c.; and with such arrangements, the closer the hothouse is built the better, and if covered at night no matter, for the old gardeners knew well the truth of this when they covered their Cucumber frames with double mats in the long, cold, dark nights, and it did them no harm, but if they shut too close they found the atmosphere unhealthy, and the plants sick for want of the vent peg.

We see stoves advertised that only require attendance once a day; now, if such stoves smoke at all, we have a constant supply of that nuisance all day, and in all slow going fires this fault is discernible; they take too long a time to do the work. Now, when a fire takes fire, it will be found nicely heated all through in quick time, and if a rush of hot air is forced through a flue quickly, the effect will be nearly the same as that when the flue has been on fire; and this rush of hot air through the flue may be got in a few minutes, say 20, from the time that the fire is kindled until the flue feels quite hot; and this despatch of business in such an emergency as that of an unforeseen sharp frost setting in about 10 P.M., is of no small importance. And again on sharp frosty mornings, before a fire can be got to act upon the temperature of the house, it is time for the sun to be up; the temperature by this system would be raised by repeated strokes, short in duration but smart in force; and as for the time required and the attendance, they know little of gardening who imagine that hothouses can be left with impunity for even a quarter of a day; and a perfect command of fire and ventilation is worth attending to.

I do not pretend to give any designs for carrying out this system. I only beg leave to call attention to the subject. I state simply what gardeners require, and what I see that could be of great service to us if it could by any possibility be come at; and

having thus put the raw materials into the hands of the public, it is possible that in time some good may arise from these hints, if it were only the letting of fires out, so as not to smoke after breakfast time, and not to commence a steady stream of smoke again until dark in the evening, and all the day work to be an occasional whiff only, and not that dense smoke from a score of small brick chimneys which is so annoying to the lover of the landscape in the clear cold autumnal evenings. A barn fan costs 40*s.*; a blacksmith's bellows about the same, and a hole in the hothouse wall for a draught, and a tube or blow-pipe leading to the fire, are all that are wanted to give the thing a fair trial; bearing in mind that it has been done and does answer at sea in blowing fires and ventilating vessels, and this is precisely what I want to see us do on land.—*Alex. Forsyth, 3, Park Crescent, St, Mary's Church, Torquay.*

Home Correspondence.

Azaleas.—I have a good collection of Azaleas which I have been so unfortunate as not to be able to bloom this season. I will, therefore, give an account of the exact treatment they have received, and perhaps some of your correspondents will be kind enough to favour me with their opinions respecting the cause of failure. As soon as they had flowered last year they were well pruned, but not into the old wood, three leaves being left on each stem. Any that required potting had then a shift given them, using the following compost: good white sandy peat, very fibrous, and freestone burnt, in order to convert any of the protoxide of iron that might be in it to peroxide of iron. This stone was partly broken into sand, and partly put amongst the compost in small pieces, to which was added a small portion of well-decayed leaf-mould. The plants were well drained and carefully watered during their growth, syringing occasionally. They were put into an intermediate house, in which they were kept until the latter end of July, at which time they had apparently completed their growth, though they were stopped a second time about the middle of June. At the end of July they were placed out of doors in a tolerably shady place, but not under any trees. They had mid-day sun, but not morning and evening. At the latter end of September they were removed to a cold conservatory, and had plenty of air given to them through the winter. They were kept there until they ought to have flowered, but, alas, none ever made their appearance, except on one plant which is now covered. This plant was treated in every respect like the others. Nothing could have looked finer than the plants when they were brought into the conservatory, the pots were not visible for foliage.—*J. M., Manor-house, Wakefield.*

Churchyard Soil.—In the Strand is situated what is considered to be one of the oldest established churches in the metropolis, viz., the Savoy, which bears date as far back as 990. It was thoroughly repaired in 1843. It is said that about the year 1100, there existed contiguous to it a royal palace, barracks, and a prison, in which soldiers who had misconducted themselves were wont to be punished, and in which those who had deserted and were captured suffered the penalty of death, and were interred in large numbers in the churchyard here, which occupies an area of about 60 perches. It appears that money has been sunk to keep the churchyard in order, that is, to keep it green, with the Grass cut short between the grave stones, &c.; but in order to effect this, the surface has to be relaid with turf from the country every year, for although the Grass be vigorous up to Christmas, it regularly dies away by the middle of March, so that there is scarcely a particle or blade to be seen at the return of spring. Now what I would enquire is, can this be caused by the great quantity of ammonia which is said to fall in rains in London? or does the soil upon which the turf is laid contain too much phosphate of lime for a healthy vegetation, arising from human bones deposited there? I am inclined to think the destruction of the Grass is not caused by smoke or gas, for in the German Lutheran churchyard, which is not 50 yards distant, and where but few interments appear to have taken place, the Grass retains its vigour for a long period, requiring seldom to be renewed. I am informed there has not been annually more than 30 interments on an average during the last half century in the Savoy churchyard. A most remarkable fact, which I have from good authority, is, that on the old turf soil which is carted into the suburbs for horticultural purposes, nothing will grow; such things as Pelargoniums, Fuchsias, Mignonette, and even vegetables which have been planted therein, have invariably died, although the soil, to look at, appears very suitable for gardening purposes. I have sent some of the soil, having the last year's turf attached, and shall be glad to have your opinion respecting it.—*G. Geldert.* [We will give this hereafter.]

A Flock of Sea-gulls hovered over this town last night (Sunday), from about half-past 8 o'clock till after midnight, filling the air with their screams. They could not be seen, but their cry attracted the attention of most persons; the night was intensely dark, but over the town the horizon appeared clear from the reflection of the gas lights. Such a phenomenon has not occurred within the memory of the oldest inhabitant. Can any one offer any probable conjecture as to the cause?—*G. K. C., Barnstaple, April 24.*

Mr. Saddington's Mode of Bottling Fruit.—Fill the bottles quite full with fruit not quite ripe; place them, with the corks put lightly into them, into a copper with cold water up to the necks, and gradually raise the temperature of the water to 160°, and not exceeding 170° Fahr. Keep them at this temperature half an hour, then take each out separately and fill it up with boiling water from a kettle to within an inch of the cork. Drive in the cork firmly, tie it over, and dip it immediately into bottle wax, and lay the bottle down on its side to keep the cork always damp. To prevent fermentation turn each bottle half round twice or thrice a week, for two or three weeks; after that they will need no further care. The corks should be soaked in water two or three days before they are used.—*

Diseased Vine Leaves.—When I last year sent for your inspection some leaves similarly affected to the accompanying ones—that is, thickly covered all over on the undersides with little green protuberances—you replied that the evil was caused by damp, and I felt satisfied that this year I should be able to guard against it, by keeping the house drier and having fewer plants in it, but in this I have been disappointed. I ought perhaps to state that the houses are heated by one of Hazard's apparatus, and that the border (an inside one) is composed of turf and leaf-mould, with brickbats, bones, and charcoal in abundance. The roof rises rapidly, and is glazed with sheet glass; it has moreover front and back lights, and one side is glass, so that there is abundance of light. The Vines are young and only some are affected with the disease. The Black Hamburgh especially suffers. I should be glad to know whether the disease is caused by damp at the roots or too damp an atmosphere, or too much damp for the amount of heat given to the house. The Muscats and the Frontignans are unaffected by the disease; but the Black Prince is slightly affected, and, as I before said, the Black Hamburghs suffer the most. The evil cannot arise from want of circulation in the atmosphere, since one of the Black Hamburghs has had its leaves almost continually in motion. The wood formed is round and short-jointed; the eyes are comparatively large, and the wood is already ripening. The drainage of the border is such that when we have examined the state of the latter it has appeared to be moist, but not wet, and occasionally too dry. The Vines have been syringed with water from tanks in each house filled with rain-water. As an advocate for the principle of admitting warm air and regulating the same by the hygrometer, I feel anxious to remove what might be distorted by some ingenious minds into an argument against Polmaise, and to prove by facts that as well grown bunches, and as fine a flavoured fruit, can be produced upon this system as upon that of the hot water, against which, however, I have no prejudice, and which I moreover think may yet be so combined with Polmaise as to insure steadiness of bottom-heat with an improved atmosphere for the plants to vegetate in.—*J. H. H.* [We do not regard this as a disease. It shows that the health of the plants is exuberant, not impaired. It certainly arises from excessive growth, but how caused could only be told on the spot.]

Voracity of the Pike.—This morning my servant saw two pikes chasing each other in our moat. Presently the smaller seized the larger by the head and endeavoured to swallow it, which was of course impossible. Still the captor would not loose hold, nor could the victim escape. In this "fix" they struggled through the water, presenting the aspect of a strange fish with two tails and the head in the middle. Soon they floundered towards the bank, when the man slipped a ladder into the water, walked along the staves and drew the combatants ashore with a rake. I saw them immediately afterwards, and also at a distance before they were landed. We were obliged to kill them before they could be disengaged. In fact I weighed them thus in mortal gripe. Their joint weight was 4¼ lbs. The larger weighed 2 lbs. 13¼ oz.; the smaller, which was endeavouring to make a meal of the other, weighed 1 lb. 6¼ oz. On opening them, both fish proved males, and contained no traces of former prey.—*D., April 25.*

The Common Cock-Chaffer.—Some doubts are expressed at p 256, as to the larvæ of the common Cockchaffer (*Melolontha vulgaris*), peeling the roots of young trees. I can assure you, however, that such is the fact. About 14 years ago, Messrs. Rollisson, of Tooting, had a somewhat large quarter of hardy Azaleas, planted with the greatest care, in peat soil, but to their surprise they became much diseased, and many of them died; in consequence of which it was determined that the plants should be removed. No sooner did they commence to move them, however, than the cause was discovered. Every plant was literally besieged with the larvæ of the cock-chaffer; which had, in many instances, stripped the bark from all the main roots, a fact of which I was an eye-witness.—*C. Wood, Balham, Surrey.* [The cock-chaffer differs from most of our other obnoxious insects in being as destructive in its last as in its first state. The larva generally feeds on the roots of grasses, corn, and other vegetables. "Its food" says Kollar, "consists of the tender roots of different kinds of plants;" he however adds, in a subsequent passage, that they will "*even* gnaw the roots of trees and Vines so as to make them sickly; they do particular injury, in nurseries where seeds are raised, to the young plants. By attentively observing the appearance of the young trees the presence of the larvæ of the cock-chaffer gnawing at the roots can be detected. The plants thus deprived of their roots become yellow and parched, and are easily taken out of the ground. Young Fir trees are not less exposed to the attacks of this insect than deciduous trees. These insects must not be looked for under the already parched up trees, but under those that are in the act of withering, as the former are already deserted for want of nourishment." Kollar recommends as a remedy against the grub a plentiful watering with water, as well as an alternation of manure composed of animal dung, and that of corrosive substances, such as gypsum, saline matters, &c., by which latter method the grubs are killed, or at least are obliged to bury themselves so deep in the earth that they can no longer injure the roots of plants.—*W.*]

Potato Disease.—Last year I bought some Potatoes for seed, which appeared free from disease, but on close examination, I found a few infected, which induced me to try an experiment that proved quite successful, my Potatoes having been sound and free from disease. The dressing, I used was common salt and charcoal ashes. I procured two tubs which hold about 60 gallons each, and I put half a bushel of salt in each tub, I then put 6 gallons of hot water on each half bushel of salt, let it stand a night, and then I added half a bushel of charcoal ashes, filling up the tubs nearly one-third with water. I allowed the whole to stand a few hours, taking care to stir it occasionaly with a stick; I then skimmed off all that had risen to the top with a sieve, and proved the strength of the liquid wtth a new laid egg, adding water until the egg sank gently down, for so long as the egg continued to swim the mixture was too strong. I then put in my Potatoes, all the diseased ones swam on the top, that is all that showed disease at the time, the others sank to the bottom. I allowed them to lay in the pickle 3 hours, more would be injurious to the eyes. I then took them out, and laid them in a shed to dry, sprinkling some of the dry charcoal ashes over them as soon as they were out of the tubs. I turned them over and over, in order to induce them to dry speedily, for the sooner they dry the better. I intend to plant 60 bushels this year, which I have dressed in the same manner, and I trust I shall be as successful as I was last year. The cost is but trifling, two bags of charcoal ashes, which may be had of any charcoal burner for 3*s.* 6*d.*, and 1*s.* worth of salt will do from 100 to 200 bushels of Potatoes, by adding a shovelful of charcoal now and then.—*G. Dean.*

Pigeons v. *Starlings.*—A tragedy of an unusual kind has been enacting during this week in my garden. Some account of it may interest your readers, and, perhaps, be useful to them. I keep a few fancy pigeons; their home is a square box, calculated to hold 16, mounted on a high pole, or rather post, in a retired nook of a kitchen garden much surrounded by trees. A flock of eight starlings had some fortnight ago been observed to be very constantly in their neighbourhood. The gardener had vague suspicions that they worried the pigeons, and on these suspicions four were shot. Positive indications of danger and mischief soon after occurred. Two very handsome young pigeons, fledged, but not able to fly; the offspring of petted parents—the hopes of the dove-house—were found dead, with their eyes pecked out. The starlings were at once pronounced guilty, and the gardener, in wrath, prepared for their extirpation. At the first break of day, he took post secretly with loaded gun to watch the dove-house. The four remaining starlings soon appeared, and settled on an Apple tree close to the pigeons. Three of them, two hens and a cock, remained there on observation, while one (the champion apparently) flew to the dove-cote, and with open beak, extended neck, the feathers erect, and the wings hovering, he charged the male pigeons, uttering all the time a low, crackling sound, the note, apparently, of rage; the females he left unmolested. The male pigeons ran round the ledges of their house, and did not offer the least resistance. This is the more remarkable, because one old cock is unusually pugnacious and brave, and attacks violently the servants if they attempt to look into his hole. After observing the combat for a little while, the gardener frightened off the starling and shot him. In two or three hours the three survivors of the flock returned. The two hens again stationed themselves on the Apple tree. The remaining cock bird proceeded to enact precisely the same scene on the pigeon-house, and he too was frightened away and shot. In the afternoon the two hens came back. In the absence of their champions they too became warriors; one remained again in observation; the other attacked the male, and only the male pigeons, exactly as the cock starlings had done, and she too was driven off and shot. The solitary survivor has not been seen again, but she is watched for, and doomed if she re-appears. None of my friends or neighbours remember such doings except one man, who says he recollects an attack upon a pigeon-house by a large flock of starlings, who drove all the pigeons away and took possession of their domicile, in which, however, the invaders were almost immediately confined and killed. I had the hen bird shot here dissected, but found no appearance of eggs. The time for their incubation, however, approaches, and it seems probable that they had fixed on this small pigeon-house as a desirable capital for a new colony, and had accordingly attempted to drive out the lawful owners and take possession. I have mentioned the cowardice of the male pigeons in allowing themselves to be all driven about helplessly by one little bird which is not one-fourth of their size. It is but fair to mention a proof of their intelligence. They are easily alarmed by the report even of a distant gun, and instantly leave their house and wheel about in high and airy rings of observation. During this war of the starlings they did not however move from their house though the shooter was not 5 yards off, but looked on at the carnage quite placidly, aware, apparently, that the gunner was their protector and his victims their enemies. The sad

moral I am afraid is that all starlings which attempt to become familiar with dove-cotes should be destroyed. P.S. This morning (April 3) the last act of the tragedy finished. The widowed and solitary hen returned and attacked the pigeon-house furiously; she was even seen to enter one of the holes and drive out a fine young cock-bird, which she chased eagerly till she too was driven off and shot. There were four young callow pigeons in the holes during the last week of the war which were not molested.—*Orbatus.*

Ventilation of Hothouses.—An article on this subject in your Paper of the 25th ult., by Mr. Errington, attracted my attention. I am on the point of completing a small range of hothouses, to be heated by hot-water tanks, on Mr. Rendle's principle. Your correspondent says the best mode of ventilation is to admit air in the front wall close to the ground, and let it out at the top of the front wall, just under the eaves of the sashes. Now if this be correct, I fear I have committed a great error in my arrangements, for I have taken an opposite course. I have two separate houses and a Melon frame, all to be heated by one boiler. The house for maturing Pines has in the front wall perpendicular windows, 2 feet high, which hang on joints. The other is 2 feet lower and has no front glass, it being the nursery of the Pine plants. The following is my mode of ventilation of the two houses. I admit air by the front windows or the sashes. Along the back wall there is a 3 feet walk, the floor of which is flagged with a hollow space of about 6 inches, the whole length of this walk, and there is grating let into the flags at intervals. This hollow space under the flags is connected with a flue, which communicates with the back of the ash-pit of the boiler fire-place. The fire is fed from the outside of the house, and there is a door which fits tight in front of the ash-pit, having a small register in it, for the purpose of giving an additional supply of air, should that from the houses prove insufficient to keep up a proper draft. Therefore my plan is to let in air from above, and draw it out below, by the draft of the fire at the bottom of the floor. I shall feel greatly obliged for your opinion on this mode of ventilation.—*Henry Blundell, Hull.* [We are not sure that we understand this. Some such plan might work, no doubt.]

Mutual Instruction Societies.—On Monday evening a public meeting was held at the Pack Horse Inn, Egham, which was attended by many of the influential and scientific inhabitants of the town and neighbourhood. Mr. Sherwood, on being called to the chair, explained the object of the meeting, which was for the purpose of taking preliminary measures for establishing a society for the mutual instruction of gardeners and amateurs. The following resolutions were proposed and unanimously adopted:—"1. In the opinion of the meeting a society for the promotion of mutual instruction among gardeners in this neighbourhood is most desirable, and therefore this meeting pledges itself to use its best exertions toward the promotion of that object. 2. That in order to give practical effect to the foregoing resolution, it is proposed that a committee of five persons be named by this meeting to prepare a code of laws, &c., for the government of the proposed institution, and submit the same to the next meeting." The following were elected as a provisional committee—Messrs. Sherwood, Dodemeade, Gerrie, Whomes, and Crighton.—*J. Whomes, Sec.*

Societies.

Linnean, *April* 18.—T. Horsfield, Esq., M.D., in the chair. Mr. Newport read a continuation of his third memoir on the anatomy of Meloë, the object of which was to show the mode in which the tegumentary structure of the larva is gradually altered in form, and made to assume that of the Devuro-skeleton in the perfect insect. This change was shown to depend on definite laws, which were first noticed by Malpighi and Dr. Willis at the end of the 17th century, and since then fully demonstrated by Geoffroy Saint Hilaire. The view now pursued by the author was the invariable association of particular functions with definite structures in the economy, and that any strongly marked alteration of form in a part is usually, and probably always, accompanied by some change in function. Change of form in an organ was shown to depend on two principles; the one a gradual alteration effected by the growth or the atrophy of its constituent cells; and the other the extension or the reduplication of parts of its texture by the operation of secondary agents, as the action of muscles connected with it. The changes which result from the first of these principles were shown to occur in the tegument in its outer layer, as in the loss of spines and claws in the larva of Meloë in its earlier stages, while the alteration effected by the secondary mode was illustrated in the changes which take place in the whole of the tegument during the metamorphoses of the insects. The mode of origin of the limbs, and of the parts of the mouth in the embryo, was shown to be alike in both cases; the latter being the true appendages of the segments of the head as the former are those of the body, their totally different forms in the adult animal being the result of series of gradual alterations in the course of development of the entire body.

Microscopical, *April* 26.—G. B[illegible], Esq., President, in the chair. J. W. Nyren and G. Bleadine, Esqrs., were elected members. A paper was read, by Mr. J. Quekett, on the application of the microscope to the distinction of doubtful structures. After alluding to the value of the microscope in determining the nature of structures, whose nature could not be detected by other means, the author stated that he had lately had sent him a small portion of a substance which was found nailed to a church door at Worcester. Tradition referred the substance to the skin of a Danish pirate, which, according to a custom in the country, had been nailed there 900 years ago. On examining the substance under the microscope, the author found in connection with it hairs, which, from their position and microscopic characters, he had no hesitation in pronouncing human. After this examination, two other specimens were sent him from churches in Essex (one from Hadstock), on which he found large numbers of human hairs. There were also portions of the skins of persons who had been slain and treated in the same manner as the first. Thus, the microscope had been able to confirm a tradition, and prove a practice which had been doubted by many archæologists. The President invited communications on the preserving powers of glycerine, brought before the Society at its last meeting by Mr. Warrington. He had tried it in one instance with some actiniæ, but it entirely failed. Mr. Warrington stated that unless the glycerine was entirely free from alkali it would not succeed. Several members had tried it with varying results.

THE THICK LIPPED PHAIUS.

(*Phaius callosus* Lindl., *Limodorum callosum* Blume)

This little-known Java plant flowered with Messrs. Veitch, of Exeter, in March last. It has much the habit of P. Tankervilliæ or grandifolius, but its flowers are less numerous, and of a dull, reddish-brown colour, just tipped with dingy white. The lip is white, with a tinge of pink, a dark purple spot beneath, and a little yellow on the two-lobed spur. Its end is truncate, or almost two-lobed, with a thick, callous line, which passes downwards along the middle, losing itself in the part which is rolled up.

Garden Memoranda.

Model Potato Garden.—The Model Potato Garden at Solingen, not far from Elberfeld, in Rhenish Prussia, is one of the curiosities best worth seeing in that interesting manufacturing district. It has been established by that indefatigable struggler against the difficulties of the times, M. Peter Knecht, whose ardour in the cause of the poor was on this occasion stimulated by family recollections, as his grandfather of the same name brought the first Potatoes into the district of Solingen in 1731, from Nantes, in France.

The neighbourhood of Solingen is an undulating highland, and [illegible] public [illegible] Dutch, and English [illegible]

The garden is about 2 [illegible] into [illegible] which runs in the [illegible] are carried in parallel [illegible] plot, running north and [illegible] some of the b[illegible] but the high position, and [illegible] summer, would seem to render [illegible] superfluous. Great care is taken [illegible] ground, and pulverising it as much as possible. An alternation with vegetable [illegible] The manure, chiefly composed of [illegible] with clay and gypsum, to fix the [illegible] over frequently during the winter, and [illegible] upon the land, is mixed with [illegible] disengages the ammonia. With this compost, [illegible] wood, burnt clay, and all other [illegible] to loosen the soil, may be mixed. When [illegible] are used, they are dissolved in [illegible] Fresh stable-dung and [illegible] the experience of the gardener not to be good manure for Potatoes. A compost [illegible] decayed and mixed, [illegible] The selection of the seed is [illegible] Not only should the soil be changed but [illegible] to choose only the healthiest [illegible] well wintered, and, if possible, grown in ground that was not dunged. The [illegible] autumn, and the seed Potatoes kept in [illegible] deal boxes, in a dry cellar.

Amongst the Potatoes in the garden there are some with very short haulm, that are planted in rows 1½ foot from each other: the long-haulmed kinds are in rows 2½ feet asunder. The average produce of the neighbourhood is stated to be, in good years, [illegible] in the rood of 1[illegible] square feet, which is [illegible] to the English acre. What the crop in the garden averages has not been ascertained, as the kinds grown are very numerous and very various in yield. Nearly 500 kinds of Potatoes from all parts of the world have been tried in this garden with more or less success, and the present stock serves as a nursery for the neighbourhood, or is sent to those who know its value even at a great distance. In the bad season of 18[illegible], when there was a total failure in that part of the continent, the following sorts produced in small quantity, but preserving their quality:—A small early Potato from Darfur in Upper Egypt; the large yellow [illegible]; the large white Chili (from seed); a white Potato from Intermedios, Central America (from seed); a red Potato from California; a dark red from Porto Allegro, La Plata, South America; the large black Sago Potato from Nukahiva, New Zealand, said to be improved in New Zealand from the Aracacha of Peru; a white Potato from Nova Scotia; and a long white from Canada (partially damaged), M. Knecht particularly renewing the stock from American seed. Chili, Peru, and Porto Allegro, between Monte Video and Buenos Ayres, he pointed out as the best sources; but praised the [illegible] tawny Potato of Java, which is very scarce, and especially the large black New Zealand Potato, which is both mealy and highly productive.

M. Knecht's little pamphlet lately published on the cultivation of the Potato is a very interesting contribution on the subject.*

Miscellaneous.

Sound made Visible.—[illegible] says that a method has been discovered [illegible] by which sound will be made visible to the human eye. Its various

* M. Knecht names Messrs. [illegible] street, as having a great variety of seed Potatoes.

NEW GARDEN PLANTS, PUBLISHED IN BOOKS.

N.B.—* = Very handsome. † = Second rate. ‡ = Third rate. ¶ = Unimportant.

Name.	Where Published.	Name of Country.	Quality.	Natural Order.	Colour of Flowers.	Time of Flowering.	When first Flowered.	Where.
Stenorhy̆nchus cinnabarīnus......... † *Cinnabar Stenorhynchus.*	Bot. Reg., 1847, t. 65	Mexico	G. ♃	Orchids	Yellow and cinnamon.	July	1847	Loddiges.
Oncidĭum amictum .... † *The Frilled Oncid.*	Bot. Reg., 1847, t. 66	Brazil	S. ♃ (epiphyte)	Orchids	Yellow and brown.	April	1847	Loddiges.
Oncidĭum cūrtum .... † *The Crop-eared Oncid.*	Bot. Reg., 1847, t. 68	?	S. ♃ (epiphyte)	Orchids	Yellow and brown.	July	1847	Veitch and Son.
Oncidĭum pelicānum .... † *The Pelican Oncid.*	Bot. Reg., 1847, t. 70	Mexico	S. ♃ (epiphyte)	Orchids	Yellow	July	1846	Loddiges.
Ionopsidĭum acaūle .... * *The Winter Violet Grass.*	Gard. Chron., 1848, p. 239	Portugal	H. ⊙	Crucifers	Violet	Jan., Dec.	1846	Hort. Society.
Cœlogy̆ne speciōsa .... † *Showy Cœlogyne.*	Bot. Reg., 1847, t. 23	Java	S. ♃ (epiphyte)	Orchids	Brown and white.	October	1846	Veitch and Son.

forms and waves demonstrated to sight, and the power to discriminate between the tones of one musical instrument and another be as complete as that to observe the action of water when disturbed by any material cause. The experiments are likely to be ere long repeated in the Royal Society.—*Athenæum.*

Calendar of Operations.

(For the ensuing Week.)

CONSERVATORY AND GREENHOUSE.

THE gaiety and interest of the floral display in the conservatory need not at this season suffer in the slightest degree. Roses, Pinks, Cinerarias, Pelargoniums, should still be afforded by the forcing-pit. Prominent amongst the many brilliant plants that embellish our greenhouses, stand the Azaleas—the profusion of blossom they produce, of rich and varied shades of colour, their elegant habit and easy cultivation, altogether render them indispensable in every collection. Some care will be requisite, in the event of bright warm weather rapidly succeeding the ungenial time we have suffered lately. In shading and watering many plants which have made an increase of growth, and succulent wood, give air whenever it can be admitted with propriety; syringe and damp the houses only in bright weather. Get forward with potting; as plants for bedding out are established, remove them to a cool frame. Continue to propagate Verbenas, Heliotropes, Salvias, &c. &c., if required. In training plants, avoid making the stakes too prominent, and let the habit of the plant be expressed. Gardenias will now be showing bloom, flourishing in a close atmosphere: a pit with dung linings is most congenial to them. Air must be admitted cautiously, and atmospheric fluctuations avoided.

FRUIT FORCING.

Vineries.—The prevailing character of the weather lately has been that of February, rather than the genial warmth and sunny brightnesss of April; in the absence of favourable circumstances of climate, while the necessity exists of maintaining a temperature proportionate to the advanced state of the Vines, recourse must be had to every artificial appliance to procure a congenial atmosphere. The necessity of admitting air frequently being generally allowed, an efficient and economic system of ventilating hothouses is yet a desideratum: the imperfection of the ordinary plan of ventilating by the front and back lights will have been felt by all necessitated to its adoption during the late cold and gloomy weather. *Pines.*—Keep up the heat in the linings of succession pits. Any depression of temperature during the early growth of the plants, by checking their progress, will be likely to inflict serious injury upon them. Beware of excessive bottom-heat. Water frequently, in proportion to the activity of the plants. Attend to stopping and training Peach trees; forward shoots having been stopped, laterals will be produced, which must also be stopped early. Keep the soil within the house (the tree being planted inside) stirred, or under the shade it is apt to get sour and green with damp. *Melons.*—On no account allow any diminution of heat in the Melon pits. See to the linings; the cold and frequent rains have probably chilled them. Examine the plants frequently; stop laterals early. The fruit is injured by the sudden removal of a quantity of leaves.

FLOWER GARDEN AND SHRUBBERIES.

Whilst the weather remains damp and cold, many operations will of necessity be retarded. Make up arrears of work with all speed as favourable occasions arise. Rolling and mowing should be proceeded with unremittingly. Newly laid turf should be levelled and rolled now the ground is damp, that an even surface may be obtained. Cold weather may yet be anticipated, therefore beware of exposing tender plants too soon. Prick out annuals, and proceed with all preparations for embellishing the flower garden. Visit shrubs lately transplanted, and see that the earth is well closed over their roots; support, if necessary, with stakes. Roses must be visited frequently, and the removal of superfluous buds effected.

FLORISTS' FLOWERS.

We often feel grieved at the inextricable confusion which appears to have operated prejudicially in the Tulip fancy. We have varieties known on one amateur's bed which probably have a widely different designation in the collection of his neighbour; this we know to be the case in many metropolitan collections, and, from what we learn, the north-country growers are in a similar predicament. We know of nothing which would confer a more lasting benefit to the fancy than some first-rate florist to examine the different collections during the ensuing bloom, and give the synonymes, &c, by which many of the new leading sorts are known. This would not be a work of very serious difficulty, and, we are sure, would confer lasting obligation. These beautiful flowers must now be sedulously attended to; the hoops, which have supported the nets, should be moved higher up, or the stems will be apt to be drawn. The sticks for support should be inserted one to every four stems; to these sticks Rowland's metallic wire should be attached, one end encircling the stem of the Tulip; this keeps them erect, and prevents damage by wind, &c. *Carnations and Picotees.*—The sticks to which the shoots which spindle for bloom are to be attached, should now be inserted in the pots. Seed must be sown in boxes or shallow pans immediately. Attend to the top-dressing of Pinks and the propagation of Pansies. Seedlings of the latter which have any very decided good properties, should again be seeded from, in order, if possible, to combine the improvement with other good qualities; it is only by degrees that perfection is attained.

KITCHEN GARDEN AND ORCHARD.

The continuance of cold, wet weather may well excite apprehensions for the safety of several important crops in the vegetable garden. Early Potatoes, on their appearance, must be protected. Ascertain as soon as possible the extent of the failure of any crop, and repair it speedily by a repetition of seed. In carrying out the arrangement for the distribution of vegetables, secure a warm dry rich spot for Kidney and Haricot Beans; a position comparatively sheltered and moist for summer Peas and Beans; and in the later sowing allow increased room between the rows for Broccolies and winter greens. Early Peas and Beans coming into bloom may be stopped. Reserve a cool, shady spot for summer Turnips and Lettuce. Employ lime and soot and sharp eyes against slugs, and keep the hoe employed in repressing weeds. Sow French Beans and a few Scarlet Runners; prick off Tomatoes and Capsicums. Trained fruit trees, especially Peach and Cherries, require especial and particular attention at this season in regard to stopping, disbudding, &c.; the chilling effects of the prevailing weather may reasonably be feared; any injury from green-fly, in addition, should be averted by all means. Inspect regularly all grafts and buds, adopting every means available for their preservation.

State of the weather near London, for the week ending April 27, 1848, as observed at the Horticultural Garden, Chiswick.

April.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 21	17	29.507	29.442	54	46	50.0	N.W.	.09
Satur.. 22	18	29.553	29.447	54	41	48.5	N.W.	.02
Sun. .. 23	19	29.679	29.653	60	44	52.0	N.E.	.04
Mon... 24	20	29.823	29.619	50	39	44.5	N.E.	.08
Tues... 25	21	29.862	29.827	50	29	39.5	N.	.01
Wed... 26	((	29.923	29.761	54	26	40.0	N.E.	.00
Thurs. 27	23	29.899	29.795	57	30	43.5	S.W.	.10
Average .		29.753	29.648	54.1	36.1	45.4		.33

April 21—Drizzly; overcast; rain at night.
— 22—Rain; drizz y; partially overcast.
— 23—Fine; overcast; rain.
— 24—Overcast; drizzly and cold; overcast.
— 25—Densely clouded; cloudy; overcast.
— 26—Slight frost early A.M.; fine; cloudy.
— 27—Frosty; clear; showers; partially overcast; rain.
Mean temperature of the week, 3½ deg. below the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending May 6, 1848.

April and May.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 30	63.7	42.2	52.9	9	0.31 in.	2	2	3	1	3	4	2	3
Mon. 1	64.3	42.0	53.1	9	0.51	1	2	4	2	3	4	4	—
Tues. 2	65.5	43.0	54.2	7	0.72	1	2	5	—	3	4	3	1
Wed. 3	64.4	43.2	53.8	11	0.50	1	—	4	1	4	4	1	3
Thurs. 4	64.7	43.0	53.8	8	0.70	3	4	5	—	3	2	2	1
Fri. 5	64.2	43.3	53.7	14	0.25	3	3	1	3	7	3	1	1
Satur. 6	63.9	41.0	52.4	10	0.48	—	5	—	2	3	5	3	1

The highest temperature during the above period occurred on the 6th 1830, and 4th, 1833—therm. 81 deg.; and the lowest on the 5th, 1815—therm. 27 deg.

Notices to Correspondents.

*** THE TREE ROSE.—At the request of numerous subscribers, the price of this work has been reduced from 4*s.* 6*d.* to 3*s.* 6*d.* (post-free), reprinted from the *Gardeners' Chronicle*, with additions, is now ready. Published at the Office of this Paper.

APPLES—*W White*—Your seedling Apple, which you state to be excellent for culinary purposes, bears much resemblance to Dumelow's Seedling, which is also known to be of first-rate quality. Whether or not your seedling excels it can only be ascertained by a comparative trial of both.‖

BACK NUMBERS.—One shilling each will be given for the following Nos.:—1841: Nos. 3, 4, 5.—1842: 35.—1845: 16, 32.—1846: 2, 44.—1847: 50.

BOOKS—*M G*—Bevan on the Honey Bee ‡

BUGS—*A Subscriber*—Pull down all loose paper, remove all loose plaister, remove all old carpeting, &c., and *consume them with fire.* Fill up all plaister cracks with plaister of Paris and corrosive sublimate. Fill all cracks in woodwork with corrosive sublimate and putty; fill all crevices in the floor with soft soap and corrosive sublimate. Fill all cracks of furniture with the latter; ditto the joints of beds, and you will exterminate the bugs; not otherwise.

CAMELLIAS—*Storrington*—We do not know what is the matter, unless the plants are watered with something which disagrees with them.

CUCUMBERS—*S H*—Your seedling Black-spine Cucumbers are fair specimens for the season, and, though rather too long in the neck, if a good bearer, the variety will prove desirable. ‡

DAHLIAS—*W J D T H M*—Procure Prockter's Nonpareil, Hudson's Princess Royal, Chater's Crimson Perfection, Essex Triumph, Essex Bride, Keynes' Yellow Standard, Turner's Berryer, Keynes' Standard of Perfection, Gaines' Princess Radziwill, Raphael, Girling's Indispensable, Lady St. Maur, Mitchell's Mrs. Shelley, Bermondsey Bee, Marquis of Worcester, Edwards' Miss Sarah, Teebay's Fulwood Scarlet, Turner's Louis Philippe, Scarlet Gem, and Miss Vyse; Bragg's Antagonist, Trenfield's Admiral Stopford, Mitchell's Beauty of Sussex, and Perpetual Grand.*

DECODORISERS—*N K*—We do not find that the Metropolitan Sanitary Commissioners have any particular information as to cheap water-closets, or that they know anything of those mentioned by "N. K." We believe they have none at present that they consider as satisfactory, or that do not require to be improved upon.

FERNS—*W W S*—Mr. Smith's observations are to be found dispersed through several numbers of Hooker's "London Journal of Botany."

GRAFTING VINES—*Sub*—As soon as your Vine has broken into leaf, graft opposite to a young shoot; stop this shoot when it has made two joints, and cut it off entirely when the graft has pushed.‖

GREENHOUSES—*Novice*—We are quite unable to give plans. You will find many in our previous volumes. Let the breadth of your house be 12 feet, angle of roof 30°, size of panes 8 inches by 12, with laps as narrow as the thickness of the glass.‡

GREENHOUSE PLANTS—*Cockney*—In your window greenhouse you may grow Epacrises, Corræas, Acacia armata, Genista canariensis, Diosma ambigua, Pultenæa stricta, Myrtles, General Tom Thumb and other Pelargoniums, Cinerarias, Fuchsias, Primroses, and spring bulbs.‡

HEATING—*Sub*—Do not use any boiler, but Polmaise your house.
——*F A*—Rogers' conical boiler is a very good one.

INSECTS—*A B*—Sink some pottles of damp moss in the corners of your frame, and examine them every morning, as the wood-lice will congregate there in great numbers. *W.*——*R C*—The minute insects found in such myriads upon the Ivy are a species of Acarus, allied to the red spider. We do not think it likely they will attack the Wheat, and question whether it be the same species as that found on the Ixias. Gas-tar water, or some oily mixture, would be found serviceable in checking their ravages. *W.*——*J G S*—Your Holly leaves are attacked by the grubs of a small two-winged fly (Phytomyza Ilicis: see *Gardeners' Chronicle*, 1846, p. 444), which feed between the two surfaces of the leaves. They do not appear to injure the tree, although they certainly render it unsightly. We know no other remedy than to pinch the leaves in the diseased parts, so as to kill the inclosed grubs. *W.*——*B W G*—The grubs sent are those of the common daddy-long-legs, or crane fly (Tipula oleracea), which often do much mischief by eating the roots of plants. See the next answer. *W.*——*Y X*—The grubs sent are those of the daddy-long-legs. We were not before aware that they were able to *perforate* the stems of such trees as Wistaria. A strong solution of gas-tar water, or a weak one of corrosive sublimate, will destroy these grubs; but care must be taken to use the latter so as not to touch the roots of plants, which would also be destroyed thereby. *W.*

NAMES OF PLANTS—*P B*—1, Acriopsis picta; 2, Vanda fusco-viridis; 3, Vanda lamellata.——*Hortensis*—The beautiful thing is Anemone pavonina.——*Sub*——If A—— b—— is shown by "X." to be the same plant as C—— d—— (earliest name), and "X." publishes the specific name d——, coupling with it the name of another genus (established) different from C——, to which it was found to belong, and which may be called E—— (himself not defining his E—— d——, but merely pointing out its being the same plant as C—— d——, and incidentally alluding to some of its distinctive points), then "X." becomes the authority for the name E—— d——, and not "Z.," who afterwards adopts E—— d——, and compiles for and adds to it a specific character.——*F A*—1, Aubrietia deltoidea; 2, Geum rivale; 3, some Saxifrage; 4, Anemone Pulsatilla; 6, Lamium maculatum; 7, not sent; 8, Pulmonaria grandiflora; 9, Arabis alpina. Vile specimens.——*L*—Looks like a bit of Berberis glumacea.——*T D*—1, Ornithogalum nutans; 2, Saxifraga crassifolia; 3, Kerria japonica.——*A K*—Pultenæa juniperina.——*M B*—We are obliged by the information: but we must repeat that the name Salvia dulcis, which is botanical, is unknown to botanists.——*E R*—Amelanchier Botryapium.

PELARGONIUMS—*P S*—Sidonia is not a new flower; some years since it was exhibited among the regular Pelargoniums, but the form of the flower being very deficient, it was withdrawn from the competing collections. It was last season shown among the fancy sorts, but the growth of the plants do not appear to be sufficiently compact for the purpose.*

SHRUBS—*E F L*—Take any of the following for your mild climate:—Ceanothus divaricatus, Chimonanthus fragrans, Caprifolium gratum and flexuosum, Jasminum humile, Solanum crispum, Bignonia capreolata and radicans, Magnolia grandiflora, Berberis dulcis, Forsythia viridissima, Berberis trifoliata, Eriobotrya japonica, Photinia glabra and arbutifolia, Stranvæsia glaucescens.

TURF—*G G*—Much obliged; we will mention it next week.

VINES—*Country Gentleman*—"Roberts on the Vine;" Royal Muscadine, Black Hamburgh, Black Prince, Josling's St. Alban's, White Muscat of Alexandria, and Oldaker's St. Peter's will form a selection of early and late sorts.‖

WALL PLANTS—*J D*—The following are half a dozen evergreen flowering plants: Magnolia grandiflora præcox, white; Berberis fascicularis, yellow; Ceanothus thyrsiflorus, blue; Cotoneaster rotundifolia, Mespilus pyracantha, red berries; and Laurustinus, the latter for flowering in winter.

WATER PLANTS—*Clio*—Cyperus Papyrus and Nymphæa azurea will perhaps suit you.

MISC—*A H*—Doubtless your Berberis ilicifolia is wrongly named, as all the nursery plants have been for many years. The true B. ilicifolia deserves the good character that it bears. We doubt whether you will obtain Crithmum in any nursery. Try the Botanic Garden, Cambridge.——*A Regular Subscriber*—We regret to say that we cannot procure the information you ask for, except upon doubtful authority, which we distrust.——*P W*—The common Gorse flowers at no stated times. It flowers at any season in damp, mild weather, as in Cornwall, where it is in blossom all the year round.——*Amateur*—Camellias and Azaleas are greenhouse plants. Use white glass for your conservatory. ‡——*Z Z*—Good rich loam is suitable soil for Heartsease. ‡——*Ignoramus*—Sow your Himalayan Conifer seed in shallow pans, in pure yellow loam, and place them on a gentle hotbed till they have come up; then remove them to a cold frame. Much depends on the season, but we should think it is rather late now to sow Beans for seed. ‡——*W H*—In your case we should think your Cucumbers become mildewed through want of sufficient ventilation. ‡——*R M*—To kill worms on lawns use lime-water, on gravel-walks corrosive sublimate. ‡——*Croydon*—Water your ground with lime-water, but do not plant for a day or two afterwards, till it dries a little. Your seedling Pansies will bloom this year.‡——*Alpha*—We should think your Roses will bloom this season; but of course the display would have been finer had they been potted earlier.‡——*Sub*—Weigela rosea, Forsythia, and Spiræa prunifolia, have proved perfectly hardy near London——*C K*—We must know what your plants are before we can tell you how to treat them. Your Seakale will not taste of dung if you prevent the latter from touching the plants.‡——*Constable*—If your garden is in Lincoln's-inn it is probably slugs that eat off your Carnations; but if it is in the country it is probably rabbits or hares, which are very fond of them. For the former sprinkle quick-lime round the plants, and for the latter fence the beds with tar twine. To kill worms on a lawn use lime-water. A bed of Pansies and another of General Tom Thumb Pelargoniums—the latter pegged down—will probably suit you. ‡——*F H S* is misinformed by his bookseller. The volume for last year may be had at the office.

SEEDLING FLOWERS.

CINERARIAS—*G R*—Lady Tamworth, a crimson flower, having a narrow ring of white round the disk, is a good variety. The petals are short, broad, and well formed. No. 1 is a pretty flower, superior to 3, which faintly resembles No. 1 in in colour. 2 is very fine in colour, but the petals are too narrow.*——*T B S*—Both your seedlings are small flowers. 2 is very superior to No. 1 both in colour and form. We have the same rich colours in flowers double the size of your specimens.*——*J E*—Both your seedlings are good flowers, and rich in colour. The Beauty of Eccles, a deep rich purple crimson, having broad petals, but deficient in wanting a little more regularity in their position round the disk. Revolutionist: This is two degrees lighter than the former flower, brilliant in colour, but the same observations apply in regard to the placing of the petals.*——*S B*—The flowers of your seedlings are very small; they are compact and well formed, and varied in colour, but we consider their size a defect.*

NEMOPHILA—*B B*—We can only repeat that the specimens sent are large fine flowers, and so are many others. ‡

PETUNIAS—*E T*—Your seedling is a small and pretty variety, rosy purple with white throat, which gives it a lively appearance. If the plant is dwarf and a free bloomer it will prove an acquisition for the border or for bedding.*

POLYANTHUS—*G A*—Your seedling is a handsome flower, fine in colour, and neatly formed. Being a large flower, we think the ridge round the tube should have been a little more elevated, and the divisions which form the flower into segments are cut too deeply into the eye, which is regarded as a blemish. In colour, general form, and neatness, it is a very desirable variety.*

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those numerous correspondents, the insertion of whose interesting contributions is still delayed.

PATENT FLEXIBLE INDIA-RUBBER PIPES and TUBING for RAILWAY COMPANIES, BREWERS, DISTILLERS, FIRE ENGINES, GAS COMPANIES, GARDENING and AGRICULTURAL PURPOSES, &c.

THE PATENT VULCANISED INDIA-RUBBER HOSE PIPES are made to stand Hot Liquor and Acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible), and as they require no application of oil or dressing, are particularly adapted for Fire-engines, Pumps, Gas, Beer-engines, Gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes from ¼ inch bore upwards, and of any length to order.

Vulcanised India-rubber Garden Hose, fitted with brass taps, copper branch, and roses complete, ready to be attached to Pumps, Water-butts, or Cisterns.—Sole Manufacturer, JAMES LYNE HANCOCK, Goswell Mews, Goswell-road, London.

N.B.—Vulcanised India-rubber Washers of all sizes for Joints of Hot-water and Steam Pipes, and Vulcanised Sheet Rubber, any thickness, for all kinds of Joints, and other purposes.

IMPROVEMENT IN FARMING IMPLEMENTS.

LINSEED CRUSHER, simple in construction, for hand or horse-power, 11*l.* 11*s.*; ditto, doing Beans, Linseed, and Oats, by the same engine or horse-power, 10*l.* 10*s.* A smaller Implement for Linseed only, 7*l.* 15*s.*

THRESHING MACHINE.—A Four-horse Power, doing from 25 to 35 loads of Wheat-straw per day, without damaging the straw, may be had of MARY WEDLAKE and Co., 118, Fenchurch-street, opposite Mark-lane, London, (references to numerous persons farming extensively, and who use this new machine), price 60 guineas. Smaller machines at a less price.

GORSE-BRUISING MACHINES, price 10*l.* 10*s.*, will prepare 40 to 50 bushels of food a day for cows, horses, and other cattle.

MARY WEDLAKE & CO.'S CHAFF-CUTTING MACHINE will do 100 or 200 bushels a day. Price 7*l.* 7*s.*, and a smaller machine 5*l.* Horse-hoe, Dressing-Machine, Turnip Cutter, Turnip-Drill, Stubble-rake, Oil-cake Breaker, Bean and Oat Crushers, Essex Ploughs for two Horses, Subsoil Plough, Double Field Roller, &c. Hay-making Machine, 11*l.* 11*s.*

MARY WEDLAKE and Co., 118, (The City of London Repository for Agricultural Implements), Fenchurch-street, opposite Mark-lane.

CHEAP AND DURABLE ROOFING.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

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The Agricultural Gazette.

SATURDAY, APRIL 29, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY, May 3 { Highland Society of Scotland. / Agricultural Society of England.
THURSDAY, — 4—Agricultural Imp. Society of Ireland.
WEDNESDAY, — 10—Agricultural Society of England.
THURSDAY, — 11—Agricultural Imp. Society of Ireland.
FARMERS' CLUBS.—May 11: London, Claydon.—May 6: Newcastle, Durham, Melrose.—May 9: W. Hereford.—May 10: Faversham.—May 12: Hadleigh, St. Austell.—May 13: East Kent.

"THERE never was a time more necessary than the present for a bold, vigorous, and determined effort on the part of the agriculturists of Ireland." Such is the appropriate opening sentence of a lately published pamphlet,* which offers "a certain means of removing Irish distress." And it is not too much to say that the general adoption of SPADE HUSBANDRY—which this publication advocates—on the numberless small farms in Ireland, would have a most beneficial influence on the condition of the people. It would displace 400,000 horses by at least 400,000 men. The labour and cost (saved) of the former would employ and pay for the latter. And if it be fair to assume that the present careless horse husbandry of the small farmers of Ireland would be replaced by energetic and careful hand cultivation, there can be no doubt of the immensely increased and productive fertility which it would occasion. But we fear that such an assumption is not a just one—the habit of industry requires to be engrafted—perhaps the motive to it needs to be conferred—upon the Irish people. We can conceive, however, of nothing so likely to produce this desirable effect as succes ful examples thickly scattered over the country of farms managed as Mr. YULE recommends: these being the texts, Lord CLARENDON'S agriculturists as the preachers would surely effect a most salutary alteration in the agricultural condition of Ireland.

The pamphlet to which we thus draw the attention of our readers, they will find full of practical matter on the details and costs (which, for our neighbourhood, are, however, put too low) of manual husbandry, and the whole written in the earnest style of one practically acquainted with his subject, and fully impressed with its importance.

IF there be any party concerned in agriculture that can consistently contend for TENANT RIGHT LEGISLATION, it is that which includes the agricultural labourer and the consumer of agricultural produce. These are both interested in the improvement of cultivation, but are unable to urge it forward except by legislative interference, and, the policy of such interference apart, their representatives can at all events urge their interests as an intelligible argument for it. But the position of the tenant farmers, we submit, is altogether different. How can those who have contracted for the loan and use of land, desire for *themselves* with justice any alteration in the existing law, when there is already sufficient legal security for all the rights which their contracts may respectively signify? A contract necessarily defines the relative position of the parties to it, and when it has been concluded between them, no alteration in its terms, nor addition to them, can be made without the mutual consent of the contractors. There can be no "right" in any scheme by one of them for forcing his alterations upon the other? And though the legislative interference which is demanded, having reference merely to future contracts, should not disturb any existing bargains, yet so far as regards the advocacy of it for the interest of tenants, who already have the terms of all future bargains in their own hands—can it be deemed otherwise than a work of entire supererogation?

The idea of it in the abstract we consider to be based upon an altogether mistaken theory of government, which can no longer be regarded "paternal" when its "children," having attained mature age, will not be hindered from determining for themselves the relationships between them The demand for it by the occupiers of land we look upon either as unjust towards landowners or absolutely unnecessary. And to the claim of others for the fruits of that perfect husbandry which it is expected to foster, we would oppose the assertion—as capable of proof from experience, as it is of demonstration *à priori*—that these will the most readily ripen, with the greatest luxuriance too, under a free and unconstrained growth of the stock. "The landowner may not understand his own interest, or may be too obstinate to follow it; but necessity will teach him it sooner than Parliament can; and all his prejudices will melt away before the sun of unlimited competition" On those who still contend for Tenant Right legislation we would urge the difficulty or impossibility of applying it, even were it generally approved: to this, in past articles, we have already referred.

Tenant Right, notwithstanding, we agree with the most enthusiastic of its advocates, ought to be greatly extended; the word should mean vastly more than it now conveys: and hereafter, when tenants shall have learned their true position, and landlords shall understand their true interests in the matter—it will be a reality in its fullest meaning, *de facto* as well as *de jure*. But it will be attained, not by enactment, but by its gradual extension as a matter of voluntary agreement, *i. e.*, of demand on the one side, and grant for value received on the other. The letting of land ought to be, and on the average no doubt already is, a purely mercantile transaction. Its owner, knowing the market value of the article, with the ability and intelligence of its proposed tenant, and the latter, also knowing the value of the land, and the risks to which his capital invested in it is liable—they come to terms for its occupation. Diminish those risks, and the rent will rise; remove them altogether, and the occupation of the land will then have attained its maximum value. This is obviously true as a general rule; but, of course, every case must be decided on its own merits: and it must be remembered that the landlord runs a risk as well as the tenant. When the skill and means of the latter are abundant, he will necessarily obtain the most favourable terms: and when the intelligence of both the parties is undoubted, the most liberal specification of "Tenant Right" will be entered in the contract between them—not merely because the risks of both are then at their minimum—not merely as the interest, but as the immediate consequence of that intelligence which perceives the interests of both the contractors to depend on the success of their united efforts to increase the fertility of the land.

LETTERS ON RAILWAYS AND AGRICULTURE,
IN LINCOLN'S HILL.—No. I.

THE effect of railways upon agriculture is a most interesting question. For many years the prejudices of the rural population prevented them, and even now prevent them to a certain extent, from making full use of the powers placed within their reach. It is true that in every estimate of traffic for a new railway, agricultural produce figures very prominently. Not only are large calculations of convenience and profit based on such obvious sources as the conveyance of sheep, oxen, swine, Wheat, Barley, Oats, Potatoes, and Hay, but we hear a good deal of lime, chalk, gypsum, and town manures, although in the great majority of cases nothing more is heard of these fertilising ingredients after the bill has received royal assent. Even the conveyance of cattle and crops has not been developed to anything like its possible extent.

For this comparative neglect there are many reasons; amongst others, passenger traffic exceeds in importance the original expectations of railway projectors.—At the great terminal stations, arrangements have not usually been sufficient for the full accommodation of rural produce.—While railway companies were not their own carriers, they objected to take charge of miscellaneous freights.—Cattle pens were not provided in sufficient numbers, and there were difficulties about warehouse room.—Railroads terminating in Manchester, where the consumption of flour is enormous, were compelled to refuse traffic for want of room to store it, pending applications for leave to purchase additional station warehouses; on what scale may be conceived from the fact that Manchester and Leeds, which have always paid great attention to local traffic, have had 11 acres of flour sacks, packed in double rows, in their warehouses at one time.—The road-side stations were not at first adapted for the use of local agricultural traffic. It was not until the advent of Mr. Hudson to the Eastern Counties direction that any attempt was made by station arrangements, in sheds and corn warehouses, to take the contents of farmers' carts off the road. The charges for conveying stock short distances are generally prohibitive as regards villages or towns within 10 miles of each other. But the greatest obstacle to the ample use of railways has been the want of plan and co operation among the agriculturists themselves. A siding for the convenience of a rural parish, by which the contents of trucks of manures and draining tiles might be got on the land, is a rare arrangement. The Manchester and Leeds, under Captain Lawes's management, used to convey loaded carts or trucks to market as other lines do private carriages: but I am not aware of such an arrangement having been carried out on any other line. The Great Western intersects a fine agricultural district: perhaps, as far as natural fertility is concerned, the finest in the kingdom, but you see no agricultural conveyance along the line except on a large scale. No carts on trucks, no single cow and calf carried 10 miles to market, instead of being driven, and driving Hodge mad, while wasting a long day. The whole business of that line is done on a wholesale not on a retail principle. Now it is the retail principle that would most benefit the farmers of England. They have need of every assistance, and this assistance they may obtain if they will combine to obtain it.

Within less than 12 months British-grown grain will have to encounter the competition of the whole world. There can be no doubt that the effect of this competition will be to reduce the average price of grain, and in proportion to reduce the profits of our farmers. The only compensation for diminished price must be found in increased produce and diminished cost of production. A long and friendly acquaintance with farmers in all our principal counties has convinced me that although it is very easy for amateur dilettanti economists to prescribe science, Liebig, chemistry, draining, subsoil-ploughing, &c., as infallible remedies for the pocket disease produced by Wheat at 36*s.* a quarter: it is quite impossible by any off-hand process to turn old-fashioned farmers into chemists and natural philosophers, even if they had sufficient capital and confidence to carry theory into practice. I should be very sorry to see that worthy, hospitable race reduced to ruin, and I think their real friends will do well to propound some plain practical scheme for assisting them, instead of the cold comfort of scientific generalities.

It is a curious fact that in England and Wales (I leave Ireland out of the question as a thoroughly impracticable country), we have specimens of the very worst as well as of the very best farming. We have afforded breeding stock, seed, treatises, models, and Scotch bailiffs to the whole world, and have yet specimens of cultivation that would disgrace a French peasant or a Baden bauer. In some districts, especially those where a light soil gives no choice between large farms, much manure and numerous stock, or no cultivation at all—as, for instance, on the eastern coast—good farming is the rule. But in other counties the example of able, eminent, and enthusiastic agriculturists has scarcely extended beyond the bounds of their own domains. Devonshire has the benefit of the precepts and example of very distinguished agriculturists among resident noblemen and gentle-

* The Importance of Spade Husbandry, and General Manual Agriculture, &c. By Alexander Yule. James McGlashan, 21, D'Olier-street, Dublin.

men; yet in both the north and south of that county you may see estates divided into farms on the hodge-podge, no-principle, that gives the tenant a field or two in every quarter of the parish, each field surrounded by banks and hedges 6 or 7 yards in breadth, and full of trees—capital harbourers of vermin, game, and absorbers of light, air, and fertility — undrained, with scarcely a gate that will open and shut properly. The fold-yards half stocked, the manures wasted, the young stock kept low in condition, the land impoverished by a succession of exhausting crops, foul with weeds, long lines of straggling, ragged horses, under the conduct of a boy, dragging clumsy ploughs, and every other farm implement of the rudest kind.

The Earl of Devon took great pains to improve the style of agriculture in the neighbourhood of his Powderham estates, circulated tracts and encouraged farmers' debating societies. In the Exeter Papers his followers were heartily abused for abandoning the copse-like hedgerows of their ancestors, and lending their ears to innovators on the ancient rule of thumb. But it is not necessary to travel so far as Devon; in Bucks, close to the metropolis, there is plenty of stiff clay land farmed most wretchedly within sight of examples of the most successful scientific cultivation; and landlords there treat with indifference, and farmers with horror, propositions for introducing the deep-draining and subsoil ploughing on lands which, now drowned and soured by winter's rains, would by those processes be doubled and trebled in fertility. In Suffolk the use of lime is thoroughly understood; but little fields averaging six acres, with enormous hedges, lose more in copse shade than they gain in lime.

It is now more than 70 years since the scientific farming Lord Leicester, then Mr. Coke, changed East Norfolk from a desert into a succession of garden-like farms, trebling and quadrupling his income, and making the fortune of his tenants; and nearly the same period since the Northumberland moorlands were quadrupled and quintupled in rental by the enterprise of the Messrs. Culley, and yet our agricultural reformers still find great difficulties in inducing the farmers of certain districts to commence on the very A B C of improvement.

It is true that the experiments and precepts of some much-talked-of improvers are so extravagant, that cautious, sober-minded men may stand excused if they doubt the merits of a system promulgated by such prophets. For instance, as an experimental farm, no doubt the Tiptree estate has rendered essential service to the cause of scientific agriculture; but we may be permitted to doubt whether on so small a scale as 200 acres, the steam engine, the extensive buildings, and all the expensive implements provided by Mr. Mechi, have left a profit, unless in the sale of the razors of the ingenious proprietor. As to the reverend gentleman of Dorsetshire, who has concluded a series of startling lectures on stock feeding by proposing to fatten pigs with a pound of bacon in addition to greens daily, such propositions may be very amusing after a certain quantity of port wine at an agricultural dinner, but there can be no doubt that they are calculated to bring the science of agriculture into contempt, and to strengthen the prejudices of the rule of thumb school.

Some of our best farmers are of opinion that the ingenuity of our agricultural implement makers has been carrying them too far; that they have been producing machines too complicated, in attempts to perform too many operations at once, too liable to be deranged, and consequently too expensive for general use; and that we shall have to improve in the direction of simplicity. It is a curious fact that after a variety of very complicated machines for cutting chaff and for slicing Turnips had been elicited by the prizes offered by the Royal Agricultural Society, two instruments were produced, which were at once admitted to combine the most useful qualities, which had been in use in obscure localities for between 20 or 30 years.

With respect to railroads, certainly the invention which, next to Turnip culture, has conferred the greatest benefit on the farming interest, there is a great difficulty in ascertaining the value of that benefit in any particular locality. There are no records of our home trade, and no statistics of our agriculture on which it would be possible to found calculations. For instance, we know that on the eastern coast, the straw-yards (where that manure is made, which is one of the main principles of successful cultivation) are filled by lean cattle imported from Devonshire, Herefordshire, Yorkshire, Scotland, and even Ireland. These beasts formerly travelled at the rate of 10 miles a day along the roads, under the care of drivers. They are now despatched by rail in as many hours as days by the road system, one man doing the duty of five, without dogs. A case was recorded in the local papers a few months since, in which 400 beasts, within 24 hours, found their way from Carlisle to Norwich—from the moors of Cumberland to the Turnip farms of Norfolk, without the loss of a beast or a pound of flesh. When we remember that these same beasts, fattened, would be conveyed to Smithfield market with equal ease, safety, and celerity—the gain in meat, not lost in carrion, to the country, and in profits to grazier, farmer, butcher, and consumer, may be taken as a sample of many hundred unchronicled transactions of the same kind every year.

(To be continued.)

FOSSIL GUANO IN THE GREEN SAND.

It is likely that some of the articles lately published on the subject of the fertilising properties of the fossil substances found in the green sand beds in Surrey and elsewhere, may create exaggerated notions of their value as manure; and on the other hand it is desirable that the subject should be more fully investigated, and the localities pointed out where these minerals are to be found in greatest abundance; and where their use has been already tested by the ordinary cultivation of the soils naturally imbued with such remains.

The existence of coprolite-like nodules (some of your readers perhaps need to be told that "coprolite" is literally "dungstone") in the upper green sand and galt, was pointed out by Dr. Fitton several years ago, in his account of the "beds below the chalk," published in the "Transactions of the Geological Society" vol. iv. second series; and Dr. F. also ascertained the large proportion of phosphate of lime contained in these bodies. Dr. Fitton's observations were chiefly made from the galt at Folkstone. But he has also noticed the existence of these nodules in various parts of the upper and lower green sand; and the writer of this article, besides several casual disclosures, is familiar with two localities in which they were very abundant; and where they may most probably still be seen, as the geologists say, "in situ." There was, a few years ago, and most likely still is, a hummock of galt, apparently mixed with much green sand, and perhaps a member of the lower part of that stratum, behind the workhouse at Farnham to the left of the road from Guildford, rich in these fossil remains. And there are cliffs of the upper green sand at East Bourne in Sussex, between the words in the ordnance map, "Barracks" and "Mead-street," where the fossils and coprolitic nodules may be found; and all the relations of the green sand beds profitably investigated. Here too, the curious in indigenous botany will find the Sea-kale (*Crambe maritima*) growing profusely in the crevices of the Cliffs.

From this point, westward, it is well known that the upper green sand crops out, at the foot of the South Downs, the whole length of the county of Sussex, in a plateau of fine strong Wheat land. But it is not everywhere that the fertilising effect of the green sand is felt, nor does it everywhere abound in fossil remains to the extent of the localities above mentioned. The greater part of the plateau, or high ground here spoken of, is composed of the "Malm (Marlen?) Rock," which geologists are agreed to consider a part of the upper green sand; but everywhere, if sought for, the green sand bed, varying from 2 to 6 feet in thickness, may be found, between the malm and the chalk, though often obscured by loam and drift. It thence becomes worthy of notice to the proprietors and occupiers of these lands, below the Downs, whether or no it may answer their purpose to quarry these sand-beds to manure less fertile soils; and particularly to ameliorate the condition of the stiffer lands of the malm, the chalk marls above, or the galt meadows and arable lands below them. It is well-known that the most productive parts of the malm land are those where the subsoil is the green sand in question. And although coprolitic bodies may not abound everywhere, there are universally other remains of ancient animal life, in the form of shells, fish bones, stems of marine plants, &c., which, with the green matter of the sand itself, impart richness and fertility.

If we pass from the out-crop of the green sand in Sussex and Surrey, we find it again in still greater force westward in the fine and fertile vale of Pewsy, one of finest pieces of Wheat land in the kingdom. The whole valley from Bedwin to Devizes is covered with this soil like a mantle, the stratum dipping under the chalk of the Marlborough Downs on the north, and Salisbury Plain on the south. It is not yet known how much the fertility of the vale of Pewsy is dependent on the existence of coprolite nodules or other animal relics there; but it may be safely predicated that the same causes which operate in Mr. Paine's grounds in the same geological position in Surrey, have in Wiltshire produced the same result. And in the deep beds of green sand, about the village of Pewsy, for instance, good profitable workings might be made; though it were folly to expect in the richest coprolite green sand, a tithe of the available matter of recent bone manure, or of modern guano. To those readers of the *Agricultural Gazette* who have not seen the later observations of Professor Winslow and others on the analysis of those coprolitic fossils of the cragg (amongst whom is the writer of this article), it may be interesting to know that Dr. Fitton, in the publication above cited, states, on the authority of M. Berthier, that some collected at Havre and Wissant from galt or green sand, contained 57 per cent. of phosphate of lime; and he adds, "It can hardly be doubted that they are derived from the remains of animals, though no traces of bony texture are now perceptible; and it is not improbable that they may have been the contents of the intestines of marine animals, which fed upon each other, though not in all cases moulded into the form of coprolite." (Loc. Cit. p. 111.) There are also some interesting observations on the nature of the colouring matter of green sand; which it appears is a silicate or protoxide of iron and alumina, and perhaps has no small share in the fertility of the soil of these beds. For next in value to the malm lands of the upper green sand are the hazel moulds of the lower green sand; and they are always best where the green matter most abounds. Here also coprolitic concretions are often found, but they are not so frequent, nor are any animal remains so abundant in the lower as in the upper green sand and galt strata.—*P. P.*

ON IRISH POOR-LAWS.—No. II.

If the calculations of the Devon Commission were not false, and I believe they were not, the want of adequate employment for the labouring population of Ireland caused in 1835 an amount of destitution exceeding that of two millions of persons subsisting without the wages of labour on alms, which almost always consisted of Potatoes, and on Potatoes the produce of conacreing. These means of support being annihilated, the whole of these people are necessarily thrown upon the poor-rates, and their support upon the grain which before was a large item of our export trade. The losses in Potatoes, swine, and cattle, for several years past by disease, certainly tended not to diminish this amount of destitution; but the almost total loss of the Potato crops in 1845 and 1846, and their diminished cultivation in 1847, has thrown the whole of the labourers employed in their tillage out of employment, and has most fearfully augmented the mass of destitution, which must still go on increasing by the progressive falling in of the smaller farmers as their means of support become exhausted, and by the successive breaking down of grade after grade of the larger farmers and smaller gentry, with the acceleration of a falling body. There at present exists nothing to check it, if we except the probable diminution of our people by disease and starvation.

The utter inability of the country to sustain the present system of poor relief is apparent to every one who has any knowledge of the capabilities of Ireland, but so paralyzed are the energies of the higher classes by the vastness of the evil, and by the infatuated pertinacity of the Government and the legislature, that they seem to have abandoned every hope of staying the torrent. One would almost think that the epidemic which shed its baneful influence over our Potato crops had extended itself over our mental organism.

To some such cause we must ascribe the common cry raised against what is called out-door relief (in total obliviousness that the poor must in some way be fed), and the infamies circulated against the unfortunate recipients of it. The poor wretches are charged with (and unlimited credit is attached to the anonymous libellers) unwillingness to labour, and the British public is cajoled by the assertions of the interested of their preferring the relief accorded to indigence with idleness, to the wages of honest industry, while I verily believe that ninety-nine out of a hundred of these belied paupers would gladly labour, and give their prayers and blessings to boot, for 10*d.* a day, a sum quite inadequate to their support; but 8*d.*, 6*d.*, and even their bare food, leaving their families wholly without support, are very generally offered to the few whose services are required, and because these terms are not always accepted, they are idle and won't work. Some few instances of combination occur which give a plausibility to this assertion, but they are very few, and the most is made of them.

It is absurd to say the labourers will not work for wages, for it is, and must be destitute of proof, for the farmers have not money to employ them at money wages, and they have not produce to pay them in kind. The wages of a million of labourers—and agreeably to Mr. Butt's statistics, the agricultural labourers, including occupiers who do not employ labourers, amount in Ireland to 1,131,715—the wages of a million of labourers at only 10*d.* a day—1*s.* 6*d.* where employment is not afforded to the family, is little enough; for, taking a family at the average of 5½ persons, ½ stone of meal a day is a bare allowance, and as 1*s.* 4*d.* a stone may be set down as the price of Indian-meal (the cheapest meal) in the country markets, we have

½ stone meal, per day, 8*d.*;	per week	..	..	4*s.* 8*d.*
Milk „ 2*d.*	„	..	..	1 2
Firing	„	..	..	0 9
Lodging	„	..	..	0 9
Washing	„	..	..	0 2
Shoes and clothes	„	..	..	1 0
Divided by the working days		..	6	8 6
				1 5

The wages, then, of a million of labourers, at 10*d.* a day, with deductions for wet days and holidays, will amount to 11,000,000*l.* a year, the full amount of the exports of Ireland when labour was paid by Potatoes; supposing, then, her exports still amounted to 11,000,000*l.*, it would require the whole of her income to pay money-wages to the labourers. But her exports do not now amount to 11,000,000*l.*, and probably do not exceed 4,000,000*l.*, or if they do exceed that sum, a set off against the excess is to be found in the Maize imported.

When Ireland had her Potatoes, her swine, and her fowl, the annual amount of her produce was estimated at 36,000,000*l.*, and even then she was not able to employ her agricultural labourers, and the families of the unemployed exceeded 2,000,000; now, that her produce is diminished probably to about 24,000,000*l.*, she is called upon to feed double that number of unemployed persons, and at an incalculably higher cost, on food of greater price. How this is to be done is the question to be solved, and its solution is sought in an increased expense in their support by additional poor-houses, including a long list of additional paid inspectors, guardians, officers, &c.

But in so gloomy a sky the faintest streaks of Heaven's light is refreshing, and there is now a very praiseworthy attempt to increase production by conveying instruction especially to the smaller farmers of the country and in the more backward districts, and a still more effectual measure is contemplated through the machinery of the national schools by attaching model farms to them. But if the salvation of the country is to be deferred till these slow operating causes produce their effects, it requires no inspiration to divine that

ong before they can be effective her resources will be ried up and her income already reduced to a song, ecome as a tale that is told.

Neither does the possibility of the Potato epidemic aving passed over afford us any more immediate rospect of relief; Ireland cannot for many years to ome regain even that maudlin prosperity she enjoyed efore, were even the cultivation of Potatoes so general s to employ the same amount of labour that was xpended on them in those times, for it will be very ong before the two millions of persons who subsisted y the consuming of land can be again so supported. t will be long before they can have those little stores f Potatoes, generally sufficient for the year's provision, o support them till the new crop came in, or to enable hem to give their labour on credit; it will be long before hey can obtain again their old *friend* that paid the *rint* f the consumer; before they can afford the seed even for , and it will be long before the confidence of the consumer etter in the taker be restored. For years to come at east the two millions of unemployed must be fed at the xpence of the community, and as on the present inoor system this diminished relief will be at a cost of ,000,000*l.* a year—a cost which the country cannot fford to incur—it becomes a subject well worth conideration, independent of any other object, whether it ay not be possible to find some cheaper means of supporting the unemployed population. To effect this, and o produce such an additional quantity of vegetable food nd grain as will support our people, and bring up our xports to their former amount, demands our serious ttention; and this can only immediately be effected by rain; for we must have grain to export in lieu of our wine, fowl, and eggs until we can re-obtain them, and ear more cattle, and these we cannot at once in any ay obtain in numbers even sufficient for that increase n our green cropping, on which alone the hopes of all eem to rest.

I believe the expence of feeding our poor may be ery much reduced by attaching experimental farms to he union poor-houses, by which the inmates may be holly fed from the produce of their own labour, and y out-feeding farms, by which the persons who cannot e accommodated in the house may be paid in food aised by their labour on these farms, and which I hould wish to be considered merely in the light of pade model farms, these farms being so scattered over he country as to allow the persons relieved on them o return at night to their homes.

By such a system not only would the labourer out of mployment and the weak and infirm be cheaply supported, but ensamples given to the farmers of the ountry of good and productive husbandry, which, in a ew years, would supersede the necessity for many of hese establishments, and for much of this relief.—*J. M. Goodiff, Granard, April* 1.

MODEL FARMS.

Allow me to say a few words upon the subject of our leading article of March 25, that subject being a eview of a "'Young Farmer's' Treatise on Model 'arms." I heartily join with you in your opinion, that nodel or rather experimental farms should be established by our leading agricultural societies; and that a arm of this description is well worthy of the attention f the Council of the Royal Agricultural Society, as a nore legitimate source of investing their surplus capital han adding it from time to time to their funded capital.

Farmers ere long will be looking for something more nlightened than the mere shows of cattle and implements which are annually afforded by our local agricultural societies; and a satiety has already shown itself n the increasing lukewarmness of the attendants upon hese meetings. However this satiety is not to be ondered at, when we consider the best breeds of cattle nd sheep are now well acknowledged, that the local hows seldom afford much variety in the implements xhibited, and that the after dinner meetings are too ften a mere annual repetition of toasts and compliments. lmost the only redeeming feature that these meetings ossess, above the usual assemblages for business purposes in a market town, are the premiums occasionally warded to the best cultivated crop, or the most skilful r industrious ploughman.

I will candidly allow these societies have done much ood, but unless they base their objects upon some other oundation than the award of premiums to animals, I ear their best days have passed away; for they have lready answered this their intended purpose of stimuating the latent energies of the breeders and feeders f cattle.

The easy access which railway communication has iven to our national shows is one cause of the decline f our local societies; at the former are assembled only he best animals of the best breeds, from all parts of the ountry; and the visitor has the chance of ascertaining heir merits from farmers from various places and of arious opinions. Again, the show of implements has ecome the great mart for their sale, where the farmer an select from a numberless assortment, and the anufacturer can make improvements by an inspection f the implements brought into competition with his own.

While our local shows have gradually been decreasing, he interest excited by the Royal Agricultural Society as annually increased; each show being held in a ifferent locality, something new is always forthcoming o afford information. On the other hand the local how of one year has its counterpart in the next, the ngrossing topic is whether the show is better or worse han its predecessor of a former year; whilst the assembly is seldom more numerous than the usual attendance upon a market day, the same faces are seen, and the cattle are so well known that they excite but little interest.

But I intended to have said a few words upon the establishment of model or experimental farms, as a legitimate object for the application of the funds of our agricultural societies.

A model farm, if true to its name, is one upon which only the best practices are pursued, in other words the beau ideal of a farm; and to become a model, it must necessarily show a greater annual return than most of the neighbouring farms.

An experimental farm differs from a model farm, in as much as it may be cultivated to a loss, and yet answer its intended purpose of showing, by trial, which are the best systems, the best animals, the best food for feeding those animals, the best plants to be grown on each kind of soil, and the best manure for increasing the growth of those plants, and in a word the best means of obtaining the best crop at the least expence.

I have said an experimental farm may be cultivated to a loss, and yet be satisfactory in its results, but a loss is not a necessary appendage. Under judicious management comparative trials will not cause more expenditure, beyond the time and trouble bestowed in securing and determining a correct and satisfactory result. Take for instance the comparative experiments of thick and thin sowing; of deep and shallow draining, or ploughing; of comparative trials of food, manure, or seeds; the results obtained (collectively upon a reasonable scale) would equal those obtained by many amateurs, who rush into extremes upon a large scale.

As you suggest in your Paper of the 25th of March, we can only look for the establishment of experimental farms from private individuals, or by the application of the hoarded funds of our great national society. The object of that society is professedly the promotion of agricultural knowledge, and so long as it has the means carefully preserved, why are they not devoted to its professed object?

There can be no doubt but that an experimental farm would promote the legitimate object of aiding the acquisition of information. Such a farm would open a fair field for testing the merits of competing implements in a manner far more satisfactorily than can possibly be afforded by public trial or by a casual inspection. After a searching trial had been made, the members might have the liberty of inspecting the practical working of these implements, and thus form their opinion upon the utility of each. A fair trial being given to each machine a report might be drawn up of its perfections and imperfections; and it might be the duty of the manager to give answers to members of the society respecting the machines submitted to trial, and which machines they might be inclined to purchase.

Live stock and implements have engrossed attention, whilst the improvement of the productive powers of plants by judicious selection has hardly engaged attention at all. I firmly believe more may be added to the produce of a farm by a careful choice of the most productive varieties of grain than can be added by any improvement in the breeds of animals. This selection and improvement might be one of the objects of an experimental farmer, and thus afford that advance towards perfection in the various kinds of grain and cultivated plants which our shows have effected in the breeding of stock and the manufacture of implements. Trials of seed, of manure, or of food, would be more satisfactory if made professionally by parties who are responsible for the accuracy of the results, than if committed to the care of others who are not responsible.

To ensure success, even upon a farm expressly devoted to experiments, the trials must be made by men capable of perceiving the least appearance of inaccuracy. The labourers employed should be only those who have sufficient skilfulness to perform every operation in a first-rate style, combined with integrity and intelligence to render them incapable of making or aiding an incorrect result. Men seeking for information or advancement, would take sufficient interest in the proceedings to prevent practices that would tend to destroy the integrity of the experiments.—*H*, *March* 29.

Home Correspondence.

Butter Making.—If I want butter only for my own breakfast, I lay a sheet of blotting-paper upon a plate, and pour the cream upon it. In a short time the milk filters through, and the butter is formed. If I wish to expedite the operation, I turn the paper over gently upon the cream, and keep it in contact for a few moments, and then press upon it, and the butter is formed in less than two minutes. If you submit it to severe pressure by a screw-press, it becomes as hard as when frozen. I cannot think but the simplicity of this mode of proceeding would be universally adopted if any better material than blotting-paper could be thought of for the filter—the paper adhering too firmly to the butter, and the finest muslin admitting the passage of the cream.—*T. H., Stoke Newington.*

Probabilities of the Weather.—In your number of Saturday last, under the head of "Calendar of Operations," "North Essex Farm, April 8," I find the following:—"This year we are dibbling to a large extent, as we find this mode of depositing the seed answers better than any other in a dry summer, which there is reason to expect after so much rain." As a correct estimate of the probabilities of the weather cannot be otherwise than highly important to agriculturists, I beg to draw your attention, and that of your readers, to the following extract from a paper of mine, drawn up from a register of the weather kept during 11 years, which I took from the "Ipswich Journal," &c. 1797 and the Norwich, and from which it will be seen that the experience of [illegible] who have studied the subject to the [illegible] during the absence of the winter which more I have quoted, is rather opposed to it:—

			Rain.	Days.
A dry spring	Dry		1	1
	Wet		2	2
	Variable		3	3
A wet spring	Dry		0	0
	Wet		6	6
	Variable		1	1
A variable spring	Dry		5	5
	Wet		7	7
	Variable		1	1

There having been during the 11 years 2 dry springs, 6 wet, and 3 variable. I also beg to refer you to some excellent remarks by Mr. T. Speed in the *Gardener's Chronicle* of the 18th inst., wherein he comes to the similar unfavourable conclusion respecting the ensuing summer, from observation of the fall of rain in late years. I have, myself, been led to the same result upon other grounds, with which, however, I will not trouble you, unless you should express a wish that I should do so; my object being merely to draw attention to what I conceive to be the fallacy of expecting a season to be necessarily of an opposite character to that which immediately precedes it.—*Observer.*

Hydro Incubators.—In your advertising columns "C." will find again repeated the information he desires for, regarding the prices of my patent hydro incubators. In the meantime I must refer him to my pamphlet, published by Wm. Strange, Paternoster row, for part of the information he desires. Regarding the cost of feeding poultry with every particle of bought food at full London market prices, I have stated the amount to be 8*d.* up to 90 days old, and then my fowls are in excellent condition for market, weighing from 2 to 2½ lbs. each, according to the breed; for I hold that a mixture is best, and by my system I always keep them well fed on a constant change of diet from the day they are hatched out. If the facilities of feeding poultry in the north and other parts be such as enables the producers to sell them at a profit for 2*s.* and 2*s.* 6*d.* a couple by the ordinary slow mode of propagation, I know of nothing to prevent greater numbers being got ready for market by means of the hydro incubators, which from the immense numbers of birds they produce will soon pay themselves. I am not aware of any difficulty in rearing poultry all the year through by my apparatus. It is, however, essential to have the premises dry, warm, and cleanly, and to attend to the printed instructions which I send out with every incubator and chicken mother. Cold, damp, and dirt, will, however, ruin the business and render any outlay useless. The amount of accommodation and arrangement for the poultry must depend upon the extent to which the system is carried out. If it be done largely, a separate incubator and chicken mother house, fatting, roosting, and laying houses, will be requisite, but on a small scale, with a one or two tray machine, ordinary judgment will direct the proprietor. With suitable premises and attention to the instructions furnished, in summer particularly, 80 and 90 are often hatched out from 100 good eggs, but as I should be sorry to mislead any parties who intend to patronise my invention, I would say do not count on more than 66, and you will be sure to be right. The same remark must, however, apply to this business which applies to every other, namely, that much depends upon management; one man makes a fortune, and another loses one, by the same trade. There is not the slightest mystery in my invention, for by the simplest means possible I can hatch out and rear up plenty of poultry, and I can afford to send them to market at 13 or 14 weeks old, instead of at two or three years of age, as is now the practice. Hence the difference of the cost of feeding so short a time, and tough fowls must be out of the question. The principle applies to every kind of poultry and game. I have just glanced over the quotation made by "B. A." on the Egyptian mode of hatching poultry. How do they rear them? Ovens! Are they like bakers' ovens, or what are they like? 10 days very hot, and 11 days at a lower temperature! Is that anything like Nature?—*W. J. Canter, Chiswick.*

Wireworm: Soda Ash.—I had four acres of light loamy land dibbled with two pecks of Wheat per acre last autumn (after Tares), and although so small a quantity of seed was sown, there was as good a plant as was desirable. A week or two after the Wheat had appeared, I perceived that at least one-fifth of the plants had died. I examined the roots, and found wireworm at almost all the dead or dying plants. I brought some home, and put some of them, and some mould, into two basins, and tried to destroy them by mixing some carbonate of lime with the one, and by mixing salt and solutions of salt with the other, yet both these reputed destroyers of the wireworm did not effect their destruction. Knowing soda ash to be more powerful than either of the articles used, I obtained some, sowed it by hand just before rain, at the rate of 1½ cwt. per acre, and am sure it either destroyed them or caused a departure from near the surface into the deep recesses of the subsoil, as I could not find (although I examined minutely) one afterwards, nor has a single plant been injured since. It is necessary the man who sows the soda ash should have on a stout pair of gloves, otherwise his hands would be very much

excoriated. It may also be necessary to state, as the great cost of soda ash might deter many from using it, and induce some to endeavour to kill the pests by less costly and at the same time useless means, thereby allowing a lapse of time, and consequently a great destruction of plants. Soda ash will not only destroy the wireworm, but it also acts as a potent manure, which is clearly demonstrated by the luxuriant growth and healthy appearance of the field of Wheat in question, which is not excelled, if equalled, by any about this part; indeed a neighbouring friend, and a large farmer, asked me the other day what magical stuff I had put upon it; in fact had I been a contemporary of Cresinus I might have been cited before the curule edile and an assembly of the people, to answer a charge of sorcery, for the application of anything productive of such wonderful effects; but I should not, as Pliny related he did, produce any efficient implements of husbandry, nor well-fed oxen, neither would it have been possible to produce a hale young woman as my daughter, and like him exclaim, "These, Romans, are my instruments of witchcraft;" but my endeavour would have been to have proved to the assembly that the effects were produced by the application of a potent though simple chemical preparation. The soda ash was obtained of Mr. Mark Fothergill, 40, Upper Thames-street. I may state, in addition, that although so small a quantity of seed was used in the field in question, and so many plants destroyed, there is no doubt that it will be the best piece of Wheat on the farm. Some of the other fields, drilled with 6 pecks per acre, are much too thick. A field on the farm, dibbled with nearly a bushel per acre in the autumn of 1846, produced 49 bushels per acre; and, I believe, had there been less seed used, there would have been a greater produce. My father had a piece of autumn sown Wheat a few years ago, which was so thin in the following spring that he was advised by his neighbours to plough it up, and had resolved so to do, when, fortunately, an experienced friend induced him to let it remain; and, to his joy, he beheld at harvest time a splendid crop, which surprised his neighbours and himself, by producing more than 40 bushels per acre. Being a young man, it might be considered presumptuous in me to express an opinion on the comparative merits of thin and thick sowing, but as I have had seven or eight years' experience, and have observed and noted the quantity of seed sown and the yield of crops during those years, I will venture to express a desire that the system so successfully practised, and so eloquently advocated by the Rev. G. Wilkins, Mr. Mechi, and Mr. Hewitt Davis, will be more generally pursued, being convinced that those who will be guided into the new paths of scientific agriculture, will experience essential service, as well as confer it on the community at large.—*Thomas Evermet.*

Salt as Food.—I observed a statement from Mr. Robson, of the 19th ult., addressed to the "Lincolnshire Flock-master," regarding the pernicious consequence resulting from the use of salt as an element of food for cattle, &c. In respect to this matter, allow me to make the following observations. From my experience and practice I have never seen any fatal results follow from its application, and I beg to disagree with the assertion made by Mr. Robson, and by every possible means recommend its usefulness to a much larger extent than it has been hitherto used. The use of salt has been long known to contribute most essentially to the health and condition of quadrupeds in general. In many instances when the industry of man could have no concern, Nature points out the utility of it, and in following her dictates we are never led astray from the true path of knowledge. In the interior of America, where the undomesticated animals roam at large, without being at all restricted by the controverting hand of man, they resort for hundreds of miles from all quarters to those mountain sides, where the rock contains salt, in order to lick the saline efflorescence which is extracted from them by the influence of the sun. The avidity with which they lick this, and the nourishment which it affords, is easily conceived from the exertions which they make to obtain it, and the same having been done for many centuries by thousands of animals every year. Sheep, also, in their natural or wild state, following their own instinct, have recourse to such means for their preservation and proper support. This practice, I believe, is nowhere more generally and more carefully attended to than in Spain. The first thing the shepherd does in the morning is to supply his flock with salt. Thus, in Spain, salt is considered a most essential requisite to sheep, and not to sheep only, but also to cattle. I do not think that the farmers in England know the great advantages which may be derived from the use of salt in the business of fattening cattle; it does not only tend to fatten, but it is likewise a preventive of disease. From my experience, horses are as fond of it as cattle, and to the former I have given it in the same way as your correspondent has very justly pointed out, that is by putting rock salt into the manger, and to all feeding cattle it is given by the measure of their appetites. For cattle that are not stalled up, it is given by way of having fixed boxes put up in their sheds. This system we find answers well; sheep receive common salt and have small wooden boxes on stones placed in different parts of the field. The shepherd, when looking after the flock, carries a bag of salt, and supplies them with it as he finds it necesssary. Certain it is, where salt is given, they are subject to much fewer diseases. The fattening effects of sea marsh are also universally known, and sheep both feed on it with great desire and also with great benefit. I would recommend the method of salting hay when the hay is to be stacked in autumn for winter feeding; I would allow 2¼ bushels of salt to every ton of hay, which will amount to a very small expence. If these measures were carried into practice, which I have hinted at by the feeders and graziers of England, I may affirm with some degree of confidence that their stock would not only fatten sooner, but would thrive better, as I do believe that salt is quite a preventive of disease; a wall of defence, then, would be erected against the attacks which so often prevail. Still it may injure but it cannot destroy, disease being stript of its venom, will inflict wounds only to be healed. But to avoid prolixity, I cut short my remarks, as the nutritious effects of salt and saline pastures have already been detailed at sufficient length. Happy is it for the owners of stock, where Nature has provided the latter, and fortunate also for them where art has thought of devoting the former.—*John Manchlain, Grove House, Tottenham.*

Wireworm.—In a valuable paper on the wireworm, which appeared in your *Gazette* of Feb. 5, it is asserted that the only part of an Oat crop which escaped the ravages of that insect was saved by the use of guano and superphosphate. But suppose that the bones, instead of being dissolved in sulphuric acid, had been prepared in the manner Mr. Pusey has recommended, would the same good effect have followed? If not, this new preparation loses much of its value for Turnips, &c., upon land much infested by wireworm. Towards the end of the same paper "J. B." advises that the Twitch and other rubbish should be burnt when collected in the autumn, as a cheap method of getting rid of it, and destroying the germ of insect life. Surely the heap, if well salted, would form a more valuable lot of manure, as to quality and quantity combined, than it could do if burnt. But, then, the question arises, Would the germ of insect life, wireworm, &c., be destroyed? Perhaps some of your correspondents who have had large experience can furnish an answer.—*An Essexman.*

To the Large Cost of their Manures do I principally attribute the occasion for comparative high prices to repay the English farmers their expenses of growing corn. The fact that there are countries in every quarter of the globe, only half as civilised, and yet able to raise corn and to deliver it into English markets at lower prices than the English farmers afford theirs, notwithstanding the latter's better practice and means, and smaller expenses of delivery, is a mystery which it will be advantageous to throw some light on. I would trace the cause of cheaper production, that we may see in what way our practice is so deficient. *To greater natural fertility of soil, to lower prices of labour, to lesser charges on the land;* to each and all of these, as means for cheaper production, have been ascribed the fact that Russia, Poland, Germany, Syria, America, Australia, and other countries, after incurring heavy expenses in the transit, are able to send corn to this country at lower prices than we produce it; but I think if we contrast the smaller returns they really obtain, their inferior labour and heavier cost of conveyance to market, against our superior crops, greater industry, and better implements, and smaller market charges, we must attribute their power to undersell us to some other cause. Whatever may be the natural capability of foreign soils to give larger returns, this can be no ground for cheaper production; for their returns are less than we obtain in England. The Wheat in these countries seldom yields more than 16 or 18 bushels to the acre, whilst the English growth is most moderately taken at 20. The charges in growing corn are divisible into heads of *seed, labour, rent and charges on the land, marketing expenses, manures, and maintenance of fertility;* by bringing these items of every farmer's expenditure into figures, and contrasting their cost in our own country with that of others, we shall see there is little or no advantage on the side of the foreigner to more cheaply grow corn, except in the last item, which, from the opportunity they have, by their thin occupation of the land, of continually shifting their corn cultivation to fresh ground, they almost wholly omit. In the first item of charge—*seed*, the English farmers, by their better cultivation and use of machinery to deposit it, make a saving of some importance; the quantity of Wheat used in England is about 2 bushels to the acre, whilst the ruder cultivation of the foreign grower calls for 3 or 4. *In labour*, if we look to the comparative returns for the wages paid, the foreign farmer will be seen to have little or no real advantage. In America and Australia, two countries that show an ability to raise corn cheaper than England, the wages are actually higher, and, although in Russia, Germany, and Poland, the price per day is much less, their labour cannot be said to be cheaper; for whenever brought into competition with English, the larger returns, from the greater industry and better implements of the latter, have been found, to say the least, to bring them on a par. Slave or compulsory labour is now understood not to be cheap as compared with free; and, in England, the lesser paid labour is not found the most productive nor the most economical. In the formation of foreign railways, the contractors have found it cheaper to import English labourers, notwithstanding their pay and expenses, as against the native, were as three to one. Admitting *the charges on the land*, as between England and these countries, to be as 25*s.* an acre to 5*s.*, the difference that this will make in the cost of corn is not more than a few shillings per quarter, and not sufficient to balance the extra charges of transit to English markets. I think I have now shown that it is not by the greater fertility of their soil, nor in economy of seed, nor to cheaper labour, nor to lesser charges on the land, that corn is supplied us from abroad cheaper than we grow it; but there remains to contrast one item, namely, maintenance of fertility; and I think here we may find a heavy expenditure, which the English farmer alone incurs. Latterly the importance of manures has been so much urged on the attention of the English farmer, and their value so much enhanced, as to induce an outlay for the supply of expensive dressings, which, I fancy, the additional returns are far from compensating. If I am right in attributing the cheaper cost of foreign-grown corn principally to the absence of manure from the charges of growing it, I am confirmed in the opinion I have long entertained, that the expenses incurred by English farmers to raise manure are greater than is generally supposed, so much so as in many instances to be fatal to profitable farming. The difficulty there is in correctly calculating the cost of the food raised and given to cattle, leads to credit being given for returns which are not their due, and which hide from the farmer the enormous expenses he may have gone to to produce dressing. Much inferior land in England, to the enhancement of the price of corn (for the application of inferior land to produce corn, political economists have seen raises prices), has in this way been kept in cultivation at a cost ruinous to the farmer; and, under free trade (that is to say, when brought into competition with land that will grow grain with less manure), must be abandoned. Were farmers better acquainted with book-keeping, and the importance of bringing all questions to a Dr. and Cr. account, they would see that having recourse to a fallow and a dressing, as a means to grow Wheat, will seldom pay where it has to be brought into markets in competition with that which is grown without either.—*Hewitt Davis, 3, Frederick's-place, Old Jewry, London, April* 19.

The Royal Agricultural Society's Journal.—I would bring to the consideration of this society, the advisability of their publishing their journal at a greatly reduced price. The object in publishing it being dissemination of information among tenant farmers, upon the practical improvements and scientific discoveries going on in farming, how fatal to the intention of the society is the error they are committing, in charging 6*s.* for each number! This price, apart from other considerations, is much too high for the matter the book contains. The larger portion of tenant farmers, and the portion to whom it would be most useful, will not purchase so dear a book, and hence it is that throughout the kingdom the work is scarcely to be found in their possession, and its contents little known. The funds of the society will well afford its publication at 3*s.*, even if a loss of 100*l.* or 200*l.* per annum be anticipated. But instead of a loss by a lower charge, I have little doubt the larger circulation would produce again a sale of three or four times the number, and should rather be reckoned on; and surely the assistance an extensive circulation would afford to advantage small farmers, should govern every consideration; for 3*s.* more matter is daily given to the public in works published for profit, and without the aid of a subscription.—*Hewitt Davis, 3, Frederick's-place, Old Jewry.*

Hen Gossip.—Some months ago, seeing that there was information going among your correspondents on the art and mystery of caponising, I was about, at the request of a friend (whose lady is a great poultry fancier), to beg your very agreeable and instructive contributor "D. S. E." to refer me and others to some work on the subject;* when a violent explosion took place in the poultry yard of the *Gazette*, and I was terrified away from the topic. There was, you will recollect, Mr. Editor (for all your readers gratefully observe your solicitude to discountenance all sparring and strutting among your contributors), at the time I speak of, a great rumpus about the tail gland—a stab at which, so far from yielding any oil, led to cutting retorts about capons; one would have thought the least testy of all subjects. And yet when we find grave seignors getting into a state of violent excitement and vain glory on the tillering of Wheat, one can scarce wonder that this more tender topic should create a little pugnacity. My friend has been again very importunate to have the requisite information, and I find he will not be put off, for in fact, his lady is at the bottom of it, and is, to use an applicable vulgar phrase "egging him on." Unless "D. S. E." will help me I shall lose caste, I fear. With the anatomy of gallinaceous birds I am familiar, but there is no doubt some "rule of thumb" in the business—by which any unscientific operator can be readily made an adept; for an infirmary physician and surgeon whom I called in consultation on the case, good enough comparative anatomists, were also at fault. Is it merely necessary to make an incision across the ducts on each side of the vent, at some particular period of the bird's life? as the rearing of capons is found so profitable as to form quite a business at Barbesieux in Languedoc, and as it is certainly better, even on the score of humanity, to rear a family of peaceable "roosters" than to allow them to grow up amid daily battles, it seems very desirable that the requisite information should be as widely disseminated as possible. When I informed my magisterial friend of my dilemma, and of the little dispute in your columns which occasioned it, his Shakesperian "fair round belly" shook heartily, though not yet on account of the aforesaid dispute "with fat capon lined." Observing that information respecting breeds

* See Buffon's Natural History, Dickson on Poultry, and Peter Boswell's Poultry Yard, none of which are very explicit.

of hens is desired, it may be remarked that in Cumberland, in which county it has been stated that breeders first cultivated the Dorking breed, there are now, round about the hill districts at least, very few pure Dorkings to be seen. Indeed I believe they are almost as rarely to be met with pure as the Spanish or the Malay, a few specimens of each of which may be seen. The favourite kind is a cross with the pheasant, and many very finely feathered fowls of this breed may be seen at the barn doors. Dark speckled glossy plumage and flat thick combs characterise them. They are good layers and bad sitters.—*Chanticleer.*

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A WEEKLY COUNCIL was held at the Society's-house, in Hanover-square, on Wednesday last, the 26th of April: present, Mr. RAYMOND BARKER, in the chair; Mr. Almack, Mr. Burke, Mr. G. Dyer, Mr. Freebody, Mr. Brandreth Gibbs, Mr. Fisher Hobbs, Mr. Hudson (of Castleacre), Mr. Kinder, Colonel MacDouall, Mr. Reynolds Solly, and Mr. Tweed.

The following new members were elected:

Greenwood, Edwin, Swarcliffe, Harrogate, Yorkshire
Ramsbottom, John, Bilham Grange, Doncaster
Worthington, George, jun., Liverpool
Read, Clare Sewell, Kilpaison, Pembroke
Mayes, Charles, Horeton, Collishall, Norwich
Waters, Edward, Arminghall, Norwich
Cross, John, Manor Farm, Wentworth, Ely, Cambridge
White, William, Secretary of the York Farmers' Club.

INFLUENZA AMONG HORSES.—Colonel MAC DOUALL informed the Council that a most simple and effectual mode of treatment for the influenza among horses (exhibiting itself by a severe cold, with inflammatory affection of the nostrils and lungs) had been adopted with unvarying success by the veterinary surgeon to the 2d Life Guards, the details of which Colonel Mac Douall hoped, at a future meeting, to be able to lay before the Council: in the meantime, he might state, that the plan consisted in keeping the bowels of the horses gently open by administering one-fourth of the usual dose of medicine on four successive days, and at the same time in making such arrangements (by means of hay soaked in hot water, or otherwise) as would cause the horses continually to breathe the steam of hot water. The effect of this inhalation of aqueous vapour was to keep the mucous membrane of the breathing organs in a state of continual discharge, by which the air passages were kept free from accumulation, and the inflammatory symptoms rapidly removed. Not a single horse affected with this disorder had been lost in the regiment since the old system of bleeding, blistering, &c., had been discontinued, and the plan Colonel Mac Douall then referred to had been adopted; and recovery was generally effected in a few days.—Mr. Hudson, of Castleacre, having about 70 horses on his farms, had constant opportunity of observing the nature and progress of this distemper, and his experience fully corroborated the statement of Colonel MacDouall. Mr. Hudson had found the most successful treatment to consist in allowing rest to the horses, in giving them cordial balls, and in placing hot bran-mashes in their mangers; and in order to promote perfect recovery in the horses laid up with the complaint, it had been his practice to allow them to remain for a fortnight or three weeks quiet, and without work.

MISCELLANEOUS COMMUNICATIONS. — A paper from Mr WAGSTAFF, of Gordon-castle, illustrating the principles and advantages of axles, wheels, and drays, of his invention, included in the construction of a cart which the Duke of Richmond had entered for exhibition at the York Meeting of the Society in July next.—A statement from Mr. Biddle, of Grosvenor Park, Camberwell, of the application of wind, as a moving power for machinery, in his Æolian engine.—A suggestion from Mr. Bullock Webster, that drains on strong clay subsoils, at various depths, should be inspected at this season of the year, and the results reported.—A communication from Mr. Bramwell, of Newcastle-upon-Tyne, on various refuse substances produced in chemical works, and adapted for the purpose of furnishing manuring elements to the soil.—From Mr. Nutt, of York, a letter suggesting prizes for Poultry at the ensuing York meeting of the Society.

The Council ordered their thanks for these communications, and adjourned to their Monthly Meeting, on Wednesday, the 3d of May.

HEREFORD AGRICULTURAL SOCIETY. — At the late annual meeting of this Society, Mr. HENRY HIGGINS, of Brinsop Court, made the following remarks on *Tenant Right* and on *the policy of Breaking up Grass Land*.

It has been a matter of surprise to me to observe on occasions like the present, at our October fairs and others, the enormous weights of beef and mutton, and other agricultural produce, that are brought over these stones with the conveyances the farmers have. We have neither soil, climate, nor conveyance to boast of; of the last we have the worst in the kingdom. We have ill-arranged buildings, badly constructed yards, with a duck puddle at the bottom, conveying all the soluble parts of our manure to the highway ditches. Refer to strangers that are brought from all parts of the kingdom to our fairs, and ask them why we are more celebrated for our cattle than for cultivation? Because the improvements we make in the former we know we shall carry to market ourselves; *but not so with the improvements in the soil.* That is too often carried to market by those not entitled to it. Is there nothing due to our farmers then? I have heard them condemned as cultivators of the soil. Let this be so. Yet I think there is some merit due to them for the beef and mutton they produce. Why should they not become as eminent in the one case as in the other? I will tell you the reason, Sir Robert Price. I do not wish to forcibly drag the subject of tenure before your notice. I laid that subject as naked as I possibly could on a former occasion; and there are many talented agriculturists present who, I hope, will give us their opinions upon it. My opinion of the cause of our having better animals than other breeders is, the superior skill, the enterprising spirit, the energetic character, and the persevering industry of the Herefordshire farmers. I should, perhaps, not have touched on this subject, had it not been for the remarks which emanated from two or three gentlemen at the Meeting of the Farmers' Club the other day. I highly esteem the opinions of one or two of those gentlemen upon most occasions; but in this instance, I must be allowed to differ from them on this one point of tenure. It is reported that they then said, that the matter had better be left between landlord and tenant; that it had better be left to be subject to a private arrangement between them, and that legislative enactments are not necessary, and would not be beneficial in the case. I cannot in any wise concur in such opinions. Why, gentlemen, we have tried their doctrine long enough; we have tried it to our cost, and we have found it to be folly. It is the doctrine of the present system which we have for so long tried, and certainly have found no benefit resulting from its working. I observe that one gentleman said at that meeting, that if the tenant farmer, who had expended his capital in the improvement of the soil—that if the tenant farmer went to his landlord and represented that he had done so, such landlord would, in all probability, make him an allowance for the expenditure. Now, gentlemen, I very much doubt that the landlord would do this. It is quite unbusinesslike. If I were to go to the professional gentleman who delivered this opinion at the Farmers' Club meeting, and if I were to ask him to lend me the sum of 1000*l.*, what think you would be the first question that gentleman would put to me? I strongly suspect it would be, "Mr. Higgins, would you be good enough to tell me what security you can offer for the money?" I think this to be the natural question that would arise; and in such a case, what answer would the tenant farmer, under the present system of tenure, be prepared to give? (Cessation.) We must have laws made, gentlemen, that will operate for us all; we must have laws for the good landlord, and laws that will apply to the bad one. And no one, I am sure, will contradict me when I say that the good landlord has nothing to fear from legislative enactments. There is one other observation which I will take the liberty of making, and for which I beg your indulgent attention for a few moments; and I hope its importance will be a sufficient apology for its introduction. No one can ride through this county without beholding tens of thousands of acres of land lying in an unprofitable state. This is a very serious matter, and I ought to engage the attention of every one of us. Mr. Haggitt has spoken on the subject of the increase of population in this country, and has also made allusion to our manufacturers, and remarked of the latter how happy the manufacturers and merchants would be if they could feel the same confidence as the farmer feels, that an incessant demand for his goods will keep him in continual activity. Now, gentlemen, I must respectfully differ from the honourable gentleman in this matter. For I consider—and I think many of you will think with me—that there are as many "ups and downs," and "heads and tails," in agricultural pursuits, as in the professions of the manufacturer or the merchant, to whom he made allusion. The dashing bantling that was to give the mercantile community every thing they wished, has, I imagine, proved rather an abortion. Then, with no means of employment for our redundant and constantly increasing population in the manufacturing districts, where are our resources for providing labour for the poor to be found but in the cultivation of the soil? And I think, that if every man would look at home, he would find a wide field for the profitable employment of labour. I apprehend it is one of the most mistaken practices of the community, that of allowing the contents of our sewers to remain unused as manure, and, consequently, unprofitable. It is an injury to the farmer and to the labourer. Now, on a moderate calculation, tillage land—I will go much lower than Mr. Clarke, a gentleman who wrote on the advantages and disadvantages of tillage land,—in the "Agricultural Journal" he put it at 4*l.* per acre taken out of the labour market,—I will go less—we are moderate people—let us say 20*s.* to 30*s.* per acre; then for every 1000 acres of pasture, the labour market is deprived of 1000*l.* to 1500*l.* Is not this a consideration? I mention these things for the purpose of calling the attention of landed proprietors, who are present, to their importance. For, depend upon it, nothing is so ruinous to the landlord, farmer, and labourer, as the notion that the produce of the earth can be brought out by cropping. It must be by the tillage of the earth our redundant population will be employed.—Mr. Mechi: I trust you will pardon me, Sir, for interrupting you. I understand that you have worked a deal of land on the deep drainage principle.—Mr. Higgins: I suppose I have up to this time put down about 60 miles of drains.—Mr. Mechi: What was the result?—Mr. Higgins: My experience has been but short; but I can safely speak to its complete efficacy. It has quite answered every expectation that I could reasonably have formed.—Mr. Mechi: Pray at what depth were the drains?—Mr. Higgins: The depth is 4 feet, and I have found that a 1½-inch pipe is quite sufficient to carry off surface water.—Mr. Mechi: What distance do you put the drains apart?—Mr. Higgins: 30 or 40 feet; my land varies.—Mr. Mechi: The cost per acre?—Mr. Higgins: I am not quite certain on the point. I received a note from Mr. Ricardo, yesterday morning, and I find that all the expenses incurred in the operations amount to 3*l.* 4*s.* per acre.—Mr. Mechi: Pay how much for your pipes?—Mr. Higgins: 12*s.* for inch, and 14*s.* for 1½-inch, 16*s.* for 2-inch, and 20*s.* for 3-inch. We contracted with Mr. Pritchard for 300,000; they were the first he made, and I fear it was an unprofitable speculation to him.—Mr. Mechi: I am much obliged to you, Sir.—THOMAS BATSON, Esq., of Kynastone Court, then rose and proposed the health of Mr. Mechi: he said, I should be sorry to preface Mr. Mechi's valuable remarks with the expression of any opinions I may have myself formed. But there is one subject on which I trust I may be allowed to say a few words: I mean the subject of tenure. I should be very sorry in my situation, however strongly I may have cause to feel it as a tenant, if I were to make one remark disrespectful to the interest of the landlord; because I am quite sure it would not only be contrary to the feelings of the body of the gentlemen I am addressing, but, at the same time, because I feel that so closely are the interests of landlord and tenant interwoven, that whether we rise, or whether we fall, we must still be together. If I might be allowed to say a word to those gentlemen who are landlords, and who are present this evening, I would most respectfully, but at the same time most earnestly, entreat them to give this matter their most serious attention; that they would give that security to the tenant farmer which I think he ought to have for the money he invests in his farm. If you would see your rent-rolls increase,—if you have any regard for the welfare and prosperity of your tenant,—if you would see the agricultural labourer of this country a better, a worthier, and more respectable member of society, give that security for the capital of the farmer, which I am sure it is his right to have. Without this aid, I am confident that all we can learn from Mr. Mechi, or from my friend, the gentleman who has just sat down, that all this Society can do, or all the information that we can gain from any source whatsoever, will prove of no avail. But I trust, with the spirit of improvement now so generally manifested, we shall soon be in circumstances to see a very large amount of capital invested in the soil, and a very large amount of labour employed upon it; and then "the earth shall bring forth her increase; and God, even our God, shall give us his blessing."—Mr. MECHI then rose, and in the course of a long and interesting speech, said, I think we shall all agree in this, that we do not produce enough food for the population of this kingdom; and I believe we shall also agree, that we ought to produce it, if we can. In 50 or 100 years hence, the population of this country will be doubled or trebled; but the acres in extent will remain the same as they now are. The question therefore arises, "how then are we to be fed?" Are we to pay at the rate of 20, 30, or 40 millions a year for a foreign supply of food? To entertain the idea would be preposterous. What then must be done? We must alter our system of farming, and must become gardeners, and then I am convinced that with an equitable system of tenure the landlord and tenant will receive greater profits. I feel that we are neglected for our pains. To be sure that we are a weeping, to predict, but these must be made to give way to the necessity of providing the necessaries of life for an increasing population. There is a very interesting [illegible] how that is to be done? [illegible] as we are generally concerned, the great question is how are we to get rid of farming? Gentlemen, capital spent in [illegible] the legal maxim, that the [illegible] land, [illegible] drained [illegible] as we ought, and it [illegible] and not [illegible] that [illegible] present system of [illegible] the earth, [illegible] profitable to [illegible] it is the [illegible] more we have of it [illegible] grief in whose [illegible] alluded to the [illegible] they are, indeed a great [illegible] great [illegible] they are [illegible] from which to [illegible] and the [illegible] between man and man, [illegible] and allow me to say that the tenant [illegible] the business by allowing [illegible] I do hope to see the [illegible] banks of rivers, that [illegible] floods, I do [illegible] hidden in hedges when [illegible] home [illegible] I know there is a very [illegible] landlords in favour of [illegible] men with a very [illegible] cultivation; but such a [illegible] land, one degree [illegible] not employ. But [illegible] that these sterile pastures [illegible] fields of corn. The [illegible] portant feature in agriculture. I have [illegible] on my friend, Mr. [illegible] work. When we have the new [illegible] and it is my serious opinion,—that there will not be a farm of 150 or 200 acres in extent which [illegible] upon it. You will find that in the [illegible] case now. And why? Because it [illegible] and hence to the farmer, and [illegible] get 19 or 21 years' lease [illegible] highest respect for the [illegible] I think there is no doubt they are doing [illegible] country and their tenantry. And it is [illegible] any man should have to put his [illegible] opposition to each other. [illegible] prevent a man taking [illegible] and we all know that, except in that law, many a man would lose that which is his own. Therefore, the same law should interpose a restraint upon bad or greedy landlords, such a law would only be a terror to those who wish to appropriate to their own use that which belongs to others—that which belongs to the enterprising and industrious farmer. But I know a large body of tenantry, who would have claim for improvements under the law. I believe that for every good farmer there are three bad ones.—Mr. HOSKYNS: Those the cause. Loud cries of "hear, hear."—Mr. MECHI: I simply take the fact as it stands, to show that the landlord has nothing to fear from the law of improvement. There is no doubt that the incoming tenant would really have to pay the outgoing tenant for his improvements; he would have no beds of Couch, he would not have to cart off [illegible] loads of Couch on 17 acres, as my friend, Mr. Batson, had; he would not have land exhausted by cropping and improper cultivation, but he would receive for his money a well-cultivated field: and it requires no conjuror to prophesy that there would be more profit for the landlord, the tenant, the labourer, and the manufacturer. (Hear, hear.)—Mr. HIGGINS: What about timber?—Mr. MECHI: I thank Mr. Higgins for reminding me to get timber. In the next number of the *Gardeners' Chronicle* will appear a paper, which goes to prove that the landlord in 20 years loses [illegible] by every [illegible] worth of timber that he has now, and that he does not see it at once. And it also goes to prove by inference that the tenant does not lose much less. I am not for destroying the views of your county: I like to see your beautiful landscapes; but sometimes when I go into a 4 acre field I cannot see my way out of it; and not until I can get a peep through a gap or a gateway can I look upon the landscape. Gentlemen, let us take more expanded views of the country, and of its interests; and, depend upon it, it would be much better for all parties. By the bye, your worthy president of the Farmers' Club, Mr. Hoskyns, recently said, that science and practice in agriculture were almost unknown to each other: that they spoke in different languages, and that they wanted an interpreter. Now this is quite true; and I am quite sure you will be happy to know, that such an interpreter is in existence, in the shape of our Royal Agricultural College at Cirencester. As one of the council of five to manage the concerns of that institution, I have suffered many and great anxieties during the last 18 months on its account. But I am happy to say that they are now at an end. We have emerged from the darkness which was around us: the institution has become self-supporting, and will be the interpreter between science and practice. You will be happy to hear that your young men, for the small pittance of 50*l.* a year, may become scientific chemists, naturalists, land surveyors, good farmers, and good mathematicians: and they may become first-rate men, by being provided with good food at least. After the reports you have heard of our misfortunes, as I have said, you will be glad to hear that the institution has become self-supporting: because it must be so, in order to be useful. We have our steam-engine at work, our fences removed, a sanitary tree left here and there, that we might not entirely lose our landscape. We have made other improvements: and, if you will only send us youths of sufficient capacity, and preparatory training, we will return them good agriculturists. Gentlemen, what a delightful thing it would be to see in each county—as we must and shall see, before we make the land produce a sufficient quantity of food—a college of this description, removing prejudice, blind, grasping prejudice, from among us. People will not then say, "this won't do, and the other won't do: my land is not adapted for such and such improvements," objections which are now made: but if you ask these same men, if they have tried what they condemn, they will answer you, "no." If knowledge is power, it must follow that ignorance is weakness: and we ought, therefore, to endeavour to remove such weakness. One college has become firmly established: but that will not be sufficient; there must be other colleges established, and one here amongst you. We will take half a dozen of your cleverest fellows: you must educate the rest. I believe that in 50 years hence the farmers of that time will look upon us as a rare lot of old fashioned farmers.

Miscellaneous.

French Agriculture.—M. Moreau de Jounes has communicated to the Institute the following highly interesting information concerning the statistics of French agriculture :

General Table of the Value of the Agricultural Products of France.

	Mean Year. Francs.
Gross annual revenue from cultivated land	5,092,116,220
Pasturage	646,794,905
Woods and Forests, Nurseries and Orchards	283 258,825
Total Revenue from Vegetable Productions	6,022,169,450
Gross Annual Revenue from Domestic Animals	767,251,000
Slaughtered Animals	698,484,000
Total from animals	1,498,735,000
Gross Annual Revenue from Bees'-wax and Honey	15,000,000
Total from Animal Production	1,480,735,000
Total from the Agricultural Produce — Vegetable and Animal	7,502,904,000

If, the better to appreciate the agricultural riches of France, and the progress which it has made in our days, we look to the old state papers, and to economical and statistical writings, for the numbers which expressed it in the principal periods of the last two centuries, we arrive at the following estimates, the details of, and authorities for which, I shall give elsewhere :

Time.	Population.	Value of the Agricultural Produce. Francs.	Each Inhabitant. Francs.
1700 Louis XIV. ...	19,600,000	1,500,000,000	77
1760 Louis XV. ...	21,000,000	1,526,750,000	73
1788 Louis XVI. ...	24,000,000	2,031,333,000	85
1813 Empire	30,000,000	3,356,971,000	118
1840	35,340,000	6,022,169,000	180
With the Domestic Animals		7 502,905,000	224

It must be remarked that this last number cannot be compared with the others, because we do not know what was the revenue derived from domestic animals in the previous periods ; but the analogy in the estimate of the value of agricultural products, arising from cultivated lands, pastures, and woods, is perfect. A comparative examination of these five periods shows that the gross annual revenue of our agriculture is now double what it was under the empire, only one generation ago ; that it is three times as much as it was in the time of Louis XVI., and four times as much as it was in the time of Louis XIV. There is not another example on record of such rapid progress in agriculture, and of the acquisition of such great riches, the fruits of labour, of intelligence, and of the happy effects of public liberty. At a time when the national credit is affected, it seems desirable to show by certain figures that France is the richest country in Europe.—*Comptes Rendus.*

Calendar of Operations.

APRIL.

BERWICKSHIRE MERSE FARM, *April* 21.—Since last report we have been employed ploughing Turnip land and sowing Oats ; carrying tiles and slates for drains ; threshing Oats for seed and Barley for the market ; the women have been employed turning dung for Turnips ; one woman assisting the man laying the tiles in the drains, one assisting the shepherd ; a man and a boy feeding the cattle. We have had a little rain for a few days, which was much wanted, as the Turnip land was unfit for ploughing.—*J. B.*

DORSET FARM, *April* 25.—Since last Calendar we have had a succession of backward weather, which has checked field work, and in some cases where Barley sowing was not finished previous, it still remains undone. Wheat is very forward and looking healthy, and with favourable weather there is every prospect of a good crop. The Hay crop promises to be a heavy one. We have been employed for the past two weeks ploughing land for Turnips, Mangold Wurzel, &c., planting Potatoes, sowing Parsnips, delivering Barley, and getting home artificial manures. Labourers turning dung, cleaning rivers in water-meadows, digging Docks, and gathering stones.—*G. S.*

EAST LOTHIAN FARM, *April* 22.—We experienced favourable weather till the middle of the week, when a considerable fall of rain took place, which retarded the cleaning and preparing land for Potatoes and Turnips. We have been employed during the week in planting part of a field with Potatoes ; likewise in threshing Oats for horses and straw for litter, also carting material for repairing farm roads. Spring Wheat and early sown Barley and Oats are brairding, and look healthy, though the weather is rather ungenial. Young Grass also looks well, but rather deficient of Clover.—*S.*

LAMMERMOOR SHEEP FARM, *April* 18.—If March was remarkable for rain and storms, April, as far as it has gone, has been remarkable for drought. The first week was genial spring weather ; the next was cold and frosty ; again, the last three days have been mild, and the Grass is pushing away. All the Cheviot and part of the black-faced ewes, having been fed on Turnips, either at home or elsewhere, were returned to their pastures on the 15th. Though there is little spring on the moors, yet having been very lightly stocked for some time, they are clean, so that we do not expect the ewes to fall off in condition. We find that those which were kept on Turnips at home, being netted on for seven or eight hours during the day, and allowed to return to the pastures at night, have done better than those which were in the low country, and constantly confined on the Turnips. The first lambs made their appearance on the 14th, the black-faced leading the way ; indeed this breed generally come two or three days sooner than either the Cheviots or the Leicesters. The shepherds are now very busy, and the weather being everything that could be desired, we may expect a good crop of lambs. We hear complaints in this district, both of puny lambs and loss of ewes and lambs from abortion. The latter, in all likelihood, is a consequence of the cold and wet storms of February and March, the former may arise from the same cause, though we have always observed that the worst lambs come first. A few Cheviot and black-faced ewes in the inclosures receive a small allowance of Turnips daily, and will continue to do so until the Grass is sufficient to keep them. The cattle are supplied with Swedes and meadow hay. The sowing of Oats commenced three days ago, and all will be completed this week. Some of the land where Turnips were eaten off by sheep during the wet weather is working very unkindly. We have finished draining for Turnips, and are now surface draining the pasture ground, and repairing fences. We are erecting a wire fence to inclose a piece of meadow intended for hay. It consists of four wires threaded through Larch posts. The cost is about 2½*d.* per yard, exclusive of workmanship—this being done by the shepherds—and makes a good sheep fence.—*A Lammermoor Farmer.*

NORTH LINCOLNSHIRE FARM, *April* 22.—Since last report we have been engaged in ploughing Turnip land to sow with Oats ; sowing Oats, carting coals and cake ; sowing small seed, rolling Wheat, and we shall require another week to get all the seeds and Grass in. Men cleaning hedges, paring old sward ; women turning over Mangold Wurzel and cleaning it.—*J. U.*

SOMERSETSHIRE FARM, *April* 24.—The weather has been very changeable lately, and I has prevented us from doing anything on the land towards spring cropping. We have been engaged in threshing Wheat, making thatch, draining, hauling tile for drains, turning and mixing dung for green crop. Our Swedes are nearly finished ; they will last only about 10 days longer. Should dry weather not set in shortly we shall be pushed for keep.—*R. C.*

SOUTH DEVON FARM, *April* 24.—The weather during the past week has been very unfavourable for farming operations, consequently we are in just the same state with our Barley sowing as given in last report ; we have sown some Carrots in a very free soil, and shall be very busy in a day or two, if the weather continues fine, preparing the ground for Barley. Everything is growing very fast, particularly the Oats, which have brairded well ; a yellow tinge is, however, perceptible in the Wheat, in consequence of the late heavy rains, and this plant evidently requires heat.—*T. M.*

STIRLINGSHIRE CARSE FARM, *April* 22.—We have been employed the greater part of this week in giving the Barley the second furrow, which is working pretty well. We had a heavy fall of rain on Wednesday, which stopped out-door labour for a day or two, but it has cleared away again, and the land today is breaking down as well as could be wished, preparatory to giving it another furrow before sowing. It may be further stated that since Wednesday we have had a fine growth.—*W. F.*

Notices to Correspondents.

BEAN BARROW—*H S Denny*—Messrs. Slight and Co., agricultural machine makers, Edinburgh.

BUCKWHEAT—*Inquirer*—May Clover be sown with it with any chance of success ?

COPROLITES—*E S* says, "I should feel obliged if you or any of your readers in the eastern counties could inform me whether the recently discovered coprolite and fossil bone are being dug by any parties in the neighbourhood of Harwich, Felixstow, Ipswich, Orford, Aldborough, Southwold, Norwich, Cromer, &c., and by whom ; and whether 100 or 200 tons could be obtained in the course of a few weeks."

GAS TAR—*R W G*—Whether, and in what proportion, should newly slacked lime be mixed with gas tar, previously to the latter being used on out-door paling and fences ?

GOLD OF PLEASURE—*J Ogle*—We cannot speak from experience, but what evidence has reached us leads us greatly to prefer the Flax to the Commelina sativa, or Gold of Pleasure.

GRASSES—*Preston Sub*—

	Improved Mossy Land.	Stiff Loam.
Agrostis stolonifera	2 lbs.	—
Alopecurus pratensis	2	3 lbs.
Festuca duriuscula	2	2
Lolium perenne	6	5
,, italicum	3	3
Phleum pratense	2½	2½
Poa trivialis	2½	2½
Trifolium repens	6	5
Lotus major	1½	—
Aira cæspitosa *lutescens*	..	1
Arrhenatherum avenaceum ..	..	2
Dactylis glomerata	..	3
Festuca heterophylla	..	2
,, elatior	..	2
,, loliacea	..	3
,, pratensis	..	2
Poa nemoralis	..	2½
Trifolium pratense perenne ..	..	4

Rye, in each case, 1 bushel per acre. *Lawson.*

MARL—*J W Lloyd*—The analysis shows it to be a valuable marl, but we should be inclined to apply it in larger quantities than you. We should apply enough to add 50 lbs. of phosphoric acid per acre, which would be upwards of 2 tons per acre. Are you sure of this item, .817 is a large percentage of phosphoric acid.

POTATOES—*W Jones*—Is the land full of vegetable matter ? If so, 3 cwt. of guano and 1 cwt. of sulphate of soda mixed together, and sown broadcast in wet weather, just as the Potatoes are coming through, will be a good manure. If not, the above mixed with 10 to 20 cubic yards of manure. The printed address is your newsman's affair.

POULTRY—*W T*—Probably in a future article "D. S. E." will answer the question on "feeding hens." The flavour of the eggs, as well as the flesh, depends upon feeding—so will the laying, in a great measure. Eggs packed in old hay or musty straw imbibe the odour. Pheasant flavour may be imparted artificially. Wild turkeys in America are little better than carrion, because of feeding on reptiles. In a former article "D. S. E." points out that poulets hatched in February will lay (early) in September, and moult accordingly. Every one knows the difference between dairy-fed pork and hogs fattened on greaves and offal.

RABBITS—*J B W* is informed that the health of our correspondent will not permit him to undertake this subject. It could not be well performed in a few articles only. He has, however, pointed out the desideratum to an amateur, who is president of a "rabbit society."

SHEEP AND PASTURES—*G J*—The inquiry has been addressed to an experienced man.

TAIL EVIL—*J Price*—The disease of the tail is altogether suppositious, which you may ascertain by comparing it with that of a healthy cow. The disease really consists of rheumatism of the loins, somewhat analogous to lumbago in the human subject, and sometimes ending in palsy. Strong stimulants should be rubbed on the loins, a dose of salts combined with a carminative should be given, and repeated, if necessary, and the animal will generally recover. She should be kept comfortable and tolerably warm, have plenty of warm mashes and gruel, the unoffending tail left unpersecuted, and the bacon and the salt applied to more rational purposes. *W. C. S.*

THE AIR CHURN—We have enquiries for Mr. Weston's address : perhaps he would be so good as favour us with it.

Markets.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, April 27.

Prime Mead. Hay	68s to 75s	New Hay ..	—s to —s	Straw ..	28s to 33s
Inferior ditto ..	60 65	Clover	80 95		
Rowen	— —	New Clover ..	— —		J. COOPER.

CUMBERLAND MARKET, April 27.

Prime Mead. Hay	70s to 78s	Old Clover ..	90s to 95s	Straw ..	28s to 32s
Inferior	55 65	Inferior ..	75 84		
New Hay	— —	New Clover ..	— —		JOSHUA BAKER.

WHITECHAPEL, April 27.

Fine Old Hay ..	70s to 75s	Old Clover ..	88s to 95s	Straw ..	26s to 30s
Inferior Hay ..	50 60	Inferior ..	70 75		
New Hay.. ..	— —	New Clover ..	— —		

HOPS, FRIDAY, April 28.

Messrs. PATTENDEN and SMITH report that the demand for fine Weald of Kent and Sussex Hops continues brisk, at full prices, with a very short supply. The continuance of wet weather still is thought to operate seriously against the coming crop.

Mid. & East Kents, p. cwt.	63s to 100s	Yearling Kents, p. cwt...	48s to 60s
Weald of Kents	58 — 75	Yearling Sussex	46 — 58
Sussex	56 — 70	Old Hops	20 — 40
Farnhams	80 —120		

COVENT GARDEN, April 29.

The market is well supplied with Vegetables and most kinds of Fruit. Fine-apples are sufficient for the demand. The supply of foreign Grapes is well kept up ; small quantities of hothouse Grapes also continue to make their appearance. Pears and apples are as plentiful as could be expected, considering the season. Of the former, specimens of Beurré Rance may be bought at from 4s. to 6s. per dozen. Nuts are sufficient for the demand. Filberts fetch from 14s. to 20s. per 100 lbs. Oranges are abundant. Lemons are moderately plentiful. Strawberries are cheaper. Among Vegetables, we noticed young Carrots and Turnips ; the former fetch from 6d. to 1s. 6d. a bunch, the latter 2s. Cauliflowers, Broccoli, Greens, &c., are plentiful. Seakale is cheaper, as is also Asparagus. French Beans fetch from 1s. to 2s. per lb. Carrots and Turnips are good in quality. Frame Potatoes may be bought at from 1s. to 2s. per lb. Lettuces and other salading are sufficient for the demand. Mushrooms have not altered in price. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Rhododendrons, Fuchsias, Carnations, Auriculas, Acacias, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 6s to 10s	Oranges, bitter, per 100, 8s to 16s
Grapes, hothouse, per lb. 6s to 12s	Lemons, per doz., 1s to 2s
— Portugal, per lb., 1s to 2s	Lemons, per 100, 4s to 14s
Strawberries, per oz., 1s to 1s 6d	Almonds, per peck, 6s
Apples, dessert, per bush., 8s to 12s	— sweet, per lb., 2s to 3s
— kitchen, p. bush., 4s to 7s	Walnuts, per bush. 12s to 18s
Pears, per half sieve, 8s to 10s	Nuts, Barcelona, per bush., 20s to 22s
Gooseberries, green, p. pottle, 1s to 2s	— Filberts, per 100 lbs., 14s to 20s
Apricots, green, p. pottle, 10d. to 1s 6d	— Cob, per 100 lbs., 25s to 30s
Oranges, per doz., 9d to 2s	— Brazil, per bush., 12s to 16s
— per 100, 3s to 12s	Chestnuts, per peck, 3s to 6s

VEGETABLES.

Asparagus, per 100, 1s to 8s	Onions, pickling, p. hf. sieve, 2s to 3s
Cabbages, per doz., 6d to 1s	Shallots, per lb., 6d to 8d
— Red, per doz., 2s to 4s	Garlic, per lb., 8d to 1s
Greens, p. doz bunches, 2d to 6d	Seakale, per punnet, 9d to 1s 6d
Cauliflowers, per doz., 1s 6d to 3s	Rouberb, per bundle, 4d to 1s 6d
Broccoli, per bundle, 6d to 2s	French Beans, per 100, 1s to 2s
Sorrel, per half sieve, 6d to 9d	Radishes, per doz. bands, 3d to 8d
Potatoes, per ton, 100s to 160s	— Turnip, do., 1s to 1s 6d
— per cwt., 5s to 8s	Artichokes, Jerusalem, p. hf. sieve, 1s
— per bush., 3s to 6d	Lettuce, Cab., per score, 4d to 9d
— Kidney, per bush., 4s to 5s	Endive, per score, 1s to 1s 6d
Turnips, p. doz. bunch., 1s 6d to 3s	Mushrooms, per pottle, 4d to 8d
Red Beet, per doz., 1s to 1s	Small Salads, per punnet, 2d to 3d
Horse Radish, per bundle, 1s to 4s	Fennel, per bunch, 2d to 3d
Cucumbers, each, 6d to 2s	Savory, per bunch, 3d to 4d
Leeks, per doz., 6d to 2s	Thyme, per bunch, 2d
Celery, per bundle, 6d to 1s	Watercress, p. 12 small bun., 6d to 9d
Carrots, per doz. bunches, 3s to 5s	Parsley, per half sieve, 9d to 1s
Spinach, per sieve, 2d to 1s	— leaves, per bundle, 1s to 1s 6d
Onions, per bush., 2s to 4s	Mint, green, per bunch, 4d to 8d
— Spanish, per doz., 1s to 4s	Marjoram, per bunch, 3d to 4d

POTATOES, SOUTHWARK, WATERSIDE, April 24.

The Committee report that notwithstanding the very favourable weather for the consumption of Potatoes, our trade is heavy, and it is with difficulty the following prices are realised :—York Regents, 140s to 150s ; Shaws, 90s to 100s ; Essex Regents, 120s to 130s ; Shaws, 90s to 100s ; Kidneys, 130s to 140s ; Blues, 120s to 130s ; Wisbeach Regents, 110s to 130s ; Blues, 80s to 85s ; Scotch Whites, 90s to 95s, Belgian, 85s to 95s ; Hamburgh, 8 s. to 90s.

SMITHFIELD, MONDAY, April 24.

We have, for a holiday market, as this is generally considered, a very large supply of Beasts. The wet weather also being unfavourable, trade is very dull, at lower prices, 4s. 6d. being quite an extreme price for the best qualities. From Holland there are 480, Scotland 300, Ireland 50, and about 1700 from Norfolk and Suffolk. Although the number of Sheep is small, it is quite adequate to the demand, which, owing to the circumstances above named, is exceedingly limited. Rather lower prices are submitted to, and a clearance with difficulty obtained. There are about 500 from Holland, and 83 Calves. Lamb is also a heavy trade, and late quotations barely supported. Calves sell slowly, at about the same as on Friday last. The weather is against the sale of Pigs, and prices are rather lower.

Per stone of 8 lbs.—	s	d	s	d	Per stone of 8 lbs.—	s	d	s	d
Best Scots, Herefords, &c.	4	2 to 4		6	Best Long Wools	4	10 to 5		2
Best Short Horns	4	0 — 4		4	Ditto Shorn	4	6 — 4		8
Second quality Beasts ..	3	0 — 3		6	Ewes and second quality	4	0 — 4		6
Calves	4	0 — 5		2	Ditto Shorn..		....		
Best Downs & Half-breds	5	2 to 5		4	Lambs.....	6	0 — 7		0
Ditto Shorn	4	8 — 5		0	Pigs	4	0 — 5		0

Beasts—3054. Sheep and Lambs—16,010. Calves—103. Pigs—305.

FRIDAY, April 28.

We have a large supply of Beasts to day, and trade exceedingly dull. Prices are about the same as on Monday, although the higher quotations are not so generally realised. Several inferior qualities remain unsold. The number of Sheep is small ; they are readily disposed of at a slight advance on Monday's quotations. Trade is heavy for Lamb ; 7s. is an extreme price for any that are very choice. We are plentifully supplied with Calves ; it must be a very choice one to make 5s. From Holland there are 2 9 Beasts, 360 Sheep, and 114 Calves ; from Scotland 500 Beasts, and 120 Milch Cows from the home counties.

Best Scots, Herefords, &c.	4	2 to 4		6	Best Long Wools.....	5	0 — 5		4
Best Short Horns	4	0 — 4		4	Ditto Shorn	4	6 — 4		10
Second quality Beasts ..	3	0 — 3		6	Ewes and second quality	4	0 — 4		6
Calves	4	0 — 5		0	Ditto Shorn		....		
Best Downs & Half-breds	5	4 — 5		6	Lambs.....	6	0 — 7		0
Ditto Shorn	4	10 — 5		2	Pigs	4	0 — 5		0

Beasts—1030. Sheep and Lambs—4640. Calves—338. Pigs—320.

MARK LANE, MONDAY, April 24.

Messrs. KINGSFORD and LAY report that the show of English Wheat from Essex, Kent, and Suffolk, this morning, was moderate. Dry and fair conditioned samples were cleared early, at an advance of 1s. per quarter upon the prices of this day se'nnight, but no improvement could be established upon damp and inferior parcels, which are interfered with by the large arrivals of foreign ; of these, good fresh cargoes found buyers at 1s. per quarter above the currency, but parcels of inferior quality, but the rise was not obtainable on old descriptions, with the exception of fine Polish.—Barley is a free sale at our quotations.—In Peas and Beans we observe no alteration, excepting Egyptian, which are the turn dearer.—Oats meet an improved inquiry at former rates.—Flour remains unaltered in value.

BRITISH PER IMPERIAL QUARTER.	s	s		s	s
Wheat, Essex, Kent, and Suffolk ..... White	48	60	Red.....	45	52
Norfolk, Lincolnshire, and Yorkshire	46	50	White ..	46	50
Barley, Malting and distilling, 27s to 29s Chevalier	30	34	Grinding	25	27
Oats, Lincolnshire and Yorkshire..... Polands	21	23	Feed	18	22
Northumberland and Scotch ..... Feed	19	22	Potato ..	20	23
Irish ..... Feed	17	21	Potato ..	21	23
Malt, pale, ship.....	—	—			
Hertford and Essex	—	—			
Rye.....	27	30			
Beans, Mazagan, old and new .. 27s to 38s.... Tick..	28	42	Harrow..	30	44
Pigeon, Heligoland	31	50	....Winds	40	52	Longpod	30	34
Peas, White.....	32	35	....Maple	35	37	Grey	30	32

FRIDAY, April 28.

We have been moderately supplied with English Wheat during the week, but the supply from abroad, although there has been little addition since Wednesday, is good. Prices are maintained, but the amount of business is not extensive.—Barley, Beans, and Peas fully support our quotations.—Oats are the turn dearer.—Flour moves off slowly on the same terms.

[The weather since the 20th inst. has been cold and cloudy, but much drier than it was previous to that date, and probably more beneficial to the country than a sudden change to hot sunshine. The Wheat trade throughout the kingdom has been firm, and prices have gradually advanced 1s. to 2s. per qr. Barley and Beans are also the turn dearer. Wheat prices in the Baltic have improved 1s. to 2s. per quarter, produced partly by the receipt of orders from this country, and the fact of money becoming rather easier. In Dantzic, quotations ruled from 38s. to 40s. per quarter, f. o. b. ; and in the lower ports, for red qualities, 34s. to 38s. per quarter, f. o. b. In the Mediterranean and Black Seas business continued lifeless, according to the last accounts. In Ibraila 12s. 9d. to 14s. 9d. had been paid for Maize, to complete cargoes ; Wheat, 22s.; Barley, 9s. 6d., per quarter. From Alexandria, Beans are quoted from 13s. 10d. to 14s. 3d. ; at Constantinople, Wheat, 18s. 7d. to 21s. 7d. ; Barley, 10s. 3d. to 11s. ; Maize, 14s. to 14s. 3d., all per quarter, f. o. b.]

IMPERIAL AVERAGES.	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
Mar. 18	50s 4d	30s 5d	20s 4d	28s 6d	36s 2d	39s 10d
— 25	51 4	30 11	20 4	30 4	35 5	38 2
April 1	51 0	31 5	19 2	29 8	35 7	36 4
— 8	51 16	32 2	20 7	29 6	35 3	38 3
— 15	49 7	32 2	19 11	28 10	35 6	36 11
— 22	48 10	32 1	19 8	29 7	35 3	38 2
Aggregate Average	50 7	31 6	20 0	29 5	35 6	37 11
Duties on Foreign Grain	7 0	2 0	2 6	2 0	2 0	2 0

Fluctuations in the last six weeks' Corn Averages.

Price.	March 18.	March 25.	April 1.	April 8.	April 15.	April 22.
51s 10d	...	...	...	...	...	...
51 6	...	...	...	...	...	...
51 4	...	...	...	...	...	...
50 4	...	...	...	...	...	...
48 10	...	...	...	...	...	...
49 7	...	...	...	...	...	...

SEEDS, APRIL 24.

Canary .....per qr.	60s to 68s	Linseed-cakes, Foreign, p. ton,	8l to 10l	
Caraway .....per cwt.	34	36	Mustard, White, p. bush.,	6s 0d to 8s 0d
Clover, Red, English	35	52	Superfine, p. bush.,	— —
— Foreign	35	50	Brown, p. bush.,	— —
White, English	40	52	Rapeseed, Eng., per last.....	28l 32l
— Foreign	40	50	Rape-cakes .....per ton	5l 10s 6l 0
Coriander.....	19	20	Sainfoin	— —
Hempseed .....per qr.	38	42	Tares, Eng., winter, p. bsh.,	5s 0 7s 0
Linseed.....	44	54	Foreign, per bush.,	3s 6 6s 0
— Baltic.....	—	—	Trefoil	17s 0 21s 0
— Cakes, Eng. p. 1000,	13l to 13l 5s	Turnip—too variable for quotation.		

Sales by Auction.

ORCHIDS—JUST LANDED, ex AGNES FROM CENTRAL AMERICA.

MR J. C. STEVENS begs to announce that he will sell by Auction, at his Great Room, 38, King-street, Covent Garden, on Thursday next, May 11th, at 12 for 1 o'clock, an IMPORTATION OF FINE ORCHIDS, comprising Lælias, Sobralias, Oncids, Epidendrums, Lycastes, Cypripediums, Lacenas, &c., several of which are stated to be quite new. Catalogues are preparing, and will be forwarded in due course. On view the morning of the sale.

RARE ORCHIDS, AND OTHER STOVE AND GREENHOUSE PLANTS,

The Property of a Gentleman in the West of England.

MR. J. C. STEVENS begs to announce that he will sell by Auction, at his Great Room, 38, King-street, Covent Garden, on Thursday, the 18th May, and following day, at 12 o'clock, a COLLECTION OF ORCHIDS, comprising magnificent specimens of rare varieties, well established, and in fine health; some very choice Stove and Greenhouse Plants, and a few well grown and rare Heaths, to which the attention of the Amateur is particularly requested, the object of the Proprietor always having been to obtain the finest specimen plant.—Catalogues are now ready, and may be had of Mr. J. C. STEVENS, 38, King-street, Covent Garden.

RARE EXOTICS, FROM THE NURSERY OF MONSIEUR J. DE JONGHE, AT BRUSSELS.

MR. J. C. STEVENS is instructed to announce for sale by Auction, at his Great Room, 38, King-street, Covent-garden, on Monday, May 22, at 12 o'clock, a rare and valuable collection of the PLANTS of the Brazils, Isle of Cuba, Colombia, and Mexico, including at least 50 species now to this country.—Catalogues are preparing and will be ready for distribution 10 days prior to the sale.

IMPORTANT SALE OF CONIFERÆ.

MR. J. C. STEVENS is favoured with instructions from Messrs. LODDIGES (in consequence of the near expiration of the Lease of part of their Nursery) to announce for Sale by Auction, on the premises, at Hackney, on Wednesday, May 24, and following day, at 12 o'clock, a most extensive and valuable Collection of CONIFERÆ, including many very rare and choice species in pots. Catalogues are preparing, and will be ready for distribution ten days prior to the sale.—38, King-street, Covent-Garden; April 29.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will submit to public competition, at the Auction Mart, Bartholomew-lane, on Tuesday and Thursday, May 2d and 4th, 1848, at 12 o'clock, about 500 first-rate DAHLIAS, comprising all the new and approved varieties; also a splendid assortment of Geraniums, and other plants in bloom. The newest varieties of Fuchsias, Verbenas, Pinks, and a collection of other plants for the borders. May be viewed the morning of sale, and Catalogues had at the Mart, and of the Auctioneers, American Nursery, Leytonstone.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS have received instructions from the Assignee of C. D. Smith and Co. to submit to public competition, by Auction, on the premises, Battersea (near the bridge), early in May unless previously disposed of by private contract), the valuable LEASE, the unexpired term of 9 years; also the whole of the Greenhouses, Pits, Boxes, &c., together with the Greenhouse Plants, Nursery Stock, &c. &c. Further particulars in next week's Advertisement.—American Nursery, Leytonstone, April 29.

TULIPS.—SUNBURY NURSERY.—THE FAMED STOCK OF MR. JOHN THOMAS WILLMER.

MESSRS. PROTHEROE AND MORRIS respectfully announce they have been instructed to offer this fine collection of TULIPS by public Auction, on Thursday, 18th May, 1848, on the premises, Sunbury Nursery, Sunbury-common. This opportunity should be eagerly embraced by Gentlemen, Florists, Amateurs, and others, of selecting from this magnificent collection those flowers collected with skill and taste, at an enormous expense of time and money, by the proprietor, whose well known talent requires no comment.

TO BE SOLD BY AUCTION, some time in June, as will be more particularly announced hereafter, if it be not previously disposed of by Private Contract—

POULTON, NEAR BLAKENEY, GLOUCESTERSHIRE. A FREEHOLD ESTATE of 100 Acres, or thereabouts, on the Western side of the Severn, and overlooking the river.

The whole is land of good quality, and in a high state of cultivation. Application for further particulars to be made by letter, post-paid, addressed to Mr. JOHN MORTON, Whitnell, Wotton-under-Edge, Gloucestershire.

TO BE DISPOSED OF, A WALLED-IN GARDEN, about three quarters of an acre, now used as a Nursery, together with Greenhouses and Frames. Also the Stock, and a good Jobbing trade. For particulars, apply to W. LYNN, Seedsman and Florist, 7, Bentley's-place, Kingsland.

TO BE LET.—A COMPACT, WELL-STOCKED NURSERY, of 2 acres, in the immediate vicinity of a populous city in the centre of England; established upwards of 20 years; capable of considerable extension; and an excellent opportunity offers of combining the Seed Trade therewith.—Direct to A. Z., at the office of this Paper.

FARMS WANTED.

WANTED, A FARM, of from 150 to 300 Acres,—The advertiser has ample capital, and would be a desirable acquisition on any estate. The land must be suitable for Turnips and Barley, and have a comfortable House, &c. upon it. If within 50 miles of London, so much the better. Also, a FARM of from 100 to 150 Acres. Particulars to be sent to Messrs. WEST and BAILEY, Land Agents, 4, Great Queen-street, Westminster.

PARTNERSHIP.—MR. JOHN WEEKS, King's road, Chelsea, would be happy to meet with a Practical Gardener, with a capital of from 500*l.* to 2000*l.* to join him in The UNITED NURSERY. The Horticultural Buildings at this Establishment are the finest of any nursery in the country; there is a choice and valuable collection of Plants. None need apply but men of first-rate abilities.

MILTON'S BEE-HIVES.—An Extensive Assortment of each variety of Glass and Straw Hives, arranged for the season. "The Improved Huber," "Hexagon Apiary," and "The Box Hive," are particularly worthy of attention, as they have been extensively patronised, and worked with complete satisfaction and profit to the purchasers. Bee-Glasses of all sizes. Illustrations of Hives 1s., at MILTON'S, 10, Great Marylebone-street, Wimpole-street, London.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

WASP CATCHER.

UNDERWOOD, Cutler to HER Majesty, 56, Haymarket, [illegible] Gardeners, Nurserymen, and [illegible] the above [illegible] Factories [illegible] hereby [illegible] destruction [illegible] mended [illegible] secured. [illegible]

LIGHTLY, LIGHTLY, 170, Leicester-square, [illegible] wood M[illegible] pots, &c., [illegible] for the same purpose, which can be warranted to kill every description of Insect, Worm, or Vermin, in a few minutes, completely for the purpose, and when done can be [illegible] secured. Directions for use with each.

Sole agents to London, G. and J. Deane, Horticultural Implement Warehouse, 46, King William-st., London-bridge.

THE PRACTICAL BEE-KEEPER.

DEANE'S WARRANTED GARDEN TOOLS.—Horticulturists, and all interested in Gardening pursuits, are invited to examine G. and J. Deane's extensive assortment of GARDENING AND PRUNING IMPLEMENTS, first London made Garden Engines and Syringes, Conical Rotary Garden Seats and Chairs.

Arcuncators	Garden Scrapers	Pick Axes
Axes	Grape Gatherers and Pocket Hooks	Pruning Bills
Bagging Hooks	Grass Shears	,, Knives, various
Bills	Grass Hakes and Sieves	,, Saws
Borders, various patterns	Greenhouse Doors and Frames	,, Scissors
Botanical Boxes	Hammers	,, Shears, new
Cases of Pruning Instruments	Hand-glass Frames	Rakes in great variety
Chaff Engines	Hay Knives	Reaping Hooks
Chaff Knives	Hoes, every pattern	Scythes
Daisy Rakes	Horticultural Hammers and Hatchets	Scythe Stones
Dibbles	Hotbed Handles	Shears, various
Dock Spuds	Ladies' Set of Tools	Sickles
Draining Tools	Labels, various patterns, in zinc, porcelain, &c.	Sickle Saws
Edging Irons and Shears	Lines and Reels	Spades and Shovels
Flower Scissors	Marking Ink	Spuds
,, Stands in Wire and Iron	Mattocks	Switch Hooks
Fumigators	Metallic Wire	Transplanting Tools
Galvanized Borders and Plant Protectors	Mezographs	Trowels
Garden Chairs and Seats	Milton Hatchets	Turfing Irons
,, Loops	Mole Traps	Weed Extractors and Hooks
,, Rollers	Mowing Machines	Wheelbarrows
		Youths' Set of Tools

G. and J. DEANE are sole Agents for LINGHAM'S PERMANENT LABELS, samples of which, with the Illustrated List of Horticultural Tools, can be sent, post paid, to any part of the United Kingdom.—DEANE'S Horticultural Tool Warehouse, opening to the Monument, 46, King William-st., London-bridge.

STRONG HORTICULTURAL 16-oz. SHEET GLASS FOR CONSERVATORIES, GREENHOUSES, PITS, FRAMES, &c.—FURTHER REDUCTION.

HETLEY AND CO. publish Prices in the *Gardeners' Chronicle* the first Saturday in every month. Wholesale and Retail Glass Shade, Sheet, Crown, and Patent Plate Glass Warehouse, 35, Soho-square, London.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND CO., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS FOR CONSERVATORIES.

CUT TO SIZE UP TO 40 INCHES LONG.			SMALL SQUARES of SHEET.	
			4 by 3 and 4½ by 3½..1½*d.* per ft.	
16 oz. to the foot	3½*d.*	per foot	5 ,, 3 ,, 5½ ,, 3½..2	,,
21 ,,	5	,,	6 ,, 4 ,, 6½ ,, 4½..2½	,,
26 ,,	7½	,,	7 ,, 5 ,, 7½ ,, 5½..2½	,,
32 ,,	10	,,	8 ,, 6 ,, 8½ ,, 6½..2½	,,
			Not above 10 ,, 8 ..3	,,

GLASS MILK PANS, PROPAGATING GLASSES, AND BEE GLASSES. GLASS TILES AND SLATES.

CREAM POTS, from 3 to 24 quarts, at 6*d.* per quart.

CUCUMBER GLASSES, from 12 to 26 inches long, 1*d.* p. inch.

LACTOMETERS for trying the quality of Milk, 4 tubes 7*s.* 6*d.*, 6 tubes 10*s*; and every article in the trade.

GLASS.

APSLEY PELLATT AND CO. (late PELLATT and GREEN), Falcon Glass Works, Holland-street, Blackfriars, have always on hand, Bee Glasses 1*s.* 6*d.* per lb., Cucumber Glasses, 1*s.* 6*d.* per lb.; Milk Pans, 18 in., white glass, 5*s.* 6*d.* each; Propagating Glasses, white, 1*s.* per lb., do. green, 10*d.*, do. Condensing, 2*d.* per lb. extra; Asparagus Tubes, 18*s.* to 21*s.* per gross; Grape Shades, 1*s.* 6*d.* to 2*s.* each; Fish-bowls, from 1*s.* 6*d.* each; Wasp and Fly-traps, 40*s.* per gross, or 3*s.* 6*d.* per dozen. By the use of these traps fruit may be preserved from (otherwise certain) destruction.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

GUANO AND NITRATE OF SODA.

PERUVIAN GUANO of the best quality, now ready for delivery in any quantity direct from the Import Ship or Warehouse, at the reduced prices.—Apply to JOHN CLARANCE and Co., 19, Cullum-street, Fenchurch-street, London.

THE following MANURES are Manufactured by Mr. LAWES, at his Works at Deptford-creek:—

Corn Manure	.. 14*l.* per ton.	Grass Manure	.. 14*l.* per ton.
Clover do.	.. 14*l.* ,,	Turnip do.	.. 7*l.* ,,

Superphosphate of Lime, 7*l.* per ton.

Mr. LAWES has also made preparations for supplying the various artificial MANURES of commerce, and if Agriculturists will trust the selection of them to him, and will furnish him with the necessary information, he will supply those which he considers most suitable to the soil and crops. A paper containing the questions required to be answered will be forwarded upon application to his Office, 69, King William-street, City, London.

THE LONDON [illegible] COMPANY [illegible]

THE LONDON [illegible] COMPANY [illegible]

GUANO AND OTHER [illegible]

DR. RICHARDSON'S [illegible]

PERUVIAN AND BOLIVIAN [illegible] SALE, by the Consignees:

ANTONY GIBBS AND [illegible]

WM. JOSEPH MYERS AND [illegible]

And by their Agents

GIBBS, BRIGHT, AND CO., LIVERPOOL;

COLES WORTH, POWELL, AND [illegible]

To protect themselves against the [illegible] using inferior and spurious [illegible] intended to apply only to [illegible] the above-named importers, who [illegible] any quantity, at their lowest prices, [illegible] Warehouses.

IMPORTANT TO AGRICULTURISTS.

GUANO superseded by C. M. WARD'S MACOTT'S CONCENTRATED [illegible]

The price for cash at the [illegible] per ton, or in strong sacks [illegible] London, 6*l.* per ton. The [illegible] rights of [illegible] preserved. It has proved [illegible] especially recommended for [illegible] rather as a top dressing [illegible] quantity required per [illegible] ing to the condition of the land. [illegible] date attention, [illegible] Agar Town, St. Pancras, London.

POTTER'S GUANO.—SEVENTH YEAR.—TESTIMONIALS.

"Sir,—The experiment I made last [illegible] an additional quantity of [illegible] Send me 2 tons." Signed, "[illegible]

Result of Dr. Ure's Experiment at [illegible]

Produce per Acre.	Wheat.	Barley.
Unmanured	[illegible]	[illegible]
Bone Shavings, 1 cwt.	[illegible]	[illegible]
Manure Company's Guano, 2 cwts.	[illegible]	[illegible]
Nitrate of Soda, 1 cwt.	[illegible]	[illegible]
Phosphorite, 12 cwt.	[illegible]	[illegible]
Phosphorite with Oil of Vitriol	[illegible]	[illegible]
Peruvian Guano, 2 cwts.	[illegible]	114
Bones, with Vitriolic Acid, 11 cwt.	[illegible]	[illegible]
Graham's Animal Compost, 2 cwts.	[illegible]	[illegible]
Sulphate Ammonia, 1 cwt.	[illegible]	[illegible]
Bones, finely powdered, 12 cwt.	[illegible]	[illegible]
POTTER'S GUANO, 2 cwts.	[illegible]	[illegible]

See Journal of the Royal Ag. Society, Vol. VI., Part II. p. [illegible]

PURE GYPSUM, [illegible] per ton.

Factory, 28, Clapham-road-place, [illegible] by Mr. POTTER'S authorised agents in their various [illegible]

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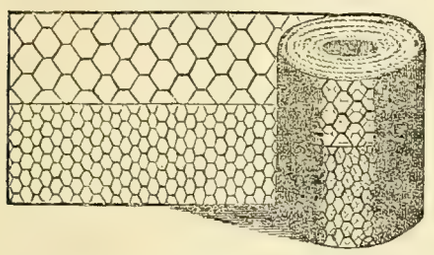

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					per yard—s. d.
Double Mesh Net 24 ins. wide, 1⅝ & 3¼-in. mesh, strong					0 6¾
...	...	...	...	... extra strong	0 9
...	...	...	2 & 4	... strong	0 5¾
...	...	...	...	... extra storng	0 7½
Single Mesh	...	...	1⅝	... light	0 7
...	...	...	...	... strong	0 9
...	...	...	...	... extra strong	1 0
...	...	...	2	... light	0 6
...	...	...	...	... strong	0 7½
...	...	...	...	... extra strong	0 10

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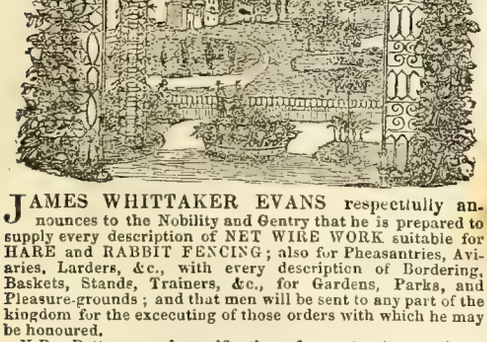

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J. L. BENHAM AND SONS beg leave to remind all persons having boilers at the back of their kitchen fires of the necessity of having them cleaned out at least once a year, either by a smith or any other competent person, as the calcareous crust, commonly called "Fur," which is deposited from the water, becomes otherwise so thick as to expose the boiler to very serious and often irremediable damage from the action of the fire.—19, Wigmore-street, Cavendish-square.

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CONDUCTED BY EDWARD BECK.

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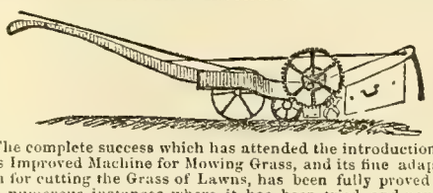

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THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News. The Horticultural Part Edited by Professor Lindley.

No. 19.—1848.] SATURDAY, MAY 6. [Price 6*d.*

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WILLIAM E. RENDLE AND CO., Plymouth, having a very Large stock of the following Plants, beg to be allowed to offer them at the following reduced prices.

GERANIUMS. First Class.—Purchaser's Selection of 25 from the following List, for 15*s.*—LYELL'S Perpetuum nec Plus, Remembrance, Firefly, Sir Walter Raleigh Garnett, The Pearl, Queen of Beauties, Nourmahal, Lucknow, Sir Robert Peel, and King of Saxony. BECK'S Patroness, Gazania, Amiel, Hebe's Lip, Favourite, Master, Zenobia, Rose Circle, Desdemona, Margaret, Isabella, and Zauzemonia. LEE'S Mirror, Princess, Chaplet, Mary Monarch, Pieta, and Rosebud. HOYLE'S Isabella. RENDLE'S Francis Ballin. CATLEUGH'S Shield of Achilles, Queen Philippa, Mazeppa, and Raphael. GAINES' Edith, Lady Bulkely, Miss Helford, Prince Alfred, and GREADY'S Standard of Perfection.

SECOND CLASS.—Purchaser's Selection of 20 from the following List, for 15*s.*—Sunrise, Duke of Cornwall, Lord Wolseley, Rodworth, Princeps, Prius, Champion, Unique, General Pollock, Rosalia, Sarah Jane, Cornubiensis, Adrien, Othello, Peste, Horatio Nelson, Leonora, Theresa, Celestial, Black Dwarf, Beauty of Solihull, Alba Multiflora, Admiral Napier, Hebe, Juliette, Madeline, The Pearl, Gipsy Queen, Vesta, King of the French, Dido, Ivanhoe, Cornish Gem, Conflagration, Constellation, Countess of Mount Edgcumbe, Hector, Rosetta, Robustum, Magicienne, King of Saxony, and Duchess of Leinster.

Other sorts, 5*s.* to 10*s.* per dozen.

SCARLET GERANIUMS.—Twenty plants of good Scarlet varieties, including Tom Thumb, for 10*s.*

Purchaser's selection of all the choicest varieties from our Catalogue (just published), can be obtained at the following reduced prices.

DAHLIAS, 12 superior sorts			£0	15*s.* 6*d.*
,, 20 ditto			1	1 0
,, 12 good sorts			0	7 0
FANCY DAHLIAS, 12 superior sorts			0	12 0
FUCHSIAS, 20 superior sorts			0	15 0
,, 20 good sorts			0	10 0
DWARF ROSES, in pots, 12 superior sorts			0	15 0
,, 20 ditto			1	5 0
INDIAN AZALEAS, 12 superior sorts			1	0 0
,, 20 ditto			1	10 0
CINERARIAS, 12 superior sorts			0	15 0
MISCELLANEOUS PLANTS, 12 superior sorts			0	15 0
,, ,, ,, 20 ditto			1	5 0
,, ,, ,, 20 good sorts			0	15 0
MISCELLANEOUS CLIMBERS, 12 superior sorts			0	15 0
,, ,, 20 ditto			1	5 0
HERBACEOUS PLANTS, 20 superior sorts			0	10 0
ANTIRRHINUMS, 6 superior sorts			0	5 0
PETUNIAS, 6 superior sorts			0	5 0
EPACRIS, 12 ditto			0	15 0
CACTUS, 6 ditto			0	9 0
VERBENAS, 12 ditto			0	10 0
PINUS, 6 ditto			0	7 0
ARAUCARIA IMBRICATA, 12 plants			1	0 0
CEDRUS DEODORA, 12 plants			1	0 0

*** *All Orders above 3l. will be delivered (hamper, package and carriage free), to London, Bristol, Exeter, Barnstaple, or Falmouth; or above 6l. to Liverpool, Dublin, and Cork.*

A remittance is not required from known correspondents, or those who give reference in London. Steamers from this Port three times a week to London, Cork, Dublin, Liverpool, and Falmouth. Orders will be executed in strictest rotation. Great attention is paid to careful packing. All plants forwarded to long distances are packed in strong Fir Boxes, and firmly secured.—WILLIAM E. RENDLE and Co., Nurserymen, Plymouth.

HUGH LOW AND CO. have to offer the Plants named below.

Ixora Griffithii, 21*s.*
,, javanica, 10*s.* 6*d.*
Æchmea fulgens, 15*s.*
,, discolor, 15*s.* [10*s.* 6*d.*
Clerodendron macrophyllum, volubile, 5*s.*
Nepenthes distillatoria, 7*s.* 6*d.*
Barnadesia spinosa, 7*s.* 6*d.*
Lysionotus serratifolius, 7*s.* 6*d.*
Gloxinia Teuchlerii, 7*s.* 6*d.*
Allamanda Schottii, 31*s.* 6*d.*
Cereopegia Cunningiana, 5*s.*
Echites splendens, 5*s.*
Hoya imperialis, 42*s.*
,, lacunosa, 7*s.* 6*d.*
Gardenia Fortunii, 10*s.* 6*d.*
,, Fowlsana, 42*s.*
,, Stanleyana, 5*s.*
Strophanthus Stanleyanus, 7*s.* 6*d.*
Tropæolum speciosum, 7*s.* 6*d.*
Aralia crassifolia, 21*s.*
Boronia microphylla, 21*s.*
Cereus Maynardii, 7*s.* 6*d.*
Azalea indica Frostii, 5*s.*
,, ,, Grenvilii, 5*s.*
Lalage ornata 7*s.* 6*d.*
Scottia dentata, 2*s.* 6*d.*
Epacris Tauntoniensis, 9*s.* 6*d.*
Hovea splendens, 5*s.*
Siphocampylus microstoma rubra, 3*s.* 6*d.*
Anemone japonica, 9*s.* per doz.
Calystegia pubescens, 1*s.*
Heliotropium Voltaireanum, 9*s.* per doz.
Fuchsia Oberon Low, 5*s.*
,, Sunset (Low), 3*s.*
Phlox, 12 new distinct Belgian varieties, at 1*s.* 6*d.*
Clematis glandulosa, 5*s.*
,, tubulosa mongolica,
Lilium colchicum, 1*s.* 6*d.* [6*d.*
Helleborus olympicus (fine for forcing), 2*s.* 6*d.*
Sarracenia rubra, 2*s.* 6*d.*
,, variolaris, 2*s.* 6*d.*
,, flava, 2*s.* 6*d.*
Viola pedata, 1*s.* 6*d.*
,, arborea a ba pleno, 9*d.*
,, ,, rubra pleno, 1*s.*
,, new perpetual Florin, 2*s.* 6*d.*
Philadelphus Zeyheri, 1*s.* 6*d.*
Ribes Gordoniana, 1*s.* [2*s.* 6*d.*
,, sanguinea flore pleno,
Spiræa prunifolia pleno, 1*s.*
Garrya laurifolia, 2*s.* 6*d.*
,, macrophylla, 5*s.*
Berberis aquifolium, 7*s.* 6*d.*
,, floribunda, 7*s.* 6*d.*
,, gracilis, 3*s.* 6*d.*
,, Lycium, 5*s.*
,, umbellata, 2*s.* 6*d.*
,, Wallichiana, 5*s.*
Quercus Ilex crassifolia, 5*s.*
,, lanceolata, 7*s.* 6*d.*
,, Michauxii, 5*s.*
,, pannonica, 5*s.*
,, pubescens, 7*s.* 6*d.*
Ilex dipyrena, 10*s.* 6*d.*
Weigela rosea, 1*s.* 6*d.*

Also for Bedding:—Petunias, Fuchsias, Antirrhinums, Verbenas, Cupheas, Heliotropes, Bouvardias, Geraniums, dwarf Lobelias, Salvias, Mimulus, Ageratums, Chrysanthemums, Pentstemons, Malva Crecana and Crecana alba, 4*s.* to 6*s.* per dozen. The usual discount to the Trade when three plants of a sort are ordered.—Clapton Nursery, London, May 6.

THOMAS RIVERS [illegible]

W. J. WOOD [illegible]

ROSES ON THEIR OWN ROOTS.

Hybrid Perpetuals
Ile de Bourbon
China
Tea-scented China
Noisette

*** The present month is recommended for planting at the above.

Fuchsias, all the best varieties, by name
Verbenas, ditto
Cinerarias, ditto
Chrysanthemums ditto
Climbers for Verandahs, &c. &c.

N.B. Additional plants are added each month, and are at all times ready for carriage, &c., and will be packed in such a manner as to ensure their being securely packed in transit to any part of the world.

Descriptive Catalogues of the above will be forwarded on application.

Woodlands Nursery, Maresfield, near [illegible], Sussex.

SAMUEL WALTERS, Florist, Horticultural Builder, and Trowbridge, Wilts, begs to offer the following Plants in strong plants:—

12 Geraniums, in bud or bloom
12 Ditto, including Orion, Princess, Cipsy Maid, Flora Sylph, Superb, Lady Rendle, &c.
12 Fuchsias, best selected large
12 Ditto, including Purity (Majestic and Magnificent in the Ring, Lucinatha white, Fair Beauty, of Leeds, Globe
12 Dahlias of the most popular varieties
12 Ditto, from the following [illegible]: Yellow Standard (Miller's), Miss Vyse, Lady of the Lake, Rosetta, Mrs. [illegible], Marquis of Westminster, Attraction, Beauty of Berry, Lord [illegible], Queen of Trumps, Fenix, Lily-white, Queen of Whites, &c.
12 Pansies, large flowers
12 Ditto, including Duchess of Sutherland, Duchess of Kent, Duchess of Gloucester, Duke of Wellington, Prince Albert, Lord Raglan, Lord Hardinge, Lord Low, Excellent, &c.
12 Chrysanthemums, very fine
12 Ditto, including [illegible] Queen of Whites, Annie Salter, Mrs. Fellowes, Mrs. Salter, Mrs. Ware, Mrs. Hall, Mrs. Hardy, Mrs. Low, Mrs. Ware, Mrs. Hall, Mrs. Hardy, Mrs. Low, Mrs. Ware, Mrs. Hall, Mrs. Hardy, Mrs. Low, &c.
12 Verbenas, very fine
12 Ditto, including [illegible] Queen of Whites, Annie Salter, Mrs. Fellowes, Mrs. Salter, Mrs. Ware, Mrs. Hall, Mrs. Hardy, Mrs. Low, &c.
12 Roses [illegible] Moss, Scarlet, Sulphur, &c.
12 Ditto, Tea-scented, Noisette, &c.
12 Ditto, fine [illegible]
12 Fuchsias, very fine
12 Calceolarias
12 Cinerarias
12 Phloxes, &c.: 12 Pentstemons alba, &c., &c.: 12 Antirrhinums, &c.: 12 Scarlet Geraniums, &c.: 12 Fancy Dahlias, &c.: 12 Double Balsams, &c.

These must be paid for previous to delivery, unless otherwise.

Orders under 20*s.* cannot be executed, and any discount not exceeding 5 per cent. on receipt of the amount.

BROCCOLIES.—ELLETSON'S SUPERB MAMMOTH APRIL WHITE; ELLETSON'S IMPROVED WILCOVE WHITE and METCALFE'S IMPROVED WALCHEREN.

WILLIAM MAY, F.H.S., begs to remind those who may not already have supplied themselves with the above genuine seeds, that there is yet time for their being sown for next season's use. Their qualities being proved the two past seasons they need no comment. A packet of each sent for 48 postage stamps free.

The Hope Nurseries, Bedale, Yorkshire, May 6.

SPLENDID SEEDLING ANTIRRHINUM, "UNIQUE."

W. H. CAPARN, Seedsman and Florist, begs to inform the public that he intends sending out, in the second week in May, his splendid ANTIRRHINUM, "UNIQUE," at 2*s* 6*d*., or, postage free, 3*s*. per plant. A remittance of Post-office order, or postage stamps, is respectfully requested from unknown correspondents.

See the *Gardeners' Chronicle* for the 28th August last, for Dr. Lindley's opinion, who says, "W. H. C.—Your seedling is a novel and beautiful variety; upper lip white, tube dark, lower lip deep purple crimson. This is a desirable addition to the best of the cultivated sorts."—Newark, May 6.

RENDLE'S NEW CATALOGUE of Geraniums, Dahlias, Azaleas, Fuchsias, Verbenas, Petunias, Cinerarias, Gloxinias, and Miscellaneous Plants is now publishing.

It will contain all the novelties of the season, at very reduced prices. Copies will be forwarded on application to

William E. Rendle and Co., Nurserymen, Plymouth.

CAPE HEATHS.

W. J. EPPS has the pleasure to offer the finest stock of YOUNG HEATHS in the country; they are very bushy and exceedingly healthy, in large 60 and 48 sized pots, consisting of the following kinds: Cunninghamii, Hartnellii, aristata major, retorta major, gemmifera, depressa, mundula, tricolor of sorts, odora rosea, Aitonia, Cavendishii, eximia, propendens, andromedæflora, intermedia, ventricosa of sorts, 12*s*. per doz., or 5*l*. per 100. Common varieties, 6*s*. to 9*s*. per doz. A liberal allowance to the trade.

A very extensive stock of new and choice Stove and Greenhouse Plants, &c.—Bower Nursery, Maidstone.

LARGE WHITE BELGIAN CARROT	per lb—2*s*. 0*d*.
LONG GREEN-TOPPED RED ALTRINGHAM do.	1 3
IMPROVED LONG RED ditto ditto	1 9

BASS and BROWN are enabled to supply any of the above in large or small quantities of the finest quality of Seed and Stock. Also the finest MANGOLD WURZEL, CATTLE PARSNIP, TURNIPS, GRASSES for permanent pasturage, PACEY and ITALIAN RYE GRASSES, &c. Priced Lists of Agricultural Seeds; also Wholesale Prices to the trade on application.—Seed Establishment, Sudbury, Suffolk.

UNPARALLELED FUCHSIA—"JENNY LIND."

EDWARD TILEY begs to refer the readers of the *Gardeners' Chronicle* to his Advertisement on Saturday, April 22, for a description of his superb Seedling FUCHSIA Jenny Lind. Plants are now sending out, at 10*s*. 6*d*. each. The usual allowance to the Trade when three are taken. A remittance will secure the Plants, package and postage free.

Edward Tiley, Seedsman and Florist, General Seed Shop, 16, Pulteney-bridge, Bath.

UNRIVALLED DAHLIAS.

JAMES MITCHELL begs to announce to his friends he has good plants of the following superb Seedlings, which he can recommend to the most limited grower:—

LADY MONTGOMERY.—Bright amber, tipped with white; the most beautiful and the most distinct flower of the season. 4 feet, 10*s*. 6*d*.

MISS COVENEY.—White, striped with red, very beautiful. 4 feet, 10*s*. 6*d*.

BLACK PRINCE (Stenning).—Dark crimson, extra shape. 4 feet, 10*s*. 6*d*.—Piltdown Nurseries, Maresfield, Sussex.

NEW AND SELECT PLANTS.

BENJAMIN W. KNIGHT, Florist, &c., Tivoli, near St. Leonard's-on-Sea, Sussex, begs to call the attention of his friends and the public to the following choice and select Plants, which are now ready for delivery:—

12 choice and distinct FUCHSIAS, fit for exhibition, for 4*s*.; 12 extra first-rate, very distinct, new varieties, for 9*s*. 12 fine distinct VERBENAS for 2*s*. 6*d*.; 12 extra new varieties, quite distinct, all sent out last season for the first time, for 6*s*. 12 fine distinct PETUNIAS for 3*s*. 6*d* ; 12 extra new and distinct varieties for 6*s*. 12 good distinct CINERARIAS for 6*s*. 12 fine distinct ANTIRRHINUMS for 3*s*.; 12 extra superb and distinct varieties for 6*s*. 12 fine SALVIAS for 3*s*. 6*d*.; 12 extra fine distinct varieties, including mexicana, Camertonii, and gesneriaflora, for 6*s*. 12 HELIOTROPIUMS for 4*s*. 12 CUPHEA STRIGILLOSA (the best for bedding out), for 3*s*. 12 fine varieties of ACHIMENES for 6*s*. 12 ANAGALLIS, scarlet and blue, for 3*s*. 6*d*. 12 choice and distinct CHRYSANTHEMUMS for 3*s*. 6*d*.; 12 extra fine very superb varieties for 6*s*. 12 fine bedding out Plants, such as Lobelias, Senecios, Ageratums, Alonsoas, &c., for 3*s*. 6*d*.; 12 extra fine distinct varieties for 6*s*. The above can be sent post free, securely packed, without any risk of perishing.

Choice varieties of DAHLIAS early in May, 12 fine show flowers for 6*s*.; 12 superior for 9*s*.; 12 extra new varieties for 15*s*.; 12 fine fancy varieties for 6*s*.

Catalogues of the above may be obtained on prepaid application, enclosing a postage stamp. A remittance or reference is respectfully requested from unknown correspondents.

A BEAUTIFUL SEEDLING ANTIRRHINUM.—"ROGERS'S YELLOW STANDARD."—A most distinct and beautiful variety, being a dark yellow, and of peculiar dwarf habit; in consequence of it throwing out numerous laterals (instead of spiring up with one tall flower-stem, a habit so objectionable to many of this class) on which it blooms freely, the laterals are produced throughout the blooming season, which causes it to be perpetually in bloom, which are of great substance and large size, the upper and lower lip expanded and not liable to curl back. For single specimens, or for planting in beds, this will prove one of the best yet offered. Plants, first week in May, 5*s*. The usual allowance to the trade when three or more are ordered at one time.

The following opinion was given in the *Gardeners' Chronicle* of July 10, 1847, under the name of Goldfinch, "G.R., a good sized pure yellow, is a desirable addition to this class of flowers."

GEORGE ROGERS, Florist, &c., Uttoxeter, Staffordshire, has the greatest confidence in offering the above as a very desirable variety, and begs to call attention to the following, which are now ready to send out in good and healthy plants.

Beautiful VERBENAS ...	per dozen—	7*s*.	6*d*.	to	9*s*. 0*d*.
,, FUCHSIAS, all new last year	,,			15	0
,, GERANIUMS ...	,,	12	0	50	0
,, PANSIES ...	,,	6	0	12	0
,, DAHLIAS ...	,,	6	0	21	0
,, CINERARIAS ...	,,	9	0	21	0
CUPHEA PLATYCENTRA	,,			6	0
,, STRIGILLOSA	,,			6	0
HELIOTROPIUM VOLTAIREANUM, ea.	1*s*. 6*d*.	p. dz.		12	0
PENTSTEMON GENTIANOIDES VERA	,, 1 6	,,		12	0
ANEMONE JAPONICA ...	per dozen—			6	0

The Description of the above may be had by applying for G. R.'s Catalogue of Plants, which will be forwarded post-free.

Uttoxeter, May 1.

ROSES IN BLOOM.

EDWARD DENYER, Nurseryman, Brixton, near London, begs respectfully to inform the nobility, gentry, and his friends in general, that he has erected a spacious greenhouse exclusively for the growth of ROSES in pots, which are now in bloom, consisting of all the newest and rarest kinds. He has also a choice stock of Geraniums, Fuchsias, and greenhouse plants; and a large collection of plants ready for bedding out into the flower borders, unusually fine, at very moderate charges, a list of which may be obtained on a pre-paid application. Orders to the amount of 40*s*. sent, carriage free, 50 miles; and to the amount of 5*l*. and upwards, 100 miles.

N.B.—E. D. respectfully informs his friends that he has no other place of business in London or elsewhere but the above.

ON SALE.—SELECTED TURNIP SEEDS from the Lothians and Highlands of Scotland.

Pollexfen's Yellow Bullock Turnip	Skirving's Imperial Yellow Scotch ditto
Hood's Imperial Yellow Bullock ditto	Dale's Hybrid ditto
Gordon's Aberdeen Bullock do.	Skirving's Liverpool Swede
Gordon's Ayrshire Bullock do.	Ashcroft's Purple-top ditto
Border Imperial Bullock do.	Laing's Prize ditto
	Cox's Imperial Hybrid ditto

With all other kinds of White and Yellow Field Turnips. Mangold Wurzel and Sugar Beet, six varieties. Large White Belgian Horse Carrot; and Large Green-top Altringham ditto. Mixed Grass Seeds of the best varieties, suitable for laying down Pasture Land.

Henry Clarke, Seed Merchant, 39, King-st., Covent-garden.

SUPERB SEEDLING PETUNIA.

JAMES SAUNDERS and SON have now ready to send out a very splendid Seedling PETUNIA, "CRITERION;" colour bright carmine; form perfect, very large, and of good habit, well adapted for pot culture. It was exhibited last autumn, and acknowledged by competent judges to be superior in every respect to any dark Petunia yet sent out. Strong plants 5*s*., with the usual discount to the trade.

J. S. and Son have also to offer a large stock (including the best and newest varieties) of Dahlias, Petunias, Verbenas, Geraniums, Calceolarias, Cinerarias, Cupheas, Salvias, Fuchsias, Anagallis, Phloxes, Pansies, &c., with a general stock of Hardy Herbaceous and Greenhouse Plants, at prices that will ensure satisfaction. Catalogues to be had on application.—Abergavenny Nursery Grounds.

DAHLIAS.—QUEEN OF ENGLAND, (Keynes'.)

White, deeply-edged lake. One of the finest edged Dahlias in cultivation. Took a first-class prize at Chelsea, where only three varieties were placed out of 40 varieties exhibited. First class prize at Salisbury. This is the most beautiful flower J. Keynes has ever offered, and will be a standard in its class. 3 feet 10 6

WALTER HILSON, (Dodd's.)—True orange. This flower, for form and colour, is the best yet offered. Three first-class prizes, and warranted by J. Keynes 10

NELL GWYNNE, (Pope's.)—True primrose, without shading. Two first-class prizes in London. Beautiful form, purest colour, the only primrose ever yet offered... 10

HAMLET, (Brown's.)—Deep crimson, beautifully shaded, first-rate in every respect, has never been exhibited, only one blooming root. Warranted by J. Keynes 10 6

WAR EAGLE, (Keynes'.)—Bright red. This flower was purchased, late in the season, by J. Keynes. It obtained a first-class Certificate at the Great Metropolitan Show, the only place where it was exhibited. Beautiful form, first rate 10 6

COMPACTA, (Pope's.)—Rosy purple, first-rate 10 6

AMY, (Cook's.)—Blush, tipped pink..... 7 6

BELTED KNIGHT, (Dodd's.)—Orange, edged with deep buff, first-rate fancy flower, very double, fine form and constant 7 6

TOISSON D'OR, (Batteur's.)—Golden orange 10 6

PIUS IX., (Tassart's.)—Rose and white 10 6

CARDINAL FERRETTI, (Van Renynghes.)—Red... 10 6

GLORI DE PECK, (Paris's).—Blush white..... 10 6

J. Keynes, with the greatest confidence, intends sending out the above in May next, trusting that the general satisfaction given in former years will be a safe guarantee for his selection.

J. Keynes will have a good stock of YELLOW STANDARD, CAPTIVATION, LADY OF THE LAKE, and ANDROMEDA, four of the best flowers of last year sent from his establishment.

All the new flowers of the season will be supplied on receipt of early orders.—Salisbury, April 29.

NEW DAHLIAS.

MESSRS. BRAGG and BRIGHT beg to remind their Friends and the Public that they possess the stock of the following beautiful varieties, which they are now prepared to send out in fine healthy plants, at 10*s*. 6*d*. per plant.

HON. MRS. SHAW LEFEVRE (Elphinstone) — Finest fancy known, being well up in the centre, and fit to show in either class; was awarded 1st Class Certificate at the South London Show, Surrey Gardens, Slough, Norwich, Aylesbury, Wycombe, and the extra Prize Medal given for the best fancy at the Surrey Gardens; the gardening papers pronounce this the gem of the season. Colour, coral red and pure white. Height, 4 to 5 feet.

COUNTESS OF CLARENDON—Pure white, beautiful shape, well up in the centre, and very constant; 1st Prize and 1st Class Certificate at the South London Open Show, and 1st Class Certificate at Camberwell, the only places at which it was shown; exhibited only one ground root, which was grown by Mr. Rudd, at Walworth, shown as Rudd's Jenny Lind. Height, 3 feet.

MAID OF KENT (Batty) — Form of Princess Radziville, white, tipped with rose. Mr. Glenny's opinion, given in the "Edinburgh Journal:" "The best Dahlia we saw of 1847 was Maid of Kent." 4 feet.

GOLDEN FLEECE—This flower needs no comment, having been awarded five 1st Class Certificates, though not planted till July. Colour, golden buff; novel and extra fine. 3 to 4 feet.

FOREST FLOWER (Parker)—Lilac; back tier show flower; 1st Class Certificate at the Metropolitan Show, the only place where it was exhibited; very constant. 4 to 5 feet.

MISS WELLER (Howard)—Dark lilac; 1st Class Certificate at Slough. 3 to 4 feet.

Messrs. B. and B. are enabled to supply the following new Continental varieties, having worked roots of each.

TISON D'OR (Batteur)—Beautiful golden orange; large, full, and high centre; first class show variety. 3 to 4 feet.

PIUS IX. (Tassart)—Rose and white; beautiful show flower. 3 to 4 feet.

CARDINAL FERRETTI (Van Renynghe)—Red; the best in its class. 4 feet.

Messrs. B. and B. are enabled to supply the most approved kinds of last and former years at moderate prices.

Messrs. B. and B. have likewise left a few of their beautiful Seedling Pansies, Charon, Celeste, Clara, &c. Catalogues to be had on application.—Star Nursery, Slough, Bucks.

SEEDS.—CORNER OF HALF-MOON-STREET.

THOMAS GIBBS and Co.,

(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND,"

Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

Priced Lists of Agricultural Seeds are always ready, and may be had on application.

NEW AND GOOD PLANTS.—

Achimenes Skinneri grandiflora	£0 10*s*. 6*d*.
(The best Achimenes in cultivation.)	
Franciscea undulata	0 15 0
,, gracilis	0 10 6
Gardenia Fortuni	0 7 6
,, longistyla	0 10 6
,, Devoniana	1 1 0
,, Whitfieldii	0 10 6
Gloxinia Wortleyana	0 10 6
Henfreya scandens	0 7 6

This is a very fine half climbing plant, remaining in bloom several months; a specimen exhibited by R. G. at the last meeting of the Horticultural Society of London was awarded a Banksian medal.

Hoya imperialis	£1 11*s*. 6*d*.
,, campanulata	0 7 6
Portlandia coccinea	2 2 0
Strophanthus Stauleyana	0 10 6
Daphne Fortuni (quite hardy)	1 1 0
Lindleya mespeloides	0 5 0
Berberis Fortuni (quite hardy)	1 1 0
Spiræa expansa	0 5 0
Cyrtoceras multiflorum	0 5 0
,, reflexum	0 3 6
Clerodendron macrophyllum	0 10 6

An abridged Catalogue of Plants may be had on application.

R. Glendinning, Chiswick Nursery, near London.

ROYAL NURSERY, SLOUGH.—DAHLIAS.

WM. CUTTER will be happy to forward, on receipt of a Post-office order for 25*s*., the following sixteen DAHLIAS, all new last year, including package:

Ackbar, fine purple.	Louis Philippe, crimson.
Andromeda, buff, pink tips.	Marchioness of Worcester, white, edged pink.
Berryer, fine dark extra.	Minn, rosy crimson.
Captivation, dark shaded puce.	Miss Vyse, white, edged with rosy lilac.
Cassandra, crimson.	Scarlet Gem, pale scarlet.
Hon. Mrs. Herbert, salmon, buff tipped.	Star, white, crimson tipped.
Lady of the Lake, white, purple tipped.	Venusta, blush white.
Lillywhite, blush, fine form.	Felix, deep rose.

A general list of Dahlias, Fuchsias, &c., the best show flowers of former seasons, at 9*s*. per dozen.

Strong Plants of Gloxina Fyfiana, 2*s*. 6*d*. each. Begonia alba coccinea, 2*s*. Anemone japonica, 6*d*.

S. and J. DILLISTONE, Nurseries, Sturmer, near Haverhill, Suffolk, beg to offer the following, feeling confident they will give the greatest satisfaction, viz., DWARF ROSES, own roots, autumn struck plants for bedding, all the most showy of the Thé, Bourbon, Chinese, and Hybrid Perpetual varieties, 9*s*. and 12*s*. per doz.; good mixtures, 6*s*. do.; fine climbing, 6*s*. do. Noisette, Cloth of Gold, Pourpre d'Tyre, &c., extra strong plants, 2*s*. each. The finest varieties of

Dahlias	Phloxes	Pansies
Fuchsias	Scarlet and other Geraniums	Chrysanthemums
Verbenas	Petunias	Cupheas, &c.,
Antirrhinums		4*s*., 6*s*., and 9*s*. per doz.

A Catalogue of which may be had by enclosing one stamp. All orders to be accompanied with a Post-office order, from unknown correspondents. All the new Dahlias, Verbenas, Petunias, &c., of other growers at their Catalogue prices.

*** Carriage paid to London.

JAMES MATHEWSON, Nurseryman, Florist, Strawberry Grower, and General Agent to the Trade, Cunnigar-hill, Aberdeen, most respectfully begs to solicit your attention to the subjoined list of STRAWBERRIES grown by him, more especially the ABERDEEN BEEHIVE, so extensively circulated and highly appreciated the last two seasons throughout Great Britain, France, and America, as being superior to all others in cultivation. The earliest, highest-flavoured, and the most prolific—one plant producing a number equal to 20 of any other sort; each plant throws from 50 to 120 clusters, forming a top resembling a beehive; so regularly do they ripen, that they may be gathered in bunches of from 12 to 30 bright scarlet berries, of a round shape, garnished with a green husk, folding towards the stalk; the extraordinary appearance of the Fruit is more than can be comprehended but by those who have seen them on the ground or table, where they have been greatly admired; they make a transparent preserve, the interior being the same as the exterior. Upwards of 500 specimens of Fruit were sent out last season, which is sufficient to establish its merits. Plants in pots, for exportation, 12*s*. per doz.; from the Nursery bed, 2*l*. 10*s*. per 100, or 8*s*. per doz., forwarded by post or otherwise to any part of the kingdom. Highland Chief, 70*s*. per 100; Black Prince, 21*s*.; Comte de Paris, 90*s*.; Princess Royal, 90*s*.; Eleanor, 50*s*.; Globe, 10*s*.; Mammoth, 10*s*.; Prolific, 5*s*.; Hooper's Seedling, 7*s*. 6*d*.; Black's Seedling, 5*s*.; Milne's Seedling, 2*s*. 6*d*.; Little Jane, 2*s*. 6*d*.; Cole's Early Prolific, 80*s*.; Thomson's King, 50*s*.; Dickson's Royal Pine, 10*s*.; Princess Alice Maud, 4*s*.; Carolina, 15*s*.; Turner's Pine, Swainston's Seedling, Elton, 4*s*.; Lindley Castle, 4*s*.; Scarlet Drop, 15*s*.; Eliza, 3*s*.; Myatt's Pine, 5*s*.; Keens' Seedling, 2*s*. 6*d*.; Malcolm's Seedling, 2*s*. 6*d*.; Improved Devonshire, 2*s*. 6*d*.

GENUINE CIDER: GOOD FOR DRAFT OR BOTTLING.

DEVONSHIRE has for centuries been famous for its CIDER, and when obtained in a pure and genuine state, is much and deservedly esteemed.

Messrs. RENDLE and CO., 13, Octagon, Plymouth, beg to inform the nobility, gentry, and the public in general, that they can supply them with a first-rate article on the following terms. A new cask (value 8*s*.) containing Twelve Gallons of well-conditioned, bright, bottling CIDER (superior to some wine sold as champagne), will be forwarded, freight paid by steamer to London, Cork, Dublin, Belfast, Sligo, Southampton, or Falmouth,

For a Post-office Order value Twenty Shillings.

*** *To persons taking ten casks at one time, one will be given over, making eleven for* 10*l*.

William Rendle and Co., Cider Merchants,

May 6. 13, Octagon, Plymouth.

THE BEDDING SEASON.

JOHN HAYES, Florist, Farnham, Surrey, begs to offer upwards of 100 varieties of Bedding Plants in pots, at 2*s*. 6*d*. per dozen; no charge for hamper and package. The same out of pots, 2*s*. per dozen, sent Post-free; in the place, 2*s*. and 1*s*. 8*d*., strong plants well hardened off. Public Gardens supplied on reasonable terms.

PRIZEFIGHTER CUCUMBER; 12 seeds of this excellent Cucumber, 16 inches long, will be sent on the receipt of 12 postage stamps.

A New Greenhouse for sale, 12 feet by 9, span-roof, glazed with 10-inch 16 oz. sheet-glass.

12 Handlights for sale in good preservation, for 7*s*. 6*d*. each.

Descriptive Catalogues sent on the receipt of one postage stamp.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

HORTICULTURAL SOCIETY OF LONDON.—EXHIBITIONS AT THE GARDEN.

The First Meeting will take place on SATURDAY, the 20th of May. Subjects for Exhibition must be at this Office on Friday the 19th, or at the Garden before half-past Eight o'clock, A.M., on the day of Exhibition.

The Gates will be open to visitors at One, P.M. Tickets are issued to Fellows at this Office, price 5s. each, or at the Garden in the afternoon of the days of Exhibition at 7s. 6d. each; but then only to orders from Fellows of the Society.

N.B. No Tickets will be issued in Regent-street on the days of Exhibition. 21, Regent-street.

EXHIBITIONS OF PLANTS, FLOWERS, AND FRUIT for PRIZES to be awarded by the ROYAL BOTANIC SOCIETY, Regent's-park, Wednesdays, May 10th, June 14th, and July 5th. Tickets to be had at the Gardens by orders from Fellows, price 5s., or on the days of exhibition 7s. 6d. each.

ROYAL BOTANIC SOCIETY, REGENT'S PARK. THE FIRST EXHIBITION this Season will take place on WEDNESDAY NEXT, MAY 10th. Gates open at 2 o'clock.

ROYAL SOUTH LONDON FLORICULTURAL SOCIETY.

Under the patronage of Her Most Gracious Majesty the QUEEN.

The SECOND EXHIBITION this season will be held at the ROYAL SURREY ZOOLOGICAL GARDENS, on WEDNESDAY, the 17th MAY, 1848. Open to all Exhibitors, when Prizes will be awarded for the following Collections, viz.—Miscellaneous and Orchideous Plants, Pelargoniums, Cape Heaths, Azaleas, Tulips, Heartsease, or Vegetables.

In addition to the above, the following Members and others offer extra prizes, viz.—Mr. R. J. Lawrence and Mr. J. T. Wilmer, 20*l.* value of Tulips to Amateurs. From the Heartsease Prize Improvement Fund, 15*l.*, for Heartsease, to Amateurs and Nurserymen. By subscriptions, for Seedling Pelargoniums of 1847 and 1848; and by Mr. Wm. Ivery, for Cinerarias, to Amateurs. Lists of Prizes and the Rules of the Society may be obtained from JOHN TAYLOR NEVILLE, Secretary.

Ebenezer House, Peckham.

The following Exhibitions will also take place, at the Royal Surrey Zoological Gardens—on Tuesday, the 20th June; Tuesday, the 18th July; and Wednesday, the 13th Sept., 1848.

COLLECTION OF ORCHIDS.

TO BE SOLD, by Private Contract, one of the most extensive collections of ORCHIDS in Europe. This remarkable assemblage of plants has been formed without regard to expense by one of the great merchants who have been overtaken by the commercial storm that has desolated the continent. It consists of more than 1000 species, many of which are very fine specimens; others, imported from their native countries, are supposed to be quite unknown to botanists. The present is a rare opportunity of forming at once one of the finest collections in the world. Those who wish to negotiate for the purchase are requested to address a note to J. L., at the Office of this Paper.

The Gardeners' Chronicle.

SATURDAY, MAY 6, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY	May 10	{ Royal Botanic Gardens	2 P.M.
		{ Society of Arts	8 P.M.
WEDNESDAY	— 17	{ Royal South London	1 P.M.
		{ Geological	8½ P.M.
SATURDAY	— 20	Horticultural Gardens	1 P.M.

"WOULD you make a gardener a dandy? What matter dirty hands, and a face unconscious of soap, provided a man grows your plants well, and supplies the cook with plenty of kitchen stuff? For my own part I prefer a rough, horny-fisted fellow, not afraid of mud, and caring nothing for neatness, to one of your fair weather gentlemen who are perpetually teazing everybody near them with fancies about rubbish and dirt, and that sort of thing, and who think it necessary to keep themselves as spruce as a linen-draper's shopman." Thus spoke Sir JACOB MAMBURY, a worthy old-fashioned gentleman, living somewhere in the north-east of England, upon the occasion of directing his agent to find him a new gardener. His observations were a fair specimen of that mixture of truth and error, of sound judgment and perverse reasoning, which are unfortunately so abundant in all classes of society.

Sir JACOB prefers hard hands to soft ones; in which he is right; for the good gardener, who consults his master's interests, or is zealous in his business, cannot escape from horny hands: and why should he? He likes too a man that is not afraid of mud. Quite right again: the occupations of a gardener render it necessary that he should be indifferent to such trifles. He is moreover averse to "a fair weather gentlemen," over dressed, over nice, and over particular. Here we cannot so well judge of the correctness of his opinion, because we are ignorant of the value attached by him to the term "over." We fear however, from the tone of Sir JACOB's remarks, that he prefers coarseness to refinement, roughness to polish, and a sloven to a man distinguished for cleanliness—in short that NEATNESS is a vice in the baronet's eyes. Here we are at issue with him, and with all who entertain the same opinion.

Neatness is the most certain of all outward signs of a good gardener. It is part and parcel of his nature. The necessity of practising it in his daily occupations renders it habitual with himself. On the other hand, want of personal cleanliness is an almost universal mark of a bad gardener; the slovenly ways which are permitted in his cultivation are but the reflection of his other habits. Let any one look at the exhibitors at the great London flower shows, and say if this is not so. It is notorious that the finest cultivation proceeds from the gardeners most distinguished for neatness. We cannot mention names: it would be unjust to do that: nor is it necessary, for every reader can find around him proofs of the truth of the assertion. On the contrary, if perchance there is at these shows a shabby lot of plants, ill grown, ill prepared for exhibition, with ragged dingy leaves, it is ten to one but the owner is found to be a man who would seem to have slept in a hayloft for the last ten days.

Men like Sir JACOB talk as if it were necessary to horny hands that they should also be dirty; as if not to be afraid of mud were the same thing as preferring it; as if in fact it would be desirable to increase the excise duty on soap till it became a prohibited article, in order that a gardener might reach his standard of horticultural perfection. The great mass of gardeners are very deficient in the qualifications he requires. Their characteristic is personal neatness, which is by no means inconsistent with industry. "As dirty as a bad gardener" deserves in fact to be placed among our English proverbs.

And why is it that neatness is so peculiarly the attribute of good gardeners? The reasons are numberless. Order is one of the charms of a garden: uneatness and disorder go hand in hand. Beauty is another of its attractions, and beauty depends more upon neatness than on any one thing beneath the gardener's control; a gravel walk is a beautiful object; but is only so when neatly rolled, free from weeds, and clear of worm-casts. The same is true of a lawn; smoothly shorn, neatly swept, free from weeds, it is one of the features of English horticulture which foreigners most covet; but with Docks, Plantains and Dandelions springing up among it, a rugged surface, and covered with litter it is a blemish more than a beauty. JAN PETERSEN with his face washed and newly shaven is a handsome man; but we cannot say as much for him when his beard is a week old and he has just been cleaning the chimney.

A greenhouse is filled with plants. The gardener A washes the floors and stages, scrubs the pots, sponges the leaves, picks up every dead stick, leaf, moss or straw. The gardener B leaves the floors and stages to themselves, or if he sweeps them now and then, kicks up a dust, and covers his leaves with dirt; his pots are green and grey, and unconscious of a brush; they are the reflection of his hands and face; a tuft of moss is pushed into one hole, some bast is stuffed into another, dead leaves hang here, a bit of stick lies there; look at his greenhouse when nobody is expected, and it is all litter and confusion. A has no means of buying fine plants, his house is old-fashioned and badly constructed; an ancient flue is his resource in winter; he is even compelled by circumstances to grow Grapes over-head. B has a master who disregards expense, his house is new, heated with a costly apparatus, glazed with plate-glass, and filled with rarities; and as for Vines in his greenhouse the thing is never thought of. Yet when A's little collection is visited it is always in order, and in health; even in winter it has the inexpressible charm of perfect neatness; it is the admiration of the neighbourhood and the pride and solace of its owner. In the plants under the management of B, no one, on the contrary, takes interest; his master knows indeed that they have cost him five guineas each, that his house cost him as many hundreds, and that he is regardless of expense in the maintenance of it. Yet the plants do not thrive: they never look like his neighbour's; to-day he is annoyed by tobacco smoke to kill green fly, to-morrow he is suffocated by brimstone waging war with red spider. Roots are gnawed, soft-wooded plants dry up, grey clusters appear here, measly patches there; in short, the whole thing is unsatisfactory; and instead of an enjoyment his plants become a torment. He blames the house, the patent glass, the hot-water, or, perhaps, the nurserymen who have furnished his collection. He does not think of his slovenly gardener, whose litter, rubbish, and dirt are so many harbours of refuge for insects of all descriptions: he does not think that the incessant washing and sponging on which his neighbour occupies himself, for the sake of neatness, has the effect of improving the health of plants, as well as of keeping them clean; he does not reflect, in short, that cleanliness is health.

In the open garden the case is the same. There the sloven commits in another way all the offences of Mr. B. in his greenhouse. Dead leaves are pushed here, dead sticks are left there. In one place lie the rotting stems of a row of Beans; in another the fragments of an early Potato crop: Groundsel is comfortable in one quarter, Dandelions in another. As for his trees, he prunes them according to his skill, at what he has learned to be the usual season; but as for going over them again, removing the old snags, or scraping the rough bark, that is not to be thought of. He does not dream of beating up the quarters of insect enemies when they are at rest. His dirty habits prevent his seeing the importance of it; and so they are left at peace. The consequence is that flies, caterpillars, woodlice, grubs, maggots, and pests of all sorts swarm with him. In every corner they find protection; and in fitting time they rally forth to punish the gardener for his uncleanness. What a host of old snags is in the Rose we noticed some week since by an extract from the pages of the "Florist." Mr. BUIST has favoured us with another example, which the annexed cut represents. It was the stag of a Rose-bush, grafted and neglected. In one hole of it were found the cells that had included 12 or 13 destructive larvæ, which fed up on the vegetation near them, so that this one snag was nearly capable of furnishing a colony of enemies sufficient to strip not only the bush to which it belonged, but half its neighbours. Had it been cut off and burnt, such a neat gardener would have feared to, so much danger, at least, would have been avoided.

Neatness, then, let us repeat, is not of less moment than skill: the two are inseparable, as will speedily be found by those who observe with attention the proceedings of the best gardeners in their neighbourhood; and the dirty ways which lead to personal uncleanness are sure to find their counterpart in every part of the garden.

ABOUT the year 1824 a Society was organised in England for the rearing of SILKWORMS in the United Kingdom, especially in Ireland; but the subject was not well understood, the Association shared in 1826 the fate of other joint stock companies, and is now forgotten. Perhaps the subject was not suited to the management of a public company; there was no Mrs. WHITBY to conduct its affairs; and if there had been it is improbable that the enterprize would have had a successful issue: for such an operation as that of introducing a new branch of industry to a peasant population is more likely to be conducted successfully by private zeal and enterprize than by uninterested public servants.

The lady whom we have mentioned has become the author of a little pamphlet lately published* by PARKER. She has long been attending sedulously to the management of the silkworm in England. We formerly (*ante* p. 709, 1841) reported the substance of a communication made by her to the British Association, from which it appeared that silk might not only be obtained in England, which has long been well known, but made a profitable branch of rural economy. Mrs. WHITBY on that occasion produced accounts to show that a profit of as much as 20*l.* sterling might be obtained from each acre of land. Her processes are carefully and very skilfully detailed in the work we have referred to, which may be regarded as an excellent compendium of silkworm management in all its little arrangements; but the money question, the real question, is not there. This has much surprized us, because there is no doubt that the white Mulberry, on which the silkworm feeds, may be cultivated quite as far north as our Midland Counties, and that English silk is as good at least, if not better than Italian; it is also conceivable that means may be contrived to keep the silkworms themselves in health here as well as in Lombardy, if not better. But will it pay? Are the labour, the rent, the losses, the uncertain seasons of England and Ireland, so amply and certainly repaid by the price of the silk as to justify a declaration that the rearing of silkworms may become an employment remunerative and *free from risk*.

No one's opinion as to these points can be of the least value unless it is supported by some years' experience, like that of Mrs. WHITBY. Even then there would remain the question of how far results obtained in the fine climate of Lymington, one of the best in England, could be taken as a guide to what would happen in worse localities. For our own parts, we incline to the opinion that the attempt to introduce silk into our rural economy is not hopeless, and that the Lymington trial is satisfactory, provided the profit and loss account is made out as is asserted.

It is, however, extremely doubtful whether it will ever answer with cottagers, as a domestic occupation. There appear to be obstacles in the way, which, although overlooked, are of the first importance. Thorough ventilation of the rooms in which the silkworms feed is indispensable: so is extreme cleanliness; "offensive smells will destroy all within its reach." It strikes us that it will be difficult to

* A Manual for rearing Silkworms in England; with a brief notice on the cultivation of the Mulberry Tree. By Mrs. Whitby, of Newlands, near Lymington, Hants. 12mo. Parker.

secure the requisite ventilation and cleanliness in English cottages; whether they are likely to be found in Irish cabins our friends across the Channel can judge better than ourselves.

It may, however, if profitable, be worth while considering whether village factories could not be established, or whether silkworm feeding could not be connected with village schools or Poor-law Unions. To that subject it is, however, useless to advert until the money question is disposed of.

In his progressive review of the past in Taste, Von Humboldt not only shows his own extent of reading and powers of reflection, but fills up beautifully a gap that occurs in every previous history of principles in the appreciation of natural beauties. And if what he lays down concerning the Greek be absolutely true, there is not less truth in all that he predicates concerning the Roman. In all that he says concerning national Taste, we have not only an interesting subject for contemplation, but, however indirectly and unsuspectedly, we have principles enforced or denied in a manner which ought to be practically useful.

"That which we miss with regard to the Greeks, I will not say in their appreciation of natural phenomena, but in the direction which their literature assumed, we find still more sparingly among the Romans. A nation which, in conformity with the old Sicilian manners, manifested a marked predilection for agriculture and rural life, might have justified other hopes: but with all their capacity for practical activity, the Romans, in their cold gravity and measured sobriety of understanding, were, as a people, far inferior to the Greeks in the perception of beauty, and far less sensitive to its influence, and were much more devoted to the realities of everyday life, than to an idealising poetic contemplation of Nature."

Such is Humboldt's summary view. It certainly seems strange that he should speak of the inhabitants of warm sunny Italy—the country whose landscape scenery laughs in radiant gladness—as beings of "cold gravity and measured sobriety of understanding;" but we fear that, in detail, he has established the truth of his assertion. It is clear that for information at this remote distance of time we can only have recourse to their literature—literature which, while it survives, preserves the national characteristics of mind and taste—and so shows how, on these points, nation differs from nation. Not only, then, is much of the Roman literature borrowed in form, spirit, and ideas from the Greek; but, in reference to this subject, it is when not so borrowed that the comparative coldness of the Roman Imagination and Taste becomes obvious. The language itself, as Humboldt rather curiously puts it, "possesses more of realistic tendency than of ideal mobility." But look at their prose writers. Their historians, Julius Cæsar, Livy, Tacitus, betray no natural interest, love of Nature's beauty: it is only when the description of great events compels them that they notice it at all—when, for example, they paint a field of battle—the crossing of a dangerous river—or the struggling through a difficult mountain pass. Even Cicero, who of all men was most deeply imbued with the spirit of Greek fancy and perception, only paints in miniature what Plato loved to pourtray on a wide canvass, and with great richness and breadth of colouring. In reading Cicero, as Humboldt well puts it, we still recognise the actual Landscape — we see the Liris shaded by lofty Poplars; and in descending the steep mountain-side to the east, behind the old castle of Arpinum, we look on the grove of Oaks near the Fibrenus, as well as on the island now called Isola di Carnello, which is formed by the division of a stream, and into which Cicero retired, as he says, to "give himself up to his meditations, to read, or to write." And one of his passages shows that he was not wanting in that perception of beauty which, however, he so seldom expressed, or on so minute a scale. He writes thus to Atticus: "Nothing can be more delightful than this solitude—more pleasing than this country dwelling, the neighbouring shore, and the prospect over the sea. In the lovely island of Astura, and at the mouth of the river of the same name, and on the shore of the Tyrrhenian sea, no human being disturbs me: and when, early in the morning, I hide myself in a thick wild forest, I do not leave it until the evening."

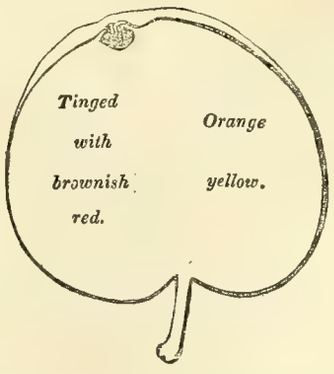
Of the elder Pliny, Humboldt writes more warmly, but with great justice. Speaking of the "History of the Contemplation of the Universe," he says: "Unequal in style—sometimes simple and narrative, sometimes thoughtful, animated, and rhetorically ornate—it has few individual descriptions of nature: but wherever the grand concurrent action of the forces in the universe—the well-ordered Cosmos (*naturæ majestas*) is the object of contemplation, we cannot mistake the evidences of true inward poetic inspiration."

Concerning the Roman poets, Humboldt's remarks are very true. There is rarely found in them that love of dwelling on Nature's scenery and on local beauties, which glows in the poems of so many of our own writers. Virgil himself—although one of his subjects at least would seem to have yielded temptation to any poet living in such a land—is no exception to this rule. Such portraitures are only accidental—quite subordinate—and confined within very narrow limits. Ovid in his exile had no taste for the scenery around him. Long as he dwelt there he has left not a trace of a landscape which had its own peculiar character: but of particular effects he does occasionally speak; yet they are rather of the minute and humbler order, and are repeated over and over again. And in general terms the same principles may be averred as the characteristics of the Roman imagination, as affected by landscape scenery.

For the present we close with a remark of Humboldt's, which is, we believe, perfectly original, and which goes more than anything else to prove the almost utter indifference of the Romans not only to the beauties of Nature amid which they habitually lived, but to those new and grander beauties into which they were brought by circumstances for the first time: "No description of the eternal snows of the Alps when tinged in the morning or evening with a rosy hue—of the beauty of the blue glacier ice—or of any part of the grandeur of the scenery in Switzerland—have reached us from the ancients, although statesmen and generals, with men of letters in their train, were constantly passing through Helvetia into Gaul. All these travellers think only of complaining of the difficulties of the way: the romantic character of the scenery never seems to have engaged their attention. It is even known that Julius Cæsar, when returning to his legions in Gaul, employed his time while passing over the Alps in preparing a grammatical treatise, "De Analogiâ."=

THE CLARA PIPPIN.

A fruit of this variety was kindly furnished by F. J. Graham, Esq., accompanied with the following note:—



"I have sent you a seedling Apple which I raised from a pip of the Court of Wick, and shall be glad to have your opinion of it. One thing at least is certain; viz., that it is an excellent keeper; but I think its great fault lies in its requiring a pretty good set of teeth to eat it, especially as regards those amateurs who eat fruit without peeling, for the rind is exceedingly tough, as I think I have observed to be the case with most late keeping fruits, if not all; which may be an essential natural provision to enable them to withstand the damps and other noxious influences to which summer fruit is not so much or so long exposed.

"I call it the Clara Pippin; I have sown some of the pips again, in order to see if any improvement will take place, in accordance with the views of Dr. Van Mons, whose original notion, I consider, was amply verified by the production of excellent hardy sorts, although it must be confessed that his principle involves a mystery which I have never been able to solve; but like some other mysteries, it may be better both in principle and action than those plans which are well understood.—*F. J. Graham, Cranford, April* 20."

[The flesh is firm, orange, like that of the parent of this variety, the Court of Wick, with a rich, brisk, sugary flavour. The fruit appeared likely to keep till the end of May. It is therefore valuable as a late dessert Apple. The orange colour of its flesh is remarkable, and it has been observed that where a yellow or orange tinge prevails in the flesh of Apples, it generally indicates the presence of much saccharine matter.—*R. T.*]

CAPE HEATHS.—No. VIII.

Diseases.—When from any cause the organisation of a being is so affected as in any way to impede its proper functions, its condition may be aptly designated disease. Diseases may be either hereditary, constitutional, or local in plants as well as in animals. Constitutional diseases in animals are generally transmitted from parent to offspring. In vegetables, a diseased plant may produce healthy seeds; but constitutional disease is generally retained when the increase is obtained by cuttings. Some diseases are peculiar to certain tribes or genera of plants. The Heath, though generally deemed free from disease, at least more so than the generality of plants under cultivation, has nevertheless many fatal contingencies to which it is subject. If other cultivators fail to recognise the evils to which I shall allude as diseases, I shall be apt to conclude that I have mistaken mismanagement for disease—a conclusion I fear we are all more or less liable to arrive at.

A disease, the slightest symptom of which is the never failing herald of death in the Heath, is that to which we must give paramount attention. From the first symptoms till the final destruction of the plant weeks will sometimes elapse; but, "like the worm in the bud," steadily and surely it follows up its victim. Remedies and regrets are alike unavailing, and sooner or later death must ensue; and now for the symptoms—the cure I cannot give. The plant is probably a fine specimen of a favourite variety, and to all appearance in robust health. In your attentions to it, you will be struck perhaps with a slight change in the colour of the foliage at the base of the shoots. Thinking that, like all evergreens, it is only casting its old foliage, you do not deem the circumstance of much moment, and nothing more is thought of the matter for a day or two. But the change of colour is passing rapidly upwards, still the young wood is erect and growing. Fatal delusion; your Heath is dead. Touch the foliage; it drops at the touch. Examine the stem; death stares you in the face; its trunk is a dried stick. It was dead before warning was given you. I have turned plants out of their pots in the early stage of this disease with their roots in fine healthy condition, even when the trunk was dead. There is a variety of this disease, which though not the less certain in its termination, is the longer in its operations. Its peculiarity consists in killing a branch at a time, till the whole plant is destroyed. The branches first attacked are invariably the lower ones, and from its first appearance till the whole plant is destroyed, months will elapse. If when a few branches have become affected, the trunk be examined on that side (for in this case one side of the plant is first destroyed), it will be found partially decayed, although externally no appearances are evident. But as in the former case, it gradually preys on the vitals of the plant till the whole is subdued.

Another very annoying disease attendant on the Heath is an exudation of gum or some analogous substance on the points of the young shoots, and amid the flower-heads; sometimes so much so as to cause malformation in the expansion of the flowers. I have observed this substance mostly on the vestitas and ventricosas. Under a strong lens it has all the appearance of lumps of the finest gum Arabic, but somewhat more transparent. Its production is probably natural, and only assumes the form of disease when it exudes in excess. In the vestitas, if precaution is not taken, aphides are sure to follow. A palliative is to dress the parts affected with sulphur vivum, leaving it untouched for two or three days. Then with an assistant steadying the branch, direct a powerful jet from a syringe on the parts. Two or three applications of sulphur, with successive washings in this way, will be found to check and remove in a great measure this annoyance.

The most assiduous attention does not always meet with the reward anticipated, therefore mildew will sometimes attack the Heath; and being contagious, it is often very annoying. When present, precautionary measures should not be delayed. In compact-growing specimens, ill-ventilated or badly-constructed houses, or where the Heath is placed for any length of time amongst other plants of an opposite nature, this annoyance is prevalent. Picking away the affected parts is perhaps the most effectual remedy; but if the specimen has very fine foliage, as Bonplandi for instance, an application of sulphur as above, previously damping the affected parts with a fine-rosed syringe, is recommended. Two or three successional washings are necessary to remove the whole of the sulphur, otherwise an unsightly appearance is given to the plant. An old adage says, "prevention is better than cure," and if you can supply your plants with a free circulation of air, mildew will hardly ever appear.—*G.*

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

Planting the Beds for Summer.—Having decided of what your stock of summer flowers shall consist, and where you will place them, a few directions on the subject of planting may be useful. If you have your plants *de novo* from a nursery, they should by all means be in pots; either purchased so, or potted by yourself. A great number of handsome flowers may be procured for a small sum, unpotted; and if you put one of each kind in a small pot, and shade them for a day or two in a cold frame, they will soon be established. You will thus have your plants ready for turning out when the season suits, and the buds are ready, without the risk of losing them by drought and sunshine—the great enemies of plants—to be removed to their destinations without the process of potting.

The soil for flowers should not be made rich with exciting manures, which have the effect of producing a luxuriant foliage at the expense of the bloom. Rotten leaves do better than anything else to mix with the soil, which need not be very deep. Having some very large Scarlet Pelargoniums, I intend this season to bury the

pots in the beds, instead of turning the plants out, expecting in this way to secure more flowers. Good drainage is necessary, and a few crocks may be advantageously put into each hole under the plants. Calculate well your distances, for nothing is more common than to injure future effect by planting too close. If the object is to cover a bed with one kind of flower, the distance is no object; but for single plants allowance should be made, so that, when full-grown, a little space may exist between each. Training should begin at once, by pegging down the trailers, and putting neat sticks to those requiring support. Remember that it is not always good policy to allow a plant to bloom when and where it pleases. A strong shoot showing bloom may often be removed with advantage: other shoots will thus be encouraged. Occasional stopping, by pinching off the ends of the shoots, will induce a more compact growth and regular bloom.

The time for placing the plants in the open air should be carefully studied. It is dangerous in our climate to presume that frosts are over till the middle of May; and even then the nights should be watched, as a destructive visit has often appeared at the close of that month. If your garden is small, and you do not mind trouble, you may fill your beds now, provided you give protection at night by covering with flower-pots or otherwise. You will in this way get your beds in summer order earlier; but if you cannot do this, be patient. Take the advice of a sufferer, and stop till the last week of May. It is most provoking to find some clear sunny morning your tender pets blackened, and even the more hardy ones turned to a dingy brown by a frost. With a little management you can carry on the growth of your stock in pots, so that you will not after all be a loser by waiting. In this case you must retard some and forward others. See that none get pot-bound, and that flagging is prevented by a proper supply of water. A frame full of plants demands much watching in this respect, or some bright warm day will deprive small pots of their moisture, and injure them very much.

Where your beds are now occupied by Tulips and other bulbs, your plan of operations must vary according to the treatment you propose to give the bulbs. If you intend to allow them to remain in the ground, you can insert your summer plants among the foliage, removing the latter as it decays. But if you wish to remove the bulbs, it will not do to hurry them, for on the duration of their leaves, their health and strength depends. By taking them up with the soil adhering to them, and putting them into the ground again in some other spot, the leaves will still do their duty, and the beds they occupied may receive their summer ornaments.—*H. B.*

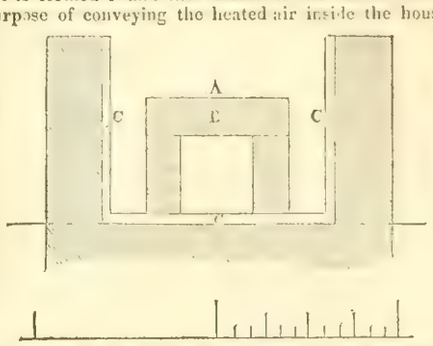
Home Correspondence.

Allotments.—I have been very glad to observe that, within the last year or two, public attention has been much directed to the system of garden allotments for labourers, and that now, not only has the system been extended, but the proper principle upon which it ought to be based has become much better understood. The great object is, of course, to provide the labouring man with a small plot of ground upon which he can employ his extra hours, and the labour of any unemployed members of his family, in cultivating for their own use vegetables, and perhaps, to a certain extent, grain, which he may either apply to his own use or to help to eke out the rent of his cottage, as the case may be. I can, therefore, conceive nothing worse than putting the land at a nominally high rent, where not above one-half of it is ever able to be paid up. If the system fail, in such a case the fault must be imputed to the erroneous method of carrying it out, and not to the system itself. I conceive the proper principle to be, to put the land at a low, or at least a fair and equitable value, and then insist upon its payment, unless a valid reason be given for any delay in so doing. I can speak from experience of the advantage to a parish in following out this system. On coming into possession of some landed property, about 20 years ago, I found that the only manner in which the labourers in my parish were able to get small plots of land for Potatoes and other vegetables was by hiring odd corners of fields from their masters, the farmers, in some cases at the rate of 4*l.* per acre. Here and there the use of these plots was given gratuitously to the men, but they were at all events obliged to give them up at the end of the year, and it gave of course no interest whatever in the land, beyond the getting one crop off it. I found some persons at first averse to the system of allotments, from the idea, as they said, that it would make their men too independent. I think, however, it has been pretty well proved to them that, from the holdings being very small, such has not been the result, and that the chief thing that it does make them independent of is the temptation of spending their extra hours and money in the beer-shop. By degrees, and from time to time, as small parcels of land have fallen into hand, conveniently placed for the purpose, and near the village, I have let them out in allotments. The land is now well cultivated, a fair rent punctually paid, and a better spirit is generated among the men. Indeed, I believe I have at present as many as 80 families holding small plots of ground. The system which I have found to answer has been to give a written agreement, by which they have possession by the year, with an understanding that they will continue in possession, contingent upon good character, punctual payment of rent, and cultivation of the land, according to stipulation, and never allowing any party to have more than from 40 to 60 rods, varying according to circumstances. When a person is resident upon his property a great deal of encouragement can be given to the garden renters, by showing an interest in their cultivation of the allotments, and by giving small prizes of seeds or tools to those who either have their gardens cultivated in the best manner, or who may produce the best samples of vegetables or grain, at a stated season. This must of course depend upon the judgment of the proprietor.—*W. B. N., Wiltshire.*

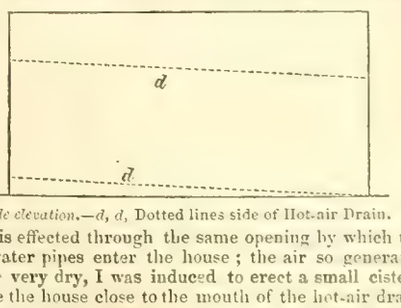
Cutting the Flowers off Spring Bulbs.—Can you decide this point between my gardener and myself? There is a notion that cutting the flowers of spring bulbs, such as Hyacinths, Narcissus, Crown Imperials, Scillas, &c., prevents their forming good bloom in the year following, but tends to the formation of offsets; what is your opinion? or what is the experience of your correspondents on this matter? I think in Holland there is a prejudice against cutting the flowers of bulbs.—*Dodman.* [It will in all probability have the effect of causing an excessive production of offsets.]

Bones as Manure.—Much has been said respecting the advantages and disadvantages of mixing bones (unbroken) with the soil in which Vines are planted; the following has been my experience—two years ago I planted my Vines and Orange trees upon a quantity of bones (the bones of horses and cows). The border in which they were planted was thoroughly well made, the soil excellent, with good drainage. The plants never flourished, and at length they appeared in a dying state. I have just taken some of them up; I found every part of the roots which had come in contact with the bones completely decayed, and the roots were covered with an offensive white powder, which was also attached to the bones. I have no doubt that if the plants had remained much longer in the vicinity of these bones, they would have died.—*A Subscriber, April* 27.

Heating.—I have two Pine stoves here, the length of each of which is about 200 feet; they are heated principally with hot water. To prevent the heat which flies off from the boiler being lost in the stokehole, a chamber is formed round the outside of the boiler for the purpose of conveying the heated air inside the house.



References.—*End elevation*—A, Cistern; B, Hot-air Drain, constructed of porous bricks; C, C, C, Cement inside of Cistern.



Side elevation.—*d, d,* Dotted lines side of Hot-air Drain.

This is effected through the same opening by which the hot-water pipes enter the house; the air so generated being very dry, I was induced to erect a small cistern inside the house close to the mouth of the hot-air drain, and through which the drain is continued. The portion of drain inside the cistern is formed of filtering bricks, which allow the water to ooze through; they are set in cement, and by this arrangement the requisite amount of moisture is maintained without producing steam. I regulate the moisture inside by the weight of water pressing on the filter; for instance when I require a damp atmosphere I quite fill the cistern, which pressing on the filter causes the water to ooze through very fast, and *vice versa*. Would not this simple plan of damping the air be applicable to Polmaise? The accompanying plans will, I hope, prove sufficiently clear to be understood.—*John Foy, Oatlands Palace Garden, Weybridge.*

——I have made my furnace to operate on the Polmaise system, in conjunction with a tank, by making it draw the air with which it is supplied from the floor by a drain, and returning it warmed through an aperture over the top of the door which opens from the greenhouse into the outer shed, in which my boiler is fixed. By this, opening and shutting at pleasure, I can admit or keep out as much warm air as I please.—*F. A.*

Rats destroying Roots.—I am assured by the owner of the tree, that a beautiful vigorous Oak, about 70 years old, being in leaf, drooped suddenly in its foliage, and died out of hand. On examination, it was found that the roots were gnawed all round by the rats. It stood in an Apple orchard in Dorsetshire, not far from water. Are the vermin known to commit this sort of mischief? And if so, wherefore? For food? or to grind their teeth, which the rodent animals, when living on soft food, are said to require? or to line their nests with the bark?—*A. H.* [We have seen a long hedge of Whitethorn entirely disrooted by water-rats. It grew on a raised bank by the side of a ditch much infested by them. The roots were so completely gnawed off that the bushes could be pulled out of the ground by the hand. In the same garden a Holly, 12 feet high, was destroyed in the same manner. When pulled out of the ground, nothing was left of the roots; it was gnawed as smooth as the head of a walking stick; where the root had been a large round excavation was found, connected with the run of the rats to a distance of 6 feet or more. It was pointed out to us by Mr. John Cobbright, who saw the tree pulled out of the bank.]

My Note-book.—In the Letter of last year I gave you some account of Mr. Master's nursery at Canterbury, and his doings there, and the good he had effected in planting the public walks with beautiful shrubs and trees and filling the borders with flowers and the soil for the diffusion of knowledge at the public institute; and I ventured to hope that among the improvements of the town the dean and chapter would come forward and put a shoulder to the wheel. I have since learnt that the seed did not fall on a very good harvest, and that my expectations in some one quarter at least are never being realised than when I wrote. "Time and patience work wonders." This year my lot was cast in Devonshire, and my first object was to see the two celebrated nurseries of Luccombe and Prince and of Veitch. A very cursory inspection of the former surpassed my expectations. At Mr. Veitch's there was a succession of new or rare plants at every other step. Everything was growing in the most vigorous style, but what struck me most was the marvellous specimens of Orchidaceous plants; and I think, from the size of the collection, I never witnessed so many fine specimens—so much flower and such good treatment. Perhaps the specimen plants of the Heaths at Mr. Prince's nursery even surpassed those at Mr. Veitch's, whilst I think the Orchids at Mr. Veitch's exceeded in beauty those at the other nursery. Mr. Veitch leaves his gates open—all walk at free will through his grounds and collections, and I understand that the public has given him no reason to repent of his liberality. The general collection at each nursery appeared extensive; but what struck me most was the appearance of the treatment of the specimens, so different from the old mode at Colville's, Lee's, &c., where large stocks of Heaths, &c., were withering away in their pots, and whose merit was that they struggled on in the midst difficulties. The hawkers—that is, those who grow common flowers in cold pits (a few only—were the first to show how things were to be worked, grown, instead of being kept alive only; and their example has been at last well followed: but nowhere, however, better than in these two nurseries. It is singular that this should have sprung up in a quarter where I fear there is little encouragement. As far as I could learn, the owners of these two collections were far in advance of their fellow-townmen, and I could not learn that in that Boeotian land there was much if any of encouragement. I could hear of few collections in the country and none in the neighbourhood, but I ought to except the fruit garden of Mr. Gibney, in Exeter. His wall and standard Pears, Apples, &c., prove him to be a most successful and skilful cultivator. It would be well if he could be induced to give you his experience, especially as regards the merits of pendulous Pears, and his mode of treatment. His standard trees, under peculiar mode of culture, render root pruning unnecessary, and nearly every tree he had was covered with bloom. The difference between the climate of the western and the eastern part of England is very clearly shown in the beauty of the Ilex in Devonshire. Mr. Prince's nursery first, I believe, produced the Lucombe Oak, and I learnt that the largest tree had been cut down to make a coffin in which Mr. Lucombe was buried. From the large stock coming on of the fine bright Rhododendron at Mr. Veitch's, I presume this will soon come into the market. I ought to mention a magnificent piece of rockwork which was in progress in Mr. Prince's garden. In general these matters are but poor affairs. However that now in course of construction must not be so considered.—*D.*

Training Creepers.—I would advise those who may be desirous of introducing tender creepers to the rafters of the conservatory with little trouble, to use string (which can be cut down and removed with the plants) instead of permanent wires for training the creepers to on the rafters of the stove or other house used for growing plants for the conservatory. This plan can, however, only be adopted where the plants are in pots.—*J. R.*

Management of Peach Trees.—At a late meeting held in the Study, Exotic Nursery, Chiswick, Mr. J. Charles read an "Essay on the Management of Peach Trees on Open Walls." He said we must bear in mind that the Peach is a native of Persia, whose climate is hotter than that of Britain; and in order to grow it well, it must have a favourable situation, good aspect, soil, and drainage. The most important of these is situation; if this can be procured, the gardener will have overcome his greatest difficulty; for any locality will furnish a suitable aspect, the best of which is that facing the south, or if slightly inclined towards the east, so much the better. The Peach should not be situated so high as to be injured by cutting winds, nor so low as to render the trees liable to be hurt by spring and summer frosts. The precise course to be followed, however, must be influenced by the circumstances under which the trees are placed rather than by any fixed rule. In Cornwall it is easier to produce good fruit under the most ordinary treatment, than it is in some localities to produce fruit of even second-rate quality under the most skilful management: and why? because the climate of Cornwall is most suitable to the

nature of the Peach. I have been convinced by experience of this truth. The summers of Cornwall are sufficiently long to allow of the wood being thoroughly matured, and the average temperature there is less variable. The garden of which I lately had charge was situated in the bottom of a wide and beautiful valley in Shropshire, on the banks of the river Corve. Here the trees suffered so much from the effects of late and early frosts, that it was only in fine hot seasons the wood ripened. Spring and summer frosts are the worst enemies a gardener has to contend with in Peach growing, and any locality susceptible of frosts early in autumn must be highly injurious to Peaches, causing the leaves to fall before they have discharged the duties of their office, the buds in their axils are left unripened, and the shoots on which they grow are green and full of unelaborated sap. In such a state they cannot be expected to bear with impunity the rigour of a severe winter. There should be flued walls in all treacherous situations, in order that the ripening process of the wood might be assisted by artificial means, whenever circumstances required it. As a proof that climate much affects the Peach, I may state that the fruit produced in the houses in my locality were equal to any I ever saw. The late Mr. Knight predicted that Peaches and Nectarines would never do any good in situations like that alluded to, and experience confirms the truth of his predictions. I do not mean to say that there were no fruit produced in the place I have mentioned, but I can say that it was inferior, and deficient of that sugary flavour so essential to the quality of the Peach; I have no doubt, however, but that Peaches might have been grown pretty successfully at a slight elevation on the south side of the valley. Had I continued in the situation I was in, I would have tried the effects of raising the borders to a height that would have allowed me to place the roots of the trees above the common level of the garden. My object in doing this would have been to keep the roots within the reach of sun and air; it would have promoted a more healthy action between the roots and leaves; success depends entirely on the perfect balance of this action. The next point to be considered is the soil. That most suitable for Peaches is friable loam, of naturally good quality; it is far preferable to ordinary soils enriched by manures, for such materials decompose rapidly, and supply the plant with food faster than is necessary for its perfect development, and gross luxuriance is the consequence. It is on this account that so many have insisted on the superiority of turves from old pastures, as they contain all the constituents the plant requires. They decompose slowly, and continue to supply the wants of the plants with suitable food longer than any other material, provided the border is effectually drained. Too much importance cannot be attached to drainage; it increases the productive powers of the soil, and, by the admission of air to the roots, they are enabled to decompose and take up those earthy and organic matters essential to their growth. In order to secure the thorough drainage of Peach borders, I would put down a drain parallel with the wall, and not less than 3 feet in depth, with outlets into every drain that could be brought in communication with it. The width of my borders I would regulate according to the height of the wall; for a wall of 10 feet in height, I would have an 8-feet border; but for a 12-feet wall, I should add 2 feet more to the border. I should prefer trained trees from a nursery to maiden ones, as they are thoroughly prepared for the final plantation. If the soil is good and friable, I would select trees worked on their own stocks. If it was very stiff, I would give the Plum stock the preference. The fruit grown on the natural stock is of the best quality, but smaller than that produced on the Plum stock. I must again quote the remarks of Mr. Knight on this subject; he says that his garden contained two trees of the Acton Scott variety, one growing on its native stock, the other on the Plum stock. The soil being similar, and the aspect the same, that growing on the Plum stock produced fruit of a larger size, and its colour, where it was exposed to the sun, was much more red; but its pulp was more coarse, and its flavour so inferior, that he would have denied the identity of the variety had he not, with his own hand, inserted the buds from which both sprang. I would, however, in all cases, adopt such means as would be most likely to answer the desired end; I would keep the roots as near the surface as possible, that they might have all the air and solar heat they could get. Roots so situated generally produce healthy branches and good fruit. The most approved system of training is the fan, on account of its allowing the sap to be more equally distributed. The beauty of trees so trained depends on the treatment they receive in their earlier stages. The shoots made in the second and third year after budding are the principal branches of the tree—then is the time to lay the foundation of a well trained tree, it cannot be done afterwards; I would take care that no more shoots remained on one side of the tree than on the other. Although the fan admits of the most equal distribution of sap, yet all branches do not receive the same amount of it, those most vertical receive a greater supply than those below them, therefore crop according to the position of the branches. The most vertical shoots should carry the most fruit. Disbudding and summer pruning should be gradually persevered in until there remained only as much wood as was necessary for the winter pruning. This will allow the leaves and shoots the free benefit of sun and air. In winter the trees should be unnailed, to retard the flowering period as much as possible. Pruning in severe frosty weather should be avoided, and wherever shortening was required I would cut at a wood bud. After this the shoots should be again nailed to the wall. A short time before the blooms expand the trees should receive some protection. If the fruit sets in greater numbers than is required, a portion should now and then be removed until only about a tenth more remained than would be necessary for the crop. The latter are left as a guard against accidents. I have noticed that the finest fruit is situated at the base of the young shoots, which must be pinched at about 6 inches beyond it; if this is not done the organic matter that should go to the increase of the fruit will be appropriated by the shoot. I would dispense with cropping the borders as much as possible, and on no account would I have borders dug with spades, as the most valuable roots belonging to a tree are those nearest the surface, and such roots would be destroyed. All plants exhaust soils, therefore it will become necessary to manure the border with thoroughly decomposed manures when the trees have attained a good bearing state; the most troublesome pests to which Peach trees are subject are green fly and mildew; the former may easily be destroyed by syringing with tobacco-water, after the rate of 2 ounces to the gallon, and the latter can be got rid of by dusting with sulphur while the trees are wet with dew.—*J. Milne, Secretary.*

Close Treatment of Vines.—In your Leading Article of April 22, you give a letter from a gentleman in the west of England, and also your opinion on his system of Vine growing. I am sorry to say the Vines now under my charge are in exactly the same condition as I should judge his are. We have five houses with Vines in them, and out of the whole I cannot say we have a Vine from which I should like to ripen a good bunch of Grapes. I learn from the men about the place that it was the late gardener's practice never to give front air until the beginning of May, and as little at the back as possible. So I leave your readers to judge what condition my Vines are in. I for one cannot see how they could have kept alive so long, had not the laps and frames been in a crazy condition. The Vines in my latest houses, which are 150 miles north-west of London, have made shoots 3 feet in length. It was also a custom with the gardener I have succeeded to break off every lateral as soon as it appeared, close to the main shoot, consequently the eyes on the main shoots have mostly broken, some in what is called the forward houses to the length of 3 and 4 inches. I am quite certain the fault does not lie in the border, but in mismanagement alone. Some of the Vines have been planted five years, strong young plants grown in pots from eyes; the strongest or main shoots average from $1\frac{1}{2}$ to $2\frac{1}{2}$ inches in girth at 3 feet from the border. My motive in writing this is to elicit if possible the best way of recovering them. Perhaps some correspondent will be kind enough to say.—*Farrant.*

Azaleas.—A few years ago I was equally unfortunate with "J. M." in blooming my Azaleas. I have no doubt that the cause of failure in my case lay in the earth being frosted, though but slightly, and I think it probable that "J. M.'s" plants suffered from the same cause in his cold conservatory. The one that bloomed might have been more protected, or the re-potting might have removed the points of the roots further from the side of the pot. I keep my Azaleas now in a house where the frost cannot get in, and I have never had a failure since I had some watered last year with weak guano water, and they became very vigorous.—*N.*—— "J. M.'s" mode of potting, &c., is good, but I do not agree with every portion of his treatment. To render myself the better understood, however, I will give him an outline of my mode of growing Azaleas. I commenced two seasons ago with plants about 6 inches high in 3-inch pots. I excited them to grow by placing them in a stove. I stop every shoot as it grows at the second or third eye; this induces all the eyes to break regularly, by which means I have a compact symmetrical plant. I give very liberal shifts in a compost of well decomposed cow manure, leaf-mould, turfy peat, loam, and sand, using nearly equal portions of each. The first shift from a 3-inch pot is into a 6-inch pot; from that into a 12-inch, and so on in proportion to the size of the plant. When they have got a little established in their pots I remove them into a Vinery, where they have a temperature of from 65° to 70°. Here they receive the same treatment as the Vines, using the syringe constantly to the undersides of their leaves. I continue to pot, &c., and to finger and thumb prune throughout the whole of the growing season. My maxim the first season is to form the foundation of a good specimen. I discard the thought of flowering the first season's growth. In the next season I start them into growth in my usual way, paying due attention to stopping; and when the roots have got nicely in action, I then give the final shift. I grow them in a high temperature throughout the whole of the growing season, and never expose them to the external atmosphere. Some growers turn them out when they fancy the wood is ripened; but how is this to be ascertained? By examining it? No; nor yet by feeling at the points of the shoots for buds. How then? By seeing with your naked eye the flower-buds as large as the top of your thumb; then the wood is ripe. It is from ripe wood we get bloom. I cannot afford to wait the whole of the winter in suspense expecting that my Azaleas may bloom. I must be satisfied upon that point before they leave the Vinery. I keep them there till their flower-buds are full and almost breaking their floral envelopes; then I consider them to be safe. No anxiety need be entertained that they will not bloom when in this state. I now remove them to a cool greenhouse. All the care they require through winter is to keep them secure from frost, and to give them a little water. Some of the varieties, as Variegata, Gledstanesii, &c., do best in a moderately warm greenhouse through the winter. They are sorts that are liable to go off in their inactive state, worked or not worked; but I believe this difficulty may be obviated by growing the plants in heat, and well ripening the points of the shoots. By this mode of treatment I have succeeded in two seasons to obtain plants 3 feet in height by 2 feet through, and which are now a dense mass of bloom. If "J. M." will keep the following principles in view in cultivating the Azalea I will guarantee him success—1st, plenty of pot room; 2d, thorough drainage; 3d, light, heat, air, water; 4th, well ripened wood; and lastly, never turn the plants out of doors.—*J. Ellis, Yew Tree Cottage, Eccles, May 2.*

Societies.

Horticultural: Anniversary, *May* 1.—J. J. Blandy, Esq., in the chair. The annual report from the Council and Auditors was read. Mr. George Glenny rose to disavow having, at a former meeting, intended to accuse the Council of embezzling the funds of the Society. He had no intention that this should remain unexplained; he would not be made a cat's-paw by any one; and, in order that his true motives and meaning might be properly understood, he had determined to make out a list of his complaints, which he would forward to the Council. Some conversation then ensued respecting a person who had been in the employment of the Society as a clerk of accounts, and who had been summarily discharged for misconduct. After some observations from Mr. Robert Gordon, Sir Philip Egerton, Dr. Daniel, the Chairman, and others, in the course of which, and by extracts read from the minute-book of the Council, it was clearly shown that the Council had acted with perfect propriety, that the conduct of the person in question had been insufferable, and that his discharge was rendered inevitable by his own acts, it was moved by Joseph Dobinson, Esq., seconded by R. S. Streatfield, Esq., and carried unanimously, that the report from the Council, this day read, be adopted. It was also moved by P. Pole, Esq., seconded by Mr. John Glenny, and carried unanimously that this meeting reposes entire confidence in the Council. It was moved by Mr. George Glenny, seconded by R. S. Streatfield, Esq., and carried unanimously, that the suggestion made by the Council in their report, as to the amendment of the Bye-laws, and the improvement of the Society's Charter, be adopted by the Meeting, and that the Council be empowered to act accordingly. A vote of thanks to the retiring Treasurer having been also passed, the result of the ballot was announced to be the election unanimously of J. E. Denison, Esq., M.P., J. H. Schroder, Esq., and Dr. Daniel, as new Members of Council, and of His Grace the Duke of Devonshire as President, R. Hutton, Esq., as Treasurer, J. R. Gowen, Esq., as Secretary, and G. Bain, S. F. Gray, and T. Hoblyn, Esqrs., as Auditors for the ensuing year.

Horticultural, *May* 2.—W. W. Salmon, Esq., in the Chair. Although the subjects of exhibition on this occasion chiefly came from the Society's Garden, yet some extremely interesting plants were also produced from other quarters. The greatest novelty was perhaps exhibited by Messrs. Veitch, in the shape of a small specimen of Cantua (Periphragmos) dependens (bicolor of the nurseries), the Magic Tree of the Peruvian Indians, a greenhouse shrub of easy cultivation and much beauty. The plant exhibited was however not particularly striking in this respect, for it was young and had but two flowers on it, which only served to show their size and colour, but in its native habitats it is stated to form a branching shrub, each of whose shoots terminates in a cluster of carmine-coloured Convolvulus-like flowers, the tubes of which are yellow, and nearly half-covered by the green calyx. When better grown and well flowered it promises fair to become one of the best of the later introductions of the kind to our gardens. It was rewarded by a Large Silver Medal, and the same nurserymen also received a Certificate of Merit for a new Dendrobium, from the Indian province of Moulmein. It was nearly related to longicornu, but differed from that species in the flowers being larger, as well as in other particulars; along with it also came a variety of their Java Rhododendron, called flavum, the flowers being considerably paler than those of the species. It has been observed in regard to this beautiful Rhododendron, and the various Borneo species which also grow on trees, that they would not prove cultivable with us in the ordinary way in this country; but this will probably prove a mistake, for no difficulty has been experienced in growing the species in question, which is naturally an epiphyte; and this being the case, why should not the others, some of which, Mr. Low mentions, are extremely beautiful, be as easily managed? In regard to hardiness, this R. javanicum was stated to be about as hardy as a Chinese Azalea.—Mr. Gaines, of Battersea, showed a seedling Rhododendron, and a plant of Mr. Fortune's Weigela rosea, in tolerably good condition; but although the latter forces well, it becomes too leafy when grown in heat, and the flowers are too pale to make a fine display; it is out of doors that its beauty is fully developed.—Of Orchids, Messrs. Rollisson, of Tooting, sent a nice collection, consisting of Oncidium bifolium, one of the handsomest of the small

growing kinds; Cyrtochilum flavescens; Leptotes bicolor, miscalled serrulata; the exceedingly sweet-smelling Brazilian Burlingtonia fragrans; with two pendent spikes of blush-coloured flowers, and a specimen in blossom of Arpophyllum giganteum. The latter is a Guatemala plant of great beauty, throwing up spikes of small purple flowers, which are arranged on the spike something after the manner of those of our spotted native Orchis; but with the most beautiful regularity, looking like a spike of little shells disposed with the greatest symmetry and skill. The plant exhibited had but one flower-spike on it, and that a small one; but in its native country it was stated to produce spikes from 12 to 18 ins. in length, covered with beautiful little flowers. A Knightian Medal was awarded for this and the other Orchids.—Of Cinerarias, Mr. Henderson, of St. John's Wood, sent a nice group of dwarf plants, for which a Certificate of Merit was awarded; and a beautiful blue variety called Mazarine was produced by Mr. Bruce, of Kingston.—Mr. Turner, of Chalvey, showed a box of beautiful Pansy blooms from plants which had been grown in pots in a cold frame. From the Garden of the Society were various Azaleas; a fine mass of Statice muconata; Clematis Sieboldi flowered well in a pot, and trained down upon itself, so as to render it dwarf and effective, a mode of management by which it has even a better appearance than when on the rafters of a greenhouse; the white-flowered stove twiner Henfreya scandens; various Oncids; the true Cattleya intermedia; two Cape Heaths; Chorozema varium, and its variety Chandleri; the curious New Zealand Parsonsia heterophylla; Boronia viminea, and the hardy white flowered Fabiana imbricata.

Entomological, *May* 1.—W. Spence, Esq., F.R.S., President, in the chair. — A letter was read from — Bowring, Esq., of Hong Kong, containing notes upon various Chinese insects; including observations on a species of Fulgora and its parasite, regarded as a Coccus, which grows to so large a size as to prevent the flight of its victim. Likewise, upon a species of Lampyris, the larva of which feeds upon snails.—A paper was read by Mr. Edward Doubleday upon a new genus of moths, from Venezuela, belonging to the family Geometridæ; the males of which have the hind wings produced into long tails, with the inner margin clothed with a thick coat of down.—Mr. W. W. Saunders exhibited some Apricots greatly infested with the larvæ of a small Tortrix, which had eaten into them to the centre; in consequence, as Mr. Saunders supposed, of the great warmth at the beginning of the preceding month having brought the insects forth before there were leaves for their support. He also exhibited the larva of a moth which burrows into the corks of wine bottles.—Mr. Douglas suggested that this was probably the larva of Gracillaria V. flavum.—Mr. Spence read a note by Mr. Edwards, and made some comments thereupon, relative to the reasserted luminosity of the great Brazilian Fulgora laternaria. He also read a correspondence, in which he had recently taken part, relative to the destruction of a number of pigs by eating porridge made of meal from foreign Vetches; Mr. Spence being of opinion that the obnoxious qualities of the meal might have been owing to its having been infested with great numbers of Bruchus granarius, of the deleterious effects of which he read several notices.

Royal Horticultural, of Ireland, *April* 27.—This, the opening exhibition for the season, was held in the Rotunda, Dublin. The day was very favourable, and the specimens exhibited excellent and numerous. The attendance was greater than on any similar occasion for very many years. At one period of the afternoon upwards of 2000 persons were present.—Of Exotics, the following were the most remarkable: Phaius Wallichii, Cattleya Skinneri, and Dendrobium fimbriatum, from W. T. Hamilton, Esq. G. Burns, Esq., also produced some beautiful specimens; the most remarkable of which were Weigela rosea and Pimelea spectabilis. From the Hon. Mrs. Lawless were several specimens of plants, and a beautiful basket of seedling Pelargoniums. Colonel White also contributed to the exhibition; and from the gardens of G. Roe, Esq., and those of the Chief Secretary, were many choice and beautiful plants.—Among Florists' Flowers, Auriculas were pre-eminent, and reflected much credit on their several cultivators. As usual, W. Plant, Esq., M.D., was first; his Apollo, in selfs, his Waterhouses, Conquerors, in grey edges, and his Taylor's Glory, in white edges, were fine indeed.—Of Hyacinths, the gr. of the Earl of Charlemont presented an exceedingly fine group; and so also did the gr. of Mrs. Williams. From the Nursery of Mr. Barnes were fine flowers in this class, as well as several others.—Fruits were limited chiefly to Grapes, Strawberries, Apples, and Pears; but all these were very good for the season.—Amongst Vegetables, the most conspicuous were those from the garden of W. C. Colville, Esq.; not much less so were those presented by Mr. Hanley, gr. to Mrs. Williams; and besides these, there were many specimens of first-rate cultivation from other competitors. — Several prizes were awarded, but we have only been furnished with a list of rewards without the names of the objects for which they were given.

Garden Memoranda.

Mr. Denyer's, Brixton.—Since we last visited this nursery, a span-roofed house has been erected for the cultivation of Roses, both in pots and planted out; a bed in the centre of the house having been formed for the latter purpose. The house is 30 feet in length, 16 feet in width, and 11 feet in height, the side of the span being 8 feet 6 inches. What little artificial heat is required is obtained from hot water in an iron pipe which passes round the house immediately within the walls. The soil in the centre bed, round which is a path and side shelves, is 4 feet deep. In this the Roses are planted out, leaving room enough between them for the introduction of specimens in pots, which are plunged in the soil above their rims. By means of these movable plants the gaiety of the house can be kept up after the beauty of the permanent Roses has passed off.

This house has been gay for these five weeks, but at present few flowers are out, the early blooms being over and the succession ones hardly sufficiently advanced. La Reine, however, we did see, and should like to see again in the same excellent condition. This is a Rose about which too much can hardly be said, being large and full, and as sweet as the old Cabbage Rose. Mrs. Bosanquet has also forced well, and so has Bourbon Queen, a Rose which we may mention in passing forms an excellent bed planted by itself; its elegant, light, rosy-fawn coloured flowers and compact habit of growth rendering it very ornamental. The Cloth of Gold has blossomed here very nicely, one plant having as many as eight flowers on it at a time. This was a dwarf standard in a pot; but a plant turned out in the bed showed no signs of blooming. It was growing luxuriantly, and if we may judge from the two specimens in question, this handsome yellow Rose can only be flowered well when its roots are kept within certain limits so as to induce a moderate top growth. It succeeds admirably on a wall. A clergyman living near Maidstone, in Kent, says, "My Cloth of Gold is at present positively covered with flower-buds; it will be quite a sight; it covers 25 yards in length of wall." A westerly aspect, Mr. Denyer thinks, will possibly suit this Rose best. Boidron, a large, double, delicate pink, Tea-scented Rose, was blooming prettily, and so was Devoniensis and others, but the best Roses were past.

In the open ground a Magnolia conspicua has flowered better this season than it has done for years, no doubt owing to its wood having been perfectly ripened last season; and here the Deodar, which has been layered apparently with success, thrives equally well even within the smoky atmosphere of London as in the clear air of the country. In conclusion it may be mentioned that the show house was gay with numerous plants in 6 inch pots of the well known Acacia armata, one of the hardiest and best species of the genus for flowering in a small state, a quality which renders it very suitable for the window gardener.

Miscellaneous.

The Tulip.—Some admirable papers on Perfection of Form in the Tulip, have appeared in that useful little work the "Midland Florist," more especially three by Mr. Hardy, of Warrington, Lancashire, whose views on the subject possess some novelty, and have met with such general approbation that we have ventured to extract them for the benefit of our readers. Mr. Hardy appears to have given this at present much disputed question very careful consideration. After examining the opinions of those who have formerly written on the subject, and proving their standards of perfection to be wrong in principle and inadequate as rules to judge by, he proceeds to give his own views as follows. "It is now conceded on all hands that no Tulip can be perfect in form which does not expose the whole of its inner surface at a glance. Hence it follows that the shape of the cup must be circular in its outline; because every other form would throw more or less shadow over the surface, and thereby obscure the brilliancy of its colours. Other advantages will also be found in its superior gracefulness, and its more perfect accordance with the arrangement of the coloured markings. The Tulip is a flower of simple construction, but remarkably well adapted to the display of those richly coloured forms with which nature has so liberally endowed it, and which render it so peculiarly attractive. These, in many of our best varieties, require a large surface for their full development. Hence size becomes an important accessory; and the superior advantage of the half circle over the smaller one-third will at once be apparent, if we compare the relative sizes of the petals, in flowers of equal diameters at the opening or mouth, in both forms. In the half-circle, a flower of 3½ inches diameter would have its petals nearly half an inch longer than those in the lesser form, which is an important difference. These brilliant forms, we should remember also, are not confined to the interior of the flower. They are rich and beautiful on the outside also. This is the property which chiefly gives splendour to a Tulip bed; where, except for the purpose of ascertaining the peculiar merits of a variety, the inside is comparatively little seen. Even on the stage of an exhibition, it is not the inside alone which secures the prize. A blemish on the outside, though not apparent within, is quite as prejudicial as if it were there situated. Indeed, in cold seasons, it often happens that the inside can scarcely be seen by the judges, and the character of the outside alone determines the relative merits of the whole collection. It is obvious, therefore, that the cup, or flower, ought to possess such a form as will enable us to see these external beauties fully displayed, as well as the internal. Here again the half-circle commends itself to our preference; for, in consequence of the more erect position and greater size of each petal, a much larger surface is presented to the eye, and feather and base may both be seen at once; whilst, if the form were only one-third of a circle, the latter would be comparatively useless, and scarcely visible without bending the flower down, and the whole flower would have so mean and [illegible] an appearance as barely to be [illegible] of cultivation. The objection to the half circle, on account of its being too deep to [illegible] the interior to the spectator, at a glance, is [illegible] However will take the trouble to [illegible] formed hemisphere, made of [illegible] material, will immediately be [illegible]; and, after what has been said against it, will be surprised that it should appear to [illegible]. It is that portion of it which meets the [illegible] small as scarcely to be [illegible]; and every part of the interior will be visible at once, without any [illegible] whatever, if it be turned properly to the light, and the eye brought in a [illegible] the centre. There is no mistake about this; and the [illegible] half-circle, or globe, so greatly preferable over those of every other form, that I have no hesitation in adopting it as the standard by which the [illegible] ought to be tested. Of course, I would not reject every Tulip which has not this form; for we [illegible] much more extensively than we now do, we cannot afford to discard such varieties as Charles X., Shakspeare, Bienfait, Roi de Siam, Hermes, and Aglaia. These and many other even longer cupped flowers, will, in all probability, continue to be admired as long as Tulips exist. But in order that the relative merits of every variety may easily be ascertained, it is important to know in what [illegible] of form consists; and I believe it is only to be found in the half-circle, or hollow globe. It has been stated that 'one-third to one-half a hollow ball is alike good all through,' and further, that 'between these two extremes every shade is beautiful.' It is clear, however, that in laying down a standard of form for our guidance, one which admits of so much latitude of judgment is highly objectionable: for one of two different proportions must be wrong. If one-third of a hollow ball be perfect, the further we depart from that form, in either direction, the more imperfect will the proportion become; and the form of a ball must, therefore, be as imperfect a form as that which is almost flat. It is not enough to say that 'one-third to one-half is alike good all through,' or that 'between these two extremes every shade is beautiful.' In defining correct forms, it is our duty not to admit that which is beautiful merely with that which is perfect; and I believe it impossible to [illegible] than the third of a hollow ball as the true standard of form for the Tulip." (*To be continued.*)

The New White Paint, of which a temporary mystery was lately made, and the basis of which was anticipated to be either antimony or [illegible] the latter a metal proposed by Reginault to be [illegible] with antimony itself, formed the subject of a paper lately read by Mr. Forrest, the discoverer, at the Liverpool Polytechnic Society, when he announced his intention to make a present of it to the public, intimating, at the same time, that it consisted of white oxide of antimony (argentine flowers, as it used to be called by the old chemists), and that it had many advantages as an excellent body paint, superior to white-lead and much cheaper, inasmuch as antimony might be obtained in abundance for about 12*l.* a ton, while lead costs 24*l.* 10*s.* He also pointed out its greater permanency of colour, and its capability of being spread over a much larger surface than an equal weight of white-lead. Indeed, it is not only lighter, but may be made more subtile; and it was its superiority in these and other respects that led us to regard it as a likely substitute for lead. It is rather singular, too, that the old chemists called antimony their lead; maintaining that, in some of its properties, it bore a near affinity to lead.—*Builder.*

Accident.—An accident, of a very grievous nature, befel a person lately while walking in my nursery, which, I am sorry to think, may be attended with very serious consequences to the individual concerned. There were growing in a sheltered corner of the nursery a few plants of a rare and curious variety of the Ilex aquifolium, or evergreen Holly, called the weeping Holly; the branches of this tree, in place of growing upwards towards heaven, grow downwards towards earth; and, in consequence of this downward tendency, it is much prized, and, in a commercial point of view, each plant is worth a good deal of money. At the back of one of these Hollies there lay concealed a venomous serpent, who, upon seeing the individual referred to pass by, did spit out upon him a noxious poisonous matter, which did not take immediate effect, but it gradually wrought upon him to such a pitch after he left the nursery, that the poison extended to the head and heart: it blinded his intellect, and hardened his conscientious feelings, and so, in the dead of night, he returned to my nursery; and, in his mad phrensy, he tore up by the roots this beautiful specimen of the weeping Holly, and in his paroxysm he actually became a thief. I exceedingly regret the accident, both on my own account, and on account of the unfortunate individual: but I trust when he recovers from his madness that he will in future see the propriety of watching lest these venomous serpents spit on him again, for I assure him that both in my nursery, and all through the world, he must be on his guard against them, as well as the roaring lions that go about continually seeking whom they may devour.—*Lang's Commercial Circular (a new kind of Seed List, given by Mr. Lang to the purchasers of his seeds and plants).*

Destruction of Mice.—A curious fact is mentioned

of the extraordinary number of 28,071 mice having been taken or caught from September to January, in the Dean Forest, Gloucestershire, over an area only of 1693 acres. The successful method adopted there was boring holes in the ground 20 inches deep, wider at the bottom than the top, which prevented them getting out when once in, and into which holes was dropped some food.—*Daily Paper.*

Calendar of Operations.

(*For the ensuing Week.*)

CONSERVATORY AND GREENHOUSE.

The preservation of the blossom of decorative plants for a greater or less period depends, at this season, a good deal on the regulation of the atmosphere. Accustomed, as our plants have been lately, to humidity and gloom, the glare of sunshine and aridity of the air will destroy them in a very short time; to remedy this keep the paths of the houses damped during the day, and employ shading materials. Conservatory beds will require water, as also all large plants in tubs. Camellias particularly, being in active growth, will require a liberal supply; a watering of manure would be advantageous. Oranges, Oleanders, &c. &c., usually removed out of doors, should receive a good top dressing of rich soil, in which sheeps' dung is an ingredient; see that all other plants are carefully staked and tied before removal. Shade the Gardenia pit, and maintain constant humidity. Remove all plants intended for bedding out, and let them remain under the protection of a cold frame for a week previous to planting; this preparation will better enable them to withstand unfavourable weather.

FRUIT FORCING.

Vineries.—We are at length permitted to enjoy the long coveted boon of sunshine. No plant under our care will derive greater advantage from it than the Vine. In whatever stage of progress the immediate benefit will be perceptible. A constant circulation of air, particularly during sunshine, will be advantageous to ripening Grapes. Rapid growth will be induced in later Vines. Let the bunches be thinned at an early stage, and the shoots stopped systematically. Muscats especially require a high temperature the time preceding and during their blossoming period. Vine borders which have been covered may be exposed during the day, but protected again at night, as the occurrence of frost is still not unfrequent. *Peach-house.*—As colour and flavour are both in the fruit to a considerable degree, derived from an exposure to the influence of the light, allow them, as far as circumstances will permit, that advantage. Let a supply of water be given some time preceding their maturity. Keep the leaves in health and free from the red spider, as the perfection of this and the production of next year's fruit is dependent upon a healthy action of the leaves at present. *Melons* will require visiting frequently, as, assisted by the present favourable weather, their growth will be rapid; let swelling fruit be exposed as much as possible to the light; attend to succeeding frames, and see that laterals are stopped, and a due proportion of blossoms set.

FLOWER GARDEN AND SHRUBBERIES.

That favourable period following a weary time of wet and stormy weather is always one more or less busy to the gardener, a day of sunshine then reveals numerous faults against the fair propriety of the garden; weeds appear provokingly numerous, the rain has left a pool of slime here, a mound of sand there, and disarrangement everywhere; which must be repaired without loss of time; flower-beds should now be put in a condition suitable to receive the fragile plants they are intended for, but unless protection can be afforded it would be unwise to venture on planting for a week or two yet. No rule can be laid down for regulating distance in planting; a proper consideration of the habit of the plant must determine their distribution. Avoid the extremes of thick or thin planting; in the disposition of colours if the garden be large the central and marginal beds should be defined with positive colours. For particular information as to the systematic arrangement of colours, a work by Chevrieul may be consulted with advantage. We may perhaps offer an exposition of his principles in a future Calendar.

FLORISTS' FLOWERS.

The late warm weather has brought Tulip blooms on very rapidly, and it will be highly necessary to put on the awnings, though in the northern counties they will be better exposed for at least a week longer. The period of the amateur's enjoyment is now arrived, and he must make the necessary preparations for marking the various varieties as they flower, regulating their heights so as to ensure uniformity. This certainly is a work of time, but at the same time it is highly necessary. Artificial fertilisation must be attended to, and the anthers of the flower to receive the pollen must be removed before it expands. We have heard of people seeding a whole collection, and sowing the produce indiscriminately; did they know "the trouble they were sowing for themselves" they would rather confine their experiments, to a few and good. *Carnations* must be carefully watered in the evening, with soft, or water that has been exposed to the rays of the sun during the day, a good saturation occasionally is better than a little and often. *Auriculas.*—As the pips wither, they must be plucked out, in order to give the seed a chance, otherwise damp may lodge in the calyx and cause the seed-vessel to decay. They may be removed from their blooming stage into a northern aspect, and the pots should be set on coal ashes, to prevent the ingress of worms. *Pansies* should have frequent waterings of weak liquid manure; in very dry weather, if too much droughted, they contract mildew, which causes their destruction. *Dahlias.*—Preparations must be made for planting out the first favourable opportunity.

KITCHEN GARDEN AND ORCHARD.

It is generally prudent and frequently necessary to await the arrival of favourable weather to proceed with the operations that belong to this department; hence, although the season is somewhat advanced, there yet remains much to do. The weather now affords the much desired opportunity of getting obdurate and badly drained land in a condition suitable to receive those crops which have been retarded by the ungenial season, and the utmost despatch should be used to make up for the delay. Losses must be expected in the Carrot and Parsnip beds, which must be repaired by additional sowings. The hoe should be employed vigorously in eradicating weeds and loosening the soil hardened by the sun about young plants. A second sowing of Cape and the late Broccolies may be made; stop Peas as they begin to bloom; sow for a successional supply, Peas, Beans, Spinach, Radishes, also Salsafy, Beet, and Kidney and Haricot Beans; choose a warm and rich spot of ground for the last, as it is necessary to ripen them perfectly. Prick out Celery, and keep it well watered. Sow Cardoons under a hand-glass for pricking out ultimately. Pot off Vegetable Marrows and Cucumbers preparatory to planting them out in beds, which must be got ready for them. *Fruit-trees.*—The prevalence of cold and wet weather, during a period most critical in the blossoming of the Apricot and Peach, has doubtless in many cases limited the crop of fruit, and probably the residue has been preserved by the employment of protective materials. Examine all wall trees frequently, with a view to the extirpation of insects injurious to them; disbud Peach trees frequently and progressively; inspect all grafts and buds, removing wild shoots and insects. Serious injury may be expected to result from the severe frosts which have accompanied the bright weather, particularly to Plum, Cherry, and Pear standards.

State of the weather near London, for the week ending May 4, 1848, as observed at the Horticultural Garden, Chiswick.

April and May.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 28	24	29.844	29.691	56	28	42.0	S.W.	.12
Satur.. 29	25	30.034	29.989	58	27	42.5	S.W.	.60
Sun. .. 30	26	30.171	30.001	63	29	46.0	N.	.00
Mon... 1	27	30.139	30.067	60	36	48.0	E.	.00
Tues... 2	28	30.077	30.066	61	31	47.5	E.	.01
Wed... 3	●	30.101	30.074	72	33	52.5	E.	.07
Thurs. 4	1	30.165	30.133	72	38	55.0	E.	.00
Average...		30.076	30.001	63.5	31.7	47.6		.12

April 28—Cold rain; overcast; heavy clouds; clear; frosty.
— 29—Frost early A.M.; overcast; fine; clear; frosty.
— 30—Clear; fine, with slight haze; clear; frosty.
May 1—Frosty; fine; cloudless; excessively dry air; clear.
— 2—Dry haze; bright sun; clear at night.
— 3—Slight fog; dry air, with slight haze; clear.
— 4—Slight fog; fine; clear at night.
Mean temperature of the week, 6 deg. below the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending May 13, 1848.

May.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 7	65.7	42.4	54.0	6	0.45 in.	2	5	2	2	4	4	1	2
Mon. 8	64.6	47.7	56.0	7	0.57	2	5	1	5	3	3	4	1
Tues. 9	63.0	44.0	53.5	9	0.60	2	5	3	1	2	7	2	—
Wed. 10	62.9	39.9	51.4	6	0.10	4	4	3	1	1	1	4	1
Thurs.11	63.5	41.5	52.8	8	0.26	3	5	3	1	4	3	1	2
Fri. 12	64.1	41.1	52.6	9	0.40	2	5	5	1	3	3	1	2
Satur. 13	65.6	39.7	52.6	0	0.22	3	6	3	—	3	3	3	2

The highest temperature during the above period occurred on the 12th 1833—therm. 81 deg.; and the lowest on the 11th, 1838—therm. 27 deg.

Notices to Correspondents.

☞ A few copies of the Volume for 1847 are still on hand, price 30*s.* each. The Volumes of former years are out of print.

*** The Tree Rose.—At the request of numerous subscribers, the price of this work has been reduced from 4*s.* 6*d.* to 3*s.* 6*d.* (post-free). Published at the Office of this Paper.

Aucuba—*A Devonian*—Thanks. We have had its fruit before from Cornwall but it, as well as yours, is almost abortive. It contains no seed.

Bees—*W Tyro*—Dislodging your colony at this season would be very injurious. Wait until it swarms and establish your collateral hive with the first one. Underhiving the old stock would not prevent it from casting another swarm. Bees will have their own way in this respect, room or no room. Wighton on Bees. *W.*

Fancy Dahlias—*A Sub*—Procure the following 20 varieties—Oakley's Surprise, Madame Wachy, Ludwig Pemsl, Arnal, Hon. Mrs. Shaw Lefevre, Vicomte de Rosequier, Roi de Points, Triumph de Magdeburgh, Adelph Dubrias, Coquette, Admirable, Boquet de Brueil, Dejazet, Charlotte Oettler, M. Wallner, M. Chereau, Mrs. McStinger, Master George Clayton, Mimosa, and Hermina. The bed would be improved by the introduction of the following varieties—Turner's Berryer, Scarlet Gem, Yellow Standard, and Victorine.*

Fruit-trees—*Este*—It is now a good time to remove the bark from Apple and other fruit trees. Dead substances may be removed at any time. By removing as much of this as you can you will do well; if you do much more, you may do harm. A large knife somewhat curved will answer the purpose. We have seen exceedingly stunted trees naturally throw off their old bark, from the effects of good drainage.‖

Grapes—*H*—It would be better to exhibit all Black Hamburgh, or all Black Prince; but there is nothing in the rules to prevent their being mixed. ‡——*C*—Next week. ‡

Insects—*A Constant Reader*—Your Raspberry shoots are eaten off by a troublesome weevil (Pachygaster vastator), which may be most easily destroyed by shaking the plants *at night* over a white cloth, when the insects will fall on the slightest touch, and may be destroyed by throwing them into boiling water. *W.*—*W D*—Your little box was crushed in the postage, and the insects escaped. We suppose your enemies were Vine weevils. See the preceding answer for a plan for their destruction, and if some shoots of the Vine were cut off and laid at the roots, the weevils would probably be entrapped by them. *W.*——*A Sub*—Your Peas are eaten by the Pea weevil. A wide-mouthed, rather shallow bag net, run along the rows of Peas, when the insects are most busy at their ravages, will collect them in great numbers. A fisherman's landing net, a yard in diameter, cut into two, is the best shape for these weevil bags. *W.*

Ivy—*G S B*—It is the true yellow-berried Ivy.*

Names of Plants—*J L*—Cassia corymbosa.——*Geo Owen*—Dianella longifolia. Myrtus bullata is always brown; it ought to be hardy in Ireland. Magnolia odoratissima is a stove plant.——*P W H*—It is Hibiscus Bamia, and must be treated like a tender annual. It likes heat and moisture, in the absence of which it is apt to be attacked by red spider. ——*D Davis*—Ononis viscosa.——*A H*—A bad variety of Berberis vulgaris.——*D S*—Next week.

Paint—*Wotton*—Use red-lead first, as usual, and finish with the black oxide of manganese. Do not prune your lime trees at all.

Peas—*B W G*—We do not know a variety termed the "Oyster Pea."‖

Strawberries—*A Z*—The leaves and fructification appear to have been injured by too much moisture, and want of sufficient air.‖——*Alpha*—Runners of last year will most probably fruit all the better next season in consequence of not having borne this. Six good varieties, early and late, may consist of the following: The Old Scarlet is the earliest known, but it is rather a shy bearer; the Grove End may be substituted, a most abundant bearer, but more acid; Keens' Seedling, British Queen, Downton, Old Pine, and Elton.‖

Summer Pruning—*Lancaster*—Your wishes shall be attended to. It is now time to stop all shoots that are 4 inches long, except the leading shoot. Pinch out the centre.

Terraces—*T S P*—In such a climate as yours four inches of clay on the rubbish will make a good bottom for turf. Mix soil with the rubbish and plant the trees in the mixture; their roots will soon find a way down among fissures without any special provision of surface soil. Certainly put clay over the stones for turf, or you will never be able to roll or mow it. We presume *you* have little to fear from drought.

Vines—*F B*—It is impossible to tell why your Vines and Fuchsias are mildewed, without inspecting your house and watching its management. Perhaps it is too *damp and cold.* The white matter is not the deposit of an insect, but the beginning of some parasitical fungus; perhaps an Oidium. How is your ventilation? Perfect? Such appearances are often the consequence of a damp stagnant air and low temperature. If you can keep the air in rapid motion they would hardly appear.——*The Auberies*—The foregoing observations are equally applicable to your Melon case. It is, however, as difficult to judge of the illness of a plant as of a man, when consulted at a distance.

Ward's Cases—*Sub*—The subjects best adapted for these are Ferns, and other plants requiring, or thriving best in, a humid atmosphere; and the best material for plunging the pots in is sphagnum Moss. Cactuses, Aloes, and other succulents, are not well suited for Ward's cases. Plant any Hymenophyllum, Trichomanes, Cystea, Lycopodium cæsium, Adiantum Capillus, Asplenium lanceolatum, Ceterach officinarum, Aspidium Lonchitis, and Mosses. ‡

Misc—*A F*—Myrtus bullata is a greenhouse plant, Magnolia odoratissima a stove plant. The foliage of Myrtus bullata is naturally of a rusty spotty brown.——*G W Robinson*—Paxton's "Botanical Dictionary." We cannot do what you and we wish. The stamp duties catch us at every turn. For fruits you should have G. Lindley's "Guide to the Orchard and Kitchen Garden," or the Horticultural Society's "Fruit Catalogue."——*F F*—We see nothing to prevent you from growing Cucumbers, ridged out in the way you propose. If you have plants to turn out on the ridge, so much the better; but if you have no plants, then sow the seed there and cover with a hand-glass.‡——*J F*—Put your newly imported bulbs in pots in light soil, and place them in a cold frame.‡——*Clarissa*—Yes; you may try soot, but has not the yellow colour been induced through imperfect drainage? We would advise you to look to that. We are not aware that there is any difficulty in striking Phlox Leopoldiana from cuttings. The young shoots should strike readily. You may remove the haybands and the top-dressing from your Vine borders now. Azaleas should be re-potted after they have flowered, if they require it.‡——*J M P*—We do not know such a plant as Jasminum ochroceueum. Ochroleucum signifies yellowish white.

SEEDLING FLOWERS.

Auriculas—*H H*—Your seedlings are inferior to the show varieties; they are very deficient in circular properties. In No. 2 the colour breaks through to the edge, and the segments are too pointed. In No. 4 these defects are still more apparent, and the paste not so good. None of the selfs are equal to those shown. No. 1 is very pretty as a pot flower; it is neat and the truss very compact.*

Calceolarias—*J W*—Having examined your specimens, we do not find them superior to sorts long since introduced; they are good common varieties, but they are not equal to the best cultivated sorts usually seen at exhibitions.*

Cinerarias—*B B*—Your flowers are large with broad petals, which are but slightly notched at the points. 10, bright blue; 15, blueish purple. In this specimen the petals are irregularly placed round the disk. 24, dark purple disk, with the petals equally divided between the white ground and purple crimson points, a handsome variety. 86, blue purple; 87, dark disk, pure white ground, petals tipped with crimson lilac. 88, very large variety, of a rich purple crimson. These are all large and handsome specimens, measuring more than 1 inch in diameter; 81, 1½ inch.*——*J L*—Your seedling is a rich coloured flower, but rather small and irregularly formed.*——*Leo*—No 2 is your best seedling; the flower is large and stout, and the crimson points to the petals strongly marked; the only recommendation in 1 and 3 is the colour, which is a brilliant crimson; the flowers are small, common in appearance, and they are all too much notched at the points of the petals.*

Fuchsia—*J B W*—Your seedling is not new, and it is fainter in colour than similar varieties that have come under our notice.*

Pansies—*B B*—Your seedling is not so good as some of the common-coloured varieties we already possess; in general form it wants roundness; it is rather deficient in substance, and the petals are too puckered on the edges; the eye is fine and decided.*——*D D*—Your best flower is No. 3; the general outline is very good, and the petals well proportioned; the ground colour is imperfect, being deeper in the lip than in the side petals; the notch in the bottom of this petal is also too deep, and the edges generally are too rough; the flower wants refinement. No. 1 is not sufficiently circular in form for the present day; the lip wants size, and we have similar coloured flowers to No. 2 more perfect in form.*

Phlox Drummondi—*B R Cant*—Your seedling is a very pretty variety.

Polyanthus—*R A C K*—The specimens from your seedling bed do not possess the qualities looked for in show varieties. We recommend you to save seed from No. 4, on account of the brightness of its colours.*——*J W S*—Your seedlings were sent without any marks or numbers to refer to. Generally the colours are very good. The prevailing defect is want of roundness in the eye; it is in most cases too starry, and the general outline is too much indented at the divisions, but the quality of the yellow and the ground colour are both desirable.*

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those numerous correspondents, the insertion of whose interesting contributions is still delayed.

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Apply to John Legg, Cheltenham.

The Agricultural Gazette.

SATURDAY, MAY 6, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

Wednesday, May 10—Agricultural Society of England.
Thursday, — 11—Agricultural Improvement Society of Ireland.
Wednesday, — 17—Agricultural Society of England.
Thursday, — 18—Agricultural Improvement Society of Ireland.

Farmers' Clubs.—May 6: Newcastle, Durham, Malton.—May 9: Wye, Hereford.—May 10: Tavistock.—May 12: Hadleigh, St Austell.—May 13: East Kent, Northampton.—May 15: W. Mark 6, Yoxford, Great Oakley.—May 17: Harleston.—May 19: Halesworth, Waterbridge, Wakefield.—May 24: Reading.

THERE can be no doubt that the most important results regarding the food manufacture of the country are contingent upon the nature of the contract between owners and cultivators of the land. The quality of the agriculture—its produce of food, labour, rent, and profits—varies with remarkable constancy according to the relationship subsisting between the landlord and the tenant. This is sufficiently manifested in the differences which obtain between a Lincolnshire, a Norfolk, or an East Lothian, and the many other districts of an agricultural status below them. The only criticism, as it appears to us, that it is possible for an opponent of "Tenant Right" to make on the facts which such a comparison exhibits, is—that the improved agriculture may not be consequent upon, so much as merely *concurrent with* the securer condition of the farmer—that the two may not be cause and effect so much as mere concomitants; both due to a higher cause and coincident only by accident. And we are ready to allow the justice of the idea, in so far as it reduces the tenant right existing in these counties below the position of the *first* cause of their high cultivation. The concurrence alluded to, however, is not accidental: the security of the tenant may not *create* good farming—his energy and intelligence must have the credit of that—but the good farming will not exist without this security: and the fact is probably this—that the energy and intelligence of the tenant create for him the circumstances under which it becomes his interest to apply these attributes in the attainment of an improved agriculture. It is the ability of the man to which both the good farming and the security of the farm capital are due, and without which neither is possible. The two must be held to stand in the relation of cause and effect, but not directly, for the latter, which was attained by the ability of the tenant, can only induce the former by means of this ability.

And if any of the thorough-going advocates for a legislative enactment of "tenant right" should tell us that we are admitting the whole of their case, only uselessly encumbering the subject, we would ask them if their advocacy does not insist upon "tenant right" as the direct and immediate cause of good husbandry; for how, otherwise, can they, on national grounds, claim the establishment of it? Now we contend that the fullest tenant right is powerless to improve farming except through a pre-existing ability in the farmer; and that the general *arbitrary* establishment of the principle would, therefore, be useless, except under circumstances which would, most probably, shortly lead to the natural and *voluntary* establishment of it.

Our case against tenant right legislation is simply this:—It is impossible—under the determined opposition of landowners: it is impracticable—for the only methods of attaining justice under it would, even in the case of willing parties, stamp, by their complication and expense, all the benefits which might be derived from it: it is incompatible with justice, wherever administered correctly, and useless under all other circumstances; and, based upon the mistaken idea that the plant, which in its natural growth has borne fruit of such value, would yield an equal produce on every soil of coal, a very short experience would no doubt pronounce it a failure. It is the voluntary establishment of tenant right that must be urged—its natural extension that should be hastened. And yet, when an able tenant demands the security it offers, it is so much to the interest of the landowner to concede it, that we can easily conceive how the unreasoning obstinacy which has in many cases refused it should have raised the mistaken cry for a legislative enforcement of it.

The position we have now sketched in reference to this subject is that which this Journal has always maintained. We have always contended for it, as extremely desirable, that the capital of the cultivator should be subjected to the minimum of risk, and that the landlord, rightly appreciating his own interest in the matter, should confer all the security he can upon it. And our friends of the *Mark Lane Express* may say what they please of "the hypocritical cant (!) which is now put forward as to the difficulty of establishing a general tenant right:" we believe, notwithstanding, that our agitation of the subject, addressed to the intelligence both of owners and occupiers, by statements of the obvious interests of all parties, will be vastly more efficient than that of others, which is addressed exclusively to the fears of the former by continued appeals for arbitrary legislation.

THE period during which the existence of THE SCOTTISH AGRICULTURAL CHEMISTRY ASSOCIATION is guaranteed expires this year: and the question of its ultimate disposal is already occasioning considerable discussion. The Highland Society, in so far as the matter concerns them, have already formed their determination. At a special general meeting, on the 12th ult., they resolved "to appoint a qualified chemist, and to arrange his duties and emoluments:" thereby expressing their intention to occupy the field of the Association as a department of their own. And to this, notwithstanding the disadvantage of reducing so important a subject as agricultural chemistry from the capital position it has hitherto occupied, there would probably be no very serious opposition, provided their schemes were developed on a sufficiently extended basis: for the Highland Society has means of securing public assistance and engaging the public interest for any of its objects, which no young Association can be expected to possess. And, besides, a very proper and influential acknowledgment of the maxim—Practice with Science—would be made by an agricultural society which should devote an appropriate portion of its income to utilise the connection between chemistry and cultivation. But the Society's scheme cannot be considered rightly proportioned to the object of it. The 300*l.* per annum, which is to be their maximum outlay, may indeed be named as only their present contribution to this end, and additional funds may be promised should they be found desirable or necessary: but all these arrangements are evidently made as if the experience of the Agricultural Chemistry Association for the past five years were to go for nothing; and as if the employment of a chemist for the furtherance of agriculture were an experiment now for the first time to be made. The income which in Scotland has been employed on the boundary line between Chemistry and Agriculture will thus at once be reduced below one third of its present amount; and a great present injury will thus be sustained by the cause of scientific agriculture in an aim at the doubtful good of saving a venerable society from the rivalry of a vigorous competitor for public favour. We believe that the art of cultivation would be much benefited by this competition—if that can be so named which would only be a double effort for its advantage. And we are happy to think that this benefit may yet be secured to it by the establishment of an independent body for the purpose—if the Highland Society should continue to maintain the meagre resolutions which it has hitherto adopted on the subject.

THE SPANISH FOWL.

THE Spanish breed is, in all probability, of ancient and remote origin, and does really seem to have reached us from the country after which it is named. It is a noble race of fowls, possessing many points of [illegible] spirited and accurate appearance [illegible], excellent for the table, both in [illegible] and skin and also in flavour, laying [illegible] large eggs in considerable numbers. As to [illegible] breed it is not delicate in constitution, [illegible] without showing much hardiness to those who [illegible] of game breed in their veins. It is a great favourite in all large towns, but the [illegible] that no soil of middle or cold [illegible] the pure-bred birds of the fancy thereto [illegible] black, as far as feathers are concerned, and [illegible] high condition display a crimson [illegible] comb of both cock and hen are [illegible] of a vivid and pure [illegible] the hen droops over on one side. [illegible] great feature is a large white [illegible] of a fleshy substance, [illegible] small in the hen, but large and very [illegible] the cock. This is the case [illegible] and white, makes the head of [illegible] handsome as that of any variety [illegible] the genuine breed the [illegible] scraggy, long-legged, [illegible] eyes in the poorer [illegible] throw discredit on the whole race.

Spanish hens are not [illegible] produce very large, [illegible] being very thick at both ends, and yet [illegible] little at each. They are by no means [illegible] sitters, even when they do [illegible] often come round to [illegible] quently tramping [illegible] It is from this inconvenience of this habit are easily obviated by causing the eggs to be hatched by some more [illegible]

It has been noticed that this variety of fowl frequently loses nearly all the feathers on the body, besides the usual quantity on the neck, wings, and tail; and if they moult late, and the weather is severe, they feel it much. Nothing can be [illegible] to take place with any "[illegible]" It often happens to the guinea-fowl; and the [illegible] plain. If the system of a bird is exhausted by the unremitting production of eggs, it cannot [illegible] itself the wherewithal to supply the [illegible] The stream that will fill but one [illegible] made to keep two at high-water mark; and therefore Mr. Leonard Barber justly observes, "With regard to an anxiety about their [illegible], in my opinion nature ought not to be [illegible], as it requires a rest. But some people think it cannot be right if their hens do not lay every day; and I would advise such to have some early spring chickens, which would begin laying in the autumn and continue merely through the winter, and their [illegible] would commence in the spring."

It is doubtful whether they are even yet thoroughly acclimatised, for continued frost at any time much injures their combs; frequently causing inflammation in the end, which has terminated in death. A warm poultry-house, high feeding and care that the birds do not remain too long exposed to severe weather, are the best means of preventing this [illegible]

Some birds are occasionally produced [illegible] streaked with red on the hackle and back. This is no proof of bad breeding in other points are right. On the contrary, it is as near as may be to the sort which Columella's relation might have kept in Spain,* at the time when he was improving the native sheep by the importation of rams from Media [illegible]

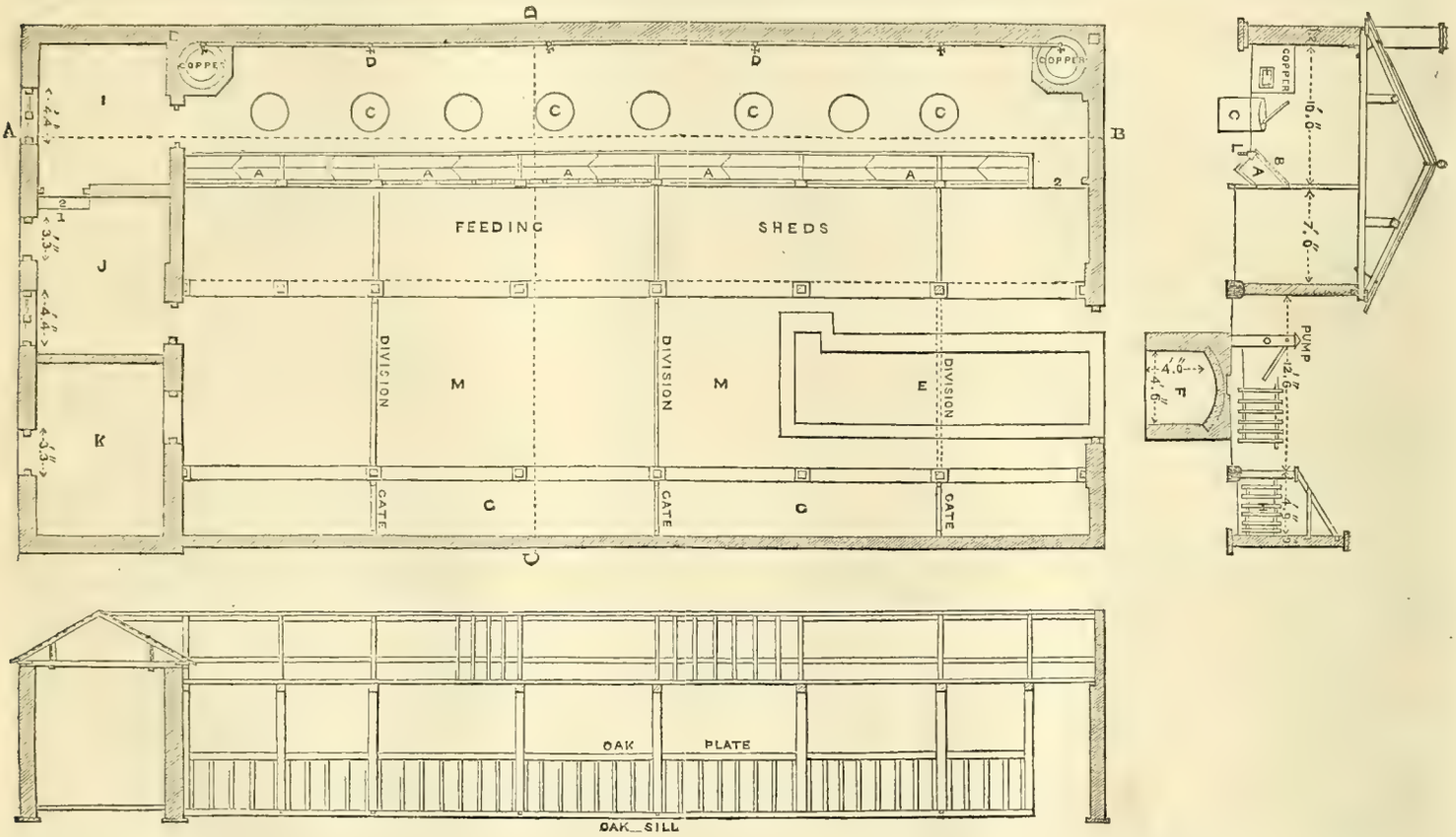
The chicks are large, as would be expected from such eggs, entirely shining black, except a pencil red spot on the breast, and a slight sprinkling about the chin, with sometimes also a little white round the [illegible] and eyes; legs and feet black. They do not get perfectly feathered till they are three parts grown, and therefore, to have these birds come to perfection in this country, where the summers are so much shorter than in their native climate, it is necessary to have them hatched early in the spring, so that they may get well covered with plumage before the cold rains of autumn. The black, however, is not the only colour of the Spanish fowl. Mr. Barber says, "Many of my friends that rear breed of fowls required specimens to [illegible] heard from a Spanish friend of mine that they had a very nice breed in the part of Spain he came from, which were chiefly white or speckled. I [illegible] him to procure me some and finding that they were such excellent layers, and that they were much admired by every one who saw them, I got another importation at [illegible] since [illegible], amongst which there are three speckled black and white, in shape and carriage very much like the spangled Hamburgh, having crests and a tuft of feathers hanging under the throats, and white legs. The others are pure white, in shape and carriage exactly like the black Spanish, only wanting the white cheek-patch. They are much larger and handsomer than any of the black I have ever seen, and they are very fine in the neighbourhood of London. The cock that came with the first lot is entirely black, and large in the legs, but without the white wattles. In my opinion they are the most useful and ornamental breed of fowls both for the breeder and amateur. Their eggs are equal in size and number to the black Spanish. Some of mine last year weighed three, and some four ounces each. They appear very healthy and hardy. My fowls

* "M. Columella patruus meus acris vir ingenii, atque illustris agricola."—Lib. vii. c. 2.

came from the neighbourhood of Xerez de la Frontuca in Andalusia. They have cost me about 10s. each, including freight, duty, and expense of clearing." The cross between the Pheasant Malay and the Spanish produces a particularly handsome fowl, and probably very much resembles the old Hispanic type.—*E. S. Dixon.*

Mr. SWETE'S PIGGERIES.

The annexed drawing represents the plan of a piggery erected upon the estate of John Beaumont Swete Esq , of Oxton, near Exeter, designed by his steward, Mr. Richard Anthony Webb. It is simple, though very complete in its arrangements. The building will admit of 48 pigs being fed at one time, with a stall at the trough between each. It is divided into four sties, each sty containing the following number, viz. 10, 15, 10, and 13. There are two sheds, as shown in the plan, for the animals to lie down in, with an outer court between. They are furnished with a fresh supply of bedding either of Wheat or other straw or haulm every morning, and the sties cleaned out about every 5 or 6 weeks, averaging, from 50 to 55 loads of good dung. Last winter the food consumed was Indian Corn or Maize, ground and boiled. The tubs are so arranged for holding the food, and the process so easy in feeding them, that a boy 12 years of age might tend them.



LETTERS ON RAILWAYS AND AGRICULTURE,

IN LINCOLNSHIRE.—No. II.

The time of the Royal Agricultural Society would be usefully employed in investigating the subject of railway communication, as applied to agriculture, with a view of making this great locomotive power more generally useful. The first step would be to make a collection of actual transactions, and calculations based on those transactions, effected by the influence of railroads, either beneficially or adversely. I say adversely, because, in many instances, the high farming districts, while enjoying the benefit, have also suffered from railways. In Norfolk, for instance, they save in sending meat to market, but they complain that the lean stock which formerly came to them every year is now interrupted on the roads—railroads enabling the best beasts to be culled from the herd, and sent by twos and threes all over the kingdom, whereas formerly the droves were pushed steadily on to the accustomed market in Norfolk. At Aylsham, in that county, I noticed the other day a number of very fine black and white foreign beasts (Dutchmen), 30 out of 60 in one feeding-yard ; they looked well and handled well, but the farmer told me they fattened so slowly they would never pay him. I asked why he bought them. "Because I could not make up my number without. The cattle that used to come to us are now sent on to the neighbourhood of Liverpool and other great towns."

It is quite certain that within a very large circle a railway has the power of attracting traffic from old accustomed road channels, of sending it by a circuitous because a swifter route, and of draining trade and manufactures from all districts beyond the reach of railway accommodation. The traffic from Exeter and the west formerly flowed, a broad fertilising tide, in a direct route through Salisbury and the intermediate towns. The Great Western Railway, although *a great way round*, has, by a superior means of conveyance, ruined the towns lying on the direct route, and drawn the traffic towards it from all sides. The extraordinary unanimity with which the local interests supported the South-Western Railway schemes for penetrating the districts traversed by the old coach road, shows the injury which they considered a far off railroad had inflicted on them. From these counties large quantities of fat stock, both sheep and cattle, are forwarded to the London markets, and large quantities of half fat stock to the light Turnip lands of the eastern coast. While farmers along the line of the Great Western are within a calculable distance of markets, those toward the south-western coast seem removed by days and nights from their former customers. The case of the forest district of Nottinghamshire, and of North Lincolnshire, is of the same class. These districts had a profitable trade with the clothing population of Yorkshire and the town of Manchester, until the easy conveyance between Manchester, Sheffield, York, Hull, and other towns, diverted their best customers to markets within railroad reach.

Worksop and Retford are not of so much consequence of themselves as the centre of a circle of high farming. These towns and their dependencies found themselves ruined by slow poison ; the malt trade, the flour trade departed, the farmers round—all dependent on their returns upon importations of bones, guano, Rape seed, oilcake, and other tillages—found themselves placed out of the pale of equal competition. There was evidence before the committee on the Manchester, Sheffield, and Lincolnshire Railways that Worksop and East Retford had both lost a very considerable trade in Barley for malting, and in flour, which they had suppled to Manchester and other manufacturing towns before the Midland Railways had raised up competitors, and given the forest districts of Nottinghamshire the "go bye," in the expressive phrase of one of the witnesses. Now this evidence of loss sustained for want of railway communication is more precise than any we can gather as to the advantage gained by it. We know vaguely that great advantages have been gained, but to what pecuniary value we have yet to ascertain.

Mr. Smith, of Deanston, whose authority on agricultural economy deservedly stands so high, has suggested that a railway might confer important advantages on agricultural operations, in evidence before a committee of the House of Commons in 1846, of which the following is a condensed statement.

"I have drawn out a table to illustrate the agricultural improvement which is *the result of the cheapness and facility of transport produced by railways* which have been in existence some years. One table is based on a six-course shift, because although some land suits best to be cultivated upon one shift, and some upon another, the six-course shift is the most suitable for the medium land of England and Scotland. I have supposed the farm to be in highest cultivation, thoroughly improved, and to be both arable and pasture. The quantities of green and dairy produce, cattle, and everything that can be exported from the farm are counted at 148 tons. The imports, consisting of store cattle to be fed, lime, guano, &c., at 197 tons ; and supposed this weight to be transported on an average 15 miles, which is a very low estimate. Thus we have for imports and exports a gross quantity of 346 tons 14 cwt. Taking the expenses of transport by railway at 1*d.* per ton per mile, and taking the number of persons who will travel to market, and in various ways, at 1*d.* per mile, the whole amount of charge of carriage, for imports and exports, is 40*l.* 8*s.* 9*d.* By the old mode of conveyance the expense would have been, assuming 6*d.* per ton per mile for goods, which is as low as you can carry by the old mode, 142*l.* 16*s.* 3*d.* I have had a good deal to do with carting, both for agricultural and manufacturing produce, and I have found that I could never get it done under 6*d.* a ton. Therefore upon such a farm there would be an annual saving of 102*l.* 7*s.* 6*d.* ; taking that at 20 years' purchase, would give 2047*l.* 10*s.* The rental of such a farm would be 400*l.* a year without a railway, with a railway it would be worth 10*s.* an acre more, or 500*l.* a year."

As an example of *the effects of railways in raising the value of land*, Mr. Smith referred to the Edinburgh and Glasgow, which "passes through a considerable district of very inferior, very ill cultivated land. Since the introduction of the railway, and the facilities given for bringing tiles and lime, a great extent of that inferior land has been cultivated, and raised in annual value from 5*s.* to 30*s.* or 40*s.* an acre."

With respect to stock, "the rate hitherto charged for the conveyance of stock is nearly the same per mile as the expense of driving, especially in fat stock ; but there is a loss in the case of fat bullocks, on a drive of from 60 to 70 miles, of at least 5 per cent. on the value of the beast—equal to the whole expense of driving." Without a railway it is impossible to transport cattle with any advantage any greater distance than from 50 to 70 miles without very great deterioration, but railroads afford the means of transporting those cattle 300 or 400 miles, and in carcases 700 miles. The expense of transporting either beef or mutton in the carcase does not amount to more than one-third of a penny for 500 miles, so that meat may be as cheap in London as in Inverness. Another advantage from this easy and cheap mode of transit is, that the little country butchers always find among the lots they purchase for their customers a few too good for the consumption of the district, and if enabled to send these superior joints to a richer community at a cheaper rate, they can sell the medium and inferior joints cheaper to their customers in the country."

Railways may be made useful for the purpose of mixing soils.—"In those cases where the earths could be easily obtained, sea sand in Ireland is carried 30 miles up the country in little carts, and is found to pay the farmer for carriage when applied to clayey and mossy soils, and in many instances where there are moors and waste lands it would be worth the while of the proprietor to construct a tram-way from a railway passing through the district to the moor or waste land. The difficulty of availing yourself of the benefit of railways is, that the soil must be refilled, in most cases, into common carts and carted to a considerable distance. Altering the earths would be a permanent improvement of the soil; a great deal of mossy soil, if you lay even half an inch of sand, or more especially of alluvial soil, will render that ground productive for many years."

It would be an interesting enquiry as to how far these powers have been made available. For instance, for the conveyance of lime. In the Exmoor country, "a

hill farmer mounts his horse at daybreak, and driving six others before him with panniers, travels 18 miles to the sea-coast, and brings back in the evening 9 bushels of lime, barely enough to dress a quarter of an acre!"

(To be continued.)

MODEL FARMS AND AGRICULTURAL SCHOOLS.

Having a few observations to make on the extracts taken from the recently published pamphlet on "District Model Farms," by "A Farmer's Son," and the allusions made to them in your Leading Article of the 25th ult., permit me to offer them to your readers. Not that I have any wish to give either them or "A Farmer's Son," cause to think that I have any desire to depreciate the value of the cause he advocates, or that I have any prejudiced feeling for so doing, but I wish to point out a few of the many difficulties which must ever attend such establishments, and how little practical good can ever be derived from them. I perfectly agree with him as to the good resulting from the establishment of those most valuable institutions, the Royal and other agricultural societies, to which may be added others equally important, viz., the Agricultural Chemistry Association, and the local farmers' clubs, on account of the vast amount of good practical and scientific information which issues from them, and which information is being diffused, through the exertions of their talented and praiseworthy members, to the most remote parts of our kingdom, and yet "A Farmer's Son" asserts the "people have not been reached." I maintain they have been reached, though he justly observes "they have not been moved;" and why have they not been moved? It is not for want of model farms to set them examples, for such examples would in themselves be so theoretical and incomplete, and the scope given on those farms too limited to carry out the different methods of draining, &c., in such a manner as to be taken for a standard, or to prove the superiority of one to the other. With regard to the second paragraph, in which he asserts "that he has no doubt but there might be found in almost every district in the kingdom a farm sufficiently various to represent the whole district," I very much doubt it; in fact I know it to be almost impossible; there might be found here and there one, but even that is doubtful. But suppose such a description of farm could be found, I would ask in what way the proposed experiments could be performed, and how long it would take to make them? One or two years would be found quite insufficient for such a purpose, as no experiment can be said to have been well performed which has not stood, at least, the test of three successive years. Where then would be the benefit of such establishments? for my own part I cannot see.

If it will not be taking up too much space in your columns, I will endeavour to point out a plan which I am convinced would tend more to the improvement of our agriculture than any that has ever yet been adopted. On viewing the farmers, more particularly the small tenant farmers, with an impartial eye, we see a man more in need of assistance with regard to education than any other. We see him striving against the difficulties of seasons, shortness of means, and in many instances surrounded by a large family, amongst which are probably several sons, whom he knows ought to be receiving an education to fit them for that vocation in life to which they are, as a farmer's sons, generally called; yet he is unable to do it, on account of the scarcity of schools calculated to impart that sound agricultural instruction to them, so essential to the farmer of the present day; and the terms of those already established being so high, that he has not the means of sending them, they, therefore, remain in comparative ignorance, and in too many instances are compelled to continue in a condition a very little above that of a labourer; is it then a matter of surprise that "prejudice" (which is the bane of agriculture) exists so strongly amongst them, or that improvements go on so slowly, while things remain in such a state it cannot be otherwise. I look with pleasure on the example set us by our Scottish neighbours, and why? because they are ever ready to support each other in the all important cause of education, those who have the means contribute to those who have not, and go hand in hand in farming institutions, establishing schools, and carrying out any plan that may tend to the diffusion of knowledge; let us then not only admire their good example, but do all we can to follow it, and instead of appropriating the excess of means in the hands of our central societies to the establishment of district model farms, I think we should lose no time in establishing district agricultural schools, whereby our rising generation of farmers may obtain a good, liberal, practical, and scientific education at a moderate charge, and should the excess of means alluded to not prove adequate to the demands of such establishments, I have no doubt but many who now withhold their support from the different societies, would readily come forward liberally, and assist in carrying out a work calculated in itself to be of the greatest benefit to our agricultural community.

Having now stated my plans for the improvement of agriculture as briefly and plainly as possible, I am desirous of adding a few words in conclusion to my young agricultural friends, who, in the event of the plan I have endeavoured to point out being established, would probably, on account of age, be excluded from partaking of the benefit of it. It was from a deep sense of my own ignorance, and being convinced of the benefit agriculture must derive from the application of science, I am happy to say I was some time since induced to turn my attention to the study of chemistry, and from the benefit I have derived in addition to many years' practical experience, I earnestly entreat all whose circumstances do not prevent them, and are willing to apply themselves closely to study, to adopt the same course, by which means they will put themselves in possession of the key with which to unlock Nature, by whose works they are as agriculturists daily surrounded, and of knowledge that will never forsake them, or that they will ever regret having sought. With due apologies to yourself and readers for this long intrusion, I am, and shall ever feel proud to subscribe myself, the farmers' sincere friend and well-wisher.—*M. R. A. S.*

GROWTH OF TURNIP SEED.

About Christmas, 1846-7, among other inquiries I made of the *Agricultural Gazette* relative to growing Turnip seed, was one to ascertain the quantity an acre of land would produce; you replied as not having had experience. Since that period I have had a crop of Swede Turnip seed off two small plots of ground, the quantity and value of each are stated below. I imagine that if half the cash we usually pay for Turnip seed every year was expended under our own superintendence in labour to produce it for ourselves, we should find a much larger quantity of live seeds in our possession than we almost invariably receive from those merchants or dealers commonly supplying us.

Why do we so frequently witness in our fields (except under extraordinary seedings), almost every season, drills or rows exhibiting failure here and there throughout or perhaps confined to a part of them? What cause is generally assigned for these mishaps? Is not the drill or its manager blamed? I believe one-half or more of these failures, or partial "missings" of the seed might most justly be attributed to the fraud and trickery of seed dealers. I believe it is not generally known that they roast such as they are fortunate enough to purchase at a low price, irrespective of variety, or may have left themselves after the sale of a previous season. With such they mix their new and genuine varieties till the whole of the bought up or old stock is disposed of. Undoubtedly they maintain their credit for supplying the true variety asked for; but mark their anxiety in recommending a "good seeding," meaning that you should sow plenty. Thus we suffer three defrauds every season—first in Swede, second yellow, and thirdly in the white, and probably in none more than the Swede, and perhaps 30 or 35 per cent. in all. Should you signify the partial failure of your early sown seed, the adroit seedsman, ever anxious to serve you, mostly manages to raise enough duplicity to assure you that this you are now getting is most excellent, &c., and again recommends a still better allowance per acre, or intimates that the drill may not have been properly attended to, and again observes that an extra 1 lb. per acre this season (well knowing it requires that to balance the adulteration). Thus year after year the agriculturist pays double and double again for Turnip-seed. How frequently do numerous disappointments lead us to seek for better success from their newly-received sorts. Is this then a remedy? No. Let every farmer grow his own seed, and probably there would soon be fewer of the murmurings, fears, and lamentations accompanying almost every Turnip field. Did ever a droughty season yet kill or prevent roasted seed from growing? No, no. The craftiness of unprincipled dealers and general merchants is beyond credit in more articles that the farmer uses than merely his various seeds; witness sulphuric acid, guano, bones, &c. Of the adulterations the last receive, I have had an account from those who have been employed in the trade.

Ah! brother cultivators, did we know one-fourth of the rascality practised towards us it might cause us to knot the strings of those purses (which in numerous cases have been so freely emptied for improvement), in order to hold what supplies we may be able to accumulate. In future I would advise Turnip-seed purchasers to winnow each variety well ere they place them in the drill. Some resort to telling off a certain number, which they sow and reckon the plants. They thus at once perceive the extent of adulteration, and either return it or sow accordingly. But why be subjected to such imposition when it can be so easily avoided? Even winnowing will not always throw out the dead seeds, because of other means resorted to for killing the vegetable principle and allowing the seed to assume its plump appearance and retain its original weight. The last seed I bought was at the establishment of one of the dealers that always has on hand a good assortment of seeds, &c.; upon examination I found every seed that was too light of itself partly supplied or steeped in ——, while some were rendered almost too heavy by being greased, or oiled, or otherwise dressed up for sale. I have no doubt but such dealers are enabled to treat us or our servants with an extra glass, or make a liberal return by what they derive for increased weight obtained at a small cost. But is this all? It is the loss of the crop in patches that adds most to the evil. But I conclude these observations by calling upon others to publish every case of fraud they detect, and forward any means they use themselves that may enable their brother farmers to escape being duped by unprincipled dealers. The quantity of land in the first plot was 114 square feet, which has produced 8 lbs. of good Swede seed; this is more than after the rate of 1 oz. of seed for a square foot of land. The second plot contained 1120 square feet of land, and has produced of good seed 3¾ stones, which is at the rate of 95*l.* 5*s.* per acre, at 1*s.* per lb. It is only fair to state that the seed upon this larger piece was not secured from birds, and suffered very considerably.

	Area.	Produce.	Value per lb.	Value per acre.
Plot No. 1	114 sq. feet	8 lbs.	1*s.*	£381 15*s.*
Plot No. 2	1120 sq. feet	3¾ stones	1*s.*	£95 5*s.*

If Swede seed cleaned is 4*s.* per lb., as I have heard it may be this season, we have had produced at an extraordinary rate of 5*l.* 1*s.* per acre in the first instance, and 1520*l.* 10*s.* per acre in the second; the above appear to be heavy crops for the land, but I firmly believe more than either of them will be produced next year, should it be favourable.

I should like to see them if any of your correspondents would be kind enough to inform me whether or not there is any benefit derived by the seed sown for a general crop in the south being produced in the north, and the contrary. If seed raised in the north is preferable for sowing in the south, is seed raised in the south better for sowing in the north than north grown? Or will it be to the advantage of those northern Turnip growers to have seed produced and more early than their neighbourhood? So far as I have been able to settle the question the best Turnips are raised from seed produced in their immediate neighbourhood, but I believe more experiments are necessary before that can be correctly decided; however, be the case as it may, one thing is certain, if we produce our own we are not liable to pay for seed in an adulterated state, and are also certain that the variety is not changed by mistake.
—*Deal Honestly.*

P.S. Where there are workmen possessing gardens, say allotments, would it not be to the benefit of such farmers as cannot raise their own seed, to give a cottager an offer of taking so much seed every year, at such a price, and supply the Turnip bulbs. It might assist many a poor cottager, and promote a better connexion between him and such an employer. [A very good idea.]

Home Correspondence.

Peat Tile Pipes.—I have read the remarks by one who signs himself as a "Highland Proprietor," on what I cannot help thinking a very important matter to a large portion of Scotland, namely the making of peat tile pipes. I had a good deal of conversation on the subject with a very intelligent friend who had considered the matter pretty fully, some months ago; and from the experiments which he and I made together, we became very much satisfied that the making of good lasting tiles from peat was perfectly practicable. Our principal object was to effect an improvement in the peat tile cutting spade, figured in the "Book of the Farm," which in practice we did not find to work well, and I think that my friend did accomplish a very decided improvement on the spade in question, which, however, it is not very easy to describe in writing; suffice it to say that the object attained was to cut peat after peat out of the land without waste, each peat forming a tile or half of a pipe. All proprietors having peat, however, must not flatter themselves that they shall be able to make tiles out of them; the absence of twigs, which your Highland proprietor complains of, is most important: it is necessary that the peat be very solid and compact, so as to enable a perfectly clean cut to be made. Messrs Slight of Leith Walk, made several spades on my friend's improved principle, but a further improvement is talked of. I understand that the Highland Society has offered a premium for practical information on this subject.—*Scotsman.*

[We have the addresses of two gentlemen to forward to a "Highland Proprietor," if he will forward his own, which we have mislaid.]

Dairy Management.—Many observations have been made as to the best depth of milk for casting up the greatest proportion of cream. I lately found the following result. A lactometer of usual width, 10 inches high, gave 12° of cream. A glass vessel 2¼ inches wide, with 3¼ inches depth of milk, yielded 7° of cream; another vessel of glass, with 2 inches depth of milk, and 10⅜ inches wide, yielded not quite 2° of cream. The milk was not a mixture but all from one and the same cow, and stood 36 hours. This would warrant the opinion that cream is cast up in greater quantity when not placed in very shallow vessels. The cream was carefully taken off the two latter vessels and the skimmed milk put into a lactometer, that from the widest vessel gave 2° of cream, and that from the second in width about ½°; a thermometer placed near the vessels ranged from a little above 47° to nearly 50° the whole time.—*W. W.*

Trees and Water on Cultivated Land.—Having lived near the heavy clays of the Weelden of Kent and Sussex, I can agree most heartily with your correspondent, who laments that land capable of growing the finest corn is occupied with trees. Only let any one look at a map of the valley lying between the forest ridge (of green sand) and the chalk of the North Downs, and again between this ridge and the south: between the high roads to Brighton and that leading to Chichester is a heavy, high, uncultivated, and densely wooded country, quite impassable in any but very dry weather; small villages lie at 3 or 4 miles distance from one another, between which the communication for 6 months is nearly cut off, resembling the country of the Vendeans. Now all this would bear the heaviest crops of Wheat and support 20 times its present scanty population; the draining would employ the miserable thousands of railway labourers now out of employ, and pressing heavily on the already nearly bankrupt rate-payers.—*A Clay Drainer.*

Mr. Mechi's Farm.—One day lately I took the opportunity of visiting the above farm. I chose the present time, recollecting the long period of wet weather we have had, as well as the spring time of the year being the most disadvantageous for the appearance of thin-sown Wheat. Essex soil I considered to be strong, deep clay (judging from the railway cuttings), 50 feet deep at least, and capable, with deep draining, efficient tillage and plenty of it, of growing anything. It is what people in other parts call Wheat and Bean land, by which I suppose they mean land that will not grow anything else, or else land better suited for those crops than any other land, both which conclusions I think are erroneous; I am sure that the first is. I noticed several small holdings with miserable, wet, thatched, out of repair cottages and outbuildings; then on my road from the station to the farm I came to a pottery where I was glad to see a good stock of drain-tiles, but I am afraid the owner had too many in stock for this season of the year to argue well for the estimation they are held in by the neighbourhood, and a little further on a heath, which I suppose was Tiptree, with geese of course. Crossing this, and a little on my right I saw the Hall farm, about which there could be no doubt Mr. M. is not what has been called a "bit by bit" farmer. If trees are bad he cuts them all down; if the land is better for draining he drains the whole; he does not content himself by draining a bog here and a spring there; if hedges are unnecessary he grubs them all up, so that his farm presents the naked appearance of a homestead surrounded by the land and bounded by one good fence. There are three good gates (that will open and shut) opening on three good farm roads, which lead from the highway to the homestead, and as you near the homestead, you do not find a lot of muck laid down for the cattle to tread into manure; as they tread between the meadow and the straw-yard. And then the dwelling-house: I have heard it reported that the house was too good; it may be for the party and his ideas who reported it, but I do not think it too good for the worthy occupier and his amiable partner. Nor do I think it would be too good for me and mine; but perhaps he is a cynic philosopher, so I will leave him to enjoy his own opinions, and live in a tub if he likes—I like liberty. But to business. The drains: it is well known that when Mr. Mechi began to drain, he drained in common with the popular opinion, 32 inches deep at 12 feet apart, putting several inches of stones beneath the tiles, to carry out a pretty theory of his own, I believe about "the area of porosity of the drain being equal to the surface of the land to be drained;" this area of porosity seems to be quite unnecessary, and that system cost him 10*l.* per acre; but partly from observation, and a happy disposition of allowing himself to be taught better, and partly from the light thrown upon the subject by Mr. Parkes, he has since drained at 5 feet deep and 33 feet apart, with 1-inch pipe tiles, more effectually, and reducing the expense to less than 50*s.* per acre. This I have seen, and consider that it drains the surface equally well as drains 12 feet apart, and placed shallow; to see that alone is worth a long journey. The drains were all of them running, but I could not discover but that the 1-inch pipe was more than sufficiently large for the wettest part, and I can give my testimony that the whole of the land was looking healthy and the Wheat plant vigorous and regular; comparatively thin, of course, being sown with only 1 bushel of seed, but I only saw on about 80 acres, nearly half the farm, but one spot, and that not a rod square, where the plant was missing. The homestead is well built, the stables very good, the cattle stalls, principally on the plan of Mr. Warnes, seem to be perfection; the sheep on boards, *à la* Huxtable, seemed to answer uncommonly well, the breed is between the Hampshire and the Cotswold, remarkably good for putting on flesh, but they do not please my southern eye like a Southdown; the piggeries I find fault with, there being too much area exposed to the rains of heaven, and too much litter therein, it makes muck not manure, and I for one think that you can waste straw—a ton of straw sold at 50*s.* will buy a wonderful lot of inorganic material, and while I am fault finding, which I know Mr. M. will excuse, provided it is just, I think that the whole of the feeding sheds are too scattered for the economy of labour, particularly when the cattle are all fed with cooked food, but this at present is not the case at Tiptree-hall, Mr. M. thinking it not more advantageous to do so, except for pigs, and as this at present is an open question, he has a perfect right of exercising his own opinion until it is settled. His breed of pigs are first-rate, mostly of the Berkshire and Fisher Hobbs sort. The roots seem to be very good, the Mangold in particular; the implements, of which he has a good and perfect assortment, include Newberry's dibbler, Garrett's horse-hoe (a great favourite), Crosskill's clod-crusher and liquid manure cart, ploughs and subsoilers, &c., all of the best after their kind. He is about to do away with his horse-threshing machine, and substitute a six-horse steam engine. I cannot see the economy of this upon so small a farm, but I have no doubt Mr. Mechi has a good account to give for doing so. I don't recollect that I can find fault with anything else, for all other recollections are full of pleasure, enhanced by the kindness and attention of Mr. Mechi.—*W. G. Grossmith*, 15, *Poultry*.

Hen Gossip.—An old hen of a very large size, with beautiful plumage, notorious, as it turned out, over the whole neighbourhood for many years back for her bulk and "goose like" eggs, was sold to me for the purpose of being crossed with a pheasant, which comes down from a neighbouring wood and bestows on the cottager near some most beautiful fowls. With her huge size and pheasant-like plumage, and the pure pheasant blood, I had hoped to get some large, finely feathered fowls. Instead of being three years old, however, I found she had been famous for six or seven years in her late quarters, and that when she came there she was "a canny age;" also that instead of being the mother of another fine hen purchased from the same breeder, many persons had at divers times got her eggs and never could rear any chickens from them. This as a warning to young poultry fanciers. From the first day there was a peculiarity in this poor old duchess's mode of progression; a slow, heavy, gouty walk,—and when hurried, a spring and limp,—accompanied very often with heavy groans and strong expostulations with the other fowls. At length the poor creature became completely lame; stretching out her gigantic leg before her over the side of her roosting place, like a very gouty old lady using a leg rester. As we thought she had injured the limb, and was from her age and her moping and refusing food likely only to suffer, we had her destroyed; and a *post mortem* revealed a disease of the oviduct,—which threw some light on the statements respecting the addlement of all her eggs throughout life,—and which, as hen maladies seem to interest some of the readers of the *Gazette*, I here record. The bird was in good flesh and fat, notwithstanding her age and disease. The part diseased was entirely changed into a cartilaginous substance, with two or three cavities (cysts) containing a small portion of glairy fluid; the substance filled, like a tumour, the whole of the right iliac fossa, or hollow in the inside of the lower part of the right side, the bone being roughened and in a slight degree absorbed at one point; and the sciatic nerve—the large nerve supplying the thigh and leg, imbedded in the tumour, had become softened and disorganised, satisfactorily accounting for the immobility of the limb. None of the ova had passed from the cluster, nor had chanticleer shown any attention to the old lady, though as a wag remarked, there is no law against "grandmothers" in the marriages of two-legged animals *with* feathers. Softening of the nervous tissue and consequent paralysis, then, as well as a schirrous condition of the oviduct, occur in the hen: diseases, it is scarcely necessary to observe, with which the present state of the practice of physic among fowls—advanced as your columns show it to be—is scarcely able to cope.—*C.*

Swedes for Horses.—In the communication lately made by "R. S. S." in your Paper, on this subject, I am surprised at his remarks on steaming, "that the root loses much of its nutritious properties by such an useless culinary process." Now I, myself, could never find that such was the case, but believe the root to be much improved, and acting on that belief, have fitted up a steaming apparatus in my farm yard. I have never before seen such an opinion in print, and on reading various reports of experiments made on the subject, it has always appeared to me that the only reason why it should not be employed in feeding bullocks, is the expense of fuel. In the East Lothians of Scotland, where I have been lately residing, every farm-yard has its steaming apparatus for the purpose of steaming Swedes, and no one ever thinks of giving them in a raw state. I perfectly agree with "R. S. S." in his remarks on the beneficial effects to be observed from giving Turnips to horses, but would recommend him to try them steamed. I have this last winter substituted steamed Carrots for the Turnips, and think them far superior, giving the horses a peck every evening, in addition to three-quarters of a peck of corn and chaff per day, and my horses now are looking in their coats and condition equal to any carriage horses. Perhaps "R. S S." would give me some information as to the nutritious properties of the root lost by steaming.—*Thomas Michelmore, jun., Berry Pomeroy, Devonshire.*

Agreement between Landlord and Tenant.—You request correspondents to give their opinions respecting "conditions of an agreement between landlord and tenant" by "R. J. B." Now with regard to the first part, I see no need of amendment, but in the second, I think it would be far better to give the tenant at once a 21 years' lease; no landlord could expect his tenant to build or drain solely at his own expense without such a term. But if, on the other hand, the tenant does not expect to remain long on his estate, then I am of opinion he should leave it to his landlord, and pay a per-centage for the money so laid out. In the third part, the incoming tenant should be bound to pay him, on quitting his estate, the fair proportion of the value of any labour or manure (except manure made on the estate) from which crops have not been taken; this is as much as an out-going tenant has any right to expect, and will leave no cause for complaint.—*Thomas Michelmore.*

Kitchen and Dairy Utensils Deleterious to Health.—An article at p. 14 upon the use of glass in dairies, brings to mind a subject long thought upon, which continued ill health has not permitted me to take in hand. A few words may therefore elicit something from other benevolent correspondents, to warn people of the fatal consequences of deleterious mixtures in their daily food, quite unknown to the generality of them. My first attention was awakened to the sad effects of improper culinary utensils by a sudden and severe attack of illness in the middle of the night on a journey in Spain. It was ascertained that I had taken poison, and, upon further inquiry, that the soup of which I had partaken, having stood for several hours, had formed verdigris in an old worn-out copper saucepan. The people of the house, quite unaware that when the tinning within any copper pan is worn off, and the copper exposed to the action of heat with salt, brine, or acid, oxydation soon occurs. They had themselves from time to time suffered, and more than one had died under a similar sudden attack. I always carried a few remedies with me, or might have suffered much more severely. In those countries they use a large proportion of brass and copper vessels. While the coppers are well tinned within, or the brass ones used merely at the moment for preserving, and nothing of a corrosive nature be allowed to remain after immediate use to become cold, no harm need be apprehended, time not being sufficient for the formation of the poison. The same may be said of zinc, mentioned some months ago and even of some of our glazed wares used in dairies, or for salting pork and other meats. The milk seldom being allowed to rest long enough to turn acid, there is less danger, which is not always the case with cream. Nearly all our common black jars, as also some of our other common wares, are glazed with a preparation formed of silex and some of the extracts from lead; they are therefore very pernicious in kitchen affairs. The water used in cooking is very liable to be impregnated with noxious ingredients, therefore the like observations apply to leaden pipes, pumps, and cisterns, which very soon become oxydised by age, or by long contact with corrosive filth, and even the grease used by plumbers to fix the lower box in pumps. Whole families have suffered from these causes, unknown to them; some of them have died from the effects of these hidden poisons, and many others have been afflicted with paralysis in like manner, from which they seldom recover. The use of stone, iron, and tin should always be preferred; and glass or wares which are known to contain no preparation from lead in their composition. —*D. S. E.*

Potato Disease.—I do not know whether others have observed a circumstance connected with this disease, or whether the communicating it will throw any additional light on this mysterious subject. On turning over some Potatoes stored in a dry place, I observed that very many, though not all that had been cut in digging, or otherwise injured, were diseased, the disease commencing at the point of injury, and spreading through the tuber, whilst the whole and uninjured Potatoes were nearly all sound.—*Lusor.*

Hen Gossip.—"Chanticleer" is wise in hesitating before he consents to banish cocks from his poultry yard and nest eggs from his hen-house. The act of laying is not voluntary on the part of a hen, but is dependent upon her age, constitution, and diet. If she be young, healthy and well fed, lay she must; if she be aged and half-starved, lay she cannot. All that is left to her own choice, is, where she shall deposit her egg, and she is sometimes so completely taken by surprise, as not to have her own way even in that. The poultry keeper, therefore, has only to decide which is the more convenient; that his hens should lay here and there, as it may happen, about his premises, or in certain determinate places, indicated to the hens by nest eggs. It is quite a mistake to suppose that the presence of a nest egg causes a hen to sit earlier than she otherwise would. The sight of 20 nest eggs will not bring on the hatching fever; and when it does come, the hen will take to the empty nest, if there be nothing else for her to incubate. Any one whose hens have from accident been deprived of a male companion will agree with me in saying that they have not done so well till the loss has been supplied. During the interregnum matters get all wrong. There is nobody to stop their mutual bickerings, and inspire an emulation to please and be pleased. The poor deserted creatures wander about dispirited, like soldiers without a general. It belongs to their very nature to be controlled and marshalled by one of the stronger sex, who is a kind, though a strict master, and a considerate though stern disciplinarian. It does not appear what should make hens lay better under such forlorn circumstances as are recommended in the Aberdeen paragraph. They will sit just the same, when the fit seizes them, and so will ducks; as may be seen amongst those cottagers who, to save the expense of Barley, keep two or three hens or ducks only, and procure from a neighbour a sitting of eggs, as they want them. It has been stated by Réaumur, who is a high authority, that clear or unfertile eggs will keep good longer than those that would be productive; but it is doubtful whether the difference is so great as to make it worth while keeping the hens in a melancholy widowhood on this account. The most natural and least troublesome way of having a winter supply of eggs, is to procure pullets hatched early the previous spring, and to give them all they can eat of the best Barley, or, if expense be disregarded, of the finest Wheat.—*D.*

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A Monthly Council was held at the Society's House in Hanover-square, on Wednesday last, the 3d of May: present, The Earl of Yarborough, President, in the chair; Earl of Egmont; Lord Southampton; Lord Bridport; Lord Portman; Hon. William Henry Drummond; Hon. Captain Howard; Hon. Charles Compton Cavendish, M.P.; Sir John V. B. Johnstone, Bart., M.P.,; Mr. Raymond Barker; Mr. Barnett; Mr. Bennett; Mr. Blanshard; Mr. Bramston, M.P.; Mr. Brandreth; Mr. Burke; Colonel Challoner; Mr. F. Cherry; Mr. Christopher, M.P.; Mr. Evelyn Denison, M.P.; Mr. Druce; Mr. Ellman; Mr. Garrett; Mr. Brandreth Gibbs; Mr. Grantham; Mr. Hamond; Mr. Harvey; Mr. Hillyard; Mr. Fisher Hobbs; Mr. Hud-

son (Castleacre); Mr. Jonas; Mr. Kinder; Mr. Miles, M.P.; Mr. Milward; Mr. Pusey, M.P.; Prof. Sewell; Mr. Shaw (London); Mr. Shaw (Northampton); Mr. Shelley; Mr. Robert Smith; Mr. Thompson; Mr. George Turner; Mr. Thomas Turner; Prof. Way; and Mr. Wilson. Mr. Charles Burrell, of Thetford; Mr. Charles William Strickland, of Boynton, near Bridlington; and Mr. A. C. Birchall, of Darlington, were elected Members of the Society.

Finances.—Mr. Raymond Barker, Chairman of the Finance Committee, reported that, on the last day of the month of April just ended, the invested capital of the Society stood at 9889*l.* stock in the public funds, and that the current cash-balance in the hands of the bankers was 1362*l.* He also laid on the table, for the information of the members, the special balance-sheet, showing the state of the funded property and current account of the Society for the quarter ending on the 31st of March last.

York Meeting.—Sir John Johnstone reported, on the part of the General York Committee, their recommendation that the Council Dinner, to consist of a number of persons not exceeding 300, should take place in the Guildhall; and that the Lectures should be delivered, and the official business of the Society transacted during the meeting in the De Grey Rooms, in that city.

Mr. Pusey reported, on the part of the Journal Committee, their recommendation, that two Lectures should be delivered before the members of the Society and their friends, during the week of the York Meeting: namely, one on the Tuesday by Professor Johnston, of Durham, on such subject connected with the application of chemical science to the improvement of agriculture as may be arranged on communication with that gentleman; and the other, on the Wednesday, by Professor Simonds, Lecturer on Cattle Pathology in the Royal Veterinary College, London, on the application of veterinary science to the anatomy, physiology, and diseases of domesticated animals.

Colonel Challoner reported, on the part of the Trial of Implement Committee, their satisfactory progress in carrying out the wishes of the Council in reference to the construction and application of such a force-resister for the trial of machinery at the York Meeting as would be efficient in its employment, and at the same time economical in purchase.

Lord Portman having called the attention of the Council to the desirableness of throwing open the Show-yard on the Wednesday evening, after the Judges of Stock have completed their awards, the Council entered fully into the discussion of that question; and decided that the show yard would be open on that evening, after the Judges had made their awards, to all parties, on the payment of 1*l.* each; with the exception of governors and members of the Council, who would be admitted on the payment of 2*s.* 6*d.* each.

The Secretary having reported to the Council the replies he had received from the various Railway Companies throughout the kingdom to the communication he had made to their respective Boards of Directors, as directed by the Council at a former meeting,—on the motion of Mr. Brandreth, seconded by Mr. Raymond Barker, the following resolution was carried: "That, in order to check any improper advantage being taken of the handsome and liberal conduct of the Directors of the different Railway Companies, by exhibitors sending to the Show several implements constructed upon exactly the same principles, the Council hereby determines only to ask the directors of the railways to allow implements to be conveyed at *half prices* each way, namely, to and from the Show; and that the secretary be directed to make this request on behalf of the Society.

The following committees were appointed for the recommendation to the Council of Judges to be selected from the nominations sent in by members of the Society to the Secretary, on or before the 22d inst., namely: Committee for *Judges of Implements*—Lord Portman, Colonel Challoner, Mr. Miles, M.P., Mr. Shelley, Mr. Thompson, Mr. Fisher Hobbs, Mr. Brandreth, and Mr. Shaw (London); Committee for *Judges of Stock*—Lord Portman, Mr. Shaw (Northampton), Mr. Hudson (Castleacre), Mr. Brandreth, Mr. Druce, Mr. Shaw (London), and Mr. Kinder.

Country Meeting of 1849.—Mr. Raymond Barker, Mr. Brandreth Gibbs, Mr. Kinder, and Mr. Shaw, the committee who, at the request of the Council, had made a personal inspection of the localities placed at the disposal of the Society for the purposes of the Country Meeting of 1849, having presented their report on the various points connected with the qualifications of those localities, that report was read, and all the various memorials, plans, and other documents received from their authorities, submitted at the same time to the Council. The following gentlemen, forming deputations to the Council, were then received, namely, the Earl of Leicester, Lord-Lieutenant of the county of Norfolk; Hon. E. K. Coke, M.P.; Sir John P. Boileau, Bart.; Mr. Wodehouse, M.P.; the Deputy Mayor of Norwich; Mr. Thompson, Mayor of Bury St. Edmund's; Mr. Colvin, High Sheriff of the county of Essex; Sir John Tyrell, Bart., M.P.; Sir E. N. Buxton, Bart., M.P.; Mr. Cobbold, M.P.; Mr. Hardcastle, M.P.; Mr. Waddington, M.P.; Mr. Bunbury, M.P.; Mr. Bennet, M.P.; Mr. Burroughes; Capt. Du Cane, R.N.; Capt. Skinner, R.A.; Mr. Willett, Mr. Bacon, Mr. Barwell, Mr. Sultzer, Mr. Betts, Mr. Bailey, Mr. Gedge, Rev. D. Gwilt, Mr. Gayford, Mr. Goldsmith, Mr. Cotton, Chairman of the Essex Quarter Sessions; Mr. Hanbury, jun.; Mr. Parker, Chairman of the Chelmsford Committee; Mr. Baker, of Writtle; Mr. Beadel; Mr. Mechi, of Tiptree; Mr. Overman, Mr. W. Baker, Mr. Law, Mr. Grove, Mr. Meggy, and Mr. Biddell; and having furnished through the President detailed statements connected with the peculiar advantages of their respective localities in the eastern counties, they received the best thanks of the Council for the favour of their attendance on that occasion. The deputations having withdrawn, the Council proceeded to the various points of the discussion connected with the particular place at which the country meeting of next year should be held, when it was finally decided, on the motion of Mr. Hamond, seconded by Mr. Harvey, that the city of Norwich should be the place of such meeting.

The Council then agreed to the House List of the Council to be recommended (agreeably with the Bye-Laws) to the General Meeting of the Society, to be held on the 22d inst., at 1 o'clock; and the President having intimated his intention of directing a Special Council to be summoned for Friday, the 19th inst., at 1 o'clock, for the purpose of agreeing to a Report to that Meeting, the Council adjourned to their Weekly Meeting on Wednesday next, the 10th of May.

Reviews.

A Practical Exposition of the Cantelonian System of Hatching Eggs, &c. By W. J. Cantelo. W. Strange, 21, Paternoster-row.

Whether the Cantelonian system of hatching eggs and rearing poultry be ever carried out into extensive practice or not, is not the object of this enquiry. A statement has been put forth in this pamphlet, which contains the germ of a most important practical question to all parties interested in the rearing of animals. Mr. Cantelo, the author of this practical exposition on Hydro Incubation, states that, on the 7th of October, 1847, he had on hand 1270 chickens from a day to 96 days old, and that he gave them per diem:

			Weight	
4 quarts of Barley	0*s.*	8*d.*	,,	6¼ lbs.
2 quarts of Wheat	0	6	,,	5¼ ,,
1½ pint grits	0	4	,,	1 ,,
Two-thirds of a bushel of Potatoes	0	8	,,	37½ ,,
20 lbs. Indian Corn meal	2	1	,,	20 ,,
30 lbs. of Barley meal	3	0	,,	30 ,,
12 lbs. of Grains	3	0	,,	12 ,,
Cabbage	0	6	,,	24 ,,
Suet for those in coops	0	4	,,	1 ,,
Total cost	11	1	Total wt.	135 ,,

"Multiply 11*s.* 1*d.* by 96, and divide by 1270, and the cost of a fowl 96 days old will be 10*d.* But as the above are famine and retail prices, it is not too much to state 8*d.* as the cost of feeding a fowl to that age, and they might be produced for even less." He should have added the average weight of the fowls to be 2¼ lbs. each, which is a fact known to those who are conversant with the subject.

Now contrast this statement with the three following, taken from the list of prizes awarded at the last Christmas Smithfield Cattle Show.

Class I.—"Oxen or steers of any breed, under 5 years old, without restrictions as to feeding, yet the kind or kinds of food must be certified.

"17. His Grace the Duke of Rutland, of Belvoir Castle, near Grantham, Lincolnshire, a 3 years and 11 months old short-horned ox, bred by his Grace, and fed on vegetables, Linseed-cake, and Barley, and Bean meal. Travelled to the Show by railway 103 miles, and by van 27 miles. 1st prize, 20*l.*, and Silver Medal to the breeder.

"Sheep 1 year old, without restrictions as to feeding.

"130. John Hitchman, of Little Milton, near Wheatley, Oxford, a pen of three, 21 months old, Oxfordshire and Hampshire wethers, bred by himself. 1st prize, 10*l.*, and Silver Medal to the breeder.

"Pigs of any breed above 26 and under 52 weeks old.

"His Royal Highness Prince Albert, of Windsor Castle, a pen of three, 39 weeks and 3 days old Bedfordshire and Yorkshire pigs, bred by his Royal Highness, and fed on Barley-meal, Peas, and skimmed milk. 1st prize, 10*l.*, and Silver Medal to the breeder."

Here are four statements. One by the poultry king regarding chickens, and the last concluding with the result of H.R.H. Prince Albert's experiment in feeding pigs. Out of 108 estimates regarding the feeding of cattle, not one contains a statement of the time the beasts were being fed up for the prize, neither the weight nor cost of the food given, nor the condition the animals were in when taken up. In that respect also the statement regarding the sheep and pigs is also deficient, though they are points of the most vital importance to the interests of the feeders, and the welfare of the community. What does it signify exhibiting a fine ox, a fat sheep, or bursting pigs, if the cost of getting them into such condition amounts to more than double what the animals are worth? Much has yet to be learned in economising and turning to the best account agricultural produce, both animal and vegetable; and Mr. Cantelo, the poultry king, seems to have taken the lead in defining precisely the cost of the food, management, and weight of the fowls, at all events, and the age at which they can be most profitably sent to market. He makes out that a fowl, 2¼ lbs. weight, will eat 10 lbs. 3 oz. of food in 96 days. Is it impossible to define at what age it is most expedient to send an ox, a sheep, or a pig to market? At least, is not the matter worthy of the most minute investigation? Regarding all animals, it is a uniform principle admitted, that warmth, cleanliness, ease, and luxury, tend to promote their growth, and yet how much are these points neglected! Box-feeding is allowed by all, who are fully informed of the subject, to be the most advantageous for the cattle, and more profitable in the end to the breeder. Let us suppose two calves of equal strength, breed, and constitution, to be turned out, after being weaned, at 6 or 10 weeks old. Let the one have the run of the common and a dirty pond, and be merely kept in existence during the winter months; constantly exposed to the cold and wet, or provided with comfortable shelter, during the most inclement weather, under a paltry shed made with a hurdle and a little dirty straw. Let the other be kept in a comfortable loose box, constantly with clean boards, or to [illegible] and doors to shut in during the cold and wet weather. Let the pet have a paddock, or well kept yard to run out in for air, and a pond with plenty of water. Give him cut food of various sorts, Grass in the summer and a little hay or fresh straw, well cooked and cut Turnips or Mangold Wurzel; a handful of Bean, Linseed Cake, or other meal, occasionally in cold weather; a few Carrots, or a mouthful of cake, with the 10th or 12th part of the attention of a man and a boy to look after him, to clean his stall and cut his food, throw a sprinkling of salt on it, and mark all down in a fair account the quantities, the market price of the articles given, and every item connected with the cost of his rearing. Take up the poor starved wanderer at the end of 12 months—miserable thing—see its coat staring and [illegible] here on the 1st of March. Take it, and compare it with the other, place them together in the best pen you have contrived for fatting oxen, and give them a month's time feeding together on the same diet, and send them to market. Charge each with every item he has cost, get the best price you can, and balance your account. Weigh the animals and count the pounds weight of Grass and hay, Turnips and Carrots, cake and meal, given to each from the first, taking particular notice how much each consumed, and an account keeping the accounts separate, and then tell me which has been the most profitable? Is 60 weeks too short a period, then try twice 60 on the same principle, and depend upon it, the box feeding will prove the most profitable in the end. But draw the limit. A principle may be good so far, but go beyond it, and the very reverse of what is desired will be the consequence. Coop up pullets to fatten, and they will do well up to 12 or 14 days. Keep them in the coops beyond that time, and feed them as much as you like, they will grow leaner every day, until they become a skinful of bones, and die. How nice it would be if experienced feeders would determine to what age and by what dietary it is most profitable to feed an ox, a sheep, or a pig. Surely a great many cases to the point may be attained than is at present generally known, and surely to ascertain it is worthy of additional experiments. Mr. Cantelo's statement seems at variance with all preconceived opinions regarding the cost of feeding fowls, but when the extreme novelty of his system altogether is considered, wonder will cease. His fowls cost 8*d.* for food up to 96 days old, and weigh 2¼ lbs. on the average. At that age he considers them fit for market, and beyond that period he is of opinion it would prove unprofitable to feed them; that the quality of the flesh would not improve beyond that date; and were they to be fed to the usual age of poultry in this country, they would, as the phrase goes, eat their own heads off. It is to be regretted time [illegible] is so short, but certainly the public, and the agricultural portion of it in particular, ought to feel indebted to him for taking so minute a view of the subject of feeding. By his invention, however, he has got hold of a most important expedient; namely, the power of increasing the number of poultry to an amazing degree never before practised. Eggs may now be classed as a sort of seed, or plants. The fecundity of domestic poultry is immense, and 75 per cent. of chickens can be got from their eggs. Before this was known, had any one attempted to send his poultry to market at 96 days old, he would most certainly have soon extirpated his stock. Now we read in this pamphlet of thousands being got at a hatch instead of tens, and 18 broods a year instead of two; of 73,000 fowls a year being produced by one small concern, and of having 20,000 always on hand, from which to select 200 for market every day, and they are kept by the Cantelonian system in constant good condition, luxury and ease, cleanliness and warmth, as long as they live. The invention is now beginning to be known, and soon we may expect to see it fairly tested on a proper scale by some of the enlightened of our nobles, or the enterprising of our manufacturers and tradesmen.—*W. M.*

A Discourse on Asiatic Cholera and its Relations to some other Epidemics: including General and Special Rules for its Prevention and Treatment. By the late Henry Starr, M.D., Resident Practitioner at Leamington, and Senior Physician to the Warneford Dispensary. J. Churchill, Prince's-street, Soho, London.

A work which very fully and ably treats of the cause, nature, and proper treatment of the Asiatic Cholera—a subject which will, in all probability, soon force itself upon our attention. It has agricultural bearings: for, as Dr. Starr assures us, the drainage of our fields and of our towns is one of the most efficient instruments of quarantine, and the best protection against the ravages of pestilence. We wish we had room for the extracts we had marked on this very important subject; the following passage must suffice as a specimen of the manner in which this aspect of it is presented.

"I do not believe that any country has, in the history of the whole world, ever gone beyond mediocrity in its agriculture; but I am persuaded, where the arts of husbandry have been practised and improved to the

greatest extent, that epidemic distempers, both in man and other animals, have been greatly mitigated. It has been observed, on the other hand, wherever lands, especially in level and damp countries, are thrown out of cultivation, and those who have followed agricultural occupations are driven to seek refuge in towns, that epidemic and endemic diseases revive and rage with renewed virulence. Such a contingency can scarcely occur within reach of our own observation: an instance of the kind, however, arose at the time of the Protestant Reformation in England, and history informs us, owing to the arable lands being laid down in pasturage, in consequence of the abolition of monasteries, and the almost entire suppression of agriculture during the reign of Henry VIII., that pestilential diseases became wonderfully prevalent in England, and ruinously fatal. At that time the rural population fled to the towns, where a vast concourse of human beings was thus suddenly assembled under the most inauspicious circumstances; for, if drainage was neglected in the country districts, sewerage was utterly unknown in towns, which were on that account peculiarly unfitted for the reception of any great influx of inhabitants; hence, in the words of Horace,

'Nova febrium
Terris incubuit, cohors.'

"The mere superficial cultivation of the soil, without deep drainage, wherever it is required by the naturally impervious quality of the land, can improve the healthiness of the atmosphere only in a limited degree. The observation has been made by a practical writer on the subject, that in clearing and cultivating a new country, although the climate is eventually improved, it is too well known, and has been too dearly learned, that the first effect is insalubrious. We may rationally infer that these ill effects would not happen to anything like the same extent, if thorough drainage could be made on all occasions the preliminary step in these undertakings. The question is one of colonisation, and has therefore great practical interest."

Calendar of Operations.

APRIL AND MAY.

Bedfordshire Farm, *May* 3.—The horses have lately been employed about the Barley seeding, preparing fallows for Turnips and Mangold Wurzel, hoeing winter Beans, rolling Grass land, carting liquid manure, &c. The manual labour has consisted of hoeing Wheat, Beans, Peas, planting Potatoes, hoeing Lucerne, threshing Wheat by machine, &c. The cattle are turned out to Grass through the day, and receive dry food in yards at night. Fatting beasts are kept with Mangold Wurzel, hay chaff, and a mixture of Linseed, Lentils, and Indian meal. Fatting ewes and lambs have corn, in addition to Grass. Store sheep have been living upon Rye since the Turnips were consumed. The wet weather was very much against the health and improvement of sheep. The Wheat crop looks generally well; damage has, however, been done upon some soils by the late continuous rains. The young Barley cuts a sorry figure at present, there is still a good deal to sow. Oats will take the place of Barley in many instances. Winter Beans are healthy, growing fast, and blossoming. Spring Beans are thriving; Peas are generally wretchedly bad. A considerable breadth of Giant Saintfoin has been sown this spring; many persons have sown it upon the faith of public recommendation, without having seen the plant grow, or without having fully ascertained whether their soils are suitable for its growth. Farmers as a body may be called ignorant, may be called obstinate, may be said to be opposed to the introduction of new theories, and yet there are a sufficient number ever ready to speedily adopt them; there are a sufficient number to test every new implement, however novel, and to introduce every new plant, however strangely qualified.—*R. V.*

Berwickshire Merse Farm, *April* 28.—Since last report we have been employed in ploughing Turnip land and sowing Barley; threshing and delivering Barley, carting tiles and slates for drains; two men with four carts one day at the coals; the women have been employed turning dung for Turnips, burning Thorns, &c.; three men mending fences; a woman assisting the shepherd; a man and a boy feeding the cattle.—*J. B.*

Dorset Farm, *May* 2.—We have been employed during the past week in getting the land in order for Mangold Wurzel and Turnips, rolling in Clover seeds, horse-hoeing Peas, gathering stones off pastures, and top-dressing them with nitrate of soda. The weather is now very dry, and farm-work is proceeding as fast as possible.—*G. S.*

East Lothian Farm, *April* 29.—Weather rather cold, with showers of hail and rain. Work upon the farm during the week has been ploughing, harrowing, and cleaning land intended for Potatoes and Turnips; likewise rolling Barley and Oats, and hoeing Wheat when the ground is dry.—*L.*

North Lincolnshire Farm, *April* 28.—Since last report we have finished sowing spring corn, and nearly finished sowing small seeds, rolling them and the rest of the land under crops; ploughing fallow for Turnips will now occupy us for some time, should the weather continue favourable.—*J. U.*

Somersetshire Farm, *May* 1.—This last week we have been engaged in ploughing, harrowing, and rolling for Mangold Wurzel (which we intend planting this week), hauling, spreading dung for and planting Potatoes, turning and mixing dung for green crop.—*R. C.*

South Wigtonshire Farm, *April* 26 (170 acres arable, with 3 acres of meadow land).—For some time back the weather has been all that could be wished for the necessary operations of the season; 48 acres of Oats have been sown under the most favourable circumstances, 19 acres of which are laid down for pasture, sown with 3 bushels of Rye-grass, 4 lbs. of red Clover, and 3 lbs. of white per acre. The field being of a light and porous character, the Grasses were sown in along with 7 bushels of Oats per acre. [Is this a usual seeding Oats in your neighbourhood?] Our Beans planted on the 24th ult. have now made their appearance above ground, and assume as yet a healthy aspect; a considerable breadth, sown broadcast, was top-dressed with an equal quantity of guano and gypsum per acre (say 2 cwt. of each), during one of the calm and moist days of the preceding week. A very great quantity of Potatoes have already been planted in the district, and general confidence seems manifested in the renewed vigour of this valuable esculent; for our own part we are not over sanguine. Up to the period of this report we have only 3 tons of Kemp's planted in drills 27 inches apart, with 30 carts of well rotted manure, and a considerable quantity of gypsum; the latter was supplied to the soil in combination with our farmyard manure, applied during the accumulation thereof, and in the process of mixing and turning to prevent ammoniacal escape. Our manual operations on the farm have been preparing Oats for market, manure for Turnips, and ground for Carrots, with which our men and horses are at present employed. Our cattle are continuing to thrive well on Turnips and straw, the younger portion being turned on to the pastures for 6 or 7 hours each day. [About "Gold of Pleasure," see page 294.]—*D. M.*

South Devon Farm, *May* 1.—In consequence of the heavy showers at the commencement of the past week, very little has been done with regard to Barley sowing. We however availed ourselves of the opportunity to sow guano on the land intended to be mown for hay, at the rate of 2 cwt. per acre (Peruvian). During the last two or three days the weather has decidedly changed for the better, and we are now ploughing and working the ground very busily; collecting the stones off the land and carting them away; also levelling old hedge places and stoning up breaches in the fences on the pasture land. Mangold Wurzel all finished, and feeding bullocks now getting cracked Beans, hay and water, and doing very well; commenced cutting young Clover as green food for horses.—*T. M.*

South Hampshire Farm, *May* 1.—Since our last report the weather has continued very unfavourable; the sowing of Oats and Barley is still very much in arrear, more particularly in strong heavy soils. Our horses have been employed chiefly in ploughing land after Turnips, which has been sown with Oats, but we have been unable to finish working the land to a proper tilth, having been prevented by the rain falling in almost every instance where we have commenced sowing. We have now finished sowing Oats, and have this day commenced Barley sowing, which we fear is too late for the produce of a good malting sample. Our horses have been employed, when not able to get upon the land, by carting manure, and getting home 40 sacks of superphosphate of lime, in readiness to apply to the Turnip crop. One horse and cart has been continually employed in different jobs, such as carting stones, carting hurdles for the removal of sheep, carting hay for ewes and lambs, carting Swedes for the pigs and cows. We shall discontinue Swedes for cows in a few days, as the pastures are now affording a good bite of Grass, yet the cows always do better to have an allowance of Swedes until they are allowed to lie out at night, which with us is generally about a week in May. Our labourers have been employed in various ways—draining, by taking up ineffectual drains, and placing them deeper, viz., 5 feet deep. They have also been levelling the soil in meadow land, where encroachments have been made by a rivulet, also trussing hay for sheep and cattle, and sowing Grass seeds, &c., upon the bare parts, where levelling has been done during the past winter, at the same time giving an application of guano, and harrowing, to heal the seed and manure. Our shepherds are still employed in constant attention to the flocks, as all our sheep are yet feeding on Swedes, and doing well, for we find, where they have been crowned down they keep well, and as the lambs are all allowed to go before the ewes, the buds or sprouts sent forth by the Turnip are eaten off as fast as they appear, in which case the Turnip retains the chief portion of its nutriment. We have nearly finished selling our Somerset lambs, also a great portion of the ewes, having suckled their lambs. We have also sold a good number of Southdown lambs, and some ewes, having fatted their lambs, for both of which we have obtained satisfactory prices. Our women have been employed in picking up Swedes for sheep, picking stones in pastures, weeding Wheat, Grass ground, Tares, &c., also picking up Grass from behind the scarifier, in preparing land for Carrots.—*J. B.*

Stirlingshire Carse Farm, *April* 29.—The beginning of this week being dry we were busy with the Barley land, which is working pretty well. We had snow showers on Thursday night, which wetted the land and prevented us getting on it yesterday forenoon; land has not been working so well since. Should the weather keep dry it will enable us to get the Barley sown and finished by the middle of next week. The weather is still very cold, and vegetation is progressing very slowly.—*J. A.*

Sussex Farm, *May* 1.—As the weather has been fine for two or three days, we have finished corn and seed sowing to-day. If the weather still continue fine this will be a busy week with us, in preparing the land for planting Potatoes, Mangold Wurzel, and in sowing Carrots, rolling Oats and Barley, threshing Wheat for straw for young cattle; the ground being so wet has still prevented us from turning them out to Grass; men digging stones out of land, which was marked when the ground was subsoiled; turning dung-heaps, filling and spreading dung; planting Potatoes and Mangold Wurzel; repairing roads and cleaning hedges.—*J. B.*

Notices to Correspondents.

Books—*L*—Elementary works on botany do not contain information on such details as the kind of soils affected by different plants. You should first learn how to recognise plants with precision, for which purpose you should begin with Dr. Lindley's "School Botany," afterwards you may use Mr. Hewitt Watson's "Botanical Companion," or his "Cybele Britannica," or some such book. In botany, as in all other studies, it is indispensable to begin at the beginning.

Buttercups—*Constant Reader*—How can they be extirpated from pasture? Pasturing with geese, which will eat their roots, has been *said* to answer the purpose. The plant sent is Ranunculus ficaria.

Carrots and Mangold Wurzel—*F C*—Middle of May. About your cow next week.

Chemistry—*B Aldham*—You should place yourself under the tuition of some able chemist. Professor Way is the officer of the English Agricultural Chemical Association. Apply to him.

Chimney Top—Can any one describe a good spark preserver, to be attached to the top of the chimney-stack of a steam-engine.

Corn Shaker—*W Jones*—It is a very desirable appendage to a threshing machine. We do not think it would make one additional horse-power necessary, and it is very much more efficient than any man could be.

Cream Cheese—*H R*—Will any of our subscribers in the neighbourhood of Bath be kind enough to give a receipt for the making of their so-called *cream* cheese.

Diseases of Poultry—*A T's* poultry suffer from exposure to wet and cold, and need a proper roosting-house at night as well as by day, in wet weather. Their complaint is roup in its worst form, and, no doubt, the fluid matter which *continuously* passes has the usual pungent, ammoniacal smell. Dropsy, too, is often incidental with this disease. "A. T." is referred to "D. S. E.'s" article, "Diseases of Poultry—Diarrhœa." You may address, E. D. Santos, Esq., 4, Union-place, Lambeth.

Nitrate of Soda—*A Sub*—It will probably create a larger money produce if sown on the Barley than if sown on Grass. Sow 1 cwt. per acre in wet weather, broadcast, when the field begins to look green.

Turnips and Mangold Wurzel—*B A*—They are in general best cultivated on the ridge, because you can thus the more easily and the earlier subject them to horse husbandry. The young plants would be buried by the first horse hoeing, if sown on the flat. The best Turnip drill is one by Nood, of Denholm, near Hawick, N.B., price 7*l*. Bone-dust will act wonderfully on Grass land which has been used for dairy purposes. Sow it in any weather.

Erratum—For "T. Evermet," in col. *a*, p. 292, read "T. Evennett, Westmill, near Ware."

Markets.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, May 4.

Prime Mead. Hay	70s to 75s	New Hay	—s to —s	Straw	28s to 31s
Interior ditto	60	65	Clover	80	95		
Rowen	—	—	New Clover	—	—		J. Cooper.

CUMBERLAND MARKET, May 4.

Prime Mead. Hay	72s to 78s	Old Clover	90s to 95s	Straw	28s to 32s
Inferior	55	65	Inferior	75	84		
New Hay	—	—	New Clover	—	—		Joshua Baker.

WHITECHAPEL, May 4.

Fine Old Hay	68s to 72s	Old Clover	90s to 95s	Straw	26s to 32s
Interior Hay	50	60	Inferior	70	75		
New Hay	—	—	New Clover	—	—		

COVENT GARDEN, May 6.

The market is well supplied with Vegetables and most kinds of Fruit. Pine-apples are sufficient for the demand. The supply of foreign Grapes is well kept up; hothouse ones become more plentiful. Pears and Apples are as plentiful as could be expected, considering the season. Of the former, specimens of Beurré Rance may be bought at from 4s. to 6s. per doz. Nuts are sufficient for the demand. Filberts fetch from 14s. to 20s. per 100lbs. Oranges are abundant. Lemons are moderately plentiful. Strawberries are cheaper. Among Vegetables, we noticed young Carrots and Turnips; the former fetch from 6d. to 2s. a bunch, the latter 2s. 6d. Cauliflowers, Broccoli, Greens, &c., are plentiful. Seakale is cheaper, as is also Asparagus. French Beans fetch from 1s. 6d to 2s. 6d. per 100. Frame Potatoes may be bought at from 1s. to 2s. per lb. Lettuces and other salading are sufficient for the demand. Mushrooms are a little dearer. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Rhododendrons, Fuchsias, Carnations, Auriculas, Acacias, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 6s to 10s	Oranges, bitter, per 100, 8s to 16s
Grapes, hothouse, per lb. 6s to 10s	Lemons, per doz., 1s to 2s
— Portugal, per lb., 1s to 2s	Lemons, per 100, 6s to 14s
Strawberries, per oz., 6d to 1s 3d	Almonds, per peck, 6s
Apples, dessert, per bush., 3s to 12s	— sweet, per lb., 2s to 3s
— kitchen, p. bush., 4s to 7s	Walnuts, per bush. 12s to 18s
Pears, per hall sieve, 8s to 10s	Nuts, Barcelona, per bush., 20s to 22s
Gooseberries, green, p. pottle, 6d to 1s	— Filberts, per 100 lbs., 14s to 20s
Apricots, green, p. pottle, 6d. to 1s	— Cob, per 100 lbs., 25s to 30s
Oranges, per doz., 9d to 2s	— Brazil, per bush., 12s to 16s
— per 100, 3s to 12s	Chestnuts, per peck, 3s to 6s

VEGETABLES.

Asparagus, per 100, 1s to 6s	Onions, pickling, p. hf. sieve, 2s to 3s
Cabbages, per doz., 6d to 1s	Shallots, per lb., 6d to 8d
— Red, per doz, 6s to 12s	Garlic, per lb., 8d to 1s
Greens, p. doz bunches, 9d to 1s 6d	Seakale, per punnet, 9d to 1s 6d
Cauliflowers, per doz., 1s 6d to 3s	Rhubarb, per bundle, 4d to 1s 6d
Broccoli, per bundle, 9d to 2s	French Beans, per 100, 1s 6d to 2s 6d
Sorrel, per half sieve, 6d to 9d	Radishes, per doz. hands, 6d to 1s
Potatoes, per ton, 100s to 160s	— Turnip, do., 1s to 1s 6d
— per cwt., 5s to 8s	Artichokes, Jerusalem, p. hf. sieve, 1s
— per bush., 3s to 4s 6d	Lettuce, Cab., per score, 4d to 9d
— Kidney, per bush., 4s to 5s	Endive, per score, 1s to 1s 6d
Turnips, p. doz. bunch., 1s 6d to 3s	Mushrooms, per pottle, 6d to 1s
Red Beet, per doz., 6d to 1s	Small Salads, per punnet, 2d to 3d
Horse Radish, per bundle, 1s to 4s	Fennel, per bunch, 2d to 3d
Cucumbers, each, 6d to 2s	Savory, per bunch, 3d to 4d
Leeks, per doz., 1s to 1s 6d	Thyme, per bunch, 3d to 4d
Celery, per bundle, 6d to 1s	Watercress, p. 12 small bun., 6d to 9d
Carrots, per doz. bunches, 3s to 5s	Parsley, per half sieve, 6d to 9d
Spinach, per sieve, 2d to 1s	— Roots, per bundle, 1s to 1s 6d
Onions, per bush., 3s 6d to 5s	Mint, green, per bunch, 2d to 4d
— Spanish, per doz., 1s to 4s	Marjoram, per bunch, 6d to 9d

HOPS, Friday, May 5.

Messrs. Patterden and Smith report that the market is very firm, with few Hops on offer.

Mid. & East Kents, p. cwt.	63s to 100s	Yearling Kents, p. cwt...	48s to 60s
Weald of Kents	53 — 75	Yearling Sussex	48 — 58
Sussex	56 — 70	Old Hops	20 — 40
Farnhams	80 — 120		

POTATOES, Southwark, Wateside, May 1.

The Committee report that the arrivals from Belgium, Hamburgh, and Holland during the week have been extensive, which with our usual supply coastwise is quite equal to the demand, and prevents anything like a rise in prices, except in the very best Yorks, which in some few cases have made more money. The following are the present quotations:—York Regents, 140s to 180s; Shaws, 90s to 100s; Essex Regents, 120s to 130s; Kidneys, 130s to 130s; Blues, 120s to 130s; Wisbeach Regents, 90s to 130s; Blues, 90s to 85s; Dutch Whites, 80s; Belgian and Hamburgh, 85s. to 95s.

SMITHFIELD, Monday, May 1.

We have a large supply of Beasts and of excellent quality. There is a considerable demand, and some of the choicest descriptions make nearly 4s. 6d.; trade is, however, on the whole, dull, in consequence of the increased supply, and average prices rather lower. There are a few more Sheep on offer, but the number is still very small, a large proportion of which consists of young and half-meated Sheep; consequently there is a great deficiency in weight. The demand has increased, and prices have advanced fully 2d. per 8 lbs. Good Lamb is in request, at rather more money. Trade is brisk for Calves; a choice one makes nearly 5s. 4d. Pigs are by no means plentiful, and small Porkers are rather dearer. The supply from Holland consists of 214 Beasts, 330 Sheep, and 79 Calves; from Scotland, 400 Beasts.

Per stone of 8 lbs.—	s	d	s	d	Per stone of 8 lbs.—	s	d	s	d
Best Scots, Herefords, &c.	4	2	to 4	4	Best Long Wools	5	2	to 5	4
Best Short Horns	4	0	— 4	2	Ditto Short	4	8	— 5	0
Second quality Beasts	3	2	— 3	6	Ewes and second quality	4	0	— 4	6
Calves	4	4	— 5	2	Ditto Shorn	....			
Best Downs & Half-breds	5	6	to 5	8	Lambs	6	4	— 7	0
Ditto Shorn	5	2	— 5	4	Pigs	4	4	— 5	4

Beasts—3284. Sheep and Lambs—16,980. Calves—166. Pigs—310.

Friday, May 5.

The number of Beasts on sale to-day is large, being augmented by the arrival of several foreign consignments due on Monday last. The demand is exceedingly limited, and the low state of the dead markets. Prices are rather lower; 4s. 4d. is with difficulty reached for the choicest Scots, and 4s. 2d. is an extreme quotation for best Short-horns. Second-rate, 3s. to 3s. 6d., and many remain unsold. The supply of Sheep is larger, and consequently prices are about 2d. per 8 lbs. lower. Lamb is more plentiful and also more enquired for; trade is brisk at Monday's quotations. The supply of Calves is by no means good in quality, consequently the best are sold readily and quite as dear, but inferior make about 4d. per 8 lbs less. Pigs are rather lower. From Holland there are nearly 400 Beasts, 470 Sheep, and 117 Calves. From Scotland, 150 Beasts; and 140 Milch Cows from the home counties.

Best Scots, Herefords, &c.	4	0 to 4	4	Best Long Wools	5	10 — 5 2
Best Short Horns	3	10 — 4	2	Ditto Shorn	4	6 — 5 0
Second quality Beasts	3	0 — 3	6	Ewes and second quality	3	8 — 4 4
Calves	4	0 — 5	2	Ditto Shorn	....	
Best Downs & Half-breds	5	0 — 5	6	Lambs	6	4 — 7 0
Ditto Shorn	4	10 — 5	2	Pigs	4	0 — 5 0

Beasts—1121. Sheep and Lambs—7850. Calves—327. Pigs—330.

MARK LANE, Monday, May 1.

Messrs. Kingsford and Lay report that there was a tolerably fair supply of English Wheat fresh up for this morning's market, and the weather continuing fine, buyers showed little disposition to purchase, and factors were obliged to submit to a reduction of fully 1s. per quarter on all but the very finest samples. The arrivals of foreign last week amounted to 16,756 quarters, and little progress could be made with sales even at the above decline.—Selected parcels of malting Barley are the turn dearer, and our quotations are well supported for other descriptions, which also applies to Beans and Peas.—Oats are a free sale at late prices.—The value of Flour remains unaltered.

British per Imperial quarter.	s	s		s	s
Wheat, Essex, Kent, and Suffolk White	48	60	Red	45	52
Norfolk, Lincolnshire, and Yorkshire	46	50	White	46	50
Barley, Malting and Grinding, 27s to 29s	30	34	Grinding	26	27
Oats, Lincolnshire and Yorkshire Polands	21	24	Feed	19	22
Northumberland and Scotch Feed	20	24	Potato	21	24
Irish Feed	17	21	Potato	21	24
Malt, pale, ship	—	—			
Hertford and Essex	—	—			
Rye	27	30			
Beans, Mazagan, old and new 27s to 38s Tick	28	42	Harrow	30	44
Pigeon, Heligoland	30	52	Longpod	30	34
Peas, White	32	35	Maple	35	37	Grey	30	32

Friday, May 5.

The arrivals of Grain, both English and foreign, during the week have been moderate. There was a fair attendance at market this morning, and more disposition evinced to purchase than on Wednesday or Monday last, but factors being unwilling to admit a decline, sales were limited.—Barley is in request at our quotations, which are also supported for Beans and Peas.—Oats meet an improved inquiry, at 6d. per quarter advance.—Flour remains unaltered.

Since the 24th ult. the weather has been fine, and produced its usual effect upon the Wheat trade throughout the country, prices generally having declined 1s. to 2s. per quarter; a continued reduction must, however, greatly depend upon the supplies afforded by farmers, as the importations, owing to political events, will probably fall off considerably, shipments from the Baltic being now confined to British vessels, which are scarce. The value of spring Corn has been fully maintained. By the latest advices, prices of all Grain in the Baltic were supported with rather an upward tendency, particularly Wheat, for which some orders had arrived from thence. Freights were also advancing. Good Wheat, white or red, was difficult to buy under 40s. to 42s.; Barley, 26s. to 28s.; Oats, 16s. to 22s. per quarter. Flour, extra superfine, 21s. per barrel, all cost or freight to London or the east coast. Prices in New York on the 19th ult. were 26s. to 27s. per barrel for Flour, 41s. to 48s. per quarter for Wheat, 15s. to 18s. for Oats, all f. o. b.; prices had rather a downward tendency, but the supplies were not expected to be great.]

Imperial Averages.	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
Mar. 25	51s 4d	30 11d	20s 4d	30s 4d	35s 5d	38s 2d
April 1	51 10	31 5	19 2	29 8	35 7	36 4
— 8	51 6	32 2	20 7	29 6	35 3	38 3
— 15	49 7	32 2	19 11	28 10	35 6	36 11
— 22	48 10	32 1	19 8	29 7	35 3	38 2
— 29	49 6	31 10	19 8	29 0	34 9	37 6
Aggregate Average	50 5	31 9	19 11	29 6	35 4	37 7
Duties on Foreign Grain	7 0	2 0	3 0	2 0	2 0	2 0

Fluctuations in the last six weeks' Corn Averages.

Sales by Auction.

PELARGONIUMS, SPECIMEN PLANTS OF NEW AND FAVOURITE SORTS.

MR. J. C. STEVENS is favoured with instructions from a well-known Amateur to sell by Auction, at his Great Room, 38, King-street, Covent-garden, on Monday, 15th May, at 12 o'clock, his collection of PELARGONIUMS, all Specimen Plants, in 24 size Pots, amongst which are the following rare and valuable varieties; Zenobia, Orion, Duke of Wellington, Rosy Circle (Beck's); Magog, Champion, Clio, Duke of Orleans, Achilles, and others equally choice, well deserving the attention of Growers for Exhibition.—May be viewed the morning of sale, and Catalogues had at the Room.

RARE ORCHIDS, AND OTHER STOVE AND GREENHOUSE PLANTS,
The Property of a Gentleman in the West of England.

MR. J. C. STEVENS begs to announce that he will sell by Auction, at his Great Room, 38, King-street, Covent Garden, on Thursday, the 18th May, and following day, at 12 o'clock, a COLLECTION OF ORCHIDS, comprising magnificent specimens of rare varieties, well established, and in fine health; some very choice Stove and Greenhouse Plants, and a few well grown and rare Heaths, to which the attention of the Amateur is particularly requested, the object of the Proprietor always having been to obtain the finest specimen plants.—Catalogues are now ready, and may be had of Mr. J. C. STEVENS, 38, King-street, Covent Garden.

IMPORTANT SALE OF CONIFERÆ.

MR. J. C. STEVENS is favoured with instructions from Messrs. LODDIGES (in consequence of the near expiration of the Lease of part of their Nursery) to announce for Sale by Auction, on the premises, at Hackney, on Wednesday, May 24, and following day, at 12 o'clock, a most extensive and valuable Collection of CONIFERÆ, including many very rare and choice species in pots. Catalogues are preparing, and will be ready for distribution ten days prior to the sale.—38, King-street, Covent-Garden; May 6.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will submit to public competition at the Auction Mart, Bartholomew-lane, on Tuesday and Thursday, May 9th and 11th, 1848, at 12 o'clock, about 500 first-rate DAHLIAS, comprising all the new and approved varieties; also a splendid assortment of Geraniums and other Plants in bloom; the newest varieties of Fuchsias, Verbenas, Heartsease, Pinks, and a collection of other choice Plants for the Border.—May be viewed the morning of Sale, and Catalogues had at the Mart, and of the Auctioneers, American Nursery, Leytonstone.

TULIPS.—SUNBURY COMMON.—THE FAMED STOCK OF MR. JOHN THOMAS WILLMER.

MESSRS. PROTHEROE AND MORRIS respectfully announce they have been instructed to offer this fine collection of TULIPS by public Auction, on Thursday, 18th May, 1848, on the premises, Sunbury Nursery, Sunbury-common. Amongst them will be found Solon, Apelles, Purity, Pompe Funèbre, Marcellus, Coronation, Plantaganet, Strong's King, Fabius, Lucellus, Sultan, Vivid, Lord Collingwood, Duke of Devonshire, Cardinal Wolsey, Polydora (Tyso), Thomas Brown, Napoleon, Neptune, Lord Strathmore, Enterprise, Telem, Polyphemus, Hamlet, Marshal Soult, Duke of Hamilton, Queen Eleanor, Goldham's Maria, Grace Darling, Lady Jane, Mountain Sylph, Madame Vestris, Lucetta, Brilliant Carmine, Rose Lac, Beteveli's Brulante Eclatante, Œillet, Minerva, Gen. Barnoville, Democrat, Violet quarto, Salvator Rosa, Goldham's Mary Ann, Louis XVI., Pandora, Groom's Queen Adelaide and Victoria Regina, Laurence's Bizanthemum, Thalia, Grandis, Cyrus, Othello, Magnificent, Musidora, Sir J. Woolner, Superbe en Noir, &c. This opportunity should be eagerly embraced by Gentlemen, Florists, Amateurs, and others, of selecting from this magnificent collection those flowers collected with skill and taste, at an enormous expense of time and money, by the proprietor, whose well known talent requires no comment.—May be viewed prior to the Sale, and Catalogues may be had on the Premises, of the principal Seedsmen, and of the Auctioneers, American Nursery, Leytonstone.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS have received instructions from the assignee of C. D. Smith and Co., to submit to public competition by Auction, on the premises, Battersea (near the bridge), early in May (unless previously disposed of by Private Contract), the valuable Lease, the unexpired term of 9 years; also the whole of the Greenhouses, Pits, Boxes, &c., together with the Greenhouse Plants, Nursery Stock, &c. Further particulars in next week's Advertisement. - American Nursery, Leytonstone, May 6.

TO GENTLEMEN, FLORISTS, AND OTHERS.
GREAT SALE OF TULIPS.

MR. JAMES IZOD will sell by Auction, on the premises of Mr. ALEXANDER, Florist, Lea-bridge-road, Clapton, on Tuesday, May 16th, at 1 o'clock for 2 precisely, a collection of TULIPS, being the entire property of an Amateur, declining their cultivation; among which may be named Gibbon's Grace Darling, Lady Stanley, Louis XVI., Violet Alexander, Soorn's Princess Royal, Brulante Eclatante, Rose Brilliant, Walker's Coronation, Strong's King, Duke of Devonshire, and most of the favourite varieties in cultivation.—May be viewed 3 days previous to the sale, and Catalogues had, on the Premises; at the Auction Mart, Bartholomew-lane; and of Mr. IZOD, at his Office, the Sheriffs' Sale Rooms, 46, Watling-street, City.

TO BE SOLD BY AUCTION, some time in June, as will be more particularly announced hereafter, if it be not previously disposed of by Private Contract—
POULTON, NEAR BLAKENEY, GLOUCESTERSHIRE.
A FREEHOLD ESTATE of 100 Acres, or thereabouts, on the Western side of the Severn, and overlooking the river.
The whole is land of good quality, and in a high state of cultivation. Application for further particulars to be made by letter, post-paid, addressed to Mr. JOHN MORTON, Whitfield, Wotton-under-Edge, Gloucestershire.

TULIPS.

TO BE SOLD by Private Contract, at Park Cottage, Charlton Park, near Cheltenham, a Splendid Bed of TULIPS, containing a very great variety of the choicest sorts. Open free to the Public.

BROMLEY, KENT.

TO BE DISPOSED OF, AN OLD-ESTABLISHED NURSERY AND SEED BUSINESS, in consequence of the death of the late Proprietor, in whose possession, and that of the family, it had been many years.—Apply to Mr. BAXTER, Auctioneer, Bromley, Kent.

TO BE LET, at Chelsea, close to Battersea Bridge, A COTTAGE, with GARDEN, FORCING-HOUSES, &c. Apply to the gardener at Mr. LLOYD'S, Beaufort Lodge, Beaufort-street, King's-road, Chelsea.

PARTNERSHIP.—MR. JOHN WEEKS, King's road, Chelsea, would be happy to meet with a Practical Gardener, with a capital of from 500*l.* to 2000*l.*, to join him in The UNITED NURSERY. The Horticultural Buildings at this Establishment are the finest of any nursery in the country; there is a choice and valuable collection of Plants. None need apply but men of first-rate abilities.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND CO., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS FOR CONSERVATORIES.

CUT TO SIZE UP TO 40 INCHES LONG.		SMALL QUARRELS of SHEET.	
16 oz. to the foot 3½d. per foot.		1 by 3 and 4½ by 3½ ..10*d.* per lb.	
21 " 5 "		5 " 3 " 5½ " 3½ .. 2	"
26 " 7½ "		6 " 4 " 6½ " 4½ .. 3	"
32 " 10 "		7 " 5 " 7½ " 5½ .. 4	"
GLASS MILK PANS.		9 " 6 " 8½ " 6½ .. 5	"
12-inch diameter, each—2*s.* 0*d.*		Not above 10 " 8 .. 6	"
14 " " 2 6		GLASS CREAM POTS.	
16 " " 3 0		6 inch diameter each 2*s.* 0*d.*	
18 " " 3 6		8 " .. 2 6	
20 " " 4 0		10 " .. 3 0	
22 " " 4 6		12 " .. 4 0	
24 " " 5 0		14 " .. 5 0	
26 " " 6 0		16 " .. 6 0	
PASTRY PANS from 1st Inch to 26-inch 1*s.* per pan extra.		18 " .. 7 0	
PROPAGATING GLASSES, each—*s.* *d.*	BEE GLASSES, *s.* *d.*	Not made above 14 inches. Covers for the above the same price as Milk Pans.	
2-inch diam. 0 2 ..	0 3	FLOWER POTS AND PRESERVE JARS.	
3 " 0 3 ..	0 4	3-inch diameter ..	0*s.* 4*d.*
4 " 0 4 ..	0 5	4 " ..	0 6
5 " 0 6 ..	0 7	5 " ..	0 9
6 " 0 8 ..	0 10	6 " ..	1 0
7 " 0 11 ..	1 1	7 " ..	1 3
8 " 1 2 ..	1 4	8 " ..	1 6
9 " 1 6 ..	1 9	9 " ..	2 0
10 " 1 10 ..	2 1	10 " ..	3 0
11 " 2 4 ..	2 8	11 " ..	4 0
12 " 3 0 ..	3 6	12 " ..	5 0
14 " 4 6 Not made		Saucers half the price of the above.	
16 " 6 6 above		CUCUMBER TUBES.	
18 " 9 0 12 inches.		21 inches long ..	2*s.* 6*d.*
GRAPE GLASSES.		22 " ..	1 10
4-inch diam. .. each 0 9		20 " ..	1 8
5 " .. 1 0		18 " ..	1 6
6 " .. 1 3		16 " ..	1 4
7 " .. 1 6		14 " ..	1 2
8 " .. 2 0		12 " ..	1 0
9 " .. 2 6		GLASS TILES AND SLATES.	
METAL HAND-FRAMES.		16 oz. .. 0.. 8*d.*	0*s.* 10*d.*
12-inch 3*s.* 0*d.* Glazed 6*s.* 0*d.*		21 oz. .. 0 10	1 0
14 " 3 6 " 7 0		26 oz. .. 1 0	1 4
16 " 4 0 " 8 0		32 oz. .. 1 4	1 8
18 " 4 6 " 9 0		Made to any dimensions.	
20 " 5 0 " 10 0			
24 " 6 0 " 12 0			

Glazed with stout Sheet Glass. To open at top, 1*s.* each extra.

LACTOMETERS for trying the quality of Milk, 4 tubes 7*s.* 6*d.*, 6 tubes 10*s.*; Peach Glasses 1*od.* each; Fish Globes from 1*s.* 6*d.* each; Wasp and Fly Traps 3*s.* 6*d.* per dozen; Plate and Window Glass; Lamp Shades and Chimneys; and every article in the trade.

SASHES AND FRAMES MADE AND GLAZED.

GLASS FOR CONSERVATORIES,
GREENHOUSES, PIT FRAMES, &c.

HETLEY AND CO. are supplying the above article, packed in boxes containing 100 square feet each, of BRITISH Manufacture, at the following reduced prices for cash A reduction on 1000 feet.

Sizes. Inches.			Inches.			Per foot.	Per 100 feet.
From 6 by 4	to	8	by 6	at	2½*d.*	is £1 0 10
8 " 6	"	10	" 8	"	2¾*d.*	" 1 2 11
10 " 8	"	14	" 10	"	3*d.*	" 1 5 0
14 " 10	"	20	" 12	"	3¼*d.*	" 1 7 1
20 " 12	"	40	" 14	"	3½*d.*	" 1 9 2

21 oz. from 3*d.* to 5½*d.*, per square foot, according to size.
26 oz. " 3½*d.* 7½*d.* " " "
32 oz. " 4*d.* 9½*d.* " " "

GLASS TILES AND SLATES made to pattern any thickness.
PROPAGATING, FLOWER, FRUIT, AND VEGETABLE GLASSES of every size and description.
BEE HIVE GLASSES from 4 to 12 in. diameter.
GLASS MILK PANS, from 12 to 26 in. diameter.
GLASS SHADES, as ornamental to, and for the preservation of every description of goods susceptible of injury by exposure. Prices, since the removal of the Excise duty, reduced one-half. List of Prices forwarded on application to JAMES HETLEY and Co., Glass Shade, Sheet, Crown, and Patent Plate Glass Warehouse, 35, Soho-square, London.

GLASS.

APSLEY PELLATT AND CO. (late PELLATT and GREEN), Falcon Glass Works, Holland-street, Blackfriars, have always on hand, Bee Glasses 1*s.* 6*d.* per lb., Cucumber Glasses, 1*s.* 6*d.* per lb.; Milk Pans, 18 in., white glass, 3*s.* 6*d.* each; Propagating Glasses, white, 1*s.* per lb., do. green, 10*d.*, do. Condensing, 2*d.* per lb. extra; Asparagus Tubes, 18*s.* to 21*s.* per gross; Grape Shades, 1*s.* 6*d.* to 2*s.* each; Fish-bowls, from 1*s.* 6*d.* each; Wasp and Fly-traps, 40*s.* per gross, or 3*s.* 6*d.* per dozen. By the use of these traps fruit may be preserved from (otherwise certain) destruction.

BAKER'S PHEASANTRY, Beaufort-street, King's-road, Chelsea, by special appointment to her Majesty and H.R.H. Prince Albert.—ORNAMENTAL WATER FOWL, consisting of black and white swans, Egyptian, Canada, China, bernacle, brent, and laughing geese, sheildrakes, pintail, widgeon, summer and winter teal, gadwall, Labrador, shovellers, gold-eyed and dun divers, Carolina ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking fowls; white Japan, pied, and common pea-fowl, and pure China pigs; and at 3, Half-moon-passage, Gracechurch-street.

LINGHAM, BROTHERS, 170, Little Hampton-street, Birmingham, sole Manufacturers of the improved wood MENOGRAPH or LABELS for Garden-borders, Flower-pots, &c., have now perfected several patterns in Zinc suitable for the same purposes, which can be written upon with the greatest facility with their Metallic Ink, prepared exclusively for this purpose, and when dry an indelible inscription is secured. Directions for use sent with each box.
Sole agents in London, G. and J. DEANE, Horticultural Implement Warehouse, 46, King William-st., London-bridge.

BEE-HIVES.—All persons desirous of Cultivating that pleasing and profitable branch of rural economy—the Honey Bee—are respectfully informed by G. NEIGHBOUR and SON, that they have prepared for the season an extensive supply of their various improved BEE-HIVES; their collection consists of "Nutt's Collateral Hive," "The Single Box Hive," "The Improved Cottage Hive," "The Ladies' Observatory Hive," "Taylor's Bar Hive," &c., from either of which the Honey may be taken at any time without injury to the Bees, and may be worked with safety, humanity, and profit, by the most timid and unaccustomed to Bee-manipulation. A descriptive paper, with drawings and prices, will be forwarded on receipt of a postage stamp.—Apiarian Depot and Honey Warehouse, 127, High Holborn, London.
NUTT ON BEES (6th Edition), just published.

CUCUMBER AND MELON BOXES AND LIGHTS.—One hundred [illegible] Lights of all sizes ready for immediate use. Improved heat materials, portable and cast to all parts of the kingdom. Boxes and Lights from 17 *s.* Gardens Lights of every description. Conservatories, Green and Hot-houses erected and repaired in all parts of the kingdom. References given to numerous Nobility, Gentry, and the Trade, in most parts of the kingdom.
JAMES WATTS, Iron-frame Builder, Gas-engineer, &c., Old Kent-road, London.

CLARK'S METALLIC HOTHOUSE WORKS, 57, Long-lane, Bermondsey, Proprietor, Mr. THOMAS CLARK. Manager, Mr. JOHN [illegible].
Mr. CLARK presents his grateful thanks to the Nobility and Gentry for their liberal patronage of the [illegible] during a period of thirty years, and begs to state that the repeal of the duty on Glass [illegible] HOTHOUSES, at a greatly reduced price. These Houses are glazed with British [illegible] Glass in panes of 36 inches in length, and of such [illegible] as to render all danger of accidents by expansion impossible, and that which arises from the action of heat in [illegible] by the present mode of glazing adopted. As examples of this Manufacture, in which [illegible] combined, Mr. CLARK refers to the magnificent range erected by him in the new Royal Gardens at Windsor, [illegible] by competent judges to be the most complete of its kind in the world.

HOT-WATER APPARATUS AND HORTICULTURAL BUILDINGS.

DANIEL AND EDWARD BAILEY, of 272, Holborn, construct and erect Hot-water Apparatus for Warming Horticultural Buildings, Lecture-rooms, Churches, and Manufactories, in a superior manner, and on moderate charges. They have erected Apparatus in England and Ireland, for many [illegible] and Gentlemen. They had the honour to be employed in heating the [illegible] houses and Pits in HER MAJESTY'S NEW GARDENS AT FROGMORE, and in executing the works of the [illegible] Conservatory erected by the Horticultural Society of London in their gardens at Chiswick, and also in the erection of the Conservatory attached to the Pantheon Bazaar.
D. and E. BAILEY, who were the first to introduce Metallic Curvilinear Hothouses to Horticulturists, erect various descriptions of Horticultural buildings, and execute all kinds of metal work at their Manufactory, 272 Holborn.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Engineers and Manufacturers of the Improved CONICAL [illegible] CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved [illegible] of applying the Tank system to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as references of the largest and most [illegible] or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.
S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.
Conservatories, &c., of Iron or Wood constructed upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

POLMAISE.—Cast and Wrought Iron Dome Cover, in lieu of brick arch or iron plate.—The [illegible] of the Dome Cover has fully established its superiority over other Polmaise apparatus yet made, numbers have already been fixed, and they continue to give the most perfect satisfaction. The dome, if required, may be made of [illegible] IRON any thickness required.—Manufactured by SMITH and JAMES, Eagle Foundry, Leamington; and may also be had of all respectable ironmongers.
N.B. Hot-water apparatus of every kind, with [illegible] corrugated boilers. Iron gutters 12 in. and 18 in. wide for hothouses at 6*s.* and 8*s.* per foot, ready for fixing.

GUANO AND NITRATE OF SODA.

PERUVIAN GUANO of the best quality, now ready for delivery in any quantity direct from the Importer's Warehouse, at the reduced prices.—Apply to [illegible] CLARANCE and Co., 19, Cullum-street, Fenchurch-street, London.

THE following MANURES are Manufactured by Mr. LAWES, at his Works at Deptford-creek:—
Corn Manure .. 14*l.* per ton. | Grass Manure .. 11*l.* per ton.
Clover do. .. 14*l.* " | Turnip do. .. 7*l.* "
Superphosphate of Lime, 7*l.* per ton.
Mr. LAWES has also made preparations for supplying the various artificial MANURES of commerce, and as Agriculturists will trust the selection of them to him, and will furnish him with the necessary information, he will supply those which he considers most suitable to the soil and crops. A paper containing the questions required to be answered will be forwarded upon application to his Office, 81, King William-street, City, London.

SUPERPHOSPHATE OF LIME of the same excellent quality as supplied last year, and gave such unqualified satisfaction, from the extraordinary success which attended its application to Turnips and other green crops, will be had in lots to suit the convenience of buyers, direct from the manufactory, on application to HENRY BAY MILES, C. Mark-lane.
Also on sale, Peruvian and other Guanos, and all kinds of chemical manures.

MURIOPHOSPHATE OF LIME.

PONTEY, ROWE, AND CO. beg to inform their Friends and Agriculturists generally that they are Manufacturers of the above, under the superintendence of a practical Chemist in the country. This manure is found far superior to Superphosphate of Lime as a manure for Corn, Mangold Wurzel, and Parsnips, and is a very forcing one for Wheat and Green Crops generally, but those parties who are desirous of using Superphosphate can have it made to order.
P., R., and Co. also beg to say that they have a stock of genuine PERUVIAN GUANO, in Tons, Casks, or Quarters, direct from Callao. They have also a stock of Nitrate of Soda, Gypsum, Salt, Charcoal, &c.
Bone Manure, half-inch and fine dust, manufactured at their Mills, Drake's-place, Worm-supplies and prices may be obtained, Drake's-place, Plymouth, Mayor.

GUANO AND OTHER MANURES ON SALE.—Guano, Peruvian & British; Superphosphate of Lime; Bone dust and Bone Sawdust; Dried Night-soil; Urate; Gypsum, for Clover, Cinquefoil, &c.; Nitrates of Soda and Potash, as stimulants; Petre Salt, for dressing old Pastures; Agricultural Salt, for Compost-heaps, &c.; Sulphuric Acid, for dissolving bone; Soda Ash, a destroyer of Wireworm; and all other Manures of known value. Also Horticultural Glass, Milk Pans, &c.—Apply for prices current, to MARK FOTHERGILL, Office 2nd, Stores 4a, Upper Thames-street.

FUCHSIA.—HOCKIN'S "UNA."—The whole disposable STOCK of this valuable variety has been purchased from William Hockin, Esq., of Truro. Some blooms were sent to Dr. Lindley for his opinion, and the following appeared in the *Gardeners' Chronicle*, July 24th, 1847: "*W*—Your seedling is a large and handsome variety; white tube and sepals, with rosy vermilion corolla. This is a good variety and worthy cultivation, provided the sepals expand well; we are not able to judge of this portion of the flower, it having been much bruised." (Since this report was written, we have found that the sepals do expand well.)

It is a very early blooming variety, having had two specimens beautifully in bloom since the early part of February last, at which period we sent a few blooms to Dr. Lindley for his opinion. See *Gardeners' Chronicle*, Feb. 26, 1848, "SEEDLING FUCHSIA — *W E K* — Tube well formed, clear white sepals, tinged with light pink, corolla carmine, very attractive variety." —Price 5*s.* each One plant will be given over every three to the trade.

LYNE'S NEW SEEDLING GERANIUMS OF 1847.

	each.		each.
Lyne's Star of the West	15*s.* 0*d*	Lyne's Mercury ...	15*s.* 0*d*
Lyne's Lady Ebrington	15 0	Folley's Black Prince ..	5 0

Full descriptions can be obtained on application.

Salvia, new creeping species from Mexico a beautiful and desirable variety for bedding), 5*s.* each; Heliotropium Voltaireanum, 1*s.* 6*d* each; Cuphea platycentra, 3*s* 6*d* per dozen, can be obtained from WILLIAM E. GENDLE and Co., Nurserymen, Plymouth.

Our New CATALOGUE of Geraniums, Dahlias, Azaleas, Fuchsias, Verbenas, Cinerarias, Roses, Epactis, Petunias, &c., is now ready, and can be had gratis on application.

SUPERB SEEDLING FUCHSIAS.

J. BARKWAY, in offering his two Seedlings, begs to say that they are very distinct and good, and that he can with confidence recommend them, "LADY BUXTON" having gained three prizes and "BRILLIANT" one, during the past summer. See Dr. LINDLEY'S opinion in the *Gardeners' Chronicle* of June 12, 1847:—"J. B.—Your seedling is an extremely pretty variety; tube and sepals very delicate pink, the latter tipped with green, corolla bright rosy purple, the sepals expand horizontally, the colours are bright, and the flowers have a lively appearance. "LADY BUXTON," large plants, 10*s.* 6*d.*, small ones per post, 7*s.* 6*d.* "BRILLIANT," beautiful bright rosy crimson tube and sepals, corolla same colour, very large. Price per plant, 7*s.* 6*d.*—East Dereham, Norfolk.

GARDENERS' REGISTER OFFICE.

HORTICULTURAL ESTABLISHMENT.

J. WEEKS AND CO., King's road, Chelsea, have the honour to inform the Nobility and Gentry that 200 GARDENERS are registered and classed according to their various qualifications, with full particulars of the situations they have filled, the wages they require, &c. By application to this establishment, a Gardener can be selected suitable for every situation in the kingdom.

J. WEEKS AND CO, ARCHITECTS AND BUILDERS OF HOTHOUSES, GREENHOUSES, CONSERVATORIES, PITS, &c.—The Nobility and Gentry about to erect Horticultural Buildings, may depend on the best seasoned materials and first-rate workmanship employed. The various works in progress will testify our facilities for executing such buildings.

J. WEEKS AND CO.'S PATENT HOT-WATER APPARATUS is unrivalled for simplicity and efficiency. The whole apparatus, in various forms, may be seen in action on the premises. Economical Boilers of all sizes, the largest is adequate of heating a range of Forcing Houses 300 feet long.

J. WEEKS AND CO. have lately established an extensive Ornamental Nursery. The Horticultural Buildings, are allowed to be the finest in the country; as also the complete arrangements of the Heating Apparatuses. The whole combining economy with utility and elegance.

There is a choice and valuable collection of Stove and Greenhouse plants, as also all the common varieties.

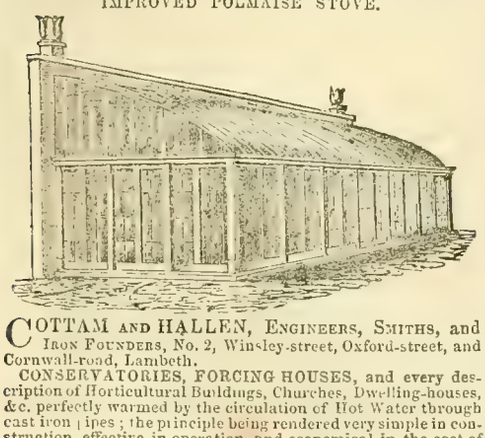
THE SEED DEPARTMENT at this establishment is conducted with the greatest care and attention. Samples of every variety are proved before sent out.

PLANS, ESTIMATES, AND CATALOGUES upon application. The whole of the prices at this establishment are very moderate.

TO HORTICULTURISTS, &c.
READ'S GARDEN ENGINES, MACHINES, &c.

R. READ has made considerable improvements in his GARDEN ENGINES, MACHINES, and SYRINGES. The action of the valves is so simple as to prevent the possibility of their getting out of repair, surpassing anything of the kind hitherto offered to the Public. Manufactured only by the Patentee, 35, Regent-circus, Piccadilly, where they may be seen and proved.

WARMING BY HOT WATER, AND ALSO BY AN IMPROVED POLMAISE STOVE.



COTTAM AND HALLEN, ENGINEERS, SMITHS, and IRON FOUNDERS, No. 2, Winsley-street, Oxford-street, and Cornwall-road, Lambeth.

CONSERVATORIES, FORCING HOUSES, and every description of Horticultural Buildings, Churches, Dwelling-houses, &c. perfectly warmed by the circulation of Hot Water through cast iron pipes; the principle being rendered very simple in construction, effective in operation, and economical in the cost of the apparatus and consumption of fuel—the result of the great experience which C. and H. have obtained by their warming buildings for every possible purpose for many years past.

AN IMPROVED POLMAISE STOVE, exposing a much larger heating surface than flat plates.

Horticultural Buildings erected of Iron or Wood, or of Iron and Wood combined; Verandahs, Ornamental Iron and Wire Work, Hand-glass frames, Flower Stakes, Hurdles, and every description of Fencing; Bedsteads, brass and iron; the patent Rheocline or Spring Bedstead; Stoves, Ranges, Furnishing Ironmongery, Agricultural Implements, &c.

Show Rooms for every description of Iron Work, &c., at the Manufactory, No. 2, Winsley-street, and 76, Oxford-street, three doors from the Princess's Theatre.

TURNIP SEED.

HARGRAVE AND ELLIS, of Caistor, Lincolnshire, beg to inform Agriculturists and Dealers, that they are prepared to supply Turnip seed of the finest quality, at very low prices for cash.

SCOTT'S HYBRID	per lb.	10*d.*
POMERANIAN GLOBE	,,	9*d.*
WHITE GLOBE	,,	8*d.*
GREEN GLOBE	,,	8*d.*

Other approved varieties on similarly low terms.

GERMAN RED CARROT ... per lb. 1*s.* 6*d.*

The Trade supplied at wholesale prices, delivered free at any port in England or Scotland, having direct communication with Hull, in quantities not under 4 bushels.

*** Scott's Hybrid, of all the white-fleshed varieties, is the hardiest, attains the largest size, and is the best substitute for yellows.

THE LONDON MANURE COMPANY beg to offer, on the best terms, Peruvian Guano, warranted genuine, delivered direct from the Importers' warehouses; Superphosphate of Lime, in any quantity; Sulphate of Ammonia, Nitrate of Soda, Sulphuric Acid, fine Bone Sawdust, Gypsum, Potter's Guano, Soda Ash, Potre, Agricultural and Fishery Salt, and every other artificial Manure.

The URATE of the LONDON MANURE COMPANY, has now stood the test of seven years, with a largely increasing sale. It is recommended with the greatest confidence for Turnips, Mangold Wurzel, Carrots, and all root crops; also for Colesseed, Tares, Barley, &c. Unlike many other artificial Manures, its effects are not exhausted by the first crop; and when from any cause the crop of Turnips to which it has been used fails, its full fertilising properties remain for the next full crop. Testimonials and full particulars forwarded free. The LONDON MANURE COMPANY most earnestly request their friends to order the Urate direct from themselves, or their accredited Agents, so as to prevent any other article of a totally different manufacture being substituted. EDWARD PURSER, Sec.

No. 40, Bridge-street, Blackfriars.

☞ Sole Manufacturers of Mr. J. C. Nesbit's Chemical Manures.

POTTER'S GUANO.—SEVENTH YEAR—TESTIMONIALS. "Tain, April 21, 1847.

"Sir,—The experiment I made last year induces me to use an additional quantity of *your* Guano for my Turnips this year. Send me 2 tons." Signed, "R. S. Taylor."

Result of Dr. Daubeny's Experiment on Turnips:

Produce per acre.	Weight of Bulbs.
Unmanured	14,228 lbs.
Bone Shavings, 10 cwt.	19,239
Manure Company's Guano, 260 lbs. ...	26,053
Nitrate of Soda, 1½ cwt.	28,459
Phosphorite, 12 cwt.	28,659
Phosphorite with Oil of Vitriol	30,869
Peruvian Guano, 260 lbs.	31,114
Bones, with Vitriolic Acid, 11 cwt. ...	31,898
Graham's Animal Compost, 260 lbs. ...	32,109
Sulphate Ammonia, 1 cwt.	32,670
Bones, finely powdered, 12 cwt.	36,185
POTTER'S GUANO, 260 lbs.	37,201

See Journal of the Royal Ag. Society, Vol. VI., Part II., p. 331.

PURE GYPSUM, 22*s.* per ton.

Factory, 28, Clapham-road-place, London. Sold also by Mr. POTTER'S authorised agents in their various districts.

DR. RICHARDSON'S PREPARED BONE MANURES.

		per ton—£	*s.*	*d.*
B	Manure for Turnips, Potatoes, &c.	8	0	0
C No. 1	For the Straw of Wheat, Oats, &c. ..	7	0	0
C No. 2	For the Grain of ditto, ditto	12	0	0
L No. 1	For the straw of Beans, Peas, &c. ..	7	0	0
L No. 2	For the Seed of ditto ditto	12	0	0
H —	For Hops, Flax, Clover, &c.	9	0	0
G —	For Garden Produce in general ..	10	0	0
S —	For Sugar Cane	9	0	0
SUPERPHOSPHATE OF LIME		7	0	0

The above Special Manures are manufactured by Messrs. RICHARDSON, CURRIE, and Co., at their Chemical Works, Blaydon, near Newcastle-on-Tyne, and may be had in London, of their Agents, Messrs. John Clarance and Co., 19, Cullum-street, Fenchurch-street.

Testimonials and directions for its use on application.

MR. J. C. NESBIT'S CHEMICAL MANURES.

THE LONDON MANURE COMPANY beg to announce that they have undertaken the exclusive manufacture of the manures recommended by Mr. J. C. Nesbit. The substances used in their preparation will be subjected to Mr. Nesbit's analysis, and every care will be taken in their manufacture. HOP MANURE, Superphosphate of Lime, Wheat and Clover Manure. A Pamphlet on Artificial Manures, by Mr. J. C. Nesbit, now ready.

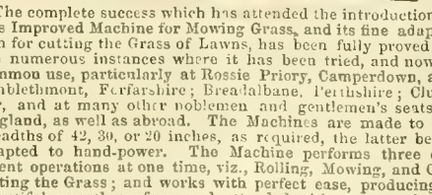
The London Manure Company have also made arrangements for a large supply of Fishery and other Salt, which they can offer on good terms.

E. PURSER, Secretary, 40, Bridge-street, Blackfriars.

PERUVIAN AND BOLIVIAN GUANO ON SALE,
BY THE ONLY IMPORTERS,
ANTONY GIBBS AND SONS, LONDON;
WM. JOSEPH MYERS AND CO., LIVERPOOL;
And by their Agents,
GIBBS, BRIGHT, AND CO., LIVERPOOL and BRISTOL;
COTESWORTH, POWELL, AND PRYOR, LONDON.

To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

SHANKS' IMPROVED GRASS CUTTING AND ROLLING MACHINES.



The complete success which has attended the introduction of this Improved Machine for Mowing Grass, and its fine adaptation for cutting the Grass of Lawns, has been fully proved by the numerous instances where it has been tried, and now in common use, particularly at Rossie Priory, Camperdown, and Kinblethmont, Forfarshire; Breadalbane, Perthshire; Clumber, and at many other noblemen and gentlemen's seats in England, as well as abroad. The Machines are made to cut breadths of 42, 30, or 20 inches, as required, the latter being adapted to hand-power. The Machine performs three different operations at one time, viz., Rolling, Mowing, and Collecting the Grass; and works with perfect ease, producing a beautiful smooth surface, and attended with great saving in abridging labour.

Orders may be addressed to Messrs. ALEXANDER SHANKS and SON, Machine-makers, Arbroath, N.B., by whom further particulars will be given.

Sold by Messrs. F. and J. DICKSON, Nurserymen, Chester; Messrs. J. and C. LEE, Nurserymen, Hammersmith; and Mr. GEORGE BARRY, Nurseryman, Castle-street, Liverpool.

PROTOXIDE PAINT FOR STUCCO for Iron, Brickwork, and Wood. Manufactured by CHARLES FRANCIS and SONS, Cement Works, Nine Elms.

THE IMPROVED HYDRAULIC RAM, fixed by FREEMAN ROE, Fountain Maker, 70, Strand, London, can be worked by a small stream of half-an-inch, where a fall of two feet can be obtained. The same RAM, without the aid of a Tank or Cistern, arranged to throw a Jet of Water constituting a Fountain with the head of water beneath.

ENGINES FOR DEEP WELLS OF ALL KINDS, DOUCHE AND OTHER BATHS. BUILDINGS HEATED BY HOT WATER. WATER WHEELS to work Small Pumps, from 15*l.*

Estimates given for the supply of Towns, &c.

A newly invented PORTABLE VAPOUR BATH all complete for 4*l.*

PATENT FLEXIBLE INDIA-RUBBER PIPES and TUBING for RAILWAY COMPANIES, BREWERS, DISTILLERS, FIRE ENGINES, GAS COMPANIES, GARDENING and AGRICULTURAL PURPOSES, &c.

THE PATENT VULCANISED INDIA-RUBBER HOSE PIPES are made to stand Hot Liquor and Acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible), and as they require no application of oil or dressing, are particularly adapted for Fire-engines, Pumps, Gas, Beer-engines, Gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes from ¼ inch bore upwards, and of any length to order.

Vulcanised India-rubber Garden Hose, fitted with brass taps, copper branch, and roses complete, ready to be attached to Pumps, Water-butts, or Cisterns.—Sole Manufacturer, JAMES LYNE HANCOCK, Goswell Mews, Goswell-road, London.

N.B.—Vulcanised India-rubber Washers of all sizes for Joints of Hot-water and Steam Pipes, and Vulcanised Sheet Rubber, any thickness, for all kinds of Joints, and other purposes.

IMPROVEMENT IN FARMING IMPLEMENTS.

LINSEED CRUSHER, simple in construction, for hand or horse-power, 11*l.* 11*s.*; ditto, doing Beans, Linseed, and Oats, by the same engine or horse-power, 10*l.* 10*s.* A smaller Implement for Linseed only, 7*l.* 15*s.*

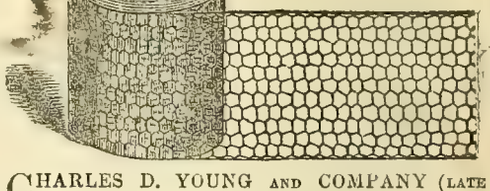
THRESHING MACHINE.—A Four-horse Power, doing from 25 to 35 loads of Wheat-straw per day, without damaging the straw, may be had of MARY WEDLAKE and Co., 118, Fenchurch-street, opposite Mark-lane, London, (references to numerous persons farming extensively, and who use this new machine), price 60 guineas. Smaller machines at a less price.

GORSE-BRUISING MACHINES, price 10*l.* 10*s.*, will prepare 40 to 50 bushels of food a day for cows, horses, and other cattle.

MARY WEDLAKE & CO.'S CHAFF-CUTTING MACHINE will do 100 or 200 bushels a day. Price 7*l.* 7*s.*, and a smaller machine 5*l.* Horse-hoe, Dressing-Machine, Turnip Cutter, Turnip-Drill, Stubble-rake, Oil-cake Breaker, Bean and Oat Crushers, Essex Ploughs for two Horses, Subsoil Plough, Double Field Roller, &c. Hay-making Machine, 14*l.* 14*s.*

MARY WEDLAKE and Co., 118, (The City of London Repository for Agricultural Implements), Fenchurch-street, opposite Mark-lane.

STRONG PREMIUM HARE AND RABBIT PROOF WIRE NETTING.



CHARLES D. YOUNG AND COMPANY (LATE W. AND C. YOUNG),
MANUFACTURERS OF IRON AND WIRE WORK, &c.,
128, HIGH-STREET, EDINBURGH; and 32, ST. ENOCH-SQUARE, GLASGOW,

Beg respectfully to call the attention of Landed Proprietors and others to their strong Wire-Net Fence, for excluding Hares and Rabbits from Gardens, young Plantations, Nurseries, &c.

This Net was exhibited at the Show of the Highland and Agricultural Society of Scotland, held lately at Inverness, where its Efficiency, Great Strength, and Exceeding Cheapness attracted general attention, and had awarded from the Judges the Society's Silver Medals, with high commendations.

The immense damage done by Hares and Rabbits in Gardens and Young Plantations, is often so great, that in the course of a year or two it will amount to more than the entire cost of protecting them with this Net. It is so durable, that when Plantations are sufficiently advanced to be independent of its protection, it can be removed to other exposed situations with the greatest facility, by any labourer. As a Fence against Hares and Rabbits, it is of itself quite sufficient, having only to be unrolled and attached, with small wire sent for that purpose, to wooden stakes driven into the ground, about every six or seven feet apart. It is, besides, peculiarly adapted for rendering Hedges, Paling, or other existing Fences, *completely impervious* to such vermin: and by being cut up into small pieces of three or more feet, as required, it forms a most efficient guard, at little expense, for individual Plants and Shrubs.

PRICES.—18 ins. high, 9*d.*; 24 ins., 1*s.*; 30 ins., 1*s.* 3*d.*; and 36 ins., 1*s.* 6*d.* per lineal yard.

Or a web of 100 yards, 18 ins. wide, will cost	...	£3 15 0
Do. of 100 yards, 24 ins. wide	... ...	5 0 0
Do. of 100 yards, 30 ins. wide	... ...	6 5 0
Do. of 100 yards, 36 ins. wide	... ...	7 10 0

If more or less than a web is required, it would be charged at the same rate per yard.

This Netting is also admirably adapted for Pheasantries and Poultry-yards, and is charged at the same rate. As carriage has, in many instances, been an obstacle to parties at a distance requiring this Net, C. D. Y. and Co. have made arrangements by which they will undertake to deliver it at any of the principal ports of Scotland, England, and Ireland, for One Halfpenny per lineal yard.

C. D. YOUNG and Co. cannot give a better idea of the great strength of their Premium Wire Netting than by stating that the weight of one yard of their 24-inch at 1*s.* is equal to 2½ yards of another article in the market, the same width, at 9*d.* per yard. Samples for inspection sent free of expense.

C. D. YOUNG & Co. manufacture every description of IRON and WIRE WORK required for this and foreign countries.

Workmen sent to all parts of Scotland, England, and Ireland.

Printed by WILLIAM BRADBURY, of No. 6, York-place, Stoke Newington, and FREDERICK MULLETT EVANS, of No. 7, Church-row, Stoke Newington, both in the county of Middlesex, Printers, at their office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the Office, No. 5, Charles-street, in the parish of St. Paul's, Covent-Garden, in the said county, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY, MAY 6, 1848.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News. The Horticultural Part Edited by Professor Lindley.

No. 20.—1848.] SATURDAY, MAY 13. [Price 6d.

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WINDLESHAM NURSERY, NEAR BAGSHOT, SURREY.

GEORGE BAKER begs to inform the Nobility, Gentry, and Public, his extensive collection of AMERICAN PLANTS are now in flower. May be viewed gratis.—May 15.

EXHIBITION OF TULIPS.

HENRY GROOM, Clapham Rise, Florist by appointment to Her Majesty the Queen, and to His Majesty the King of Saxony, respectfully informs the Nobility, Gentry, and Amateurs that his Superb Collection of TULIPS is now in flower, and can be viewed every day from 9 o'clock until 6, Sundays excepted: admittance 1s., Children half price. He begs to say that his Catalogue of Geraniums and new plants may be had on application.

EXHIBITION OF FLOWERING AMERICAN PLANTS.

HOSEA WATERER begs to announce his intention of again exhibiting, as last year, his Collection of FLOWERING AMERICAN PLANTS, at Oakley-square, King's-road, Chelsea. Due notice will be given of the time of opening.

AMERICAN NURSERY, BAGSHOT, SURREY.

J. WATERER'S UNRIVALLED COLLECTION OF AMERICAN PLANTS are now coming into bloom, and will continue in perfection several weeks. The Nursery is within a short distance of the Farnborough Station, South Western Railway, where conveyances may be obtained.

INDIAN AZALEAS.

MESSRS. LANE and SONS', Great Berkhamstead, are now in bloom. Strong plants of all the leading sorts are ready for sale, and the delicate growers may be had grafted.

MANCHESTER BOTANICAL AND HORTICULTURAL SOCIETY.

EXHIBITIONS AT THE GARDEN, OLD TRAFFORD,
FIRST MEETING ..... Wednesday, May 24.
SECOND MEETING ..... Wednesday, June 28.
THIRD MEETING ..... Wednesday, Sept. 6.

Productions may be exhibited from any part of the kingdom, either for sale or competition; and all packages addressed to the Secretary, with instructions, and delivered at the Gardens not later than 9 o'clock on each Exhibition day, will be duly attended to. Schedule of Prizes may be had on application.
S. E. Cottam, 28, Brazenose-street, Manchester.

TO GENTLEMEN, FLORISTS, AND OTHERS.

THOMAS MAY respectfully informs the above that he has still on hand a large stock of valuable TULIPS, which are now in bloom. The Collection consists of some of the finest varieties in old flowers, and many new Seedlings of his own raising. The whole are for sale in large or small quantities, as may suit the convenience of the purchaser. They may be viewed at Mr. Moody's Nursery, Highbury, opposite Highbury-barn Tavern. Letters to be addressed to Mr. May, No. 1, Northampton-street, Lower-road, Islington.

JENKINSON'S NEW EARLY CONE CABBAGE.

THOMAS JENKINSON respectfully offers the above for sale at 1s. per packet. It is of a beautiful green colour and large size, and may be sown early without the risk of running; it is uncommonly suitable for market gardeners. A packet will be sent post free on receipt of 13 postage stamps and address. Early orders are solicited, as the grower has only a small quantity.—Beverley, May 13.

CINERARIA—"MAZARINE."

J. G. BRUCE begs to offer good plants of the above at 5s. and 7s. 6d. each.

A specimen of the above was sent to the Editor of the *Gardeners' Chronicle*, who expressed the following opinion of it.

"J. G. B.—Your seedling is fine in colour, being of a deep rich Mazarine blue; the flowers are generally rather small in these high colours, but you appear to have cut your specimen before it attained its full size."—See *Gard. Chron.*, Apr. 24, 1847.

It was also exhibited at the Horticultural Society's Rooms on the 2d inst.—Upper Ham-road, Kingston.

THE BEDDING SEASON.

JOHN HAYES, Florist, Farnham, Surrey, begs to offer upwards of 100 varieties of Bedding Plants in pots, at 2s. 6d. per dozen; no charge for hamper and package. The same out of pots, 2s. per dozen, sent Post-free; in the place, 2s. and 1s. 8d., strong plants well hardened off. Public Gardens supplied on reasonable terms.

PRIZEFIGHTER CUCUMBER; 12 seeds of this excellent Cucumber, 16 inches long, will be sent on the receipt of 12 postage stamps.

A New Greenhouse for sale, 12 feet by 9, span-roof, glazed with 10-inch 16 oz. sheet-glass.

12 Handlights for sale in good preservation, for 7s. 6d. each.

Descriptive Catalogues sent on the receipt of one postage stamp.

NEW SEEDLING FUCHSIAS.—"DIAMOND," pure white tube and sepals, and novel rosy-lilac corolla; habit graceful, free bloomer, 10s. 6d.

"TRIUMPH," dark red, extra large size, suitable for large specimens.

New Fuchsias 10s. 6d. per dozen, fine varieties.

MILLER'S SEEDLING PELARGONIUMS.

Scarlet Defiance	£1 11s. 6d.	Admiration	£1 1s. 6d.
Rosa Mundi	1 11 6	Vulgius	1 1 0
Queen of Kent	1 1 0	Conspicuabundus	1 1 0
Distinctus	1 11 6	Flora's Flag	1 1 0

Or Set of 8 for 8l. 8s.

Fire Blaze, Garland, Eclipse, Telegraph, each 15s.; Beauty Surpass, 10s. 6d.; Purpurea multiflora, 10s. 6d.

Or set of 6 for .. .. .. 3l. 3s.

The two sets together for 10l.

For 30 postage stamps an illustrated and descriptive book of the above beautiful plants would be sent post free.

The new sorts of Geraniums of 1845 and 1846 raised by Beck, Foster, Gaines, Hoyle, Miller, &c. &c., at 2l. per doz., fine plants.

Also second-rate varieties at 1l. 1s. per dozen.

John Hine, Providence Nursery, Ramsgate.

SUPERB SEEDLING FUCHSIAS.

J. BARKWAY, in offering his two Seedlings, begs to say that they are very distinct and good, and that he can with confidence recommend them, "LADY BUXTON" having gained three prizes and "BRILLIANT" one, during the past summer. See Dr. Lindley's opinion in the *Gardeners' Chronicle* of June 12, 1847:—"J. B.—Your seedling is an extremely pretty variety; tube and sepals very delicate pink, the latter tipped with green, corolla bright rosy purple, the sepals expand horizontally, the colours are bright, and the flowers have a lively appearance. "LADY BUXTON," large plants, 10s. 6d., small ones per post, 7s. 6d. "BRILLIANT," beautiful bright rosy crimson tube and sepals, corolla same colour, very large. Price per plant, 7s. 6d.—East Dereham, Norfolk.

CHOICE BEDDING PLANTS.

J. HOLDER begs to inform the Nobility, Gentry, &c., that he has on hand a large Stock of strong and healthy Plants for bedding out, consisting of Fuchsias, Verbenas, Petunias, Salvias, Alonsoas, Calceolarias, Antirrhinums, Pentstemons, Scarlet Geraniums, &c. &c., which can be had at 4s., 8s., and 12s. per doz when the selection is left to J. H.—Floral and Horticultural Establishment, Bedford-road, Clapham.

SELECT PLANTS.

BASS and BROWN'S DESCRIPTIVE PRICED CATALOGUE OF PLANTS FOR 1848 may be had on application. The following are a few which are now sending out strong and fine plants of our own selection. Those marked thus *, free by post, if desired.

			£	s.	d.
25	GERANIUMS, superb show vars., 21s.;	12 ditto	0	12	0
50	Ditto	fine varieties	1	5	0
12	Ditto	ditto ... ... 6s. to	0	9	0
12	Ditto	best scarlet, for bedding 6s. to	0	9	0
*25	FUCHSIAS, fine vars., 10s.;	25 superior ditto	0	17	6
*12	Ditto	new vars. of 1847	0	15	0
12	DAHLIAS, new and choice vars. of 1847	...	0	18	0
12	Ditto, fine vars., 5s.;	12 superior ditto ..	0	9	0
12	Ditto, fine and showy fancy vars.	... ...	0	9	0
*25	PETUNIAS, very fine varieties	... ...	0	12	0
*12	Ditto	ditto, 4s.; 12 superior ditto ...	0	9	0
*	Ditto, Sudbury Beauty, extra fine, each	...	0	2	6
*12	Ditto, new vars., including Sudbury Beauty	...	0	15	0
	Ditto, Bass and Brown's 8 superb new Seedlings, as described in their Advertisement in *Gardeners' Chronicle*, Jan. 8 and 15	... ...	1	8	0
*25	VERBENAS, fine vars. 8s.:	25 superior ditto ...	0	14	0
*12	Ditto	ditto, 4s. 12 ditto ditto ...	0	7	6
*12	Ditto	new vars. of 1847	0	12	0
*50	Ditto	fine vars.	1	0	0
*25	CHRYSANTHEMUMS, fine varieties	...	0	17	6
*12	Ditto	fine vars. 6s.; 12 superior ditto...	0	9	0
*12	Ditto, new and superior vars.	... ...	0	15	0
*12	ACHIMENES, fine and distinct vars.	...	0	9	0
12	ANTIRRHINUMS, superb vars.	... ...	0	7	6
*12	CUPHEAS, in 3 vars. for bedding	...	0	9	0
*12	GAILLARDIA, in 3 ditto ditto	...	0	6	0
*12	LANTANA, in 4 ditto ditto	... ...	0	9	0
12	PHLOX, fine distinct vars.	... ...	0	9	0
12	SALVIAS, in 7 vars. for bedding	... ...	0	6	0
*	LOBELIA erinus grandiflora, per doz.	...	0	6	0
*	Ditto compacta alba, per doz.	...	0	6	0
	CAMPANULA cavanilla, for bedding	...	0	7	6

Any 50 of the following SELECT GREENHOUSE PLANTS, strong and fine, 60s.; or 25 vars. for 35s. Our own selection of 50 vars. 50s.; 25 vars, 28s., or 12 vars. 15s. to 25s.

Abutilon striatum and venosum, Abelia rupestris, Alona cœlestis, Anigozanthus coccineus, Amphicome urguta, Balsamina latifolia, Begonia fuchsioides, Bouvardia splendens and flava, Bossiæa heterophylla, Brugmansia sanguinea, Cactus grandiflorus and speciosissimus, Calystegia pubescens, Campanula nobilis, Clianthus puniceus, Chænostoma polyantha, Choreozema varium rotundifolium, Coleonema tenuissima, Crassula falcata, coccinea, and nitida, Dolichos lignosus, Epiphyllum truncatum, Eranthenium pulchellum, Erythrina laurifolia, Euphorbia splendens, Fabiana imbricata, Gloxinia Carteni and speciosa, Gomphocarpus fruticosus, Habrothamnus fasciculatus, Hibiscus Cameroni, manihot, Parksii, sinensis rubra, and dble. buff; Hoitzia coccinea, Hoya carnosa, Hydrangea japonica, Indigofera incana, Ipomœa Learii, Jasminum affine, Bidwellianum, gracilis and Reevesii; Justicia ghusburghii, Kennedya glabrata, monophylla and rubicunda, Lilium lancifolium album and punctatum, Linum fruticosum, Myoporum parvifolium, Pentas carnea, Passiflora Lemicheziana, Phlebbertia grandiflora, Plumbago capensis, Pentstemon gigantea elegans, and gent alba, Scutellaria splendens and ventenata, Siphocampylus betulifolia, coccinea, and bicolor; Solanum jasminoides, Stachys aurantiaca, Spiræa prunifolia pleno, Stephanotis floribunda, Tecoma jasminoides, Torenia asiatica, Veronica speciosa, Budlea Lindleyana, Deutzia sanguinea, Weigela rosea.

Goods carriage free to London, and with all orders of 2l. and upwards articles presented extra. Remittances with orders are requested from unknown correspondents. In consequence of recent post-office arrangements, money orders may now be made payable to Bass and Brown.

Seed and Horticultural Establishment, Sudbury, Suffolk.

JAMES MATHEWSON, [illegible] Strawberry Grower, [illegible] Cunningarhill, Ayr, [illegible] attention to the [illegible] him, more especially [illegible] sively circulated and [illegible] throughout Great Britain, [illegible] superior to all others [illegible] flavoured, and the most [illegible] a number equal to [illegible] 50 to 120 runners, [illegible] gularly do the [illegible] from 12 to 40 berries [illegible] garnished with a [illegible] the extraordinary [illegible] he comprehended [illegible] they make a [illegible] the same as the exterior. [illegible] Fruit were sent out [illegible] its merits. Plants in pots, [illegible] the Nursery bed, 2s. [illegible] post or otherwise to any part [illegible] 7s. per 100; Roseberry, [illegible] cess Royal, [illegible] Prolific, 5s.; Hooper's Seedling, [illegible] Milne's Seedling, 2s. 6d.; Little [illegible] lific, 5s.; Thomson's King, [illegible] Princess Alice Maud, [illegible] Swainston's Seedling, Elton, [illegible] Drop, 15s.; Enza, 5s.; Myatt's Pine 5s.; [illegible] Malcolm's Seedling, 2s. 6d.; [illegible]

THE FOLLOWING can be very strongly recommended.

Statice pseudo armeria, per dozen	9s. 6d.	Fuchsia [illegible] doz.	[illegible]
Tropæolum speciosum, each	7 6	Epacris [illegible]	7
Lobelia fulgens præcox, per dozen	15 0	Calceolaria [illegible]	[illegible]
Weigela rosea, per doz.	18 0	Cineraria [illegible] per doz.	[illegible]
Erythrina laurifolia, per doz.	9 0	[illegible] doz.	[illegible]
Chorozema triangularis, each	2 6	Salvia splendens, or [illegible]	9
Calceolaria amplexicaulis, each	2 6	[illegible]	[illegible]
Begonia fuchsioides, per doz.	6 6	Hibiscus Cameroni, [illegible]	[illegible]

An allowance to the Trade.

F. C. Ball, Nurseries, Taunton.

UNPLOUGHED SEEDLING CALCEOLARIAS.

HENRY MAJOR, Knowsley, near Leeds, is now sending out his unploughed Seedling CALCEOLARIAS, saved from fine varieties in [illegible] or three parcels, [illegible] year. A few sets [illegible] Calceolarias, 1st set of 5 [illegible] seedlings sent out last year, 2[illegible] packet. Healthy [illegible] each. Most of the leading [illegible] descriptive list of the Calceolarias [illegible] paid application. A remittance [illegible] the order.

CAPE HEATHS.

WM. JAS. EPPS has the pleasure to offer the finest stock of YOUNG HEATHS [illegible] bushy and exceedingly healthy [illegible] consisting of the following [illegible] Aitonia, Cavendishii, intermedia [illegible] perspicua nana, florida campanulata [illegible] Juliana, rubra calyx, viridiflora, [illegible] Linnæoides, tricolor coronata, Wm. Mason, [illegible] superba, 12s per doz.—Bower Nursery, Maidstone.

NEW DAHLIAS.

MESSRS. BRAGG and WRIGHT beg to remind their Friends and the Public that they [illegible] of the following beautiful varieties [illegible] prepared to send out in the [illegible] plants, at [illegible]

HON. MRS. SHAW LEFEVRE [illegible] — Pale fancy known, being well up in the centre [illegible] shown in either class: was awarded 1st Class Certificate at the London Show, Surrey Gardens, South Norwood, Agricultural, Wycombe, and the extra Prize Medal [illegible] at the Surrey Gardens: the premier [illegible] the gem of the season. Colour, [illegible] Height, 4 to 5 feet.

COUNTESS OF CLARENDON—Pale [illegible] well up in the centre, and very [illegible] Class Certificate at the [illegible] Class Certificate at Camberwell, [illegible] was shown: exhibited [illegible] by Mr. Rudd, at Walworth, shows as [illegible] Height, 3 feet.

MAID OF KENT (Bragg) — [illegible] Princess Dahlia, white, tipped with rose. Mr. [illegible] "Edinburgh Journal:" "The best [illegible] was Maid of Kent." 4 feet.

GOLDEN FLEECE—This [illegible] has been awarded [illegible] July. Colour, [illegible] buff. [illegible] feet.

FOREST FLOWER (Wright)—[illegible] 1st Class Certificate at the Metropolitan Show, the only place where it was exhibited: very [illegible]

MISS WELLER (Bragg)—Fancy [illegible]: 1st Class Certificate at Slough. 3 to 4 feet.

Messrs. B. and B. are enabled to supply the following new Continental varieties, having worked [illegible] each.

TISON POR (Fortier.—Beautiful golden orange; large, full, and high centre; first class show variety. [illegible] feet.

PIUS IX. (Tassart)—Rose and white; beautiful show flower. 3 to 4 feet.

CARDINAL FERRETTI (Van Reynoght.—Red: the best in its class. 4 feet.

Messrs. B. and B. are enabled to supply the most approved kinds of last and former years at moderate prices.

Messrs. B. and B. have likewise [illegible] of the beautiful Seedling Pansies, Charon, Celeste, Claud, &c. Catalogues to be had on application.—Star Nursery, Slough, Bucks.

SPLENDID NEW PLANT,—"CLERODENDRON CAPITATUM."

LUCOMBE, PINCE, AND CO., respectfully beg leave to announce that they will have fine healthy plants of this truly magnificent species of CLERODENDRON fit to send out on the 24th of May, at 63s. each. A specimen of it was submitted to Sir William Hooker, at the Royal Gardens, Kew, in January last, who pronounced it to be in every respect a first-rate plant, and published a figure of it in the "Botanical Magazine" of February following, to which L., P., & Co., beg leave to refer. The flowers, which are nearly 6 inches in length, and of a beautiful pure white, are produced in large terminal heads, each containing from 50 to 60 flowers; the foliage is remarkably good, being of a rich, dark, glossy green, which contrasts finely with the numerous, singularly long, pure, white flowers. It is a plant that will give satisfaction to all who purchase it, and certainly ought to be in every good collection. Specimen plants of it are also again showing flower in their Nursery.—Exeter Nursery, May 13.

LUCOMBE, PINCE, AND CO., beg leave to call attention to the following NEW, RARE, and BEAUTIFUL PLANTS, of which they have a fine healthy stock now fit to send out, and which they can especially recommend to cultivators, as being of first-class character.

ALLAMANDA SCHOTTII, 31s. 6d.
AZALEA INDICA "AURORA" (PINCE'S), extra strong plants, 10s. 6d.; small ditto, 5s.
AZALEA INDICA "DUKE OF DEVONSHIRE" (PINCE'S), extra strong plants, 10s. 6d.; small, 5s.
ÆCHMEA FULGENS, 10s. 6d.; Æ. DISCOLOR, 10s. 6d.
ACROPHYLLUM VENOSUM, 10s. 6d.
APHELANDRA AURANTIACA, 10s. 6d.
BERBERIS FORTUNII, 15s.
CLERODENDRON MACROPHYLLUM, 7s. 6d.
" SPLENDENS SPECIOSISSIMUM, 10s. 6d.
COUTARIA SPECIOSA, 21s.
CEPHALOTUS FOLLICULARIS, 42s.
ECHITES SPLENDENS, 5s.
ERIOSTEMON SCABRUM, 10s. 6d.
FRANCISCEA HYDRANGÆFORMIS (TRUE), 42s.
GOMPHOLOBIUM POLYMORPHUM SPLENDENS, 10s. 6d.
" VENUSTUM, 21s.
GUZMANNIA TRICOLOR, 10s. 6d.
GARDENIA FORTUNII, 10s. 6d.
" BOWIEANA (syn. DEVONIANA), 10s. 6d.
" STANLEYANA, 3s. 6d.
" NITIDA, 10s. 6d.
" MALLEIFERA, 10s. 6d.
GLOXINIA TEUCHLERII, 7s. 6d.
HOYA IMPERIALIS, 21s.
IXORA GRIFFITHII, 21s.
" ODORATA, 21s.
ILEX CUNNINGHAMII, 10s. 6d.
LYSIONOTUS LONGIFLORUS, 7s. 6d.
LUCULIA PINCIANA, 7s. 6d.
" GRATISSIMA, 3s. 6d.
PORTLANDIA GRANDIFLORA, fine variety, 21s.
PHYLLARTHON COMORENSE, 21s.
" BOJERIANUM, 10s. 6d.
RHODODENDRON NILAGIRICUM, 42s.
SOLANDRA LÆVIS, 10s. 6d.
STROPHANTHUS STANLEYANUS, 7s. 6d.
TROPÆOLUM SPECIOSUM, 7s. 6d.
THIBAUDIA PULCHERRIMA, 21s.

Also a large and fine Stock of rare CONIFERÆ of all sizes, including some extraordinarily fine specimens, to the culture of which great attention has been paid, and which are well worthy of notice, and will be sold cheap.

Exeter Nursery, May 13.

NOW READY FOR SENDING OUT.

WILLIAM E. RENDLE AND CO., Plymouth, having a very large stock of the following plants, are enabled to offer them at the following REDUCED PRICES.

GERANIUMS.—FIRST CLASS.—Purchaser's Selection of 20 from the following List, for 30s.—LYNE'S Forget-me-not, Remembrance, Firefly, Sir Walter Raleigh Gilbert, The Peri, Queen of Beauties, Nourmahal, Talisman, Sir Robert Sale, and King of Saxony. BECK'S Patrician, Gigantea, Sirius, Hebe's Lip, Favourite, Mustee, Zenobia, Rosy Circle, Desdemona, Margaret, Isabella, and Zanzummim. LYNE'S Marmion, Princess, Chaplet, Merry Monarch, Picta, and Rosebud. HOYLE'S Isabella. RENDLE'S Francis Bullin. CATLEUGH'S Shield of Achilles, Queen Phillipa, Magog, and Raphael. GAINES' Edith, Lady Bulkely, Miss Holford, Prince Alfred, and GREADY'S Standard of Perfection.

SECOND CLASS.—Purchaser's Selection of 20 from the following List, for 15s.—Sunrise, Duke of Cornwall, Lord Wilton, Redworth, Princeps, Titus, Champion, Unique, General Pollock, Rosalia, Sarah Jane, Cornubiensis, Albion, Othello, Pluto, Horatio Nelson, Leonora, Theresa, Celestial, Black Dwarf, Beauty of Salthill, Alba Multiflora, Admiral Napier, Hebe, Juliette, Madeline, The Pearl, Gipsy Queen, Vesta, King of the French, Dido, Ivanhoe, Cornish Gem, Conflagration, Constellation, Countess of Mount Edgcumbe, Hector, Rosetta, Robustum, Magicienne, King of Saxony, and Duchess of Leinster.

Other sorts, 5s. to 10s. per dozen.

SCARLET GERANIUMS.—Twenty plants of good Scarlet varieties, including Tom Thumb, for 15s.

Purchaser's selection of all the choicest varieties from our Catalogue (just published), can be obtained at the following reduced prices.

	£	s.	d.
DAHLIAS, 12 superior sorts	0	15	0
" 20 ditto	1	1	0
" 12 good sorts	0	7	0
FANCY DAHLIAS, 12 superior sorts	0	12	0
FUCHSIAS, 20 superior sorts	0	15	0
" 20 good sorts	0	10	0
DWARF ROSES, in pots, 12 superior sorts	0	15	0
" 20 ditto	1	5	0
INDIAN AZALEAS, 12 superior sorts	1	0	0
" 20 ditto	1	10	0
CINERARIAS, 12 superior sorts	0	15	0
MISCELLANEOUS PLANTS, 12 superior sorts	0	15	0
" " " 20 ditto	1	5	0
" " " 20 good sorts	0	15	0
MISCELLANEOUS CLIMBERS, 12 superior sorts	0	15	0
" " " 20 ditto	1	5	0
HERBACEOUS PLANTS, 20 superior sorts	0	10	0
ANTIRRHINUMS, 6 superior sorts	0	5	0
PETUNIAS, 6 superior sorts	0	5	0
EPACRIS, 12 ditto	0	15	0
CACTUS, 6 ditto	0	9	0
VERBENAS, 12 ditto	0	10	0
PINUS, 6 ditto	0	7	0
ARAUCARIA IMBRICATA, 12 plants	1	0	0
CEDRUS DEODORA, 12 plants	1	0	0

*** *All Orders above 3l. will be delivered (hamper, package and carriage free), to London, Bristol, Exeter, Barnstaple, or Falmouth; or above 6l. to Liverpool, Dublin, and Cork.*

A remittance is not required from known correspondents, or those who give reference in London. Steamers from this Port three times a week to London, Cork, Dublin, Liverpool, and Falmouth. Orders will be executed in strictest rotation. Great attention is paid to careful packing. All plants forwarded to long distances are packed in strong Fir Boxes, and firmly secured.—WILLIAM E. RENDLE and Co., Nurserymen, Plymouth.

WM. WOOD AND SON have the pleasure of offering the following CHOICE AND SHOWY PLANTS for bedding.

	per dozen.—s.	d.
Anagallis, of sorts, by name	6	0
Anemone japonica, red	9	0
Antirrhinums, best varieties, by name	6	0
Bouvardia lævigata, scarlet	9	0
" spleadens, scarlet	9	0
" triphylla, ditto	9	0
Calceolaria floribunda, sulphur	6	0
" Kayii, deep yellow	9	0
" Wildfire, crimson, yellow spots	18	0
Cuphea miniata, red and violet	9	0
" platycentra, scarlet, black and white	6	0
" strigillosa, orange	6	0
Fuchsia delicata, light	9	0
" formosa elegans, dark	6	0
" pumila, or Tom Thumb, very pretty	6	0
Gaillardias of sorts, by name	6	0
Geraniums, 150 best named varieties, at 6s., 9s., 12s., and	18	0
" Scarlets, 20 ditto ditto 6s. and	9	0
" Fancy, and scented-leaved ditto, 12s., 18s., &	30	0
Heliotropium peruvianum, lilac	4	0
" Voltaireanum, dark	9	0
Impatiens platypetala, rose	9	0
Isotoma axillaris, light blue	6	0
Lantana crocea, copper	9	0
" malvæfolia, orange	9	0
" Sellowii, deep pink	6	0
Lobelia erinus compacta, light blue	6	0
" " grandiflora, deep blue and white	6	0
" ramosa, deep blue, very fine	6	0
Malva Creeana, pink	6	0
" " alba, white	6	0
Mimulus of sorts, by name	6	0
Nierembergia intermedia, crimson	12	0
Pentstemons, scarlet and white, by name	6	0
Petunia cicestræ, peach blossom, very splendid	15	0
" other sorts, by name 6s. to	9	0
Salvias of sorts, by name 4s. to	6	0
Silene laciniata, scarlet	9	0
Tropæolum minus fl. pleno, orange	6	0

ROSES ON THEIR OWN ROOTS.

Hybrid Perpetuals 12s., 18s., and	24	0	
Isle de Bourbon 12s., 18s., and	24	0	
China 12s. and	18	0	
Tea-scented China 12s., 18s., and	24	0	
Noisette 12s. and	18	0	

*** The present month is recommended for planting out the above.

Fuchsias, all the best varieties, by name 6s. to	18	0	
Verbenas, ditto ditto 5s.	12	0	
Cinerarias, ditto ditto 9s.	12	0	
Chrysanthemums ditto 6s.	18	0	
Climbers for Verandahs, &c., &c. 9s.	18	0	

N.B. Additional plants presented with each order, to compensate for carriage, &c., or collections can be forwarded by post, securely packed in tin cases, if desired.

Descriptive Catalogues of the above will be forwarded FREE on application.

Woodlands Nursery, Maresfield, near Uckfield, Sussex.

ORCHIDACEÆ LINDENIANÆ.

JOHN LINDEN, BOTANICAL TRAVELLER, has much pleasure in offering the following New and Splendid ORCHIDACEOUS PLANTS, recently imported from Venezuela, New Granada, Cuba, &c. For detailed descriptions, J. L. would refer purchasers to Professor LINDLEY'S "Orchidaceæ Lindenianæ."

	£	s.	d.		£	s.	d.
Anguloa Clowesii	2	10	0	to	4	0	0
" Rückeri	3	10	0	—	6	0	0
" uniflora	2	10	0	—	4	0	0
Bletia campanulata	2	0	0	—	3	0	0
Burlingtonia granadensis	2	0	0	—	4	0	0
Catasetum naso	1	10	0	—	2	0	0
Comparettia falcata	3	0	0	—	4	0	0
Cyrtopera scabrilinguis	2	0	0				
Epidendrum tigrinum	2	0	0	—	3	0	0
Govenia fasciata	1	0	0				
Lælia Lindenii	3	0	0	—	4	0	0
Lycaste fulvescens	2	0	0	—	3	0	0
" gigantea	1	0	0	—	2	0	0
Maxillaria grandiflora	2	0	0	—	3	0	0
" luteo-alba	2	0	0	—	3	0	0
" nigrescens	2	0	0	—	3	0	0
Odontoglossum densiflorum	2	10	0	—	4	0	0
" hastilabium	5	0	0				
" odoratum	2	10	0	—	4	0	0
" revolutum	2	0	0	—	3	0	0
Oncidium Barkeri	2	0	0	—	4	0	0
" variegatum	1	10	0	—	2	10	0
Peristeria gigas	3	0	0	—	4	0	0
" Humboldtii (Acineta)	1	0	0	—	2	0	0
Pilumna fragrans	2	0	0				
Ponthieva maculata	2	0	0				
Restrepia punctulata	2	0	0	—	3	0	0
" vittata	1	10	0	—	2	0	0
Schomburgkia undulata	1	10	0	—	2	0	0
" rosea	2	0	0	—	3	0	0
Sobralia dichotoma	8	0	0				
" violacea	4	0	0				
Uropedium Lindenii	12	0	0				
Warrea Lindeniana	2	0	0	—	4	0	0

[This Warrea is a noble plant, with large white, purple-lipped flowers.]

JOHN LINDEN has also the following new and splendid plants which he can supply strong and well established.

	s.	d.		s.	d.
*Alloplectus speciosus	31	6	*Gautiera (Gaulthiera) odorata	21	0
Befaria æstuans	63	0	Lisianthus coccineus	24	0
" coarctata	63	0	" acutangulus	21	0
" *ledifolia	36	0	" frigidus	21	0
" " very strong	132	0	Podocarpus taxifolius serus	31	6
" microphylla	63	0	Ditto ditto strong	63	0
" tricolor	63	0	*Rondeletia discolor	24	0
*Besleria ? grandiflora. The finest Gesnerwort known, flowers 3 inches long, white, limb spotted with purple	31	6	*Siphocampylus scandens	21	0
*Gasteranthus cinnabarinus	31	6	Steriphoma aurantiaca	31	6
*Escallonia caracasana	21	0	Thibaudia pubescens	63	0
			*Vaccinium caracasanum	21	0
			Weinmannia pubescens	49	0

Orders above 12l. will be delivered free to London.

The usual discount to the trade (Orchids included), with one plant over on those marked *, when three of a kind are taken.

FUCHSIA APETALA (Ruy and Pavon), and VENUSTA (Humboldt).

A List of Subscriptions is opened for this new and magnificent species from New Granada. Price for pretty strong bushy plants, 21s. each, free to London.

Luxemburgh (via Ostend), Mai 1.

MR. CANTELO'S HATCHING APPARATUS.

SAMUEL GANT, 19, New-road, near Gower-street, and not far from Euston-square, is the sole Manufacturer of the above Apparatus, which produces 18 broods a year. The INCUBATORS are 20 guineas for every Tray for 100 eggs, 40 guineas for two Trays, and so on. The CHICKEN MOTHERS are 15 guineas for every 44 feet long.

Mr. Cantelo's Pamphlet, published by Wm. Strange, Paternoster-row, gives an account of the process and profits.

NEW AND SUPERB FUCHSIAS, VERBENAS, &c.—12 Extra fine new Fuchsias, including Jenny Lind (Tiley's), Lady Buxton (Barkway's), Enchantress (Mayles'), Purity (Do.), One in the Ring (Turvill's), Beauty of Leeds, &c. &c., for 24s.

VERBENAS.

12 Extra fine new varieties, including Defiance (Robinson's), St. Margaret (Barker), Lady of the Lake (Do.), Magna (Do.), Champion (Do.), Marchioness of Ailsa (Do.), La reine des Francais, &c. &c., for 18s.

Very fine varieties, most of 1847, 6s. to 10s. per dozen.

CHRYSANTHEMUMS.

50 of the finest and newest sorts, including all the best of the continental varieties last season, 9s. to 12s. per dozen.

The Stock of their fine assortment of Plants, adapted for bedding out at the present period, are very strong and healthy. For particulars of these see their advertisements in this Paper of April 29th. Catalogues to be had on application.

YOUELL & Co., Nursery, Great Yarmouth.

SUPERB SEEDLING PETUNIA.

JAMES SAUNDERS AND SON have now ready to send out a very splendid Seedling PETUNIA, "CRITERION;" colour bright carmine; form perfect, very large, and of good habit, well adapted for pot culture. It was exhibited last autumn, and acknowledged by competent judges to be superior in every respect to any dark Petunia yet sent out. Strong plants 5s., with the usual discount to the trade.

J. S. and SON have also to offer a large stock (including the best and newest varieties) of Dahlias, Petunias, Verbenas, Geraniums, Calceolarias, Cinerarias, Cupheas, Salvias, Fuchsias, Anagallis, Phloxes, Pansies, &c., with a general stock of Hardy Herbaceous and Greenhouse Plants, at prices that will ensure satisfaction. Catalogues to be had on application.—Abergavenny Nursery Grounds.

CONSERVATORY WANTED.—A gentleman who wishes to erect a Palm-house, or large Conservatory, near London, would be glad to hear of any in good condition, which is to be disposed of on low terms, second-hand. The dimensions and other particulars may be sent to A.B., 49, Upper Bedford-place, London.

DAHLIAS.—QUEEN OF ENGLAND, (KEYNES'.) White, deeply-edged lake. One of the finest edged Dahlias in cultivation. Took a first-class prize at Chelsea, where only three varieties were placed out of 40 varieties exhibited. First class prize at Salisbury. This is the most beautiful flower J. KEYNES has ever offered, and will be a standard in its class. 3 feet 10 6

WALTER HILSON, (DODD'S.)—True orange. This flower, for form and colour, is the best yet offered. Three first-class prizes, and warranted by J. KEYNES 10 6

NELL GWYNNE, (POPE'S.)—True primrose, without shading. Two first-class prizes in London. Beautiful form, purest colour, the only primrose ever yet offered... 10 6

HAMLET, (BROWN'S.)—Deep crimson, beautifully shaded, first-rate in every respect, has never been exhibited, only one blooming root. Warranted by J. KEYNES 10 6

WAR EAGLE, (KEYNES'.)—Bright red. This flower was purchased, late in the season, by J. KEYNES. It obtained a first-class Certificate at the Great Metropolitan Show, the only place where it was exhibited. Beautiful form, first rate 10 6

COMPACTA, (POPE'S.)—Rosy purple, first-rate 10 6

AMY, (COOK'S.)—Blush, tipped pink..... 7 6

BELTED KNIGHT, (DODD'S.)—Orange, edged with deep buff, first-rate fancy flower, very double, fine form and constant 7 6

TOISSON D'OR, (BATTEUR'S.)—Golden orange 10 6

PIUS IX., (TASSART'S.)—Rose and white 10 6

CARDINAL FERRETTI, (VAN RENYNGHES.)—Red... 10 6

GLORI DE PECK, (PARIS'S).—Blush white..... 10 6

J. KEYNES, with the greatest confidence, intends sending out the above in May next, trusting that the general satisfaction given in former years will be a safe guarantee for his selection.

J. KEYNES will have a good stock of YELLOW STANDARD, CAPTIVATION, LADY OF THE LAKE, and ANDROMEDA, four of the best flowers of last year sent from his establishment.

All the new flowers of the season will be supplied on receipt of early orders.—Salisbury, May 13.

ON SALE.—SELECTED TURNIP SEEDS from the Lothians and Highlands of Scotland.

Pollexfen's Yellow Bullock Turnip	Skirving's Imperial Yellow Scotch ditto
Hood's Imperial Yellow Bullock ditto	Dale's Hybrid ditto
Gordon's Aberdeen Bullock do.	Skirving's Liverpool Swede
Gordon's Ayrshire Bullock do.	Ashcroft's Purple-top ditto
Border Imperial Bullock do.	Laing's Prize ditto
	Cox's Imperial Hybrid ditto

With all other kinds of White and Yellow Field Turnips, Mangold Wurzel and Sugar Beet, six varieties. Large White Belgian Horse Carrot; and Large Green-top Altringham ditto. Mixed Grass Seeds of the best varieties, suitable for laying down Pasture Land.

HENRY CLARKE, Seed Merchant, 39, King-st., Covent-garden.

LARGE WHITE BELGIAN CARROT	per lb—	2s.	0d.
LONG GREEN-TOPPED RED ALTRINGHAM	do.	1	3
IMPROVED LONG RED ditto	ditto	1	9

BASS AND BROWN are enabled to supply any of the above in large or small quantities of the finest quality of Seed and Stock. Also the finest MANGOLD WURZEL, CATTLE PARSNIP, TURNIPS, GRASSES for permanent pasturage, PACEY and ITALIAN RYE GRASSES, &c. Priced Lists of Agricultural Seeds; also Wholesale Prices to the trade on application.—Seed Establishment, Sudbury, Suffolk.

TURNIP SEED.

HARGRAVE AND ELLIS, of Caistor, Lincolnshire, beg to inform Agriculturists and Dealers, that they are prepared to supply Turnip seed of the finest quality, at very low prices for cash.

SCOTT'S HYBRID	per lb.	10	d.
POMERANIAN GLOBE	"	9	d.
WHITE GLOBE	"	8	d.
GREEN GLOBE	"	8	d.

Other approved varieties on similarly low terms.

GERMAN RED CARROT ... per lb. 1s. 6d.

The Trade supplied at wholesale prices, delivered free at any port in England or Scotland, having direct communication with Hull, in quantities not under 4 bushels.

*** Scott's Hybrid, of all the white-fleshed varieties, is the hardiest, attains the largest size, and is the best substitute for yellows.

T. S. TRUSLER begs to offer the following strong Plants for bedding:

	each		doz.	
Scarlet Geranium Tom Thumb and Shrubland Superb	0s.	6d.	4s.	0d.
Pink and scarlet Compactum	0	6	4	0
Lucea rosea, a beautiful shining rose var....	0	6	6	0
12 good named Antirrhinums	—		3	6
12 first-rate ditto	—		6	0
Seed from the above, mixed, per packet ...	1	0	—	
Anemone japonica	0	6	6	0
Penstemons, scarlet, alba, gigantea elegans...	0	6	6	0
Cuphea platycentra	0	6	4	0
Nierembergia philicaulis	0	6	4	0
Lobelia erinus compacta and alba	0	6	4	0
Bourbon, Chinese, and Tea Roses	—		12	0

A dozen of the above can be sent in stout tin cases, post free, without risk of perishing.—Farnham, Surrey, May 13.

HORTICULTURAL SOCIETY OF LONDON.—EXHIBITIONS AT THE GARDEN.

The First Meeting will take place on SATURDAY, the 20th of May. Subjects for Exhibition must be at this Office on Friday the 19th, or at the Garden before half-past Eight o'clock, A M., on the day of Exhibition.

The Gates will be open to visitors at One, P M. Tickets are issued to Fellows at this Office, price 5s. each, or at the Garden in the afternoon of the days of Exhibition at 7s. 6d. each; but then only to orders from Fellows of the Society.

N.B. No Tickets will be issued in Regent street on the days of Exhibition. 21, Regent-street.

ROYAL SOUTH LONDON FLORICULTURAL SOCIETY.

Under the patronage of Her Most Gracious Majesty the QUEEN.

The SECOND EXHIBITION this season will be held at the ROYAL SURREY ZOOLOGICAL GARDENS, on WEDNESDAY, the 17th MAY, 1848. Open to all Exhibitors, when Prizes will be awarded for the following Collections, viz. Miscellaneous and Orchideous Plants, Pelargoniums, Cape Heaths, Azaleas, Tulips, Heartsease, or Vegetables.

In addition to the above, the following Members and others offer extra prizes, viz.—Mr. R. J. Lawrence and Mr. J. T. Wilmer, 20l. value of Tulips to Amateurs. From the Heartsease Prize Improvement Fund, 15l., for Heartsease, to Amateurs and Nurserymen. By subscriptions, for Seedling Pelargoniums of 1847 and 1848; and by Mr. Wm. Ivery, for Cinerarias, to Amateurs. Lists of Prizes and the Rules of the Society may be obtained from JOHN TAYLOR NEVILLE, Secretary.

Ebenezer House, Peckham.

The following Exhibitions will also take place, at the Royal Surrey Zoological Gardens on Tuesday, the 20th June; Tuesday, the 18th July; and Wednesday, the 13th Sept., 1848.

UNPARALLELED FUCHSIA—"JENNY LIND."

EDWARD TILEY begs to refer the readers of the *Gardeners' Chronicle* to his Advertisement on Saturday, April 22, for a description of his superb Seedling FUCHSIA Jenny Lind. Plants are now sending out, at 10s. 6d. each. The usual allowance to the Trade when three are taken. A remittance will secure the Plants, package and postage free.

EDWARD TILEY, Seedsman and Florist, General Seed Shop, 16, Pulteney-bridge, Bath.

UNRIVALLED DAHLIAS.

JAMES MITCHELL begs to announce to his friends he has good plants of the following superb Seedlings, which he can recommend to the most limited grower:—

LADY MONTGOMERY.—Bright amber, tipped with white; the most beautiful and the most distinct flower of the season. 4 feet, 10s. 6d.

MISS COVENEY.—White, striped with red, very beautiful. 4 feet, 10s. 6d.

BLACK PRINCE (Stenning).—Dark crimson, extra shape. 4 feet, 10s. 6d.—Piltdown Nurseries, Maresfield, Sussex.

The Gardeners' Chronicle.

SATURDAY, MAY 13, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY	May 17	Royal South London	1 P.M.
		Society of Arts	8 P.M.
		Geological	8½ P.M.
SATURDAY	— 20	Horticultural Gardens	1 P.M.
WEDNESDAY	— 24	Linnean (Anniversary)	1 P.M.
		Microscopical	8 P.M.
SATURDAY	— 27	Royal Botanic	3½ P.M.

COUNTRY SHOW.—Wednesday, May 21: Manchester Horticultural.

A REPORT published by the Council of the ROYAL HORTICULTURAL SOCIETY OF IRELAND, which has just reached us, calls for a word or two of comment. It is well known that this Society has never gained the eminence which it was expected to acquire, and that it has for some time past been in a state of decadence. The fate which has attended so many of the local Horticultural Societies of England seems in fact to have overtaken it; a circumstance which we have viewed with surprise and regret; for it must be admitted that a worse omen could hardly be witnessed than the inability of a whole nation to support in efficiency one of those associations for the improvement of a country which are among the surest signs of modern civilisation. The decline of the Irish Horticultural Society has been ascribed to national poverty, to political animosities, to agrarian outrages, to absenteeism, and to Saxon domination; but we suspect that the true cause is of a totally different nature. The Society is constitutionally wrong; its rules prevent its working well or doing such an amount of good as can secure for it general support. We say this not for the sake of criticism, but because there now are signs of improvement, because Mr. NIVEN, a man of intelligence and good sense, has taken charge of the working department of the Society, and because it has our best wishes, as a very important element in a social reorganisation. Let us hope, therefore, that what we are about to say will be taken in the same good spirit as it is offered in, and that the following remarks will lead to a change in the principles on which the Society is conducted.

The besetting sin of the Irish Horticultural Society is its entire neglect of those by whose skill alone it can be maintained; it reminds us of a body from which all the bone and muscle has been excluded. It does not offer the slightest encouragement to gardeners; on the contrary, it effectually discourages them. The drones get the honey: and the working bees are starved. We do not say that it intends to do so; we believe that it intends quite the reverse; but the effect of its measures are undoubtedly such as we describe.

The first object of all such societies should be to encourage gardening: to hold out inducements to gardeners to exert themselves; and to indicate the points to which exertions can be best directed. The rest is mere parade. But it appears to us, from a perusal of the rules and proceedings of the Irish Horticultural Society, that its object is limited to the encouragement of the noblemen and gentlemen who form its members; and that the interests of gardeners are not only not thought of, but that the rules are so shaped as to injure them. The 10th and 11th rules are these:

"*No gardener* who is an *associate member*, in the employment of a gentleman who does not subscribe, *shall be allowed to compete*, except in the case of original members. The privileges of such gardeners as are associate members shall cease and determine *from the time they shall become unemployed*; but those privileges shall be restored to them upon entering the employment of subscribing members, provided application be made to that effect to the Council, by or with the consent of their employers."

So that by this plan the privileges of a gardener are made dependent upon his keeping his place; the moment he becomes unemployed, he is deprived of them: that is to say, the more a man requires aid and protection the less he is to have of either from the Irish Society.

But independently of this, it is clear that gardeners are, under all circumstances, completely excluded from any honours or advantages which the Irish Society has it in its power to confer. We have before us the prize lists of last year: *and we cannot find the name of a single gardener to whom a prize has been awarded.* We see that the Chief Secretary received 14 prizes, the Lord Chancellor 4, Lord CHARLEMONT a dozen or so, and so on: but we search in vain for a gardener upon which this distinction has been conferred. Only think of the Irish Secretary, the Duke of LEINSTER, and Lord CHARLEMONT picking up sixpences for Cauliflowers, Scarlet Runners, and Mushrooms! But so it is recorded. It is singular that the impolicy of this proceeding should never have struck the Council of the Society.

Surely it requires no argument to show that the prizes, such as they are, ought to belong to gardeners, as they generally do in England: that is to say, to gardeners, provided the prizes are won by the productions they have raised. In the case of amateurs it is different: they stand in the place of gardeners: in fact, they are so to all intents and purposes, and sometimes very good ones too. If Irish gentlemen wish to promote Irish gardening, they must reward the men who carry it out: they must give them at least a fair proportion of the honour and profit of public shows, and not scramble for prizes with one another; otherwise their proceedings must be unpopular with the class of men who require encouragement, while standers-by will look coldly on, and wonder at their want of judgment.

This we conceive to be the fatal error which has hung like a weight round the neck of the Irish Horticultural Society, which has rendered the middle classes, the true supporters of such institutions, indifferent to its proceedings, and which has brought it to its present state. But it is not the only one. Look at the Cottagers' Prizes. It might be a question whether it is desirable to introduce such prizes at all: but there can be no question that if they are introduced, they should be worthy of the association. We find, however, that in 1847 only three prizes were awarded, and that for 1848 only *two are offered*, of the respective value of 10*s.* and 7*s.*! Thus it appears that a Society which includes in its governing body the Lord Lieutenant of Ireland, 1 Duke, 2 Marquises, 12 Earls, with 10 other noblemen and high functionaries, can only muster *seventeen shillings per annum* for the encouragement of the best of all kinds of gardening, in the present state of Ireland.

Can any one be surprised that such Societies should perish for want of public support? We firmly believe, however, that the intelligence and good sense of our Irish friends in the Council will lead them to put an end to the present unwise course of action, and that, with the assistance of Mr. NIVEN, an entirely new order of things will be established. They certainly have it in their power, if they call prudence and wisdom to their assistance, to do much more than, perhaps, they themselves suppose, for the regeneration of a country that sorely needs it.

ONE word generally to the Editor of Sir UVEDALE PRICE, and we shall leave him for good. It would be an endless task to expose the mere platitudes—the small talk—and often (so far as any attempt to lay down principles is concerned) the nonsense which disfigure his interpolations. It would be enough vanity for him to conceive that such additions were required to such a text. His notions of *deficiencies* must have been very singular to have made him think himself adequate to the filling of them up. But without writing another line in exposure of these supplementary comments, we will only say this—that we defy the most indulgent critic to find in them [illegible] principle that is really valuable, or that [illegible] on the text which it is designed to [illegible].

If we went no [illegible] complaint—the [illegible] utterly unworthy additions—we should have done much that was called for. But this [illegible] extent of the mere book-maker [illegible] case. The work is [illegible] cuts—in themselves pretty [illegible] way. Why however should the [illegible] book be thus needlessly [illegible] say—because they [illegible] complish not one tittle of [illegible] Price's leading principles on the mind of the [illegible] In a common scrap-book or album they would [illegible] fectly in place. An artist may [illegible] by attempting to illustrate a great [illegible] the great writer does not need such [illegible] his reader a true perception of the [illegible] beauties—and the principles [illegible] Who would measure his own conception of SHAKSPEARE's finest characters by the realised pictures of any artist? Would not WALTER SCOTT have despised the idea of issuing his immortal novels in monthly parts, and of depending on an artist to force one single conception of each character on his readers as the only realisation of that character? Look at the contrast. No artist yet have fully satisfied the discriminating reader's imagination of SHAKSPEARE's or SCOTT's finest delineations; and without saying one word on the merits of DICKENS—his principal characters take but one shape to the fancy—and that is the shape moulded by HABLOT BROWNE, quite as much as that invented by DICKENS himself. Who can deny this in the case of the excellent Mr. PICKWICK, for example? In works of the higher order, then, illustrations, even when appropriate, are not necessary. This is still more emphatically true when abstract principles of truth and beauty are handled practically and attractively by such a man as PRICE—and when these illustrations are not only not required or appropriate, but have nothing whatever which necessarily connects them with the text. But the evil is still more clearly appreciated when we remember that PRICE never meant his work to be a mere drawing-room-table ornament—that it was designed to have a practical effect on the Landscape Gardening taste of this country—and that by this unnecessary increase of its price, the very class whom it is most intended to benefit find an obstacle thrown in the way of their procuring it.

Even these features, however, are not the only symptoms of the book-making disease with which this edition is infected. It would have seemed a sufficient indication of it for us to have found a valuable work enlarged but deteriorated by copious yet meaningless interpolations and engravings. There is another touch beyond these. Certainly for our own parts we never heard of any student who thought that PRICE's work needed a prefatory essay of any sort. His editor thinks otherwise. And there is something peculiarly characteristic about his essay-loving system. Many years since he edited GILPIN's "Forest Scenery." A common minded reader would stare at a prefatory essay being required to that book. And yet there it is irrevocably under the title of "An Essay on the Principles of Taste." Now although ALISON's work had appeared before that time, and had arrived at standard fame, JEFFREY's article on the subject had not yet come out. So this *original* essay, introductory to GILPIN, is in fact nothing more nor less than a diluted hash of portions of ALISON's work. But this is not all the fun of the thing. Not only do many of the same ideas occur there that recur in the essay prefixed to PRICE, but actually the dear little boy that frightened the ladies with his awful imitation of thunder comes on the scene for the first time in the more ancient essay. It is true that this is done with a difference. On the first occasion this wonderful creature is described as a little boy. Years have worn away the editor's modesty, however, and in this second effort he avows himself the hero of the tale. Can namby-pamby surpass this? Yet there can be an aggravation. Appended to this preface to GILPIN is a complete reprint of one of CRABBE's poems, which has about as much to do with principles of Taste as with the squaring of the circle. It is that in which, with his usual minuteness and accuracy of beauty, he delineates the opposite aspect and effects of scenery upon the lover when travelling through it in opposite frames of mind. When he is in high, happy joyousness, all around is beautiful. When he is gloomily dejected, the very same views and objects are unattractive and ugly. This is simply an admirable portraiture of human nature. What it has to do with the principles of Taste, we are sorely puzzled to con-

ceive. We think, however, that we have come at the editor's covert design. He wished to inculcate the maxim that an ill-tempered man has no business to turn landscape gardener.

It is true that this indefensible sort of book-making is not repeated in the edition of Price. The poem is not foisted in there. But, as we have already shown, Jeffery is in this case made to do service conjointly with Alison in yielding matter for this essay. If the editor had simply reprinted the text of Price, with foot-note references to the page and edition, in each instance, of other authors who have treated on the same subjects, he would have done a useful thing. As it is, we have only a glaring example of a classical author spoiled, and, by the very process of disfigurement, rendered less accessible to the mass of those who would desire to read him. =

In the month of November of last year, we called attention to some experiments we had witnessed with Mr. Ellerman's Deodorising Fluid, and we unhesitatingly declared that as far as the suppression of unpleasant smell from night-soil and decomposing animal and vegetable matters went, it was decidedly the most powerful agent we had seen employed. At that time we expressed an opinion, that although this and other agents have the power of decomposing the gases that produce an offensive odour, there was no evidence to prove either that these gases were infectious, or that such fluids could destroy infection, and consequently that the term "disinfecting" was wrongly applied to such agents. We also stated that, although we had had abundant evidence of the deodorising power of Mr. Ellerman's fluid, it still remained to be proved whether night-soil and other substances thus treated would act beneficially as manures. Our reason for this remark was that we suspected the fluid in question contained iron, and one of the ill consequences of the use of iron as a deodorising agent is that it combines with phosphoric acid, forming an insoluble salt. Now it is well known that one of the most important constituents of our artificial manures is phosphorus, but unless this substance is introduced to the plant in a solubie form, it is not taken up by the plant. Hence the danger of using the preparations of iron as deodorising agents.

Since our remarks were made in November, Mr. Ellerman has obtained a patent for his fluid, and it is now on sale as "Ellerman's patent deodorising, disinfecting, and fertilising fluid." We cannot but object to this name on the grounds we have before stated. That the fluid is "deodorising" we admit; but that it is "disinfecting" we think is doubtful. Nor do we find any additional evidence brought forward of its being a "fertilising" fluid. It is now nearly six months since we expressed our doubts with regard to the fertilising agency of this fluid, and although we have been assured that experiments have been tried with it as a manure, none of the results have as yet been given to the public. We do not think it improbable that decomposing matters treated with this fluid may be found to act as powerful manures, but as yet we have seen no report of results that would lead us to withdraw our doubts concerning the highly important question of whether it preserves phosphoric acid in such a state that it can be used by plants.

We should not have alluded to this subject merely on account of the name which the patentee has chosen to give to his fluid, for he alone would be the sufferer, should it be found not to realise the expectations raised by his description of its properties; but we have received a letter from Mr. Ellerman, which, we think, demands our attention. Mr. Ellerman states that our notice of his fluid and letter to Lord Morpeth on Sanatory Reform, have caused several of our agricultural readers to address him, stating that "endeavours are made to persuade them that deodorised night-soil and other deodorised manures must prove injurious to vegetation, in consequence of the iron contained in the deodorising fluid." We would remark on this that, of course, such an objection can only apply to those deodorising fluids containing iron, and that there are several such fluids sold which contain no iron at all. That most of them contain constituents more objectionable than iron, we believe. But Mr. Ellerman proceeds:

"I find that the parties making these endeavours are persons interested in causing preference to be given to manures offered by themselves. But, without pausing to institute comparisons between offensive and inodorous manures—between manures, on the one hand, which are pernicious to animal health, and wasteful of the elements of vegetation, and manures, on the other hand, from which the sources of injury to human life are removed, whilst the volatile essences of fertility are preserved—I will proceed to refute the misrepresentation by which the latter are sought to be disparaged.

"I believe it is generally known that the fluid I use for the purpose of destroying the sulphuretted hydrogen and other deleterious gases, and preventing the escape of the ammonia and other volatile elements of fertility found in nightsoil, &c., consists of a salt of iron. But it is not equally well known, except among chemists and scientific men, that iron forms an exception to all other metallic salts—that it is, indeed, the only metallic salt friendly to man. Such, however, is the indisputable fact. Iron is found in Wheat, and in trees and plants generally; and iron flows in our veins. It is found, too, in the most approved animal manures—in the dung of sheep, goats, and cattle. Iron, therefore, being found in the food of plants, in plants themselves, and in the blood of those by whom such plants are eaten, it is obviously opposed to all evidence to contend that iron is injurious to vegetation. But even if the fact had been otherwise—if iron were pernicious to vegetation—none but ignorant or interested parties would contend that any injury could arise from manures deodorised by it; inasmuch as the iron contained in the deodorising fluid becomes decomposed by the sulphuretted hydrogen it overcomes, and the most minute chemical tests fail to discover any trace of it in the matter upon which it has discharged its office."

Now we think that Mr. Ellerman, in endeavouring to "refute the misrepresentations" of others has himself unwittingly fallen into errors with regard to the uses and action of iron, as well as its value as a manure, which we ought not to pass unnoticed. We do not observe that our own objection to iron has occurred to Mr. Ellerman, but he will at once see that if the iron be presented to the plant in an insoluble state, it can be of no use to it, for plants will not take up insoluble substances. He is undoubtedly right when he asserts that iron is found in Wheat, and in trees and plants generally, and that it exists in human blood, but the amount that is found in plants is exceedingly small, and the quantity of this substance in soils is naturally so abundant that there is seldom occasion to have recourse to an artificial supply. It is the same in the human body, the supply of iron is so abundant in all the forms of food that the cases are quite exceptional in which it is introduced into the body under the direction of the physician. Neither is it correct to say because iron exists in small quantities in plants that it cannot be injurious to vegetation in too large quantities; and in the form of some salts iron may become as poisonous to vegetables as other mineral substances. Both arsenic and copper have been found in small quantities in plants, and also in the human body, but we know that these minerals act as poisons both on vegetables and animals.

The last sentence in Mr. Ellerman's letter we must confess we do not understand. If he means to say that the iron in his fluid is itself decomposed by the sulphuretted hydrogen of the decaying matters, and that no test can detect it in the manure, we can only assure him that he is entirely wrong, and that if his fluid contains iron, it will as assuredly be found in the substances to which it is added as that it sinks in water, or dilates by heat.

It appears to us, then, that Mr. Ellerman has failed to answer the great objection to iron as a manure, which is not that it is itself injurious, but that it renders insoluble, and consequently useless, the phosphoric acid, one of the most important constituents of animal manures.

While we are speaking of the Patent Deodorising Fluid, there is another point which occurs to us, and that is its price. We stated in November that its price would not exceed 1*s.* a gallon. It is we find now sold at 1*s.* 6*d.* per imperial quart. Whether this price will admit of its extensive use, should it not prove injurious to manures, remains to be seen.

ON THE CULTIVATION OF MUSHROOMS.

The demand in most families for a regular supply of Mushrooms has rendered it a most essential part of a gardener's duty to be able to produce them whenever they are wanted; and as I have been successful in this branch of gardening, I shall endeavour to give some account of my method, by which I have been enabled to supply a dish of Mushrooms, either in the button state or full grown, daily since the 12th November, 1846, to the present time, and with every prospect of continuance as long as proper attention is paid to the beds. The daily supply from the 12th November, 1846, to the 12th of November, 1847, was the produce of six beds, five in the Mushroom house, and one for summer use in an open shed.

The Mushroom house at Stoke Rochford is more remarkable for simplicity and economy of construction than for novelty. Its length, inside measurement, is 14 feet 6 ins., width 10 feet, and height 8 feet, with a path in the centre 3 feet wide, leaving 3 feet 6 ins. on each side for beds, of which there are two on the floor and two on shelves, each having moveable front boards 9 inches deep. The house is heated by a flue, which runs under the walk and returns in a side wall.

About a fortnight before a bed is required to be made, droppings, intermixed with a small quantity of short litter, are shaken from the outsides of the dungheap, laid up in an open shed, and mixed with about one-fourth part of moderately dry soil—an operation which is performed whenever droppings can be obtained, until sufficient is collected for a bed. These are turned over frequently, in order to incorporate the dung and soil, and to keep the heap from fermenting; for I consider it essential to the certain production of good crops of well flavoured Mushrooms that the droppings be got as fresh and dry as possible, that they be laid in an open shed where there is a free current of air, protected from wet, and never suffered to ferment.

In forming the beds I take great care to make them as solid as possible, and if the materials have been properly collected and managed, there will be no danger of violent heat (I have very seldom observed it above 80°), and they are generally ready to receive the spawn in from a week to ten days after they have been formed. The operation of spawning is performed by digging a hole with the hand about 2 inches deep, then inserting a piece of spawn about the size of a hen's egg, and slightly pressing it down with the droppings which were displaced in making the holes, which should be from 6 to 8 inches apart. The beds are soiled within a fortnight from the time of spawning, and generally begin to produce Mushrooms about six weeks from the time of making. They will then continue in a good bearing state from two to three months, and sometimes longer.

The temperature I generally aim at maintaining is from 50° to 55°, varying it a few degrees up or down, according to the state of the beds, and the quantity of Mushrooms thereon; for instance, if I have a large quantity on a bed I lower the temperature a few degrees in order to keep them, and likewise to retard the progress of the other beds. But should a bed be exhausted by bearing, I raise the temperature, to bring in the next made bed, taking care, however, that with an increased temperature an increased supply of water is given, which I always apply in a tepid state whenever the beds are dry on the surface.

The six beds (of which mention has been already made) that produced a daily supply for 12 months, were managed according to the foregoing instructions, and were made in the following order:

Bed No. 1,	Floor,	September 1846
,, 2,	Shelf,	October 1846
,, 3,	Floor,	December 1846
,, 4,	Shelf,	January 1847
,, 5,	Floor,	March 1847, 2d time
Bed in open Shed,		June 1847

—*James Pringle, gr. to C. Turnor, Esq., Stoke Rochford.*

[The above has been in our possession for some months. In a note just received, Mr. Pringle says: "I have gathered a dish of Mushrooms every day since the article was sent, making nearly 18 months without a day's intermission, during which a supply of either buttons or full-grown Mushrooms has been kept up."]

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

Recreation.—In this hot weather a sense of fatigue often discourages the laborious gardener, and in his desire that nothing should be neglected, he frequently taxes his strength and patience too much. I have known amateurs who, in this way, have made a toil of pleasure, and been almost disposed to relinquish their favourite pursuits. The remedy for this is to indulge in that recreation which gardening so amply affords; to leave the work of the hands for the exercises of the eye and ear, and to revel in those rural sights and sounds which at this season Nature so prodigally furnishes. Cultivation may become a passion, and be carried on for its own sake, irrespective of the end it should contemplate. The end is, that we may gratify our senses and our intellectual powers with what is produced, that we may be at the same time rewarded for the past and stimulated for future labours.

On a fine day at noon, when the sun's rays render labour undesirable, let us sit on the rustic seat, under the spreading Tartarian Crab-tree in the centre of the lawn. The foliage of this tree is completely developed early in May, long before the Apple is generally in leaf, and beneath its shade we may catch the fine breeze, warmed by the sun's beams, while we are defended from its direct rays. How glorious is the prospect on every side! Nature is putting on her spring dress, and the incipient clothing looks like a garniture of innumerable emeralds. But perhaps the nearer view is the most interesting, made up of our Tulip and Ranunculus beds, our Roses just beginning to flower, and all the other beauties, brought to perfection by months of care. In such a state of repose all past labours will be forgotten. The mind, invigorated by the pleasing reflections suggested by new-born vegetable life, will feel proud of its power to mould and produce so many beauties, and the slanting rays will scarcely be waited for before we are ready to labour afresh in so remunerating a service.

The peaceful hours of the Sabbath day present to the gardener a favourable opportunity of enjoying the work of his hands; and under the restrictions which piety will suggest, the garden may properly be made to add to the intended benevolent purposes of the day. Far be it from us to hold out the slightest encouragement to the too prevalent practice of cultivating a garden on Sunday—a practice which may be seen in full operation any week in the suburbs of London. To dig and weed and prune are manipulations beneath the high intentions

of the great holiday of Christendom; while to walk out and observe and enjoy the past labours of our hands is rational and commendable. We never see cottagers walking in their allotments in the intervals of divine service, without feeling thankful that a recreation so innocent is within their power. In their best apparel, with their wives and children, they are repaid for their toils, on the results of which they look, and are animated to new labours in time to come.

It was on Sunday last that we sat under the above-mentioned Crab-tree, and became afresh convinced how exuberant are the resources of happiness presented to man by his beneficent Creator. Closing our eyes, we allowed our ears exclusively to perform their task of pleasing us, and within the short space of five minutes how many expressive notes we were conscious of! First there was the hum of bees and other insects, the varied sounds of which are scarcely distinguished, until the attention is solely given to discover them. Being the middle of the day, the sweet song-birds were silent, but innumerable chirpings told how thickly every tree and hedge was peopled, and by what a natural aviary we were surrounded. Listening more attentively, the crowing of distant cocks added to the music; in all quarters these birds uttered their notes at regular intervals, apparently responding to each other. It was as though the community of fowls was establishing a vocal telegraph for the benefit of the body politic. The lowing of oxen mingled sweetly with all these sounds, and completed the harmony. Then, as if to point out the fact that man, with all his natural advantages, is a social being, the bells of a neighbouring church began to chime, and the idea thus suggested was confirmed by the voices of a group of children, whose merry greetings compelled us to open our eyes, and dispelled our dream.

It being our allotted task to dwell week by week on the more laborious operations of gardening, we hope the episode of this week will not be unacceptable. Horticulture never exerts its proper influence until it is linked with intellectual operations, and has thrown around it the emanations of the fancy and the heart.—*H. B.*

*** An unintelligible sentence was printed last week by some mistake. The reader is requested to correct the last sentence of the first paragraph, so that it may read as follows:—You will thus have your plants ready for turning out when the *beds* (not *buds*) are ready, without the risk of losing them by drought and sunshine—the great enemies of plants when removed to their destinations without the previous process of potting.

SELECT SPRING AND SUMMER FLOWERING PLANTS, FOR BEDDING, &c. IN THE FLOWER GARDEN.

(*Continued from p.* 284.)

Tropæolum minus coccineum pleno (Small double scarlet Nasturtium).—This is a greenhouse plant, of dwarf decumbent habit, bearing small target-shaped leaves, and exceedingly rich orange-scarlet double flowers, upwards of an inch in diameter. When well managed it forms a brilliant object, either as a greenhouse pot-plant, or planted out in a small bed. Being a plant of succulent growth, it requires to be treated like plants of similar structure; it secretes much water, but is impatient of all extremes, luxuriating in a free and rapid circulation of moisture during its season of growth, but withal requiring to be planted in soils that admit of a gradual diminution of moisture as its growth approaches maturity. Friable yellow loam, mixed with equal parts of well decomposed dry vegetable soil or leaf mould and clean broken brick, stone, or potsherds reduced to the size of Peas, suit it best. From the cutting state upwards this compost will admit of free watering, and will preserve the plants in health, under occasional excesses of moisture. In preparing a young stock for planting out, the plants should only be watered alternately with other plants, syringing in the intervals.* All plants of this habit secrete an excessive amount of water, and it is the object of good culture to preserve a due balance between the power of the plant to assimilate moisture and the absorbent quality of the soil in which it is grown, and the temperature to which it is exposed. Where porous material is added to soils otherwise good it may be regarded as a means of placing plants under artificial cultivation, admitting of a greater bulk of soil to preserve them from extremes of temperature, to which soils in less bulk are subject. For a small group in the open ground it is difficult to conceive a richer display of gorgeous colour than this makes. The natural soil should be displaced to the depth of 2 feet, thus allowing 12 inches for under drainage of brick-bats or similar material, over which should be placed a distinct layer of moss or siftings of turf, filled up to the surface with the compost just described. Few plants better repay extra care and attention than this; bearing sunlight with impunity under reasonable conditions, but not in retentive soil. In the after management of this plant the growth should be encouraged until a sufficient amount has been obtained; pinching off all premature flower-buds until the latter end of June.

Phlox verna cærulea odorata is a neat, hardy perennial, early flowering, herbaceous plant, of dwarf and partially spreading habit, producing numerous open racemes of bluish purple, starry flowers, which are delightfully fragrant. For a small bed or single group, this is a very desirable plant, and one of the earliest sweet-scented flowers of spring, remaining in bloom from the middle of April until the middle of May. When growing vigorously in the spring and early summer months the terminal shoots of Phlox verna and its varieties should be shortened, in order to induce the formation of lateral growths, which will conduce to greater fertility.

Cuphea pubigera sanguinea (syn. C. strigillosa sanguinea).—This is a far more showy plant than its prototype *C. strigillosa*, forming, by judicious management, a dwarf, erect, bushy plant, from 6 to 9 inches in height, with a profusion of very rich crimson tubular flowers, tipped with orange yellow. For a small parterre it is unequalled in its style. The plants require to be well formed in a warm greenhouse or forcing-house, and gradually inured to a close cold frame, previously to being planted out. From its prolific tendency to form flower buds, a pretty luxuriant growth is essential to its continued beauty throughout the summer and autumn months.

Ageratum celestinum (syn. A. grandiflorum) is a great improvement upon A. mexicanum. It is a greenhouse shrub of erect branching habit, producing a long succession of light azure clusters of bloom from July until the approach of frost. This species can be made to form a low front bed or a taller one, as required. Its pliable growth admits either of being planted obliquely, to cover the entire surface of the bed, or it may be allowed to expand its branching habit, from one to three feet high, rising, if properly trained, from the margin of the bed to the centre. It is admirably adapted for single groups in flower borders, and plants which have been permitted to bloom but sparingly may be potted late in autumn, and placed when established in the greenhouse or conservatory, where they will continue to expand their blossoms throughout the winter; it forms a valuable addition to winter bouquets. If encouraged to form lateral growths, and artificially trained to the ground, it forms an invaluable autumnal ornament, whose colour contrasts well with that of other autumn flowers.—*William Wood, Fishergate Nurseries, York.*

Home Correspondence.

Rearing Silkworms.—In the neighbourhood of Godalming, I have a friend who is zealously endeavouring to make the rearing of silkworms a source of profit. Two years back he imported a few hundred plants of the white Mulberry, and since then he has raised many thousands from seeds of Morus multicaulis; so that he has now a flourishing plantation. Last spring many of the silkworms were hatched before the trees came into leaf, and though substitutes were used, the want of the Mulberry could not be supplied, and many thousands of promising silkworms died; but now this deficiency in climate and uncertainty is removed, by placing a cheap glass frame over a bed of established plants, in order to coax them into leaf in the time of need (April). Some silk has been produced, and is pronounced by competent judges to be equal to foreign silk. I may produce a sample at some future meeting of the Horticultural Society, with, I hope, a satisfactory debtor and creditor account.—*H. Bowers, Busbridge.*

Rain.—It is curious that while so many complaints of the large quantity of rain during April which rendered the land unfit to work for the spring crops should have been made in the south of England, we, in this wet country, should have had so very little rain. You would not expect to be told that young Scotch Firs and Larches, and evergreen shrubs, planted in the very wet weather, which continued uninterruptedly through March as well as February, should be dying of drought—but it is so. During the month of April we had only 1.852 inch of rain; a very small quantity indeed for us. I have just received the returns of rain for 1847, in the lake district, collected by Mr. Miller, of Whitehaven, for the British Association, which show most singular differences in places distant only a few miles. It would take up too much space to detail them, interesting though they are, but I will mention three situations which I actually see from my windows:

	Inches.
At this house I had last year	56.815
At the house in Troutbeck, 4 miles off	78.004
At Grasmere, 11 miles off	93.338
At Langdale-head, about the same distance in a different direction	112.93

The three first places are about the same height above the sea, 160 to 180 feet; the last is about 250.

The greatest quantity measured is at Seathwaite	Inches.
in Borrowdale, being, in 1847	129.24
Do. do. do. 1846	143.51
Do. do. do. 1845	151.87

Wet days at Seathwaite, in 1847	202
Do. do. 1846	219
Do. do. 1845	211

The whole of Mr. Miller's paper is very interesting indeed.—*T. S. P., Windermere, May* 10.

Expeditious Culture of the Manchester Hero Cucumber.—From two seeds sent me under this name I grew two plants, and on the 29th of March I made a bed and planted them out in a small two-light pit, having metallic lights. On the 19th of April I cut three fine Cucumbers; one 16 inches long, another 14, and one 13. On the 26th of April I cut one 18 inches long; on the 27th do., one 13 inches long; and on the 29th do, seven Cucumbers, in order to strengthen the plants, measuring altogether 4 feet 2 inches. On May the 2d, I cut one fruit 12 inches long, and one 14 inches. The plants were turned out of 5-inch pots; they showed fruit at the time, and swelled at the length of 3 or 4 inches. I cut them off, thinking they would weaken the plants. The pit is 8 feet by 4½, and close boarded 3 feet from the lights, to prevent steam from entering. I placed rough boards about 4 inches above the close boards, and on the rough boards I put about 15 inches of dung; I then soiled the bed, and turned out the plants without waiting for the soil to get warm. The pit is worked by linings, and the soil was warm by the morning; the pit stands on piers about 3½ feet high. I once gained a first prize for Cucumbers in the beginning of April, and in a short time after, I threw the plants away, and planted out Melons, which gained a first prize on the 30th of June at Cirencester. I adopted the same plan with my Cucumbers, throwing away plants that had been growing all the winter; I then took the soil and dung out of the pit and put in fresh, planted out the plants, and the above is the result. I have used the pit for nearly 20 years, and have found it answer well in every respect; it is also an excellent place for striking cuttings in, plunged in sawdust or coal ashes, near the glass.—*Thomas Pollington, Bradwell grove, Oxfordshire, May* 5.

Effect of Stopping Potato Shoots.—The stalks of a part of one of my fields of Potatoes, being just about 9 inches high on the 4th of April, when I saw in the *Gardeners' Chronicle* Dr. Klotzsch's proposition to stop them at that height, I immediately had half an inch pinched off as directed, and on the 25th the stopping was repeated. I already observe that the dwarf stems are much thicker, and the leaves very much larger than usual, and I am much struck with the vigorous appearance of the plants. Should the Potato be one of those cases in which, as stated in the 13th chapter of the "Theory of Horticulture," the accumulation of sap, caused by stopping, directs itself to the remaining buds, and organises them against a future year, we have much to hope from this method of treatment. It was a custom in parts of Devonshire (I do not know whether it is continued), when the shoots were about 4 inches high, to bush harrow and break them off; fresh shoots then appeared from the broken one, and it was said that this rude plan increased the weight of the crop.—*H. B., Island of Valencia, County of Kerry.*

Polmaise Heating.—I Polmaised my dwelling-house last winter. The stove is placed in a cellar, the fire box is 2 feet square, the top, a brick arch, without any plate; the warm air is conveyed to the rooms through wooden pipes, and the cold air or return drains are made of the same material. Five rooms are warmed, the temperature of the coldest has never been below 65° Fah. The consumption of fuel (refuse anthracite cinders from the other house-fires) has been 17½ lbs. a day. The ashes left from this has been 4 lbs. a day, having actually consumed 13½ lbs. a day. The damper (a door shutting in the mouth of the iron pipe), was kept entirely closed nearly the whole time, and scarcely any air was admitted by the ash-pit door, and only so much by the fire door as passed through an inch hole. The admission of as much air by the ash-pit door as would pass an inch hole would at any time bring the fire to a white heat, and melt the fuel, although the damper was close shut.—*J. W. L.*

Tobacco Paper.—At p. 238 it is stated that tobacco-paper can be had at from 5*d.* to 8*d.* per pound. I live six miles from Coventry and 12 from Birmingham, and I cannot get it at either of those places; it is true I got some at Birmingham last season after waiting a month while they made it, and when I did get it it was worthless. I have applied to Mr. ——, nurseryman, Coventry, who has it, but the answer is—I receive mine as a favour and do not wish to say where from. Now, having lived in the nurseryman's service just alluded to, I can speak from experience of the superiority of paper over the tobacco, and I should esteem it a favour if you would tell me where I could obtain it, although I am aware you have a great aversion to recommending dealers. Were it advertised I would immediately order half a cwt, and many more are waiting to know where it can be had, that they too may give their orders.—*E. H., Coventry.*

Erodium maritimum.—It is perhaps unusual to find specimens of British plants growing far from what is considered their proper situation. If so, this rare plant, presuming it has an appropriate name, has wandered far away from its locality, being found so far inland as Nottinghamshire, a midland county, and consequently far from the sea. There are two *locales* for it at Mansfield, both on sloping hedge-banks, in Sherwood forest, where it grows rather plentifully.—*John Battersby, Mansfield, May* 9.

Apple Blossoms.—"Este" would be glad to know if any one has remarked the unusual paleness of the Apple blossom this year. The Keswicks, Pearmains, Ross's Nonpareils, and Downtons, are nearly white all round this district. It was the case last year, and the crop was very bad. The blossom is full and free from insects. The Wistaria sinensis, in an eastern aspect, is noticed as being very pale, though flowering profusely.

Cutting Flowers off Bulbs.—One of your correspondents asks a question with respect to the cutting off the flowers of bulbs, to which you have in part given him an answer. In Holland the system is to cut off the flowers of Hyacinths, Tulips, &c., directly they fade, with a view to not allowing the bulbs to be exhausted. At this period I have seen the blooms, in fields of the most beautiful Hyacinths, cut off and given away in barrowsful at a time. They, at the same time, most studiously avoid cutting off the leaves at all; they allow them to remain on until completely withered, and then take them up with the bulb, in order that the latter may gain all the strength possible, and be fully developed for the following year, and that offsets may be formed. After the bulbs, with their withered leaves and offsets, have been stored away for a certain time, and are quite dry, they are dressed in the autumn. The bulb is then cut clean across the top of the crown, and the offsets taken off and planted at the same time as the other more matured bulbs. To a small extent I have followed the above plan in England, and found it answer

perfectly.—*W. B. N., May* 9. [Yes. But the question referred to cutting off flower stems *before* they blossom, which makes a great difference. The Dutch are right.]

Wasps.—Sir J. Lubbock, Bart., of High Elms Down, Kent, commissioned the North End schoolmaster to give a penny for every wasp that was brought to him. Up to the present time he has taken 1600, exclusive of those that have been caught by various persons about Sir John's estate. As every wasp killed at this period of the year is a nest destroyed, and allowing one in five to be a male, no less than 1280 nests have been destroyed, which allowing them to produce on an average 1000 young ones, will make 1,280,000 young destroyed; which, together with the parents, make 1,281,600, the total number this vicinity (High Elms) is freed from. Again, supposing (which is certainly within compass) that every half dozen wasps destroy 2 Apples, 1 Pear, 2 Plums, 1 Peach, the number of Apples saved from destruction will therefore be 427,200; Plums, 427,200; Peaches, 213,600; and Pears, 213,600. Reckoning the Apples 10 for a penny, Plums 24 a penny, Peaches two a penny, and Pears 12 a penny, we have of money saved in Apples, 178*l.*; in Plums, 74*l.* 3*s.* 4*d.*; in Peaches, 445*l.*; in Pears, 74*l.* 3*s.* 4*d.*; total, 771*l.* 6*s.* 8*d.* No doubt objectors to this calculation will not be wanting, but these will not diminish the number of wasps caught; and all those who disapprove of the conclusions here drawn can at least enjoy their own opinions on the subject. The generous philanthropy of Sir John is worthy of imitation. A twofold good is produced, for it is a harvest for poor children, who seldom have an opportunity of obtaining pence.—*J. M., Farnboro.*

Societies.

Royal Botanic, *May* 10.—The first exhibition for the season was held in their Garden, Inner Circle, Regent's-park. The weather was favourable, and the show a good one; but exhibiting in no particular any advancement on the May show of last year. In Azaleas, indeed, those plants from which so much is expected at the May show, it was much inferior to that display, and there were no Cacti. Cape Heaths, however, were numerous and fine, and of Roses in pots we have seldom seen better collections. The Orchids, too, though not numerous, were produced in good condition, as were also the large collections of stove and greenhouse plants, which were for the most part nicely arranged in one large tent. Three other tents contained the rest of the exhibition, which was inspected at an early hour by the Queen, H.R.H. Prince Albert, the Prince of Wales, the Princess Royal, and the Princess Alice.

In collections of 30 Stove and Greenhouse Plants, the first prize was awarded to Messrs. Fraser, of Leabridge-road, whose plants though large and fine were hardly so well flowered as could have been wished. Among them we remarked Pimelea diosmæfolia, measuring 4 feet high and as much through; Mrs. Lawrence's Chorozema; a huge C. varium nanum; a finely-flowered Bossiæa disticha plumosa; Zichya inophylla; a pyramidal Eriostemon buxifolium, 4 feet by 4; Dillwynia pungens; a nice plant of Boronia pinnata; Polygala acuminata, 4 feet by 4; Ixora grandiflora; a variety of the Holly-leaved Chorozema in good condition, together with C. Dickensoni, Boronia serrulata, Podolobium staurophyllum and trilobatum, Eriostemon neriifolium, various Heaths and Azaleas.—Mr. Green, gr. to Sir E. Antrobus, Bart., of Cheam, obtained the 2d prize, and Mr. Pawley, of Bromley, the 3d. The more remarkable of Mr. Green's plants were Erica aristata major, quite a gem, the yellow-flowered Gompholobium splendens, Pimelea spectabilis, Aphelexis humilis, Eriostemon buxifolium, hardly sufficiently advanced in flower; Tetratheca verticillata, beautifully bloomed; a tall Zichya inophylla floribunda; Knight's Azalea optima, a splendid variety; Dracophyllum gracile; various Heaths and tall Azaleas.—Mr. Pawley's collection contained several Cape Heaths, a tolerable Hovea Celsi, Aphelexis purpurea grandiflora, Gompholobium Hendersonii, four Boronias, a like number of Azaleas, the larger variety of Aphelexis humilis, Chorozema Lawrenceanum, and other plants.

Collections of 20 Stove and Greenhouse Plants were produced by Mr. Cole, of Dartford, and Mr. Pamplin, of Walthamstow. Mr. Cole sent a well-flowered variety of Erica Hartnelli; Pimelea spectabilis, 3 feet high and as much through; the blue Leschenaultia; Pimelea linifolia, in good order; Ixora grandiflora, with nearly a dozen fine heads of bloom on it; a spreading Dracophyllum gracile; some Boronias and Azaleas, among which Conqueror, a fine showy red, was conspicuous. Among Mr. Pamplin's plants, perhaps the more remarkable as regards growth was a specimen of Eriostemon buxifolium, which was, however, insufficiently in bloom.

Groups of 10 Stove and Greenhouse Plants were numerous. The best was produced by Mr. Hunt, gr. to Miss Trail, of Bromley, whose plants were extremely large and well flowered, consisting of a huge Pimelea decussata; P. spectabilis, 2½ feet high and as much across; Erica Cavendishii hardly sufficiently advanced in bloom; a variety of Chorozema cordatum measuring 3½ feet by 3½; Eriostemon cuspidatum; a tall Azalea splendens, some of whose flowers exhibited a disposition to become double; Boronia anemonefolia; Leschenaultia formosa; a white-flowered Heath, and an Azalea.—Mr. Kyle, gr. to R. Barclay, Esq., of Leyton, who was second, sent nice plants of Bossiæa disticha, 3 feet by 3; Pimelea Hendersonii; Azalea lateritia; Eriostemon buxifolium; a blue Leschenaultia; a finely flowered Boronia pinnata; Aphelexis splendens, and a finely bloomed variety of Erica ventricosa.—Other groups of 10 plants were shown by Messrs. Taylor, Jack, Clark, Malyon, Bruce, Tye, and Stanly.—Mr. Taylor had a pretty Acacia pulchella, one of the best of the genus for pot culture, and two nice plants of Aphelexis; Mr. Jack, Adenandra speciosa, Cyrtoceras reflexum, Ixora coccinea, &c.; Mr. Clarke, a good Pimelea decussata, a large double red Azalea, and two varieties of Aphelexis; Mr. Malyon, a double red Azalea, Aphelexis humilis, a Pimelea spectabilis, Acacia pulchella, and some Heaths; Mr. Bruce, Dracophyllum gracile, a blue Leschenaultia, Adenandra speciosa, Æschynanthus ramosissimus, and Aphelexis sesamoides; Mr. Tye, a large Zichya inophylla, Azaleas variegata and lateritia grafted on one stock, Tetratheca verticillata, a Gesnera, and some Cape Heaths; and, finally, among Mr. Stanly's plants was a good Tropæolum tricolor.

Orchids.—Of collections of 25, the best was that shown by Mr. Mylam, gr. to S. Rucker, Esq., of Wandsworth, who showed Saccolabium guttatum; Odontoglossum hastatum; the beautiful Bletia campanulata; the brown-flowered Paphinia cristata; Vanda insignis; the Duke of Devonshire's Dendrobe, with a glorious spike of beautiful blossoms; Chysis bractescens, well flowered; Galeandra Devoniana; the somewhat scarce Dendrobium Dalhousianum, with a good spike of buff, dark brown blotched flowers; the sweet white-flowered Aganisia pulchella; Dendrobium triadenium; Broughtonia sanguinea, with two noble heads of flowers; Huntleya Melægris; Odontoglossum lævе; Phalænopsis amabilis; the curious Oncidium phymatochilum; Cymbidium eburneum, bearing four white blossoms; Vanda tessellata; the white-blossomed Epidendrum bicornutum; Vanda Roxburghii and cristata; Cattleya Skinneri and Zygopetalum rostratum. — The next group came from Messrs. Veitch, of Exeter. It contained a variety of Cypripedium barbatum; Phalænopsis amabilis, and its large variety; Saccolabium guttatum, with two charming flower-spikes; Barkeria Lindleyana and spectabilis; a small Saccolabium, from Java, in the way of S. micranthum; a variety of Vanda tricolor; Saccolabium miniatum; Dendrobium macrophyllum, a fine plant with eight flower-spikes; Broughtonia sanguinea; Cyrtopodium punctatum; Dendrobium formosum, and the white-flowered Dendrobe from Moulmein which was exhibited at the last meeting of the Horticultural Society; a small, but finely-flowered Acanthophippium bicolor; and various Oncids. — A collection of 15 plants was produced by Mr. Williams, gr. to C. B. Warner, Esq., of Hoddesdon. Among these we noticed a beautiful Dendrobium moniliforme; Calanthe bicolor, ornamented with numerous spikes of brown and white flowers; Oncidium phymatochilum, Lycaste Harrisoniæ, with some 12 blossoms on it; Oncidium sphacelatum, with 13 flower spikes; the larger variety of Brassia maculata; Epidendrum crassifolium; Maxillaria tenuifolia; Dendrobium cærulescens, 3 feet by 3; Zygopetalum rostratum, and the yellow-flowered Dendrobium Ruckeri. —Two groups of 6 plants were exhibited, one by Mr. Plant, of Stratford; the other by Mr. Dobson, gr. to Mr. Beck, of Isleworth. In the former were Aerides crispum; Cattleya Mossiæ; Epidendrum crassifolium, with upwards of 20 flower spikes; Saccolabium guttatum; and Calanthe veratrifolia, bearing 12 spikes of white blossoms. — Mr. Dobson's group comprised Epidendrum crassifolium, Saccolabium guttatum, Broughtonia sanguinea, the best variety of Oncidium ampliatum, and O. stramineum.—For specimen Orchids, a 1st prize was awarded to Mr. Green, for a capital Dendrobium nobile, 2½ feet high and as much through; 2d, to Mr. Plant, for Vanda cristata; 3d, to Mr. Williams, for Camarotis purpurea; and an extra prize for a large and good Dendrobium nobile. As rare Orchids Mr. Williams also showed Lælia majalis, with one fine flower on it, and Epidendrum bicornutum.

Cape Heaths, as we have already stated, were numerous and fine, although, perhaps, upon the whole, hardly forward enough. Collections of 15 plants were exhibited by Mr. Hunt and Mr. May. The former had fine plants of perspicua nana, delecta, elegans, denticulata moschata; Clusiana, a pretty variety, with long, flesh-coloured tubes; aristata major, hardly forward enough; vestita alba and vasiflora, the latter is one of the best of the small-flowered kinds.—In Mr. May's group the more remarkable sorts were aristata major, nitida, Hartnelli, Cavendishii, propendens, and Sprengelii; the latter is a distinct, waxy-flowered variety, and very pretty.—Collections of 12 plants were shown by Messrs. Fairbairn, Rollisson, Fraser, Veitch, Epps, and Pamplin. In the first group were nice plants of Hartnelli, Beaumontia, denticulata moschata, vestita alba, Cavendishii, and ventricosa coccinea minor. In the second, Westphalingia, ventricosa alba, Cavendishii, not sufficiently in bloom; and mirabilis. In the third, persoluta alba, intermedia, and perspicua nana. In the fourth, tricolor verna, a distinct and fine variety; florida campanulata, tortuliflora, and delecta; and in the fifth, propendens, and denticulata moschata. Mr. Pamplin also showed some neat small plants.—Collections of 6 plants were shown by Messrs. Mylam, Taylor, Malyon, Bruce, Jack, Green, Tye, and Clarke. In these groups there were many fine specimens of cultivation, for whose names, we are sorry to say, we have no room.—Messrs. Veitch showed various seedlings, two of which were awarded 1st prizes: they, however, too much resembled aristata. The best of them, in our opinion, was Devoniana, which is brighter than aristata; the other was paler, and was named dulciflora. The rest exhibited no improvement on kinds already in cultivation.—Messrs. Henderson showed small plants of Sindryana, a variety in the way of hiemalis.

Concerning Roses in pots, too much can hardly be said; for seldom have we seen better collections. The flowers were large and fine, and the foliage clean and healthy. The 1st prize for 12 plants was awarded to Messrs. Lane for Duchess of Sutherland, Louis Bonaparte, Baronne Prevost, Armosa, Mrs. Elliott, Aubernon, Adam, Grand Capitaine, Lane, Duc de Chartres, Miellez, and Lady Alice Peel; 2d, Messrs. Paul for Cels multiflora, Comte de Paris, Louis Bonaparte, Mrs. Bosanquet, Madame Laffay, Armosa, Paul Perras, Madame Lacharme, William Jesse, Baronne Prevost, Tagliani, and Aubernon. The 3d to Mr. Francis, of Hertford, for Aubernon, Souvenir de la Malmaison, Triptoleme, Coupe d'Hebe, Goubault, Madame Laffay, Mrs. Bosanquet, Duchess of Sutherland, William Jesse, Armosa, Bouquet de Flore, and Comte de Paris. A 3d prize was also awarded to Mr. Dobson, gr. to Mr. Beck, for Louis Bonaparte, General Allard, very fine, Felicité, Eugene Beauharnais, Comte d'Eu, Duchess of Sutherland bearing 9 open blossoms, Augustine Mouchelet with 18 ditto, William Jesse, Mrs. Bosanquet, Madame Laffay, and Princesse Helen. Mr. Rowland, of Lewisham, showed Comte de Paris, William Jesse, Madame Laffay, Armosa, Mrs. Bosanquet, Baronne Prevost, Caroline, and Fabvier. Of yellow Roses, Mr. Lane produced Venusta, Banksia, Harrisonii, Nisida, Solfaterre, and Vicomtesse de Cazes. The 2d prize for yellow Roses was awarded to Messrs. Paul, of Cheshunt.

Azaleas.—The 1st prize for 6 plants was awarded to Mr. Green for lateritia, elegans, alba maculata, delicata, alba, and exquisita. A large group of small plants tolerably well bloomed was exhibited by Messrs. Lane. Among these were phœnicea alba, coccinea bicolor, Louvoniensis, splendens, magnifica, punctata, decora, triumphans, and lateritia. The 1st prize for 4 plants was obtained by Mr. Mylam, with violacea (semi-double), phœnicea alba, Gem, and speciosissima. —A good Azalea, named Exoniensis, was shown by Mr. Veitch, and some fairly bloomed plants came from Mr. Allnutt, of Clapham.—For seedling Azaleas equal prizes were given to Mr. Ivery, of Dorking, and Messrs. Fraser, of Lea-bridge, for seedlings in the way of Gledstanesii, but exhibiting some improvement on that variety.

Of Single Specimens, the following were the most remarkable:—A magnificent Pimelea spectabilis, from Mr. Clarke; a noble Erica perspicua nana, from Mr. Hunt; Chorozema Henchmannii, of remarkable dimensions, from Messrs. Fraser; a Boronia pinnata, from Messrs. Henderson; Pimelea spectabilis, and Erica Cavendishii, from Mr. Kinghorn; Mr. Fortune's Weigela rosea, a fine plant, loaded with blossoms of the richest colour, from Messrs. Veitch; Pimelea spectabilis, from Mr. Pamplin; and Eriostemon neriifolium, from Mr. Kyle.

Of Novelty, there was little. Messrs. Veitch had the yellow variety of their Japan Rhododendron, Cantua bicolor, Boronia spathulata (?), Statice frutescens, Hoya cinnamomifolia, and Siphocampylus pubescens; Mr. Kyle, Eriostemon neriifolium; Messrs. Rollisson, Fortune's Gardenia and Ardisia mexicana; Messrs. Henderson, Pimelea Weippergiana, a species of some promise, various Stylidiums, Indigofera amœna, Leptospermum bullatum, and Phlox frondosa, which is however not new.

Among Miscellaneous Subjects were various Alpines and variegated plants, chiefly from Mr. Wood of Norwood; Ferns, hardy Cypripediums, Hydrangeas, hardy Rhododendrons, Melons, and Cucumbers.

Pelargoniums.—*Amateurs.*—For collections of 12 new, first-rate, and distinct varieties, grown in 8-inch pots. The 1st prize was awarded to Mr. Cock, of Chiswick, who exhibited finely-grown specimens of Arabella, Rosy Circle, Pearl, Forget-me-not, Negress, Miss Holford, Isabella, Orion, Sylvia, Queen of Trumps, Mustee, and Hebe's Lip; 2d, Mr. Staines, of the New-road, for Arabella, Titus, Orion, Camilla, Mustee, Marc Antony, Vesuvius, Pompey, Armida, Hebe's Lip, Rosy Circle, and Bianca; 3d, Mr. Robinson, gr. to J. Simpson, Esq., Pimlico, who showed Madeline, Sylph, Aurora, Matilda, Camilla, Erectum, Mustee, Luna, Orion, Duchess of Sutherland, Juliet, Duke of Cornwall.—In the same class, for *Nurserymen*, the 1st prize was taken by Mr. Dobson, gr. to Mr. Beck, of Isleworth, whose collection was composed of Gulielma, Centurion, Cassandra, Rosamond, Grandiflora, Pasha, Cruenta, Blanche, Gustavus, Cavalier, Bacchus, and Hebe's Lip; 2d, Mr. Gaines, who showed Gazette, Sir W. Raleigh, Queen of Bourbons, Mrs. Brock, Xarifa, Miss Holford, Angelina, Model, Chieftain, Rosebud, Cassandra, and Brenhilda.—For collections of 6 distinct varieties, in 11-inch pots. For *Amateurs*. Mr. Staines, of the New-road, took the 1st prize, with Magog, Madeline, Vesuvius, Emma, Erectum, and Sir R. Peel; 2d, Mr. Parker, gr. to J. K. Oughton, Esq., Roehampton, for Symmetry, Luna, Madeline, Prince of Wales, Superba, and Duke of Cornwall; 3d, Mr. Robinson, gr. to J. Simpson, Esq., for Dido, Duke of Cornwall, Matilda, Sylph, Nestor, and Dobler.—In the same class, for *Nurserymen*, Mr. Gaines was the only exhibitor; his flowers were Cotherstone, Pirate, Cossack, Imperialis,

Vesta, and Prince Alfred.—For collections of 6 fancy varieties of Pelargoniums, Mr. Gaines showed the only collection, which contained fine specimens of Anais, Lady Rivers, Queen Victoria, Nosegay, Ibrahim Pacha, and Ytolinski.

Calceolarias, in collections of 6 distinct varieties, the 1st prize was awarded to Mr. Gaines, for Princeps, Pickwick, Polka, Europa, Empress, and Alonza; 2d, Mr. Bennet, gr. to J. Smith, Esq., Dulwich, for Princeps, Prince Alfred, Van Tromp, Pulchella, Rosalind, and Lady Mills; 3d, Mr. Stanly, gr. to H. Berens, Esq., for Incomparable, Beauty, Solicitor General, Enchantress, Josephine, and Eliza Cook.

Cinerarias, in collections of 6 varieties; 1st prize to Mr. Ivery, of Peckham, for Compacta, Nimrod, Red Rover, Lady Peel, Purple Prince, and Beauty of Peckham; 2d, Mr. Robinson, gr. to J. Simpson, Esq., for Compacta, Sapphire, Beauty of St. John's Wood, Beauty of Wonham, Eclipse, and Pet; 3d, Mr. Gaines, for Novelty, Beauty, Pride of Surrey, Sultana, Eclipse, and Lady Middleton; an extra prize was awarded to Mr. Fraser, of Lea-bridge-road, for Beauty of St. John's Wood, Lane's Superb Blue, Robin Hood, Enchantress, Black Bess, and Cramoisie Supericure; Mr. E. S. Henderson, of St. John's Wood, exhibited a collection of 6 new varieties, flowers of improved shape and fine in colour, named Speciosa, Mdlle. Cerito, Sig. Gordoni, Climax, Bessie, and Annie.

Pansies, in stands of 24 varieties. 1st prize was awarded to Messrs. Bragg and Bright, of Slough. The stand contained Constellation, Optimus, Ophir, Rainbow, Excellent, Lady Sale, Seedling (white, lilac, purple), Great Britain, Hales' Juliet, Duke of Norfolk, Attractor, Supreme, Exquisite, Duchess of Norfolk, Duchess of Rutland, Charon, Berryer, Aurora, Hales' Duke of Rutland, Clara, Mrs. Bragg, Pulcher, Colossus, Eliza. 2d, Mr. Turner, of Chalvey, for Constellation, Nasmyth's Mr. W. Hamilton, Rainbow, Miss Edwards, Great Britain, Duchess of Rutland, Almanzor, Mary Jane, Blooming Girl, Standard, Defender, Shakespere, Perseus, Climax, Potentate, Superb, Virgil, Caroline, Optimus, Duke of Norfolk, Marchioness of Breadalbane, Wonderful, Exquisite, and Supreme. Certificates of merit were also awarded to Mr. Thomson and to Mr. Cutter.

Seedlings of 1847.—A 1st prize was awarded to Mr. Beck for a Pelargonium Delicatissimum, a flower of good form and substance, having a white centre, deep pink under petals, with a blotch on each, deep maroon top petals, with a narrow margin of rose; 2d, to Messrs. Veitch and Son for a specimen of Topping's Brilliant, a large flower having a near approach to scarlet in its general colour.—A Certificate to Mr. Ambrose, of Battersea, for a specimen of a fancy Pelargonium, named Jenny Lind, a neat flower, and one of the prettiest in this peculiar class. 1848.—A Certificate to Mr. Dobson, of Isleworth, for a fancy Pelargonium, named Harlequin, very pretty in colour, and singular in outline, every petal being deeply and curiously indented on the edge.—Two seedling Calceolarias were awarded Certificates—Delicata and Maid of Orleans, the former having a primrose ground, with brown spots; the latter, primrose with cherry-coloured spots; these were from Mr. Kinghorn. We had almost forgotten to mention that Mr. Turner showed blooms of Robinson's Defiance Verbena, to which a Certificate was awarded.

Country Show.

Stockport Cucumber Show, April 29. — The attendance was more numerous than on any former occasion. The large room in which the Show was held was densely crowded until a late hour. The Cucumbers, which gardeners were allowed to procure from any part of the kingdom, were both numerous and fine. Several of the winning braces, however, were of the competitors' own growth. Seven diagrams of Cucumbers were drawn on paper for the occasion, showing the Cucumber in its perfect proportions, and also the points which are considered faults, and those fruit were of course placed first which nearest approached perfection — every irregularity counting a fault; and nothing could have given greater satisfaction to the exhibitors, although this is a new feature in judging Cucumbers. The 1st prize was awarded to Mr. Hamilton, gr. to F. A. Philips, Esq, of Thornfield, for fruit whose length were 22 and 22½ inches, perfectly straight and level as the barrel of a gun. 2d and 3d prizes to Mr. Smith, gr. to S. Worral, Esq., of Radish House, the length of his fruit being 21 and 23½ inches, no irregularities or faults. 4th prize to Mr. Wilks, gr. to J. Marchni, Esq., of Mount Heaton, the length being 22 and 21½ inches. 5th prize to Mr. Hunt, gr. to J. Marchand, Esq., of High Field, with fruit measuring 23 and 21½ inches in length. 6th prize to Mr. Gill, amateur, Cheadle, whose fruit measured 21½ and 19 inches in length. It was stated at the meeting that Mr. Hamilton had accomplished a feat unparalleled in the annals of Cucumber growing, having obtained 32 head prizes in succession (with one exception, during the last 11 years, at the early spring shows in the neighbourhood of Manchester and Stockport.

THE QUEEN OF FUCHSIAS.

(*Fuchsia speciosa*, Hooker.)

This, which has been called by Sir William Hooker

the Handsome Fuchsia, is probably upon the whole the finest species yet known. The flowers are a deep crimson; the petals flat and bright rich red, the stigma very large and pure white, the effect of which is to render its own fairness fairer, and the richness of its rosy bed richer. The leaves are broad, oblong, very firm, and a dark velvety green, although they have scarcely any hairs. It was exhibited the other day before the Horticultural Society by Messrs. Veitch, of Exeter, and obtained the Large Silver Medal. We are informed that Mr. Lobb found it on the Andes of Cuenca in Peru, and that it grows from 2 to 4 feet high.

In the first instance we supposed it to be the same as *Fuchsia loxensis* of Humboldt and Bonpland, of which dried specimens, bearing the same number as the seeds from which it was raised, were received by Messrs. Veitch; Sir Wm. Hooker has, however, favoured us with a sight of this plant, collected by Seeman at Pambo de Yierba buena, in the Andes of Cuenca, and we agree with him in regarding it a distinct and hitherto unnoticed species. It would seem that Mr. Lobb's seeds, by some error, do not correspond with his dried specimens. Fuchsia spectabilis is, we understand, about to be published in the next number of the "Botanical Magazine." It is certainly a magnificent thing; quite the Queen of Fuchsias.

Garden Memoranda.

Mr. Groom's Nursery, Clapham Rise.—We would advise all lovers of Tulips to visit this [illegible] which is in bloom here. They are now in [illegible] and we are sure will amply repay a visit. The principal bed, which is said to contain [illegible] is 140 feet in length and 4 feet wide, [illegible] canvassed over to keep off rain and bright sunshine. The late and late change to bright [illegible] indeed, brought on the flowers so fast, that some of the earlier blooms hardly came [illegible] the later flowers have fortunately passed [illegible]. Amid such general excellence, it is [illegible] to particularise; but as the names of a few of the best sorts may serve to guide the [illegible] amateur friends, who may not have an opportunity of inspecting the collection, we give them, [illegible] the colours *cherry and rose*, that is, white [illegible] broken with different shades of these colours [illegible] this class may be mentioned Agnes; Beauty; Beteral's Brulante, a good, well-shaped flower; Cerise a Belle Forme; Lee, a finely coloured variety; and Catalani. In *bybloemen*, Baron Gerard, a new and fine flower, attracted our attention; [illegible] Duke; Michael Angelo; Princess Charlotte; [illegible]; Queen Charlotte; Violet Alexander; and Victoria Regina. The latter is a finely formed, rich-coloured flower. Among *bizarres* the more remarkable were Duke of Devonshire, Duke of Norfolk, Marshal [illegible], Marshal Soult, Polyphemus, Strong's King and Everard; the latter a good yellow, feathered with rich red. Besides the covered bed, nearly an acre of Tulips is in bloom in the open ground. The Ranunculus beds, it may be added, promise well, and there were multitudes of Japan Lilies, both in pots and in the open ground, from which a fine display is expected. In one of the pits we remarked a fine stock of Weigela rosea, and a mass of that useful autumn-flowering plant, Mr. Fortune's Anemone japonica. In the houses many Amaryllids were just coming into bloom, and other in-door plants were clean and healthy.

Miscellaneous.

Dahlias.—Twelve of the most successful Dahlias last out in the spring of 1847; showing how many times each was exhibited during that season:—

Name of Flowers.	Grower's Name.	Colour of Flowers.	Number of Times Exhibited.
Andromeda	Collison ..	[illegible]	7
Berryer	Turner ..	[illegible]	21
Cassandra	Fellows ..	[illegible]	14
Lady of the Lake	Keynes ..	[illegible]	14
Louis Philippe	Turner ..	[illegible]	14
Marquis of Worcester...	Sealey ..	[illegible]	12
Minn	Druhmond	[illegible]	12
Miss Vyse	Turner ..	[illegible]	11
Scarlet Gem	Turner ..	[illegible]	11
Star	Keynes ..	[illegible]	10
Victorine	Gaswell ..	Lilac	9
Yellow Standard	Keynes ..	Yellow	11

—*J. M., Kent, in The Florist.*

Calendar of Operations.

(*For the ensuing Week.*)

CONSERVATORY AND GREENHOUSE.

The occupants of the conservatory should participate in the advantages offered by the favourable weather; every available means of securing ventilation should be put in requisition. Soften the air by occasional sprinkling of water on the paths; liberal supplies of water must be given to the plants generally. Early Azaleas exhibiting a tendency to inequalities of growth may be stopped. A situation having been selected, sheltered from the direct action of strong currents of air, and but partially exposed to the influence of the sun, many Cape and other exotics may be transferred to it, the smaller plants should be plunged. If it be requisite to increase the stock of Cape Heaths, Dankias, &c., probably suitable cuttings will now be found. Manure water may be given to Pelargoniums, Calceolarias, and plants of succulent habits; while dry weather lasts, water gently applied with a syringe every evening will be useful to the plants. *Stove.*—Encourage the growth of young plants for autumn display, the Begonias manicata and incarnata will be found valuable for the purpose.

NEW GARDEN PLANTS, PUBLISHED IN BOOKS.

N.B.—* = Very handsome. † = Second rate. ‡ = Third rate. ¶ = Unimportant.

Name.	Where Published.	Name of Country.	Quality.	Natural Order.	Colour of Flowers.	Time of Flowering.	When first Flowered.	Where.
Ixŏra javanĭca	Ann. Gand., t. 190	Java	S. ♄	Cinchonads	Orange	July	1847	Veitch and Son.
* *The Java Ixora.*								
Alloplēctus concŏlor	Bot. Mag., t. 4371	Brazil	S. ♃	Gesnerads	Scarlet	?	1847	Kew.
† *Whole-coloured Alloplectus.*								
Isopōgon attenuātus	Bot. Mag., t. 4372	Swan River	G. ♄	Proteads	Yellow	?	1847	Kew.
¶ *Tapering Isopogon.*								
Echinocăctus chlorophthălmus.....	Bot. Mag., t. 4373	Mexico	G. ♄	Indian Figs	Purple	?	1848	Kew.
* *Green-eyed Echinocactus.*								
Maxillaria aciculāris.....	Bot. Mag., t. 4374	Brazil	S. ♃ (epiphyte)	Orchids	Dull purple	July ?	1847	Kew.
¶ *Needle-leaved Maxillaria.*								
Phăius callōsus	Gard. Chron., 1848, p. 287	Java	S. ♃	Orchids	Reddish brown.	March	1848	Veitch and Son.
† *Thick-lipped Phaius.*								

FRUIT FORCING.

Pines.—Shifting may be proceeded with as the young active stock requires increased pot room. Moisture must be applied freely, more especially while the weather continues dry. In the fruiting-pit excessive heat unaccompanied with humidity must be avoided, or a premature ripening of the fruit may be caused. In very light houses shading may be employed advantageously. *Vines.*—The growth of Vines in every stage of progress has been singularly rapid since the arrival of favourable weather. Profusion of wood should in no case be allowed, as the Grapes kept in impenetrable shade are not likely to attain perfection of colour or flavour. The influence of light and air powerfully contributes to promote those desirable qualities in the fruit. This bright dry weather favours the increase of the red spider; its multiplication must be checked by timely application of sulphur, as before recommended. Border coverings may be partially removed, and water applied occasionally. *Melons.*—Plant for a late supply. Permit only a proportionate quantity of leaves by stopping at an early period, and distributing the chief stems at equal distances. An uniformity of vigour may be secured to support each fruit, and a regulation ultimately may be maintained with little trouble.

FLOWER GARDEN AND SHRUBBERIES.

The prolonged duration of fair and summer like weather has produced a marvellous and delightful change in the face of nature. The healthy and vigorous development assumed by vegetation under these circumstances may reasonably induce us to hasten all preparations for bedding our choice plants, hitherto guarded from the possibility of nipping frosts. In planting the parterre two important objects must be sought for by the distribution of the colours,—congruity and effect; the proportion of a garden may be displayed and an arrangement produced to harmonise with the peculiar position and features of the garden; by attention to the first principles, the importance of the second may be estimated, when it is remembered that colours may be brought out or subdued by judicious association; for instance, white flowers are alone in possession of the advantage of heightening the tone of those which have but a delicate tint of any colour whatever; they have again the advantage of separating all those flowers of which the colours mutually weaken each other. Yellow flowers, those especially which approach orange, go very well with blue. Flowers of a greenish yellow, associated with those of a rose colour, give an excellent effect together. Flowers of a dark red may be allied with those of a deep blue. Orange-coloured flowers are not misplaced near those of a violet tint, and white may be more or less happily introduced in all these associations.

FLORISTS' FLOWERS.

Pinks.—These flowers will be all the better for a top-dressing of decayed cow manure; and make a selection of the stem or stems for blooming, bearing in mind that the greater the number of flowers each plant has to bring to maturity, the smaller they will be; we advise one stem, which if properly attended to will produce the most satisfactory blooms. *Ranunculuses.*—Water between the rows occasionally and effectually; by no means stir the surface soil. *Tulips* are now in full bloom; carefully go over the bed, or beds, book in hand, and make the necessary memorandums as to the alterations to be made for the next season. Probably some tall growing varieties may be in the first or outside row; these should be marked to occupy a more central position in the bed, others may be short in the stem; these, of course, should not be in the middle; a neat and proper arrangement is a great point in all collections, and now is the proper time to make the requisite notes. We would advise all who are commencing the fancy to visit the collections of the most eminent cultivators in their neighbourhood, and in selecting, always do it in bloom; a good strain is then ensured, inferior ones are dear at any price. Amongst extra fine flowers which we have noticed this season, are the following, which, if not already obtained, are worth enquiring about: Dickson's Duke of Devonshire and Lucullus, feathered bizarres; Woods' Herbert and Leonotus posthumous, flamed bizarres; Gibbons' Britannia and Lewold, feathered byblomens; Salvator Rosa and Enchantress, flamed byblomens; Lady Middleton and Dixon's Monument, feathered Roses; and Lady Lilford and Catherine, flamed Roses. *Auriculas and Polyanthuses* require keeping cool and free from weeds: as soon as seedlings of either of them can be handled they should be pricked out at regular distances (say an inch and a half each way) in store pans, gently watered, and kept in a cool, shaded frame till they get established. *Carnations and Picotees.*—Top-dress as recommended for Pinks. Tie up the stems as they advance, not too tightly, and thoroughly soak the pots when water is given; we do not admire the little and often principle. *Dahlias* may be planted out as soon as convenient; shading and watering according to the weather.

KITCHEN GARDEN AND ORCHARD.

Dry, hot, cloudless weather has succeeded a season of unexampled gloom and humidity; the change has already favourably affected the early crops of vegetables. Should it continue dry it will be advisable to loosen the soil of the Onion, Carrot, and other seed beds with a small rake, and render the ground more permeable to the young roots by a sprinkling of water. Continue to plant and prick out Lettuce, Celery, and Cauliflowers, giving to each for several days afterwards a good supply of water. Cucumber and Vegetable Marrow beds should now be in a condition to receive the plants. The sowing of Haricot Beans and Scarlet Runners should be attended to without delay. Batatas edulis may be planted out on a warm border. Basil and Marjoram may be pricked out. Frame Potatoes should be covered at night. We have observed no appearance of the dreaded disease in our early frame Potatoes yet. *Orchard.*—Espalier fruit trees demand prompt and peculiar care at this season; favoured by the weather, a rapid and healthy growth has been encouraged. The removal of superfluous shoots may now be effected with propriety. Peach, Apricot, Plum, and Pear trees alike require frequent attention; much advantage may be gained by judiciously stopping some and favouring the extension of others, by the removal of unnecessary and neighbouring shoots.

COTTAGERS' GARDENS.

To the deficiency of manure is frequently ascribed inferior vegetables, yet it is not unusual to find a considerable quantity of weeds associated with the useful crops of the garden, to their direct injury, as weeds are more active in extracting the fatness of the land than vegetables. Avoid the practice of digging weeds into the ground; throw them into a heap and burn them, with all the rubbish that can be collected, and a useful material will be obtained to keep the Turnip fly or slugs in check. Stir and water Onion, Parsnip, and Carrot beds; a little labour expended in watering will be well repaid. Sow Kidney and Haricot Beans 18 inches apart. A row of Scarlet Runners should by all means be got in; for succession sow Peas, Windsor Beans, Turnips, and Spinach. Sugar Beet, Mangold Wurzel, and Swedes may if requisite also be sown.

State of the weather near London, for the week ending May 11, 1848, as observed at the Horticultural Garden, Chiswick.

May.		Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. ..	5	2	30.166	30.159	74	36	55.0	E.	.00
Satur..	6	3	30.089	30.022	78	38	58.0	S.W.	.00
Sun. ..	7	4	30.045	29.993	78	37	57.5	S.W.	.00
Mon,..	8	5	30.112	30.036	76	36	56.0	W.	.00
Tues...	9	6	30.222	30.153	78	38	58.0	E.	.00
Wed..	10	D	30.304	30.269	76	36	56.0	E.	.00
Thurs.	11	9	30.320	30.273	84	40	62.0	S.	.00
Average...			30.179	30.128	77.7	37.3	57.5		.00

May 5—Dry, with slight haze; fine; clear.
— 6—Fine; very fine; clear at night.
— 7—Very fine throughout; clear.
— 8—Very fine; excessively dry air; partially overcast.
— 9—Very fine; dry air; clear at night.
— 10—Very fine; slight dry haze; clear.
— 11—Slight haze; cloudless and very fine; hot and dry; clear.

Mean temperature of the week, 4 deg. above the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending May 20, 1848.

May.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 14	64.5	40.2	52.3	8	0.66 in.	3	4	4	1	3	4	2	1
Mon. 15	68.7	41.6	53.6	6	0.41	2	5	2	1	7	3	2	—
Tues. 16	67.2	43.4	55.3	7	0.34	4	4	5	—	2	5	1	1
Wed. 17	66.7	42.2	54.4	8	0.58	1	5	4	—	2	4	4	2
Thurs.18	64.8	45.4	55.1	8	0.17	1	5	4	2	2	5	3	—
Fri. 19	65.4	44.8	55.1	8	0.50	2	6	5	1	1	6	2	—
Satur 20	65.9	44 7	55.3	10	1.14	1	4	5	3	3	4	1	1

The highest temperature during the above period occurred on the 17th 1833—therm. 86 deg.; and the lowest on the 15th, 1838—therm. 26 deg.

Notices to Correspondents.

Botany—*J K M*—If you *understand* "School Botany," you have made the first FIRM step. Then provide yourself with a book on wild plants, such as Hooker's "British Flora," or Babington's "Manual," or Lindley's "Synopsis;" and compare with it carefully any plant you are certain about, so as to accustom yourself to the application of technical terms. If you do not understand the latter, procure the "Elements of Botany," in which is a full Glossary. Persevere thus till you have studied a score common flowers; *e.g.* Borage, Buttercups, the wild Lychnis, Timothy Grass, the wild Hyacinth, the Arum, the Oak, the Honeysuckle, the Cowslip, and so on. By the time you have done this you will understand the subject. The more time you spend over each plant the easier will be your task afterwards.

Calla æthiopica—*W K W*—Repot your Calla in a mixture of sandy loam and well decomposed dung, three parts of the former to one of the latter; place it in a shady situation for a week or two, afterwards place it in the window, and when in a growing state all summer treat it as a sub-aquatic, *i. e.*, with a pan of water under the pot; towards October withhold moisture, and allow the plant to get nearly but not quite dry, in which state it may remain until the beginning of February, then repot again as before.¶

Cucumbers—*T P*—They may be a good useful sort, but they are very much the reverse of handsome fruit.

Grapes—*Leyton*—The sample is terribly mildewed, probably owing to an insufficient circulation of air among the Vine leaves during this unfavourable, rainy, gloomy spring. We are sorry to say there are plenty of such cases.—*C*—Your fruit is mildewed, and the leaves are unhealthy, and some appear to be partially scorched. Want of sufficient air has, doubtless, been the principal cause.‖

Grasses—*E D*—Collect the Grasses when in flower; if you can *add* the ripe seeds so much the better.

Heating—*T T*—Use no boiler at all, but Polmaise your house. Red tiles, where they can be had, make a clean and neat flooring; slate forms the best cisterns. We cannot recommend dealere.‡

Insects—*J T*—We cannot advise you without seeing specimens of "the caterpillar" which infests your orchard. If it be the lackey moth caterpillar, their nests are discernible, and may be destroyed by hand. If the small Tortrix caterpillar which infests the young buds, the trees should be rough barked in the winter. *W.*—*H G A*—Beat the surface of your lawn with a flat mallet, and pour boiling water down the burrows, the former will incommode the perfect bees which are in the act of forming their nests, the latter will destroy their progeny. *W.*—*D S E*—The little white objects upon the leaf sent are the eggs of the aphis-lion fly, which will be described in a forthcoming article of our entomological series. *W*—*Reader*—We cannot advise you without seeing a specimen of the "glassy looking maggots" which attack the Strawberry plants. A pill-box cut down to the thickness of ½ of an inch, or a lucifer-match box, would have cost nothing extra in the postage. *W.*—*J A*—Syringe your Vines with tobacco water to which a little sulphur has been added; or with a decoction of Elder leaves. Either of these repeated a few times it is said, will kill Thrips; but we believe, where it can be applied, the odour of bruised Laurel leaves is most effectual.‡

Ivy—*A S*—We do not know whether Ivy will grow on a wall which has been painted or done over with boiled Linseed oil; it will upon a wall covered with Roman cement or whitewash.

Lawns—*C W F*—Water it with water in which sulphate of ammonia is dissolved; if with rain water so much the better. Dissolve the sulphate at the rate of 1 oz. to every 2 gallons. Do not use lime water. Plant the Potato which the experience of your neighbourhood shows to be the best; it should be some early sort.

Melons—*Sub*—The practice of "inoculating the blossom" is to be recommended, more especially in dull cold weather, and when Melon forcing is begun early; the pollen of one male blossom is sufficient to fertilise several female flowers. Gardeners generally use the blossom and not a camel's-hair brush. Laterals are those shoots springing from a principal stem, and the practice of stopping them early must be pursued. If one joint and leaf are left above the fruit, sufficient attraction will be left for the sap. A second lateral will be produced, which must also be stopped. One fruit is quite enough for each lateral to set, but of course it would be extravagant to permit so many to ripen; three, four, and five fruit, according to the sort of Melon, is quite sufficient for a single plant to bring to maturity. The reason the plants flag is probably to be ascribed to the excess of water given about the stems of the plants. Water the sides and bottom of the ridge, and encourage the roots to seek for moisture away from the stem.‡

Names of Plants—*W D S*—1, Genista microphylla; 2, Genista canariensis; 3, Ceratonia Siliqua.——*H H, Cork*—Hermannia candicans.——*Lancashire*—1, Muscari racemosum; 2, Myrica Gale; 3, Pyrus arbutifolia; 4, Ruscus aculeatus; 5, Amelanchier Botryapium.——*A S M*—1, Glaux maritima; 2, Chrysosplenium oppositifolium; 3, Mercurialis annua.——*H D*—1, Oxylobium capitatum; 2, Phymatodes Billardieri; 3, Cystopteris tenuis, considered only a variety of C. fragilis. *S*——*D S*—Dolichos lignosus, of the Botanical Magazine, not of Linnæus and others. If Australian it is from a garden.——*R*—Ophrys araneifera. Such books are Hooker's "British Flora" or Babington's "Manual."——*S E N*—Primula acaulis, a variety.——*J S*—Trichonema Bulbocodium.——*D. d*—Both are trifling varieties of Genista microphylla.

Pansies—*G F P*—Try the following 12 varieties:—Youell's Supreme, Thompson's Pizarro, Gosset's Lord Hardinge, Collison's Perseus, Hooper's Nonpareil, Turner's Optimus, Chater's Model of Perfection, Thompson's Duchess of Rutland, Cook's White Serjeant, King's Sulphurea elegans, Hall's Rainbow, Hooper's Berryer.*

Peach-trees—*W H*—Your Peach-trees appear to be affected by a disease usually termed gumming. It is apt to occur when the weather changes from very wet to very dry. There is probably too much strong manure in the border. Do not let it get too dry at any time during the growing season, and keep the foliage clear of insects.‖

Summer Pruning—*Lancaster*—You state that you have some espalier Pear trees that are now pushing shoots of 3 or 4 or more inches in length; and that you have always cut off such in summer, but they come again and again. We would beg to refer you to an excellent illustration, by Mr. Rauch, of the mode of summer pruning as practised at Paris. You will find it in the vol. for 1847, No. 28, p. 451. You may safely pinch the most forward shoots; but were you to pinch every shoot at this early period, a vast number of latent eyes would be forced into shoots, together with many that would otherwise form fruit buds. The terminal shoots must not be stopped at present, and only some of the most forward of those next the leading shoots till further notice.‖

Vines—*J G*—We have not an idea: unless there has been an escape of gas from flues or a part of your heating apparatus.

Misc.—*Neophite*—Pelargoniums have irregular flowers; Geraniums regular ones. They are very different. There is no practical advantage in curvilinear roofs except their lightness. A span-roof is one which slopes both ways. The loose top should be taken off so, as to enable the roots to get through the pots into the ground.——*W S*—A west aspect.‡——*J T*—We cannot answer such a question, for obvious reasons. How can we tell what will or will not be exhibited in a given place?

SEEDLING FLOWERS.

Calceolarias—*W H*—Your specimens are deficient in form; and very common in colour and marking.*——*B B*—Your seedlings are large and handsome flowers; the defect that prevails in all of them is that the flowers are too flat in front, otherwise they are large and fine in colour; the yellow and scarlet is very brilliant.*——*W H S*—There are some fine specimens amongst your seedlings, good in form, and rich in colour. No. 11 is not worthy of the others; in form it is not so perfect, and the ground colour is too much stained.*

Cinerarias—*B B*—Your seedlings are handsome flowers, and very much resemble specimens previously sent. No. 24 is an attractive flower, with dark disk, and the petals equally divided between white and crimson purple; 74, disk dark, with rosy purple points to the petals; 94 is a good blue, and 11 a good crimson purple; 95 is too starry; 96 a large and very rich purple, fine in colour; 93 has fine broad petals, but irregularly placed. Your flowers are all large, good in colour, and generally slightly cupped.*——*C H J L*—Neither of your seedlings are equal to the cultivated varieties of the present day.*——*C J*—Your seedling is fine in colour, but the formation of the flower is too irregular.*——*C D*—Your specimen is a pretty and well-formed flower, white tipped with light blue, showy, but too small for competition.*——*B B*—Dark disk, the petals equally divided between blue and white, a brilliant and handsome variety, form good, and very attractive.*——*A B C*—The petals are too irregularly placed round the disk; there are very superior varieties of the same colour in cultivation.*——*C L N*—Your seedling does not appear to be formed with sufficient regularity, and the colour is not superior to some already out.*

Fuchsias—*W H*—Your seedlings want novelty; they are pretty flowers, but similar coloured varieties are already in cultivation.*

Mimulus—*C J*—Your specimen does not possess any novelty; there are many in the same way.*

Pansies—*B B*—No. 135 is a good flower, but resembles too nearly some well established favourites. No. 1, flower large and round; eye bold and fine; ground colour yellow with top petals having a very broad margin of blue purple; the bottom petals surrounded by a narrow margin of the same colour, which is very broken and imperfect in the lip; the flower wants substance for its size, and the patches of colour on the lip are surrounded with a white line, which is a great defect. As it is but the second bloom, it is probable the flower will improve.*——*B B*—3, a large, round, handsome flower, purple-top petals, with broad margin of blue purple in the side and bottom petals; eye bold and fine. This flower wants a little more flatness.*——*J J C*—The best flower among your seedlings is No. 14, where the substance is carried out to the edges of the petals; this is a good flower, but there are superior dark selfs in cultivation. 8 and 13 possess good substance, colour, and shape. 4, 5, 7, and 12 are not worth preserving; they are all rather small.*

Rhododendrons—*G R A P*—Your seedlings are not sufficiently good for distribution; in form the individual flowers are very deficient, and in marking, with the exception of No. 1, they are weak and poor.*

Erratum.—In Mr. Walter's advertisement in first page of last week's No., bottom of col. *c*, among Geraniums, for "Sylph, Superb," read "Sylph Superb;" and in Dahlias, for "Milne," read "Minn;" and for "Victoria," read "Victorin."

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those numerous correspondents, the insertion of whose interesting contributions is still delayed.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.—The MAY GENERAL MEETING will be held at the Society's House, No. 12, Hanover-square, on Monday, the 22d of May, at One o'clock.

By order of the Council,
London, May 13, 1848. JAMES HUDSON, Secretary.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

THE ROYAL AGRICULTURAL SOCIETY OF ENGLAND is desirous of receiving TENDERS from Innkeepers or others to contract for either or both of the following supplies, at the ensuing Annual Country Meeting of the Society to be held at YORK, in July next.

1. A Hot Dinner for 300 persons, with Dessert and a Bottle of Port or Sherry to each person, at York, on Wednesday, the 12th of July, 1848.
2. A Cold Dinner for 1200 persons, with a Pint of Port or Sherry to each person, in the Pavilion of the Society, at York, on Thursday, the 13th of July, 1848.

Printed Forms of Tender will be forwarded to parties applying to the Secretary, and must be returned to him, filled up, on or before Saturday, the 10th of June, to the office of the Society, No. 12, Hanover-square, London; the Society not binding itself to take the lowest tender. By order of the Council,
London, May 13, 1848. JAMES HUDSON, Secretary.

THE LONDON MANURE COMPANY beg to offer, on the best terms, Peruvian Guano, warranted genuine, delivered direct from the Importers' warehouses; Superphosphate of Lime, in any quantity; Sulphate of Ammonia, Nitrate of Soda, Sulphuric Acid, fine Bone Sawdust, Gypsum, Potter's Guano, Soda Ash, Petre, Agricultural and Fishery Salt, and every other artificial Manure.

The URATE of the LONDON MANURE COMPANY has now stood the test of seven years, with a largely increasing sale. It is recommended with the greatest confidence for Turnips, Mangold Wurzel, Carrots, and all root crops; also for Colesced, Tares, Barley, &c. Unlike many other artificial Manures, its effects are not exhausted by the first crop; and when from any cause the crop of Turnips to which it has been used fails, its full fertilising properties remain for the next full crop. Testimonials and full particulars forwarded free. The LONDON MANURE COMPANY most earnestly request their friends to order the Urate direct from themselves, or their accredited Agents, so as to prevent any other article of a totally different manufacture being substituted. EDWARD PURSER, Sec.

No. 40, Bridge-street, Blackfriars.

☞ Sole Manufacturers of Mr. J. C. Nesbit's Chemical Manures.

PROTOXIDE PAINT FOR STUCCO FRONTS, for Iron, Brickwork, and Wood. Manufactured only by CHARLES FRANCIS and SONS, Cement Works, Nine Elms.

THE following MANURES are Manufactured by Mr. LAWES, at his Works at Deptford-creek:—

Corn Manure .. 14l. per ton. | Grass Manure .. 14l. per ton.
Clover do. .. 14l. „ | Turnip do. .. 7l. „
Superphosphate of Lime, 7l. per ton.

Mr. LAWES has also made preparations for supplying the various artificial MANURES of commerce, and if Agriculturists will trust the selection of them to him, and will furnish him with the necessary information, he will supply those which he considers most suitable to the soil and crops. A paper containing the questions required to be answered will be forwarded upon application to his Office, 69, King William-street, City, London.

GUANO AND OTHER MANURES ON SALE.—

Guano, Peruv. & British
Superphosphate of Lime
Bonedust and Bone Sawdust
Dried Night-soil. Urate.

} For Wheat, Oats, Barley, Grass Seeds, Turnips, Mangold Wurzel, Potatoes, &c.

Gypsum, for Clover, Cinquefoil, &c.; Nitrates of Soda and Potash, as stimulants; Petre Salt, for dressing old Pastures; Agricultural Salt, for Compost-heaps, &c.; Sulphuric Acid, for dissolving bone; Soda Ash, a destroyer of Wireworm: and all other Manures of known value. Also Horticultural Glass, Milk Pans, &c.—Apply for prices current, to MARK FOTHERGILL, Office 201 A, Stores 40, Upper Thames-street.

POTTER'S GUANO.—SEVENTH YEAR.—TESTIMONIALS. "Tain, April 21, 1847.

"Sir,—The experiment I made last year induces me to use an additional quantity of *your* Guano for my Turnips this year. Send me 2 tons." Signed, "R. S. Taylor."

Result of Dr. Daubeny's Experiment on Turnips:

Produce per acre.	Weight of Bulbs.
Unmanured	14,228 lbs.
Bone Shavings, 10 cwt.	19,239
Manure Company's Guano, 260 lbs. ...	26,053
Nitrate of Soda, 1½ cwt.	28,479
Phosphorite, 12 cwt.	28,639
Phosphorite with Oil of Vitriol	30,869
Peruvian Guano, 260 lbs.	31,114
Bones, with Vitriolic Acid, 11 cwt. ...	31,893
Graham's Animal Compost, 260 lbs. ...	32,109
Sulphate Ammonia, 1 cwt.	32,670
Bones, finely powdered, 12 cwt.	36,185
POTTER'S GUANO, 260 lbs.	37,201

See Journal of the Royal Ag. Society, Vol. VI., Part II., p. 331.

PURE GYPSUM, 22s. per ton.

Factory, 28, Clapham-road-place, London. Sold also by Mr. POTTER's authorised agents in their various districts.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as building and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

CHEAP AND DURABLE ROOFING.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

F. M'NEILL AND Co., of Lamb's buildings, Bunhill-row, London, the Manufacturers and only Patentees of THE ASPHALTED FELT FOR ROOFING Houses, Farm Buildings, Sheddings, Workshops, and for Garden purposes, to protect Plants from Frost.

At the Great National Agricultural Shows, it is this Felt which has been exhibited and obtained two SILVER MEDAL PRIZES, and is the Felt SOLELY patronized and adopted by

HER MAJESTY'S WOODS AND FORESTS,
HONOURABLE BOARD OF ORDNANCE,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE COMMISSIONERS OF CUSTOMS,
HER MAJESTY'S ESTATE, Isle of Wight,
ROYAL BOTANIC GARDENS, Regent's Park,

And on the Estates of the Dukes of Sutherland, Norfolk, Rutland, Newcastle, Northumberland, Buccleuch (at Richmond), the late Earl Spencer, and most of the Nobility and Gentry; and *at the Royal Agricultural Society's House, Hanover-square.*

It is half the price of any other description of Roofing, and effects a great saving of Timber in the construction of Roofs. Made to any length by 32 inches wide.

PRICE ONE PENNY PER SQUARE FOOT.

*** Samples, with Directions for its Use, and Testimonials of seven years' experience, with references to Noblemen, Gentlemen, Architects, and Builders, sent free to any part of the town or country, and orders by post executed.

☞ The Public is cautioned that the only Works in London or Great Britain where the above Roofing is made, are F. M'NEILL AND CO.'S

Patent Felt Manufactory, Lamb's-buildings, Bunhill-row, London, where roofs covered with the Felt may be seen.

The new Vice-Chancellor's Courts, at the entrance to Westminster Hall, were roofed with F. M'Neill and Co.'s Felt about two years since, under the Surveyorship of Chas. Barry, Esq., R.A. Her Majesty's Commissioners of Woods and Forests are so satisfied with the result that they have ordered the Committee Rooms at the Houses of Parliament to be roofed with their Felt. Quantity altogether used, 24,000 feet.

Note.—Consumers sending direct to the Factory can be supplied in lengths best suited to their Roofs, so that they pay for no more than they require.

Every information afforded on the construction of Roofs, on any proposed particular application of the Felt.

The Agricultural Gazette.

SATURDAY, MAY 13, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY, May 17—Agricultural Society of England.
THURSDAY, — 18—Agricultural Imp. Society of Ireland.
MONDAY, — 22—Agricultural Society of England.
THURSDAY, — 25—Agricultural Imp. Society of Ireland.

FARMERS' CLUBS.—May 13: East Kent, Northampton.—May 15: W. Market, Yoxford, Great Oakley.—May 17: Barleston.—May 19: Halesworth, Wodebridge, Wakefield.—May 20: Reading.—May 26: Stranraer.—May 27: Hereford.

SOME weeks ago a correspondent signing himself "LEIRNON," opposed his experience to statements which had been made in our columns on the policy of breaking up Grass lands. He had permitted the conversion of some of his pastures by "slovenly" tenants, and at the close of their occupation he had found himself bound to reduce the rent to their successors. The land was clay; and while, formerly, yielding better produce than soils of lighter character, it had involved no greater expense of labour; now that it was arable the much higher cost of its cultivation as compared with such soils was not accompanied by crops of greater value.

We are not going to reopen the question of cultivating other crops than Grass upon our farms: we only venture to refer to one process of cultivation apparently neglected on "LEIRNON'S" estate, but particularly adapted to clay land farming, and which the present dry weather appropriately suggests. The operation of BURNING CLAY SOILS has been found greatly to increase their fertility, and diminish the cost of their cultivation. We cannot speak of this subject from personal experience, as we occupy no land so stiff as to require the process: but the experience of others is to be found in ample detail in the pages of the English Agricultural Society's Journal*; and to some extracts from this work we shall proceed to direct the attention of our readers. As to the *advantages* of the operation, the following is the testimony of different witnesses:

"In proportion to the stiffness of the soil will be the benefit to be derived from burning."

"The benefit was striking, not only on the Wheat but in the young Clover. The whole of the field had been top manured with guano, harrowed in with the seed. Where the burned earth was not used the Clover plants and the Wheat were inferior."

"Two years since I redrained a very poor piece of land at 9 feet distance, ploughed it up when tolerably dry in the spring, and burned all I could get taken up with three tined forks, in heaps 30 yards in circumference, on a space of two acres, breaking the clods as they were thrown on the heaps. When burnt it was carted and spread on the same land, and the quantity proved to be 30 bushels per rod, or 4800 per acre. The field was fallowed through the summer, and sown with Barley and Clover last spring twelvemonth. On a part of the field where not burnt, 4 cwt. of guano were sown upon the Barley; another unburnt portion was manured with town muck; and a third portion, also unburnt, was left unmanured. The Barley proved equal in bulk when matured with burnt clay, with guano, and with town muck, the yield being apparently one third more than where no manure was applied. The present crop of Clover where the burnt earth was spread is a very heavy crop, also where the town manure was laid, but I cannot see that on the portion where the guano was sown on the Barley the Clover is the least better than where the land was not manured."

"I begged the tenant to omit the burnt clay on one corner of the field, that we might know whether it was worth while to burn any more clay. The crop was a very fine one; and after it can be threshed out about one eighth of an acre separately. He found the result as follows:—

One Acre.	Wheat
No manure	4½ bushels.
40 yards of burnt clay	4½ „
4 cwt. guano, and no burnt clay ..	4½ „

"I come next to two heaps, upon which the fertilising power of ashes is still more satisfactorily shown than in the last mentioned, inasmuch as they were not assisted by any other kind of manure; and, in these two cases, I am enabled to speak with accuracy of the results. The first field, called the 'Rough Hill' (5 acres), adjoining the coal-pit ground, not being considered quite as bad, is valued at 7s. 6d. per acre. I entered upon it (1839) a foul Bean-stubble; the following May it was skim-ploughed to the depth of about 1½ inch, and all that the plough raised burned with faggots, at the cost, including spreading, of 14s. per acre. It was then ploughed and scuffled; and the weather being favourable, was rendered perfectly clean; then planted in October with Vetches, which, the following summer, were eaten off by sheep folded upon them; succeeded by Wheat (1842), which produced 226 bushels, of 62 lbs.; or 1 bushel more than 45 bushels per acre. It was sold at 7s. per bushel: and this crop, therefore, produced more than the fee simple of the land in its former state. This field is also laid down, and is looking very well. A small field of 3 acres, adjoining, was similarly treated at the same time, with nearly equal results; the difference in the Wheat crop, which was not quite so heavy, being attributable to the Vetches having been eaten off by horses tethered on them, instead of by sheep.

"The second instance of the power of ashes, unaided, in rendering exhausted land capable of producing a crop is, I think, even more conclusive than the first, as it may be said that the great crop of Wheat produced in the former case was attributable to the manure left by the sheep in consuming the Vetches; and this is correct in a degree, but I know not how that crop of Vetches could have been obtained to create that manure, without the ashes. In this case, however, the land received no such assistance. It is a field called the 'Brake Ground'—10 acres of exceedingly stiff clay, valued at 25s. per acre—and was, Michaelmas, 1839, an awfully foul piece of two years old—I was going to say seeds—however, it had been down two years; and, for want of something more fit, I was induced to plough and plant it with Wheat, and a miserable speculation it proved. The seed-time of that year, as most of us in this part of the country very well remember, was exceedingly wet. This, combined with the bad state of the land, left me no resource but to dibble it; this was done as well as it could be, and after being twice hoed the following spring, the crop was as nearly as possible 16 bushels per acre. Here, then, was a stubble in the best possible state for burning, and the weather being dry after harvest, it was skim-ploughed, and attempted to be dragged, but that was impracticable—it was so tied together that it could only be parted with forks, which increased the expense of burning this piece to 50s. per acre; but it was well repaid: the quantity of ashes burnt could not have been less, upon by far the greater part of the field, than from 120 to 200 yards per acre. It was then planted, after being ploughed, with Vetches; but such a crop of Crowfoot, Charlock, and rubbish of all descriptions came up the following spring, that I had all mown off together, and carried to the fold-yard. I then proceeded to fallow it, but, as if this field was to be unfortunate, the latter part of the summer proved wet, and it was very imperfectly done, and after draining was left till April, 1842. The whole of that month proved dry; the field was forked at an expense of 25s. per acre, and by that means rendered clean at last. No rain fell till the night of the 11th of May, and on the 12th and 13th it was drilled with Barley, the produce of which, fit for and sold to the maltster, was 56 bushels per acre. The next crop was Beans, mixed with a few grey Peas, and certainly the greatest crop of straw I had ever seen; what the produce may be I cannot yet say: but I should suppose nearly or quite as many bushels as there were of Barley."

And, now, as to the cost of the operation:

"I immediately began with the scuffle and drag to work the clods of Couch and wiry turf to the surface, which, with the quantity of soil necessary to procure a good dressing of ashes, were shovelled and forked together, and burned in heaps of about a cart-load each, with wood cut from the old neglected hedges surrounding the field; at the cost, including spreading, of 2l. per acre. I scarcely know how to put a value upon the wood used, as it would barely have been worth drawing home; the cost of cutting and tying up would be about 3s. per acre."

"But there is another mode of procuring ashes, which, though somewhat more expensive, has its advantages; these are that it can be done at a time

* See vol. 4, p. 267; vol. 5, pp. 12, 112; vol. 6, p. 477; vol. 7, pp. 142, 245, 297; vol. 8, pp. 46, 77, 317.

of year when the other mode would be impracticable, from wet, and also that in doing it the banks, borders, and high headlands, frequently seen in old enclosures, are removed; it is by burning these in large fires of 50 to 200 yards with coal, and carting and wheeling the ashes upon the land. I have done a good deal in this way, and the cost, not including horse labour, which of course varies with the distance to which the ashes have to be drawn, is as follows:—

100 yards per acre, labour to burning, at 6*d.* ...	£2	10	0
2 tons of coal, at 9*s.*	0	18	0
Wheeling and spreading a distance of 50 yards from the heaps, and filling and spreading the remainder, 100 yards, at 1½*d.*	0	12	6
	£1	0	6

"The cost per 100 cubic yards is as follows:—

Labour and burning, at 5*d.*	£2	3	4
Firewood, at 4*s.* 6*d.* per fathom	0	8	4
Ploughing and horse labour	0	8	4
Carting and spreading: according to distance."			

We have not room to describe the process in detail: our readers must consult the references we have already given on this subject. It must suffice to add that while in calcareous clays no difficulty can arise, in those which contain but little lime there is danger of the clods becoming as hard and intractable as bricks if burned in large and dry lumps: they should be added in small pieces to the heaps; and if when wet, so much the better.

The practice appears from the above statements to be well deserving the attention of clay land farmers; and landowners, such as "Leirnon," may safely regard it, and all other methods of improving arable management, as inducements to the *cultivation* of land which, in its state of pasture, affords but little scope for skill or for capital—but little security against pauperism and its expenses—and but little food for the people.

ON SUBSOILING AND DEEP PLOUGHING.

The attention of the agricultural community has latterly been very much engaged, and most deservedly, upon the subject of draining; but I cannot help fearing that it has produced a diversion from another object, which ought to be esteemed a matter of equal importance to the agriculturist, I mean deep cultivation. Indeed I think the latter to be of more consequence than the former, as all land does not require artificial drainage; whereas I believe that there is no soil which would not be benefited by deep, very deep, culture; always premising, of course, that efficient draining has been effected wherever it was required. Entertaining this feeling, I was therefore much gratified with the perusal of Mr. Wilson's very instructive paper copied into the *Agricultural Gazette* of the 11th of December, valuable for many reasons, but chiefly on account of the accompanying statistical tables, which cause the advantages accruing from subsoiling to be immediately obvious.

I do not pretend to give any information of equal value; because I am not fully provided with the particular details resulting from any series of experiments. In fact, with myself, on this subject the period of experiments has long since passed away, and subsoiling and very deep ploughing are become parts of my established practice. Good results, attributable solely to the use of the subsoil plough, are so obvious upon my own estate as to be sufficiently cognizable by the most cursory glance, when judged by comparison of the crops of neighbouring fields which have not been similarly treated. I do not mean to imply that deep cultivation, or draining, or any other admittedly good practice in farming, will alone conduce to much profit; but I do assert that deep cultivation is indispensable, if we wish to develope the full capability of the soil; and that, *cæteris paribus*, the land which is subsoiled, whether by plough or fork, will always produce the largest crops.

Theoretically, I imagine there cannot be much diversity of opinion on the subject, since it is well known that the complete aeration of the soil greatly facilitates those chemical changes which have been proved to be essentially requisite in promoting the healthy growth of plants. And every intelligent farmer, though he be no chemist, will readily allow that there cannot be too great a depth of top soil. Practically, however, there seems to be some great hindrance in carrying out the operation, for in many countries (may I not say in all) the use of the subsoil plough is the rare exception rather than the rule. Probably it is the original heavy expense which deters many from adopting it, especially in those hard, gravelly soils, where it is most wanted. Still I believe that the increased cost of preparing a Turnip season by subsoiling is not really greater than by ordinary ploughing, if the greater facility with which all the subsequent operations are performed be taken into consideration; to say nothing of the entire eradication of deep-rooted weeds and the destruction of the larvæ of noxious insects.

My own land varies so greatly in its mechanical texture and geological position that I think it may be adduced as a fair field for testing the universal applicability of the subsoil-plough, as it extends through the whole series of the chalk formation; and therefore comprises within its limits the extremes of light and heavy soils, with all their intermediate modifications. And I can unhesitatingly give my testimony to the great benefits I have derived in every instance from its employment.

I have already spoken of the first great cost of subsoiling, and I have no desire to disguise the fact, especially when I recall to mind the numerous statements so frequently published in agricultural journals of the comparatively trifling expenses of deep draining, deep subsoiling (with two horses), &c. These cheap methods I have never had the good fortune to discover; neither have I ever seen them employed where the work was efficiently performed. Strongly, therefore, as I recommend the general adoption of the subsoil-plough, I most fully admit that, in those soils where it is most required, the original cost is very great.

It is now some eight or nine years since I gave my serious attention to ordinary farming. My own labourers and small-allotment tenants were my first practical instructors; for, perceiving that their crops averaged double those of the neighbouring farmers, I was compelled to ask myself the reason of so great a difference. This led me to investigate the matter, and I found their invariable practice was to trench their ground frequently—to suffer no weeds to grow—and to preserve everything in the shape of manure with the most scrupulous care. I am not ashamed to confess that they caused me to blush for my own farming, and forced me to put this question to myself: Why should not I cultivate on a large scale, as they did on a small one? The reply to this question determined me at once to commence a new system, and to call in all the aid which science could afford me. Prior to this period I had confined my own attention chiefly to the culture of Hops, suffering my common agricultural concerns to be managed in accordance with the old customary routine.

Following up therefore the lesson which I had received, I may state briefly that my method has since been to drain deeply when draining is necessary, to cultivate deeply, to economise and to increase the production of home-made manures, and to extirpate all weeds. With regard to the latter pests, it is far more economical to get rid of them at once and entirely than to allow them to continue the perennial torments of the farmer.

The subsoil-plough which we now use is Read's, but with a larger and stronger share than that which is usually sold with his plough. We found this alteration indispensable for our purpose, because his common set of shares will not so completely break up the subsoil, nor so effectually eradicate the deep-rooted weeds as we require. The share which we have substituted is similar to that which is attached to Smith's subsoil-plough. The plan which we pursue is pretty much as follows:—On our hard gravelly soils we commence subsoiling as early as circumstances will permit during the winter in preparation for the ensuing Turnip season. We open the furrow in the first instance as deeply as possible with a common plough and four horses, which is followed by the subsoil-plough drawn by six horses. The ground by this means is thoroughly broken up and shattered to the depth of 20 inches. But here interposes the grand obstacle; we can accomplish only three-quarters of an acre a day, nor can even this small quantity be got through without great wear and tear of horses and tackle. Yet when the work is done, it is well done. All our subsequent operations in preparing the Turnip season are managed with the greatest facility, for we are certain of obtaining a finely pulverised soil for sowing in, although we dispense with one or two ploughings, with harrowings, &c., which would otherwise have been necessary. Thus we immediately receive some compensation for the original outlay, since every description of subsequent culture is effected more cheaply in a loose soil, than in one as hard as a turnpike road. I am aware of only one drawback to the very deep breaking up and loosening of the subsoil, which is—some difficulty in the starting of the young Turnip plants in dry weather; for I have frequently noticed in those fields which are ploughed very shallow, that the plants start much better than in mine, and it was specially remarkable this last year; nevertheless, after the first six weeks, deep cultivation asserts its pre-eminence, and is often recompensed by a double crop.

On the description of land above mentioned we adopt the four-course system. At the beginning of the fifth year, in preparing for the next Turnip season, we break up the fallow with an iron Scotch swing-plough, instead of using the subsoil-plough. Here again we are compelled to employ six horses to plough three quarters of an acre a day. The unmoved soil is very regularly broken 14 inches deep. When the land has been once well subsoiled, I think this plough answers every purpose, if employed on each alternate fallowing, that is, once in eight years; the subsoil plough being used in the intermediate season.

On our stiff heavy marl and clay lands, it is of course necessary to modify the system. Here, immediately after Wheat harvest, we break up our stubble, employing for the purpose 10 horses, as before. This is done in preparation for Beans and Peas, or a green crop. If for the former, no other ploughing is needed before sowing. Our fallows are usually clear from weeds, for as we hoe our corn, they are not suffered to grow—our land not being sufficiently rich to produce two heavy crops simultaneously. In our stiff lands, too, we alternate the use of the subsoil and Scotch ploughs.

I have given an account of our practice, and will add a few selected results.

1. In the dry summer of 1844, the Swedes upon one of my large subsoiled fields on the lower green sand formation, were distinguished for their goodness for many miles around. I am quite confident that their superiority was to be attributed exclusively to the great depth of finely comminuted soil in which they luxuriated. (In Mr. Lawes' admirable paper on Agricultural Chemistry, one example on the effects of trenching deeply for Turnips is given, which strikingly illustrates my position as to the benefits of subsoiling). The subsequent crops of Barley, Clover, and Wheat, were the heaviest ever remembered to have been grown in the field; they might be fairly estimated per acre at 25 tons of trimmed Swedes; 8 to 9 quarters of Barley; 3½ to 4 tons of Clover (two cuts); and 5 quarters of white Wheat.

2. A very poor field on the upper chalk. It was subsoiled for the first time in 1845. It was sown with Turnips. The following crops were Wheat and Oats, seeds and Wheat, and the produce per acre about 40 tons of Turnips, 5 quarters of Wheat, and 11 quarters of Oats; a very bad crop of Grass; and the Wheat now looking remarkably well.

3. A field on the middle chalk covered with a superficial soil of gravel of unequal depth. It has always been characterised by the unevenness of its crops: a large one was seldom grown. It was subsoiled in the summer of 1845, and sown in the following spring with Beans. This crop was much infested with the aphis blight, and the produce was consequently small. It was afterwards sown with Wheat, the crop of which was a trifle over 6 quarters per acre, weighing 64 lbs. per bushel. The Wheat crop was now as much distinguished for its regularity as it had previously been for its unevenness. The field is now sown with Tares, which are looking beautifully.

4. This is a field to which I have already adverted in a former paper in your columns, as an instance of successful drainage. It lies upon the galt, and the soil for about 6 feet deep consists of a hard gravel, intermixed with patches of clay, so thoroughly compacted together that in draining the pickaxe was required from top to bottom. It was subsoiled early in the spring of 1846, and to a greater depth than usual, as the Scotch plough preceded the subsoiler. The first crop was Swedes, which produced about 25 tons per acre. Oats were sown last year, the crop of which has lately been threshed, and the produce is 98½ bushels of 40 lbs. each per acre. In all the above instances the manures applied were guano, bones, ashes, and gypsum, with tank water. I might multiply examples almost indefinitely; but I have selected the above, because they strongly contrasted with the condition of the fields prior to the use of the subsoil-plough. In offering the foregoing remarks, I am conscious that I am giving no novel information; yet in agriculture as in morals, the reiteration of admitted truths is by no means unnecessary. I need not apologise, therefore, for calling the attention of your readers to a subject, the importance of which is generally allowed, though not much recognised in practice.—*J. Manwaring Paine.*

ORNAMENTAL POULTRY.

The Speckled Dorkings.

For those who wish to stock their poultry-yards with fowls of the most desirable shape and size, clothed in rich and variegated plumage, and, not expecting perfection, are willing to overlook one or two other points, the speckled Dorkings* are the breed to be at once selected. The hens, in addition to their gay colours, have a large flat comb, which, when they are in high health, adds very much to their brilliant appearance, particularly if seen in bright sunshine. The cocks are magnificent. The most gorgeous hues are frequently lavished upon them, which their great size and peculiarly square-built form display to the greatest advantage. The breeder and the farmer's wife behold with delight their short legs, their broad breast, the small proportion of offal, and the large quantity of good profitable flesh. When fatted and served at table, the master and mistress of the feast are satisfied. The cockerells may be brought to considerable weights, and the flavour and appearance of their meat are inferior to none. Those epicures who now and then like a fowl killed by dislocation of the neck without bleeding (the more humane way) will find that this variety affords a tender and high-flavoured dish. The eggs are produced in reasonable abundance, and though not equal in size to those of Spanish hens, may fairly be called large. They are not everlasting layers, but at due or convenient intervals manifest the desire of sitting. In this respect they are steady, and good mothers when the little ones appear. They are better adapted than any other fowl, except the Malay, to hatch superabundant turkey's eggs. Their size and bulk enable them to afford warmth and shelter to the turkey-poults for a long period. For the same reason spare goose's eggs may be intrusted to them; though in this respect I have known the pheasant breed to be equally successful.

With all these merits they are not found to be a profitable stock if kept thorough-bred and unmixed. Their powers seem to fail at an early age. They are also apt to pine away and die just at the point of reaching maturity. When the pullet ought to begin to lay, and the cockerell to crow and start his tail feathers, the comb, instead of enlarging and becoming coral red, shrinks and turns to a sickly pink or even to a leaden hue; and the bird, however well fed and warmly housed, dies a wasted mass of mere feathers, skin, and bone. It is vexing, after having reared a creature just to the point when it would be most valuable for the table or as stock, to find it "going light," as the country people call it; particularly as it is generally the finest speci-

* So called from a town in Surrey, which brought them into modern repute.

mens, that is the most thorough bred, that are destroyed by this malady. I do not believe that the most favourable circumstances would prevent the complaint, though unfavourable ones would aggravate it, but that it is inherent in the race and constitution of the birds. They appear at a certain epoch to be seized with consumption, exactly as in some unhappy families; the sons and daughters are taken off all much at the same age. In the speckled Dorkings the lungs seem to be the seat of disease, and it is to be regretted that no dissection was made in cases where I had the opportunity. But the serious and fatal maladies of fowls are difficult to trace to their cause, and still more difficult to cure by the application of any remedy. It is unnecessary to allude to the volumes of absurd, irrational and impracticable directions that have been printed on the subject. Many illnesses which which we suppose to be of natural and spontaneous origin are, there is no doubt, brought on by the neglect or cruelty of boys and servants. Our domesticated animals are dumb; they cannot tell their master what ill-treatment they have received in his absence; and they often severely, cruelly, suffer the displeasure of some ill-natured underling, who dare not show his temper in higher quarters. Many a fancied or real wrong has been expiated by the horse, the dog, the cat, or the poultry. Nay, there is no concealing it, and mothers should listen to it, and think of it, as a motive to keep their lips guarded and their brow serene—many a harsh word spoken in a moment of irritation has been revenged in shakes and pinches upon the helpless infant.

In a communication with which I have been favoured by Dr. Bevan, the able author of the "Honey Bee," he says, "Just about roosting time one of the cocks (of a very choice breed), was found apparently lifeless at the back door, lying on its side as though it had been knocked down, which I really believe it had. I brought it to the fire and placed it in a basket of hay. It soon began to move, and became violently convulsed." The worthy doctor made a correct diagnosis of the malady, and so avoided the mortification of administering a long list of nostrums in vain. Some years ago we had a most beautiful Dorking cock, the admiration of ourselves and of all who saw him. After a time he became ill, weak, and dejected, got worse, and died. Every ordinary comfort and care were afforded, but we did not try any of the extraordinary recipes that are current.

Bye-and-bye the discovery of cruel treatment to my pony elicited the fact that the stable boy was in the habit of making the cock "drunk," a process which is effected by seizing the bird by the legs, and whirling him round and round in the air, till the centrifugal force shall have sent the blood to the head, and produced apoplexy. The amusement consists in seeing the cock stagger and reel when placed upon the ground, and gradually recover, as it unsteadily walks off. "Tipsy hen" is an agreeable variation of the sport. The cook had seen and was indignant; but the lad's mother, when he entered my service, had, like the enchantress of romance, given her son a word of power. To the angry threat of the cook that she would tell of the atrocity, it was replied, "If you do, *I* will tell that every time it is your Sunday out you go to see the little boy you had two years ago." Cook was thunderstruck at the mention of her "misfortune," and was tongue-tied. And so the machinery of households goes on.

I have subsequently found that in all cases of suspicious death, the surest way of coming at the truth, and preventing future malpractices, is to hold a formal inquest, with a post-mortem examination; and after a deliberate investigation to punish firmly, by rebuke or dismissal, any outrage on the laws of humanity.

Pure Dorking hens are sometimes barren. I had one a perfect model to the eye, short, square, compact, large, with plumage, comb, and weight all that could be wished—the very pullet that a fancier would have chosen to perpetuate the breed. But she never laid, nor showed any disposition to sit, and in consequence of her uselessness, at about two years old was brought to table. The carving knife soon demonstrated a malformation of the back and side bones, and showed that the models of the breeder may sometimes be too highly finished. The cocks too, with all their outward trappings and sturdy build, I must suspect to be deficient in vigour. If many hens are allowed to run with them clear eggs will disappoint those who want large broods of chickens. Three or at most four hens to a cock will give the most successful results. These and a few other apparently trifling facts seem to show that with the speckled Dorkings (a variety of great antiquity) the art of breeding has arrived at its limits. That it has limits is well known to persons of practical experience. Sir J. S. Sebright says "I have tried many experiments by breeding *in and in*" (for the sake of developing particular properties) "upon dogs, fowls, and pigeons; the dogs became, from strong spaniels, weak and diminutive lap-dogs, the fowls became long in the legs, small in the body, and bad breeders."

"There are a great many sorts of fancy pigeons; each variety has some particular property, which constitutes its supposed value, and which the amateurs increase as much as possible, both by breeding in-and-in, and by selection, until the particular property is made to predominate to such a degree, in some of the most refined sorts, that they cannot exist without the greatest care, and are incapable of rearing their young without the assistance of other pigeons, kept for that purpose." — *The Art of Improving the Breeds of Domestic Animals*, p. 13.

As mothers, an objection to the Dorkings is that they are too heavy and clumsy to rear the chicks of any smaller and more delicate bird than themselves. Pheasants, partridges, bantams, guinea-fowl, are trampled underfoot and crushed, if in the least weakly. The hen, in her affectionate industry in scratching for grubs, kicks her lesser nurselings right and left, and leaves them sprawling on their backs. Before they are a month old, half of them will be muddled to death by this rough kindness. In spite of these drawbacks, the Dorkings are still in high favour; but a cross is found to be more profitable than the true breed. A showy, energetic game-cock, with Dorking hens, produces chickens in size and beauty little inferior to their maternal parentage, and much more robust. Everybody knows their peculiarity in having a supernumerary toe on each foot. This characteristic almost always disappears with the first cross, but it is a point which can very well be spared without much disadvantage. In other respects the appearance of the newly-hatched chicks is scarcely altered. The eggs of Dorking hens are large, pure white, very much rounded, and nearly equal in size at each end. The chicks are brownish yellow, with a broad brown stripe down the middle of the back, and a narrower one on each side; feet and legs yellow.

On this breed Mr. Alfred Whitaker thus expresses his opinion:—"I agree with you fully as to the usefulness of this description of poultry, but I do not view them exactly through the same medium as to their beauty. Compared with the Pheasant Malays, they are short-necked, and there is no arch or crest to the neck. Their colours vary from a streaked grey to a mottled or spotted brown and white. A neighbour here has some of the finest I ever saw; the cocks with very full double combs, and the hens generally with reddish-brown spots on a white ground. To my eye the cocks look heavy and stupid, neither the head nor the tail being usually carried in an erect position, or with any semblance of spirit. As regards size, they are magnificent. I saw one on my friend's dinner-table three days since quite as large as an ordinary hen turkey; it was a cockerell about seven months old. My experience of their laying and breeding qualities agrees mainly with your statement, except that I should lay still stronger emphasis on their fatal clumsiness as mothers, which I am inclined to think is aggravated by their extra toe behind, and the great length of their back toes. They frequently trample to death their chickens during the process of hatching, and in a small coop they demolish them at a fearful rate. I think they never should be cooped with their chickens; but a still safer course would be to hatch the eggs under a mother of a less rough physique, or perhaps by Cantelo's hydro-incubator." The only question is, how the hen is to be employed when the sitting fit comes on, for they are most persevering sitters. I have successfully hatched both turkeys and geese under Dorking hens. The latter will stand a great deal of trampling and kicking about without taking much harm from it. Mr. Whitaker continues, "I have crossed the Dorkings with Pheasant Malays. The first cross produces a fine bird, which is large, though not prolific; but if you allow the cross to breed with each other, they dwindle to nothing. The doctrine of breeding is yet ill understood. I am disposed to think that, where you have a real variety, breeding in is the natural and best mode of procedure; but that, when you cross two thorough breeds, you have no guarantee that the cross breed will be good further than the first result."

It is a question how the speckled Dorkings were first introduced. Some maintain that the pure white Dorkings are the original breed with five toes, and that the speckled Dorking is a recent and improved cross, by which the size was much increased, between the original white breed and the Malay, or some other large stock of poultry. From this opinion I must entirely dissent, on the ground of strong, though not absolutely conclusive evidence to the contrary. It seems to me that Columella's favourite sort of hen could not differ much from our speckled Dorkings. He says, "Eæ sint rubicundæ vel fuscæ plumæ, nigrisque pennis. . . . . Sint ergo matrices probi coloris, robusti corporis, quadratæ, pectorosæ, magnis capitibus, rectis rutilisque cristulis. . . . . Generosissimæ creduntur quæ quinos habent digitos," &c. "Let them be of a reddish or dark plumage, and with black wings. . . . . Let the breeding hens therefore be of a choice colour, a robust body, square built, full breasted, with large heads, with upright and bright red combs . . . . . those are believed to be the best bred which have five toes." Except that there is no mention of speckles (and he never notices minute markings) the whole description almost exactly tallies with our birds of the present day. Pliny's account agrees with this: "Gallinarum generositas spectatur cristâ erectâ, interdum geminâ: pennis nigris, ore rubicundo, digitis imparibus." "Superiority of breed in hens is denoted by an upright comb, sometimes double, black wings, ruddy visage, and an odd number of toes." Lib. x, c. lxxvii. It appears that Columella had the white sort, but rejected them; for he advises "evitentur albæ; quæ ferè cum sint molles ac minus vivaces, tum ne fœcundæ quidem facile reperiuntur," "Let the white ones be avoided, for they are generally both tender and less vivacious, and also are not found to be prolific," faults which are still attributed to them. I cannot, therefore, avoid believing that from the robust dark-coloured, five-toed fowl, white individuals have been from time to time produced and propagated, exactly as we see in other species of Gallinaceous birds that have long been in domestication—pea-fowl, turkeys, and guinea-fowl, for instance; and as the white variety of these is mostly smaller and more delicate than birds of the normal plumage, so the white Dorkings are inferior in size, and perhaps in hardiness. I have also that there is no instance of [illegible] and hens having been found [illegible]; which [illegible] argument that dark and parti-colour are the hues originally characteristic of the [illegible]. — *L. S. Dixon.*

MR. SWAIN'S PIGGERY.

[The following reference to the letters on the plan of this piggery, published last [illegible], were accidentally omitted.]

A A, [illegible] B, [illegible] C C, [illegible] D D, [illegible] E, [illegible] F, [illegible] G, [illegible] H, [illegible] I, [illegible] K, [illegible]

GREEN MANURE IN LEAD OF DUNG.

Without disputing the general rule laid down by some of our leading agriculturists, that a well farmed estate ought to maintain itself in fertility, by keeping cattle enough to supply the land with manure, it may be not less worth consideration, whether land, in this densely peopled country, may not be better employed in feeding men than beasts; and how far butcher meat, rather than grain and other vegetables, may form the subject of import from less populous regions. If the soil can keep itself in heart as well by green manure as by dung, it can certainly produce much more human food, directly, in the vegetable state, than ultimately, as butcher meat, resulting from its consumption by cattle.

Thus according to Professor Low (2d edition, p. 632), one ton of Turnips produces 14lbs. of beef; and though, in our warmer climate, the average may be nearer 10 lbs., yet if, including mutton, we take it as high as 20lbs., that is 1 lb. of meat per cwt; still as this cwt. of Turnips contains 11 lbs. of solid food, the flesh is only 1-11th of the solid matter of the Turnips, and this flesh itself is nearly 3 water. Or if we average the proteine compounds in Turnips at 2 per cent., and in flesh at 25 (which is a little above the mean), the 2lbs. of the proteine in 100lbs. of Turnips will give less than ¼ of the same, in flesh meat. These averages are from Johnstone, who is not satisfied with them; and others have appeared since, still more in favour of the vegetable. But not to encumber your columns with needless comparisons and repetitions, we may take Mr. Lawes' results, as carefully attained, on the large scale, and even less in favour of our argument than Johnstone's. According to Mr. Lawes' (Royal Agricultural Journal, vol. 8, p. 255), 5-6ths of the nitrogenous, proteine, or fleshening matter, in the food of cattle, goes to the dung; only about 1-6th remaining in the flesh of the animal; and of the carbonaceous or fattening portion, this difference is still greater; consequently the produce of one acre, consumed directly as vegetable food, will feed fully as many people as that of six acres converted into beef and mutton, a consideration of some weight in a country where the soil does not produce enough for the population.

But we must have animal food. Certainly: and why not import that wherein we have the produce of 6 acres concentrated into 1, instead of corn and other vegetable matters now imported? Not as live cattle, which must be limited, and is costly; but the meat packed and lightly salted, so as not to draw out the juices and harden the fibre, but only in proportion to the length of voyage, allowing it time to mature or become tender for the market, retaining its juices and flavour. This is surely within the reach of chemistry. Still a large proportion of our butcher meat will always be home fed; the question is, how large?

But next, how, without cattle dung, is an estate to be kept in heart? This may not prove so great a difficulty as is supposed. Dung supplies the land with organic matter to feed the plant by the roots, the inorganic vegetable salts and ammonia to stimulate vegetation. The inorganic manures are easily obtained, cheap, and of light carriage. Ammoniacal and other nitrogenous manures, though not so abundant as the inorganic, are not difficult to obtain. Great quantities of ammonia are thrown away at the gas works; nitrate of soda and guano are not very costly; and woollen rags, hair, and other animal waste, may often be had. The bulky and weighty organic matters may be grown on the ground and ploughed down, between crops, as green manure; drawing the organic elements from the air. And night-soil, much stronger than cattle dung, as well in ammonia as in organic matter, will increase in proportion as the produce of the soil is eaten by men instead of beasts; as in China, where the population is dense, very few cattle are kept, and night-soil is the staple manure.

There is a distinction to be borne in mind between animal and vegetable manures, that the former ferment alkaline (ammoniacal), the latter acid, and therefore require more lime than dunged land. But the lime thus employed is good for the land, and for the quality as well as quantity of the produce; with plenty of vegetable manure, to saturate its alkalinity, there is less danger of over-liming. And by keeping the lime composted with earth, some months before using, it will be in a state of more intimate union with the soil, and consequently more congenial and wholesome, in its action on the plant, than when applied fresh and alone. Land exhausted by over-cropping is not immediately restored to fertility by the addition of the materials withdrawn, but requires more or less time for them to

become gradually diffused and incorporated. In composting this is done before-hand; and manures thus applied are ready to act at once.

The vegetable salts may be supplied to the land in wood ashes, which might be largely and cheaply imported from Canada to great advantage, if free from duty; but potass, the one most in demand, may be obtained in inexhaustible quantity, from our mountains of granite. The phosphates will doubtless continue to be supplied and increased by the importation of bones.

That well manured land will do without lying down in Grass, is manifested in the abundant produce of market gardens, some yielding from three to five successive crops in the year.

The rotation of crops should present no more difficulty, in pure vegetable culture, than where cattle are kept; although here all would be grown for the market. One-half of such an estate might be in corn and pulse, *i. e.*, Wheat, Barley, Rye, Oats, Peas, and Beans—here is sufficient variety for soil and climate. The root crops might comprise Potatoes, Turnips, Carrots, Parsnips; the green crops, Cabbage and other market vegetables, and even Tares and Clover for the town stables and dairy houses. Of the green manures there is no want of variety; Spurry, Rape, Mustard, Buckwheat, Lupin, to come in between crops; Tansey, Mugwort, Comfrey, and many other herbs of heavier produce but of slower growth, to be grown perennially on the worst parts of the estate, to cut and carry to those which are under market tillage.

These green manures enrich the soil, by drawing the organic elements from the air, and their inorganic, by their deep roots, from the subsoil; and their amount would doubtless be greatly increased by supplying them with the cheap and portable inorganic constituents, and the condition and produce of the land proportionately improved. They should also be destructive or obnoxious to grubs and other vermin.

On this system of culture, everything would go to market; there would be a quick return of money, and no outlay in cattle, and consequently less capital would do, but more labour. It would differ from market gardening, in growing necessaries rather than luxuries; in the use of the plough, and the cheapest means of production, in competition with ordinary field culture, rather than forcing, out of season, for high prices, and in the self-supply of organic manure; and if not suited to large farms in the present state of public habits and opinion, and still less to the unreasoning follower of antiquity, may it not yet save from impending ruin such of the numerous class of small farmers whose skill and energy, to make the most of all means within their reach, are fettered by want of capital, whilst giving the public the advantage of five-fold market produce from the land thus cultivated?—*J. Prideaux.*

Home Correspondence.

Experimental Farms in Ireland.—We unfortunately hear of great distress in Ireland from the want of food. Why should this lamentable state of things exist? The destruction of the Potato, on which the small farmers and working men in our sister country subsisted, could not be replaced, or a substitute found, without a great sacrifice on the part of England in providing sustenance for thousands who would otherwise have starved. To answer this demand, both public and private purses were freely opened, and brotherly kindness shown to our countrymen in distress (for we are one nation in prosperity and adversity). Assistance was cheerfully despatched to our suffering neighbours, and hopes were entertained that extraordinary exertions would be made by the Irish to cultivate the soil more thoroughly, and introduce other roots to replace those likely to fail for some time to come. Has this been done to the extent that might have been expected from a hardy and industrious race of men, backed by the knowledge and capital of those placed over them? This is worth serious inquiry. The capabilities of the Irish soil are equal to those of England, and why should the land not produce an abundance to meet the exigencies of the people? It is to be attributed to the disorganisation of society, and the want of capital as well as confidence. Remedy the former (which is in the power of the sons of Erin themselves), and English gold will soon find its way over the water, and become invested in Irish land, giving employment, producing activity and enterprise, and raising the Emerald Isle to the position she ought to occupy. England may have something to complain of in the want of energy during the last most productive summer, and the late mild winter. Let us, however, forget all that is past, which might cause the least unpleasant feeling between the two countries, and only remember the difficulties under which the Irish at present labour, and try if we cannot in some measure permanently alleviate the misfortunes of Ireland. To attain so desirable an end, I beg to propose that a subscription be entered into for the purpose of establishing experimental farms in the most distressed districts, to be cultivated entirely by spade husbandry and stall-feeding, the whole of the labour to be performed by Irishmen, the head man to be either Scotch or English, and the farms to consist of at least 200, and not more than 300 acres. I cannot help thinking much good would result from such an example, and the farms would be admirable schools for the instruction of first-rate workmen. Should such a project as I have here mentioned seem feasible and desirable, I am ready to contribute 5*l.* towards carrying it out, or 3*l.* per annum for three years.—*Spade.*

Highland Society and the Agricultural Chemistry Association.—I have read, with considerable surprise, the article in your *Gazette* of Saturday last, relative to the proposed assumption of agricultural chemistry as a department of the Highland Society. The impression which your remarks are calculated to make is, that, in connexion with the Society, the subject of chemistry would be very inadequately provided for. Previous to the special meeting of the Society, lately held for the consideration of the question of comprehending a chemical department within the scope of its arrangements, it is, no doubt, true that owing to the smallness of the Society's presently disposable revenue, an instant expenditure from its funds not exceeding 300*l.* a year, in support of chemistry, was contemplated; but the proceedings of the meeting have wholly altered the aspect of the case. These proceedings virtually put a *carte blanche* into the hands of the directors of the Highland Society as regards expense, and guarantee the provision of whatever additional revenue may be found necessary for securing to agriculture, under the auspices of the Society, the greatest benefit which the most skilful application of chemical science can confer upon it. A well-digested plan, constructed on a basis co-extensive with the wants of the country, and answerable to the requirements of the age, is expected to be submitted by the directors to the half-yearly meeting of the society to be held next month; and, in the meantime, I am aware that communications have been opened with some of the most distinguished chemists of which the united kingdom can boast. As respects the comparative advantages of an independent Chemistry Association, and of a chemical branch of the Highland Society, I am decidedly of opinion that it is in the power of the Society to undertake the subject of chemistry with a greater prospect of permanent success than any other body whatever.—*A Member of the Highland Society, and of the Chemistry Association; Edinburghshire, May* 8. [This is precisely our opinion too, and we expressed it in the article to which you object. We never doubted the power of the Highland Society to bestow on agricultural chemistry a more influential patronage than any other body in Scotland could exercise: but judging from the reports, its directors upon the resolution of the meeting on the 12th ult., which we understood to homologate their reports to, we certainly doubted its will. We have since been informed that an authority has been conferred on the directors, enabling, and in fact requiring, them to make sufficient provision for the furtherance of this science; and, of course, this entirely meets all the objections which lie against the plan we had understood them to recommend.]

Jethro Tull and the slow Progress of Farming Improvements.—The agricultural public have so long coupled my name with thin sowing, that I confess I have taken credit for having, as I fancied, introduced a new improvement of the first consequence in farming; but as I was beginning to feel myself at home to the honours, the work of Jethro Tull has come into my hands, and the gayest feathers in my wings I find to be the property of an agriculturist who died ere my grandfather was born. That there is nothing new under the sun has come home to me, by finding that my thin seeding, wide drilling, repeated hoeings, and minor estimation of manure against good cultivation, are to be found recommended in the strongest manner in a work written 130 years ago, and those to whom Jethro Tull's work has been open will hardly believe that I can have trod so directly in the path that he had so long opened before me without being conscious I was doing so; but this is not the fact, it is only within a week I have been aware of the resemblance between us; and it is with a view to encouraging other farmers in what I by experience have found to be a right and profitable course, that I wish to bring Jethro Tull's work again into notice. That extraordinary man William Cobbett by accident fell in with the writings of Jethro just as they, after ages of neglect, were passing into obscurity. His strong sense was struck with them; he saw beyond the times, and rescued them from death. In Cobbett's preface, at p. 10, he gives an account of an experiment of his in 1813, when he sowed 13 rods of land with Wheat on Tull's system, namely—in three ridges, a single row on a ridge, and the ridges 3 feet apart; against other 13 rods sown broadcast. The Tullian yielded 2 bush. 5¾ galls., the broadcast 2 bush. 7½ galls.; the first being at the rate of 33 bush. 6 galls. to the acre, the latter at the rate of 36 bush. ½ gall. to the acre. The broadcast was sown at the rate of 3 bush. per acre, the Tullian at 5 galls.; and deducting the seed sown, the account shows an increase—the Tullian of 33 bush. 1 gall. per acre, the broadcast 33 bush. ½ gall. per acre. Besides this experiment he (Cobbett) made another. Taking 10 feet of one of the rows, and thinning out the plants so as to leave only 12 plants in a foot, the produce of these 10 feet gave a wineglass more Wheat than where the row was not thinned out. This thinned Wheat would require no more than 1¼ gall. of seed to the acre, and produced at the rate of 31½ bush. per acre, and was, moreover, spring Wheat. In chapter vii., p. 108, Tull thus speaks, and I quote it because my experience fully bears out the truth—"The too great number of plants placed all over the ground in common sowings, have, whilst it is open, an opportunity of wasting, when they are very young, that stock of provision for want of which the greatest part of them are afterwards starved. Hence it is that the old method, exhausting the soil to no purpose, produces a less crop, and yet leaves less pabulum behind for a succeeding one." "In a large ground of Wheat it was proved that the widest hoed intervals brought the greatest crop of all." "Dung without hoeing did not equal hoeing without dung." At chapter xi., page 186, he recommends six gallons of Wheat, and only four gallons on rich land, as the seed of an acre; at page 199 he says, "If a square yard of sown Wheat (that is, broadcast—and 3 bushels to the acre) be marked out, and the stalks thereon numbered, in the spring, it will be found that nine parts in ten are missing at harvest." Again, at page 201, "The greatest difference of having an equal crop, from a small number of strong plants, and from a great number of weak ones, is that the soil is vastly less exhausted by the former than by the latter, not only from the latter's exhausting more in proportion to their number when young, and while each of them consumes as much nourishment as each of the small number, but also from the different increase that a strong plant makes, by receiving the same proportion of food with a weak one." "It appears, from Dr. Woodward's experiments, that the plant which receives the least increase carries off the greatest quantity of nourishment in proportion to that increase. It is the same with an animal; all who are acquainted with fatting of swine know they eat less when they thrive most, the fatter they grow the less they eat." Space is wanting for me to quote more from this old and valuable book. I trust I have introduced enough to show that as soon as scientific principles began to be applied to farming, thin seeding was seen to be part of a better practice; and strange to say, by thin seeding I too have discovered the very important fact which Tull has so strongly urged, namely, that the exhaustion of the earth is much less, notwithstanding the produce of grain is more.—*Hewitt Davis*, 3, *Frederick's-place, Old Jewry, London, May* 8.

Allotments.—A want of permanent employment is severely felt by a large portion of our population. This is an evil, capable however of mitigation, if not of removal. Before we look for fresh remedies, I think it but right to consider well those we have, and one is, the allotment system. By an allotment, I mean a piece of land which an individual rents to employ himself when his services are not required by the public. I will suppose such a person to be of good moral character, or determined to acquire one. Should he be a mechanic, he will possess a great advantage over a garden or farm labourer. A change of occupation produces a pleasurable sensation, and our town mechanics could take fine days for working on their land, whereas the services of the agricultural labourer are required by his employer in fine weather, and to him also there is no recreative change. I think the spare time of a labourer should be spent in mechanical labour, which would also employ him when the severity or ungenial state of the weather or ground hindered field operations. Now there is no real difficulty in this. Let the farm labourer become a good gardener as far as the cultivation of his land is concerned, and he will then be able to instruct the mechanic in the management of his land, and in his turn the mechanic will instruct the other in many useful arts, teaching him to produce by his labour what he could not afford to buy. This will not injure trade, as a man cannot spend more than he receives; but he can earn much more than he can sell or get wages for, owing to the over production and limited consumption of wealth, and the scarcity of the medium of exchange. It is essential, in order to reap the greatest possible benefit from the land, that the person produce such articles as he most wants—as corn for bread, food for pig, roots for food in winter, fruit and Rhubarb for pies and puddings—that his small money earnings may be applied as productive capital, to produce ultimately a larger amount of benefit, and also to be better prepared for the contingencies of sickness, age, &c. Again, there is a striking difference in the mental state of the mechanic and the labourer. The mechanic reads and thinks; all he wants is a little instruction how to apply his knowledge, time, skill, &c., to his land. But the labourer in general is a mere tool in the hands of others; he thinks as they wish, and neither think correctly. He has greater physical strength than the mechanic, but he does not think. Books are written in a language dead to him, for they contain not the phrases of country life. Lexicons are unknown to him; and yet he is no way inferior, he only requires cultivation and polish. Wherever there are a number of allotments a library should exist, not for works of fiction, but works of really practical benefit. I would not encourage them to emulate each other, but rather to assist each other in reaching a high standard of perfection. I would not have them grow for sale, as they must sell cheap and buy dear. I have thought much on this subject. We are fast becoming a pauper population, losing all idea of self-employment, at the only time when it is laudable; that is, when no one wants our services. But a brighter day will yet dawn on us; there is scope for all our labour, without clashing with each other, but few or hardly any perceive it. As the grandson of a labourer, the son of a gardener, and a gardener myself, I feel deeply interested in remedial measures, and am practically testing those things myself.—*George Woodard.*

Butter.—Your correspondent "D." makes some interesting inquiries respecting this useful article. A near relative, who kept a few cows, near Derby, was always successful with her butter, when a neighbour, who made on his farm as many as four large cheeses a day, whenever he churned was always the reverse, sometimes churning six or eight hours and more. My relative always churned in the kitchen near the fire, and accomplished her task in almost as many minutes, 12

or 14 lbs. of butter in her small way. That peculiar knack had much to do with it was proved, by others in in the house not being able to do the like in so short a time; as also temperature, for the neighbour succeeded better after having the churning chamber heated previously to going to the work. When cream was very short in quantity she used to churn by shaking the cream in a large wide-mouthed quart bottle, and made excellent butter. One of the fields she occupied, at the end of which rippled a small brook, was signalised by a very curious circumstance attending the butter made whenever the cows were grazed on it. The butter was very hard, and very difficult to unite, cracking and crumbling in all directions after being made up into squares. Some herb was supposed to produce this effect. She had a black Scotch polled cow, the cream from which during one week in the season produced 14 lbs. of butter, and 10 lbs. continually.—*D. S. E.*

Trine Calves.—The successful rearing of three calves at one birth is sufficiently rare to deserve being recorded in the *Agricultural Gazette*. I have just seen an example which does credit to the management of the owner, Mr. Bond, of Swardeston, Norfolk. They were dropped on the last night of the old year. As is mostly the case with twins among cattle, one of them had a wrong presentation, and the cow was obliged to be assisted; there are two females and a male; two of them would be thought fine calves anywhere, and the third is superior to many a stunted bud that one sees. Their proprietor intends bringing them up, so that a very unusual opportunity will occur of ascertaining whether the alleged barrenness, which was demonstrated by John Hunter, from actual dissection, to be inherent in the few free-martins he could procure, extends also to cases where three calves are produced. As far as one can guess, it seems likely to do so. Their mother is a handsome beast, polled, of a dunnish brown; she is said to have short-horn blood in her veins, but the Suffolk duns appear to have had most to do with her pedigree. The sire is a home bred. The calves have been plentifully fed, but have had no unusual diet; milk, linseed-meal boiled in water, cut hay, and Swedes. —*E. S. Dixon.*

When to Pay Wages.—To the many valuable suggestions which have appeared in your Paper for improving the condition of the agricultural labourer, allow me to add the following—that his wages should be paid upon some other than Saturday evening. By this plan money will be applied to useful purposes, which is too often squandered away in mere idleness upon the Sunday. If he be married, it will give his wife the command of the neighbouring market. It will encourage habits of ready-money dealing, and will oblige, or rather enable, the village chandler to supply better articles, when he no longer retains his customers by the necessity of Saturday night; or, if they supply their wants at a more convenient season, by the bonds in which a too easy credit has enthralled them. [We quite agree with you, and have for some time adopted your suggestion.] P.S. I cannot forbear also calling your attention to what I must term the Sunday market which is held about Drury-lane and many other parts of London. Upon whom does the sin of this desecration of the Sabbath rest, but upon those tradesmen who, by delaying their payments to perhaps 11 o'clock on Saturday night, are thoughtlessly lending their aid to this most pernicious monopoly? a monopoly shared only by the most unscrupulous, and who, if I am rightly informed, do not hesitate to grind down the poor by a higher price upon the Sunday.—*Faunus.*

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A Weekly Council was held at the Society's-house, in Hanover-square, on Wednesday last, the 10th of May: present, Mr. Thomas Raymond Barker, in the chair; Hon. Capt. Dudley Pelham, R.N.; Hon. H. W. Wilson; Sir Matthew White Ridley, Bart.; Sir John V. B. Johnstone, Bart., M.P.; Mr. Almack, Mr. John Raymond Barker, Mr. Beale Browne, Mr. Bosanquet, Mr. Burke, Col. Challoner, Mr. Fuller, M.P.; Mr. Baskerville Glegg, Mr. Hyett, Mr. Kinder, Col. MacDouall, Mr. Milward, Mr. C. E. Overman, Mr. Parkins, Mr. H. Price, Prof. Sewell, Mr. Stansfield, M.P.; Mr. Thompson, Mr. T. Turner, Mr. T. R. Tweed, Prof. Way, Mr. Bullock Webster, Rev. C. Blair Warren, and Mr. G. Wilbraham.

Mr. Henry Waters, of Sutton, near Seaford, Sussex; Mr. James F. Burrell, jun., of Manor Farm, Frimley, near Bagshot, Surrey; and Mr. Thomas Fison, of Barningham, near Ixworth, Suffolk; were elected members of the Society.

Prize Essays.—Mr. Pusey, M.P., Chairman of the Journal Committee, reported to the Council the further adjudication of prizes by the judges of Essays. The sealed motto-papers corresponding with these Essays being opened by the chairman, the adjudications were found to stand as follows:—

The Prize of 50*l.* for the best report on the Farming of the West-Riding of Yorkshire, awarded to John H. Charnock, of Wakefield, one of the surveyors under the Drainage Act.

I. The Prize of 50*l.* for the best report on the Farming of Gloucestershire, awarded to John Beavender, Land-Agent and Surveyor, of Cirencester.

II. The prize of 50*l.* for the best report on the Farming of Devonshire, awarded to Henry Tanner of the Hermitage, near Newbury, Berkshire.

Lectures at York.—A letter was received from Professor Johnston, of Durham, expressing his willingness to deliver a lecture before the members of the Society on the occasion of the ensuing York meeting in July, agreeably with the request made to him by the Council at their previous meeting.

Norwich Meeting.—The official agreement with the authorities of Norwich was received from the Corporation of that city, and ratified in the presence of the Council under the great seal of the Society, agreeably with the powers of the Charter.

Probangs and Trocars for Cattle.—Professor Sewell presented to the Society further specimens of instruments of practical utility in cases of choking, or of the hove, in cattle, and favoured the Council with additional directions connected with the use of each apparatus. He also presented, for the inspection of members, the model of an ox, on which was marked the exact spot where, in the case of hove, the trocar ought to be inserted through the inflated hide into the rumen or paunch, namely, a full hand's breadth below the loins, and behind the last rib, on the left side of the animal. The laterally perforated cylinder, after the stiletto had been with drawn, might remain in its place of insertion even until the following day, if gas continued to be evolved; and on its removal, an adhesive pitch plaster might be applied over the punctured orifice. The elastic probangs presented by Professor Sewell were very useful for unchoking horses, colts, calves, or other stock, by dislodging the impeding food from the gullet, and were much preferable to the hempen ropes often used instead of probangs for that purpose.

Shoeing Horses.—Mr. George Turner, of Barton, near Exeter, having presented at the former meeting of the Council, a set of Mr. Miles's model hoofs, illustrating the mode of shoeing horses advocated in that gentleman's work on the Foot of the Horse, a copy of which Mr. Turner also presented at the same time, an interesting discussion ensued on this subject, in which Mr. Thomas Turner, Professor Sewell, Colonel Challoner, and Mr. Parkins took part. Mr. Turner stated that the system of shoeing advocated by Mr. Miles, was known in the profession as the "unilateral" (or side-nailing) mode, in which the shoe was nailed to the hoof with the most decided effects in preventing the navicular disease to which the horse's hoof was so frequently liable; a system, he added, which in common justice he might be allowed to say was founded upon the important principle discovered by his brother, Mr. James Turner, V. S., of Regent-street, and published by him many years ago in his work on the Foot of the Horse, of which at the next meeting of the Council a copy should be presented for the acceptance of the Society.—Prof. Sewell remarked that he had found old horses shod with a layer of leather, forming an artificial sole, between the shoe and the hoof, recover from the severe affections arising from injury to the hoof; such, for instance, as contractions, brittleness, sand cracks, or diseases even of the foot itself, such as thrushes, canker, and corns, and perfectly regain their original elasticity and firmness: he also strongly advised that all horses for road or street work should be shod in that manner, during the whole period of their being required for use. The plan in question had been employed by Prof. Sewell for the last 30 years. The leather sole prevented that concussion from taking place against the sensitive part of the foot, which resulted in inflammation; and, by excluding all injurious substances from the hoof, those frequent accidents were avoided which are from the falls resulting from the bruising and puncturing occasioned by such hard and sharp substances in the natural horny sole. The plan required a little practice to carry it out successfully, and it was not with an injudicious regard to economy to be abandoned, when after its adoption for some time it might seem, from the apparent soundness and safety of the feet, that the horses no longer required it.—Colonel Challoner observed, that 17 years ago Mr. James Turner had explained to him the principle of unilateral nailing, to which the attention of the Council was then called, and had practised it on Colonel Challoner's horses for the avowed purposes of promoting the expansion of the hoof; but Colonel Challoner had since that time been led to adopt the plan of felt-shoeing for shell-footed horses, namely, that of inserting, instead of leather, as practised by Professor Sewell, nothing more than thick felt, or thick gun-wadding, between the shoe and hoof of the horse. He had found this plan productive of the most beneficial results.—Mr. Parkins had also employed Mr. James Turner many years ago to shoe his horses on the unilateral principle.

Water Power.—Mr. Babrazon (author of a work just published on the deep sea fisheries of Ireland), having had great opportunities of experiencing, in remote localities, the advantage, both in economy and efficiency, of the application of water power to the working of machinery connected with farm homesteads, had prepared a paper on that subject, which he placed at the disposal of the Council. The Council having given to Mr. Babrazon their best thanks for this mark of his attention to the objects of the Society, and referred the communication with which he favoured them to the Journal Committee, an interesting discussion ensued on the subject, in which Mr. Beale Browne, Mr. Hyett, Col. Challoner, Mr. Fuller, M.P., and the Rev. Mr. Blair Warren, detailed to the Council the results they had in their own cases respectively obtained in availing themselves of apparatus for the transfer of hydraulic power to their machinery. Mr. Browne and Mr. Warren particularly referred to the forcing pump with air chamber, made by Mr. Legg, of Cheltenham; Mr. Hyett to a Montgolfier's hydraulic ram which he had had in use, and with the most satisfactory results, for the last 20 years. Col. Challoner to the general principles of construction and economy of action in the various mechanical apparatus designed for purposes of the kind in question; and Mr. Fuller to the amount of work performed by the moving power applied to the various objects of agricultural machinery at one of his farms in Sussex.

Miscellaneous Communications.—Letter from Mr. Bates, of Kirklevington, on the award of prizes for short horned cattle; from the New York State Agricultural Society, on agricultural communication; from Mr. Hill Dickson, on the advantages of his Fan machinery to be exhibited at the York Meeting, and his request for a scrutiny into its originality, and a trial as to its peculiar merits, at that meeting of the Society; from Mr. J. W. Lloyd, on a rich marl adapted for Wheat cultivation, and an incidental analysis of its chemical constitution; Fourth Report from the Royal College of Veterinary Surgeons; two copies from Prof. Simonds of his work just published on the Liver-poz, illustrated with coloured plates, the gift Prof. Sewell, who informed the Council that he expected to have to report that the disease in question had again broken out among sheep and land and had occasioned great loss to their owners; from Mr. W. B. Taunton, a copy of the Queenwood Reporter; from Mr. Fleming, a copy of his work on Agricultural Statistics; and from Messrs. Easton and Amos, of St. Grove, Southwark, a specimen of oil-cake obtained by their new press at eight times the rate of production, and with the result of more compact cakes, and a greater amount of oil.

The Council ordered thanks for these communications; and having referred Mr. Dickson's request to the Stewards of the Yard, and Mr. Lloyd's analysis of marl to Prof. Way, adjourned to Wednesday next, the 17th inst.

Council Meetings.—Mr. Miles, M.P., having called the attention of the Council, at the last monthly meeting, to the convenience to all parties with which an alteration in the day of the meeting of the Council would be attended, it was moved by Lord Portman, seconded by Mr. George Turner, and carried unanimously, "That, after the current month, the day of the Council meeting should be changed from Wednesday to Tuesday."

Calendar of Operations.

MAY.

Berwickshire Merse Farm, *May 5.*—Since last report we have been employed in ploughing for spring crops, harley and Grass seeds, in carrying tiles for draining, and for the house, and in threshing Wheat for the market. Two men have been employed in burning turnips. Two of the horses to Grass; a man and a boy tending the cattle; three men mending fences.—*J. B.*

East Lothian Farm, *May 7.*—May has set in fine. We have had a week of excellent weather for farming operations. The work during the week has been principally harrowing, and cleaning; also making up drills, carting manure, spreading and covering the same, intended for Swede Turnips that will be sown next week; likewise sowing Grass seeds amongst Wheat which has been sown with broad-cast machine, and rolling in the same to destroy a braird of annual weeds; also rolling late sown Oats and Barley. Ewes now all lambed, also not many twins. Grass is plentiful, and there is a great supply of stored Swede Turnips.—*S.*

North Essex Farm, *May 8.*—During the last week we have been ploughing and preparing the land for Mangel Wurzel, which we hope to finish planting in the course of a few days. We grow this crop upon small ridges; the rows being 20 inches apart great facility is afforded for the use of the horse hoe, which we keep in constant use as long as required. We are dibbling in about 5 lbs. of seed per acre. Our men hands have been employed in hoeing Beans and Wheat, rolling Oak trees in the hedgerows, and peeling the Larch.—*J. B.*

North Lincolnshire Farm, *May 8.*—We have finished sowing small seeds since last report, and have commenced cross cutting fallow for Turnips, rolling the land sown with corn, threshing Wheat, and tying up for thatch.—*A. C.*

Pembrokeshire Farm, *May 1.*—Since last report we have been preparing the remainder of land for Barley sowing, 9 acres, at the rate of 2½ bushels per acre, which is now finished, under favourable circumstances; part of it being a heavy clay soil required much labour to bring it to proper tilth; we find the Norwegian harrow a very effective implement in this respect, abridging the work greatly, and leaving a fine pulverised surface for receiving the Grass seed and Clover. We have harrowed and rolled in Grass and Clover seed among part of the Wheat, which has suffered much from the wet and cold weather. Beans and Oats have come up well, likewise the early sown Barley. At present we are employed in planting Potatoes, the plants under the dung, there being three persons at work, all following each other, the planters and spreaders keeping close by the last plough, each furrow being 16 inches broad makes the rows 30 inches apart; there are 2 carts and carts carrying the manure to the field, which is covered in immediately, and not allowed to evaporate. The pastures have improved greatly the last few days; they have now a very healthy appearance. Calves nearly all weaned, and are now out to Grass all day and in all night, getting cut Swedes and hay. Store cattle are all in sheds and have been receiving as many Swedes as they can consume. We prefer letting the pastures well up before turning out stock of any sort. Ewes and lambs thriving well, having been turned into a field of young Grass and Clover a few weeks ago. Rye-grass and Clover intended for hay have a very promising appearance.—*J. H., Castle Malgrave.*

Somersetshire Farm, *May 8.*—For this last week we have been engaged in hauling, spreading, and ploughing dung for, and planting Mangel Wurzel, putting them in drills 27 inches apart and 12 inches between the plants. Hoeing Wheat, paring and burning turf preparatory for Swedes. Cultivating, harrowing, and rolling for Peas and Beans.—*R. C.*

South Devon Farm, *May 8.*—Since our last report the weather has been very favourable for farming operations, enabling us to sow in very good order a portion of our land intended for Barley, manured with 2 cwt. of Peruvian guano per acre, and seeded out with the following Grasses:—1 lbs. of Cow-grass Clover, 2 lbs. of Rib and 1 peck of Italian Rye-grass per acre; also ploughing and working, with the assistance of the clod-crusher, another portion of land intended for Barley, which will, in the course of another day, be ready to receive the seed. Everything is now showing, by its luxuriant appearance, the benefit derived from the warm weather, and the young Wheat is fast losing the yellow tinge which it derived from the late heavy rains.—*T. M.*

Stirlingshire Carse Farm, *May 6.*—We have been employed this week with preparing Barley land for sowing, and also with

finishing it for sowing with Grass seeds. The weather now having become both dry and warm, the land is looking as well as could be wished for, and all the other crops are getting on astonishingly since the beginning of the week.—*W. F.*

Sussex Farm, *May* 8.—The weather is now very dry and warm. We are still busy ploughing, harrowing, rolling, dunging, and planting Potatoes and Mangold Wurzel. Breadth of drills for Potatoes 28 inches; from plant to plant 12 inches; breadth of Mangold Wurzel drills 27 inches; from plant to plant 12 inches. We drill and cover in the dung with the Scotch swing plough. Men filling and spreading dung, and turning up dung in yards, as the young stock are now gone to Grass. Women spreading dung, planting Mangold Wurzel and Potatoes, and pulling Thistles out of Wheat. The Wheat crop improves very much with the fine weather. Our first sown Oats looked beautiful till the beginning of last week, when wireworms made their appearance, and they have every sign at present of spoiling the crop. I am now rolling them the second time with a heavy roller. We have tried a plan for emptying the tanks on to the meadows with wooden shuts, [?] which answers uncommonly well. Three men put as much liquid manure on the meadows in one day as eight oxen and one man used to put on in six days with the water cart.—*J. B.*

Notices to Correspondents.

Agricultural Seed Lists—We beg to recommend to seedsmen the practice adopted, and very well executed, by Mr. Wheeler, of Gloucester—Seedsman to the Gloucestershire Agricultural Association—of appending to the name of each variety that is offered a full statement of its character and peculiarities, with details of the cultivation and management it requires. This would serve their interests by inducing the careful perusal of their advertisements, and there can be no doubt that it would serve the interests of their customers.

Amateur Farm, Monmouth—*T D*—If you will be so good as give your address we will forward a letter to you.

Ammonia—*Neophyte*—Quicklime will detach it from any of its combinations. It should not be added to dungheaps, however the ammonia in them may have been "fixed."

Deep Draining—*J H*—The structure of the subsoil may perhaps explain the anomaly. Is it made of beds sloping towards the east? Sugar waste, according to its constitution, must be worth many times more than farm-yard manure; but we have no experience. Can any one state the result of experiments with it?

Early Green Food for Horses—*D Mackie*—We have no difficulty in England. Carrots and hay, Rye and hay, Italian Rye-grass, and then Clover, form the gradation from winter to summer keep. Italian Rye-grass will be at its best here in the last week of May. It should be sown in spring, but will often answer well enough in our climate if put in on a corn stubble in the autumn.

Emigration—*An Exile* says, "I am about to emigrate to Australia, with the intention of devoting myself to agricultural pursuits. I am very uncertain whether to take any, and what, agricultural implements, or seeds. If any one would advise me, they should have my best thanks."

Farm Buildings—*A B*—Corrugated iron roofing will answer your purpose perfectly. We speak from experience. We do not know the "Y. L." plough.——*A B*—Petherton, West Lambrook, 18 miles from Taunton, Somersetshire.—Next week.

Gas Lime—*J Burton*—As it comes from the gas works, it is partly quicklime and partly hydrosulphuret of lime. By exposure to air it absorbs oxygen, and the former becomes carbonate, and the latter ($HSCaO$) becomes ($HO+SO_3CaO$), sulphate of lime or gypsum.

Herd Book—*A O H*—Edited by H. Strafford, Esq. Your bookseller can get it; and you can address the editor, through the publisher.

Italian Rye-Grass—*J B H*—Can any one, from experience, say what extent of an average crop would keep three horses and three cows from May 6 till the end of October?

Liquid Manure—*A O H*—Apply it diluted *in wet weather*, on your Grass land.

Mangold Wurzel—*R B*—It will not be safe to sow so late as the 29th of May; but you may transplant in June with the certainty of a good crop, from well cultivated land, in a wet season. Turnips and Rape are almost your only other crops after May. Fresh bones, allowed to ferment and sprinkled with dilute sulphuric acid, will be found to contain both phosphorus and ammonia. We regret our inability to inform you regarding the hospitals you name.

On Purging—*F C*—The best food you can give the cow is Beans, or rather, Bean meal, which will both act as an astringent, and also increase the production of milk. The green food may then be continued. If this does not succeed, give sweet hay in addition, and if the purging continues, give the following: Tincture of opium, 1 oz.; prepared chalk, 3 oz., in thick Wheat-flour gruel once a day. *W. C. S.*

Rearing Calves—*J Younge*—We will do so, but cannot immediately.

Salting and Drying Green Food—*W P*—We have made enquiry.

Spade Husbandry—*Neophyte*—3*d.* per 5¼ yards square should be the cost of digging 10 to 12 inches deep. Mr. Yule says 50*s.* per acre, 14 inches deep; and digging into drills, 12 inches deep, 1*l.* 6*s.* 8*d.*

Steaming Apparatus—*Hillside*—You had better apply to Messrs. Richmond, of Salford.

Wheat—*Agricola*—We are unable to distinguish the ear from one of the sort named Piper's Thickset. It has a very dwarf straw, and may therefore probably be well suited for cultivation on rich soils. The sample of what we have grown is not remarkably good.

*** Communications reaching town after Wednesday cannot be answered the same week.

Markets.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, May 11.

Prime Mead. Hay	70s to 75s	New Hay	—s to —s	Straw	28s to 32s
Inferior ditto	60 65	Clover	80 92		
Rowen	— —	New Clover	— —	J. Cooper.	

CUMBERLAND MARKET, May 11.

Prime Mead. Hay	72s to 78s	Old Clover	9s to 95s	Straw	28s to 32s
Inferior	55 65	Inferior	70 84		
New Hay	— —	New Clover	— —	Joshua Baker.	

WHITECHAPEL, May 11.

Fine Old Hay	68s to 72s	Old Clover	90s to 95s	Straw	26s to 30s
Inferior Hay	55 60	Inferior	70 80		
New Hay	— —	New Clover	— —		

HOPS, Friday, May 12.

Messrs. Pattenden and Smith report that the hot weather for the last fortnight has caused the young Hop bines to make considerable progress up the poles on most of the dry soils, but on the stiff and wet lands the bine is still suffering from the effects of the late wet weather. The fles in places is doing some injury, and the fly has been found slightly in several places. The duty is estimated at about 150,000*l.* The demand for fine Sussex and Weald of Kents still continues at late prices.

Mid. & East Kents, p. cwt.	63s to 100s	Yearling Kents, p. cwt...	48s to 60s
Weald of Kents	— — 68 — 75	Yearling Sussex	48 — 58
Sussex	— — 56 — 70	Old Hops	20 — 40
Farnhams	— — 80 — 120		

POTATOES, Southwark, Wateside, May 8.

The Committee report that the arrivals during the past week have been few both coastwise and from the Continent, still there has been quite enough for the demand, which has been very limited. The following are the present quotations:—York Regents, 140s to 180s; Shaws, 80s to 100s; Essex Regents, 120s to 130s; Blues, 120s to 130s; Wisbeach Regents, 90s to 120s; Blues, 80s to 120s; Belgian Whites, 90s to 100s; Guernsey Blues, 120s; Scotch Whites, 95s. to 100s.

COVENT GARDEN, May 13.

The market is well supplied with Vegetables and most kinds of Fruit. Pine-apples are sufficient for the demand. The supply of foreign Grapes is well kept up; hothouse ones become more plentiful. Nuts are sufficient for the demand. Filberts fetch from 14s. to 20s. per 100lbs. Oranges are abundant. Lemons are moderately plentiful. Strawberries are pretty plentiful. Among Vegetables, we noticed young Carrots and Turnips; the former fetch from 6d. to 2s. a bunch, the latter from 1s. to 1s. 6d. Cauliflowers, Broccoli, Greens, &c., are plentiful. Asparagus is very plentiful. Sea-kale is scarcer. French Beans fetch from 1s. to 2s. per 100. Jrsame Potatoes may be bought at from 1s. to 2s. per lb. Lettuces and other salading are sufficient for the demand. Mushrooms are a little dearer. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Rhododendrons, Fuchsias, Carnations, Auriculas, Acacias, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 6s to 10s	Lemons, per doz., 1s to 2s
Grapes, hothouse, per lb. 5s to 10s	Lemons, per 100's, 6s to 14s
— Portugal, per lb., 1s to 3s	Almonds, per peck, 6s
Strawberries, per oz., 3d to 1s	— sweet, per lb., 2s to 3s
Apples, dessert, per bush., 5s to 12s	Walnuts, per bush., 12s to 18s
— kitchen, p. bush., 4s to 7s	Nuts, Barcelona, per bush., 20s to 22s
Gooseberries, green, p. pottle, 6d to 1s	— Filberts, per 100 lbs., 14s to 20s
Apricots, green, p. pottle, 6d. to 1s	— Cob, per 100 lbs., 25s to 30s
Oranges, per doz., 9d to 2s	— Brazil, per bush., 12s to 16s
— per 100, 3s to 12s	Chestnuts, per peck, 3s to 6s
— bitter, per 100, 8s to 16s	

VEGETABLES.

Asparagus, per 100, 1s to 4s	Onions, pickling, p. hf. sieve, 2s to 3s
Cabbages, per doz., 6d to 1s	Shallots, per lb., 6d to 8d
— Red, per doz., 6s to 12s	Garlic, per lb., 3d to 1s
Greens, p. doz. bunches, 9d to 1s 6d	Seakale, per punnet, 9d to 1s 6d
Cauliflowers, per doz., 1s 6d to 3s	Rhubarb, per bundle, 4d to 1s 6d
Broccoli, per bundle, 9d to 2s	French Beans, per 100, 1s to 2s
Sorrel, per half sieve, 6d to 9d	Radishes, per doz. bands, 6d to 1s
Potatoes, per ton, 100s to 160s	— Turnip, do., 1s to 1s 6d
— per cwt., 5s to 8s	Artichokes, Jerusalem, p. hf. sieve, 1s
— per bush., 3s to 4s 6d	Lettuce, Cab., per score, 4d to 9d
— Kidney, per bush., 4s to 5s	Endive, per score, 1s to 1s 6d
Turnips, p. doz. bunch., 1s 6d to 3s	Mushrooms, per pottle, 6d to 1s
Red Cabbage, per doz., 6d to 1s	Small Salads, per punnet, 2d to 3d
Horse Radish, per bundle, 1s to 4s	Fennel, per bunch, 2d to 3d
Cucumbers, each, 6d to 2s	Savory, per bunch, 3d to 4d
Leeks, per doz., 1s to 1s 6d	Thyme, per bunch, 3d to 4d
Celery, per bundle, 6d to 1s	Watercress, p. 12 small bun., 6d to 9d
Carrots, per doz. bunches, 3s to 5s	Parsley, per half sieve, 6d to 9d
Spinach, per sieve, 9d to 1s	— Roots, per bundle, 1s to 1s 6d
Onions, per bush., 3s 6d to 5s	Mint, green, per bunch, 2d to 4d
— Spanish, per doz., 1s to 4s	Marjoram, per bunch, 6d to 9d

SMITHFIELD, Monday, May 8.

We have to-day an extraordinary supply of Beasts, both as regards number and quality. The weather being very hot, and the dead trade exceedingly bad, the demand is small; we have consequently a heavy trade at lower prices. Although 4s. 4d. in some few instances has been realised for a choice Scot, it cannot be quoted as an average of choice qualities. The number of Sheep is also consider.ably increased, and the demand decreased; trade is very heavy, at a reduction in most cases of 4d. per 8lbs. Some of the completest Downs make 5s. 2d. short; there are so few come in the wool now that we cease to quote them. Lamb is more plentiful, and although there is a considerable inquiry for it, prices are rather lower. Several Beasts and Sheep remain unsold. Calves meet with a dull sale, but we cannot discover any material alteration in value. Trade is worse for Pigs, owing to the hot weather. From Holland we have 744 Beasts, 870 Sheep, and 64 Calves; from Scotland 400, and Norfolk and Suffolk 2200 Beasts.

Per stone of 8 lbs.—s	d	s	d	Per stone of 8 lbs.—s	d	s	d
Best Scots, Herefords, &c. 4	0	to 4	2	Best Long Wools	....		
Best Short Horns ... 3	8	— 4	0	Ditto Shorn	4	6 — 4	8
Second quality Beasts .. 2	10	— 3	4	Ewes and second quality	....		
Calves 4	0	— 5	2	Ditto Shorn.....	3	8 — 4	4
Best Downs & Half-breds				Lambs.....	6	0 — 6	8
Ditto Shorn 4	10	— 5	2	Pigs	4	0 — 5	0

Beasts—3744. Sheep and Lambs—21,690. Calves—152. Pigs—290.

Friday, May 12.

The number of Beasts fresh up to this day's market is by no means large. The supply mainly consists of a large number left over from Monday, with about 150 Scots, Holland, and 112 Milch Cows. There are very few buyers, owing to the state of the dead markets; 4s. 2d. for best Scots, and 4s. for Short Horns are extreme prices. The supply of Sheep and Lambs is not so large; quite adequate, however, to the demand. Best Downs make 4s. 2d. to 5s. other kinds the same as on Monday. Trade for Lamb is rather brisk; the best kinds make 2d. per 8 lbs. advance, but other qualities are no dearer. From Holland there are nearly 500, and 150 Calves. Although the supply of Calves is large choice ones are not plentiful, and still make 5s. Trade is dull for Pigs, owing to the warm weather.

Best Scots, Herefords, &c. 3	10	to 4	2	Best Long Wools.....	....		
Best Short Horns 3	8	— 4	0	Ditto Shorn.....	4	6 — 4	8
Second quality Beasts .. 2	8	— 3	4	Ewes and second quality	....		
Calves 4	0	— 5	0	Ditto Shorn	3	8 — 4	4
Best Downs & Half-breds				Lambs.....	6	0 — 6	10
Ditto Shorn 4	8	— 5	9	Pigs	4	0 — 5	0

Beasts—746. Sheep and Lambs—6760. Calves—420. Pigs—320.

MARK LANE, Monday, May 8.

Messrs. Kingsford and Lay report that the supply of English Wheat at this morning's market was small, nevertheless millers declined purchasing at a reduction of 2*s.* per quarter; owing to the Baltic ports and Hamburgh being blockaded by the Danes, some factors refused to accept lower prices for foreign, but little progress could be made with sales at 1*s.* per qr. under the rates of this day se'nnight.—Barley fully realises our quotations.—Beans are unaltered.—White Peas 2*s.* per qr. higher.—Oats are held for 6*d.* to 1*s.* per qr. advance.—There is no difference in the value of Flour.

British per Imperial Quarter.	s	s		s	s
Wheat, Essex, Kent, and Suffolk ..... White	48	58	Red.....	43	47
Ditto Norfolk, Lincolnshire, and Yorkshire ...	44	48	White	44	50
Barley, Malting and distilling, 27s to 29s	Chevalier	30	34	Grinding	25	27
Oats, Lincolnshire and Yorkshire.....	Polands	21	25	Feed	19	23
Northumberland and Scotch	Feed	21	23	Potato ..	22	25
Irish	Feed	18	22	Potato ..	22	24
Malt, pale, ship.....		—	—			
Hertford and Essex		—	—			
Rye.....		27	30			
Beans, Mazagan, old and new ....Tick..		30	42	Harrow..	30	44
Pigeon, Heligoland 33		50	....	Winds	—	—
Peas, White.....	34	36	....	Maple	35	37
				Grey	30	33

Friday, May 12.

The arrivals of all Grain and Flour, either foreign or English, since Monday are moderate. The market has been thinly attended, and the sales of Wheat were limited. Nevertheless, prices are fully maintained for all descriptions.—Barley is held for rather more money.—Peas are fully as dear; also Beans, and Egyptian afloat meet an improved inquiry.—Oats must be written 1s. per qr. dearer.

[During the last eight days the weather has continued uninterruptedly fine and warm, causing a general dulness in the Wheat trade throughout the kingdom, which has been followed by a decline varying in the several markets from 1s. to 3s. per qr. Owing to the scarcity of fresh foreign, its late value has been better maintained, and little alteration has occurred. The weather being considered unfavourable for the Barley crop, former quotations have been supported, and a general disposition evinced to purchase, either on the spot or for arrival. Beans, owing to the quantity of Egyptian which continue to be offered at 21s. to 22s. per qr., including freight and insurance to a safe port of the United Kingdom, have not undergone any change.—White Peas are scarce, and the crop having suffered in places, prices have advanced 2s. per qr.—Oats, in consequence of short supplies and the interruption to Baltic business, are 1s. per qr. dearer.—No alteration in the value of Wheat has occurred in the Baltic; business] was almost at a standstill. Stocks generally are small, and it continues uncertain whether the usual export from Russian Poland will be permitted.—Odessa letters of the 28th ult. quote a reduction in Wheat there to 2s. to 26s. 6d. per qr. f. o. b., or 30s. to 34s. per qr. including freight to Great Britain.—Accounts from Boston and New York of the 21st and 23d ult. represent the Flour and Grain markets there firm, and prices as last quoted.]

Imperial Averages.	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
April 1	51s 10d	31s 5d	20s 2d	29s 8d	35s 7d	36s 4d
— 8	51 6	32 2	20 7	29 6	35 3	38 3
— 15	49 7	32 2	19 11	28 10	35 6	36 11
— 22	48 10	32 1	19 8	29 7	35 3	38 2
— 29	49 6	31 10	19 8	29 0	34 9	37 6
May 6	50 1	32 4	19 8	31 11	35 7	36 3
Aggregate Average	50 3	32 0	19 9	29 9	35 4	37 3
Duties on Foreign Grain	7 0	2 0	3 0	2 0	2 0	2 0

Fluctuations in the last six weeks' Corn Averages.

Price.	April 1.	April 8.	April 15.	April 22.	April 29.	May 6.
51s 10d—	...	...	...	...	...	...
51 6	...	...	...	...	...	...
50 1	...	...	...	...	...	...
48 10	...	...	...	...	...	...
49 7	...	...	...	...	...	...
49 6	...	...	...	...	...	...

SEEDS, May 8.

Canary .....per qr.	60s to 68s	Linseed-cakes, Foreign, p. ton, 8*l* to 10*l*	
Caraway ..... per cwt.	34 36	Mustard, White, p. bush, 7s 0d to 9s 0d	
Clover, Red, English	35 44	Superfine, p. bush, — —	
— Foreign	35 50	Brown, per bush.... — —	
White, English	38 44	Rapeseed, Eng., per last..... 28*l* 32*l*	
— Foreign	38 42	Rape-cakes .....per ton 5*l* 10s 6*l*	
Coriander.....	13 20	Sainfoin ..... — —	
Hempseed .....per qr.	40 41	Tares, Eng., winter, p. bush., 5s 0 7s 0	
Linseed.....	41 51	Foreign, per bush., 3s 6 6s 0	
— Baltic.....	— —	Trefoil 17s 0 20s	
— Cakes, Eng. p.l 000,	12*l* to 13*l* 5s	Turnip—too variable for quotation.	

SEEDS.—CORNER OF HALF-MOON-STREET.

THOMAS GIBBS and Co.,

(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND,"

Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

Priced Lists of Agricultural Seeds are always ready, and may be had on application.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

STRONG HORTICULTURAL 16-oz. SHEET GLASS FOR CONSERVATORIES, GREENHOUSES, PITS, FRAMES, &c.—Further Reduction.

HETLEY and CO. publish Prices in the *Gardeners' Chronicle* the first Saturday in every month. Wholesale and Retail Glass Shade, Sheet, Crown, and Patent Plate Glass Warehouse, 35, Soho-square, London.

GLASS.

APSLEY PELLATT and CO. (late Pellatt and Green), Falcon Glass Works, Holland-street, Blackfriars, have always on hand, Bee Glasses 1*s.* 6*d.* per lb., Cucumber Glasses, 1*s.* 6*d.* per lb.; Milk Pans, 18 in., white glass, 5*s.* 6*d.* each; Propagating Glasses, white, 1*s.* per lb., do. green, 10*d.*, do. Condensing, 2*d.* per lb. extra; Asparagus Tubes, 18*s.* to 21*s.* per gross; Grape Shades, 1*s.* 6*d.* to 2*s.* each; Fish-bowls, from 1*s.* 6*d.* each; Wasp and Fly-traps, 40*s.* per gross, or 3*s.* 6*d.* per dozen. By the use of these traps fruit may be preserved from (otherwise certain) destruction.

MILTON'S BEE-HIVES.—An Extensive Assortment of each variety of Glass and Straw Hives, arranged for the season. "The Improved Huber," "Hexagon Apiary," and "The Box Hive," are particularly worthy of attention, as they have been extensively patronised, and worked with complete satisfaction and profit to the purchasers. Bee-Glasses of all sizes. Illustrations of Hives 1*s.*, at Milton's, 10, Great Marylebone-street, Wimpole-street, London.

THE PRACTICAL BEE-KEEPER, 4*s.* 6*d.*

BEE-HIVES.—All persons desirous of Cultivating that pleasing and profitable branch of rural economy—the Honey Bee—are respectfully informed by G. Neighbour and Son, that they have prepared for the season an extensive supply of their various improved BEE-HIVES; their collection consists of "Nutt's Collateral Hive," "The Single Box Hive," "The Improved Cottage Hive," "The Ladies' Observatory Hive," "Taylor's Bar Hive," &c., from either of which the Honey may be taken at any time without injury to the Bees, and may be worked with safety, humanity, and profit, by the most timid and unaccustomed to Bee-manipulation. A descriptive paper, with drawings and prices, will be forwarded on receipt of a postage stamp.—Apiarian Depot and Honey Warehouse, 127, High Holborn, London.

NUTT ON BEES (6th Edition), just published.

DEANE'S WARRANTED GARDEN TOOLS.—Horticulturists, and all interested in Gardening pursuits, are invited to examine G. and J. Deane's extensive Stock of GARDENING AND PRUNING IMPLEMENTS, best London made Garden Engines and Syringes, Coalbrookdale Garden Seats and Chairs.

Averuncators	Garden Scrapers	Pick Axes
Axes	Grape Gatherers and Scissors	Potato Forks
Bagging Hooks	Gravel Rakes and Sieves	Pruning Bills
Bills	Greenhouse Doors and Frames	,, Knives, various
Borders, various patterns	Hammers	,, Saws
Botanical Boxes	Hand-glass Frames	,, Scissors
Cases of Pruning Instruments	Hay Knives	,, Shears [riety.
Chaff Engines	Hoes of every pattern	Rakes in great va-
Chaff Knives	Horticultural Hammers and Hatchets	Reaping Hooks
Daisy Rakes	Hotbed Handles	Scythes
Dibbles	Ladies' Set of Tools	Scythe Stones
Dock Spuds	Labels, various patterns, in zinc, porcelain, &c.	Shears, various
Draining Tools	Lines and Reels	Sickles
Edging Irons and Shears	Marking Ink	Sickle Saws
Flower Scissors	Mattocks	Spades and Shovels
,, Stands in Wires and Iron	Menographs	Spuds
Fumigators	Metallic Wire	Switch Hooks
Galvanic Bordersand Plant Protectors	Milton Hatchets	Thistle Hooks
Garden Chairs and Seats	Mole Traps	Transplanting Tools
,, Loops	Mowing Machines	Trowels
,, Rollers		Turfing Irons
		Wall Nails
		Watering Pots
		Weed Extractorsand Hooks
		Wheelbarrows
		Youths' Set of Tools

G. and J. Deane are sole Agents for Lingham's Permanent Labels, samples of which, with the Illustrated List of Horticultural Tools, can be sent, post paid, to any part of the United Kingdom.—Deane's Horticultural Tool Warehouse, opening to the Monument, 46, King William-st., London-bridge.

PATENT FLEXIBLE INDIA-RUBBER PIPES and TUBING for RAILWAY COMPANIES, BREWERS, DISTILLERS, FIRE ENGINES, GAS COMPANIES, GARDENING and AGRICULTURAL PURPOSES, &c.

THE PATENT VULCANISED INDIA-RUBBER HOSE PIPES are made to stand Hot Liquor and Acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible), and as they require no application of oil or dressing, are particularly adapted for Fire-engines, Pumps, Gas, Beer-engines, Gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes from ¼ inch bore upwards, and of any length to order.

Vulcanised India-rubber Garden Hose, fitted with brass taps, copper branch, and roses complete, ready to be attached to Pumps, Water-butts, or Cisterns.—Sole Manufacturer, James Lyne Hancock, Goswell Mews, Goswell-road, London.

N.B.—Vulcanised India-rubber Washers of all sizes for Joints of Hot-water and Steam Pipes, and Vulcanised Sheet Rubber, any thickness, for all kinds of Joints, and other purposes.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK AND TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their IMPROVED BRICK and TILE MACHINES, which are to be seen at work at Alperton, and at the Company's Office, 193A, Piccadilly, from 10 A.M. to 5 P.M. Mr. Robert Scrivener, who has been appointed Manager in the room of Mr. John Ainslie, will show the Machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. William Gordon Secretary, at the office of the Company, 193A, Piccadilly, London

These Machines may also be seen at Mr. Slight's, Leith walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill, 135, Buchanan-street, Glasgow; Mr. Robert Charles Mill-hill, Leeds; Messrs. Penny and Finch, Penkeridge, Staffordshire; Messrs. Drummond and Son, Dublin; and at Mr. John Connor's, Newtown Limavady, County Derry.

Sales by Auction.

PELARGONIUMS, SPECIMEN PLANTS OF NEW AND FAVOURITE SORTS.

MR. J. C. STEVENS is favoured with instructions from a well-known Amateur to sell by Auction, at his Great Room, 38, King-street, Covent-garden, on Monday, 15th May, at 12 o'clock, his collection of PELARGONIUMS, all Specimen Plants, in 24 size Pots, amongst which are the following rare and valuable varieties; Zenobia, Orion, Duke of Wellington, Rosy Circle (Beck's); Magog, Champion, Clio, Duke of Orleans, Achilles, and others equally choice, well deserving the attention of Growers for Exhibition.—May be viewed the morning of sale, and Catalogues had at the Room.

RARE ORCHIDS, AND OTHER STOVE AND GREENHOUSE PLANTS,

The Property of a Gentleman in the West of England.

MR. J. C. STEVENS begs to announce that he will sell by Auction, at his Great Room, 38, King-street, Covent Garden, on Thursday, the 18th May, and following day, at 12 o'clock, a COLLECTION OF ORCHIDS, comprising magnificent specimens of rare varieties, well established, and in fine health; some very choice Stove and Greenhouse Plants, and a few well grown and rare Heaths, to which the attention of the Amateur is particularly requested, the object of the Proprietor always having been to obtain the finest specimen plants.—Catalogues are now ready, and may be had of Mr. J. C. STEVENS, 38, King-street, Covent Garden.

IMPORTANT SALE OF CONIFERÆ.

MR. J. C. STEVENS is favoured with instructions from Messrs. Loddiges to announce for Sale by Auction, on their premises at Hackney, on Wednesday, May 24, and following day, at 12 for 1 o'clock, a most extensive and valuable Collection of CONIFERÆ, including many rare and choice species in pots; also, a few fine specimens of the true Rhododendron robustum, and of the new and beautiful hardy plant, Andromeda formosa. Catalogues are preparing, and will be ready for distribution 10 days prior to the sale.

38, King-street, Covent-garden, May 13.

RARE EXOTICS FROM THE NURSERY OF M. J. DE JONGHE, AT BRUSSELS.

MR. J. C. STEVENS is instructed to announce for Sale by Auction, at his Great Room, 38, King-street, Covent-garden, on Monday, 22d May, at 12 for 1 o'clock, a rare and valuable COLLECTION OF PLANTS of the Brazils, Isle of Cuba, Colombia, and Mexico, including at least 50 species new to this country. May be viewed on Saturday and morning of sale. Catalogues are now ready.

TULIPS.—SUNBURY COMMON.—THE FAMED STOCK OF MR. JOHN THOMAS WILLMER.

MESSRS. PROTHEROE AND MORRIS respectfully announce they have been instructed to offer this fine collection of TULIPS by public Auction, on Thursday, 18th May, 1848, on the premises, Sunbury Nursery, Sunbury-common. Amongst them will be found Solon, Apelles, Purity, Pompe Funèbre, Marcellus, Coronation, Plantaganet, Strong's King, Fabius, Lucellus, Sultan, Vivid, Lord Collingwood, Duke of Devonshire, Cardinal Wolsey, Polydora (Tyso), Thomas Brown, Napoleon, Neptune, Lord Strathmore, Enterprise, Telem, Polyphemus, Hamlet, Marshal Soult, Duke of Hamilton, Queen Eleanor, Goldham's Maria, Grace Darling, Lady Jane, Mountain Sylph, Madame Vestris, Lucetta, Brilliant Carmine, Rose Lac, Beterell's Brulante Eclatante, Œillet, Minerva, Gen. Barnoville, Democrat, Violet quarto, Salvator Rosa, Goldham's Mary Ann, Louis XVI., Pandora, Groom's Queen Adelaide and Victoria Regina, Laurence's Bizanthemum, Thalia, Grandis, Cyrus, Othello, Magnificent, Musidora, Sir J. Woolner, Superbe en Noir, &c. This opportunity should be eagerly embraced by Gentlemen, Florists, Amateurs, and others, of selecting from this magnificent collection those flowers collected with skill and taste, at an enormous expense of time and money, by the proprietor, whose well known talent requires no comment.—May be viewed prior to the Sale, and Catalogues may be had on the Premises, of the principal Seedsmen, and of the Auctioneers, American Nursery, Leytonstone.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will submit to public competition at the Auction Mart, Bartholomew-lane, on Tuesday, Wednesday, and Friday, May 16th, 17th, and 19th, 1848, at 12 o'clock, about 500 first-rate DAHLIAS, all new and approved varieties; also a splendid assortment of Geraniums and other Plants in bloom; the newest varieties of Fuchsias, Verbenas, Heartsease, Pinks, and a collection of other choice Plants for the Border.—May be viewed the morning of Sale, and Catalogues had at the Mart, and of the Auctioneers, American Nursery, Leytonstone.

BATTERSEA.—TO NOBLEMEN, GENTLEMEN, NURSERYMEN, FLORISTS, AND OTHERS.

Ten newly-erected Greenhouses, several Pits, Boxes, and Lights, Brickwork, Hot-water Pipes, Furnaces, Boilers, Seed Drawers, Counters, Desks, Scales, Weights, Measures, Sieves, a quantity of Seeds, Horse, Cart, and Harness, Erection of Sheds, Mould, Peat, Manure, Water-pots, &c.

MESSRS. PROTHEROE AND MORRIS will submit to public competition by Auction, on the premises, Battersea (near the bridge), on Monday, May 22d, 1848, at 11 o'clock, by order of the assignee of C. D. Smith and Co. (unless previously disposed of by Private Contract), the valuable LEASE of the premises for the unexpired term of about 9 years. Also the GREENHOUSE PLANTS, together with the whole of the NURSERY STOCK, utensils in trade, &c., as above. May be viewed prior to the Sale. Catalogues (6d. each, returnable to purchasers) may be had on the premises; of the principal Seedsmen; of W. Pennell, Esq., Official Assignee, 31, Basinghall-street; of F. Orme, Esq., Solicitor, 54, Chancery-lane; and of the Auctioneers, American Nursery, Leytonstone. N.B. The Nursery Stock will be sold with the Lease in one lot.

FULHAM.—TO NURSERYMEN, FLORISTS, & OTHERS.

MR. LEREW will sell by Auction, on the premises, Acacia Cottage, Purser's Cross, Fulham, on Monday, May 15, at 12 o'clock, the excellent stock of CHOICE PLANTS, *viz.*, Camellias, Rhododendrons, Roses, Stocks, Exotics, &c., in pots, hand and striking glasses, Tools, a few lots of Furniture, Pianoforte, &c.—To be viewed on Saturday, and Catalogues had, on the premises, and of the Auctioneer, 2, Cardington-street, Hampstead-road, near the Euston-sq. Station.

TO BE SOLD BY AUCTION, some time in June, as will be more particularly announced hereafter, if it be not previously disposed of by Private Contract—

POULTON, NEAR BLAKENEY, GLOUCESTERSHIRE.

A FREEHOLD ESTATE of 100 Acres, or thereabouts, on the Western side of the Severn, and overlooking the river.

The whole is land of good quality, and in a high state of cultivation. Application for further particulars to be made by letter, post-paid, addressed to Mr. JOHN MORTON, Whitfield, Wotton-under-Edge, Gloucestershire.

TO NURSERYMEN, SEEDSMEN, AND FLORISTS.

TO BE SOLD, by Private Contract, within 8 miles north-east of London, a PLOT OF FREEHOLD LAND, containing about 8 acres, admirably adapted for a Nurseryman or Seedsman, being eligibly situate in a good neighbourhood, with a gentle rise from the high turnpike-road, upon which it has an extensive frontage, the aspect excellent. About 2 acres of the ground is in a high state of cultivation, and enclosed with a lofty brick wall.—Particulars as to situation and price may be obtained upon application to Mr. G. R. NOBLE, Surveyor, Woodford.

IMPORTANT TO FLORISTS, AMATEURS, AND COLLECTORS.

SAFFRON WALDEN, ESSEX.

MR. HANNIBAL DUNN has received instructions from the Executors of the late C. Baron, Esq., to sell by Auction, on Friday, the 19th of May, 1848, on the premises at 11 o'clock precisely, without reserve, the entire valuable, choice, and unrivalled collection of the fine TULIPS in the Kinged on Booth and Cabinet for Flowers, comprising the most select and Rare Flowers (possessed by few, and so greatly esteemed by the best judges in this country, and by many on the Continent. It likewise comprises all the Old Favourite Flowers and the new leading varieties, and a selection of new-broke Flowers of the highest character, for the excellence of which the well-known taste of the late lamented Proprietor is a sufficient guarantee. To be viewed one day prior to the sale, and catalogues may be had of the auctioneer, Saffron Walden, Essex.

N.B. Trains are frequently leaving the Eastern Counties' Railway to Saffron Walden; the early train arrives at half-past 9 o'clock in the morning.

TO AMATEUR-GARDENERS, FRUIT-GROWERS, AND NURSERYMEN.

TO BE SOLD, A LARGE WALLED GARDEN, 2½ miles west of London. Its dimensions are about two Acres, planted with choice Fruit Trees. The walls are lofty, and comprise nearly 30,000 superficial feet wholly covered with trained Peach, Nectarine, and Apricot Trees in full bearing. Within the Garden are extensive Graperies, and a good cottage residence. May be entered upon immediately.—Apply to Mr. C. R. STANHAM, Edwards' Terrace, Kensington.

CHISWICK HORTICULTURAL FETES.

R. SHELLEY, having taken the "Pack-horse and Talbot" Hotel, Turnham Green, begs to inform the nobility, gentry, and others, visiting the Gardens, that they may be accommodated with superior refreshments at moderate charges. A Cold Collation, consisting of Savoury Pies, Potted and Collared Meats, Cold Joints, Pastry, and Salads, always ready. Breakfasts, Luncheons, Suppers, Beds.

N.B. Horses taken in to stand during the Fetes, at 1s. each.

BAKER'S PHEASANTRY, Beaufort street, King's-road, Chelsea, by special appointment to her Majesty and H.R.H. Prince Albert.—ORNAMENTAL WATER FOWL, consisting of black and white swans, Egyptian, Canada, China, bernacle, brent, and laughing geese, shelldrakes, pintail, widgeon, summer and winter teal, gadwall, Labrador, shovellers, gold-eyed and dun divers, Carolina ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking fowls; white Japan, pied, and common pea-fowl, and pure China pigs; and at 3, Half-moon-passage, Gracechurch-street.

GENUINE CIDER: GOOD FOR DRAFT OR BOTTLING.

DEVONSHIRE has for centuries been famous for its CIDER, and when obtained in a pure and genuine state, is much and deservedly esteemed.

Messrs. RENDLE and CO., 13, Octagon, Plymouth, beg to inform the nobility, gentry, and the public in general, that they can supply them with a first-rate article on the following terms. A new cask (value 8s.) containing TWELVE GALLONS of well-conditioned, bright, bottling CIDER (superior to some wine sold as champagne), will be forwarded, freight paid by steamer to London, Cork, Dublin, Belfast, Sligo, Southampton, or Falmouth,

For a Post-office Order value Twenty Shillings.

*** *To persons taking ten casks at one time, one will be given over, making eleven for 10l.*

WILLIAM RENDLE and Co., Cider Merchants,
May 13. 13, Octagon, Plymouth.

GARDENERS' REGISTER OFFICE.

HORTICULTURAL ESTABLISHMENT.

J. WEEKS AND CO., King's-road, Chelsea, have the honour to inform the Nobility and Gentry that 200 GARDENERS are registered and classed according to their various qualifications, with full particulars of the situations they have filled, the wages they require, &c. By application to this establishment, a Gardener can be selected suitable for every situation in the kingdom.

J. WEEKS AND CO., ARCHITECTS AND BUILDERS OF HOTHOUSES, GREENHOUSES, CONSERVATORIES, PITS, &c.—The Nobility and Gentry about to erect Horticultural Buildings, may depend on the best seasoned materials and first-rate workmanship employed. The various works in progress will testify our facilities for executing such buildings.

J. WEEKS AND CO.'S PATENT HOT-WATER APPARATUS is unrivalled for simplicity and efficiency. The whole Apparatus, in various forms, may be seen in action on the premises. Economical Boilers of all sizes, the largest is capable of heating a range of Forcing Houses 300 feet long.

J. WEEKS AND CO. have lately established an extensive Ornamental Nursery. The Horticultural Buildings, are allowed to be the finest in the country; as also the complete arrangements of the Heating Apparatuses. The whole combining economy with utility and elegance.

There is a choice and valuable collection of Stove and Greenhouse plants, as also all the common varieties.

THE SEED DEPARTMENT at this establishment is conducted with the greatest care and attention. Samples of every variety are proved before sent out.

PLANS, ESTIMATES, AND CATALOGUES upon application. The whole of the prices at this establishment are very moderate.

TO HORTICULTURISTS, &c.

READ'S GARDEN ENGINES, MACHINES, &c.

R. READ has made considerable improvements in his GARDEN ENGINES, MACHINES, and SYRINGES. The action of the valves is so simple as to prevent the possibility of their getting out of repair, surpassing anything of the kind hitherto offered to the Public. Manufactured only by the Patentee, 35, Regent-circus, Piccadilly, where they may be seen and proved.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND CO., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS CUT TO SIZE UP TO 40 INCHES LONG.				GLASS FOR CONSERVATORIES. SMALL SQUARES of SHEET.			
16 oz. to the foot	3½d.	per foot		4 by 3 and 4½ by 3½	1½d.	per ft.	
21	,,	5	,,	5 ,, 3 ,, 5½ ,, 3½	2	,,	
26	,,	7½	,,	6 ,, 4 ,, 6½ ,, 4½	2½	,,	
32	,,	10	,,	7 ,, 5 ,, 7½ ,, 5½	2½	,,	
				8 ,, 6 ,, 8½ ,, 6½	3	,,	
				Not above 10 ,, 8	3	,,	

GLASS MILK PANS, PROPAGATING GLASSES, AND BEE GLASSES. GLASS TILES AND SLATES.

CREAM POTS, from 3 to 24 quarts, at 6d. per quart.

CUCUMBER GLASSES from 12 to 26 inches long, 1d. p. inch.

LACTOMETERS for trying the quality of Milk, 4 tubes 7s. 6d., 6 tubes 10s; Peach Glasses 10d. each: Fish Globes from 1s. 6d. each; Wasp and Fly Traps 8s. 6d. per dozen: Plate and Window Glass; Lamp Shades and Chimneys; and every article in the trade.

SASHES AND FRAMES MADE AND GLAZED.

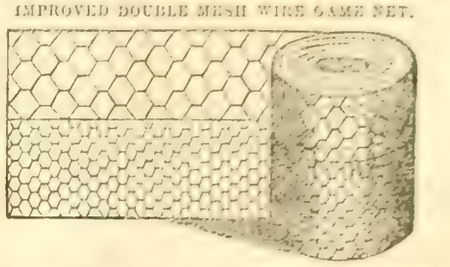
HORTICULTURAL BUILDING AND HEATING BY HOT WATER, ON THE MOST IMPROVED AND ECONOMICAL TERMS.

GRAY, ORMSON, AND BROWN, Dorcas-street, Chelsea, submit the attention of the Nobility, Gentry, and Gardeners, to their [illegible] for heating and heating every description of [illegible] by hot water.

Extract of a Letter, dated May 13, 1848.—"I have much pleasure in saying the work you did here continues to give perfect satisfaction. The apparatus by which you heated these houses and three pits, from one boiler, I still look upon as the most complete I have seen after two winters. In the severest weather I had no difficulty in keeping up and maintaining the required temperature. The span-roofed [illegible] you erected here are equally satisfactory. I should be happy to show the work, or answer any [illegible] you may [illegible] to make.—F. R. KINGHORN, Gardener to the Earl of [illegible], Orleans-house, Twickenham, Middlesex."

Plans and Estimates furnished free; and their works seen at the principal London nurseries.

IMPROVED DOUBLE MESH WIRE GAME NET.



BARNARD AND BISHOP, Norwich, can strongly recommend the above NET to the notice of the Nobility and Gentry, as being the cheapest yet introduced: it has met with general approbation, and has been found most efficient in the preservation of young Trees, Gardens, &c., from the depredations of game. The extra strong 2-inch is the same strength as the stoutest article in the market. On inspection it will be found better manufactured than anything else of the kind and 20 per cent. cheaper. It is sent out in rolls of 50 yards, or any other length, at prices as under.

				per yard—	s.	d.
Double Mesh Net 24 ins. wide, 1½ & 3½-in. mesh,				strong	0	6½
...	...	...	...	extra strong	0	9
...	...	...	2 & 4 ...	strong	0	5½
...	...	...	...	extra strong	0	7½
Single Mesh	...	...	1½ ...	light	0	7
...	...	...	...	strong	0	9
...	...	...	...	extra strong	1	0
...	...	...	2 ...	light	0	6
...	...	...	...	strong	0	7½
...	...	...	...	extra strong	0	10

The prices quoted for double net are for equal proportions of each mesh, which may be varied if required, three parts fine to one of coarse, or vice versa, at prices accordingly: and it can be made any mesh and width to 7 feet.

A finer description for Aviaries, Pheasantries, &c., sparrow proof, 3d. per square foot; or, if made in copper, at 6d. per square foot. The Iron Wire Net is twice dipped in anti-corrosive composition, and sent free to London or Hull.

Patterns forwarded per post, free of expence.

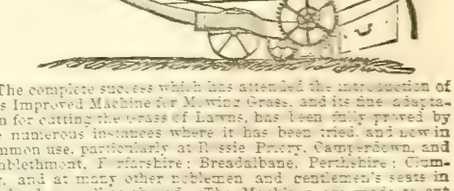
WIRE NETTING ONE PENNY PER SQUARE FOOT.—This article forms a light and durable fence for the protection of Flower Gardens and Shrubberies against the depredations of Hares and Rabbits. For Aviaries, Pheasantries, and to prevent Poultry from straying, it is a cheap and elegant substitute for the more heavy fences, and is also peculiarly adapted for training Honeysuckles and other creeping plants. The following widths always kept in stock in large quantities:—24 inches wide, 6d. per running yard.

30	do.	7½d.	do.	do.
36	do.	9d.	do.	do.
48	do.	1s.	do.	do.

T. H. Fox is particularly desirous of directing the attention of the public to his great variety of useful and ornamental Wirework, consisting of Flower Stands, Trainers, Dahlia Rods, Garden Arches and Bordering, Fire Guards, &c., Wire Blinds, Riddles, Fenders, Fly-proof Dish Covers, and every description of Wove Wire.

A Post-office order, payable to THOMAS HENRY FOX, 6, Snow-hill, London, for any article, will meet with immediate attention.

SHANKS' IMPROVED GRASS CUTTING AND ROLLING MACHINES.



The complete success which has attended the introduction of this Improved Machine for Mowing Grass, and its fine adaptation for cutting the grass of Lawns, has been fully proved by the numerous instances where it has been tried, and now in common use, particularly at Russie Priory, Camperdown, and Kinblethmont, Forfarshire; Breadalbane, Perthshire; Clumber, and at many other noblemen and gentlemen's seats in England, as well as abroad. The Machines are made to cut breadths of 42, 36, or 20 inches, as required, the latter being adapted to hand-power. The Machine performs three different operations at one time, viz., Rolling, Mowing, and Collecting the Grass: and works with perfect ease, producing a beautiful smooth surface, and attended with great saving in abridging labour.

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5. The Papers to be sent to the Secretary, Mr. RICHARD DAVIS, at the Raven Inn, Wenlock, Salop, on or before the first Monday in October next.—Wenlock, May 13

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THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News. The Horticultural Part Edited by Professor Lindley

No. 21.—1848.] SATURDAY, MAY 20. [PRICE 6d.

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May 20. D. W. MITCHELL, Secretary.

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	Cox's Imperial Hybrid ditto

With all other kinds of White and Yellow Field Turnips. Mangold Wurzel and Sugar Beet, six varieties. Large White Belgian Horse Carrot; and Large Green-top Altringham ditto. Mixed Grass Seeds of the best varieties, suitable for laying down Pasture Land.

HENRY CLARKE, Seed Merchant, 30, King-st., Covent-garden.

THE FOLLOWING can be very strongly recommended.

Statice pseudo armeria, per dozen	9s. 0d.	Fabiana imbricata, per doz.	12 0
Tropæolum speciosum, each	7 6	Epacris Tauntoniensis, each	7 6
Lobelia fulgens prince, per dozen	15 0	Calendula officinalis, each	2 6
Weigela rosea, p. doz.	18 0	Catananche bicolor, per doz.	6 0
Erythrina laurifolia	9 0	Balsamina latifolia, ea.	9 0
Chorozema triangularis, each	2 6	Gompholobium versicolor each	2 6
Calceolaria amplexicaulis, each	2 6	Gompholobium virgatum, each	2 6
Begonia fuchsioides, per doz.	6 0	Hibiscus Parkeri, p.dz.	12 0

An allowance to the Trade.

F. C. BALL, Nurseries, Taunton.

CHRYSANTHEMUMS.

PHILIP CONWAY has now ready strong plants of the following select sorts, which for excellency of habit, colour of flower, and freeness of bloom, are not surpassed.

King of the Crimsons, Madame Poggi, Comte de Rantzou, Sphinx, Isolier, Campestroni, Duc de Conigliana	All very distinct in colour and habit, varying from deep crimson to rosy red.
Fleur de Marie, Vesta, Formosa, Invincible	Very distinct and desirable whites.
Temple of Solomon, Annie Salter, David, Argo	Most splendid and distinct yellows.
Queen of the Gipsies, Aristides, Louis Philippe	Very desirable, reddish orange.
Florabunda, Pilot	Fine rosy purple.
Queen	Beautiful pink.
Marshal de Crique	Fine early do.
Duchess d'Aumale	Rosy lilac, profuse bloomer.
Phyllis	White, tinted rose.
Incomparable, Arides	Beautiful straw colour.
	Fine buff.

At 12s. the dozen, 9s. the half dozen, choice left to the purchaser; or the set of 26 for 18s.; in each case basket included. Also, his set of 18 new and distinct VERBENAS, at 12s. the dozen, 9s. the half dozen, choice left to the purchaser; basket and packing, 1s. For description, &c., see last week's *Gardeners' Chronicle*.

The set of 13 distinct varieties of SCARLET PELARGONIUMS may be still be had for 15s., basket included.

HELIOTROPIUM PERUVIANUM var. VOLTAIREANUM, good strong plants, hardened off and fit for turning out, at 9s. the dozen.—Earl's Court Nursery, Old Brompton, May 20.

MESSRS. J. AND H. BROWN are now supplying the following desirable Plants, carefully packed for any part of the Kingdom or the Continent:—

		s.	d.
	Azalea Indica, choice sorts, blooming plants, per doz.	30	0
	Ditto ditto, small plants, per doz.	12	0
50	Choice Greenhouse Plants, one of a sort, by name	45	0
12	Ericas, blooming plants and best varieties	12	0
12	Fine Tea-scented Roses, one of a sort, by name	9	0
	Cloth of Gold Rose, each	2	6
	New yellow Rhododendron, in pots, each	10	6
	Cobæas, Maurandyas, and Lophospermums, per dozen	6	0
25	Herbaceous Border Plants, of choice species, for	7	6
*	Lobelias of sorts, and Anemone japonica, per dozen	6	0
*	Torenia asiatica and concolor, Cuphea platycentra, per dozen	6	0
*	Verbenas, Petunias, and Antirrhinums, best varieties, per dozen 4s. and	6	0
*6	best Pentstemons, and 6 best Potentillas, for	8	0
	Geraniums, choice assortment, per dozen 6s. and	9	0
	Scarlet and variegated Geraniums, per dozen, 4s. and	6	0
	Bulbous Pelargonium, 12 varieties, each	2	6
6	Fancy ditto, including Anais and Queen Victoria	10	0
6	Ditto ditto, scented leaf varieties	6	0
	Calceolarias viscosissima, Kayii, atrofuscans, and floribunda, for planting out, per dozen	9	0
*	Heliotropiums, Pinks, and Salvias, per dozen	4	0
	Dahlias, splendid varieties, per dozen, 9s. and	12	0
25	of the best Fuchsias, one of a sort, by name	10	0
	Scarlet Bouvardias, 3 sorts, per dozen	9	0
*	Large blue Anagallis, per dozen	6	0
*	Achimenes, of sorts, per dozen	6	0

Those marked thus *, by post if desired. Also List of Greenhouse Plants, &c.

Albion Nursery, Stoke Newington, London. May 20.

NEW SEEDLING FUCHSIAS.—"DIAMOND," pure white tube and sepals, and novel rosy-lilac corolla; habit graceful, free bloomer, 10s. 6d.

"TRIUMPH," dark red, extra large size, suitable for large specimens.

New Fuchsias 10s. 6d. per dozen, fine varieties.

MILLER'S SEEDLING PELARGONIUMS.

Scarlet Defiance	£1 11s. 6d.	Admiration	£1 1s. 0d.
Rosa Mundi	1 11 6	Vulgius	1 1 0
Queen of Kent	1 1 0	Conspicabundus	1 1 0
Distinctus	1 11 6	Flora's Flag	1 1 0

Or Set of 8 for 8l. 8s.

Fire Blaze, Garland, Eclipse, Telegraph, each 15s.; Beauty Surpass, 10s. 6d.; Purpurea multiflora, 10s. 6d.

Or set of 6 for 3l. 3s.

The two sets together for 10l.

For 30 postage stamps an illustrated and descriptive book of the above beautiful plants would be sent post free.

The new sorts of Geraniums of 1845 and 1846, raised by Beck, Foster, Gaines, Hoyle, Miller, &c. &c., at 2l. per doz., fine plants.

Also second-rate varieties at 1l. 1s. per dozen.

JOHN HINE, Providence Nursery, Ramsgate.

SELECT LITERAL FOR FLORISTS SOCIETIES.

WILLIAM DENSLER, SEEDSMAN and FLORIST, 32, Grace-church-street, near the Spread Eagle, London, having various Works of Merit, ready to offer the following:

6	varieties in pots	12 6
6	" "	6 0
6	" "	3 0
6	" "	1 6
3	" "	1 0

The whole of the above, in pots, 7s. 6d. each collection at the price named.

SUPERB FLOWERING PETUNIA.

JAMES SAUNDERS AND SON have now ready to send out a very limited number PETUNIA, "ELECTRON," colour bright carmine, with perfect, very large, and of good habit, well adapted for pot culture. It was exhibited last autumn, and universally acknowledged by competent judges to be superior in every respect to any dark Petunia yet sent out. Strong plants 5s., with the usual discount to the trade.

J. S. and Son have also to offer a large stock, including the best and newest varieties of Double Petunias, Verbenas, Geraniums, Calceolarias, Cinerarias, Cuphea, Salvias, Fuchsias, Anagallis, Phloxes, Pansies, &c., with a general stock of Hardy Herbaceous and Greenhouse Plants, at prices that will ensure satisfaction. Catalogues to be had on application.—Abergavenny Nursery Grounds.

BASS AND BROWN'S DESCRIPTIVE PLANT CATALOGUE FOR 1848 will be forwarded free by post, on application.

Seed and Horticultural Establishment, Sudbury, Suffolk.

JOSEPH FRYER having a large stock of the undermentioned Plants, begs to offer them at 4s. per dozen, in fine condition for bedding out, and true to name, viz., Geraniums, Fuchsias, Verbenas, Petunias, Calceolarias, Anagallis, Antirrhinums, Bouvardias, Cupheas, Gold-leaved, Heliotropes, Lobelias, Mimuluses, Nierembergias, Portulacas, Salvias, Torenias, Euotheras, Pinks, Phloxes, Pansies, &c. &c. Also an extensive collection of Greenhouse Plants, Herbaceous Plants (in pots), and every description of Nursery Stock at moderate prices.

N.B. The different sorts of Loam, Bog Mould, Silver Sand, Leaf Mould, Manure, Gravel, &c., supplied in any quantity, and may be inspected upon the premises.

Clarendon Nurseries, Camberwell, London.

SPLENDID NEW PLANT.—"CLERODENDRON CAPITATUM."

LUCOMBE, PINCE, AND CO., respectfully beg leave to announce that they will have fine healthy plants of this truly magnificent species of CLERODENDRON to send out on the 14th of May, at 6s. each. A specimen of it was submitted to Sir William Hooker, at the Royal Gardens, Kew in January last, who pronounced it to be in every respect a first-rate plant, and published a figure of it in the "Botanical Magazine" of February following, to which L. P. & Co. beg leave to refer. The flowers, which are nearly inches in length, and of a beautiful pure white, are produced in large terminal heads, each containing from 50 to 60 flowers; the foliage is remarkably good, being of a rich, dark, glossy green, which contrasts finely with the numerous, singularly long, pure, white flowers. It is a plant that will give satisfaction to all who purchase it, and certainly ought to be in every good collection. Specimen plants of it are also again showing flower in their Nursery.

L. P. and Co. beg leave to call attention to the following NEW, RARE, and BEAUTIFUL PLANTS, of which they have a fine healthy stock now fit to send out, and which they can especially recommend to cultivators, as being of first-class character.

ALLAMANDA SCHOTTII, 3l. 6d.
AZALEA INDICA "AURORA" PINCE'S, extra strong plants, 10s. 6d.; small ditto, 5s.
AZALEA INDICA "DUKE OF DEVONSHIRE" (PINCE'S), extra strong plants, 10s. 6d.; small, 5s.
ÆCHMEA FULGENS, 10s. 6d.; Æ. DISCOLOR, 10s. 6d.
ACROPHYLLUM VENOSUM, 10s. 6d.
APHELANDRA AURANTIACA, 10s. 6d.
BERBERIS FORTUNII, 15s.
CLERODENDRON MACROPHYLLUM, 7s. 6d.
" SPLENDENS SPECIOSISSIMUM, 10s. 6d.
COUTARIA SPECIOSA, 21s.
CEPHALOTUS FOLLICULARIS, 42s.
ECHITES SPLENDENS, 5s.
ERIOSTEMON SCABRUM, 10s. 6d.
FRANCISCEA HYDRANGÆFORMIS (true), 42s.
GOMPHOLOBIUM POLYMORPHUM SPLENDENS, 10s. 6d.
" VENUSTUM, 21s.
GUZMANNIA TRICOLOR, 10s. 6d.
GARDENIA FORTUNII, 10s. 6d.
" BOWIEANA syn. DEVONIANA), 10s. 6d.
" STANLEYANA, 7s. 6d.
" NITIDA, 10s. 6d.
" MALLEIFERA, 10s. 6d.
GLOXINIA TEUCHERII, 7s. 6d.
HOYA IMPERIALIS, 21s.
IXORA GRIFFITHII, 21s.
" ODORATA, 21s.
ILEX CUNNINGHAMII, 10s. 6d.
LYSIONOTUS LONGIFLORUS, 7s. 6d.
LUCULIA PINCIANA, 7s. 6d.
" GRATISSIMA, 7s. 6d.
PORTLANDIA GRANDIFLORA, fine variety, 21s.
PHYLLARTHON COMORENSE, 21s.
" FOXIERIANUM, 10s. 6d.
RHODODENDRON NILAGIRICUM, 42s.
SOLANDRA LÆVIS, 10s. 6d.
STROPHANTHUS STANLEYANUS, 7s. 6d.
TROPÆOLUM SPECIOSUM, 7s. 6d.
THIBAUDIA PULCHERRIMA, 21s.

Also a large and fine Stock of rare CONIFERÆ of all sizes, including some extraordinarily fine specimens, to the culture of which great attention has been paid, and which are well worthy of notice, and will be sold cheap.

Exeter Nursery, May 20.

ROYAL BOTANIC SOCIETY, REGENT'S PARK.

EXHIBITION, MAY 10th, 1848.

AWARDS OF THE JUDGES.

THE EXTRA GOLD MEDAL.

1 To Mr. Fraser, nurseryman, Lea-bridge-road, for 30 Stove and Greenhouse plants
2 To Mr. Mylam, gardener to S. Rucker, Esq, Wandsworth, for a large collection of Orchids

THE MEDIUM GOLD MEDAL.

1 To Mr. Cole, gardener to H. Collyer, Esq., Dartford, for 20 Stove and Greenhouse plants
2 To Mr. Green, gardener to Sir E. Antrobus, Bart., Cheam, for 30 Stove and Greenhouse plants
3 To Mr. Hunt, gardener to Miss Traill, Bromley, for 15 Cape Heaths
4 To Messrs. Veitch and Sons, nurserymen, Exeter, for a large collection of Orchids
5 To Mr. Williams, gardener to C. B. Warner, Esq., Hoddesdon, for 15 Orchids

THE GOLD MEDAL.

1 To Mr. Cock, Chiswick, for 12 Pelargoniums, in 8-inch pots
2 To Mr. Dobson, gardener to Mr. Beck, Isleworth, for 12 ditto ditto
3 To Messrs. Fairbairn, nurserymen, Clapham, for 12 Cape Heaths
4 To Mr. May, gardener to E. Goodhart, Esq., Beckenham, for 15 Cape Heaths
5 To Mr. Pamplin, nurseryman, Lea-bridge-road, for 20 Stove and Greenhouse plants

THE LARGE SILVER-GILT MEDAL.

1 To Mr. Hunt, for 10 Stove and Greenhouse plants
2 To Messrs. Lane and Son, nurserymen, Berkhampstead, for 12 Roses in pots
3 To Mr. Pawley, nurseryman, Bromley, for 30 Stove and Greenhouse plants
4 To Mr. H. Plant, gardener to J. H. Schroeder, Esq., Stratford, for 6 Orchids

THE LARGE SILVER MEDAL.

1 To Mr. Dobson, for 6 Orchids
2 To Mr. Gaines, nurseryman, Battersea, for 12 Pelargoniums, in 8-inch pots
3 To the same, for 6 ditto, in 11-inch pots
4 To Messrs. Rollisson, nurserymen, Tooting, for 12 Cape Heaths
5 To Mr. Stains, New-road, for 12 Pelargoniums, in 8-inch pots
6 To the same, for 6 ditto, in 11-inch pots

THE SILVER-GILT MEDAL.

1 To Mr. Fraser, for 12 Cape Heaths
2 To Mr. Gaines, for 6 Calceolarias
3 To Mr. Kyle, gardener to R. Barclay, Esq., Leyton, for 10 Stove and Greenhouse plants
4 To Mr. Mylam, for 6 Cape Heaths
5 To the same, for 4 Greenhouse Azaleas
6 To Mr. Parker, gardener to J. H. Oughton, Esq., Roehampton, for 6 Pelargoniums, in 11-inch pots
7 To Messrs. Paul, nurserymen, Cheshunt, for 12 Roses in pots
8 To A. Rowland, Esq., Lewisham, for 8 Roses in pots

THE SILVER MEDAL.

1 To Mr. Bennett, gardener to J. Smith, Esq., Dulwich, for 6 Calceolarias
2 To Mr. Clarke, gardener to W. Block, Esq., Muswell-hill, for Pimelea spectabilis
3 To Mr. Cole, for correct Labels, second class
4 To Mr. Dobson, for 12 Roses in pots
5 To Mr. Epps, nurseryman, Maidstone, for 12 Cape Heaths
6 To Mr. Francis, nurseryman, Hertford, for 12 Roses in pots
7 To Mr. Fraser, for 6 Papilionaceous plants
8 To Mr. Gaines, for 6 fancy Pelargoniums
9 To Mr. Green, for Dendrobium nobile
10 To the same, for six new Greenhouse Azaleas
11 To Mr. Hunt, for Erica perspicua nana
12 To Mr. W. Ivery, nurseryman, Peckham, for 6 Cinerarias
13 To Messrs. Lane and Son, for a collection of Azaleas
14 To Mr. Robinson, gardener to J. Simpson, Esq., Pimlico, for 12 Pelargoniums, in 8-inch pots
15 To the same, for 6 ditto, in 11-inch pots
16 To Mr. Smith, gardener to J. Anderson, Esq., Regent's-park, for 30 British Ferns
17 To Messrs. Standish and Noble, nurserymen, Bagshot, for 6 seedling hardy Rhododendrons
18 To Mr. Taylor, gardener to J. Coster, Esq., Streatham, for 10 Stove and Greenhouse plants
19 To the same, for correct Labels, first class
20 To the same, for 6 Cape Heaths
21 To the same, for 30 British Ferns
22 To Messrs. Veitch and Son, for Rhododendron javanicum flavum
23 To the same, for 12 Cape Heaths
24 To Mr. Williams, for Lælia majalis

THE SMALL SILVER MEDAL.

1 To J. Allnutt, Esq., Clapham, for 4 greenhouse Azaleas
2 To Messrs. Bragg and Bright, nurserymen, Slough, for 24 Pansies
3 To Mr. Bray, gardener to Sir J. L. Goldsmid, Bart., Regent's-park, for Pelargonium, "Priory Queen"
4 To Mr. Bruce, gardener to B. Miller, Esq., Tooting, for 10 Stove and Greenhouse plants
5 To the same, for 6 Cape Heaths
6 To Mr. Clarke, for 10 Stove and Greenhouse plants
7 To Mr. Fraser, for Chorozema Henchmannii
8 To the same, for 6 new greenhouse Azaleas
9 To the same, for a seedling greenhouse Azalea, "Alba magna"
10 To Mr. E. Henderson, for Gardenia Fortuni
11 To Messrs. Henderson, for Boronia pinnata
12 To the same, for Pimelea Weippergiana
13 To Messrs. Ivery and Son, nurserymen, Dorking, for a seedling greenhouse Azalea, "Iveryana"
14 To Mr. Jack, gardener to R. G. Lorraine, Esq., Carshalton, for 10 Stove and Greenhouse plants
15 To Mr. Kingborn, gardener to the Earl of Kilmorey, Twickenham, for Pimelea spectabilis
16 To Mr. Kyle, for Eriostemon neriifolium
17 To the same, for 6 Papilionaceous plants
18 To Messrs. Lane and Son, for 6 yellow Roses
19 To Mr. Malyon, gardener to T. Brandram, Esq., Blackheath, for 10 Stove and Greenhouse plants
20 To the same, for 6 Cape Heaths
21 To Mr. H. Plant, for Vanda cristata
22 To Mr. Robinson, for 6 Cinerarias
23 To Messrs. Rollisson, for Gardenia Fortuni
24 To Mr. Smith, for correct Labels, first class
25 To Mr. Stanley, for 6 Calceolarias
26 To Messrs. Veitch and Son, for Cantua dependens
27 To the same, for Siphocampylus pubescens
28 To the same, for Hoya cinnamomifolia
29 To the same, for Boronia sp.
30 To the same, for Antiaris toxicaria, or Upas Tree
31 To the same, for a seedling Heath, "Dulciflora"
32 To the same, for ditto, "Devoniana"
33 To Mr. Williams, for Epidendrum bicornutum
34 To the same, for correct Labels, second class
35 To Mr. Wood, nurseryman, Norwood, for 12 Alpines

THE BRONZE MEDAL.

1 To Mr. Ambrose, nurseryman, Battersea, for a seedling fancy Pelargonium of 1847, "Jenny Lind"
2 To Mr. Beck, for a seedling Pelargonium of 1847, "Delicatissima"
3 To Mr. Gaines, for 6 Cinerarias
4 To Mr. Gill, gardener to H. Bishop, Esq., Regent's-park, for 12 Hydrangeas
5 To Messrs. Henderson, for Phlox frondosa
6 To the same, for Dillwynia Henchmannii
7 To Mr. E. Henderson, for Statice frutescens
8 To the same, for a seedling Cineraria, "Mademoiselle Cerito"
9 To Mr. Jack, for 6 Cape Heaths
10 To Mr. Kinghorn, for Erica Cavendishiana
11 To Mr. Mitchell, nurseryman, Brighton, for a seedling Azalea, "Mitchelliana"
12 To Mr. Pamplin, for Pimelea spectabilis
13 To Messrs. Paul, for 6 yellow Roses
14 To Mr. W. Turner, gardener to — Williams, Esq, Holloway, for 12 Alpines
15 To Mr. Turner, nurseryman, Chalvey, for 24 Pansies
16 To Mr. Tye, gardener to W. H. Gilliat, Clapham, for 10 Stove and Greenhouse plants
17 To Messrs. Veitch and Son, for Weigela rosea
18 To the same, for Statice frutescens
19 To the same, for a seedling Pelargonium of 1847, "Topping's Brilliant"
20 To the same, for correct Labels, first class
21 To the same, for ditto, second class
22 To Mr. Williams, for Camarotis purpurea
23 To Mr. Wood, for a collection of variegated plants

THE CERTIFICATE OF MERIT.

1 To Mr. Beck, for a fancy Pelargonium of 1847, "Harlequin"
2 To Messrs. Bragg and Bright, for a seedling Pansy, "Disraeli"
3 To Mr. Cutter, nurseryman, Slough, for 24 Pansies
4 To Mr. Drummond, gardener, Pontypool Park, for 3 Melons
5 To Mr. Fraser, for Boronia serrulata
6 To the same, for 6 Cinerarias
7 To Mr. E. Henderson, for a seedling Cineraria, "Speciosa"
8 To the same, for ditto, "Climax"
9 To Messrs. Henderson, for a seedling Heath, "Sindryana"
10 To Messrs. Ivery, for a seedling Rhododendron, "ponticum coccineum"
11 To Mr. Kendall, nurseryman, Stoke Newington, for a seedling Cineraria, "Newington Beauty"
12 To Mr. Kingborn, for a seedling Calceolaria, "Delicata"
13 To the same, for ditto, "Maid of Orleans"
14 To Messrs. Lee, nurserymen, Hammersmith, for a seedling Rhododendron, "Azaleoides Leeanum"
15 To Mr. May, for Azalea indica variegata
16 To Mr. Mylam, for correct Labels, first class
17 To Mr. Pamplin, for ditto, second class
18 To Messrs. Rollison, for Ardisia Mexicana
19 To Lord Sherborne, Northleach, for a brace of Cucumbers
20 To Mr. Stanly, for 10 Stove and Greenhouse plants
21 To the same, for hardy Cypripediums
22 To Mr. Thompson, Iver, for 24 Pansies
23 To Mr. Turner, for a seedling Verbena, "Robinson's Defiance"
24 To Mr. Williams, for Dendrobium nobile.

UNRIVALLED SEEDLING PETUNIA.

EDWARD TILEY begs to remind the admirers of this beautiful tribe of plants that he intends sending out his new and superb Seedling PETUNIA "ADMIRABLE," after the 20th of May. The plant in itself is a beautiful dwarf habit, and a most abundant bloomer; the flower is of good substance, and one of the most striking varieties ever yet seen; it has been twice sent to the editor of the *Gardeners' Chronicle*. The following opinion was given of it in July, 1847; also on April 29th, 1848: "PETUNIA.—E. T.—Your seedling is a pretty variety, colour rosy purple, with a pure white throat, which gives it a lively appearance; if a free bloomer it will prove a great acquisition to the border." Blooms of it were sent to Messrs. Henderson, Pine-apple Nursery, London, who speak of it as follows: "Your Petunia is exceedingly pretty, and much pleases us. Send us three plants of it as soon as you send it out." I have plants of it now in full bloom, which are quite the admiration of numerous visitors daily, and above 100 plants of it has been ordered by those who have seen it in bloom. Strong healthy plants, in bloom, will be sent out to parties who may favour me with an order, at 5*s.* each; the usual allowance to the trade when three are taken.

UNPARALLELED FUCHSIA, "JENNY LIND" is now in full bloom, and surpasses everything else of the kind; small plants, not more than a foot high have more than 200 expanded blooms and buds on them. It will be found to be one of the best nurseryman's plants that have ever been grown; it blooms nearly the whole of the year, and gives out a succession of fine blooms from every joint. For further particulars see Advertisement in this Paper of April 22. Strong plants nearly a foot high will be sent, carefully packed, at 10*s.* 6*d.* each; the usual allowance to the trade, when three are taken. A remittance will secure the plants package and postage free.

EDWARD TILEY, Seedsman and Florist, General Seed Shop, 16, Pulteney-bridge, Bath.

FUCHSIA.—HOCKIN'S "UNA."—The whole disposable STOCK of this valuable variety has been purchased from William Hockin, Esq., of Truro. Some blooms were sent to Dr. LINDLEY for his opinion, and the following appeared in the *Gardeners' Chronicle*, July 24th, 1847. "*W.*—Your seedling is a large and handsome variety; white tube and sepals, with rosy vermilion corolla. This is a good variety and worthy cultivation, provided the sepals expand well; we are not able to judge of this portion of the flower, it having been much bruised." (Since this report was written, we have found that the sepals do expand well.)

It is a very early blooming variety, having had two specimens beautifully in bloom since the early part of February last, at which period we sent a few blooms to Dr. LINDLEY for his opinion. See *Gardeners' Chronicle*, Feb. 26, 1848. "SEEDLING FUCHSIA—*WER*—Tube well formed, clear white sepals, tinged with light pink, corolla crimson, a very attractive variety."—Price 5*s.* each. One plant will be given over every three to the trade.

LYNE'S NEW SEEDLING GERANIUMS OF 1847.

	each—*s.* *d.*		each—*s.* *d.*
Lyne's Star of the West	15 0	Lyne's Mercury	15 0
Lyne's Lady Ebrington	15 0	Folley's Black Prince ...	5 0

Full descriptions can be obtained on application.

Salvia, new creeping species from Mexico (a beautiful and desirable variety for bedding), 5*s.* each; Heliotropium Voltaireanum, 1*s.* 6*d.* each; Cuphea platycentra, 3*s.* 6*d.* per dozen, can be obtained from WILLIAM E. RENDLE and Co., Nurserymen, Plymouth.

Our NEW CATALOGUE of Geraniums, Dahlias, Azaleas, Fuchsias, Verbenas, Cinerarias, Roses, Epacris, Petunias, &c., is now ready, and can be had gratis on application.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

NOW READY FOR SENDING OUT.

WILLIAM E. RENDLE AND CO., Plymouth, having a very large stock of the following plants, are enabled to offer them at the following REDUCED PRICES.

GERANIUMS.—FIRST CLASS.—Purchaser's Selection of 20 from the following List, for 30*s.*—LYNE'S Forget-me-not, Remembrance, Firefly, Sir Walter Raleigh Gilbert, The Peri, Queen of Beauties, Nourmahal, Talisman, Sir Robert Sale, and King of Saxony. BECK'S Patrician, Gigantea, Sirius, Hebe's Lip, Favourite, Mustee, Zenobia. Rosy Circle, Desdemona, Margaret, Isabella, and Zanzummim. LYNE'S Marmion, Printess, Chaplet, Merry Monarch, Picta, and Rosebud. HOYLE'S Isabella. RENDLE'S Francis Bullin. CATLEUGH'S Shield of Achilles, Queen Phillipa, Magog, and Raphael. GAINES' Edith, Lady Bulkely, Miss Holford, Prince Alfred, and GREADY'S Standard of Perfection.

SECOND CLASS.—Purchaser's Selection of 20 from the following List, for 15*s.*—Sunrise, Duke of Cornwall, Lord Wilton, Redworth, Princeps, Titus, Champion, Unique, General Pollock, Rosalia, Sarah Jane, Cornubiensis, Albion, Othello, Pluto, Horatio Nelson, Leonora, Theresa, Celestial, Black Dwarf, Beauty of Salthill, Alba Multiflora, Admiral Napier, Hebe, Juliette, Madeline, The Pearl, Gipsy Queen, Vesta, King of the French, Dido, Ivanhoe, Cornish Gem, Conflagration, Constellation, Countess of Mount Edgcumbe, Hector, Rosetta, Robustum, Magicienne, King of Saxony, and Duchess of Leinster.

Other sorts, 5*s.* to 10*s.* per dozen.

SCARLET GERANIUMS.—Twenty plants of good Scarlet varieties, including Tom Thumb, for 15*s.*

Purchaser's selection of all the choicest varieties from our Catalogue (just published), can be obtained at the following reduced prices.

DAHLIAS, 12 superior sorts	...	£0	15*s.* 0*d.*
,, 20 ditto	...	1	1 0
,, 12 good sorts	...	0	7 0
FANCY DAHLIAS, 12 superior sorts ...	...	0	12 0
FUCHSIAS, 20 superior sorts ...	...	0	15 0
,, 20 good sorts	...	0	10 0
DWARF ROSES, in pots, 12 superior sorts ...		0	15 0
,, ,, 20 ditto ...	...	1	5 0
INDIAN AZALEAS, 12 superior sorts ...	...	1	0 0
,, 20 ditto ...	...	1	10 0
CINERARIAS, 12 superior sorts ...	...	0	15 0
MISCELLANEOUS PLANTS, 12 superior sorts ...		0	15 0
,, ,, ,, 20 ditto ...		1	5 0
,, ,, ,, 20 good sorts ...		0	15 0
MISCELLANEOUS CLIMBERS, 12 superior sorts		0	15 0
,, ,, ,, 20 ditto ...		1	5 0
HERBACEOUS PLANTS, 20 superior sorts ...		0	10 0
ANTIRRHINUMS, 6 superior sorts ...	...	0	5 0
PETUNIAS, 6 superior sorts ...	...	0	5 0
EPACRIS, 12 ditto	...	0	15 0
CACTUS, 6 ditto	...	0	9 0
VERBENAS, 12 ditto	...	0	10 0
PINUS, 6 ditto	...	0	7 0
ARAUCARIA IMBRICATA, 12 plants ...	...	1	0 0
CEDRUS DEODORA, 12 plants ...	...	1	0 0

*** *All Orders above 3l. will be delivered (hamper, package and carriage free), to London, Bristol, Exeter, Barnstaple, or Falmouth; or above 6l. to Liverpool, Dublin, and Cork.*

A remittance is not required from known correspondents, or those who give reference in London. Steamers from this Port three times a week to London, Cork, Dublin, Liverpool, and Falmouth. Orders will be executed in strictest rotation. Great attention is paid to careful packing. All plants forwarded to long distances are packed in strong Fir Boxes, and firmly secured.—WILLIAM E. RENDLE and Co., Nurserymen, Plymouth.

FINE NEW ACHIMENES, &c.

JAMES BACKHOUSE AND SON, York, beg to offer to the Public the following interesting Plants.

ACHIMENES VENUSTA.—A very beautiful variety, producing abundance of blossoms, more than 1 inch in diameter, of the richest crimson, clouded with violet when young, of regular outline and firm texture, and finely blotched in the throat, which is yellow with dark brown. Habit resembling A. rosea. Price 15*s.*

ACHIMENES FLORIBUNDA ELEGANS.—Another lovely variety, forming a compact bush; 6 to 12 inches high, covered with an extreme profusion of the most brilliant rosy carmine blossoms an inch in diameter. Price 15*s.*

The above form a beautiful addition to the genus, and, from their distinctness and adaptation to small collections, must prove general favourites.

TRITONIA AUREA (Golden Tritonia).—This noble plant produces large branched spikes of rich orange blossoms, from 1 to 1½ feet in length, the individual flowers measuring 3 inches across. Cut specimens received a Certificate of Merit, at the Horticultural Society's Rooms, last season.

Sir W. J. HOOKER, in referring to his figure of it in the "Botanical Magazine," says: "Of all the genus this is the most beautiful; it seems easy of cultivation and a profuse flowerer, remaining a long time in great beauty. A bed of it would be a far more striking object than the gaudy Gladiolus psittacinus, for the colour of the blossom is much more brilliant, and for such a purpose it will prove a great acquisition." Price 31*s.* 6*d.*

GLOXINIA CANDIDISSIMA.—Very large pure white blossoms, 5*s.* each. A liberal allowance to the trade.

LOBELIA ERINUS LUCIDA.—The finest of the blue varieties of L. erinus. Flowers large, with white eye, 9*s.* per doz.

LOBELIA ERINUS COMPACTA ALBA.—New, exactly like the true L. erinus compacta, with pure white blossoms, 9*s.* per dozen.

MYOSOTIS SYLVATICA.—The finest species for bedding, 8*s.* per dozen.

SALVIA SCUTELLAROIDES, or MEXICANA?—A decumbent, free flowering species, with brilliant azure blue blossoms, which expand simultaneously in dense terminal racemes, 12*s.* per dozen.

NEW AND UNRIVALLED FUCHSIAS.

EDWARD MITCHELL has the pleasure of offering to his friends and the public the following unrivalled Seedling FUCHSIAS, of which he is prepared to send out strong and healthy plants.

FAIRBROTHER'S JENNY LIND.—This was the only Seedling Fuchsia that was awarded a first class Certificate at the Chiswick July Horticultural Fete of 1847, and was pronounced by the judges to be a first-rate variety. For description of this unique variety, see Report of the July Show. Price per plant, 7*s.* 6*d.*

MITCHELL'S SIR HARRY SMITH.—E. M. can recommend this flower with the greatest confidence to his friends and the public, as being one of the most distinct light varieties in cultivation, and feels convinced that it will become a general favourite, from the pureness and delicacy of the white, contrasted with the rich corolla. Price per plant, 7*s.* 6*d.*

MITCHELL'S GRAND DUKE.—E. M. has much pleasure in sending out this first-rate dark variety, and from the size of the flower, and the richness of its waxy sepal, contrasted with the deep rich purple corolla, will be a great addition to every collection that it may be grown in. Price per plant, 5*s.*

E. M. has a few strong plants left after completing the numerous orders for his unequalled SCARLET GERANIUMS, TOM THUMB'S MASTER. Price per plant, 10*s.* 6*d.*—TAM O'SHANTER. Price per plant, 7*s.* 6*d.* For Report, see *Gardeners' Chronicle* for August, 1847.

The usual discount to the Trade when three plants are taken. Post-office orders from unknown correspondents.

Bristol Nursery, Kemp-town, Brighton, May 20.

NEW AND SELECT PLANTS.

BENJAMIN W. KNIGHT, FLORIST, &c., Tivoli, near St. Leonard's-on-Sea, Sussex, begs to call the attention of his friends and the public to the following choice and select Plants, which are now ready for delivery:—

12 choice and distinct FUCHSIAS, fit for exhibition, for 4s.; 12 extra first-rate, very distinct, new varieties, for 9s. 12 fine distinct VERBENAS for 2s. 6d.; 12 extra new varieties, quite distinct, all sent out last season for the first time, for 6s. 12 fine distinct PETUNIAS for 3s. 6d.; 12 extra new and distinct varieties for 6s. 12 good distinct CINERARIAS for 6s. 12 fine distinct ANTIRRHINUMS for 3s.; 12 extra superb and distinct varieties for 6s. 12 fine SALVIAS for 3s. 6d.; 12 extra fine distinct varieties, including mexicana, 6s. spectabilis, 4s. 12 gesneriaflora, for 6s. 12 HELIOTROPIUMS for 3s. 6d. CUPHEA STRIGILLOSA (the best for bedding out), 1s. 6d. 12 fine varieties of ACHIMENES for 6s. 12 ANAGALLIS, scarlet and blue, for 3s. 6d. 12 choice and distinct CHRYSANTHEMUMS for 3s. 6d.; 12 extra fine very superb varieties for 6s. 12 fine bedding out Plants, such as Lobelias, Senecios, Ageratums, Alonsoas, &c., for 3s. 6d.; 12 extra fine distinct varieties for 6s. The above can be sent post free, securely packed, without any risk of perishing.

Choice varieties of DAHLIAS early in May, 12 fine show flowers for 6s.; 12 superior for 9s.; 12 extra new varieties for 15s.; 12 fine fancy varieties for 6s.

Catalogues of the above may be obtained on prepaid application, enclosing a postage stamp. A remittance or reference is respectfully requested from unknown correspondents.

DAHLIAS.—QUEEN OF ENGLAND, (KEYNES'.) White, deeply-edged lake. One of the finest edged Dahlias in cultivation. Took a first-class prize at Chelsea, where only three varieties were placed out of 40 varieties exhibited. First class prize at Salisbury. This is the most beautiful flower J. KEYNES has ever offered, and will be a standard in its class. 3 feet 10 6

WALTER HILSON, (DODD's.)—True orange. This flower, for form and colour, is the best yet offered. Three first-class prizes, and warranted by J. KEYNES 10 6

NELL GWYNNE, (POPE's.)—True primrose, without shading. Two first-class prizes in London. Beautiful form, purest colour, the only primrose ever yet offered... 10 6

HAMLET, (BROWN's.)—Deep crimson, beautifully shaded, first-rate in every respect, has never been exhibited, only one blooming root. Warranted by J. KEYNES 10 6

WAR EAGLE, (KEYNES'.)—Bright red. This flower was purchased, late in the season, by J. KEYNES. It obtained a first-class Certificate at the Great Metropolitan Show, the only place where it was exhibited. Beautiful form, first rate 10 6

COMPACTA, (POPE's.)—Rosy purple, first-rate 10 6

AMY, (COOK's.)—Blush, tipped pink 7 6

BELTED KNIGHT, (DODD's.)—Orange, edged with deep buff, first-rate fancy flower, very double, fine form and constant 7 6

TOISSON D'OR, (BATTEUR's.)—Golden orange 10 6

PIUS IX., (TASSART's.)—Rose and white 10 6

CARDINAL FERRETTI, (VAN RENYNGHES.)—Red... 10 6

GLORI DE PECK, (PARIS's).—Blush white..... 10 6

J. KEYNES, with the greatest confidence, intends sending out the above in May next, trusting that the general satisfaction given in former years will be a safe guarantee for his selection.

J. KEYNES will have a good stock of YELLOW STANDARD, CAPTIVATION, LADY OF THE LAKE, and ANDROMEDA, four of the best flowers of last year sent from his establishment.

All the new flowers of the season will be supplied on receipt of early orders.—Salisbury, May 20.

The Gardeners' Chronicle.

SATURDAY, MAY 20, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY	—	24 { Linnean (Anniversary)	1 P.M.
		{ Microscopical	8 P.M.
		{ Society of Arts	8 P.M.
SATURDAY	—	27—Royal Botanic	3½ P.M.
WEDNESDAY	—	31—Geological	8½ P.M.
FRIDAY	June	2—Botanical	8 P.M.

COUNTRY SHOWS.—Wednesday, May 24: Manchester Horticultural.—Friday, May 26: Devon and Exeter Horticultural.

IN pursuing our inquiry into the principles which should guide us in the CULTIVATION OF COTTON, not in one, but in all the countries where this valuable substance is now produced, some facts require, in the first instance, to be determined respecting the plant, its soil, climate, and culture. Every one will admit the importance of ascertaining whether there be one or more species of Cotton plant, and if the latter, whether the Cotton of commerce is yielded by one or by several of these species. The determination of this point will naturally lead to an inquiry into the places where they are indigenous, and into the soil and climate of these localities, as well as of those where the several species are successfully cultivated. If possible, it is in many cases desirable to ascertain whether a vegetable product is yielded in the largest quantity and finest quality in a wild state, or by a cultivated plant. In the case of Cotton, we believe, it will be sufficient to take the cultivated plant as our principal guide. With this it will be requisite to ascertain the peculiarities of soil, of climate, and of culture which suit the different species, and enable them to yield not only a large quantity of Cotton-wool, but also such as is suitable in length, strength, and fineness of fibre, or staple, as it is commonly called. We must further enquire whether the same kind of soil and culture is suitable to each particular species, and whether due attention is paid to the selection of soils for the cultivation of Cotton, according to differences of climate, in order to suit the one to the other. We shall also have to determine whether soil, or climate, or culture is most influential in altering the nature of the product, and also whether increased quantity of produce is necessarily accompanied with any deterioration of its quality. It will also be important to ascertain whether the different species are apt to deteriorate when introduced into new situations, either from physical difference in localities, or from accidental hybridisation. The last point will naturally suggest the possibility of producing by such means new varieties suited to particular situations; and though not exactly belonging to our immediate object, we may inquire whether it be possible to produce Cotton in other countries capable of contending with the Cottons which now bear the highest character and bring the highest price in the English market.

In the first point of our inquiry we have to lament in this, as in several other cases, the little attention that has been paid to the identification of the species of cultivated plants. Some botanists enumerate as many as 20 species, others reduce them to two. One cultivator states that he knew more than 100 kinds, another describes 18. It is impossible, with the present available materials, to define the exact number of species. There is no doubt that Cotton was known to the ancients as a produce of India, and the first discoverers of America ascertained its existence in that quarter of the world. This has been confirmed by Cotton, both in a raw and manufactured state, having been found in the ancient Peruvian tombs. The probability, therefore, would be that there are at least two species of Cotton plant; but there are, in fact, four distinct species which may be easily defined and distinguished. Three of these yield the great mass, if not the whole of the Cotton of commerce. Whatever other species there may be it is unnecessary for our purpose to notice.

1. Indian Cotton is yielded by *Gossypium herbaceum*, which it would be better, with LAMARCK, to call *G. indicum*, as under it may be included all the Cottons cultivated in India. Dr. ROXBURGH considered the Cotton of Dacca, of Berar, and of China, to be all varieties of this species, which extends from Persia into Syria, Asia minor, and the Mediterranean. It is possible that it may at one time have been introduced into America, as stated in some works, but the American species, at present cultivated, are quite distinct.

2. *Gossypium arboreum* is a species found in many parts of India, in gardens and clumps of trees, but never cultivated in fields. It is frequently mentioned by the name *Nurma* in the Cotton Papers published by order of the House of Commons in 1847, as something new. It is distinguished by its arboreous habit, red flowers, and fine silky Cotton. But though a poor bearer it must be noticed again with the experiments on hybrid Cottons.

3. *Gossypium Barbadense*, or Barbadoes Cotton, was early introduced into the Mauritius, and from that into the Peninsula of India, where it is called Bourbon Cotton. Judging from specimens, and Dr. WIGHT's figures, it appears to be the same species as that which yields the great bulk of Cotton produced in the United States; as for instance the Sea Island and the New Orleans Cotton. Probably also the greater part, if not the whole of the Georgian Cotton. The proofs that all these are varieties, and not species, will be adduced on a future occasion.

4. Pernambuco or Brazil Cotton, distinguished by the black seeds adhering firmly together into a kidney-shaped body, seems to be the same species as that which Dr. ROXBURGH called *G. acuminatum*, and which he supposed to be a native of the interior of India, but which appears to have become acclimatised in the course of the numerous experiments which have been made for the improved culture of Cotton in India.

We shall next notice the soil and climate of different Cotton districts.

IT would not be very manifest to the cursory reader why HUMBOLDT should dwell so much on NATIONAL TASTE in different climates and ages, in respect to the contemplation and enjoyment of natural scenery. We have necessarily been very brief in our notice of this portion of his work. Indeed, we have rather confined ourselves to the more salient points, and to those nations in which we feel the greatest interest. But the whole of the two first chapters of his second volume are well worthy of being studied, and will amply repay the perusal of them.

It is when we come to the third chapter, however, that we perceive the full bearing of the preceding two. For it is obvious that taste in laying out any particular grounds will be in precise proportion to its possessor's kindred taste for the general scenery of Nature. In the case of the Romans, for example, their comparative indifference to the beauties of Nature, no matter of what order they might be, fully accounts for their style of gardening—a style which, from the descriptions handed down to us, and which we mentioned some time since, must have been always poor and mean, and very often ludicrous. Having cleared his way, then, by these preliminary chapters, HUMBOLDT at length treats on the laying out of parks and gardens. It is a rapid, but admirable sketch, and is opened by a most judicious remark. "The peculiar or characteristic character of plants and their association in groups is not only an important subject of study of Nature, and itself one of the objects of that study, but attention to the physiognomy of plants is also of great importance in Landscape Gardening—in the art of composing a landscape." If this simple principle had been always kept in view, what a safeguard should we have had against the tasteless arrangements and [illegible] which have so often been dignified by the title of Landscape Gardening!

The author's sketch, as we have said, is very rapid; but full of information. "The [illegible] for Nature," is shown to have glowed in the Semitic, Indian, and Iranian nations, while "the earliest ornamental parks mentioned in history belonged to middle and southern Asia." The gardens of SEMIRAMIS—the parks of the Persian Kings, with their obelisk-shaped Cypresses—the Asiatic terrestrial paradises—the Lydian Plane trees of XERXES—all pass before us in clear and concise review. And then we are told that "in the most distant part of the old continent the Chinese gardens appear to have approached most nearly to what we now call English parks." This statement would certainly not seem to harmonise with Sir W. CHAMBERS's version of Chinese gardening, to which we recently alluded. In the quotation which we are about to make, not only is there no trace of the absurdities which charmed that worthy knight, but it would be difficult to lay down fundamental truths more accurately than is here accomplished. "What is it," says an ancient Chinese writer, LIEU-TSCHEU, "that we seek in the pleasures of a garden? It has always been agreed that these plantations should make men amends for living at a distance from what would be their more congenial and agreeable dwelling place—in the midst of Nature free and unconstrained. The art of laying out gardens consists therefore in combining cheerfulness of prospect, luxuriance of growth, shade, retirement, and repose—so that the rural aspect may produce an illusion. Variety, which is the chief merit in the natural Landscape, must be sought by the choice of ground with alternation of hill and dale, flowing streams, and lakes covered with aquatic plants. *Symmetry is wearisome; and a garden where everything betrays constraint and art becomes tedious and distasteful.*" Now all praise be given to this ancient but very clear-headed Chinese writer, for his sound theory of Landscape Gardening. But the curious part for those who have received Sir W. CHAMBERS's statements as the only correct ones, remains to be told. This is not an isolated theory, invented by a single writer, and even then not carried out into practice. HUMBOLDT's simple sentence shows such a notion to be utterly false. "A description which Sir GEORGE STAUNTON has given us of the great imperial garden of Zhehol, north of the Chinese wall, corresponds with these precepts of LIEU-TSCHEU—precepts to which our ingenious contemporary, who formed the beautiful park at Moscow, would not refuse his approbation."

Even this would seem sufficient to throw more than doubts and grave suspicions on Sir W. CHAMBERS's views as to Chinese Gardening. The ridicule which his work called forth is now seen to be applicable, not to that system, but to the redoubted Knight, who seems really to have out-Quixoted Don QUIXOTE himself. If any thing were required confirmatory of this assertion, we find it in the succeeding passages of HUMBOLDT. We have all heard and read of the Chinese Poet-Emperor KIEN-LONG. He gives his imperial sanction to the same good principles: and HUMBOLDT well renders the spirit of his poem. "The great descriptive poem composed in the middle of the last century by the Emperor KIEN-LONG to celebrate the former Mantchou imperial residence, Moukden, and the graves of his ancestors, is also expressive of the most thorough love of Nature, [illegible] *embellished by art.* The royal poet [illegible] to blend the cheerful images of fresh [illegible] meadows, wood-crowned hills, and peaceful dwellings of men, all described in a very graphic manner, with the graver image of the tombs of his forefathers. The offerings which he brings to his deceased ancestors, according to the rites prescribed by CONFUCIUS, and the pious remembrance of departed monarchs and warriors, are the more special objects of this remarkable poem. A long enumeration of the wild plants, and of the animals which enliven the district, is tedious, as didactic poetry always is: but the weaving together the impression received from the visible landscape (which appears only as the background of the picture) with the more elevated objects taken from the world of ideas—with the mind-

ment of religious rites—and with allusions to great historical events—gives a peculiar character to the whole composition."

"*Nature sparingly embellished by art.*" The Emperor Kien-Long was quite right. =

We learn with regret, but without surprise, that the cultivation of the Potato has been revived in Ireland, and with augmented eagerness. The most trustworthy accounts agree in representing that an enormous extent of land is already cropped with it. The peasantry have even been selling their clothes, their bedding, and, in short, every saleable thing, in order to procure seed of this calamitous plant. The inevitable result must be sooner or later a renewal of the famine which has covered the land with such indescribable horrors.

There seems to be a confident belief among the Irish that the Potato disease has worn itself out, and they are probably right. It has been obvious that the plant has been improving in health for some time; and a sound crop may be reasonably counted upon for a little while; but for how long no one can say. What a spectacle! to behold a whole nation so destitute of resources and so reckless of consequences as to stake their existence upon the cast of a die; for a Potato crop is little better. If the throw is against them where will the nation be? We cannot but regard this renewal of confidence in the Potato crop as one of the worst signs that have yet appeared in Ireland, where it must be admitted that dangerous symptoms are not uncommon.

It is some consolation, however, to find that light is breaking here and there through the gloomy future. It is certain that the Irish are not hopeless and helpless in all directions. In spite of difficulties, we are happy to find that the cultivation of other crops is progressing, and in some instances with rapidity. In Galway, Roscommon, Longford, Meath, Kildare, Westmeath, Dublin and Wicklow, much more Wheat than usual has been put in, especially by the smaller occupiers; in Mayo, Galway, Tyrone, and other places, an unusual breadth is prepared for Turnips, which are certainly rising in estimation. It seems, however, that a general objection exists to the cultivation of Parsnips, and such esculents, *because they are stolen!* On the other hand Oats are sown this year to a less extent than formerly, the land having been thoroughly run out, and being incapable of carrying such a crop.

The most cheerful circumstance which has come to our knowledge is, that the admirably planned and skilfully conducted operations of the Society of Friends are beginning to tell effectually. Their farms are admitted to be models of cultivation, and promise to become centres of a much improved husbandry. What a lesson to those who imagine that cottage gardening in Ireland is impracticable, and not to be elicited by any ordinary endeavours. We on the other hand are satisfied that it is to ordinary endeavours alone that we can look for improvement among the peasantry, and that all extraordinary operations will be failures.

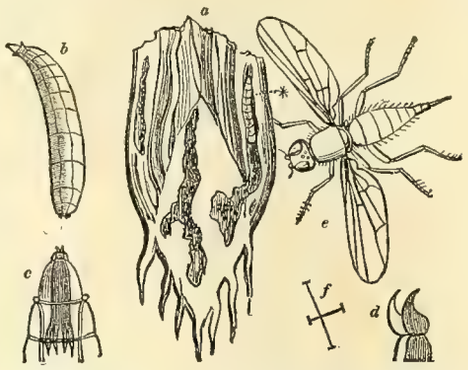
ENTOMOLOGY.

The Celery Stem Fly.

In our volume for 1841 will be found the history of a very beautiful two-winged fly (Tephritis onopordinis), which is occasionally very obnoxious to the Celery crop, the grubs of which form large blisters upon, or rather within, the leaves, devouring the parenchyme, and preventing the due circulation of the fluids necessary for the support of the plant, by entirely destroying their substance. On the present occasion we purpose making known the proceedings of another two-winged fly which is equally injurious to the same plant, but in a different manner, the larva burrowing into the solid stem and fleshy stalks, working its way up the latter, its track as well as itself being at first almost invisible from its similarity in colour to the substance of the stem; so that we have no doubt portions of the stalks, although containing the grub, are often eaten, owing to its presence not being suspected. The eye of the entomologist, however, especially if assisted by a moderate lens, easily detects the unwelcome visitor, which may indeed be expected when the solid part of the stem shows traces of being worm-eaten. It would seem, in fact, that it is in the solid part that the injury is commenced, the grubs eating upwards into the more succulent stalks of the leaves, leaving their traces in the former, visible in their tracks, which become rusty red, owing to the action of the moisture and air upon the gnawed surface which they have quitted.

Our first acquaintance with the transformation of this insect took place in the month of February, and as at this period the Celery has become more valuable, from the small quantity of stock remaining unconsumed, it is doubly annoying on digging up the plants to find that they are more or less worm-eaten. By careful examination, and removal of the leaves, the authors of the mischief may be found in their burrows, in the shape of glossy white cylindrical grubs, with a slight yellow tinge, having the anterior part of the body pointed, and the hind part obtusely rounded and marked by two black points; from whence proceed two delicate air vessels, appearing like threads of gold beneath the transparent skin, and which run along the whole length of the body as far as the segment immediately behind the head, where they form two minute exserted appendages.

The hind joints of the body are indistinct, but the fore ones are more distinctly to be traced. The mouth consists of a black horny apparatus, capable, as well as the head itself, of being withdrawn into the subsequent segment, as far as the two exserted lobes of the air-vessels above mentioned. Our figure *a* represents the bottom portion of a small stick of Celery, with two burrows in the solid part, one of which extends up into the right hand stalk of the leaf, where the grub is seen at *. The grub itself is drawn of an enlarged size in fig. *b*; and in fig. *c*, the front of its body is still more highly magnified, showing the two air-vessels terminating in the two external tubercles, and the large horny apparatus of the mouth, terminating behind in four horny points, and in front in two horny hooks (see fig. *d*), moved by strong muscles, and used by the insect in raking up the particles of its food, which it then sucks into its mouth.



By placing some of these diseased Celery stalks in a pot of moist earth, we succeeded in rearing from them the fly into which these grubs are transformed. Previous to assuming the perfect state, however, the insect has to pass through that of the pupa, in which the skin of the larva becomes hard, and forms a shining elongate case, without any appearance of articulation. Within this elongate-oval case the real pupa is to be found from which the perfect insect was disclosed at the middle of the month of May. This fly very closely resembles that reared from the cheese maggot. As it does not appear to be described we propose to name it Piophila Apii. It is represented above in our figure *e*, its natural size being shown by the crossed lines at *f*. The thorax and abdomen are entirely jet black, and very glossy, with a very slight brassy tinge, and with fine golden grey hairs scattered over the body. The head is chesnut-coloured, paler near the mouth, and black in the middle above; the eyes and club of the antennæ are pitchy, the bristle of the latter luteous. The legs (including all the coxæ or joints by which they are attached to the body) are very pale straw-yellow; the tarsi, especially in the hind feet, somewhat more dusky. The wings are entirely hyaline and colourless, with the veins very pale buff. Our figure represents a female,* in which the ovipositor is seen to be exserted, consisting of several very slender joints, which are retractile, like the tube of a telescope.

Although this insect is hatched in the beginning of the summer, it is, most probably, either that it survives till the autumn, or that there is a summer generation; at least, we presume that the grubs which injure the plant in the winter and early spring months are hatched from eggs deposited by the female fly in the autumn. We know no plan for preventing this operation, or for entrapping the fly when arrived at the perfect state. When, however, stalks of Celery are found to be much infested, the diseased parts ought to be cut out and burnt, instead of being thrown, as is generally the case, upon the dung-heap, to rot with other refuse vegetables, whereby the destruction of the fly is not effected.—*J. O. W.*

CAPE HEATHS.—No. IX.

By the courtesy of a lady some time resident at the Cape I have been enabled to inspect several portfolios of drawings from nature of some hundreds of Ericas, drawn from specimens gathered in their native habitats. I would not venture on my own knowledge of the genus to assert, but I think I might do so without much fear of erring, that our collections cannot boast of such beautiful species as yet remain to be introduced; or if introduced, have never been sufficiently developed to command attention. But the object of this paper is to point out a few of the more beautiful varieties; and first as to Bergiana. I might throw down the pen in despair of doing justice to its merits as an ornamental plant of the first rank, where chasteness and elegance triumphs over the mere love of the gaudy. Elegant in the superlative degree it most assuredly is. Hogarth's "line of beauty" is exemplified a thousand times in the disposition of its branches. To give an idea of the profusion of its blossoms, is to say they equal in number its leaflets, numerous as they are. Imagine a branch bending in a graceful curve a foot in length, again this branch clothed with a numerous progeny of delicate ramifications, and these subdivided into numerous pedicels, each bearing a pendent purple globule; dispose a number of such branches into the most graceful group that fancy can depict, and you can form some idea of what a well-grown specimen of Erica Bergiana would be. Cavendishii may be noble, the ventricosa beautiful, odore roseæ may be chaste, and the vestitas grand; but Bergiana is more, it has every superlative of beauty combined, it is elegant. The man who shall produce a large well grown specimen of Erica Bergiana will have produced that which will command attention from the most fastidious of plant connoisseurs. I know not why it is, but in few lists of exhibited specimens either in the metropolitan or provincial shows have I observed the species under notice.

I have said Cavendishii is noble; it is the very aristocrat of Ericas. Rich in colour, compact in habit, symmetrical without formality, easy to cultivate, a free and lasting bloomer; these all combine to render it a desirable variety for general cultivation. As a hybrid between depressa and Pattersonii it affords us an insight into what might be expected from judicious hybridisation. It combines with a greater profusion of bloom than Pattersonii the compact habit, large blossoms, and much richer colour of depressa. The former is somewhat inclined to nakedness, and the latter is too scanty in the production of its blossom to render it a conspicuous object.

Perhaps as a fitting companion for Cavendishii, and contrasting admirably in colour, intermedia may not be inappropriately named. Its rich imbricated spikes of blossom, white and sufficiently transparent to render the position of the inclosed anthers visible through the tubular corolla, render it a conspicuous and beautiful object. It will produce blossoms in such profusion as to clothe the flower-stalk for the length of 3 or 4 inches with a dense mass of spotless purity. It is a near relation to Bowieana, but an unquestionable improvement upon that desirable variety. Both the last-named are very liable to the attacks of aphids. These pests locate themselves amongst the embryo flowers, and if timely measures are not then taken, malformation of the individual flowers is sure to take place.

A very hydra of beauty is the genus Erica. No sooner have you disposed of what may be termed the principals, than up start others even more formidable than they. Mirabilis defies alike both pen and pencil faithfully to pourtray it. Its thick, wax-like, limbate petals, on the one hand, and its changeable hue on the other, render such a consummation, although "devoutly to be wished," utterly impossible.

The flowers of mirabilis are produced only on the tips of the shoots, each bearing four; it may thus be imagined that, on looking perpendicularly on a compact specimen, a gorgeous mass of beauty presents itself; in fact, a complete sheet of blossoms. Towards the close of the growing season it sometimes happens that a disease destroys the extreme points of many of the shoots; when such happens, the blooms are destroyed in the embryo state, and much of the future beauty of the plant is destroyed.

A plant less conspicuous than the last, but exercising great claims upon our notice, is rubricalyx. The pale tubular petals, contrasting strongly with the rich, dark calyx, render it a pleasing object to look upon. It is a very free bloomer, and remains a long time in beauty. As the petals fade, they change to a somewhat dingy red; the intermediate colours, however, are pleasing, and the mutations will be watched with pleasure. There is one circumstance which is apt to detract from its beauty; it is apt to make luxuriant shoots. The flowers on the branchlets near the base are frequently abortive.—*G.*

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

Strawberries.—This is not the season for making plantations of this favourite fruit, and as directions given now may probably be forgotten at the time they are wanted, we shall reserve them for a more convenient period. We will presume that your beds have been properly made, and that now you have strong plants profusely covered with bloom; each plant maintaining a *noli me tangere* distance from its neighbour, and not practising that ridiculous and useless hug of fraternity so common among ill-regulated Strawberries. Such a well-conducted bed is now a beautiful sight in itself, and associated with pleasant expectances. What had better be done with it, in order to secure a large amount of fruit, and keep the bed in good condition?

It is common to deluge Strawberries with water when a few days of drought occur, at the time they are in bloom; for the purpose, it is said, of setting the fruit. Now this dictum, like axiomatic statements in all professions, requires to be received with limitations and cautions, or its practice will do more harm than good. The question to be asked is, Is the soil in so dry a state as to require water? for it need scarcely be said, that moisture is not wanted by the foliage or the bloom but only by the root. Well-prepared beds will seldom require watering, and whether they do or not is discoverable by actual inspection. If the soil is moist a little beneath the surface and the plants look flourishing, water will do no good; but on the contrary it may prove injurious by striking off, instead of setting, the fruit. It is customary in gardens where there is Grass, to place the mowings on the soil of the Strawberry beds, to preserve the fruit clean in heavy rains, which otherwise will often scatter it over with mould. Now if this mulching system is begun early, it will check evaporation in hot weather, and render watering superfluous.

* In this figure the abdomen is represented rather too large in proportion to the rest of the body.

As soon as the fruit begins to set, runners are produced, and it is recommended to cut them off as they appear, for the purpose of getting finer fruit, and strengthening the parent plant. This practice has the approval of so many first-rate horticulturists, that it must be safe to follow it ourselves, although it should be remembered that other great names have questioned its utility, among others Mr. Knight, of Downton Castle. Amateurs having time to make observations should decide this doubt by actual experiment, and now is the time to commence operations. Take six plants in a row and carefully cut off all runners; let six more, as similar as possible, be left to nature. Then the state of the fruit and the plants will enable you to come to a decision for yourselves. I mention six plants for the sake of example merely, as it is evident the experiment will be more satisfactory the greater the number of roots operated upon. Having thought much on the subject myself, I am inclined to doubt the benefit accruing from the excision of runners, for the following reason:—As soon as one crop is removed, another follows, and this continues through the whole period of growth. If the removal of a runner was a final process, and no successor was produced, then the bearing of the operation on the fruit and the plant would not be doubtful; as when Peaches are removed from a tree, no others being formed to supply their places, the juices which would have matured them go to those remaining. But if a fresh Peach were to take the place of the one plucked off, would any one practise the system of thinning? Here again direct experiment is wanted, and may be carried on in the following way: let the runners allowed to grow on one plant be weighed a month hence; and in the mean time, let an account be kept of the weight of all those removed from another similar plant during the same period. The balance struck between these two accounts will tell more truth than theory can do.

As a new bed of Strawberries should be made every year so that a fresh healthy stock may be always in possession, as many runners should be pegged down as you require, and when rooted the young plants must be removed to their final destination, or to a nursery bed, to be planted out in the autumn. This is all we can advise respecting the Strawberry at the present time, unless we add a word of caution in reference to gathering the fruit. The amateur should either do this himself, or trust the task to an experienced person, if he wishes to have the full benefit of his labour. It is really atrocious to pluck away at a truss of fruit as eager visitors will sometimes do; gaining one and often destroying a dozen unripe ones by the same ruthless attack. This may be of no importance in an old-fashioned garden where Strawberry beds have little attention; but when they are highly cultivated, it is vexatious to have a crop served as the corn is in a field having a footpath through it.—*H. B.*

MELLONI'S THEORY OF DEW.

[The reputation of M. Melloni as a philosopher, and the interest that attaches to the subject of dew, has induced us to abridge from the "Comptes Rendus" the three letters of which the following is the first.]

FIRST LETTER.

From the experiments undertaken by Wells to explain the true cause of dew, it seems quite clear, I think, that dew neither rises from the earth nor falls from the sky, but is formed by the elastic and invisible vapour which is present everywhere in the atmosphere; the precipitation of aqueous vapour is clearly owing to the cold produced by the radiation of bodies towards a clear sky. Looking at the question in this way, leaves, wood, glass, varnish, lampblack, become covered with dew, because they emit heat easily, and are considerably cooled under a clear sky. Metals, on the other hand, remain dry, in consequence of the difficulty they have in radiating their heat to the upper regions of the atmosphere; and, in fact, a great difference is observed between the indications of a thermoscope, when a vessel of polished metal, full of boiling water, and an exactly similar one coated with lampblack, are successively presented to it; the action of the second being much greater than that of the first. The deduction is correct; but it must be allowed that it does not necessarily appear so to everybody. Indeed, Prevost, and Saussure before him, attributed the absence of dew on metals to an electric force; Leslie explained the same phenomenon by a particular repulsion, which, he said, existed between metallic surfaces and watery vapour; and those who maintained that dew arose from the earth, explained the same thing by the heat and electricity disengaged by the chemical action of metals upon the particles of this same vapour, at the moment of their passage to the liquid state. To show that these hypotheses are untenable, I first take three thermometers with graduated stems, and on each tube I fix a small cork about 5 or 6 millimetres above the bulb. This cork helps to support the metallic cases in which the thermometers, for experiments on nocturnal cooling, are inclosed. The first case consists of a small, thin, polished silver or copper cup, like a common thimble, and large enough to contain the bulb of the thermometer; the second is a tin cylinder, open at one end and closed at the other; this serves as an envelope for the graduated tube. The two metallic pieces (which can easily be put off or on) are kept in their places by the elasticity of the cork.

In the next place I procured three tin cups, each having a lateral opening near its bottom, through which the bulbs of the prepared thermometers can be passed, while the stems with their envelopes remain horizontally on the outside. These cups are supported by fine metallic tubes, provided with covers of the same nature, and the whole were exposed to the air on a calm fine night. One of the thermometer cases was blackened, and the other two were in their natural state, and the cups were sometimes open and sometimes shut. Such was the apparatus with which I compared the nocturnal radiation of silver with that of lampblack. Suppose the cups to be first shut, the three thermometers then mark the same temperature. Then by opening two of the cups, and leaving the third, containing one of the bright thermometers, shut, it will be seen that the metallic thermometer which is now exposed to the air, falls so little that hardly any change can be observed except with the finest instruments; while the thermometer, coated with lampblack, falls very visibly, and after a few minutes it will mark three or four degrees less than the thermometer in the closed cup—an evident proof that this difference is owing to the heat radiated by the lampblack, and not at all to the contact of the exterior air, which equally surrounded the polished metallic casing of the other exposed thermometer. My results confirm, in a striking manner, the assertion of MM. La Provostaye and Desains, viz., that the emissive power of metals is much less than the experiments of Leslie, Dulong, and Petit led people to suppose.

The radiating power of lampblack being 100, that of laminated silver I found to be 3·026. MM. La Provostaye and Desains find 5·37 for silver chemically precipitated on copper, and 2·1 when the silver is polished. According to the last-mentioned gentleman the emissive power of recently laminated silver is 2·94; while 2·38 is that of laminated silver burnished.

From observations made in 1838, I am led to believe that the differences in the radiating power of the polished and the scratched side of the cube in Leslie's famous experiment, is not owing, as was generally thought, to the differences in the mechanical state of the two surfaces, but to a change of density resulting from the scratching. This appears moreover to be confirmed by the three following facts:—1st. The variation in the emissive power is only observable in metals; marble, jet, or ivory have the same radiating power whether they are smooth or not. 2d. If silver be melted and slowly cooled in sand moulds, then burnished and afterwards scratched with a diamond, so that the bottom of the scratches be compressed and condensed, its radiating power will be less after the scratching than it was before. 3d. This same piece of silver, melted and polished, has its radiating power diminished by being hammered or laminated.

Thermoscopic instruments similar to those described above, and having the cases covered with varnish, black-lead, isinglass, sawdust, sand, earth, and leaves, constantly indicated a very sensible fall of temperature before becoming moist with dew; the lapse of time between the fall of temperature and the deposit of dew sometimes amounted to several hours; a fall of temperature, moreover, often occurred without any deposit of dew at all during the night. This last phenomenon occurred the more frequently the higher the thermometers were placed above the ground. By making your observations at a certain height above the soil you can delay or entirely prevent the deposition of dew on your instruments, and prove conclusively that it always follows and never precedes the production of cold. I have never seen the polished metallic cases of my thermometers covered with condensed vapour during damp nights, provided there was no trace of fog in the atmosphere.

Hence we see that in order that a body may be covered by dew it must first cool to a certain degree, and the reason why metals do not become covered with dew is that they do not become sufficiently cold by radiation. But is there nothing else to hinder the precipitation of dew on metals? In other words, is the feeble radiating power of metals the true and only reason why they are never wetted by dew?

The following experiment seems to me to answer this question, at the same time that it refutes the theories that dew rises from the earth or falls from the clouds, and clearly proves Well's principle:—On a tin disc, as large and thin as possible, draw a concentric circle with a radius equal to one-third of that of the disc, and cover it with a thick layer of varnish. Then take another tin disc less by 10 millimetres than the varnished circle; and having soldered a pointed iron wire (2 millimetres large and 2 or 3 decimetres long) at its centre and perpendicular to it, place the wire through a hole in the centre of the great disc, on the varnished side. The great disc is to be pushed along the wire until the two discs are about 5 millimetres from each other, at which distance they must be kept.

The discs so joined are to be taken in the evening out in the fields, and left for a few minutes in a horizontal position, quite out of contact with any other bodies. If the night is calm and fine, phenomena which one might easily foretell will soon be observed on the surface of the larger disc.

It suffices, indeed, to remember that in the position in which the instrument was left, the small disc is uppermost, and hence an annular band of the varnished part of the lower disc will be exposed to the air. Now it is clear that this band will radiate heat, cool, become covered with dew, and will propel cold and dew in consequence, from the side next the centre, and from that next the circumference. This propagation will, however, proceed much further in the latter than in the former direction, and for this reason—the points cooled by contact will cool further by radiation, and will become covered with dew, whilst the varnish beneath the small disc can only cool by contact. And we find that the central part of the varnished circle remains perfectly dry, whereas the outer metallic band is wetted to its very edge, if the atmosphere is exceedingly damp.

But there is another circumstance which we could not so easily have foreseen. I mean the exact repetition of the same appearances on the surface of the disc turned next the ground. Dew begins to appear on this surface exactly opposite the little exterior varnished band; a light whitish circle suddenly appears on the polished metal, and after becoming better defined, spreads little by little sometimes as far as the edges of the plate in one direction, but never reaches the centre, which remains quite dry and brilliant, like the corresponding portion on the other side of the disc, and the small circular roof which covers it without touching it.

From this very simple experiment we draw the following conclusions. Dew does not fall from the sky, because the upper disc is always dry and the greater part of the lower one is wetted. It does not arise from the ground, because if the exterior part of the lower surface of the great disc is covered, the middle part of it remains perfectly dry and brilliant. Metals do not repel aqueous vapour which forms dew, nor do they cause its evaporation, as it is deposited upon them, since we see some parts of the metal quite wet, and others quite dry.

The appearance of the dew first on the uncovered band of varnish, and its gradual extension to the other adjacent and opposite parts of the great disc, together with the fall of temperature observed on the varnished cases of the thermometers exposed freely to the air, prove that dew is a pure consequence of nocturnal radiation, which gives to good radiators the degree of cold necessary for the condensation of the elastic invisible aqueous vapour which pervades our atmosphere.

Thus far all the facts agree perfectly with the generally received theory of dew. In a second letter I shall bring forward others which are not capable of explanation in the usual way, but which nevertheless are connected in a fortunate manner to the principle of Wells.

Home Correspondence.

The Cockchaffer destructive of Strawberry Plants.—Without pretending to any discovery I certainly may observe, that although I have grown strawberries to a considerable extent in three counties widely remote for a very long period of years, I never discovered the above fact till last summer, nor did I ever meet with any gardener who alluded to it. Having received from a friend here, about the middle of May, 1847, a number of very fine year-old plants of the British Queen, by dint of careful watering (though only with hard water abounding with sulphate of lime), I carried these plants on throughout that most arid season, and so successfully, that they doubled my stock of plants. Soon after the growth was fairly established, I perceived, in three instances, that a plant in perfect health in the forenoon had drooped before sunset, its leaves becoming flaccid, and lying on the soil. At first I was only surprised, but when a second plant became so affected, my attention was roused, and I began to move the soil with a hand fork around the plant, and lower than the collar. I then detected a full sized larva of the chaffer, and the mystery was solved. A third case occurred, and the same means produced a similar detection. This plant I preserved, as the grub had not entirely gnawed through the collar, at which point of junction, between the ascending and descending members, the erosions were made. One case of a like attack occurred again on the 15th instant, and a larva of similar size (I think in its third year), was immediately found. My neighbour has thus lost two plants within the week, but has failed to trace the marauder. I hope these few hints may be acceptable and useful.—*J. T., Croydon, May 16.*

Vines.—I lately stated that many of my Vine-buds had the appearance of being bitten, and that I should be obliged by a remedy. Since I wrote I applied wet-lime putty to the injured places. A day or two afterwards I observed the buds were swelling instead of failing away, and now every bud which was not too far gone is in leaf and quite healthy. The lime putty did not in the least injure the buds or leaves. Had I adopted this plan sooner, I should have saved some Vine branches; and had I not adopted it, some of my Vines would have received serious injury, and perhaps have died, which are now in vigorous growth.—*C. A. A. Lloyd, Oswestry.*

Ivy.—In answer to "A. S." I have to say that Ivy will grow upon a wall which has been painted with oil paint. The house I live in is thus painted, and I had Ivy growing upon it for several years, but have now taken it away.—*C. A. A Lloyd, Oswestry.*

Oyster Pea.—This is but another name for the old Grotto Pea, first introduced by Messrs. Field and Child, of Thames-street.—*Uranus, May, 1848.*

Railway Embankments.—I see these commented upon as good for plantations. Why not grow corn, Clover, Potatoes, or anything upon them, rather than lose many hundreds of acres as a nursery for weeds of all descriptions, to the annoyance of the neighbourhood? I have seen splendid crops of Clover on them, only the plot was too small.—*A. Z.*——A mistake occurred in my last communication on this subject. It will be seen that the Larches I proposed to plant for sleepers, grown in 15 years, must make an annual ring of a quarter of an inch in breadth, and not half an inch as printed. Having corrected this mistake, allow me to

draw attention to the fact of a plantation adjoining the Clarence railway having taken fire from a spark from the engine, and immense damage being done thereby. (See *Leeds Mercury*, *May* 6.) Such accidents show the inexpediency of adopting the suggestions of "E. F. G.," because, were the embankments planted, the trees could scarcely escape, as the hot cinders would be constantly falling amongst them. If I may venture on a recommendation to turn such places to profit, the Willow I think would not be the worst plant for such a situation. It would be as little likely to take fire as any one that could be named.—*Yorick.*

Wasps.—The calculation given in last week's *Chronicle* (p. 318), do not do anything like justice to the benefits resulting from destroying wasps at this season of the year. Instead of one in five being a male, every wasp killed in the spring is a queen mother; and instead of each wasp producing 1000 young, the number of cells in a wasp's nest sometimes amounts to more than 16,000, and each cell serves for three broods in a year, so that a wasp now destroyed prevents the production of at least 30,000 wasps in the after part of the year. To the grower of fine fruit, therefore, a wasp in spring is very cheap at a penny.—*W.*

Scorching Effects of British Sheet-glass.—I should be glad to hear from some of your correspondents who have used British sheet glass of 21 oz. to the foot, and upwards, in lately planted Vineries more especially, what effect the sun has had upon the glass, and whether any scorching has been felt during the last 10 days, even in well ventilated houses. Has Mr. Spencer experienced any?—*James Roberts, Raby Castle, May* 16.

Select Dahlias.—The last week in May being the best time for planting Dahlias, and being a very successful grower, and tolerably good judge of what constitutes perfection in that flower, I beg to offer the following list of some of the very best kinds in cultivation, as a guide to those who may not have had an opportunity of personally inspecting our metropolitan exhibitions, viz., Princess Radziwill, white and violet; Andromeda, buff tipped; Minn, dark crimson; Yellow Standard; Victorine, peach; Beeswing, shaded red; Miss Sarah, blush white; Star, Bragg's, white and blood; Mrs. Shelly, rose; Fulwood, scarlet; Louis Philippe, crimson; Rose de Amour, shaded rose; Berryer, nearly black; Queen of Sheba, white; Viscomte de Peyrouse, light; Scarlet Gem, bright scarlet; Mrs. Anderson, lilac; Captain Wallner, maroon; Standard of Perfection, purple; Gloria Mundi, shaded buff; Marchioness of Cornwallis, white; Victory of Sussex, crimson; Essex, rosy lilac; Captivation, dark; Bertha Von Gena, orange; Caractacus, puce; Lady St. Maur, light-edged; Nonpareil, red; Lillywhite, blush white; Marquis of Aylesbury, purple. The following are the best new varieties for 1848:—Shylock, scarlet; Gem, Oakley's, light-edged; Walter Hilson, reddish orange; Queen of England, light mottled; Countess of Clarendon, white; Golden Fleece, dull orange; Delight, light-edged crimson; Boule de Feu, scarlet; Lady Montgomery, light-edged; Nell Gwynne, primrose; Fire King, fiery orange; Mont Blanc, white.—*E. Bennett, gr. to P. Novelli, Esq., Dulwich.*

Polmaise Heating.—May I be permitted to request of "J. W. L." replies to the following queries relative to this subject, viz., the height of brick arch from the fire box, size of bricks used, and if single be thick enough? Fire bricks I suppose are used. The cold air return-pipes, or drains as they are termed; has each room one? If so, how are these numerous pipes arranged in the five rooms heated by this means? Are there more than the two pipes to the hot air chamber? The "damper (a door shutting in the mouth of the iron pipe)." I conclude this pipe to be the chimney. Is there no unpleasant effluvium introduced with the hot air? Does "J. W. L." recommend such mode of heating for bed-rooms? The warm air is conveyed to the rooms through wooden pipes. Do they not soon warp by the heat, and become defective? Would not earthenware ones be better? And what diameter is recommended for the hot air pipes? The economy of this mode of heating many rooms is so manifest that I venture to desire more information on it, for which I shall feel obliged.—*Delta, Bath, May* 15.

The Royal Gardener.—One or two years ago you made an attempt to induce gardeners to improve the growth of Asparagus, and to get rid of the long white drumsticks which one meets everywhere in London at this season of the year, but with little success. Sir Walter Scott tells a story in his "Life of Swift," of the Dean's insisting on one of his visitors eating the stalks of his Asparagus, as well as the green tops, saying that King William had taught him so to eat that vegetable; and all the biographers of Swift tell a story of King William having taught Swift the Dutch mode of cutting Asparagus, when he used to meet him at Sir W. Temple's. Now I take it there could be little to teach in Holland as to the mode of cutting, though there might be much to learn as to the best mode of growing this vegetable. And I dare say the Asparagus that Swift ate with King William was well grown, and admitted of being eaten up to the handle: and hence the Dean's attempt to make his guest eat *à la* King William, without, at the same time, taking care to have the Asparagus grown as tender as it was by his royal preceptor.—*Dodman.* [An account of the cultivation of Asparagus, at Lubeck, was published last year at p. 404.]

Snakes.—Some of your correspondents have been discussing whether the young of snakes take refuge down their mother's throat when alarmed. As we say in the North, I doubt the fact; or rather I doubt the competency of the observers. At all events the anatomical construction of the animals should exhibit a peculiarity fitted for such a purpose. Is it meant that the young enter their mother's stomach? The puzzle I suspect has arisen from the circumstance that some of these reptiles are viviparous.—*A Learner.*

Starlings v. *Pigeons.*—The opportunity of the elucidation of facts of natural history often falls in the way of those engaged in horticultural pursuits; the importance of correct information regarding the habits of birds and insects was well and justly stated in an early number of this year's *Chronicle*. I should like to see the subject earnestly taken up by gardeners. I am of opinion that many facts that have reference to their pursuits have yet to be ascertained and recorded; equity, as well as interest, demands that, as garden pests should be clearly described, the claims of the undoubted friends to the gardener should be fairly recognised. In the present instance I wish to say a few words in defence of one of the prettiest and most useful birds we possess—the starling, which, I am sorry to find, has fallen under the displeasure of your correspondent "Orbatus." (April 29, page 286.) In commenting on the peculiarities of birds, the chance manifestation of a propensity (not, perhaps, before recognised as a distinguishing feature in the family) is often mistakingly set down as a habit to which the whole tribe is prone, and employed as evidence conclusive and satisfactory against them. The jackdaw, starling, and magpie, domesticated, exhibit peculiarities rarely observable in the birds in their wild state. To the remarkable imitative faculties possessed by birds, combined with a superior and improvable intelligence, may be ascribed many eccentricities, such as that described by "Orbatus" in the case of starlings *v.* pigeons. As advocate for the starlings in this case, I may be permitted to suggest, by way of apology, the striking example daily presented to them by their associates of the dove-cot. The eternal bickerings of these much berhymed doves, the continual cooing and chasing between dissatisfied mates, might well mislead a less apt bird than the starling. Prone as the starling unquestionably is to imitate all sorts of birds, I am not surprised, although I lament, that they have in one instance fallen into error. Luckily I am in a position to offer an instance that may fairly divide opinion as to the evil nature of the bird towards pigeons. I have no less than five broods of starlings in my dove house; they occupy that number of boxes, the same used by the pigeons. I have never known an instance of antagonism between the two birds; the most perfect harmony seems to subsist between them. I am pleased with their association; the approach of a real enemy—a cat or hawk—is immediately signalled by the starlings, whose cries are prolonged while the intruder remains in sight.—*W. I., Hatfield, May* 17.

Glazing.—In the present cheapness of glass it appears to me that a much more extended use might be made of it for sheltering plants in the winter, if the lights of frames could be constructed with greater ease and cheapness. Now this would be the case, if the shops dealing in such articles kept bar iron rolled into the form of which this is a section. The wooden frame of the light might be made by any village carpenter, lengths of the above put in with ease at due intervals, and glazed by the gardener in a few minutes. Making the sashes of wood is expensive, on account of the workmanship required; but bar iron rolled to the above form need not be dearer than the common shape. I was surprised to find no such article in London, but perhaps by the publicity given to this suggestion, it might soon become common.—*Pyracmon.* [Better make sash bars of wood, by machinery, and sell them in useful lengths.]

Societies.

Linnean, *May* 2.—The Bishop of Norwich, President, in the chair. M. Decaisne was elected a foreign Fellow, Mr. John Frazer an Associate. A paper was read by Mr. Newport *On the Anatomy and Affinities of Pteronarcys regalis, the Insect Proteus.* The author stated that when he first noticed the existence of branchiæ in a winged specimen of this insect, he was inclined to look upon their occurrence as accidental, but that he has since found that they exist, although imperfectly preserved, in all the dried specimens of the insects of this genus in the cabinets of the British Museum; so that these insects have organs in their perfect state both for aquatic and for aerial respiration. After describing the principal form of branchiæ in the larva of the Neuroptera, and pointing out that in some, as in the dragon flies (Libellulæ), they are caudal; in others, as in the May flies (Ephemeridæ), they are situated along the sides of the abdomen; and in others, as in the Perlidæ, among which the Pteronarcys is placed, they are situated on the under surface of the segments of the thorax; he described their minute structure, and the mode in which the blood circulates through them, and stated his full conviction that the branchiæ are active organs in the perfect Pteronarcys, while the insect also possesses spiracles for the direct respiration of air. This singular anomaly of structure, which constitutes the insect a true Proteus among the articulata, he showed was in perfect accordance with its habits, which are sluggish, nocturnal, and subaquatic, as it flies heavily, and comes abroad only during the night, and resides in damp situations. In its internal anatomy its respiratory organs are completely tractical, exactly as in the larvæ of all insects. On comparing its internal anatomy with that of the Perlidæ, it was shown to differ greatly in the structure of its alimentary canal, as well as in other parts, the canal being formed chiefly of an immensely elongated œsophagus, which extends backwards as far as the middle of the abdomen; and that the true digestive stomach has not a trace at its origin of the large gastric glands which exist in Perla. Mr. Newport closed his paper with some remarks on the affinities of the Perlidæ, and showed that as their anatomy approaches that of the Blattidæ among the Orthoptera, they ought perhaps to be placed at the head of the order Neuroptera, if indeed they do not constitute part of the former. A discussion followed the reading of this paper, in which Mr. Westwood and Mr. E. Doubleday took part. The latter gentleman stated that he believed he was the only British naturalist who had seen the Pteronarcys alive. It was a native of America, and during the day it inhabited the crevices of rocks exposed to the spray of waterfalls.—A ballot was about to take place for Prof. Zuccarini as a foreign Fellow, when Dr. Wallich informed the Society that he had received information of his decease.

Royal South London Floricultural, *May* 17.—This, the second show of the season, was held in the Surrey Zoological Gardens. A large number of fine garden plants were assembled, but we are sorry to say that the floricultural department of the show occupies so much of our room that we can only mention, as regards miscellaneous collections, that the first prize for 15 plants was awarded to Mr. Cole, of Dartford; the 2d to Mr. Bruce, of Tooting; and the 3d to Mr. Hamp, of South Lambeth. In 10 plants Mr. Young, of Camberwell, was first. In the Nurserymen's class Mr. Pawley was first, and he also obtained a first prize for a specimen of Erica elegans. Various groups of Cape Heaths were produced in excellent order, and there were some Orchids and Azaleas. Amaryllids and Cacti were also present. Among fruits the more remarkable were Pine-apples and Grapes.

The Pelargoniums exhibited on this occasion were in very fine condition, well grown, and the colours well developed. Mr. Robinson, of Pimlico, obtained the 1st prize for his collection of 8 varieties, which included Matilda, Madeline, Sylph, Aurora, Camilla, Duke of Cornwall, Juliet, and Sunrise.—In the *Nurserymen's Class*, Mr. Gaines' collection of 12 varieties consisted of Chieftain, Lord Hardinge, Gazelle, Nourmahal, Xarifa, Favourite, Rosebud, Marc Antony, Cossack, Princeps, Queen of Bourbons, and Ellen. Mr. Gaines also exhibited 6 finely bloomed specimens of Fancy Pelargoniums, for which he obtained an extra prize from the Society; the sorts were, Queen Victoria, Anais, Jehu, Ibrahim Pacha, Lady Rivers, and Ytolinski.—In Calceolarias an extra prize was awarded to Mr. Tye, gr. to W. H. Galliot, Esq, of Clapham, for Maid of Lodi, Rodolpho, Caroline, Lady Mills, Arethusa, and La Polka; the same to Mr. Gaines, for Princeps, Pickwick, La Polka, Europa, Othello, and Aurantia. The prize offered by Mr. Ivery, of Peckham, for the best 8 Cinerarias in pots, was awarded to Mr. J. Robinson, of Pimlico, for Princess Royal, Eclipse, Pet, Bendisii, Royal Crimson, Purple Perfection, Maid of Artois, and Vernalis; and an extra prize from the Society to Mr. Gaines, for Cyrus, Novelty, Beauty, Pilot, Emma, and Lady Middleton. Tulips.—In addition to the Large Silver Adelaide Medal offered by the Society, the winner of the 1st prize is to be presented by Mr. Lawrence with 6*l.* worth of Tulips to be selected from his bed. 1st prize was awarded to Mr. Hunt, of High Wycombe, for Polyphemus, Alcon, Matilda, Hamlet, Aglaia, Princess Charlotte's Cenotaph, Darius, Vestris, Thalia, Strong's King, Cerise à belleforme, Violet, and Blandiana. 2d to A. Lane, Esq., West Wycombe, in addition to the prize offered by the Society, Tulips to the value of 5*l.*, by Mr. Willmer, of Sunbury; his flowers were — Vestris, Polyphemus, Aglaia, Roi de Siam, Cleopatra, Violet Noir, Holmes' King, Triumph Royal, George IV., Lavinia, Grandeur Superbe, and Palafox. 3d to John Edwards, Esq., Holloway, who, in addition to the Society's prize, has the power of selecting Tulips to the value of 4*l.* offered by Mr. Lawrence, of Hampton. The stand contained Diana, Baguet, Astonishing, Polyphemus, Cleopatra, Aspatia, Solon, Lalla Rookh, Arlette, Gloria Mundi, Pandora, and Aglaia. 4th. Mr. Willmer presents the winner of this prize with Tulips to the value of 3*l.*, in addition to the Society's Medal. The prize was awarded to — Bankes, Esq., Cecil-street, Strand, for Washington, Leopold, Triumph Royale, Cleopatra, Lady Elizabeth, Hughes' Rose, Cato, Moi Pitt, Bolivar, Aglaia, Lalla Rookh, and Optimus. In the *Nurserymen's Class*, the 1st prize was awarded to Mr. Lawrence, of Hampton, for Hufton's Optimus, Roi de Siam, Strong's King, Claudiana, Prince George, Aglaia, Lac, Lord Blomfield, Triumph Royale, Polyphemus, Roscius, and Camuse. 2d, to Mr. Batten, of Clapton, whose stand contained Nora Crena, Optimus, Betterel's Brulante Eclatante, Polyphemus, Galatea, Thalia, Platoff, Sarah, Marshal Soult, Astonishing, Pandora, and Rose Brilliante. 3d, to Messrs. Norman, of Woolwich, for Lord Strathmore, Dutch Superbe en Noir, Triumph Royale, Platoff, Strong's Rainbow, Catalina, Polyphemus, Goldham's Maria, Gloria Mundi, Belleforme, Violet Noir, and La Riche. 4th. An extra prize to Mr. J. Fowle, of Sunbury. Pansies.—This department of the Exhibition excited much interest, the members composing the Heartsease Prize Improvement Fund having offered, through the Society, several additional prizes, that their number and amount gave increased stimulus to the exhibitors; the call was well responded to by the dif-

ferent growers, and the prizes well contested. The stands were numerous, and the flowers in admirable condition. In the *Amateurs' Class*, 24 varieties, the 1st prize was awarded to Mr. W. Hall, of Enfield, who showed Rainbow, Superb, Victory, Optimus, Model of Perfection, Grand Sultan, Companion, Sulphurea elegans, Pliny, Shakspeare, Climax, Pizarro, Arethusa, Reliance, Dazzle, Hamlet, Great Britain, Constellation, Pompey, Curion, Defiance, Perfection, Dido, Supreme; 2d, to Mr. T. Over, whose stand contained Rainbow, Sappho, Blooming Girl, John, Superb, Mary Jane, Pizarro, Tryfosa, Isabella, Optimus, Duke of York, Exquisite, Model of Perfection, Goliah, Climax, Shakspeare, Virgil, Baroness Wenman, Excellent, Supreme, Snowdrop, Satirist, Pompey, Duchess of Rutland; 3d, to Mr. Rutland, Chipping Norton, for Mary Jane, Rainbow, Princess Royal, John, Blooming Girl, Excellent, Lord Hardinge, Achilles, Model of Perfection, Shakspeare, Black Prince, Superb, Phœbe, Exquisite, Black Bess, Great Britain, Attila, Pizarro, Duchess of Rutland, Bloomsbury, Duke of Wellington, Mulberry Superb, Optimus, Sulphurea elegans; 4th, to Mr. Hale, Hillingdon, for Great Britain, Optimus, Rainbow, Unit, Mary Jane, Regulator, Hoare's Superb, Duke of Wellington, Ophir, Euclid, Blooming Girl, Bellissima, Pizarro, Duchess of Rutland, Pefection, Matilda, Companion, Shakspeare, Lord Hardinge, Duke of Wellington, Eliza, Supreme, Satirist, and Arethusa; 5th, to J. Edwards, Esq., Holloway, for Diamond, Lady Sale, Rainbow, Mary Jane, Excellent, Lord Hardinge, Duchess of Rutland, Optimus, Duke of Wellington, Dr. Wolf, Daughter of St. Mark, Blooming Girl, Supreme, Excellent, Princess Royal, Model of Perfection, Companion, Ne Plus Ultra, Titian, Perfection, Conquering Hero, Hamlet, Pliny, Dr. Hawtrey; 6th, to Mr. J. Scotcher, Horton, near Colnbrook, for Lady Sale, Excellent, Companion, Castilian, Belvidere, Climax, Constellation, Exquisite, Zabdi, Perseus, Mr. Hamilton, Regulator, Arethusa, Duchess of Rutland, White Queen, Great Britain, Almanza, Pulcher, Satirist, Madonna, Rainbow, Pizarro, Candidate, and Supreme; 7th, to Mr. Bridges, Croydon. — In the *Nurserymen's Class*, in stands containing 36 blooms, the 1st prize was obtained by Mr. C. Turner, of Chalvey; his flowers were:—Supreme, Duchess of Rutland, Goliah, Constellation, Climax, Rainbow, Zabdi, Arethusa, Achilles, Optimus, Shakspeare, Blooming Girl, Companion, Bride of Abydos, Model of Perfection, Attila, Hamlet, Pongriceus, Mary Jane, King of Holland, Superb, Othello, Aurora, Duke of Norfolk, Almanzor, Perseus, Berryer, Pizarro, Milton, White Perfection, Curion, Prince of Orange, Snowdrop, Plato, Hampden, Zabdi; 2d, Cutter and Co., Slough, for Rainbow, Climax, Mary Jane, Arethusa, Candidate, Dr. Wolff, Duchess of Rutland, Azurea, Goliah, Celeste, Optimus, Zabdi, Superb, Duke of Norfolk, Mrs. Hamilton, Shakspeare, Lord Hardinge, Pizarro, Exquisite, Perfection, Aurora, Lady Lacon, Supreme, Model of Perfection, King of Holland, Wellington, Bellissima, Duchess of Rutland, Baroness Wenman, Attila, Marquis of Lothian, Black Prince, Madonna, Achilles, Snowdrop, and Titian; 3d, Messrs. Bragg and Bright, Slough, for Perseus, Milton, Rainbow, Blooming Girl, Mary Jane, Great Britain, Byne's Jenny Lind, Constellation, Tryfosa, Duchess of Rutland, Almanzor, Candidate, Bride of Abydos, Aurora, Pizarro, Eclipse, Arethusa, Bloomsbury, Superb, Bragg's Celeste, Mr. Hamilton, Duke of Norfolk, Unit, Countess of Stradbrooke, Eliza, Zabdi, Berryer, Wonderful, Matilda, Supreme, Clara, Bragg's True Briton, Optimus, Charon, and Model of Perfection; 4th, to Mr. Thomson, Iver, for Arethusa, Optimus, Regulator, Madonna, Virgil, Almanzor, Great Britain, Companion, Excellent, Perfection, Tryfosa, Climax, Cossack, Zabdi, Pompey, Superb, Rainbow, Lord Hardinge, Beauty of Guildford, White Sergeant, Duke of Norfolk, Mary Jane, Superb, Brilliant, Pulcher, Duchess of Rutland, Satirist, Supreme, Perfection, Grand Sultan, Alboni, Britannia, Constellation, Goliah, King of Holland, and Bronze; 5th, to Mr. Agate, no names; 6th, to Messrs. Hart and Nicklin, who showed Middleton, Reliance, Climax, Rainbow, Optimus, Nonsuch, Express, Southern Standard, Arethusa, Dr. Wolff, Lord Hardinge, Grand Sultan, Mary Jane, Pizarro, Duchess of Rutland, Nonpareil, Dulcifer, Prince Albert, Superb, Commander, Aurora, One in the Ring, Caractacus, Homer, Clara, Miss Tarrant, Companion, Clara, Excellent, Model of Perfection, Cassandra, Duke of Norfolk, Marquis of Lothian, Incomparable, Madonna, Dido, and Queen of Whites.—Prizes were presented by the Pansy Improvement Society to private growers, who had never taken a prize, for stands containing 12 blooms. 1st prize, Mr. Hale, jun.; 2d, C. Matthews, Esq.; 3d, Mr. H. Harms.—Also for the best bloom of a white ground Heartsease, awarded to Messrs. Cutter and Co., Slough, for Bell's Climax; for the best yellow ground, to Mr. Turner, of Chalvey, for Youell's Supreme.

SEEDLINGS.—*Pelargoniums:* Small Silver Linnean Medal, presented by subscription to Mr. Beck, of Isleworth, for a seedling named Aurora's Beam, a large richly coloured flower, under petals deep rose with a spot on each, very dark top petals with a narrow margin of rose.—The same to Mr. E. Beck for a white variety named Mont Blanc No. 1, a large pure white flower, with a small spot of a purple rose colour in the top petals; the flower is of a good shape and smooth on the edges. *Calceolarias:* A certificate to Mr. Gaines for a Calceolaria named Earl St. Germain, yellow ground richly spotted with brown; a flower of good form. *Azalea:* To Mr. Ivery for a variety named Iveryana, a large clear white flower, occasionally striped with rose.—To Mr. Ambrose for a fancy Pelargonium named Garland. *Cinerarias:* To Mr. Ivery, for Beauty of Peckham; and to Mr. Kendall, for Newington Beauty.

Reviews.

Minor Works.—We have but few minor novelties to announce to our gardening friends. Messrs. Longmans have published a little *Catalogue of Plants found wild round Truby*, which will be useful to visitors in that locality.——Messrs. Orr and Co. have commenced the issue, in shilling numbers, of *A descriptive Atlas of Astronomy and Physical Geography*, illustrated by neat and useful maps, illustrating the elevations of land, the distribution of lines of equal temperature, &c., together with useful woodcuts; the work is worth subscribing for.——Mr. Paul has begun an *Appendix to his Rose Garden*, illustrated with good woodcuts of the species of wild Roses.——*A Plan of the Botanic Gardens, Calcutta*, and a Catalogue of the contents of a portion of it, has issued from the Bishop's College Press (price 4 annas). An examination of the plan certainly does not diminish the importance which in Europe is attributed to this great Indian establishment; and the Catalogue shows how useful it must be to the botanical students who frequent it. The number of Gingerworts is 26, of Palms 14, of Arads 21, of Cinchonads 34, and so on.

Garden Memoranda.

The Botanic Garden, Calcutta.—It will, we doubt not, be equally as gratifying to such of our readers as have not lately visited the Botanic Garden, as it was to us, to observe the improvements that have been accomplished during the present year in various parts, but more especially on the eastern side. This portion, formerly a waste spot, has been completely opened out by walks, flower beds and shrubs, the latter dotting the whole area, and giving it an appearance pleasant to the eye. We understand that in many of these alterations and improvements, the present officiating superintendent has been merely carrying out the elaborate plan drawn up by the late Mr. Griffith during the short time he was in charge of the institution, and which met the approval of Government. These improvements, unfortunately for the cause of botanical science, his premature death prevented his accomplishing. It must be a source of gratification to his talented associate and friend to have had an opportunity afforded him of carrying his intentions into effect. Nor can we doubt that that botanist, Dr. Falconer, who will now so soon have the superintendence of this noble institution, will make a point of fully completing what his predecessor had designed.

It would be unpardonable were we, before closing this short notice, to omit adding that during the past week, the garden has been enriched by an exceedingly neat Cenotaph to the memory of Mr. Griffith, bearing on one side the following inscription:—

"William Griffith, distinguished by the zeal and activity with which he imparted the knowledge he had himself acquired by personal investigation in the different provinces of British India, and in the neighbouring kingdoms, from the banks of the Helmund and Oxus to the Straits of Malacca, where, in the capacity of a Civil Assistant Surgeon, he died 9th February, 1845, in the 34th year of his age, and the 13th year of his public service in India. His early loss was deeply deplored by the head of the Government of India, and by the leading natural historians of his time. His large collections of plants and MSS. were bequeathed to the Honourable the Court of Directors of the East India Company."

And on another these lines:—

"Erected by his brother and a few private friends, with the permission of Government."

On the reverse sides are Latin and Persian inscriptions of a similar nature.

The Garden now possesses four monuments—one to Kyd, its liberal founder; another to Roxburgh, its talented superintendent for many years; a third to Jack, a zealous contributor to botanical science: and a fourth to Griffith, who, to use the words of one who could appreciate his merits, and has well remarked that "though his career was short he has left a name and a fame behind him which but few can attain to, even with patriarchal years." A fifth monument was suggested not long since to the memory of Buchanan Hamilton. We trust this may be erected, for his valuable labours richly deserve some such record at the hands of Government, whose faithful servant he was, and perhaps a more fitting spot than the Botanic Garden could not be found.—*Calcutta Star, Dec.* 22, 1847.

[We have before us a plan of the arrangements above referred to, with a list of the plants in the Natural and Medicinal Gardens, dated Dec. 1847, and we find that the total number of species is something less than 1200.]

Miscellaneous.

De Jonghe's Plants.—We understand that among the many fine plants which will be sold by Mr. Stevens, on Monday, on account of M. de Jonghe, of Brussels, there are several not mentioned in the catalogue, particularly a Cattleya tuberculata, and some other curious Orchids.

The Tulip.—"We have now to consider the form of the rim or margin of the cup or flower, and of course the form of the petals composing it. When viewed from above, the margin will generally be found circular in all well-formed flowers. When viewed horizontally, however, we have great diversity of forms, in consequence of the numberless varieties of angle and curve which the upper margins of the petals assume. It is therefore requisite to determine what is the most correct outline. Hitherto no principles have been laid down for the guidance of [illegible], we cannot wonder that the form of the [illegible] now remain a disputed point. In the [illegible] been given concerning it, we have only [illegible] tration of the errors into [illegible], and, in order to support some peculiar [illegible] they would hardly subject the [illegible] to raw as crude as their own [illegible], regardless of the truthful lessons which the [illegible] teaches, vainly require the [illegible] never designed to create. A proof of this we have only to examine the structure and economy of a Tulip flower itself, in reference to the [illegible]. In every part of it there is a manifest tendency to the production of graceful curves. We see it in the external parts of fructification; we see it in the general outline of the petals; and especially also do we see it in the arrangement of the coloured forms upon them; and of which, whether feather or flame, are found to consist of so many coloured lines disposed in curves, which bear a proportionate relation to each other and to the form of the flower itself. To render this more intelligible, I would recommend a few well-chosen petals of some of our finest varieties, which are perfect in their markings, to be carefully examined through a microscope, or, in its absence, a good common magnifying glass. The appearance presented in extremely beautiful, and will amply repay the trouble. Beneath an integument or coat, of peculiar transparency, we observe numerous vessels proceeding upwards from the heel or point of attachment to the stem. In the interspace they have, for the most part, a rich silvery or golden-coloured appearance; but, as viewed through a magnifying glass, they are more opaque, and much duller and darker in colour. When they first enter the petal they are few in number, but as they advance they divide into numerous others, which inosculate freely with each other; and at the margin we may frequently count 100, or 120, besides some 20 or more which pass to each of the lateral edges. A few of these in the centre run a straight course to the upper margin, but all the rest gradually diverge from the centre in regular curves of variable length, according to their distance from it; but all bearing the same relation to each other, the radius of every curve being the same, when not interfered with by frost, or other accidental occurrence. We see the necessity for this arrangement in the fact that the vessels which proceed to that portion of the upper margin of the petal which is not overlapped by others, almost invariably reach it at right angles; and that even those which pass to the sides, although they arrive there in a slanting direction, would also join at right angles, the edge of a circle having the same curve as the upper margin of the petal, if they were only sufficiently elongated to reach it. Between the vessels are spaces containing numberless minute cells, in which is deposited the colouring matter forming feather and flame: consequently the lines it produces assume exactly the same form as the vessels themselves. In [illegible] Tulips the deposit of colour is, or should be, limited to the spaces adjoining the margin, though we often find streaks lower down in the body of the petal; and as the deposit of colour often tapers off gradually, and extends further down some spaces than others, the peculiar appearance termed penciling is the result. In flame flowers, apparently in consequence of the greater closeness of the vessels in the middle and lower parts of the petal, the colouring is more apt to show itself there in dense masses; but as the vessels proceed upwards, the spaces gradually enlarge, and the lines of colour become more broken and interrupted, so as to leave the spaces clear, until we arrive near the margin, where we have the feathering developed in the manner before described. In many instances some of the spaces are filled with colour from one end to the other, except that portion at the heel which is usually 'without:' and where this arrangement is only sparingly observed, we have the beautiful branching flame which characterises some of our choicest Tulips. This peculiar organisation of the petals indisputably proves that the laws of Nature are opposed to the existence of straight or level margins in Tulips, for by no arrangement of single divergent curves, equal in their radius, could the vessels be made to reach the upper margin at right angles, and produce also the beautiful feathering we generally find on the lateral edges, if such were the form of the petals. Their vascular economy would have to be changed entirely, and with it the general appearance of the whole flower. This, to my mind, presents an insuperable objection, and renders it unnecessary for me to adduce other arguments against such an ideal form as a half globular cup, with triangular petals and a level margin. Perhaps, however, I may be allowed to observe further, that, independently of every consideration arising from the peculiar structure of the petals, it has long appeared to me an easy matter to determine the correct form of the margin on another principle. By way of illustration, let us take two Tulips of the same kind; in one the coloured delineations are similar in every respect, in the other no two petals are alike. If we ask ourselves why the first is most admired, the answer is simply this, because the eye is more pleased with the greater uniformity which exists in its coloured forms, and not on account of any peculiarity in the colour itself, for that is the same in both. Or suppose we take two Tulips of different kinds, one having a long cup and the other a short one, but both equally rich in their coloured delineations; and inquire why the short cup is invariably preferred to the long one. Here,

again, the answer is not because the colour is superior in either, for in both it is equally good ; but simply because there is greater uniformity in the general outline of the shorter flower, the effect of which is considerably increased by its more perfect accordance with the form in which the colour is displayed. Experience, therefore, teaches us that the most perfect, and consequently the most beautiful Tulip, is that which presents to us the most perfect uniformity of outline, combined with a corresponding uniformity in the character and arrangement of the coloured forms depicted upon it. In Tulips with round cups and straight margins, however, there can neither be uniformity of outline nor harmony with the coloured forms; and believing every rule to be defective which does not provide for this best of all properties, I have long since embraced that which requires the upper margin of every petal to present a curve, equal in its radius to half the diameter of the flower, when in its greatest perfection. This is a high standard when conjoined with the half-globular cup ; and whenever attained, we are sure to find exactness of proportion in every part, which, in an object of such simple form as the Tulip, is essential to its perfection. It also possesses the additional advantage of being easy of application, whenever petals of unknown varieties are submitted to our inspection ; and if we adopt the following mode of proceeding, much tedious calculation may be avoided :—A single petal will suffice, though it is always better to have two (one split up halfway from the heel, the other from the centre of the margin) ; because these would enable us to trace the outline on paper with greater accuracy, which is the first thing to be done. We then draw a line perpendicularly down the centre, adding about one-tenth of an inch, for half the thickness of the stem. If we now divide the whole length into 11 parts, whatever may be the length of the petal, seven of these parts, measured from the tip, will exactly give us the radius of the curve, which the outline of the flower itself, and the upper margin of each petal ought to have ; and, with the aid of a pair of compasses, we may correctly determine the quality of the Tulip itself, in point of form. Before closing my observations, it may, perhaps, be desirable to reduce the principles we have been discussing to the form of rules, for our future guidance ; and I believe we may safely adopt the following, as comprising the most natural description of 'What constitutes Perfection of Form in the Tulip :'—1. Every Tulip, when in its greatest perfection, should be circular in its outline throughout ; its depth being equal to half its width across from the tip, or highest point, of one petal to the tip of the other immediately opposite. 2. It should be composed of six petals, three inner and three outer, which should all be of the same height, and have such a form as will enable them to preserve this circular outline ; their edges being even, stiff, and smooth ; and their surfaces free from shoulder, or inequality of every kind. 3. The breadth of the petals should be amply sufficient to prevent any interstices being seen between them, so long as the flower retains its freshness. 4. There should be exact uniformity between the outline of the cup and the outline of the upper margin of the petal, which should form an arc or curve whose radius is equal to half the diameter, or whole depth of the flower. In the standard of form here recommended, some new points will be found deserving of notice. Being wholly founded on principles in accordance with the economy of Nature, it will the more surely abide the test of time ; and so long as the symmetrical arrangement of equal curves shall be considered more graceful, and more fascinating to the eye, than a motley combination of curves and straight lines, so long, there is reason to believe, it will be deemed worthy of universal adoption."—*Midland Florist.*

Calendar of Operations.

(*For the ensuing Week.*)

CONSERVATORY AND GREENHOUSE.

One great object in plant-houses at present is the preservation of the blossom from the burning effect of the sun. Abundance of air and moisture, proportioned to the demands of the plants, with shade, must be provided. The removal of conservatory plants may be proceeded with safely. Brugmansia sanguinea makes a magnificent vase plant for the summer, in a protected situation. Camellias, during the formation of young wood, are too often packed together ; at no period do they require more room and attention. Water with clean, soft water ; manure water generally is not necessary. *Stove.*—Sustain the humidity of the house, at the same time permit adequate ventilation. Creepers must be attended to frequently. Achimenes, grown in large seed-pans, produce a fine effect. Shift frequently those plants required for autumn blooming.

FRUIT FORCING.

Vines.—The exhaustion of the moisture of the borders, consequent on the rapid growth and evaporation of the Vines, induced by the extreme heat and aridity of the air lately, must be repaired by judicious applications of water. Where border covering is practised the Vine roots are often encouraged near the surface. On the removal of the litter, if the border be allowed to become dry, the roots will certainly suffer. In hot weather it is a great point to keep the roots near the surface in health and action. Neglect of this precaution will cause the roots to penetrate deep in the earth in pursuit of moisture, a circumstance to which we often attribute the failure of Vines. *Peaches.*—Attention to the borders here also must be strenuously recommended. Water frequently while the weather continues dry. Prevent an undue development of the terminal wood, or the lower and central shoots will be weakened. The syringe must be used daily, and the air kept moist by sprinkling the paths occasionally. Permit a free circulation of air. *Figs.*—This is a critical moment for early Figs. Extreme variations in the weather, or deprivation in a slight degree of water, will cause the first fruit to fall. Water at least once a week, and syringe until the fruit blossoms. *Strawberries.*—Turn the fruit when really ripened, from the sun. Select cool places in the houses for the last batch of Strawberries.

FLOWER GARDEN AND SHRUBBERIES.

It is not advisable to mow lawns frequently when the ground is extremely dry. The Daisy rake may now be employed effectually. This is a good time to stir gravel-walks affected with moss. Evergreen shrubs recently transplanted must be watered both in the roots and branches. Roses will require frequent examination ; it is as well to remove unnecessary shoots at once. Bedding out generally may be proceeded with ; transplanted things must be kept watered. Calceolarias and Petunias are particularly selected by slugs ; the beds being kept watered will induce these depredators to visit them ; a few Cabbage leaves may be used as a trap. Dahlias, too, are liable to the attacks of slugs ; a little soot round the stem will be a slight protection.

KITCHEN GARDEN AND ORCHARD.

Should the weather continue dry, the necessity of watering the Onion, Carrot, and Parsnip-beds will be urgent ; recent plantations of Asparagus or Seakale must be kept moist ; a slight coating of rotten leaves over the beds will be beneficial to the plants. In light porous land a trench may be got out and the alley well manured for Peas. Prick out Celery, and keep it well watered ; keep the seed-beds of Cauliflowers and winter Greens free from weeds, and let the young plants be thinned and transplanted, if too thick ; keep the ground loose and open about young plants ; collect cow-dung and the materials for making Mushroom spawn. *Fruit trees.*—The development of wood taken by wall trees generally during the existence of the late fine weather, argues a condition of the atmosphere highly favourable to them. The necessity of watching their progress may again be enforced ; if an unchecked growth be permitted, many useful eyes will remain dormant, and possibly well situated shoots robbed by an undue extension of young terminal wood. Where it is seen to be necessary, pinch the shoots of both Peach and Pear ; with pyramidal Pear trees pinching is essential. Let water be applied by the engine every morning to Peach and trees newly planted, and let the latter be kept mulched and watered at the roots. Strawberries must be liberally supplied with water, and short grass from lawns spread over the beds ; the double purpose of keeping the roots moist and the fruit free from grit will be effected.

State of the weather near London, for the week ending May 18, 1848, as observed at the Horticultural Garden, Chiswick.

May.		Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. ..	12	9	30.240	30.170	80	41	60.5	N.E.	.00
Satur..	13	10	30.173	30.157	81	41	61.0	E.	.00
Sun. ..	14	11	30.136	30.091	81	48	64.5	E.	.00
Mon...	15	12	29.996	29.781	85	43	64.0	S.	.00
Tues..	16	13	29.653	29.482	82	47	64.5	S.W.	.00
Wed. ..	17	14	29.401	29.296	79	52	64.5	S.	.00
Thurs.	18	○	29.680	29.382	80	39	59.5	S.W.	.01
Average ..			29.896	29.762	81.1	44.4	62.7		.01

May 12—Slight haze ; very fine ; hot and very dry ; clear.
— 13—Very fine ; hot and dry ; clear.
— 14—Very fine throughout.
— 15—Slight haze ; very fine, with light clouds.
— 16—Cloudless ; very fine ; clear.
— 17—Fine with light clouds ; very fine ; clear.
— 18—Fine ; cloudy ; thunder and hail shower in afternoon ; fine.

Mean temperature of the week, 9 deg. above the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending May 27, 1848.

May.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 21	66.5	44.1	55 3	8	0.36 in.	2	4	7	2	3	1	1	2
Mon. 22	66.2	44.2	55.2	10	0.10	6	2	3	3	3	2	2	—
Tues. 23	68.7	47.5	58.1	7	0.21	1	4	3	4	1	3	2	4
Wed. 24	68.4	45 6	57.0	9	0.54	2	4	5	—	3	4	3	1
Thurs.25	66.2	43.2	55.2	7	0.64	1	9	1	—	1	4	5	—
Fri. 26	67.0	42.9	54.4	9	0.27	1	8	3	1	2	3	3	1
Satur. 27	69.0	45.7	57.4	11	0.41	1	8	5	1	1	3	2	1

The highest temperature during the above period occurred on the 25th 1843, and 27th, 1841—therm. 82 deg. ; and the lowest on the 24th, 1839—therm. 29 deg.

Notices to Correspondents.

Asparagus—*W B N*—There can be no doubt about the proper manner of cutting Asparagus. Cut not at all till it is strong enough. When strong enough cut all that comes up, until the season is over ; then encourage every head to form its stem ; promote the growth to the utmost, by frequent doses of salt and liquid manure. Pick off the young berries, if you have patience enough ; but on no account injure the foliage.

Back Numbers—One shilling each will be given for the following Numbers :—1846, No. 21 ; 1847, No. 17.

Books—*A Learner*—We know of no such book ; but tables of germination are to be found scattered through the treatises of physiologists. Many seeds will lie for months without growing ; some for a couple of years, *e. g.* the Whitethorn. Never sow in the same pot two different kinds of seed. Your Tropæolum probably wants bottom-heat. We know of no peculiarity or difficulty with any of them ; they all want bottom-heat and damp, without wet.—*A Subscriber*—Six shillings of any bookseller, who could also have answered your question, if applied to.

Botany of Switzerland—*A would-be Tourist*—The best pocket manual for the Phænogamous plants of Switzerland is Reichenbach's "Flora Germanica Excursoria."

Emigration—*J H C*—We cannot say—perhaps Boston ; but we do not like to give advice on such subjects.

Garden Engines—One of the most useful of the small kinds is a kind lately patented by Messrs. Stock and Sharp, of Birmingham. This instrument is peculiarly well suited to amateurs and for greenhouse work ; for by merely moving a small wheel adapted to the nozzle, five different kinds of streams may be obtained ; the one a simple jet, the others spreading the water in a stream of different degrees of fineness. It is a very handy implement.

Grafting Vines—*T P*—As soon as your Vine has broken into leaf, graft opposite to a young shoot ; stop this shoot when it has made two joints, and cut it off entirely when the graft has pushed ‖

Insects—*X Y*—Prussic acid is not a substance which can be placed with safety in the hands of careless persons. It would be the source of accidents, both to the men and their plants. ——*H B*—Crickets may be destroyed by day by burning sulphur at the mouth of the crevices into which they retreat ; or, at night, by placing bottles or cups, with sugar and beer, on the floor, into which they crowd and are drowned. *W.*——*H S*—Your Raspberry shoots are gnawed off by weevils (Pachygaster sulcatus) during the night. They may be caught by laying a sheet or an open umbrella at the base of the plants by night, and then shaking them, when the insects fall down, and may be destroyed in boiling water. *W.*——*Learner*—It is a well-known fact that earwigs are often infested with an intestinal thread-worm (Filaria forficulæ). They are certainly able to fly ; their wings, when expanded, are nearly half an inch long. *W.*——*U N*—The beautiful little golden moths, with very long antennæ, which hover in swarms in the sunshine over Oaks and other trees, belong to the genus Adela. We should think they would be killing flies for the fisherman, from their great resemblance to caddice flies. *W.*

Kitchen Garden—*T S P*—We should not much regard the subsoil, provided you can relieve it of all superfluous water by drainage. A thorough dressing with lime or lime rubbish, that is to say lime and gypsum, well incorporated with the clay and sand, ought to do much, especially if you can add at first some better soil, to the depth of 12 or 18 inches. In this operation work your turf well in with the other materials ; or, which is better, if you can do it, get the turf dry, and use it to burn as much as possible of the clay. Burnt clay is excellent material. There is no need of a layer of clay beneath the rubbish of your lawn. We misunderstood your question.

Names of Plants—*Wm Young*—Zichya villosa.——*W L*—Arthropodium cirrhatum.——*Juba*—Caprifolium perfoliatum, the Italian variety ; C. japonicum is something like flexuosum ; a Leptospermum, near L. ruscifolium if not the same ; a greenhouse plant ; Aquilegia alpina ; the succulent is Crassula tetragona.——*T N, Glenleven*—Alyssum calycinum. ——*Enquirer*—Vanilla planifolia, the true Vanilla ; let it ripen.——*A Subscriber*—1, Siphocampylus betulifolius ; 2, Cuphea miniata ; 3, Jasminum sambac.——*T S*—The Litchi, a common Chinese fruit, by botanists called Dimocarpus Litchi. See "Vegetable Kingdom," where nearly all such productions are classified.——*J T*—Polygala vulgaris.—— *G F*—Apparently Clematis grata.

Netting—*Joseph Merriman and Co.*—Your netting is a very nice neat article ; perhaps rather too light, unless used double ; but how is the price as compared with other materials ? and how does it last ?

Potatoes—*Mr Cooper's* Potatoes are diseased. They are, however, in a state from which experience shows that they may recover.

Roses—*X Y*—Hybrid Perpetuals ; consult any of the great dealers, for sorts.

Scarlet Geraniums—*An Original Subscriber*—For large single specimens in the borders, or for the centre of a clump, the Shrubland Superb is one of the best. Those of a medium size : Comet, Brighton Hero, Gem, Prizefighter, and Scarlet Compactum. Dwarf sorts : Tom Thumb, Queen, and Ingram's Dwarf. The scarlet you inquire about is not a true scarlet, but a Pelargonium having a near approach to scarlet in the brilliancy of its flowers.*

The Laurel—*D C L*—The common Laurel was brought to England from the neighbourhood of Trebizonde. There is no evidence, that we know of, that it is a native of the Levant.

Misc—*Croydon*—Such circumstances among Croci are not uncommon ; they will probably flower just as well. Marvels of Peru flower the first year.——*X Y*—We do not find the appearances you describe in any Pear-trees that we have examined.—— *Youghal*—We do not know. Cannot your seedsman obtain some for you ?‡——*E C*—Your Grapes and Camellia leaves are sunburnt ; but how, we are unable to state. For slugs, try lime-water.‡

SEEDLING FLOWERS.

Calceolarias—*B C A*—Your seedlings are very inferior to the present race of these beautiful flowers ; 6, 12, and 19, are the best.*——*B B*—The best specimen of form among your present batch of seedlings is No. 8 ; compare this with 7 and 10, and you will at once see the superiority of 8. The surface of the flower should be smooth—not puckered or looped as many of your seedlings are—which is particularly visible in the outline of the bottom of the flower : take 4 as an example of this defect. Some of the others have the same defect, but in a less degree ; the less this is apparent the better. The seedlings sent are fine in colour and marking, as 5, 7, 8, 15, 16, 12, 33, and 14. They are tolerable in form.*

Cinerarias—*G R*—The Beauty of Uttoxeter is the best flower amongst your seedlings ; it is well formed and pretty in colour, but wanting novelty and decision. The other specimens are very common in colour.*——*B B*—The most attractive flowers in your collection are Nos. 25, 41, and 42 ; these are decided and good in colour, but we have the same colours in flowers double the size. Want of size is the principal defect in your flowers.*——*G C B*—Your seedling is a good specimen of form ; the circle is well filled up by the broad petals ; the colour is not in its favour, being a dull crimson.*

Pansies—*B B*—Your seedling No. 1 is a large, round, and stout flower, with good eye, bright lemon ground, dark blue top petals, and broad margin of the same colour round the side and bottom petals ; the edges of the petals want smoothness. It lies flat and will be found a useful show flower.*——*E F G*—Both in size and quality your flowers are very inferior to the show flowers of the present time ; they are also deficient in form.*——*J W C*—Your flower wants substance ; the eye is distinct and fine, but the marking is rather too irregular.*

Pelargoniums—*W*—Your seedling is a very pretty flower, with a good spot in the top petals ; but the flower is small and has been surpassed in size, substance, and colour, by our first-rate flowers.*

Petunias—*R C*—Both your seedlings are pretty specimens ; they want novelty, as they are but repetitions of varieties now very commonly raised. No. 1 is the best.*

Rhododendrons—*R C*—The principal recommendation of your seedling is the pure white of the flowers, which in a shrubbery or in clumps would have a good effect in contrast with others. Critically examined, the individual flowers are deficient in form ; the divisions in the corolla are too deep, and the lobes too narrow and fringed on the margin.*——*G R S P*—In colour, and in the spotting of the inner surface of the upper part of the flower, your seedling is a good example ; its defects are in the form, the indentations are too wide and deep, and the surface wants smoothness.*

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those numerous correspondents, the insertion of whose interesting contributions is still delayed.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.—The MAY GENERAL MEETING will be held at the Society's House, No. 12, Hanover-square, on Monday, the 22d of May, at One o'clock.

By order of the Council,
London, May 20, 1848. JAMES HUDSON, Secretary.

CHEAP AND DURABLE ROOFING.—Houses of all descriptions can be roofed at less than one-half the ordinary cost, by using the

PATENT ASPHALTED ROOFING FELT,
Manufactured by
FRANCIS RITCHIE AND SONS, BELFAST,

who also make INODOROUS FELT for lining damp walls under paper in place of lead. Samples, directions, and all necessary information sent free, on application to the Manufacturers, or any of the following Agents:—

Bristol—Tratman, Brothers.
Carlisle—Edward Jobling.
Hull—Thomas Flint.
Liverpool—Chapman, Bowman, and Co.
London—Hay, Anderson, and Sangster, Newington Butts
Manchester—James Hurst, 14, High-street.
Newcastle-on-Tyne—Richard Warham
Southampton—John Vaux
Whitehaven—Randleson and Forster.

Hurst and M'Mullen, Seedsmen, 6, Leadenhall-street, London.

HYDRAULIC ENGINES.

J. LEGG begs to return thanks to his patrons and friends, and also to inform them that he continues to erect his improved Hydraulic Engines, Water Ram, &c., suitable for all situations where a fall can be obtained, also Engines for Deep Wells. J. L. also begs to inform his friends that he has made several improvements on his Hydraulic Machines, and flatters himself that he is able to compete with any parties of the present day in the construction of the above machines.

Apply to JOHN LEGG, Cheltenham.

The Agricultural Gazette.

SATURDAY, MAY 20, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

MONDAY, May 22—Agricultural Society of England.
THURSDAY, — 25—Agricultural Imp. Society of Ireland.
WEDNESDAY, — 31—Agricultural Society of England.
THURSDAY, June 1—Agricultural Imp. Society of Ireland.
FARMERS' CLUBS.—May 23: Reading.—May 26: Stranraer.—May 27: Hereford.—June 3: Newcastle, Durham, Melrose.

We have been requested to caution AGRICULTURAL IMPLEMENT-MAKERS, HOP AND SEED-MERCHANTS, &c., and the public generally, against a nest of swindlers, apparently an organised gang, who have opened establishments in the city of Manchester, and profess to carry on business in various lines. Several orders have been received by various implement-makers for ploughs, harrows, dibblers, clod-crushers, carts, waggons, chaff-cutters, chalk-mills, &c., from such parties, having really no connexion with agricultural pursuits; and, destitute of capital, not having the slightest pretension for setting themselves up as agents for the sale of agricultural implements. It is well known that where these worthies have succeeded in procuring implements they have been immediately sent to some auctioneer and sold to the best bidder at half the cost price.

Honestly intentioned men, who commence business and require credit, ought to be able to give satisfactory reference to some well-known party, not to each other, as the practice is, with the parties above alluded to; and implement-makers, Hop and seed-merchants, at a distance, should refuse to part with their goods until they have received answers to their inquiries from persons on whom they can place implicit reliance.

We are informed there is an excellent Guardian Society in Manchester for protecting trade from swindlers, and in several cases, we understand, some eminent implement makers have escaped a large amount of pecuniary loss, by putting themselves in communication with the secretary of that useful institution.

We have one other remark to make on "TENANT RIGHT:" and, with the following, we shall for the present leave the subject in the hands of our correspondents.

It is this:—That, as regards the tenant, the best right which he can demand and secure for himself, when arranging the terms of his occupation, is that of peaceable possession of the land for a term of years. And, as regards the owner, obviously the best policy he can adopt is that which shall secure the permanence of the tenant-made fertility which he may then expect. We do not wish to be understood as asserting all this dogmatically, but rather as merely enunciating a proposition which deserves consideration.

The advantages of the lease to the farmer appear self-evident. Can the certainty of a home which it confers upon him, and the certainty of all the investments he can make under it, be regarded otherwise than as essential to the satisfactory prosecution of his business? We do not think they can—and he who, apart from the nature of the bargain, and merely on the ground of its permanence, should refuse a lease of the land he occupies, must surely either be without capital to invest, or without the spirit necessary to make it useful. No doubt there are faulty leases, mischievous contracts, injurious clauses, in many instances binding both landowners and farmers to their own hurt; but it is not the condition, it is the certainty of the tenure which is conferred that we are discussing; and the usefulness of this to the farmer seems almost axiomatic. The question lies between a 19 years' or a six months' notice to quit: we can conceive a landowner objecting to the former, but that a tenant aiming at the profitable employment of farm capital should prefer the latter is beyond our comprehension. And we believe that properly arranged the longer term is the better for both parties: that the more, within certain limits, that their respective positions are assimilated, the more will self-interest lead each to act well for the other: that, in fact, the longer the interest of the tenant in the land, the more earnestly will he aim at that permanence of fertility which is for the benefit of the landlord as well.

There are, however, two aspects in which the lease may be considered relatively to tenancy at will; for the certainty of its termination is no less influential on the farmer than the certainty of its duration. In both respects does it stand in contrast with the tenant at will system: and if the former renders it the more useful of the two to both the parties concerned, the latter may give it a mischievous influence on at least one of them. The tenant, if it be not his interest to do otherwise, will certainly endeavour, as the known period of his lease approaches, to recover as much of his outlay as the short-sighted policy which alone it is then his interest to adopt enables. Restrictive clauses are powerless against the ingenuity of a wilful opponent:—self-interest and the sense of a just claim will hinder the expensive appliances by which the fertility must have hitherto been maintained, and which, though profitable in the case of a three or four years' occupation, will never be made by a tenant under short notice to quit. And the consequence is that in many districts the productiveness of the land is intermittent: the cultivator enters upon it after it has been impoverished by his predecessor—the first five years thereafter are a period of outlay and gradual recovery, the next seven years may be considered one of entire convalescence, during which the land is at its maximum fertility, while during the rest of the term it suffers a gradual and ultimately an entire relapse. And if at its close the owner should be able to obtain an increase of rent, it will not be because of the increased intrinsic value of his property, but because of the establishment of cheaper methods of farming, or because of a diminished relative value of that in which it is paid. The average produce of the land during the lease is of course thus lessened; and a direct loss to the nation, and a loss to all those more immediately connected with it, is suffered: for the food produce being less, the sum is less which has to be divided amongst landowners, farmers, and labourers.

The only remedy for this state of things—that by which the owner of land may expect to maintain a tenant-made fertility throughout the lease—is, as we believe, the acknowledgment on his part of a liberal tenant right at the close of it. It must be made as much the farmer's interest to cultivate "highly" during the last as during any preceding year of his occupation. The lengthened tenancy will have insured to the owner of the land the advantages which drainage and other permanent improvements can confer, and the "tenant right" acknowledged at the close of it will hinder the diminution of the current fertility which, as it is the only obvious indication of the value of land, has the greatest influence on the rental offered for it. It is the incoming tenant of course who pays his predecessor; it is not on the landlord's pocket that the tenant right has claim, certainly the landowner guarantees the arrangement, and the land cannot be let except on *its* settlement: but it is as much for the incoming tenant's interest to make the payment at once as it would be to spread it over half a dozen years—indeed, it is far more his interest to do this, for a longer period will remain during which he reaps the fruit of his outlay—and the rental therefore cannot suffer on this account.

We hold land for a term of years on terms which render it our interest to cultivate it highly till the last. These terms are simply the acknowledgment of our right, when the lease terminates, to the full value of all the produce of that cultivation, and to so much also of its cost as shall then remain unexhausted in the land. And the guide to the valuation is the document which specifies the similar valuation on behalf of our predecessor on the commencement of our tenancy. We are thus ensured the payment of 3*s.* 6*d.* per cubic yard for all made farm-yard manure when we leave—will not this induce an abundant growth of straw on the previous year?—and there is no better test of fertility than the growth of bulky grain crops. We are also ensured the immediate expenses of the young Wheat crop, our entry having been at spring time, and with this, half the cost of manure and cultivation spent on the preceding root crop is to be repaid us. We are to be paid the market value of all unused straw, without liberty to consume it, and we have permission to consume our roots in the buildings up to a reasonable time previous to quitting. If there be any difference, it is not, under such circumstances, has a greater inducement to cultivate well during the last than during any previous year of his lease. His landlord will find that a real, actual fertility is most materially on the side of rent he receives. His labourer is very content work to the close of his occupation. And the country, of course, benefits by the uniform productiveness of his land. We believe that the same as the security for works of permanent benefit to the land, with a "tenant right" at the close of it, in reference to the arts of cultivation, on which its current fertility depends, is the bond of connexion between landlord and tenant, which the most effectually serves the interests of all parties.

The *conditions* of a lease form, of course, an altogether different subject of consideration, one to which we may hereafter direct the attention of our readers: it is the security which it confers on the tenant and his capital that is the point to which alone at present we have referred.

LETTERS ON RAILWAYS AND AGRICULTURE,
IN LINCOLNSHIRE.—No. III.

PARLIAMENT has lately displayed great jealousy with regard to granting any powers beyond carrying powers to railway companies. Object as have successfully been urged to their becoming owners of docks, ferries, steam-boats, and other appliances for assisting or increasing traffic beyond the limits of railway termini. In the only instances in which railway companies have obtained such powers, the public have obtained better docks and steam-boats than they would otherwise have enjoyed. The result of what certain ignorant M.P.s, misled by sounds, have called a monopoly, has been superior accommodation for the public at a cheaper rate. I do not think there would be any difficulty in proving that the public would gain greatly, especially the agricultural public, by permitting every railway company terminating in a seaport town to have not only access to, but the whole control and possession of a dock and warehouses.

A railway company of large capital would be able to disregard any profits on, say half a million, sunk in docks and warehouses, in consideration of the large additional traffic which would be attracted by a liberal style of conducting business. In bones and other foreign tillages, with the exception of guano, a considerable proportion of the price is composed of the cost of transfer and retransfer. For instance, bones from north Germany are carted from the ship side to a warehouse, and from thence to a railway station. Every day our farmers, as they progress in scientific farming, are more dependent on these importations of foreign manures. In the hands of a railway company bones and many other matters would be moved from the ship to the warehouse direct, and not unfrequently, under an arrangement with the importer, from the ship to trucks which, without halt, would convey the whole cargo direct to some inland depôt, at a saving which may be calculated from the fact that the cost of carting a puncheon of rum from St. Catherine's exceeds the whole freight from London to Rotterdam. A grocer, before the Committee on the Lincolnshire Railways, proved that it was cheaper to send a hogshead of sugar from the London Docks by sea, round to Gainsborough and thence to Sheffield, than to cart it to the Camden Town Station of the London and North Western Railway.

It is of course on articles of low value that small savings in the cost of conveyance tell. In certain situations steam mills and abattoirs might advantageously form part of the scheme of railway stations, even if let off to tenants. Killing beasts, like burying human beings, within the limits of towns, will soon it is to be hoped be rendered penal. The next step will be to make in each important town a railway beast market and slaughter-house. These companies are corporations formed to our hand to secure orderly responsible management. But these and many other points can only be properly discussed after a systematic investigation of the bearing of easy communication on agricultural improvements. Certain is it that our railway powers will never afford full advantage to the public until our legislators look to practical results—not to the question of whether powers of building, boating, damming, and docking are contrary to precedent, but whether they will produce good accommodation at a lower rate than previous arrangements.

It was with these views on railways and agriculture that I determined on visiting North Lincolnshire, where a small section of an important system of railway communication had just given the farmers of that county a taste of convenience long eagerly desired.

I had heard a high character of the intelligence of the Lincolnshire farmers. I had read Arthur Young's two tours, his homely yet strikingly picturesque description of deserts and deserts reclaimed, of fen land turned to pasture and to corn land, and of moor land turned to Turnip gardens. I had read, too, Mr. Pusey's account of his travels over Arthur Young's footsteps, and his account of the splendid specimens of farming

how to be found where Arthur Young found the Gorse bushes into which he hoped the then Lord Yarborough might fall, "for the good of the county." I was anxious to see what railroads could do for the greatest agricultural county in England, and what Lincolnshire could do for railroads. I was curious to learn, too, whether that farming which Mr. Pusey pronounced first-rate of its kind, had altered under the fiscal changes scarcely anticipated when he wrote five years ago. I had neither his practical nor his scientific knowledge of agriculture; but I had seen a good deal of farming both in this country and in the Continent, and understood pretty well the capabilities of railway powers.

It struck me that if a movement were to be made towards increasing the connexion between railways and agriculture it was very likely to begin among the best farmers. "Capital and land" are said by an eminent authority "to be not hitherto acquainted." If we have any money to spend, the turn of events abroad will induce us to spend it at home.

It is not now necessary, as it was in Arthur Young's time, for the farmer to mount his horse and slowly make his way towards far counties in search of improvements. The railway turns the ancient result of years into weeks. If in any one part of the country improved means of dovetailing railway powers with agricultural wants be compassed, the press and the agricultural societies must make them known—the railway will enable them to be seen at no great expenditure of time or money; and as we have not the impoverished lagging tenants of clay farms, but the quick intelligence of railway directors to deal with, public opinion will soon cause every practical improvement to be adopted. I will now proceed, like Sterne when he took his single captive to illustrate slavery, to make my notes on one county instead of a dozen.

I reached Hull from London on a March morning, crossed the muddy Humber at New Holland Ferry, and found myself in Lincolnshire. As far as the eye could reach along the banks of the river, stretched large level inclosures of rich green meadow land, intersected by frequent deep open drains, presenting a completely Flemish landscape. The cows were there, though not of Flemish colours, more reds and scarcely any blacks. The pollard Willows were wanting, and hedges, protected by double rails, at long intervals, relieved the monotony of the scene.

This New Holland, two years ago almost a solitude, was formerly a famous resort for smugglers of Hollands and prime tobacco, of late known by a ferry to Hull, which with difficulty supported one coach and one poor alehouse. But steam, the great magician of the 19th century, had been at work, and raised monuments of his deeds on all sides. Hundreds of workmen were engaged in putting the finishing stroke to a pier, one of the water stations of the Manchester and Lincolnshire Railway, which stretched for some 1500 feet, like a long black snake, into the Humber, as though intended to end only on the other side, although in fact the intentions of the engineer architect were more modest.

The earliest transit at this spot was by an open boat, running chock-a-block upon the beach. Then came a small wooden pier, greatly descending to low water mark. Then a tub of a steamer, landing its passengers in boats at low water on the slippery pier; and now the railroad was extending itself into the stream far enough for passengers on the Lincolnshire side to make but one step from the steam-coach to the steam-boat at every state of the tide. A little lower down the stream, fast advancing, too, though not so far advanced, a dock of three acres was in progress, intended to be surrounded by sheds for goods and pens for cattle, about to be attracted to New Holland Ferry by the conveniences of transit. Hull is at present the real capital of this part of North Lincolnshire, taking from it a good deal of butcher's meat, and supplying groceries and other domestic requirements, young horses and lean cattle The traffic has hitherto been comparatively trifling, carried on either by a roundabout water carriage to Gainsborough, or by a daily tidal steamer from Grimsby. It would not pay any independent company to lay out capital on the improvement of the water carriage between a fertile desert, like New Holland, and even so great a town as Hull; but the railroad company are making an excellent investment, by including among the station arrangements of this terminus, good steamboats, *i. e.* water omnibuses, a pier, a dock, a set of cattle-sheds, accommodation for market carts, warehouses for tillages, and grain.

A cattle-market is talked of which would afford dealers the choice, according as prices went, of going on to Hull, to the Leeds district, to Sheffield, or Manchester, or to London, without once changing their conveyance. The New Holland terminus has been planned expressly for the accommodation of an agricultural population, and is, I believe, the first of its kind in completeness of details. All around I saw preparations for attracting, if not creating traffic — for a new hotel; for coal-yards, that should supply the district within carting distance; in fact, everywhere visible signs that a very few years would convert the late green solitude into a busy river port, as well as a holiday suburb for the hardworking townsmen of Hull. The land lies low, considerably below high water-mark, for some miles. The embankment communicating with the pier about 20 feet high, one of the highest on the line, is composed of a smooth, tenacious blue marl, excavated, at a depth of not more than 18 inches or 2 feet under a layer of black mould, from the fields adjoining the line of the railway. Wherever excavations had taken place, surface-water had accumulated in pools of such depth, and with such rapidity, as showed the difficulty of getting it off the land in so flat a district. The blue marl, or clay, as it is called here, is the material, to a due application of which Lincolnshire owes much of the fertility which has superseded barren moors.

As is usual, where possible, the clay embankments were finished off (the sleepers and rails having been laid), by a layer of chalk followed by a layer of sandy gravel for ballast, brought by steam power along the line of rails from convenient pits. This process of constructing embankments with three separate kinds of material is also a process by which barren land may be rendered productive, inches of the various kinds of earth being used instead of feet. The advantage of finding chalk-pits within a convenient distance, is very great indeed to railway contractors, affecting as it does a saving in the cost of labour for repairs equal to a man a mile. Perhaps as farmers in some districts find it worth while to employ a whole day in bringing on horses' backs a few hundred-weight of lime for manure, it is clear that in those districts where neither marl nor lime nor chalk are found, close at hand, railway power used, in the cheapest manner, might be employed to create a soil—for marl acts as manure for 20 years, and chalk and lime and sand and clay, in due situations and proportions, exceed in value bones and guano. Mr. Pusey describes a process employed by a Mr. Gossip in Yorkshire, by which the warp of the ancient bed of a river, conveyed from very considerable distances, was laid upon a prepared and drained morass, so as to create a completely new and fertile surface, where previously nothing but the rankest weeds would grow, thus raising the land from an annual value of 1*s.* an acre to 30*s.* at one operation. In the north of England coals are conveyed at nine miles an hour for a halfpenny a mile per ton. It is some conveyance as cheap as this that must be employed, in order to make railroads more useful to farmers. (*To be continued.*)

ON IRISH POOR LAWS.—No. III.

By my two former papers I have endeavoured to show that the resources of the country are altogether unequal to the support of the poor under the present system—the continuance of it can only result in disappointment and ruin. It is not now a question whether the establishment of this system in 1837 was judicious or not—whether a measure founded in humane feeling was not executed in gross ignorance of the necessities and capabilities of Ireland and of her internal economy. It certainly did not obtain due consideration that Ireland was at the time in the actual possession of means of poor relief for her able-bodied poor, altogether unknown in other countries, in her conacre system, and for her decrepid poor in the humanity and pride of her people and in her law of neighbourhood. It has perpetuated the destitution it found, and has created it where it did not exist; and to the numbers thus made destitute are now added those rendered so by the deprivation of the conacre. The number of persons thus deprived of all means of support is so vast, and so likely to increase to an amount that is incalculable, that to find the least expensive mode of affording it has become an object of paramount importance, and that, not to the country only, but to the empire at large. I think this is to be found in the plan I proposed in 1832, or in some modification of it, that is, in employing the persons requiring relief in the production of their own food on portions of land at such distances from each other as would enable the persons employed on them to return to their homes at night; this would not withdraw them, as the poor houses do, from the chance of obtaining occasional employment from their habitual employers, and it would also save the expence of lodging them, and all the other expenses incidental to their reception at the poor houses.

On such farms the expense of supporting the poor after the first year (for in the first year the people must be otherwise supported, and some outlay required) would not exceed double the rent of the land on which their food was produced; and as land of sufficient good quality might be generally obtained on an average rent of 10*s.* an acre, and as every acre would, in vegetables, grain, and milk, give a fair compensation in food for labour to four persons, the cost of supporting them would be only about 5*s.* per annum for each individual.

I now feel called upon to prove that every rood of ground will support a human being. With the careful and large amount of hand labour that will be applied to the land, even inferior ground may be calculated to produce 9 tons of Potatoes to the acre. To save calculations, we may take all other roots as having an acreable feeding value with Potatoes; and we may take the acre of Barley or Oats at 7 and 10 quarters respectively, or 210 stone. In Ireland 2½ stone of Potatoes is generally admitted to be a fair daily allowance for a family of five persons, that is half a stone for each individual, or 180 stone a year, being one-eighth of the produce of an acre. A pint of new milk to the ½ stone of Potatoes would be a luxury to the poor who are now receiving out-door relief, and very generally has been so to the labourers of Ireland. Now a cow may be calculated to give a quantity of milk equal to an average of six quarts a day through the year, or sufficient for 12 persons. But we have found ⅛ of an acre of Potatoes also sufficient, and we have therefore ⅛ of an acre, or 1½ acre, to feed the cow on, which, in house-feeding, will be far more than enough. Thus, then, the rood of ground will support a human being.

The late disease in the Potato renders this crop an unsafe one to depend upon for the general food of the country; I will, therefore, endeavour to show that, even in other crops, the rood of ground may be made to support its human being. I have taken the produce of an acre of Barley or Oats at 210 stone; the Barley will yield 180 stone of food, the Oats 150, but as the Oats are generally considered better food, weight for weight, I will take them both at 150 stone; and about 3 lbs. of Oatmeal is found to be something more than equivalent to 1 stone of Potatoes. Nearly 1½ lb. of meal (equal to ½ stone of Potatoes), then, to each person would be sufficient for his daily support, or ½ of the produce of an acre. Now, if one-half of the food of the poor be made to consist of the meal of grain, and one-half of vegetables, we shall require for the support of each individual ½ of an acre, or ¼ of a rood, of the former, and $\frac{1}{16}$ of an acre, or ¼ of a rood, of the latter, and ¼ of the rood of ground will remain for raising green crops for the support of the cow, and the straw of the grain raised on the ½ rood; now, as one cow will supply milk to 12 persons, we shall have for the support of the cow 3 roods of green food, and 1½ acre of straw. And the rood of ground will support its human being. But between the grain crops and the vegetable ones, or between the Potato crops, and also between the cattle root crops and their succeeding ones, we may steal in a crop of winter and spring Cabbages, which will augment the amount of food raised on the land, and consequently diminish the cost of supporting the poor. There are still improvements depending upon principles which have not yet received the consideration they deserve, that, with the quantity of hand labour that could be thus applied to the ground, would make every acre of land support probably six persons.

For such poor farms the machinery may be very simple; stewards to superintend the work and give out the food, with assistants, who might be paupers. The test of pauperism being alone the willingness of the applicant to labour for food. The primary expenses would be the erection of residences for the stewards and overseers and the requisite farm buildings, the seeding of the ground, and the providing barrows, crowbars, and such implements as the people themselves may not be supposed to possess, and the most of which are now in the country belonging to the Board of Works having been used in the late public works. Much of the expense of the buildings would be saved by employing on them persons requiring relief. Eventually all these expenses would be repaid, for the leases of those farms which were not attached to the union poor-houses might, when they were no longer required, be sold, very probably, under the then improved condition of the lands, and of the country in general, for more money than had been originally expended on them.

For some years to come it is probable the number of persons who will require to be supported by a poor rate will amount to 3,000,000; unless indeed, and which may be well calculated on, their numbers be reduced by the prostration and disease induced by their present very inadequate supply of food. The cost of the support of these 3,000,000 would in the poor-houses amount to about 10,000,000*l.* annually; they are cut much shorter in the out-door relief, while on the poor farms it will not exceed 1,000,000*l.*

To support and give employment to such as can work of these 3,000,000 on these poor farms, would require about 750,000 statute acres, by locating one of these farms on every square of 16 miles; that is, on every four miles square, the maximum distance which any one would have to travel to his work would be two miles. At such distances 2000 farms would be required of 400 acres each. One-half or more of these lands may consist of unreclaimed bog, the other half of ordinary land, which, under the present circumstances of the country, may be easily got.

The unreclaimed wastes of Ireland might be more largely appropriated to this purpose, but it would not cheapen the immediate means of support, as they would not become so soon available in the production of food; at the same time their improved value might in the end pay all the expenses that had been incurred in the support of the poor.—*J. M. Goodiff, Granard, April* 13

P.S.—To attempt the establishment of such a system of poor farms will I fear appear too vast an undertaking, yet how else are we to feed such a mass of people? Something must be done, and that very soon, or the deaths will be only counted by millions. It is frightful to see the wretched appearance of the poor creatures going for their food to the relieving officers. This half or three quarters starving would do were it only to continue a few months, but when we are to look forward to years, human nature cannot but sink under it.

If I could have prevailed on the country to convert their unworked fallows into grain fallows, that is, in grain sown in rows at very wide intervals (about 2 feet), we might have shortened very much the period of suffering, but my suggestions are too much in advance of the age. I do not know whether I ought not to send you my calculations on the expense of establishing a poor farm, &c.—*J. M. G.* [Pray do.]

LAND DRAINAGE REPORTS.

No. VI.—Horncastle.—*Date of Operations*, November and December, 1843.

Extent Drained, 46 acres.

Nature of Soil.—34 acres, sandy loam, subsoil white clay, full of flints and chalk stones; 12 acres sandy soil, partly on running sand and partly on strong gravel.

Mode of Drainage.—34 acres were drained 40 inches deep, 33 feet apart, and the material used was common tile and soles; the 12 acres sandy soil were drained

with the same materials and at the same depth, and 45 feet apart.

Cost of Operation.—1½*d.* per yard in the clay subsoil, and 1¼*d.* in the sand and gravel, in labour.

The Results.—The whole of the land was in pasture, nearly covered with rushes and coarse Grasses, and not worth 5*s.* an acre to rent. The following spring, after being drained in 1841, it was, part of it (the roughest and most uneven), dug by hand and part of it ploughed, and all sown with Oats, producing about 6 qrs. to the acre. In 1845 it was Turnips, a heavy crop, keeping 18 sheep to the acre for 20 weeks, with a ¼ lb. of oilcake each. In 1846, Tartarian Oats, rather more than 10 qrs to the acre; now in Wheat and laid down with Clover, Italian Rye-grass, &c. to graze one year —*George Gilliat.*

No. VII.—Rainton, near Thirsk, *July 16th*, 1847. —*Date of Operations.*—Began in 1834 and continued at intervals to the present time. About 26 acres done this year, and more to do this autumn.

Extent Drained, 250 acres.

Nature of Soil.—130 acres blowing sand, with a wet running sand subsoil, no clay for many feet deep. 42 acres of clay soil and subsoil. 78 acres strong loam, with strong clay stony subsoil; the land nearly all arable.

Mode of Draining.—Over the 130 acres sand the drains vary from 3½ feet to 6 feet deep according as depth could be obtained; the distance of the drains also varies as to the wetness of the soil. Where from 5 to 6 feet depth could be obtained, the drains are from 60 to 75 feet apart. Where shallower not so wide. Each drain is brought out separately into large open ditches or water courses. On account of the exceedingly irony nature of the water and the great quantity each drain has to deliver, I have found it exceedingly unsafe to run branch drains into mains, the deposit of iron water blocking them up. No clay dug up, though several of the ditches are from 7 to 8 feet deep, nothing but running sand. The materials used are large-sized horse-shoe tiles, with broad edges or flanges to form a footing for the tile. In some cases soles have been used. Over 42 acres of clay the depth of drains from 2½ to 3 feet deep, the distance 28 feet, small tiles for branch, large size for mains; the main tiles, when the small ones run into them, have a hole cut in them by a cutting-hammer, and the small ones, nicely joined to the hole cut in the main tile. About 17 acres of the 42 had been previously drained by another occupier at 18 inches deep, but was of little use from the slight draw they had. Had them taken up and put in at 2½ to 3 feet deep. The land now dry. Over 68 acres of loam, depth of drains 3 feet, the distance 24 feet, in some cases 27 feet. Over 10 acres of loam, done this spring, I have tried 4½ to 5 feet deep, and 48 feet apart.

The Cost. — Not ever thinking of communicating anything in the shape of information on drainage, or the cost of it, I have kept no particular account on that head, at least till this spring. The whole of the workmanship was done by day's labour, having been convinced some years ago of the folly of letting the cutting of drains, the drains in most cases when let being badly executed; but when done by day, though the cost per acre is a trifle more, the men have no excuse for badly executed work, and the temptation is done away with when done by day. The cost per acre in labour on my loam and clay lands, is near 4*l.* per acre, where the drains are 2½ to 3 ft. deep and 18 ft. apart; also about the same where 3 feet and 24 feet, and 4½ to 5 feet and 48 feet apart, varying with the price of labour per week.

Results.—In all cases the results have been good. The sand land previous to my purchasing was drained shallow with small tiles, and the work badly executed. I had all the tiles taken up, and, as I stated, put in deep and large sizes; the small sizes taken out were put into loam land; the land is now sound, firm, and healthy as sheep pastures; the corn crops also much better. The clay soils are now quite free from water standing on the surface, the land easier to work, and the crop materially improved. The loam does not now poach near so much by the sheep eating off the Turnip crop, the land easier to work, and the crops more certain.

Note.—I am inclined to think, so far as appearances go, that the 4½ to 5 feet deep drains are answering a better purpose in the loam than the 3 feet drains in the same kind of soils. The deep ones are now running water, whereas the 3 feet are not.—*Peter Stevenson.*

No. VIII.—Spalding Fen.—*Date of Operations.*—We commenced draining in December 1845, and up to the present time have drained nearly 500 acres.

The Soil peat, clay subsoil, all arable and not more than four feet variation in level.

Mode of Operation. — The drains are cut parallel at 30 to 40 yards interval, and at an average depth of 40 inches. The material used, pipe tiles. The drains no larger than to admit the pipe. *The cost* of operations, cutting drains and filling, 1*s.* per chain. Tiles per chain, 1*s.* 6*d.* This mode of draining will, I have no doubt, be considered by persons accustomed to draining strong soils to be very inefficient, but if they saw our drains opened it would, I think, convince them of the contrary. The clay has been so soft that it was possible to push a rod down to the gravel a depth of 16 feet from the surface; this during the dry summers contracts so much that it is not safe to ride over some of the land. I have found many from 3 to 4 inches wide and of a considerable depth. The peaty soil, when ploughed and worked, fills the cracks near the surface, but below they remain open, and form a great number of small drains, which when cut across pour out an amazing quantity of water. This mode of draining is only applicable to particular soils, having from 6 to 10 inches of peaty soil on the clay, for where there is more peat the clay is not sufficiently affected by the drought to make it contract. The district in which our farm is situated is drained by steam engines at Pode Hole, near Spalding, but not being able to convince the managers of the drainage that it is essential to good cultivation to keep the water at a lower level than they had done, we have erected an engine to raise the water, by which means we have kept our water 18 inches below the general drainage, and the results have been very satisfactory; we can work the farm with two pairs of horses less, and keep the land in a better state of cultivation. Under the old system of open drains I have frequently known the land so soft that we could not get across the drains with the horses, and have been obliged to drill parallel with the drains; and in all our operations of ploughing, rolling, harrowing, &c., we can do much more in the same time, and with less wear and tear. After frost the open drains all required clearing out frequently between ploughing and sowing, and I am certain that no one who has experienced the vexation of keeping open drains on light fen soils but will appreciate the advantages of underdraining.—*T. A.*

No. IX.—Leighton Buzzard.—*Date of Operations.* —1843, 4, 5, 6, 7.

Extent Drained.—149 acres.

Nature of Soil.—80 acres of the blue lias formation, soil and subsoil; 40 acres clay and sand of a red colour, subsoil containing flints and gravel; 26 acres heavy loam, soil and subsoil; 3 acres black miry soil; 36 acres of the above in pasture.

Mode of Drainage.—111 acres chiefly clay and gravelly loam, soil and subsoil; the drains were 2 feet deep, in furrows, and now the land is nearly level; the drains are about 2½ feet deep, and from 18 to 33 feet apart; material used, common tile and sole. 12 acres clay, soil and subsoil, small descent for water; drains, 2 feet 6 ins. deep, and 16 feet 6 ins. apart; material used, common tile and sole. 16 acres, chiefly red loam; drains, 3 feet deep, and from 24 to 30 feet apart; material used, common tile and sole. 6 acres stiff clay, soil and subsoil; drains 3 feet deep, and from 20 to 30 feet apart; material used, pipe tiles 1½ inch diameter. 4 acres loamy soil; drains 4 feet deep and 36 feet apart; material used, common tile and sole. The direction of the drains is in every case down the descent, from the highest to the lowest part of the fields.

The Cost of the operation was as follows. The common tile and sole drainage, 2 feet deep, cost, in labour, digging out, laying tiles, and filling in, 2½*d.* per pole of 5½ yards, or 24*s.* per acre, including main drain, and in material 3*l.* 10*s.* per acre; total cost, 4*l.* 14*s.* The 2½ feet deep draining cost, in labour, 3*d.* per pole, or 1*l.* 15*s.* per acre; material, 5*l.* 10*s.*; total cost, 7*l.* 5*s.* per acre. Drainage 3 feet deep cost, in labour, 4*d.* per pole, or 1*l.* 16*s.* per acre; material cost 3*l.* 10*s.* per acre. The pipe-tile draining, 3 feet deep, cost in labour 1*l.* 14*s.*, and in material 1*l.* 15*s.* per acre; total cost, 3*l.* 9*s.* per acre. Drainage 4 feet deep cost in labour 6½*d.* per pole, or 2*l.* 3*s.* 4*d.* per acre, and in material 1*l.* 2*s.* per acre; total cost, 3*l.* 5*s.* 4*d.*

The Results may be thus stated. The land drained deeply has been done most effectually; some portion of the shallow drained will require redraining deeply. The drained pasture has been much improved; more production of Grass of a finer quality than before, and more fitting for stock. Some of the arable land previous to drainage yielded but 2 qrs. of Beans, and from 2 to 3 qrs. of Wheat per acre; it has since produced 4 qrs. of Beans, 6 qrs. of Barley, and promises to yield at the approaching harvest from 5 to 6 qrs. of Wheat per acre. The result in every case has been satisfactory, not only as regards the increased produce of the drained land, but as effecting a saving of seed and cultivation. Deep draining is executed at less expense than shallow, is equally or more effectual, let the soil be ever so tenacious, provided the work be properly performed.—*R. Vallentine.*

Home Correspondence.

On the Agreement between Landlord and Tenant (p. 276).—A has a farm to let, and B agrees to take it on the said lease or agreement; he has capital and skill, and the agreement (he thinks) is all right, and that if he lays out his money he is sure of getting it back again if he stays at the farm, and so he is if he leaves it; therefore he considers himself safe in the undertaking. Now let us consider it; he has taken the farm (and A is a sharper) and B goes at it in earnest; he brings his skill and capital to bear, and shows that he is not one of the old school, and A looks on with pleasure. B goes on, and the farm begins to look a different thing in the course of the first two years, and A begins to think that he has let the farm too low—200 acres of good land for 300*l.*; he thinks he ought to have more than that for it, and he meets with Mr. D, who wants a farm, and Mr. D. says if that farm was to be let he would not mind 40*s.* per acre for it. This is too much for A not to notice; he goes home and thinks of it, and thinks 100*l.* a year is too much to lose in these times; he gives B notice to leave the farm; he has had his skill and knowledge, and gives him the money he has laid out, and thinks himself very liberal in so doing, but nothing for all his care and trouble. No, no; he did not agree to do that; therefore, upon this fair agreement the tenant is turned out (perhaps to be served the same again), and to sell all off at a great loss, as he has not another farm to go to. Therefore, I say, that it is a hundred agreement (a yearly tenantry), and a one-sided one. It is well known that there are rogues amongst all classes.—*A. B.*

Memorandum of Agreement.—I enclose a form of agreement or lease upon which I have let some farms lately. I am no lawyer, neither have I examined one, the document is written out in each case upon a half-crown stamp, and signed by myself and the tenant, it meets our common sense view of the case, and as I think, quite restrictive enough. What do you think of it?—*Georges.* Memorandum of agreement made this — day of —, between A. B. and C. D. The said A. B. doth hereby agree with all convenient speed to execute to the said C. D. a lease of a certain farm called ——— containing — acres, or thereabout, to hold to him the said C. D. from Lady-day next ensuing, for the term of 21 years, terminable at the end of 14 years, by 7 years' previous proper notice to that effect, given by either landlord or tenant, at a yearly rent of ——, payable half yearly, which lease shall contain all usual and reasonable covenants, especially that the said C. D. shall keep and leave the land clean and in good condition, and keep and leave the buildings, gates, and fences in good repair, being allowed bricks, tiles, lime, and timber in the rough; will not sell or carry off hay, straw, or Turnips without bringing back a proportionate quantity of manure; will not break up any old turf, and during the last 7 years of the said term of 21 years, or during the second 7 years of the said term of 14 years (the said notice having been given by either party), the said C. D. will not take two white crops in succession from any part of the said farm, or grow any Woad, Flax or impoverishing crop without permission, in writing, to that effect from the landlord. That the said C. D. shall not assign his lease or underlet any part of the said farm and premises, and the landlord shall have right of re-entry in case of tenant's bankruptcy or insolvency, or allowing the rent to remain unpaid 30 days after being legally demanded. Game to be reserved to the landlord. Tenant to have right to kill rabbits. Landlord to have power to cut timber and inspect repairs. Landlord to find draining tiles where required, to be put in by the tenant according to the landlord's direction. Any matter respecting the tenancy or leaving, not otherwise provided for, to be regulated according to the custom of the country. The said C. D. agrees to execute a counterpart of the said lease when tendered to him for that purpose.

Rye, Mangold Wurzel, &c.—You last year inserted in your *Gazette* a suggestion of the Rev. A. Huxtable for making Rye, when on the ear, into stover by mixing it with layers of straw. As the season for mowing green Rye is approaching, it might be useful to many agriculturists to learn more particularly in what proportions the green Rye and straw should be mixed. [Perhaps those who have experience will say.] Can you suggest or procure information on this subject? [Lord Essex speaks of stacking Sainfoin in this way, but he does not mention in what proportions. Probably equal quantities would answer the purpose; the Grass should be allowed to wither for a day, and by means of hurdles you can arrange a system of air drains, or ventilating chimneys, through the rick.] Farmers being now busy in preparing for Mangold Wurzel, I may perhaps mention a method adopted by me with great success for two seasons. A hole is made for depositing the seed by a light stroke of a Turnip-hoe instead of the usual dibber, in this the seed is dropped, and on it deposited a boy's or woman's handful of compost made of 3 cwt. of superphosphate of lime, and 15 bushels of cinder-dust per acre, mixed with about an equal quantity of fine loam, to suit the size of the dropper's hand. When delivered from the tail of a cart drawn between the rows by an old pony, I have not found this a tedious or expensive process, any small extra expense being more than compensated by the growth of a full crop without the labour of transplanting. I cannot admit that Mangold Wurzel seed requires to be buried deeper than Turnip seed. Where ashes lie over it to absorb and retain moisture, I believe the seed can scarcely lie too fleet, even in a season of drought. Such at least was the conclusion which I arrived at in the summer of 1846; when except where I had adopted the method of sowing which I have just described, I had not a quarter of a plant of Mangold Wurzel. I have addressed you now partly from observing how much of your columns continue to be devoted to the question of thick or thin sowing, which has now, in my opinion, become both hackneyed and polemical. Allow me to suggest a new field of research: that is, a statistical enquiry into the prices of agricultural labour in different parts of England and of the world. To this question you have already contributed scraps of information, but it has never been systematically carried out. Upon enquiry I anticipate that we shall arrive at the somewhat paradoxical conclusion, that the price of free labour is nearly equal throughout Europe, that is, that the skilful and well paid labourer makes a proportionably larger return of work done, and therefore that labour is not dearer where such are employed than it is elsewhere. We know that in Lincolnshire wages are commonly as high as from 14*s.* to 16*s.* per week, and we have some knowledge of the prices of Lincolnshire piecework. In Dorsetshire, &c., we are told, on the other hand, that wages are only 8*s.* or 9*s.* per week, and we know little or nothing of work done there by the "great." But until we know this, we can hardly decide whether labour can be said to be really cheaper in Dorsetshire than in Lincolnshire. I have had one or two opportunities of comparing the prices of agricultural work done

in England with that done in Ireland, from which I should infer that labour is dearer in those parts of Ireland, where wages vary between 8*d.* and 1*s.* per day, than in those parts of England where 1*s.* 6*d.* and 2*s.* are common pay. Irish drainage estimates have appeared to me extravagantly large, without referring to work done under the superintendence of the Government Board during last year's famine, which were, in some cases, beyond measure preposterous. If we turn to France, we have had recent proof that the English labourer is a more valuable, as well as a higher paid workman than his French competitors. Such inquiry, as it seems to me, would be valuable as influencing a farmer's daily practice. It would likewise be of the utmost importance in determining the general question of the ability of English husbandry, openly to compete with foreigners; for if we really pay more for work done, such competition may be difficult. I do not anticipate that such will prove to be the case; whilst, on the other hand, where land is plentiful, as in the United States, labour will consequently be dearer than in England, and thus, to a considerable extent, compensate for the demand made on the farmer's pocket, in old established countries, in the shape of rent. Allow me to suggest, in conclusion, that your "Calendar of Operations" should include a more systematic statement of prices of work done by the "great," and that as farmers in the worst cultivated parts of England are not likely to volunteer to show up their sluggish farming, by making a weekly return of work done or still undone, that casual correspondents should be invited to give such information as they can acquire on the prices of farm work in badly cultivated neighbourhoods.—*Cantab.* [We shall be very glad to find your suggestions generally adopted.]

Fossil Guano in the Green-sand.—P. P.—Your correspondent "P. P." has overlooked Mr. Paine's quotation of Berthier's analysis of the green-sand nodules, in his first letter; all the subsequent analyses only tend to confirm this, which was made more than 26 years ago. Again, the green-sand is not fertile, because the green particles are composed of "silicate *of* (misprinted *or* in *Agricultural Gazette*) protoxide of iron and alumina," which is the composition of many a barren chloritic rock, but because this green earth also contains potash, Berthier found 10 per cent. of potash in the green grains of Havre and Winant; Prout and Sir John Herschell only "a trace" in the examples sent them by Dr. Fitton; according to Klaproth, the green earth from Mount Baldo contains 10 per cent., and another from Lossossna, in Prussia, 9 per cent. of potash. The green grains in the cretaceous formation of New Jersey contain from 9 to 12 per cent. of potash; and various other instances are given by Dana in his excellent Mineralogy. The fertility of the soils along the cut-crop of the chalk-marl and upper green-sand of Wilts and Dorset, famous for their Barley crops, is perhaps as much due to the presence of alkali (and consequently of soluble silicates), as to the occurrence of the phosphate. There are many gentlemen in these counties fully aware of the relative value of their local strata, and who have employed particular beds as a dressing for others; in the vale of Wardour, I have seen the chalk (?) marl brought, down hill, to the upper green-sand; and near Bowden Park, Mr. Sotheron has extensively clayed the hitherto unproductive iron sands (lower green-sand). To administer "upper green sand" to the gault clay would be, as regards the phosphate of lime, "to throw a perfume on the violet" and the mechanical use of the sand is doubtful, according to Mr. Pusey; but the reverse of this proceeding must be eminently beneficial, and many agriculturists who were desirous of claying their light sandy fields have sent examples of different clays to the Agricultural Chemical Association, and adopted that which was determined by Mr. Way to contain most alkali and phosphoric acid.—*S. P. Woodward*, 40, *Upper Park-street, Barnsbury.*

Salt as a Manure.—The article on salt in a late number confirms my opinion that salt is not generally required as a manure. The small quantity of it discovered by analysis of vegetable or animal matter I am satisfied is supplied during storms from the ocean, excepting in the most inland parts of England. My residence is on the Cotswold hills, a table land elevated about 400 feet above the sea, and distant about 30 miles from the new passage of the Severn. During violent south-western gales, the glass under my verandah has salt deposited on it from the spray, and not being washed away by the rain, as in open situations, is left upon it. I have often tasted the salt and recently sponged the glass, and got the deposit tested at the laboratory of the Royal Agricultural College, when the existence of a considerable portion of salt was discovered by the proper tests, as well as by evaporation, which leaves the crystals of salt behind. Being thereby satisfied that we need not apply salt as a manure, I still should be glad to know whether in sandy soils far inland, salt may not be beneficially used both chemically and also mechanically, by abstracting moisture from the atmosphere. [There is abundant experience to prove that it may.]—*Thomas C. Brown, Cirencester.*

The London Sewage.—It is now proposed to accomplish the complete drainage of the South London districts, whose level is below high water mark, by means of powerful steam engines, which will pump the the sewer water into the Thames near Deptford. Let me suggest to the commissioners, the importance of extending this great improvement a little further. If they could be induced to extend their discharge pipe considerably below Woolwich (keeping as good an elevation above the river as convenient), they would afford an invaluable opportunity for the construction of irrigated meads, on the sloping sandy Kentish side of the valley of the Thames; which, both for their own value, and as models for similar improvements in the smaller towns of the United Kingdom, would be productive of the best results.—*Cuthbert W. Johnson.*

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A Weekly Council was held at the Society's House, in Hanover-square, on Wednesday last, the 17th May: present, Colonel Challoner in the Chair; Lord Bridport; Sir Matthew White Ridley, Bart.; Sir John V. B. Johnstone, Bart., M.P.; Mr. Almack; Mr. Berners; Mr. Brandreth; Mr. W. Burrell; Mr. Capel Cure; Mr. G. Dyer; Mr. Eggar; Mr. Fuller, M.P.; Mr. Brandreth Gibbs; Mr. Baskerville Glegg; Mr. Hyett; Rev. C. E. Keene; Mr. Kinder; Colonel MacDouall; Mr. Milward; Mr. Putland; Prof. Sewell; Mr. Hampden Turner; Mr. Tweed; Prof. Way; and Mr. Woolrych Whitmore.

Period of Suckling.—Mr. Wyatt Edgell, of Milton-place, Egham, Surrey, addressed to the Council, through the President, a communication on the probably injurious effects arising from the circumstance of allowing young animals to take the milk for too long a period from their dams, especially in the cases of mares and ewes, which he conceived were impoverished by such a lengthened drain upon their constitutions, while their offspring were at the same time retarded in their growth and development, from the insufficient supply and inferior quality of milk they obtained under such circumstances. Mr. Edgell was led to the consideration of this subject from a perusal of the statement made by the Rev. G. R. Gleg in his travels in Hungary, that the high-bred foals at the great stud at Babohna usually dying at four months old, from some vicious quality as it was supposed in the milk, they were removed from the mares at the end of the first month, and fed on boiled Carrots, when it was found that not one-fiftieth of the number of foals that died under the old system were lost under the new one. Without endeavouring to ascertain from what cause the milk in the case of the Hungarian mares had probably become vitiated, if a change in the quality of the milk had been the cause of the evil, Mr. Edgell thought the period of suckling the young of cattle in this country a subject worthy of consideration.—This communication gave rise to an interesting discussion among the members present.—Mr. Milward thought it might be assumed as a general rule, that, under favourable conditions arising from the constitution of the mother, a requisite supply of proper food, and consequently an abundant secretion of healthy milk, the longer young animals sucked the better; and he could state from his own experience in the case of short-horned cattle, that the calves could not acquire the full development in size or symmetry, unless reared on new milk for at least the first six months after their birth.—Sir Matthew Ridley did not think it advisable to leave calves with mothers which had become again in-calf; in that case, as in the case also of all choice stock, nurse-cows would of course be provided.—Mr. Fuller, M.P., had found that those calves were always the best which had been allowed to suck the longest.—Mr. Tweed considered that foals would be injured by sucking such mares too long as were actively kept at work.—Mr. Dyer was acquainted with a large flock-master who constantly lost one-tenth of his 500 ewes by allowing the lambs to remain with them till July; but who, from having last year weaned the lambs considerably earlier in the season, had lost a much smaller proportion of his ewes. Mr. Dyer conceived that by the middle of May, or as soon as lambs were four months old and enabled to get their own food, when there was Grass enough for them in the pastures, they might safely be weaned from the ewes; and that, on the other hand, when the ewes were low in condition, disease must necessarily be occasioned by allowing the lambs to remain too long with them.—Mr. Milward thought that the loss sustained by Mr. Dyer's friend arose from the ewes being kept in too poor a condition, and not from the circumstance of the lambs being allowed to suck them for too long a period; it all depended upon the food a flock-master had to give them.—Sir Matthew Ridley remarked that there might be an evil in the too early weaning of lambs, as in that case the udders, from distention, unless milked by hand, would become sore and diseased. He thought that no general rule could be laid down on the subject, but that the weaning might advantageously take place when good Grass was to be had by them, and in sufficient abundance, as both ewes and lambs at first destroyed the herbage to which they were put after weaning.—Mr. Glegg observed that in Scotland the Cheviot ewes had their lambs removed from them about the 20th of August.—Prof. Sewell regarded the subject as one of great importance; and thought that if inquiry was instituted amongst practical farmers and breeders of sheep, much light might be thrown upon the origin of diseases still involved in obscurity, particularly in the case of young stock, which he considered to become victims to diseases too often attributed to food, soil, situation, or peculiarity of management. He had no doubt that a statistical account of the time of lambing and of weaning, and a statement of the dates at which, in different localities throughout the kingdom, Grass or green crops are usually ready for ewes and lambs, would be attended with much practical benefit, as it was very likely that circumstances of situation and climate would be found to occasion much difference in the occurrence of those events; statements connected with lambing, weaning, and appearance of green food south of the Humber not applying to districts north of that division of the country.

Water Power.—Mr. Fuller, M.P., submitted to the inspection of the Council a plan of the arrangements (alluded to by him at the previous meeting), by which all the machinery of his farm at Rose-hill, in Sussex, was put in effective motion by means of water-power. The engineering of these arrangements was entirely due to Mr. John Miller, of Brightling, an ingenious tenant of Mr. Fuller's; and it was not only applied to the working of a large saw-mill, but also to that of a threshing-machine, and various other purposes. The wheel was an overshot one, and constructed of iron; and the principal part of the machinery thus worked by water was the saw-mill, it being well known that in Sussex a great amount of timber was cut for a variety of national as well as private purposes; and in his case, as in that of others, employment was actually created in greater amount, but in a different direction, by this wholesale sawing up of the timber felled on his estate for that purpose; and the labourers now perfectly understood the value of the new economy under which their services were required. Mr. Fuller intends to try the cutting of Gorse to some extent by means of this machinery.

Sawdust Charcoal.—Mr. Woolrych Whitmore was led to make a few observations on the success with which he had employed charcoal obtained from sawdust, and the various refuse vegetable matter collected on his property, as a general manure for garden and field use, especially when mixed with bone, prepared according to the plan recommended by Mr. Pusey, in the proportion of one-third bone with two-thirds charcoal, employing water only as the liquid for moistening the heap, and of promoting its fermentation, and the result that was obtained in the course of a month or five weeks; and he had found no artificial manure at all equal to this fermented mixture. He found that raw sawdust did not succeed, but that charred sawdust, or sawdust charcoal, did admirably. He also ascertained that there was a mechanical advantage in sawdust, or wood charcoal, in producing this effect, not met with in charcoal obtained from Couch-grass, and other charcoal from plants, the latter appearing to possess a more compact, heavy, and impervious in its mechanical condition, which impeded its action in promoting fermentation. This charcoal was, therefore, employed alone as a top-dressing. Mr. Whitmore had not at present devised a convenient mode of reducing his sawdust to the state of charcoal; but he had no difficulty with other substances, such as Couch and other weeds, the clippings of trees, Cabbage stalks, &c.; these he piled round an upright pole into conical heaps, and covered them up with earth; the pole was then gently withdrawn, and a vacancy being thus left in the heap, from the bottom to the top, where the pole had occupied a space, a flue was formed which after ignition greatly facilitated the charring or slow combustion of the surrounding vegetable matter.—Prof. Way remarked that the use of charcoal in agriculture was by no means carried to the extent to which in his opinion it ought to be. It was a substance that stood midway between a chemical and a mechanical agent; absorbing to a great amount various gases and vapours, and especially the volatile ammonia so often produced during decomposition and allowed to escape into the atmosphere. Had he not just heard from Mr. Whitmore that charcoal and bones mixed together underwent fermentation, he should have thought that charcoal would have had the effect of retarding or even of preventing that process. As ammonia was disengaged in the decomposition of bones, the presence of a porous substance with the imbibing properties of charcoal would at once secure that volatile element and prevent its escape, rendering the artificial manure produced so much the more valuable. He had understood from Mr. Parkes that Mr. Outhwaite, a friend of his in Yorkshire, who was an excellent practical farmer, converted not only the clippings of hedges and weeds, but also all his refuse straw into charcoal, which he employed largely on his land. Charcoal had long been employed as an antiseptic, removing from decaying bodies their ill odour, as well as their tendency to putrescence; and he believed that charcoal would be found one of the best preservatives from mildew in the Turnip crop, that injury being understood to arise generally from a peculiar condition of the soil.—Col. Challoner would have a small extent of one of his Turnip fields immediately set apart for an experiment, and would drill in charcoal with the seed to the amount of from 10 to 20 bushels per acre.—Prof. Sewell on two successive showery days in 1846, had 25 acres of Turnips sown, which yielded the most luxuriant crop; while 100 acres, sown on an adjoining farm when the dry weather had set in, proved almost an entire failure.—Mr. Whitmore expressed his intention of presenting to the Society all the details he could obtain on this subject.

Prickly Comfrey.—Mr. Brabazon presented to the Council a communication on the Prickly Comfrey, which he had grown with great success as green-feeding for horses, cows, and pigs.—The Council, on the motion of Mr. Brandreth Gibbs, returned to Mr. Brabazon their best thanks for the favour of that statement, which was referred by the Council to the Journal Committee.—The reading of this account of the Prickly Comfrey, known to botanists by the name of Symphytum asperri-

rum, a native of the Caucasus, and as one of the mucilaginous and emollient plants belonging to the Borage family, gave rise to the communication of interesting details connected with its growth and properties.—Mr. Irandreth had grown it extensively, but he preferred lucerne.—Mr. Brandreth Gibbs regarded the variety of Comfrey in question as the earliest springing green food with which he was acquainted; and he stated, as one of its peculiar advantages, that it grew with the greatest readiness wherever planted, whether on banks or other waste pieces of land, or among brick rubbish used for filing up hollows; its tenacity, however, when once planted, was such as to render its eradication as difficult as that of the common Dock or Horse-radish.—Mr. Greaves, of Matlock Bath, Derbyshire, had also grown it largely from seed transmitted to him by Messrs. Thomas Gibbs and Co., the Seedsmen to the Society, and he had found it yield most abundant crops of green food.

Lectures.—Prof. Simonds, Lecturer on Cattle Pathology in the Royal Veterinary College, conveyed to the Council his thanks for the honour they had done him in selecting him to deliver one of the Lectures to the Members of the Society on the occasion of their ensuing York Meeting, and the satisfaction it would give him to promote in that, or any other manner, the useful objects of the Society.

Lodgings.—Mr. Foster, Secretary to the Local Committee at York, informed the Council that he had opened a Registry of Lodgings, at his office in that city (22, Ogleforth), for the convenience of Members of the Society, and other visitors who may attend the ensuing Country Meeting of the Society, in the week commencing Monday, the 10th of July next.

Mr. Fisher, of Blandford (and 23, Cockspur-street, Charing-cross), presented to the Society a proof impression of the engraved Portrait of Lord Portman, after the painting of Fancourt by Holl; the Royal Academy of Sciences at Munich transmitted copies of their Transactions; and Prof. Sewell, the natural hoof of a horse, on which was nailed a shoe with leather interposed, agreeably with the plan stated by him at the previous Meeting.

The Council then adjourned (over the 24th) to the 31st of May.

Farmers' Clubs.

Newcastle, *December: On the Advantages resulting from Turnip and other Green Fallow Crops, and the extent to which their Culture can be profitably carried out on Strong Lands.*

Mr. John Robson, of Sunniside, said: Wherever the cultivation of the soil has been most successfully practised, attention has been particularly directed to the abundant growth of the various root and green crops, to the keeping a sufficiency of cattle, and to the important system of house-feeding. And in the subject chosen for this day's discussion, I shall venture to point out what I consider to be one of the chief defects of our present system of management, as applicable not only to this neighbourhood in particular, but to the country generally—a defect arising from want of proper attention to the growth of green fallow crops. It will be more convenient, in dealing with the subject, for me first to remark "on the advantages that result from Turnip and other green fallow crops;" and secondly, to discuss the question of "how far their culture can be profitably carried out on strong lands." Green crops are the only sure basis of good farming, and before a climax of improvement can be attained by this or any other country, the system of green fallow cropping must become general and universal. This desirable state of things can only, however, succeed to the first and greatest of all improvements, as connected with the cultivation of the soil—thorough, deep and efficient drainage; by which the objections against green fallow cropping on strong lands may, in a great measure, if not entirely, be overcome. As no system of husbandry can be successful without a cheap and plentiful supply of manure, the end and aim of all good farming should be, to cultivate to the utmost, Turnip and other green crops, for, as has been well said, they are "the most abundant source of manure, as well as the most economical mode of obtaining it. Without green crops we can have no cattle, without these we have no manure, and without manure we can get little or no corn. On the other hand, the larger the quantity of green crops we can obtain, the more stock will our land be able to support, and therefore, the larger the manure heap, the more prolific our corn crop." It is well known, that where few cattle are kept, according to the surface of a country, the land is poor and badly cultivated; but where green crops and cattle, which ought never to be separate, are largely attended to, we invariably find, as a necessary consequence, luxuriant grain crops—a thriving, improving, and intelligent neighbourhood. The most important of the plants usually cultivated as green fallow crops are Turnips, Swedes, Mangold Wurzel, Potatoes, Carrots, Cabbages Rape, and Parsnips. The Turnip justly ranks first as being most generally applicable to all soils, and, by a comparatively easy culture, diffusing the most important and beneficial results. It is well known, that before the introduction of the Turnip, which, as Martin Doyle tells us, took place in Northumberland, and the adjacent counties of Scotland, as a field crop, in 1780, the light soils of Norfolk were little else than rabbit warrens and blowing sands; but that now, under the alternate system of husbandry, they produce splendid crops of Turnips and other green food, as well as rich returns of grain. In estimating the advantages of green fallow crops, their marketable value must be considered, perhaps, as well as the direct and indirect profit arising to the farmer from their consumption at home. In this immediate vicinity, we know that a good crop of Swedes will bring from 15*l.* to 23*l.*, and even more per acre; and that common Turnips will also fetch from 10*l.* to 12*l.* per acre. Prices such as these may more than compensate farmers for the loss of the manure sustained; but such prices are only to be had in particular localities, and are beyond the reach of farmers generally. Let us see what can be made of this crop by the farmer on his homestead, in the shape of beef, mutton, and manure, and the envy of those at a distance may in a measure cease to be raised at the position of their apparently so much more fortunate brethren. We are informed by the late Earl Spencer, in the Royal Agricultural Society's "Journal," vol. ii., p. 3, in his article "On the Comparative Feeding Properties of Mangold Wurzel and Swedish Turnips," that by a careful experiment he ascertained that two tons of Swedish Turnips produced 64 lbs. of beef, while two tons of Mangold Wurzel gave 102½ lbs. Now, assuming this to be correct, and that we estimate a crop of Swedes to average 20 tons per acre (no extraordinary crop) we should have a return in beef alone of 45 st. 10 lbs., which valued at 6*s.* per stone, would realise at once 13*l.* 14*s.* But the value of the manure must be taken into account, and we are enabled to form a pretty correct estimate of this likewise from the experiments of Boussingault, Van Thaer, and others. The following table, prepared by Professor Johnston, shows the quantity of manure in pounds produced by the cow, the horse, and the sheep:—

From 100 lbs. of	The Cow.		The Horse.		The Sheep.		Water in the Manure per cent.
	Fæces.	Urine.	Fæces.	Urine.	Fæces.	Urine.	
Rye	..	..	212	53	..	..	75
Oats	..	..	204	54	..	49	75
Rye and other straws (chaffed)	268	43	168	42	117	49	60 to 64
Hay	275	44	172	45	128	42	do. do.
Potatoes (containing 72 per cent. of water)	84	14	..	..	38	13	do. do.
Turnips (containing 75 per cent. of water)	57½ After 8 days.	6	.. After 3 weeks.	..	.. After 8 weeks.	..	84
Rye-straw (used for bedding)	228	96	269	97	266	95	54 to 64

From this we learn, then, that 20 tons of Turnips will produce 7½ tons of fresh manure, which, at only 5*s.* per ton, will be worth 1*l.* 17*s.* 6*d.* per acre. To this add the value of the roots, 13*l.* 14*s.*, and we have the worth of an acre of Turnips to the farmer, at home, equal to 15*l.* 11*s.* 6*d.* Again, it has been ascertained that 31 tons of common Turnips can produce 436 lbs. of beef and tallow, which is nearly 15 lbs. of beef and tallow per ton; or if we take 14 lbs., as the average, at the same ratio, 25 tons of Turnips would produce 350 lbs. of beef and tallow, which, at 6*d.* per lb., would be equal in money value to 8*l.* 15*s.* or 7*s.* per ton. To this again must be added the value of the manure, which, taken at only 30*s.*, and we have an acre of common white Turnips equal to 10*l.* 5*s.* to the farmer by home consumption. These tables and calculations may not be strictly accurate, nor the results such as can be exactly realised under all circumstances, and in every situation; still, if they approximate to the truth, as I believe they do, we are led to form something like a fair estimate of what can be made by Turnip culture on first-rate soils. But Turnip culture, as I have before stated, has conferred upon the lightest description of soils very great advantages in the mechanical effects produced by eatage of the crop on the ground by sheep. While such crops are grown on these lands at a comparatively small expense, by the compression received from eatage by sheep, they are enabled to bear excellent crops of Barley and Wheat, and which could otherwise hardly have been attempted with profit. A crop of Turnips will let for this purpose from 6*l.* to 8*l.* per acre, and the ground be well manured for the next crop of grain. Mangold Wurzel is another of the green fallow crops well worthy the attention of farmers as food for cattle, and contains a greater degree of feeding, while the culture is not more difficult or expensive than that of the Swedish Turnip. Besides the value of the root, the leaves of the Mangold Wurzel are useful in such seasons as the past, as fodder for milk cows, as by their use the milk is much increased, and that without any disagreeable effects in its flavour being produced. The Orange Globe variety of Mangold Wurzel has been grown by me this year on two descriptions of soil, and has, notwithstanding the late period of planting in one case, and the drawbacks generally from extreme drought during the whole of the summer, the results of the crops have in both cases exceeded my expectations. The weights of these crops have been accurately taken, and in the one, where the land was deeper, and planting earlier, the crop turned off nearly 19 tons of roots per acre; in the other, on much stronger land, and under great disadvantages from late planting, the weight only reached 11 tons. Bearing in mind Lord Spencer's experiment upon the relative nutritive properties of Swedes and Mangold, by which he found that 2 tons of the latter produced 102½ lbs. of beef and tallow, we have the value of these crops respectively at 20*l.* 14*s.* and 12*l.*, not reckoning the manure. Specimens of these roots have already been exhibited in this room. Potatoes are well known to rank among the most valuable of the green crops, and especially, perhaps, considered as marketable produce. They are an excellent cleansing crop, and ameliorate strong soils, besides forming one of the best preparations for Wheat. The Potato will flourish on any ordinary soil, particularly after drainage has taken place, and perhaps there is no crop which will occasionally fetch a higher value in the market. When we know that crops have been sold as high as 35*l.* per acre, this must be obvious, and it is well known that 20*l.* per acre is a very frequent price paid for Potatoes in the immediate vicinity of this town, purchasers being at the whole expense of removing the crop off the ground. Potatoes, as food for cattle, certainly have their advantages, but the crop, taken in this way, scarcely reaches so high an acreable value as other roots already mentioned. The manure produced from Potatoes is, however, great; and we are told by Von Thaer that the nutritive matters absorbed from the land by this crop are less than what is afforded in the shape of manure by home consumption. "The least result," he says, "given by experiments on the quantity of manure produced by Potatoes shows that 100 lbs. of these vegetables, given as food to the cattle, yield 66 lbs. of dung, consequently 50 loads of Potatoes would yield 8240 lbs. of dung." But far superior is the dung to that procured by the ordinary nourishment or dry fodder. The feeding qualities of Potatoes have been thus estimated. A bullock of 50 stones weight will consume 40 lbs. of hay daily, and will lay on fat or flesh at the rate of 2 lbs. per day. Valuing the meat at 6*d.* per lb., it will make the hay equal to 2*l.* 16*s.* per ton, besides the value of the manure. A bushel of Potatoes, with 10 lbs. of hay, will produce the same result. This would make 5 stones of Potatoes, or 70 lbs., equivalent in feeding properties to 30 lbs. of hay, at which rate 15 tons of Potatoes would be equal to 14,000 lbs. of hay, or within 40 lbs. of 6 tons. Of the cultivation of Carrots, Cabbages, Rape, and Parsnips, I cannot speak from any great experience in field culture. Where the soil is suitable for Carrots (a deep sandy loam), this crop can be obtained with the tolerable certainty of large profit; the nutritive properties of the Carrot, as compared with other vegetables, bearing a high per centage. Cabbages, as a field crop, are said to deserve a much larger share of the attention of farmers than has hitherto been paid to them. Rape and Parsnips are also both valuable crops when cultivated in favourable situations; the former affording excellent early food for ewes and lambs, in dry situations, the latter being well adapted to the feeding of milk cows. We come next to consider the second part of my subject, namely, "the extent to which the culture of green fallow crops can be profitably carried out on strong lands." The introduction of late years, of an almost endless variety of light, portable, and stimulating manures, suited to almost every soil and climate, and still more, the beneficial effects experienced from deep and efficient drainage in the cultivation of strong lands, have, of themselves, produced a revolution in the minds of intelligent farmers, as regards the system of bare fallowing, which must eventually, and at no distant day, end in its complete explosion. Added to these auxiliaries, the mechanical helps placed at the command of the farmer, in the shape of the various new and improved implements, adapted to every mode and operation of culture—these afford advantages in the cultivation of the soil greater than could have been credited less than a quarter of a century ago. However just and proper the objections against green fallow cropping on strong lands entertained might be, I feel assured, by experience, that these soils are now capable of [illegible] Such lands have been improved by [illegible] and have received [illegible] ploughing and [illegible] crop at last must also be a very [illegible] but therefore be attempted, [illegible] necessary to success in [illegible] source in such strong lands of many [illegible] altera where the water has been [illegible] or then to sow, and the [illegible] and friable texture. [illegible] great [illegible] the management of heavy lands, [illegible] Turnip and other green cropping [illegible] modified with as we [illegible] of proper care and [illegible] frequently led to disappointment in the results to be [illegible] from draining. Where complaints are made of the [illegible] noted in the succeeding green crops after Turnips [illegible] compares with that after bare fallow, [illegible] pens that much of this is to be attributed to the [illegible] from bad culture, rather than to the system [illegible] of green cropping. That there will generally be [illegible] extent in the succeeding green crop after Turnips [illegible] strong lands, under any circumstances, is not [illegible] value and importance of the fallow crop will more [illegible] compensate for any deficiency encountered. The [illegible] tion, however, seems to have been [illegible] and in order to make the matter clear and [illegible] have recourse to figure. The [illegible] two years' course of cropping—which may be [illegible] Turnips versus bare fallow, has been [illegible] and every wish to set the question in its proper light:—

1st year. Turnips. (Cost per acre.)	£	s.	d.
3 ploughings, at 7*s.* ..	1	1	0
Grubbing & harrowings	0	10	0
Rolling	0	5	0
Hand-picking	0	5	0
Drilling and splitting in manure	0	5	0
Laying on dung, and spreading	0	12	6
Horse-hoeing (twice) ..	0	2	6
Hand-hoeing (ditto) ..	0	6	6
12 tons of dung, at 4*s.*	2	8	0
3 cwt. of guano, at 10*s.*	1	10	0
Turnip seed	0	3	6
Rent (including per centage on drainage)	1	10	0
Rent charges and taxes	0	5	0
	£9	2	6

2d year. Wheat. (Cost per acre.)	£	s.	d.
1 ploughing in tops ..	0	5	0
1 grubbing	0	5	0
Drilling Wheat and harrowing	0	2	6
Seed, 2 bushels at 7*s.*	0	17	6
Reaping and securing	1	5	0
Rent (with per centage)	1	10	0
Rent charge, and taxes	0	5	0
	£4	10	0

Produce—1st year, Turnips, 15 tons of Swedes at 12*s.* £9 0 0
[or 24 tons of common Turnips, at 7*s.* 6*d.*, 9 0 0]
2d year, for Wheat, 12 bolls (24 bush.) at 14*s.* .. 8 8 0
[or 21 bolls Barley, at 8*s.*, 8 8 0]

£17 8 0
Deduct 2 years' expenses 13 12 0
Profit per acre £3 16 0

1st year. Bare Fallow (cost per acre).	£	s.	d.
5 ploughings, at 7*s.* ..	1	15	0
5 harrowings, at 2*s.* ..	0	10	0
Rolling	0	2	10
Hand-picking ..	0	5	0
Laying on dung and spreading	0	10	0
12 loads of dung, at 4*s.*	2	8	0
Drilling Wheat and harrowing	0	2	6
Seed, 2 bush., at 7*s.* ..	0	14	0
Rent (with per centage)	1	10	0
Rent charge and taxes	0	5	0
	£8	2	4

2d year. Wheat.	£	s.	d.
Rent and rent charge	1	15	0
Weeding, reaping, and marketing	1	5	0
	£3	0	0

Produce (from bare fallow), 17 bolls (34 bush.), at 14*s.* £11 18 4
Deduct 2 years' expenses .. 11 2 0
Profit after bare fallow .. 0 15 8
Do. after Turnips and Wheat 0 16 0

Difference in favour of green cropping per acre, on 2 years' course on strong land .. £3 0 4

If in these calculations it may be thought that I have overestimated the produce from strong lands, it must be borne in mind that drainage is supposed to have taken place, and also that the crops have been liberally dealt with in point of management. The straw has in neither case been valued, as that will set off against some small contingencies not mentioned. But the worth of the Turnip crop cannot be considered solely with a view to its feeding properties, the value of the manure must be taken into account, as it is from that, as I have before stated, a very main benefit arises to the farmer from green cropping with home consumption. In taking, also, the deficiency of the grain crop after Turnips at two loads as compared with that after bare fallow, the estimate will be found, in many cases, excessive, though much will depend on the season and management. Where Turnips are removed from the field for feeding at the homestead, I have always thought it worse than useless to be at the expense of carting off the tops or shaws likewise, except in particular instances, and I have found where these were at once spread and ploughed into the ground, great benefit ensued to the succeeding crop. This is not the time, perhaps, to speak of the culture properly attending green fallow crops, but I would just observe that much of the success of the crops will undoubtedly hinge upon the treatment they receive at the hands of the farmer. The land should be thoroughly drained, deeply cultivated, early ploughed, well pulverised, and properly cleaned of everything in the shape of roots or weeds. There ought also to be rotations of green crops on the same land: Turnips, Mangold Wurzel, and Potatoes, alternating with each other in their respective courses, as in the case of other crops, and yet we seldom see this. The same crop too frequently occupies the place of its kind in the succeeding course, when equally suitable ground remains altogether unoccupied, or is employed in producing a similar crop to what was only grown upon it two or three years previously. Notwithstanding, too, the value, as shown of a first-rate crop of Turnips and other roots, it is not in general, I think, sufficiently considered, that by the aid of a little extra manure, their success is almost made a matter of certainty—at least, the risk of failure is very much lessened, while the ground retains a proportionately greater state of productiveness for succeeding grain crops. Another great means of success will be found in depth of culture, and repeated stirrings of the soil, especially in the earlier stages of the crop, and in dry weather. The Norfolk proverb of—

"The more we hoe,
The more we grow,"

is well worthy of remembrance, as I have found by experience. These are some of the leading points to be sedulously observed in the cultivation of green fallow crops, and which, if carefully attended to, will render their success in ordinary seasons certain. In conclusion, I would urge a greater attention to

this subject. Green crops and cattle ought to be the farmer's mainstay, and be looked upon as his best friends, affording, as they do, the surest means of following out the cultivation of the soil profitably; for, as has been graphically said by an enterprising agriculturist, "Roots are the life and soul of good farming." The value of green crops, it must be remembered, is not to exhaust the land, but to depend upon the atmosphere for the greater portion of their organic food, their broad extending leaves enabling them to do so. Where their growth has not hitherto been much attended to, let farmers be content, first, to produce five or ten additional acres of Turnips: the increased breadth of roots will give the increased means of extending the system—a system, the beneficial effects of which I recommend, not from theory, but from experience and practice—a system (comprising simply a more general cultivation of green crops, with their proper and economical consumption in the homestead) to which, I confess I look, as affording the next greatest means, after drainage, by which this country will most surely attain to the maximum point of productiveness, the skill and enterprise of man can by any possibility raise it. —Mr. G. H. Ramsay said: There could be no doubt that Mr. Robson's paper was exceedingly valuable, but still there were one or two points on which some explanation was desirable. He admitted that, as a general principle, too much attention could not be paid to the cultivation and growth of green crops, but it was equally true that on certain lands it was not advisable to plant them until better drained.—The Chairman said that he admitted the great value of green crops with respect to their increasing straw and manure, but he nevertheless thought that, in many instances, their value had been over-rated. He was of opinion that in the fattening of cattle they should have recourse to cereal produce crushed. Now he knew it was very much the custom in the northern parts of the county to take the cattle suddenly from the Grass and to put them to Turnips—a system which not only was injurious to the animal, but which never failed to reduce it fully one month's waste in weight. Now he thought greater good would be effected when taking the cattle off Grass and turning them to Turnips, if the farmer mixed dried food with them. With respect to the subject more immediately before them, he was of opinion that in some strong clay soils of this district, drain them as they pleased, they would never succeed in altering their nature. They might indeed grow Turnips to a great extent, but he did not believe it would be politic to adopt Mr. Robson's system, and have green fallows instead of their summer fallows. Besides, there was not sufficient capital among farmers to introduce any such system as to make it generally practicable. As he was not present at the previous monthly meeting, when the secretary read his paper on the breaking up of Grass lands, he would just take the liberty of saying, that with regard to that subject he considered it one of the most pernicious that could be introduced at the present time; for it was his opinion, that already there was too much land under tillage.—Mr. Laycock said there was one thing to which he would call their attention, by way of carrying out the system laid down, and that was a better mode of using the produce raised on strong soils, by adopting the system of box or stall-feeding. For the last three years the produce of his strong lands had been used in feeding his cattle tied up by the neck, and he found it to be very advantageous. He first cut his Turnips, mixed them with cut chaff, gave his cattle three feeds a day, and towards the end added a little Linseed.—Mr. Glover said, with reference to what had fallen from their respected president, he could only say that he was firmly convinced that were the system carried out which he advocated in his last paper, the most beneficial results would follow. It, however, appeared to him that some misapprehension existed as to the method he proposed being unrestricted. That was a mistake, for he distinctly stated that he proposed his system under certain conditions, and he, therefore, only advocated it under restrictions.

Calendar of Operations.

MAY.

Berwickshire Merse Farm, *May* 12.—Since last report we have finished sowing Barley and Grass seeds, and began preparing land for Potatoes and Turnips, threshing Oats for the market, and delivering Wheat and carting tiles for drains. The workers have been employed burning Thorns, and cleaning the land for Turnips; one man and a boy feeding cattle, one man dressing fences, two mending, and four men digging drains.—*J. B.*

Dorset Farm, *May* 15.—We have been employed for the past week in cleaning the land, and there could not be a more favourable time for such work, at least for light land. It has been one continued period of dry weather since the end of April. We have been carting out dung and sowing Mangold Wurzel, in raised drills on ridges 27 inches apart; the dung is put in in clumps about a foot apart, and covered by hand, the seed being dropped at the same time, a little earth being between it and the dung. Our other work has been ploughing for Rape, and hoeing Peas and Beans. Notwithstanding the very dry weather, the crops of every description retain a very healthy appearance.—*G. S.*

East Lothian Farm, *May* 13.—We have experienced another week of fine, dry, warm weather, more warm than is generally experienced at this season. Work upon the farm has been much as the preceding week; that is, preparing land for Turnips, also sowing part of a field with purple-topped Swede, likewise planting remainder of Potatoes, and sowing Grass seeds, hoeing and rolling in the same. Wheat, Barley, and Oats are making great progress, and look well. Beans are through the ground rather later than usual.—*L.*

Galloway Farm, *May* 15.—Since last report we have had very dry weather, with a little frost through the night; but, after all, the Grass and crops of all kinds have come on very well, and this afternoon we have had some fine showers, which I hope will do a great deal of good. We have all our Potatoes planted, and our work with the horses, for a few days this week, will be preparing for Turnips and sowing on the carse land. After that we turn to the dry land to work for Turnips.—*J. R.*

South Devon Farm, *May* 15.—We were enabled to finish our Barley sowing at the commencement of the past week, and likewise our Grass seeds; the young Barley is brairding quickly, and looking very healthy. We have also prepared the land and sown 1½ acre of Carrots in ridge drills, 18 inches apart, and 2 lbs. of seed to the acre, manured with salt, soot, and guano; in rolling the land sown with Oats, collecting stones, and hoeing the young thorn fences; also commenced working ground intended for Mangold Wurzel.—*T. U.*

South Hampshire Farm, *May* 13.—Since our last report we have experienced an uninterrupted succession of favourable weather for agricultural operations; and although, at the commencement of the month, farm work was very much in arrear, yet should the present splendid weather continue till 1st of June, no great inconvenience may be expected. Our horses have been employed during the two weeks past—first in preparing the land for Carrots, which was done after the winter fallow by scarifying across the ridges, then harrowing and rolling, afterwards cross ploughing, harrowing, and rolling again, then sowing 4 cwt. Peruvian guano broadcast; then making up ridges 27 inches apart, and drilling 4 bushels of superphosphate and 12 bushels of nightsoil and ashes mixed, with about 5 lbs. of seed per acre, by a drill made for the purpose of doing one ridge at a time, with roller before and behind, which we find answers our purpose very well; since which our horses have been chiefly employed in preparing the fallows for the Turnip crop, which is now a matter of much importance, as, after such a wet time, the land does not work freely; we find it necessary to harrow and roll as soon as possible after ploughing, the next day if convenient, otherwise in our loamy soil we cannot work it to a fine tilth, and should the present dry weather continue, and the land in a rough state, the seed time must be delayed beyond the usual period. On the 11th May we finished sowing summer Tares after Swede Turnips fed off; the Tares are intended to be fed off by sheep likewise, as a preparation for the next Wheat crop, which we consider a good rotation. Our labourers have been employed in different ways, but chiefly in cutting a drain 11 feet deep in quick-sand soil, proving to be a very laborious undertaking, and difficult of execution, so much so, that six men could not complete more than 1 rod per day, but we have accomplished our object, and by one drain have laid dry a considerable extent of land, which was nothing but a worthless bog. Our shepherds are still employed in feeding the sheep on Swede Turnips, but will finish in a few days, and commence feeding them on Grass, Tares, &c. The women are employed in weeding Wheat and Grass land, hoeing young quicks, and picking off Couch Grass from Turnip fallows.—*J. B.*

Stirlingshire Carse Farm, *May* 13.—We have been engaged during the earlier part of this week in finishing off the Barley land, having sown it with Clover and Rye-grass seeds, and towards the end of the week we have been busily employed in preparing the land for green crops. The weather during this week has been remarkably fine, and vegetation is rapidly progressing, the crops in general presenting a favourable appearance.—*W. F.*

Sussex Farm, *May* 15.—The weather still continues dry and warm, a shower of rain would be very acceptable; 10 horses carting lime and mould on the fallows; filling lime at kiln and carting faggots to burn lime, part intended for the fallows, and hauling trees to saw-mill; 12 oxen scarifying, harrowing, rolling, and preparing the land for Swedes, which we shall sow next week, if weather allows. [Too soon, is it not, for you?] Men turning dung, filling and spreading lime and mould, cleaning hedges and making roads; women hoeing Wheat. Our horses are now getting cut Grass in the house. I beg to correct a mistake in my last—2 oxen at the water instead of 8. —*J. B.*

Notices to Correspondents.

Breeding Stock—*G J*—Four or five sheep per acre will be a sufficient stock. One ram, purchased or hired, each year, will be requisite. Try the "Long-woolled" breed. Apply 3 cwt. per acre of guano to Grass land during the first wet weather. The general practice is to mark with pitch and tar, and the numbers of the sheep, and other marks, are often made with red paint.

Calving—*Alpha*—The after-birth can generally be removed by the hand. A weak solution of chloride of lime injected up the parts will remove the smell. Nourishing gruel with some gentian and ginger should be given to keep up the strength, and if this does not succeed, a drachm of the ergot of Rye powdered may be given in gruel. *W. C. S.*

Coprolites—*E S*—We are informed that thousands of tons have been gathered at Felixstow, &c., and applied to agricultural purposes.

Devonshire Cream—*J Henry*—Perhaps some of our Devonshire correspondents will be good enough to state in detail their method of making butter.

Drainage—*C W T*—Mr. Parkes has published "On the Principles of Draining," in the English Agricultural Society's "Journal," but he has not, that we are aware, published a Manual of Drainage. Probably, Stephens' "Manual" is the best practical work on the subject. We rather think that Mr. Parkes would be guided more by the the structure of the subsoil than by the nature of the surface, as to the direction, depth, and distance of the drains; and probably if the former were homogeneous, he would arrange them directly down the descent. In clays, from what we have seen of his writings, he would probably recommend drains 4 feet deep, and 10 or 12 yards apart. You should consult him directly, as we have no means of ascertaining his opinions otherwise than by his publications.

Farm Buildings—If *A B* will give us his address, we can tell him where he will find the most extensive arrangement of "boxes" for cattle-feeding in actual operation. We shall, probably, be soon publishing a plan of buildings, in which the "box" system is developed.

Mr. Swete's Piggery—*A Sub, &c*—The references were published last week. The dimensions were given on the plan.

Prize Carrots—*Novice* says, "Will any of your readers give me the ingredients of the compost used for producing the finest prize Carrots. I wish to know the utmost fertility that can safely be employed for the production of a large root of either Turnip, Carrot, or Beet, artificial as well as natural manures; and the experience of a successful exhibitor is earnestly requested."

Superphosphate of Lime—*W D F*—You manured your Turnip land with farm-yard dung in the drills. Well, give them only half a manuring thus, and besides the carts and spreaders between the opening up and the covering of the drills, employ a man to sow about 3 cwt. of superphosphate per acre, broadcast, over the land; the plough will follow, splitting the drills, and it will thus be covered sufficiently near the surface to be immediately available for the young plants.

Top-dressing for Wheat—*B F J*—One cwt. of nitrate of soda, and 1 cwt. of sulphate of ammonia per acre, sown broadcast, in wet weather, have given to our own Wheat a most luxuriant foliage and promise of yield.

Tract by Mr. Harkness—*T P*—It is printed, but whether published or not we do not know. Certainly it ought to be. You should apply to the address we gave.

Wireworm—*W B H*—We know of no *remedy*. Try pressure by rolling, sheep treading, &c. If the land is light you might use the first rains to sow 3 cwt. of salt per acre.

Young Stock—*A O H*—Turn them into a good pasture, you can do nothing better for them than that at present. In autumn, you can begin to give them Turnips, and then Swedes and Mangold Wurzel, along with a mash of hay-chaff, wetted with salt, linseed soup, and dusted over with Bean-meal. If you have no Turnips, then they must be satisfied in winter with the hay alone, *i. e.* without green food in addition.

Erratum—The paragraph, at page 324, col. *b*, on the proceedings of the Highland Society of Scotland, in reference to the subject of Agricultural Chemistry, should read thus: We never doubted the power of the Highland Society to bestow on Agricultural Chemistry a more influential patronage than any other body in Scotland could exercise: but, judging from the reports to its directors, and from the resolutions of the meeting on the 12th ultimo, which we understood to homologate those reports, we certainly doubted its will. We have since been informed that an authority has been conferred on the directors, enabling, and in fact requiring them to make sufficient provision for the furtherance of this science; and of course, this entirely meets all the objections which lie against the plan we had understood them to recommend.

Markets.

HAY.—Per Load of 36 Trusses.

Cumberland Market, May 18.

Prime Mead. Hay	70s to 78s		Old Clover ..	90s to 95s		Straw ..	28s to 32s
Inferior	55	65	Interior ..	78	86		
New Hay	—	—	New Clover ..	—	—		

Joshua Bakes.

HOPS, Friday, May 19.

Messrs. Pattenden and Smith report that the demand for all Hops is good, more particularly Weald of Kents and Sussex, of which there are but few on offer. There are reports this morning from the plantations speaking of a slight attack of fly. Duty estimated at 150,000*l*.

Mid. & East Kents, p. cwt.	63s to 100s	Yearling Kents, p. cwt...	48s to 63s
Weald of Kents	58 — 80	Yearling Sussex	48 — 60
Sussex	58 — 70	Old Hops	20 — 40
Farnhams	80 — 120		

COVENT GARDEN, May 20.

The market is well supplied with Vegetables and most kinds of Fruit. Pine-apples are sufficient for the demand. The supply of foreign Grapes is well kept up; hothouse ones become more plentiful. A few Peaches have been sold during the week. Nuts are sufficient for the demad. Filberts fetch from 14s. to 20s. per 100lbs. Oranges are abundant. Lemons are moderately plentiful. Strawberries are pretty plentiful. Among Vegetables, young Carrots and Turnips are plentiful and good, Cauliflowers, Broccoli, Greens, &c., sufficient for the demand. Asparagus is very plentiful. Salad is all but over. French Beans fetch from 1s. to 2s. per 100. Frame Potatoes may be bought at from 1s. to 2s. per lb. Lettuces and other salading are sufficient for the demand. Mushrooms are a little dearer. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Rhododendrons, Fuchsias, Carnations, Auriculas, Acacias, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 6s to 10s	Lemons, per doz., 1s to 2s
Grapes, hothouse, per lb. 5s to 10s	Lemons, per 100s, 6s to 14s
— Portugal, per lb., 1s to 3s	Almonds, per peck, 6s
Strawberries, per oz., 3d to 1s	— sweet, per lb., 2s to 3s
Apples, dessert, per bush., 5s to 12s	Walnuts, per bush., 12s to 18s
— kitchen, p. bush., 4s to 7s	Nuts, Barcelona, per bush., 20s to22s
Gooseberries, green, p. bi sieve, 3s to6s	— Filberts, per 100 lbs., 14s to20s
Apricots, green, p. half sieve, 3s to 5s	— Cob, per 100 lbs., 25s to 30s
Oranges, per doz., 9d to 2s	— Brazil, per bush., 12s to 16s
— per 100, 3s to 12s	Chestnuts, per peck, 3s to 6s
— bitter, per 100, 8s to 16s	

VEGETABLES.

Asparagus, per 100, 1s to 5s	Onions, pickling, p. hf. sieve, 2s to3s
Cabbages, per doz., 6d to 1s	Shallots, per lb., 6d to 8d
— Red, per doz., 6s to 12s	Garlic, per lb., 8d to 1s
Greens, p. doz. bunches, 9d to 1s 6d	Seakale, per punnet, 9d to 1s
Cauliflowers, per doz., 3s to 12s	Rhubarb, per bundle, 4d to 1s 6d
Broccoli, per bundle, 1s to 2s	French Beans, per 100, 1s to 2s
Sorrel, per half sieve, 6d to 9d	Radishes, per doz. bands, 6d to 1s
Potatoes, per ton, 100s to 160s	— Turnip, do., 1s to 1s 6d
— per cwt., 5s to 8s	Artichokes, Jerusalem, p. hf. sieve, 1s
— per bush., 3s to 4s 6d	Lettuce, Cab., per score, 4d to 9d
— Kidney, per bush., 4s to 5s	— Cos, do., 6d to 3s
Turnips, p. doz. bunch., 9d to 2s 6d	Mushrooms, per pottle, 6d to 1s
Red Beet, per doz., 6d to 1s	Small Salads, per punnet, 2d to 3d
Horse Radish, per bundle, 1s to 4s	Fennel, per bunch, 2d to 3d
Cucumbers, each, 6d to 2s	Savory, per bunch, 3d to 4d
Leeks, per doz., 1s to 1s 6d	Thyme, per bunch, 3d to 4d
Celery, per bundle, 6d to 1s 6d	Watercress, p. 12 small bun., 6d to 9d
Carrots, per doz. bunches, 3s to 5s	Parsley, per half sieve, 6d to 9d
Spinach, per sieve, 9d to 1s	— Roots, per bundle, 1s to 1s 6d
Peas, per half sieve, 20s	Mint, green, per bunch, 2d to 4d
Onions, per bush., 9d to 1s 6d	Marjoram, per bunch, 6d to 9d
— Spanish, per doz., 1s to 4s	

POTATOES, Southwark, Wateside, May 15.

The Committee report that the very favourable weather for planting Potatoes has enabled all holders of Shaws to effect a clearance at an advance, there being a good demand for seed, but the hot weather has checked the consumption, and trade has been heavy, particularly for Regents; and instead of an advance that was attempted at the beginning of the week, a reduction has been submitted to in most cases. The following are the present quotations, but the higher ones may be considered nominal with Regents:—York Regents, 140s to 200s; Shaws, 100s to 120s; Reds, 180s to 200s; Essex Blues, 120s to 130s; Wisbeach Regents, 100s to 130s; Blues, 100s to 110s; Scotch Whites, 95s. to 100s; Belgian, 100s to 110s.

SMITHFIELD, Monday, May 15.

We have an unusual falling off in the supply of Beasts, there being nearly 1000 less than on Monday last; consequently trade is better, at an advance of fully 2d, and in a few instances 4d. per 8 lbs. The number of Sheep is the same as on Monday, but the quality much worse; trade is brisk at advanced rates. There is more inquiry for Lamb, and we again reach 7s. for the best qualities. There are a few more Calves on offer; the choicest descriptions, however, are not very plentiful, and prices are well maintained for them. Trade is very heavy for Pigs. From Holland there are 412 Beasts, 1140 Sheep, and 84 Calves; from Scotland 500, and Norfolk and Suffolk 1400 Beasts.

Per stone of 8 lbs.—s d	s d	Per stone of 8 lbs.—s d	s d
Best Scots, Herefords,&c. 4 2	to 4 4	Best Long Wools	....
Best Short Horns 3 10	— 4 2	Ditto Shorn 4 6	— 4 10
Second quality Beasts .. 3 0	— 3 6	Ewes and second quality	....
Calves 4 4	— 5 2	Ditto Shorn.. ..... 3 10	— 4 4
Best Downs & Half-breds	....	Lambs..... 6 4	— 7 0
Ditto Shorn 5 0	— 5 2	Pigs 4 0	— 5 0

Beasts—2790. Sheep and Lambs—21,690. Calves—180. Pigs—381.

Friday, May 19.

The supply of Beasts is very large, but owing to the weather being favourable and the dead markets clear, trade is not much worse. In a few instances 4s. 4d. is realised, but fair average quotations must be 2d. per 8 lbs less than on Monday on all kinds. There is a fair supply of Sheep; a great many are of middling quality. Prices remain unaltered. Good Lamb continues to be scarce and dear, making fully 7s. The number of Calves is large, but there is a brisk demand, and Monday's quotations well maintained. The cold weather makes trade rather better for Pigs. We have from Holland about 160 Beasts, 610 Sheep, and 136 Calves; Scotland, 500 Beasts, and 131 Milch Cows from the home counties.

Best Scots, Herefords,&c. 4 0	to 4 2	Best Long Wools.....	....
Best Short Horns 3 10	— 4 0	Ditto Shorn 4 6	— 4 10
Second quality Beasts .. 2 10	— 3 4	Ewes and second quality	....
Calves 4 0	— 5 2	Ditto Shorn 3 10	— 4 4
Best Downs & Half-breds	....	Lambs..... 6 4	— 7 0
Ditto Shorn 5 0	— 5 2	Pigs 4 4	— 5 4

Beasts—1161. Sheep and Lambs—8750. Calves—314. Pigs—390.

MARK LANE, Monday, May 15.

Messrs. Kingsford and Lay report that the supply of English Wheat at this morning's market was small, and met a slow sale at prices barely equal to our quotations of this day se'nnight, which we reduce 1s per qr. for red and ordinary qualities. Foreign of all descriptions was in very limited request, and to make any progress with sales a decline of 1s. per qr. became necessary.—Malting Barley, owing to the season being over, was 1s. per qr. cheaper; grinding and distilling qualities were 1s. per qr. dearer.—Beans of all sorts are the turn dearer, and Peas 2s. per qr. higher.—We raise our quotations for Oats 1s. per qr., but the trade is less brisk than last week. We observe no alteration in the value of Flour.

British per Imperial Quarter.	s	s		s	s
Wheat, Essex, Kent, and Suffolk ..... White	48	58	Red.....	43	47
Norfolk, Lincolnshire, and Yorkshire	44	48	White ..	44	50
Barley, Malting and distilling, 27s to 30s	Chevalier	30	34	Grinding	25	28
Oats, Lincolnshire and Yorkshire.....	Polands	22	25	Feed	20	24
Northumberland and Scotch.....	Feed	22	24	Potato ..	23	25
Irish	Feed	19	23	Potato ..	22	25
Malt, pale, ship.....		—	—			
Hertford and Essex		—	—			
Rye.....		27	30			
Beans, Mazagan, old and new ..30s to 38s		Tick..	30	42	Harrow..	30	44
Pigeon, Heligoland 33	50	Winds—			Longpod	—	—
Peas, White.....34	38	Maple	35	37	Grey	30	33

Friday, May 19.

The arrivals of Corn and Flour during the week have been moderate. Wheat, either English or foreign, was in improved demand this morning, but holders being firm the amount of business transacted was restricted.—Malting Barley is the turn dearer, grinding and distilling qualities fully support our quotations.—Beans and Peas continue in request at the late improvement. —The Oat trade is less active than on Monday.—Flour remains nominally unaltered in value.

[The weather since Friday has continued fine and warm, but the atmosphere indicates a change. The advice of the Elbe and Baltic ports being blockaded, with an increasing demand from Ireland, caused the Liverpool, Scottish, and country markets generally to evince more firmness, and in many an advance of 1s. per qr. was obtained upon Wheat, and a slight improvement on Flour, but the re-opening of some of the ports, and fineness of the weather, have caused the trade to become flat again. The season being still unfavourable for spring corn, grinding and distilling qualities of Barley have risen 1s. per qr; Egyptian Beans 1s. to 2s. per qr., with a good demand for floating cargoes at 23s to 24s., and White Peas 1s. per qr.—Oats support the enhancement of last week, but business is less active. The arrivals from Ireland and the Continent will, however, probably be small for some time to come, and make holders firm.—The Flour trade has been dull, but prices remain nominally unaltered.—Indian Corn has attracted attention, Ibraila and Galatz cargoes afloat being saleable at 29s. and 30s. Some large purchases have been made for Ireland, where it is expected the stocks and supplies will barely meet the consumption up to harvest.—On the Continent prices of Grain have not undergone any change of moment since our last.—New York, 2d May. Flour had been in better demand at rather higher prices, but it was supposed the anticipated arrivals by ocean mails will reduce its value to 5½ dollars per barrel, but not low enough to export to this country. Indian Corn was in demand at 20s. per qr., f. o. b., for home consumption.]

Imperial Averages.	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
April 8	51s 6d	32s 2l	19s 7d	29s 6d	35s 3d	38s 3d
— 15	49 7	32 2	19 11	28 10	35 6	36 11
— 22	48 10	32 1	19 8	29 7	35 3	38 2
— 29	49 6	31 10	19 8	29 0	34 9	37 6
May 6	50 1	32 4	19 8	31 11	35 7	36 3
— 13	49 10	32 8	20 2	29 10	35 6	35 9
Aggregate Average	49 11	32 3	19 9	29 9	35 4	37 2
Duties on Foreign Grain	8 0	2 0	3 0	2 0	2 0	2 0

Fluctuations in the last six weeks' Corn Averages.

Price.	April 8.	April 15.	April 22.	April 29.	May 6.	May 13.
51s 6d		...	...	...	...	...
50 1	...	...	...	...	...	...
49 10	...	...	...	...	...	
48 10	...	...		...	...	...
49 7	...		...	...	...	...
49 6	...	...	...		...	...

Sales by Auction.

BATTERSEA.—TO NOBLEMEN, GENTLEMEN, NURSERYMEN, FLORISTS, AND OTHERS.

Ten newly-erected Greenhouses, several Pits, Boxes, and Lights, Brickwork, Hot-water Pipes, Furnaces, Boilers, Seed Drawers, Counters, Desks, Scales, Weights, Measures, Sieves, a quantity of Seeds, Horse, Cart, and Harness, Erection of Sheds, Mould, Peat, Manure, Water-pots, &c.

MESSRS. PROTHEROE AND MORRIS will submit to public competition by Auction, on the premises, Battersea (near the bridge), on Monday, May 22d, 1848, at 11 o'clock, by order of the assignee of C. D. Smith and Co. (unless previously disposed of by Private Contract), the valuable LEASE of the premises for the unexpired term of about 9 years. Also the GREENHOUSE PLANTS, together with the whole of the NURSERY STOCK, utensils in trade, &c., as above. May be viewed prior to the Sale. Catalogues (6d. each, returnable to purchasers) may be had on the premises; of the principal Seedsmen; of W. Pennell, Esq., Official Assignee, 31, Basinghall-street; of F. Orme, Esq., Solicitor, 51, Chancery-lane; and of the Auctioneers, American Nursery, Leytonstone.

N.B. The Nursery Stock will be sold with the Lease in one lot.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will submit to public competition, at the Auction Mart, Bartholomew-lane, on Tuesday and Thursday, May 23d and 25th, 1848, at 12 o'clock, about 1000 Dahlias, comprising all the new and approved varieties; also a splendid assortment of Geraniums and other plants in bloom; the newest varieties of Fuchsias, Verbenas, Pinks, Heartsease, and a collection of other plants for bedding. May be viewed the morning of sale, and Catalogues had at the Mart, and of the Auctioneers, American Nursery, Leytonstone.

IMPORTANT SALE OF 1000 CAMELLIAS,

In first-rate condition, and well set with bloom-buds.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions by Mr. Press to offer by Auction, on the premises (near the Church), Hornsey, on Tuesday, June 27, 1848, at 12 o'clock, about 1000 CAMELLIAS, from 18 inches to 11 feet high, comprising the finest specimens in the country of Triumphans, Delicatissima, Latifolia, Conspicua, Imbricata alba, Fordii, Sweetii, Blackburniana, Frankofortensis, King, Presley's Queen Victoria, and many other of Press's finest sorts. Gentlemen and the Trade are respectfully invited to inspect and purchase a few specimens of this delightful assortment, and so increase the attraction of their greenhouses by adding varieties and specimens rarely to be met with.—May be viewed prior to the sale, and Catalogues had, on the premises, of the principal Seedsmen, and of the Auctioneers, American Nursery, Leytonstone.

RARE EXOTICS FROM THE NURSERY OF M. J. DE JONGHE, AT BRUSSELS.

MR. J. C. STEVENS is instructed to announce for Sale by Auction, at his Great Room, 38, King-street, Covent-garden, on Monday, 22d May, at 12 for 1 o'clock, a rare and valuable COLLECTION OF PLANTS of the Brazils, Isle of Cuba, Colombia, and Mexico, including at least 50 species new to this country. May be viewed on Saturday and morning of sale. Catalogues are now ready.

IMPORTANT SALE OF CONIFERÆ.

MR. J. C. STEVENS is favoured with instructions from Messrs. Loddiges to announce for Sale by Auction, on their premises at Hackney, on Wednesday, May 24, and following day, at 12 for 1 o'clock, a most extensive and valuable Collection of CONIFERÆ, including many rare and choice species in pots; also, a few fine specimens of the true Rhododendron robustum, and of the new and beautiful hardy plant, Andromeda formosa. Catalogues are preparing, and will be ready for distribution 10 days prior to the sale.

38, King-street, Covent-garden, May 20.

MERRIOTT, NEAR CREWKERNE, SOMERSETSHIRE.

TO BE LET, and entered on immediately, on most advantageous terms, an Old Established and Well Stocked NURSERY, containing, by estimation, Ten Acres (more or less), situated in the above parish; together with an excellent Hothouse thereon, filled with choice Vines in full bearing, and valuable plants; adjoining which is a comfortable Cottage, with convenient Cart-house, Packing Sheds, Seed Room, &c.

Merriott is situated within a short distance of the populous towns of Ilminster, Ilchester, Yeovil, Crewkerne, Chard, Taunton, &c., to which latter place conveyances pass to and fro daily, in connection with the railways to all parts of England.

To view the above, application may be made to Mr. ANDREWS, at the Cottage on the Nursery; and further particulars and terms of letting may be known on application to Mr. WHITLEY, Solicitor, Wrington, near Bristol, Somerset.—Wrington, May 20.

TO NURSERYMEN AND FLORISTS.

PARTNERSHIP WANTED BY INVESTMENT. A young Man of business habits will be happy to take an active part. References as to practical ability can be had; he is also well acquainted with the building branches, particularly greenhouses, in which he has had some practice. Answer, with real name and address, to be sent to HORTUS, 7, Cobourg-place, Upper Kennington-lane, Lambeth, within 10 days. May 20.

GENUINE CIDER: GOOD FOR DRAFT OR BOTTLING.

DEVONSHIRE has for centuries been famous for its CIDER, and when obtained in a pure and genuine state, is much and deservedly esteemed.

Messrs. RENDLE and CO., 13, Octagon, Plymouth, beg to inform the nobility, gentry, and the public in general, that they can supply them with a first-rate article on the following terms. A new cask (value 8s.) containing TWELVE GALLONS of well-conditioned, bright, bottling CIDER (superior to some wine sold as champagne), will be forwarded, freight paid by steamer to London, Cork, Dublin, Belfast, Sligo, Southampton, or Falmouth,

For a Post-office Order value Twenty Shillings.

*** *To persons taking ten casks at one time, one will be given over, making eleven for 10l.*

WILLIAM RENDLE and Co., Cider Merchants,
May 20. 13, Octagon, Plymouth.

SEEDS.—CORNER OF HALF-MOON-STREET.

THOMAS GIBBS AND Co.,

(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND,"

Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

Priced Lists of Agricultural Seeds are always ready, and may be had on application.

LINGHAM, BROTHERS, 170, Little Hampton-street, Birmingham, sole Manufacturers of the improved wood MENOGRAPH or LABELS for Garden-borders, Flower-pots, &c., have now perfected several patterns in Zinc suitable for the same purposes, which can be written upon with the greatest facility with their Metallic Ink, prepared exclusively for this purpose, and when dry an indelible inscription is secured. Directions for use sent with each box.

Sole agents in London, G. and J. DEANE, Horticultural Implement Warehouse, 46, King William-st., London-bridge.

BEE-HIVES.—All persons desirous of Cultivating that pleasing and profitable branch of rural economy—the Honey Bee—are respectfully informed by G. STEPHENSON and SON, that they have prepared for the season an extensive supply of their various improved BEE-HIVES; their collection consists of "Nutt's Collateral Hive," "The Single Box Hive," "The Improved Cottage Hive," "The Ladies' Observatory Hive," "Taylor's Bar Hive," &c., from either of which the Honey may be taken at any time without injury to the Bees, and may be worked with safety, humanity, and profit by the most timid and unaccustomed to Bee manipulation. A descriptive paper, with drawings and prices, will be forwarded on receipt of a postage stamp.—Apiarian Depot and Honey Warehouse, 127, High Holborn, London.

NUTT ON BEES (6th Edition), just published.

BAKER'S PHEASANTRY, Beaufort-street, King's-road, Chelsea, by special appointment to Her Majesty and H.R.H. Prince Albert.—ORNAMENTAL WATER FOWL, consisting of black and white swans, Egyptian, Canada, China, bernacle, brent, and laughing geese, shieldrakes, pintail, widgeon, summer and winter teal, gadwall, Labrador, shovellers, gold-eyed and dun divers, Carolina ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking fowls; white Japan, pied, and common pea-fowl, and pure China pigs; and at 3, Half-moon-passage, Gracechurch-street.

STRONG HORTICULTURAL 16-oz. SHEET GLASS FOR CONSERVATORIES, GREENHOUSES, PITS, FRAMES, &c.—FURTHER REDUCTION.

HETLEY AND CO. publish Prices in the *Gardeners' Chronicle* the first Saturday in every month. Wholesale and Retail Glass Shade, Sheet, Crown, and Patent Plate Glass Warehouse, 35, Soho-square, London.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND CO., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS FOR CONSERVATORIES.

CUT TO SIZE UP TO 40 INCHES LONG.			SMALL SQUARES of SHEET. 4 by 3 and 4½ by 3½..12d. per lt.	
16 oz. to the foot 3½d. per foot			5 „ 3 „ 5½ „ 3½..2	„
21 „	5	„	6 „ 4 „ 6½ „ 4½..2½	„
26 „	7½	„	7 „ 5 „ 7½ „ 5½..2½	„
32 „	10	„	8 „ 6 „ 8½ „ 6½..2½	„
			Not above 10 „ 8 ..3	„

GLASS MILK PANS, PROPAGATING GLASSES, AND BEE GLASSES, GLASS TILES AND SLATES.

CREAM POTS, from 3 to 24 quarts, at 6d. per quart.

CUCUMBER GLASSES, from 12 to 26 inches long, 1d. p. inch.

LACTOMETERS for trying the quality of Milk, 4 tubes 7s. 6d., 6 tubes 10s; Peach Glasses 10d. each; Fish Globes from 1s. 6d. each; Wasp and Fly Traps 3s. 6d. per dozen; Plate and Window Glass; Lamp Shades and Chimneys; and every article in the trade.

SASHES AND FRAMES MADE AND GLAZED.

GLASS.

APSLEY PELLATT AND CO. (late PELLATT and GREEN), Falcon Glass Works, Holland-street, Blackfriars, have always on hand, Bee Glasses 1s. 6d. per lb., Cucumber Glasses, 1s. 6d. per lb.; Milk Pans, 18 in., white glass, 5s. 6d. each; Propagating Glasses, white, 1s. per lb., do. green, 10d., do. Condensing, 2d. per lb. extra; Asparagus Tubes, 18s. to 21s. per gross; Grape Shades, 1s. 6d. to 2s. each; Fish-bowls, from 1s. 6d. each; Wasp and Fly-traps, 40s. per gross, or 3s. 6d. per dozen. By the use of these traps fruit may be preserved from (otherwise certain) destruction.

DUTY OFF GLASS.

GREEN AND HOTHOUSES, CONSERVATORIES, &c., made and fixed Complete in all parts of the Kingdom, at a considerable reduction. One, two, and three light Cucumber and Melon Boxes, and Lights of all sizes, kept ready for use, packed and sent to all parts of the Kingdom; warranted best material. Two-light Boxes and Lights complete, from 1l. 5s. Garden-lights of every description at JAMES WATTS's, Hothouse Builder, Claremont-place, Old Kent-road.

Reference may be had to the Nobility, Gentry, and the Trade, in most of the counties in England.

GARDENERS' REGISTER OFFICE.

HORTICULTURAL ESTABLISHMENT.

J. WEEKS AND CO., King's-road, Chelsea, have the honour to inform the Nobility and Gentry that 200 GARDENERS are registered and classed according to their various qualifications, with full particulars of the situations they have filled, the wages they require, &c. By application to this establishment, a Gardener can be selected suitable for every situation in the kingdom.

J. WEEKS AND CO., ARCHITECTS AND BUILDERS OF HOTHOUSES, GREENHOUSES, CONSERVATORIES, PITS, &c.—The Nobility and Gentry about to erect Horticultural Buildings, may depend on the best seasoned materials and first-rate workmanship employed. The various works in progress will testify our facilities for executing such buildings.

J. WEEKS AND CO.'S PATENT HOT-WATER APPARATUS is unrivalled for simplicity and efficiency. The whole apparatus, in various forms, may be seen in action on the premises. Economical Boilers of all sizes, the largest is capable of heating a range of Forcing Houses 300 feet long.

J. WEEKS AND CO. have lately established an extensive Ornamental Nursery. The Horticultural Buildings, are allowed to be the finest in the country; as also the complete arrangements of the Heating Apparatuses. The whole combining economy with utility and elegance.

There is a choice and valuable collection of Stove and Greenhouse plants, as also all the common varieties.

THE SEED DEPARTMENT at this establishment is conducted with the greatest care and attention. Samples of every variety are priced before sent out.

PLANS, ESTIMATES, AND CATALOGUES upon application. The whole of the prices at this establishment are very moderate.

PROTOXIDE PAINT FOR STUCCO FRONTS for Iron, Brickwork, and Wood. Manufactured only by CHARLES FRANCIS and SONS, Cement Works, Nine Elms.

HOT-WATER APPARATUS AND HORTICULTURAL BUILDINGS.

DANIEL AND EDWARD BAILEY, of 272, Holborn, construct and erect Hot-water Apparatus for Warming Horticultural Buildings, Dwelling-houses, Churches, and Manufactories, in a simple and efficient manner, at moderate charges. They have erected Apparatus in England, Scotland, and Ireland for many Noblemen and Gentlemen. They had the honour to be employed in heating the ranges of Hothouses and Pits in HER MAJESTY'S NEW GARDENS AT FROGMORE, and in executing the works of the splendid Conservatory erected by the Horticultural Society of London in their gardens at Chiswick, and also in the erection of the Conservatory attached to the Pantheon Bazaar.

D. and E. BAILEY, who were the first to introduce Metallic Curvilinear Hothouses to Horticulturists, erect various descriptions of Horticultural Buildings, and execute all kinds of metal work at their Manufactory, 272, Holborn.

STEPHENSON AND CO., 64, Great Church-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved COPPER CYLINDRICAL BOILER, [illegible] when the Horticulturists to their work, [illegible] apply to the Tank system to Hothouses, Pits, [illegible] &c., by which considerable [illegible] secured to the required degree, [illegible] S. and C. have also to state that [illegible] friends they are now making their Boilers [illegible] Copper, by which the cost is reduced. [illegible] are now so well known, nearly require [illegible] those who have not seen them in operation [illegible] be forwarded, as well as references of [illegible] they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and C. beg to inform the Trade that their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Verandahs, Iron Hand Garden Fences, Wire-work, &c.

THE following MANURES are Manufactured by Mr. LAWES, at his Works at Deptford, viz.:

Corn Manure .. 14l. per ton. Grass Manure .. 14l. per ton.
Clover do. .. 14l. „ Turnip do. .. 7l. „
Superphosphate of Lime, 7l. per ton.

Mr. LAWES has also made proper terms for supplying the various artificial MANURES of commerce, and Agriculturists will trust the selection of them to him, and will furnish him with the necessary information as to the soil, supply to which he considers most suitable to the crop and crops. A paper containing the questions required to be answered will be forwarded upon application to his Office, 81, Lime-street, City, London.

GUANO AND OTHER MANURES ON SALE.—

Guano, Peruvian & British
Superphosphate of Lime
Rhodust and Bone Sawdust
Dried Night-soil. } For Wheat, Oats, Barley, Grass Seeds, Turnips, Mangold Wurzel, Potatoes, &c.

Gypsum, for Clover, Cropped Soil, &c.; Nitrates of Soda and Potash, as stimulants; Petre Salt, for dressing Old Pastures; Agricultural Salt, for Composted Crops, &c.; Sulphuric Acid, for dissolving bone; Soda Ash, a mixture of Wood Ashes and all other Manures of known value. Also Horse and Cattle Mills Pans, &c.—Apply for prices current, to MARK BEDBOROUGH, Office 201A, Stores 49, Upper Thames-street.

PERUVIAN AND BOLIVIAN GUANO ON SALE,

BY THE ONLY IMPORTERS,
ANTONY GIBBS AND SONS, LONDON;
WM. JOSEPH MYERS AND Co., LIVERPOOL;
And by their Agents,
GIBBS, BRIGHT, AND Co., LIVERPOOL and BRISTOL;
COTESWORTH, POWELL, AND PRYOR, LONDON.

To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

THE LONDON MANURE COMPANY beg to offer, on the best terms, Peruvian Guano, warranted genuine, delivered direct from the Importers' warehouses; Superphosphate of Lime, in any quantity; Sulphate of Ammonia, Nitrate of Soda, Sulphuric Acid, Bone Dust, Sawdust, Gypsum, Potter's Guano, Soda Ash, Petre, Agricultural and Fishery Salt, and every other artificial Manure.

The URATE of the LONDON MANURE COMPANY has now stood the test of seven years, with a largely increasing sale. It is recommended with the greatest confidence for Turnips, Mangold Wurzel, Carrots, and all root crops; also for Cole seed, Tares, Barley, &c. Unlike many other artificial Manures, its effects are not exhausted by the first crop; and whatever from any cause the crop of Turnips to which it has been applied fails, its full fertilising properties remain for the reception of crop. Testimonials and full particulars forwarded free. The LONDON MANURE COMPANY most earnestly request their friends to order the Urate direct from their Stores, or their authorised Agents, so as to prevent any other article of inferior quality being substituted. EDWARD PURSER, Sec.

No. 49, Bridge-street, Blackfriars.

N.B. Sole Manufacturers of Mr. J. C. Nesbit's Chemical Manures.

MR. J. C. NESBIT'S CHEMICAL MANURES.

THE LONDON MANURE COMPANY beg to announce that they have undertaken the exclusive manufacture of the manures recommended by Mr. J. C. Nesbit. The substances used in their preparation will be subjected to Mr. Nesbit's analysis, and every care will be taken in their manufacture. HOP MANURE, Superphosphate of Lime, Wheat and Clover Manure. A Pamphlet on Artificial Manures, by Mr. J. C. Nesbit, now ready.

The London Manure Company have also made arrangements for a large supply of Fishery and other Salt, which they can offer on good terms.

E. PURSER, Secretary, 49, Bridge-street, Blackfriars.

IMPROVEMENT IN FARMING IMPLEMENTS.

LINSEED CRUSHER, simple in construction, for hand or horse-power, 11l. 11s.; ditto, doing Beans, Linseed, and Oats, by the same engine or horse-power, 14l. 14s. A smaller Implement for Linseed only, 7l. 7s.

THRESHING MACHINE.—A Four-horse Power, doing from 25 to 35 loads of Wheat-straw per day, with all dressing the straw, may be had of MARY WEDLAKE and Co., No. 7, Fetter-church-street, opposite Mark-lane, London, references to numerous persons farming extensively, and who have the new machine), price 60 guineas. Smaller machines at lower prices.

GORSE-BRUISING MACHINES, [illegible] will prepare 40 to 50 bushels of food a day [illegible] Machine will do 100 or 200 bushels a day. Price 7l. 7s., and a smaller machine 5l. Horse-hoes, Hoeing-Machines, Turnip-cutters, Turnip-Drill, Stable-fittings, [illegible] Oil-cake Crushers, Essex Pedestals for the Horses, Wheel Plough, Double Field Roller, &c. Hay-making Machines, 11l. 11s.

MARY WEDLAKE and Co., 7, Fetter-lane, Fleet-street, Depository for Agricultural Implements, Fetter-lane, opposite Mark-lane.

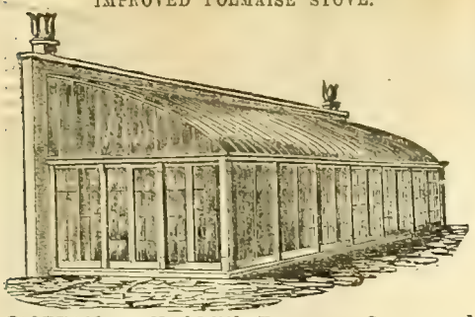
PURE HEREFORD CATTLE, SOUTHDOWN and LEICESTER SHEEP FOR SALE.

Sister to the Prize Cow at the Royal Agricultural Society's Meeting in Leicester, and Daughter of the same cow, four years old, and both likely to prove prize animals. A Bull Calf of great promise. Some pure Leicester ewes and Lambs, descended from Mr. Bakewell's stock, without a cross; some choice Down Ewes, Southdown Tup Lambs from Mr. [illegible] and a few pure Berkshire Pigs and Sows.—Apply to Mr. PEARCE, East Tytherley, Stockbridge, Hants.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost and to be consequently superior to every other for hydraulic purposes, such as building and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither cover nor paint. It never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

WARMING BY HOT WATER, AND ALSO BY AN IMPROVED POLMAISE STOVE.



COTTAM AND HALLEN, ENGINEERS, SMITHS, and IRON FOUNDERS, No. 2, Winsley-street, Oxford-street, and Cornwall-road, Lambeth.

CONSERVATORIES, FORCING HOUSES, and every description of Horticultural Buildings, Churches, Dwelling-houses, &c. perfectly warmed by the circulation of Hot Water through cast iron pipes; the principle being rendered very simple in construction, effective in operation, and economical in the cost of the apparatus and consumption of fuel—the result of the great experience which C. and H. have obtained by their warming buildings for every possible purpose for many years past.

AN IMPROVED POLMAISE STOVE, exposing a much larger heating surface than flat plates.

Horticultural Buildings erected of Iron or Wood, or of Iron and Wood combined; Verandahs, Ornamental Iron and Wire Work, Hand-glass frames, Flower Stakes, Hurdles, and every description of Fencing; Bedsteads, brass and iron; the patent Rheocline or Spring Bedstead; Stoves, Ranges, Furnishing Ironmongery, Agricultural Implements, &c.

Show Rooms for every description of Iron Work, &c., at the Manufactory, No. 2, Winsley-street, and 76, Oxford-street, three doors from the Princess's Theatre.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK AND TILE MACHINE COMPANY (James Smith, Esq., of Beanston, Chairman) invite attention to their IMPROVED BRICK and TILE MACHINES, which are to be seen at work at Alperton, and at the Company's Office, 193A, Piccadilly, from 10 A.M. to 5 P.M. Mr. Robert Scrivener, who has been appointed Manager in the room of Mr. John Ainslie, will show the Machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, 193A, Piccadilly, London.

These Machines may also be seen at Mr. Slight's, Leith-walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill, 135, Buchanan-street, Glasgow; Mr. Robert Charles, Mill-hill, Leeds; Messrs. Peany and Finch, Penkeridge, Staffordshire; Messrs. Drummond and Son, Dublin; and at Mr. John Connor's, Newtown Limavady, County Derry.

THE IMPROVED HYDRAULIC RAM, fixed by FREEMAN ROE, Fountain Maker, 70, Strand. London, can be worked by a small stream of half-an-inch, where a fall of two feet can be obtained. The same RAM, without the aid of a Tank or Cistern, arranged to throw a Jet of Water constituting a Fountain with the head of water beneath.

ENGINES FOR DEEP WELLS OF ALL KINDS, DOUCHE AND OTHER BATHS. BUILDINGS HEATED BY HOT WATER. WATER WHEELS to work Small Pumps, from 15l. Estimates given for the supply of Towns, &c.

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THE PATENT VULCANISED INDIA-RUBBER HOSE PIPES are made to stand Hot Liquor and Acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible), and as they require no application of oil or dressing, are particularly adapted for Fire-engines, Pumps, Gas, Beer-engines, Gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes from ¼ inch bore upwards, and of any length to order.

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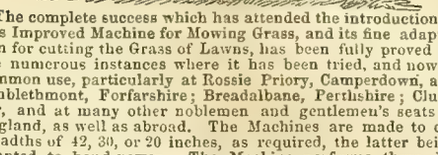

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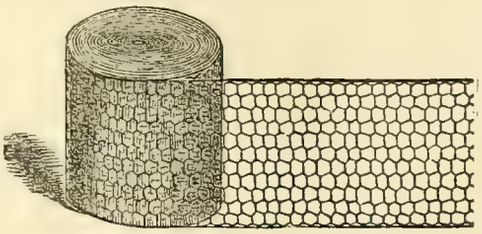

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Or a web of 100 yards, 18 ins. wide, will cost	...	£3	15 0
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THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News. The Horticultural Part Edited by Professor Lindley

No. 22.—1848.] SATURDAY, MAY 27. [PRICE 6d.

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J. WATERER'S UNRIVALLED COLLECTION OF AMERICAN PLANTS is now in full bloom, and will continue in perfection several weeks. The Nursery is within a short distance of the Farnborough Station, South Western Railway, where conveyances may be obtained.

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3	,,	,, Sweet Williams	1 0

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CINERARIAS, 12 superior sorts ...	...	0	15 0
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EPACRIS, 12 ditto		0	15 0
CACTUS, 6 ditto		0	9 0
VERBENAS, 12 ditto		0	10 0
PINUS, 6 ditto		0	7 0
ARAUCARIA IMBRICATA, 12 plants ...		1	0 0
CEDRUS DEODORA, 12 plants ...		1	0 0

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HENRY WALTON, Edgend Marsden, near Burnley, Lancashire.—The following 24 GERANIUMS are very strong, healthy, dwarf plants, and well set with bloom; the whole 24 for 20s.; the purchaser's selection of 12 for 15s., of 6 for 10s.:—Beck's Margaretta, Hoyle's Isabella and Sarah Jane, Lady Sale, Mrs. Gaskill, Garth's Constellation (this is a good one), Duke of Cornwall, Duchess of Sutherland, Gem of the West, Flash, Acme of Perfection, Thunderer, Conservative, Comte d'Orsay, Camilla, British Queen, Lyne's Circassian, Favourite, Lord Nelson, Perfection, Rosea, Van Amburgh, Witch, and Medora. Strong blooming Scarlet Geraniums for bedding out, including Tom Thumb, at 4s. to 6s. per dozen.

VERBENAS.—Robinson's Defiance, Heloise, Imperatrice Josephine, Incarnata perfecta, White Perfection, Rosy Morn, Speciosissima, Sir Robert Peel, Satellite, Trisbam, Duchess of Sutherland, Mountain of Snow, Wonder of Scarlets, Blanda, Mont Blanc; the whole 15 for 12s, 12 for 10s., and 6 for 8s., purchaser's selection; others at 3s. 6d. to 6s. per dozen

FUCHSIAS.—White Perfection, Beauty of Leeds, Duke of Cornwall, Lady Julia, Leucantha, Prince Albert, Goliah, Reine des Francais, Delicata, Sanspareil, Great Britain, and Nicholsii; the 12 strong plants free by post for 10s., 6 for 6s.

12 Cuphea platycentras free by post for 3s. 6d.

Post-office orders to be made payable at Burnley to HENRY WALTON. Send for Catalogue.

BENTALL'S BOTANICAL DRYING PAPER is manufactured expressly for Drying Specimens of Plants for the Herbarium, and has been found to surpass every other article hitherto employed for that purpose. With a peculiar adaptation for preserving form and colour, it combines the requisite qualities of strength and great absorbent power; and may be said to be indispensable to every Botanist who is desirous of having his specimens well preserved. It has received the most unqualified approbation of many eminent Botanists, who have tested its merits, among whom may be mentioned Sir W. J. Hooker, Royal Botanic Gardens, Kew; Professor Lindley, of the Royal Institution; Professor Balfour, of the University of Edinburgh; C. C. Babington, Esq., Cambridge, &c.

SIZES AND PRICES.

16 inches by 10 when folded	..	..	15s. per ream.
18 ,, 11 ,,	..	..	18s. ,,
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Sold by the Manufacturer, W. BENTALL, Paper Mills, Halstead, Essex; E. NEWMAN, 9, Devonshire-street, Bishopsgate (sole Agent for London); and by other Agents in various parts of the country.

CHOICE FLOWER SEEDS.—The following Flower Seeds are all proper for immediate or autumn sowing. Annuals sown till the first week of June will flower late in the autumn, and Perennials next season, by which a whole year is gained. The Hardy and Half-hardy Annuals sown in autumn, flower earlier and stronger than in the spring sown. Greenhouse Seeds may be sown till September, the greenhouse being hardy enough. The hardy perennials are all hardy; the latter requires a greenhouse or frame of some in autumn or early spring.

I. Assortment. Comprising the most useful Flowers in separate packets.			II. Assortment. Comprising the most useful varieties in separate packets.		
6 Alstroemeria, gh	2	6	Alstroemeria, gh	5	0
10 Antirrhinum, hp	2	6	Antirrhinum, hp	5	0
6 Aquilegia, hp	1	0	Aquilegia, hp	5	0
25 Balsam, hha	3	6	Aquilegia, hp	5	0
4 Brachycome, hha	2	0	Asperula, hp	5	0
6 Calliopsis, ha	1	6	Azalea, hp	5	0
6 Campanula, hp	1	6	Balsam, 20 varieties	1	0
6 Clarkia, ha	1	0	Brachycome, hha	1	0
6 Delphinium, tall, hp	1	6	Calceolaria, shrubby	1	0
10 ,, new Chinese	3	6	Calceolaria, gh ...	1	0
10 Dianthus, finest, hp	3	0	Camellia, hp	1	0
4 Gaillardia, hp	1	0	Delphinium, tall, hp	0	6
6 Gilia, ha	1	0	Dwarf, hp	0	6
8 Godetia, ha	1	6	Digitalis, hp	0	6
30 Hollyhock, hp ..	6	0	Erica, 20 species, gh	2	0
15 ,,	3	0	Geranium, finest, gh	1	0
6 ,, distinct	1	6	,, scarlet, very fine, gh	1	0
10 Larkspur, branching, hha	2	0	Geranium, hardy, hp	1	0
6 Linaria, ha	1	6	Helianthemum, hp	1	0
6 Lobelia, hh ...	2	0	Hollyhock, dwarf, hp	1	0
6 Mimulus, hhp ...	1	6	Iris, splendid English, hp	0	6
6 Nemophila, ha	1	6	Ixia, gh	0	6
6 Œnothera, hp ..	1	6	Leaso, hhp	0	6
4 Papaver, hp ...	1	6	Lobelia, gh	1	0
6 Penstemon, hp ...	2	0	Lupinus, hp	1	6
6 Petunia, hhp ...	2	0	Maurandya, ghp	1	6
4 Phlox Drummondii, hha	3	0	Pentstemon, hp	0	6
4 Portulaca, hha ...	1	6	Petunia, hhp ...	1	6
6 Potentilla, hp ...	1	6	Phlox Drummondii, hha	1	0
4 Schizanthus, dwarf, ha	1	6	,, perennial, hp	1	0
3 ,, tall, hha ...	1	6	Poinciana, stove	2	6
60 Stock, German, hha ..	5	0	Polyanthus, hp	0	6
12 ,, large packets ..	4	0	Portulaca, hha	0	6
12 ,, biennial, hh ...	3	0	Ranunculus, hp	1	0
5 Thunbergia, gh ...	2	6	Salpiglossis, hha	1	0
3 Tropæolum, gh ...	2	0	Scarlet, new, hp	0	6
4 Sweet William, hp ...	1	6	Schizanthus, ha ...	0	6
16 Wallflower, splnd., hp	7	0	Spiræa, gh ...	0	6
8 ,, ,, ...	3	6	Stock, dwarf German, hha	0	6
24 Californian annuals, ha	5	0	,, Brompton, hh	0	6
12 ,, ...	2	6	,, imperial, German, hh	1	0
24 Hardy annuals ...	5	0	Sweet William, dwarf, hp	0	6
12 ,, ...	2	6	Thunbergia alata, gha	1	0
24 Hardy perennials ...	5	0	Wallflower, hp ...	0	6
12 ,, ...	2	6	,, German	0	6

The above, and most other Flower Seeds, to be had of JAMES CARTER, Seedsman and Florist, 238, High Holborn, London.

*** CARTER'S Victoria Pea, warranted superior in size and flavour to any other, and most proper for sowing at the present season, 3s. per quart. A Catalogue of Bulbs will be published at the usual time.—May 27, 1848.

ZOOLOGICAL GARDENS, REGENT'S PARK.—Visitors are admitted, WITHOUT ORDERS, on the payment of SIXPENCE each on MONDAYS, and of ONE SHILLING each on the four following days. Children under 12 years of age on the payment of Sixpence each on all days, except those of Promenades.—By order of the Council,

May 27. D. W. MITCHELL, Secretary.

ROSES, ROSES, ROSES.

WM. DENNIS AND CO., King's-road, Chelsea, opposite Cremorne Gardens, beg to inform Ladies and Gentlemen desirous of ornamenting their table, rooms, &c., with that most beautiful flower the ROSE, that they can supply any quantity in great variety of colour and form, in full bloom or in bud, at 2s. 6d. per 100; 500 for 10s.; or 18s. per 1000, blooms or buds; selected blooms, 3s. 6d. per 100; or 30s. per 1000. They have also a most extensive stock of EVERGREENS in pots, with a general selection of the most beautiful and showy Flowering Plants, &c., for furnishing Rooms, Balls, Conservatories, Jardinières, &c., the whole selected and arranged by WM. DENNIS according to the new prevailing modes in France. Bouquets of every description made to order. In addition to the above, they possess all the best kinds of STRAWBERRIES, now in full fruit-bearing: the largest collection ever made of that much neglected but most useful fruit, the GOOSEBERRY, which, from its present size, is now highly ornamental to the table.

SPLENDID NEW CHRYSANTHEMUMS AND PANSIES.

JOHN BELL begs to inform his friends and the public the following new and beautiful CHRYSANTHEMUMS are now ready, strong plants:—

STANDARD.—Bright purple, fine broad incurved petals, large flower. Price 5s.

NONPARIEL.—Bright rose colour, very broad incurved petals, large flower. 5s.

MESSENGER.—Bright rosy purple, with yellowish centre, beautifully incurved. 5s.

NYMPH.—Blush white, with tinge of rose on the outer petals, incurved. 5s.

NE PLUS ULTRA.—Rosy lilac, broad petals, fine large flower, beautifully incurved. 5s.

The set for 21s., free per post.

Also the following new and beautiful PANSIES:—

LORD JOHN RUSSELL.—For description, see *Gardeners' Chronicle*, No. 17, April 22, under the letters "B. B.;" also the "Florist" for May, same letters. Price 5s.

NOBLIS.—For description, see *Gardeners' Chronicle* of last week, May 20, letters "B. B.;" also the Gardeners' Journal, October 9, 1847, under the letters C. P. Q. 5s.

A few strong plants left of the Duchess of Norfolk, Yellow Climax, and Aurora, at 3s. 6d. each, all free per post.

Horticultural Establishment, Bracondale, Norwich.

HORTICULTURAL SOCIETY OF LONDON.—

EXHIBITION AT THE GARDEN,
MAY 20th, 1848.

AWARD OF THE JUDGES.

THE CERTIFICATE OF HONOUR.

1 To Messrs. Frazer, of Lea-bridge-road, for a collection of 30 Stove and Greenhouse plants
2 To Messrs. Veitch, of Exeter, for 20 species of Exotic Orchids

THE LARGE GOLD MEDAL.

1 To Mr. Donald, gardener to Mrs. Lawrence, F.H.S., for a collection of 30 Stove and Greenhouse plants
2 To Mr. Rae, gardener to J. J. Blandy, Esq., F.H.S., for 20 species of Exotic Orchids

THE GOLD KNIGHTIAN MEDAL.

1 To Mr. Green, gardener to Sir E. Antrobus, Bart., F.H.S., for a collection of 15 Stove and Greenhouse plants
2 To Mr. Mylam, gardener to S. Rucker, Esq., jun., F.H.S., for 20 species of Exotic Orchids
3 To Mr. Williams, gardener to C. B. Warner, Esq., F.H.S., for 10 species of the same
4 To Mr. May, gardener to E. Goodheart, Esq., of Langley-park, Beckenham, for 15 varieties of Cape Heath
5 To Messrs. Fairbairn, for the same

THE GOLD BANKSIAN MEDAL.

1 To Mr. W. Cole, gardener to H. Colyer, Esq., of Dartford, Kent, for a collection of 15 Stove and Greenhouse plants
2 To Mr. Carson, gardener to W. F. G. Farmer, Esq., F.H.S., for a collection of 10 Stove and Greenhouse plants
3 To Mr. Plant, gardener to J. H. Schröder, Esq., F.H.S., for 10 species of Exotic Orchids
4 To Mr. W. Cock, F.H.S., for 12 new varieties of Pelargonium in 8-inch pots
5 To Mr. Dobson, gardener to Mr. Beck, F.H.S., for the same
6 To Mr. Green, gardener to Sir E. Antrobus, Bart., F.H.S., for a collection of Greenhouse Azaleas in 12 varieties
7 To the same, for tall Cacti in flower
8 To Mr. Slowe, gardener to W. R. Baker, Esq., F.H.S., for 12 varieties of Roses, in pots
9 To Mr. Francis, of Hertford, for the same.
10 To Messrs. Rollisson, of Tooting, for 15 varieties of Cape Heath
11 To Mr. Iveson, gardener to the Dowager Duchess of Northumberland, at Syon, for a collection of uncommon Tropical Fruits

THE LARGE SILVER-GILT MEDAL.

1 To Mr. Slowe, gardener to W. R. Baker, Esq., F.H.S., for a collection of 15 Stove and Greenhouse plants
2 To Mr. Pawley, of Bromley, for a collection of 10 Stove and Greenhouse plants
3 To Mr. Jack, gardener to R. G. Loraine, Esq., Wallington, for the same
4 To Mr. Taylor, gardener to J. Coster, Esq., Streatham, for the same
5 To Mr. Carson, for 10 species of Exotic Orchids
6 To Mr. Eyles, of Roehampton, for 6 species of the same
7 To Mr. Hamp, gardener to James Thorne, Esq., of South Lambeth, for a collection of 6 Amaryllids
8 To Mr. Staines, of Middlesex-place, New-road, for 12 new varieties of Pelargonium, in 8-inch pots
9 To Mr. Thomas Gaines, F.H.S., for the same
10 To the same, for 6 varieties of Pelargonium, in 11-inch pots
11 To Mr. Parker, gardener to J. H. Oughton, Esq., of Roehampton, for the same
12 To Messrs. Frazer, for a collection of Greenhouse Azaleas in 12 varieties
13 To Mr. Fleming, gardener to the Duke of Sutherland, F.H.S., for the same, in 6 varieties
14 To Mr. Bruce, gardener to Boyd Miller, Esq., of Tooting, for tall Cacti in flower
15 To Mr. May, gardener to E. Goodheart, Esq., for Leschenaultia biloba major
16 To Mr. Bruce, for Aphelexis sesamoides
17 To Mr. Pamplin, of Lea-bridge-road, for Pimelea spectabilis
18 To Mr. Mylam, gardener to S. Rucker, Esq., jun., for 9 varieties of Cape Heath
19 To Messrs. Frazer, for the same
20 To Mr. T. Gaines, F.H.S., for 6 fancy Pelargoniums
21 To Mr. Thomas Dawson, of Panshanger, Herts, for 12 varieties of Roses, in pots
22 To Messrs. Lane, of Great Berkhampstead, for the same
23 To Mr. Iveson, gardener to the Dowager Duchess of Northumberland, for Napoleona imperialis

THE CERTIFICATE OF EXCELLENCE.

1 To Mr. Bruce, gardener to Boyd Miller, Esq., for a collection of 10 Stove and Greenhouse plants
2 To Mr. Malyon, gardener to T. Brandram, Esq., Lea Grove House, Blackheath, for the same
3 To Mr. Glendinning, F.H.S., for the same
4 To Mr. Dobson, gardener to Mr. Beck, F.H.S., for 6 species of Exotic Orchids
5 To Mr. Robinson, gardener to J. Simpson, Esq., of Thames-bank, Pimlico, for 12 varieties of Pelargonium, in 8-inch pots
6 To Mr. Staines, for 6 varieties of the same, in 11-inch pots
7 To Mr. Taylor, gardener to J. Coster, Esq., Streatham, for 9 varieties of Cape Heath
8 To Mr. W. P. Ayres, nurseryman, Blackheath, for the same
9 To Mr. Ambrose, Battersea, for 6 fancy Pelargoniums
10 To Mr. Dobson, for 12 varieties of Roses, in pots
11 To Messrs. Paul, Cheshunt, for the same
12 To Mr. Francis, Hertford, for a collection of Roses in 50 varieties
13 To Mr. Hill, gardener to Thomas Davis, Esq., F.H.S., for Pimelea decussata
14 To Messrs. Frazer, for Boronia serrulata
15 To Mr. Pamplin, for Campylia holosericea
16 To Mr. Donald, gardener to Mrs. Lawrence, F.H.S., for a collection of Greenhouse Azaleae in 12 varieties
17 To Mr. Carson, gardener to W. F. G. Farmer, Esq., F.H.S., for the same, in 6 varieties
18 To Messrs. Veitch, of Exeter, for Mitraria coccinea

THE LARGE SILVER MEDAL.

1 To Mr. Green, gardener to Sir E. Antrobus, Bart., F.H.S., for 6 species of Exotic Orchids
2 To Mr. Gaines, for a collection of 6 species of Calceolaria, in 11-inch pots
3 To Messrs. Lane, of Great Berkhampstead, for a collection of Roses, in 50 varieties
4 To Mr. G. Jack, gardener to R. G. Loraine, Esq., for 9 varieties of Cape Heath
5 To Mr. Pamplin, of Lea-bridge-road, for the same
6 To Mr. Malyon, gardener to Thomas Brandram, Esq., for Erica vestita coccinea
7 To Messrs. Frazer, for Erica ventricosa breviflora
8 To Mr. Whiting, gardener to H. T. Hope, F.H.S., for Campylia holosericea delicata
9 To Messrs. Ivery and Son, of Dorking, for a collection of Greenhouse Azaleas, in 6 varieties
10 To Mr. Eyles, for Torenia asiatica
11 To Messrs. Frazer, for Epacris grandiflora
12 To Mr. Glendinning, for Pimelea Hendersoni
13 To Mr. Taylor, gardener to J. Coster, Esq., for a collection of Hardy Ferns
14 To Mr. Iveson, gardener to the Dowager Duchess of Northumberland, for Platycerium grande
15 To Mr. Chapman, gardener to J. B. Glegg, Esq., F.H.S., for a Providence Pine Apple
16 To Mr. Lawrence, of Isleworth, for the same
17 To Mr. Fleming, gardener to the Duke of Sutherland, F.H.S., for Black Hamburgh Grapes
18 To Mr. Davis, of East Barnet, for the same
19 To Mr. Davis, gardener to Baron Goldsmid, F.H.S., for Sweetwater Grapes
20 To the same, for White Frontignan Grapes

THE SILVER KNIGHTIAN MEDAL.

1 To Mr. Stanly, gardener to H. Berens, Esq., F.H.S., for 6 Calceolarias, in 11-inch pots
2 To Mr. Francis, of Hertford, for a collection of Yellow Roses, in 6 varieties
3 To Mr. Hamp, gardener to James Thorne, Esq., for Erica Cavendishii
4 To Mr. Green, gardener to Sir E. Antrobus, Bart., F.H.S., for Franciscea hydrangeæformis
5 To Mr. Williams, gardener to C. B. Warner, Esq., for a collection of hardy Ferns
6 To Mr. Mylam, gardener to S. Rucker, Esq., F.H.S., for a new species of Cœlogyne from Borneo
7 To Mr. Jack, gardener to R. G. Loraine, Esq., for Camarotis purpurea
8 To Mr. Malyon, for 9 varieties of Cape Heath
9 To Mr. Pawley, of Bromley, for the same
10 To Mr. Mylam, for the best named collection of plants
11 To Mr. M'Rae, gardener to Joseph Dent, Esq., Ribston Hall, Wetherby, for a Providence Pine Apple
12 To Mr. Braid, gardener to H. Perkins, Esq., F.H.S., for specimens of Grapes in pots
13 To Mr. Turnbull, gardener to the Duke of Marlborough, for the heaviest bunch of Grapes exhibited
14 To Mr. Davis, of East Barnet, for the second heaviest bunch
15 To Mr. Ingram, gardener to Her Majesty, for Black Hamburgh Grapes
16 To Mr. Mitchell, of Brighton, for Black Hamburgh Grapes
17 To Mr. Busby, gardener at Stockwood Park, Luton, for Dutch Sweetwater Grapes
18 To Mr. Chapman, gardener to J. B. Glegg, Esq., F.H.S., for Nectarines
19 To Mr. Monro, gardener to Mrs. Oddie, Colney House, for Oranges in a pot
20 To Mr. Drummond, gardener to C. H. Leigh, Esq., of Pontypoole Park, for the heaviest Melon exhibited
21 To Mr. Fleming, gardener to the Duke of Sutherland, F.H.S., for the second-best flavoured Melon

THE SILVER BANKSIAN MEDAL.

1 To Mr. Tye, gardener to W. H. Gilliat, Esq., of Clapham-park, for 6 Calceolarias, in 11-inch pots
2 To Mr. Bruce, gardener to Boyd Miller, Esq., for Erica translucens rosea
3 To Mr. Green, gardener to Sir E. Antrobus, Bart., F.H.S., for 9 varieties of Cape Heath
4 To Mr. Frazer, of Lea-bridge-road, for Boronia pinnata
5 To Mr. John Waterer, of Bagshot, for 12 hardy Rhododendrons
6 To Messrs. Standish and Noble, of Bagshot, for Rhododendron Blandyanum
7 To the same, for 18 hardy Azaleas
8 To Mr. Williams, gardener to C. B. Warner, Esq., F.H.S., for 10 hothouse Ferns
9 To Messrs. Veitch, for a yellow hardy Viola, from Patagonia
10 To the Messrs. Rollisson, for the second-best named collection of plants
11 To Mr. Lawrence, of Isleworth, for a Queen Pine Apple
12 To Mr. Brown, gardener to C. W. Packe, Esq., M.P., for a Providence Pine Apple
13 To Mr. Turnbull, gardener to the Duke of Marlborough, for Black Hamburgh Grapes
14 To Mr. Gardiner, gardener, Weston-house, for Peaches
15 To the same, for Nectarines
16 To Mr. Ingram, gardener to Her Majesty, at Frogmore, for Cherries
17 To Mr. Slowe, gardener to W. R. Baker, F.H.S., for Strawberries, in pots
18 To Mr. Davis, of East Barnet, for British Queen Strawberries
19 To Mr. Brewin, gardener to R. Gunter, Esq., F.H.S., for Keens' seedling Strawberries
20 To Mr. Toy, gardener at Oatlands Palace Gardens, Weybridge, for Keen's Seedling Strawberries
21 To Mr. Drummond, gardener to C. H. Leigh, Esq., Pontypoole Park, for the second best flavoured Melon

THE CERTIFICATE OF MERIT.

1 To Mr. Gaines, for a Seedling Hybrid Pelargonium, "Ne plus ultra"
2 To Mr. Pamplin, for Eriostemon buxifolium
3 To Messrs. Standish and Noble, of Bagshot, for an Azalea, "Glory of Sunning Hill"
4 To Mr. Ingram, gardener to Her Majesty, for a Seedling Petunia
5 To Messrs. Veitch, for a Seedling Erica, "Perelegans"
6 To Mr. H. Waterer, F.H.S., for cut Azaleas
7 To Messrs. Veitch, for Tropæolum polyphyllum
8 To the same, for Statice imbricata
9 To the same, for a new species of Boronia
10 To Mr. May, gardener to E. Goodheart, Esq., for the third best named collection of plants
11 To Mr. Groom, gardener to H. Bentley, Esq., of Leeds, for Peaches
12 To Mr. Toy, gardener at Oatlands Palace Gardens, Weybridge, for British Queen Strawberries

NURSERIES, MERRIOTT, NEAR CREWKERNE, SOMERSETSHIRE.—ESTABLISHED 1728.

W. W. WEBBER is enabled to offer the following at the prices affixed:

Martynia fragrans, 2s. 6d.; Oxylobium capitatum, 2s. 6d; Boronia serrulata, 1s. 6d. to 3s. 6d.; Calystegia pubescens, 9d.; Platylobium triangularum, 2s. 6d.; Epacris variabilis, 1s. 6d.; Hovea pungens, 2s. 6d. to 3s. 6d.; Leschenaultia splendens, 2s.; Anemone Japonica, 9d. to 1s.; Rhododendron Gibsonii, 3s. 6d. to 5s.; Aphelexis humilis, 1s. 6d. to 2s. 6d.; Aphelexis purpurea macrantha, 2s. to 3s. 6d.; Pimelea spectabilis, 2s. 6d.; Pimelea Hendersonii, 2s. 6d. to 3s. 6d.; Daviesia latifolia, 2s. 6d.; Calendrinia umbellata, 2s. 6d.; Weigela rosea, 1s. 6d. to 2s 6d.; Forsythia viridissima, 1s. 6d.; Triptilion spinulosum, 2s. 6d.

Ericas Cavendishii, mundula, Pattersonii, ventricosa coccinea minor, ventricosa superba, perspicua nana, ampullacea vittata, retorta, tricolor, Wilsonii, tricolor elegans, Hartnelli, tricolor, jasminiflora alba, Linnæoides nova, propendens, vernix coccinea, Banksia, sulphurea, daphnoides, intermedia, Wilmoreana, and many others, at 1s. to 2s. 6d. each. Erica persoluta rubra, gracilis autumnalis, gracilis verna, at 6s. p. doz. Camellia Stocks, 50s. per 100.

A few dozen Pinus insignis at 30s. per dozen.

*** An allowance to the Tfade.

W. W. WEBBER *begs to inform his friends that the Advertisement in the "Chronicle" of last week, offering "An Old Established Nursery" at Merriott, to be let, does not refer to any part of the land in his occupation.*

SELECT PLANTS.

BASS AND BROWN'S DESCRIPTIVE PRICED CATALOGUE OF PLANTS FOR 1848 may be had on application. The following are a few which are now sending out, strong and fine plants of our own selection. Those marked thus°, free by post, if desired.

		£	s.	d.
25	GERANIUMS, superb show vars., 21s.; 12 ditto	0	12	0
50	Ditto fine varieties	1	5	0
12	Ditto ditto ... 6s. to	0	9	0
12	Ditto best scarlet for bedding 6s. to	0	9	0
°25	FUCHSIAS, fine vars., 10s.; 25 superior ditto	0	17	6
°12	Ditto new vars. of 1847 ...	0	15	0
12	DAHLIAS, new and choice vars. of 1847 ...	0	18	0
12	Ditto, fine vars., 5s.; 12 superior ditto ...	0	9	0
12	Ditto, fine and showy fancy vars.	0	9	0
°25	PETUNIAS, very fine varieties	0	12	0
°12	Ditto ditto, 4s.; 12 superior ditto ...	0	9	0
*	Ditto, Sudbury Beauty, extra fine, each ...	0	2	6
°12	Ditto, new vars., including Sudbury Beauty ...	0	15	0
	Ditto Bass and Brown's 8 superb new Seedlings, as described in their Advertisement in *Gardeners' Chronicle*, Jan. 8 and 15	1	8	0
°25	VERBENAS, fine vars. 8s.; 25 superior ditto ...	0	14	0
°12	Ditto ditto, 4s. 12 ditto ditto ...	0	7	6
°12	Ditto new vars. of 1847	0	12	0
°50	Ditto fine vars.	1	0	0
°25	CHRYSANTHEMUMS, fine varieties ...	0	17	6
°12	Ditto fine vars. 6s.; 12 superior ditto...	0	9	0
°12	Ditto, new and superior vars.	0	15	0
°12	ACHIMENES, fine and distinct vars.	0	9	0
12	ANTIRRHINUMS, superb vars.	0	7	6
°12	CUPHEAS, in 3 vars. for bedding	0	9	0
°12	GAILLARDIA, in 3 ditto ditto	0	6	0
°12	LANTANA, in 4 ditto ditto	0	9	0
12	PHLOX, fine distinct vars.	0	9	0
12	SALVIAS, in 7 vars. for bedding	0	6	0
*	LOBELIA erinus grandiflora, per doz. ...	0	6	0
*	Ditto compacta alba, per doz. ...	0	6	0
	CAMPANULA cavanilla, for bedding ...	0	7	6

Any 50 of the following SELECT GREENHOUSE PLANTS, strong and fine, 60s.; or 25 vars. for 35s. Our own selection of 50 vars. 50s.; 25 vars. 28s., or 12 vars. 15s. to 25s.

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Goods carriage free to London, and with all orders of 2*l.* and upwards articles presented extra. Remittances with orders are requested from unknown correspondents. In consequence of recent post-office arrangements, money orders may now be made payable to BASS AND BROWN,
Seed and Horticultural Establishment, Sudbury, Suffolk.

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12 choice and distinct FUCHSIAS, fit for exhibition, for 4s.; 12 extra first-rate, very distinct, new varieties, for 9s. 12 fine distinct VERBENAS for 2s. 6d.; 12 extra new varieties, quite distinct, all sent out last season for the first time, for 6s. 12 fine distinct PETUNIAS for 3s. 6d.; 12 extra new and distinct varieties for 6s. 12 good distinct CINERARIAS for 6s. 12 fine distinct ANTIRRHINUMS for 3s.; 12 extra superb and distinct varieties for 6s. 12 fine SALVIAS for 3s. 6d.; 12 extra fine distinct varieties, including mexicana, Camertonii, and gesneriaflora, for 6s. 12 HELIOTROPIUMS for 4s. 12 CUPHEA STRIGILLOSA (the best for bedding out), for 3s. 12 fine varieties of ACHIMENES for 6s. 12 ANAGALLIS, scarlet and blue, for 3s. 6d. 12 choice and distinct CHRYSANTHEMUMS for 3s. 6d.; 12 extra fine very superb varieties for 6s. 12 fine bedding out Plants, such as Lobelias, Senecios, Ageratums, Alonsoas, &c., for 3s. 6d.; 12 extra fine distinct varieties for 6s. The above can be sent post free, securely packed, without any risk of perishing.

Choice varieties of DAHLIAS early in May, 12 fine show flowers for 6s.; 12 superior for 9s.; 12 extra new varieties for 15s.; 12 fine fancy varieties for 6s.

Catalogues of the above may be obtained on prepaid application, enclosing a postage stamp. A remittance or reference is respectfully requested from unknown correspondents.

CAMELLIAS FOR STOCK.

A. VANGEERT, NURSERYMAN, Ghent, Belgium, begs to offer to Camellia growers, a few thousands of the above, good for grafting this season, at 35s. and 45s. per 100, well established in pots.

A new monthly publication of the best and newest Camellias commenced on January 1, 1848, consisting of four well-finished coloured flowers, with text, price 25s. per year. A remittance or reference is requested from unknown correspondents.

IMPROVED FLOWER STICKS.—These Flower Sticks are of a circular form, thereby avoiding angles and sharp edges, which are liable to cut and injure the plants. They may be had stained brown or green to suit the various plants.—To be had of all respectable Nurserymen and Seedsmen, and dealers in Garden Implements. Manufactured and sold Wholesale, at H. MORRELL'S, 149, Fleet-street, London.

N.B. Samples to be seen at the Office of this Paper.

SEEDS.—CORNER OF HALF-MOON-STREET.

THOMAS GIBBS AND CO.,

(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND," Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

Priced Lists of Agricultural Seeds are always ready, and may be had on application.

LINGHAM, BROTHERS, 170, Little Hampton-street, Birmingham, sole Manufacturers of the improved wood MENOGRAPH or LABELS for Garden-borders, Flower-pots, &c., have now perfected several patterns in Zinc suitable for the same purposes, which can be written upon with the greatest facility with their Metallic Ink, prepared exclusively for this purpose, and when dry an indelible inscription is secured. Directions for use sent with each box.

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HORTICULTURAL SOCIETY OF LONDON.—EXHIBITIONS AT THE GARDEN.

The Second Meeting will take place on SATURDAY, the 10th of June. Subjects for Exhibition must be at this Office on Friday the 9th, or at the Garden before half-past Eight o'clock, A.M., on the day of Exhibition.

The Gates will be open to visitors at One P.M. Tickets are issued to Fellows at this Office, price 5s. each, or at the Garden in the afternoon of the days of Exhibition at 7s. 6d. each; but then only to orders from Fellows of the Society.

N.B. No tickets will be issued in Regent-street on the days of Exhibition. 21, Regent-street.

GERANIUMS, fine blooming Plants, 12s. to 24s. per dozen; New Sorts, selected from list, 2l. 2s. per doz. FUCHSIAS from 5s. to 10s. 6d. per dozen. Blooms may be had on receipt of six postage stamps. Descriptive Lists on application.—JOHN HINE, late W. Miller, Ramsgate.

TO BE EXCHANGED for ORCHIDS or other Hothouse Plants, or SOLD, a collection of PINE PLANTS in good condition.—Apply to the Gardener, Castle-house, Wallingford.

THE PROPERTY OF A GENTLEMAN DECEASED.

TO BE SOLD, on reasonable terms, upwards of 4000 various SUCCULENT PLANTS, in healthy condition, with or without the house, lately built, which contains them.—Apply to the Rev. W. C. E., Post-office, Wangford, Suffolk.

The Gardeners' Chronicle.

SATURDAY, MAY 27, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY	May	31	Microscopical ..... 8 P.M. Society of Arts ..... 8 P.M. Geological ..... 8½ P.M.
FRIDAY	June	2	Botanical ..... 8 P.M.
MONDAY	—	5	Entomological ..... 8 P.M.
TUESDAY	—	6	Horticultural ..... 3 P.M. Linnean ..... 8 P.M.
SATURDAY	—	10	Horticultural Gardens ..... 1 P.M.

THOSE who had the good fortune to be present at the first great meeting of the season in the GARDEN OF THE HORTICULTURAL SOCIETY will agree with us that there never before was witnessed such a display of perfect gardening. The only exception was the Pine-apples, some of which were miserable things. Foreigners, of whom there were many, must have looked with astonishment at the trifles which they left behind them, and must have discovered at Chiswick another striking proof of what may be done by energy and skill in a country where men prefer actions to words, and industrious employment to political *fêtes* and disorderly *attrouppements*. The weather was doubtful, but it did not prevent 3238 visitors from joining the scene, of whom a larger proportion than is usual, even in May, consisted of personages of rank and distinction.

We have called this Exhibition the *first* on two grounds; not merely because it was the first of the year, but because upon the whole it was the first in merit of all that the Horticultural Society has witnessed during so many previous years. We can now say, what we were never able to assert before, that every exhibitor, except some of those of Pine-apples, would have merited a prize; and it becomes a real subject of regret that the principle of competition on which these shows are founded, and the indispensable limitation of prizes at them, should render a universal distribution of honours impossible. What the Horticultural Society cannot do, we have, however, endeavoured to effect through our reporter, by whom the merits of the non-winners have, we trust, been duly cared for.

Azaleas, of course, formed the most striking feature; their gay colours and large flowers, together with the admirable skill exerted in producing them, always secure them the first place in a May exhibition. The Orchids, however, with their infinite variety of forms, their grace and fragrance, presented most attraction to the critical observer. It was satisfactory, too, to observe how great an advance in cultivating them has been made by some of the younger gardeners, who have hitherto imagined it impossible to contend successfully with the more experienced growers.

Roses, a profusion of which was there, admirably grown in pots, were constantly surrounded by a crowd of eager critics, and as usual maintained their popularity. So did the Cacti, single specimens, and large collections. But Pelargoniums, Heaths, and especially Calceolarias, although capitally managed, seemed to win less favour than usual. They are too much alike year after year, and day after day, to secure the permanent interest of mere lovers of flowers. *Tædet quotidianarum formarum.* However their growers deserve all that can be said in their praise.

Of novelties there were some striking examples; foremost among which in rarity, though not in beauty, was the *Napoleona imperialis*, from the Dowager Duchess of NORTHUMBERLAND. This strange plant bears flowers resembling those of a Passion-flower, of a nankeen colour, sitting close to the stem, and therefore half hidden by the leaves. Next came a fine shrubby *Mitraria*, with scarlet flowers, a yellow climbing *Tropæolum* (*polyphyllum*) and a yellow *Violet* (hardy) from the southern parts of South America, all from Messrs. VEITCH. Mr. ROCKER produced a remarkable new *Cœlogyne* with white flowers, from Borneo.

A singular novelty was also exhibited by Messrs. ROLLISSON under the name of *Gloxinia Teuchleri*, with deep rose blossoms streaked with bluish grey. It will, probably, turn out an acquisition, but having been mis-entered of course received no notice from the judges. Some other cases of negligence in this respect also occurred, as indeed is invariably the case. Is it not strange that exhibitors should put themselves to much expence and trouble in bringing their plants to these meetings and then deprive themselves of all hope of prizes by neglecting to make themselves acquainted with the rules of exhibition, which cost them neither expence nor trouble, nor time? In this way a good chance of medals for *Lælia majalis* and *Vanda tricolor* was thrown away by Mr. WARNER'S gardener and Messrs. ROLLISSON'S, and among the fruit a case or two of a similar nature was very properly passed over by the judges. It is to be hoped that exhibitors will learn in time that regulations are made to be observed, and that at the Horticultural Society's meetings they cannot be infringed.

EVERY one knows how necessary light is to the health and perfect development of vegetable structures, and many facts seem to prove that it is of scarcely less importance to animal life, a point which perhaps is not so implicitly admitted as it ought to be if any real sanitary reform is to be effected. A more wonderful instance of the effect of light on vegetation has seldom been observed than that which we are now about to notice.

In the middle of last February (the 19th), Mr. THWAITES sent us one of the most beautiful fungi we ever saw. It was of a delicate cream colour, had quite the appearance of a very much branched Clavaria, and in some respects resembled Clavaria Botrytis, but without the pink tips, and wearing even more than that species the aspect of a Cauliflower. It was evident, however, from its not having any fructification, that although the plant was apparently so highly developed it was not perfectly formed. It was indeed a matter of doubt to what genus it belonged, but from analogous phenomena presented by Polyporus squamosus, and from the production of minute button-like processes after it had for a short time been removed from its original site, it was conjectured that it might be Polyporus umbellatus, a species which produces from the same stem hundreds of pilei. It however proved eventually to be a state of Agaricus ostreatus. The specimens occurred at Bristol, upon a wooden frame supporting a trap-door which opened into an underground cellar from the stone floor of a brewery, and constantly damp. The cellar is entirely excluded from light except upon rare occasions when the door is opened, and then the beautiful specimens of the thallus, if it may be so called, measuring sometimes nearly a foot in length, may occasionally be seen stretching across the aperture and assuming the appearance of Cauliflowers, or of the blanched heads of Seakale. This appearance, which is evidently due to the circumstance of the exclusion of light during the development of the plant, undergoes a modification directly there is an alteration in this respect: let a growing portion of the plant be removed from its dark habitation and placed in a situation where it will have free exposure to light and still be kept moist (covered with a bell glass for instance), and in a day or two the surface of the extremities of the branches becomes granulated; large mammillæ then show themselves, which soon assume a cinereous tint, there become stipitate, and at length perform all the characters of an ordinary Agaric, possessing a well defined pileus, spores, &c. FRIES regards hymenomycetous fungi as the children of light, and the hymenium especially as the result of its influence. In the present instance, though there was a very high development of the general mass, there was no attempt at the production of a pileus, much less of an hymenium, till light was freely admitted; for, as FRIES has well observed, the inferior hymenomycetous fungi elongate in the direction of light, but the more typical forms, when fully exposed to it, are dilated.

The effect of light in elongating plants when in a shady situation; or as it is commonly said, drawing them up, is a matter of every day's experience, but it has no less a tendency where it has free access to dilate and consolidate, a fact which on many accounts is of the highest importance, and which is most beautifully illustrated on a large scale in the production of a firm dilated pileus from a thallus where the tendency of every cell was at first in the direction of the axis of vegetation.—*M. J. B.*

ONE of the most fearful contingencies to which man is exposed in a civilised state is the occurrence of FIRE. Just in proportion as the world advances in knowledge, and the cultivation of refined tastes, does this agent become more terrible, and the necessity of averting its disastrous effects become more pressing. For this purpose, the great antagonist of fire, water, has long been used; and were not this agent of any other use to man, he would be compelled to command a constant supply of it for the purpose of extinguishing fire. At the same time, water cannot be always supplied in sufficient quantities, or in such a way as necessary to arrest the progress of burning materials. Water may be near, but the engine, or the power with which it is to be applied to the fire, may be not at command. In cases where the temperature of time has been exceedingly high, the water has been decomposed by contact with the combustible material; its oxygen has been abstracted, and its hydrogen set free, to increase the mischief it was intended to remove. In other cases, its liquid nature has allowed it to carry from place to place such burning materials as oils, resins, tar, &c., and it has diffused more widely the destructive effects of the burning matters. Useful, then, as water is in certain cases, it is not to be wondered at that on these occasions other agents, equally accessible and more effectual, should have been sought.

We shall not apologise for introducing this subject to our readers, as every one is interested in putting out a fire, whether it occur in a Cucumber bed, a haystack, a dwelling-house, or a church, and we have lately witnessed some experiments which lead us to believe that a cheap and efficient substitute for water in putting out fire has at length been discovered. It is familiar, we make no doubt, to most of our readers, that the products of combustion are substances no longer capable of supporting that process. One of these is carbonic acid, which, when collected in a jar, will instantly extinguish a lighted taper placed in it. Another of these substances is the vapour of water, which also has the same effect. So that could we bring the vapours forming the smoke of fires into contact with the burning mass again, we should extinguish it. Every one knows that a fire goes out when the smoke does not go up the chimney, and that the most effectual means of preventing the progress of a fire in a room is to shut it up, so that it may be smothered in its own smoke.

Advantage has been taken of these facts by Mr. PHILLIPS to invent an apparatus by which he applies immediately the products of combustion to the extinguishing of fire. His apparatus is very simple, consisting of an iron cylinder containing a quantity of combustible matter such as charcoal and nitrate of soda or potash, which is fired by a simple process, in which sulphuric acid is brought in contact with chlorate of potash. No sooner has the combustion been communicated to the charcoal and nitre than a dense mass of smoke is projected with great energy from the cylinder, as in fact from a common squib, and on being applied to the burning materials, almost immediately extinguishes them. We saw several experiments of this kind, in which the burning substances were of the most inflammable nature, bundles of wood and shavings covered over with pitch, tar, and turpentine. In one instance a quantity of turpentine, resin, and tar, mixed together, into which shavings were thrown, was set fire to, and the blaze, which would have defied the ordinary efforts of water, was immediately subdued on the application of the vapours from the burning cylinder.

The apparatus by means of which these effects were produced was of the most simple and manageable kind. A female or a child might have successfully employed it. Of course the quantity of vapours required will be in proportion to the amount of burning matter to be acted upon, and the cylinder containing the vapourising substances must be of proportionate size. The advantages which appeared to us to result from Mr. PHILLIPS'S plan were, first, the comparative facility with which it may be applied; second, the certainty with which it might be directed to the burning spot, and third, the economy with which it may be worked. Although it is thought that a charged cylinder may be kept by every householder, there is every reason to believe that many will not become possessed of it, and under these circumstances it could be much more easily applied by the ordinary fire brigade than water with its present cumbersome and awkward machinery. Still, should it be found to fulfil our expectations, no house should be unprovided with such an apparatus, in order to apply it immediately on the discovery of the occurrence of fire. It is during the loss of time in getting the firemen, engines, and water all to work harmoniously that the greatest destruction of life and property during fires take place.

The inquiry will naturally arise as to whether the vapours thus generated are not destructive of

human life, and whether they can be safely employed when human beings are near the fire? The vapours which are formed during the combustion in the cylinder are, carbonic acid, water, and ammonia, and more or less of other compounds. Although these are produced in sufficient quantities to destroy the flame to which they are applied, it does not appear that it is possible for them to accumulate in sufficient quantities to destroy human life. During the experiments, although prodigious quantities of the vapour were generated, no person seemed to be at all affected with their action. It appears to us that in the use of Mr. PHILLIPS's cylinders the extinction of the fire is due in some measure to the cold which is produced by the sudden rarefaction of the air by the passage of the heated vapour from the tube of the cylinder, just as cold is produced by the escape of steam from the valve of a steam engine; so that all the effect must not be attributed to the action of merely non-combustible gases upon a burning mass. Having thus introduced the subject to our readers, we hope, on a future occasion, to be able to report its entire success on a larger scale than it has hitherto been tried.

A FEW WORDS ON WHITE SHEET GLASS,

IN ITS RELATION TO HORTICULTURAL PURPOSES.

THAT "much may be said on both sides of a question" is an axiom universally applicable; but in no case more forcibly so than in the present subject of inquiry,—Is sheet-glass injurious to vegetation in structures where it is used as a medium for the transmission of light? Most assuredly it is. In the same way as a useful and powerful agent in chemistry or mechanics would be a positive evil in unskilful hands, sheet-glass in horticultural buildings, although a real source of much that the present advancing state of horticulture needs, is, in the case of unskilful hands, or where proper precautions are not taken, a source of much annoyance.

To enter into a scientific dissertation on light, to point out the nature and relation of the luminous, heating, and chemical rays, and the manner in which they severally and in combination act on vegetable life, would perhaps be the best preface to this paper. The experiments detailed in a late number of the *Chronicle* from the paper read by Mr. Hunt before the Society of Arts, and the further allusion to the subject in the leading article of March 4, will supply that.

The principal objection to sheet glass seems to be, that it concentrates the rays in some instances sufficiently to produce scorching, and, as a whole, admits the heating rays of light in too great an abundance. Where no other precautions are taken than is afforded to houses constructed and glazed on the old principle, and with the same material, these charges are too true. I have seen leaves of a Stephanotis floribunda which was trained to a back wall of a lean-to house, glazed with sheet-glass, so much scorched by the direct action of the sun as to destroy *in toto* the whole tissues of the leaf in large blotches. I will not say that such might not have been prevented; but I only throw out these instances to show what may be expected where such glass is employed and unskilfully managed. When such is known to be the case, precautionary measures can of course be taken.

Another instance of its bad effects, but in a different direction, will perhaps suffice as illustrative of this side of the question. A large house, employed as a cool house for hard-wood plants during the winter, was during the summer months decorated with Pelargoniums, Fuchsias, annuals, and various soft-wood plants of an expensive character, merely for a display, while the real inmates were absent. Though the floors were constantly saturated with water, and every possible amount of air given, the heat under an almost vertical sun was so intense, and the consequent evaporation and rapid respiration from the tissues of the leaves of the inmates so great, that in numerous instances the foliage dropped off, and it was with great difficulty, and then only with a rash expenditure of labour, that the plants generally could be kept in tolerable health.

I think I hear many who are hesitating about employing sheet glass for their greenhouses exclaim, "That is quite sufficient; no sheet glass for me; my resolution is fixed, and no new-fangled notions shall lead me astray." But, good reader, wait a moment, "much may be said on both sides of a question."

I firmly believe, and that after experiencing more than the ills detailed in the foregoing part of this paper, that the introduction of white sheet glass into horticultural structures is an era in the gardening world. We are all slow to acknowledge innovations on old ideas, on old practices; and we look with suspicion on changes which threaten to turn topsy-turvy our darling schemes, cherished and practised it may be for years, but "murder will out," and truth, though she may dwell at the bottom of a well, will often look over the curb. So it is with sheet glass, for years the old crazy lean-tos, with as much "lap" as clear glass in their roofs, admitting only sufficient light to render "darkness visible," the inmates elongated and blanched in their vain endeavours to strain after light. For years these were endured with grumblings and regrets from the more light envying portion of those who had the care of them; but no sooner does a substance present itself which shall transmit light in ample abundance than a cry is raised that there is too much heat.

Heat one can retard when we get too much. Light, of which we cannot be over supplied, when that supply is limited we cannot augment. The great desideratum then is a clear glass that shall transmit every possible ray of light when it is most needed. Contrast the wood of a Vine grown under sheet glass in a modern house with one from beneath the semi-transparent medium of a century gone; the comparison need not be recorded. When it shall become generally adopted, its management thoroughly understood, and its good qualities appreciated, tropical plants, which hitherto blossomed but sparingly, or not at all, shall be found in native luxuriance in the stoves of this country. Gardeners are too intelligent not to appreciate its capabilities; such an appreciation may be of slowth growth, but it is certain—at least we will hope so.

To all about to build a greenhouse, I would say employ white glass, or British sheet glass, if you like the term better. Never mind whether it is 16 oz. or 60 to the foot, consult your pocket; but a good medium thickness, being stronger, is of course the cheapest. But having built your house, an indispensable appendage is the means of affording shade during the direct influence of a summer sun; without such, all the disasters alluded to will attend you. But with the means of affording sufficient shade to ward off the direct action of the sun in the few summer months, you can, by judicious management, moderate solar heat. And when the dark days of winter afford but barely sufficient light to prevent actual etiolation, and not sufficient solar heat to prevent decomposition in the tissues of succulent or imperfectly organised plants, when that heat has to be strained through a blackened and dirty roof, then, I repeat, you will feel the benefit of your British sheet glass, and rejoice in its possession.

Of all the important elements essential to the full development of vegetable life, in its broadest and most comprehensive sense, light must stand paramount. The importance of heat is overrated; every day practice and observation prove the truth of such an assertion. Moisture can by artifical means be afforded with tolerable regularity both to the soil and atmospherically. Of air, although we have not the best means of applying it to plant structures, a good supply is always at hand; but of light we often are sadly deficient, and cannot therefore afford to part with one ray of such an important auxiliary. A roof of white glass, in 3-feet long panes, will give us a reasonable supply.

In conclusion, I would say whoever has the care of structures of such a description must be no laggard in his work. Constant vigilance, unceasing attention, a liberal system of practice in every operation, must be carried out. There must, there can be no coddling. There is a certain relationship in light, heat, moisture, and air; if you treat one liberally, so must you treat all; they are four mighty principles in the development of organic life; and to employ one successfully is to employ all: each great in itself, greater in combination; but the greatest of all is—*Light*.

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

ASPARAGUS.—Having recently visited several gardens belonging to my friends, I have been surprised at the bad state of the Asparagus beds in almost all cases. A complaint is common that the crop is small and deficient, that the beds appear to be worn out, and but very few of my acquaintance find an adequate quantity of this very delicious vegetable as the result of their expense and labour. On enquiring into the causes of this failure I have not met in any one case with a rational answer. The parties seem quite ignorant of the commonest principles of vegetable growth, and of the conditions on which a good crop of Asparagus depends; and although the failures alluded to are attributable to the most obvious causes, neither masters nor men have discovered them. This is vexing, for the *Chronicle* has given very explicit directions for Asparagus growing. However, the work must be done again, and I proceed to detail the treatment, which, if followed, will enable the amateur to have Asparagus to his lamb chops to his heart's content.

If a well-made bed is not in your possession, this is not the time to make one. Presuming you have one, it will now, in high situations, be yielding its produce; for in warm and sheltered quarters, I believe, cutting is over. The grand rule to be observed is, do not cut too much. You probably are aware of a plan to exterminate weeds, by constantly cutting off the foliage, when the root is not easily accessible. Try this with the Nettle or the Dandelion, removing their shoots as they appear, and you will find the produce becomes gradually more feeble, until it disappears altogether. Why does this constant deprivation of the foliage thus kill the root? Because the root is as dependent on the leaves as they are upon the root, receiving from them the elaborated sap which they form by means of solar light and air, and convey downwards for future purposes. When therefore leaves are not allowed to be developed, the root is weakened, and if the process is continued long enough, it will inevitably die. Now there is no difference between the Nettle and Asparagus in the essential arrangements of their physiology. The shoot of the latter is the stem, destined to develop foliage, and if cut off, Nature makes another effort and produces a duplicate to replace that which is removed. If a bed of Asparagus were left to itself, a few strong stems would be produced, which are multiplied tenfold by cutting, each succession being weaker than that which preceded it. Every cutting therefore is injurious, but the damage is repaired to some extent by a high artificial cultivation, and within certain bounds the shoots may be cut off without materially deteriorating the plants. Knowing when to stop is therefore the grand secret in growing Asparagus, for the less the roots are stimulated by the effort of re-production, the finer will be the produce next year. In order, therefore, to have sufficient for a family, the beds should be so extensive as to allow of enough being gathered without unduly weakening the plants. In large gardens I would suggest a succession of beds, one set cut now being allowed an uninterrupted growth next year; in this way Asparagus could not degenerate.

When cutting is over, the growth of foliage commences, and every aid should be given to make that as fine as possible. Last week I saw an Asparagus bed covered in every vacant space with rampant Lettuces, abstracting from the soil that nutriment which its exhausted owner so much needed. Every weed should be kept down, and, as the growth proceeds, liquid manure should be applied. The properties of salt in relation to Asparagus ought to be well understood by this time. Before rain, the beds may be strewn over with salt, so as just to cover the ground; this repeated two or three times while the stems are growing will be productive of great good. Having thus carefully tended the growing plant; giving it all the benefits of sun, air, and manure; it will gratefully repay you. Summer and autumn will restore the ravages of spring, and sufficient nutriment, or rather of organisable matter, will be stored up in the roots to push forth in fine Asparagus shoots another year. Moderation in cutting and skill in growing the stems and foliage are thus the two grand conditions to be observed.

I may mention, in conclusion, that this year I adopted the plan recommended by a writer in the *Gardeners' Chronicle*, of throwing the earth from the alleys of the beds on to the surface, to the depth of 3 inches more than in ordinary years. I confess the Asparagus never was finer, and probably in this very dry season I am indebted to the advice thus followed for a very abundant crop.—*H. B.*

Home Correspondence.

Scorching Effects of British Sheet Glass.—I beg to inform Mr. Roberts that my Vines, in a succession Pine stove, glazed with British sheet glass, 21 oz. to the foot, have been scorched during these last 10 or 12 days, and that the Vines in this same house have been scorched regularly for these last 9 years. We have, in the same range, a Peach-house and greenhouse glazed with British sheet glass, with Vines in each, which have never had a leaf scorched. Why should the Vines in one house scorch, and not in the others?—*Thomas Lansly, gr. to J. H. Leche, Esq., Carden Park, Chester, May 24.*——My Vinery has been planted three years. The roof-lights are together 20 feet in length, glazed with very thick sheet glass, in 2 feet lengths, so that there are only two laps in the 6 feet lights between each pair of bars. The wood of last year is suspended from a trellis at distances of 16 and 18 inches from the glass; but not a leaf is scorched, not even where a vigorous shoot has reached up to the glass from the trellis, and has remained in contact with it. My Camellias, and a few plants of the Citrus tribe, have suffered most dreadfully under the same glass roof. Of this you will judge by the specimens sent. It is impossible for any plants to look more healthy than do the Vines at this moment. Very free ventilation has been given. The roots are planted inside, and by a continued sprinkling of the border a gentle moisture has been regularly preserved.—*T. A. K.* [The leaves are very badly scorched.]——My sheet glass has given me perfect satisfaction. The plants are looking well. No shade whatever has been applied to the house. The sun has had full play, and the plants appear to luxuriate in his rays; they require a little more attention as to watering, but then we are fully repaid by their healthy appearance. The house is 40 feet long, and the panes of glass 33 in. by 12 in. It has a noble appearance, and this sized glass is particularly valuable during the dull months of winter, producing an astonishing effect upon plants removed from other houses under it.—*J. Barrett, gr. to Sir H. E. Bunbury, Barton Hall, Bury.*—— I have pleasure in stating that my plants have not received the least injury from the use of sheet glass; on the contrary, I much prefer it, and I am not ashamed to show my houses of Pelargoniums against any that can be produced that are grown without sticks. Where injury occurs I consider it owing to the idleness or carelessness of the gardener, by placing his plants nearer the glass than is necessary. The heat from the glass is greater, therefore the plants must be further from the glass than in ordinary cases. I can recommend the glass most particularly for Strawberries, having made a pit with the last glass I had, which answers admirably. As my frames break and wear out I shall continue to use the sheet glass for every description of horticultural purposes.—*J. White, Manor House, Weathersfield, Essex.*——I have the charge of the forcing departments here. The Vines have only been planted 10 months, and have now grown to the top of the house; they are vigorous, and no scorched leaves are to be seen. The construction of the houses is ridge and valley and flat, glazed with British sheet glass, of 21 oz. and 25 oz. to the foot.—*M. Burke, Newby-park, near Thirsk.*

Pruning Forest-trees.—In looking over late numbers of the *Chronicle* I have met with some observations, by "Quercus" (Dec. 25, 1847), on the Pruning of Forest-trees. A considerable space of time has elapsed since these observations were written, but the same opinions

therein expressed are still entertained in many quarters. "Quercus" states that my system of pruning is quite opposite to his notions regarding the management of trees. This is obvious enough, though I think he has not sufficiently understood what my method exactly is. "All large trees (he says) have large tops." My plan does not extend to large trees; I shorten the branches till the trees are about 25 feet high, and 21 inches in circumference near the ground, before beginning to prune close. I then begin to cut off close the undermost tier (or year's growth) of branches, continuing annually to cut off a tier upwards till the stem is of the required height. Now, the shortening of young trees does not prevent them from extending their branches when advanced in age; every tree in time assumes its characteristic form of top, and the process which I pursue only makes the stems shoot up faster than in neglected trees, and they acquire more strength and size in a given time. This fact "Quercus" denies; and pronounces it contrary to common sense, "to think of facilitating the increase of timber by curtailing the very organs by which that process is effected." My plan does not deprive the tree of the organs of growth; the branches, of course, are shortened, but the leaves shoot forth on these most abundantly, and are much fresher and larger than on neglected trees. This system is considered by "Quercus" as unscientific, and so forth; the word science, however, is often used very improperly, and put down in the meaning of theoretical conjecture. At present knowledge suits our purpose more plainly, and my knowledge of the subject in hand has been acquired through long experience; and though I by no means think that improvement is at an end—that I have arrived at perfection in the art—yet I believe that I have made advances in the right direction. "Quercus" admits that a rival leader may be "removed." If he means that a rival leader may be shortened, I think him sound; but if he means, as I suspect he does, that these rivals ought to be cut close from the stem, I differ from him. Cutting branches close from trees in what he calls their infancy is a mischievous, and often a ruinous practice. The wound made is always injurious, and very often rots back into the pith, and destroys the health of the plant. The texture of the wood (besides the smallness of the stem) is too delicate in very young trees for this operation. I may observe that trees may be too severely shortened; but it is the duty of the pruner to study the proper dimensions, and all who have no experience in the matter ought to apply to those who have for instructions. "Quercus" further says, "No wonder his lucubrations were so coldly received by the officials of the Highland Society, of which Mr. C. seems to complain. It would have been matter of regret had that patriotic Society put their indorsement on such notions." "Quercus" is in this mistaken; my notions were not "coldly received by the officials of the Highland Society;" on the contrary, they gave me their silver medal for my notions, and I have since received several letters of thanks from that Society for my "lucubrations." A cold reception to me from that quarter, however, could have afforded no relief to "Quercus;" for the person who was preferred was one who advocated pruning as strenuously as I do. Indeed, the Society wanted to ascertain the best method of pruning, and had they thought, like "Quercus," that trees were the worse for the interference of man, they must have seen the stupidity of either writing or thinking anything about the matter. As the Society of Arts of London are about to bestow a gold medal on the author of the best essay on the pruning of neglected trees, I hope "Quercus" will try his system with that body; and if they are satisfied either with non-interference or the removal of a rival leader, the opinions of "Quercus" may demand farther notice; but, as matters at present stand, I must beg leave to differ from his notions of pruning.—*Gavin Cree, Biggar.*

Forest Pruning.—In my paper on forest tree pruning published in January last, an operation which it is my practice to perform in the autumn, I stated that I had found the month of September to be that in which evergreen trees were least disposed to bleed. Since then the discussion on planting of Hollies has led me to try the spring, which I am now satisfied is the proper season for pruning Spruce trees, those pruned during March and early in April having shown no indication of bleeding. I should be sorry if any one has been misled by the opinion formerly stated.—*J. S.*

Pinus insignis.—We have this showing two cones on the leading shoot; they are small at present, and look very small at 30 feet from the ground, which is about the height of the tree. I am aware that it is not the first tree of the kind that has produced cones in this country, but still it may be of interest to some of your readers to know that it will cone, although not quite so soon as some might think it ought.—*G. K. S. Plumbly, Essendon-place, Herts, May* 17.

Irish Vegetable Markets.—I have been all through the markets here, and the vegetables are not near as plentiful or good as in Cork, particularly Broccoli and Salads of all sorts. Asparagus is plentiful and cheap—from 1*s.* to 1*s.* 11*d.* a hundred (six score); but it is the white kind, with the short green top, very little of which can be eaten. The white Cabbages I saw were very poor indeed; I gladly saw some fine new Potatoes, perfectly free from any kind of disease.—*J. B. Warren.*

Vipers, Adders, &c.—As I see that your correspondents are still doubtful whether the young of snakes or adders pass in and out of their parents' mouths, I take the liberty of assuring you that last summer I saw a full grown adder on the lawn before my window; I killed it, and perceiving it to be unusually large about the abdomen, I proceeded to cut it open, expecting to find a large frog or a young bird. This opening process had scarcely commenced when a fine young adder crawled hastily out of the old one's mouth, being followed as quickly as possible by seven others; I killed them all, and found (by measurement) that they varied in size from 6 to 9 inches. This I saw: as to the young of snakes I say nothing; but having seen the above named fine brood of young adders come out of the old one's mouth, and as they were certainly not newly born, I presume your correspondents may safely believe that they had run in.—*T. H. C., Dorset.*

Polmaise Heating.—In reply to "Delta" I have to state that the brick arch is as flat as possible, consistent with safety. It is formed of common fire brick on edge, a cross brick from the base of the arch to the wall of the hot-air chamber is laid in on each side, to strengthen the arch; the whole is worked with fire clay, the centre is left in and consumed by the first fire. Each room has a cold air return pipe; those of the ground floor are taken from the most suitable corner of the room into the cellar where the stove is built; those of the bedrooms are carried down inside the outer wall of the house and out at bottom into a main running outside the house. The necessity of this would be avoided in building a new house by proper flow and return drains in the walls. The warm air pipe (1 ft. square) for three rooms, one on the ground floor and two bedrooms, comes from the stove into the downstairs room; it is then carried up to the ceiling under one bedroom, and continued along the ceiling until it is under the other bedroom. An opening, 4 inches square, is cut through the floor into each bedroom, and an opening, covered by a slide, in the downstairs room. The pipe is of inch deal, three sides being laid against the wall; it shrunk a little at first but has not warped; it was only loosely tacked together at first that it might be finished when shrinking had ceased: into the two other downstairs rooms the warm air is brought direct from the stove below; in one case it comes into the old fireplace, the chimney above being stopped up. The iron pipe is the flue of the stove; it bends over the top of the arch, to save heat, and then enters the chimney. There is no unpleasant smell from the heated air, and persons sleeping in the bed-rooms are delighted with the mode of warming them. I believe that the stove will warm more than the present number of rooms, for the slide in the first-named downstairs room has scarcely ever been opened, the room being generally too warm, from the air escaping from the slight crevices between the wooden box and the wall.—*T. W. L.*

A "Cauliflower" Hyacinth.—My attention was called by a friend to the curious appearance of a Hyacinth, which I have had three years in the ground without flowering, and on examining the plant I found that two roots had sent up a scape each, of the singular appearance represented in the annexed wood-engraving. It was evidently a "Cauliflower" Hyacinth, and it appears a rare case to me. A distinguished botanical friend who has seen it suggested that there ought to be about 15 branches to each tubercle, for each prominence in the flower head evidently represents a separate flower, and the 15 organs might be each supposed to become a branch; the branch (*a*), selected from about the middle, has something near this number; those below have many more, those above it less. I have added a magnified branchlet (*b*), to show the bract-like processes which clothe each ramification. I am not quite clear about the species, but send the specimen with a leaf for your examination; the latter seems too broad for the common H. conscriptus.—*J. W. Salter, Camden-town.*

Early Peas.—I have not heard that any of your correspondents have yet gathered Peas from the open ground. I am quite in the north of Lancashire, and I gathered a fine dish of green Peas on the 20th of May in the open ground. They were sown in boxes about the middle of January, and planted out in the open ground in the beginning of February.—*T. Dungey, gardener to W. G. Bell, Esq., Melling-hall, near Lancaster, May* 20.

Apple Blossoms.—"Este" asks if any one has observed the paleness of the Apple-blossoms this year? I have observed it here on almost all my trees, the only exception being one or two standards. Besides this my trees have scarcely a blossom on either standards or espaliers; trees that generally are covered, and which are regular bearers, such as the Aifriston and Scarlet Nonpareil, have not a dozen blossoms; what can be the reason of this? It cannot be treatment that causes it, because some are orchard-trees and have nothing done to them, and the espaliers are treated only as usual, when they bear abundantly.—*T. S. P., Windermere, May* 22.

Societies.

Horticultural, *May* 20.—The first of the annual series of exhibitions held by the Horticultural Society in their garden at Chiswick, took place on Saturday last. As a whole, this show was perhaps unequalled by anything of the kind hitherto witnessed in these gardens. The stove and greenhouse plants were numerous and fine. Never was there a better group of plants staged than that from Messrs. Fraser's Nursery, at Lea-bridge-road. The display of Orchids too was grand in the extreme, being produced in excellent condition; even a collection contributed by Messrs. Veitch, after travelling by rail and otherwise all the way from Exeter, was as fresh in appearance as if it had just been removed from the Orchid house. This gained the first prize, a fact which proves that, in these days of railways, gardeners are enabled to bring their productions from quarters far removed from Chiswick, and compete on an equal footing with their hitherto more fortunate suburban neighbours. In corroboration of this statement, we may cite a small collection of Azaleas which was exhibited by Mr. Fleming in perfect good order, after travelling all the way from Trentham hall, in Staffordshire. Roses in pots were wonderful for the season, a remark which also applies to Azaleas, of which there was a large and fine assemblage. Cacti were also produced in good condition, and there were excellent exhibitions of Cape Heaths and Pelargoniums. The fruit showed some improvement, as regards quantity, on that exhibited at the last May Show, and notwithstanding the unfavourable weather we have had for maturing fruit, it was mostly quite ripe. We were sorry, however, to see, in one or two instances, fruit which would no doubt have gained prizes disqualified from being wrongly entered, a fact which should serve to warn exhibitors to be more careful in future to enter their fruit properly themselves, or send persons with it who could do the same for them. Having said thus much, we will now begin to describe the scene in detail.

In large collections of 30 Stove and Greenhouse Plants, the first prize was awarded to Messrs. Frazer, of Lea-bridge-road, whose group, as we have already stated, contained excellent specimens of horticultural skill. At the back stood a huge Epacris grandiflora loaded with flowers; and supporting it fine plants of Polygala acuminata; Podolobium staurophyllum, studded with blossoms; a large and finely bloomed Erica intermedia; two plants of Ixora grandiflora; a white Azalea, large and well flowered; Zieyia inophylla floribunda, forming a ball 4 feet in diameter; Eriostemon buxifolium not sufficiently in bloom; Clerodendron Kæmpferi, with a huge panicle 2 feet in length of scarlet blossoms; Bossiæa disticha plumosa, 4 feet by 4, and finely flowered; and Boronia pinnata in capital condition. In front we remarked nice plants of Chorozema ovatum; the showy yellow-flowered Pultenæa stipularis; Pimelea Hendersonii, a neat species, handsomer than decussata; the somewhat scarce, though not new, Eriostemon neriifolium; Azalea fulgens, a glowing red variety; Erica perspicua nana, beautifully flowered; Boronia serrulata, one of the best of the genus and a species which forces well; the old-fashioned Diosma speciosa, and some Azaleas.—Mr. Donald, gr. to Mrs. Lawrence, of Ealing Park, was second, with a good collection, though certainly much inferior to the former. At the back stood a large Erica intermedia, and supporting it plants of Cytisus microphylla, Epacris grandiflora, a fine bush well flowered; a large Erica persoluta alba; two plants of the double-flowered Tabernæmontana coronaria; Statice macrophylla and arborea; and Eriostemon buxifolium, 3½ feet high by 3½ feet through, well grown and well flowered. In front were plants of Selago Gillii; the dark-flowered variety of Aphelexis macrantha; Pimelea spectabilis, 3 feet by 3, and well bloomed; Erica depressa, Pimelea Hendersonii, some Chorozemas, Dillwynias, and 6 Azaleas.

Collections of 15 Stove and Greenhouse Plants were exhibited by Mr. Green, gr. to Sir E. Antrobus, Bart., of Cheam; Mr. Cole, gr. to H. Colyer, Esq., of Dartford; Mr. Slowe, gr. to W. R. Baker, Esq., of Bayfordbury; and Mr. Stanly, gr. to H. Berens, Esq., Sidcup, Kent. Of these, Mr. Green's plants were the best. Among them were good specimens of Erica Cavendishii; Erica propendens, a handsome Heath; Epacris grandiflora; Stephanotis floribunda; Eriostemon buxifolium, a fine plant 3 feet high and as much through; a beautiful, large, and well-flowered Dendrobium nobile; the purple variety of Aphelexis sesamoides; Tetratheca verticillata, rather a handsome violet purple flowered greenhouse plant; the beautiful yellow Gompholobium splendens; Sphenotoma gracilis, the little, chaste, white heads of which are very suitable for bouquets, and a beautiful plant of the blue Leschenaultia.—Among Mr. Cole's plants were Pimelea decussata, a large bush; a tall Clerodendron Kæmpferi, the blue Leschenaultia, Ixora grandiflora and crocata, Sphenotoma gracilis, Eriostemon buxifolium, a neat plant of Pimelea Hendersonii, and two species of Aphelexis.—Mr. Slowe sent a large white Azalea; a nice little, well-flowered Boronia, Sphenotoma gracilis, a good Polygala, Cereus Mallesonii, covered with flower-buds, and other well managed plants.—In Mr. Stanly's group were Azaleas, Chorozemas, Aphelexis purpurea, Ixora coccinea; a good Phymatanthus tricolor, and Erica perspicua nana.

Collections of 10 Stove and Greenhouse Plants were numerous. The best was that shown by Mr. Carson, gr. to W. F. G. Farmer, Esq., of Nonsuch-park, Cheam. This consisted of a large Pimelea decussata, the blue Leschenaultia, Tabernæmontana coronaria, in robust health, but not sufficiently in bloom; Aphelexis humilis, a well-flowered Azalea lateritia, Gompholobium

polymorphum, ornamenting a large wire trellis with its beautiful blossoms; a nice plant of Franciscea latifolia, and a beautiful, low-spreading specimen of the red-flowered Leschenaultia.—The next best group was produced by Mr. Pawley, of Bromley, and contained plants of Æschynanthus ramosissimus, Ericas Cavendishii and elegans, and a specimen of Oncidium altissimum. —Mr. Jack, gr. to R. G. Loraine, Esq., of Wallingford, contributed a nice group, in which were well-flowered plants of Ixora coccinea, the blue Leschenaultia, Adinandra speciosa, Aphelexis humilis, the useful Torenia asiatica, a large purple Azalea, and a good plant of Dendrobium fimbriatum.—Mr. Taylor, gr. to J. Coster, Esq., of Streatham, produced the next group, in which were Acacia pulchella, in nice condition, Leschenaultia formosa, Aphelexis humilis, Erica Cavendishii, and Pimelea spectabilis.—Mr. Bruce, gr. to B. Miller, Esq., of Tooting, communicated a collection containing Erica depressa, seldom seen in better condition; Bouvardia flava, a comparatively new and rather pretty species, but in this instance its blossoms were hardly sufficiently developed; a well-flowered Azalea lateritia, and other plants.—Mr. Malyon, gr. to T. Brandram, Esq., of Blackheath, showed evenly grown plants of Pimelea spectabilis, Erica hybrida, two species of Aphelexis, and Boronia pinnata; and, finally, Mr. Glendinning, of the Chiswick Nursery, contributed a group of 10 plants, among which were Erica Cavendishii; the round-leaved variety of Chorozema varium; a variety of Aphelexis humilis; a well-flowered Ixora coccinea; Statice arborea; Gompholobium ericoides; small plants of Tremandra Hugelii; and of Erica perspicua nana.

The display of ORCHIDS, as we have already stated, was large and fine, and most of the plants remarkably well grown. In large collections, Messrs. Veitch, of Exeter, were first. In this group were various Oncids, the long slender flower-stems of which, gracefully intertwining with each other, produced a pleasing effect; Calanthe veratrifolia, with 8 spikes of white blossoms; Sobralia macrantha, bearing one blossom as large as the open hand; a Cattleya Mossiæ, with 12 flowers; Dendrobium formosum, producing 7 large white blossoms; Phalænopsis amabilis, and the large-flowered species; Saccolabium præmorsum, a charming species, even handsomer than S. guttatum; the exceedingly beautiful Dendrobium Devonianum; Cypripedium barbatum, with 11 flowers on it; and various other fine things in equally good condition. —The next collection in point of merit was produced by Mr. Rae, gr. to J. J. Blandy, Esq., of Reading. This was a capital collection, which, however, contained too many Cattleyas, there being in it five or six plants of this genus. Besides these it contained Oncidium ampliatum, and other Oncids; a large mass of Saccolabium guttatum, in a wire basket, with some 15 spikes of flowers on it; Brassia Wrayæ; Lycaste Deppei; Anguloa uniflora, bearing four small flowers; the yellow-blossomed Peristeria cerina, and other plants. The third group was contributed by Mr. Mylam, gr. to S. Rucker, Esq., of Wandsworth; in this we remarked the beautiful Vanda teres, the cinnabar-coloured Lælia, the curious Oncidium phymatochilum, a fine O. ampliatum; Dendrobium densiflorum, bearing some 15 gracefully drooping racemes of yellow flowers; Aganisia pulchella, the ivory-blossomed Cymbidium (C. eburneum), Odontoglossum citrosmum, with four pendent spikes of blush-coloured blossoms; the rare and beautiful Anguloa Ruckeri, having one open flower, which served to show what a beautiful thing it is; Saccolabium guttatum, Cattleya Mossiæ, with from 10 to 12 open blossoms; and the unassuming Burlingtonia venusta.—Finally, a fourth group of 20 plants was exhibited by Mr. Donald, gr. to Mrs. Lawrence, of Ealing Park; this contained five Oncids, Epidendrum vitellinum, a variety of Cattleya Mossiæ, the lovely Saccolabium præmorsum, a mass of S. guttatum, and a small plant of Cattleya labiata.

In collections of 10 ORCHIDS, three awards were made; 1st, to Mr. Williams, gr. to C. B. Warner, Esq., of Hoddesdon; 2d, to Mr. Plant, gr. to J. H. Schroder, Esq., of Stratford-green; 3d, to Mr. Carson, gr. to W. F. G. Farmer, Esq., of Cheam. Mr. Williams' plants were large, capitally managed, and most of them finely flowered. Among them were Dendrobium cærulescens, forming a bush 3 feet high and as much through; the large variety of the spotted Brassia, with 13 spikes of flowers; Epidendrum crassifolium; Calanthe veratrifolia, with 11 flower-spikes; Oncidium sphacelatum, with 13 flower-spikes; a fine Brassia verrucosa major; Phaius Wallichii; Camarotis purpurea, and a large and fine Dendrobium nobile. Mr. Plant's group contained Calanthe veratrifolia, with 12 flower-spikes; a good Epidendrum crassifolium; the true Cattleya intermedia; Aerides crispum; the queer Scuticaria Steelii; and Trichopilia tortilis, a foot high and as much through—a perfect gem, profusely ornamented with its trumpet-shaped flowers, which were disposed with the greatest regularity; this last was in a pan. The more remarkable of Mr. Carson's plants were Saccolabium præmorsum; a large and fine specimen of the brown-spotted Acineta Humboldti, bearing 7 pendent flower-spikes, but not all fully developed; a well bloomed specimen of Acanthophippium bicolor, and Epidendrum macrochilum roseum. A collection of 10 plants was also produced from the nursery of Messrs. Loddiges, of Hackney; it comprised the Duke of Devonshire's Dendrobe (D. Devonianum); Vanda teres; Aerides virens; Acanthophippium bicolor; Lycaste crocea; the little purple-flowered Saccolabium ampullaceum, and other plants.

In collections of 6 ORCHIDS, three prizes were awarded: 1st, to Mr. Eyles, of Roehampton; 2d, to Mr. Dobson, gr. to Mr. Beck, of Isleworth; and 3d to Mr. Green, gr. to Sir E. Antrobus, of Cheam. The more remarkable of Mr. Eyles' plants were Cattleya Mossiæ; a large Oncidium altissimum, and Epidendrum alatum. Mr. Dobson sent Oncidium stramineum, Saccolabium guttatum, the larger variety of Oncidium ampliatum, and Epidendrum crassifolium. Mr. Green produced Dendrobium pulchellum, forming a ball of flowers upwards of a foot through; and good plants of Phaius grandifolius and Epidendrum macrochilum. Of rare Orchids, Mr. Rucker showed a new white-flowered Cœlogyne from Borneo. Mr. Warner, Lælia majalis. Messrs. Rollisson, Vanda tricolor. Mr. Eyles an Epidendrum, named Hanburii.

Collections of GREENHOUSE AZALEAS were numerous, and, as a whole, striking in appearance. Nearly one side of a large tent was alone devoted to the exhibition of this showy May flower. Three groups of 12 varieties were produced—1st by Mr. Green, 2d by Messrs. Frazer, and 3d by Mr. Donald. Mr. Green's plants were large and finely flowered, and consisted of speciosissima; pallida; a huge double red; Gledstanesii, at least 5 feet high and about as much in width—a mass of bloom; triumphans; variegata, finely flowered; the old A. sinensis, in lovely condition; lateritia, and exquisita. The latter is a distinct and pretty variety, but unfortunately too leafy to be highly ornamental.—Mr. Frazer's collection was inferior to the above as regards bloom. It contained some of the better varieties, among which we remarked fine bushes of Smith's coccinea, optima, purpurea superba, old white, variegata, phœnicea, speciosissima, sinensis, lateritia, triumphans, Minerva (a brilliant red), and Exquisita.—Mr. Donald contributed macrantha purpurea, a large showy purple; triumphans; Lawrenceana; leucomegista, a very pure white; Gledstanesii; variegata, and lateritia.—Messrs. Lane, of Great Berkhampstead, also showed a collection of 12 plants, among which Rosea elegans and picturata were perhaps the most remarkable.

In collections of 6 AZALEAS, Mr. Fleming was first, Mr. Carson second, and Mr. Ivery, of Dorking, third. Mr. Fleming's plants, to which we have already alluded, were lateritia, splendens, fulgens, speciosa, pallida, variegata, and speciosissima. — Mr. Carson showed, among others, coronata, a bright rosy pink; Gledstanesii; and præstans, the latter a striking variety—dark bright red. In addition to these a group of 6 plants was also shown by Mr. Bunney, of Stratford.

CAPE HEATHS. — These formed an attractive feature of the show, being numerous and in fine condition as regards bloom. A Gold Knightian Medal was awarded to Mr. May, gr. to E. Goodhart, Esq., of Beckenham, for a fine collection of 15 plants, among which were specimens of Humea, perspicua, Westphalingia, propendens, Cavendishii, daphnoides, a pretty species; denticulata moschata, elegans, depressa, admirably flowered—a rare occurrence; Halicacaba, and ventricosa coccinea minor—perhaps the most free flowering of all Heaths.—In the *Nurserymen's Class*, prizes were awarded, 1st to Messrs. Fairbairn, of Clapham; and 2d to Messrs. Rollisson, of Tooting. The former had admirably managed plants of ventricosa coccinea minor, Wilsonii, a fine, large-flowered variety; Cavendishii, a capital plant; delecta; a large plant of ventricosa brevifolia; elegans; a large vestita alba; the pale-yellow blossomed denticulata moschata; and suaveolens. In Messrs. Rollisson's group were ventricosa splendens, a pretty rosy-flowered sort; a large and fine Cavendishii; densa, hardly sufficiently in bloom; a magnificent Westphalingia, a beautiful species when well flowered; Beaumontia, and a well-flowered ventricosa coccinea minor.

Collections of 9 CAPE HEATHS were numerous. The best was contributed by Mr. Mylam, gr. to S. Rucker, Esq. It contained mundula; a variety of ventricosa, called prægnans; v. coccinea minor, the red variety of tricolor, Cavendishii, Sprengelii, a distinct and beautiful variety; and others.—In Mr. Taylor's group, which was second, were nice plants of Bergiana and ovata, two pretty, small-flowered species.—Mr. Jack, gr. to R. G. Loraine, Esq., who was third, sent specimens of Beaumontia, splendens, perspicua nana, and vestita alba. Other groups of 9 plants, all of them creditable to the exhibitors, were produced by Messrs, Malyon, Green, Ayres, Frazer, Pamplin, Pawley, and others. Among these we remarked plants of campanulata, a distinct species, covered with little yellow bells; mirabilis, Thunbergiana, persoluta alba, and a variety of grandinosa, called nana, which appears to be an improvement on the species, more especially in point of habit. As specimen Heaths, Mr. Malyon showed a large vestita coccinea; Mr. Hamp, gr. to J. Thorne, Esq., a fine Cavendishii; Mr. Bruce, a large and fine translucens rosea; and Messrs. Frazer ventricosa breviflora.—Some seedlings were shown by Messrs. Veitch, the best of which was named Perelegans, and was rewarded by a certificate.

ROSES in pots attracted much attention, and, considering the season, reflected much credit on the growers. In the *Amateurs' Class* for 12 varieties the 1st prize was awarded to Mr. Slowe, gr. to W. R. Baker, Esq., of Bayfordbury, who had capital specimens well bloomed of *China*: Mrs. Bosanquet, Pactolus, Hymene, Archduke Charles, Belle Emile, Triumphante, Nina. *Hybrid Perpetual*: Madame Laffay. *Bourbon*: Queen, Bouquet de Flora and Emile Courtier. *Tea*: Goubault. The 2d prize was awarded to Mr. Dawson, gr., Panshanger, for—*Hybrid Perpetuals*: Aubernon, Baron Prevost, La Reine, Louis Buonaparte, Madame Laffay, and Rivers. *China*: Cramoisie Supérieure, Chénédolé, and General Allard. *Bourbon*: Augustine Margat, Henri Barbet, and Richelieu Duval.—In the *Nurserymen's Class* Mr. Francis, of Hertford, was first, with well managed plants of *Hybrid China*: Belle Marie. *Bourbon*: Charles Duval. *Perpetual*: William Jesse, Mrs. Elliott, La Reine, and Lane. *Tea*: Bougère, Devoniensis. *China*: Mrs. Bosanquet, Eugene Hardy. *Bourbon*: Souvenir de la Malmaison, Armosa. — Messrs. Lane and Son gained the second prize. Equal prizes were awarded to Mr. Dobson, gr. to Mr. Beck, of Isleworth, and Messrs. Paul, of Cheshunt. Yellow Roses in six varieties were exhibited by Mr. Francis, the sorts being—*Noisette*: Cloth of Gold, Solfaterre, Smith's Yellow. *Tea*: Elise Sauvage, Pauline Plantier. *Austrian Briar*: Harrisonii. — Messrs. Francis and Lane also showed cut Roses in 50 bunches each, the former gaining the first prize.

Of CACTI there were two collections, one by Mr. Green, the other by Mr. Bruce, of Tooting. In Mr. Green's were well-flowered plants of Cereus speciosissimus, Epiphyllum aurantiacum, E. speciosum, Ackermanni, Greenii, and Jenkinsonii. Cereus speciosissimus was furnished by Mr. Bruce, together with plants of C. flagelliformis, Epiphyllum speciosum, Jenkinsonii, and Ackermanni.

As single specimens of superior cultivation a considerable number of plants were staged. For these prizes were awarded in the following order—1st, to Mr. May, gr. to E. Goodhart, Esq., for a most beautiful specimen of the larger variety of the blue Leschenaultia; 1st, to Mr. Bruce for Aphelexis sesamoides; 2d, to Mr. Hill, gr. to T. Davis, Esq., of Acton, for Pimelea decussata; and 3d, to Mr. Eyles for Torenia asiatica, a pretty specimen.—Among *Nurserymen*, prizes were awarded, 1st to Mr. Pamplin, of Lea-bridge, for a fine Pimelea spectabilis; 2d, to Mr. Frazer, for Boronia serrulata; 2d, to Mr. Pamplin for Campylia holosericea; 3d, to Messrs. Frazer for Epacris grandiflora; 3d, to Mr. Glendinning for Pimelea Hendersonii; 4th, to Messrs. Frazer, for Boronia pinnata; and 5th to Mr. Pamplin, for Eriostemon buxifolium.—Mr. Salter, gr. to J. M. Yeals, Esq., showed a specimen of Acrophyllum venosum, to which we were surprized to see no prize awarded, for it was really a fine specimen of a highly ornamental and somewhat scarce plant. Other single specimens of less merit were also exhibited.

Among NEW PLANTS, Mr. Iveson, gr. to the Dowager Duchess of Northumberland, at Syon, showed a noble specimen of Platycerium grande, and a little tree of Napoleona imperialis in bloom, of which some account appears in another column.—Messrs. Veitch exhibited a new hardy Gesnerad, named Mitraria coccinea, with beautiful scarlet tubular flowers, much inflated in the middle; a new, hardy, yellow-flowered Violet, which was, however, not sweet scented; a yellow-blossomed Tropæolum named polyphyllum, a second-rate variety; Statice imbricata; a new species of Boronia, apparently an abundant bloomer; Siphocampylus pubescens, and a blue-flowered Salvia, very like S. chamædryoides. —Mr. Jack showed an Æschynanthus named javanicus, a beautiful species; Mr. Donald some Pultenæa misnamed Burtonia sessiliflora; Mr. M'Intosh, gr. to J. Windham, Esq., of Salisbury, Dipladenia nobilis; Messrs. Rollisson, Siphocampylus pubescens, and a Gloxinia named Teuchleri, having red flowers striped with bluish grey, a pretty variety, which would have received a prize if it had not been disqualified by being shown under a wrong letter. The same Nurserymen also showed a plant of Mr. Fortune's Gardenia.

Two collections of HARDY FERNS were exhibited, one by Mr. Taylor, gr. to J. Coster, Esq.; the other by Mr. Williams, gr. to C. B. Warner, Esq. The former sent good plants of Lastrea Filix-mas, cristata, and dilatata, Polypodium Phegopteris, Osmunda regalis, Scolopendrium vulgare, Cystopteris dentata, Blechnum boreale, Athyrium Filix-fœmina, and Polystichum aculeatum.

Miscellaneous objects comprised a good plant of Franciscea hydrangeæformis from Mr. Green; 12 hardy Rhododendrons from Mr. John Waterer, of Bagshot; R. Blandeanum, from Messrs. Standish and Noble, who also contributed 18 hardy seedling Azaleas, and an Azalea called Glory of Sunning Hill, for which a Certificate was awarded; 10 hothouse Ferns by Mr. Williams, gr. to C. B. Warner, Esq.; a seedling Petunia, whose lilac flowers measured quite 4 inches across, by Mr. Ingram, of Frogmore, and a box of cut hardy Azaleas from Mr. H. Waterer, of Knap-hill; Mr. Jack sent a pink-flowered Hypocalymna called robusta; the large yellow-blossomed Gompholobium barbigerum; Mr. Carson, Telopea speciosissima, a handsome red-flowered Protead; masses of Pistia stratiotes came from Mr. Donald, gr. to Mrs. Lawrence; pots of Ixia crocata from Mr. Platt, of Hammersmith, and Amaryllids from Mr. Hamp, of South Lambeth.

The collections of PELARGONIUMS made a good display in the tent appropriated to this class of flowers. Mr. Cock, of Chiswick, received the Gold Banksian Medal in the *Amateurs' Class* for 12 new and first-rate varieties, cultivated with superior skill. The varieties were, Zenobia, Paragon, Negress, Pearl, Forget-me-not, Orion, Hector, Miss Holford, Armada, Rosy Circle, Minerva, and Sylvia. Mr. Staines, of the New-road, received the 2d prize for Orion, Rosy Circle, Duke of Wellington, Chimborazo, Bianca, Mustee, Arabella, Duchess of Leinster, Vesuvius, Camilla, Pompey, and Forget-me-not; 3d, Mr. Robinson, gr. to J. Simpson,

sq., for Sylph, Madeline, Aurora, Sarah, Pearl, Eliza nuvage, Desdemona, Juliet, Orion, Rosy Circle, Maida, and Duke of Cornwall. In the same class, for *Nurserymen*, the Gold Banksian Medal was awarded to r. Dobson, gr. to Mr. E. Beck, Isleworth; this collection consisted entirely of flowers raised at Worton ottage; the sorts were—Centurion, Aurora, Gustavus, assandra, Princess, Hebe's Lip, Rosamond, Cracker, lanche, Gulielma, Honora, and Cavalier; 2d, Mr. ines, whose varieties were—Marc Antony, Model, oyager, Iago, Queen of Beauties, Florabunda, Cassndra, Miss Holford, Princess Olga, Lady Kitty, Chiefin, and Angelina. In the class for collections of 6 rieties, grown in 11-inch pots, the first prize in the *mateurs' Class* was awarded to Mr. J. Parker, gr. to H. Oughton, Esq., for Camilla, Rosy Circle, Orion, r W. Scott, Superba, and Isabella; Mr. Staines reived the 2d prize for Madeline, Emma, Erectum, lph, Sir R. Peel, and Vesuvius. In the *Nurserymen's Class* there was no competition; Mr. Gaines reived the first prize for King of Beauties, Pompey, ion, Cossack, Emma, and Cotherstone.

In the class of FANCY PELARGONIUMS, exhibited in varieties, the first prize was awarded to Mr. Gaines, o showed Anais, Ytolinski, Queen Victoria, Yeatueanum, La Belle d' Afrique, and Ibrahim Pacha; Mr. Ambrose, for Nosegay, Anais, Lady Rivers, dy Flora Hastings, Queen Victoria, and Ibrahim cha. Both these collections were well grown, comt, and covered with their gay little flowers.

CALCEOLARIAS.—In this class of flowers we cannot t observe that the collections shown at exhibitions do t keep pace with the improvement effected in the wer. We have seen for some years past seedlings ich are very superior to those exhibited for prizes; fact, generally speaking, the collections are so infer to the sorts that have been submitted for judgnt as seedlings, in size, form, and marking, that if w submitted for inspection, would receive scarcely a ssing notice. We think this injudicious, for by exiting the best flowers, greater interest would be exed, and the flower more generally cultivated. In *Amateurs' Class*, Mr. Stanly, gr. to H. Berens, q., obtained the Silver Knightian Medal for Eliza ok, Incomparable, Solicitor-General, Jenny Lind, chantress, and Duke of Albany; 2d prize to Mr. e, gr. to W. H. Gilliat, Esq., for Maid of Lodi, Caine, Arethusa, La Polka, Lady Mills, and Rhodolus. In the *Nurserymen's Class* Mr. Gaines reved the Silver Gilt Medal for 6 well grown plants, nsiting of Lady Mills, Zenobia, Attractor, Perii, odolphus, and Lady Middleton.

A certificate for a seedling fancy Pelargonium was arded to Mr. Gaines for a variety named Ne Plus Ultra, gay and lively flower, an acquisition to this peculiar ss.—Among seedlings exhibited, a white Pelargonium med Mont Blanc, from Mr. Beck, raised by Mr. orey, which promises to be an acquisition to this class, od white flowers being very scarce; it is a pure white, th a small spot in the upper petals of a rosy purple our; the flower is large, well formed, and it appears be a free bloomer; Purpurea, a seedling of the preat year from Mr. Beck, promises well; the flower is od in form, with stout even petals, rosy purple below, e upper part having a large deep blotch in each, surnded by a margin of the ground colour; Aurora's am, also a seedling of 1847, is a richly coloured variety, e petals having a deep blotch, with a margin round ch of the same colour as the lower petals, which are eep rose with a spot in each. There was also a tray Calceolaria blooms from Mr. Holmes, of Sudbury, ich contained many specimens large and fine in colour. r. Robinson showed a well bloomed specimen of his rbena "Defiance;" it was trained upon a flat wire me, and exhibited 50 expanded trusses of the most zzling scarlet, producing a brilliant effect.

Of the FRUIT exhibited we shall give some account xt week.

The Egham Gardeners' Instruction Society.—This Society, which s been organised under very favourable auspices, held its ond meeting on Wednesday evening, May 3d, in the large om of the Literary Institute. The business consisted of opting a code of rules which had been prepared for its vernment, and electing office-bearers, &c., and the enrolment members. Mr. J. Oades kindly consented to act as Treaer, and very generously made a donation of 10*l.* towards the nds. Mr. L. Macgregor, nurseryman, undertook the office Librarian, and Mr. Sherwood that of Secretary. The ennce fee of members is 2*s.* 6*d.* and the quarterly subscripn, 1*s.* A donation of 10*l.*, or an annual subscription of 1*l.* 1*s.*, nstitutes the donor or subscriber a member for life.—*W. rwood, Hon. Sec.*

Country Shows.

Newark Floral and Horticultural Society, April 25.—This, the st show, was held on the Castle Grounds, Newark. The lowing is a brief abstract of the prizes which were awarded: e best stand of 6 Auriculas to Mr. W. H. Cuparn, for Page's fiance, Smith's Waterloo, Fletcher's Ne plus Ultra, Dickn's Prince Albert, Scholes' Mrs. Clark, and Kenyon's Lord ancellor. The second stand of 6 Auriculas to G. Hodgkinn, Esq., for Page's Duchess of Oldenburgh, Smith's Britannia, retch's Alexander, Lee's Venus, Flora's Flag, and Queen of e Alps. In the classes of Auriculas prizes were awarded for e best green edged to Mr. Taylor for Hedge's Britannia; the st grey edged to Mr. Girton, for Gaines' Privateer; best ite edged to Mr. Girton for Pillar of Beauty; best self to r. S. R. Hole for Lord Lee; best alpine to Mr. Cuparn for ttleby's True Blue. The best stand of three Polyanthuses G. Hodgkinson, Esq., for Pearson's Alexander, Barnard's rmosa, and Hufton's Lord Ranelliffe. The second stand of ree Polyanthuses to Mr. Taylor for Bolivar, Lord Nelson, and rd Ranelliffe. Best dark Polyanthus Mr. Cuparn for Crownaw's Invincible. Best red Polyanthus, Bolivar, Rev. S. R. le. In addition to the foregoing many other prizes were arded, but we have only been furnished with a list of awards thout the names of the subjects for which they were given.

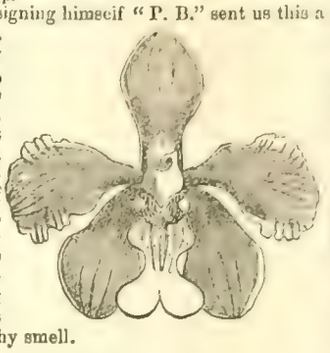
Amateur Tulip Society, May 16.—This, the fifth annual exhibition of Tulips by members of the above Society, took place at the Horns Tavern, Kennington; and although the extreme heat of the weather had been much against the cultivators of this beautiful flower, yet the show was pronounced to be equal to any that had preceded it, and much superior to what might have been expected. Fourteen stands containing nine blooms each were placed for competition, the following was the award of the Judges: 1st prize to the Rev. Thomas Jephson, of Harrow, for Lucheds, Cleopatra, Surpass Catalogue, Lalla Rookh, Polyphemus, Camuse de Croix, Ali Pacha, Agnis, St. Cecilia, 2d, Mr. Crook, of Peckham, for Michael Angelo, Pindar's Duke of Sussex, Lady Sale, Polyphemus, Triumph Royal, Goldham's Mara, Duchess of Sutherland, Crook's Amateur, Lowald 3d, Mr. Holmes, of Hoxton, for Triumph Royal, Holmes' King, Steun's Napier, Delaforce's Perfection, Rose Camuse, Model of Beauty, Rose Galatea, Lalla Rookh, Gloria Mundi, 4, Mr Edwards, of Holloway, for Black Bagnet, Rose Lac, Carmation, Astonishing, Gloria Mundi, La Cazel, Lord Hawkesbury, Cleopatra, and Albion. Two seedling prizes were obtained by Mr. Crook, one for a very pretty feathered rose, named Mary, and one for a beautiful byblomen in the style of Pandora, broke this year, and named Carolus. Two prizes were awarded for the first and second-best tricolor, to Mr. Crook and Mr. Venables, both being for that striking flower, Smith's Duke of Wellington. The company was numerous.

THE BROWN AND GREEN VANDA.

(*Vanda fuscomarginata*, Lindl.)

SP. CHAR.—Racemo few flowered. Sepals oblong, little narrowed to the base, very round at the end, quite flat, the length of the petals. The latter unguiculate, obovate, rounded, slightly crisp at the edge, the same length as the sepals. Lip with two erect short blunt narrow lobes at the base, contracted in the middle, with five furrows at the convex base, the end flat roundish retuse. The spur about half the length of the lip.

A correspondent signing himself "P. B." sent us this a short time since. It is a perfectly distinct species, with flowers the size of those of V. Roxburghii, but dull brown, with a little greenish yellow at the edge of the petals, and a pure greenish yellow lip. We have no further information concerning it. The flowers have a slightly fishy smell.



THE SWEET-SCENTED VANDA.

(*Vanda suavis*, Lindl.)

SP. CHAR.—Flowers in short loose racemes. Sepals and petals spathulate, much directed backwards, wavy lobed and rounded at the end. Lip 3-lobed, convex, with the middle lobe 3-ribbed and deeply bifid, the laterals roundish ovate, acute, and spreading.*

A specimen of this charming plant was exhibited by Messrs. Veitch on the 4th April in the meeting room of the Horticultural Society. It has the foliage of V. Roxburghii; the flowers are white, with reddish brown marbling and spotting, the lip is deep violet. The fragrance, after the flowers have been brought into a sitting-room, is delicious; we preserved a flower in a fresh state for nearly three weeks. It was said to come from Java. The lobed sepals and petals are remarkable; they are both bent backwards at an angle of about 120°, and the petals are twisted round so as to present the principal part of their back to the eye.

* For the meaning of these terms see Lindley's *Glossary*.

Garden Memoranda.

Mr. John Waterer's American Nursery, Bagshot.—Those who have not visited these grounds can form no idea of the gorgeous beauty they exhibit at this time, and probably will for many weeks to come. The nursery, which extends over an area of 30 acres of fine peaty soil, is divided into square compartments of about half an acre by hedges of American Arbor-vi æ 9 feet high, neatly clipped. The principal walks, which are straight, are lined on either side by dense shrubberies of Rhododendrons, Kalmias, and Azaleas, whose luxuriance is barely surpassed by that of the Laurel and Lilac of ordinary situations, while their beauty just now is certainly unequalled by any other kind of hardy plants in the kingdom. Among the more prominent objects noticed during a short visit were a vast number of standard Rhododendrons, with stems measuring from 3 to 7 feet in height, their heads from 2 to 18 feet across, one being no less than 21 feet in circumference. The sorts consist of catawbiense, c. bicolor, Everestianum, cœlestinum, delicatissimum, nivaticum, macranthum, roseum elegans, Watererianum, pictum, guttatum, multi-maculatum, purpureum elegans, cyaneum, atrorubro-purpureum, and others. Here were also standard Ghent Azaleas, with splendid heads, and standard Kalmia latifolias, exceedingly handsome; also K. latifolia myrtifolia, about 4 feet high, fine specimens. Among the Pinuses, in which, as well as in Cedars, this nursery is rich, there are Douglasii, 10 feet high; lanceolata, a beautiful specimen of which, 12 feet high, has stood for the last 16 years unprotected and uninjured by the weather; Menziesii and Lambertiana, from 1 to 12 feet. The Deodar is here 15 feet high, Libani 9 feet, many of which are grafted upon the leading shoots with the Deodar, which thrives remarkably well, and of course presents a very curious and elegant appearance. There were, moreover, Juniperus repanda, upwards of 12 feet high; Araucaria imbricata, from 1 to 5 feet high; standard Weeping Larch, upon stems from 8 to 10 feet high, very graceful in appearance; a magnificent Weeping Beech, supposed to be the largest in the country; a noble plant of Arbutus Andrachne, 14 feet high, upon a 2 feet stem, the immense head of which was covered with bloom: with a variety of other ornamental trees and shrubs too numerous to mention, the whole forming such a collection as would at any period of the year amply reward the expense of a visit in the gratification it would afford.—*S.*

Miscellaneous.

The late Mr. Barron's Dahlias.—On the [illegible] sold by auction [illegible] ings of upwards of [illegible] named and [illegible] and Mr. Barron's own seedlings, among which were [illegible] Lady Sale, and H. Perring, Esq., which have already [illegible] obtained by the last named. By some mistake of the [illegible] worth during the blooming season, they were [illegible] unfortunately much faded, and in many cases [illegible] had been taken to prevent their opening. Those who saw the [illegible] flowers they were two years ago will be disposed to be [illegible] cultivated with so much care and [illegible] at the period just alluded to, would doubtless have brought [illegible] money it did on the present occasion, viz. [illegible] upwards of 20*l.* Grace Darling and Barron's Lady [illegible] two of the finest flowers in the collection brought [illegible] the former and 3*l.* 3*s.* the latter. Mr. Barron [illegible] for a single bush of his lady [illegible] of 5*l.*

Sticks and Stays, by an Exhibitor.*—In one of the papers of the "Spectator," Addison makes his admirable character Sir Roger de Coverley tell of an accident that happened to him when he was a schoolboy, which was at a time when the feuds ran high between the Roundheads and Cavaliers. This worthy knight, being but a stripling, had occasion to inquire which was the way to St. Anne's-lane; upon which the person whom he spoke to, instead of answering his question, called him a young Popish cur, and asked him who had made Anne a saint. The boy, being in some confusion, inquired of the next he met, which was the way to Anne's-lane; but he was called a pricked-eared cur for his pains, and instead of being shown the way, was told that she had been a saint before he was born, and would be one after he was hanged. Upon this, says Sir Roger, I did not think fit to repeat the former question; but going into every lane of the neighbourhood, asked what they called the name of that lane; by which ingenious artifice he found out the place he inquired after, without giving offence to any party. I heartily wish we poor exhibitors, by some method of the same kind, could find out how to please the Vice-Secretary of the Horticultural Society and Editor of the *Gardeners' Chronicle* on the one hand, and the reporters to that Paper and the judges on the other. After an exhibition, we have read that such an one's plants were perfect specimens of good management, trained down close to the pots, and every flower arranged most effectively. Well, finding that these plants obtained the prize, we began to try what we could do, and had just succeeded by sticks here and sticks there to bring down our branches close to the pots, and the branches at the back to appear in the front, when out comes a crushing leading article in the *Gardeners' Chronicle* against stays both for plants and women. Nothing is more true than that these sticks are an abominable eye-sore, and cause a deal of extra labour, and, consequently, are not used from preference, but from necessity; for without such security the flowers could not be conveyed to the exhibitions, unless by a person living close by, that could get them there on a hand-barrow. If it can be done, why are not the plants brought from the Society's Gardens, Chiswick, to 21, Regent-street, without them? Not long since I was there on the introduction of a friend, and saw a specimen of Achimenes with white and stout sticks enough about it to light the fire in the room. All exhibitors know that they have not time, previous to the entrance of the judges, to remove the sticks that are placed merely to secure the flowers in the transit; and if they did take them away, they would require replacing to secure them on their journey home again. [The entire disuse of sticks is one extreme, their extravagant use, both in quantity and size, is the opposite. We prefer the happy medium.—*Editor.*]—*The Florist.*

* Vide *Gardeners' Chronicle*, March 18th.

Calendar of Operations.

(*For the ensuing Week.*)

CONSERVATORY AND GREENHOUSE.

A CONSERVATORY should not be allowed to lose in summer that interest which its exclusive gaiety secures it during the winter months; although during the gentle season a thousand beauties deck the parterre, our variable climate often deprives us of the pleasure of participating in the enjoyment they afford. The removal of those plants which are unquestionably benefited by a full exposure during the summer months, will afford space for the introduction of various stove plants. The greenhouse should supply Pelargoniums, Heaths, Calceolarias, &c., while the Orchid-house might contribute occasionally a few of its strange beauties. The treatment of the conservatory at this season is so uniform that it is scarcely necessary to advert to it; the chief point is to allow abundance of air, and moisture in due proportion.

FRUIT FORCING.

Pines.—The moment for conducting the operation of shifting should be governed by the state of the plants rather than by a traditional or favourite date. Those who cultivate Pines in pots will probably about this time find many that will receive benefit by being allowed a little additional nutriment. See that sufficient bottom-heat exists—85° is adequate—or otherwise stir up the bed of fermenting materials. Use the syringe frequently while the weather retains its present character, and shade during intense sunshine. *Vineries.*—While

the weather continues favourable but slight assistance will be required from fires; by shutting up early, a night temperature of 60° or 65° may be secured, which may be considered sufficient. Inspect Vines frequently, and suppress unnecessary wood; their rapid growth under the influence of the late and existing weather, renders this care essential. Avoid over cropping; it is a fond error with young gardeners; size, flavour, and colour, are too often sacrificed by the practice. Thin directly the berries are set; at this season the development of the berries is rapid, therefore promptitude is necessary. Keep the borders watered while the weather withholds a supply.

FLOWER GARDEN AND SHRUBBERIES.

The advantage of mulching transplanted trees, shrubs, &c., will have been found by all those who have adopted the practice during the late season of drought. Attend regularly to flower beds, and insure the health and safety of the half hardy things, which probably have not recovered the check usually sustained by removal. By periodic watering and the use of stakes and pegs, decayed leaves, spread over the surface of the beds, will help to retain the moisture in the beds, and so obviate the daily use of the water can. Verbenas, Petunias, and Heliotropes, propagated now will be found useful either to repair losses or for late display. Annuals may be sown for autumn blooming. Double Wallflowers, Phloxes, Alyssums, and Helianthemums may be propagated under hand-glasses in a sheltered situation. Insure healthy plants of the Neapolitan Violet for the ensuing winter. Pick off the bloom from Pansies if a later effect from them is more desirable. Visit Roses frequently, and examine the curled leaves for the caterpillar, usually so destructive. Protect last year's buds with sticks or ties. Let American plants, Rhododendrons, Azaleas, &c., have a good watering.

FLORISTS' FLOWERS.

The continuous hot weather up to this period has been anything but beneficial to florists' flowers. Tulips have been of exceeding short duration, and Carnations and Picotees, especially late planted ones, are spindling, without any sign of increase; these latter should be cut off above the surface of the ground, if layers are preferred before flowers. Early Tulips should be got up, and the beds of named sorts looked carefully over, and those whose foliage is diseased immediately removed; many we fear will be found with the stems thoroughly decayed. We would advise, as a preventative, that the site of the future bed should be well drained, in order to counteract the serious effect caused on the bulbs by such excessive wet springs as the last one. The plan of causing the rectification or breaking of breeder Tulips by exposing the bulbs to the action of the weather has been fairly tested this last season, and found to answer perfectly. *Dahlias* should now be planted without delay; after the plants have got fairly hold of the ground, they may be encouraged with occasional doses of liquid manure, not too strong. Mulch the surface of the ground round the stem with rotten dung, and grow them quick and strong. Put down the main stakes to the plants, and when sufficiently long tie them carefully up. *Ranunculuses.*—As the flower stems rise, they are apt to be attacked by the cuckoo spit (Cercopis spumaria); these must be destroyed, or they injure the stem immediately below the bloom. A long green caterpillar also attaches itself to the stem, to which it is so similar in colour that it requires some care to detect it. When water is applied between the rows, it must be done effectually, and a top dressing of cow manure this hot season will be found highly beneficial.

KITCHEN GARDEN AND ORCHARD.

The opportunity afforded by a few genial showers, which are now much wanted, must, on arrival, be promptly employed in pricking out young plants, stirring the surface of the soil, and getting in successional sowings of Peas, French Beans, Carrots, Onions, Spinach, and Turnips, at the same time a row of Celery may be pricked into a trench prepared for it; the piece of ground intended for Celery should be got in a state of forwardness for that crop. Onion-beds, which after being sown in the spring were drenched with rain, will now require that nutrition which doubtless was washed deeply into the earth, hence manure-water will probably prove advantageous. Remove seed-stalks from Seakale and Rhubarb; keep young plantations of Asparagus and Seakale watered. *Fruit Trees.*—The luxuriant growth of espalier trees generally within the present month has prevented insects gaining an ascendancy even on neglected trees, and favoured the progress of the fruit considerably. Thin stone fruit. An early regulation of the young wood is rendered imperative under existing circumstances. Cherry-trees should be looked over, and the grub and chrysalis of its peculiar moth destroyed; visit standard Apple, Pear, or other trees suspected of caterpillars at night, and by shaking the branches they may be dislodged. Stop young shoots of trained Pear and Apple-trees, and pursue the practice of visiting the trees daily. Gooseberries and Currants may be thinned and supplied for bottling. The fruit thinned from Peach and Apricot trees may be employed for tarts.

FORESTING.

It is advisable at this season to make a regular inspection of newly-planted trees, which are often smothered by the overgrowth of wild plants. The nursery must be visited, and the various seeds and seedlings watered, and the beds freed from weeds. Nettles should be cut back at this season; by persisting in the system of destroying the young shoots of this or other weeds, they may eventually be destroyed.

State of the weather near London, for the week ending May 25, 1848, as observed at the Horticultural Garden, Chiswick.

May.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 19	16	29.706	29.702	65	44	54.5	S.	.01
Satur.. 20	17	30.160	29.733	66	37	51.5	N.W.	.06
Sun. .. 21	18	30.253	30.215	69	54	61.5	S.W.	.07
Mon... 22	19	30.283	30.242	73	48	60.5	N.W.	.00
Tues... 23	20	30.314	30.261	72	38	55.0	N.E.	.00
Wed... 24	21	30.287	30.256	76	41	58.5	N E.	.00
Thurs. 25	☾	30.266	30.158	80	44	62.0	N.E.	.00
Average...		30.181	30.088	71.5	43.7	57.6		.02

May 19—Cloudy; light showers; cloudy.
— 20—Cloudy; showers occasionally; cloudy; clear.
— 21—Fine; lightly overcast; fine; slight rain.
— 22—Overcast; very fine, with clouds; overcast.
— 23—Fine; cloudless and very fine; clear.
— 24—Fine; fine, cloudy at intervals; fine, with slight clouds.
— 25—Clear; cloudy; clear.
Mean temperature of the week, 1¼ deg. above the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending June 3, 1848.

May and June.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 28	69.1	46.1	57.6	7	0.56 in.	—	5	6	1	4	4	2	—
Mon. 29	66.3	45.4	55.8	9	0.97	1	8	1	2	3	4	3	—
Tues. 30	68.2	46.2	57.2	7	0.22	2	5	4	—	2	6	2	1
Wed. 31	70.0	46.9	58.4	7	0.38	—	6	3	—	3	5	4	1
Thurs. 1	71.0	46.9	58.9	10	0.27	3	4	1	5	1	3	—	3
Fri 2	70.0	47.4	58.7	7	0.53	—	4	1	2	3	4	3	3
Satur. 3	71.1	46.7	58.9	7	0.91	—	1	2	1	4	7	3	4

The highest temperature during the above period occurred on the 28th 1817—therm. 91 deg.; and the lowest on the 3d, 1837—therm. 35 deg.

Notices to Correspondents.

APRICOT TREES—*W A S*—The disaster which has befallen your tree is one of very common occurrence. The most healthy plants will now and then lose their limbs, no one knows why. Attempts have occasionally been made to explain the cause, but they do not carry with them truth enough to make it worth repeating them. It is probable that the evil will go no further. Cut out the dead limbs and lay in young branches.

BEES—*B H*—Covers for bee glasses may be made of any kind of light material—wood, tin, or paste-board. But common straw hives are very handy, and are in general deep enough for that purpose; when not, as in your own case, either prop them up or cut a hole in the top, to admit the glasses, and cover the exposed parts with something else. *W.*

BOOKS—*S F K*—Newman on Ferns.——*An Old Sub*—We will give you a list next week.——*Rae*—You cannot make out the names of Exotic plants without being a botanist and having a botanical library at command. *Study* the "Vegetable Kingdom."——*A G L*—There is no book on tropical fruits, except one published by the Society for the Diffusion of Useful Knowledge. Any bookseller can procure that; be sure, however, to get the last edition.——*Eta*—Many such books. Babington's "Manual," Lindley's "Synopsis," Hooker's "British Flora." There is no such book on insects, nor is there one that we can recommend as approaching what you want. We have never been able to understand why entomologists should not be as ready to publish synoptical works as botanists have been.

CABBAGES—*Georgos*—The Early Dwarf Sugar-loaf.‖

CACTI—*T D*—They are very fine flowers, but we cannot judge of the habit.

DOUBLE YELLOW ROSES—*J S H*—The nature of the circumstances required to induce this Rose to blossom is unknown. The subject was very fully discussed in our columns some years since; a great deal of good evidence was obtained, but nothing satisfactory elicited.

EMIGRATION—*Enquirer*—If we intended to emigrate we should proceed to New Zealand. All sorts of common European seeds, *of fine quality*, are useful there. Take Lindley's "Theory of Horticulture," Low's "Agriculture," and Loudon's "Encyclopædia of Gardening." There are no books on the botany of New Zealand of which you could make use. You had better take Lindley's "Vegetable Kingdom," wherever you go.

FIGS—*R Milthorpe*—Received.

GRAPES—*A J F*—No doubt you fail in keeping a sufficiently rapid motion of warm air in your Vinery. Do that and you will have no more spot.

INSECTS—*C E W*—The insects you have found on the Vine are cuckoo-spit insects (Cercopis spumaria) They do not gnaw holes in the leaves, and are not, we should think, materially injurious to the Vine. *W.*——*H T*—The larva from the Pear-tree is that of the goat moth (Cossus ligniperda.) See *Gardeners' Chronicle*, 1847, p. 303, for description and figure. Tobacco or sulphur burnt, and the smoke injected into their burrows, will expel them. *W.*——*E B*—The grubs which have destroyed the Tares and Mangold Wurzel are those of the common daddy-long-legs. Try repeated watering with gas-tar water or lime water, and as they seem to prefer hiding by day just below the surface of the ground, it might be useful to lay sods on the land, under which they would congregate, and might be daily destroyed. *W.*——*J H*—Ditto. *W.*——*Juvenis*—The insects which have destroyed many of your Tulips are not wireworms, but small millepedes (Julidæ). They are evidently most partial to roots in a state of incipient decay. We do not think soda-ash water very useful; but would advise you to bury slices of Potato stuck on a stick in your beds, which should be examined daily. The diseased bulbs ought to be taken up and thrown into boiling water, to destroy the insects attached to them. *W.*——*A Sub*—We found no insects on the leaves you sent. Try bruised Laurel leaves, first closing your frames very tightly. *W.*——*S F*—The Apple grafts and shoots of Irish Yew are attacked by a weevil (Pachygaster sulcatus). We know no more effectual manner of getting rid of them than by laying a sheet under the trees and shaking them well after dusk, when they come out to feed; the insects will fall on the sheet, and must be destroyed by throwing them into scalding water. *W.*——*J L*—The beasts which are eating up the roots of the bulbs and other plants near London, are the larvæ of the daddy-long-legs (Tipula oleracea). See answer given above to "E. B." *W.*——*J L H*—Your Apple grafts are attacked by a weevil, against which we have not had any previous complaints, Curculio (Nemoicus) oblongus. We can give you no other advice than is contained in the answer above to "S. F." *W.*——*T W*—Your Strawberries are attacked by the larvæ of one of the smaller species of daddy-long-legs. Examine the roots as soon as they shew the first symptoms of attack, and water them round the crown with lime water or gas-tar water. *W.*——*G P*—Your Strawberry blooms are eaten by a small, pretty weevil (Rhynchites alliariæ). We would recommend sweeping the plants with a gauze net, like an angler's landing-net. *W.*——*A B*—The dragon-fly was the female of the common Libellula depressa. The blight on the Periwinkle leaves appears to us to be a vegetable production. *W.*

LAWNS—*L S*—Clay is a good soil for lawns if they are well managed. You must *persevere* in cutting up the weeds; or, *as the only alternative*, you must pare and burn the lawn and relay it; the latter is effectual, and perhaps in your case the quickest and cheapest. Take care, however, that when this is done all the tap roots are drawn or forked out and burnt.

MYRTLES—*W D*—These strike readily from cuttings made of the half ripened young wood; cut them across immediately below a joint, and remove two or three of their lower leaves, or take them off with a "heel," as it is called, and put them into well drained pots filled with light rather sandy soil; cover them with a bell-glass and keep them shaded from bright sunshine till they have taken root.‡

NAMES OF PLANTS—*Pæonia*—The single variety of Pæonia officinalis and Gesnera faucialis.¶——*M W*—Pancratium maritimum; Erysimum ochroleucum; a Rose.——*S F K*—Moonwort (Botrychium Lunaria).——*E L D*—Tradescantia virginica, Nat. Ord. Spiderworts.——*G B C*—Halesia tetraptera, the common Snowdrop Tree.——*S*—Gerogopogon glaber.——*Curiosity*—Lovage.——*P W J*—Silene patens.——*H*—It is the early stage of some mildew fungal. Whatever will prevent the attacks of other plants of the same kind will probably act on this. We should remove and *burn* all the infested leaves, and then endeavour to get the plants into better health. No doubt imperfect cultivation of some sort, probably want of proper and *sufficient* ventilation, is at the root of the evil.——*A B C*—Not received.——*W P*—1, Scilla campanulata; 2, Ornithogalum album; 3, Allium flavum; 4, Asphodelus ramosus; 5, Centranthus ruber; 6, Ranunculus aconitifolius.——*X Y Z*—1, Anthyllis vulneraria; 2, Erodium cicutarium; 3, Polygala vulgaris; 4, Plantago coronopus; 5, Triglochin palustre; 6, Sedum dasyphyllum.——*R N*—Cephalanthera ensifolia.——*S*—Rosa Kamtchatica.——*L Oswestry*—It is the Buffalo Berry or Elæagnus argentea.

PEACHES—*W T M*—Your trees are mildewed; why we cannot judge. Perhaps you cultivate a variety too tender for your climate; perhaps fifty other things. It is impossible to say without inspection. If your insect is an aphis you may get rid of it by constant syringing with a powerful jet, or by fumigating with Tobacco.

POTATOES—*Sub*—Follow Dr. Klotzsch's plan *exactly*. If he says nothing about earthing up, then it is to be presumed that they are not to be so treated.

POTTING—*P R*—It is not in itself injurious to potted plants to water them at the bottom, viz., by putting in the saucer water which they imbibe.

RHUBARB—*R Cutbush*—The specimen sent is a fine sample of Victoria Rhubarb, but nothing extraordinary. If you wish to increase your plants, the operation may be effected by dividing the roots in autumn, after the leaves have died down, manuring the ground with well decomposed stable-yard manure previous to replanting.‡

ROSES—*Cottager*—Read the "Tree Rose," which gives ample instructions respecting the time and manner of budding Roses.‡

ROYAL IRISH HORTICULTURAL SOCIETY—We have to thank several correspondents for communications upon this subject, which we will use as may be most expedient. Among others is a letter from "Hortulanus Hibernicus," which is far too long; but we will see what can be done with it another week.

MISC—*Georgos*—We know of no composition that will resist the effects of frost, when used as a coating for rough stone, unless it be the cements now in use; all of which will, if the stonework on which they are put is tolerably dry in the first instance, or is well dried afterwards, before the winter comes on.——*G B N H*—Your double Fuchsia can only be perpetuated by cuttings.‡——*Z Y*—Grow your Cattleya well, give it plenty of warm air, rest it carefully, and when about to flower, do not let it be too damp.——*J S H*—We shall resume the subject of Polmaise heating one of these days. In the meanwhile we can only say that an apparatus well constructed answers all that has been anticipated from it. The mode of construction is not so material as a strict attention to the *principles* on which it is founded.——*E*—The terms have no relation to each other, a leaf may be both ovate and sinuated, and both palmate and cordate. You should study the Glossary in Dr. Lindley's "Elements of Botany."——*Is.* will be given for No. 25, 1847.

SEEDLING FLOWERS.

CACTI—*Reader*—We can form no opinion concerning plants which we do not see.

CALCEOLARIAS—*J E*—The best flowers among your seedlings are 1, 2, 5, 6, and 8. The spotting is varied and pretty, the flowers are large and showy, and tolerable specimens of form. No. 1 is decidedly the best in this quality; 3, 4, and 7 are common. You want variety in the ground colour; those sent are all yellow, the most common of any.*——*W H M*—Your seedlings are good examples of form, and very superior in colour and marking. 4 and 1 are two fine flowers, large with delicate yellow grounds and chocolate coloured spots. 3 is pretty, but the flower is a little too flat in front. 4 and 5 are both showy, the former has the advantage in form.*——*Otter*—A good variety, but there are many very like it already in cultivation.*——*G W*—Your seedlings are very common varieties, far removed in size, form, and colour from the fine flowers now produced. The best example of form is No. 11; it is small, but it is superior to the others, and it is prettily spotted.*——*A Constant Reader*.—The principal defect in your seedlings is in the form of the flower; they are either too long or they have a looped appearance at the bottom of the flower; they are also generally too flat in front. Many of them are good examples of colour, and the markings very pretty and varied, as 12, 18, 24, 2, 31, 7, 28, and 1.*

PANSIES—*Y Y*—No. 47, a deep claret-coloured self, is a flower of great substance, velvety in texture, but the lip is too long and extends beyond the circle. 4, a deep and bright purple self, round, but with the notch too evident in the lip. If this defect should be outgrown, it will make a good show variety. It is large, bright in colour, smooth, and the edges free from serratures. 36, good form and substance, but useless as a show variety, from the eye running into the margin. 44, a flower of fine qualities, but too small for exhibition. 35 is the brightest and most uniform in the ground colour among the yellow selfs, deep rich eye, but the flower altogether is rather small. 24 promises well, but it is not so even in colour, and the blooms are rather small. 10 wants uniformity in the ground colour.*——*A B C*—No. 1 is a flower of good shape, substance, and colour, but too small; the dark selfs seen at shows are very superior to it. 2, small and of no value; the absence of the blotch in the lip is a great defect. 3, fine in colour, but rather long and under size. 4, the best in form and substance; it is faulty in having the eye joined to the margin by lines, and the ground colour is not pure.*——*W A*—Your flowers should have been sent in a tin box; they were quite dried up by the time they arrived. Judging by what remains, we can assure you they are not to be compared to the Pansies at present in cultivation.*——*H and N*—No. 1 is a stout flower of good form, but the want of a distinctly marked eye renders it of no value as a show variety; and 2, though a very good flower, is not an improvement upon similar coloured varieties. 3, good form, fine colour, and great precision in the marking. It wants but size to make it a first-rate show flower. 4, no improvement upon the yellow selfs already out. 5, a flower of good form, but not to be distinguished from many others in colour and marking.*——*N N*—Your seedling is good in form, very flat, upper petals dull blue, lower petals edged with the same, but lighter, uncertain, and rather watery in appearance; straw-coloured ground. The edges of the petals are a little rough, but the principal defect is in the poorness and dullness of the marginal colour.*

PELARGONIUMS—*T H*—Your seedlings are very inferior to the varieties now cultivated; we have examined them, and there is not one worth preserving, they are 20 years behind the present race of Pelargoniums.*

PETUNIAS—*P B*—No. 3 is your best seedling in form and marking; 1 and 2 are very common sorts; 3 is a very pretty variety.*

ERRATUM—At p. 317, col. *b*, in the article on Rain, line 21 from the commencement, for the "House" in Troutbeck, read the "Howe" in Troutbeck.

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The Agricultural Gazette.

SATURDAY, MAY 27, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY, May 31—Agricultural Society of England.
THURSDAY, June 1—Agricultural Imp. Society of Ireland.
TUESDAY, — 6—Agricultural Society of England.
THURSDAY, — 8—Agricultural Imp. Society of Ireland.

FARMERS' CLUBS.—June 3: Newcastle, Durham, Melrose.—June 5: London, Clayden.

We observe that Wednesday, the 5th of July, is the last day on which the HIGHLAND SOCIETY can receive "certificates" of the stock to be exhibited at their Show in Edinburgh, on the 3d, 4th, and 5th of August. We hope that many English breeders intend appearing there as competitors. For those who have not hitherto thought of it, we beg to state that full information is on all points obtainable at 6, Albya Place, Edinburgh.

We find it necessary somewhat to qualify the remarks we made on a late occasion in connection with the Highland Society. It appears that they cannot yet be said to have made any *decided* movement in reference to their intended patronage of AGRICULTURAL CHEMISTRY: that their resolutions, however, on the 12th ult., which we had understood to approve of all the steps that had preceded it, do in effect sanction a much greater liberality than seems previously to have guided their proceedings on the subject; and that instead of adopting the opinion that a surplus income of 300*l.* would fully enable them to take the subject entirely into their own hands, the Society have empowered, and in fact required their directors to make their arrangements on a liberal scale; in proportion, not to their existing means, but to the importance of their object. No detailed plan, we say, has yet been adopted; this much only appears to have been decided—that it is not for the interest of Scottish agriculture that two separate and in some respects rival Associations should be maintained on its behalf. Certainly the avoidance of double expenses is too desirable a thing not to render the coalition of these Societies advantageous, provided the objects of each receive the same attention that has hitherto been given to them. And from the information which has lately reached us, we believe that there is not that intention of reducing the important subject of Agricultural Chemistry from its present capital position to one of mere sectional superintendence, which certainly appeared to have originally existed. We are glad to acknowledge having been previously misinformed on this point. The contrast would indeed have been great; Ireland, in her Dublin and Ulster Agricultural Chemistry Associations; England in her lately established College of Chemistry, and in the grants of her National Agricultural Society; and Scotland herself in many localities, as in Aberdeen, where a new lectureship on Agriculture has been appointed; all exhibiting such energetic patronage of agricultural science, while the Highland Society lent it but little aid. We believe, however, that no such contrast exists: we are sure that no such contrast exists if the plans of the directors to be presented in June shall bear out the information we have received regarding the principles which are to guide them. This statement may, perhaps, have the effect of inducing properly qualified persons to put themselves in communication with the Secretary of the Society, regarding an appointment to the office of their Chemist. It is extremely desirable that it should have this effect—both as conferring precision upon the views of the Society in reference to this subject, and as necessarily carrying in its train the advantages which must always follow intercourse between the representatives of practice and of science in agriculture.

One trustworthy ground for believing that the Highland Society are still to remain, as hitherto, in the van of agricultural improvement, is the position they have taken on the subject of agricultural education. It certainly does express their sense of the high value of this object, that resolutions, demanding an alteration of their charter, should have been passed to enable them to further it. The proposal is, that the Society should prescribe a certain course of study in the sciences connected with agriculture, and grant degrees to those who, at the close of it, shall pass examination by a Board appointed under them for the purpose. It is not intended to create any new educational establishment; but merely to give proper direction and stimulus to those who would make use of the existing means. And there can be no doubt that, as the study of other subjects is encouraged by the honorary distinctions to be acquired from it, so the study of agriculture will be promoted by the patronage the Highland Society thus propose to confer on it. There can be no doubt that agricultural education is now the great desideratum: we refer to the instruction which experience in the field, as well as books and lectures in the house, can convey on the art and business of farming. There can be no doubt that those cultivators of the land who think to maintain their place in the competition for its occupation with no better means than present or past times have required, will soon be distanced and displaced by the race close at hand, who are to come well furnished for the work from the schools and Colleges of Agriculture at Cirencester, Edinburgh, and, we hope, many other parts of the country.

LETTERS ON RAILWAYS AND AGRICULTURE,

IN LINCOLNSHIRE.—No. IV.

(*Concluded from p.* 338.)

As I pursued my way along the line of railroad from New Holland to Grimsby, and from Grimsby to Louth, part of the direct highway to London, a track I afterwards rode over on horseback, I found the same character of country prevailing, and which prevails as far as the fen district near Boston. A broad belt of rich alluvial soil, bounded by the river and sea banks on the one side, was for the most part divided by canal-like drains, as well as with (on new enclosures) double post and rail fences—on old, by hedges of blackthorn—into large fields entirely employed for pasture. On my first day's trip, by rail, I saw a shepherd, on a pony, counting his sheep in a field, near Louth, nearly as large as a western farm. This gave me an idea of the scale of agricultural operations in this part of Lincolnshire. On Dartmoor, Salisbury Plain, or any moorlands, a pony would be a natural assistant, but here it is a sign of miles of fences under one holding. The alluvial pasture part was generally bounded or narrowly intersected by the railway. Parallel with the railway, filling up the intermediate space between the pastures and the upheaved chalk ridge known as the wolds, intervened a part composed of unequal portions of strong clay, light loam, and silty sand. An eminent Lincolnshire farmer guessed the proportions for me at five-tenths strong clay, four-tenths light loam, and the remaining tenth silty sand. The range of wolds bounded the westerly horizon. The intermediate belt is the oldest corn land, and has been in cultivation since Saxon times. The wold farmers, I was told, like to have some of the rich pasture to finish off in summer the stock they have fed on cake and corn all the winter.

Ancient stone churches were numerous, although small. Where did the stone come from? The county produces none; when they were built there were no roads. Most of the modern churches are built of brick. Along the line few houses or villages occurred; in the far horizon peeped out many farm buildings, for it is here the fashion, as often as possible, to place the house in the centre of the holding. Five miles from a post-office is considered among the farmers a sort of next door. It will be well to establish receiving boxes for stamped and unpaid letters at every station on the line, because they must inevitably become the central points toward which a local circle of traffic will flow. All the towns of any importance being passed, there is nothing to rival the railway stations.

The population here is curiously arranged; each farm forms in its many labourers a small community. The cottages and villages are pitched in all manner of out-of-the-way situations, not planted in reference to highways, but to the agricultural employment that originally called them into existence. As I passed along, the question constantly arose, who ploughs and sows and reaps these fields, and trims these fences so neatly? The question was answered when the railway opened for general traffic on a bright day, and all the peasantry came flocking down to see the wonder—a goodly show of handsome faces and athletic forms; and when, too, I had an opportunity of meeting on a market day the stream of horsemen, waggons, carts, gigs, and vehicles of every kind, with farm servants, male and female, dropping into the main road like Robin Hood's hidden men at the sound of his bugle, the secret of the desert appearance of the county seemed half explained; when cantering along, some days afterwards, to an early breakfast with a fox-hunting farmer, I met *labourers on donkeys* emerging from out-of-the-way cottages to proceed to work. The distance and the difficulty of finding home room must be the cause of such a waste of time; the expense is nominal, for the lanes and even main roads are almost all bordered by more than ordinary fine turf, short and sweet. Nowhere else do I remember having five miles on end of springy, galloping ground alongside a highway road. On these borders the donkeys find ample feed, although no doubt they would be turned to other uses if our laws of settlement did not discourage the building of labourers' cottages. These long distances lead many farmers to feed their labourers, a choke-corn custom, too much out of fashion in other parts of England. On the whole the labouring population seems barely equal to the agricultural wants of North Lincolnshire. The crops are got in by the indispensable aid of travelling bands, who make their way from south to north, proceeding on to later season in Yorkshire and so on. In this respect, again, railways will confer a benefit on the district. In Liverpool, in the season, it is not unusual for Irish haymakers and reapers to charter trucks at a rate which is cheaper than walking to the best station in an agricultural county. When the railway opens, no crops need suffer for want of hands; cargoes of reapers may be imported at 12 hours' notice, and divided among a parish or lordship.

I made my head quarters at Great Grimsby, a port, until within the last five years, so obscure, that it probably owes its place in maps and topographical dictionaries to its privileges as a parliamentary and municipal borough. The Reform Bill mercifully placed it in schedule B. The Municipal Reform Bill gave some extension to a corporation dating from the time of Edward III. But these important and much envied privileges have not preserved Grimsby from the decay that has fallen upon many and greater seaports, from Tyre and Sidon down to our deserted cinque ports, Hythe, Sandwich and Romney. Standing as it does at the mouth of the Humber, sheltered by the land of the opposite shore from the storms of the German Ocean, Grimsby was resorted to from the earliest Saxon times, by shipping from the north seas, and maintained an important position, in common with many other towns upon the coast, until improved means of inland communication drained away population to safer and more favourable sites. Some of the earliest Danish and Saxon colonists and conquerors landed at Grimsby; it was natural that many should settle there, because it afforded a convenient harbour for communication with the Continent; but as soon as inland communication became of importance, Hull rose upon the Humber, and was enabled, when canals began to supersede rivers, to add that link to the chain of civilization and commerce. Great Grimsby declined for many centuries, having neither manufactures for exports nor means of forwarding imports to the interior; Hull taking its place as a foreign port and Gainsborough as an inland port. It seems at first sight extraordinary that the most fertile county in England, the greatest producing county, with the exception of giant Yorkshire, should be unable to support a port of more importance than Boston. But the fact is, that while, previous to the reign of George II. we were exporters of corn, this part of Lincolnshire grew very little grain, and before Lincolnshire had become a great grain growing county England had become an importer of that article. The want of manufactures and of canal communication to manufacturing districts have prevented the favourable position of Grimsby, sheltered in a river and yet on the sea, from attracting any important share of our daily increasing commerce.

Within the last few years a succession of events have tended to make the name of Great Grimsby less absurd. The increased use of bones. Rape seed, oilcake, and other tillages largely imported from the north of Europe; the reduction of the timber duties, the alteration in the Corn-laws, the general reduction of tariff on Baltic products, and lastly and chiefly the rapid advance of railway communication, have all tended to revive the decayed fishing village toward a position commensurate to its armorial and genealogical claims. The importation of timber for railroad use has quite cast into the shade the profits formerly netted from contraband trade, and the two railroads (the Manchester, Sheffield and Lincolnshire, and the Great Northern) which meet here promise to add a large foreign corn trade to the moderate business now done in home produce on market days by a few dozen farmers in front of the principal inn. It is well known that for many years the Turnip culture of light soils was confined to Northumberland, a small district of Yorkshire, East Norfolk, Nottinghamshire, and North Lincolnshire. During this period the home market supplied bones enough for home consumption, but as farmers grew wiser in their generation, our merchants had to search the whole world for manures, and the Baltic supplying a large proportion of this kind of import, Hull naturally received a great quantity for distribution, not only locally, but far inland by river, canal, and railroad communication.

Great Grimsby being now provided with the last and best means of transport, and standing some hours nearer to the sea, will, doubtless, intercept many more cargoes of the manures which cause grain to grow as well as of grain, than it has hitherto done, having an excellent market at its back for both commodities. Hence I anticipate that warehouses, and steam-mills for grinding British and foreign Wheat, for crushing oilcake, and

sawing timber, will shortly rise up along the lately dreary quays of Grimsby, to keep company with the piles of railway timber which have raised the customs' dues in five years from 3000*l.* to 70,000*l.* a-year.

The railway company—with the view of drawing upon their line a passenger traffic, through first-class steamers between Grimsby and Hamburgh and the Baltic ports, as well as an import trade in raw materials, wool for Yorkshire, Swedish iron and copper for Sheffield, and an export trade, in manufactured goods from Manchester, Sheffield, and Leeds in return, beside grain for all England, and coals, timber and tillages for all the localities to which railway transit can afford to carry them—are pressing on one of the most complete and extensive docks in the kingdom, from designs by Mr. Rendel, the engineer of Birkenhead docks. The railways from London, Manchester, and Sheffield, will run up to the extremity of the quays and piers of nearly 50 acres of water basins, and alongside proportionate warehouses.

It is not my task now to describe these works in detail, but it is necessary to note the fact that that part of Lincolnshire which is most dependant on foreign importations for its fertility, is about to be gifted with a port of the first class, open all hours of night and day to ships and steamers of the largest size. After examining these works, and a railway map, including not only England but the opposite shores of the German Ocean, it was impossible to doubt that railway enterprise would make Grimsby a great corn market and a great seaport.

I took an early opportunity of riding up to see the celebrated wolds which the wise liberality of landlords, and the skill and industry of tenants, have converted from wild moorland into farms, the admiration of all agriculturists. As however I must not presume that every one interested in my special vocation, the agricultural bearing of railroads, has read the tours of Arthur Young, and the report of Mr. Pusey, it will be better to describe what I went to see. Two ranges of chalk hills, running in almost parallel lines, disturb the even levels of Lincolnshire. The wolds which from Barton-on-the-Humber and Barrow to Spilsby, upwards of 70 miles, with an average breadth of 12 miles, and the cliff commonly known as Lincoln Heath, which extends for some miles beyond Kirton to Lincoln, and after breaking off in the valley of Lincoln, through which the Witham and the Ouse find their way to the sea, recommences and runs on to beyond Corby. These hilly parts remained open moors, covered with Gorse and Fern, harbouring only game and a few wild half-starved sheep for centuries after the lowlands had been cultivated, and even after thousands of acres of fen land had been reclaimed from the overflowing of rivers and sea. In the lowlands, especially round Lincoln, and in the northern parts near Grimsby and the sea, the great religious houses introduced excellent agriculture. Thornton Abbey, the ruins of which may yet be seen in passing by the railway between New Holland and Grimsby, was one of the great prizes in Henry the Eighth's confiscating Reformation, and derived the whole of its revenues from farms lying along the line of the railway.

About the middle of the 18th century Turnip culture came into use in England. Under this system light soiled districts, with the assistance of manure, sometimes chalk or lime, sometimes bones, generally both, were made to grow Turnips. These Turnips were fed off on the land by sheep penned daily within a narrow section; and it was found that the manure and treading of the sheep gave sufficient richness and consistence to previously poor land to enable it to bear at first Oats, Barley, and Clover, and eventually Wheat instead of Oats. The introduction of oilcake for feeding cattle and sheep, which increases manifold the value of the manure; of Rape-dust as a manure for Turnips, Barley, and Grass seeds, and of many other improved tillages and implements, have by degrees given increased fertility to light land, and secured it the attention of the best farmers; thus far outstripping in produce and rental the once favourite clay lands. In Northumberland light lands increased 400 per cent. in value, while clay land only increased 18 per cent.

The heaths and wolds of Lincolnshire, as well as certain blowing sands in the forest district of Nottinghamshire, also traversed by these new railroads, beginning at Sheffield and ending at Grimsby, were just of the quality suited for the improved cultivation, if farmers could be found of sufficient capital, skill, and confidence to carry it out. Such farmers were found in small numbers at first; but by degrees, under the liberal auspices of wise and wealthy landlords, they bred and spread all over the county, inoculating all with whom they came in contact with their skill and enterprise, so that at this day these heaths and wolds, acre for acre, import more foreign fertilisers, and raise more meat and grain, than any other one district of like extent.

When Arthur Young first visited this county in 1760, there was scarcely a Turnip to be seen, and the few sown in the whole county unhoed, except here and there by a gentleman, and it was all warren on the wolds from Spilsby beyond Caistor. In 1799, he found the same district feeding 20 sheep, by means of Turnips and seeds, where only one was kept before; but still found large tracts, as, for instance, from Louth to Caistor, were let for rabbit warrens at 2*s.* an acre. Being much in advance of the farmers of the day, he protested against such neglect on seeing it, "the land being a dry friable loamy sand, on a flinty loam, and under that chalk everywhere," but was answered, "Oh, it is good for nothing but rabbits; what would you do with such poor land two or three miles from the farms?" Lincoln Heath had made more progress at that period, and grew Barley and Oats, but no Wheat.

When Mr. Pusey visited the same districts in 1842, he found on the wolds, where Mr. Young had passed through Gorse for miles, 30,000 acres of good Turnip land, all the estates divided by clipped hedges of Thorn, fine farm buildings, and the rental raised from 5*s.* to 25*s.* an acre. This change having been effected by tenant farmers holding at will (but with perfect confidence in their landlord), at a cost of 8*l.* per acre, expended in grubbing up Fern, paring and burning peaty Grass, laying on chalk at the rate of 60 cubic yards, and bones at 60 bushels to the acre. "Bones," Mr. Pusey remarks, "were cheap in those days."

Mr. Pusey describes Lincoln Heath, where Dunsten Pillar, a land lighthouse employed within the memory of living men to guide the benighted traveller across the Gorse-covered wastes, remains a monument of agricultural progress, "Farm succeeding farm, each appearing to be cultivated by the owner for example, not as was really the case by the tenant for profit; and so for miles on through fields of Turnips, without a blank or weed, on which thousands after thousands of long-woolled sheep were feeding in netted folds, on Turnips, so large and regular the rows, that the lower halves which remained in the ground seemed to pave these sheepfolds. Every stubble field clean and bright, and the hedges kept low and neatly trimmed, every farm house well built, with spacious courts, and surrounded by such rows of high, long, saddle-backed ricks as showed that the land did not forget to return in August what it had received in December. Yet this land, so loaded with roots, showed no marks of natural fertility."

LAND DRAINAGE REPORTS.

No. X.—Field Dalling, Norfolk.—In compliance with the request you express respecting draining, I send you some account of my operations, which have extended over from 200 to 300 acres of land on various soils, but shall confine my observations to two fields, one meadow and the other arable.

1st.—18 acres of meadow, very wet, some part boggy, growing little else but Rushes and coarse Grass of a description which no kind of stock cared for eating. I drained it in the autumn of 1842, cutting the drains 30 inches in depth, 14 yards apart, and filling in with bushes; the cost was 5*d.* per rod of 7 yards for labour. The expense of the bushes was the cost of cutting them, about 1*d.* per rod. The drains were carried across the slope of the land, which was about 1 inch in 60. The subsoil various, but the greater part hard dry stony clay, intermixed with gravel and sand. Not finding I had made much improvement, I set about redraining it, in 1844, with tiles and soles, cutting the drains up and down the slope at the depth of 5 feet and 20 yards apart, at the cost of 2*s.* per rod of 7 yards for labour, and 8*d.* per rod for tiles, &c. The result is, this meadow is new perfectly dry, and is worth at least one-third more rent.

2d.—10 acres of arable land, good Turnip loam subsoil; like the meadow above, very wet in winter and spring. Drained 30 inches deep, 14 yards apart from drain to drain, with tiles; the cost 6*d.* per rod for labour, 8*d.* for tiles; across the slope, with little effect in making the field drier. Redrained in 1844 to the depth of 5 feet up and down the fall, drains 20 yards apart, subsoil very hard and stony, at the cost of 2*s.* per rod for labour, 8*d* for tiles and soles; the effect was very visible in the following crops of Barley and seeds. The extra produce I am fully satisfied paid the expense of redraining the first year, and I feel assured from what draining I have done in these two fields, and in others since, that shallow draining on this description of land is nearly useless, and the deeper the drains are cut, the more effectual they are, and less liable to choke or get out of order. I am sorry I cannot give you a better description; but if this meets your approbation, I shall trouble you with something on irrigation shortly.—*John Sayers.* [Will you favour us with it, after so long a delay?]

No. XI.—Handley, Chester.—*Date of Operations,* 1843 to 1847 inclusive.

Extent Drained, about 120 acres.

Nature of Soil.—Almost all stiff clay, with stiff clay marl subsoil. In part of one field a little gravel in the subsoil. 25 acres drained in Wheat stubble; the rest in pasture.

Mode of Drainage.—The whole is drained at not less than 30 inches in depth; the main drains being a little deeper. The distance apart has been almost uniformly 18 feet. At first I used horse-shoe tiles with slate soles, and a few inches of broken stones above the tile, with a sod inverted placed carefully upon the stones. This over about 50 acres. I then discontinued the stones and used rather smaller tiles. This over about 35 acres. Last winter I began to try the pipe tiles, and have used them entirely since. They are 1½ inch bore, and 2½ inches for main drains. For the pipes the drain is dug, as before for the tiles, by three men, one following the other, each taking out about 10 inches of earth. The bottom is then levelled with a flat scoop. After that a scoop that fits the pipes is pushed along by a man, holding a long wooden handle and walking along the edge of the drain. This forms a bed for the pipe so that it cannot shift. My first draining was very expensive; it cost nearly 9*l.* the statute acre. The tiles cost me 32*s.* per 1000; the stones 6*d.* per horse-load; the cutting, laying, and filling in, 9*d.* per rood of 8 yards. It now costs me about 4*l.* 15*s.* an acre; the pipes costing 14*s.* per 1000 the small bore, 17*s.* per 1000 the larger bore. When in good heart this has always been good Wheat land, but it had been much abused. The results are, that I can get upon the land to plough and work it, when my neighbours, who have not drained, cannot get on theirs. The land is more friable, and I have grown 34 tons of Turnips to the acre on land that never grew any Turnips before, and I hope to be able to carry on a regular course of tilling with green crops on this land, which before was thought too stiff for it, and was worked on the plan of naked fallows and Wheat.—*Samuel Sandbach, jun.*

No. XII.—Allesley, near Coventry.—In the present state of opinion on the relative advantages of "deep draining" and "thorough draining," as explained by the advocates of the respective systems, the publication of the actual results of individual experience must be productive of advantage to those owners and occupiers of land on which this first improvement has hitherto been neglected, and with the hope of its usefulness the following detail of experience is offered. It may be desirable to give a short exposition of the ruling principles that influenced these operations; the object was to effect a remunerative improvement from as economical an outlay as was compatible with the effectual drainage of the land and the substantial execution of the work. The most fallacious of all opinions on this subject is the assumption that one uniform principle respecting the depth and distances apart of drains is applicable under all circumstances of variation in the situation and geological character of the land requiring drainage.

All land that is not naturally sound has, at varying depths from the surface, an impervious stratum, generally either clay, iron cemented grit, or a compact sandy loam, which, from its impermeable character, prevent the further downward passage of the water, which may be either what has fallen on the surface, or be the accumulated drainage of a higher level.

The object of drainage is to find the readiest outlet for stagnating water, which is found, when accumulated at any depth from the surface short of 5 feet, to be productive of very injurious effects upon growing crops, in proportion to the capillary powers of the soil, and which is frequently only obviated by a system of deep drains; for however numerous the drains, unless laid upon the impermeable stratum, termed by workmen "the hard bottom," but very partial benefit is attained.

This impermeable bed is found in the compact clay subsoils immediately beneath the surface soil, and which requires a regular system of parallel drains at narrow intervals to effect a perfect drainage. If these are laid 2 feet 6 ins. to 3 feet from the surface, so as to be safe from all risk of injury from the operations of tillage, they are most efficacious, unless the clay alternates with veins of loam, under which circumstances a greater depth is often desirable. Had the simple precaution been always taken to ascertain, by sinking holes into the subsoil the depth from the surface of the impermeable stratum, and the depth of drain regulated in accordance therewith, cases would not so often be quoted of land being chilled and unproductive even when thorough drained, and cited as proof of the superior efficiency of deep drainage under all circumstances.

In the spring of the year 1842, and during subsequent seasons, the following instances of drainage were effected upon an estate at Shenley Hill, near Barnet, and as a great portion of it was suffering from superfluous water, and tiles were not procurable nearer than five miles, and then at the exorbitant price of 40*s.* per thousand, a kiln and drying sheds were erected, at a cost of 50*l.*, at which tiles were made by hand at the cost of 21*s.* per thousand for a small size, 25*s.* for larger tiles, and soles at 8*s.* per thousand, including fuel and cartage. Shenley Hill is part of the elevated ridge that occupies the borders of Hertfordshire and Middlesex; it is about 350 feet above the level of the Thames, and consists of strata of the plastic clay overlaying the chalk formation, which appears in the valley of the Colne below; it has also a feature in common with Highgate, Danbury, the Lainden Hills, Tiptree, and most of the other high ground in the London basin, being covered on its highest points with a shingly diluvium, which when sufficiently thick forms naturally dry land, if resting conformably on the subjacent clay; the water in such instances breaking out at a lower level, where the gravel meets the clay. This description of land often requires very deep drainage, particularly when clay beds alternate with the gravel; frequently in such cases one judiciously cut drain may effect a cure over several acres.

The first operations on this property were upon land of this description, but as the results are so various, being dependent upon the peculiar character of each case, in some instances double the area being drained as in others, it will be best not to give the cost per acre, but merely state the method adopted, which was to take a line of drain along the hill side immediately above the point where Rushes first appeared; the great proportion of the drains were laid from 4 to 5 feet deep, cutting through the diluvium into the underlying clay. The general result has been good pasturage where Rushes, Hassock (Aira cæspitosa), and Carnation-grass (Carex), alone occupied the soil. Wherever the first is found to flourish it is generally an indication of bottom water, a case requiring deep drainage.

Another instance occurred on the same hill side, at a lower level, where, below a shallow surface soil, a bed of diluvium, averaging a foot in thickness, rested upon compact clay. This bed became filled with water

during the rain of winter; and although the declivity was considerable, allowing a good quantity to run off, the nature of the ground was such as to be but little better than a swamp until late in the spring, when the ground became partially dry by evaporation. This was most worthless pasture, unsafe for sheep at any time, and generally not bearing the tread of cattle before summer was far advanced, and even then only producing a scanty herbage of the usual aquatic Grasses. This was originally intended to be drained 3 feet deep, the direction of the drain oblique, at an angle of 30 degrees with the perpendicular; but on cutting one as a trial, and leaving it open for a time, the water was found to enter the drain, under the different circumstances of heavy rains or gradual drainage, at about 15 inches from the surface, the point at which the diluvium rested on the clay. Under the circumstances it was considered a waste of labour to cut deep drains, and it was ultimately finished by laying the drain at 30 feet intervals, and from 2 feet to 2 feet 3 inches in depth. The result is, that this land, which before was comparatively worthless, is now good pasture, having only had the additional assistance of a dressing of chalk; the aquatic plants have disappeared, it will carry cattle at all seasons, and is at least of treble its former value.

On the arable land, generally with a uniform clay subsoil, a different plan was adopted, the drains being laid at a distance of 18 feet apart, and in the direction of the slope of the land. A furrow was first ploughed out 9 inches deep, and afterwards dug 2 feet 3 inches, making 3 feet from the surface. This was incurring a rather large outlay, but it has been amply repaid, as the history of our field will prove. It had originally been in Grass, and produced a scanty herbage of tents, and when mown for hay, the crop seldom exceeded half a load per acre; it had been in tillage for some years, the produce being very precarious, as it was so dependent on the seasons, seldom producing 24 bushels of Wheat or 4 qrs. of Oats per acre, even under favourable circumstances. In the summer of 1843 this field was in seeds, but almost overrun with a species of Agrostis. This was drained in the month of July, as far as the supply of tiles then at command would reach, extending to 10 out of 12 acres in the same field, and of the same quality. The field was wrought several times for the purpose of giving a good tilth, and killing the vivacious roots of the Twitch; in fact, making an autumnal fallow. The whole field was drilled with Wheat on 18 feet lands, care being taken on the drained portion to have the finishing furrow coincide with the line of drain. The Wheat on the small portion of the field that was undrained suffered from the winter rains of 1843 and 1844, while that on the drained part looked well all through the season, producing in the summer of 1844 a most luxuriant crop, estimated at 45 bushels per acre, while the undrained part did not grow more than 30 bushels; so that in the first crop of Wheat in this instance the whole cost of drainage was repaid. Immediately after harvest the land was ploughed up in a perfectly dry state, to the full depth of the working soil, about 6 inches, and without further tillage than a pair of harrows that preceded the drill; it was sown with Swede Turnips in the following May, and 3 cwt. of Peruvian guano to the acre, the produce was equal to 25 tons of Turnips per acre; it has grown equally good crops since, in fact this field has been converted from a soil difficult to cultivate, and very precarious in its returns, to one of the best arable fields on the estate. The circumstances of one field that was drained as the preceding one was noticed in the *Agricultural Gazette* of last year, as being opposed to the theory of deep draining the compact clays; it consisted of a clay subsoil overlaying a free sand and chalk; the clay deposit was in no part of the field thicker than 7 feet, and in many parts not more than 4 or 5 feet, yet it required to be drained, to carry off the surface water, before it could be profitably cultivated; yet if it is right to drain 4 or 5 deep on clay soils, this field should have been naturally sound.

The last instance to which reference will be made consisted of diluvial lands in the valley of the Colne, which were wet, from the existence of an impermeable stratum of clayey loam, at a depth from the surface of from 3 to 5 feet; on a portion of this land drains were laid at 60 feet intervals, and of the depth of 4 to 5 feet, according to circumstances, which has been attended with very satisfactory results. As opportunity occurred of testing the comparative value of the different opinions respecting draining on clay soils, a few experiments were made on depths and distances, which served to strengthen our previous convictions, that deep drainage in compact clays is wrong in principle, and will ultimately be found not to answer the expectations of its advocates.—*J. B., Allesley.*

P.S.—While on the subject, I will give you two facts that came to my knowledge, on our last market day, which have a reference to deep draining clays; both instances occur on the lias formation, although at a considerable distance apart. One gentleman assured me that he had drained his land 3 feet deep, along the furrows, the land laying in high bank only two years since; but so far from its being in a state suitable for sowing, his labourers were then employed in forming surface drains, to let off the water accumulated from the preceding night's rain. The other instance was a case where an occupier was redraining a piece of land 4 feet deep, in which drains had been laid 3 feet 6 inches deep a few years before, and which, although perfectly sound, had become inoperative.—*Allesley.*

Cost of Draining per acre.

	£. s. d.	£. s. d.
1st instance.		
484 yards at 10 yards distance, requiring 1452 tiles and soles, at 23s.	2 2 0	
Labour, 84 poles at 3d.	1 2 9	—3 4 9
2d instance.		
807 yards, at 6 yards distance, requiring 2421 tiles, &c., at 29s.	3 19 0	
Labour, 136 poles, at 3d.	1 16 6	—5 6 6
3d instance.		
242 yards, at 20 yards distance, requiring 726 tiles, &c., at 33s.	1 3 11	
Labour, by day-work, at an average of 9d. for 44 poles	1 9 3	—2 13 2

BUTTER-MAKING.

This subject has lately occupied a considerable space in the columns of the *Agricultural Gazette*; but not more than it deserves, or demands: for it is quite extraordinary, that in a department so valuable in an agricultural and commercial point of view, there should be still so much to learn. It is clear from correspondents in the *Agricultural Gazette*, and also from other publications, that we are as yet ignorant as to the change which cream undergoes in becoming butter, or indeed whether any chemical change takes place at all. Notwithstanding the confident tone with which some persons speak of the oxygenation of the cream, I know of no proof such as would satisfy us in any other chemical investigation, that any oxygen is absorbed in the process. Many good authorities regard the change as mechanical, thinking that the agitation only brings the particles of butter already existing into that close contact which forms them into a solid mass. The reference to Mr. Weston's air-churn is by no means conclusive, as the agitation produced by pumping in the air might mechanically have the same effect as the motion of ordinary churns: and when Mr. Hulme, in your Paper of April 15, says, in recommendation of it, that "the churning was carried on for an hour and 45 minutes, and 11 gallons of cream produced 26 lbs. of butter;" it is a result which certainly does not seem to be an improvement either in saving time or increasing produce.

Another correspondent thinks the Devonshire system the *ne plus ultra* in butter-making, and indeed it has one very great advantage over the often tedious process of ordinary churning. It may be allowed also that there is less bad butter made by that system than by churning the raw cream; but a pretty long experience in Devonshire and out of it, convinces me that by the scalding plan first-rate butter is never produced; it is seldom bad, it is never very good.

Your correspondent who has made the discovery that butter may be made in a minute by pouring cream on blotting paper, seems never to have heard of napkin cheeses, or observed the effect of dropping a little cream on the breakfast cloth. It is not butter that is thus produced; but it is a very elegant substitute for it and when fresh prepared is very agreeable. The gentleman who signs himself "W. W." in your No. for May 6, is not very intelligible. His 12° and 2½° of cream look very scientific; but it is not very easy to comprehend the meaning of the words. Lactometers are graduated in various ways, but they always, I presume, show the relative proportion of cream to the milk—how many parts of cream, for example, there are in 100 parts of milk; but 12° of cream! what quantity is that? In conclusion, I think the Royal Agricultural Society could not do better than expend some of their money in investigating this important subject. They might for instance provide an intelligent person with the different kinds of churn by which their comparative merits might be tested under similar circumstances; and they might promote some accurate chemical investigations. Even if it should turn out that air has nothing to do with the change that takes place, we should doubtless learn something as the result of such experiments; if it is proved that air is a necessary and influential principle, it is obvious that our present system stands in need of a radical change.—*W. E. H.*

ORNAMENTAL POULTRY.

The Mute Swan: *Cygnus Olor.*

The swan is, beyond all question, the bird to place, as a finishing stroke of art, on the smooth lake which expands before our mansions. It is perfectly needless, however delightful, to quote Milton and others, lauding the arched neck, the white wings, the oary feet, and so on. Its superb beauty is undeniable and acknowledged; and, to borrow an apt metaphor, we do not wish in these essays to thresh straw that has been thrice threshed before, to repeat how lovely the swan is on the silver lake, floating "double, swan and shadow;" for we might thus run, scissors in hand, through the whole *corpus poetarum*. Our object, in short, is simply to point out the best mode of managing them and keeping them.

Any one who lives on the banks of a moderately sized stream, and has a swan-right on that stream, will probably also have the means of keeping a keeper who will save him every trouble. But there are a great many people, occupiers of large farm houses, villas, or country mansions, persons perhaps of considerable wealth, who have no manorial rights, no ancient swan-mark belonging to their estate, but who still would willingly pay for the maintenance of a pair of swans and their annual brood of cygnets on inclosed or artificial waters, if they knew but how to order them aright.

Imprimis, then, they are called "tame swans, domestic swans:" never were epithets more inappropriate, unless we agree to say "tame hyæna, tame wolf, tame rat, domestic pheasant, domestic swallow." They will come to their keeper's call and take food from his hand, they will keep at home, when they are completely prevented from ranging out of bounds abroad; so far they are tamed and domesticated, but no further, and never will be. To compare the relations which exist between them and man, with those by which we retain the goose and the common fowl, is about as correct as to believe that the same temper and disposition influence the faithful dog and the wildest jackal of the wilderness. I put the case thus strongly, in order that it may be understood clearly. The comparisons may be a little exaggerated, but they will serve to raise the real truth into higher relief. Many systematic naturalists of deserved reputation have not been aware of the fact. Professor Low, speaking of the effects of domestication on birds, says, "The swan, the noblest of all water fowls, becomes chained, as it were, to our lakes and ponds, by the mere change of his natural form."—*Domesticated Animals of the British Islands; Introduction*, p. liv. Chained, indeed! I should like the learned professor to see a pair of unmutilated swans cleaving the air with extended pinions. He evidently takes the swan to be a domesticated bird, and that it will not fly away, instead of that it cannot. Waterton, who speaks only so far as he has seen, in his vivid essays, gives a very different account of the proceedings of a swan whom he indulged in the free use of his wings, for the gratification of observing his graceful evolutions in the air. But at present the discovery, and introduction, and dispersion of a species of swan that would be really tame, and stay at home without being tied by the wing, as prolific and having as valuable plumage and flesh as the common sort, would be one of the most valuable boons which the great London societies could now offer to the proprietors of limited portions of fluvial and lacustrine waters.

The following extract may give a valuable hint; unfortunately it does not state whether the pinioning knife had been used. "At the residence of the Governor of the province at Calix, I saw three swans, which, having been taken when young, were as tame as domestic geese, to which these birds are so much alike in every respect, that I can have no doubt of their belonging to one genus. Their bill is flat and black at the extremity, as well as on the margins, convex and somewhat angular in the middle, so far at least that the swelling part terminates in an angle. The middle is fleshy, where the oblong nostrils are situated; the base flat or quadrangular, with two sinuses pointing upwards, and pale-coloured. The margin is toothed, just like the Concha veneris (Cypræa.)"—*Linnæus's Tour in Lapland*, vol. ii. Mr. Yarrell, who of all naturalists is perhaps best acquainted with the nice distinctions that separate the various species of swans, seems to refer the above account to the hooper or whistling swan.

The learned have discovered a number of mysterious convolutions of the trachea in this genus, but it is doubtful whether all their researches have enabled them to match the annexed amusing instance from the "Ortus Sanitatis," or "Garden of Health," a rare old book printed in 1496, and enriched by numerous illustrations that are attributed to Albert Durer.

Those who wish to make themselves acquainted with the habits and dispositions, as well as the mere figures and descriptions of animals, should be informed that all living creatures cannot be divided into two distinct ranks of wild and tame, as, for example, the horse and the zebra among quadrupeds, and the blue rock pigeon and the ringdove among birds, just as they would separate the red and the white men on a chess-board, but that there is a most perplexing intermediate multitude, neither wild nor yet tameable, but usually spoken of as "familiar" or "half-domesticated," a term without meaning—dodging, like camp-followers, on the offskirts of human society, but determined never to enlist in the drilled and disciplined ranks, playing the game of "off and on," but always ending with the "off." Such are, among many others, the partridge, rats and mice, the house-sparrow, the water hen, and at a still greater distance, I believe and fear, the whole genus of swans proper.

Is there nothing resembling this amongst the human race? The mention of the word "gipsy" will set thought capable persons a-thinking. "Oh! but they have been neglected, uneducated, nl cared for! Educate! Educate!" say well-intentioned persons, who seem to declare that the soul of man is a *carte blanche*, and who would thereby, unthinkingly, deny the doctrine of Original Sin, as asserted by the Church of England. But I have seen enough both of bird and man-kind to know that the heart of neither is a *carte blanche*; you cannot write on either, whatever it may be your pleasure there to inscribe. Your duty, in both cases, is to take

them as you find them, and make the best you can of them for their interest, which will be found eventually to coincide with your own.

Swans, then, are *feræ naturæ* to all intents and purposes; of that there is no doubt, whatever the law of the matter may be: but although capricious birds, wild in their very nature, like most living creatures they have some attachment to place. The first point therefore is to settle them agreeably in their destined home. Old birds are less likely to be contented with a new abode, unless very distant from their former one, and are seldom to be obtained in the market. Cygnets may be procured every autumn; if they have been put up to fat for some time so much the better, as they will the sooner become tame, and contented with a small range—which I am supposing to be the thing required. The disadvantage of having cygnets to begin swan-keeping with is, that they are less ornamental till they have attained their perfect plumage, and the proper orange colour of the bill, and that they do not breed till their third year. It is not, however, generally known that the male is capable of increasing his kind a year earlier than the female, so that a brood may be obtained from an old hen, and a cock-bird in his second year. In selecting a pair, the great thing is to make sure of having two birds of opposite sexes. Two cock-birds will not live together, and their mutual aversion would soon show that all was not right; but two hens will—which is the case also with pigeons. A friend of mine procured a couple of swans; they were affectionate and happy in each other's society: in due time they made their nest and laid. Great were the expectations; such a plenty of eggs! both swans assiduous in sitting—rather suspicious that—the produce addle-eggs. The two ladies could not raise up a family between them.

In selecting any water-birds whose plumage is alike in both sexes, and which cannot therefore be distinguished with certainty, the best rule is to see them in the water, and take that which swims deepest for the female, and that which floats with greatest buoyancy for the male, remembering that all creatures of the masculine gender have the largest lungs in proportion to their size. The neck of the cock-bird is usually thicker. An experienced eye will, besides, detect a certain feminine gentleness and modesty in the one, and an alacrity and boldness in the other, which is a tolerably safe guide, as well as an appropriate and becoming attribute to the creatures themselves.

Supposing the reader to have obtained two cygnets that are not mere friends, but actually husband and wife, he will recollect that those reserved for fatting are never pinioned, lest it should check their progress, and he will request the operation to be performed before he has them home, in order that they may have the fewest possible disagreeable reminiscences connected with the spot where they are to spend their lives. There are two ways of pinioning birds; at the elbow joint, and at the wrist. The amputation of the part of the wing which corresponds to our hand is quite sufficient to prevent the flight of the short-winged species, as far as migration is concerned, disfigures them less than the closer pruning, and still leaves them the means of escape from a dog or a poacher, allows them now and then in their gambols to fancy they are free, and to enjoy a sort of half-run, half-fly, from the lawn into the water. Kindness, comfort, and good feeding must be employed to keep them at home as far as possible; but the loss of the last joint only of the wing will not be enough to prevent swans from joining any travelling companions who are on the way to the Arctic circle. I should recommend the female to be pinioned at wrist, the male at the elbow, trusting to their mutual attachment to keep the less maimed bird from deserting her mate. But however it be done, let it be set about in a workmanlike manner; no chopping, nor hacking, nor hewing, nor butchering. Many cygnets are annually killed by the clumsy way in which their wing is lopped off. They suffer from the shock to their nervous system, as much as from the hæmorrhage.

A skilful operator will feel for the joint, divide the skin, and turn the bone neatly out of the socket. I will allow him to shed just one drop of blood—no more. I would be as hard upon him as Portia was upon the flesh-cutting Jew.

> "This bond doth give thee here no jot of blood;
> The words expressly are, a limb of swan;
> Take then thy bond, take thou thy limb of swan;
> But, in the cutting it, if thou dost shed
> One drop of cygnine blood, thy clumsiness
> Shall brand the name of 'Bungler' on thy back.
> Therefore, prepare thee to cut off the limb,
> Shed thou no blood; nor cut thou less, nor more
> But just the very limb; if thou tak'st more
> Or less, than just the limb, thou shalt bewail
> The consequence."

If any brook runs into and from the pond where they are to remain, their escape through that channel must be prevented by sheep-netting, hurdles, pales, or other fencing, which should be continued some distance inland, lest they should walk away, if they cannot swim away. This precaution will be found particularly necessary if there is any main stream in the immediate neighbourhood. A feeding trough may be fixed for them in the pond, in the part where it is most desirable that they should be accustomed to display themselves. Those who are fastidious about the sight of such an object, or who wish to have it thought that the swans keep so much in view from purely disinterested motives (from simple affection to their masters, not from the greedy love of corn) may contrive to have it hid beneath a bank or behind a tree or shrub. The trough must be fixed in the pond on two firm posts, within arm's length of the shore, raised high enough from the water to prevent ducks from stealing the food contained therein, having a cover which lifts up by hinges, and so forms a lid, to keep out rats and sparrows, and open only in front. Many persons, however, feed their swans by simply throwing the corn into shallow water. They will skim the surface for the light grains which float, and then submerge their heads in search of that which has sunk. Should any carp (that fresh water fox) be occupants of the same lake, it will be found that they soon learn the accustomed hours of feeding, and will come to take their share along with their feathered friends. But it is cruel to locate a pair of swans for the sake of their beauty in a new-made piece of water whose banks and bottom are as barren and bare as the inside of a hand-basin. A load or two of water-weeds should have been thrown in, the previous spring, to propagate themselves and afford pasturage. Sometimes after an old established sheet has been cleansed at a great expense, it is thought that swans would now look well there, and they are forthwith turned in to be starved; whereas they would thankfully have undertaken the cleansing task for nothing. Swan food exists in proportion to the shallowness and foulness, not to the extent and clearness of the water. A yard of margin is worth a mile of deep stream, one muddy Norfolk broad, with its oozy banks, labyrinthine creeks, and its forests of Rushes, Reeds, and Sedges is better in this respect than all "the blue rushing of the arrowy Rhone," or the whole azure expanse of the brilliant Lake of Geneva.

In confined waters swans require a liberal supply of food in the autumn, when the weeds run short. It should be remembered that at this season they have to supply themselves with a new suit of clothes, as well as to maintain their daily strength. If they have not been taught to eat corn, and have not acquired a notion of grazing, they will perish from starvation as undoubtedly as a canary bird neglected in its cage. Young birds are apt to be fanciful or stupid, and have not sense enough to come on the bank and eat grass, or pick up the threshed corn which may be thrown down to them. Sometimes they may be tempted with a lock of unthreshed Barley or Oats, thrown, straw and all, into the water, which they will instinctively lay hold of and devour. Cygnets which have been previously put up to fatten, will give little or no trouble in this respect, besides the advantage of being accustomed to the near approach of a keeper.

In one week I lost two swans, a cygnet and a year-old bird, from the consequences, I fear, of a few days' short diet at moulting time. Suspecting foul play from some ill-natured person I caused a post mortem examination to be made of that which died last; but, in a literal sense, nothing could be found. The poor thing was empty and emaciated, though it had been fed with corn two or three days before, and though it had only to ascend a bank a foot high to enjoy a plentiful feast of good Grass. It had been seen sailing about in apparent health and spirits the previous evening, and my mind is not yet quite satisfied about the subject. The following remarks may perhaps afford some clue in similar cases.

"Swans wandering by night, in search of Watercresses chiefly, are always in danger from the different vermin which prey upon poultry and game—weasels, stoats, polecats, &c. And swans thus destroyed exhibit no wounds or marks upon the body, but upon the head and neck, where, on a minute inspection, the wounds are discovered through which the vermin have sucked the life-blood, leaving the bulk so little affected that the feathers are unruffled. The wounds appear scarcely the size of a pin's head, but are generally above half-an-inch deep. Geese and turkeys are also liable to be destroyed by these nocturnal marauders, which, like all beasts of prey, sleep throughout the day."—*Moubray on Poultry, 8th Edition, p.* 128.

One would doubt the fact of so large a bird as the swan falling a victim to a wretched little weasel. But a relation of mine had a pair of Canada geese, birds little inferior in size to the swan, which in the breeding season were suffered to shift their quarters from the farm-yard, their usual abode, to a neighbouring broad, where he had rights. After a time one bird returned home alone, and its missing mate was at length discovered, half-decomposed, on a sedgy islet in the broad in such a position as to indicate that it had been surprised and killed by one of the larger weasels, a stoat, or a polecat.

(To be continued.)

Home Correspondence.

Sale of the late Lord Spencer's Stock.—I have been rather disappointed at not finding in your Paper any account of this sale, which took place at Wiseton, on Friday, the 28th ult. The particulars and prices of a sale of that nature would be most interesting to a large class of your readers, to all those especially who take pleasure in the breeding of cattle. A few of the prices realised reached me, through the kindness of a friend who was present, and I have been anxiously looking for fuller details in your Paper, which usually gives ample information on all subjects connected with agriculture. The sums stated to have been given there quite startle us southern farmers, and the question naturally arises, how is it to pay? Were any of these high priced animals to be brought to these parts they would doubtless be admired, but no corresponding prices could be obtained for their offspring; and it would be in vain, I imagine, to look for a return by merely rearing animals for the butcher. It may be all very well where calves will fetch a proportionate price if well bred and carefully reared, but in the south this is not the case, and we must look entirely to the butchers for remuneration. —*An Old Subscriber.* The following list is taken from the *Mark Lane Express*.

SALE OF SHORT-HORNS AT WISETON.

	Name.	Purchaser.	£	s	d
1	——	R. F. Hall	162	15	0
2	——	Phillips	54	12	0
3	——	Featherstonehaugh	63	0	0
4	Tuberose	Ambler	43	1	0
5	Magnolia	Barthrop	58	16	0
6	Roguery	H. L. Maw	27	6	0
7	Sylph	Guest	19	19	0
8	Gertrude	Barthrop	52	10	0
9	Dead				
10	Serenade	Ambler	27	6	0
11	Wallflower	Timm	53	11	0
12	Corinne	R. F. Hall	63	0	0
13	Melody	Timm	45	3	0
14	Tutsan	Sir Thomas Cartwright	36	15	0
15	Jane	R. F. Hall	42	0	0
16	Melodrame	Timm	64	1	0
17	Nebula	R. F. Hall	84	0	0
18	Marcia	Sir Thomas Cartwright	84	0	0
19	Minuet	J. Webb	44	2	0
20	Belinda	J. Webb	45	3	0
21	Prophetess	H. L. Maw	52	10	0
22	Titania	R. F. Hall	85	1	0
23	Bohea	Timm	49	7	0
24	Zone	Sir Thomas Cartwright	66	3	0
25	Delphine	R. F. Hall	50	8	0
26	Elf	Thompson	65	2	0
27	Feathers	Sir Thomas Cartwright	75	12	0
28	Banquet	Phillips	92	8	0
29	Guitar	Parker	38	17	0
30	Neva	Lord Burlington	40	19	0
31	Telluria	Sir Thomas Cartwright	189	0	0
32	Lollypop	Barnett	31	10	0
33	Laughter	Hon. Capt. Pelham	28	7	0
34	Spinster	H. L. Maw	34	13	0
35	Bonbon	Barnes	115	10	0
36	Volage	Lord Ducie	210	0	0
37	Saga	Barnes	52	10	0
38	Armide	Hon. H. W. Wilson	37	16	0
39	Waterwitch	Philips	131	5	0
40	Charmer	Thompson	29	8	0
41	Pride	Machin	70	7	0
42	Pelerine	Lord Harewood	63	0	0
43	Ceremony	Lord Burlington	38	17	0
44	Omen	Hon. Capt. Pelham	55	18	0
45	Pedigree	Phillips	59	17	0
46	Ladye-love	J. Grant Duff	53	11	0
47	Metal	Sir Thomas Cartwright	52	10	0
47	Levity	Hon. Capt. Pelham	45	3	0
49	Lantern	Phillips	65	2	0
50	Amaryllis	R. F. Hall	60	18	0
51	Sibyl	W. Smith	55	13	0
52	Spae-wife	Lakin	44	2	0
53	Cycle	Lawson	74	11	0
54	Prudence	Gamble	63	0	0
55	Octave	Whitehead	69	6	0
56	Not offered.				
57	Talc	H. S. Thompson	74	11	0
58	Joy	Cook	31	10	0
59	Gratitude	Featherstonehaugh	39	18	0
60	Evergreen	W. Smith	34	13	0
61	Lunette	Phillips	73	10	0
62	Arachne	Hon. H. Wilson	21	0	0
63	Corset	R. F. Hall	74	11	0
6	Zaffar	R. F. Hall	48	6	0
65	Amaranth	R. F. Hall	59	17	0
66	Saxifrage	Templeton	34	13	0
67	Guile	Cook	18	18	0
68	Enigma	Topham	42	0	0
69	Trinket	King	53	11	0
70	Sorcery	Pelham	63	0	0
71	Goodness	Lord Burlington	54	12	0
72	Vaudeville	Sir Thomas Cartwright	52	10	0
73	Lady Bountiful	Dudding	42	0	0
74	Epitaph	Sir Thomas Cartwright	46	4	0
74a	Jollity	W. Smith	21	0	0
			£4305	0	0
	Bulls.				
75	Usurer	Lord Ducie	420	0	0
76	Ich Dien	Mace	66	3	0
77	Flageolet	Cook	56	14	0
78	Upstart	Sir Thomas Cartwright	210	0	0
79	Weathercock	Phillips	136	10	0
80	Brownie	R. F. Hall	73	10	0
81	Orontes	Sir W. Cooke	73	10	0
82	Humber	Marquis of Exeter	74	11	0
83	Moidore	Camp	69	6	0
84	Gondolier	Lord Burlington	52	10	0
85	St. George	Hon. Capt. Pelham	80	17	0
86	Oswald	Slater	37	16	0
87	Tally-ho	Barnett	17	17	0
88	Memus	.....	14	14	0
89	Sugar-plum	Downs	54	12	0
90	Saraband	Not offered.			
			£5743	10	0

Green Hay.—In reply to your application, I have much pleasure in sending to the *Agri. Gazette* the result of the experiments, which I have made through several seasons, on preserving Grass without fully drying it. The usual process of hay-making is well known to be accompanied with considerable loss of the nutritive qualities of the Grass, as its sugar, gum, and starch, by full exposure to sun and wind, are largely converted into woody fibre; to prevent this injury, Dr. Thomson "On the Food of Animals," suggests the rapid drying of the Grass by artificial heat in barns; but I fear that to this suggestion may be applied a quaint quotation of a French writer on agriculture. "It is, says Arthur Young, a pretty thing for a man who has one acre of land; a folly, at large." After several attempts the plan which I have followed for the last three years consists in half drying the Grass, Clover, Vetches, &c, stacking it with alternate layers of straw, and applying salt to arrest fermentation in the rick. The rick should be made twice as long as it is broad. Place at the bottom a layer of straw; over this, shake down evenly the half-dried fodder, making a layer 6 inches thick; over this a man walks, sifting equally from a sieve 2 lbs. of finely powdered salt for every cwt. of the fodder; over this place a layer of straw from 4 to 6 inches thick; then another layer of the Grass salted, followed by one of straw, and so on till the rick is completed. This is the plan which I have hitherto followed, but I think an improvement on

this method can be made, and which in future I propose to adopt. Instead of using alternate layers of Grass and straw, I intend to mix each cart-load of the Grass with an equal bulk of straw, as intimately as I can; applying the salt on the top of each six inch layer. I find it impossible to state how much time intervenes between cutting and carrying the Grass. The succulency of the food, the situation of the farm, and the state of the weather varying so much, that the directions which I have found to accomplish their object on my hill farm, failed last year in the vale. The only general description which I can give of the fitness of Grass, &c., to be stacked is, that to the eye of the haymaker it should seem to be half dried, and I think the plan which I have described especially valuable for preserving Vetches. I must reserve for a future Paper some further remarks on pickling the leaves of roots. I send for your inspection some Mangold Wurzel leaves which were pickled 2½ years ago; and which, on opening the pit, I found that the cows ate eagerly; you will observe that the leaves have an acid and peculiar smell. But these leaves have now been exposed to the action of the air six weeks, so that probably there is an incipient decomposition going forward.—*A. Huxtable.*

Australia.—Your correspondent, "An Exile," states he is going to Australia, and wishes for information to guide him as to what he should take with him. Before giving him an opinion it would be very desirable to know to which of the Australian colonies, *i. e.* New South Wales, South Australia, Port Philip, Western Australia, or Van Diemen's Land, he is going; these various settlements being all termed Australia by intending emigrants, although very different places, and the requirements are also very different at each place. I shall be happy to afford such information as I possess, and as I believe I can give, if "An Exile" will state to which place he purposes going. I would observe, though, that I fear your correspondent is not quite the person to succeed in Australia, if he goes out with the impression that he is "An Exile." An emigrant and an exile are very different beings.—*H. C., Wooburn, Bucks.*

A word to the Poorer Classes on the advantages of a Savings Bank.—The use of a Savings Bank may be explained in a few words: 1. A man who can help himself needs to be indebted to nobody. 2. A Savings Bank enables a poor man to help himself, and better too than all the charity of friends and neighbours could do it for him. It gathers small savings, such as almost every one can spare, into such a stock as will stand him in stead for the whole of his life. Savings grow in their proportion into a fund that will make a poor man too rich to beg or borrow of anybody but himself. 3. The poor sometimes talk as if they could do nothing to better themselves. This is very true, if they work hard one day only to get money to spend at the ale-house the next day; or if they will be as thoughtless about helping themselves as if they had neither sense nor conscience to guide them; or if they will complain and be idle, instead of doing their best. But if there is no necessity for all this, then it is not true that they can do nothing to mend their condition. They can do much: they can do more than others can do for them; working and saving will always hold out longer, and make more than charity can do; because charity spends, but does not make money. Let them begin in a new way for once; namely, let them save what hitherto they have been used to spend in drinking, or other waste; and let them work fairly to lay the first stone of their own comfort. If they will make up, by shillings at a time, only a few pounds, those few pounds will of themselves grow into more; and if other savings be added to the stock, the old and the new will go on together, and swell into a heap; into which the owner may put his hand, to help himself, in his old age; in a time of sickness; in hard times; in loss of work; in putting his children out to an honest trade; in buying a cottage; in making himself easy and respectable too. 4. A man by saving his odd money, instead of wasting it, takes the way to avoid not only want and beggary, but to avoid many sins too. The sin of drunkenness (with the brutish blasphemy that attends it), the sin of wastefulness, the sin of mis-spending time, the sin of neglecting children and family, the sin of bad example and bad company,—are all to be seen in a careless, sottish life. Who would not wish to avoid the temptation to all these things? He who wishes to do it, let him begin by thinking whether money carried to a public house, or to a savings bank would turn to the best account; and whether staying at home himself, taking care of his family, if he has one; or providing against the time when he may have one; and living frugally, temperately, and conscionably, will not be followed with some good upon it. Probably, a few fools may pretend to laugh at you because you may choose to become on a sudden wiser than you have been, or than they wish to be. Leave them to their mirth and to the beggary that is coming after it; and see whether you would wish to change conditions with them in a few years' time, if you should live so long, when you will have money in the Bank of England, comfort at home, and a cheerful heart within; and those unhapppy wretches will be brought to live upon the husks, and nobody to blame for it but themselves. 5. Remember that a savings bank is not an imposture upon the poor, like a lottery office. It makes smaller promises, but it keeps them. It does not rob many to make one rich; but it is a common benefit to every one alike, and to every man exactly according to his endeavours of being industrious and frugal. You may subscribe what you like, and when you like. You will be the complete owners and masters of your own property, to keep it in the fund, or take it out, as you please, and when you please. Consider what you might do if you had 20*l.* in hand all at once. You might set up a small shop, or apprentice a son, or furnish a cottage, or do some one of other many things which make money well worth having. Take your choice among them all; and if it please God that you should live so long, begin with 1*s.* a week, and you will in a very few years have your wish. If you do not live so long, your children, or your other relatives will have it for you: and you will leave them your own little property, and your own good example with it.—*J. H.*

[It gives us pleasure to notice that a small tract "On the advantage of Savings-banks and Friendly Societies" is about to be supplied in a cheap as well as instructive form, for gratuitous circulation by the clergy, proprietors of cottages, and others; among cottagers, holders of allotments, and labouring classes generally, on the plan of the "Chipperfield Association for Promoting and encouraging industrious and provident habits among the Labouring Classes," as noticed at p. 221 of this Paper. Any attempt to improve the condition of our rural population must be regarded as a step in the right direction.]

When to pay Wages.—I quite agree in all that "Faunus" has stated respecting the payment of labourers' wages upon some other than Saturday evening. The regular weekly payment of wages on the evening previous to the morning of the chief market in the neighbourhood, cannot be too strongly enforced on landlords and farmers in particular.—*Sulop.*

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A SPECIAL COUNCIL was held on Friday, the 19th of May: present, the Right Hon. Lord Portman, in the chair; Sir M. W. Ridley, Bart.; Sir Charles Lemon, Bart., M.P.; Sir John V. B. Johnstone, Bart., M.P.; Mr. Raymond Barker, Mr. Burke, Col. Challoner, Mr. Bell Crompton, and Professor Sewell. The report to be made by the Council to the ensuing General Meeting was taken into consideration, and agreed to unanimously.

GENERAL MEETING.

The May General Meeting of the Society was held on Monday last, the 22d of May, at the Society's House, 12, Hanover-square. The Earl of Yarborough, President, in the chair, supported by the Duke of Richmond, Earl of Egmont, Earl of Lovelace, Lord Portman, Lord Bridport, &c.

The Secretary, by direction of the President, having read the Bye-law of Anniversary Elections: on the motion of the Duke of RICHMOND, seconded by Mr. John Ellman, the Earl of Chichester was unanimously elected President of the Society for the year ensuing the York Meeting.

On the motion of Mr. RAYMOND BARKER, seconded by Mr. Hampden Turner, the following Trustees were re-elected:—Sir Thomas Dyke Acland, Bart., M.P.; Lord Braybrooke; Hon. Robert Henry Clive, M.P.; Right Hon. Sir James Graham, Bart., M.P.; Sir Francis Lawley, Bart.; Joseph Neeld, M.P.; Lord Portman; Philip Pusey, M.P.; Duke of Richmond; Duke of Rutland; Earl Spencer; Duke of Sutherland.

On the motion of Lord PORTMAN, seconded by Colonel Challoner, the following Vice-Presidents were re-elected:—Earl of Chichester, Marquis of Downshire, Earl of Ducie, Earl of Egmont, Marquis of Exeter, Earl Fitzwilliam, Sir Thomas Sherlock Gooch, Bart.; Earl of Hardwicke, Viscount Hill, Earl Talbot, Duke of Wellington, and Earl of Yarborough. The members having delivered in their balloting lists, the President appointed Mr. Brandreth, Mr. Kinder, and Mr. Wingate, to be the scrutineers, who reported that the following House List of the 25 members of Council for the two years ensuing the York Meeting was unanimously adopted by the meeting:—Thomas Raymond Barker, John French Burke, Samuel Druce, Richard Garrett, B. T. Brandreth Gibbs, Lodge, Old Brompton; Stephen Grantham, The Lord Hatherton, Teddesley-hall, Staffordshire; C. Hillyard, William Fisher Hobbs, George Hudson, M.P.; Samuel Jonas, John Kinder, John Bennet Lawes, Rothampsted Park, Hertfordshire; Earl of Leicester, Holkham, Norfolk; Sir Charles Lemon, Bart., M.P.; Hon. Captain Dudley Pelham, R.N., St. Lawrence, Isle of Wight; Professor Sewell, William Shaw, London; William Shaw, Northampton; Robert Aglionby Slaney, M.P.; Robert Smith, Charles Stokes, Henry Stephen Thompson, Thomas Umbers, and Jonas Webb, Babraham, Cambridgeshire.

The Secretary, by direction of the President, then read the following report from the Council.

REPORT.

THE Council report to the members at their present general meeting that during the past half-year,

139 new members have been elected,
31 have died,
82 have been struck off the list, and that the Society now consists of

93	Life-Governors,
186	Annual Governors,
648	Life Members,
5387	Annual Members,
21	Honorary Members.
Total ... 6335	

Mr. HUDSON, M.P., has been elected to supply the vacancy in their body occasioned by the decease of Mr. Browne.

The Council have to express their regret that Mr. PARKES, in consequence of his other professional engagements, has found it necessary to resign the office of Consulting Engineer; but they have the pleasure of stating, that, as an Honorary Member of the Society, he has signified his readiness to assist the Council with his skill and experience.

In order to render their meetings more convenient to all parties, the Council have altered that part of the Bye-laws which prescribes Wednesday as the day of meeting; and have decided that, after the expiration of the current month, the monthly and weekly meetings of the Council shall be held on Tuesday instead of Wednesday, the usual hour of meeting remaining at 12 o'clock, as heretofore.

They have also decided that, agreeably with the privilege conferred by the recent Treasury order, regulating the transmission of books through the Post-office, the Journal of the Society shall be issued by Post on the day of publication to each member whose subscription is not in arrear.

The Council have, after due investigation, determined to adopt at the approaching Country Meeting a simple and improved method of testing the comparative efficiency of the implements to be selected for trial on that occasion; and they have decided that in addition to the Consulting-engineer of the Society, who will act as the mechanical referee, there shall be ten judges of implements, two of these engineers, and the remaining eight practical farmers. That the two engineers shall be the sole judges of steam-engines and of steam power generally, considered in a scientific and mechanical point of view, without reference to the application of such power to agricultural machinery; but that they shall report to the stewards, in writing, for the information of the other judges, a statement of the power applied to the machinery under the consideration of any such judges. Also, that the other judges shall judge the work done by any agricultural machine to which steam or other power is applied; but that it shall be an instruction to them to pay every attention to the report of the engineers in forming their judgment of the work of the machinery on which they are called upon to adjudicate.

The Council are in communication with the directors of the various railway companies throughout the kingdom, respecting the transit of live stock and implements to and from the place of exhibition; and they hope, through the liberal co-operation of those railway companies, to make such arrangements as will be satisfactory to all parties.

In compliance with the strong local feeling expressed to the Council, they have decided to hold a Council Dinner at York.

Professor Johnston, of Durham, and Professor Simonds, Lecturer on Cattle Pathology in the Royal Veterinary College, London, have each consented to deliver a Lecture before the members of the Society, on consecutive evenings, during the period of the York Meeting: the former on the application of Science to Agriculture; and the latter, on the Anatomy, Physiology, Functions, and Diseases of Domesticated Animals.

The Council have decided to afford the public admission into the cattle yard, under certain regulations and conditions, on the Wednesday evening, after all the judges have delivered in their awards.

The number of agricultural implements entered for the York meeting far exceeds that of any former year; and, from the numerous entries of live stock already sent in for that exhibition, as well as from the favourable circumstances under which the York meeting will be held, the Council have the fullest assurance that the ensuing Country Meeting in that city will fully realise their most sanguine anticipations.

They have accepted the invitation of the authorities of Norwich to hold the Country Meeting for the Eastern District of England, in 1849, in that city; and, in conformity with the practice of the Council, they have decided that the district for the Country Meeting in 1852 shall be comprised of the whole of South Wales, with the addition of the Counties of Monmouth, Gloucester, Hereford, and Worcester; the district for the meetings to be held in the intermediate years having been already determined, namely, the South Western District for 1850, and the South Eastern for 1851.

The Council, in conclusion, have the satisfaction of reporting the successful progress of the Society in the gradual development of its power of promoting the extension of knowledge in reference both to the science and practice of agriculture: and supported as the Society so cordially has been, and continues to be, throughout the kingdom, the Council cannot entertain a doubt of the continuance of its prosperity and usefulness.

By order of the Council, JAMES HUDSON, *Sec.*

On the motion of Sir R. P. JODDRELL, Bart., seconded by Mr. Hudson, of Castleacre, this report was unanimously adopted.

Mr. RAYMOND BARKER, Chairman of the Finance Committee, read to the meeting the report of the auditors, on the part of the Society, made at their audit of the accounts for the half-year ending the 31st of December last, of which report the following is a summary:

RECEIPTS.

Balance in hand, 1st July, 1847		£1925	12*s.* 4*d.*
Dividends on Stock		141	19 4
Compositions for life		325	19 0
Annual subscriptions		2370	2 0
Sale of Journal		153	16 0
Country meetings		143	5 8
Cottage tracts and Council badges		12	13 7
	£5072	18	11

PAYMENTS.

Permanent charges	£278	12s.	6d.
Taxes and rates	17	1	2
Establishment	447	10	9
Postage, carriage, &c.	44	9	6
Expenses of Journal	652	12	0
Prizes	1347	15	6
Marquis of Downshire's addition to Flax prize	30	0	0
Country meetings	1005	8	0
Analysis of ashes of plants	100	0	0
Subscriptions allowed	2	0	0
Miscellaneous payments	5	15	0
Balance in hand, 31st Dec., 1847	1141	14	6
	£5072	18	11

(Signed)—C. H. TURNER, THOMAS KNIGHT, } Auditors on the part of the Society.
THOS. R. BARKER, C. B. CHALLONER, } On the part of the Finance Committee.

On the motion of the Earl of LOVELACE, seconded by Mr. STANSFIELD, M.P., a vote of thanks was passed to the auditors, for their great care of the Society's accounts.

Mr. HAMPDEN TURNER, in acknowledging the compliment paid to the auditors, observed that the monetary prospects of the Society were better at that time than he had ever remembered them to be on any previous occasion.

Sir John V. B. JOHNSTONE, Bart., M.P. moved, and Sir M. W. RIDLEY, Bart., seconded, a vote of thanks to the Honorary Distributors of the Journal of the Society, a copy of which would in future be transmitted by post direct to each party who had a claim to receive it.

In reply to an inquiry made by Mr. W. BLAKE, of Portland-place, the Duke of RICHMOND stated that an Index to the Journal was nearly completed, and would in all probability be published in the ensuing part of the Journal.

Mr. RAYMOND BARKER stated the condition under which the Journal was issued, namely, after the payment of subscription due, and not previously to that essential preliminary.

Colonel CHALLONER reported favourably of the gradual diminution of the arrears of subscription, especially in the case of members elected during the last two or three years.

On the motion of the Earl of EGMONT, seconded by the Duke of RICHMOND, the cordial thanks of the meeting were voted by acclamation to the noble President of the Society, and the Earl of YARBOROUGH having returned thanks for the honour the meeting had done him in that expression of their feeling towards him, his lordship vacated the chair, and the meeting terminated.

Miscellaneous.

Poisoning from the accidental use of Seed Wheat steeped in Arsenic.—An accident, by which one female met her death, and twelve other persons, men, women, and children, suffered severely, happened at Feltwell and Hockwold, in Suffolk, a few days ago. Mr. Jacobs, farmer, of Feltwell Fen, his wife, one son, and three daughters, were taken suddenly and violently ill after breakfast. A surgeon was sent for, who found them suffering severely from the effects of poison. In the evening the same gentleman was sent for in great haste to a family residing at Hockwold, named Watson; but previous to his arrival one daughter, 30 years of age, had died, and the rest were pronounced to be suffering from poison. Two little children, about five and seven years old, suffered most severely, but they are fast recovering. One daughter, about 22 years of age, is still very ill. The father and the other daughter, as well as the family of Mr. Jacobs, are quite recovered. The cause of these occurrences has been discovered to have been as follows:—Mrs. Parkinson, the wife of a farmer, in her husband's absence, sent a coomb of corn to the mill to be ground, but by mistake put three bushels of Wheat into a sack containing a bushel of Wheat which had been dressed for seed, being the clearings of the drill, and containing a quantity of arsenic. From this a considerable quantity of arsenic must have been left in the stones of the mill, and affected the next coomb of corn which was sent to be ground for Mr. Jacobs, and a quantity of Wheat was ground for another family, which was not used. The next corn sent was a bushel of Wheat from Watson. The flour was sent home and a pudding made for supper, and immediately afterwards the whole family was taken ill. It was fortunate that, for the want of wind, the mill was prevented grinding for several days, and in the meantime the accident was discovered, or the consequences might have been still more serious. An inquest was held on Monday last, at Hockwold, on the body of Harriet Watson, when a verdict of "Accidental Death" was returned.—*Examiner.*

Calendar of Operations.

MAY.

BERWICKSHIRE MERSE FARM, *May* 19.—Since last report we have been employed in planting Potatoes, sowing Turnips, preparing land for sowing, and in threshing and delivering Oats. The workers are employed in cleaning the land, two men mending fences, four deepening ditches, laying in a tile and filling them up; a man and a woman feeding the cattle with Turnips and Bean-meal.—*J. B.*

SOUTH DEVON FARM, *May* 22.—Since last report the weather has been very favourable for the growth of different crops, there having been, during the greater portion of two days, very heavy showers of rain; this the land required, as it was beginning to suffer much from the late oppressive heat. We have been very busy working the land for Mangold Wurzel, and sowing them in ridge drills 27 inches apart, manured with about 20 tons of good dung per acre, placed in the centre of the ridges, the seed at the rate of 1¼ lb. per acre, dropped by women about 10 inches from seed to seed. We have now 11 bullocks feeding on our pasture land; these are doing remarkably well, and will soon come to the market. Our cows are kept in by day on cut Clover, and turned out by night. I observe a correspondent wishes to know the price of labour in the various counties; now in this neighbourhood we give our ploughmen 1*s*, 9*d*. per day, and cider equivalent to another 3*d*., and he takes charge of his pair of horses; all other men get 1*s*. 6*d*. per day and cider as above, working between the hours of 7 and 12 and 1 and 6; during the time of harvest they receive an extra 6*d*. per day as an equivalent for meat.—*T. M.*

Notices to Correspondents.

CAPONISING—*Chirurgicus*—The operation is simple and easy, quickly done, no deep cutting through tender flesh or muscle being requisite, but merely an incision through thin skin, and near no large vein or artery. But to be performed with dexterity it should be witnessed if possible. If not convenient to see it done by some practical hand, let the first essays be made on dead subjects for both sorts—capon and poularde, as they will not be in the least impaired for the use of the table afterwards. The portions to be extracted in a (young) "cockerel" are situate and affixed to the middle of the back bone, below the diaphragm, near the kidneys, two small round substances lying contiguous and parallel to one another, which cannot be mistaken in feeling for them. The bird should be secured from all movement by being held firmly, and an incision made with a lancet or sharp round-pointed penknife, about 1 inch long, either through the ribs, which mode I prefer, perpendicular to the wing, near the thigh, when these substances will be easily attainable or visible on pushing the entrails aside, or the incision may be made perpendicular to the abdomen through the flap, the most usual way. All this may be accomplished in a few moments without pain, except from fright at being handled, by using the fore, or fore and middle fingers of the right hand, or a hooked wire like a button-hook. I have seen this performed very artistically by using a pair of blunt-pointed scissors; but the more rough (apparently) mode, being done quicker, and probably producing a rougher wound, heals the more speedily. For a hen capon (poularde), which increases greatly in size, and in some countries is considered the most delicate, either excise the egg cluster, which resembles a bunch of Grapes, or, what may be less cruel in appearance, answering the purpose equally well, sever the egg-tube with a small pair of blunt-pointed scissors, and push the divided tube on one side, in order to prevent it from again uniting. The incision may then be united by means of needle and thread, making two or three sutures; too many would fasten it too closely and prevent healthful suppuration, without which it would fester, and there could be no healing process or speedy union of the edges of the wound. The age for performing the operation is at about three to four months old, when the young ones have left the mother and the cockerels begin to crow. Warm settled weather is the most favourable, early hatched birds being to be preferred, so as to insure recovery before the cold weather sets in, in which case they should be kept in a warm place and be well fed. In very hot weather they should be kept in a cool place until the wound has healed up, and the sutures can be withdrawn. This is the end of the first lesson, though, in fact, no more teaching is necessary, further than a more detailed and anatomical description. Upon so small a subject as a fowl, in which the several vessels resemble one another and lie so closely together as scarcely to be distinguishable, no refinement of anatomical science can improve upon the old rough mode of operation. *D. S. E.*

CORRUGATED IRON ROOFING—*A B*—Its weight per square foot is 2½ lbs. A roof of 18 feet span should rise 3½ or 4 feet in the middle. If you purchase the galvanised iron it need not be painted. It will cost 5*l*. per square of 100 feet. We recommend the boxes in preference to the stalls. Give Bean-meal and hay, or straw-chaff along with the Wurzel. About buildings next week.

COWS—*Agricola*—They may lie out all night, all summer.

DAIRY MANAGEMENT—*Ab Initio* desires the experience of others regarding slate pans for milk. Pray give the dimensions of the pans; and their relative merits as compared with glass, earthenware, lead, &c.

DISEASES OF CATTLE, &c—*C J F*—The publications by the Society for the Diffusion of Useful Knowledge.

DRAIN TILES—*H C Z*—We do not know what kilns are near Hornsey, or convenient to the Thames. But perhaps the notice may procure you information.

LIME—*D Machin*—You ought not to have applied the lime and the dung so near one another. We would have applied the latter on the stubble in autumn and the dung in spring; or, *vice versâ*, if you could have had the latter at the former period.

ROYAL AGRICULTURAL JOURNAL—*J Wilcox*—A full index of all previous ones is to appear with the next volume.

SITTING HEN—*B H* should be careful not to mistake a healthful state for an unhealthy one, or to induce the latter by the injudicious administration of medicine. If the hen "appears bound," that shows her to be in perfect health; looseness in her condition would prove the very reverse. During incubation the common fowl, whose natural nest is on the ground, is endowed with a wonderful power of retention, different from other birds, sometimes to the extent of two and even three days and nights, but never dirties in the nest so long as not disturbed. If "B. H.'s" hen be really bound, that state will, in all probability, show itself by the usual symptom, "hard or full crop." In this case, one or two teaspoonsful of English gin or castor oil, of either or both, will prove efficacious. The lightness of weight and weakness no doubt are owing to the long duration of the state of incubation in a second sitting. She should be watched, to see whether she comes off the nest to feed, requiring to be well fed, and taken carefully and regularly off the nest, if she do not of her own accord, at least once a day. The eggs, too, require occasional exposure to the atmospheric air, that they may not become addled.

ZINC ROOFING—*Enquirer* asks concerning the utility and value of zinc, as a roofing material for cottages in districts where it is difficult to obtain a supply of slates, tiles, or straw for thatching. In the district to which he alludes, there is plenty of fine Heath, and he would cover the zinc with a thatching of Heath, as a non-conductor; thus he would have his cottages clean roofed with durable material, warm in winter, and cool in summer. He would be under the necessity of boarding the roof before laying on the zinc. The timber will have to be brought from a distance, but this is unavoidable. Asphalte would require boarding, and would not be so durable as zinc. The covering of Heath would prevent the zinc from being warped by the sun. Perhaps some of your correspondents may have had some experience in the matter, and if they will communicate it they will confer a favour. [The corrugated iron roofing *over* some sort of non-conducting material, makes an excellent roofing.]

*** Communications reaching town after Wednesday cannot be answered the same week.

Markets.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, May 25.

Prime Mead. Hay	70s to 74s	New Hay	.. —s to —s	Straw	.. 26s to 30s
Inferior ditto	.. 60 65	Clover	.. 75 92		
Rowen	.. .. — —	New Clover	.. — —		J. COOPER

CUMBERLAND MARKET, May 25.

Prime Mead. Hay	72s to 78s	Old Clover	.. 90s to 95s	Straw	.. 28s to 32s
Inferior	.. 50 65	Inferior	.. 75 84		
New Hay	.. 50 60	New Clover	.. — —		JOSHUA BAKER.

WHITECHAPEL, May 25.

Fine Old Hay	.. 68s to 72s	Old Clover	.. 90s to 95s	Straw	.. 22s to 28s
Inferior Hay	.. 50 60	Inferior	.. 70 80		
New Hay	.. .. — —	New Clover	.. — —		

COVENT GARDEN, May 27.

The market is well supplied with Vegetables and most kinds of Fruit. Pine-apples are sufficient for the demand. The supply of foreign Grapes is well kept up; hothouse ones become more plentiful. Peaches, Nectarines, and Cherries may also be obtained. Nuts are sufficient for the demand. Filberts fetch from 14s. to 20s. per 100lbs. Oranges are abundant. Lemons are moderately plentiful. Strawberries very plentiful. Among Vegetables, young Carrots and Turnips are plentiful and good; Cauliflowers, Broccoli, Greens, &c., sufficient for the demand. Asparagus is abundant. Sea-kale is all but over. French Beans fetch from 1s. to 2s. per 100. Frame Potatoes may be bought at from 6d. to 1s. 6d. per lb. Lettuces and other salading are sufficient for the demand. Mushrooms are a little dearer. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Rhododendrons, Fuchsias, Carnations, Auriculas, Acacias, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 6s to 10s	Oranges, bitter, per 100, 8s to 16s
Grapes, hothouse, per lb. 5s to 10s	Lemons, per doz., 1s to 2s
— Portugal, per lb., 1s to 3s	Lemons, per 100s, 6s to 14s
Peaches, per doz., 15s to 24s	Almonds, per peck, 6s
Nectarines, per doz., 15s to 24s	— sweet, per lb., 2s to 3s
Strawberries, per oz., 3d to 1s	Walnuts, per bush., 12s to 18s
Apples, dessert, per bush., 5s to 12s	Nuts, Barcelona, per bush., 20s to 22s
— kitchen, p. bush., 4s to 7s	— Filberts, per 100 lbs., 14s to 20s
Gooseberries, green, p. hf sieve, 2s to 4s	— Cob, per 100 lbs., 25s to 30s
Currants, per half sieve, 3s to 4s 6d	— Brazil, per bush., 12s to 16s
Oranges, per doz., 9d to 2s	Chestnuts, per peck, 3s to 6s
— per 100, 3s to 12s	

VEGETABLES.

Asparagus, per 100, 1s to 4s	Onions, pickling, p. hf. sieve, 2s to 3s
Cabbages, per doz., 6d to 1s	Shallots, per lb., 6d to 8d
— Red, per doz., 6s to 12s	Garlic, per lb., 3d to 1s
Greens, p. doz. bunches, 9d to 1s	Rhubarb, per bundle, 4d to 1s
Cauliflowers, per doz., 2s to 10s	French Beans, per 100, 1s to 2s
Broccoli, per bundle, 1s to 2s	Radishes, per doz. bands, 6d to 1s
Sorrel, per half sieve, 6d to 9d	— Turnip, do., 9d to 1s
Potatoes, per ton, 100s to 160s	Artichokes, per doz., 4s. to 8s
— per cwt., 5s to 8s	— Jerusalem, p. hf. sieve, 1s
— per bush., 3s to 4s 6d	Lettuce, Cab., per score, 4d to 9d
— Kidney, per lb., 6d to 1s 6d	— Cos, do., 6d to 1s 6d
Turnips, p. bunch., 1s to 2s 6d	Mushrooms, per pottle, 6d to 1s
Red Beet, per doz., 6d to 1s	Small Salads, per punnet, 2d to 3d
Horse Radish, per bundle, 1s to 4s	Fennel, per bunch, 2d to 3d
Cucumbers, each, 6d to 2s	Savory, per bunch, 3d to 4d
Leeks, per doz., 1s to 1s 6d	Thyme, per bunch, 3d to 4d
Celery, per bundle, 1s to 2s 6d	Watercress, p. 12 small bun., 6d to 9d
Carrots, per bunch, 9d to 1s 6d	Parsley, per half sieve, 6d to 9d
Spinach, per sieve, 3d to 1s	— leaves, per bundle, 1s to 1s 6d
Peas, per sieve, 6s to 10s	Mint, green, per bunch, 2d to 4d
Onions, per bunch, 3d to 8d	Marjoram, per bunch, 6d to 9d
— Spanish, per doz., 1s to 4s	

POTATOES, SOUTHWARK, WATERSIDE, May 22.

The Committee report that the continued warm weather has caused our market to be very heavy, which, with a liberal supply both coastwise and continental, has caused prices to rule lower, particularly with stale Regents which are scarcely saleable at any price. The following are the present quotations:—York Regents, 120s to 180s; Reds, 100s to 200s; Wisbeach Regents, 100s to 130s; Blues, 100s to 110s; Scotch Whites, 90s. to 95s; Belgian, 80s to 90s.

SMITHFIELD, MONDAY, May 22.

We have again a large supply of Beasts, and of average good quality; trade is consequently rather dull; notwithstanding there is a considerable demand, the dead market being tolerably clean. Friday's quotations are pretty well supported. The number of Sheep has increased, and late prices are not readily given; indeed, the trade may be called the turn worse. Lambs are in request; good ones are still scarce, and sold dear. We are moderately supplied with Calves; buyers are plentiful at Friday's rates. Trade is heavy for Pigs. The arrivals from Holland consisted of 600 Beasts, 730 Sheep, and 121 Calves; from Scotland 600, and from Norfolk and Suffolk 2000 Beasts.

Per stone of 8 lbs.	s	d	to	s	d
Best Scots, Herefords, &c.	4	0	to 4	2
Best Short Horns	3	8	—	4	0
Second quality Beasts	2	10	—	3	4
Calves	4	4	—	5	2
Best Downs & Half-breds	....			....	
Ditto Shorn	4	10	—	5	0

Per stone of 8 lbs.	s	d	to	s	d
Best Long Wools	....			....	
Ditto Shorn	4	6	—	4	8
Ewes and second quality	....			....	
Ditto Shorn	3	10	—	4	4
Lambs	6	4	—	7	0
Pigs	4	0	—	5	0

Beasts—3403. Sheep and Lambs—23,190. Calves—275. Pigs—370.

FRIDAY, May 26.

The supply of Beasts is not very large, quite adequate, however, to the demand. Buyers are cautious, but prices remain about the same. The number of Sheep and Lambs is larger; the former barely made Monday's prices, and of the latter, choice qualities were nearly as dear, making 6s. 10d., but middling were lower, ranging from 5s. 8d. to 6s. 4d. We have an unusually large number of Calves; a choice one makes about 4s. 10d., inferior 3s. 8d. to 4s. 4d. Trade is heavy for Pigs. From Holland there are 149 Beasts, 660 Sheep, and 204 Calves; and 133 Milch Cows from the home counties.

Per stone of 8 lbs.	s	d	to	s	d
Best Scots, Herefords, &c.	4	0	to 4	2
Best Short Horns	3	8	—	4	0
Second quality Beasts	2	10	—	3	4
Calves	3	8	—	4	10
Best Downs & Half-breds	....			....	
Ditto Shorn	4	10	—	5	0

Per stone of 8 lbs.	s	d	to	s	d
Best Long Wools	....			....	
Ditto Shorn	4	6	—	4	8
Ewes and second quality	....			....	
Ditto Shorn	3	8	—	4	4
Lambs	5	8	—	6	10
Pigs	4	0	—	5	0

Beasts—856. Sheep and Lambs—10,260. Calves—563. Pigs—370.

MARK LANE, MONDAY, May 22.

Messrs. KINGSFORD and LAY report that the supply of English Wheat fresh up for this morning's market from Essex, Kent, and Suffolk, was moderate, and disposed of on the terms of this day se'nnight. Foreign met a fair consumptive demand at late rates.—Malting Barley barely maintains our quotations.—Beans and Peas fully support former prices.—Oats are a dull sale at scarcely last week's rates.—Flour is unaltered in value.—Indian Corn is inquired after, at an advance of 1s. to 2s. per qr.

BRITISH PER IMPERIAL QUARTER.	s	s		s	s
Wheat, Essex, Kent, and Suffolk	White	48	58	Red	43	47
Norfolk, Lincolnshire, and Yorkshire		44	48	White	44	50
Barley, Malting and distilling, 27s to 30s	Chevalier	30	34	Grinding	25	28
Oats, Lincolnshire and Yorkshire	Polands	22	28	Feed	20	24
Northumberland and Scotch	Feed	22	24	Potato	23	25
Irish	Feed	19	23	Potato	22	26
Malt, pale, ship		—	—			
Hertford and Essex		—	—			
Rye		27	30			
Beans, Mazagan, old and new	30s to 38s	Tick	30	42	Harrow	30	44
Pigeon, Heligoland	33	50	Winds	—	—	Longpod	—	—
Peas, White	34	38	Maple	35	37	Grey	30	33

FRIDAY, May 26.

The arrivals of English Corn during the week have been moderate, but large from abroad. This morning's market was thinly attended, and Wheat of all descriptions must be noted a dull sale, particularly the new arrivals of foreign, which are much out of condition, and could not be disposed of, all bough offered on lower terms.—Barley must be written 1s. per qr. cheaper.—Beans and Peas fully support our quotations.—Oats are a slow sale, and the turn lower.—Indian Corn continues in demand, and realises the full advance of Wednesday—say 2s. to 3s. over our quotations.

[Since the 19th inst. the weather has continued dry and warm, excepting a heavy hail storm which fell in some of the western and midland counties. The accounts from the country generally, with few exceptions, represent the appearance of the Wheat plant as much improved and looking well; Barley better than might be expected, but Peas and Beans are unfavourably reported of—the latter in some districts have been ploughed up. Wheat prices in the country markets were well supported, and in several an advance of 1s. to 2s. per qr. occurred. Flour has rather improved in value in Liverpool, Manchester, and some of the coast towns, but the demand here has been languid. Indian Corn, owing to a considerable demand from Ireland, and rise in prices there, realises an advance of 2s. to 3s. per qr. Floating cargoes of Galatz and Ibrail were yesterday held at 36s. and 34s. per qr., which stopped business; a little might have been done at 2s. per qr. less. On the west coast of Ireland, which appears bare of stock, it is now quoted at 10*l*. per ton. Barley has given way in price 1s. per qr. in several markets, owing to increased arrivals and many cargoes being out of condition. Beans and Peas fully support our quotations, and have rather an upward tendency. The Oat trade has been languid. In the Mediterranean and Black Seas prices of grain continue low, but the fear of war and blockades, and difficulty of negotiating, causes little business to be entered into. In Dantzic about 10,000 qrs. of Wheat had changed hands at rather higher rates—say 36s. to 40s. per qr. In the other Baltic ports little alteration had occurred. Considerable orders, however, had arrived out for Barley and Peas, the stocks of which articles being small, holders had raised their demands to 19s. to 21s. per qr., f. o. b., for the former, and 22s. to 25s. per qr. for the latter. In New York on the 9th, White Genesee Wheat had advanced to 5*d*s to 5*l*s. per qr., and was in good demand; red to 46s. to 48s. per 480 lbs., f. o. b. The value of Flour had also an upward tendency, and was quoted 27s. to 28s. 3d. per barrel, f. o. b. Indian Corn was held firmly at 20s. 5d. to 21s. per 480 lbs., f. o. b. Meal 10s. 9d to 11s. 3d. per barrel.]

IMPERIAL AVERAGES.	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
April 15	49s 7d	32s 2d	19s 1d	29s 0d	35s 6d	36s 1d
— 22	48 10	32 1	19 8	29 7	35 3	38 2
— 29	49 6	31 10	19 8	29 0	34 9	37 6
May 6	50 1	32 4	19 8	31 11	35 7	36 3
— 13	49 10	32 8	20 2	29 10	35 6	35 9
— 20	48 4	32 7	20 4	29 2	36 8	35 9
Aggregate Average	49 4	32 3	19 11	29 9	35 6	36 9
Duties on Foreign Grain	8 0	2 0	3 0	2 0	2 0	2 0

Fluctuations in the last six weeks' Corn Averages.

Sales by Auction.

EAST INDIAN ORCHIDS.

MR. J. C. STEVENS is instructed to announce for Sale by Auction, at his Great Room, 38, King-street, Covent Garden, on Tuesday, 6th June, at 1 o'clock precisely, one of the finest and most valuable collections of EAST INDIAN ORCHIDS ever imported into this country. It consists of upwards of 60 strong healthy plants of Phalænopsis grandiflora, also fine specimens of Vanda tricolor, V. insignis, and several other fine new Vandas; Saccolabium Blumei, Aerides quinquevulnerum, the true Renanthera matutina, Dendrobiums, Cœlogynes, &c. All the plants are in excellent condition.—May be viewed on Monday and morning of sale, and Catalogues had.

AFRICAN AND NEW HOLLAND ORCHIDS AND OTHER PLANTS, SEEDS, &c., JUST IMPORTED.

MR. J. C. STEVENS will sell by Auction, at his Great Room, 38, King-street, Covent Garden, on Wednesday next, the 31st inst., at 1 o'clock precisely, TWO GLAZED CASES containing ORCHIDS and other Plants, in fine order, some New Holland Seeds and Dried Plants; also a small importation of Orchids from the Gambia, collected by an eminent Naturalist in the Natoe country, West Africa.—May be viewed till the sale and Catalogues had.

TO NOBLEMEN, GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will sell by Auction, at Kentish Town Nursery, near the turnpike, on Monday, May 29th, at 3 o'clock precisely, about 5000 GREENHOUSE PLANTS, consisting of choice Scarlet and other Geraniums, Fuchsias, Verbenas, Heliotropes, Ageratum, Stocks, Mignonette, Dahlias, Petunias, Picotees, &c. Five beds of choice TULIPS, amongst which will be found Louis XVI., Rising Sun, Rose Camuse and Brilliant, Athalia, Fabius, Emperor of China, David, Milo, Mahomet Ali, Lady Napier, &c. Also an excellent Tulip Cabinet. May be viewed prior to the sale. Catalogues at Mr. Parmenter's, 1, Holmes-terrace, Kentish Town; and of the Auctioneers, American Nursery, Leytonstone.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will submit to public competition at the Auction Mart, Bartholomew-lane, on Thursday, June 1st, 1848, at 12 o'clock, about 500 first-rate DAHLIAS, comprising all the new and approved varieties; also a splendid assortment of Geraniums and other plants in bloom; the newest varieties of Fuchsias, Verbenas, Heartsease, Pinks, and a collection of other choice Plants for the Borders.—May be viewed the morning of Sale, and Catalogues had at the Mart and of the Auctioneers, American Nursery, Leytonstone.

MERRIOTT, NEAR CREWKERNE, SOMERSETSHIRE.

TO BE LET, and entered on immediately, on most advantageous terms, an Old Established and Well Stocked NURSERY, containing, by estimation, Ten Acres (more or less), situated in the above parish; together with an excellent Hothouse thereon, filled with choice Vines in full bearing, and valuable plants; adjoining which is a comfortable Cottage, with convenient Cart-house, Packing Sheds, Seed Room, &c.

Merriott is situated within a short distance of the populous towns of Ilminster, Ilchester, Yeovil, Crewkerne, Chard, Taunton, &c., to which latter place conveyances pass to and fro daily, in connection with the railways to all parts of England.

To view the above, application may be made to Mr. ANDREWS, at the Cottage on the Nursery; and further particulars and terms of letting may be known on application to Mr. WHITLEY, Solicitor, Wrington, near Bristol, Somerset.—Wrington, May 27.

TO BE LET ON LEASE, for the term of 14 or 21 years, A NURSERY GROUND of nearly 5 acres, with a suitable House, near the Church, at Streatham, Surrey; rent, 40*l.* per annum. The whole is well stocked, and in full business. The Stock to be taken at a valuation. For further particulars, enquire of Messrs. PROTHEROE and MORRIS, American Nursery, Leytonstone; or of Mr. GAITSKELL, Solicitor, 99, Upper Stamford-street, Waterloo-road.

TO BE LET, at Michaelmas next, or may be entered upon immediately, HOBURY FARM, in the parish of Fawley, near Southampton, consisting of 260 acres arable, 65 Salt Marshes, 12 Mill Meads, 12 Dry Meads, and 7 acres of Hedge-row.—Enquire of Mr. GEORGE FOOTMAN, Romsey, Hants.

PARTNERSHIP.—MR. JOHN WEEKS, King's road, Chelsea, would be happy to meet with a Practical Gardener, with a capital of from 500*l.* to 2000*l.*, to join him in The UNITED NURSERY. The Horticultural Buildings at this Establishment are the finest of any nursery in the country; there is a choice and valuable collection of Plants. None need apply but men of first-rate abilities.

GARDENERS' REGISTER OFFICE.

HORTICULTURAL ESTABLISHMENT.

J. WEEKS AND CO., King's-road, Chelsea, have the honour to inform the Nobility and Gentry that 200 GARDENERS are registered and classed according to their various qualifications, with full particulars of the situations they have filled, the wages they require, &c. By application to this establishment, a Gardener can be selected suitable for every situation in the kingdom.

J. WEEKS AND CO., ARCHITECTS AND BUILDERS OF HOTHOUSES, GREENHOUSES, CONSERVATORIES, PITS, &c.—The Nobility and Gentry about to erect Horticultural Buildings, may depend on the best seasoned materials and first-rate workmanship employed. The various works in progress will testify our facilities for executing such buildings.

J. WEEKS AND CO.'S PATENT HOT-WATER APPARATUS is unrivalled for simplicity and efficiency. The whole apparatus, in various forms, may be seen in action on the premises. Economical Boilers of all sizes, the largest is capable of heating a range of Forcing Houses 300 feet long.

J. WEEKS AND CO. have lately established an extensive Ornamental Nursery. The Horticultural Buildings, are allowed to be the finest in the country; as also the complete arrangements of the Heating Apparatuses. The whole combining economy with utility and elegance.

There is a choice and valuable collection of Stove and Greenhouse plants, as also all the common varieties.

THE SEED DEPARTMENT at this establishment is conducted with the greatest care and attention. Samples of every variety are proved before sent out.

PLANS, ESTIMATES, AND CATALOGUES upon application. The whole of the prices at this establishment are very moderate.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

BEE-HIVES.—All persons desirous of Cultivating that pleasing and profitable branch of rural economy—the Honey Bee—are respectfully informed by G. NEIGHBOUR and SON, that they have prepared for the season an extensive supply of their various improved BEE-HIVES; their collection consists of "Nutt's Collateral Hive," "The Single Box Hive," "The Improved Cottage Hive," "The Ladies' Observatory Hive," "Taylor's Bar Hive," &c., from either of which the Honey may be taken at any time without injury to the Bees, and may be worked with safety, humanity, and profit, by the most timid and unaccustomed to Bee-manipulation. A descriptive paper, with drawings and prices, will be forwarded on receipt of a postage stamp.—Apiarian Depot and Honey Warehouse, 127, High Holborn, London.

NUTT ON BEES (6th Edition), just published.

MILTON'S BEE-HIVES.—An Extensive Assortment of each variety of Glass and Straw Hives, arranged for the season. "The Improved Huber," "Hexagon Apiary," and "The Box Hive," are particularly worthy of attention, as they have been extensively patronised, and worked with complete satisfaction and profit to the purchasers. Bee-Glasses of all sizes. Illustrations of Hives 1*s.*, at MILTON'S, 10, Great Marylebone-street, Wimpole-street, London.

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BAKER'S PHEASANTRY, Beaufort street, King's-road, Chelsea, by special appointment to her Majesty and H.R.H. Prince Albert.—ORNAMENTAL WATER FOWL, consisting of black and white swans, Egyptian, Canada, China, bernacle, brent, and laughing geese, shelldrakes, pintail, widgeon, summer and winter teal, gadwall, Labrador, shovellers, gold-eyed and dun divers, Carolina ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking fowls; white Japan, pied, and common pea-fowl, and pure China pigs; and at 3, Half-moon-passage, Gracechurch-street.

GLASS.

APSLEY PELLATT AND CO. (late PELLATT and GREEN), Falcon Glass Works, Holland-street, Blackfriars, have always on hand, Bee Glasses 1*s.* 6*d.* per lb., Cucumber Glasses, 1*s.* 6*d.* per lb.; Milk Pans, 18 in., white glass, 5*s.* 6*d.* each; Propagating Glasses, white, 1*s.* per lb., do. green, 10*d.*, do. Condensing, 2*d.* per lb. extra; Asparagus Tubes, 18*s.* to 21*s.* per gross; Grape Shades, 1*s.* 6*d.* to 2*s.* each; Fish-bowls, from 1*s.* 6*d.* each; Wasp and Fly-traps, 40*s.* per gross, or 3*s.* 6*d.* per dozen. By the use of these traps fruit may be preserved from (otherwise certain) destruction.

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JAMES PHILLIPS AND CO., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS FOR CONSERVATORIES.

CUT TO SIZE UP TO 40 INCHES LONG.			SMALL SQUARES of SHEET.	
16 oz. to the foot	3½*d.*	per foot	4 by 3 and 4½ by 3½ .. 1½*d.*	per ft.
21 ,,	5	,,	5 ,, 3 ,, 5½ ,, 3½ .. 2	,,
26 ,,	7½	,,	6 ,, 4 ,, 6½ ,, 4½ .. 2½	,,
32 ,,	10	,,	7 ,, 5 ,, 7½ ,, 5½ .. 2½	,,
			8 ,, 6 ,, 8½ ,, 6½ .. 2½	,,
			Not above 10 ,, 8 .. 3	,,

GLASS MILK PANS, PROPAGATING GLASSES, AND BEE GLASSES. GLASS TILES AND SLATES.

CREAM POTS, from 3 to 24 quarts, at 6*d.* per quart.

CUCUMBER GLASSES, from 12 to 26 inches long, 1*d.* p. inch.

LACTOMETERS for trying the quality of Milk, 4 tubes 7*s.* 6*d.*, 6 tubes 10*s*; Peach Glasses 10*d.* each; Fish Globes from 1*s.* 6*d.* each; Wasp and Fly Traps 3*s.* 6*d.* per dozen; Plate and Window Glass; Lamp Shades and Chimneys; and every article in the trade.

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Averuncators	Garden Scrapers	Pick Axes
Axes	Grape Gatherers and Scissors	Potato Forks
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Bills	Greenhouse Doors and Frames	,, Knives, various
Borders, various patterns	Hammers	,, Saws
Botanical Boxes	Hand-glass Frames	,, Scissors
Cases of Pruning Instruments	Hay Knives	,, Shears [riety.
Chaff Engines	Hoes of every pattern	Rakes in great va-
Chaff Knives	Horticultural Hammers and Hatchets	Reaping Hooks
Daisy Rakes	Hotbed Handles	Scythes
Dibbles	Ladies' Set of Tools	Scythe Stones
Dock Spuds	Labels, various patterns, in zinc, porcelain, &c.	Shears, various
Draining Tools	Lines and Reels	Sickles
Edging Irons and Shears	Marking Ink	Sickle Saws
Flower Scissors	Mattocks	Spades and Shovels
,, Stands in Wires and Iron	Menographs	Spuds
Fumigators	Metallic Wire	Switch Hooks
Galvanic Bordersand Plant Protectors	Milton Hatchets	Thistle Hooks
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,, Rollers		Turfing Irons
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		Watering Pots
		Weed Extractorsand Hooks
		Wheelbarrows
		Youths' Set of Tools

G. and J. DEANE are sole Agents for LINGHAM'S PERMANENT LABELS, samples of which, with the Illustrated List of Horticultural Tools, can be sent, post paid, to any part of the United Kingdom.—DEANE'S Horticultural Tool Warehouse, opening to the Monument, 46, King William-st., London-bridge.

STEPHENSON AND CO., 61, Gracechurch-street' London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

THE following MANURES are Manufactured by Mr. LAWES, at his Works at Deptford, near ——

Corn Manure .. 14*l.* per ton. Grass Manure .. 12*l.* per ton.
Clover do. .. 14*l.* ,, Turnip do. .. 7*l.* ,,
Superphosphate of Lime, 7*l.* per ton.

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THE LONDON MANURE COMPANY beg to announce that they have undertaken the exclusive manufacture of the manures recommended by Mr. J. C. Schatt. The substances used in their preparation will be subjected to Mr. Schatt's analysis, and every care will be taken in their manufacture. HOP MANURE, superphosphate of Lime, Wheat and Clover Manure. A Pamphlet on Artificial Manures, by Mr. J. C. Schatt, now ready.

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MARK FOTHERGILL, 201*a*, Upper Thames-street, begs to offer the following MANURES for the Turnip Crop, viz.—

GUANO, PERUVIAN, direct from Import Warehouse.
SUPERPHOSPHATE OF LIME, manufactured from Bones only (superior to the cheap qualities made from Coprolites).
DRIED NIGHT SOIL.
BONE DUST AND HALF-INCH BONE.
SULPHERIC ACID.

Also Soda Ash, wireworm destroyer; pure Gypsum, or Mineral Sulphate of Lime (the rubbish called plaster, containing but little acid, the rest being carbonate of Lime and water); Agricultural Salt, Nitrate of Soda, and all other Manures of known value. Prices current on application.

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TODD'S PATENT METALLIC PROTOXIDE PAINT.—This Paint has been most severely tested for nearly four years, by Architects, Engineers, and Surveyors of the greatest eminence, and has been found for painted houses, iron, stone, brick-work, and every description of painting, both external and internal, to be greatly superior to any other pigment; its innocuous qualities and great durability render it peculiarly adapted for the painting of houses and large establishments during their occupancy. Orders to be addressed to Mr. B. Todd, Patentee, 23, Dean-street, Soho, London.

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THE AINSLIE BRICK AND TILE MACHINE COMPANY (James Smith, Esq., of Bearston, Chairman) invite attention to their IMPROVED BRICK and TILE MACHINES, which are to be seen at work at Alperton, and at the Company's Office, 195*a*, Piccadilly, from 10 A.M. to 5 P.M. Mr. Robert Scrivener, who has been appointed Manager in the room of Mr. John Ainslie, will show the Machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, 195*a*, Piccadilly, London.

These Machines may also be seen at Mr. Slight's, Leithwalk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill, 135, Buchanan-street, Glasgow; Mr. Robert Charles, Mill-hill, Leeds; Messrs. Perry and Finch, Penkeridge, Staffordshire; Messrs. Drummond and Son, Dublin; and at Mr. John Connor's, Newtown Limavady, County Derry.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as bonding and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.

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BY HER MAJESTY'S ROYAL LETTERS PATENT.

F. M'NEILL AND Co., of Lamb's-buildings, Bunhill-row, London, the Manufacturers and only Patentees of THE ASPHALTED FELT FOR ROOFING

Houses, Farm Buildings, Shedding, Workshops, and for Garden purposes, to protect Plants from Frost.

At the Great National Agricultural Shows, it is this Felt which has been exhibited and obtained TWO SILVER MEDAL PRIZES, and is the Felt SOLELY patronized and adopted by

HER MAJESTY'S WOODS AND FORESTS,
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HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANIC GARDENS, REGENT'S PARK,

And on the Estates of the Dukes of Sutherland, Norfolk, Rutland, Newcastle, Northumberland, Buccleuch (at Richmond), the late Earl Spencer, and most of the Nobility and Gentry; and *at the Royal Agricultural Society's House, Hanover-square.*

It is half the price of any other description of Roofing, and effects a great saving of Timber in the construction of Roofs. Made to any length by 32 inches wide.

PRICE ONE PENNY PER SQUARE FOOT.

*** Samples, with Directions for its Use, and Testimonials of seven years' experience, with references to Noblemen, Gentlemen, Architects, and Builders, sent free to any part of the town or country, and orders by post executed.

☞ The Public is cautioned that the only Works in London or Great Britain where the above Roofing is made, are F. M'NEILL AND CO.'S Patent Felt Manufactory, Lamb's-buildings, Bunhill-row, London, where roofs covered with the Felt may be seen.

The new Vice-Chancellor's Courts, at the entrance to Westminster Hall, were roofed with F. M'NEILL and Co.'s Felt about two years since, under the Surveyorship of Chas. Barry, Esq., R.A. Her Majesty's Commissioners of Woods and Forests are so satisfied with the result that they have ordered the Committee Rooms at the Houses of Parliament to be roofed with their Felt. Quantity altogether used, 24,000 feet.

Note.—Consumers sending direct to the Factory can be supplied in lengths best suited to their Roofs, so that they pay for no more than they require.

Every information afforded on the construction of Roofs, or any proposed particular application of the Felt.

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VANITY FAIR.—PEN AND PENCIL SKETCHES OF ENGLISH SOCIETY. No. 18. By W. M. THACKERAY (Titmarsh). With numerous Illustrations. Price 1s. This Work will be completed in Twenty Numbers.

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PUNCH! OR THE LONDON CHARIVARI. Part 83. Price 1s 1d.

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On the 1st of June will be ready (price 1*l.* 19*s.* 6*d.*, cloth boards, lettered) VOL. I. of the RE-ISSUE of the 2d Edition of

SOWERBY'S ENGLISH BOTANY.—To be had of the Proprietor, Mrs. JUDITH SOWERBY, 3, Mead-place, Lambeth, and through all Booksellers in town and country; of whom also Cases for Binding the Numbers may be had.—May 27.

SIR W. J. HOOKER'S KEW GUIDE.

New Edition, in 16mo, with numerous Wood Engravings, price 1s. sewed,

KEW GARDENS; or, a Popular Guide to the Royal Botanic Gardens of Kew. By Sir W. J. HOOKER, K.H., D.C.L., F.R.A. & L.S., &c. &c., Director.

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THE LADY'S COUNTRY COMPANION; or, How to Enjoy a Country Life Rationally.

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THE HORTICULTURAL MAGAZINE.—A New Edition of the INTRODUCTORY NUMBER is just published, price 1s., containing 96 columns of letter-press, and 12 Engravings. Complete in itself.

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THE SEA and THE RAILWAY: their new Relations set forth in a JAUNT along the MANCHESTER, SHEFFIELD and LINCOLNSHIRE RAILWAY to GRIMSBY DOCKS, by FELIX SUMMERLY. With Woodcuts by C. W. Cope, R.A., D. Cox, Jun., T. Creswick, A.R.A., and R. Redgrave, A.R.A.

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Just published, Sixth Thousand, price 3*s.* 6*d.* cloth,

THE MANSE GARDEN; or Pleasant Culture of Fruit-trees, Flowers, and Vegetables, for the Beauty and Profit of the Villa or Farm. By N. PATERSON, D.D.

"The 'Minister's Boy,' in the Appendix, is worth the price of the whole book."—*Christian Instructor.*

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THE FLOWER-GARDEN; its Cultivation and General Arrangement, with select Lists of Plants, and Hints and Plans for laying out and arranging Garden Grounds. With coloured plates. Price 10*s.* 6*d.*, cloth gilt.

Uniform with the above,

THE ORCHARD AND FRUIT GARDEN; including the Management of all Wall, Standard, and Espalier Fruit Trees, and the Forcing-pit, with select Lists of the most choice varieties, and their synonymes. By CHARLES M'INTOSH, F.C.H.S. With coloured plates. Price 10*s.* 6*d.*, cloth gilt.

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BENHAM'S ICE CLOSETS for keeping Provisions perfectly cool during the hottest weather. For economy as well as comfort they are invaluable; also for cooling wine or ensuring a delicious draught of cold water to admirers of that beverage. Price 3 guineas.

BENHAM'S CREAM FREEZERS will freeze a quart of cream fit for the table in six minutes. Price 5 guineas.

Patent KNIFE CLEANERS.—BENHAM and SONS, agents, price 78*s.* These machines not only clean but actually polish the knives, and the most unskilful person can accomplish the work in less than one-fourth the time usually employed; they are now adopted at all the principal Hotels.—19, Wigmore-street, Cavendish-square.

BENHAM'S SHOWER BATHS.—BENHAM and SONS can with great confidence recommend these BATHS, which are manufactured on their own premises, and very superior in construction to those usually advertised.

B. and SON will warrant their Baths as not only the best but the cheapest of all others. Eye Baths, Silz Baths, Hydropathic, Hip, Knee, Leg, and Feet Baths; also Portable Warm Baths, which may be heated at the bed side.—Wigmore-street, Cavendish-square.

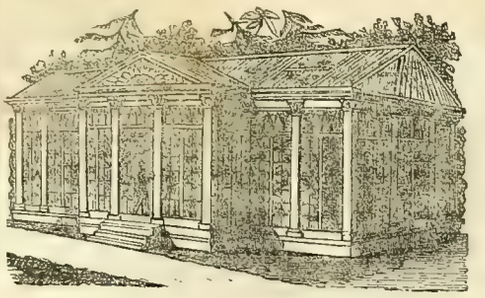
ROWLANDS' TOILET ARTICLES.—ROWLANDS' MACASSAR OIL, for the growth, and for preserving and beautifying the human Hair. ROWLANDS' KALYDOR, for improving and beautifying the Skin and Complexion. ROWLANDS' ODONTO, or PEARL DENTIFRICE, for preserving and beautifying the Teeth and Gums. The especial Patronage of Her Majesty the QUEEN, H.R.H. PRINCE ALBERT, the COURT, and ROYAL FAMILY of GREAT BRITAIN, and of every Court of the civilized world, together with numerous Testimonials constantly received of their efficacy, affords the best and surest proof of their merits.

*** BEWARE OF SPURIOUS IMITATIONS. Some are offered under the implied sanction of Royalty and the Government Departments, with similar attempts at deception. The only genuine of each bears the name of "ROWLANDS'" preceding that of the article on the wrapper or label. Their name thus—A. ROWLAND & SONS, is also, in red, on the wrappers of the Macassar Oil and Kalydor, and on the Government Stamp of both the Kalydor and Odonto.—Sold by them at 20, Hatton-garden, London, and by every respectable Chemist and Perfumer throughout the kingdom.

SMOKY FIREPLACES PREVENTED.

WM. AND M. FEETHAM take leave to acquaint their Friends and the Public that they undertake to prevent this evil effectually, and to construct Brick or Metal Flues to descend or otherwise for Heating or Ventilating, likewise Churches, Large Rooms, &c. Warmed by Stoves or Water on the most economical principles.—Apply at their Stove Warehouse, 9, Clifford-street, or at the Manufactory, No. 422, Oxford-street.

HORTICULTURAL BUILDING AND HEATING BY HOT WATER, ON THE MOST IMPROVED AND ECONOMICAL TERMS.



GRAY, ORMSON, AND BROWN, Danvers-street, Chelsea, solicit the attention of the Nobility, Gentry, and Gardeners, to their superior manner of Erecting and Heating every description of Building connected with Horticulture.

Extract of a Letter, dated May 10, 1848.—"I am happy to say the work you did here continues to give perfect satisfaction. The apparatus by which you heated three houses and three pits, from one boiler, I still believe to be the most complete I have seen after two winters. In the severest weather I had no difficulty in keeping top and bottom to the desired temperature. The Span-roofed house and other buildings you erected here are equally satisfactory. I shall be happy to show the work, or answer any references you may please to direct. —F. R. KINGHORN, Gardener to the Earl of Kilmorey, Orleans-house, Twickenham, Middlesex."

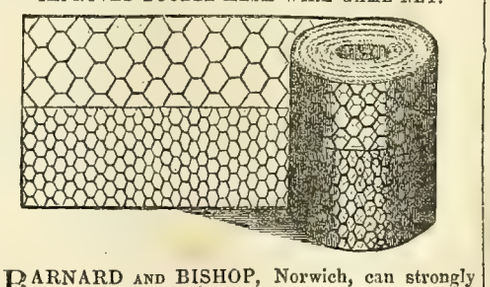
Plans and Estimates furnished free; and their works seen at the principal London nurseries.

MANCHESTER WIRE WORKS, MANCHESTER.

JAMES WHITTAKER EVANS respectfully announces to the Nobility and Gentry that he is prepared to supply every description of NET WIRE WORK suitable for HARE and RABBIT FENCING:—also for Pheasantries, Aviaries, Larders, &c., with every description of Bordering, Baskets, Stands, Trainers, &c., for Gardens, Parks, and Pleasure-grounds; and that men will be sent to any part of the kingdom for the executing of those orders with which he may be honoured.

N.B.—Patterns and specifications for contracts sent in to order.—Address by letter as above; but parties calling will please enquire for the Wire Works, near Victoria Station, Strangeways.

IMPROVED DOUBLE MESH WIRE GAME NET.



BARNARD AND BISHOP, Norwich, can strongly recommend the above NET to the notice of the Nobility and Gentry, as being the cheapest yet introduced: it has met with general approbation, and has been found most efficient in the preservation of young Trees, Gardens, &c., from the depredations of game. The extra strong 2-inch is the same strength as the stoutest article in the market. On inspection, it will be found better manufactured than anything else of the kind, and 20 per cent. cheaper. It is sent out in rolls of 50 yards, or any other length, at prices as under.

			per yard	
Double Mesh Net 24 ins. wide, 1⅝ & 3½-in. mesh,		strong	0	6¾
... ...		extra strong	0	9
... ... 2 & 4 ...		strong	0	5¾
... ...		extra strong	0	7¼
Single Mesh ... ... 1⅝ ...		light	0	7
... ...		strong	0	9
... ...		extra strong	1	0
... ... 2 ...		light	0	6
... ...		strong	0	7½
... ...		extra strong	0	10

The prices quoted for double net are for equal proportions of each mesh, which may be varied if required, thus, three parts fine to one of coarse, or *vice versa*, at prices accordingly; and it can be made any mesh and width to 7 feet.

A finer description for Aviaries, Pheasantries, &c., sparrow proof, 3*d.* per square foot; or, if made in copper, at 5*d.* per square foot. The Iron Wire Net is twice dipped in anti-corrosive composition, and sent free to London or Hull.

Patterns forwarded per post, free of expence.

MICROSCOPES.—A Good Compound Microscope, magnifying 20,000 times, with apparatus complete, for examining live or dead insects, flowers, animalcula, minerals, crystals, seeds, &c., with full instructions for use, price 3*l.*

Pocket Magnifiers, with single, double, and treble powers, for flowers and insects, 2*s.* 6*d.* and 5*s.* Self-registering Sixes Thermometers, not liable to get out of order, 21*s.* and 18*s.* Garden Thermometers, 2*s.* each. Post-office orders carefully attended to.—HENRY BAKER, Optician, &c., 90, Hatton-garden, London.

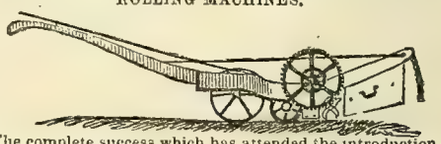
PATENT FLEXIBLE INDIA-RUBBER PIPES and TUBING for RAILWAY COMPANIES, BREWERS, DISTILLERS, FIRE ENGINES, GAS COMPANIES, GARDENING and AGRICULTURAL PURPOSES, &c.

THE PATENT VULCANISED INDIA-RUBBER HOSE PIPES are made to stand Hot Liquor and Acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible), and as they require no application of oil or dressing, are particularly adapted for Fire-engines, Pumps, Gas, Beer-engines, Gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes from ¼ inch bore upwards, and of any length to order.

Vulcanised India-rubber Garden Hose, fitted with brass taps, copper branch, and roses complete, ready to be attached to Pumps, Water-butts, or Cisterns.—Sole Manufacturer, JAMES LYNE HANCOCK, Goswell Mews, Goswell-road, London.

N.B.—Vulcanised India-rubber Washers of all sizes for Joints of Hot-water and Steam Pipes, and Vulcanised Sheet Rubber, any thickness, for all kinds of Joints, and other purposes.

SHANKS' IMPROVED GRASS CUTTING AND ROLLING MACHINES.



The complete success which has attended the introduction of this Improved Machine for Mowing Grass, and its fine adaptation for cutting the Grass of Lawns, has been fully proved by the numerous instances where it has been tried, and now in common use, particularly at Rossie Priory, Camperdown, and Kinblethmont, Forfarshire; Breadalbane, Perthshire; Clumber, and at many other noblemen and gentlemen's seats in England, as well as abroad. The Machines are made to cut breadths of 42, 30, or 20 inches, as required, the latter being adapted to hand-power. The Machine performs three different operations at one time, viz., Rolling, Mowing, and Collecting the Grass; and works with perfect ease, producing a beautiful smooth surface, and attended with great saving in abridging labour.

Orders may be addressed to Messrs. ALEXANDER SHANKS and SON, Machine-makers, Arbroath, N.B., by whom further particulars will be given.

Sold by Messrs. F. and J. DICKSON, Nurserymen, Chester; Messrs. J. and C. LEE, Nurserymen, Hammersmith; and Mr. GEORGE BARRY, Nurseryman, Castle-street, Liverpool.

IMPROVEMENT IN FARMING IMPLEMENTS.

LINSEED CRUSHER, simple in construction, for hand or horse-power, 11*l.* 11*s.*; ditto, doing Beans, Linseed, and Oats, by the same engine or horse-power, 10*l.* 10*s.* A smaller Implement for Linseed only, 7*l.* 15*s.*

THRESHING MACHINE.—A Four-horse Power, doing from 25 to 35 loads of Wheat-straw per day, without damaging the straw, may be had of MARY WEDLAKE and Co., 118, Fenchurch-street, opposite Mark-lane, London, (references to numerous persons farming extensively, and who use this new machine), price 60 guineas. Smaller machines at a less price.

GORSE-BRUISING MACHINES, price 10*l.* 10*s.*, will prepare 40 to 50 bushels of food a day for cows, horses, and other cattle.

MARY WEDLAKE & CO.'S CHAFF-CUTTING MACHINE will do 100 or 200 bushels a day. Price 7*l.* 7*s.*, and a smaller machine 5*l.* Horse-hoe, Dressing-Machine, Turnip Cutter, Turnip-Drill, Stubble-rake, Oil-cake Breaker, Bean and Oat Crushers, Essex Ploughs for two Horses, Subsoil Plough, Double Field Roller, &c. Hay-making Machine, 14*l.* 14*s.*

MARY WEDLAKE and Co., 118 (The City of London Repository for Agricultural Implements), Fenchurch-street, opposite Mark-lane.

GENUINE CIDER: GOOD FOR DRAFT OR BOTTLING.

DEVONSHIRE has for centuries been famous for its CIDER, and when obtained in a pure and genuine state, is much and deservedly esteemed.

Messrs. RENDLE and CO., 13, Octagon, Plymouth, beg to inform the nobility, gentry, and the public in general, that they can supply them with a first-rate article on the following terms. A new cask (value 8*s.*) containing TWELVE GALLONS of well-conditioned, bright, bottling CIDER (superior to some wine sold as champagne), will be forwarded, freight paid by steamer to London, Cork, Dublin, Belfast, Sligo, Southampton, or Falmouth,

For a Post-office Order value Twenty Shillings.

*** *To persons taking ten casks at one time, one will be given over, making eleven for* 10*l.*

WILLIAM RENDLE and Co., Cider Merchants,
May 27. 13, Octagon, Plymouth.

NEW ZEALAND COMPANY'S SHIP for NELSON, NEW PLYMOUTH, WELLINGTON, and OTAGO, in NEW ZEALAND. The FIRST-CLASS PASSENGER SHIP "BERNICIA," 548 tons, now lying in the London Docks, will be despatched by the NEW ZEALAND COMPANY for the above Settlements, from the port of London, on MONDAY, the 3d of JULY next.

Rates of Passage, Provisions included, viz.:—

For each Person	Chief Cabin. guis.	Fore Cabin. guis.	Steerage Cabin. guis.	Steerage Berth. guis.
14 years old, and upwards	45	25	20	15
7 years old, and under 14	27	15	12	9
1 year old, and under 7	18	10	8	6
Under 1 year old	0	0	0	0

The Company will appoint an experienced Surgeon, and provide Medicines, Medical Comforts, and an ample Dietary for each class of Passengers.

For Freight, Passage, or further information, apply at New Zealand House, or to Mr. JOSEPH STAYNER, Broker, 110, Fenchurch-street, London.

By order of the Court of Directors,
THOMAS CUDBERT HARINGTON.

New Zealand House, 9, Broad-street Buildings, London, May 27.

STARR'S PATENT PROTEAN JET.—This simple, yet effective JET, is the most useful and economical hitherto brought before the public for horticultural purposes, as it obviates the necessity of changing a variety of jets to produce various forms, as in the Protean Jet they are all comprised in one, and the change immediately effected by turning a handle for that purpose. They can readily be fitted to any description of Garden Engine now in use.

T. S. STOCK'S REGISTERED PORTABLE FIRE AND GARDEN ENGINE.—The advantages of this Engine are its possessing great power, combined with simplicity of construction, portability, and economy.

The above are manufactured *solely* by Messrs. STOCK and SHARP, Temple-street, Birmingham, and are to be procured through any respectable Plumber or Ironmonger in the kingdom.

Printed by WILLIAM BRADBURY, of No. 6, York-place, Stoke Newington, and FREDERICK MULLETT EVANS, of No 7, Church-row, Stoke Newington, both in the county of Middlesex, Printers, at their office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the Office, No. 5, Charles-street, in the parish of St. Paul's, Covent-Garden, in the said county, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY, MAY 27, 1848.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 23.—1848.] SATURDAY, JUNE 3. [Price 6d.

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ROYAL SOUTH LONDON FLORICULTURAL SOCIETY.

Under the Patronage of
HER MOST GRACIOUS MAJESTY THE QUEEN.

THE THIRD EXHIBITION this Season will be held at the Royal Surrey Zoological Gardens, on Tuesday, June 20, 1848. Open to all Exhibitors: when Prizes will be awarded for the following collections, viz.—Miscellaneous and Orchideous Plants, Pelargoniums, Cape Heaths, Roses, Ranunculuses, Pinks, Calceolarias, and Fruit. In addition to the above, the following Members offer Extra Prizes. Messrs. J. and J. Fairbairn, to Amateurs, for Cape Heaths; Messrs. Paul and Son and Mr. E. Denyer, to Amateurs, for Roses; W. Meates, Esq., and W. Bethan, Esq, to Nurserymen, for Roses in pots; and by Subscription, for Seedling Pelargoniums of 1847 and 1848.

Lists of Prizes and the Rules of the Society may be obtained from John Taylor Neville, Secretary.
Ebenezer House, Peckham.

BIRMINGHAM BOTANICAL AND HORTICULTURAL SOCIETY.

The First Exhibition will be held at the Gardens, Edgbaston, on Thursday, June 8th. Subjects for Exhibition must be at the Garden before 9 o'clock, A.M., on the day of Exhibition.—G. B. Knowles, F.L.S., Hon. Sec.

EXHIBITION OF AMERICAN FLOWERING PLANTS.

HOSEA WATERER begs to announce his splendid exhibition of AMERICAN PLANTS is now in great perfection, and may be seen daily, Sundays excepted, at Oakley-square, King's-road, Chelsea. Admission One Shilling.

The American Plants at the Knap-hill Nursery are also now in bloom, and may be seen gratis.

The Knap hill Nursery is within one hour's ride of London, being near the Woking Station, South-Western Railway.

GERANIUMS.—Now in bloom, Miller's Superb Collection of GERANIUMS, containing many beautiful seedlings of the present year. Parties desirous of obtaining plants of the set of eight seedlings sent out this year can have blooms sent to them by post on receipt of six postage stamps.

The collection of eight fine specimen plants in 48-sized pots can be obtained on receipt of 5l. 5s. NEW SORTS, selected from list, 2l. 2s. per doz. Fine varieties, from 12s. to 21s. per doz. Descriptive lists on application.
John Hine (late Wm. Miller), Ramsgate.

ROSES.

EDWARD DENYER, Nurseryman, &c., Loughborough-road, Brixton, near London, begs to inform the nobility, gentry, and public in general, that he has the largest stock of STANDARD and DWARF ROSES within three miles of London, consisting of 700 varieties of every shade and colour, and comprising all the new and rare sorts known. They may now be seen in bloom to the greatest advantage, being arranged each side a walk 700 feet in length. Orders taken for plants now in bloom, and executed in November next. Admittance gratis, Sundays excepted.

E. D. respectfully informs his friends that he has no other place of business in London or elsewhere but the above.

NURSERIES, MERRIOTT, NEAR CREWKERNE, SOMERSETSHIRE.—ESTABLISHED 1728.

W. W. WEBBER is enabled to offer the following at the prices affixed:

Martynia fragrans, 2s. 6d.; Oxylobium capitatum, 2s. 6d; Boronia serrulata, 1s. 6d. to 3s. 6d.; Calystegia pubescens, 9d.; Platylobium triangularum, 2s. 6d.; Epacris variabilis, 1s. 6d.; Hovea pungens, 2s. 6d. to 3s. 6d.; Leschenaultia splendens, 2s.; Anemone Japonica, 9d. to 1s.; Rhododendron Gibsonii, 3s. 6d. to 5s.; Aphelexis humilis, 1s. 6d. to 2s. 6d.; Aphelexis purpurea macrantha, 2s. to 3s. 6d.; Pimelea spectabilis, 2s. 6d.; Pimelea liendersonii, 2s. 6d. to 3s. 6d.; Daviesia latifolia, 2s. 6d.; Calendrinia umbellata, 2s. 6d.; Weigela rosea, 1s. 6d. to 2s 6d.; Forsythia viridissima, 1s. 6d.; Triptilion spinulosum, 2s. 6d.

Ericas Cavendishii, mundula, Pattersonii, ventricosa coccinea minor, ventricosa superba, perspicua nana, ampullacea vittata, retorta, tricolor, Wilsonii, tricolor elegans, Hartnelli, tricolor, jasminiflora alba, Linnæoides nova, propendens, vernix coccinea, Banksia, sulphurea, daphnoides, intermedia, Wilmoreana, and many others, at 1s. to 2s. 6d. each. Erica persoluta rubra, gracilis autumnalis, gracilis verna, at 6s. p. doz.

Camellia Stocks, 50s. per 100.

A few dozen Pinus insignis at 30s. per dozen.

⁂ An allowance to the Trade.

W. W. Webber *begs to inform his friends that the Advertisement in the "Chronicle" of last week, offering "An Old Established Nursery" at Merriott, to be let, does not refer to any part of the land in his occupation.*

JOSLING'S ST. ALBAN'S GRAPE.—This being decidedly the best season, I beg to state that I have fine plants of the above, with strong young wood, 3 to 4 feet inch, now fit for planting, delivered free to London, on receipt of One Guinea each. Plants can be obtained of the principal nurserymen.
Robert Josling, Seedsman, St. Albans, June 3.

SWEDE TURNIP.—Improved PURPLE-TOPPED SWEDE can be had in any quantity, also all other kinds, at very moderate prices, at J. G. Waite's Seed Establishment, 181, High Holborn, London.—June 3.

MESSRS. J. and H. BROWN inform the nobility and gentry they are now sending the following desirable plants, carefully packed, to any part of the Kingdom or the Continent:—

		s. d
50	Superior sorts of Greenhouse plants ... ... for	45 0
	(A list of names to select from free by post.)	
12	Indian Azaleas, best and newest varieties	18 0
12	Belgian Azaleas, ditto in pots	15 0
12	Ericas, blooming plants and best varieties	12 0
12	Fine Tea-scented Roses, one of a sort, by name ...	9 0
	Cloth of Gold Rose, each	2 6
	New yellow Rhododendron, in pots, each	10 6
	Cobæas, Maurandyas, and Lophospermums, per dozen	6 0
25	Herbaceous Border Plants, of choice species, for ...	7 6
*	Lobelias of sorts, and Anemone japonica, per dozen...	6 0
*	Torenia asiatica and concolor, Cuphea platycentra, per dozen	6 0
*	Verbenas, Petunias, and Antirrhinums, best varieties, per dozen	4 0
*6	best Pentstemons, and 6 best Potentillas, for ...	8 0
	Geraniums, choice assortment, per dozen, 6s. and	9 0
	Scarlet and variegated Geraniums, per dozen, 4s. and	6 0
	Bulbous Pelargonium, 12 varieties, each	2 6
6	Fancy ditto, including Anais and Queen Victoria ...	10 0
6	Ditto ditto, scented leaf varieties	6 0
	Calceolarias viscosissima, Kayii, atrofuscans, and floribunda, for planting out, per dozen	6 0
*	Heliotropiums, Pinks, and Salvias, per dozen ...	4 0
	Dahlias, splendid varieties, per dozen, ... 9s. and	12 0
25	of the best Fuchsias, one of a sort, by name	10 0
	Scarlet Bouvardias, 3 sorts, per dozen	9 0
*	Large blue Anagallis, per dozen	6 0
*	Achimenes, of sorts, per dozen	6 0
*	Lantana crocea-coccinea and Sellowii per dozen	5 0
*	Balsamea platypetala and Scutellaria splendens ,,	6 0
	Linum flavum ... ... ,,	6 0
*	Œnothera teraxifolia and macrocarpa ... ,,	6 0
*	Chrysanthemums, new sorts ... ... ,,	6 0

Those marked thus *, by post if desired. Orders taken for all the new plants as figured in the various floricultural works for the past and present month.
Albion Nursery, Stoke Newington, London, June 3.

THE BEDDING SEASON.

JOHN HAYES, Florist, Farnham, Surrey, begs to say that he is supplying the following BEDDING PLANTS at 2s. per doz., sent post-free. Petunias, Verbenas, Calceolarias, Heliotropes, Salvias, Lobelias, Nierembergia gracilis, Cuphea platycentra, Anagallis two kinds.

The above are strong and well hardened. Descriptive Catalogues sent on the receipt of a postage stamp.

ROSES.—The Roses at Sawbridgeworth will be in full bloom after the 10th inst. The collection is now the largest in Europe, and extends over many acres. There are six down trains daily, per Eastern Counties Railway, to Harlow Station, one mile from the Nursery.—Thomas Rivers.

THOMAS RIVERS offers the following Select Bourbon ROSES for grouping or bedding; healthy plants established one year in pots.

Anne Beluze	George Cuvier	Madame Tripet
Alfred	Imperatrice	Paul Joseph
Amenaide	Josephine	Phœnix
Bossuet	Jupiter	Princess Clementine
Cardinal Fesch	Julie de Fontenelle	Proserpine
Dumont de Courset	Le Florifère	Pourpre (Fafait)
Edouard Desfosses	Marianne	Pierre de St. Cyr
Enfant d'Ajaccio	Madame Aude	Queen
Gloire de la Guillotiere	Madame Angelina	Reine des Vierges
Gloire de Rosamene	Madame Margat	Souvenir de la Malmaison
	Madame Nerard	

The above, with many others, are included in a collection at 18s. per dozen. Fine plants of Rhododendron robustum, five years old, from seed, 10s. 6d. each. Carriage paid to London.
Sawbridgeworth, Herts, June 3.

CAMELLIAS FOR STOCK.

A. VANGEERT, Nurseryman, Ghent, Belgium, begs to offer to Camellia growers, a few thousands of the above, good for grafting this season, at 35s. and 45s. per 100, well established in pots.

A new monthly publication of the best and newest Camellias commenced on January 1, 1848, consisting of four well-finished coloured flowers, with text, price 25s. per year. A remittance or reference is requested from unknown correspondents.

ROSES, ROSES, ROSES.

WM. DENNIS and CO., King's-road, Chelsea, opposite Cremorne Gardens, beg to inform Ladies and Gentlemen desirous of ornamenting their table, rooms, &c., with that most beautiful flower the ROSE, that they can supply any quantity in great variety of colour and form, in full bloom or in bud, at 2s. 6d. per 100; 500 for 10s.; or 18s. per 1000, blooms or buds; selected blooms, 3s. 6d. per 100; or 30s. per 1000. They have also a most extensive stock of EVERGREENS in pots, with a general selection of the most beautiful and showy Flowering Plants, &c, for furnishing Routs, Balls, Conservatories, Jardinières, &c., the whole selected and arranged by Mrs. Dennis in the most elegant and fashionable style. Guislandes garnitures en fleurs and Bouquets of every description made to order.

In addition to the above, they possess all the best kinds of STRAWBERRIES, now in full fruit-bearing; the largest collection ever made of that much neglected but most useful fruit, the GOOSEBERRY, which, from its present size, is now highly ornamental to the table.

ZOOLOGICAL GARDENS, REGENT'S PARK.—Visitors are admitted, without Orders, on the payment of Sixpence each on Mondays, and of One Shilling each on the four following days. Children under 12 years of age on the payment of Sixpence each on all days, except those of Promenades.—By order of the Council.
June 3. D. W. Mitchell, Secretary.

"PASSE PERFECTION."

WM. DENNIS, Florist, &c., King's road, Chelsea, begs to offer to the notice of Ladies and Gentlemen and the Public generally, his splendid new GERANIUM "PASSE PERFECTION," obtained from seed three years since. The flowers, which may be termed the Perfection of colour, have a large dark spot on each upper petal. The flowers are produced in much greater abundance, the foliage is of a much more pleasing glossy green, and the plant continues to flower abundantly throughout the season. Now ready for sale, strong flowering plants in 6-size pots, 2s. 6d.; in 12-size pots, 1s.; or very strong flowering plants in 32 size pots, 6d. This will be found the most showy and handsome growing plant of all the family, not requiring any sticks or props to form the most handsome bush possible. Also his "GOLIAH," a very strong growing plant; flowers very abundantly, large and more rich in colour than the preceding, but not so compact in habit, 2s. 6d., 3s. 6d., and 5s. each, the strong blooming plants; these two fine varieties have not been advertised or sent out, but reserved for stock, that they should be offered at a moderate price. He would also recommend his "LADY MARY FOX," a fine bright red, something resembling "Ignescens Major," with much larger black spot, a very free growing plant, and the most abundant bloomer of all the red kinds, and the very best for bedding out, as it blooms freely, and continues covered with its beautiful flowers till destroyed by frost in autumn, 6s. to 12s per dozen.

SEEDS.—CORNER OF HALF-MOON-STREET.

THOMAS GIBBS and Co.,
(By Official Appointment, be SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND,"
Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

Priced Lists of Agricultural Seeds are always ready, and may be had on application.

CHISWICK HORTICULTURAL FETES.

R. SHELLEY, having taken the "Pack-horse and Talbot" Hotel, Turnham Green, begs to inform the nobility, gentry, and others, visiting the Gardens, that he may be accommodated with superior refreshments under a spacious Marquee. A Cold Collation, consisting of Savoury Pies, Potted and Collared Meats, Cold Joints, Pastry, and Salads, always ready. Breakfasts, Luncheons Supplied.

N.B. Good accommodation for Horses and Carriages.

GENUINE CIDER: GOOD FOR DRAFT OR BOTTLING.

DEVONSHIRE has for centuries been famous for its CIDER, and when obtained in a pure and genuine state, is much and deservedly esteemed.

Messrs. RENDLE and CO., 13, Octagon, Plymouth, beg to inform the nobility, gentry, and the public in general, that they can supply them with a first-rate article on the following terms. A new cask (value 8s.) containing Twelve Gallons of well-conditioned, bright, bottling CIDER superior to some wine sold as champagne), will be forwarded, freight paid by steamer to London, Cork, Dublin, Belfast, Sligo, Southampton, or Falmouth,

For a Post-office Order value Twenty Shillings.

⁂ *To persons taking ten casks at one time, one will be given over, making eleven for* 10l.

William Rendle and Co., Cider Merchants,
June 3. 13, Octagon, Plymouth.

BAKER'S PHEASANTRY, Beaufort street, King's-road, Chelsea, by special appointment to her Majesty and H.R.H. Prince Albert.—ORNAMENTAL WATER FOWL, consisting of black and white swans, Egyptian, Canada, China, bernacle, brent, and laughing geese, shel drakes, pintail, widgeon, summer and winter teal, gadwall, Labrador, shovellers, gold-eyed and dun divers, Carolina ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay Poland, Surrey, and Dorking fowls; white Japan peafowl, and common pea-fowl, and pure China pigs; and at 8, Hammoon-passage, Gracechurch-street.

BENTALL'S BOTANICAL DRYING PAPER is manufactured expressly for Drying Specimens of Plants for the Herbarium, and has been found to surpass every other article hitherto employed for that purpose. With a peculiar adaptation for preserving form and colour, it combines the requisite qualities of strength and great absorbent power, and may be said to be indispensable to every botanist who is desirous of having his specimens well preserved. It has received the most unqualified approbation from eminent Botanists, who have tested its merits, and the names may be mentioned Sir W. J. Hooker, Royal Botanic Gardens, Kew; Professor Lindley, of the Royal Institution; Professor Balfour, of the University of Edinburgh; Col. Hamilton Smith, Cambridge &c.

Sizes and Prices.

16 inches by 10 when folded	..	..	20s. per ream.
18 ,, 11 ,,	..	..	28s. ,,
20 ,, 12 ,,	..	..	32s. ,,
20 ,, 13 ,,	..	..	38s. ,,

Sold by the Manufacturer, W. Bentall, Paper Mills, Halstead, Essex; E. Newman, 9, Fetter-street, Bishopsgate (sole Agent for London); and by other Agents in various parts of the country.

IMPROVED FLOWER STICKS.—These Flower Sticks are of a circular form, thereby avoiding angles and sharp edges, which are liable to cut and injure the plants. They may be had, stained brown or green to suit the colour of plants.—To be had of the respective Nurserymen and Seedsmen, and dealers in garden requisites. Manufactured and sold wholesale, at 11, Mewburn's Row, Fenchurch-buildings.

N.B. Samples to be seen at the Office of this Paper.

BEE-HIVES.—All persons desirous of Cultivating that pleasing and profitable branch of rural economy—the Honey Bee—are respectfully informed by G. NEIGHBOUR and SON, that they have prepared for the season an extensive supply of their various improved BEE-HIVES; their collection consists of "Nutt's Collateral Hive," "The Single Box Hive," "The Improved Cottage Hive," "The Ladies' Observatory Hive," "Taylor's Bar Hive," &c., from either of which the Honey may be taken at any time without injury to the Bees, and may be worked with safety, humanity, and profit, by the most timid and unaccustomed to Bee-manipulation. A descriptive paper, with drawings and prices, will be forwarded on receipt of a postage stamp.—Apiarian Depot and Honey Warehouse, 127, High Holborn, London.

NUTT ON BEES (6th Edition), just published.

LINGHAM, BROTHERS, 170, Little Hampton-street, Birmingham, sole Manufacturers of the improved wood MENOGRAPH or LABELS for Garden-borders, Flower-pots, &c., have now perfected several patterns in Zinc suitable for the same purposes, which can be written upon with the greatest facility with their Metallic Ink, prepared exclusively for this purpose, and when dry an indelible inscription is secured. Directions for use sent with each box.

Sole agents in London, G. and J. DEANE, Horticultural Implement Warehouse, 46, King William-st., London-bridge.

GARDENERS' REGISTER OFFICE.

HORTICULTURAL ESTABLISHMENT.

J. WEEKS AND CO., King's-road, Chelsea, have the honour to inform the Nobility and Gentry that 200 GARDENERS are registered and classed according to their various qualifications, with full particulars of the situations they have filled, the wages they require, &c. By application to this establishment, a Gardener can be selected suitable for every situation in the kingdom.

J. WEEKS AND CO., ARCHITECTS AND BUILDERS OF HOTHOUSES, GREENHOUSES, CONSERVATORIES, PITS, &c.—The Nobility and Gentry about to erect Horticultural Buildings, may depend on the best seasoned materials and first-rate workmanship employed. The various works in progress will testify our facilities for executing such buildings.

J. WEEKS AND CO.'S PATENT HOT-WATER APPARATUS is unrivalled for simplicity and efficiency. The whole apparatus, in various forms, may be seen in action on the premises. Economical Boilers of all sizes, the largest is capable of heating a range of Forcing Houses 300 feet long.

J. WEEKS AND CO. have lately established an extensive Ornamental Nursery. The Horticultural Buildings, are allowed to be the finest in the country; as also the complete arrangements of the Heating Apparatuses. The whole combining economy with utility and elegance.

There is a choice and valuable collection of Stove and Greenhouse plants, as also all the common varieties.

THE SEED DEPARTMENT at this establishment is conducted with the greatest care and attention. Samples of every variety are proved before sent out.

PLANS, ESTIMATES, AND CATALOGUES upon application. The whole of the prices at this establishment are very moderate.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND CO., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS FOR CONSERVATORIES.

CUT TO SIZE UP TO 40 INCHES LONG.

16 oz. to the foot	3½d.	per foot.
21 "	5	"
26 "	7¼	"
32 "	10	"

GLASS MILK PANS.

12-inch diameter, each—	2s.	0d.	
14 "	"	2	6
16 "	"	3	0
18 "	"	3	6
20 "	"	4	0
22 "	"	4	6
24 "	"	5	0
26 "	"	6	0

PASTRY PANS from 18-inch to 26-inch 1s. per pan extra.

PROPAGATING GLASSES.	s.	d.	BEE GLASSES.	s.	d.
2-inch diam.	0	2	..	0	3
3 "	0	3	..	0	4
4 "	0	4	..	0	5
5 "	0	6	..	0	7
6 "	0	8	..	0	10
7 "	0	11	..	1	1
8 "	1	2	..	1	4
9 "	1	6	..	1	9
10 "	1	10	..	2	1
11 "	2	4	..	2	8
12 "	3	0	..	3	6
14 "	4	6	Not made		
16 "	6	6	above		
18 "	9	0	12 inches.		

GRAPE GLASSES.

4-inch diam.	..	each	0 9
5 "	..		1 0
6 "	..		1 3
7 "	..		1 6
8 "	..		2 0
9 "	..		2 6

METAL HAND-FRAMES.

12-inch 3s. 0d.	Glazed 6s. 0d.		
14 " 3 6	"	7	0
16 " 4 0	"	8	0
18 " 4 6	"	9	0
20 " 5 0	"	10	0
24 " 6 0	"	12	0

Glazed with stout Sheet Glass. To open at top, 1s. each extra.

SMALL SQUARES of SHEET.

4 by 3 and 4½ by 3½	1½d.	per ft.	
5 " 3 " 5½ " 3½	2	"	
6 " 4 " 6½ " 4½	2½	"	
7 " 5 " 7½ " 5½	2½	"	
8 " 6 " 8½ " 6½	2¾	"	
Not above 10 " 8	3	"	

GLASS CREAM POTS.

6-inch diameter	each	2s.	0d.
8 "	..	2	0
10 "	..	3	0
12 "	..	4	0
14 "	..	5	0
16 "	..	6	0
18 "	..	7	6

Not made above 18 inches. Covers for the above the same price as Milk Pans.

FLOWER POTS AND PRESERVE JARS.

3-inch diameter	..	0s.	4d.
4 "	..	0	6
5 "	..	0	9
6 "	..	1	0
7 "	..	1	3
8 "	..	1	6
9 "	..	2	0
10 "	..	3	0
11 "	..	4	0
12 "	..	5	0

Saucers half the price of the above.

CUCUMBER TUBES.

24 inches long	..	2s.	0d.
22 "	..	1	10
20 "	..	1	8
18 "	..	1	6
16 "	..	1	4
14 "	..	1	2
12 "	..	1	0

GLASS TILES and SLATES.

16 oz. ..	0s. 8d.	....	0s. 10d.
21 oz. ..	0 10	....	1 0
26 oz. ..	1 0	....	1 4
32 oz. ..	1 4	....	1 8

Made to any dimensions.

LACTOMETERS for trying the quality of Milk, 4 tubes 7s. 6d., 6 tubes 10s.; Peach Glasses 1od each; Fish Globes from 1s. 6d. each; Wasp and Fly Traps 3s. 6d per dozen; Plate and Window Glass; Lamp Shades and Chimneys; and every article in the trade.

SASHES AND FRAMES MADE AND GLAZED.

GLASS.

APSLEY PELLATT AND CO. (late PELLATT AND GREEN), Falcon Glass Works, Holland-street, Blackfriars, have always on hand, Bee Glasses 1s. 6d. per lb., Cucumber Glasses, 1s. 6d. per lb.; Milk Pans, 18 in., white glass, 5s. 6d. each; Propagating Glasses, white, 1s. per lb., do. green, 10d., do. Condensing, 2d. per lb. extra; Asparagus Tubes, 18s. to 21s. per gross; Grape Shades, 1s. 6d. to 2s. each; Fish-bowls, from 1s. 6d. each; Wasp and Fly-traps, 40s. per gross, or 3s. 6d. per dozen. By the use of these traps fruit may be preserved from (otherwise certain) destruction.

GLASS FOR CONSERVATORIES, GREENHOUSES, PIT FRAMES, &c.

HETLEY AND CO. are supplying the above article, packed in boxes containing 100 square feet each, of BRITISH Manufacture, at the following reduced prices for cash. A reduction on 1000 feet.

Sizes. Inches.			Inches.			Per foot.	Per 100 feet.
From 6 by 4	to	8	by 6	at	2½d. is	£1	0 10
8 " 6	"	10	" 8	"	2¾d. "	1	2 11
10 " 8	"	14	" 10	"	3d. "	1	5 0
14 " 10	"	20	" 12	"	3½d. "	1	7 1
20 " 12	"	40	" 14	"	3½d. "	1	9 2

21 oz. from 3d. to 5½d., per square foot, according to size.

26 oz.	"	3½d.	7½d.	"	"
32 oz.	"	4d.	9½d.	"	"

GLASS TILES AND SLATES made to pattern any thickness. PROPAGATING, FLOWER, FRUIT, AND VEGETABLE GLASSES of every size and description.

BEE HIVE GLASSES from 4 to 12 in. diameter.

GLASS MILK PANS, from 12 to 26 in. diameter.

GLASS SHADES, as ornamental to, and for the preservation of every description of goods susceptible of injury by exposure. Prices, since the removal of the Excise duty, reduced one-half. List of Prices forwarded on application to JAMES HETLEY and Co., Glass Shade, Sheet, Crown, and Patent Plate Glass Warehouse, 35, Soho-square, London.

HOT-WATER APPARATUS AND HORTICULTURAL BUILDINGS.

DANIEL AND EDWARD BAILEY, of 272, Holborn, construct and erect Hot-water Apparatus for Warming Horticultural Buildings, Dwelling-houses, Churches, and Manufactories, in a simple and efficient manner, at moderate charges. They have erected Apparatus in England, Scotland, and Ireland for many Noblemen and Gentlemen. They had the honour to be employed in heating the ranges of Hothouses and Pits in HER MAJESTY'S NEW GARDENS AT FROGMORE, and in executing the works of the splendid Conservatory erected by the Horticultural Society of London in their gardens at Chiswick, and also in the erection of the Conservatory attached to the Pantheon Bazaar.

D. and E. BAILEY, who were the first to introduce Metallic Curvilinear Hothouses to Horticulturists, erect various descriptions of Horticultural Buildings, and execute all kinds of metal work at their Manufactory, 272, Holborn.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

CLARK'S METALLIC HOTHOUSE WORKS, 55, Lionel-street, Birmingham.—Proprietor, Mr. THOMAS CLARK; Manager, Mr. JOHN JONES.

Mr. CLARK presents his grateful thanks to the Nobility and Gentry for their liberal patronage of the above Establishment, during a period of thirty years, and begs to state that the repeal of the duty on Glass enables him to offer his METALLIC HOTHOUSES at a greatly reduced price. These Houses are glazed with British Sheet Glass, in panes of from 24 to 30 inches in length, and of such thickness as to preclude all danger of accidental breakage, whilst that which arises from the action of frost is effectually prevented by the peculiar mode of glazing adopted. As a sample of his Metallic Hothouses, in which all the most recent improvements are happily combined, Mr. CLARK refers to the magnificent range erected by him in the new Royal Gardens at Windsor, admitted by competent judges to be the most complete of its kind in the world.

PERUVIAN AND BOLIVIAN GUANO ON SALE,

By the only Importers,

ANTONY GIBBS AND SONS, LONDON;

WM. JOSEPH MYERS AND CO., LIVERPOOL;

And by their Agents,

GIBBS, BRIGHT, AND CO., LIVERPOOL and BRISTOL;

COTESWORTH, POWELL, AND PRYOR, LONDON.

To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

THE LONDON MANURE COMPANY beg to offer, on the best terms, Peruvian Guano, warranted genuine, delivered direct from the Importers' warehouses; Superphosphate of Lime, in any quantity; Sulphate of Ammonia, Nitrate of Soda, Sulphuric Acid, fine Bone Sawdust, Gypsum, Potter's Guano, Soda Ash, Petre, Agricultural and Fishery Salt, and every other artificial Manure.

The URATE of the LONDON MANURE COMPANY has now stood the test of seven years, with a largely increasing sale. It is recommended with the greatest confidence for Turnips, Mangold Wurzel, Carrots, and all root crops; also for Coleseed, Tares, Barley, &c. Unlike many other artificial Manures, its effects are not exhausted by the first crop; and when from any cause the crop of Turnips to which it has been used fails, its fertilising properties remain for the next full crop. Testimonials and full particulars forwarded free. The LONDON MANURE COMPANY most earnestly request their friends to order the Urate direct from themselves, or their accredited Agents, so as to prevent any other article of a totally different manufacture being substituted. EDWARD PURSER, Sec.

No. 40, Bridge-street, Blackfriars.

☞ See Manufacturers of Mr. J. C. Nesbit's Chemical Manures.

THE following MANURES are Manufactured by Mr. LAWES, at his Works at Deptford-creek:—

Corn Manure	.. 14l. per ton.	Grass Manure	.. 14l per ton.
Clover do.	.. 14l. "	Turnip do.	.. 7l. "

Superphosphate of Lime, 7l. per ton.

Mr. LAWES has also made preparations for supplying the various artificial MANURES of commerce, and if Agriculturists will trust the selection of them to him, and will furnish him with the necessary information, he will supply those which he considers most suitable to the soil and crops. A paper containing the questions required to be answered will be forwarded upon application to his Office, 69, King William-street, City, London.

MR. J. C. NESBIT'S CHEMICAL MANURES.

THE LONDON MANURE COMPANY beg to announce that they have undertaken the exclusive manufacture of the manures recommended by Mr. J. C. Nesbit. The substances used in their preparation will be subjected to Mr. Nesbit's analysis, and every care will be taken in their manufacture. HOP MANURE, Superphosphate of Lime, Wheat and Clover Manure. A Pamphlet on Artificial Manures, by Mr. J. C. Nesbit, now ready.

The London Manure Company have also made arrangements for a large supply of Fishery and other Salt, which they can offer on good terms.

E. PURSER, Secretary, 40, Bridge-street, Blackfriars.

MESSRS. NESBIT'S CHEMICAL AND AGRICULTURAL SCHOOL, 88, Kennington-lane, London.—A sound practical knowledge of Analytical and Agricultural Chemistry, Geology, Surveying, Levelling, Railway Engineering, &c., may be obtained in Messrs. NESBIT'S Academy, in addition to a good modern education.

Mr. NESBIT'S works on Arithmetic, Mensuration, Gauging, Land Surveying, English Parsing, &c., are published by LONGMAN and Co., and may be had of all Booksellers.

The terms of the School can be had on application either personally or by letter.

TURNIP SOWING.

MARK FOTHERGILL, 201a, Upper Thames-street, begs to offer the following MANURES for the Turnip Crop, viz.—

GUANO, PERUVIAN, direct from Import Warehouse.

SUPERPHOSPHATE OF LIME, manufactured from Bone only (superior to the cheap qualities made from fossils).

DRIED NIGHT SOIL.

BONE DUST AND HALF-INCH BONE.

SULPHURIC ACID.

Also Soda Ash, wireworm destroyer; pure Gypsum, or Mineral Sulphate of Lime (the rubbish offered cheap contains but little acid, the rest being carbonate of lime and water); Agricultural Salt, Nitrate of Soda, and all other Manures of known value. Prices current on application.

PERUVIAN and other SOUTH AMERICAN and AFRICAN GUANO, sold in any quantity, from a bag and upwards: from London, Liverpool, or Hull. Also, Superphosphate of Lime and Nitrate of Soda.—Apply to JOHN BOYD and Co., 2, Wellington Chambers, London-bridge, Borough, London.

PROTOXIDE PAINT FOR STUCCO FRONTS, for Iron, Brickwork, and Wood. Manufactured only by CHARLES FRANCIS and SONS, Cement Works, Nine Elms.

TODD'S PATENT METALLIC PROTOXIDE PAINT.—This Paint has been most severely tested for nearly four years, by Architects, Engineers, and Surveyors of the greatest eminence, and has been found for cemented houses, iron, stone, brick-work, and every description of painting, both external and internal, to be greatly superior to any other pigment; its innocuous qualities and great durability render it peculiarly adapted for the painting of houses and large establishments during their occupancy. Orders to be addressed to Mr. B. Todd, Patentee, 23, Dean-street Soho, London.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as building and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK AND TILE MACHINE COMPANY (James Smith, Esq., of Beanston, Chairman) invite attention to their IMPROVED BRICK and TILE MACHINES, which are to be seen at work at Alperton, and at the Company's Office, 193A, Piccadilly, from 10 A.M. to 5 P.M. Mr. Robert Scrivener, who has been appointed Manager in the room of Mr. John Ainslie, will show the Machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, 193A, Piccadilly, London.

These Machines may also be seen at Mr. Slight's, Leith-walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill, 135, Buchanan-street, Glasgow; Mr. Robert Charles, Mill-hill, Leeds; Messrs. Penny and Finch, Penkeridge, Staffordshire; Messrs. Drummond and Son, Dublin; and at Mr. John Connor's, Newtown Limavady, County Derry.

THE IMPROVED HYDRAULIC RAM, fixed by FREEMAN ROE, Fountain Maker, 70, Strand, London, can be worked by a small stream of half-an-inch, where a fall of two feet can be obtained. The same RAM, without the aid of a Tank or Cistern, arranged to throw a Jet of Water constituting a Fountain with the head of water beneath.

ENGINES FOR DEEP WELLS OF ALL KINDS, DOUCHE AND OTHER BATHS. BUILDINGS HEATED BY HOT WATER. WATER WHEELS to work Small Pumps, from 15l. Estimates given for the supply of Towns, &c.

A newly invented PORTABLE VAPOUR BATH, all complete for 4l.

HYDRAULIC ENGINES.

J. LEGG begs to return thanks to his patrons and friends, and also to inform them that he continues to erect his improved Hydraulic Engines, Water Ram, &c., suitable for all situations where a fall can be obtained, also Engines for Deep Wells. J. L. also begs to inform his friends that he has made several improvements on his Hydraulic Machines, and flatters himself that he is able to compete with any parties of the present day in the construction of the above machines.

Apply to JOHN LEGG, Cheltenham.

PATENT FLEXIBLE INDIA-RUBBER PIPES and TUBING for RAILWAY COMPANIES, BREWERS, DISTILLERS, FIRE ENGINES, GAS COMPANIES, GARDENING and AGRICULTURAL PURPOSES, &c.

THE PATENT VULCANISED INDIA-RUBBER HOSE PIPES are made to stand Hot Liquor and Acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible), and as they require no application of oil or dressing, are particularly adapted for Fire-engines, Pumps, Gas, Beer-engines, Gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes from ¼ inch bore upwards, and of any length to order.

Vulcanised India-rubber Garden Hose, fitted with brass taps, copper branch, and roses complete, ready to be attached to Pumps, Water-butts, or Cisterns.—Sole Manufacturer, JAMES LYNE HANCOCK, Goswell Mews, Goswell-road, London.

N.B.—Vulcanised India-rubber Washers of all sizes for Joints of Hot-water and Steam Pipes, and Vulcanised Sheet Rubber, any thickness, for all kinds of Joints, and other purposes.

HORTICULTURAL SOCIETY OF LONDON.—EXHIBITIONS AT THE GARDEN.

The Second Meeting will take place on SATURDAY, the 10th of June. Subjects for Exhibition must be at this Office on Friday the 9th, or at the Garden before half-past Eight o'clock, A.M., on the day of Exhibition.

The Gates will be open to visitors at One P.M. Tickets are issued to Fellows at this Office, price 5s. each, or at the Garden in the afternoon of the days of Exhibition at 7s. 6d. each; but then only to orders from Fellows of the Society.

N.B. No tickets will be issued in Regent street on the days of Exhibition. 21, Regent-street.

The Gardeners' Chronicle.

SATURDAY, JUNE 3, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

MONDAY	June	5	Entomological ..... 8 P.M. Clinical ..... 8 P.M.
TUESDAY	—	6	Horticultural ..... 3 P.M. Linnean ..... 8 P.M. Civil Engineers ..... 8 P.M.
WEDNESDAY	—	7	Society of Arts ..... 8 P.M.
THURSDAY	—	8	Antiquaries ..... 8 P.M. Medico Botanical ..... 8 P.M. Royal ..... 8½ P.M.
FRIDAY	—	9	Astronomical ..... 8 P.M. Royal Institution ..... 8½ P.M.
SATURDAY	—	10	Horticultural Gardens ..... P.M. Royal Botanic ..... 3½ P.M.
MONDAY	—	12	British Architects ..... 8 P.M. Geographical ..... 8½ P.M.
TUESDAY	—	13	Medico-Chirurgical ..... 8½ P.M. Zoological ..... 9 P.M.
WEDNESDAY	—	14	Royal Botanic Gardens ..... 3 P.M. Geological ..... 8½ P.M.
SATURDAY	—	17	Asiatic ..... 2 P.M.

COUNTRY SHOWS.—Thursday, June 8: Birmingham Horticultural.—Tuesday and Wednesday, June 13th and 14th: Durham Botanical and Horticultural.

WE have been obliged to except the PINE-APPLES from the recommendation which we were able to bestow upon other parts of the last Horticultural Society's exhibition. Let us now explain more particularly what we meant.

A good Pine should be evenly and thoroughly swelled, with a fair proportion between the fruit and crown, and when exhibited for a prize, it ought to weigh, if a Queen, not less than 3 lbs; if an Enville, not less than 5 lbs.; if a Providence, not less than 8 lbs. Pines below these weights are not objects for which prizes should be sought. Smaller Pines may be well grown, and extremely useful in private families: but they are not fit for production in public competition as examples of unusual merit. They can only be called ordinary fruits: while prizes are offered for extraordinary specimens. A public exhibition is held for the purpose of elevating the standard of skill; to produce what is barely fit for a green-grocer's stall is to lower it, and so to defeat the legitimate objects of competition.

If we were to ask any one who saw the fruit on the 20th of May, whether the Pine-apples at all corresponded with the first part of this description, he would not only reply in the negative, but would be obliged to add that it was accurately described by the latter part. We cannot doubt that some of those who produced Pine-apples on the occasion referred to, will have lost rank in the eyes of their brother gardeners, who, like ourselves, were astonished at seeing starved, crooked miserable fruit worse than the sixpenny trash from the Bahamas, which is hawked about the streets of London, produced in the presence of all England as a sample of what our justly celebrated Pine growers can effect. "I hab heard much talk of de English Pines," said a German spectator, "bud I tink we hab as goot as dese in Bremen." It was well for the honour of horticulturists that the flowers redeemed the credit of the fruit, and more.

It has sometimes appeared to us that it would be desirable to fix a minimum weight, below which no fruits of certain kinds should be admitted to Exhibition tables. But we have not pressed the opinion, because we trusted that the good sense of exhibitors would prevent their offering for competition anything discreditable to themselves. Can we continue to entertain this opinion? At the meeting which we now refer to, the Judges expressed their feeling in a manner not to be mistaken, by awarding only one medal, and that the lowest at their disposal, for Queens, and none for the classes of Enviles or Black Jamaicas. The only point in which we differ from them is in their having awarded even that one

We make these observations with great regret; but it is a part of the unpleasant task of a public journalist to say unpalatable things when the interests of the public require them. We sincerely trust that it will be long before similar animadversions are again necessary, and that the fruit at succeeding exhibitions at Chiswick will present a brilliant contrast to that which has wrung from us these remarks.

WE cannot part from that portion of HUMBOLDT'S COSMOS which falls strictly within our province, without quoting the concluding passage of the section.

"The rich and increasing variety of characteristic vegetable forms which, in the present age, are offered both to scientific observation and to landscape painting, cannot but afford a lively incentive to trace out the sources which have prepared for us this more extended knowledge, and this increased enjoyment. The enumeration of these sources is reserved for the succeeding section of my work, *i.e.* the history of the contemplation of the universe. In the section which I am now closing, I have sought to depict those incentives due to the influence exerted on the intellectual activity and the feelings of men by the reflected image of the external world, which in the progress of modern civilisation have tended so materially to encourage and vivify the study of nature. Notwithstanding a certain degree of arbitrary freedom in the development of the several parts, primary and deep-seated laws of organic life bind all animal and vegetable forms to firmly established and ever recurring types, and determine in each zone the particular character impressed on it, *or the physiognomy of Nature*. I regard it as one of the fairest fruits of general European civilisation, that it is now almost everywhere possible for men to obtain—by the cultivation of exotic plants, by the charm of landscape painting, and by the power of the inspiration of language—some part at least of that enjoyment of Nature, which, when pursued by long and dangerous journeys through the interior of continents, is afforded by her immediate contemplation."

We grant that the subjects involved in this particular portion of his work—a portion of which, with our circumscribed limits, we could give only the more prominent features—do not demand the elevated conceptions or the deep reflection which other parts require. Celestial phenomena, terrestrial phenomena, organic life, and a history of the physical contemplation of the universe in its seven epochs, are matters of far higher importance, and excite far greater powers of thought and feeling, than the poetic description of Nature—landscape painting, and the culture of characteristic exotic plants—which occupy only 100 pages of the whole work, and the concluding part of which alone is brought to bear directly on landscape gardening. Yet, although the subject matter be of an humbler grade than that of those more exalted or more mysterious themes, does it not come home to the pure mind of him who delights in natural scenery, and would surround his dwelling with its varied beauties culled from any and every part of the globe, and painted in so as to form one harmonious and exquisite picture? Trace HUMBOLDT'S clear but distinct outline—an outline which, like a sketch by RAPHAEL or MICHAEL ANGELO (and who has forgotten those splendid creations?), tells with infinitely greater effect than the most copious and laboured essays and disquisitions of other and inferior minds. See how well he has distinguished the national characteristics of taste for Nature and natural scenery in every age—or the utter absence of that taste, or its complete perversion. Then mark with how rapid, yet powerful a pencil he has sketched the various phases of landscape painting from ancient Greece and Rome and India—through illuminated MSS. and Mosaics to the VAN EYCKS, TITIAN, and the European painters of the 16th and 17th centuries. Go on to read his pages on the characteristic representation of tropical scenery, and of Nature in different zones; and on the subject of panoramas, observe how well he speaks: "More can be effected in this way (of incitement to the study of Nature), than by any kind of scene-painting: and this partly because in a panorama, the spectator, enclosed as in a magic circle, and withdrawn from all disturbing realities, may the more readily imagine himself surrounded on all sides by Nature in another clime. . . . . It appears, indeed, to me that if large panoramic buildings, containing a succession of such landscapes belonging to different geographical latitudes and different zones of elevation, were erected in our cities, and, like our museums and galleries of paintings, thrown freely open to the people, it would be a powerful means of rendering the sublime grandeur of the creation more widely known and felt. The comprehension of a natural whole—the feeling of the unity and harmony of the cosmos—will become at once more vivid and more generally diffused, with the multiplication of all modes of bringing the phenomena of Nature generally before the contemplation of the eye and of the mind."

Now even indirectly the sketches which we have indicated and terminating thus, cannot but have some practical effect on the possessor of good taste: for the contemplation of such comprehensive views can have no result but that of making that inherent taste not only more pure in itself, but able to grasp a wider range of beauties, and arrange them in a more graceful style. But when HUMBOLDT concludes this division by one portion "on the influence of well-contrasted grouping," and by the other "on the laying out of Parks and Gardens," the direct practical effect becomes manifest: and the summing up with which we commenced this article lays open with his usual breadth and clearness the great principles on which true taste in Landscape Gardening is based.

It is not for us to say one word on the other divisions of this admirable work. Every part of it is a lasting memorial of the author's extensive qualifications for working out the plan which he has so happily designed, and no reader will regret having perused the whole. In taking leave of it we have only to add that the present edition is in all respects worthy of its translator Mr. SABINE, and Lieut.-Col. SABINE, its learned and accomplished editor.

Our readers may like to know that the plants of the large flowered PHALAENOPSIS, and the other things advertised for sale at STEVENS'S, next Tuesday, are in the most perfect health and beauty. They are all, as we understand, from Java.

SUMMER PRUNING.

THE operation of summer pruning is more especially necessary for trees that have undergone a process of pruning and training than it is for trees that have been left to Nature. Supposing two trees to be of equal vigour, both furnished with an equal quantity of roots, and differing only in the one having, in consequence of pruning, a much less extent of top; the force of development being equal, it is evident that the shoots will be much more crowded on the pruned tree than on the unpruned tree. All other circumstances being the same, the crowding will be proportionate to the disparity between the expansion of the respective tops. Instances may be observed of young shoots having only a scattered appearance over the top of a tree formed of branches that have been allowed to take their natural extension, whilst, on the other hand, a tree that has been much cut in at the winter pruning will present a bush or thicket of young shoots. In the former case the leaves are in the free enjoyment of light and air; in the latter they tend to shade and choke each other, unless prevented by summer pruning. The instructions for this operation may be briefly expressed, but in order that they may be judiciously followed up, a few preliminary observations will be necessary.

Every leaf has a bud formed in the angle between its base, or footstalk, and the shoot on which it is situated. Some of these buds now forming will push into shoots in the following season; some may push even in the present, and form what are termed laterals; and others will ever remain dormant, or only progress annually as the successive layers of alburnum are deposited, but never appearing externally, unless artificially excited. This may be done to some extent by affording an extra supply of nourishment; but with more decided effect by pruning. If a shoot or branch is shortened, the consequence is, generally speaking, an increased development of those buds that are left. The flow of sap that would have been appropriated by the buds removed will be shared by those that remain, and hence they will be stimulated to greater activity.

Supposing a shoot of last summer's growth, 18 inches in length, furnished with 18 buds; if left unshortened at the winter pruning, it is very probable that only three or four of the whole number would have pushed into shoots, and these situated near the extremity, all the others below remaining dormant. If this shoot had been cut back to within 6 inches of its base in autumn several of the buds that would otherwise remained dormant would have certainly pushed. If every shoot had been cut back close to its base, latent buds must have burst into shoots from the older wood.

From what has been stated the general effects of shortening will be sufficiently understood. There are, however, some circumstances connected with the shortening of summer shoots which require to be pointed out. When the shoot of last season was supposed to be shortened at the winter pruning, its wood at the base was mature, and the buds on the portion left were ready to push in spring, thus affording ample channels for the sap; but in the case of summer shoots being similarly shortened it must be observed that the wood is comparatively immature, and the buds imperfectly formed, so that, in fact, these buds cannot readily push, and therefore the flow of sap must, in the meantime, exert its force on older buds, either latent or otherwise; and hence the danger of causing incipient flower buds to push into shoots, together with a vast number of small shoots from buds which had better remained for the present in a quiescent state. The following mode of proceeding may be, however, relied on as perfectly safe with regard to Pear, Apple, Plum, and Cherry trees on walls.

Commence forthwith to pinch off a few inches from the points of all shoots on the upper part of the wall, except, of course, the leading shoots required to be preserved for the extension of the branches. After a few days let the points of shoots on the lower portion of the tree be also pinched off: and, at the same time, a considerable portion of those on the upper part should be still further shortened to within 3 inches of their bases. It is important to commence reducing the shoots at the upper part of the tree before the lower: for the latter have always a tendency to become comparatively weak, and this tendency is greatly counteracted by proceeding as above.—

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENERS.

EFFECT OF NOXIOUS GASES ON GARDENS.—Every observer of mankind must be often struck with the influence

exerted on personal appearance by the neatness and propriety of its outward adornment. The plainest features, even such as would be considered ugly if accompanied by untidy or tawdry dress, may by taste in these matters acquire a charm, so much so indeed as to throw into the shade beauties associated with slovenliness. It is just so with gardeners, as every one knows who has at all observed them. Splendid and expensive flowers have but little attraction if the place where they grow is a scene of disorder; while on the other hand, a garden kept scrupulously neat will rivet the gaze, although it may contain only productions of the humblest kind. As this effective instrument of making our grounds interesting is too often neglected, this paper will be an attempt to bring it into more general use.

A well-mown Grass-plot may be mentioned as one of the first and most striking manifestations of neatness in the garden. This beautiful ornament deserves every attention, and if sufficient labour cannot be bestowed upon it, its absence altogether would be far preferable to slovenliness. Frequent mowings keep the Grass fine, by preventing coarser productions from becoming rampant. Once a week at least, in the early summer months, the scythe should be in requisition, unless very dry weather occurs. If the Grass becomes brown general mowing must be discontinued; but even then the long bents must be kept down with a Daisy-rake or the gentle application of the scythe. Clipping the edges must accompany the mowing, so that no fringes of Grass may project on to the walks and flower-beds. When this is well accomplished, the effect is wonderful; the smooth surface of the Grass and the clearly-defined outline of the beds will make the garden a pleasant object, independent of its flowers. All worn places on lawns must be avoided with zeal, if general good effect is consulted; and therefore garden seats should be often removed, or if fixtures, the parts likely to be trodden down should be paved or gravelled. Where bald places exist, new turf must be applied at the proper season, or a flower-bed may be made to occupy the defective spot. Plantains and other conspicuous weeds should be rooted up, care being taken to leave as small a hole as possible. Often these things are neglected till they become so large that an ugly space is occasioned by their removal, whereas, if taken in time, there would have been no perceptible result.

It might appear unnecessary to say that in a flower-garden there should be no weeds, did not daily observation remind us that the exhortation is needed. Raking once a week will prevent these interlopers from growing, but where they have attained a conspicuous stature, a moment should not be lost in eradicating them. A well regulated garden should always be without a weed, and this may be accomplished with less labour ultimately than is demanded by the common practice of letting things take their chance for a month, and then introducing a number of hands to "clear up." Equal, if not greater zeal should be shown in keeping gravel-walks clear from weeds, for they are more conspicuous there than on the borders. Frequent rolling, and a war of extermination carried on with a strong, blunt knife, will accomplish all that is requisite in this department.

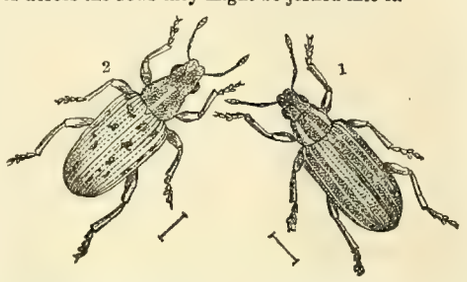
The removal of decayed stems and leaves must next occupy the care of the gardener anxious to receive all the advantages neatness can give. This work should be done daily, just at the moment its necessity is perceived, and not left until there are accumulations enough to fill a wheel-barrow. As growing plants require it, they must be staked, tied up, or pegged down, according to mode of growth. It is folly to allow flowers to remain on the trees or shrubs when their beauty is declining; an early removal will promote neatness and stop the exhaustive process of the production of seeds. As we have intimated on former occasions children may be efficient coadjutors in the work of keeping a garden clean. While we write several of these little gardeners are passing along with baskets in their hands, into which they put every Rose which their experienced eyes or fingers tell them is about to fall. Habits of industry in a most beautiful department of labour may in this manner be formed, and the neatness of the garden be kept up without expense.—*H. B.*

ENTOMOLOGY.

Pea Weevils.

It will, we fear, be considered but sorry consolation to some of our readers who are suffering from the attacks of insects, to tell them it is a part of the great plan of the Creation that the vast and redundant masses of vegetable matter should be kept in check, and that consequently those families of insects which are destined to this purpose are far more extensive, both as to species and individuals, than such as feed upon animal matter. To say nothing of the great tribes of butterflies and moths, which feed in the caterpillar state almost exclusively upon vegetables, there are several families of beetles employed in the same manner—some feeding upon the solid wood, others upon the bark; some on the flowers and others on the leaves. Of all these tribes, the family of the weevils is one of the most extensive, as will be perceived when it is stated that its investigation, just completed by M. Schönherr, a distinguished Swedish entomologist, occupied him more than 30 years, and occupies more than 7000 octavo pages in printing.

In England we possess between 400 and 500 species of weevils, and the wonder, therefore, is not that occasionally, as in the present year, one or two species become troublesome, but that we do not constantly suffer from their attacks upon our vegetable produce to a much greater extent. We have received a number of complaints during the few past weeks of the injury committed to the Pea crops by two small weevils (Sitona lineata and tibialis), which have abounded to a great extent, gnawing off the young leaves and stems as soon as they are above ground. That the long continuance of hot, dry weather has allowed their attacks to be continued uninterruptedly, is evident. We must attend, however, to the natural history of the insects, and as they are now in their perfect state, and require a year's time to undergo their transformations, their increased powers of annoyance at the present time are not owing to the fine weather having enabled them to perpetuate their species rapidly, as in the case of the plant lice. Any remedies, therefore, which we can suggest, must have for their object either the destruction of the perfect beetle or the protection of the plants, neither of which is easy. As to the former we scarcely think that any trap could be employed into which the insects would creep at night (like damp Grass into which the wireworms creep, or bits of Potato put into the ground to which as food the same insects are enticed): possibly, however, dry hay laid along the rows might entice them into it as a retreat. Another means of destruction suggests itself in connection with the habit of the insect of falling to the ground on being surprised. A bag net (about 2 feet deep), and with one side flat so as to allow of being placed on the ground close to the sides of the rows of Peas, would, we think, be serviceable. This might be run along the rows, the plants being slightly swept over by a switch held in the right hand, the handles of the bag net being held in the left hand; or perhaps by merely running the net along or across the rows they might be jerked into it.



As to the protection of the plants, soot and pounded lime have been suggested to be sprinkled over them, previously wetting them with a watering-machine. In this respect the same kind of remedies must be used as have been proposed against the Turnip flea-beetle, having for their object the rendering of the plant disagreeable to the insect by a coating of matter offensive to its taste, or by forcing forward the growth of the plant as quickly as possible.—*J. O. W.*

P.S.—In a note just received from Mr. Samuel Webb, gr. to C. Fardell, Esq., of Holbeck Hall, near Horncastle, Lincolnshire, he informs us that the weevil was up to that period committing very serious ravages upon the Pea and Bean crops in that county, and that he had found the greatest service from turning several hens with their broods of chickens into the fields, the hens being tied by the legs and moved from place to place, to prevent them from rambling away. We may also suggest the possibility of advantage resulting from drawing a cloth covered with pitch or tar over the rows of Peas; the insects would become fixed to the cloth and might be easily destroyed.—*J. O. W.*

MELLONI'S THEORY OF DEW.

SECOND LETTER.

In this letter I shall show, as I before promised, that although Wells' principle of the origin of dew is correct, it is impossible to explain all the thermometrical and hygrometrical phenomena which are produced during a calm fine night, without taking into account a new circumstance, as yet entirely neglected, which is of the greatest consequence in the nocturnal cooling of bodies. But before proceeding to this point, I shall offer a few remarks on two series of experiments, advanced by those who maintain that dew arises from the soil, and which they say completely refute all theories of dew based upon radiation.

A certain number of thermometers, as nearly as possible equal both in size or sensibility, are taken, of which some are coated with lampblack, varnish, and Indian ink, while others are covered with gold, silver, tin, copper, and leaves of plants. These instruments, thus prepared and exposed to the free atmosphere on a calm fine night, indicated at first temperatures differing a little the one from the other; but after a certain space of time, they all indicated very nearly the same temperature. The experiment was varied—on the ends of glass tubes placed upright in the soil, plates of zinc, copper, glass were laid; in the centre of each of these plates was a depression in which the bulb of a thermometer was placed, while its stem, supported by an iron wire, remained in a vertical position; another thermometer suspended freely between the plates marked the temperature of the air. Here again the instruments, when exposed to the air in the evening, indicated differences of temperature which afterwards disappeared, so that at day-break all the thermometers were sensibly at the same height.

These facts appeared to the opponents of Wells' principle completely decisive; and from that time forward they maintained that "the pretended cold which is indispensable for the formation of dew is a pure invention!" But the experiments of these gentlemen were made near the soil, in an atmosphere charged with moisture; all the tubes of the thermometers were uncovered; and in the last experiment their bulbs communicated, by means of the plates, with the tubes supporting them. Now glass, of which these tubes were made, radiates considerably; its temperature falls and the cold acquired is communicated to the bodies touching it; the latter being in a moist atmosphere cause a deposit of aqueous vapour; and we know that water radiates heat and cools as much as glass, lampblack, or varnish. There is then nothing surprising in the fact that the thermometers on the plates marked, after a certain time, the same temperature as those surrounded with better radiating substances. From the fact that the metallic surfaces covered with dew were as cold as the glass or blackened surfaces, we can only conclude that the radiating powers of water, lampblack, and glass, are sensibly equal; but we can by no means, from these experiments, say that metals cool on calm fine nights as much as glass or lampblack.

In order to be certain of the true state of things, glass must not be employed; the supports must be made of polished tin, which hardly radiates at all, and which sufficiently isolates the thermometers from the soil; moreover all the parts of the thermometers must be covered with metal. Then, the metal being polished, the thermometers will give the true temperature of the air; and when the casing is varnished, blackened, covered with leaves or any other substance, we obtain, by a simple comparison with the polished thermometer, the degree of cold produced by the radiation of this substance.

By means of such instruments as these, I have found that leaves of plants, glass, varnish, and lampblack always cool on calm fine nights from one to two degrees below the surrounding air. On looking at the smallness of these differences, one might be led to suppose that the fall of temperature observed by Wilson and Wells, and which amounted to seven or eight degrees, was much exaggerated. But when we remember that in their experiments the thermometers for showing the temperature of the air were raised 4 or 5 feet above the earth, while those covered with the radiating substance were close to the soil, we can easily see why their results and my own differ so much. For Pictet has long ago shown that the temperature of the air decreases rapidly, on calm fine nights, as we approach the earth. This fact alone would render the temperature of the radiating substance, placed close to the surface of the earth, lower than that of the air in which the higher thermometers were placed; so that, in this arrangement of the instruments, the difference between the two thermometers by no means indicates the amount of cooling of the body below the surrounding air.

In another of Wells' experiments there was a thermometer covered with wool placed at the same level as a free thermometer, and the difference of temperature observed was 5°,3. Here the wool certainly cooled two or three times as much as the lampblack in my experiments; and I know that the radiating power of wool is not greater than that of lampblack.

To explain the cause of this extraordinary cold observed by Wells, we must first clear up any doubt that may be attached to it. It was for this purpose that I covered a thermometer with wool, and exposed it to the air with two others of the same size, one of which was coated with lampblack and the other with polished metal; in a few minutes the thermometer with the wool fell twice as low as that coated with lampblack. A fourth thermometer covered with an equal quantity of wool, pressed close to the instrument by means of a metalic wire, gave a result intermediate between the other two. Lastly, I covered a fifth thermometer with two pieces of flannel, and it fell still less than the last. These experiments were repeated, cotton being used instead of wool, and the results were perfectly similar. I then began to suspect that the superiority of the cotton and wool over the lampblack was owing to a certain modification in the radiating power of these bodies caused by the presence of the air filling their interstices.

But how can air increase the cold resulting from radiation? The answer is simple. We have known, for many years, that the nocturnal cooling of a body does not vary with the temperature of the atmosphere. Thus Capts. Parry and Scoresby state that on calm fine nights in the polar regions, the snow was cooled about 9° below the air 4 or 5 feet above it when the temperature of the latter was at 0° or —25° or —30°. M. Pouillet has found that swan's-down is cooled 7° below the air at 0° or —25°. And I for my part have found that the blackened or varnished thermometers cool a certain fixed number of degrees, whatever the temperature of the night may be. Now it is clear that the tufts of cotton or of wool spread out on the upper part of the bulb of a thermometer, after having cooled by radiation, will communicate the cold so acquired to the surrounding air, which becomes by this means heavier, will descend in the interior to fall on the ground; but a certain time is required for the passage of this air through the interstices of the wool or cotton. The threads then of these last will be in contact with air that is colder than it was at the beginning of the experiment; and as the fall in this temperature below the surrounding medium is invariable, they must necessarily become colder still. This increase of cold will cause a new fall of temperature in the medium; the latter gives rise to another cooling in the radiating body; and so on until

the weight acquired by the condensed air is sufficient to overcome the obstacles opposing its exit.

The same phenomena take place naturally in many circumstances. Indeed, plants with hairy leaves are colder than those with smooth ones. The temperature of Grass and that of other low plants which clothe the fields falls, in consequence of this reaction of the air, much below that of elevated bodies, because of their vicinity to the soil which supports the surrounding medium, and compels it to remain in contact with the radiating surfaces. The truth is, that the layer of air by which the Grass is surrounded is not steady; it changes its position, on the contrary, in precisely the same way as water in a vessel over the fire; the particles of air condensed by the cold of the tops of the blades of Grass, descend towards the earth, become heated by contact with the latter, and rise again towards the tops of the leaves, and so on; but it is clear that, in spite of this state of motion, the air on the whole cools, and in order that the Grass may be of the same constant temperature below that of the surrounding medium, it must cool more still; and thus a gradual cooling and an increasing moisture in the layer of air are caused.

I cannot enter here into all the necessary details to show how the frigorific reaction of the air explains all the facts preceding and accompanying the appearance of dew, and many other phenomena connected with this interesting question, which have not as yet been satisfactorily accounted for. They will all be found, however, in my memoir, which I shall soon, I hope, have the honour to present to the academy.

Home Correspondence.

Double Yellow and Banksian Roses.—I observe some remarks on the Double Yellow Rose in the *Gardeners' Chronicle* of the 27th ult., and am anxious to know if any of your correspondents have observed that this year the flowering of the Banksian has been unusually abundant. It has been so about Dublin, and if the same has been observed elsewhere, it may perhaps serve to throw some light on the obscure and interesting subject, *viz.*, that of blooming the Double Yellow. I have a Banksian which covers a large space on a wall, say 10 feet each way, to which a knife has never been applied; it has been about 6 years planted, and its growth is most luxuriant. It has been, and at present is, a sheet of bloom.—*S. B., Dublin.* [It is the bad pruning that ruins Banksian Roses.]

What are the Advantages of Double Cropping?—About this season gardeners in many places are in the habit (either from their own inexperience or that of their employers), of double cropping, which in my opinion is a bad practice; I should be glad to learn what are its advantages. Shade might perhaps be afforded between rows of Peas or Beans, but then the benefits derived from summer showers, which are needful, would be in a great measure denied. Then there is a great interruption to the ordinary operations. In removing Pea sticks, for instance, even with the greatest care, injury will occur to the other crop, which is always inferior to one not so confined; then the soil has to be loosened up again, making three loosenings in the season. All this is too much where sufficient strength to work the garden is not allowed. Double cropping might be admissible in cottagers' gardens, where space is limited; but when a gardener has between four and five acres of land to attend to, with only some three men to do the work, to double crop part of the kitchen garden is too much. What think your readers?—*A Subscriber.*

Scorching effects of British Sheet Glass.—I beg to state that I have never seen plants sustain any injury from the use of sheet glass, although two houses at Hardwick have been glazed with sheet glass for these last two or three seasons. I have observed, however, that air should be given earlier in the day than when common glass is used, for the sun's heat increases more rapidly through sheet glass than through common glass, but both kinds will scorch if air is neglected to be given at the proper time.—*Samuel Barrett, gr. to Sir E. Cullum, Bury.*

Rosa Sulphurea.—As information about this Rose is desired, it may, perhaps, be of use to know that a fine specimen of it is growing against a house on Holmes' Island, Morecombe Bay, Westmoreland, which, on the 25th inst., exhibited fine large buds ready to burst, and uninjured by insects. It had been budded in July three years ago on a branch of Rosa splendens.—*M. W., May* 31.

The Bess Pool Apple.—It appeared in one of your papers, in the early part of the present year, in an observation respecting the Bess Pool Apple, that it was a kitchen fruit, good to Christmas or January. I beg to say that it appeared at my table as a dessert fruit this present year till May, keeping perfectly sound up to that time. Its quality was better, and it was generally liked better by admirers of the Apple, than almost any other sort. Its only use as a kitchen Apple is for stewing whole; for this purpose it is of much worth, as the fruits never alter from their original shape, if well served; if baked, they dry up. No garden should be without one or two Bess Pool trees; they are late in beginning to bear, but seem never to fail when they once begin, and their fine, handsome, and vinous fruit furnishes a certain stock of excellent quality for table use from November to May or June.—*W. P. L.*

India Rubber for Grafting Purposes.—I grafted rather extensively at the latter end of March, and have been in the habit of grafting into the last year's shoots, the scion and the branch being of the same size, making use of the saddle mode, and securing them with a strip of adhesive plaister wound round the part. This year I used in part strips of India rubber, and find that in almost every case where the rubber was used the graft has succeeded, and where the plaister was used they have failed. This without explanation might not be rightly judged of, as in other seasons the plaister has succeeded. I attribute its failure this season in part to its not being sufficiently adhesive, having too much resin in it, and partly to the heat and dryness of the weather. The latter of course has been the same for both. The superiority of the India rubber, however, is fully established over the kind of plaister used, but I am not yet certain that it is better than plaister properly adhesive. But I think it will keep all the parts in closer contact, and be more easily removed, as I found when I had the plaister very adhesive it could not be got off without bringing some of the bark off with it. I have grafted Hawthorn and Mountain Ash with Pear, and shall be happy to inform you of the result.—*Lancaster.*

Early Peas.—In the last Number of the *Chronicle* a communication is made by Mr. T. Dungey, on the production of early Peas. I generally sow in November by a wall in the garden, and the Peas are trained on sticks in the usual way; but I have almost invariably picked first from the field crop, although not sown until February. It is very true that having a large space to collect the first picking from, I gather a pod only here and there, but having found the earliest and best filled pod nearest the ground, leads me to suppose by training on sticks that the exposure to the atmospheric air during night retards the growth, inasmuch as the heat given out by the earth during that period is prevented assisting the growth of the Pea by training them above the ground, and from the habit of the Pea entirely covering the surface, but little circulation of air takes place among them in the field. My land is a dry siliceous and strong soil, and radiates a considerable degree of heat during the day, which also tends to the early production of the crop. I have made this communication hoping to obtain information, as it may appear that although the training Peas on sticks may be the neatest, it may nevertheless not be the best method to obtain them early.—*Robert Baker, Writtle.*——The best early Pea I have yet had to do with is Girling's Danecroft. It is 10 days before the Early Frame, not very prolific, but at the table excellent.—*A Z., Edinburgh.*——I gathered two dishes of green Peas on May 15th, and one dish every day since. I sowed them in pots on the 18th of January, and turned them out in the border on the 24th of February. I am quite on the border of the Monmouthshire mountains.—*W. Milward, Llanover Gardens, Abergavenny, May* 29.——Peas have been gathered in this part of Surrey (Godalming) several days prior to the 20th of May without any artificial care whatever.—*H. B.*

Horticultural Society of Ireland.—It is not "to national poverty, political animosities, agrarian outrages, or Saxon domination," that is to be attributed that "state of decadence" which has unfortunately overtaken the once flourishing Royal Horticultural Society of Ireland, nor yet altogether to its rules, objectionable though they may be in part; it is rather to a neglect of a strict observance of those rules by the Council, and also to a neglect, as you justly infer, or perhaps I should say a contempt, for the working members of the Society, which is strange enough in the management of an institute professedly got up for their advancement and the science they cultivate. Now with regard to the non-observance of the rules. I will take as they come those, the violation or neglect of which I and so many complain of—giving the rule and then the practice, and you and all who are acquainted with the different way in which things are managed about London, will open your eyes and ask, "Can such things be?" Nor will it excite much wonder that this Society should be in a "state of decadence." Rule 2d says—"Three judges shall be appointed for each class, who shall not be candidates in that class, nor enter the rotunda on the days of exhibition until all the specimens have been arranged for adjudication." Now for the practice of the judicial triumvirate; for each class is always taken from the members of the Council, most of whom are generally competitors, or their gardeners, for the Society's prizes. On the morning of the day of exhibition they generally breakfast together at one of the Sackville-street hotels. That affair dispatched, they hurry to the exhibition room, long before the entry of specimens is completed, or their arrangement commenced, and every object is inspected, its merits canvassed with gardeners and others interested. Who this belongs to, and who that, is pretty well known, and you may witness the judges arranging, or helping to arrange, for adjudication, the specimens, which the rule says they are not to behold until the room be cleared and the subjects arranged for their inspection. I shall not easily forget the astonishment displayed by some English friends, well acquainted with showing on the other side of the water, on being spectators of this scene. That these parties may, that they do, adjudicate under these circumstances with perfect fairness, I would not even insinuate; but that their decisions can be, or are above suspicion (as they ought to be), I must emphatically deny. I trust it shall never again be necessary to call attention to these evils, that it shall be so managed for the future as to make suspicion give way to confidence, murmuring to satisfaction, and that the many well wishers of this most useful and popular institution may (under a new order of things, beholding it pure and prosperous), have reason joyfully to exclaim,

"Jam redit et virgo, redeunt Saturnia regna."

And that the most inclined to cavil and find fault shall not be able to scent even the "vestigia fraudis." With rule 5th, which requires a distinct list of the botanical names of the specimens entered, I may join that which requires competitors "to take notice that any plant or fruit found incorrectly named will be subject to disqualification for competition." Now, this is a most excellent rule, the enforcement of which would be most influential in the advancement of gardening, and gardeners too. Yet it is never observed, never enforced, and no disqualification for its violation ever occurs. The consequence of this is, that nothing is more calculated to bring ridicule on the Society and its exhibitions, and exhibitors, than the ludicrous outrages on and perversions of, botanical nomenclature which the specimens exhibit, as well as the general want of order and neatness in preparing them for exhibition, which must tend in no small degree to lower the opinion of the public for the science and its cultivators; and for the judges who would permit a rule so essential to order, so pleasing to all, to be ever departed from. Perhaps it may be said it is not very essential to the interests of the Society that this rule should be enforced. Perhaps so: well then, if useless, why not blot it out? if useful, carry it out. But will that Council, having stamped with its approbation a work written by one of its own members, by permitting it to be dedicated to them and awarding, most justly, to its author the highest mark of approbation in its gift, namely, the gold medal, will they say it is of no consequence? Let any one read Mr. Lyons's first edition of his excellent work on Orchids, pages 2, 3, and 4, and some leading articles in the *Gardeners' Chronicle* of May 6th, 1848, and then say if the [illegible] of this one as to continue it not most essential [illegible] to advancing the interests of horticulture? It [illegible] no specimens to be shown at but such as are fit to meet the [illegible] eye, and have, in the manner they are presented for [illegible], that neatness which the *Gardeners' Chronicle* [illegible] is most certain of all the outward signs of a good gardener; and by saving the visitors at those exhibitions one part of the [illegible] from being just told he what Mr. Lyons calls one "Parent of horticulture," or man who, to use the words of the *Gardeners' Chronicle*, "would seem to have slept in a bed of [illegible] the past 10 days." ("Such persons," exclaims Mr. Lyons, "I do not honour with the name of gardener"), much good might be effected. The 6th rule was—"Staffs to be brought in for competition after 10 o'clock will not be entered." This is rarely attended to, and causes great disorder and confusion, the plants often only coming in when the [illegible] are nearly over. The 7th rule was—"No person whether [illegible] remain in the room during the adjudication but the judges." This rule is frequently if not always violated. However, what would you think? As the Council and members are determined to be judges and competitors, in order to remove scandal and suspicion, the entire [illegible] of competitors, who have not the good fortune to be judges, have a place appointed to them, where they may witness but not interfere with the discriminating powers of the judges. With regard to all you have fully dealt, in the *Chronicle*, and [illegible] that they were framed not for the interest [illegible] of gardeners." Only think, any person, though not a member, may compete for any of the prizes, on paying 5s. for each class in which he wishes to compete; but no gardener, though he be an honorary or associate member, if the employer of a gentleman who may not choose to subscribe, shall be allowed to compete, except in the case of an original member. Here, no matter what his standing or skill may be, no matter how fine or extraordinary or beautiful the produce of [illegible] may be, even being a member, yet because [illegible] choose to be one, even though he be willing to pay [illegible] in every class, he will not be allowed the paltry privilege of paying 5s. for a chance of a prize of the tempting value of 7s. 6d. Comment here would be useless. Having trespassed thus much on your patience, I will have done with the past, and in the hope of their being corrected, I will [illegible] a few details of the way in which the Council have managed things, and which have chiefly contributed to what I have I may call the late difficulties and unpopularity of the Society. I will begin with the [illegible] of the Council. No gardener or nurseryman has any share in its deliberations, their interests have no representative there, though one would think the Council, whose members cannot be supposed to be intimately acquainted with horticultural [illegible] the knowledge of it and their acquaintance with the "[illegible] interests" is, I am bold to say, with many, if not most of them, a rarely balanced affair), surely such being the case, from a practically informed member they might receive a useful hint occasionally; and also at the annual dinner, though [illegible] to be one "of the members," no gardener, no matter how respectable or deserving, dare intrude. Why, I am at a loss to know; for at the agricultural dinners of the different [illegible] throughout the country, we see the highest and the lowest in the land, without derogating in the least from their dignity or detracting from that respect due to their high station; but, on the contrary, increasing it, not hesitating to sit for a couple of hours with farmers, Hoo and Hobbe, the representatives of a class behind in intelligence the respectable [illegible] of gardeners. And it is the respectable gardener alone who would be likely to purchase the rather expensive dinner tickets of the Society. So you see what are the privileges of the "honorary members," the "working bees" of this horticultural [illegible]. If his employer does not choose to subscribe, he, though he pays for doing so, cannot enter anything for competition, though that privilege would be accorded to any horticultural [illegible] even from the "celestial empire." Nor will he be permitted (though willing to pay for it), to [illegible] a dinner where any of the Council are present; and if any of the productions of his skill, the objects of his anxious care, are deemed worthy of a prize, he is (and, by the way, this is a [illegible] only adopted this year; it is not a "sign of improvement") [illegible] the poor gratification of even seeing his name in print. There is another matter to which I would claim attention. Previous to, and on exhibition days, the public is informed by [illegible] &c., that an exhibition of fruits, flowers, &c., will take place at the Rotunda. Now every one has a [illegible] of his own: come like to see the flowers, some the vegetables, some the fruit. Those visiting the exhibition pay 2s. each, expecting to see all this; but do they see all? No. They may see the plants and vegetables: but the fruits, not the least interesting portion of the exhibition, generally stowed away in a back room attached to the Rotunda, they may not see; that "sanctum" being strictly guarded by a couple of sturdy fellows from the metropolitan fog, and accessible to none but the members of the Council and their friends. This is not treating the public fairly, to make them pay for seeing only part when they were under the impression they would see all. This is only worthy of those itinerant showmen who induce the rustics to pay their pence expecting to see within the original of the [illegible] the creation of the painter's fancy, on the huge [illegible]. Now this portion of the exhibition might be made a source of real interest and gratification, and so [illegible] the vegetables, if they were properly arranged, which they never are. This division of the objects of attraction at the shows would also tend to do away with that inconvenient and disagreeable crowding in the "plant room" that is always so unpleasant. And now I approach the most disagreeable portion of my communication, namely the payment of prizes, which, pastry as they are, have never been paid satisfactorily, sometimes, pay sometimes, not at all, which shows the Council have paid no [illegible] to the rule "that all drafts for payment shall be signed by three members of the Council and countersigned." Well, let it appear how it may, for two or three years the Society all [illegible] fall into arrears with most of the prize takers; and at the end of last year, when the winding up came to take place, the Council put an advertisement in the papers, calling upon those who had claims on the Society to send them in, that they might be satisfied. If not sent in, they were to [illegible] their claims. And were they satisfied?—were they paid? No! Why, you will ask; because from the state of the exchequer they had not wherewith to clear off. Well, then, what was to be done. You would suppose that, seeing there was not sufficient funds to pay off all, they would have given perfect satisfaction to all the prizetakers would have struck an average, and paid all in just proportion as far as the money in hand would go. So one would have thought: but what did they do? They paid those in full who claimed prizes in 1847, and no others; thereby throwing the claims of their old members overboard, and satisfying only such of them as happened to compete last year, and those who only became members of the Society in 1847. And under, as I am informed, the perhaps legal, but unfair and unworthy plea, "that not being an incorporated Society" they could neither sue nor be sued, they adopted this Pennsylvanian mode of satisfying the claims of those with whom they were in arrears. Alas, that the "Annals of Horticulture" should have its pages stained by this transaction, and that there is not some Sidney Smith amongst its votaries here, to shame "repudiation" from amongst us.—

Hortulanus Hibernicus, May 22. [The importance of this communication induces us to print it at length, although the space it occupies compels us to give it in small type. We should hope that the serious representations of our correspondent may be susceptible of explanation. We shall shortly return to the subject.]

Societies.

HORTICULTURAL, *May* 20.—The EXHIBITION OF FRUIT on this occasion was not so large as might have been expected, but exceeded that of last May, and most of that which was produced was good, taking into consideration the late long, almost sunless, spring. Exhibitions of Grapes were numerous; Peaches and Nectarines few, but good for the season; and so were Strawberries and Cherries. Pine-apples formed an exception.

For Providence PINES the first prize was awarded to Mr. Chapman, gr. to J. B. Glegg, Esq., of Withington Hall, Cheshire, for a fruit weighing 7 lbs. 5½ oz.; 2d to Mr. M'Rae, gr., Ribston Hall, Wetherby, for one 6 lbs. 3 oz; 3d to Mr. Brown, gr. to C. W. Packe, Esq., M P., for one 6 lbs. 3¾ oz.; 4th to Mr. Lawrence, of Isleworth, for one 6 lb. 2 oz. The latter also showed a Queen, weighing 2 lbs. 7⅜ oz, for which a Silver Banksian medal was awarded. Other Queens, the heaviest of which weighed 2 lbs. 10½ oz., were shown by Mr. Brewin, Mr. Lawrence, Mr. Braid, gr. to H. Perkins, Esq., of Hanworth Park; and Mr. Toy, of Oatlands Palace Gardens, Weybridge. An Otaheite from Mr. Fleming, gr. to the Duke of Sutherland, at Trentham, weighed 3 lbs. 13 oz., and the same exhibitor also showed a Black Jamaica, 3 lbs. 1½ oz. An Enville weighing 3 lbs. 3 oz came from Mr. Brewin, gr. to R. Gunter, Esq, of Brompton; the same variety of Pine-apple was also shown by Mr. Jones, gr. to E. J. Hutchinson, Esq., Dowlais House, Glamorganshire, and by Mr. Groom, gr. to H. Bentley, Esq., of Leeds, the latter weighing 3 lbs. 8½ oz. Mr. Gardiner, gr., Weston House, contributed a Providence, weighing 6 lbs. 13 oz.

Of Black Hamburgh GRAPES there were 16 exhibitions. The best were produced by Mr. Fleming, gr. to the Duke of Sutherland, at Trentham, the specimens being well swelled and well coloured. The next in point of merit were communicated by Mr. Ingram, from the royal gardens at Frogmore; and good specimens were shown by Mr. Turnbull, of Blenheim, who was third. In the Market Gardener's Class, Mr. Davis, of East Barnet, gained the first prize for Black Hamburghs, with beautiful bunches, as were also those of Mr. Mitchell, of Brighton, who was second. Other samples of Black Hamburgh were produced by Messrs. Barnes, Groom, Monro, Braid, Brown, Davis, Jackson, Orpwood, Bignell, Toy, and Boyce. In specimen bunches of Black Hamburgh, the first prize was awarded to Mr. Turnbull for a large and fine bunch of well swelled berries, weighing 2 lbs. 6½ oz.; and in the Market Gardeners' Class for a specimen bunch, the 1st prize was gained by Mr. Davis, of East Barnet, with a bunch weighing 1 lb. 12 oz. Other single bunches were shown by Mr. Fleming and Mr. Barnes, gr. to T. C. Whitmore, Esq. Three Black Hamburgh Vines, bearing fruit in pots, were exhibited by Mr. Braid, of Hanworth-park. For white Grapes prizes were awarded to Mr. Davis, gr. to Baron de Goldsmid, of Brighton, for White Frontignan and Sweetwater; and to Mr. Busby, gr., Stockwood-park, for Dutch Sweetwater. Mr. Kemp, gr. to Mrs. Grillion, East Acton, showed Muscats; and Mr. Barnes, gr. to T. C. Whitmore, Esq., Frontignans, which were disqualified, from being wrongly entered, as was also an exhibition by Mr. Toy, who showed five bunches instead of six, and of these two were Muscadines, only three being Frontignan—the grizzly, which were, however, fair bunches for the season.

For PEACHES, prizes were awarded—1st, to Mr. Gardiner, of Weston House; and 2d, to Mr. Groom, gr. to H. Bentley, Esq. For Nectarines—1st, to Mr. Chapman, gr. to J. B. Glegg, Esq.; and 2d, to Mr. Gardiner.

CHERRIES: Black Tartarian and Mayduke, fine specimens for the season, came from Mr. Ingram, and Mayduke from Mr. Turnbull, of Blenheim.

STRAWBERRIES in pots were shown by Mr. Slowe, gr. to W. R. Baker, Esq., of Bayfordbury; and dishes of British Queen came from Mr. Davis, Mr. Toy, and Mr. Slowe. Keens' Seedlings from Mr. Brewin, Mr. Toy, and Mr. Braid.

A dish of Brown TURKEY FIGS was exhibited by Mr. Braid, but being shown contrary to the rules—4 instead of 6—no prize was awarded them.

Of MELONS, Mr. Drummond, gr. to C. W. Leigh, Esq., Pontypool Park, showed a fine specimen of green-flesh, which gained the first prize for the heaviest fruit, and a small specimen of Spencer's Green-flesh, which was adjudged the second-best flavoured Melon. Mr Fleming exhibited specimens of a yellow, oblong Melon—a cross between the Ispahan and Hoosainee, which gained the 1st prize, as being the best flavoured Melon, and it was stated by Mr. Fleming to be a great bearer. Some unripe Cantaloupe was produced by Mr. Morris, gr. to W. Dickinson, Esq., of Willesden.

Mr. Monro, gr. to Mrs. Oddie, contributed an ORANGE TREE, in a pot, well fruited, for which a Silver Knightian Medal was awarded. Citrons were sent by Mr. Nicol, gr. to J. Taylor, Esq., of Strensham-court, Worcestershire.

Of rare TROPICAL FRUITS, Mr. Iveson, gr. to the Dowager Duchess of Northumberland, produced fruit of Vanilla planifolia (not ripe), Xanthochymus pictorius, and the Chocolate tree, together with flower-buds of the Clove tree (Caryophyllus aromaticus).

ROYAL CALEDONIAN HORTICULTURAL, *May* 13.—This, the spring meeting of this Society, was held in the garden at Inverleith. The show of exotic plants was excellent—the day clear and warm—the fruit-trees and flowering shrubs clothed with blossoms—and a fashionable company of about 2500 persons continued for several hours examining the prize specimens, promenading the grounds, and listening to the music. On this occasion, for fine shrubby exotics in flower, separate prizes were offered to Nurserymen and to Practical Gardeners, each class competing among themselves. The Nurserymen's Prize (Silver Medal) was voted to Messrs. J. Dickson and Sons, for Hovea Celsi, Daviesia latifolia, Erythrina laurifolia, and Brachysema latifolia; and a second honorary premium to Messrs. Dickson and Company, who produced Epacris grandiflora, Eutaxia myrtifolia, Pimelea Hendersonii, and Bossiæa linophylla. In the Practical Gardeners' department, the first prize was voted to Mr. Sleigh, gr. to Lord Advocate Rutherfurd, for Pimelea spectabilis, Epacris miniata, Eutaxia myrtifolia, and Pimelea Hendersonii; and a second to Mr. White, gr. to Mrs Haig, for Leschenaultia formosa, Aphelexis humilis, Hoya carnosa, and Erythrina laurifolia. For the two finest Fuchsias, an honorary award was made to Mr. Ritchie, gr. to W. Mitchell Innes, Esq. for Fuchsia leucantha, and a variety named Mrs. F. Milbank. For finely flowered specimens of Cape Heaths, the first prize was awarded to Mr. White, Viewpark, for Erica vestita alba, E. elegans, suaveolens, and ventricosa minor; and a second prize to Mr. Downie, gr. to J. Russell, Esq., for Erica Beaumontia, E. rubida, vestita coccinea, and cerinthoides major. The Chinese Azaleas brought forward on this occasion were very splendid. Two premiums were awarded—the first, to Mr. Sleigh, for Azalea splendens and variegata, and the second to Mr. Crocket, gr. to Colonel Ferguson, for Azalea indica alba and decora. The varieties of Cineraria made a brilliant appearance, and three awards were made—the first to Mr. Sleigh, for Perfecta, Incomparable, Nobilis, and Phillis; the second to Mr. White, for Noblesse, Superb blue, Diana, and True blue; and the third to Mr. Ritchie, for Lady Seymour, Amphitrite, Diana, and Superb blue. For Cactus Jenkinsonii and Ackermanni major, an honorary award was made to Mr. Young, gr. to T. Oliver, Esq., who sent them. There was a deficiency in the production of tropical Orchids; but an award was made to Mr. White, for Oncidium Baueri and Aerides Brookii. For Stage Auriculas, the first premium was assigned to Mr. White, for Algedo's Fame, Smith's General Bolivar, Taylor's Favourite, Lee's Colonel Taylor, Taylor's Glory, and Clough's Sir William Wallace; and the second to Mr. Ritchie, for Pollet's Royal Standard, Waterhouse's Freedom, Astelton's Prince of Wales, Gabel's Prince Cobourg, Fletcher's Ne Plus Ultra, and Hipworth's True Briton. For fine specimens of Waterloo Broccoli, a premium was assigned to Mr. Ritchie. As usually happens, many beautiful and uncommon productions were for exhibition only; and for these honorary awards were made, or thanks voted, according to circumstances. The nursery establishments around Edinburgh contributed liberally to the exhibition, and a gradual improvement is uniformly observed in the productions shown by them at successive meetings. Messrs Dickson and Co. sent a rich and varied collection of greenhouse plants, embracing 80 species and varieties, including many promising seedling Calceolarias, Tetratheca verticillata, Platylobium rhombifolium, and Cyrtoceras reflexum. Messrs J. Dickson and Sons also sent a rich display of fine plants, among which Statice macrophylla, Oxylobium pultenioides, Pimelea spectabilis, and Erica florida, were conspicuous. Messrs P. Lawson and Son sent a large and well-flowered specimen of Eutoxia myrtifolia, with Hovea Celsi var. Girvani, and Pimelea decussata longifolia. Mr. Carstairs some interesting plants, including Abutilon vitifolium; also a well managed specimen of the rare New Holland Pitcher-plant (Cephalotus follicularis); and Mr. Kelly, of the Tanfield Nursery, some good specimens of Cinerarias, Calceolarias, and Heaths. Besides nurserymen, other cultivators communicated a number of choice articles for exhibition only; amongst these the first place is due to some magnificent specimens from the Royal Botanic Garden; in particular, a noble tree of Banksia Cunninghamii, remarkable for its bottle-brush shaped flowers; a large Orange-tree profusely covered with blossom, and, at the same time, with young and matured fruit; Erica lachneæfolia and E. suaveolens. Mrs. Haig, View-park, sent a select collection of exotics, including Puya Altensteinii, Oncidium divaricatum var., and Torenia asiatica of large size. Professor Dunbar exhibited well-bloomed plants of Gloxinia Fifeana, Salvia gesneriflora, also Epacris ceriflora and Camellia Carswelliana. From Dr. Neill's garden were some interesting and rare Alpine plants, a fruiting specimen of the Myrtle-leaved Orange, and Sarracenia variolaris, in flower; and T. Oliver, Esq., Newington Lodge, a collection of flowering plants, including a gigantic specimen of the Illicium floridanum, Aniseed tree of Florida. Honorary awards were voted to Mr. Downie, for a tray of superb Pansies; to Mr. Anderson, gr. to J. Henderson, Esq., for a beautiful fan-trained specimen of Zichya villosa; to Mr. W. M'Lachlan, for forced Strawberries, the kind being Myatt's British Queen; to Mr. Douglas, Grange House, for the new Cabbage Green; to Mr Loney, gr. to Sir P. M. Thriepland, Bart., for beautiful new White Spring Broccoli, originally raised at Fingask, and cultivated there for the last 9 years; and to Mr. Sievewright, for Victoria Rhubarb, six stalks weighing 15 lbs. The thanks of the Society were specially voted to Mrs. Brown, for Primula cortusoides; to Mr. Anderson, for Prostranthera rotundifolia, a recently introduced plant from New South Wales; to Mr. Handasyde, for a tray of beautiful Pansies; to Mr. Livingston, for fine Pansies; and to Mr. Bell, for Cucumbers.

LINNEAN, *May* 24.—The BISHOP of NORWICH, President, in the Chair. This being the anniversary, the chair was taken at 1 o'clock. The Treasurer gave an abstract of the yearly accounts, when it appeared that the receipts of the Society during the past year were 798*l.* 19*s.* 1*d.*, and the expenditure 729*l.* 13*s.* 5*d*, leaving a balance in the Treasurer's hands of 69*l.* 5*s.* 8*d.* During the past year the Society had lost by death 17 fellows. There had been also elected into the Society 17 new fellows. The officers and five new members of the Council were balloted for, when the old officers were re-elected, and the following five gentlemen were added to the existing Council: B. Botfield, Esq., M.P., W. J. Broderip, Esq., The Very Rev. Dr. Buckland, A. Henfrey, Esq., G. Newport, Esq. A collection of plants was exhibited, sent by Mr. Marnock, from the Royal Botanic Garden. A collection of specimens of Oak, with their fruit, was presented by Mr. Edward Doubleday. The Council this year issued invitations to the members of the Microscopical, Botanical, and other societies, to meet them at their annual dinner. We wish that this accidental *reunion* might lead to a more permanent connection amongst these Societies. It is a sad spectacle which this family of natural history Societies exhibits—each one gasping for existence, crippled for the want of funds, and yet each endeavouring to maintain an independent existence. If the parent Society would but give up her prejudices, and once more admit her children within her walls, we are convinced we should hear much fewer complaints of want of resources, dull meetings, deficient libraries and museums, than we have been accustomed to.

Country Shows.

Royal Horticultural Society of Cornwall, May 12.—At this the first exhibition for the present year the following prizes were awarded:—*Fruit:* Best Pine-apple, Providence, J. Vivian, Esq.; best six Apples of the growth of 1847, Nonpareil, H. P. Andrew, Esq.; 2d. Golden Harvey, W. Daubuz, Esq.; best dish of Strawberries, Keens' Seedling, Rev. T. Phillpotts.—*Flowers:* Most ornamental plant, in flower, not previously exhibited, Bronze Medal, Rhododendron Gibsonii, M. Williams, Esq.; 2d, Balsamina latifolia, W. Daubuz, Esq.—Best six Stove Plants, Torenia asiatica, Begonia albo coccinea, Siphocampylus coccineus, &c., Mr F. Passingham.—Best specimen of ditto, Cereus crenatus, Sir C. Lemon, Bart., M.P.; 2d, Vinca alba, G. C. Fox, Esq.—Best Orchid in flower, Cartleya Mossiæ, Rev. T. Phillpotts; 2d, Oncidium Carthaginense, Sir C. Lemon, Bart., M.P.—Best miscellaneous group, Leschenaultia biloba grandiflora, Azalea splendens, Cuphea platycentra and miniata, Thunbergia chrysops, &c., Mr. F. Passingham; 2d, Cyrtoceras reflexum, Cuphea platycentra, Oncidium flexuosum, Azalea Duke of Devonshire, Cineraria splendens, Leschenaultia biloba, &c., W. Daubuz, Esq.; 3d, Ixora crocata, Azalea rosea, Torenia asiatica, Louis Philippe Rose, &c., G. C. Fox, Esq.—Best collection of Gloxinias, Gesneras, and Achimenes: Achimenes picta, Gloxinia digitaliflora, Gesnera Suttonii and bulbosa, Mr. F. Passingham.—Best specimen of ditto, Douglasii, Rev. T. Phillpotts; 2d, Achimenes picta, Mr. F. Passingham.—Best six Succulents, Epiphyllum Ackermanni superbum, species from Mexico, E. Millerii, E. Boydii, Echeveria retusa, Cactus hybridus, Sir C. Lemon, Bart, M.P.—Best six Greenhouse Plants, Eriostemon buxifolium, Leschenaultia biloba, Tropæolum tricolorum, &c., W. Daubuz, Esq.; 2d, Statice macrophylla, Eriostemon buxifolium, Epacris grandiflora, Gompholobium versicolor, &c., Mr. F. Passingham; 3d, Leschenaultia biloba and formosa, Cuphea platycentra, Epacris grandiflora, Azalea triumphans, Clematis Sieboldi, G. C. Fox, Esq.—Best specimen of ditto, Chorozema varium, Rev. T. Phillpotts; 2d, Aphelexis humilis, Mr. F. Passingham; 3d, Leschenaultia grandiflora, W. Daubuz, Esq.—Best six Pelargoniums, Duke of Cornwall, Zanzummim, Pyrrhus the First, Haben's elegans, Lyne's Sunrise, Ackbar, W. Daubuz, Esq.—Best Fuchsia, fulgens, Mr. F. Passingham.—Best six Heaths, Mr. F. Passingham; 2d, W. M. Tweedy, Esq.—Best specimen of ditto, jasminiflora, W. Daubuz, Esq.; 2d, Erica cylindrica, Mr. F. Passingham.—Best six Azaleas, splendens, Herberti, phœnicea, triumphans, optima (Knight's), indica grandiflora, Mr. F. Passingham.—Best six Cinerarias, Triumph, Brilliant, Rosea alba, compacta, Princess Alice, Azurea grandiflora, W. Daubuz, Esq.; 2d, Triumph, Queen of May, Challenge, Ne plus ultra, Mr. F. Passingham.—Best six Calceolarias, Jenny Lind, Alboni, Lucy Neal, Rebecca, Eclipse, Louis Philippe, W. Daubuz, Esq.—Best six Roses, Bourbon Queen, Madame Laffay, Aubernon, Mrs Bosanquet, Bouquet de Flore, Duchess of Sutherland, Mr. F. Passingham; 2d, Bougère, Souvenir de la Malmaison, armosa, G. C. Fox, Esq.; best six varieties, single blooms, Devoniensis, Baronne Prevost, Mrs. Bosanquet, Bouquet de Flore, Niphetos, Comte de Paris, Mr. F. Passingham.—Best collection of Auriculas, Mr. F. Passingham.—*Cornwall West Briton, May* 19.

Mansfield Tulip Show, May 16.—Best pan, Mr. Battersby, for Diadem, Rufus, Vestris, Heroine, Black Prince, and David; 2d, Mr. Walker, for Catafalque, Trafalgar, Triomphe Royale, Comte de Vergennes, Black Baguet, and Hugobert; 3d, Mr. Green for Charbonnier, Grandeur Touchant, Mrs. Mundy, Lady Middleton, Violet Alexander, and Mr. Stretton; 4th, Mr. Redgate, for Crown Prince, Duc de Savoy, Lady Sale, Lady Crewe, Washington, and Hugobert; 5th, Mr. Oldham, for Lord Milton, Paragon, Lady Crewe, Washington, Josephine, and French Rose. Best of any colour, Diadem. Flamed Roses: 1, Josephine, Mr. Walker; 2, Camillus, Mr. Battersby; 3, Unknown, Mr. Redgate; 4, Lady Middleton, Mr. Green; 5, Belvoir Rose, Mr. Battersby; 6, Lord Hill, Mr. Battersby. Feathered Roses: 1, Gibbons' No. 99, Mr. Battersby; 2, Unknown, Mr. Redgate; 3, Duc de Bronte, Mr. Green; 4, Lady Crewe, Mr. Walker; 5, Heroine, Mr. Battersby; 6, Lady Selford, Mr. Oldham. Flamed Byblomens: 1, British Queen, Mr. Green; 2, Senior's Seedling, Mr. Walker; 3, Violet, (——) Mr. Battersby; 4, Unknown, Mr. Redgate; 5, Bienfait, Mr. Battersby; 6, Senior's Seedling, Mr. Battersby. Feathered Byblomens: 1, Grace Darling, Mr. Battersby; 2, Washington, Mr. Oldham; 3, Wirtemberg, Mr. Walker; 4, Unknown, Mr. Redgate; 5, Hugobert, Mr. Green; 6, Gibbons' Seedling, Mr. Battersby. Flamed Bizarres: 1, Diadem, Mr Battersby; 2, Unknown, Mr. Redgate; 3, Director (Slater's), Mr. Battersby; 4, Charles X, Mr. Green; 5, Catafalque, Mr. Green; 6, Paragon, Mr. Oldham. Feathered Bizarres: 1, Royal Sovereign, Mr. Battersby; 2, Trafalgar, Mr. Redgate; 3, Firebrand, Mr. Walker; 4, San Joe, Mr. Green; 5, Catafalque, Mr. Oldham; 6, Duc de Savoy, Mr. Walker, Seifs: 1, No. 31, Byb. Breda, Mr. Walker; 2, Diadem, Mr. Battersby; 3, Seedling Byb, Mr. Battersby; 4, Seedling Rose, Mr. Battersby; 5, Min d'Or, Mr. Walker; 6, Paragon, Mr. Oldham.

Reviews.

The Plant; a Biography, in a Series of Popular Lectures. By M. J. Schleiden, M.D., Professor of Botany in the University of Jena. Translated by Arthur Henfrey, Esq., F.L.S., &c. Bailliere, Regent-street. Pp. 362, tab. v.

It was our intention some months back to have noticed this excellent work, and to have given extracts of some of the more attractive portions, but just as we had taken up our pen to do so, the translation appeared to which we now call attention. A popular work from a master-hand is on many accounts full of interest, though it is not always that the talent of rendering science attractive is possessed by those who have dived the deepest in search of her hidden treasures. In the present instance, however, it is not in vain that the learned professor has for a time descended from his high position, and has given the public a series of popular lectures on points of general interest, such as geographical distribution, internal structure, propagation, morphology, utility, &c., and which, for the most part, are written so easily as to be quite within the scope of the general reader, if at least he be possessed of any moderate share of current information. They are in a great measure devoid too, which is a great point in anything proceeding from the German cathedra, of that superfluity of metaphysical discussion and transcendentalism which often completely overrides the subject under hand, and sometimes makes it quite unintelligible. Indeed, the concluding chapter, on the Æsthetics of the Vegetable World, contains some very pleasing matter, though the opening portion is such as to make most readers thankful that there is not much in a similar strain.

The translation forms a very nice volume, put very neatly out of hand, and reproduces perfectly the five tables of engravings and the woodcuts, which are placed at the head of each lecture. The translation is for the most part faithful,* but the German idea is followed too closely in our opinion to make it read smoothly. In popular works, especially, it is most desirable that not only the spirit and exact meaning of the original should be ably and correctly given, but that the style should at the same time be easy and natural, and not such as to remind the reader at every turn that he is occupied with a translation. The frequent admission of such words as stand-point is awkward, ill suited to the genius of our language, and sometimes causes great obscurity. We might indeed as well call a glove a hand-shoe, or a thimble a finger-hat, or carbon and oxygen stick-stuff and sour-stuff. The title of the English translation too is far from attractive, and scarcely expresses intelligibly, or at any rate neatly, the notion of the biography of plants which is intimated by the original. We think the choice extremely unfortunate, and we are willing, as far as this notice will do so, to remove any first feeling of distaste or reluctance which might be caused by it, for the work is well worth perusal, and will suggest many a point of reflection and interest to the practical botanist. Few things indeed are of more consequence to those who are engaged either in the regular routine of the garden, or the still more abstracting occupation of arranging and determining dried specimens, or even of examining structures in the cabinet, than to have some general notions of vegetation and its attributes well impressed upon the mind. It is a frequent reproach that many an excellent botanist is a mere systematist—a red-tapist, as it were, of science—and the charge is often a very just one; and it is not good for any one to have his mind exposed to the danger of losing its power of expansion, not merely for the sake of self-respect, which in a moral point of view we consider of first-rate importance, but even for the sake of the very objects which engage his time and thoughts, not to mention the varied source of pleasure and improvement which is derived from a more general contemplation of objects in their various bearings on others with which they are in intimate connexion. We would therefore recommend the work before us cordially to our readers, with the hope that to many of them it may be at once interesting and profitable. Dr. Schleiden's name stands forth most justly amongst those of the deeper investigators of nature, and though many of his views and theories may not at present be sufficiently confirmed to justify their implicit adoption, there is still in everything which comes from his pen something which deserves, and, in point of fact, commands mature consideration. We shall conclude our notice by giving an extract from the closing chapter, which may give a notion at once of the sort of matter which the work contains, and a fair specimen of the dress under which the English text appears.

"Whoever travels but a few miles into the steppes soon hears the word *Burian*. Against the Burian inveighs the herdsman with his oxen and horses; over the Burian laments the husbandman; the Burian is the curse of the gardener and the hope of the cook. For in the soil of the steppe, which is peculiarly fertile for certain plants, which we call weeds, these shoot up to an incredible height wherever cultivation has loosened the solid soil, which they avoid, and their peculiar use is, that dried up in the autumn they furnish the only fuel of these regions. Above all, as in the Pampas of Buenos Ayres, the Thistles distinguish themselves, acquiring a size, a development, and ramification which is really marvellous. Often do they stand like little trees around the humble earth hovels of the country people; on favourable soil they very often form extensive bush, even overtopping the horseman, who is as hopeless in it as in a wood, since they interrupt the sight, and yet afford no trunk which might be climbed. Beside the Thistle rises the Wormwood, intermingled with the gigantic Mullein or High-taper, the 'Steppe-light' of lesser Russia. Even the little Milfoil grows several feet high, and is not a little prized, since the inhabitants, who, from their poor provision, carefully examine the heating power of the Burian, value it as the best material for fuel. But the most characteristic of all the plants of the Burian is that which the Russians call *Perekatipole*, the 'Leap-in-the-field,' and the German colonists almost more happily the 'Wind-witch.' A poor Thistle plant, it divides its strength in the formation of numerous dry, slender shoots, which spread out on all sides, and are entangled with one another. More bitter than Wormwood, the cattle will not touch it, even in times of the utmost famine. The domes which it forms upon the turf are often 3 feet high, and sometimes 10 or 15 in circumference, arched over with naked, delicate, thin branches. In the autumn the stem of the plant rots off, and the globe of branches dries up into a ball, light as a feather, which is then driven through the air by the autumnal winds over the steppe. Numbers of such balls often fly at once over the plain with such rapidity that no horseman can catch them, now hopping with short, quick springs along the ground, now whirling in great circles round each other, rolling onward in a spirit-like dance over the turf, now caught by an eddy, rising suddenly a hundred feet into the air. Often one wind-witch hooks on to another, 20 more join company, and the whole gigantic yet airy mass rolls away before the piping east wind."

* We have noticed a few instances of incorrect translation; one of the most unfortunate is that of a well-known passage from St Paul, which, in the course of transfusion through the text of Luther, has become a complete riddle. "Now we see through a glass darkly" (εν αινιγματι) appears in the translation as, "We look now upon a mirror, an obscure word."

Garden Memoranda.

Mr. H. Waterer's Exhibition of American Plants, King's-road, Chelsea.—We would advise all who have opportunity to visit this magnificent exhibition of hardy Rhododendrons, Azaleas, and Kalmias, to which, this year, has been added a new feature of attraction, viz., a small Pinetum. Under a large canvas roof, Mr. Waterer has formed a temporary garden in three compartments, with turf-margined gravel walks, winding amongst magnificent Rhododendrons in a manner so as to form them into groups, here and there intermixed with Azaleas and plants of the broad-leaved Kalmia, forming a whole, whose effect, when viewed from a raised stage at the end of the tent, is grand in the extreme. Besides the enormous mass of flower which is here assembled, varying in the Rhododendrons from purple to white, and comprising the orange and flame-coloured tints of the Azaleas, the delicate pink and white blossoms of the Kalmia, the most prominent feature is the beautiful standard Rhododendrons, some of which measure at least 14 feet in height, and are loaded with blossom. Although these are perhaps the most showy plants in the collection, there are many others which nearly approach them. We will not attempt to particularise, however; but will be content with mentioning, that, of the many varieties of Rhododendron assembled here, among whites, that which pleased us most was alba elegans, a variety remarkable for its large compact heads of well-formed flowers—delicate pink at first, afterwards changing to white; and, among purples, purpurea grandiflora. In entering the Pinetum, which is neatly turfed over, the most conspicuous objects are two plants of Thuja aurea, forming dense balls 3 feet in diameter. This is, we believe, a seedling of Mr. Waterer's; very compact, stated to put on in spring a fine yellow hue, and hence its name. In addition to these, were plants of Mr. Fortune's Cryptomeria japonica, some of which had made growths last season of 2 feet in length; Araucaria imbricata, Taxodium sempervirens, the broad-leaved Holly, and many varieties of Pinus, &c. These, as well as the other plants gathered together here, are part of Mr. Waterer's extensive collection at Knap-hill, which we may add is well worthy of a visit, especially at the present time, when the Rhododendrons, &c., are in flower.

Miscellaneous.

The Cochineal Insect.—A comparison of Algerine Cochineal with samples of the Zaccatilla of Mexico has led M. Chevreuil to consider the circumstances which may have conduced to their difference. He finds the Algerine possess less colouring power than the Mexican, but that the difference is less for scarlets than for crimsons. Upon the whole he concludes that if the Zaccatilla is worth 19fr. 50c. the kilo, that of Algiers is worth 15fr. 60c. for crimsons, and 17fr. 15c. for scarlets. As a mean value he estimates it at 16fr. 35c. The supposed cause of this difference is thus explained by M. Chevreuil. "It has been believed by several learned men that the Cochineal assimilates the red colouring principle produced by the Cactus cochenillifer, and which appears in both the flower and fruit. But it has been objected to this that the Cochineal is nourished by the leaf, which is not red: and besides that, the same insect thrives not only on Cactus opuntia, which has yellow flowers, and the pulp of its fruit red, but also on the Raquette [what is that?], the flowers of which are white, and the fruit white or green. If it is certain that the Cochineal does not obtain the red principle ready formed from the plant, as it seems to be, it may nevertheless happen that the Cochineal may find in the plant principles which would become carmine and yellow, by slight modifications which they might undergo in the body of the animal. And might not the difference shown to exist between the Cochineal of Algiers and the Zaccatilla Cochineal, be owing to a different proportion of the two principles, because the Zaccatilla, having been fed on the Cactus cochenillifer, could not find there as much matter furnishing the yellow principle as it would have obtained, according to my view, from the Cactus opuntia cultivated in Algiers? This is a mere hypothesis; but I offer it because it seems to me favourable to the analogy existing between the food of animals and their immediate principles. And indeed, if the analogy of which I speak did not exist, the same species of herbivorous insect might be nourished on plants which differ much more from one another than from those on which it really does live."

Overgrowth of the Fir Stump.—When a tree is cut down not very far from the ground, the stump occasionally throws out a fresh mass of wood and bark, which foresters call "overgrowth." Prof. Goeppert has observed the formation of this aqueous substance with accuracy. "Shortly after the stem has been cut down," he says, "there commences at the usual place, namely, between the wood and the bark, the deposit of a new layer of wood around the whole circumference of the root, and of the lower part of the stump. At first, the bark of the stump covers this new structure, and a long time often elapses before it is perceived; while from year to year a new ring of wood and bark is formed, each reaching a little higher than its predecessor. Finally, on the surface of the stump there appears at its circumference a cylindriform elevation, consisting of young wood and young bark, which has a constant tendency to spread to the centre, and which advances in this direction year by year, till this has been accomplished. If the surface of the stump be uniform, the overgrowth is also uniform. In the opposite circumstances, it traverses all the inequalities of the surface, like a viscid extravasated fluid, so that these are obliterated by a thicker or a thinner deposit. Generally the stump is hollow superiorly; but now the new bark, and with it the new wood, which is always somewhat shorter, and in the form of rods, bends inwards and stretches across; closing thereby the orifice of the cavity and obliterating gradually the funnel-shaped hollow in the centre, so that it forms at last a complete convex covering, almost like a cupola, over the whole surface, and which is constantly rising with the longer continuance of growth. This overgrowth has been observed only in some Firs, most frequently in Abies pectinata; more rarely in the common Spruce (Abies excelsa); very seldom in the common Pine (Pinus sylvestris); and only once in a variety (Pinus [illegible]), nearly related to the Krummholzfichte (Pinus [illegible]). This observation shows distinctly that wood and bark under proper circumstances can grow in all directions. On this subject an essay occurs in the 'Preussischen Provinzial Blätter,' new series, 1843, p. 1, by E. Meyer. Since the growth of a tree is dependent on the descending fluids of the bark, the author believes that in this case the growth depends on some other tree, the roots of which have inosculated with the roots of the stump. H. Mohl, in the 'Botanische Zeitung,' 1843, p. 13, agrees on the whole in this opinion, and only makes a few remarks. He had often observed the overgrowth in the Silver Fir (Abies pectinata), and this tree must have the as yet inexplicable power of reversing the flow of the cambium, and causing it to ascend, when otherwise it commonly descends. He adds, that it not unfrequently happens that Fir trees become forked; and when one stem was cut off 1 or 2 feet above the bifurcation, he remarked that the resulting stump, destitute of all leaf-bearing twigs, vegetated and deposited new layers of wood, in the case of the Silver Fir, but that this did not take place in the Spruce Fir. The Silver Fir also transmits the cambium upwards to the leafless stem much more readily than the Spruce Fir."—*Ray Reports.*

Dahlias.—Twelve of the most successful Dahlias let out previous to the spring of 1847; showing how many times each was exhibited during the season of 1847:—

Name of Flowers.	Grower's Name.	Colour of Flowers.	Number of times exhibited.
Beauty of Sussex	Mitchell ..	Crimson-tipped	21
Beeswing	Drummond	Ruby crimson	47
Captain Warner	Girling .	Dark crimson ..	26
Dr. Graham	Keacy .	Dark crimson ..	14
Essex Triumph	Turville .	Maroon	23
Gloria Mundi . .	Headley ..	Buff	16
Lady St. Maurs	Brown .	Lilac-tipped ...	36
Marquis of Aylesbury ...	Sparry .	Rosy purple .	20
Marchioness of Cornwallis	Whale ..	Blush	27
Mrs. Shelly . . .	Mitchell ...	Purple ..	26
Princess Radziwill .	Gaines	Crimson-tipped	21
Standard of Perfection	Keynes	Crimson ..	30

—*J. M., Kent, in The Florist.*

Indian White Ants.—On our way down towards Sukker, I observed what I consider an undescribed species of *Termes*, of an unusually large size, of which I made a note. The workers alone are nearly half an inch long. I never saw such monsters. The nest is peculiar. From the surface of the plain on which I observed these nests, which are conical in form, little hillocks of about 6 inches high were seen at various distances from each other, from 5 feet to 20 apart. These were composed of grains of earth worked up to about the size of millet seeds, and were quite loose, and might be taken up in handfuls. Inside each of these

heaps, a raised structure, branching off in three or four short arms, was to be found, with an internal passage from the surface of the earth to each branch: but how the creatures contrived to cover the whole without appearing outside is left to conjecture. The apex of each cone was about $\frac{3}{4}$ of an inch from the arborescent-looking structure inside. The latter was also composed of small pellets of earth, but half as fine as the superincumbent grains, and were moreover glued firmly to each other. I removed the earth from the outside of several nests, and blew away all the pellets, leaving only the stump sticking erect from the earth. At the top of the latter and at the end of each branch was an orifice.—the continuation of the internal canal. In about 10 minutes hosts of the inhabitant ants came up with earth freshly manipulated, and began pouring their pellets out of each orifice: the latter of course were carried by their jaws. I sat observing them for about an hour, when I marked the spot and returned to camp. In the afternoon, on my return to it, all the stumps were again covered over.—*Annals of Natural History.*

Calendar of Operations.

(For the ensuing Week.)

CONSERVATORY AND GREENHOUSE.

As a conservatory is naturally suggestive of plants, at no period should it lose the embellishment they afford. There are a good many things—such, for instance, as Rhodanthe Manglesii, Verbenas, Lobelias, and Fuchsias, which can easily be prepared for the purpose, and which would contribute in no inconsiderable degree to maintain the gaiety of the floral display. Shift those plants intended for autumn blooming, attend to the vegetation of creepers, employ manure-water to succulent greenhouse plants occasionally. Stove plants having arrived at a certain and required development, may be removed to a greenhouse, and thus prevented breaking into unnecessary growth.

FRUIT FORCING.

Peach-house.—Allow abundance of air in the forward house, and restrict the humidity as the fruit approaches towards maturity. It is a good plan to hang netting beneath the trellis to receive the fruit, in the event of its falling, although it should not be left to that degree of ripeness. Vine borders, if made and drained according to the approved system sanctioned by the experience of the present age, require as much attention in watering as a plant occupying a flower-pot; manure-water applied occasionally will be of service to the advancing crops. Allow the free ingress of warm air, and give the ripening Grapes the opportunity of deriving additional flavour from the direct influence of the sun. Remove both Strawberry plants and French Beans from Vineries; they often cause the introduction of red spider. *Melons.*—Permit no more shoots than may be considered sufficient for the support of the fruit; restrict the number of fruit to three, four, or five on each plant, according to the kind of Melon. Water freely.

FLOWER GARDEN AND SHRUBBERIES.

Repair losses amongst the decorative plants in the flower garden; the weather has severely tried many of them; on the nights of the 28th and 29th of last month, the young shoots of the common Fern were completely withered by frost, which followed a dry sultry day. Take the first opportunity after a shower of rolling and regulating walks, the hoe and rake must also be employed vigorously in loosening the surface soil, completely baked by the uninterrupted action of the sun for a month. If planting out has been delayed, proceed with it immediately; the ground being moistened by rain, it can be done advantageously. In employing such things as Clintonia pulchella, Anagallis, Lobelias, and Nierembergias, it may be remembered that to gain effect many individuals should be associated in a group. Phlox Drummondi, Zinnia elegans, the German Aster, or Stocks, should not be excluded from the collection of ornamental annuals.

FLORISTS' FLOWERS.

Pansies.—Seedlings are now a most interesting feature in the amateur's collection. Anxiously watching every opening flower, he experiences alternate hope, gratification, and disappointment. Promising flowers should never be removed from the seedling bed till some stock has been rooted from them. Many fine seedlings have been lost by risking their removal. Rooted plants may either be potted in small pots, or planted out in beds for an autumnal bloom. By proper attention, an almost unremitting period of flowering may be kept up with these beautiful dwarf plants. We need not caution the grower against reserving inferior varieties. By referring to previous volumes of the *Chronicle* the properties constituting perfection in the Pansy may be ascertained. *Carnations and Picotees.*—Seedlings should be now out of their first leaves, and when they have two pair of leaves, so as to be fairly handled, they may be pricked out in beds preparatory to their final transplantation, at proper distances, in September, for blooming next summer. In watering these plants in pots, when moisture is applied let the soil be thoroughly soaked through. We place some fresh moss round the margin of our pots, in very dry weather, with very beneficial effect. Tie up the spindling shoots; disbud according to the strength of the plant. Some are more robust in constitution than others, consequently they must be allowed to mature their blooms accordingly. *Tulips.*—Cover the capsules intended to be saved with a hand-glass or some other slight protection; wet is apt to lodge in the apex to its certain destruction. As the foliage of offsets becomes yellow, they should be taken up. Seedlings also should be carefully removed, they are apt to send down a small bulb several inches in the ground. Auriculas, Ranunculuses, Dahlias, &c., as last week.

KITCHEN GARDEN AND ORCHARD.

The prolonged drought was beginning to be severely felt, particularly in those localities which had not caught even a passing shower during one entire month. The few refreshing showers which have already fallen will be of eminent service to vegetation. Prick out Celery; Lettuce and Cauliflowers may be planted out; Mint may be propagated by separating the old plants and employing those shoots which have a little root attached. *Orchard.*—Attention cannot be too earnestly or frequently urged on those desirous of securing healthy well-proportioned espalier trees. A good deal of management is necessary to obtain an uniformity of vigour in a wall tree, and to preserve that equally for a series of years. Check (particularly in Peach trees) those "gourmond" shoots that exhibit a tendency to disturb the equilibrium of strength, and sedulously encourage weakly shoots, by suppressing others near them less desirable. Allow a tree to bear only in proportion to its vigour. Lay in Apricot wood. The engine employed daily will assist in effecting the destruction of insects. Protect Cherries with nets or fragments of tin. Birds are infinitely more troublesome in dry than in wet seasons.

COTTAGERS' GARDENS.

The destruction of weeds can be effected during dry weather with success. The frequent difficulty experienced by cottagers in obtaining sufficient manure for their land should awaken them to the necessity of economising every substance capable of being so applied: a hole should be dug in every garden to receive refuse vegetable and other matters. Succulent weeds from ditches, leaves, and such like fermentable substances, thus collected and turned over occasionally, will, when rotted, form a capital dressing for the land. Sow Peas, Kidney Beans, and Turnips. This should be the final sowing of Peas for the season. On no account neglect sticking both Peas and Scarlet-runner Beans. Thin Carrot, Parsnip, and Onion beds, if the crop is abundant.

State of the weather near London, for the week ending June 1, 1848, as observed at the Horticultural Garden, Chiswick.

May and June.		Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. ..	26	23	30.106	30.031	83	51	67.0	N.W.	.00
Satur..	27	24	30.136	30.101	67	34	50.5	E.	.00
Sun. ..	28	25	30.107	30.014	77	37	57.0	E.	.00
Mon. ..	29	26	30.009	29.963	81	53	67.0	S.W.	.00
Tues. ..	30	27	30.117	30.058	72	39	55.5	N.W.	.00
Wed. ..	31	28	30.049	29.873	69	41	55.0	S.W.	.14
Thurs.	1		29.854	29.659	60	49	54.5	W.	.08
Average ...			30.053	29.949	72.7	43.4	58.0		.22

May 26—Foggy; slight haze; hot and dry; clear.
— 27—Overcast; dry haze; clear and cold at night.
— 28—Very fine; slight haze; clear and cold.
— 29—Very fine; hot and dry; partially overcast.
— 30—Fine throughout; clear at night.
— 31—Fine; rain in afternoon; clear and fine.
June 1—Slightly overcast; cloudy and fine; rain at night.

Mean temperature of the week, 1 deg. above the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending June 10, 1848.

June.		Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun.	4	70.9	46.9	58.9	9	0.76 in.	1	2	1	2	3	5	4	3
Mon.	5	70.2	46.8	58.5	12	0.54	2	3	2	—	3	4	5	3
Tues.	6	68.7	47.1	57.9	11	0.28	4	3	1	2	3	4	2	3
Wed.	7	66.2	47.2	56.7	8	0.55	3	5	1	2	4	3	3	2
Thurs.	8	69.7	47.7	58.7	7	0.10	3	4	1	1	4	4	4	2
Fri.	9	71.1	48.6	59.8	9	0.66	2	3	1	1	3	7	3	2
Satur.	10	72.5	49.2	61.2	9	0.34	1	3	1	1	2	6	4	3

The highest temperature during the above period occurred on the 10th 1833—therm. 87 deg.; and the lowest on the 8th, 1848—therm. 35 deg.

Notices to Correspondents.

ANTS—*H D*—You can only kill them in their nests. Pour turpentine among them and cover the nests with earth, so that they cannot escape.

ASPARAGUS—*A Fisher*—It is our misfortune sometimes to differ from our contributors. Rely upon it you will never have such good Asparagus when a stem is allowed to run up as you will have when the whole is regularly cut. The "drawing up the sap" draws it away from the young shoots, which is exactly what you should avoid. The depth to which it is cut below the surface is unimportant; it is a mere matter of taste.

BOOKS—*An old Subscriber*—The following are among the books most valuable to gardeners:—*Principles of Gardening:* Knight's Physiological Papers, Johnson's Principles of Gardening, Lindley's Theory of Horticulture. *Practice of Gardening:* Loudon's Encyclopædia of Gardening, Hamilton on the Pine-apple, Roberts on the Vine, Johnson's Arrangement of the Kitchen Garden. Moore on the Cucumber, The Manse Garden. *Landscape Gardening:* Downing's Cottage Residences, Repton's Landscape Gardening. *Agriculture:* Low's Practical Agriculture, Loudon's Encyclopædia of Agriculture, Johnson on Manures. *Chemistry:* Sparke's Introduction to Chemistry, Solly's Rural Chemistry, 2d edit., Liebig's Agricultural Chemistry. *Drawing and Measuring Land, &c.:* Dix's Land Surveying, Loudon's Self-instruction for Young Gardeners, Jopling's Isometrical Perspective, Sopwith's Treatise on Isometrical Drawing, Euclid's Elements; any school edition of the first two books. *Botany:* Lindley's School Botany, Elements of Botany (5th edit.), and Vegetable Kingdom. *Catalogues:* Paxton's Pocket Dictionary, Donn's Hortus Cantabrigiensis, last edition.

CINERARIAS—*A Subscriber*—Procure the following varieties:—Kendall's Newington Beauty, Cramoisie supereiure, Ivery's Prime Minister, Jackson's Countess of Zetland, Henderson's Favourite, Beauty of St. John's Wood, Isabella, Attraction, Madamoiselle Cerito, Speciosa, Climax, and Allen's White Perfection.*

CUCUMBERS—*D J*—A curious monster, previously unknown to us. It is a true hermaphrodite flower, and probably explains the history of the Cucumbers said to be occasionally produced without being set.

EMIGRATION—*J M S*—We say to you, as to all others, if you wish to emigrate, and can carry out with you a good stock of health, industry, and prudence, go to New Zealand. It is of no use to go anywhere without the articles we have enumerated.

INSECTS—*S W*—The insects which are destroying the Pea and Bean crops are the Pea Weevil (Sitona lineata. See *Gard. Chron.*, 1844, p. 388). If the Peas were to be swept with a gauze bag net, numbers of the insects would be caught, or if a piece of cloth covered with tar were run along the rows, a considerable quantity would be secured by it. *W.*——*P R G N*—The black insect sent is the common Oil Beetle (Meloe proscarabæus). *W.*——*T T*—The small caterpillars with little black spots, found in webs on Hawthorn hedges, &c., this season in such extraordinary numbers as to defoliate them, are those of the small Ermine Moth (Yponomeuta padella). *W.*——*F*—The pretty beetle, bred from the larva which had bored galleries into Beech timber, is the Wasp Beetle (Clytus arietis). *W.*——*Durham*—We received your letter, but no bark.‡——*E E T*—See answer given above to "S. W.," concerning the Pea and Bean Weevil. *W.*——*C S*—The Euonymus, as well as the Hawthorn and various other trees, are this year attacked to a very great extent by the social caterpillars of the small Ermine Moth (Yponomeuta Euonymella). We should recommend the trees to be well shaken, a cloth having been first spread beneath them. The caterpillars fall to the ground on being disturbed, and may be easily destroyed when they drop on the cloth. We would certainly not recommend the trees to be cut down. *W.*——*A Sub*—We cannot find any insects on the portions of leaves sent. Most likely it is a species of thrips to which you allude. *W.*——*Constant Reader*—The leathery like larvæ sent are Worbles or Wurmalls, the full-grown larvæ of the Œsprus of the ox, which form the tumours on the backs of cattle. We should be obliged to you for some specimens sent packed in sawdust or damp moss. *W.*

NAMES OF PLANTS—*S Kifford*—1, Fabiana imbricata; 2, smashed, not British. Looks like some Indian Cynoglossum.——*F*—Globularia alypum.——*A Constant S*—A mere variety of the common Horse Chestnut, of which there are many.——*D*—Probably Fuchsia conica.——*T S P*—Diphylleia cymosa.——*J C L*—Stanhopea tigrina, and a beauty it is. Epidendrum auritum.

PELARGONIUMS—*G T*—Try the following varieties: The Pearl, Garth's Constellation, Lyne's Forget-me-not, Beck's Hebe's Lip, Favorita, Rosy Circle, Isabella, Mustee, Desdemona, Duke of Cornwall, Queen Phillippa, Hoyle's Isabella, Duchess of Leinster, Robustum, Sirius, Beck's Patrician, Garth's Magog, Pluto, Hector, and Merry Monarch.*

POLMAISE—*An Old Sub*—Domed tops are better than flat tops. More heat may be obtained from a good stove of this kind than from any other apparatus.

ROSES—*M W*—We beg pardon. Double Roses can rarely be named; in fact it requires more time to make them out than we can afford to bestow on them.

SULPHUR—*E F L*—We know of no alkaline matter that will dissolve sulphur. Will you send us an extract from the old book you mention.

MISC—*W C*—The best substitute for peat earth, to grow Rhododendrons in, is leaf mould.——*X Y Z*—Vanack Cabbage seeds may be purchased of any respectable seedsman. We cannot recommend one tradesman rather than another.‡——*Este* can have the two Numbers on sending his address to the office.——*Lancaster*—We will send the Number if you will forward your address.——*S A B*—All greenhouse bulbs, which should be treated after the manner described at p. 638 of our volume for 1844.‡——*K L*—No shrubs will grow well under large trees; but you may try Hollies, common Laurels, Laurustinus, Aucuba japonica, and Privet.‡——*M F*—If your young Hollies do not appear soon they will not come up till next spring. Glass or earthen tiles will perhaps form the best roofing for your purpose.‡

SEEDLING FLOWERS.

CALCEOLARIAS—*W H H*—Your packet contained some very fine flowers, peculiar in colour and marking, and in form full, round, and large. Nos. 14 and 19 are the least attractive, they are less perfect in form than the others, and more common in colour and marking. Prospero, deep bright purple lilac, large and novel in colour; Ariel, showy, but not uncommon in colour and marking; Macbeth, markings of a deep cherry colour upon a buff ground; Ophelia, bright buff ground, with chocolate spots, light in the centre; Hamlet, curiously spotted, with deep chocolate upon a white ground, a very attractive variety; Lady Macbeth, small chocolate spots upon a buff ground.*——*P W B*—Your seedlings are tolerably good in form, but they are small, and there is nothing peculiar in the marking to distinguish them from many that are raised.*——*W H M*—The brightness of the ground colours and the richness of the spotting are the distinguishing characteristics of your seedlings. No. 6, bright yellow ground, the front of the flower covered with rich velvety brown, with the exception of small dots of the ground colour; 7, similar in description to 6, but the yellow ground, and deep brown spots, different in quality; 8, yellow of the purest, and brown of the richest quality; 9, white, with chocolate spots; 10, bright yellow, with dark brown markings, in which light spots are visible; 11, primrose, with small brown spots; 12, yellow, with bright brown spots; 13, soft yellow, with clearly defined brown spots. The principal defect in these seedlings is in the outline at the bottom of the flower, which, instead of being even, is looped, in some very much, in others less. 9 is too flat in colour. They are equal to any yellow ground flowers we have seen.*

CINERARIAS—*T B*—The seedling sent is a very pretty little flower. There are, however, several in cultivation so very similar to it, that this specimen could not be regarded as a novelty.*

FANCY PELARGONIUMS—*J A*—Both the fancy seedlings want novelty; they are too like sorts already out.*

GLOXINIA—*R W*—There does not appear to be any novelty in your seedling; it is also very small.*

PANSIES—*P M's I*—The great failure in your flower is in the eye; this part is very poor, and would render the flower worthless as a show variety. We cannot judge of the substance of the flower, it being dry when it arrived. The lip is rather small for the size of the flower, and too much indented.*

PELARGONIUMS—*W*—Your best flower is No. 1, dark purple; good flowers of this colour are scarce, and much wanted. Your seedling appears to be a flower of good form: petals stout; lower petals deep purple; rose, deep blotch in the upper petals, with a margin of rosy crimson. No. 2, common in colour; 3, very pretty in colour, but too small.*——*E C W*—Your seedling is very large, and therefore may please many, but it is not calculated for a show variety: delicate lilac under petals, a narrow margin of the same surrounds the top petals, which are covered with a deep plum-coloured spot; the petals are long; but it retains a cupped form which prevents the flower appearing too long. Flowers of this colour are discarded from all good collections.*——*J A*—2, 3, 5, and 6 are of no use; 1 and 4 are the best, but these are not first-rate varieties; but 4 is bright and showy, and 1 is peculiar in colour. 8 appears a flower of good form, from the shape of the petals, but very common in colour.*

RHODODENDRONS—*J D*—It is impossible to say anything about your flowers; from not being packed up in some damp material, they were quite shrivelled up and discoloured when they arrived.*

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those numerous correspondents, the insertion of whose interesting contributions is still delayed.

AGRICULTURAL CHEMISTRY.

A MEETING OF THE MEMBERS AND FRIENDS OF THE ENGLISH AGRICULTURAL CHEMISTRY ASSOCIATION Will be held at the THATCHED HOUSE TAVERN, ST JAMES'S STREET, ON WEDNESDAY, JUNE 7. The Chair will be taken at Twelve o'clock.

The Agricultural Gazette.

SATURDAY, JUNE 3, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

TUESDAY, June 6—Agricultural Society of England.
THURSDAY, — 8—Agricultural Inq. Society of Ireland.
TUESDAY, — 13—Agricultural Society of England.
THURSDAY, — 15—Agricultural Inq. Society of Ireland.
FARMERS' CLUBS.—June 5: London, Clayden. June 10: East Kent—June 12: Oxford, Moreton Hampstead, Great Oakley—June 14: Harleston. June 16: Hulcsworth, Hailsham, Wakefield—June 17: Reading.

MR. FLEMING has lately published an excellent pamphlet* on AGRICULTURAL STATISTICS—a subject the status of which, now that Government has abandoned it, we must more than ever endeavour to maintain amongst the many others which compete for the attention of agricultural readers.

The word *statistics*, as applied to agriculture, may, of course, signify the whole details and results of the art; and Mr. FLEMING, adopting its widest meaning, not only informs us regarding the produce of this and other countries, pointing out the evils of an imperfect acquaintance with such subjects, but he shows how entirely independent we might be for food, did we but rightly appreciate and actively make use of our agricultural resources. He thus refers to the extent of our waste lands capable of cultivation—the amount of cultivable land now absorbed in hedgerows—the large quantity of seed corn which might be saved by the practice of sowing more thinly—and the capability of vast improvement which our farm husbandry in general exhibits. He could hardly have adopted a better arrangement of his subjects, or discussed four equally deserving the attention of farmers. But is he right in demanding for us the instructions of Government on *these* points? We think not. It is not for the interests of any one class so much as for those of all—not so much for the interests of producers as for those of consumers of food, that Government must act. And thus it is not the *art* so much as the *business* of farming that must be the immediate object of any Government measure on agricultural statistics. And information which *might* be obtained—on which a regular trade in food, as compared with the present ignorant speculation, would soon be founded—would certainly be of greater value to the country than the present Government seems to imagine. The cost of obtaining it has been far too highly estimated; but the highest estimate ought not to have been the insurmountable obstacle which it has proved.

Information on the other subjects which Mr. FLEMING considers, should be gathered up and published by farmers themselves for their own advantage. There could be no better occupation for farmers' clubs than the collection and publication of such information: the practice of thin sowing—the enclosure and cultivation of waste land—the per centage of land covered by hedgerows—and, above all, the energy and intelligence brought to bear on agriculture generally—all these are points capable of most useful illustration by each within the limits of its own district; and they are extensive and interesting enough to furnish abundant scope and inducement for lengthened investigation. Let us see what results Mr. FLEMING has arrived at with reference to one of them.

As to waste land, he says:—"According to the best authorities, no less than 14,700,000 acres, which statists have thus apportioned:—

In England	... ...	... 3,454,000 acres.
In Wales	... ...	... 550,000
In Scotland	... ...	... 5,950,000
In Ireland†	... ...	... 4,600,000
In the British Islands		... 166,000
Total	... ...	... 14,700,000 acres.

"Assuming that one-fourth of this quantity might, when reclaimed, be brought into annual Wheat culture, and we have 3,675,000 acres so disposable, which, even in the present inefficient system of husbandry, would produce, at 30 bushels per acre, 13,781,250 quarters of bread corn, a supply equal to the necessities of two-thirds of the entire population of Great Britain!"

Instances are there given of the profits of individual enterprise on this subject; and Chat Moss is particularly specified as having well repaid the improvements made upon it. On this head we must confess ourselves sceptical: and we should be glad if any correspondent in that neighbourhood would correct us if we err in the opinion that few of those who commenced the cultivation of Chat Moss have found the speculation profitable. Mr. REID is named, and a crop of Potatoes worth 30*l.* per acre is referred to; but this is only one instance, and the crop was only four acres in extent; and every one knows how small an influence individual cases have on general averages. The great advantage of such agricultural statistics as we recommend to the attention of farmers' clubs would be that these averages would then be obtainable. At present the only representatives of *the truth* in agriculture are the few instances which successful cultivators think deserving of publication: the whole mass of mistakes and misfortunes—as much matter of history as the others—is left unnoticed. The average of published statements are thus always far brighter than the average of experience, and until farmers' clubs take the matter into their own hands, the former will continue to mislead all who have none of the latter to guide them.

We believe that all of Mr. FLEMING's three first points are thus too highly coloured. No doubt our waste lands—the saving of seed corn which would be possible—and the land occupied by hedgerows—are valuable national resources: and the last especially may be immediately and confidently drawn upon with great advantage; respecting the first of the three, however, we are not so sanguine as Mr. FLEMING appears to be; that is to say, in cases such as Chat Moss and other specified instances where a large outlay of capital is needed.

It is to Mr. FLEMING's fourth head, the capability of great improvement which agriculture *generally* presents that we must look for the food of an increasing population. The drainage of our fields—the economical management of farm and town manures—and the cultivation of our inferior pastures, furnish the largest and most important scope for the profitable investment of capital in agriculture.

COST AND PRODUCE OF CULTIVATING CHAT MOSS.

[AN ESTIMATE.]

SUPPOSE the frontage to the main road to be 580 yards, and the farm 50 statute acres.

Sanding main road 5 yards wide and 2½ cube yards (on every lineal yard) at 6¾*d.* per yard	£0	1	5	
Removing soil from sand bed, p. lineal yard	0	0	3	
Damages to field where sand is taken ..	0	0	1½	
Draining along the road-side	0	0	1	
Incidental expenses	0	0	1½	
580 yards by	0	2	0	£58 0 0
One half to each side of road would be for my share				29 0 0
380 yards of moveable railroad, at 3*s.*				57 0 0
280 yards of fixed railroad, at 4*s.*				56 0 0
Draining 50 acres, at 35*s.*				87 10 0
Buildings, suppose				200 0 0
10 per cent. on the above as incidentals				43 10 0
				£473 0 0

10 per cent. on this sum to be charged as rent.

First Crop. Expenses.

Ploughing first time				0 13 0
Cross cutting with a two-horse cutter				0 2 6
Second ploughing				0 7 0
Harrowing and cross cutting				0 12 6
66 cube yards of marl and spreading at 1½*d.*				3 0 6
45 tons of night-soil at 4*s.* 6*d.*				10 2 6
Ploughing for seed and harrowing				0 7 6
2 bushels of Wheat for seed at 8*s.*				0 16 0
				£16 1 6
Cutting Wheat per acre at	£0	10	0	
Leading and stacking 3*s.* 9*d.*, thatching 1*s.* 3*d.*	0	5	0	
Threshing and dressing, &c.	0	9	6	
Carrying to market (Wheat)	0	6	6	
Ditto (straw)	0	14	0	
				2 5 0
Rent agreed for per acre	0	11	6	
10 per cent. on 47*3l.*	0	19	0	
				1 10 6
				£19 17 0

Probable Produce.

28 bushels of Wheat at 6*s.* 3*d.*	£8	15	0	
240 stone of straw at 3¾*d.*	3	10	0	
				12 5 0
Loss per acre on first crop				£7 12 0

Second Crop, Oats.

40 bushels of Oats, at 2*s.* 1*d.*				4 3 4
260 stones of straw, at 3¾*d.*				3 15 10
				£7 19 2

Expenses.

Ploughing and harrowing for seed	£0	7	6	
Seed, 4½ bushels, at 2*s.* 6*d.*	0	11	3	
Cutting, leading, stacking, threshing, and carrying to market	1	18	0	
Rent as before	1	10	6	
				4 7 3
Gain per acre on second crop				£3 11 11

Third Crop, Potatoes.—Expenses.

Two ploughings and harrowings	£0	15	0	
5 loads of seed Potatoes and planting ..	2	0	0	
45 tons of manure, at 4*s.* 6*d.*	10	2	6	
Covering, 3*s.*, and cleaning, ridging up, &c. 7*s.* 6*d.*	0	10	6	
Taking up and marketing ditto	2	10	0	
Rent as before	1	10	6	
				17 8 6
Produce (70 loads of 252 lbs.) per acre, at 4*s.* 6*d.* ..				15 15 0
*Loss on Potato crop				£1 13 6

Fourth Crop, Wheat.

30 bushels at 6*s.* 3*d.*				£9 7 6
240 stones of straw at 3¾*d.*				3 15 0
				£13 17 6

Expenses.

Ploughing and harrowing for seed	£0	7	6	
Seed, 2 bushels at 8*s.*	0	16	0	
Cutting, &c., and marketing	2	0	0	
Rent as before	1	10	6	
				4 13 6
Gain per acre on fourth crop				£9 4 0

Abstract.

Gain on second crop				£3 11 11
Gain on fourth crop				9 4 0
				£12 15 11
Loss on first crop	£7	12	0	
Loss on third crop	1	13	6	
				9 5 6
Average gain per acre on the first four years' crops				£3 5 5

OR suppose the third crop to be Clover instead of Potato, and the fourth crop to be Oats instead of Wheat, the abstract would stand thus:—

Gain on second crop				£3 11 11
Ditto on third crop				7 9 6
Ditto on fourth crop				1 11 11
				12 13 10
Loss on first crop				7 12 9
Gain per acre in four years by this mode of cropping, which would leave the land nearly exhausted ..				£4 11 1

—*J. H.*

ORNAMENTAL POULTRY.

Concluded from page 348.

CONSIDERABLE difference of opinion has been entertained respecting the diet of the swan; some supposing it to be exclusively vegetable, others believing that fish enter largely into it. My own observations tend to prove that a very considerable part of their nutriment is obtained from minute insects and molluscs. The sluggish, weedy waters, where swans thrive best, abound with such creatures; and the whale is a sufficient example that the size of the prey is no index to the magnitude of the creatures that subsist on it. Swans fall off in condition very rapidly in autumn, however liberally they are supplied with corn, immediately that the temperature drops to any extent, and the minor inhabitants of the pools disappear into their winter retreats. A very small fish now and then might not come amiss to them, and spawn would be greedily devoured. A swan must be considerably more destructive in this respect than the poor little water ouzel, which is so bitterly persecuted along the salmon-streams of Scotland, for the alleged injury it does to the eggs of the fish. The seeds of Grasses, and the soft, starchy parts of aquatic plants, are no doubt a considerable portion of the daily ration of the swan. It seems to prefer sloppy, half-decayed vegetation, to that which is fresh and crisp. Spare garden-stuff, Spinach, and such like, thrown out for them is liked the better for having undergone at least 24 hours, that is, in such time as it has become sodden and attacked by small fresh-water shell fish. If their mode of feeding is watched, it will be found to countenance the popular belief that many birds live "by suction;" they appear to suck down the pappy food, which pleases them best rather than fairly to crop and swallow it. The swan, consuming the submerged refuse of plants, is thus the scavenger of the waters, as the hyæna and the vulture are of the land. In such countries as Holland, and still more about the deltas of large rivers in the south of Europe and western Asia, their influence must be very beneficial. Indeed we are compelled to believe that they have been bountifully created to fulfil this office of cleansing the half-stagnant watercourses. Unlike the old dragons that could exhale a pestilence and infect a whole district with their breath, these winged tenants of the marsh swallow many a plague and fever up. Not a little miasma has travelled harmlessly down the throats of swans. They can fatten on poisons, although ignorant of King Mithridates, his antidote.

A curious instance of the animal diet of the swan once occurred to myself. The common brown shrimp, it is well known, inhabits and thrives in waters less strongly impregnated with salt than the open sea, which is not the case with several other species; and I was desirous of trying whether it were possible to stock with them a piece of water absolutely fresh. A quantity were procured and brought home in a fish-kettle of tidal river water; but the heat of the weather at the time was much against the success of the experiment. On arriving at their journey's end the greater majority were dead. They were all, however, turned out together: a few swam off apparently unaffected by the unwonted element, and were never seen or heard of afterwards; the rest sank to the bottom; when one of my swans, expecting her feed of corn, sailed up and began feasting on the dead shrimps, crushing them in her bill before she swallowed them, and appearing much to relish her meal.

The difficulty there sometimes is in getting swans to eat corn, or to graze like geese, shows that either diet is with them an acquired taste.

At the proper age and season they will show a disposition to breed, if well fed, although restricted within comparatively narrow limits. As soon as they have decidedly fixed upon the spot for their nest, it will be an assistance to take them two or three barrowfuls of coarse litter. Sedges and rushes are the best, with perhaps a few sticks, which they can arrange at their own pleasure. The number of eggs laid will vary from five or six to ten, but the number of cygnets hatched seems, like the fall of lambs, to depend much upon the

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* The Policy of a National System of Agricultural Statistics, &c. By HARRIS FLEMING, Esq., &c. J. RIDGWAY, Piccadilly.

† The Irish Commission Inquiry of last year computed the quantity of improvable waste land in the sister kingdom at 3,755,000 acres; Mr. SHARMAN CRAWFORD states it at 4,000,000 acres; while Sir R. KANE estimates it at 4,600,000 acres.

* But suppose the third crop to be Clover, which, I think, would leave for a profit 5*l.*, and the fourth crop to be Oats, which would leave a gain of 8*l.* 11*s.* 11*d.*

season and the weather of the few preceding months. One year the three pairs of swans nearest to me had each a brood of nine—27 cygnets in only three families. But this is above the average. I have, however, seen seven reared on a very small moat. It is better not to gratify any unnecessary curiosity respecting the eggs; indeed the parent birds will hardly allow it. The cock makes great show, and often more than show, of fight against interlopers. A blow from his pinion on land is better avoided; and in the water he would bother the strongest swimmer to escape from his fury. I was once attacked by a swan when walking too intrusively near his lady's lying-in bed; he was keeping guard by sailing in short tacks backwards and forwards before her, but he left the water to give me a forcible hint to go about my own business. The only thing was to meet the threatened danger; so seizing his neck in one hand and his outstretched wing in the other, I tossed him as far into the middle of the stream as I could. He seemed a little astonished for a few moments, but lashing the waters into foam he would have renewed the attack had I not speedily withdrawn from his dominions. Coming to close quarters with them is the surest mode of defence. The blow of a swan's wing, to take effect, must hit a certain distance. It is clear they are mischievously minded at such times; but I think that the real danger to be apprehended has, from policy, been exaggerated, that it may act as a sort of guardian dragon to the tempting fruit of the Hesperides. There are possibly persons living who would not be unwilling to have it believed that hares and pheasants are most formidable creatures to encounter, especially on moonlight nights.

The cygnets when first hatched are of a slaty grey, inclining to mouse colour. The time of incubation is six weeks, or thereabouts. A common notion in Norfolk is that the cygnets cannot be hatched till a thunderstorm comes to break the shells, and that the hen will go on sitting till the birth of her young ones is complimented with that portentous salute. A swan might boast with Owen Glendower—

> "At my nativity
> The front of heaven was full of fiery shapes,
> Of burning cressets; know, that at my birth
> The frame and the foundation of the earth
> Shook like a coward."

Let us not reply in the contemptuous language of Hotspur, nor altogether reject the popular idea; the close sultry weather which sometimes for two or three days precedes a tempest, would hasten the development of chicks that were nearly arrived at the hatching point. What effect electrical oscillations have on animal life we as yet know not, but our own feelings tell us they have some. The happy parents will charge themselves with the entire maintenance of their tender young, if they have but the range of a large extent of river banks and shallow water; will lead them up the quiet ditches, point out the juicy blade, the floating seed, the struggling insect, the sinuous worm; will then steer to shoals left by some circling eddy, and stirring up the soft sediment with their broad feet show that minute but nutritious particles may thence be extracted. As hunger is satisfied and weariness comes on, the mother will sink in the stream till her back becomes an easy landing place, and and the nurslings are thus transferred in a secure and downy cradle to fresh feeding places.

But in a restricted beat they must not be left altogether to themselves. A gently sloping bank will enable them to repair at pleasure to the grassy margin. The old ones must have plenty of corn, which they will by and bye teach their young to eat; tender vegetables from the kitchen garden, such as Endive, Lettuce, or Cress, will help to sustain them, besides attracting those soft-bodied water creatures that are of all food the most needful. Pollard frequently scattered on the surface of the pond will be of material assistance, and whatever it is found that they will eat let them have in the greatest abundance. Their growth is rapid; their weight should be considerable with but little time to acquire it in. The period cannot be extended much longer than from June to the end of November. By Christmas they must all either be eaten, or have emigrated, when the parents will begin to direct their thoughts forward to a succeeding family.

A fat cygnet is a capital dish, and deserves a higher repute than it generally obtains. Its stately appearance on the table is alone worth something. Those who have only a good sized pond, say from a quarter to half an acre of water, may rear and fat an annual brood. In so small a space, the old birds must of course share with their young the extra supply of fatting corn; but they will get through the winter the better for it, and be more prolific in the spring. Neither they nor their cygnets should at any time be allowed to get poor.

When cygnets are removed from their parents to be fatted in a regular swan-pond, it is usual to separate them at the end of August or the beginning of September. At first Grass is thrown into the water to them twice a day with their other food; but this is not continued for more than a fortnight. A coomb of Barley is the established allowance to fat each swan. The corn is put into shallow tubs set just under water. The birds are considered worth from 10*s.* to 12*s.* each when they are "hopped" or "upped" from their native streams, but when brought into prime condition 2*l.*, formerly 2*l.* 2*s.* They may occasionally be had for less, in which case they make a cheap as well as a handsome dish to set before a large dinner party. Their weight in the feathers varies from 25 lbs. to 28 lbs., and sometimes, though rarely, 30 lbs. They are never better than in the month of October, when the gastronomical inquirer, who is as yet unacquainted with their merits, is recommended to give them a fair and impartial trial. They may be had till Christmas, after which they are good for nothing. A bird weighing 28 lbs. before Christmas, has been known to shrink to 17 or 18 lbs. by the end of January, in spite of high feeding. Therefore, make hay while the sun shines, Mr. Epicure As, in the spring, the Snowdrop gives way to the Primrose and the Violet, so, in autumn, the swan yields its place on the board to the turkey and the guinea-fowl. If to-day is lost, to-morrow the opportunity will have flown, in higher concerns than mere eating and drinking. Now—or, perhaps, never.

The swan-feasts that seem to have left the most pleasing impressions on the palates of the partakers have been solemnised in the course of the month of September. As to the mode of dressing, those artists who are skilled in the treatment of venison will easily cook swan, viz., with a meal crust over it to keep the gravy in. Instead of stuffing it with sage and onions, like a goose (vulgar condiments to vulgar birds), use rump-steak chopped fine and seasoned with cayenne and salt. When browned, and served to an admiring circle, let it have rich gravy and currant jelly, the latter hot as well as cold, in respectful attendance. —And is that all? No; the best remains behind. The hash next day is worth riding 20 miles to eat. Nay, more; the giblets make soup before which ox-tail sinks into insignificance. The mere writing about it has made me hungry. Mr. Yarrell gives some information on the subject, which I will not wrong him by pirating. See "British Birds," vol. iii. p. 127. He has also collected a curious list of swan-marks. I will mention two instances of swans doing well in a very small scope, as an encouragement to those who are inclined to establish a couple of these fine birds where there may be but little apparent accommodation for them.

The first occurred some years ago at Bircham Tofts in Norfolk. A single swan, driven out or wandering from Houghton, it was supposed, but never known exactly, took possession of a pond, and not being claimed remained there several years. It was not fed, but we may believe that in hard winters some charitable farmer threw it a little drop corn; and so it continued happy and well. But in the same parish there was, at a short distance, another and a smaller pond, to which the swan would occasionally walk when provisions fell short in his original residence. In one of these removals he was stoned by the village boys, and so much injured that he died. Being desirous to know whether there was any peculiarity in the aquatic vegetation of the pond, which rendered it capable of supporting such a large bird so constantly, I requested to have a sample of weeds taken from it at random, and was most obligingly supplied by the occupier. But there was nothing which may not be found in every other pond in the county—Brook-lime, Persicaria, Myosotis, and the commonest weeds. How far worms, larvæ, and small molluscs may abound, I am unable to say.

The second case, which must be well remembered by all travellers from Norwich to London by the Bury road, is at Long Stratton, in Norfolk, where swans have for some years been kept in the smallest piece of water I ever saw occupied by them, and yet they have always appeared healthy and contented. The water is exposed to the high road without any fence whatever, and the swans became so tame as to eat from the hand of casual passers by. But owing to ill nature, or mere mischievousness, perhaps, there has been a sad succession of individual tenants of the lake. About 30 years back a pair of swans were put into this very small pond or canal, which lies before the mansion of the Rev. Ellis Burroughes. This pair remained there about 15 years, but never bred, probably on account of their limited scope and confined and exposed situation. However, they kept the water quite free from any weeds, and also fed upon the Grass that grew by the water's edge. They were besides constantly supplied with a quarter of a peck of Oats every morning during the summer months, and in winter their supply of dry food was increased in proportion to their wants. They also got many odd bits of bread from the neighbours, which they would eat if thrown into the water; they were very fond of the leaves of Crowfoot, and were familiar enough to take them from the hand. After this it is grievous to be informed that one of them was stoned to death (as was believed), and that at the end of a few months the survivor met with a similar fate. It is melancholy to reflect that there should be in the world envious and malignant people who mutter to themselves in this sort of spirit: "Ah! you're a very great person, keeping swans and so on! You think they look very grand sailing before your house! You're getting up very fast! Other people can't keep swans, but other people are just as good as you. You think nobody can let you down a peg, do you? We'll see!" And next day the ornament of the neighbourhood is found mutilated or murdered.

It is needless to go through the list of fresh arrivals that were successively maltreated and destroyed, but we will hurry on to the last, a beautiful and majestic bird, of which, after a residence of 4 or 5 years, my informant writes, "for shame be it spoken, some villain broke his neck, and now (March 1848) there are none."

This last instance enables us to make a rough estimate of the cost of maintaining a pair of swans. Those at Stratton had a quarter of a peck of Oats a day in summer. But in less incommodious places, and where garden rubbish was supplied, two pecks a week would be a fair allowance for all the year round. This amounts to 6½ coombs per annum. Take the Oats at 15*s.* per coomb, as, if they are to be bought, the best are the cheapest, and the annual expense is 4*l.* 17*s.* 6*d.*—a sum soon spent in cleaning an artificial lake by human labour. On the other hand, half a dozen cygnets ought to be reared, and cannot be set down as worth less than 10*s.* each. Any farmer who has plenty of tail corn, will have no occasion to buy anything for them, as he can send a little of that to be ground for the cygnets, and it will be better than heavier meal, that would not float so surely. But if the swan-keeper be hospitably disposed, and choose to eat the cygnets with his friend, instead of selling them to the dealers, the brood cannot very justly be brought over to the credit side of his cash account at least.—*D.*

NOTES ON CATTLE AND MANURE.

THE following notes, collected from various sources, on cattle and manure, may not be without interest to some of your readers. The locality, nature of the soil, the buildings and the modes of conveyance, and other peculiarities, must determine which is the most suitable way of supplying a farm with manure, as well as to whether keeping cattle will be profitable; but it is of consequence not to be led away with an imagined benefit not founded on fact. The first thing to be settled is the quantity of farm-yard dung required; then to ascertain the price at which it can be bought and laid on the ground; next the way to raise it by cattle, which is likely to make the best return on the animals and in manure.

To make these calculations, it is necessary to know the average cost of keep, and the profit to be made on the cattle, as well as the quantity of manure to be obtained from a given number of animals. There are many different ways of treating cattle. Breeding and rearing them seems most suitable for large spaces of ground at a distance from markets, where advantage can be taken of the animal's power of travelling to drive them for sale to a richer locality more adapted to fattening. Advantage may be taken of richer land to fatten, though distant, by means of steam conveyance, as Aberdeen supplying London weekly with beef. The pasture may be well suited for milk cows; distance may render cheese and butter most profitable, while the vicinity of population may, in another locality, make the sale of cream and milk better farming. On some lands the great produce of straw requires a number of cattle to tread it down, and otherwise convert it into manure, suggests straw-yards and fattening; while on poor land the straw is so scarce that it requires to be carefully saved by every means, and here tied up cattle appear more proper, aided by composts and feeding off with sheep. The more common circumstances are, that there is an average supply of straw and roots. The question then comes to be what is the best system of treatment for supplying most manure and profit on the animals when sold.

It is to be doubted if instead of speaking of the profit on animals fattened, it would not be better to regard the different systems as to which is the most economical manufacture of manure. If animals are kept in the house more can be kept on the same quantity of ground than if they were turned out to pasture, and much more dung can be collected even from the same number. Therefore the question is decided in favour of in-doors keep; no doubt it is a more artificial state, and requires more attention, but this will be more than repaid. The different plans of house feeding are, tying up with a strict regard to cleanliness by combing the animals, fresh bedding, and frequent removal of all dung and wet straw. This is particularly applicable to dairy farms. Another way is to put the animals into open yards with open sheds and abundant supplies of straw and Turnips. This in the best farming counties of Scotland is modified by selecting equal pairs and placing them together in small yards and a closer shed. There are generally different yards with cattle in varying states. In the first open yard there are winterers, which get straw with a very few Turnips; these are to be turned out to pasture in spring. The young beasts are similarly treated, with some exceptions, where they are fattened from the first, and sold young for comparatively large sums. The next yard contains those fattening, which get an ample supply of straw, Turnips, and some oilcake. Some for earlier sale or for extra fat are more confined. In all these the dung is trodden down and allowed to accumulate till a hard frost or very dry weather, when it is carted out to be put in large heaps on the field where it is to be used. There is a supply of fresh water running through a cistern in each yard; a great value is put on this by farmers, as tending materially to the improvement of the cattle, particularly of those which have fewer Turnips.

The next system is that principally brought forward in your columns, of hollowing out the floor of a loose box, and placing an animal in each, entirely under cover, but well ventilated; ample supplies of bedding and food are given; he thus feeds and lies down at will, and treads down the litter and mixing the dung, while all liquid is absorbed without being diluted with rain-water, or washed out, as is too often the case. Thus the animal is at perfect ease, and the manure is made under the circumstances which chemists find best. Experience proves that the treading down, together with the supplies of fresh bedding, prevent the escape of the effluvia, which was to be apprehended.

In regard to profit, "rapid feeding" is the proper motto. Cattle for profit alone may be bought in spring, fattened on Grass, and sold in autumn. With dealers this will pay better than with proprietors, because they

pick up beasts cheaper, put more on the Grass, and sell at every favourable opportunity. Some purchase the cattle in autumn, winter in the yard, then graze and sell; they are supposed to take on better, and there is also the dung of the yard; but even with this the balance in cash in autumn will generally be found in favour of letting the field to a tenant, setting the rent against the interest on outlayed money, the risk of loss by disease, or accident, or bad payment. Keeping to the above motto, it will be found most profitable to buy in autumn well-conditioned, lively-looking cattle; if there is plenty of forage, let them remain on it till the end of October, unless the weather is severe, then put them into their loose boxes, feed well, and sell in March. This is about the shortest time in which they will fatten, and it will allow time for the manufacture of manure of the best quality, and return the money with increase in the shortest time. The opinion of butchers is much in favour of beasts allowed to go loose; those tied up may fatten in as short a time, but, when killed, they consider the flesh of the former much superior, and if the animals have any distance to be driven to market they will not look at a tied-up beast compared with one allowed to go free, as the one is totally unfit to travel. It is also evident that one tied up can only make a limited quantity of manure, indifferently mixed, being the separate produce of dung and bedding, whereas the other mixes up and treads down any quantity of straw. —*Forester.* (*To be continued.*)

Home Correspondence.

Tenant Right.—As a lawyer and a landowner, I came to the conclusion more than 23 years ago, that legislation about tenant right for land let to farm is impracticable. If any well-informed lawyer will patiently reflect on the various quantities and qualities of the interests, the estates, and the powers of leasing of landowners; the various conditions, states, and relations of the landowners; the various terms and interests granted to tenants according to the local customs, and the various descriptions of property, and local modes of cultivation, and ring the changes on these, he must, I think, arrive at the same conclusion. But every prudent and fair landlord will be willing to concede to an intended or to an actual tenant, if able, fair and responsible compensation for real improvements, for which the tenant shal not have obtained compensation in their use. I subjoin an extract from an agreement for a farm of mine under which an able, honest, and responsible tenant now holds, and has held as tenant from year to year since Michaelmas, 1827. "Tenant on quitting the farm to receive such pecuniary compensation for improvements in banking and fencing within 5 years, and good underdraining within 10 years next previous, as two arbitrators shall award, which arbitrators shall abate according to the benefit derived by the tenant from such improvements and additions, and take into consideration how far at the expiration of the tenancy they may be beneficial to this estate." The mode of appointing the arbitrators is there set forth. I have never yet either changed or lost by any means an agricultural tenant in the course of 22 years, but were that to happen, though no stipulation were made for it in the lease or agreement, I should concede compensation according to the spirit of the above clause. There is much greater cause to legislate for tenant right about houses, for (as I know by experience) caution or care of the tenant, or a surveyor employed by him, cannot protect him against concealed springs, bad drains, or concealed defects in brick work or foundations.—*R. H. W. I.*

The Season, and the Advantage of Early Sowing.—I have long attached great importance to getting the seed of corn sown as early as the sowing season it requires will admit; and in this respect I have frequently noticed how much the general practice may be amended, for I often find the weather that is prejudicial to late sown corn highly advantageous to the early, whilst on the other side I never observed seasons favourable to the late sown, prejudicial to the early. These observations arise after a walk over my own farms, from seeing the extraordinary contrast which the September sown Beans and November sown Chevalier Barley and Peas present to the ordinary spring sown. The late continuous heavy rains and sudden succeeding drought in the south of England have produced one of the unkindest spring seeding seasons I have ever known, and a consequent extent of failure in all the spring sown corn, whereas my autumn sown Barley is bursting into ear, the Peas are already podding, and the winter Beans are kidded from the ground. What a May this has been! I have Wheat, Barley, Beans, and Peas all in seed or blooming on the 31st; yet one sees in going about much ground bare that has its Barley and even some Oats still to come up, and the Barley harvest in my parish this year will, in all probability, be thus prolonged two months or more from its commencement to its termination. In farming, above all other matters, it is most important to be forward. A good seed time is so necessary for the future growth of the corn, and so often lasts but a short time, that the preparations should be ever finished in advance. I think too the several advantages of all early harvests are too often overlooked. A late harvest retards the autumn work, and is liable to bad weather; besides the forward crops will generally yield best, most healthy, and be least subject to blight. With respect to Barley in the south of England a great misunderstanding exists as to its capability to stand frost; I have for some years been testing its hardiness, and have succeeded in growing good samples and heavy crops by autumn sowing on hungry gravels where, with ordinary spring sowing, it always failed. If the soil be well drained I have shown that in the south of England there is no danger from no early sowing, or rather a great advantage, for it roots better and is a finer sample, and is less likely to fall. The same may be said of Peas, so far early as beginning sowing the middle of November, earlier they will not always bear the frosts. Barley harvest in the east is the first of all grain, and comes whilst the Wheat is still green.—*Hewitt Davis, 5, Frederick's-place, Old Jewry, London, May 31.*

On the use of Salt.—In your last is a paper on salt from Mr. Lawes, entitled to great confidence, not less from the considerate manner in which it is written than from the high practical character of its author's agrico-chemical researches. Allowing in the course of the paper, that salt may have some beneficial action on the soil, as well as in the plant, and that in consequence of its great solubility, more or less of it is wa hed away, it would have required no comment from me, if those admissions had not been considerably neutralised by the summary conclusions. But apprehending the action in the soil to be with salt (as with lime) its chief use, and the waste by washing away its chief consumption, at least in hilly ground, I can hardly feel satisfied to acquiesce in those conclusions. That the phosphates are more valuable and productive, in the ordinary condition of land, than salt, will generally be allowed; but they are also much more costly, and the deduction, for a full supply of salt, will pay for but little addition to our phosphates. Chemists living near the sea, and having reasons for occasional examination of the neighbouring streams, may have noticed their regularly increased contents of salt, after gales from sea-ward; showing how it washes away, instead of adhering to the soil; and some recent analyses of drain waters confirm a like inference in their case, so that the quantity exported in produce, will bear a very small proportion to that carried off in solution. Again, the quantity required for acting on the soil must be (as in the case of lime) incomparably greater than that assimilated or absorbed by the plant. As lime is the cheap alkali used for neutralising acids, decomposing various compounds, and performing many other well known purposes of alkalies in the soil, and is employed in quantities quite irrelevant to that taken up by the plant, so salt is the cheap soluble salt—promoting reactions in the soil, modified by the alternations of temperature, and by its proportions rising and falling, as it is brought up by evaporation or carried down by rain; tending to retain moisture by absorbing the dews, and resisting evaporation; helping the action of other manures and correcting the tendency of ammonia and the nitrates to exuberance of green juicy vegetation, or leaf and stalk, where seed is wanted. Near the sea, the land is salt enough and its effects often sufficiently apparent; but far inland I think guano, ammoniacal salts, or the nitrates, shou'd rarely be used, without at least their own weight of salt Both lime and salt are noxious to vermin and destructive to many unwholesome weeds, and frequently more so mixed than separate. Even the quantity required for its immediate action on the plant may be very questionably estimated by the quantity exported therein. In Mr. Norton's paper on the Oat; "Highland Agricultural Journal," No. 13, July 1846, p. 321 (a model for agricultural scientific investigation), the young plant shows a much larger proportion of salt, gradually diminishing as it advances to maturity. And something like it appears in Professor Way's examination of Mr. Huxtable's Turnips, explained by the statement that salt is largely used by that eminent farmer; this explanation itself is no insignificant recommendation of its judicious employment. These observations are not brought forward in opposition to Mr. Lawes' paper, but merely to qualify its summary conclusions, which appear rather too much discouraging to the use of salt, whilst others have, on the other hand, brought it into disrepute, by recommending it indiscriminately, where unsuitable, or not required; to which may be attributed the discordance in the vast mass of facts on both sides of the question.—*J. Prideaux, May 1.*

Rump Gland in Birds.—The more we investigate the laws that regulate physiological functions in animated beings, the more the naturalist becomes convinced of the fact that no one organ in the animal economy was created for a useless purpose; indeed the subserviency of each separate organ to its particular purpose, and its connection with the whole becomes at once apparent. Glandular secretion and excretion has afforded matter for much controversy among physiologists of all ages, and indeed even at the present time the real uses of the spleen may be said to be a *vexata questio* in human physiology, the generally received opinion on its uses being considered purely hypothetical, and not yet reduced to certainty, but this neither proves its inutility or the falsehood of popular opinion upon the subject, but merely serves to convince us of the imperfection of our present investigations. The use assigned to the rump gland in the feathered tribe may be taken in an analogous sense, but the opponents of the generally received opinion, before they deny its validity, are bound, I think, to advance some more satisfactory solution of this difficult enigma, and to point out a more satisfactory conclusion than the one in general use; indeed until they offer a better hypothesis I shall be inclined to accept of what has already been advanced upon the subject. Your correspondents have, however, failed to advance any suppositions of their own, nor have they attempted to give us any clue to the unravelling of this mystery of creation. Do they pretend to deny the fact (and one which may receive corroboration any day by a careful observation of the actions of birds) that birds do lubricate their feathers with the secretion from this gland; and that they are endowed with instinct, or intelligence that points out to them the necessity of the operation? It is not urged that heat exists for the expulsion of liquids as its sole purpose; may it not assist in giving to this covering of the feathered tribe that glossy appearance which constitutes its real beauty and perfection? and does not the cat use and cleanse her coat for a similar purpose, and is she not endowed with instinct and an organ peculiarly well adapted for the performance of this important function? All these are fair questions in the consideration of such a subject, admitting of no answer but what calls in adaptation and intelligence. How singular would it have been that all the feathered tribe should be endowed with the instinct to perform this remarkable office, and yet that no useful or beneficial object was to be derived from it; it would offer the only instance I know of such an anomaly in Nature's works, and be a direct violation of her invariable laws. I am surprised that any doubt should arise in the minds of those who have carefully observed the actions of birds, and have repeatedly observed this process in full operation. I am thoroughly convinced that this part of the economy serves the purposes usually assigned to it; individual instances may be adduced in which the gland was absent, or taken away by artificial means, but these are the exceptions and serve to establish the correctness of the rule; for many instances are recorded where the spleen was removed, and yet the animal from whom it was taken survived, and suffered apparently but little injury. Under the chapter on peculiar organisations, Dr. Paley in his "Natural Theology," has the following very appropriate observations, with which I think I cannot do better than conclude my hasty remarks. "The oil with which birds prune their feathers, and the organ which supplies it, is a specific provision for the winged creation. On each side of the rump of birds is an oil gland, yielding upon pressure a butter-like substance, which the bird extracts by pinching the pap of the nipple with its bill; with this oil thus procured the bird dresses its coat, and repeats the action as often as its own sensations teach it that it is wanted, or as the excretion may be sufficient for the expense. The gland, the pap, the nature of the excreted substance, the manner of obtaining it from its lodgment in the body, the application of it when obtained, form collectively, an evidence of intention which it is not easy to withstand: what blind Conatus of Nature should have produced it in birds, and not given it also to beasts?"—*J. L. J.*

Management of Calves.—In answer to the queries of a "Constant Reader," I think I may venture to assert, though I have not had a very large experience in the breeding of young stock, that the treatment he alludes to, as practised by his friend's bailiff, can never repay him. The importation of foreign cattle is evidently on the increase, which must in time lower the value of butcher's meat; and even now, many farmers this year are selling off their young animals in preference to rearing them, most probably with that notion. The 'mismanagement" altogether is so very obvious, that I should have hardly thought it required confirmation; but I will not give you my own opinion on the subject, but will send, for the benefit of the parties aforesaid, some few extracts from a paper read at the Burton-on-Trent Farmers' Club meeting last year by Mr. Lathbury, an experienced farmer, whose stock is much sought after in the neighbourhood, and fetch considerable prices. At his sales he has sold yearling bulls at from 14*l.* to 20*l.* each, and two-year-old heifers at 11*l.* and 12*l.* As his mode seems to succeed, and is a much more economical one than that of Mr. Wilson's, to which you refer, and also one by George Lawes Ridley, page 210, 1847, both very sensible articles, I subjoin part of it for the benefit of your correspondents.—*A Young Farmer.* "It is generally considered that the rearing of calves and the treatment of young stock should vary according to the particular purpose they are intended for. To attain these objects not only must the early rearing be liberal, but the whole treatment through the winters of the first two years must be so that they may never lose the flesh they have once put on. That seems to me a very irrational practice which allows stock to become fat in our pastures and lean in the straw-yard, and can only be compared to the ingenuity of the Irishman who fed his pig only on alternate days, in order to have a streak of lean and a streak of fat. * * * The object to be aimed at in rearing is to secure good condition from the beginning, and to maintain it along with good health to the end. It is in the first two or three months that we lay a good foundation for the animal's well-being; and it is in these first two or three months that we run some risk either of incurring a greater expense than can be repaid us, or of spoiling the young animal's growth by saving expense. We are all well aware that a calf is a healthier animal when it is fed only on the food that Nature has provided for it: but no one can afford to give a cow's keep for a calf's growth. Except in the case of a valuable bull, no calf will pay for this. We must, as early as possible, substitute some other diet than milk; and the main questions are, how long must milk be given to ensure health, and what will best supply its place? I will describe to you what I consider the best treatment of calves. There can be no doubt how we must begin. Nature has provided, in the first instance, a milk which is at once food and medicine to the young animal. It is indispensable that the calf should have the milk of the dam for the first few days of its life. If this rule

be not observed, diseases of the stomach and bowels are almost sure to supervene, which will interfere with its growth, if not destroy the calf. It is safer to let a calf seek its food, and to have frequent access to it. I think this is important; for I am satisfied that the practice of feeding calves only twice a day very frequently leads to their ill doing. The new milk of the mother should be given at least a week; after that I have used skim-milk, and continued this diet, mingled with a little boiled Linseed or crushed oilcake, for another three weeks or a month. After that time I have given whey with the Linseed for another two or three weeks; and by that time, that is, at seven or eight weeks old, I have found the calves able to sustain themselves in good condition upon good, short, young Grass. I have always allowed them hay after the first three weeks. There are two cautions essential to observe in giving other food than the new milk from the dam: first, that the skim-milk is sweet, and also the whey; secondly, that it is not given too hot. * * * We cannot be successful in rearing calves unless they have good air and cleanly houses. It is very poor economy to deny calves plenty of clean straw. There is one point upon which much difference of opinion exists—whether it is better to keep calves tied up, or to give them their liberty. In feeding calves for slaughter, there can be no question that a warm house, perfect quiet, and the absence of light, disposes them to fatten more quickly; and for a time the condition of rearing calves will be better under such treatment. But in my opinion, you gain this advantage at the expense of that vigour of constitution which enables an animal to contend with whatever hardships its after life may be exposed to. I think that calves cannot too soon be permitted to have freedom, light, and air. It is well known that too much fat lessens the vigour of the body, and if it has once been used to very stimulating food, an animal never does quite so well when it is discontinued. With respect to the treatment of the cattle the second year, I shall only repeat that the good condition they have acquired in the first should not be lost. If Turnips, Cabbage, or Mangold are not grown, nor grains procurable, a farmer may always consume his straw in the winter profitably, with a small mixture of hay and oilcake. Stock will always pay for such an addition, and young stock will pay for it best."

Transplanting Swede Tops.—I have derived no one piece of practical information more valuable from your Paper than cutting off the tops of the Swede Turnips, and planting the same; and I venture to declare it to be one of the most productive manœuvres ever brought forward, taking all circumstances into consideration. It cannot be too strongly recommended to the poor cottager.—*C. P., of York.*

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A WEEKLY COUNCIL was held at the Society's house, in Hanover-square, on Wednesday last, the 31st of May: present, Colonel Challoner, in the chair; Lord Camoys; Sir Robert Price, Bart., M.P.; Sir Francis Lawley, Bart.; Mr. Burke; Mr. Evelyn Denison, M.P.; Mr. Dunne; Mr. G. Dyer; Mr. Fuller, M.P.; Mr. Baskerville Glegg, Mr. Grant (Glamorganshire), Mr. Hillyard, Mr. Fisher Hobbs, Mr. Kinder, Mr. Morant, Mr. Parkins, Prof. Sewell, Prof. Simonds, Rev. T. P. Slapp, Rev. J. R. Smythies, Mr. Hampden Turner, Mr. T. R. Tweed, Prof. Way, Mr. Bulleck Webster, Mr. Whitmore, Mr. G. Wilbraham.

The following new members were elected:

Walker, John, Iron-foundry, York
Shafto, Robert Duncombe, M.P., Hampworth-lodge, Salisbury
Eden, Robert, Hampton Court, Middlesex
Hey, Richard, York
Hey, William, Leeds
Ramsay, Sir James, Bart., Bamff House, Alyth, Perthshire
Hunt, Joseph, Addlethorpe, Spilsby, Lincolnshire
Abbey, Thomas, Dunnington, Yorkshire.

The names of 18 candidates for election at the next Meeting were then read.

VEGETABLE CHARCOAL.—Mr. WOLRYCHE WHITMORE favoured the Council with the inspection of samples of the various artificial manures he had formed of bone and charred vegetable refuse, obtained by the process described by him at the previous meeting, as well as of specimens of the bone and charcoal when incorporated, and also in their separate state, previously to admixture. The bones, as used by Mr. Whitmore, were boiled for two or three hours in water, for the purpose of removing the greasy matter they contained, but without extracting the gelatine more intimately combined with their phosphate of lime, or earthy material; and he had every reason to believe that by thus leaving in the bones their animal matter, the value of the manure resulting from their decomposition was proportionably more valuable. The water in which these bones had been boiled was reserved as the liquor for moistening the conical heaps of mixed bone and charcoal, and promoting their fermentation and the decomposition of the bone, so that, although the oily matter had thus, in the first place, been withdrawn by boiling from the bones in order to render them more easily decomposable, by this economy in the use of the water employed in the process, a large part of the animal matter extracted by boiling was restored, and he believed the liquor so obtained would be found superior to common water, or the liquid from the manure tank.—The bones were reduced, by means of a mill, into splintered fragments, varying in length from an eighth to half-an inch. By converting also the whole of the refuse vegetable matter on his garden and farm into charcoal, or reducing it at least into a charred state, and employing it as a valuable manure, such refuse was removed from the land and turned to good account; with this further advantage, that the seeds of all weeds collected for the purpose were completely destroyed by the combustion to which they were subjected; while in the case of manure heaps, in which, according to the old plan, such weeds were mixed, the vitality of their seeds remained uninjured, and the weeds themselves consequently proved as abundant as ever on the land to which such manure was applied. Mr. Whitmore had for many years experienced the value of charred refuse for garden use, but had only recently directed his attention to its more extensive application on his farm. He conceived that its adoption would lead to an improved system of culture on inferior soils; for he had found that earth on which nothing would grow had only to be dressed, in furrows, with virgin soil and the charred refuse, when the finest crops would be produced, quite irrespective of the sterile soil below the surface, an artificial bed for the seed being thus formed upon it. He had no doubt that the greatest advantages would eventually be derived by mixing equal quantities of the charred refuse with virgin soil, and thus forming artificial seed-beds, which would not be liable to the inconvenience arising to the growing plants from the caking which so often ensues on a change of weather from wet to dry. As he had remarked on the previous occasion, vegetable refuse of every description was available for the purpose of the charring required, whether consisting of hedge-cuttings or other woody material, or of stubble, Couch-grass, or other weeds; and the heaps being formed in a conical shape, covered with earth or weeds, had only to be lighted, and care taken, during the slow combustion, that no flame, and as little smoke as possible, issued from the heaps. He had found that 10 days or a fortnight were sometimes required in large heaps to effect this object, but the longer the process was in operation the better was the result obtained. This charred substance, even with undissolved bones, had produced large crops; and he had ascertained that by mixing it with an equal quantity of wood-charcoal, it would effect the fermentation and entire disintegration of bones, on Mr. Pusey's plan, but not quite with the same facility as wood-charcoal only: while with sand or soil, with which others, as he had understood, had succeeded, he had entirely failed. The proportion in which the bone and charcoal were used was one part bone to two parts charcoal in a pulverised state, the bone being, as before stated, wetted with either water, liquid manure, or liquor in which the bone had been boiled; then mixed with the charcoal, and placed under a shed. A strong fermentation soon took place, and in about a month the bone was dissolved, and incorporated with the charcoal.—Col. Challoner stated that, having on his estate several thousand loads of Fern, he would make trial of the experiment of charring it, and would report to the Council on a future occasion the result attending the application of such charred Fern as a manure. He had for the last 15 years been in the habit of manuring from 50 to 60 acres of Turnip-land with charred peat or bog-soil, and soap-ashes, at the rate of 40 bushels of such mixture per acre, and had derived most excellent crops, although of course not equalling such as would have been obtained from farm-yard manure.—Mr. Fisher Hobbs did not think the ashes of commerce equal in their effects to the charred substances. He had been much struck with the great distinction which Mr. Miles had some time ago pointed out between the action of burnt clay and clay that had been only charred; and he had, in consequence of the result of Mr. Miles's experiment, been led for the last two years to submit all the waste timber on his farm, as well as roots, turf, and bog-earth, to the action of fire, for the purpose of reducing them into the condition of manuring substances. At first he entirely burnt the refuse in question, and obtained from stacks, 14 feet long, 3 feet high, and 3 feet wide, formed of logs of wood about a yard long each, only 3 bushels of ashes, when entire combustion was allowed to take place; but from 28 to 30 bushels of charred manure when the process was that merely of a slow and stifled combustion. The charcoal burner first selected a bank of earth in a finely pulverised state, in order that the heaps of burning refuse might be further covered with soil, in case any increase of tendency towards flame evinced itself; but as this was found to be a waste of fine earth containing vegetable mould, Mr. Hobbs directed that sand should be used instead of such fine earth, and it was found to answer the purpose equally well. Water was occasionally added to prevent the heaps bursting out into flame, and was obtained either as occurring near the place, or conveyed thither in a water-cart. The result of this combustion, if properly carried on, ought, he considered, to be charcoal of a dark, carbonaceous colour, and not mineral ashes of a red colour. The charred matter, when ready, was placed on an old barn floor, and its substance reduced to a form of sufficient fineness by means of an iron roller passed over it. The cost of obtaining it, including the labour of splitting the logs, was about 7 farthings per bushel. He was in the habit of making many hundred loads of it during the season, and of applying it to his Carrots and other root crops on a sharp gravelly soil, instead of other manure. So convinced was he of its great value for the Carrot crop on high barren sands, and other sterile soils—his Carrots growing in rows under such circumstances with a vigour equal to crops planted in the valley beneath, that he thought the plan would prove a great step in the cultivation of all root crops.—Prof. Way remarked that the smothering up of the heap of stifled burning vegetable matter, with the intention of preventing its bursting out into flame, was gained, not so much by such precaution keeping the smoke or flame in, as it was supposed, but by keeping the air out, and thus cutting off one of the essential elements required to support combustion. With regard to Mr. Whitmore's experience of the successful employment of charcoal in promoting the fermentation and disintegration of bones for manure, he confessed that such result was opposed to preconceived notions entertained by scientific men on the subject; and he should have imagined, on a review of the considerations affecting the question, that charcoal would have had quite the opposite effect, and would have retarded such decomposition. However, such being the fact, some good cause no doubt existed for its occurrence; and it appeared to him that such cause might probably arise in this case as in that of burning limestones into lime, in which the action ceases unless the carbonic acid gas disengaged by the heat applied, be carried away from the surface of the incandescent limestone. He stated that when marble or chalk (each being carbonates of lime) was placed at the bottom of a heated crucible, that a certain portion of the carbonic acid was forced off from the lime by the heat, but was not carried away, hovering as a dense vapour above the heated mass, and preventing further decomposition. He could only conceive that charcoal aided the decomposition of bones by carrying off, by absorption, the gaseous matter as continuously produced during the process, which was thus left unfettered by the presence of any gaseous body that might otherwise have retarded its progress. He feared that the distinction between charring and burning bodies was not sufficiently attended to by the labourers employed on a farm. It was, however, an essential distinction, and made all the difference in the result. The incidental advantage gained by Mr. Whitmore was also worthy of particular notice, namely, that by burning up all the weeds on his grounds, he entirely destroyed their vitality, and prevented their re-occurrence in subsequent seasons.—Mr. Tweed made some observations on the facilities under which the charring process might be conducted in reference to the proximity of water and soil suitable for regulating the process of combustion.—On the motion of Mr. Glegg, seconded by Mr. Parkins, the Council then voted to Mr. Whitmore their best thanks for the kind manner in which he had taken the trouble of bringing this important subject before the notice of the members.

COTTAGE FLOORS.—Mr. FULLER, M.P., submitted to the notice of the Council a specimen of the oaken "bricks" he was enabled, by means of his water-power saw-mill in Sussex, to make at the low rate of 1*s.* 6*d.* per 100, out of refuse timber, for the purpose of constructing clean, dry, warm, and comfortable flooring for the cottages and school-rooms on his estate, instead of the ordinary clay-burnt bricks, stone flags, or other material commonly employed for that purpose.—Professor Sewell had no doubt that if wooden blocks or bricks similar to the one then exhibited by Mr. Fuller, but rendered convex instead of being left flat on the upper surface, could be furnished at a moderate price, and were driven close together on a hard level surface beneath, in stables or cattle sheds, they would furnish a decided improvement in the construction of farm buildings; as the rough uneven pebbles, flints, or boulders in common use sink into hollows, and form receptacles which retain the drainings of the stables or yards, and lead both to uncomfortable bedding for the animals, and occasion decomposition of the straw and manure, and the evolution of ammoniacal gas, to the injury of their eyes and lungs. That injury induced inflammation and cataract of the eye, terminating in blindness on the one hand, and on the other, by the stimulating properties of the gas on the air-passages from the nostrils, larynx, trachea, and bronchial tubes into the air-cells of the lungs, being productive of a sensitive irritation on the delicate lining mucous membrane, as well as of susceptibility to become more easily affected by changes of temperature: the result being coughs, catarrhs, sore throats, inflammation of the lungs, and other diseases of the chest, either of an acute or chronic character. When of a chronic nature these affections assume the character of short-breath (or thick wind), irregular breathing (or broken wind), and that morbid condition of the lungs in which they become studded with tubercles, from which almost all outbreaks of glanders originate. He had remarked when on the Continent, that wooden plank floors were very common throughout Germany, but the best specimen he had seen (and after his return to England he recommended for adoption in 1818, in a Report to the Governors of the Royal Veterinary College) was that in Prince Charles's stables at Vienna. Prof. Sewell had seen experiments tried during the period of the last 30 years, with various materials for flooring stables in public and private establishments, for both light and heavy horses, namely, with clinkers, brick, stone, cast-iron blocks, chalk, cement, asphalte, and other modern compositions; but, for wear and durability, he had never seen anything surpass the *real* Dutch clinker.

Mr. WYATT EDGELL addressed to the Council a further communication on the period of suckling; Mr. Bates on exhibiting simultaneously several generations of stock; Mr. Fulbrooke on meteorological indications; and Messrs. Spence and Co., on manure to be exhibited by them at York.

The Council then adjourned to Tuesday next, the 6th of June.

Farmers' Clubs.

WETHERBY.—At the late annual meeting of this Society a discussion took place on *The Injury to the Farmer from Hedgerow Timber, small Inclosures, and large Fences.*

Mr. ALLAN said he had found from experience that large trees and fences had the effect of depriving crops of that which was sent for their nourishment, and of preventing their being brought to perfection. In some instances large portions of a crop had been thus completely destroyed. Some writers calculated the damage produced by large trees and hedgerows at from 10 to 15 per cent.; and to remedy this evil he begged to suggest that where trees were not removed altogether, it would be of service if they were not permitted to grow such large tops. Large fences were nearly as injurious as large trees. His own crops, so situated, had not been half what they should have been, and therefore he was no advocate for large fences, and he thought they were not beneficial to any one, especially on tillage land. In the case of Grass land some little benefit might be derived from large fences, as afford ng shelter for stock, but in tillage land there could be no doubt that they proved highly injurious to the tenant.—The CHAIRMAN said there were some trees, particularly the Ash and the Beech, which were undoubtedly very injurious to the crops, and the waste of time incurred, owing to the inconvenience of working, and the subdivision of the operative force of the farm, was very great indeed. The economy of time, of labour, and of manures, were all considerations of the utmost importance to the farmer. In the economy of time, however, the agriculturist was far outstripped by the manufacturer, who did everything by clockwork. He was satisfied that the farmer suffered most materially from loss of time, and from want of arrangement the day previous of what was to be done on the ensuing day, and from small badly shaped fields, crooked fences, and the patchwork system of cultivation.—GEO. LANE FOX, ESQ., would begin by remarking that there was no doubt in the world t at hedgerow timber was one of the greatest evils the farmer had to contend with; and when Mr. Allan made use of the word "tenants," he felt as if he rather meant that it was wished that he should speak as a landlord. He believed that ever since he had had the management of his estate, and ever since he had taken the interests of his tenants into consideration, he had always considered that hedgerow timber was exceedingly injurious both to the tenant and to the land; and he only regretted that his estate was not covered over with wood, not that it might injure the tenants, but that he might have the satisfaction of cutting the timber on arable land down, and of thus serving his tenantry and at the same time putting a considerable sum into his own pocket. Mr. Allan had alluded to the difference in trees, and he agreed with him that decidedly the worst tree the farmer had to contend with was the Ash, for it was not only an impoverishing tree, but nothing would grow within its shade. He thought that the Larch tree might be regarded as an exception, for although the objection of shading the land applied to it, there was a property in the leaves which made them useful as manure; so that, in some respect, the Larch might be treated as advantageous to the farmer. But after considering the damage caused by trees to the crops, his next objection was the injury it did to the fences. Where there were large trees it was impossible to keep the fences in order; and of all things in the world he knew of nothing which he admired so much as a well-grown and well-clipped hedge. Upon the question of small inclosures there was a great variety of opinion. In some cases he thought small fields very useful, but in others they were injurious. If a tenant had a small farm, he must have small enclosures, or he could not manage his farm in a profitable manner. Nothing undoubtedly could be more beautiful to look upon than a well-proportioned farm; but what was the use of this if a farmer could not equalise his produce, which was a point of great importance. The question as to fences was one which he had taken some pains to study, and he was quite satisfied that those great bulfinch hedges were not only no joke for the sportsman, but, generally speaking, injurious to the farmer. There were cases, however, in which they were very useful; for instance, where there was a small inclosure which was used as a kind of sick hospital for stock. —Mr. W. HANNAM had always been an enemy to large fences, because he had seen the evils accruing from them by the harbour which they afforded to all descriptions of vermin, and by the encouragement which they afforded to the negligent farmer to stow away in the hedgerows that waste matter which, if carried, as it ought to be, to his manure couch, would make, by the aid of his tank, most valuable manure. But another of the evils arising from large fences was, that where rabbits were at all fostered, they made their breeding places in them, and it became almost impossible to extirpate them; but let these large fences be stubbed up, and neat ones supplied in their place, and then these animals would have no harbour there, and the plough would keep them from burrowing where it went. By the permission of Mr. Montague he was now cutting down some trees of 50 years' growth, which would not be worth 5s., and when these were gone he should be able to bring land, quite unmanageable before, into as good a state of cultivation as that which surrounded it. As to inclosures, he thought their size depended upon the size of the farm. In a farm of 50 acres, he should say that the fields ought not to exceed 7 or 8 acres, but upon a farm of 300 acres he would not have the inclosures less than from 10 to 20 acres. He did not know whether, on such a farm, 20-acre fields would not be the most profitable, so long as the occupier had in the middle of them a few smaller inclosures for stock.—Mr. JOHN HANNAM said, since he had come into the room he had turned to an article which bore the stamp of the Royal Agricultural Society of England, and which showed, by a calculation with reference to 10 parishes in Devonshire, the immense loss of land arising from its occupation by large fences. In those 10 parishes there were 36,976 acres of land, of which 1651 miles, or 2642 acres, were occupied by hedgerows, being 7 1-7th per cent., or 1 acre in 14 of the whole acreage of the place. There were many other statements contained in this article which were corroborative of the opinions that had been expressed by previous speakers; but this great fact would suffice, viz., that out of 36,976 acres of land, 2642 acres were useless as to production themselves, and positively injurious to the surrounding land, as had already been proved. It had been shown that large fences and hedgerow timber occupied uselessly a great per centage of land, which might be rendered very productive—that they prevented the free access of the sun and the free circulation of air—that they entailed great cost for their maintenance—and that they were likewise productive of loss in point of time and labour. This might be taken as a summary of the different arguments which had been adduced; but he might add another evil—sheep pastured in the small fields carried all their manure under the trees and hedges. He had taken the trouble that morning to make a calculation as to the injury sustained in a pecuniary point of view on what might be called, so far as the system admits, a tolerably well-managed place. Taking 100 acres of land, divided into moderate-sized fields of between 5 and 6 acres, he found that a saving of almost 4 acres would be effected by reducing the size of the fences—that was, from 18, 12, and 8 feet wide, as they are found, to 4 feet. And if they came to reduce the number of fields one-half, in 100 acres of land, they would reduce the quantity of land occupied by them about one-third, suppose the fields were of a pretty average size; or, in other words, they would gain nearly 2 acres more; making on the whole more than 5 acres additional of productive land. With regard to the actual pecuniary gain from this reclaimed land, he calculated it at 12½ per cent. upon the rental of 1*l.* per acre, and he did so in this way:—

Rent of 5 acres of land lost to the farmer	£5	0s.	0d.
Tithes, rates, taxes, &c.	0	10	0
Extra fencing, &c.	0	10	0
Repairs and depreciation of 10 extra gates ..	1	10	0
Extra cost of labour, horse-work, &c., in small fields, at one in 20	5	0	0
Total	£12	10	0

Or 12½ per cent. upon the rental of 1*l.* per acre, without taking into account the indirect injury to the surrounding crops, from large fences and small inclosures. He made this calculation also without reference to the question of hedgerow timber, which the landowner, who took the trouble to examine the debtor and creditor side of the account would admit to be no costly a guest as the farmer could entertain. For example, it should be remembered that, while the land occupied by fences and wide banks cost nothing in cultivation, every acre over which the Ash spread its l pa ic influence had rent, tithes, taxes, rates, labour, seed, and manure, while the crop was seldom worth half the outlay. Let the eat stand on the average of a four years' rotation, at rent 1*l.*, tithes and rates 10*s.*, labour 1*l.* 5*s.*, manures and seed 2*l.*,—making a total of 5*l.* per acre. The loss upon every acre occupied by trees cannot, then, be less than 2*l.* 10*s.* per acre. And if we refer to the published surveys of many parishes in the "Journal" of the Royal Agricultural Society, we find what our observation confirms, that in many cases the ground occupied by the roots and shaded by the tops of trees, is equal to that occupied by fences. Where the evil exists, then, there is a loss of 12*l.* 10*s.* from trees, which, with the loss arising from the large hedgerows and small fields, was 25 per cent. upon a rental of 1*l.* per acre. When they saw that of the millions of acres of land in cultivation, 10 per cent. of the acreage was actually useless, and also positively injurious to the tenant to the great extent of 25 per cent. on the rental, he thought this question became worthy of the consideration of those who occupied and those who were fortunate enough to own land, and who were at the same time responsible for its proper use.—Mr. ALLAN moved the following resolution, as the result of the discussion: "That in the opinion of this club a great amount of injury arises from small fields, large fences, and hedgerow timber; and that it is desirable, in a national as well as an agricultural point of view, that, in such case, the timber should be reduced, the fences kept low, and the fields enlarged; due regard being had to the size of the farm."—At the dinner, in the evening of the same day, H. S. THOMPSON, Esq., of Moat Hall, proposed the health of the president and officers of the Wetherby Farmers' Club. After pointing out the very efficient way in which the officers of the club performed their duties, he proceeded to remark upon the general state of agriculture in the neighbourhood. In many respects the farming of that district was highly commendable, but he thought their system incomplete, in consequence of their not fattening a sufficient number of cattle to furnish manure for their root crop. He would briefly sketch their ordinary routine, in order to prove that this was its weak point. He would suppose that a farmer had obtained a good crop of Turnips; he would consume nearly the whole on the land by sheep, which would give him a good crop of Barley and seeds, and these seeds grazed by sheep the following year would ensure a crop of Wheat. If once the Turnips were outamed, therefore, the rest of the course would take care of itself, but what provision did this method of farming make for the Turnip crop. So few Turnips was pulled off that there was little food for cattle in winter, and accordingly the usual practice of the district was to have in their yards two or three cows and a few calves, yearling or two-year old cattle, fed on straw, with an occasional feed of Turnips, and these with the farm horses were expected to turn all the straw of the farm into manure. But good farmers, who wished to have the full fourth of their land in root crop, soon found out that manure made in this way was sadly deficient both in quantity and quality, and accordingly they laid out large sums in bones, guano, and other artificial manures. The system he recommended was to pull off from one-third to one-half their Turnips, according to the goodness of the crop, and to give the she p ½lb. each of bruised cake daily while eating off the Turnips. He had followed this plan for the last six or seven years, and he could therefore speak with confidence as to the advantages. He had invariably found that the crop of corn which succeeded the half crop of Turnips fed off with cake, was better than where the whole crop was eaten on without cake. The sheep too made much more rapid progress and consumed less Turnips; there were also much fewer deaths in the flock, and the backward and weakly lambs were carried well through the winter, so that he would engage that the benefit to the flock and succeeding crop would pay for the cake and leave the Turnips that were pulled off as a clear profit by the transaction. He would now follow the Turnips to the farm-yard and consider how they could be disposed of to most advantage. They had all probably seen accounts of Marshall's and Warnes' methods of feeding cattle with compound, prepared with boiled Linseed, and from personal experience of the value of Linseed combined with other farm produce, he could strongly recommend it for their adoption. They would find their cows milk better, their calves grow faster, and their young cattle turn out in the spring of so much greater value, that they would, when beef was at a fair price, pay for all the extra food they had received. But it was to the large supply of excellent manure that they must look for their chief profit, and he could state with the utmost confidence that there was no artificial manure which they could obtain at so little cost, or which would give them such heavy crops, as manure made in this way. To give an instance of the success of this mode of feeding, he would mention that he had now on his farm a bullock 2 years and 10 months old which weighed 70 stone, and was valued at 28*l.* This animal paid well for his keep, and left all the manure he had made as so much clear gain, and which, according to the best calculation he could make, was fully equal to a ton of guano worth 10*l.* He was aware that many men would say that the plan was good, but that they could not afford to buy the cake and the additional cattle which were required to carry it out. He would therefore ask those who made this objection, whether, if 50 acres of additional land were offered them, at a moderate rent, they would refuse the offer. Assuredly not one in 50 would think of doing so. Now if they would make a rough calculation of the additional capital required in each case, it would be found that the expense of entering upon the additional land would be the greatest, and by carrying out the system he had advocated, they would in most cases have as much corn and cattle to bring to market, as if they farmed the additional land, on the old plan, and there would be this important point in their favour, that they would have no additional rent or rates to pay. He therefore believed that there were few who were unable to introduce the above-mentioned improvements, and he could safely recommend them as likely to be profitable to themselves, and beneficial to the nation at large, inasmuch as they would increase the supply of animal food, and furnish additional employment for the poor during the winter months. —Mr. JOHN HANNAM, in the unavoidable absence of Mr. Brown, returned thanks for the compliment which had been paid to that gentleman and to the officers of the club generally. He then made some remarks on artificial and home made manures. He had had 5 tons of guano brought from the station that day, but he hoped soon now to see the day when the farmers of England would be able to produce, themselves, a sufficient quantity of manure to fertilise the soil. They must, however, secure Turnips, the manure gathering crop, at any expense, and also keep up t. eir stock of sheep, at the same time they pulled more Turnips for cattle, for the farmers of the thin soils of this district ought always to copy the old epitaph and say

"I thank God and ever shall,
It was the sheep that paid for all."

But before they fed this vastly increased number of cattle, and consumed fairly the straw, instead of wasting it, they must grow more Turnips, and to grow more Turnips, in the highest economical means, he would confidently recommend them to turn their attention to the consumption of bones for manure. It had fallen to his lot several years since to make many experiments with bones, in all of which their use was promoted by being made more easy of decomposition, and he had been rewarded for one essay on this subject by a prize from the Royal Society. Nevertheless he, and others who thought with him, had had to contend with a great amount of ridicule and disbelief, and the practice of dressing Turnips with no point and had come to pass, the most common for some time made little way. With their permission he would read to them as a curious sequel to any remarks on the history of inventions already, an article from the *Agricultural Gazette* of the year 1845: "Every season has its mania. The war and politics of religion or science of speculation and even of poor agriculture amongst the rest, has now and then its epidemic cast upon the surface—is varied, or rather broken with variety and varied embellishments, that the eager head grasps the bubble and it bursts and disappears nothing but 'froth.' The day of Chemical regeneration of Johnston's Book —of flying machines—of Smith's steam tug—of Cuming's Cow Cabbage, is gone by, and the hero of 1845 is bone manure in sulphuric acid, by which process all fear of encountering Waterloo and Austerlitz are removed, for 2 bushels of bones are by means of this 'solvent' to work the work of 2. If this had been an individual speculation it might have been of little use to notice it but the Royal Agricultural Society has [illegible] and rewarded the notion, and Mr. Hannam has had a prize awarded for decoding this as the best experiment of the year, and Mr. Pusey is anxious to give it out to the farming world in railroad speed, that they may all use it before [illegible]. Instead of being the most safe and easy experiment ever described, it is perhaps the most utterly absurd—empty—baseless theory—a wild jump at a conclusion—a mixing together of science and practice, and not a testing of the one by the other. In conclusion, will any person be found who will risk a crop upon the evidence?" Such was the article which appeared in one of the agricultural papers of the year in in 1845. And what is the result? Why, in the same paper in the year 1848, there is the astonishing announcement that in the market town of Spalding, 127,000 lbs. of sulphuric acid for the dissolution of bones, have been sold in one season. Time having tested the truth of his previous statements, he could now, without vanity and with confidence, direct the attention of his neighbours to the subject.

NEWCASTLE, *Feb.* 5.—JOHN BROWN, Esq., of Seaton Delaval Hall, read a paper on *The Economy of Farm-yard Manure*, as follows—

Farm yard manure is usually made by cattle feeding on Turnips, hay, or straw; and sometimes also 4 lbs. of cake per day is allowed to each animal, along with 4 lbs. of cut hay, and 3 lbs. of Bean, Pea, or Barley meal. The manure arising from cattle so fed is of excellent quality, and much superior to that made by lean cattle. The refuse of their food is of value to pigs, one of which will be able to live with one bullock, by picking up bits of Turnips, and excrements of the cattle fed as stated. Those laborious animals are of great use in rooting among the straw and dung in search of corn or other food, by which means the manure is much improved in value by being more regularly mixed. The cattle kept on straw are usually put in yards by themselves; but the manure made from them is of an inferior quality, particularly if they are allowed to range about the fields in the day-time. The horse-dung is generally thrown out at the stable door, and allowed to accumulate. Horse-dung lying in large heaps soon ferments and heats, and the centre of the dung-hill becomes dry and fire-funged, or burnt to a white mouldy substance, and must lose half of its value. The industrious farmer usually guards against such destruction and loss, which may be prevented by making it a rule to throw the horse-dung into the yard where the cattle are kept on straw alone, and spreading it over every day. Perhaps some may object to this on account of expense, &c.; but bear in mind that cattle living on straw are very fond of stable litter, and the benefit they would receive from it would amply pay the expense. On the formation of dung-yards there are various opinions. On this point some recommend them to be round in the middle, so as to allow the water to escape, and thus keep the dung as dry as possible: others insist upon them being concave, almost like the bottom of a basin, so as to keep the dung in a moist state. But, from experience, I would recommend a form between the two extremes—to have the yards a little hollow in the middle, which is the best. As to the preparing of the heaps, dung is usually carted from the yards in the winter or spring months, and not unfrequently thrown up as high and as lightly as possible. A dung-heap formed in this way, and if the dung be good, soon heats to an extreme degree. The gases evaporate—the juices drain from the sides and bottom of the heaps, and, of course, are wasted. In a week or two the fermentation subsides, and the middle of the heaps is left in a dry and burnt state, while the outsides of the heaps, from the action of the sun and winds, are dried frequently to a state of straw. In this state they remain, perhaps, until the Turnip season is approaching. They are then turned over, and fermentation again takes place: and by the time the dung is wanted it is considerably reduced in quantity and deteriorated in value. I have now pointed out what I consider the erroneous method of husbanding farm-yard manure, and shall next try to explain my views of a more perfect system. It is of great importance to have farm-yard manure regularly mixed together; and too much attention cannot be paid to the horse-dung, which should be spread over the straw cattle-yard daily, as before-named. The horses employed on the farm should be kept in the yards in summer and fed on grain food; and all kinds of coarse Grass, &c., such as Nettles and weeds (but not in seed), should be cut from the breast and back of the fences, and brought into the yards, and not suffered to waste. In short, all substances, as name, that can be procured for the bottom of the yards, it will be of great use, by absorbing the urine. The bottom of dung-hills should be made of soil, sand, marl, and clay of at least 1 inches thick. Soil can be got from the sides of ditches; and if it be a year or two, so much the better. The dimensions of these heaps must depend on the quantity of dung to be laid upon them. The dunghill should be of less dimensions by 6 feet all round than the bottom, so as to allow a sufficient quantity of soil to be thrown over the top and sides when the dung is turned over. When the dung is brought from the yard it ought to be strewed on the bottom for the purpose of compressing it so as to prevent fermentation: and care should be taken to mix it properly by taking the loads alternately from different parts of the yards. After the carting is completed, a covering of soil, burnt earth, or coal ashes, should be applied, about 3 or 4 inches thick. The heaps should remain in this state until within three weeks or so of the time it is required to be set on the land. It should then be turned over, taking care to mix it and cover it with the soil which was laid for the bottom. As soon as the turning is finished, the soil which is left round the sides should be thrown over it and smoothered down: it will then ferment a little, and the earth intermixed with it and the covering will absorb the gases and juices of the dung, which will be of excellent quality, without diminution in quantity.—The Chairman observed that great attention was desirable to the subject of manures. It was mentioned, for instance, in a report in the agricultural of Cheshire, in the "Royal Agricultural Society's Journal," that

certain pastures, once remarkable for the richness of their cheese, became gradually poor, but were restored to their original fertility by the application of bone-manure. Mr. Brown had truly remarked that there was great difference in the quality of fold-yard manure. Fat cattle yielded better manure than lean, or than cows. Why was that? Because there was more phospate of lime in the manure of fat cattle. In lean cattle the phosphate went to nourish and build up the bones, and in cows it went to the milk; so that, in the manure of lean cattle and of cows, one of the richest constituents for the growth of pastures was wanting. The notion used to be that a pasture could not deteriorate so long as it was properly grazed, but this was an error.—Mr. Joseph Laycock said the ordinary way of treating manure was very imperfect. It was commonly exposed to the sun and the rain, and its virtues were lost by evaporation and by being washed away. The farmer would be amply rewarded for his outlay by covering his manure with a shed. A well-conducted farm ought to be carried on without artificial manure: it should produce all the manure that it required. It might be necessary, on entering upon a neglected farm, to purchase manure to bring it into condition; but unless, after the lapse of a few years, it produced manure for itself in sufficient quantity, it must be badly farmed. Mr. Brown had truly observed that when manure-heaps were opened they sometimes seemed to consist of nothing but straw:—the virtue, the very soul of the dung, had escaped. If it had been ploughed-in in a green state, all the fertilising properties of the manure would have been secured to the soil and the crop. He knew it was said there was a difficulty in ploughing-in long manure, but the cattle should be fed on cut straw. It was the soluble portion of the manure that gave fertility, and this was the portion that was lost by the sun and the rain. Soil was sometimes thrown on the heap as a remedy, but its effect was very partial. Mr. Nesbitt recommended that the manure be spread over the fields, rather than kept in heaps. This, however, was attended with inconvenience. The better way was to keep it in sheds and tanks.—Mr. Tony Waller thought it would be difficult to find sheds to hold all the manure.—Mr. Brown thought so too. There was hardly a farmer in the room but would be thankful to get sheds for his cattle, let alone the manure.

Farm Memoranda.

Trelaske, near Launceston, the residence of Edward Archer, Esq., is beautifully situated in a romantic valley well clothed with wood and adorned with water. But it is to the excellent manner in which the home farm is cultivated, and the substantial and convenient manner in which the farm buildings are constructed, that Trelaske supersedes every residence that I have seen in Cornwall. In fact, to a person accustomed to the extensive farm-yards and highly cultivated lands of Nottinghamshire and Lincolnshire, the traveller cannot believe that he is in the county of Cornwall. The buildings are constructed of stone and slate, very commodious, airy, and substantial. A shed for implements and carts, and a house at the back for sheep during the time of lambing, is well constructed; the cart-horse stable for eight horses is lofty and well ventilated; the food being principally cut, is conveyed into the mangers by shoots or spouts from the chamber above, the horses being enabled to supply themselves as they wish; by this method much waste is saved, the whole is kept fresh, and all eaten up. The cattle sheds are very extensive, accommodation being given to 40 bullocks. The barn is a planch-barn, having a cattle shed and other conveniences beneath; in it is a good threshing-machine worked by water power, which also drives a chaff-cutting engine and a mill for grinding corn. The supply of water required to drive the wheel is very small, and the whole of the machinery is of the most simple construction. The piggeries are extensive for the farm, and well constructed. A covered manure-tank receives the liquid manure from the various offices. The rick-yard is placed adjoining the barn, and the stacks well built and thatched. The whole of the buildings are overlooked by the dwelling of the bailiff, which is a good and convenient residence. But good as the farm-yard is, there are several additions requisite, which I doubt not the spirited proprietor will add, viz., apparatus to steam Potatoes, Turnips, hay, &c., and also to boil Linseed and other articles requisite for stall-feeding on the most economical principles. The farm of Mr. Archer contains 285 acres of land, 200 of which are under the plough. The Grass land is well managed and of the best description, a large portion of which can be flooded at pleasure. On the farm is a large breadth of land called Lenannick Down, comprising 120 acres; this land for ages has been covered with Heath and Gorse, producing a miserable subsistence for a few half starved sheep and cattle. This land has been brought into cultivation; it is divided into eight plots of 20 acres each, good roads are made for the carting of manure, with covered drains on either side. Public roads, well fenced on either side, cross the inclosures. The crops of Turnips and Clover, as well as the young Wheat, looking very promising throughout. Mr. Archer has wisely abandoned the antiquated notion of shallow ploughing; and, at the time I saw the farm, the subsoil plough was at work performing its part admirably, bringing up large fragments of stone, the soil resting on the trap formation. But great as the improvements have been on the down land, those on the old inclosed land have, in my opinion, been still greater. Thousands of yards of the old high, expensive, slovenly banks have been removed and levelled, and straight fences of Whitethorn planted on the level, forming the fields of an equal size. Too much praise cannot be given to the enterprising owner for the bold stand which he has made against the prejudices of the county. Not being supplied with the statistics of the farm, I am not in a position to state the amount of land gained by the removal of the old fences. I am aware that the opinion of the generality of Cornish farmers is against the destruction of their beloved nurseries of weeds, the high banks; but well knowing that prejudice is hereditary to the British farmer, being the long cherished heirloom on which he hangs the opinions of his forefathers, I am not surprised that the high fences of Cornwall should be one of the long-cherished objects of the cultivators of her soil. Would that other landlords would follow the steps of the enlightened owner of Trelaske by granting long leases to their tenantry, and waging eternal war against the incumbrances of the soil—the very high fences. — *T. K. Short, in the Farmers' Herald.*

Miscellaneous.

Abolition of Toll-bars. — Lately a special meeting of the vestry of St. Pancras took place, for the purpose of considering the question now so much agitating the country, viz., the aboliton of toll bars. Mr. Churchwarden Howarth in the chair.—Mr. Bray, in introducing the question, said that in the north metropolitan districts, St. Pancras in particular, the inhabitants were great sufferers by turnpikes and toll-bars. With regard to the existing mode of levying tolls, the collection was managed so clumsily that its cost alone amounted to 800,000*l.* per annum, or from 50 to 60 per cent. of the entire amount levied. By the plan laid down by Mr. Pagan, one million per year might be levied in the shape of a rate of one penny upon all the rateable property, and 12*s.* per year upon each horse in the kingdom, and that would suffice to keep all the roads in repair, and secure the abolition of turnpikes in England and Wales. As a proof of the monstrous injustice of the continuance of turnpikes, whilst one class of persons were compelled to pay another escaped altogether. Mrs. Wilson, the omnibus proprietress, of Islington, kept 800 horses, upon which she had to pay 750*l.* per annum in the shape of tolls, whereas Messrs. Chaplin and Horne, the railway carriers, kept 1,200 horses, upon which they did not pay one single farthing. Mr. Bray proceeded to show that this was effected by the railway carriers, with their heavy loads, passing through the by-streets, to the great annoyance of the inhabitants, at all hours of the night, and depreciating the property from 25 to 35 per cent. In that parish the highway rate was 2*d.* in the pound, and by the plan of Mr. Pagan it would be reduced to one penny, therefore it was quite clear that the abolition of turnpikes would benefit the rate-payers. He moved the following resolution:—That the present system of collecting the revenue for the repairs of the turnpike roads in England and Wales is unequal in its operation, pressing excessively on the population in some localities, while those in other places are entirely exempt; that it is cumbrous and obstructive, preventing free intercourse with the different parts of the country, wholly unsuited to the present state of society, and impolitic in its economy, as full 50 per cent. is expended in the collection; that it is adapted only for the enrichment of lessees of tolls and others, induces a system of jobbing and extravagance by trustees, commissioners, surveyors, &c.; that, in short, it is calculated to produce a great amount of evil to society, without being in any way advantageous. The members of this vestry therefore feel it their duty to petition the Parliament of this kingdom to abolish such an expensive unjust system, and cause a moderate rate to be laid either on all the property or all the horses in the various counties, such rate to be collected, expended, and the turnpike and highway roads managed by county boards elected by and from the general body of rate-payers in each county.—Mr. Matthews seconded the resolution, which was likewise supported by Mr. Churchwarden Wagstaff, and carried unanimously.—A committee was then appointed to draw up a petition to Parliament for the abolition of toll-bars, to be placed in the hands of Sir B. Hall, Bart., and Lord Dudley Stuart for presentation.—*Daily News.*

Calendar of Operations.

MAY.

North Lincolnshire Wold Farm (750 acres), *May* 26.—We have been employed during the past week in planting Potatoes in the field, in drilling Swede Turnips upon ridges, manured with farm-yard dung, pigeon manure, cinder and soda ashes; in preparing the land for white Turnips, in stubbing Thistles amongst the corn, chalking roads, turning ant hills, clipping the sheep, &c. The Wheat plant looks well, Barley and Oats are suffering exceedingly from want of rain; the Pea crop is destroyed by the fly, and the Turnip seed in the ground and to sow will never vegetate until rain falls. The pastures are completely burned up, and meadows will be scarcely worth cutting.—*H.G.S.*

Notices to Correspondents.

Bones—*A B*—Eight shillings per cwt. is, at most seasons of the year, a very high price. We do not know what you will get by baking Linseed in an oven. Certainly something very different from oil-cake, which is merely the refuse husk in the form in which it is left by the oil press.

Professor Johnston—*An old Sub*—University, Durham.

Unfermented Bread—*J S H* says. "The formula given in your Paper of the 25th March for making unfermented bread, is so different in its proportions of the acid and alkali to the same quantity of flour, from those given in a pamphlet on the subject, 'by a Physician,' published in 1846, by Taylor and Walton, that I am uncertain which is safest to adopt, and would be glad to learn whether your formula has been successfully tested by experience. To 3 lbs. of flour, you give half an oz. of bicarbonate of soda and 5 fluid drachms of muriatic acid. To the same quantity of flour, the 'Physician' gives 10 drachms of soda, and no less than 12½ drachms of acid, which seems a very large proportion for two quartern loaves. The increase of the proportion of acid above yours is greater than that of the soda, so that in one or other there must be a chemical error in the quantity of acid required to saturate the soda."

*** Communications reaching town after Wednesday cannot be answered the same week.

Markets.

POTATOES, Southwark, Waterside, May 29.

The Committee report that trade during the past week has been heavy, which has caused a considerable reduction to be submitted to in the price of Yorkshire Regents. The following are the present quotations:—Yorkshire Regents, 120s. to 150s.; Kents, 110s. to 160s.; Wisbeach Regents, 100s. to 120s.; Scotch cups, 120s. to 140s.; reds, 120s. to 130s.; whites, 90s. to 100s.; Belgian do., 80s. to 85s.

COVENT GARDEN, June 3.

The market is well supplied with Vegetables and most kinds of Fruit. English Pine-apples are sufficient for the demand; a few foreign ones have also made their appearance during the week. Hothouse Grapes are plentiful, and Peaches and Nectarines more abundant. English Melons have also made their appearance in considerable quantity, and a few Dutch ones are likewise in the market. Nuts are sufficient for the demand. Filberts fetch from 14s. to 20s. per 100lbs. Oranges are abundant. Lemons are moderately plentiful. Strawberries very plentiful. Among Vegetables, Carrots and Turnips are abundant and good; Cauliflowers, Broccoli, Greens, &c., sufficient for the demand. Asparagus is abundant. Sea-kale is all but over, and French Beans are scarcer. Frame Potatoes may be bought at from 6d. to 1s. 6d per lb. Lettuces and other salading are sufficient for the demand. Mushrooms are a little dearer. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Rhododendrons, Fuchsias, Carnations, Acacias, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 6s to 10s	Oranges, per 100, 3s to 12s
Grapes, hothouse, per lb. 5s to 8s	— bitter, per 100, 8s to 16s
— Portugal, per lb., 1s	Lemons, per doz., 1s to 2s
Peaches, per doz., 15s to 24s	— per 100, 4s to 14s
Nectarines, per doz., 15s to 24s	Almonds, per peck, 6s
Melons, each, 4s to 8s	— sweet, per lb., 2s to 3s
Strawberries, p. small pottle, 1s to 2s	Walnuts, per bush., 12s to 18s
Apples, dessert, per bush., 5s to 12s	Nuts, Barcelona, per bush., 20s to 22s
— kitchen, p. bush., 4s to 7s	— Filberts, per 100 lbs., 14s to 20s
Gooseberries, green, p. hf sieve, 2s to 4s	— Cob, per 100 lbs., 25s to 30s
Currants, per half sieve, 3s to 4s 6d	— Brazil, per bush., 12s to 16s
Oranges, per doz., 9d to 2s	Chestnuts, per peck, 3s to 6s

VEGETABLES.

Asparagus, per 100, 1s to 4s	Onions, pickling, p. hf. sieve, 2s to 3s
Cabbages, per doz., 6d to 1s	Shallots, per lb., 6d to 8d
— Red, per doz., 6s to 12s	Garlic, per lb., 8d to 1s
Greens, p. doz. bunches, 9d to 1s	Rhubarb, per bundle, 4d to 1s
Cauliflowers, per doz., 2s to 6s	French Beans, per 100, 1s to 2s
Broccoli, per bundle, 1s to 2s	Radishes, per doz. bands, 6d to 1s
Sorrel, per half sieve, 6d to 9d	— Turnip, do., 9d to 1s
Potatoes, per ton, 100s to 180s	Artichokes, per doz., 4s. to 6s
— per cwt., 5s to 9s	— Jerusalem, p. hf. sieve, 1s
— per bush., 3s to 4s 6d	Lettuce, Cab., per score, 4d to 9d
— Kidney, per lb., 6d to 1s 6d	— Cos, do., 6d to 1s 6d
Turnips, p. bunch., 1s to 2s 6d	Mushrooms, per pottle, 6d to 1s
Red Beet, per doz., 6d to 1s	Small Salads, per punnet, 2d to 3d
Horse Radish, per bundle, 1s to 4s	Fennel, per bunch, 2d to 3d
Cucumbers, each, 6d to 1s	Savory, per bunch, 3d to 4d
Leeks, per doz., 1s to 1s 6d	Thyme, per bunch, 3d to 4d
Celery, per bundle, 1s to 2s 6d	Watercress, p. 12 small bun., 6d to 9d
Carrots, per bunch, 9d to 1s 6d	Parsley, per half sieve, 6d to 9d
Spinach, per sieve, 6d to 1s	— Roots, per bundle, 1s to 1s 6d
Peas, per sieve, 3s to 4s	Mint, green, per bunch, 2d to 4d
Onions, per bunch, 3d to 8d	Marjoram, per bunch, 6d to 9d
— Spanish, per doz., 1s to 4s	

HOPS, Friday, June 2.

Messrs. Pattenden and Smith report that they cannot, as yet, alter their late quotations. There continues a good demand for fine Sussex and Weald of Kent Hops. The fly remains about the same as last week. In some places the bine is growing rapidly, whilst in others it is still suffering from the effects of a wet winter, followed by a parching hot sun throughout the month of May. Duty estimated, 150,000*l.*

SMITHFIELD, Monday, May 29.

We have to-day a large supply of good Beasts; trade is dull, and the heavier description are rather lower; notwithstanding, a nice selling Bullock still makes 4s. 2d. There is an increased supply of Sheep and Lambs, and the demand has decreased; consequently lower prices are submitted to, especially for big Long-woolled Sheep. Trade is heavy for Calves; middling ones are rather lower, and late quotations are with difficulty supported for the best. The demand for Pigs is very limited. From Holland we have about 100 Beasts, 900 Sheep, and 153 Calves; from Scotland 600, and Norfolk and Suffolk about 2,600 Beasts.

Per stone of 8 lbs.—	s	d	s	d
Best Scots, Herefords, &c.	4	0	4	2
Best Short Horns	3	8	4	0
Second quality Beasts	2	10	3	4
Calves	3	8	4	10
Best Downs & Half-breds	....			
Ditto Shorn	4	8	5	0

Per stone of 8 lbs.—	s	d	s	d
Best Long Wools	....			
Ditto Shorn	4	4	4	8
Ewes and second quality	....			
Ditto Shorn	3	6	4	2
Lambs	5	8	6	8
Pigs	4	4	5	0

Beasts—3169. Sheep and Lambs—25,020. Calves—304. Pigs—398.

Friday, June 2.

The supply of Beasts is again large, but the weather being cool the demand has increased; Monday's prices are well maintained, but there is no quotable advance. Sheep and Lambs are plentiful; the former are readily disposed of at, and, in some few instances a little over, Monday's quotations. The latter came to hand in very bad average condition, consequently choicest kinds are no lower, but inferior suffer a reduction of fully 2d. per 8 lbs, with a slow trade. The number of Calves is large and the demand small, with 2d. per 8 lbs. reduction. Trade is more active for Pigs. From Holland there are about 140 Beasts, 840 Sheep, and 260 Calves; and 132 Milch Cows from the home counties.

Best Scots, Herefords, &c.	4	0	4	2
Best Short Horns	3	8	4	0
Second quality Beasts	2	10	3	4
Calves	3	6	4	8
Best Downs & Half-breds	....			
Ditto Shorn	4	8	5	0

Best Long Wools	....			
Ditto Shorn	4	4	4	8
Ewes and second quality	....			
Ditto Shorn	3	6	4	2
Lambs	5	6	6	8
Pigs	4	4	5	4

Beasts—1060. Sheep and Lambs—12,140. Calves—590. Pigs—390.

HAY.—Per Load of 36 Trusses.

Smithfield, June 1.

Prime Mead. Hay	70s to 75s	New Hay	—s to —s	Straw	26s to 30s
Inferior ditto	55 65	Clover	75 92		
Rowen	— —	New Clover	— —		

Trade very heavy. J. Cooper

MARK LANE, Monday, May 29.

Messrs. Kingsford and Lay report that there was a moderate supply of English Wheat by land carriage samples at market this morning, which, although the condition was somewhat improved, could not be disposed of until a reduction of 1s. to 2s. per qr. had been submitted to. Foreign, excepting the lowest qualities, which were in request for Ireland, was much neglected, although a similar decline would have been willingly acceded to. We observe no alteration in the value of English Barley, but the arrival of Foreign is considerable, and must be written 1s. to 2s. per qr. cheaper than on this day se'nnight. English Beans are 1s. per qr. dearer; Egyptian unaltered, as are also Peas.—Oats in granary are held firmly for last week's prices, but where they are required to be sold ex ship, a reduction of 6d. per qr. becomes necessary.—Flour remains as last quoted; low qualities are wanted for export to Ireland.—Rye-meal has advanced 10s. to 20s. per ton during the week, and Indian Corn 2s. per qr. upon Friday's rates.

British per Imperial Quarter.	s	s		s	s
Wheat, Essex, Kent, and Suffolk	White	56	Red	43	47
Norfolk, Lincolnshire, and Yorkshire		44	48	White	44	60
Barley, Malting and distilling, 27s to 30s	Chevalier	30	34	Grinding	25	28
Oats, Lincolnshire and Yorkshire	Polands	22	24	Feed	20	24
Northumberland and Scotch	Feed	21	23	Potato	23	25
Irish	Feed	19	23	Potato	22	25
Malt, pale, ship		—	—			
Hertford and Essex		—	—			
Rye		27	30			
Beans, Mazagan, old and new	30s to 38s	Tick.	30	42	Harrow	30	44
Pigeon, Heligoland	33	50	Winds	—	—	Longpod	—	—
Peas, White	34	38	Maple	35	37	Grey	30	33

Friday, June 2.

The arrivals of English Grain during the week have been moderate, those of Wheat and Barley from abroad large, although there has been little addition since Tuesday. There was a fair attendance at market this morning, and Wheat met rather an improved inquiry at Monday's prices, but principally for Mediterranean qualities, whilst out of condition Baltic, of which the supply chiefly consists, was neglected.—Barley and Beans are a slow sale, and the turn cheaper.—Peas are unaltered in value.—Oats improved a little on Wednesday, but are a less free sale this morning.—Indian Corn and Meal are neglected, and may be bought rather cheaper.

During the last eight days showers have been general throughout the kingdom, and proved beneficial to the growing crops. Supplies of Wheat have exceeded the demand, and in the majority of markets, Ireland excepted, a decline of 1s to 2s. per qr. occurred both on English and foreign. Flour has been a very heavy sale, barely supporting our quotations. Indian Corn was in great request for Ireland, and advanced 2s per qr.; since Monday, however, the inquiry has decreased. In consequence of the arrivals of Barley exceeding the requirements of the moment, prices have given way 2s. per qr. English Beans have improved 1s per qr., but we observe no alteration in the value of foreign Peas. Oats in some markets, and here where vessels were coming on demurrage, have been sold 1d. to 1s. per qr. cheaper; nevertheless, there is a strong feeling in favour of an improvement. No change of moment has taken place on the Continent. The latest advices from America represent the Flour and Wheat markets as dull, with a tendency to decline in prices.]

Imperial Averages.	Wheat.	Barley	Oats.	Rye.	Beans.	Peas.
April 22	49s 0d	33s 2d	19s 8	29s 7	35s 3d	38s 2d
— 29	49 6	31 10	19 8	29 0	34 9	37 6
May 6	50 1	32 4	19 8	31 11	35 7	36 3
— 13	49 10	32 8	20 2	29 10	35 6	35 9
— 20	48 4	32 7	20 4	29 2	36 3	35 9
— 27	47 8	32 8	20 8	28 9	36 9	36 11
Aggregate Average	49 1	32 4	20 0	29 8	35 8	36 9
Duties on Foreign Grain	8 0	2 0	2 6	2 0	2 0	2 0

Fluctuations in the last six weeks' Corn Averages.

Price.	April 22.	April 29.	May 6.	May 13.	May 20.	May 27.
50s 1d	...	...	...	...	...	...
49 10	...	...	...	...	...	...
49 6	...		...	...	...	...
48 10			...	...	...	...
48 4	...	...	...	...	...	
47 8	...	...	...	...	...	

Sales by Auction.

EAST INDIAN ORCHIDS.

MR. J. C. STEVENS is instructed to announce for Sale by Auction, at his Great Room, 38, King street, Covent Garden, on Tuesday, 6th June, at 1 o'clock precisely, one of the finest and most valuable collections of EAST INDIAN ORCHIDS ever imported into this country. It consists of upwards of 60 strong healthy plants of Phalænopsis grandiflora, also fine specimens of Vanda tricolor, V. Josiguis, and several other fine new Vandas; Saccolabium Blumei, Aerides quinquevulnerum, the true Renanthera matutina, Dendrobiums, Cœlogynes, &c. All the plants are in excellent condition.—May be viewed on Monday and morning of sale, and Catalogues had.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS PROTHEROE AND MORRIS will submit to public competition at the Auction Mart, Bartholomew-lane, on Thursday, June 8th, 1848, at 12 o'clock, a very rich collection of DAHLIAS, comprising all the new varieties of the season; also a splendid assortment of Geraniums and other plants in bloom, the newest varieties of Fuchsias, Verbenas, and a collection of plants for bedding.—May be viewed the morning of sale, and Catalogues had, at the Mart, and of the Auctioneers, American Nursery, Leytonstone.

IMPORTANT SALE OF ABOUT 1000 CAMELLIAS, in first-rate condition, and well set with bloom buds.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions by Mr. Press to offer to Public Competition by Auction, on the Premises (near the Church), Hornsey, on Tuesday, June 27th, 1848 at 11 o'clock, about 1000 CAMELLIAS, from 18 inches to 11 feet, comprising the finest specimens in the country of triumphans, delicatissima, latifolia, conspicua, imbricata alba, Fordii, Sweetii, Blackburniana, Frankofurtensis, King, Presley's Queen Victoria, and many others. Gentlemen and Florists are respectfully invited to inspect and purchase a few specimens of this delightful assortment, and so increase the attraction of their Greenhouses, by adding varieties rarely to be met with.—May be viewed prior to the Sale, and Catalogues had on the premises, of the principal Seedsmen, and of the Auctioneers, American Nursery, Leytonstone.

TO AMATEURS AND OTHERS.

TO BE SOLD, PRIVATELY, A COLLECTION OF PINES, consisting of about 50 Fruiting and Succession Plants of the best varieties, grown on Hamilton's system. The whole warranted perfectly clean. For particulars, apply by letter, to M. C., Post-office, Nutfield, Surrey.

TO BE SOLD, a rich and fruitful GARDEN, with extensive Graperies and Cottage Residence. It is situate about 2½ miles west of London, and is planted with the choicest Fruit Trees. The walls, which are 12 feet high, covered with trained Peach, Nectarine, and Apricot Trees, surround the property, and embrace an area of above two acres. This is a most eligible property for a Fruit or Flower Grower, or as an investment for a Cap talist.—For particulars, apply to Mr. C. R. STANHAM, Edward's-terrace, Kensington; or to Mr CHINNOCK, 28, Regent-street, London.

BROMLEY, KENT.

TO BE DISPOSED OF, AN OLD-ESTABLISHED NURSERY and SEED BUSINESS, in consequence of the death of the late proprietor, in whose possession, and that of the family, it has been many years.—Apply to Mr. BAXTER, Auctioneer, Bromley, Kent.

MERRIOTT, NEAR CREWKERNE, SOMERSETSHIRE.

TO BE LET, and entered on immediately, on most advantageous terms, an Old Established and Well Stocked NURSERY, containing, by estimation, Ten Acres (more or less), situated in the above parish; together with an excellent Hothouse thereon, filled with choice Vines in full bearing, and valuable plants; adjoining which is a comfortable Cottage, with convenient Cart-house, Packing Sheds, Seed Room, &c.

Merriott is situated within a short distance of the populous towns of Ilminster, Ilchester, Yeovil, Crewkerne, Chard, Taunton, &c., to which latter place conveyances pass to and fro daily, in connection with the railways to all parts of England.

To view the above, application may be made to Mr. ANDREWS, at the Cottage on the Nursery; and further particulars and terms of letting may be known on application to Mr. WHITLEY, Solicitor, Wrington, near Bristol, Somerset.—Wrington, June 3.

TO BE LET ON LEASE, for the term of 14 or 21 years, A NURSERY GROUND of nearly 5 acres, with a suitable House, near the Church, at Streatham, Surrey; rent, 40*l.* per annum. The whole is well stocked, and in full business. The Stock to be taken at a valuation. For further particulars, enquire of Messrs. PROTHEROE and MORRIS, American Nursery, Leytonstone; or of Mr. GAITSKELL, Solicitor, 99, Upper Stamford-street, Waterloo-road.

WRIGHT'S STACK PRESERVER.—The frequent loss occasioned through the spontaneous combustion of Hay, Barley, &c., render this unfailing Preserver of the greatest importance to every Agriculturist. It is so simple in its construction and use that it cannot be injured or misused by the commonest labourer, and if used before ignition is infallible in its results. It has been long used in a particular locality for ventilating Hay and Corn Ricks when heated, and has been proved effectually to prevent their being spoiled or discoloured. When first it is suspected that the rick is too much heated, a chimney should be made in the part of the rick where it is most needed, and loss or deterioration in value or even in colour will infallibly be prevented, and the destructive practice of cutting away a large part of the rick rendered needless. A circular aperture is quickly made by boring with the machine as low in the rick as may be required. It should be borne in mind that the loss occasioned by stacks destroyed by overheating cannot be recovered from any Fire Office. The price is so low and the security it offers is so certain and important as to recommend the possession of it to every Farmer. May be had of J. WRIGHT, Manufacturer, Ongar, Essex, and of all Ironmongers in the country.

Price 1*l.* 15*s.*, delivered carriage free.

HAY-MAKING MACHINES.—Improved Double Motion Reversing Hay-making Machines. Price Twelve Guineas. These Machines have all the latest improvements of the Double Rake Cylinders, driven from both ends, which causes them to work very lightly and admits of their turning in any direction at the end of the field, without impeding the working of the machine; they have also an additional motion by which the rakes can be turned the reverse way, leaving the hay remarkably loose and light.

The depressed state of the Iron trade enables COTTAM and HALLES to offer IRON BARROWS at extraordinary low prices. (See Price List.) Also every description of continued and strained Wire Fence, and Agricultural and Horticultural Implements with the latest improvements.

C. and H. have regulated the prices of all their articles agreeably with the present low price of materials. Hatcher's Bench-less Tile Machine is also reduced from 25*l.* to 2*l.*

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MARY WEDLAKE AND CO.'S PATENT HAY-MAKING MACHINES, with best action, 12*l.* 12*s.* Horse Hay-rake, of superior workmanship, 2*l.* 2*s.* Corn and seed rake, Linseed Cracher, 11*l.* 11*s.*, small ones, 6*l.* 15*s.*, 4*l.* 4*s.*, doing Beans, Linseed, and Oats, 16*l.* 16*s.* Threshing machines, doing upwards of 25 bonds of Wheat clean per day, 50 guineas. Gorse bruising machines, price 16*l.* 16*s.*, will prepare 15 to 20 bushels of food a day. MARY WEDLAKE and Co.'s Chaff cutting Machine, 200 to 200 bushels a day, price 7*l.* 7*s.* and 3*l.* 3*s.* Horse, Dressing Machine, Turnip Cutter, Turnip Drill, Scuffle rake, Oil cake Breakers, Bean and Oat Crushers, Subsoil Plough, Double Field Roller, &c. MARY WEDLAKE and Co., 118, Fenchurch-street, opposite Mark-lane.

WIRE FENCING, less than Two-inch mesh, made from No. 12 Iron Wire, and painted; to exclude Horses and Rabbits, Cats, Dogs, Deer, Sheep, &c., &c., 15 inches high, 3*d.* per yard; 2 feet, 4½*d.*; 3 feet, 6¾*d.*; 4 feet, 9*d.*; 6 feet, 1*s.*, or any width required at 2*d.* per square foot. Well adapted for enclosing Fowls, Pheasants, &c. ROBERT RICHARDSON, 21, Tonbridge-place, New-road, London.

TRANSPARENT SHEETING for Shading, Fumigating Cloths, and other garden purposes, a substitute for Glass, Mats, &c., 1*s.* per yard 2 yards wide, or, 6*d.* per yard 1 yard wide. Waterproof Tarpaulins, 1*s.* 2*d.* per yard 2 yards wide.—ROBERT RICHARDSON, Net and Tent Maker, 21, Tonbridge-place, New-road, London.

FISHING NETS, SHEEP NETS, &c.—Double Walled Trammel Nets, 3*s.* per yard, 6 feet deep, 1 inch mesh. Drag Nets, various lengths, from 5 to 500 yards long each. Carp and Tench Nets, Casting Nets, Nets for Lake and Pond Fishing. Various kinds made to order. Nets to cover in Pheasantries. Sheep Nets, nearly 4 feet high, 4½*d.* per yard, will last six years.—ROBERT RICHARDSON, Net and Tent Maker, 21, Tonbridge-place, New-road, London.

GARDEN NETS.—New Twine Net, 1-inch mesh, 1½*d.* per yard; ½-inch mesh, 2½*d.* per yard; Worsted, 1-inch mesh, 2½*d.* per yard; may be had in any width required. Old Fishing Nets tanned and mended upon the rate of 3*s.* per yard; strong Net, to exclude wasps and flies, 6*d.* per square yard; Net for shading greenhouse, excluding wasps and flies, giving sufficient light at all times, and requiring no rollers, 6*d.* per square yard; Bunting, Screens, &c.—ROBERT RICHARDSON, Net and Tent Maker, 21, Tonbridge-place, New-road, London.

TENTS FOR LAWNS; RICK CLOTHS, &c.—Tents made on the principle of a parasol; put up or taken down in five minutes; requiring no side lines; 12 feet diameter, 6 feet high in the lowest part, 5*l.* each; 10 feet diameter, 4*l.* Tents 12 feet square, 5*l.* each; 9 feet high in the lowest part, or made without a centre pole (a great advantage for convenience), 5*l.* 10*s.*, larger or smaller in proportion. Rick Cloth for 30 tons of Hay, 30 feet by 30 feet in size, 5*l.*, complete with side lines.—ROBERT RICHARDSON, Net and Tent Maker, 21, Toubridge-place, New-road, London.

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GREEN AND HOTHOUSES, CONSERVATORIES, &c, made and fixed Complete in all parts of the Kingdom, at a considerable reduction. One, two, and three light Cucumber and Melon Boxes, and Lights of all sizes, kept ready for use, packed and sent to all parts of the Kingdom; warranted best material. Two-light Boxes and Lights complete, from 1*l.* 5*s.* Garden-lights of every description at JAMES WATTS'S, Hothouse Builder, Claremont-place, Old Kent-road.

Reference may be had to the Nobility, Gentry, and the Trade, in most of the counties in England.

ASCOT RACES.—GREAT WESTERN RAILWAY.—Notice is hereby given that on Tuesday, 6th June, and on Thursday, the 8th June, SPECIAL TRAINS will run between Paddington and Slough for the convenience of parties attending Ascot Races. Additional Booking Offices will be opened at Paddington, and 1st and 2d Class Tickets will also be issued at the Paddington Station for any or all of the Race Days upon any previous evening; the holders of which, upon showing them, will be admitted to the Platform through the Iron Carriage Gates, without having to pass the Booking Offices. Tickets so taken will not require to be stamped on the return journey, but merely shown on entering the trains.

These Tickets can also be obtained on application at the Railway Offices, 449, West Strand; 24, Gresham-street, Bank; and at Messrs. Tattersall's, Grosvenor-place, Hyde Park Corner, on Monday and subsequent days. Persons wishing to send Carriages or Horses to Slough or Maidenhead, for Ascot Races, must make early application at the Railway Station to secure a Truck or Horse Box for that purpose.

Hand Bills giving full particulars of the Trains, &c, will be issued and may be obtained at the Railway Offices, on and after the 1st June, 1848.

By order of the Directors. CHAS. A. SAUNDERS, Sec.
Paddington, June 3.

ASCOT RACES.—The Proprietors of the London Conveyance Company, and the Paddington Conveyance Association, beg to inform the public that they have arranged for a plentiful supply of Omnibuses to work from the Slough Station of the Great Western Railway to Ascot and back, on all four Race Days. The fare will be 10*s.* from Slough to the Course and back. Full particulars may be obtained at the Paddington Station of the Great Western Railway, on and after the 1st June, 1848.

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GODFREY'S EXTRACT OF ELDER FLOWERS is strongly recommended for Softening, Improving, Beautifying, and Preserving the SKIN, and in giving it a brilliant and charming appearance, being at once a most fragrant perfume and delightful cosmetic. It will completely remove Tan, Sun-burn, Redness, &c., and by its balsamic and healing qualities, render the skin soft, pliable, and free from dryness, scurf, &c., clear it from every humour, pimple, or eruption; and, by continuing its use only a short time, the skin will become and continue soft and smooth and the complexion perfectly clear and beautiful. Sold in bottles price 2*s.* 9*d.*, with directions for using it, by all Medicine Vendors and Perfumers.

BENHAM'S SHOWER BATHS.—BENHAM AND SONS can with great confidence recommend these BATHS, which are manufactured on their own premises, and very superior in construction to those usually advertised.

B. and SON will warrant their Baths as not only the best but the cheapest of all others. Eye Baths, Sitz Baths, Hydropathic, Hip, Knee, Leg, and Feet baths; also Portable Warm Baths, which may be heated at the bed side.—Wigmore-street, Cavendish-square.

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BENHAM'S CREAM FREEZERS will freeze a quart of cream fit for the table in six minutes. Price 8 guineas.

Patent KNIFE CLEANERS.—BENHAM and SONS, agents, price 7*os.* These machines not only clean but actually polish the knives, and the most unskilful person can accomplish the work in less than one-fourth the time usually employed. They are now adopted at all the principal Hotels.—16, Wigmore-street, Cavendish-square.

SHANKS' IMPROVED GRASS CUTTING AND ROLLING MACHINES.

The complete success which has attended the introduction of this Improved Machine for Mowing Grass, and the low estimation for cutting the Grass of Lawns, has been fully proved by the numerous instances where it has been tried and now in common use, particularly at Lowther Private Compressions and Knowsley Park, the extensive Pleasure Grounds at Chatsworth, Carlton, and at many other noblemen and gentlemen's seats in England, as well as abroad. The Machines are made to cut from 24 to 52, 36 or 40 inches as required, to be easily adapted to horse power. The Machine performs three different operations at one time, viz. Mowing and collecting the Grass and leaves with perfect ease, leaving a beautiful smooth surface, and succeeds with great success in abridging labour.

Orders may be addressed to Messrs. ALEXANDER SHANKS and SON, Machine makers, Arbroath, N.B., by whom further particulars will be given.

Sold by Messrs. F. and J. JACKSON, Nurserymen, Chester; Messrs. J. and C. LEE, Nurserymen, Hammersmith; and Mr. GEORGE BALLEY, Nurseryman, Castle-street, Liverpool.

WIRE NETTING ONE PENNY PER SQUARE FOOT.—The above Netting is strongly formed for the protection of Flower Gardens and Shrubberies against the depredations of Hares and Rabbits. For Aviaries, Pheasantries, and to prevent Poultry from straying it is a cheap and elegant fence for the more costly kinds, and is also peculiarly adapted for training Espaliers and other fruit-bearing plants. The following widths always kept in stock in large quantities:—24 inches wide, 1*d.* per running yard.

30	do.	1½*d.*	do.	do.
36	do.	2*d.*	do.	do.
48	do.	3*d.*	do.	do.

T. H. FOX is particularly desirous of directing the attention of the public to his great variety of useful and ornamental Wirework, consisting of Flower Stands, Trellises, Dahlia Rods, Garden Arches and Borderings, Fire Guards, &c., Wire Blinds, Reliefs, Fenders, Fly-proof Dish Covers, and every description of Wove Wire.

A Post-office order, payable to THOMAS HENRY FOX, Cromwell-hill, London, for any amount, will meet with immediate attention.

STARR'S PATENT PROTEAN JET.—This simple, yet effective JET, is the most economical that has ever been brought before the public for horticultural purposes, as it obviates the necessity of changing a variety of jets to produce various forms, as in the Protean Jet they are all comprised in one, and the change immediately effected by turning a handle for that purpose. They can readily be fitted to any description of Garden Engine now in use.

T. S. STOCK'S REGISTERED PORTABLE FIRE AND GARDEN ENGINE.—The advantages of this Engine are its possessing great power, combined with simplicity of construction, portability, and economy.

The above are manufactured only by Messrs. STOCK and SHARP, Temple-street, Birmingham, and are to be procured through any respectable Ironmonger in the Kingdom.

EVERYTHING FOR THE WORK-TABLE, AT MECHI'S MANUFACTORY, No. 4, LEADENHALL-STREET, LONDON.—Ladies are respectfully invited to visit this emporium of elegancies, to select their requisites, namely, finger-guards, side-winders, needles, pins, scissors, netting boxes and materials, and all other requisites for Ladies' work. MECHI has the most splendid stock in London of Ladies' Work Tables and Work Boxes, in Papier Mâché and fancy woods; also a great variety of Ladies' Companions and Pocket books, elegantly fitted up. Splendid Papier Mâché dressing and writing cases, card cases, card racks, watch stands, playing card cases, hand and pole screens, inkstands, &c. Chessmen in ivory and bone, some superlatively beautiful.

MICROSCOPES.—A Good Compound Microscope, magnifying 200 times, with apparatus complete, for examining live or dead insects, flowers, animalcula, minerals, crystals, seeds, &c., with full instructions for use, 1*l.* 1*s.*

Pocket Magnifiers, with single, double, and treble lenses, for flowers and insects, 2*s.* 6*d.* and 5*s.* Self-registering Sixes Thermometers, not liable to get out of order, 5*s.* 6*d.* Garden Thermometers, 2*s.* each. Post-office orders carefully attended to.—HENRY BAKER, Optician, &c., 244, Hatton-garden, London.

GREAT REDUCTION IN THE PRICE OF PLATE GLASS.

THE UNION PLATE GLASS COMPANY, Pocket Book, St. Helens; 282, Hatton-garden, London; 10, Tooke-street, Morley-street, Manchester; and 26, North John-street, Liverpool; inform Founders and the Trade generally that they are now selling ordinary glazing sizes of PLATE GLASS from 2*s.* to 2*s.* per foot, and smaller plates suitable for Counters, Greenhouses, and Conservatories, at 6*d.* to 1*s.* per foot.—RICHARD YATES, Secretary, London.

Now ready, to be had of all first class dealers,

SUMMERLY'S ART-MANUFACTURES, by Bell, Creswick, Dyce, Eastlake, Maclise, Mulready, Redgrave, Townsend, Westmacott, &c.

	£.	s.	d.
Stratford Shakespere Statuette	5	5	0
Prayer (boy) Statuette	1	1	0
Relief from Statuette	1	1	0
Carved wood fire easels, various prices.			
Earthenware Subterranean	0	5	0
Gilt Decanters, each	0	2	6
Gilt Wine Glasses, each	0	0	6
Soda-water Glasses, various prices.			
Sauce Pot	0	4	0
Cream Pot	0	1	6
Una and the Lion (Parian)	2	5	0
Penitence (Bronzed, Parian)	2	2	0
Neptune Subterranean (Silver and Parian)	1	7	0
Kissing Cupids (Parian)	0	9	0
Arab's Inkstand (Parian)	1	1	0

	£.	s.	d.
Bronze Inkstand	0	6	0
Decanter Stopper, per pair, plated, various prices.			
Wine Wards and Bits, various prices.			
Earthenware Cheese Cover	1	10	0
Tea Paper Cutter	2	5	0
Wine Tray (paper mache)	2	10	0
Iron Stove Door Jambs	0	18	0
Iron Fender and Trimmings	1	0	0
Teapot (silver)	0	14	0
Do. (plated)	0	9	0
Tea Caddy (Sandalwood)	0	10	0
Tea Caddy in wood, various prices.			
Bone Knife	1	1	0
Newspaper Planer, various prices			
Terra Cotta Brackets, each	0	0	0

The Art-Manufactures Circular, with 24 engravings sent on receipt of 3 postage stamps, from CUNDALL'S, 12, Old Bond-st.

WARMING BY HOT WATER, AND ALSO BY AN IMPROVED POLMAISE STOVE.

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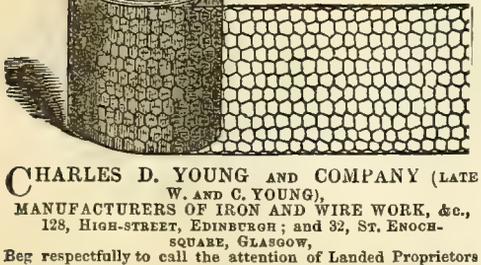
CONSERVATORIES, FORCING HOUSES, and every description of Horticultural Buildings, Churches, Dwelling-houses, &c. perfectly warmed by the circulation of Hot Water through cast iron pipes; the principle being rendered very simple in construction, effective in operation, and economical in the cost of the apparatus and consumption of fuel—the result of the great experience which C. and H. have obtained by their warming buildings for every possible purpose for many years past.

AN IMPROVED POLMAISE STOVE, exposing a much larger heating surface than flat plates.

Horticultural Buildings erected of Iron or Wood, or of Iron and Wood combined; Verandahs, Ornamental Iron and Wire Work, Hand-glass frames, Flower Stakes, Hurdles, and every description of Fencing; Bedsteads, brass and iron; the patent Rheocline or Spring Bedstead; Stoves, Ranges, Furnishing Ironmongery, Agricultural Implements, &c.

Show Rooms for every description of Iron Work, &c., at the Manufactory, No. 2, Winsley-street, and 76, Oxford-street, three doors from the Princess's Theatre.

STRONG PREMIUM HARE AND RABBIT PROOF WIRE NETTING.



CHARLES D. YOUNG AND COMPANY (LATE W. AND C. YOUNG),
MANUFACTURERS OF IRON AND WIRE WORK, &c.,
128, HIGH-STREET, EDINBURGH; and 32, ST. ENOCH-SQUARE, GLASGOW,

Beg respectfully to call the attention of Landed Proprietors and others to their strong Wire-Net Fence, for excluding Hares and Rabbits from Gardens, young Plantations, Nu. series, &c.

This Net was exhibited at the Show of the Highland and Agricultural Society of Scotland, held lately at Inverness, where its Efficiency, Great Strength, and Exceeding Cheapness attracted general attention, and had awarded from the Judges the Society's Silver Medals, with high commendations.

The immense damage done by Hares and Rabbits in Gardens and Young Plantations, is often so great, that in the course of a year or two it will amount to more than the entire cost of protecting them with this Net. It is so durable, that when Plantations are sufficiently advanced to be independent of its protection, it can be removed to other exposed situations with the greatest facility, by any labourer. As a Fence against Hares and Rabbits, it is of itself quite sufficient, having only to be unrolled and attached, with small wire sent for that purpose, to wooden stakes driven into the ground, about every six or seven feet apart. It is, besides, peculiarly adapted for rendering Hedges, Paling, or other existing Fences, *completely impervious* to such vermin: and by being cut up into small pieces of three or more feet, as required, it forms a most efficient guard, at little expense, for individual Plants and Shrubs.

PRICES.—18 ins. high, 9*d.*; 24 ins., 1*s.*; 30 ins., 1*s.* 3*d.*; and 36 ins., 1*s.* 6*d.* per lineal yard.

Or a web of 100 yards, 18 ins. wide, will cost	...	£3	15 0
Do. of 100 yards, 24 ins. wide	... ...	5	0 0
Do. of 100 yards, 30 ins. wide	... ...	6	5 0
Do. of 100 yards, 36 ins. wide	... ...	7	10 0

If more or less than a web is required, it would be charged at the same rate per yard.

This Netting is also admirably adapted for Pheasantries and Poultry-yards, and is charged at the same rate. As carriage has, in many instances, been an obstacle to parties at a distance requiring this Net, C. D. Y. and Co. have made arrangements by which they will undertake to deliver it at any of the principal ports of Scotland, England, and Ireland, for One Halfpenny per lineal yard.

C. D. YOUNG and Co. cannot give a better idea of the great strength of their Premium Wire Netting than by stating that the weight of one yard of their 24-inch at 1*s.* is equal to 2¼ yards of another article in the market, the same width, at 9*d.* per yard. Samples for inspection sent free of expense.

C. D. YOUNG & Co. manufacture every description of IRON and WIRE WORK required for this and foreign countries.

Workmen sent to all parts of Scotland, England, and Ireland.

THE GROWTH AND PRESERVATION OF THE HAIR.

ROWLANDS' MACASSAR OIL insinuates its balsamic properties into the pores of the head, nourishes the Hair in its embryo state, accelerates its growth, cleanses it from Scurf and Dandriff, sustains it in maturity, and continues its possession of healthy vigour, silky softness, and luxurious redundancy, to the latest period of human life. In the growth of WHISKERS, EYEBROWS, and MUSTACHIOS, it is also unfailing in its stimulative operation. For Children it is especially recommended, as forming the basis of a beautiful head of hair, and rendering the use of the fine-comb unnecessary. A small pamphlet accompanies each bottle of ROWLANDS' MACASSAR Oil, wherein important hints and advice will be found on the Culture of the Hair of Infancy, and on its preservation and beauty through the several stages of human life. Price 3*s.* 6*d.*—7*s.*—Family bottles (equal to four small), 10*s.* 6*d.*; and double that size, 21*s.* per bottle. Each bottle of the genuine article has the words, "ROWLANDS' MACASSAR OIL," engraved in two lines on the Wrapper; and on the back of the Wrapper nearly 1500 times, containing 29,028 letters.—Sold by them at 20, Hatton-garden, London, and by all Chemists and Perfumers.

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CONTAINING A BEAUTIFUL COLOURED PLATE OF "FUCHSIA SPECTABILIS."

Number I. of this work has been reprinted, and is now ready.

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THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 24.—1848.] SATURDAY, JUNE 10. [PRICE 6d.

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AYLESBURY FLORAL AND HORTICULTURAL SOCIETY.

STABLISHED 1822.—OPEN TO THE UNITED KINGDOM.

The Second Show of the Season, advertised for Thursday the 9th inst., is altered for Monday, 19th of June. The Show will ake place in the County Hall, at 12 o'clock, when premiums ill be awarded for Roses, Geraniums, Fuchsias, Stove plants, trawberries, &c., &c.

Exhibitors, who are non-subscribers, are required to give otice of entrance to the Secretary at least three days before he Show.

Schedules of the Prizes and every information to be had on pplication to the Secretary.

H. CHURCHILL, Church-yard, Aylesbury, June 10.

ZOOLOGICAL GARDENS, REGENT'S-PARK.—Visitors are admitted WITHOUT ORDERS on MONDAY, in every week, at SIXPENCE EACH; on the following days at ONE SHILLING EACH. Children at Sixpence each, except on June 24 and July 22. The Band of the First Life Guards will perform every Saturday at 4 o'clock; admission as usual. The new entrance in the Broad Walk is now open.

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ROBERT JOSLING, Seedsman, St. Albans, June 10.

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ADMITTANCE GRATIS.

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HOTHOUSES, & HEATING BY HOT WATER.
BEST MATERIALS AND WORKMANSHIP.
AT SMITH'S, GLEBE-PLACE, KING'S-ROAD, CHELSEA, LONDON.
ESTABLISHED TEN YEARS.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

PERUVIAN AND BOLIVIAN GUANO ON SALE,
By THE ONLY IMPORTERS,
ANTONY GIBBS AND SONS, LONDON;
WM. JOSEPH MYERS AND CO., LIVERPOOL;
And by their Agents,
GIBBS, BRIGHT, AND CO., LIVERPOOL and BRISTOL;
COTESWORTH, POWELL, AND PRYOR, LONDON.

To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

THE LONDON MANURE COMPANY beg to offer, on the best terms, Peruvian Guano, warranted genuine, delivered direct from the Importers' warehouses; Superphosphate of Lime, in any quantity; Sulphate of Ammonia, Nitrate of Soda, Sulphuric Acid, fine Bone Sawdust, Gypsum, Potter's Guano, Soda Ash, Petre, Agricultural and Fishery Salt, and every other artificial Manure.

The URATE of the LONDON MANURE COMPANY has now stood the test of seven years, with a largely increasing sale. It is recommended with the greatest confidence for Turnips, Mangold Wurzel, Carrots, and all root crops; also for Coleseed, Tares, Barley, &c. Unlike many other artificial Manures, its effects are not exhausted by the first crop; and when from any cause the crop of Turnips to which it has been used fails, its full fertilising properties remain for the next full crop. Testimonials and full particulars forwarded free. The LONDON MANURE COMPANY most earnestly request their friends to order the Urate direct from themselves, or their accredited Agents, so as to prevent any other article of a totally different manufacture being substituted. EDWARD PURSER, Sec.

No. 40, Bridge-street, Blackfriars.

☞ Sole Manufacturers of Mr. J. C. Nesbit's Chemical Manures.

THE following MANURES are Manufactured by Mr. LAWES, at his Works at Deptford-creek:—

Corn Manure .. 14l. per ton. | Grass Manure .. 14l. per ton.
Clover do. .. 14l. ,, | Turnip do. .. 7l. ,,
Superphosphate of Lime, 7l. per ton.

Mr. LAWES has also made preparations for supplying the various artificial MANURES of commerce, and if Agriculturists will trust the selection of them to him, and will furnish him with the necessary information, he will supply those which he considers most suitable to the soil and crops. A paper containing the questions required to be answered will be forwarded upon application to his Office, 69, King William-street, City, London.

MR. J. C. NESBIT'S CHEMICAL MANURES.

THE LONDON MANURE COMPANY beg to announce that they have undertaken the exclusive manufacture of the manures recommended by Mr. J. C. Nesbit. The substances used in their preparation will be subjected to Mr. Nesbit's analysis, and every care will be taken in their manufacture. HOP MANURE, Superphosphate of Lime, Wheat and Clover Manure. A Pamphlet on Artificial Manures, by Mr. J. C. Nesbit, now ready.

The London Manure Company have also made arrangements for a large supply of Fishery and other Salt, which they can offer on good terms.

E. PURSER, Secretary, 40, Bridge-street, Blackfriars.

PERUVIAN and other SOUTH AMERICAN and AFRICAN GUANO, sold in any quantity, from a bag and upwards: from London, Liverpool, or Hull. Also, Superphosphate of Lime and Nitrate of Soda.—Apply to JOHN BOYD and Co., 2, Wellington Chambers, London-bridge, Borough, London.

PROTOXIDE PAINT FOR STUCCO FRONTS, for Iron, Brickwork, and Wood. Manufactured only by CHARLES FRANCIS and SONS, Cement Works, Nine Elms.

TODD'S PATENT METALLIC PROTOXIDE PAINT.—This Paint has been most severely tested for nearly four years, by Architects, Engineers, and Surveyors of the greatest eminence, and has been found, for cemented houses, iron, stone, brick-work, and every description of painting, both external and internal, to be greatly superior to any other pigment; its innocuous qualities and great durability render it peculiarly adapted for the painting of houses and large establishments during their occupancy. Orders to be addressed to Mr. B. Todd, Patentee, 23, Dean-street, Soho, London.

WRIGHT'S STACK PRESERVER.—The frequent loss occasioned through the spontaneous combustion of Hay, Barley, &c., render this unfailing Preserver of the greatest importance to every Agriculturist. It is so simple in its construction and use that it cannot be injured or misused by the commonest labourer, and if used before ignition is infallible in its results. It has been long used in a particular locality for ventilating Hay and Corn Ricks when heated, and has been proved effectually to prevent their being spoiled or discoloured. When first it is suspected that the rick is too much heated, a chimney should be made in the part of the rick where it is most needed, and loss or deterioration in value or even in colour will infallibly be prevented, and the destructive practice of cutting away a large part of the rick rendered needless. A circular aperture is quickly made by boring with the machine as low in the rick as may be required. It should be borne in mind that the loss occasioned by Stacks destroyed by overheating cannot be recovered from any Fire Office. The price is so low and the security it offers is so certain and important as to recommend the possession of it to every Farmer. May be had of J. WRIGHT, Manufacturer, Ongar, Essex, and of all Ironmongers in the country.

Price 1l. 15s., delivered carriage free.

CHEAP AND DURABLE ROOFING.—Houses of all descriptions can be roofed at less than one-half the ordinary cost, by using the

PATENT ASPHALTED ROOFING FELT,
Manufactured by
FRANCIS RITCHIE AND SONS, BELFAST,

who also make INODOROUS FELT for lining damp walls under paper in place of lead. Samples, directions, and all necessary information sent free, on application to the Manufacturers, or any of the following Agents:—

Bristol—Tratman, Brothers.
Carlisle—Edward Jobling.
Hull—Thomas Flint.
Liverpool—Chapman, Bowman, and Co.
London—Hay, Anderson, and Sangster, Newington Butts
Manchester—James Hurst, 14, High-street.
Newcastle-on-Tyne—Richard Warham
Southampton—John Vaux
Whitehaven—Randleson and Forster.

Hurst and M'Mullen, Seedsmen, 6, Leadenhall-street, London.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK AND TILE MACHINE COMPANY (James Smith, Esq., of Beanston, Chairman) invite attention to their IMPROVED BRICK and TILE MACHINES, which are to be seen at work at Alperton, and at the Company's Office, 193A, Piccadilly, from 10 A.M. to 5 P.M. Mr. Robert Scrivener, who has been appointed Manager in the room of Mr. John Ainslie, will show the Machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, 193A, Piccadilly, London.

These Machines may also be seen at Mr. Slight's, Leithwalk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill, 135, Buchanan-street, Glasgow; Mr. Robert Charles, Mill-hill, Leeds; Messrs. Penny and Finch, Penkeridge, Staffordshire; Messrs. Drummond and Son, Dublin; and at Mr. John Connor's, Newtown Limavady, County Derry.

WIRE NETTING ONE PENNY PER SQUARE FOOT.—This article forms a light and durable fence for the protection of Flower Gardens and Shrubberies against the depredations of Hares and Rabbits. For Aviaries, Pheasantries, and to prevent Poultry from straying, it is a cheap and elegant substitute for the more heavy fences, and is also peculiarly adapted for training Honeysuckles and other creeping plants. The following widths always kept in stock in large quantities:—24 inches wide, 6d. per running yard.

30	do.	7½d.	do.	do.
36	do.	9d.	do.	do.
48	do.	1s.	do.	do.

T. H. FOX is particularly desirous of directing the attention of the public to his great variety of useful and ornamental Wirework, consisting of Flower Stands, Trainers, Dahlia Rods, Garden Arches and Bordering, Fire Guards, &c.; Wire Blinds, Riddles, Fenders, Fly-proof Dish Covers, and every description of Wove Wire.

A Post-office order, payable to THOMAS HENRY FOX, 63, Snowhill, London, for any article, will meet with immediate attention.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as building and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

PATENT FLEXIBLE INDIA-RUBBER PIPES and TUBING for RAILWAY COMPANIES, BREWERS, DISTILLERS, FIRE ENGINES, GAS COMPANIES, GARDENING and AGRICULTURAL PURPOSES, &c.

THE PATENT VULCANISED INDIA-RUBBER HOSE PIPES are made to stand Hot Liquor and Acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible), and as they require no application of oil or dressing, are particularly adapted for Fire-engines, Pumps, Gas, Beer-engines, Gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes from ¼ inch bore upwards, and of any length to order.

Vulcanised India-rubber Garden Hose, fitted with brass taps, copper branch, and roses complete, ready to be attached to Pumps, Water-butts, or Cisterns.—Sole Manufacturer, JAMES LYNE HANCOCK, Goswell Mews, Goswell-road, London.

N.B.—Vulcanised India-rubber Washers of all sizes for Joints of Hot-water and Steam Pipes, and Vulcanised Sheet Rubber, any thickness, for all kinds of Joints, and other purposes.

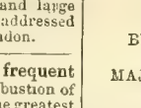
TURNIP SOWING.

MARK FOTHERGILL, 201A, Upper Thames-street, begs to offer the following MANURES for the Turnip Crop, viz.—

GUANO, PERUVIAN, direct from Import Warehouse.
SUPERPHOSPHATE OF LIME, manufactured from Bone only (superior to the cheap qualities made from fossils).
DRIED NIGHT SOIL.
BONE DUST AND HALF-INCH BONE.
SULPHURIC ACID.

Also Soda Ash, wireworm destroyer; pure Gypsum, or Mineral Sulphate of Lime (the rubbish offered cheap contains but little acid, the rest being carbonate of lime and water); Agricultural Salt, Nitrate of Soda, and all other Manures of known value. Prices current on application.

CHEAP AND DURABLE ROOFING.

BY HER MAJESTY'S  ROYAL LETTERS PATENT.

F. M'NEILL AND CO., of Lamb's-buildings, Bunhill-row, London, the Manufacturers and only Patentees of THE ASPHALTED FELT FOR ROOFING

Houses, Farm Buildings, Shedding, Workshops, and for Garden purposes, to protect Plants from Frost.

At the Great National Agricultural Shows, it is this Felt which has been exhibited and obtained TWO SILVER MEDAL PRIZES, and is the Felt SOLELY patronized and adopted by

HER MAJESTY'S WOODS AND FORESTS,
HONOURABLE BOARD OF ORDNANCE,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE COMMISSIONERS OF CUSTOMS,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANIC GARDENS, REGENT'S PARK,

And on the Estates of the Dukes of Sutherland, Norfolk, Rutland, Newcastle, Northumberland, Buccleuch (at Richmond), the late Earl Spencer, and most of the Nobility and Gentry; and *at the Royal Agricultural Society's House, Hanover-square.*

It is half the price of any other description of Roofing, and effects a great saving of Timber in the construction of Roofs. Made to any length by 32 inches wide.

PRICE ONE PENNY PER SQUARE FOOT.

*** Samples, with Directions for its Use, and Testimonials of seven years' experience, with references to Noblemen, Gentlemen, Architects, and Builders, sent free to any part of the town or country, and orders by post executed.

☞ The Public is cautioned that the only Works in London or Great Britain where the above Roofing is made, are

F. M'NEILL AND CO.'S

Patent Felt Manufactory, Lamb's-buildings, Bunhill-row, London, where roofs covered with the Felt may be seen.

The new Vice-Chancellor's Courts, at the entrance to Westminster Hall, were roofed with F. M'NEILL and Co.'s Felt about two years since, under the Surveyorship of Chas. Barry, Esq. R.A. Her Majesty's Commissioners of Woods and Forests are so satisfied with the result that they have ordered the Committee Rooms at the Houses of Parliament to be roofed with their Felt. Quantity altogether used, 24,000 feet.

Note.—Consumers sending direct to the Factory can be supplied in lengths best suited to their Roofs, so that they pay for no more than they require.

Every information afforded on the construction of Roofs, or any proposed particular application of the Felt.

SHANKS' IMPROVED GRASS CUTTING AND ROLLING MACHINES.

The complete success which has attended the introduction of this Improved Machine for Mowing Grass, and its fine adaptation for cutting the Grass of Lawns, has been fully proved by the numerous instances where it has been tried, and now in common use, particularly at Rossie Priory, Camperdown, and Kinblethmont, Forfarshire; Breadalbane, Perthshire; Clumber, and at many other noblemen and gentlemen's seats in England, as well as abroad. The Machines are made to cut breadths of 42, 30, or 20 inches, as required, the latter being adapted to hand-power. The Machine performs three different operations at one time, viz., Rolling, Mowing, and Collecting the Grass; and works with perfect ease, producing a beautiful smooth surface, and attended with great saving in abridging labour.

Orders may be addressed to Messrs. ALEXANDER SHANKS and SON, Machine-makers, Arbroath, N.B., by whom further particulars will be given.

Sold by Messrs. F. and J. DICKSON, Nurserymen, Chester; Messrs. J. and C. LEE, Nurserymen, Hammersmith; and Mr GEORGE BARRY, Nurseryman, Castle-street, Liverpool.

HAY-MAKING MACHINES.—Improved Double Motion Reversing Hay-making Machines, Price Twelve Guineas. These Machines have all the latest improvements of the Double Rake Cylinders, driven from both ends, which cause them to work very lightly, and admits of their turning in any direction at the end of the field, without impeding the working of the machine; they have also an additional motion by which the rakes can be turned the reverse way, leaving the hay remarkably loose and light.

The depressed state of the Iron trade enables COTTAM and HALLEN to offer IRON HURDLES at extraordinary low prices (See Price List.) Also every description of continued and strained Wire Fence, and Agricultural and Horticultural Implements with the latest improvements.

C. and H. have regulated the prices of all their articles agreeably with the present low price of materials. Hatcher's Benenden Tile Machine is also reduced from 25l. to 20l.

COTTAM & HALLEN, 2, Winsley-street, Oxford-street, and 76 Oxford-street, London.

STARR'S PATENT PROTEAN JET.—This simple yet effective JET, is the most useful and economical hitherto brought before the public for horticultural purposes, as it obviates the necessity of changing a variety of jets to produce various forms, as in the Protean Jet they are all comprised in one, and the change immediately effected by turning a handle for that purpose. They can readily be fitted to any description of Garden Engine now in use.

T. S. STOCK'S REGISTERED PORTABLE FIRE AND GARDEN ENGINE.—The advantages of this Engine are its possessing great power, combined with simplicity of construction, portability, and economy.

The above are manufactured *solely* by Messrs. STOCK and SHARP, Temple-street, Birmingham, and are to be procured through any respectable Plumber or Ironmonger in the kingdom.

EXHIBITIONS OF PLANTS, FLOWERS, AND FRUIT for PRIZES, to be awarded by the ROYAL BOTANIC SOCIETY, Regent's-park, on WEDNESDAY, June 14th and July 5th.—Tickets can be obtained at the Gardens, by orders from Fellows, price 5s., or on the days of exhibition, 7s. 6d. each.

CHICHESTER HORTICULTURAL SOCIETY.—The Summer Exhibition of Plants, Flowers, and Fruits, will be held, by the kind permission of the Lord Bishop of Chichester, in the Palace Gardens, on Thursday, the 22d of June, Open to the Public at 2 o'clock. Admission, One Shilling. A Band of Music will attend. Particulars of Premiums may be had of Mr. H. SILVERLOCK, Jun., Hon. Sec.

The Gardeners' Chronicle.

SATURDAY, JUNE 10, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

MONDAY	June	12	British Architects ..... 7 P.M. Geographical ..... 8 P.M.
TUESDAY	—	13	Medical and Chirurgical ..... 8 P.M. Zoological ..... 9 P.M.
WEDNESDAY	—	14	Royal Botanic Gardens ..... 2 P.M. Society of Arts ..... 8 P.M. Geological ..... 8½ P.M.
SATURDAY	—	17	Asiatic ..... 3 P.M.
MONDAY	—	19	Statistical ..... 8 P.M. Chemical ..... 8 P.M.
TUESDAY	—	20	Royal South London ..... 1 P.M. Linnean ..... 8 P.M. Civil Engineers ..... 8 P.M.
WEDNESDAY	—	21	Microscopical ..... 8 P.M.
THURSDAY	—	22	Medico Botanical ..... 8 P.M.
SATURDAY	—	24	Royal Botanic ..... 3½ P.M.

COUNTRY SHOWS.—Tuesday and Wednesday, June 13th and 14th: Durham Botanical and Horticultural.—Monday, June 19: Aylesbury Floral and Horticultural.—Thursday, June 22: Maidstone Horticultural, Chichester, Horticultural.—Friday, June 23: Devon and Exeter Horticultural, Staines Horticultural.

IT is now some years since we endeavoured to arouse attention to the IMPROVEMENT, by muling, of some of our common HARDY SHRUBS; and we particularly pointed out the Honeysuckle as a plant which was open to much change. In the genus Caprifolium we have species fragrant and tender, hardy and scentless, hardy and fragrant, evergreen and deciduous, weak growers of delicate constitution but beautiful like the "Minorca," and coarse uninteresting ramblers like the "pubescent." In colour too there is quite diversity enough to furnish materials for improvement—yellow, straw-colour, rosy and deep crimson.

There is no apparent reason why such qualities should not be varied so as to render this charming genus much better suited to our climate, and to the purposes of gardeners. There is no ground for supposing that the Scarlet Trumpet, tender and scentless, would not transfer its fine foliage and rich colours to the sweet but pallid Woodbine of the cottagers; the little Minorca evergreen might in like manner gain vigour from the Pubescent, the poor Glaucous sort brilliancy and fragrance from the Tuscan, the tender Japanese hardihood from the Woodbine, and so on. In fact as many possible combinations are presented by the genus Caprifolium as would alone occupy the serious attention of the skilful hybridiser.

If we had the leisure of our country friends we should provide ourselves with every description of Honeysuckle now in our gardens, and try all possible crosses, for the chance of success. It is impossible to predict what the exact result would be, so little do we know of the secret influences which determine the production of hybrids; the only certainty would be the acquisition of interesting and probably most valuable varieties. We should not however limit ourselves to the sorts in gardens. It would be quite as important to gain the Mediterranean and other species still unknown in cultivation. There is for example the Woodbine of the Pyrenees, by no means horticulturally identical with that of England; travellers to the Seo d'Urgel could collect the berries. Some of the wild Italian or Tuscan Honeysuckles are finer than any in cultivation here; they should be obtained from Trieste, Naples, Montpellier, and especially from the mountains of the Sierra Nevada in Spain, where BOISSIER found them as high as 5000 feet above the sea. Then there are two or three forms in the Balearic islands, differing much in vigour and colour, and we have before us a branch of a still more robust variety of the Minorca species from the thickets of Algiers. There is also a hoary heart-leaved species called "Canescens" found in Morocco, and in hedgerows near Adra in Grenada. And finally there is that charming blue-leaved, yellow, long flowered thing, which BOISSIER found on the Sierra Nevada, near San Geronimo, in copses, at the elevation of 5000 feet, and to which he gave the name of "Splendida." With materials such as these at his command, or but a small part of them, the ingenious gardener has as rich a field before him as he could desire, and one not unprofitable; for good novelties among Honeysuckles, although not valuable for exhibitors, have the greatest attraction to the thousands of true lovers of gardens who rank the Woodbine next to the Rose.

Let no one say that these are the speculations of an enthusiast, and that results such as are here anticipated will not be realised. For the satisfaction of those who prefer standing still to moving onwards, in the great dread that to move at all *may* be to step backwards, we can tell them that THE THING IS DONE. We have now before us specimens of a Honeysuckle quite novel in its appearance, and a decided improvement upon either of its parents. We owe our knowledge of it to an anonymous correspondent signing himself "R. T.," from whom we have the following letter:—

"With this you will receive flowers and leaves of two hybrid Honeysuckles. They are both from the same parents, but were raised in different years; one in 1845 and the other in 1846. The 'Trumpet' Honeysuckle is the male parent, and the 'pubescent' Honeysuckle is the female. I should say that the results from these two separate crossings are identical. Both have the bulging tube of the female parent, and the colour of the male: the foliage is [illegible] from the two parents. These roses are very handsome growers. You will observe that the peduncles of the [illegible] are long reduced, [illegible] segments of the male parent, [illegible] It may be right to add [illegible] of the male, that the [illegible] the foliage and habit of the [illegible] Trumpet [illegible]—*June 2, 1848.*"

This is a [illegible] conclusively [illegible] required to make [illegible] announced. In order to render [illegible] apparent, we have [illegible] description of the [illegible]

	Scarlet Trumpet Honeysuckle. (*Male Parent.*)	[illegible] (*Female Parent.*)	[illegible] (*Hybrid.*)
HABIT	Weak.	Strong.	Strong.
LEAVES	Evergreen, shining, dark green, glaucous beneath, quite smooth.	Deciduous, wrinkled, pale green, very hairy, coarse.	Evergreen, shining, dark green, glaucous beneath, slightly hairy.
COROLLA	Slender, smooth, crimson, 1½ lines long, 3 lines across the mouth; segments equal, short, erect, the same colour on both sides; lateral lobes very slight.	Short, hairy, yellow, 9 lines long, 9 lines across the mouth; segments two-lipped, spreading; lateral lobes very conspicuous.	Stout, smooth, brighter coloured [illegible] long, 9 lines across the mouth; segments two-lipped, spreading, orange yellow inside; lateral lobes very conspicuous.

Thus it appears that the hybrid retains the general colour of the male parent, together with its evergreen leaves: and that the female has given her yellow to the inside of the corolla, some of her hairiness to the foliage, and imparted much of her vigour to the constitution. The flowers are shorter and stouter than the male, with the yellow two-lipped mouth of the female; they are longer and narrower than in the female, with the rich crimson and smoothness of the male. These facts will serve as a guide to gardeners in their experiments with Honeysuckles: that they will be appreciated by our intelligent cultivators we entertain no doubt, any more than that they will excite the attention of amateurs; for every one who possesses a common Honeysuckle and a Scarlet Trumpet may at once set about improvement without waiting for the assembling around him of such a collection as we have spoken of. There could hardly be a greater triumph in gardening than the obtaining a hardy Honeysuckle, with the evergreen foliage and rich colour of the Trumpet, and the delicious fragrance of the Woodbine. Such a result might evidently be expected if the Trumpet were the papa and the Woodbine the mama.

GROUPS and CLUMPS. In the question of plantations, these two features form an important element. While no one can for a moment object to a tastefully arranged group, there has been an amazing war of words about clumps. BROWN, their original creator, was not more zealous in actually forming them than PRICE was fierce in running them down.

In spite of a former correspondent's prejudice against DOWNING, we cannot help thinking that the American gardener writes very sensibly, not only on the general question of plantations, but on this particular division of it. We doubt if even our correspondent himself can hit a blot in this opening passage: "In the modern style of Landscape Gardening it is our aim, in plantations, to produce, not only what is called natural beauty, but even higher and more striking beauty of expression, and of individual forms, than we see in Nature: to create variety and intricacy in the grounds of a residence by various modes of arrangement: to give a highly elegant or polished air to places by introducing rare and foreign species: and to conceal all defects of surface—disagreeable views—unsightly buildings—or other offensive objects. . . . . As the *arcuate*, or the straight line, is the leading form in the geometric arrangement of plantations, so, let us enforce it upon our readers, the GROUP is equally the keynote of the modern style. The smallest place, having only three trees, may have these pleasingly connected in a group: and the largest and finest park is only composed of a succession of groups, becoming masses—thickets—woods. If a demesne with the most beautiful surface and views has been for some time stiffly and awkwardly planted, it is exceedingly difficult to give it a natural and agreeable air: while many a tame level, with scarcely a glimpse of distance, has been rendered lovely by its charming groups of trees."

This is certainly well expressed. And who cannot create a beautiful group? Not a man in England is unequal to the task—at least so each man will answer for himself. But is it so very easy? Let those confess who have made the attempt. DOWNING tells us an amusing story of a man who, finding out the difficulty of accomplishing the irregular beauty—the absence of geometric stiffness—which are the charm of group,—and, above all, seeing the impossibility of conveying any intelligible directions to his subordinate—hit upon a very singular expedient. He threw up a pack of Patience one by one into the air, and directed his [illegible] to plant a tree where each Patience fell. He thus gained one point at least. He utterly escaped [illegible] symmetrical formality; and nothing could be easier than after time than the thinning process, by which he could make his groups precisely what he pleased. He, of course, assumes that the first important step was duly taken. It is quite obvious that the landscape gardener's first duty is to select the particular points at which groups shall be planted; and this necessarily involves the power of taking into one comprehensive view the whole scenery with which he has to deal, the effects which his proposed groups should produce on that scenery as a whole, and the relation as to beauty which they will bear to each other. But this comprehensive view must be able to grasp future as well as immediate effects, or skill, time, and money will have been squandered in vain.

Even at this stage there are difficulties enough in the way of the mass of professors. But we doubt if the difficulties are much less when the landscape gardener comes to arrange each particular group. Supposing the whole plan of the groups to be tastefully and artistically designed, the chances are certainly against each individual group being what it ought to be. DOWNING's remarks are excellent. "Nothing, at first thought, would appear easier than to arrange a few trees in the form of a natural and beautiful group: and nothing really is easier to the practised hand. Yet experience has taught us that the generality of persons, in commencing their first essay in ornamental planting, almost invariably crowd their trees into a close, regular *clump*, which has a most formal and unsightly appearance, as different as possible from the easy-flowing outline of the group."

Perhaps, however, our readers hardly appreciate distinctly the exact difference between a group and clump—the formation of a group being as much more difficult than that of a clump as is the laying out of grounds on the principles of natural irregular beauty than in the more formal geometric style. We believe that of any hundred men whom you should meet by chance, and should ask the difference between a group and a clump, not only would they be sorely puzzled to enlighten you, but the majority would be very likely to call a group a clump, and a clump a group. How Mr. [illegible] then draw the distinction in his own peculiar but not the less impressive way: "Were it made the object of study how to invent something which, under the name of ornaments, should disfigure a park, nothing could be contrived to answer that purpose like a clump. Natural groups [illegible] trees of different ages and sizes, and at different distances from each other, [illegible] by a mixture of those of the largest size with others of an inferior growth, are full of variety in their outlines: and from the same causes no two groups are exactly alike. But clumps, from the trees being generally of the same age and growth—from their being planted nearly at the same distance in a circular form—and from each tree being equally pressed by its neighbour, are as like each other as [illegible] Natural groups are full of openings and recesses—of trees advancing before or retiring behind each other—all productive of intricacy, of variety, of keep

shadows and brilliant lights: in walking about them the form changes at every step: new combinations, new lights and shades, new inlets present themselves in succession. But *clumps*, like compact bodies of soldiers, resist attacks from all quarters: examine them in every point of view: walk round and round them; no opening—no vacancy—no stragglers; but in the true military character—*ils font face partout.*"

Never was a more true description penned. So that to avoid making a clump when we intend a group, we have only to bear these distinctions in mind. Even LOUDON himself, who certainly leaned much to artificially mechanical and symmetrical arrangements, is perfectly clear and right on this subject. "The greatest beauty of a group of trees," he says, "as respects their stems, is in the varied direction these take as they grow into trees; but as that is, for all practical purposes, beyond the reach of art, all we can do is to vary as much as possible the ground plan of groups, or the relative positions which the stems have to each other where they spring from the earth. This is considerable even where a few trees are used, of which any person may convince himself by placing a few dots on paper."

How LOUDON illustrates his views in detail, we may see on another occasion. It is an interesting as well as practical idea.

WE have to announce the resignation of the CURATORSHIP of the BOTANIC GARDEN, CHELSEA, by Mr. FORTUNE, engaged by the East India Company to proceed to China, for the purpose of procuring Tea plants and seeds for their Tea plantations in the Himalayas; and the appointment of Mr. THOMAS MOORE in his room, upon the recommendation of Dr. LINDLEY. We have also to add that Mr. HARTWEG has returned to England, with a collection of seeds for the Horticultural Society, after an absence of two years and eight months, the greater part of which time was passed in California.

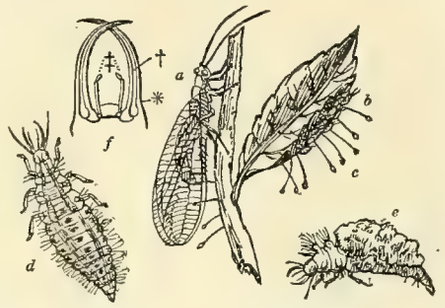
ENTOMOLOGY.

THE APHIS-LION.

IF line upon line and precept upon precept were not necessary in calling the attention of the general reader, or even of the professed gardener, to the benefits arising from, as well as the injuries committed by the insect tribes upon the most highly prized of the objects of his toil, we should hardly think it necessary, so soon after the publication of our Leading Article upon the subject (April 8th, 1848), to warn Jasper Standstill and his friends, that in their new-born zeal for the destruction of their enemies they must use a degree of discretion which we fear at present they do not possess. They must remember that some of the ugliest of insects, which they would not hesitate to destroy at once, are their best friends, effecting by their small, but certain aid, more benefit than man can do.

In the month of May a singular looking object may be occasionally seen walking over plants, having very little of the appearance of an insect, resembling rather a moving mass of cottony or other materials (fig. *e*); on carefully examining the mass with the magnifying glass, we perceive a head furnished with two long and slender curved jaws, followed by three pairs of legs protruding from the front of the mass, and on removing the covering we find a rather broad, active, fleshy larva, somewhat like that of the lady-bird, but clothed with slender scattered hairs and hairy tubercles, which are of great service in retaining the covering upon the back. The larva itself feeds upon aphides, and is extremely voracious, seizing them with its jaws and sucking their juices by the assistance of the peculiar apparatus on the under side of the jaws, the real structure of which has been overlooked by all previous writers upon the subject, Reaumur merely stating that the mandibles are hollow for suction; such, however, is not the case, the under side of these organs (see figure *f* *) is deeply grooved, and the maxillæ, or under jaws, which are nearly equal to them in size and of a similar form, play in this groove; a wound is thus made by the jaws, and then the finer under jaws are pushed forwards, the two instruments when united forming a tube-like gutter, through which the fluids are pumped up into the mouth. Our fig. *f* † represents the under jaw, which has a bulb at its base, and fig. *f* ‡ the palpi or feelers of the lower lip. These jaws are moreover used by the insect for the further purpose of forming the covering which it carries upon its back, and which often consists of the skins of the dead bodies of its victims, the insect thus emulating Hercules when he clothed himself with the skin of the Nemæan lion which he had destroyed. Seizing the particles of skin or other matters convenient for the purpose with its jaws, it throws back its head and lodges them upon its back, increasing the parcel till it forms a large semi-globular mass. In this state it is almost invisible, especially when crawling among lichens or upon bark, and we thus perceive that this singular covering is in fact a means of defence to its soft and fleshy body. There are several of these aphis-lions, differing from each other somewhat in form. Some have the sides of the body furnished with short bundles of hairs, of which others are destitute; some are naked and of a depressed elongated form, whilst others are more convex and shorter. Our fig. *d* represents one of these larvæ deprived of its covering, whilst fig. *e* shows it as it ordinarily appears, both being magnified about twice the natural length. When full grown this larva spins a small globular cocoon, within which it is transformed into a short inactive pupa. The period for remaining in this state of inactivity varies according to the time of the year, but the insect generally remains throughout the winter in the pupa state, the fly being produced in the early part of the summer.

The family Hemerobiidæ belongs to the order Neuroptera, and consists of a considerable number of species remarkable for their small and slender bodies, with four large equal-sized membranous net-like wings. The eyes are very prominent, and often splendidly golden-coloured; the form of the wings varies in different species; in some of the largest including Hemerobius (Chrysopa) Perla (fig. *a* of the natural size with the wings closed), they are very transparent, reflecting the prismatic colours with delicate green veins. They generally fly in the twilight, remaining inactive during the day, and their motions are very sluggish, as may be inferred from the delicate structure of their bodies and limbs. When handled they emit a most offensive odour, which is most probably a defence against their enemies.



The females deposit their eggs upon plants, especially such as are infested with plant lice; attaching them at the extremity of a long, slender, and stiff footstalk, of a white colour, the base of which is fastened to the leaf. (Fig. *b* represents a leaf, the underside of which is infested with aphides, and fig. *c* are the eggs of the hemerobius of the natural size.) The filamentary footstalk is composed of a viscid matter, discharged by the female at the time of laying the egg, which very quickly hardens on exposure to the air. (Fig. *a* represents a female hemerobius in the act of depositing an egg, first drawing out the long filament from the extremity of the body.) In this manner the eggs are fixed in small clusters,* and have all the appearance of minute fungi. Of course the insects as soon as hatched find themselves in the midst of their food, and their instinct of clothing themselves with the dead bodies of their victims manifests itself at the earliest period of their existence.

From these various particulars we learn that the hemerobius is one of the most interesting of our native insects, and that its preservation is of the greatest importance to the gardener.—*J. O. W.*

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

A FEW WORDS ON BUDDING ROSES.—There appears to be a rage among some gardeners for budding Roses, as though the operation in some way or other were advantageous in itself, and not merely beneficial in peculiar circumstances. Hence we see Briars manipulated upon and budded with Roses of the commonest kind, or with sorts which are easy of propagation; from this passion also proceeds the tasteless practice of disfiguring a garden with lankey stems, having no beauty in themselves and out of keeping with everything around. These vagaries arise from a mistaken idea that a budded Briar is in itself a valuable acquisition, or that any Rose is better for being budded on a foreign stock; errors which should be dispelled as fast as possible, that labour and anxiety may not be expended on that which is useless or deformed.

Roses may be budded for the sake of ornament, and in some situations conduce much to it. Where, for instance, an under-growth of shrubs is overtopped by tall standards, or as single specimens on lawns. In ordinary cases a Rose-bush, as commonly grown, is far handsomer than a tree-Rose; and where trained high, in a conical form, with buds from the apex to the base, no one can doubt which carries away the prize for taste and beauty. In laying out a garden, therefore, æsthetic principles must decide where, and to what extent, budded standards should be introduced, that they may improve the general effect; if this is neglected, and they are put in anywhere, they will be made to displace more handsome productions, and a correct eye will be offended as it rests upon them.

The great advantage of the operation of budding is the facility it affords of increasing fine varieties. Layers demand so large a sacrifice, and cuttings are a long time before they make plants of a serviceable size; but the introduction of a bud into a Briar makes a complete tree with the smallest possible expenditure of the parent plant, and in the shortest time. In the case of Hybrid Perpetuals, for instance, supposing you have a plant of Madame Laffay, which has just bloomed; to make a good cutting you must take away a young shoot with several buds on it, each of which, if left where it is, will produce flowers this season. But if you have a Briar, or any other common stock ready, one or two buds cut off, with a decayed flower, will answer every purpose. If the operation is performed early, healthy shoots will be made the same season, and in twelve months a handsome head may be secured. Parties anxious to get a stock of valuable Roses cheaply, may, if they have access to buds, do so in a short time by the operation of budding.

The Rose amateur will soon find if he pursues this art to any extent, that it demands more science than he at first anticipated, and depends for its successful practice upon conditions not generally thought of. It is of the utmost importance, for example, that there should be a resemblance between the bud and the stock as to the vigour of vegetative growth, in order to ensure a successful result. If a Rose of slow development is budded on a rampant Briar, and all the strength of the latter is turned into the parasitical stranger, health cannot be maintained, nor will a freely vegetating Rose submit to be impeded in its progress by a sluggish stock. The fact is, that half the failures of budded Roses purchased at nurseries arise from this want of harmony between the stock and the graft. They do well for a time, but in a year or two disease manifests itself, and ultimately death ensues. I have thought that this difficulty may be met in some degree by allowing the shoots of the stock to grow to some extent, instead of their being constantly removed as they appear. An exuberance of the Briar would not be allowed in this way to injure the bud inserted, but would find a natural vent. I may be wrong in this conjecture, but I think I have some proofs of its correctness in my own garden. Two standards of Madame Laffay, from which all Briar shoots have been removed, are now in a state of decay, while two others left to Nature, and having a profusion of wild wood about the stem, are in most robust health, with fine large flowers. Of course this observation, or conjecture, must not be construed into a rule, for in many instances the stock, if allowed to grow, will run away with the graft and soon destroy it. I find Boursault, Hybrid China, and Ayshire Stocks preferable to common Briars in almost all cases. This is the time to bud, as you find the weather, and state of the sap permit. Stocks intended for this operation should now be looked over, that superfluous shoots may be removed.—*H. B.*

MELLONI'S THEORY OF DEW.

THIRD LETTER.

MY studies on dew seem to me to have proved conclusively, that if Wells' principle is true, the theory known by the same name is erroneous, or at least exceedingly incomplete. I thought that I had stated this proposition so clearly as to leave no room for any misunderstanding; but on looking over several periodicals I think that it has been entirely misrepresented. In short, the editors of these papers, having perhaps the same opinion as he who first among them noticed my theory, cite the first part of it, and pass over the second in silence; the reader is hence led to believe that my work tends only to confirm Wells' theory as explained in all treatises on physics and meteorology; while it is precisely to an opposite conclusion that my experiments lead. I shall try to render myself more intelligible by setting out from those data on which the theory is based.

Take two pairs of thermometers enveloped in their metallic case, and hung, by means of metallic threads, in the manner described in my first letter. Suppose that each of these pairs is composed of one thermometer with a polished, and of another with a blackened case. Let us suppose lastly that, on a calm and clear night, one of these pairs be fixed close to the surface of an exposed meadow, while the other be placed 4 or 5 feet above the surface, so that the two thermometers of each pair are at the same level.

After a short exposure, the black thermometers will be seen to descend about 1°,5 below the metallic thermometers beside them. However, the temperatures indicated by the lower will be very different from those marked by the upper pair; the difference will amount to 5 or 6 degrees, if the night is calm and fine; and as the lower pair of thermometers always indicates the coolest temperatures, we conclude that the differences observed between the indications of the two pairs of instruments arise solely from the different temperatures of the atmospheric layers in which they are placed; and that consequently, on calm and clear nights, the temperature of the air decreases rapidly as we approach the earth. s

Now the experiment on which Wells' theory rest consists in the often-repeated observation that a common thermometer, placed in contact with the Grass, indicates a much lower temperature than a thermometer raised 4 or 5 feet above the soil; whence it has been concluded that the Grass is cooled many degrees by radiation towards the sky. . . . But it is easy to convince yourself that this conclusion is quite unauthorised. In short, place one of your uncovered thermometers in contact with the Grass, and let the other hang freely in the air, at the same distance from the ground, you will find that the two instruments mark the same degree. Now nobody would deny that this is the way to proceed to show, according to the old method, the cooling of the Grass below the medium surrounding it. We are forced, then, to conclude that the fundamental data of Wells' theory are inconclusive—1st, because the surfaces of the thermometers employed radiated quite as much as the blades of Grass; 2d, because the ther-

* We have just received a Rose-leaf from a correspondent, "D. S. E.," upon which as many as 40 of these eggs are fixed.

mometer destined to measure the temperature of the air was placed in an atmospheric layer much warmer than that which surrounds the Grass in contact with the other thermometer.

The principle that the deposition of dew is owing to the cold caused by radiation, is, I repeat, perfectly just, but Wells' theory is incorrect. The reason of this is evidently because the influence of the air in the production of the cold which is continually developed near the surface of the earth has been entirely neglected. It has been vaguely said, it is true, that radiating bodies, placed at a certain height, do not lower in temperature so much as those placed close to the ground, in consequence of descending currents which are formed around the first, and are absent from the second. But that was insufficient to show the true part played by the air in the formation of dew.

It was necessary to prove, as I think I was the first to do, that notwithstanding its inability to cool by radiation, the air close to the earth contributes powerfully to lower the temperature of the plants in it, by means of a series of actions and reactions, the causes and effects of which have, if I am not mistaken, been clearly defined in the second of the two letters which form the object of this discussion. Those who have clearly seen their true meaning will permit me, without doubt, to save them the annoyance of a useless repetition, and to refer the editors of the papers of which I spoke above, to a rather more attentive perusal of the numbers of the *Comptes rendus*, where they are inserted. After which they will be quite at liberty to show that I am wrong; but they will first admit, I hope, that they have misinformed their readers with respect to the consequences resulting from my work on the phenomena of dew.

A FEW WORDS ON SCOTCH ROSES.

The Scotch Rose (Rosa spinosissima, Linn.), a native species growing plentifully in Britain, is a most interesting plant. The species is too well known to the lover of wild flowers to need describing or recommending: it is to the Roses floriculturally improved that I wish to draw attention; for, while apparently little known or valued in England, they are better adapted to the flower-garden than the former, because richer and more varied in colour, and of longer duration. Far less attractive, less richly clothed than many of their congeners, their humble growth and dress seem to have precluded them from receiving that share of notice due to real merit.

The first plea I would urge in favour of their cultivation is the early period at which they flower. Other Roses seldom expand in ordinary situations earlier than June; the subjects of this notice blossom early in and throughout May. But this, though in itself a sufficient claim to distinction, is not the only one the group possesses. What others are there producing flowers in such magnificent profusion? So globular in form that they hang like little balls on the lowly bushes they adorn. Then when the flowering season is past, and the leaf gradually assumes the autumnal tint, the contrast of the red fruit changing to the richest purple is a feature of great beauty.

These Roses may be grown to greatest advantage, 1st, in a series of beds, each bed planted with a single colour; 2d, as a hedge surrounding the Rosarium, where the situation or plan suggests the propriety of such; 3d, planted on banks, to form a distant mass of colours, to be seen from the windows of the dwelling-house. In any or all of these situations the effect would be admirable; and for the last they are singularly adapted, thriving in the least favourable Rose soils. It may not be generally known to amateurs that the Scotch Roses require little or no pruning. It is a part of their nature to send up numerous suckers, some of which run along beneath the ground, bursting through the surface at some distance from the parent plant. These, unless unusually numerous, should be pegged down firmly in October, and so left until the same period in the next year, when a portion of the oldest shoots may be cut entirely out, which makes room for the young ones, and invigorates the plant. Treated thus, the collection here has been blooming most beautifully, more so than is usual, owing to the clear sunny weather, in which they delight. The bushes, few of which exceed 1 foot in height, were literally covered with flowers. The first double Scotch Rose was found wild in the neighbourhood of Perth, and from it others of various colours were soon produced. The plants seed so abundantly that the varieties are almost innumerable, some closely resembling each other. I shall conclude this notice by offering a list of a few of the most distinct and interesting that have come under my personal observation.

Ambuche'let, flowers rosy lilac	King of Scots, bright purple
Argo, light red	Lady Rollo, salmon pink changing to lilac
Countess of Breadalbane, light rosy purple	Mary Stuart, yellow
Donna Maria, cream tinged with purple	Midas, dark red
Duchess of Bedford, rose colour, paler edges	Mrs. Stirling, dark velvety red
Europa, light rose or pink	Paris, rosy red
Iris, pink changing to white	Parnassus, white
James's Purple, purple	Saxonia, flesh-colour
Jupiter, rosy purple marbled with white	Shakspeare, deep red, tinged with purple
	Viscount Strathallan, blush
	Zelinda, cream.

Where a series of beds is formed, the following, which group well with the above, will greatly enhance the effect of the whole, by varying and deepening the shades of colour.

La Cenomane, white, very sweet	Copper Austrian, rich reddish copper (yellow
Scotch Perpetual, blush	Double Yellow Briar, bright
Stanwell Perpetual, rosy blush, very sweet	Harrisonii, golden yellow.

The three first are hybrids of the Scotch Rose, two of them blooming again in the autumn; the three last are Austrian Briars.—*William Paul, Nurseries, Cheshunt, Herts.*

Home Correspondence.

Polmaise Heating.—I enclose some particulars respecting the Polmaise system of heating, which I think you may like to have. It succeeds admirably here, and it is impossible that plants can be in a more healthy and flourishing condition. My gardener, Thomas Collins, like many of his brethren, was prejudiced in favour of hot water, but he now decidedly prefers Polmaise. Mr. Whitehead, of Preston, who thoroughly understands the principles of Polmaise, put up my stove, the cost of which, including dampers, grates, &c., was 18*l.* No expence was spared in doing everything in the best way. I was in correspondence with the late Mr. Meek at the time I was planning my houses, and it is singular that, almost at the same time, I received letters from him and Mr. Whitehead, both suggesting that it would be desirable to admit the cold air at the bottom of the hot air chamber, and so to compel it to pass round the four sides of the stove, rather than over the surface only. I have no doubt that Polmaise may be most advantageously employed in churches, schools, and houses. From the shed behind my houses there is a communication, by a closely fitting door, with the chamber into which the hot air passes immediately from the stove, and over which the Melons are grown, and in this chamber Mr. Collins forces Rhubarb and Asparagus. Not a foot of room is lost in any part of the houses, which for compactness and convenience do much credit to Mr. Collins, who planned them. We have had a constant and abundant supply of flowers, and the Melons are most promising.—*William Hornby, St. Michael's-on-Wyre, Garstang.*—I am desirous of bearing testimony to the efficiency of this system of heating. The remarks I now offer are the result of my experience during last winter, and I trust your readers will consider the system has got something like a fair trial. We completed in October, 1847, a range of houses comprising three forcing-houses and a greenhouse. The two central ones measure 17 feet by 10 feet, the end houses 17 feet by 15 feet, the front elevation being 5 feet 6 inches, and back 9 feet. The two central houses are for the purpose of growing Melons and Cucumbers. The west end house is not only adapted to the growth and cultivation of stove plants, but also serves as a propagating house. The greenhouse is situated at the east end, and although adjoining the forcing-house no difficulty has yet been experienced in producing any required degree of temperature. The stove is on an improved plan, and was furnished by Mr. Whitehead, of Preston; it is constructed entirely of wrought iron, and partially lined with fire-tiles, which retain the heat and prevent the expansion of the metal. It is so effectually jointed as to prevent the smallest escape of any exhalation, which of course would be very injurious to the health of the plants, and which has hitherto been the great objection to a brick stove with cast-iron plates. The doors are made perfectly air-tight, give us perfect command over the stove, and enable us to increase or diminish the temperature to the greatest nicety. When the air slides are entirely closed, the fire will burn a month for about 1*s.*, but this, of course, would be insufficient for warming the houses; the heat, however, may be increased by opening the slide, so as to consume the same quantity of fuel in 24 hours. As means of damping the air we have a cast-iron cistern placed above the stove, over which the hot air passes, and it answers the purpose perfectly. The stove is placed in a shed behind the wall, opposite the division in the two Melon or middle houses. There are two apertures 18 inches by 12 inches, one in each Melon-house, for the admission of hot air into the chamber from which each Melon pit is supplied with top heat, by two upright tubes of about 8 inches square, having a damper to regulate the quantity. The hot air is conveyed from the chamber of the Melon-house into the greenhouse by means of an opening in the wall, the quantity admitted being of course regulated by a damper. There is also a chamber in the end forcing-house, which has a similar communication with the others, and an additional communication by means of an opening into the body of the house, which supplies the top heat—this is also regulated by a damper; by opening this a brisk breeze immediately takes place amongst the plants from the tube, for a considerable time, although the distance from the stove is 30 feet. There are two drains to the stove to convey the cold air from each end house, these measure 20 inches by 14 inches. In conclusion I must add that, during the severe weather in January last, we had not the least difficulty in maintaining a heat of 70° in the end forcing house. The quantity of fuel consumed during that season was 6 cwt. per week, which is much less than would have been required if the same houses had been heated by hot water or common brick flues.—*Thos. Collins, St. Michael's, Lancashire.*

Scorching Effects of British Sheet Glass.—My employer has recently erected three span-roofed houses, which are glazed with British sheet glass 16 oz to the foot, the size of the panes being 3 feet by 8 inches. The houses are worked at three different temperatures; the first is a stove, the second a cool greenhouse, and the third an intermediate house. Means for thorough ventilation are provided. Early in spring large spots began to show themselves simultaneously on the foliage of the plants in all the houses. The plants which suffered most were Camellias, Pelargoniums, Cinerarias, &c. At first I took little notice of the circumstance, considering it only the effect of sudden bright sunshine on the foliage, which, under a long continuance of damp cloudy weather, had been laid open to such a result. But my attention was aroused by the rapid increase of the evil, and I became convinced that my first impression was wrong; the spots formed themselves into lines, running east and west across the foliage, and new lines occurred every day, each new line being a little south of its neighbour, in proportion as the sun advanced northwards. I considered the cause therefore to be in the glass, and having my attention directed that way, I presently observed that the top and bottom ends of almost every pane, to the width of 3 or 4 inches, were burning lenses, some of which (the greater quantity) were not sufficiently powerful to cause any material injury to vegetation, but others possessed sufficient power to produce a very sensible degree of heat on the hand when placed within their foci. A creeper growing against the back wall of the greenhouse, at a distance of 16 feet from the glass, had its foliage very much injured, and small Camellias growing in a bed at from 8 to 10 feet from the glass were similarly hurt; while Vines trained to the rafters had not a leaf injured. This latter fact shows clearly that the scorching arises not from chemical decomposition of light, but from the solar rays being concentrated, like what happens under a burning glass: if it were otherwise, the Vines would have suffered first. In proof of the correctness of the view here taken as to the cause of scorching, I may mention that the spots suspected of doing the mischief were rendered slightly opaque by thin paint, and no more scorching has since been seen. The question, therefore, naturally suggests itself, what is the cause of the ends of the panes possessing the property of a lens? The idea has occurred to me that possibly the slabs of glass from which the panes were cut were made about 3 feet in width, and that more matter was deposited in the process of rolling, to which I believe this kind of glass is subjected, on those edges than elsewhere. But whether or no this is the case I leave for wiser heads than mine to decide. The difference in the temperature of the solar rays, when transmitted through the medium of perfectly plane glass, and when concentrated by the lens is considerable; in some of the lenses less powerful than those which did the mischief in the spring, I find in one or two instances the difference to be 38°, and in others 20° and 25°. In the case where I obtained the greatest difference the thermometer stood, under plane glass, at 110°, under the lens at 148°, the difference of position being only 2 inches.—*H. Mitchell, gr. to H. Williams, Esq., Carnanton.*

Stocks.—In travelling through the country lately I was glad to see numbers of my favourite flower the Stock erecting so many of their gay plumes in many cottage gardens in different parts, and some of the specimens would have honoured the parterre or flower borders of the wealthiest admirer of Flora's productions. What, however, appears inexplicable to me is the great scarcity of variety that exists. We seldom see in the cottage front any but the Scarlet Giant Stock, which, certainly noble as it undoubtedly is, ought not to displace all others; for my part I admire the branching varieties more than the Giant, as flowers can be cut from them, while the Giant possesses only one head. I am of opinion that the varieties of the Queen Stock must either be less known or less hardy than the Giant, otherwise they would be more grown. It is seldom now we see any double white Stocks, except amongst the Ten-week or German varieties. Could not hardy varieties, possessing the varied hues of the latter kinds be introduced, so as to flower in May? They would form a great acquisition. While on this subject I may mention that some years ago I purchased a collection of German Asters, which flowered very well, and I saved the seeds of such as ripened; the following year I was much disappointed, not at the want of double flowers, but at their not flowering till so late in autumn as to be useless. The next season, having old seed, I did not sow so early, and a severe winter following most of them were killed. A good scarlet, however, survived pretty well, which I have since always grown, and this season I have, I believe, some hundreds of it flowering in perfection in the shrubbery borders, &c. It is low in growth, much branched, and generally about three-fourths of the plants produce double flowers; than this nothing is perhaps more showy, but it ought not to displace other good kinds; the purple variety, when good, is pretty, but I have not been able to obtain what I call a good sort. The majority are too straggling in growth, and even when they are double, and the plants branched, they still present a naked centre.—*L. T. V.*

Tulip Sales.—I herewith mention a few lots of the late Mr. Baron's sale I missed, as well as of the late Rev. Mr. Brinklow's:—La Tendresse, Bouzeatre, Marcellus, and Guido, 14*s.*: Louis XV., Cenotaphinum, and Lord Stanley, 14*s.*: Winifred, Polyphemus, Duchess of Kent, and Pass Salvator Rosa, 10*s.*: Fabius, Blondeau, and Brulante, 10*s.*: Camuse, Griseelin, and Titian, 10*s.*: Sang de bœuf, Coronation, Camuse, and Belleforme, 13*s.*: Clarence, Perle Brillante, and Addison, 15*s.*: Lucetta, Louis, and Strong's King, 32*s.*: Selim, Emily, and La Virginité, 15*s.*: Brillante, Lord Stanley, and Strong's King, 32*s.*: Thalia, Diadem, and Catalani, 18*s.*: Fabius, Duchesse Ponceau, and Addison, 12*s.*; Osiris, Bacchus, Passe Salvator Rosa, and Collingwood, 27*s.*: Glencoe, Thalia, and Steele, 20*s.*: Brulante, Pompe, Camus, and Friend, 36*s.*; Munster, Bacchus, and Cenotaph, 8*s.*; Quarto, Britannia, and Coronation, 14*s.*; Lucetta, Lady Middleton, and Strong's King, 21*s.*;

Adelaide (down), Marcellus, Camus, and Rubens, 14s.; *Out Bed.*—4 Perle Brillante, 3 Cenotaph, 4 Passe Salvator Rosa, 3 Rose Quarto, 4 Rosa Blanca, 9s.; 2 Friend, 2 Fabius, 2 Griscelin, 2 Glencoe, 2 Guido, 5s. —*Reader.*

Exhibitors and Exhibitions.—Being a competitor at the Manchester Botanic exhibition on the 24th of May last, I was somewhat surprised to find all gardeners denied admittance until after 5 o'clock in the afternoon. This, in my opinion, is a great injustice, which, if not speedily remedied, will cause many respectable gardeners to leave off showing altogether. From 11 o'clock until 5 there is no place for them to pass the time in, except in public-houses in the neighbourhood; whereas, if admitted sooner, they would realise both pleasure and profit in the spare hours, instead of being exposed for six hours to the temptations of a public-house. What a pity it is that the nobility of Manchester should be ashamed to mix with a class of men whose appearance was most becoming. Not a single instance of drunkenness came under my observation. It ought also to be considered that the prizes at these shows are very small; that, even if successful, many find themselves losers; that the honourable ambition of excelling is alone what many look to as a reward; why, then, should they be used in such a shabby manner?—*A Gardener.* [Why indeed?]

Railway Embankments.—Could the slopes of railroads be better cultivated than by planting them with fruit-trees of every description, or by covering them with Chamomile-flowers, Broom, Horehound, Roses, Filberts, &c. The poor, worn-out gardeners might be usefully employed, and they would also be very useful as watchmen on the lines, and the land now lying waste might be turned to a beneficial purpose.—*Anthropos.* [We suspect that it will be better to let railway embankments alone.]

Apple Blossoms.—The destruction that has come over us in this part of Ireland, this spring, from a flight of bulfinches, has been most severely felt. Those birds do not generally frequent this country, but I believe the long continued late frosts of March and April induced them to remain. They destroyed 4 acres of orcharding belonging to myself, and have done similar mischief to my neighbours. Not being accustomed to such a plague, the mischief was done before we found out the delinquents, when several were shot. I had the patience and suffering to watch them at work, and the celerity with which they strip a tree is incredible. Fond as I am of birds in general, I trust I may never see a flock of them in this country again, their first appearance in such numbers having given us all quite enough of them.—*J. B. Warren, Co. Cork.*

Habrothamnus fasciculatus.—This fine plant may be hailed as a great acquisition to the conservatory, whether considered as beautiful in itself, the lengthened period which it continues to unfold its blossoms, or the contrast it forms to Acacia and other allied genera (suitable inhabitants of this structure) mostly producing flowers of various hues of yellow. A very nice specimen, 7 feet in height, has been in flower here for eight weeks; it is growing in juxta-position to two noble plants of Acacia, whose myriads of golden blossoms have been seen to greater advantage from their being in the immediate proximity of the Habrothamnus, and of the unique specimen of Clianthus puniceus described in a former Number.—*James Duncan, Basing-park.*

Sulphur.—In your last Number I observe among the answers to correspondents some doubt as to the solubility of sulphur in alkali. Without knowing what your correspondent's difficulty is, I cannot of course answer it, but presume that his object will be attained by heating together, in a crucible, sulphur and potash (or soda), when he will obtain a mass readily soluble in water. It is, in fact, the old preparation called Hepar sulphuris. By boiling together 1 lb. of sublimed sulphur, 2 lbs. of fresh lime, and 4 gallons of water, an analogous liquid is obtained. The addition of any acid throws down the sulphur, and this forms the Sulphur præcipitatum of the Pharmacopœia.—*G. Sparkes, Bromley.*

Manure for Asparagus.—In Johnson's Almanack for 1847, p. 50, it is stated, relative to manures for Asparagus, that from a manure of nitrate of soda 51 per cent. increase was obtained, at an expense of 3*s.* 1*d.*, and from salt 11 per cent., at an expense of 7*d.* Can you oblige me by giving me the proportions in which these manures were applied in the experiment? As a matter of £ *s. d.*, on a large scale, the table would show a result in favour of salt for the outlay; but as the few rods of ground I devote to Asparagus would render the expense less a consideration than the increase, I am desirous to learn whether I could sextuple the quantity of salt (at an expense of 3*s.* 6*d.*), and so get an increase of 66 per cent, obtaining thereby 15 per cent. greater increase than by laying out the same money in nitrate of soda. Shortly perhaps you will be kind enough to state which of the manures named (and in what proportion) can be advantageously applied to the beds? I presume this is the time in which these manures in a liquid state can best be applied. While on the subject of liquid manures, will you allow me ask what quantity of guano, or better artificial manure, can be advantageously applied to frame Cucumbers? I am told 1 oz. of Peruvian guano to a gallon of water, occasionally applied, produces great advantage. Is this so, and can I give any chemical solution that will answer better.—*J. Steed, Hadleigh, Suffolk, June* 5. [Questions of this kind are not susceptible of an answer. The only rule is to apply weak doses often (once a week), as long as the season of vigorous growth continues, and to withhold when vegetation languishes.]

Bees.—I would be glad to be informed if peculiarities have been observed in other localities such as have taken place in this neighbourhood. The first is, that during the very hot and dry weather of the greater part of the month of May, the bees were observed to be continually clustering about the mouth of the hive fighting, which caused considerable destruction; 2dly, that very little honey appeared to be stored away during that time; 3dly, that at the end of May, their numbers, instead of being prodigiously increased, was, in some instances not so many as at the beginning; 4thly, the most remarkable circumstance is the destruction of the drones, and not only have they chased out these, as at the latter end of July, but have also thrown out many Drone grubs. Can any of your correspondents account for this unusual state of things.—*S. A., Doncaster.*

Timber Trees in Hedgerows.—In Arthur Young's "Farmer's Letters," vol. 1, p. 270, in his letter on Timber I find this passage: "And it is to be remembered that most farmers have a great aversion to all timber trees that shade any of their arable land; not without reason indeed; for where a farm is so badly managed as not to have a proper border of Grass around every field, the trees which stand in the hedges necessarily drip on the ploughed land, and kill whatever crop is sown under them; for this reason in all farms that are judiciously disposed, broad borders are everywhere preserved; for Grass is very little the worse for trees unless quite covered with them; and there are a thousand conveniences, besides their beauty, in these borders of fields being constantly in Grass." I would remark that in this passage, referring to a state of husbandry now nearly a hundred years old, the author adverts to the main objections to timber trees in hedgerows—the shade and the drip—and obviates them only by broad borders of Grass, a practice now generally disused.—*X. Y. Z.*

Double Cropping.—In reply to the question as to the advantage or otherwise of double cropping, permit me to say I have practised it successfully for the last three years in a garden of nearly an acre in extent, and thus: Having first well manured the ground in November, I transplant good-sized Cabbages (bought at a 1*d.* per score, or raised in a seed-bed), in rows 3 feet apart. In January or February, depending on the season, I have the land between the Cabbage rows forked up, and second early Potatoes planted, 20 inches asunder. Early in April, I insert between the Cabbage plants, with the finger and thumb, two or three seeds of the Silesian Sugar Beet, or the Yellow Globe Mangold Wurzel. In May and June I draw the Cabbages for cows, lambs, pigs, and for house use. By this time the Potatoes are well up, and the Beet or Mangold plants forward enough to thin out, and liquid manure. In September I take up the Potatoes, and in October gradually denude the Mangold plants of their leaves for the cows and pigs, removing the full-grown plants in November, when I directly manure the ground again, and drill in Wheat and Tares for spring feed. Thus I secure three full crops in 12 months, and have another in. The Cabbages have been large and well hearted, the crop of Potatoes good, and the Mangold Wurzels of a size from 4 lbs. to 12 lbs. and 14 lbs. each. This year I have added to my autumn or winter sowing on the same ground, field Beans. They have stood the winter well, are now 3 feet high, thickly podded, and bid fair to be fit by August.—*Richard Pigott, Stoke, Norfolk, June* 6.

Early Peas.—I find that the Early Emperor, sown at a much later period than Girling's Danecroft, comes in fit for table at the same time as that variety. I sowed several rows of the latter on the 8th of February, in a south-west aspect, under a wall; the former was sown in an open space in the garden on the 3d of March. Both came in for use at the same time, although the Danecroft had the advantage of shelter. Both varieties are excellent bearers, and well adapted for the earliest sowings.—*J. K., Spinfield, Bucks.*

Banksian Roses.—Your Dublin correspondent seems to think that leaving this little pet to ramble at large is the way to insure a display of its blossom, but I have one on a verandah here which is subjected to the operation of pruning every year after it has done blooming, and no one could wish for a richer display of flowers than it produces.—*J. K., Spinfield, Bucks.*

Pine-apples at Chiswick.—Your remarks in last Number relative to the exhibition of Pine-apples at the May Show, have been severely criticised by several respectable gardeners, with whom I have conversed, as tending to discourage the exhibition of fruit at a future Show. Be this as it may, if no better Pine-apples can be shown at the great Metropolitan exhibitions than some of those which were produced in May (I exempt the Providences, which were rather respectable for the time of year), I say away with the boasted improvement of Pine-growing of late years. I do not pretend to know so much as many of my brother gardeners, but I can recollect seeing in my boyhood, 25 years ago, Enviles, 5½ lbs., and Queens from 3 to 3½ lbs. weight, and this far north in Scotland. Since then, but many years ago, I have seen grown in the vale of Neath, Glamorganshire, and at more than one place, Providences weighing from 8 to 10 lbs., and Queens from 4 to 5 lbs. These, to the best of my recollection, were all grown on the old-fashioned system of tan beds and smoke flues; but pray do not come down upon me as a thick and thin supporter of the flue. Strange to say, however, the growers of these fruit, although justly proud of their productions, did not think of sending them to London for exhibition, or even having any account of them published; but now, forsooth, with our undoubted modern improvements, we have Queen Pine-apples weighing from 2 to 2½ lbs., and Enviles from 3 to 4 lbs., sent for exhibition to our London Shows. This is not as it ought to be, and you deserve the thanks of the gardening world for your exposure of the absurdity.—*One who handles the Waterpot more than the Pen.*

Societies.

HORTICULTURAL, *June* 6.—E. BRANDE, Esq., in the chair. The Dowager Duchess of Northumberland, Lord Wharncliffe, with W. Evans, M.P., E. Pain, and W. D. Haggard, Esqrs., were elected Fellows. Of subjects of exhibition Messrs. Henderson, of Pine-apple-place, sent a Hippeastrum resembling H. Johnsoni, but more brilliant; a magnificent specimen of Pimelea Hendersoni, 3 feet high and as much through, and loaded with blossoms; and the best grown plant of Abelia floribunda we have yet seen. The latter is really a plant of great beauty, having a neat clean looking foliage, and bunches of long rosy red pendulous flowers. It was and is still known in some nurseries by the name of Vesalia floribunda; but it is certainly an Abelia, whose introduction to our gardens was through Mr. Booth, of Flottbeck, near Hamburgh. It is a Mexican species, and on that account the first botanists who examined it failed to remark its identity with the Asiatic genus. It proves to be all but hardy. Messrs. Henderson wintered it in a cold pit; they stated that it is very subject to red spider if kept in a house or not well exposed to cold. A Knightian Medal was awarded for these.—Messrs. Loddiges, of Hackney, contributed a collection of Orchids, consisting of Dendrobium Dalhousianum, the true Cyrtochilum hastatum, a very different plant from that usually grown under the name; Brassia cuspidata, Saccolabium guttatum, Lissochilus streptopetalus, a rather pretty species; Epidendrum selligerum, Dendrobium pulchellum, Aerides crispum, and the long green-tailed Dendrochilum latifolium. A Banksian Medal was awarded for the three first mentioned plants. A similar award was also made to Mr. Wood, of Norwood, for a nice collection of Alpine plants in pots—interesting objects having a beauty of their own, hardy, but thriving all the better for the shelter of a cold frame in winter. The sorts were Linaria Hepaticæfolia, Silene quadridentata and alpestris, Alyssum minimum, Potentilla tridentata, Erpetion reniforme, Cotyledon lutea, Gypsophila repens, Thymus lanuginosus, Statice caroliniana, Saxifraga ceratophylla, Veronica taurica, Stachys corsica, Bellium minutum, Sedum stellatum and dasyphyllum, and Sempervivum arachnoideum. With these Mr. Wood also exhibited a collection of variegated plants, of which some account was given in our volume for 1846, p. 391.—Mr. Ambrose, of Battersea, showed three seedling fancy Pelargoniums, named Modesta, Defiance, and Garland. Of these the best was Defiance, a pretty dark variety, in the way of Jehu, whose petals have a clear narrow light edge. Modesta was in the way of Queen Victoria, but perhaps an improvement upon that variety. A Certificate was awarded Defiance.—Messrs. Veitch sent cut flowers of two kinds of Lathyrus, one with pale straw-coloured flowers of no beauty; the other L. maritimus. Along with these they also sent two plants of a new Oxalis from Peru, having purple flowers with a dark eye—pretty, but not striking.—A seedling Verbena named Emperor of China, dark red with a light eye, came from Mr. Ivery, of Peckham.—Mr. Smith, gr. to J. Anderson, Esq., of Regent's-park, exhibited a Guatemala Epidendrum, for which a Certificate of Merit was awarded. It was stated to have been purchased at one of Mr. Skinner's sales in 1846. It is extremely sweet scented, and in appearance looks like a large variety of E. fragrans; but may possibly prove an undescribed species.—From Mr. Groom, of Clapham-rise, came various hardy seedling Lilies of a deep brown colour, the result of a cross between the common orange bulbiferous Lily and the Japanese L. atrosanguineum. Though, on the whole, too much alike, these all differed more or less from one another; some having more colour and some less; some with broad petals, and others with narrow; but their chief merit consisted in their dwarfness, the different sorts varying in height from 14 to 22 inches. The best varieties were Nabob, Vulcan, and Louis-Philippe. A Certificate of Merit was awarded.—Of Fruit, Mr. Chapman, gr. to J. B. Glegg, Esq., sent a Montserrat Pine-apple, weighing 2 lbs. 5½ oz.; two round, green-fleshed China Melons; and some good Bellegarde Peaches and Violet Hative Nectarines, for which a Banksian Medal was awarded. A lateral shoot from the tree on which the Nectarines were produced accompanied them. Finding it necessary several times to cut these laterals away, in order that they might not shade or interfere with the swelling of the fruit, to Mr. Chapman's surprise, the tree became a second time full of blossom. He cut all away save the one sent, on which a small fruit had set. The case was stated to be analagous to that of Pears producing flowers and fruit on the current year's wood when they are hard pruned in.—Mr. Cuthill, of Camberwell, sent a dish of fruit, and also a plant in a pot bearing upwards of 200 fruit in all stages of growth, of a variety of Strawberry which he called Black Prince, a sort related to the old black Strawberry, one of the richest and best of the sorts formerly cultivated. It appeared to be exceedingly prolific, and was stated to be very early, and a good kind for preserving. Mr.

Cuthill also exhibited a dish of Ash-leaved Kidney Potatoes, which had been produced according to the plan laid down in his pamphlet on the Potato.—Mr. Craggs, gr. to Sir T. Acland, Bart., M.P., sent, as he usually does about this season, a bundle of Killerton Asparagus, which weighed, 100 heads, 13 lbs. 4 oz., being 1 lb. 7 oz. less than last year's bundle weighed. It was nevertheless beautiful Asparagus, with no undue proportion of white or uneatable parts pertaining to it.—Of miscellaneous subjects Mr. Restell, of Croydon, sent what he called a "fruit and seed protector," being, in fact, a triangular mirror, which, swung by one corner, keeps up an incessant motion, and reflecting the various objects presented to it, thereby scares away the birds. From Mr. J. Merriman and Co., of Houndsgate, Nottingham, was a sample of garden netting, of neat construction, and apparently very suitable for many garden purposes.—From the garden of the Society were the plants of Dendrobium sanguinolentum, Cereus crenatus, Swainsona Greyana, Chænostoma polyanthum, and Statices, mentioned in another column; also plants of Cereus Egertonii, a large red variety; a fine plant of Statice mucronata; three Cape Pelargoniums, ardens, tricolor, and lateripes; the bright red Azalea Danielsiana; two Cape Heaths; Helichrysum macranthum, a large red flowered Everlasting; Ligustrum japonicum, a pretty half hardy evergreen shrub, with large panicles of white flowers; two Clerodendrons; Lyperia pinnatifida, a useful purple-blossomed Cape plant; Torenia asiatica, and various Orchids.

Entomological, *June* 5.—W. Spence, Esq., F.R.S., President, in the chair. A large collection of insects of different orders, recently formed in the island of Madeira, were exhibited by Vernon Wollaston, Esq., many being new and curious. He had learned during his residence on that island, that it is the Orange crops which are most seriously injured by insects, namely, the Ceratitis citriperda, a beautiful two-winged fly allied to Tephritis, and a mussel scale insect.—Mr. Stephens exhibited the larva of Graphiphora rosea, one of the rarest British moths; and also Gracellaria v. flava, which he had reared from caterpillars infesting the corks of wine-bottles, often causing the leakage of the wine. Mr. Weir pointed out the distinction between two British Tortricidæ, hitherto confounded together; and Mr. Douglas exhibited a new and beautiful species of Microsetia, from Mickleham, which he proposed to name M. Stephensella. Mr. E. Doubleday exhibited a box of exotic Lepidoptera, containing a number of very rare species of butterflies and moths, chiefly from the east; and Mr. S. Stevens exhibited various rare British insects, chiefly from the Isle of Wight and the New Forest, including Drypta emarginata, Chlorissa viridata, Agrotis cinerea, Cicada anglica, and Penthophora nigricans of Curtis. Of the last-named very rare species, Mr. Stevens had found great numbers of the cases formed by the larvæ, and had succeeded in rearing the perfect insect, the male only of which had been previously known, the female resembling a large white maggot destitute of wings, legs, and antennæ, the smallest rudiments of the latter only being visible. Mr. Westwood made some observations on the character and relations of this singular insect, showing that it possessed no affinity with the genus Penthophora, its nearest ally being the small black moths generally called chimney-sweeps (Fumeræ), and the Oiketricus Macleayi of Guilding. From these, however, as well as from Psyche fusca, it was generally distinct; and Mr. W. accordingly proposed for it the generic name of Pachythelea. A congenerous species is the Psyche febretta, a species of the south of France, so named in consequence of the vulgar notion that the female, taken internally, is a specific against fevers.—A letter was read from M. Kolenati, accompanying his work on Trichoptera, and requesting the co-operation of English entomologists for the completion thereof.

Reviews.

The British Desmidieæ. By John Ralfs, M.R.C.S. Reeve, Benham, and Reeve, London, 1848. Pp. xxii. and 226, tab. 35.

A more beautiful or creditable work than that which we have now the pleasure of noticing has seldom issued from the press. It combines great powers of observation, much originality, exactness of detail, and skill of execution, and is distinguished pre-eminently by diligent study and the zeal with which the author has applied to every available source of information. His success in this respect is, perhaps, scarcely so much to be attributed to his own abilities, and the general readiness of really scientific men to afford every possible assistance, as to his unaffected and modest bearing, which, in spite of varied talent and information, has required the urgent instance of his friends to induce him to give to the public the results of his long-continued labours.

The subject is one which was, till within a very few years, almost unknown in this country. A few species of Desmidieæ had been figured, and a small number recorded as natives; but it was scarcely suspected that a tribe of the most exquisite beauty and symmetry abounded in every exposed pool in many parts of the kingdom. Still less was it conceived that their mode of fructification is no less wonderful than that of the conjugated Confervæ. Indeed, Mr. Ralfs' work, in this respect, presents a mass of information which is peculiarly his own; information which is of great importance, as it throws light on the curious echinulated bodies which abound in many flints, and which, with other productions inclosed in them, are calculated to increase our knowledge of the formation of those singular minerals.

It is to be regretted that the introductory remarks were not reserved till the whole of the descriptive matter of the work had been printed; Mr. Ralfs would then have been able to compare the beautiful discoveries of Mr. Thwaites respecting the conjugation of Diatomaceæ with his own extensive researches in this closely allied tribe, and in consequence the casting of the whole would have been somewhat different, and would have conveyed a more just impression of the real affinities of these much-questioned productions. Still it abounds in interesting details, especially as to the origin of cells; and we may add, in confirmation of his views, that the order of growth of Diatomaceæ, as evidenced by Isthmia, is precisely the same with that of Desmidieæ, and that if a thread of Desmidium or Sphærozosma were represented by mathematical symbols indicating the order of development of each joint, the very same formula would also represent that of an Isthmia.

One point is peculiarly observable in Mr. Ralfs' work, which is highly to his credit, that, though in a treatise on Algæ lately published, his figures and observations were pillaged without the slightest scruple, and he had been both privately and publicly most unjustly abused, there is not the least trace of any consequent ill will or captiousness, which under the circumstances might almost have been excused.

It would be unjust to conclude this notice without giving due credit to Mr. Jenner for the drawings from which the plates are engraved, which leave little or nothing to be desired, and his contributions to the work are by no means confined to the artistic department. We hope that Mr. Thwaites will now complete our knowledge of British Algæ by undertaking a similar work on Diatomaceæ, on which subject he has collected most interesting materials. This would be a great treasure to British botanists, for excellent as is the work of Kützing, it is by no means so complete as to preclude the preparation of a history of the British species, though we should be the last to counsel any real interference with his work, for in the most handsome manner he gave up the preparation of a treatise on Desmidieæ the moment that he heard that Mr. Ralfs was engaged on the subject. The grand discovery, however, of the conjugation of the Diatomaceæ—a discovery which established on the surest grounds their affinities—has opened quite a new field for observation.

There is also another branch of the Algæ which requires illustration, namely that of the Palmellæ, which appear to be far more complicated in structure than is usually believed, and with them, as with every branch of Cryptogams, it is impossible to arrive at just notions of their affinity without a knowledge of their morphosis. Mr. Hassall has by no means exhausted the subject, and it is highly probable that a more complete investigation of these objects, as also of Scytonema and its allies, may throw immense light on the subject of the formation of cellular tissue in general.

Garden Memoranda.

Horticultural Society's Garden, Turnham-green.—Some account of this establishment at the present time may not prove uninteresting. Since we last visited the Orchid-house, the plants have made considerable advance in their size, and among them one or two fine things were in bloom. Of these the most remarkable was a large specimen of the blood-stained Dendrobe (D. sanguinolentum), a species comparatively new, and than which we have perhaps none more delicately beautiful. It has naturally pendulous stems, like those of D. Pierardi, but of a delicate purple when young; the leaves too are stained underneath and at the edges with the same colour. The flowers are as large as those of D. aggregatum, of a clear fawn colour, with the tips of the segments and lip stained with a deep rich violet, and there is moreover a scarlet spot in the middle of the lip. Such are the individual blossoms, and when we bear in mind that these are produced in clusters, each consisting of some 12 or 18 flowers, some idea of the beauty of a well-flowered specimen of this desirable species may be formed. The large plant of Phalænopsis amabilis, obtained by Mr. Fortune from Manilla, was putting forth its white blossoms, and had also formed a seed-pod; as likewise some of the other Orchids here, a result, no doubt, brought about by the cool, comparatively dry treatment to which they have been subjected, and which appears to be so suitable to their well being.

In the greenhouse, next the Orchid-house, a plant of Captain Grey's Swainsona (S. Greyana), was in flower. This is a gay flowered, somewhat rambling half herbaceous plant, from Swan River, with hoary leaves, from whose axils spring a profusion of large purple flowers with a white eye. It requires the same kind of treatment as the common Lotus Jacobæus, growing freely in a soil composed of sandy loam mixed with a little well rotted dung. In the same house was also in flower Chænostoma polyanthum, a branching suffruticose, half hardy plant, of some beauty, requiring the same treatment as Verbenas, and, like them, suited for bedding out in summer. It has a pretty appearance in a pot, however, and flowering as it does at intervals during the whole summer months, will be found useful in small collections. Statice frutescens and imbricata, two species from the Canaries, were also in blossom. They prove to be both desirable sorts; the former looking like a dwarf form of arborea; the latter is more in the way of sinuata. Associated with them were also a pretty [illegible] Acacia, in the way of Hakea pugioniformis, but with a little touch of red in the throat, some Cape Pelargoniums, and the Paraguayan Tea plan (Ilex paraguayensis).

In the large house, a specimen of Cereus crenatus, a pale straw-coloured species from Honduras, much more inviting in its beauty than its name [illegible] was covered with flowers and flower-buds; and among other things, Lemon a specialité. The rose-coloured flowers of the latter, however, beautiful as they are in themselves, are produced to so strong a scent as to render it a highly ornamental plant. The large Lobia superbiens was making extraordinary growth, and seemed altogether in the best of health.

In the pits in front of the stove, were 25 sorts of Acaciæ, from Mr. Skinner, all reputed to be new; one is said to have flowers as large as those of angustifolia, and of a fine rose colour. In the flower-garden in front of this pit was a specimen of Deutzia scabra, which could not be less than 8 feet high and as much through—a sheet of white flowers; and near it, a bed of the true Pentstemon gentianoides of Humboldt, which is not red, but a purplish lilac.

Of Mr. Fortune's Moutan Paeonies, planted near the Council-room, one flowered in 1847, and was named picta. It is described in the Journal of the society as "having leaves of a dull bluish green, not veined or tinged with purple, and as having flowers the size of P. Moutan rosea, and with something of its appearance, but more semi-double. The petals are stated to have a rose ground colour, streaked, stained, and veined with rich deep rose towards the edges, especially in the inside; rather ragged at the points, something in the manner of Parrot Tulips. It is, perhaps, as hardy as P. Moutan rosea, and very handsome." This year the following have flowered, and have received names. P. Moutan globosa: this proves to be a fine large white sort, very double, and having the base of the petals stained with large blotches of deep purple. It is stated to resemble P. Moutan papaveracea. P. M. viola: this is said to be a distinct and fine variety, with both lilac, nearly single flowers; the foliage deep green. It is considered to be quite new. P. M. salmonea: this proves to be a good double kind, resembling the flesh-coloured variety of P. officinalis. The outer petals, when fully expanded, are a pale salmon colour, the inner somewhat darker. It is reported to be a good and distinct variety. P. M. lilacina, the variety raised by Mr. Fortune to be blue, has, unfortunately, turned out to be only a deeper lilac than P. M. Banksii, with its flowers and foliage otherwise resemble, except that the former are perhaps more double. It is, however, a desirable variety. The other plants which have flowered have not proved distinct from the old P. M. Banksii.

In the new conservatory put up by Messrs. Hartley and Co., were two fine plants of Mr. Fortune's Cryptomeria japonica—one 8 feet high, a very ornamental tree; and, associated with it, a Veronica speciosa, at least 6½ feet in diameter. The span-roofed greenhouse, in front of this house, was gay with plants of General Tom Thumb Pelargonium (than which we have nothing of the kind so good for beds or pots), and Cape species, long forgotten, but now beginning to excite some attention; together with Euonymus fimbriatus; the pretty blue-flowered annual Heliophila trifida; Caltha Govaniana, a half aquatic, with large single yellow flowers; and various other interesting plants.

We have also to announce Mr. Hartweg's return from California. He has brought with him four boxes; two containing dried specimens, and two, bulbs, Pine cones, and other seeds; and more packages, which were despatched from California before him, are expected every day. From seeds previously received from him we noticed plants of three new sorts of Ceanothus, viz. papillosus, dentatus, and rigidus; Pinus Benthamiana and californica; Zauschneria californica; the California Horse Chestnut (Pavia Californica), said to be sweet; a scarlet Lily; the female Garrya elliptica; Laurus regalis, a sweet evergreen Laurel; a Prunus, with glaucous leaves, and said to have pendulous flowers; several Evergreen Oaks: Abronia umbellata, a pink-flowered trailing plant, an inhabitant of the sea side, said to be finely scented in the evening; a Mesembryanthemum, and various others.

In the large conservatory the huge Brugmansia sanguinea was finely in flower, as well as the white Brugmansia called Knightii, and the yellow blossomed Mimulus glutinosus. Of Araucarias, Cunninghamii is producing cones at the top. In regard to the Brugmansia, by a little pruning and management it may be induced to bloom several times in a year; and a large specimen, well flowered, like that in question, has a truly noble appearance. This result, however, can only be obtained when the plant is turned out in the conservatory bed. In a pot it is half-starved and worthless.

Nuts of a dwarf Cocoa-nut from Jaffna, which it is expected can be trusted at the garden, have been received from Dr. Gardiner, of Ceylon. These are stated to produce fruit when the plants are about 3 years old, and when only about 3 feet high. They have been planted in two-thirds sand and one-third vegetable mould, mixed with a small portion of wood-ashes and salt, the pots roomy and well drained. The nuts consist of two sorts, one green when ripe; the other bright orange.

In consequence of the late scarcity of food, attention has been drawn to the Arracacha, among other things, as a possible substitute for the Potato, and it has been

re-introduced to the garden of the Society with the view of ascertaining whether or not it can be successfully grown as a food plant in the climate of this country. On this point, however, at present little can be said, for the plants have not been long planted out. The Arracacha root resembles a great Parsnip with many fangs, a single root is said toweigh from 4 to 6 lbs. in good land, and it would certainly form an excellent article of food if we can only grow it successfully in Britain; but this is as yet doubtful, for its cultivation has hitherto proved almost a complete failure in Europe. Our summers are too variable and short, and our atmosphere, perhaps, too dry for it. It likes a damp situation, provided it is not to cold. It has been found that the plants at the garden would not bear the warm confined air of a Viney. They were removed to a cold frame to harden, and were then planted out. At present they appear to be inpretty good health.

Miscellaneous.

Sale of Orchids.—What sort of prices the Orchids from Java, sold by Mr. Stevens the other day, and of which mention was made last week, p. 363, fetched, our readers will be able to learn when we state that plants of Dendrobium triadenium fetched *1l.* 15*s.* each; Vanda insignis or tricolor from *3l.* 17*s.* 6*d.* to *7l.* 10*s.*; Phalænopsis grandiflora from *3l.* 3*s.* to *8l.* 15*s.*; Renanthera, new sp., from *3l.*10*s.* to *3l.* 15*s.*; Saccolabium Blumei from *4l.* to *5l.* 5*s.*; and an Aerides like virens from *3l.* 10*s.* to *5l.* It may be worthy of remark that the collection contained upwards of 60 plants of the large-flowered Phalænopsis (P. grandiflora.)

Calendar of Operations.

(*For the ensuing Week.*)

CONSERVATORY AND GREENHOUSE.

As a free ingress of airmust necessarily be permitted during fine weather, its rapid circulation, conjoined with active solar heat, must cause a rapid evaporation both from the plants and soil; hence there exists a necessity, under the above circumstances, of watering and syringing frequently. However beneficial a screen may be during bright hot weather, its presence is not required while the sun is obscured. Encourage the growth of Azaleas and Camellias by keeping them comparatively close (with shade during sunshine), and supplying them liberally with moisture administered by the syringe. As probably increased room will be obtained by the removal of many plants to the flower-beds, the space might be appropriated to the cultivation of plants of the commoner sort for an autumn display. The pits will be found useful for many hard-wooded greenhouse plants, impatient of too much heat. Propagate Roses by cuttings from those plants which have been forced; this is a good time to increase the Chinese Chrysanthemum.

FRUIT FORCING.

Pines.—As it is generally desirable to possess fruit throughout the year, an examination of the stock of plants might be made at this moment, and if necessary an arrangement effected to secure a continued supply. Employ the syringe freely, to maintain adequate humidity. *Early Vinery.*—Attention must not cease with the removal of the crop. Pursue a system of treatment calculated to complete the ripening of the wood, but not to induce further activity. The development of some lateral shoots will probably occur; their growth may be allowed to extend to several joints. *The Late House* will immediately require thinning. Maintain a gentle growing heat from 65° to 70°. Heat must be sustained in the Muscat house. *Peach House.*—Reduce the amount of water as the fruit approaches perfection. As soon as the crop is taken off attend to the ripening of the wood, affording increased heat for that purpose.

FLOWER GARDEN AND SHRUBBERIES.

Examine all newly-planted things, and see that the soil is closed about their stems, use the hoe, when requisite, to break the surface crust; attend to pegging and tying; fill up all vacancies—Annuals may be brought into requisition for this purpose. Roses may be budded, taking eyes from those trees which have been forced; the young wood from the same trees will strike freely. This is a good time for looking over lawns and removing objectionable weeds. The regulation, as far as is necessary, of wild creepers, such as Honeysuckle, Hop, &c. about shrubberies, should be at once attended to. For the first season or so Pines planted on mounds should be regularly watered and mulched. Squirrels are dangerous neighbours to the Pinetum.

FLORISTS' FLOWERS.

Ranunculuses will now claim the florist's attention, and great care must be taken to properly shade them from heavy rains, as well as the direct rays of the sun; the former dashing the surface soil of the beds over the blooms, and the latter seriously affecting the colour, especially of the dark sorts. There is nothing like "cake moss" (if it may be so termed) for putting between the rows; it prevents the rain from splashing the flowers, and it likewise prevents excessive evaporation, and therefore does away with constant watering, which, in hot weather, is prejudicial to these plants. True they like a cool subsoil, and that also should be comparatively solid; we do not admire stirring the soil with a small hoe, as some people do; we have tried it, and injured our plants by breaking the small fibres which lie close to the surface. It may be said that moss will harbour insects; an occasional watering with lime-water, just sufficient to wet the moss through, will not only drive these pests away, but prove beneficial to the plants. Seedlings may be inured to the sun by letting them have a little very early in the morning; carefully weed, &c., and as the flowers expand attend to fertilisation. *Pinks* must be shaded as they open, whether intended for exhibition or not; that is to say, if the enjoyment of their neat and sweet-scented flowers is desired for a lengthened period. They may be layered or piped now; the latter is the best plan. Choose this summer's shoots, strip the leaves off within a few joints of the top; they may then be cut below a joint, and inserted in sandy soil in a shady situation, and covered with a hand-glass. We have seen them struck by the hundred without any covering except a light calico awning, keeping them tolerably moist. *Carnations and Picotees.*—Trap earwigs by all possible means, on the principle that "Prevention is better than cure." They will not be wanted as the blooms expand.

KITCHEN GARDEN AND ORCHARD.

Now that we have enjoyed the advantage of a little rain, endeavour to keep the surface of the soil open about growing crops; the peculiar nature of the weather during the two preceding months renders this operation on many soils particularly necessary. Sow Peas for a late crop on well manured land. As soon as the first lot of Savoys, Kales, &c., are fit for removal, they should be planted out. Sow Endive and Horn Carrots for a late supply. Keep the crops of Parsnips, Onions, and Carrots properly thinned. *Orchard.*—Employ the engine against the aphis as soon as it is detected; the injury it inflicts on the foliage, although perhaps not immediately perceivable, is no less certain; the perfection of the bearing wood and the perfect development of the buds for the ensuing year are dependant on a healthy action of the foliage. Thin stone fruit. Employ sulphur on the appearance or suspicion of mildew. Continue to stop, regulate, and lay in shoots on wall trees. Renew the mulching materials if ineffective, and, in the absence of rain, water at regular intervals. Stop Vines and tie in the shoots; one bunch is sufficient for a single shoot to support. Thin Raspberry suckers, water late Strawberries, and protect from the attacks of birds.

State of the weather near London, for the week ending June 8, 1848, as observed at the Horticultural Garden, Chiswick.

June.		Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. ..	2	0	29.417	29.309	65	40	53.0	S.W.	.07
Satur..	3	1	29.354	29.270	65	49	52.5	S.	.04
Sun. ..	4	2	29.638	29.465	68	47	57.5	S.W.	.07
Mon.. .	5	3	29.768	29.692	70	40	55.0	S.W.	.00
Tues.. .	6	4	29.869	29.787	73	46	59.5	S.W.	.00
Wed. ..	7	5	29.867	29.788	73	47	60.0	S.W.	.00
Thurs.	8	)	29.804	29.766	65	43	54.0	S.W.	.01
Average ...			29.676	29.583	68.5	43.3	55.9		.18

June 2—Cloudy; showery; clear at night.
— 3—Cloudy, with showers; large masses of low white clouds; clear.
— 4—Heavy shower; fine, with showers at intervals; cloudy.
— 5—Low clouds; fine; clear.
— 6—Uniform haze; mass of dark and light clouds; clear at night.
— 7—Fine; very fine; cloudy.
— 8—Cloudy; rain; fine at night.
Mean temperature of the week, 2½ deg. below the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending June 17, 1848.

June.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 11	72.6	49.1	60.8	7	0.47 in.	—	6	1	1	3	4	7	—
Mon. 12	73.8	50.9	62.3	8	0.60	—	5	2	1	5	6	2	1
Tues. 13	74.5	50.9	62.6	8	0.56	1	4	3	—	2	6	4	2
Wed. 14	74.4	50.9	62.6	8	0.24	1	1	4	1	3	6	5	1
Thurs.15	74.5	51.4	62.9	9	0.30	1	3	2	—	4	4	2	4
Fri 16	72.5	50.1	61.3	4	0.17	3	2	1	1	5	5	3	2
Satur. 17	70.9	51.5	61.2	14	0.36	1	4	—	—	5	5	3	2

The highest temperature during the above period occurred on the 12th and 13th, 1842—therm. 90 deg.; and the lowest on the 15th, 1841—therm. 36 deg.

Notices to Correspondents.

ARCHITECTURAL GARDENS—*Eboracensis, of Doncaster*, would be glad of a list of some half dozen (or more if possible) gardens which may be considered as good specimens of the formal or architectural style of gardening. A friend of his wishes to lay out a garden and pleasure grounds in that style, having a house which dates about the year 1600. The situation is very bold and picturesque, and therefore hanging terraces, &c., would be appropriate.

BOOKS—*W S*—We cannot assist you; we are not booksellers. You should always take care to begin by the beginning. Men cannot read until they have learned their letters.——*S A B*—The best work, with figures, on the wild flowers of Great Britain is Sowerby's "English Botany," of which we have just received the first volume of a re-issue, containing 221 plates.

CACTI—*Rosa*—The chief point in managing these plants is to allow them an alternate period of growth and rest. They should be grown in a mixture of lime rubbish and loam, with a little cow-dung, and in well drained pots. In summer they should be fully exposed to the sun and well watered; but from October till March they should be kept almost if not quite dry.‡

COCKROACHES—*S A B* asks us for "any good method of destroying cockroaches, with which the house is infested. They were driven from the kitchen by stopping their holes; but now they have come to the first and even second floors." Can our friends help us to a *good* answer?

HEATHS—*H H*—You should allow your Heaths to "break" after pruning, before they are repotted. On no account let both operations be performed simultaneously. All Heaths make young wood before their blossoms are sufficiently decayed to permit the application of the pruning knife. The latter attacks, and for a time completely prostrates these first feeble efforts of vital action; and should you prune too liberally, cutting away the well ripened wood, the injuries are increased; and when repotting takes place, however carefully the operation may be performed, mutilation of the roots is inevitable, and, of course, their vital power is depressed in a like ratio. It, therefore, follows that if mutilation of both head and roots takes place at the same time, a double risk is incurred. When growth is allowed to commence after pruning, and before repotting, the organisable matter of the wood is of course in a state of activity of development, and when such is the case, the feeble absorption of inactive roots can, for a short time, till they regain their tone, be compensated for by atmospheric moisture, and by retarding respiration by artificial means. A few days' continuance of such precautions will re-establish the health of the plant; close shutting up need not be resorted to. For the Heath at any season, absolute frost excepted, a close atmosphere is objectionable. When it is found necessary, as is often the case with late-blooming Heaths, to re-pot before the blossoms are developed, by all means let it be performed; by so doing you avoid late potting, a most desirable consummation.‡

HONEYSUCKLES—*R T*—It is a very pretty thing. The sinuated leaves are however nothing, for all Honeysuckles occasionally produce such.

INSECTS—*Reader, Lancaster*—We cannot tell to which of the Gooseberry insects you allude without seeing specimens. They are doubtless bred on the last year's shoots, and repeated washings with tobacco water would diminish their numbers. We would not advise the shoots to be cut off before the time. *W.*——*Edward, R G, Kew*—We shall be glad to see the insects you allude to. They may be left with Mr. Westwood, Brunswick-place, St. Peter's, Hammersmith. It is only by carefully examining the roots of plants as soon as they show symptoms of the attacks of the larva of the weevil (which is the name given to the perfect beetle), that their ravages can be prevented. *W.*——*A B*—The supposed insect is Uredo Vincæ, which is extremely common on the larger Periwinkle.——*Young Gardener*—The insect is the common Asparagus beetle, which appears every year in greater or less profusion. (See figure and description in *Gardeners' Chronicle*, 1845, p. 592.) Hand-picking is the only remedy against the beetles. The larvæ are black thick grubs, found on the Asparagus later in the season, which may be checked by lime or gas-tar water. *W.*——*L*—The caterpillar is that of the lappet moth. Please to inform us of the precise locality. *W.*——*Alexander O*—The Parsnip leaves are attacked by the subcutaneous larvæ of a two-winged fly (which we will endeavour to rear), and not by the lady-birds. Instead of pulling off the leaves, squeeze them sharply in that part of the diseased patches where the insect may be perceived at its mining work. *W.*——*Constant Reader*—The Apple blooms have been gnawed off by the caterpillar of a small species of Tortricidæ, or bell-moth, distinct from that of the rose. The caterpillar was crushed. *W.*—— *J R, Clapham*—Apply hot water at once to the branches of the Plum tree, as the eggs of the coccus, with which it is infested, are now hatching by hundreds, and will destroy the tree if not destroyed themselves whilst in their present tender state. *W.*

NAMES OF PLANTS — *Samuel Appleby* — Some Monnina, and perhaps crotalarioides.——*F*—Scilla sibirica——*T S P*—Aristolochia Clematitis.

ROSES—*Rosa*—Perhaps you prune your Banksian Rose at a wrong season. The Banksian Rose produces its blossoms upon one-year old wood, and not otherwise. If, as is customary, the plant is pruned in the spring, all the flowering wood is removed, and so good bye to blossoms till new wood can be formed. By the autumn the new wood is ready, but in the succeeding spring it is usually cut off again; and in this way the flowering branches are incessantly removed. The proper time for pruning the Banksian Rose is midsummer, after the flowering is over; then new wood is formed abundantly in the latter part of the year; and when the spring arrives, will put forth flowers in abundance. For further information on this subject, see p. 541 of our volume for 1847.‡

STRAWBERRIES—*J Forster*—To preserve Strawberries whole: To 1 lb. of fruit put 6 oz. of powdered lump sugar; fill your jars over night with your fruit with the sugar over, which will dissolve by the next day; then cover each jar carefully with bladder and tie them tight. Set the jars into a kettle of cold water (not cover them with water), let it boil for 20 minutes, when take them out and keep for use. N.B.—They may be dried probably after being preserved as above, by being exposed in a dry hot closet, or on a stove.

VINES—*J C W*—In your first house you may plant four Black Hamburgh, one Grizzly Frontignan, one Black Prince, and one Royal Muscadine. In your second, three Muscat of Alexandria and two Black Hamburgh. The remainder on your list, omitting one of those called the White West's St. Peter's, and a Black Lombardy, will fill your late house. In the Black Alicant you will have, most probably, a Black Prince, and the Black Damascus usually proves a Black Hamburgh.‖——*C E W*—Again examine, you will find the red spider has been at work.‖

WALKS—*S N V*—Asphalte walks properly made are excellent. Their blackness, however, makes them objectionable to some persons. Of course they are impervious to water, and therefore unless you have the means of carrying off rain from their sides you cannot employ them. When asphalte walks give way it arises from their having been made too thin, and of materials not properly put together. We do not advise you to apply asphalte in connection with a stone-coloured edging.

WISTARIA—*Eboracensis*—We have not seen any such instance. It was probably caused by the hot dry weather in May.

MISC—*A Gall*—We must be excused from gratifying your curiosity. The marks do not concern the public. We had supposed that you would have understood the reason of our silence.——*G P*—The plants you mention are either stove or greenhouse plants, as the case may be. One cultivator prefers growing them in a stove, another in a greenhouse.‡——*J S*—We are not acquainted with the Fuchsia you mention. The Jenny Lind Pelargonium has been exhibited by Mr. Ambrose, of Battersea. It is a neat flowered variety, one of the prettiest of its class.‡——*R R R*—Fuchsia serratifolia is a greenhouse plant. It has been noticed at pp. 533, 679, and 774 of our volume for 1846. Any person, whether a member or no, can exhibit plants at the Horticultural Society's Exhibitions. The Society does not undertake to *fetch* plants to their shows.‡——*De Costa*—Continue to water your Melons till they are full grown and begin to show signs of ripening, then discontinue it. Plants of Keens' Seedling Strawberry, forced this spring, cannot be depended on for a crop forced next spring. Young plants from this year's runners are best.‡——*Flora*—Place your Tropæolum in the stove for a short time; that will possibly start it.‡

SEEDLING FLOWERS.

CALCEOLARIAS—*G H*—Your seedling is prettily spotted, but it is deficient in form; the flower is too flat in front, and the outline at bottom is too irregular and indented.°——*G G*—Your seedlings are very inferior to those at present grown.*

CINERARIAS—*G R*—Your seedling is a good variety, dark disk, and the petals, which are broad, are equally divided by white and crimson purple.°

GLOXINIA—*R W*—The interior of the tube of your seedling is very pretty, but in size and general appearance there is nothing to distinguish it from some others.*

PELARGONIUMS—*J T*—Your seedlings are dull and poor in colour, and not well formed; they are very inferior to the flowers now raised; the blotch in the top petals is generally very deficient. No. 3, though small, is the best among them in form, substance, and colour.*——*J Ogle*—The flower sent is very inferior in substance to those grown at the present time. Thousands are annually raised of similar qualities.°

PETUNIAS—*J T*—Nos. 1 and 2 are quite worthless; 3 is better, on account of the blue centre, but it wants substance and purity of ground colour.*——*G R*—Both your seedlings are good coloured varieties, but they possess no particular qualities to distinguish them from many others that are annually produced.*——*G G*—If the mottled appearance of your flower proves constant, it will make a desirable variety.°

VERBENAS—*W J E*—Of your seedlings No. 1 is not uncommon in colour (bright vermilion), and the trusses are rather small; 4 is too dull in colour; 11 pretty for the border, from its gay and lively appearance, rosy pink, becoming lighter towards the centre; 12, brilliant orange scarlet, but not superior to some already in cultivation; 18, rich deep red; 20, a very pretty variegated variety, ground colour delicate pink, with a broad well defined stripe of rose colour in the centre of each division of the corolla; this is a distinct and very pretty variety, and appears to be constant; it opens flat and the surface of the flower is not crumpled; in most of these seedlings the face of the flowers are too much cut in upon by the divisions in the corolla, but not more so than these flowers are generally.*

MARY WEDLAKE AND CO.'S PATENT HAY-MAKING MACHINES, with back action, 11*l.* 11*s.*; Horse Hay-rake, of superior workmanship, 9*l.* 9*s.* Give your orders early. Linseed Crusher, 11*l.* 11*s.*; small ones, 6*l.* 15*s.*; ditto, doing Beans, Linseed, and Oats, 10*l.* 10*s.* Threshing machines, doing upwards of 25 lords of Wheat straw per day, 60 guineas. Gorse bruising machines, price 10*l.* 10*s.*, will prepare 40 to 50 bushels of food a day. MARY WEDLAKE and Co.'s Chaff-cutting Machine, 200 to 300 bushels a day, price 7*l.* 7*s.* and 5*l.* 5*s.* Horse hoe, Dressing Machine, Turnip Cutter, Turnip Drill, Stubble rake, Oil-cake Breakers, Bean and Oat Crushers, Subsoil Plough, Double Field Roller, &c.—MARY WEDLAKE and Co., 118, Fenchurch-street, opposite Mark lane.

The Agricultural Gazette.

SATURDAY, JUNE 10, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

TUESDAY, June 13—Agricultural Society of England.
THURSDAY, — 15—Agricultural Imp. Society of Ireland.
TUESDAY, — 20—Agricultural Society of England.
THURSDAY, — 22—Agricultural Imp. Society of Ireland.

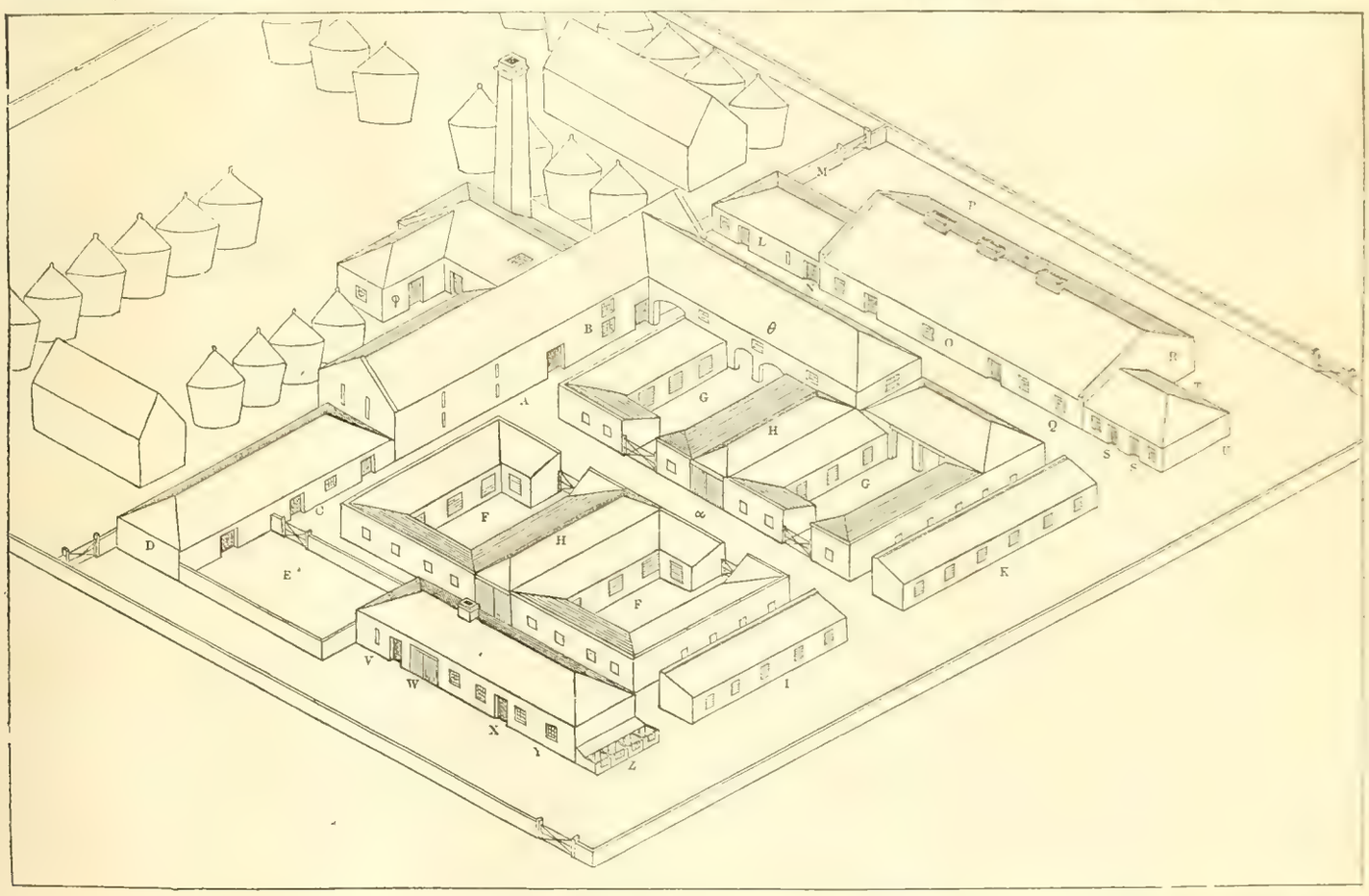
FARMERS' CLUBS.—June 10: East Kent.—June 12: Yoxford, Moreton Hampstead, Great Oakley.—June 14: Harleston.—June 16: Holsworth, Hadleigh, Wakefield.—June 17: Reading.—June 19: W. Market.—June 23: Wadebridge.

WE subjoin a perspective drawing of FARM BUILDINGS, in which accommodation for box-fed cattle is well provided. The following is a key to the reference letters upon it.

This plan possesses many obvious merits. Thus the reader (who looks at it from the south-west) will see that the whole is sheltered by high buildings on the north and east: the cart and implement sheds have a dry and cool eastern exposure: the feeding-boxes are for the most part together: straw and roots are easily accessible from them: the cow-byre and calves' house, connected together, are also both of them near food and litter: the stable, detached from the rest of the buildings, is not at an inconvenient distance from the straw-house, and it is close both to hay and to the granary where the horse-corn is kept; and if a communication be opened through the central wall of that building, it is in immediate communication with the implement-shed. On the other hand, a few faults are observable. The chief of them all, we think, is the distance of the steaming-house, where the cattle food is prepared; this is placed near the steam-engine, no doubt to have the use of the engine-boiler; but it would certainly be better more in the neighbourhood of the cattle-boxes, even though a separate boiler and furnace should have to be erected for it. Another fault appears in the number of detached loose boxes scattered about at L, Q, S, and Y, which answer the purpose of filling the odd corners that would otherwise have made the place appear incomplete, but which will certainly require considerably more labour of attendance than if they had been along with the others in one complete stack.

We know of several farmeries in which the cattle-boxes are collected together under one roof, something after the fashion related by Mr. BAKER, of Writtle, in another page, but in a manner more economical of room, and we understand them to have perfectly answered their purpose. The above plan, in which one side of every box is exposed to the sun and air, is expensive of room and of building also. In the cases to which we allude, the whole live stock on the farm is located on a square plot of land, covered over by a roof supported on parallel ranges of wall. In one instance, where these ranges are 25 feet apart, one interval is devoted to the stabling, another to the cart and implement sheds, and three others to double rows of cattle boxes, with a gangway between them; the whole is lighted and ventilated from above; the food and litter are brought in at the upper, and the manure carried out at the lower end of each gangway. A detached erection on the upper side of this block of building contains the threshing machinery, straw barns and granaries, while in the interval lies the green food shed, and on the furthest and highest ground of all stands the rick-yard. Thus the grain is threshed, stored, and sold, and the straw and green food are passed through the feeding sheds to the manure heap with the smallest possible expenditure of labour. The only doubt that there can be of the excellence of the whole plan will depend on the efficiency of its ventilating apparatus, for if the health of the animals be preserved under this plan, the economy of manure which it produces will be a point more than a fault, as inducing rest and quiet to the animals.

It is by no means a question whether the cost of feeding be economical, or only, or "money" towards the animals so reared to it that is gained here. All this has been completely decided to the affirmative, both by our own experience and that of every other person we know of. It is merely the particular method in which it shall be carried out that remains for discussion. And should the case to which we have referred prove the extreme to be compatible with the health of the animals, there can be no doubt of its superiority in other respects. But our readers must not receive the published cases of profit under this system of loose boxes for cattle as wholly attributable either to the mere or the matter of the feeding; in every extraordinary case many things of rare occurrence have united to produce the result. The state of the market and the skill of the market man generally do more towards a profitable result than all the efforts of science and judgment during the process of fattening. We refer our readers to an interesting statement on this subject in the paragraph on the Galloway farm in our Calendar of Operations. If agricultural writers would think with our correspondent that their ordinary is far more valuable to readers than their extraordinary experience, our agricultural literature would stand higher in the estimation of practical and experienced men than it now does, and it would be more useful to those without experience than it now is.



DESIGNED BY JAMES S. BLACKBURN, OF NORTHDOWN HALL, MARGATE.

A. Straw barn.
B. Corn barn on the lower floor; threshing barn on the upper floor.
C. Cow byre.
D. Calves' hammels, or for young horses, &c.
E. Close for ditto.
F F. Quadrangles, containing loose boxes for 13 beasts, with manure-pit in the centre. Boxes, 10 feet by 12 feet.
G G. Do. do. for 15 beasts, do. do.
H H. Stores for Turnips or other roots.
I. Five loose boxes for cattle. Boxes, 10 feet by 9 feet.
K. Six loose boxes for cattle. Do. do.
L. Loose box.
M. Hen-house.
N. Hay-house.
O. Work-horse stable.
P. Cart-shed.
Q. Loose box.
R. Manure store.
S S. Loose boxes.
T. Herd's store.
U. Slaughter-house.
V. Hay-house.
W. Gig and harness house.
X. Riding-horse stable.
Y. Loose box.
Z. Piggeries.
a. Covered liquid manure tank, holding 11,000 gallons.
e. Granary, which extends to the south wall of H.
o. Carpenter's and blacksmith's shed.

In addition to the above, the position of the steam-engine and boiler-house is sufficiently indicated by the chimney, and under that roof the steaming apparatus for preparing cattle food is also placed.

IT is now verging upon two centuries since the first attempt was made in this country to exhibit in a detailed statement, and with some show of scientific arrangement and phraseology, the physical characteristics of "that innocent and humble subject" to which Mr. EVELYN modestly invited the attention of the Royal Society, in laying before its Council his curious and original essay on the various soils which constitute the productive surface of the Earth. "I had once indeed," he says in the opening of his discourse, "pitched upon a subject of somewhat a more brisk and lively nature; for what is there in Nature so sluggish and dull as Earth? what more spiritual and active than vegetation, and what the Earth produces."

Such were the terms by which, in an apologetic strain for the lowly topic he had chosen, he introduces to his audience a subject of no less a destined greatness and importance than that which is now known under the kindred names of AGRICULTURAL CHEMISTRY and GEOLOGY.

A century and a half later, the subject was again taken up by the Master-hand of Sir HUMPHREY DAVY, in his Lectures before the Board of Agriculture. In the clearest and most effective language he depicted the intimate relation that subsists between Science and Practice—between Chemistry

and the Soil, with all its varieties, all its capabilities, all its productions.

But it so happens in the history of all human progress, that the original assertion and reiteration of a Truth, however obvious or important, must be regarded as the practical instruction rather of the succeeding than of its cotemporary age. Between its announcement and its adoption, between its admission and its practical application, long years of apparent neglect must be allowed, and almost expected, to intervene, whilst slowly and with difficulty, through much of gainsaying, of doubt and even ridicule, the Truth that has once been sown works its gradual way to the surface, and the first handful of a crop at last bears testimony to the fact that no well-directed labour no truth-founded assertion is ever allowed to be utterly lost to mankind, however its infant utterance may be stifled, and its active agency postponed.

It was impossible to resist this reflection on witnessing the meeting that assembled on Wednesday last for the final establishment and organisation of the ENGLISH AGRICULTURAL-CHEMISTRY ASSOCIATION. The remark of Mr. HUXTABLE—whether we apply it to the assembled persons, to the discussion that took place, or to the mere fact and occasion of the gathering—touched the very truth. It was, as he correctly said, 'an epoch.' It is an epoch, when the vital relation between a young but giant science with the most ancient and necessary of human arts, is announced by a single tongue to the wondering audience that hears it for the first time, and scarcely credits much less realises the truth it hears. It is an epoch when this truth, however lightly entertained and lightly spoken of, yet begins to creep about from mouth to mouth, and to commence its first modest inductions, from one small experiment to another. These are epochs: less marked, less open and declaratory, yet not less intrinsically precious. But *the* epoch of advancing art, of acknowledged and triumphant truth, is when a conviction no longer struggling or smothered has gathered head, and men are brought spontaneously together, from East West North and South, from the various geological districts of one of the most geologically-diversified countries on the globe, to announce their different experiences, to compare their respective conclusions, and to combine together for the carrying out of a wise and useful purpose that nothing but combination can effect, and to which every additional voice and every advancing year, can only bring an increased aggregate of efficacy and value.

It has seldom happened at the establishment of any Society, to have its objects at once so ably and so judiciously pronounced. If anything could augur well for the practical and permanent success of any undertaking it would be the steady tone and purpose of the whole series of observations which fall from each speaker in succession. The opening speech of Mr. HUXTABLE, followed by Mr. DENISON, Lord BURLINGTON, Mr. WHITMORE, Mr. PAINE, Sir J. JOHNSTONE, and others, exhibited in the clearest light, and with illustrations of a kind the most ample and interesting, the reasonable prospects of national utility to be derived from such an Association as had been formed, for the putting into a practical shape the long and widely-admitted demands of Agriculture on the Science of Chemistry, in this country. As Scotland had preceded England in the formation of a national Agricultural Society, and again in that of an Agricultural Chemistry Association—so the hope was expressed that the incorporation of those societies by our northern neighbours would eventually be carried out in the same manner in England.

There is every reason to anticipate that such will be the case. As was truly remarked, the effects to be derived from the application of chemical science to the cultivation of the soil are not to be judged of by the anticipation of sudden and wholesale results dreamt of by the sanguine, but by bearing in mind the immense area upon which the smallest accession of discovery, the minutest improvement of practice, must eventually operate. It is by the aggregate effect of small and gradual advances that science proceeds and produces her results. To expect otherwise would be to ignore one of Nature's most obvious and universally existing laws. However privileged, and fraught with brilliant discovery, may be justly thought the age in which we live; yet 'slow and sure' must ever be, as it ever has been, the only true motto of the achievements of inductive knowledge. In the application of Science to Practice the maxim is more than ever necessary to be borne in mind, as the only true and safe condition of real progress.

We need hardly express the hope that out of the *seven thousand members* of the Agricultural Society of England, an ample average will be found to swell the already promising list of a Society so intimately, indeed so essentially allied with its objects. The geological districts of our country are to its agriculture, what our infinitely more artificial county and parochial divisions are to its social and political whole. It may surely be most allowable to us to hope and believe that the time is nearly come when every minutest variety of geological district shall send its own intelligent and able representative, versed in the chemical features and consequent agricultural characteristics of his own locality, to report, to compare, to learn, and to diffuse, as congregation and comparison can alone enable men to do, the discoveries of Practical Science to the furtherance of Scientific Practice.

BOX FEEDING, &c.

I CANNOT view the calm that pervades your columns without some distrust as to passing events being so exactly congenial to the prospects of the "rational seeders" as they anticipated, notwithstanding the favourable autumn and winter they experienced, to establish their system, and I am induced to make this communication with a view to draw from them some statement how their system is progressing, as it will relieve my mind of some doubt I entertain of its successful result.

At an agricultural meeting that I attended the other day, I heard that Mr. Mechi had during the spring been making numerous inquiries after Talavera Wheat to fill up the gaps in his thin sown corn, and that the Rev. Mr. Wilkins had been most assiduous in the practice of transplanting, to fill up the deficiencies in his fields. Probably these gentlemen will favour you with a communication that will set us right, and that Mr. Mechi will also state some of the results of his deep draining upon strong clay land, especially as regards the result of the experiment made by himself in a field of Mr. Hutley's, at Abbott's Hall, Wigborough. Facts are stubborn things, and should be faithfully recorded. At the same time I hope neither of these gentlemen will think me one of those stinging Bs so much adverted to in previous letters by Mr. Wilkins, but as they appear to have for some time past both entered into the chrysalis state, it will afford much gratification to find them again bursting into life and on the wing, especially as the sunshine is so prevalent and tempting.

It does however occur that what is most attractive is sometimes most retiring, for want of the power or inclination to blow the trumpet; and I therefore hope to be excused if I bring into notice the inspection of a farm belonging to the Rev. Mr. Cook, of Semer, a short distance from Hadleigh, in Suffolk, for in addition to the zeal and enterprise of our modern theorists, he brings sound practical knowledge and experience to bear upon his system, which in my opinion supersedes anything of the kind that I have at present seen carried out.

Mr. Cook had observed the imperfect system of box feeding cattle, on account of the extra attention required, and the imperfect manner in which the manure was made at the angles of the boxes. The old system of open yards was also entirely objectionable, on account of the large quantity of straw consumed, and the large quantity of water imbibed in wet weather, and by drought during the summer months, by the action of the sun and air combined during the process of foddering green food under such disadvantages. He has therefore entirely covered his farm-yard with sheds, or rather carried extensive roofs entirely over them, from which the water is conveyed by troughs above to pipes beneath the suface; upon one farm there are five yards so roofed over, one of which is of 36 feet span by 54 feet in length; the cost of which he informed me was about 125*l.* in this yard. 12 short-horned oxen were feeding upon Mangold Wurzel, boiled Linseed-meal mixed with cut chaff, and, according to the opinion of an experienced butcher, who is in the habit of purchasing them when fat, they were worth 3*l.* per head, in his opinion, more than if they had been fed in open yards—a sum more than equivalent to the whole expense of the erection in four years.

The manure at the time I inspected them was several feet in thickness, and of great solidity, as well as being of the first description as regards quality, and from fermentation not having taken place, not a particle of its constituent properties was lost. In two ther yards were also lots of oxen, in another yard Southdown sheep, and in the fourth swine, all in the most thriving condition.

The mode of erecting the buildings deserves especial attention—as one of the most important qualifications is a perfect ventilation in summer and winter; and by comparing the buildings latest erected with those first put up, a striking difference was observable in that respect, and as the cost is not increased by the improved method, it may not be uninteresting to your readers if I endeavour to describe it.

The two points sought to be obtained are economy and convenience, to effect which in erections of such magnitude require considerable attention, and application of the means to obtain the end; but by a proper adaptation of the buildings necessary and already erected, in connection with the covered yards, much expense may be saved; for admitting a yard to be already formed, with ranges of buildings on each side and at the back, the roof to cover the yard had then better be put up entirely independent of the surrounding buildings, the supports or posts of which, as in this case, should be placed parallel with the sides of such buildings, and the water conveyed away by water-troughs and underground drains to the front. The gables of the yards should also be open at both ends, to allow a perfect ventilation, and between the main plates placed upon the posts for the purpose of carrying the principal rafters, and the upper plate placed upon such principals for carrying the ordinary rafters; the whole space should be left open, and which space can be easily closed, if necessary, in winter, during very severe weather.

The pillars or posts are all of cast iron, and are placed about 10 feet distant from each other; upon these a stout plate of fir is placed, to which the pinned principal rafters are attached—each principal being pinned with a king-post, and at the foot of each rafter is a cast-iron shoe lying upon the plate, with a clamped part projecting to within side the plate, to prevent the outward action of the rafter pressing outwards from its bearing; these principals are secured by iron rods from the outer plates to the under end of the king-posts, having an elevation of about 12 inches above the top of the plates, both these rods being secured upon a bolt attached to the king-post by a screw and nut passed through an eye on the ends of the tie irons. After the principal rafters are all secured, a second plate to carry the ordinary rafters is secured upon the upper side of them, about 12 inches altogether above the first plate, and all the rafters carrying the slates are placed upon these upper plates, so that the rafters that carry the slates are entirely independent of the principal rafters except by the purlins. This method allows the necessary strength for roofs of such great span, without loading them unnecessarily with material, and at the same time affords facilities of ventilation.

I assure you that I advert to the circumstance of having paid Mr. Cook a visit with great pleasure, not only on account of the courtesy and hospitality shown me, but as being enabled through your columns to advocate a system more perfect, in my opinion, than any other yet established for enabling the farmer to produce the largest quantity of meat at the least expense, but as being vastly superior to any other at present in use for the making and economising manure, which with Mr. Cook was the main object sought to be attained, and in which he has so eminently succeeded. In addition to the inspection of the buildings I was also highly gratified with the excellent description of the short-horns and horses that he keeps on his farms, which in point of number and excellence are superior to any to be found in that district.—*Robert Baker, Writtle, Essex.*

ENGLISH AGRICULTURAL CHEMISTRY ASSOCIATION.

A GENERAL MEETING of the subscribers was held on Wednesday at the Thatched House Tavern, St. James's-street. In the absence of Lord Portman, the Duke of MANCHESTER was voted to the chair.

The Rev. A. HUXTABLE, the Honorary Secretary, in opening the proceedings, observed that his first duty was to explain the absence of many noblemen and gentlemen who had taken a lively interest in the Association, especially of Lord Portman, who, he was informed by a letter received from Lady Portman, was so unwell as to be confined to his room, and who was suffering under an affection of the throat so severe that he could not speak without difficulty. He had also received letters from several other noblemen and gentlemen, including the Duke of Sutherland, who were absent from town, or so engaged as to be unable to attend. He thought it right to mention this to account for the attendance being much thinner than it might be expected to be from the great importance of the subject. He would now refer shortly to the formation and history of the Association. It had been long felt by many gentlemen interested in the improvement of agriculture that there was wanting in this country some national laboratory connected with the improvement of land, for though there were many valuable local clubs scattered through the country who paid practical chemists for analysing; and though there were many first-rate men—men of great scientific attainments and practical knowledge, capable of executing any analysis that could be required connected with those clubs, still it was felt that the wants of English agriculture were so pressing, and the applications for analyses so numerous, while the fees charged by private laboratories were so high, that it appeared to those gentlemen that it would be in every way desirable that there should be established in this country, if possible, a national laboratory, in imitation of the Scotch Association, for the analysis of soils, manures, and vegetable products. The Scotch institution, which it was thus proposed to take as their model, and which was established in 1842, owed its origin not to the landlords but rather to the enterprise of the improving tenantry. It was felt by them that, in the purchase of guano, oil-cake, limestone, and other products and substances used in agriculture, unless by analysis they could ascertain their relative values, there was no safety either in the marketing for them or in their use. With regard to the value of manures, he might here observe, that manures generally were much exposed to adulteration, and, of course, those who purchased them to imposition. Besides this, there was often a difference in the components of the article even when unadulterated. The first sample sent to Professor Way (the analytical che-

mist to the institution) for analysis was one of guano, forwarded by Mr. Jonas. That the article was genuine and unadulterated there could be no doubt, but the result of the analysis showed that it contained 19 per cent. of water, the average proportion of water being from 10 to 11 per cent. Thus, if this gentleman had purchased the guano without having it analysed, he would have lost 8 or 10 per cent.; that was, he would have paid so much for mere water; as it was the circumstance was represented to the seller, and a proportionate reduction in the price was made. It would be seen, therefore, that if in this case the purchase had only extended to a few tons, the saving must have far more than covered the annual subscription to the Society. (Hear, hear.) The object of the Society was to engage some eminent chemist—a man of high attainments and authority, who should, for a small fee, to be fixed, make analyses of all samples sent to him, whether of soil, manures, or other substances and products. It must be obvious to every one who was at all acquainted with the subject, that the analysis for which Professor Way charged a fee of 3*l.* or 4*l.* would, in many cases, cost him not less than 8*l.* or 9*l.*, and when they came to the more minute and delicate inquiries—such as the formation of nitrogen and phosphoric acid, these were processes requiring so much care, and so much scientific knowledge of the highest order, that the cost of obtaining results of any value must be very great indeed. It would be seen, then, that however beneficial it might be to science that a vast number of samples for analysis were sent to the laboratory, it was anything but beneficial to the pecuniary interests of the professional chemist. (Hear, hear.) During the brief period—the short four months which had elapsed since the Association had opened its laboratory—but he must correct himself in this—it was not the laboratory of the Association, for one of the chief claims this Association had on its subscribers was that, beyond their subscriptions, they were under no responsibility whatever; the members subscribed and paid, according to their own option, 2*l.* or 3*l.* a year, and on the faith of those subscriptions Professor Way provided and maintained the laboratory, and undertook all the expenses connected with it. Then there was no risk whatever, and that the subscribers obtained their money's worth, he would, with the permission of the meeting, now proceed to show. One of the most important enquiries which had been submitted to Professor Way was connected with the analysis of soils; but as there was a gentleman present of much experience on this subject, and who would speak to it, he would not dwell upon it. He might however mention, for the information of those who would send samples of soil to Professor Way for examination, that what was called the rude rough analysis was of but little value. As an instance. Sir Robert Peel sent to the Professor four different marls taken from different farms on his estate, in order that the quantity of carbonate of lime they contained might be ascertained. The result showed that Nos. 1, 2, 3, and 4 all contained, with variations of two or three per cent., from 10 to 12 per cent. of carbonate of lime, and it might naturally be supposed that they were consequently about equal. But it was not so, for while No. 1 contained rather more carbonate of lime than No. 4, the latter contained from 1½ to 2 per cent. more phosphate of lime than No. 1. So that Sir R. Peel, in carrying upon his land 1 ton of marl No. 4 would have as much phosphoric acid as he could obtain from 1 cwt. of bones. This showed the value of these analyses. Again, in the case of an analysis made by Professor Way the other day, of manure, for which 6*l.* a ton was charged, according to the chemical components, as compared with the same substances found in Peruvian guano, it was not worth more than 4*l.* a ton, so that, if the purchase was made at the price asked, there would be a loss of 50 per cent., that was to say, of two parts out of four. Many of the analyses of which he should have to speak concerned himself, not only because they were important, as showing the great benefit that had resulted from Professor Way's services during the four months over which those services extended, as connected with this Association, but more so perhaps because he felt impelled thereto out of gratitude for the advantages he had himself derived. (Hear.) There was a gentleman present, Mr. Lawes, who had published a series of papers in the "Journal of the Agricultural Society," containing information of so valuable a nature that its publication formed an epoch in the progress of agricultural chemistry in this country. So accurate, so scientific, and so important were the results therein adduced, that it was impossible duly to estimate their value. For though they could not expect the same startling results in agriculture as in some of the arts—as the application of the electrotype, and of magnetism to the electric telegraph—it should be remembered that the smallest improvements in the cultivation of the land, in the selection of manures, or the production of plants, became so multiplied in its application that it was impossible to over-estimate its importance. Mr. Lawes, in the papers to which he had referred, had put out of all doubt the condition on which alone you could hope to grow large crops of Wheat—he had disencumbered the question of a vast number of circumstantials in which it was before involved—and had shown that nitrogen and phosphoric acid, but especially nitrogen, in the shape of ammonia, was the grand requirement for growing Wheat. Therefore the principal enquiry, in a commercial point of view was, how to obtain a cheap supply of ammonia? The principal sources from which ammonia could now be obtained was guano, which constituted, perhaps, our chief supply, and sulphates. From these sources ammonia could not be obtained under 8*d.* a pound he believed; he appealed, as he wished for information, to Mr. Lawes on this point.—Mr. Lawes: About 7*d.*—Mr. Hudson: From 7*d.* to 8*d.* a pound. The grand source of ammonia was in the decay of animal and vegetable products, and to obtain a cheap supply of ammonia we to obtain a cheap supply of bread. (Hear, hear.) A gentleman had recently suggested to him that there was a certain manufacturing refuse from which a cheap supply of ammonia, or rather of nitrogen, might be had—it was the refuse of seal skins, of which many hundreds of tons were annually thrown away. He had obtained a sample of this refuse, and forwarded it to Professor Way, who had drawn out an analysis; the result being that, from the experiments made on two different combustions, the amount of nitrogen contained in the refuse of these skins was 7·9, or, to avoid the decimal, say 8 per cent. It appeared, however, that this contained about 10 per cent of water, which must be deducted in ascertaining the value of the product. But even so; as this refuse was put on the railway for him for 10*s.* a ton, he obtained ammonia from this source at from 2*d.* to 2½*d.* per lb. The next thing to which he wished to call their attention was this. If they wanted ammonia for top-dressings for spring crops, it was in vain to go on carting animal substances on the ground; because either they would not decay with sufficient rapidity, or if they did, the ammonia would escape. If in the autumn it was desired to apply this or kindred substances to Wheat land, the plan was simple enough; in calcareous soils especially they should plough it in, when it would slowly and gradually decompose. In this way he had for many years used substances of this nature, and with the best effects. In the spring, however, they required ammonia, and it was upon this point that he had consulted Professor Way as to the seal skins. He knew very well what would be the result of the application of these seal skins in the winter, but he wanted them for spring crops, and the question was how he could obtain the nitrogen and avoid losing the ammonia. It was a fact well known to all chemists that the nitrogen in animal bodies might be easily set free by the application of warm alkalies and water. With farmers the warm alkali would be caustic or quick-lime, and if they took half a ton of this seal-skin refuse or hair, mixing it with lime, applying water at the same time to slack the lime, and covering the surface with a thick layer of sawdust, charcoal, or weeds, they would fix the ammonia, and obtain an ammoniacal dressing for land at the rate of 2*d.* or 2½*d.* a pound, instead of 8*d.*, which would be the cost of guano. Now this was an important matter, particularly when they considered how many hundreds and thousands of tons were annually thrown away in this country for want of knowing how to use it. He was told by a gentleman lately, that only the other day there had been what was not an unfrequent occurrence in that part of the country, a large catch of whales on the coast of Stromness, on the property of Mr. Mathison. These, on enquiry, he found were worth about 7*l.* to 8*l.* each for the oil extracted from them. He enquired what was done afterwards with the carcases, and the answer was, they were towed by luggers into deep water and there sunk. But if this mode of obtaining the ammonia from such substances were generally known, these carcases, now worse than useless, would become an additional source of national wealth. On mentioning the subject to Professor Way, he suggested, instead of the rude process he had described (of throwing the animal substance, with quick-lime, in a heap, against a wall, and placing over it a considerable covering of rags or some other matter, to condense or fix the ammonia), a plan of a kiln which would cost no more than 4*l.* or 5*l.*, by the application of which the ammonia would be infallibly fixed with far less trouble. (Hear, hear.) He would not detain the meeting by speaking of phosphates of lime, because there were many present, he hoped, who would tell them how they might obtain large and cheap supplies of that valuable agent in agricultural operations; but he would call upon them to bear in mind that every fresh source of nitrogen which could be made applicable was of the highest importance, as the one grand requisite for all improvement in growing cereals or Wheat crops. The next analysis made by Professor Way, to which he wished to call attention, was also one of great value. Mr. Lawes, in his second paper published in the "Journal," of which he had spoken, had shown that in growing Turnips and Mangold Wurzel they might, by the direct application of nitrogen, nearly treble, or, at least, more than double, the weight of their crops: and what was remarkable in these crops was, that the leaves contained more nitrogen than the bulbs. Gentlemen who were practically acquainted with agriculture would know that about the month of October, when all the root crops tumbled in at once, there was a perfect *embarras des richesses*—they did not know what to do with the green produce of these crops. Of course what they would desire to do would be to feed it off by sheep; but that was impossible, for they could not get stock enough together for the purpose within the month or six weeks during which the glut lasted. The knowledge of this fact had some time ago brought to his memory that he had read that in Russia and

[illegible] they were in the habit of [illegible] leaves, and that when [illegible] as to whether these green crops might not be preserved for future use. He [illegible] to keeping Carrot tops, but more particularly Mangold Wurzel leaves and Turnip tops, [illegible] for, for the [illegible] to [illegible] to decay so rapidly, that though they contained a large proportion of nitrogen and phosphates [illegible], it had been hitherto found impossible to preserve them. He had been induced to make several experiments upon these leaves, which had turned out to be successful; with regard to one of these experiments, which he had before declared to have failed, the result showed that he was wrong. That experiment was to [illegible] a pit several feet deep and [illegible] with Mangold Wurzel leaves in layers, [illegible] with salt, and covered up the whole. The pit he opened about 2 years ago and [illegible] arise from it that he closed it up again, ashamed to have it known that he had made such a trial, and thought no more of the matter. A short time since, in sinking a well, he had occasion to cut into this pit, and found, to his astonishment, that within 6 or 8 inches of the top the leaves were as perfect as when he put them in; every fibre was perfect, the only perceptible change being a [illegible] and upon offering them to the cattle, his surprise was still greater to find that they ate them with avidity, and only the cows but the sheep and pigs also. (Hear, hear.) And he had since cabbed it the cattle most heartily. (A laugh.) The important point that remained for him to discover was whether there was any great loss of the nitrogen in these leaves, inasmuch as the value of any fodder for cattle was in the exact proportion of the nitrogen it contained. But notwithstanding the quantity of nitrogen in Mangold Wurzel leaves and Turnip-tops, it was well known that as a general rule they purged cattle, and therefore were comparatively of little value. Mr. Lawes, in his paper, had explained the reason of this to be that they were generally given before the sap was perfectly matured: and last year his experiments led him to find a remedy for this evil—that was, by cutting the tops at the end of October or beginning of November, and [illegible] on the field, where he left them for [illegible]; he then mixed them with dry straw, and [illegible] only he kept his breeding ewes until [illegible] of their lambing. These tops and [illegible] were also excellent fodder for cows, and if given to them after calving would produce a full and rich [illegible]. This was consequent on the large quantity of nitrogen and phosphate of lime they contained. It was evident, therefore, that if by any means they could preserve these leaves and tops, without losing the nitrogen, it would be of immense advantage, especially to the small farmer, as affording him a supply of the best description of fodder for his stock through the winter. He sent a portion of the pickled leaves to Professor Way to analyse, and the experiments he had made upon them indicated certainly a loss of nitrogen, but the Professor added that, weight for weight, these pickled leaves contained more nitrogen than when they were put into the pit. This was in consequence of the diminution in the gross weight by the loss of water in the process of fermentation they had gone through: but though there was some loss of nitrogen on the bulk, there was an actual gain, taking weight for weight. The practical effect of this experiment to the agriculturist, and particularly to the small farmer, was to afford him the means of obtaining a supply of fodder all through the year by preserving his Carrot and Turnip-tops, and Mangold Wurzel leaves, in a simple porous pit, dug in the earth, without bricks or mortar: and to show that the value of the root crop was to be estimated not by the quantity and weight of the bulbs only, but by the leaves and tops as well. (Cheers.) One other analysis, or rather inquiry, made by Professor Way, as being important, he wished to draw attention to. In his own laboratory he had found that, if a solid unbroken bone were allowed to stand in a vessel containing diluted muriatic acid the acid of the specific gravity of 1.40 and two parts of water), the process of conversion to phosphate of lime was completed in two months, and the bone became reduced to a paste. It occurred to him that as salt, the principal ingredient, was very cheap, he might make the muriatic acid himself at a small expense. Accordingly he wrote to Professor Way, to request him to show what proportions of salt, water, and sulphuric acid he should use to produce 1 cwt. of muriatic acid of the specific gravity he had stated. The answer was, that if to 6 or 7 gallons of water I added 56 lbs. of salt and 56 lbs. of sulphuric acid, I should obtain 1 cwt. of the muriatic acid of the exact specific gravity I required, and this information he had found of the greatest practical importance in his own agricultural operations. (Hear, hear.) In preparing this acid, however, it should be observed that the sulphuric acid must be first mixed with the water, and allowed to cool before adding the salt. In using the acid it should be poured over the bones as a brine; and it should be done gently, for if done suddenly much of the muriatic acid would be lost. He had prepared his bones in this way for the last two years, and the result was that in drought wherever he drilled in the phosphate of lime so obtained, there was moist lime round every drill an inch deep, and the plants came up in the driest weather. There was also another practical use for this. Suppose it were wanted

to apply a top-dressing of guano. It was well known that the phosphate of ammonia in guano was not easily soluble, while in all other cases it was too soluble. Now the best way to apply it as a top-dressing was in the shape of liquid manure. The mode in which he applied it was this: To every hundred weight of guano he added one third of salt and one-third of muriatic acid, which in a few days rendered the whole perfectly soluble. He was aware that many gentlemen who were practically acquainted with the processes of agriculture, regarded Italian Rye-grass with much suspicion; and some landlords went so far as to prohibit their tenants from growing it, in consequence of its exhausting nature on the land. He, however, grew this Rye-grass to a large extent, and certainly he must admit that he found it very exhausting to the land; but he wanted to know how it was so exhausting, and he sent up a sample to Professor Way to analyse. He had the produce of a quarter of an acre weighed, and the result showed a growth of 6 tons 8 cwt. per acre. The second cutting was not so large as the first. Last year he had five cuttings, which gave him about 30 tons per acre for the year. Now, what he wanted to ascertain was, how he could prevent the deterioration of the land occasioned by these immense crops, and he sent to Professor Way to ascertain the proportionate quantity of nitrogen the Grass contained. From the sample sent, which was in its green state, but cut dry after the dew was off, it appeared that each ton of the Italian Rye-grass contained 8¼ lbs. of nitrogen, or about 55 lbs. to the acre. A bushel of Wheat contained between ¾ and 1 lb. of nitrogen, so that one cutting of this Grass would carry off his land per acre a quantity of nitrogen equal to that of 64 bushels of Wheat; and 30 tons, the produce of the year, would carry off as much as would be absorbed by between 200 and 300 bushels of Wheat; but it occurred to him that though this crop was so exhausting, if by any means he could restore the nitrogen to the land, he should obtain a larger and more valuable crop of most nutritious food for stock than in any other way, and Professor Way explained to him that by applying from 4 to 5 cwt. of Peruvian guano per acre after each cutting, the nitrogen would be replaced. These were most important results, but how was it possible to arrive at them without the aid of chemistry? (Hear, hear.) He trusted that he had stated sufficient to show that during the four months they had been in operation, such important results had been indicated as to entitle the Association to the increased confidence of the subscribers, and the support of all who were in any way connected with agriculture.

J. EVELYN DENISON, Esq., M.P., in rising to move the first resolution, said that he had been requested, both by Sir R. Peel and Lord Ellesmere, to explain that the reason of their non-attendance was, that the one was engaged on a committee of the House of Commons, and the other as chairman of the museum committee. The resolution he had to move was:

That the report made by the honorary secretary exhibits the benefit which the English Agricultural Chemical Association is calculated to confer upon the farmer, and that the Association, in the opinion of this meeting, is worthy of increased confidence and public support.

And he was sure they would agree with him that the statement Mr. Huxtable had made was an additional benefit to the many which that gentleman had conferred on the farming interest. He came there not as a man of science, but as one connected with land, and not only as entertaining a hope that science, which was knowledge based on principles, would benefit the agricultural interest, but feeling sure of that result. It was now 10 years since the English Agricultural Association was formed. The motto of that Society of which he had all along been a member, was "Agriculture with Science;" and as evidencing the benefits which such Associations were calculated to confer, he might mention that he had himself saved not less than 300*l.* a year in the manufacture of pipe-tiles by the information he had obtained through its means. (Hear.) It might be doubted whether farmers, as a body, would support institutions of this kind, if they were really anxious for such an Association. As he was coming to the meeting he fell in with a friend who lived in the north of Notts, within 20 miles of his (Mr. Denison's) property, and that gentleman informed him that they had had such an Association in that district for the last two years, which was supported by the farmers; that a chemist was employed to analyse soils and manures and to give lectures; and the benefit derived from that Association was so great that the crops on the farm of this gentleman had increased one-fourth. This showed the feeling of the farmers, and the benefit of a central Association, which might collect and bring together all information bearing on the subject of agricultural science; for though this Society had been in existence two years, and he lived in its immediate neighbourhood, he had never heard of it before. So when the English Agricultural Association was first established; they found information on agricultural matters existing in various parts of the country of which agriculturists were totally ignorant until this Society collected it and brought it within one focus. Looking at the many points in which Mr. Huxtable had shown that the farmer would derive a money benefit from this Society, he could not but believe that it would be worthily supported, and when he remembered that the English Agricultural Society consisted of between 6000 and 7000 members, he could not doubt that such a number of these gentlemen would join with this as should ensure a worthy remuneration to the chemist to whose exertions they would have to look. There was something like an example for this course. They were aware that the English Agricultural Association sprung from the example of the Highland Society of Scotland, and again the Scotch were in advance of us. There had been in Scotland a Chemical Agricultural Association for the last five years, and the Highland Society approved of it so much that they were now about to incorporate it with themselves. It was not improbable that in this respect too the English Agricultural Society might see the wisdom of following the example of Scotland, by adopting this Society and incorporating it in itself.

The Earl of BURLINGTON seconded the resolution, and expressed a hope that its successful operation would tend to eradicate a prevailing impression among farmers in remote districts against the application of science, and to dispel the error that science and facts were opposed to each other. The resolution passed unanimously.

Mr. G. PAINE moved the next resolution, viz.:

That the affairs of this Association be directed by a Committee chosen annually, and that the following members constitute the Committee for the ensuing year:—Earl of Burlington, Dr. Daubeny, J. E. Denison, Esq., M.P.; Earl of Ellesmere, W. Fisher Hobbs, E. Holland, A. Huxtable, Samuel Jonas, Sir John Johnstone, Bart., M.P.; T. Kinder; J. H. Langston, Esq., M.P.; J. B. Lawes; W. Miles, Esq., M.P.; Lord Portman; Philip Pusey, Esq., M.P.; William Shaw, and H. S. Thompson.

As a practical farmer, as well as a landowner, he had long felt the want of such an Association. The chief object of agriculture, viz., to obtain the greatest possible produce at the least possible cost, was dependent on the application of science. He had already availed himself of the benefits of the Society. Where he resided the country was peculiar in its geological features. It was on the chalk formation, but the strata were very much disrupted. Within the limits of the chalk formation they knew that there were lands possessing the very highest and the very lowest amount of natural fertility, and he felt that it would be of the greatest importance to have an analysis of the different soils, in reference to their geological formation, and that if they could get together a good body of statistics, embracing the whole of the geological positions of the country, they would make a great step towards a rational system of agriculture. His attention was drawn to a plot of land on his own property, on the lower chalk formation of a greenish colour, whereon the crops were always of the most luxuriant character. He had caused a portion of this soil to be analysed, and it was found to be exceedingly rich in phosphate of lime. After making several experiments upon it, Professor Way found that it contained large quantities of phosphoric acid, derived from animal remains. The marl generally was found to contain 15 per cent. of phosphate of lime, and the fossils embedded in it, 50 or 60 per cent. He had had these fossils burnt and mixed with the richer part of the soil, after removing that at the top, and applied as manure to Turnips, and the result was the most fruitful crops on land on which he had before spread 4 or 5 bushels of bone-dust without any benefit. In another part of his farm, on the galt, he also found fossils, but not in sufficient quantities for agricultural purposes, but on digging below the galt to its junction with the lower green sand, he found fossils in abundance, which when cleansed from the sand contained about 40 to 43 per cent. of phosphate of lime. From subsequent investigations which he had made he was satisfied that in the whole range of chalk formation in this country, from Folkestone in Kent to Petersfield in Hants, and back to Beachy Head in Sussex, and from Flamborough Head in Yorkshire to Sidmouth in Devonshire, was rich with fossils applicable to agricultural purposes. The knowledge of these facts they owed to chemistry, and it was of the highest importance that a society like this, devoted to the application of chemical science to agriculture should be encouraged.

Mr. H. W. WHITMORE seconded the resolution, and stated that on submitting some samples of what he had supposed to be clay from very stiff land on his property to Professor Way, it was found that they were not clay at all, but that the stiffness arose from the presence of silex in a very divided state, there being scarcely any alumina in them; while another field, which he had supposed to be of little value, the Professor found contained a large amount of soil of an alluvial character, with 17 or 18 per cent. of alumina, which would be of great use in mixing with the soil and increasing the fertility of other parts of his land. With regard to manures, he believed the quantity of guano purchased by the farmers every year very far exceeded the quantity imported, and the adulteration was carried on so successfully, that except by analysis it was impossible to detect it. It was important, therefore, that agriculturists should have the means of testing by chemical analysis, not only the soil, but manures. He would suggest that it would be desirable to establish clubs in various parts of the country in connexion with this Society, for the purpose of obtaining analyses of all manures, and he was quite sure that no dealer would attempt to palm off adulterated manure on any one known to be connected with such a club. The resolution was carried.

Mr. FISHER HOBBS then moved:

That the subscriptions of the current year be received by Thos. Way, Esq., the chemist of the Association, and that the compositions in lieu of subscriptions be paid to the joint account of Lord Portman and the Rev. A. Huxtable, with Messrs. Glyn, Halifax, Mills, and Co., and that the secretary be appointed by Thos. Way, Esq.

It was a great object with farmers to obtain correct analyses of soils, manures, and vegetable products, and by means of this Society that object would be attained at a small cost. It had been asked whether the farmers would support such an institution; he had no doubt that when it became known, and the benefits accruing to them from it were shown by one or two experiments, they would gladly, especially where they had security for the investment of capital, avail themselves of its assistance. The Society was much indebted to Lord Portman for throwing open his house for the first meeting of the institution, and to the Rev. Mr. Huxtable for his useful and valuable exertions as their honorary secretary. Professor Way, too, had also acted with great spirit, in having carried on the laboratory without knowing whether he should have a penny for it or not. Seeing the great advantages the Society would confer on the agricultural body, he could not doubt that it would be warmly supported.

Sir JOHN JOHNSTONE thought it of great importance that the whole attention of a chemist of the talent and authority of Professor Way should be given to agriculture. Hitherto they had never had the undivided attention of a man qualified to carry out agricultural chemistry. If the agriculturists of England would come forward and subscribe, say 500*l.* a year, they might make it worth the Professor's purpose to devote his whole attention to the subject. The hon. bart. seconded the resolution, which was carried.

Mr. HOLLAND proposed—

That the thanks of the meeting be given to the members of the Provisional Committee for their services in forming the Association.

He felt that in connecting himself with this institution, he was connecting with it the farmers of the Vale of Evesham, and he trusted that the day would soon come when the Royal Agricultural Society would be able to connect the Chemical Association with itself. (Hear, hear.) He thought it was advisable that local agents should be appointed to receive samples to be forwarded to the laboratory for analysis. Such agents might be paid by commission.

Lord ST. JOHN, as one who had already received benefit from the Association, cordially seconded the resolution. He had sent a sample to Professor Way of what he believed to be white clay soil. The report of the Professor was that it contained 3 per cent. of phosphate of lime. He was now burning this white chalk or stone clay at an expense of 6*d.* a yard, and applying it as manure, and upon a fallow broken up last year after Tares a splendid crop of Turnips was the result. It was remarkable that in some parts of the same field over which this manure was not spread, nothing was produced. The resolution was agreed to.

The Earl of BURLINGTON moved that the cordial thanks of the meeting be given to the Chairman for his conduct in the chair. The motion having been seconded was carried by acclamation.

The Duke of MANCHESTER, in acknowledging the compliment, said it gave him great pleasure when he found he could do anything to forward so useful an object. He thought it important that this country should follow the example of Scotland in another matter, and regularly educate persons for the profession of Agriculture. In Scotland they had an Agricultural Catechism in the children's schools. It had been attended with the best results, and he did not see why the same plan should not be followed here.

Mr. E. DENISON moved, and Mr. SHAW seconded, a vote of thanks to the Society, which having been acknowledged by the Rev. Mr. HUXTABLE, the meeting separated.

Home Correspondence.

Dumfriesshire Potato Crop.—During the last eight days I have observed the Potato disease in the roots or stem below ground of this valuable esculent. The yellow and rusty coloured affection of the stems proceeding upwards, accompanied with extreme toughness of the fibry portion of the stem, is quite similar to the appearance of the disease of former years; it has commenced just at the same period as it did last year, and at least one month earlier than it did in Dumfries and Galloway in 1846. It is to be hoped that the increasing strength of the Potato tubers as regards constitution, may enable it to wear out or throw off the virus, as did the crop in the end of June and July last year. Large breadths are planted, particularly of the early kinds, and they look hitherto, and as far as appearances go, above ground, very luxuriant; all crops look well in these counties, and recent rains have refreshed the hay and pasture fields very much. I will report to you soon again on this subject.—*J. H., June* 1.

Devonshire Butter.—Scald your cream over a charcoal fire; do not let it boil; it should be in a zinc pan. When the cream is cold, say next morning, take it off with the hand. *To make Butter.*—Put the cream into a wide bowl made of Maple or Sycamore wood, stir it with the hand for about 10 or 15 minutes, and the butter will be the same as out of a churn, and to be dealt with the same. A cow that will make 1 lb. of butter per day, that is 7 lbs. per week, if its cream be scalded will make 9 lbs. in the seven days. Great care must be taken not to let any dust rest upon the cream.—*Anon.*

Land Drainage.—As you are still publishing in the *Gazette* the valuable reports you have collected on the matter of drainage it may not be inopportune if, through the medium of your Journal, I venture to attract attention to an important point connected with the subject. Perhaps there never was a period so propitious as the present for arriving at some just decision on the alleged superiority, in economy and effect, of deep and distant drains over shallow and near drains. Having passed through a spring in which more rain has fallen than is the average annual fall of the last 50 years, we have experienced a month's uninterrupted

drought, whereby an observer has had it in his power to satisfy himself on the comparative effect of drains on the vegetation of the surface. I have found that in pastures, and in all autumn and early sown corn, the courses of drains have shewn themselves on the surface in a remarkably clear manner by the healthy and advanced growth of the plant immediately above the drain; that the effect of the drain on the vegetation on each side has been of equal breadth whether the drain be deep or shallow; and that such breadth has been much less than one would have anticipated. Though I am no believer in the Parkes "Philosophy of Draining," I do not presume to adduce these facts in support of my unbelief, but I think it may not be out of place to ask of those who are expending their money in draining, whether it may not be false economy to pursue a system of which the fundamental principle is that the deeper the drain, the wider may be the distance apart. "Let proof speak."—*J. Bailey Denton, Graveley, Stevenage.*

Tenant Right.—There can be no subject of greater interest among agriculturists than that of the mutual relation between landlord and tenant; and I am glad to see that in the many useful discussions which have taken place in your columns on the question of tenant right, you have advocated what is, I believe, the only true conclusion, that tenant right is a matter for contract, and not for legislation. But whilst such has been the tenor of your arguments, many of your correspondents have been engaged in attempts at solving what must have been the principal difficulty in legislating on this subject, viz., the construction of conditions of tenure which would be universally applicable. The terms and duration of a lease must be adapted to the state of the parties. Improving and non-improving landlords, tenants with and without capital, tenants with and without education, light land and heavy land, arable and pasture, cannot all be subjected to the same set of rules. There are no doubt many conditions which might be advantageously adopted in the great majority of holdings, yet even such must often be altered to meet accidental variety of circumstances. I have however been led away by these general considerations from my object in addressing you, which was to guard your readers against a very dangerous suggestion of your correspondent "Georgos" in a late number of the *Agricultural Gazette*. He commences by telling us that "he is no lawyer, neither has he consulted one," and immediately proceeds to recommend for general adoption the form of an agreement for a lease for 21 years, to be stamped with a half-crown stamp. It appears to me that it must be one of the most important objects both for landlord and tenant, in entering into a contract for so long a period, that its conditions should be clearly binding in law, as well as in honour. But there is no more prolific subject of litigation than the substitution (which ought never to be allowed) of an agreement for a lease in place of an actual lease. I shall not enter into the legal mysteries of this question, but I think that if "Georgos," or his tenant ever try to enforce at law the specific form of agreement which he recommends, it will be held by the court to be a lease, and as such, void under the provisions of 8 and 9 Vict., c. 106, s. 3. The only remedy which would then remain for an injured party would be the pleasant and lasting relaxation of a Chancery suit, with the very probable concomitant of an issue at law to ascertain facts, a proceeding which would be necessary in consequence of the extremely loose way in which the covenants are expressed in this form. I need only direct the attention of your readers, especially if there be any lawyers amongst them, to such expressions as the following: "Which lease shall contain *all usual and reasonable covenants.*" Could more vague terms have been used? These could not be defined anywhere except in a court of law. "C. O. (the tenant) shall not sell or carry off Hay, straw, or Turnips, without bringing back a proportionate quantity of manure." Who is to determine the proportion? "C. O. shall not grow any Woad, Flax, or *impoverishing crop* without permission in writing from the landlord." What does this include? "Re-entry in case of tenant allowing the rent to remain unpaid 30 days after its being *legally* demanded." A very safe provision for litigation, as the technicalities required for a legal demand are scarcely ever properly observed. "Tenant to have right to kill rabbits." The mode ought to be defined—ferreting, or trapping underground—otherwise if the tenant is continually shooting and snaring, the effect of the reservation of the game is virtally done away with. "Landlord to have power to cut timber." No permission to haul it away reserved, or any provision made for the valuation of the damage which must necessarily ensue. "Landlord to find draining tiles *where required*, to be put in by the tenant according to the landlord's direction." In the great majority of cases the landlord ought to do all the draining operations, either charging a per-centage on the outlay, or increasing the rent according to a given ratio per acre drained, to be determined on at the time the lease is granted. If the tenant is to have any hand in the work, I cannot imagine a clause more likely to cause disagreement than the one above. Had it been the object of "Georgos" to provide work for the lawyers in the event of his tenant and himself not agreeing, he could not have employed a given form which would have ensured more satisfactorily such a result, than the one which I have now commented on. It must be obviously good policy both for landlord and tenant (if the holding is to be under a lease) to take care to have such conditions inserted as shall meet every prospective contingency. If such were not to be the case, a verbal agreement would fully answer every purpose; but misunderstandings will arise, and on that account nothing can be more dangerous than an informal document, as there can be no certainty that its provisions will be carried out in the spirit of the framer, with liberality, and good faith. I had intended to have sent you the skeleton form of a lease, with the headings of such conditions as I think applicable to the case of an ordinary arable farm, where the landlord lets for 21 years to a tenant with adequate capital; but I am conscious that my remarks have been already too long, and I fear that in such an attempt I should most probably by too much generality, have contravened the guiding principles which must be observed in the mutual relation between the individual landlord and individual tenant.—*T. T.*

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A MONTHLY COUNCIL was held at the Society's house, on Tuesday last, the 6th of June. The following members of Council and Governors were present: the Earl of YARBOROUGH, President, in the Chair; Earl of Chichester; Hon. Captain Dudley Pelham, R.N.; Sir Francis Lawley, Bart.; Sir Matthew White Ridley, Bart.; Sir Charles Lemon, Bart, M.P.; Sir John V. B. Johnstone, Bart., M.P.; Colonel Austen, Mr. Raymond Barker, Mr. Barnett, Mr. Bennett, Mr. Bramston, M.P., Mr. Brandreth, Mr. Druce, Mr. Brandreth Gibbs, Mr. Harvey, Mr. Hillyard, Mr. Fisher Hobbs, Mr. Jonas, Mr. Kinder, Mr. Miles, M.P., Mr. Pusey, M.P., Prof. Sewell, Mr. Shaw (London), Mr. George Turner, Mr. Thomas Turner, and Prof. Way.

The following new members were elected:

Galway, Viscount, M.P., Serlby Hall, Bawtry, Notts
Coleman, John, Runhall, Wymondham, Norfolk
Timm, Dr., Scrooby House, Bawtry, Notts
Smith, John, Crowthorpe, Wymondham, Norfolk
Abinger, Lord, Abinger Hall, Dorking, Surrey
Atkins, Thomas, Kimberley, Wymondham, Norfolk
Robinson, George, Carnaby, Bridlington, Yorkshire
Lyndhurst, Lord, Turville Park, Henley-on-Thames
Smallwood, E., York
Salter, W. P., Jun., Cottessy Lodge, Norwich
Floyd, Cookson Stephenson, Holmfirth, Huddersfield
Gillett, John, Brailes, Shipton-on-Stour, Warwickshire
Heywood, James, M.P., Weastehouse, Manchester
Lawley, Hon. Beilby Richard, Escrick Park, York
Lawley, Hon. and Rev. S. Willoughby, Escrick Rectory, York
Carter, John, Scales Farm, Richmond, Yorks.
Daniel, Rev. Robert, Osbaldwick, York
Donkin, Edward, Westow, York

The names of seven candidates for election at the next meeting were then read.

FINANCES.—Mr. RAYMOND BARKER, Chairman of the Finance Committee, presented the Report of the Society's accounts to the end of the previous month; from which it appeared that on the 31st of May the invested capital of the Society stood at 9889*l.* stock, with a current cash balance in the hands of the bankers of 1566*l.* The Chairman explained that this general balance was made up of the following special accounts:—York subscription (balance), 950*l.*; arrears of subscription received, 103*l.*; and life compositions, 471*l.*; leaving an available balance for current purposes of 42*l.*

PRIZE-ESSAY.—Mr. PUSEY, M.P., Chairman of the Journal Committee, reported to the Council the Essay on the Management of Cattle, to which the Judges had awarded the prize of 30*l.* offered by the Society: and the sealed motto-paper being opened by the President, the author of the successful essay in question was ascertained to be Mr. Hall W. Keary, of Holkham, Steward to the Earl of Leicester.

SUBJECTS FOR ESSAYS.—Mr. PUSEY then called the attention of the Council to the subjects of the prizes to be offered for Essays to be sent in for competition next year; when the various topics suggested in the course of his address led to an incidental but very interesting discussion and communication of facts on the practical subjects to which he adverted. The following schedule of the subjects and respective amount of the prizes for Essays to be sent in to the Secretary on or before the 1st of March, 1849, was then unanimously agreed to: namely—

Farming of Lancashire	£50
Farming of Sussex	50
Farming of South Wales	50
Labourers' Cottages (Essay and Model)	50
Labourers' Cottages (second-best Essay)	20
Breeding and Management of Pigs	20
Increasing the supply of Meat	50
Management of Barley	15
Agricultural Buildings	50
Breeds of Sheep for different localities	20
Top-dressing soil with Marl, Clay, &c.	15
	£390

The Council also agreed to offer 50*l.* for the best Essay on the destruction of the Wireworm, to be sent in to the Secretary on or before the 1st of March, 1850. Mr. Pusey explained that the full enunciation of the terms of these prizes, and the special conditions under which they were to be competed for, would be published at length in the ensuing part of the Journal of the Society.

DISTRIBUTORS OF JOURNAL.—On the motion of Mr. PUSEY, the Council unanimously resolved that, previously to issuing the forthcoming number of the Journal, under the new regulation, by post to each member of the Society, a letter of thanks should be specially addressed by the Secretary of the Society to each of the honorary distributors, who had so kindly been the efficient means of placing the Journal in the hands of members residing in their respective localities, and who had thus rendered essential service in promoting the objects of the Society.

YORK MEETING.—Sir JOHN JOHNSTONE, Bart., M.P., reported, on the part of the General York Committee, the progress of the arrangements for the Society's ensuing Country Meeting in that city, the preparation of the programme for the occasion, and the required enlargement of the Show-yards for the reception and exhibition of the large amount of both Live Stock and Agricultural Implements entered for the Show, as shown by the following comparative schedule of entries from the commencement of the Society.

Year of Meeting	Place	Entries Live Stock	Entries Implements
1839	Oxford	381	—
1840	Cambridge	382	—
1841	Liverpool	709	272
1842	Bristol	719	455
1843	Derby	710	506
1844	Southampton	865	481
1845	Shrewsbury	857	562
1846	Gloucester	614	705
1847	Northampton	495	1011
1848	York	724	1000

TRIAL OF IMPLEMENTS.—Colonel CHALLONER, Chairman of the Trial of Implement Committee, transmitted to the Council the following Report.

REPORT.

The trial of Implement Committee have had under their consideration the questions referred to them by the Council, on the subject of a suitable method for the more accurate trial of the steam engines and other machinery at the Society's country meetings, and on the best means of replacing the valuable services of Mr. Parkes in reference to the duties attached to the office of Consulting Engineer; and they beg accordingly to report to the Council the following recommendations as the result of their consideration of the subjects referred to them.

I. That Mr. Parkes's offer be accepted, to undertake to give the proper orders for the construction at Messrs. Watkins and Hill's, of a suitable Steam-power Indicator for the use of the Society.

II. That Messrs. Easton and Amos's offer be accepted to undertake the construction of a proper Force Register, or Prony's Break, agreeably with the plan furnished by them to the committee.

III. That Messrs. Easton and Amos be requested to accept the appointment of Consulting Engineer to the Society, vacant by the resignation of Mr. Parkes, C.E., in order that either Mr. Easton or Mr. Amos may attend the York meeting for the purpose of acting as Mechanical Referee to the Judges on that occasion.

IV. That Mr. Thompson (one of the Stewards of Implements for the York meeting), be requested by the Council to undertake the drawing up of the Report of the Exhibition and Trial of Implements on that occasion for subsequent publication in the Society's Journal.

V. That Mr. Shaw of Northampton be requested to act as additional Steward of Implements at the York meeting, in order that Mr. Thompson may be relieved of a portion of his duties as one of the Stewards of Implements, for the purpose of enabling him to devote the requisite amount of attention to details for the Report. (Signed) C. B. CHALLONER, Chairman.

This report was adopted and confirmed by the Council.

Messrs. Easton and Amos, the newly-appointed Consulting-Engineers to the Society, reside at the Grove, Southwark, London; and are well known by their extensive works, undertaken by order of the Government as well as of public companies and private individuals, in connexion with the construction of Steam-Engines, Corn-Mills, Paper-Mills, Oil-Mills, and machinery of almost every kind, including that required for raising the tubular bridge over the Conway. They have also long been practically familiar with the manufacture of Agricultural Implements, and with operations connected with extensive drainings of land below the level of the sea.

NORWICH MEETING.—Mr. HUDSON, of Castleacre, reported to the Council the result of his inspection, as requested by the Council, of the lands in the neighbourhood of Norwich placed at the disposal of the Society by the authorities of that city for the trial of the light and heavy land implements on the occasion of the country meeting of next year. Mr. Hudson having been favoured by Mr. Staff, the Town-clerk of Norwich, with every facility for making his inspection, found land within a distance of two miles from that city quite heavy enough to try any implements; and upon the same farm, and within half a mile from such heavy land, he found land sufficiently mild to try implements adapted for light land culture.—The Council expressed their thanks for the pains Mr. Hudson had kindly taken on this subject, and confirmed the report he had thus transmitted to them.

On the motion of Mr. BRANDRETH, the Council took into consideration the appointment of a General Norwich Committee, when the following list was agreed to:—The Earl of YARBOROUGH (Chairman), Earl of LEICESTER (Vice-Chairman), Duke of Richmond, Earl of Stradbroke, Lord Hastings, Lord Henniker, Lord Portman, Sir John Johnstone, Bart., M.P., Sir John Boileau, Bt., Mr. Raymond Barker, Mr. Bennett, Mr. Brandreth, Mr. Burroughes, Col. Challoner, Mr. Druce, Mr. B. Gibbs, Mr. Hammond, Mr. Harvey, Mr. F. Hobbs, Mr. Hudson (Castleacre), Mr. Kinder, Mr. Miles, M.P., Mr. Shaw (London), Mr. Shaw (Northampton), Mr. Shelley, Mr. Thompson, Mr. Wilson (Stowlangtoft Hall), and Mr. Wodehouse, M.P., with the addition of the present Mayor of Norwich and the Mayor of next year, should they be Members of the Society, and eligible accordingly for acting on the Committee.

The Council, on the motion of Mr. MILES, M.P., then agreed to a preliminary Prize-sheet of Prizes for Implements at the Norwich Meeting, to be taken into final consideration at the Monthly Council on the 1st of

August next, and immediately after that date to be published for the information of exhibitors.

NOTICES OF MOTION.—Mr. PUSEY to move on the first Tuesday in July next, a renewal of the grant for another year for Analyses of Ashes of Plants. Mr. Shaw to move on the first Tuesday in December next, such an alteration of the Bye-laws as will enable the question concerning the decision as to the place of the Country Meeting at the Monthly Council in May in each year, to take the place of all previous business, excepting the reading of minutes, election of members, proposal of candidates, and reception of the Report of the Finance Committee; in order that the deputations who attend that Council may be detained as short a time as the business of the Council will allow.

At the suggestion of Mr. FISHER HOBBS, the House-Committee were requested to report to the next Monthly Council the arrangements to be made for improving the condition of the rooms in the basement floor of the Society's house, and also for providing further accommodation for Deputations who may in future attend the Council.

The Council then adjourned to Tuesday next, the 13th of June.

Calendar of Operations.

MAY AND JUNE.

BERWICKSHIRE MERSE FARM, *May* 26.—Since last report we have been employed in preparing the land and sowing Swedish Turnips, manured with 20 loads of court dung and 2 cwt. of guano. The workers are employed in gathering quickens, spreading dung, and sowing guano. The weather has been most favourable for working the land. Three men mowing Whins, two mending fences. *June* 2.—We have now finished sowing Swedes and preparing land for sowing yellow and white Turnips: the workers are employed in gathering weeds, &c.; three men mowing Whins, two turning and filling dung, and one man cleaning hedges. We began sheep-shearing to-day, and finished the hogs; there was a competition for four prizes, 1st, 2*l.*; 2d, 30*s.*; 3d, 1*l.*; 4th, 10*s.*—*J. B.*

BEDFORDSHIRE FARM, *May* 30.—The horses have been employed during the month about the fallows, rolling Barley, hoeing Beans, carting Manures, &c. We have planted 18 acres of Mangold Wurzel, upon ridges, and applied 2 cwt. of dissolved bones to the acre, in addition to about 20 tons of dung laid on the land in autumn. Our first Turnips for the season were drilled to-day, after Tares, upon the flat, in rows 3 feet apart; 4 lbs. of seed to the acre. We prefer sowing Turnips on the flat to sowing on ridges, when the land is clean, and space left between the rows for horse-hoeing; less moisture is lost from the soil, and less labour suffices. We have used Crosskill's clod crusher to great advantage. Our men and boys have been hoeing Carrots, Potatoes, and Beans; filling and spreading dung, &c. 35*s.* or 40*s.* per acre are the usual prices for hoeing Carrots, to keep them clean for the season. We mow Clover and Lucerne, and soil the horses and fatting cattle in the yards. Our sheep have been shorn for 3*s.* 9*d.* per score, including all expenses. We do not consider the Wheat crops promising in general, the dry weather having changed the leaf from yellow to green, which is now changed to a bluish, unhealthy colour, indicative of a defective ear. Spring Beans are generally weak and short. Winter Beans require rain at blossoming time; and it is impossible to say what they may come to at harvest. Peas are next to a failure. Grass and Clover are nearly fit for mowing, and are in general very light crops.—*E. V.*

CUMBERLAND-HILLS, *May* 29.—A field of Clover-hay in cocks, on the skirts of Skiddaw. Early Potatoes shot up luxuriantly, perfectly untainted yet. Mountain lambs, yeaned during April in the inclosures, and sent up to the hills about a fortnight ago, are now luxuriating in the herbage which, day by day, is clothing all the hills with a more delicate green. Rain to-day at last, after the driest and hottest May known for a long period. Wheats looking well.

EAST LOTHIAN FARM, *June* 3.—We have had another week of fine weather, and a lower temperature, with seasonable showers of rain, for the growing crops. Work upon the farm during the week has been—preparing land for and sowing Turnips, now nearly brought to a close; likewise horse-hoeing Beans, and threshing Oats for horses and straw for litter.—*L.*

GALLOWAY FARM, *June* 6.—For some weeks the business of the farm has been the preparation of the land for Turnips, which is now completed, and all the Turnips sown. Where dung was not applied, 4 cwt. of Peruvian guano and 20 bushels of ground bones per imperial acre were used together. Part of the horses are now harrowing the bare fallow; part ploughing with the single-horse plough among the drilled Beans, followed by the hand-hoers: and the Potatoes are being drill-harrowed and hand-hoed. The horses and young cattle are fed in the house with Italian Rye-grass, and the dairy cows are on their pastures. The fat stock have been sold, and the last of them sent off during the past week, which enables me to make up an account of the profits of feeding for the winter. In the end of October last, 30 aged heifers and cows were tied up to feed, which cost £292 0 0
They were fed 30 weeks. Interest of cost price .. 9 2 0
Attendance: one man kept fully employed in feeding, cleaning, cutting Turnips, and boiling Linseed, &c., at 10*s.* per week 15 0 0
Coals for boiler 4 0 0
10 quarters Linseed 28 13 0
30 bushels bruised Beans, at 4*s.* 6 0 0
50 bushels bruised Oats, at 2*s.* 6*d.* 6 5 0
£361 0 0
Net price of the 30 cattle when fat; 20 heifers, 15*l.* 15*s.* each; 10 cows, 11*l.* each 425 0 0
£64 0 0

The cattle consumed, on an average, 10 stones of Swedish Turnips each per day, in addition to the boiled Linseed, &c., mentioned above, making altogether nearly 400 tons of Swedish Turnips. They left about 150 tons of good dung, which, rated at 3*l.* a ton, is worth 22*l.* 10*s.*; and this, added to 64*l.*, the balance of sale, gives 4*s.* a ton for the Turnips. The cattle were prime fat; otherwise they could not have been sold even at the price they brought, owing to the present depression in the fat market; and though they would have brought as much money six weeks ago, still in relating facts, it is necessary to show exactly the cost of feeding, as farmers must take the risk of the markets. Such are the moderate returns from stall-feeding cattle on Swedes, bruised and boiled Linseed and grain, where strict attention was paid to regularity, cleanliness, and frequency of feeding; and if they bear but a humble comparison with some flattering accounts which have appeared of late in your columns, they may caution the inexperienced against trusting to a uniform repetition of such captivating profits.—*J. C.*

LAMMERMUIR SHEEP FARM, *May* 29.—Our lambing season is now finished. This most anxious season to a flockmaster has been highly favourable. The weather during the whole time was excellent; for although there were some wet days at the commencement, yet it was mild at the same time. The ewes also were in excellent fresh condition, having had a liberal share of the extraordinary crop of Turnips in the low country, consequently they had an abundant supply of milk for their lambs, which are unusually vigorous and healthy. The only thing of which we have to complain is, a great want of twins, a complaint which is also general in the low country, and may be traced to the severities of the spring of 1847, which kept the ewes in poor condition all the rest of the year. On a hill farm, if there is a sufficient number of twins to fill up the blanks caused by death, it is quite sufficient. This year we are unable to do this, and as a next resource, either give a lamb two ewes to suck, or remove the lambs from those ewes which have a deficiency of milk, and put them on those which have a more liberal supply. Upon the whole, we consider our crop of lambs a little below the average as to numbers, but considerably above it as to quality, and we believe such to be pretty generally the case. The Cheviot lambs were castrated about a fortnight ago, and those dropped since will be operated upon immediately. The blackfaces will be deferred till the second week in June, by which time their horns will be well grown from their heads. The object in delaying castration so long with them is, that if performed early, the horns turn in and injure their eyes, which is in a great measure prevented if they are allowed to grow well beforehand. We commenced Turnip sowing on the 14th May, and will finish in 10 days; the weather having been very dry for some time, the seed has not vegetated freely, but as we have had copious warm showers to-day, they will push on rapidly. It is to be hoped they will do so, as the fly are unusually abundant. The Turnips are sown in drills 27 inches apart, manured with 20 loads of good farm-yard manure and 4 cwt. of Saldanha Bay guano; those that do not get other manure will have 4 cwt. of Peruvian. We sow about 4 acres of Swedes for the horses during winter and for the cattle in spring, and these get an extra supply of manure; the rest are all green-top yellows, which stand the winter well, and produce more milk on the ewes than other varieties. All the cattle were turned out to Grass about 10 days ago, and have a good bite; the oldest calves are also turned out.—*A Lammermuir Farmer.*

NORTH ESSEX FARM, *June* 5.—During the last fortnight we have been ploughing, harrowing, and rolling the land intended for Swedes: to-day we have commenced carrying on the manure, and should the weather prove favourable, we shall put in the seed as soon as possible. We grow this crop in the same way as we do Mangold Wurzel, on small ridges, depositing the seed with a short dibble at distances of 12 inches in the rows, and rolling the land before and after the seed is put in. For several years past we have been in the habit of dibbling Swedes, and find it answers well; the plants grow faster when young; and, being in small clusters, they are better able to resist the attacks of insects than when they are drilled or sown broadcast. Our other hands are employed in hoeing Beans and Potatoes, turning over manure for white Turnips, &c. Our crops generally are looking well, with the exception of a little piece or two of late-sown Oats and Barley, which have been suffering from want of rain. Our red Clover will be ready for the scythe in about a week; the meadow Grasses not before the end of the month.—*T. B.*

NORTH LINCOLNSHIRE FARM, *June* 5.—Since our last report we have had some most refreshing rains. Indeed, the weather has been all that heart could wish. Part of our force has been engaged since this day week in putting in Swedes, three ploughs making ridges, four carts carting manure, four men filling the same, and sometimes five when manure very short; six women spreading manure, and a boy and horse sowing the seed, giving from 20 to 25 one-horse loads of manure per acre. The remainder of the force preparing the ground for going on with sowing; some of the men sheep-washing and shearing. The Swede-sowing will, we expect, be completed this week, when we will commence to plough and sow a pared and burned field, which will occupy the whole force for the week after this.—*S. R. S.*

PEMBROKESHIRE FARM, *June* 1.—Since our last report we have had very dry warm weather. Our horses have been employed in rolling Barley and Oats, horse-hoeing Beans, likewise preparing land for Mangold Wurzel and Swedes, which on our heavy soil is no easy task, there having been little frost last winter, which is so beneficial to clay land. To get the soil into proper order for receiving seed, owing to the dry state of the weather, we were obliged to have the whole operation going on at the same time, from the breaking up of the land out of the winter furrow, to the sowing of the seed, viz.: Three pair of horses and men harrowing, ploughing, grubbing, and giving a double turn of the Norwegian harrow; one man and a pair of horses with drill plough, opening and closing drills; three horses and carts carrying dung, two men filling carts, one boy driving, one man emptying, three women spreading dung, and one man sowing with horse machine at the rate of 4 lbs. per acre. The Swedes are coming up, but the fly is busy at work, and unless we have more rain soon they will do much harm. We are now sowing Purple-top, Green-top, and yellow Turnips. Potatoes are coming up regular and apparently healthy. Crops of all kinds require more rain. Wheat has made great progress the last two weeks, and is now appearing in ear. Stock are all now out to Grass, the pastures being much improved by the late rains. Rye-grass hay is now nearly ready for the scythe, and we intend to mow next week.—*J. H.*

SOUTH DEVON FARM, *May* 29.—During the past week we have finished sowing our Mangold Wurzel, and have also been sowing Grass seeds in a portion of meadow which a few months since we levelled and reformed for the purpose of better irrigation. Also carting materials for filling up an open gutter which ran through a portion of the farm, and in which we have now laid the 6-inch draining pipe tile. Carting home bones for the purpose of mixing them with sulphuric acid as a manure to drill for Turnips. Women weeding thorn fences and the young Wheat. The Potato plant looks very favourable in this immediate neighbourhood, but complaints are being made more to the south of this.—*T. M.*

SOUTH HAMPSHIRE FARM, *May* 27.—The weather since our last report has been of the most favourable character for agricultural work in general. Our horses have been employed for the most part on the fallows in preparation, for the Turnip crop; but we scarcely ever recollect a season when the land has worked so unkindly as at present; much of our strong land now under fallow is so baked and hard that we have not been able to reduce it fine at all, except by the use of Crosskill's clod-crusher and very heavy four-horse roller, and even after that operation we do not expect to get a sufficient tilth for sowing, in consequence of which the sowing must be deferred until we get rain, as we consider it bad policy to put the seed in the land unless we have good reason to believe it will vegetate; for we have found that when the Turnip seed does not come up, the weeds will come up and grow amazingly; and without a timely rain the land must be ploughed and re-sown, and also a second application of manure will oftentimes be requisite: for although the first application of manure would tell upon the crop, yet its effect would not be so immediate and desirable as a fresh application of superphosphate drilled under the seed. We continue to employ an odd horse in various ways, carting Couch off the fallows, carting hurdles to the sheep-fold, carting ashes to the manure-store in readiness for mixing with the Turnip manures; also carting ashes for the reception of night-soil: and then mixing and carting to the manure-house to be prepared for use. Our labourers have been employed in trussing straw, digging and preparing peat, and burning into ashes for the Turnip crop. On the 25th we commenced cutting Dutch and Trefoil Clover for lamb hay. The crop proves light. Our mode of making Clover hay is the same as is usually adopted with pasture hay: for we find, after it has been once well scattered, instead of being merely turned in swarth, it makes into hay at least two days quicker; it is dried more easily, and the leaf does not fall off so much in carting. The time of shearing sheep has now arrived; our shepherds have been engaged in washing them and attending to their regular mode of feeding, which is now by feeding on pastures at day time, and by receiving Tares in the racks at night. The women have been weeding Wheat, picking Couch off fallows, weeding and hoeing quicks, of which we have a large extent planted last autumn. They are now busy hay-making, favoured by the best of weather.—*J. B.*

STIRLINGSHIRE CARSE FARM, *May* 27.—Having had another week of very fine weather, both for bringing forward the growing crops and also for preparing land for Turnips and sowing them; we have got the Swedes sown, and are going on preparing the land for the other kinds of Turnips, and it is working very kindly.—*W. F. June* 3.—We have been engaged threshing Beans, sowing Turnips, which we have now finished, and in working fallow land; the weather still continues fine, and crops are looking well, except Beans, which have made little progress for the last 10 days; the land was rather wet when they were sown, and has got very hard in consequence of the dry weather during the month of May.—*J. A.*

Notices to Correspondents.

AGREEMENT—*W Hornby*—See "English Agricultural Society's Journal," vol. vi, page 44.

AGRICULTURAL TOUR — *Caermarthensis* — We cannot publish names and addresses here; but if you will favour us with your address we shall be happy to give all the information in our power.

BERKSHIRE BOAR—*T C J*—Apply to Mr. Harris of Wantage, Berkshire: Mr. Bowley, of Cirencester, Gloucestershire; or Mr. Moore, of Coleshill, Farringdon.

BUILDINGS, &c.—*A B*—Does the Mangold Wurzel still scour the cattle? Expose the heaps and let the roots dry somewhat; and give the cattle 2 or 3 lbs. of Bean-meal with them daily. On 20 acres of arable land, with so much pasture, you might feed 10 large oxen every winter, and 10 boxes would be required.

COW PARSNIP—*Lusor* asks how it is to be extirpated from Grass land, which is necessarily mowed every year.

DIGGING AND BURNING CLAY—*E H Coventry*—It may be dug for 4*d.* per square perch (5½ yards), 12 inches deep; what it may be burnt for to that depth depends, among other things, on the price of coals or other fuel. Perhaps readers who have had experience may inform you.

GREEN HAY—*J Duncress*—We have had no experience. But we know the practice is often followed of mixing imperfectly dried hay with old hay or straw in the rick, and see no reason why it should not answer with Vetches.

NITRATE OF SODA—*R A W*—It may be used with guano without injuring the latter; and 1 cwt. per acre has often benefited the Turnip crop. See Johnston's "Lectures," p. 596.

PHEASANT BREED OF POULTRY—*C* says:—If any one will put down a hen or two which has "laid out her line," or is clucking—so as to avoid all chance of error in the breeds—at a cottage by any wood containing pheasants, taking care to have chanticleer dismissed, there is still time this season to get strong chickens of the true half pheasant breed. The eggs should be examined before being set. A few pairs of such birds exchanged would probably lead to satisfactory results; the writer of this note will gladly aid. But even should it not be possible to propagate the breed by the direct cross, there still remains the indirect mode of arriving at the same result. Birds one, two, three, and four removes from the pure pheasant blood, do breed with other poultry, the produce being quite healthy, and many of them, even in this chance way, presenting a great similarity to the common pheasant breed of poultry. From what I have seen of the plumage of birds casually produced at the wood side, I believe a judicious and scientific selection would lead to the production of very fine varieties, and that among others the dark pheasant plumaged breed, both of bantams and common poultry, would reward the patient inquirer.

POND MUD—*J L*—We should be disposed to let it dry in a heap, and before quite dry, turn it over, along with lime, in such quantity as would give 30 or 40 bushels per acre on the land to which you apply the compost. Add 3 or 4 cwt. of gypsum per acre, and apply the whole in autumn, on your pasture land. *Is* the "slutch" pond mud?

SAVINGS'-BANKS—*A Sub*—A second edition has appeared of the pamphlet "On Savings'-banks," which we lately reviewed. It can be obtained through the publisher, W. Hatton, Reading Savings'-bank, as also copies of the tract "On the advantages of Savings'-banks and Friendly Societies," noticed by us at page 357.

SPRING GREENS—*J Duncress*—Late sown Rape would do—or early sown Turnips.

SWEDES—*W P* might try an East Lothian Swede called the Fettercairn with advantage. But whatever kind he chooses, if he wishes to keep them late, they must not be sown too early.—Did you examine those Swedes in the autumn, by cutting them across, which you found to be rotten in spring? Almost all that we have seen of a large size showed the incipient stage of decomposition very early in the season.

THE HORSE—*A Young Farmer*—The work by the Society for the Diffusion of Useful Knowledge is as good as any.

THRESHING MACHINE—*E Beck*—Mr. Clyburn, Uley, Gloucestershire; Messrs. Ferrabee, Stroud, Ditto; Messrs. Barrett and Exall, Reading; Mr. Hornsby, Grantham, Lincolnshire; Messrs. Garrett, Leiston Works, Suffolk, and many other makers of established reputation will, no doubt, answer enquiries and furnish estimates.

TOP-DRESSING FOR CLOVER—*S T*—Apply some 40 bushels of lime, mixed with earth and 10 to 20 bushels of coal ashes, in autumn, and 3 cwt. of guano per acre in April next year, and the probability is that you will have a good crop of Clover again.

TURNIP SEED—*A Leicestershire Farmer*—No doubt you may reproduce any well-established variety, such as Skirving's, equally well from the seed of bulbs selected from your own fields. You will find the matter to require a good deal of attention in detail; more, perhaps, than large farmers generally will give.

WHITE MUSTARD—*E J Williams*—Eight to twelve pounds of seed per acre, broadcast, are generally sown. The smaller quantity, with 2 lbs. of Rape, would answer your purpose; though we doubt if the latter, in the midst of so rapidly-growing a plant, will ever come to anything.

MISC—*H C L*—Egham Brick and Tile Kilns, Egham, Surrey.

*** Communications reaching town after Wednesday cannot be answered the same week.

Markets.

POTATOES, SOUTHWARK, WATERSIDE, JUNE 5.

The Committee report that the demand during the past week has fallen off considerably, and a reduction in price has been submitted to in every sort, except a few lots of fresh Yorkshire Regents, which have made 160*s.* The following are the other quotations:—Yorkshire Regents, 100*s* to 120*s*; Wisbeach Regents, 90*s* to 120*s*; Scotch cups, 110*s* to 120*s*; reds, 110*s* to 120*s*; whites, 90*s*; Dutch do., 70*s* to 75*s*.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, JUNE 8.

Prime Mead. Hay	70*s* to 75*s*	New Hay	.. —s to —s	Straw	.. 26*s* to 30*s*
Interior ditto	.. 55 65	Clover	.. 75 95		
Rowen	.. .. 60 65	New Clover	.. — —		J. COOPER.

CUMBERLAND MARKET, JUNE 8.

Prime Mead. Hay	75*s* to 84*s*	Old Clover	.. 90*s* to 95*s*	Straw	.. 28*s* to 32*s*
Interior	.. 50 68	Interior	.. 75 84		
New Hay	.. 50 65	New Clover	.. — —		JOSHUA BAKER.

HOPS, FRIDAY, June 9.

Messrs. PATTENDEN and SMITH report that they cannot report any great alteration in price, but the market is in a very dull state.

Mid. & East Kents, p. cwt.	60*s* to 100*s*	Yearling Kents, p. cwt.	.. 48*s* to 60*s*
Weald of Kents	.. .. 56 — 70	Yearling Sussex	.. .. 48 — 58
Sussex	.. .. .. 54 — 68	Old Hops	.. .. .. 20 — 40
Farnhams	.. .. .. 80 — 120		

COVENT GARDEN, June 10.

The market is well supplied with Vegetables and most kinds of Fruit. English Pine-apples are sufficient for the demand. Hothouse Grapes are plentiful, and Peaches and Nectarines abundant. Foreign Melons have also made their appearance in considerable quantities, and the Dutch ones are increase in the market, and a sufficient for the demand. Filberts fetch from 12s. to 20s. per bushel. Oranges are abundant. Lemons are moderately plentiful. Strawberries very plentiful, and Cherries, both foreign and English, abundant. Among Vegetables, Cucumbers and Turnips are abundant and good. Cauliflowers, Carrots, &c. for the demand. Asparagus is abundant. Spinach is all but out, and French Beans are scarcer. Frame Potatoes may be bought from 6d to 1s. per lb. Lettuce and other salading are sufficient for the demand. Mushrooms are a little dearer. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Rhododendrons, Fuchsias, Carnations, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 6s to 10s
Grapes, hothouse, per lb. 4s to 8s
— Portugal, per lb., 1s
Peaches, per doz., 10s to 24s
Nectarines, per doz. 10s to 20s
Melons, each, 1s to 3s
Strawberries, per pottle, 1s to 2s
Cherries, per lb., 1s to 3s
Apples, dessert, per bush., 5s to 12s
— kitchen, p. bush., 1s to 7s
Gooseberries, green, p. hd sieve, 1s6d to 3s
Currants, per half sieve, 2s 6d to 3s
Oranges, per doz., 9d to 2s
Oranges, per 100, 5s to 15s
— bitter, per lb., 4s to 10s
Lemons, per cent., 1s to 2s
— per doz., 6s to 15s
Almonds, per bush., 24
— sweet, per lb., 4s to 5s
Walnuts, per bush., 1s to 12s
Nuts, Barcelona, per bush., 20s to 22s
— Filberts, per 100 lbs., 14s to 20s
— Cob, per 100 lbs., 22s to 24s
— Brazil, per bushel, 1s to 1s 6
Chestnuts, per peck, 1s to 2s

VEGETABLES.

Asparagus, per 100, 1s to 5s
Cabbages, per doz., 6d to 1s
Greens, p. doz. bunches, 9s to 1s
Cauliflowers, per doz., 2s to 3s
Sorrel, per half sieve, 6d to 9d
Potatoes, per ton, 100s to 180s
— per cwt., 5s to 9s
— per bush., 3s to 5s 6d
— Kidney, per lb., 6d to 1s
Turnips, p. bunch., 4d to 1s
Red Beet, per doz., 6d to 1s
Horse Radish, per bundle, 1s to 6s
Rhubarb, per bundle, 4d to 1s
Cucumbers, each, 3d to 1s
Leeks, per doz., 1s to 1s 6d
Celery, per bundle, 1s to 2s
Carrots, per bunch, 4d to 1s
Spinach, per sieve, 1s to 2s
Peas, per sieve, 2s to 6s
Beans, per half sieve, 1s to 2s 6d
Oatens, per bunch, 3d to 6d
— Spanish, per doz., 1s to 1s
Onions, pickling, per half sieve, 2s to 3s
Shallots, per lb., 6d to 8d
Garlic, per lb., 8d to 1s
French Beans, per 100, 2s to 2s 6d
Radishes, per doz. bunds, 6d to 1s
— Turnip, do., 4d to 1s
Artichokes, per doz., 2s to 4s
— Jerusalem, p. hd. sieve, 1s
Lettuce, Cab., per score, 1d to 1s
— Cos, do., 6d to 1s
Mushrooms, per pottle, 1d to 3s
Salads, per punnet, 2d to 3d
Fennel, per bunch, 2d to 3d
Savory, per bunch, 3d to 6d
Thyme, per bunch, 3d to 6d
Watercress, p. 12 small bun., 6d to 9d
Tarragon, per half sieve, 6d to 9d
— Roots, per bundle, 1s to 1s 6d
Mint, green, per bunch, 2d to 4d
Marjoram, per bunch, 6d to 1s

SMITHFIELD, Monday, June 5.

The supply of Beasts is again very large, by rail are numerous, but 4s. is quite the top price of the best qualities. The number of Sheep and Lambs is larger than of late. Trade is decidedly worse, and our quotations are with difficulty obtained. There is a great deal of inferior lamb on offer, which makes low prices. Good Calves are scarce and rather dearer. To-day in London there are 101 Beasts, 1550 Sheep, and 141 Calves, about 2200 Beasts from Norfolk and Suffolk.

Per stone of 8 lbs.	s	d	s	d	Per stone of 8 lbs.	s	d	s	d
Best Scots, Herefords, &c.	3	10	to 4	0	Best Long Wools	....		....	
Best Short Horns	3	6	— 3	8	Ditto Shorn	4	6	— 4	9
Second quality Beasts	2	8	— 3	2	Ewes and second quality	....		....	
Calves	4	0	— 5	0	Ditto Shorn	3	8	— 4	2
Best Downs & Half-breds	....		....		Lambs	5	4	— 6	6
Ditto Shorn	4	8	— 5	0	Pigs	4	0	— 5	0

Beasts—3774. Sheep and Lambs—26,240. Calves—272. Pigs—378.

FRIDAY, June 9.

The supply of Beasts to-day is rather less than of late; the demand is, however, small, and Monday's prices are with difficulty supported. The number of Sheep and Lambs is large, and but few wanted. Trade is very slow. Sheep are fully 2d. and Lambs 4d. per 8 lbs. lower, with many left unsold. Calves are plentiful, trade very slow; 4s. 8d. is the top price for best kinds. From Holland we have about 150 Beasts, 910 Sheep, and 210 Calves; and 110 Milch Cows from the home counties.

Per stone of 8 lbs.	s	d	s	d		s	d	s	d
Best Scots, Herefords, &c.	3	10	to 4	0	Best Long Wools	....		....	
Best Short Horns	3	6	— 3	10	Ditto Shorn	4	4	— 4	6
Second quality Beasts	3	2	— 3	4	Ewes and second quality	....		....	
Calves	3	8	— 4	8	Ditto Shorn	3	6	— 4	2
Best Downs & Half-breds	....		....		Lambs	5	0	— 6	2
Ditto Shorn	4	8	— 5	0	Pigs	4	0	— 5	0

Beasts—822. Sheep and Lambs—12,770. Calves—655. Pigs—395.

MARK LANE, Monday, June 5.

Messrs. Kingsford and Lay report that there was a fair supply of Wheat by land carriage samples from Essex, Kent, and Suffolk, at market this morning, which could only be disposed of at a decline of 1s. to 2s. per qr. upon the prices of this day se'nnight. We make no alteration in the value of choice foreign, but that which is not all out of condition is almost entirely neglected.—Barley, Beans, and Peas are a slow sale, and each 1s. per qr. cheaper.—The Oat trade is heavy, and ordinary qualities are the turn lower.—The top price of flour is re fuced to 44s. per sack.—Indian Corn is offered at a reduction of 2s. per qr. without finding buye.s.

BRITISH PER IMPERIAL QUARTER.	s	s		s	s
Wheat, Essex, Kent, and Suffolk	White	46	54	Red	45	47
Norfolk, Lincolnshire, and Yorkshire		44	48	White	44	50
Barley, Malting and distilling, 27s to 30s	Chevalier	30	Grinding		25	28
Oats, Lincolnshire and Yorkshire	Potatoes	22	24		20	24
Northumberland and Scotch	Feed	21	23	Potato	20	23
Irish	Feed	19	23	Potato	22	25
Malt, pale, ship		—	—			
Hertford and Essex		—	—			
Rye		37	39			
Beans, Mazagan, old and new	30s to 38s	Tick	30		42	Harrow	34	44
Pigeon, Heligoland		36	39		Winds	—	—	Longpod	—	—
Peas, White		34	38		Maple	35	37	Grey	30	33

FRIDAY, June 9.

The arrivals of English Wheat are good, but there has been little addition of Foreign or other corn since Monday. This morning's market was attended by some distant buyers; nevertheless, the amount of business transacted was su all, and we observe no alteration in the value of Wheat, Barley, or Beans. —Peas are the turn cheaper.—Oats meet an improved demand at late prices.

[The weather has continued showery since the 2d, and genial for vegetation, particularly benefiting the spring crops. Supplies of wheat have somewhat increased in the country markets, and a further reduction of 1s. to 2s. per qr. has been pretty general. Flour has declined 1s. per sack, Barrels being scarce, have been less affected. Indian Corn has been neglected, although offered at a reduction of several shillings. Spring corn was a heavy sale, and all descriptions were on rather easier terms. In Dantzic business has been done in Wheat. Qualities in request are still quoted 35s. to 40s. per quarter. In Stettin good red is obtainable at 38s. f. o. b., and fine at 39s. to 39s. per qr., f. o. b. In the Baltic ports prices must be considered nominal, and everywhere too high to be imported with advantage. Advices, letters of the 23d ult. advise us that daily arrivals of flour had caused a decline of 2s. to 3s. per barrel. W. C was outainable at 34s. per barrel, f. o. b. Wheat being in request was still quoted from 44s. to 48s. per qr., f. o. b. Barley 25s. to 31s.; and Oats 17s.; In dian Corn, 20s. 6d. to 22s., having receded a little from the highest point. Freights for grain, 2s. 3d. per qr. In Montreal, on the 17th ult., Flour was in good demand, at 22s. 6d. to 23s. 9d. C.s. offered for arrival, with little probability of any large quantities of Flour or Wheat coming to England.]

ARRIVALS IN THE PORT OF LONDON THIS WEEK.

	Wheat. Qrs.	Barley. Qrs.	Oats. Qrs.	Flour.
English	5020	750	2280	1460 sacks.
Irish	—	350	320	
Foreign	3570	1270	500	— barrels.

Imperial Averages.	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
April 29	49s 6d	31s 10d	19s 8d	2s 8d	34s 9d	37s 1d
May 6	50 1	32 4	19 8	31 11	35 7	36 5
— 13	49 10	32 8	20 2	29 10	35 6	35 9
— 20	48 4	32 7	20 4	29 2	36 3	35 8
— 27	47 8	32 8	20 8	28 9	35 9	36 11
June 3	48 1	31 8	21 0	30 8	37 10	38 0
Aggregate Average	48 11	32 4	20 3	29 10	36 1	36 8
Duties on Foreign Grain	9 0	2 0	2 6	2 0	2 0	2 0

Fluctuations in the last six weeks' Corn Averages.

Price.	April 29.	May 6.	May 13.	May 20.	May 27.	June 3.
50s 1d	...	...	...	...	...	...
49 10						
49 6		...	...	...	...	...
48 4						
48 1	...	...	...	...	...	...
47 8						

SEEDS, June 5.

Canary	per qr.	66s to 72s	Linseed-cakes, Foreign, p.ton, 7[illegible] to [illegible]
Caraway	per cwt.	34 38	Mustard, White, p. bush., 7s6d to 9s6d
Clover, Red, English	 38	44	Superfine p. 3[illegible] — —
— Foreign	 35	36	Brown, per bush. — —
White, English	 38	44	Rapeseed, Engs, per last [illegible] 28[illegible] 32[illegible]
— Foreign	 38	42	Rape-cakes .... per ton 5[illegible] 5[illegible]
Coriander	....	10 20	Sainfoin .... — —
Hempseed	.... per qr.	40 44	Tares, Eng., winter, p. bush., 3s 0 7s 0
Linseed	....	41 44	Foreign, per bush. 6s 6 6s 0
— Baltic	....	— —	Trefoil 17s 0 20s 0
— Cakes, Eng. p. 1000,	11[illegible]5s to 12[illegible]		Turnip—too variable for quotation.

IMPORTANT SALE OF ABOUT 1000 CAMELLIAS, in fine fine condition, and well set with bloom buds.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to Mr. Pe[illegible] to sell by Auction, on the Premises, near Exeter, Devon, on Tuesday, June 20th, 1848, about 1000 CAMELLIAS, from 12 inches to 5 feet, comprising the finest specimens in the country, and embracing nearly the whole collection, imbricata alba, corallina, sweetii, [illegible] Frankfortiensis, King, Parsleyi, Queen, [illegible] and others. Gentlemen and Dealers are respectfully invited to inspect and purchase a few specimens of this, or any other lot, previous to the Sale, and Catalogues may be had on the premises, of the Superintendent, Seedsmen, and of the Auctioneers, American Nursery, Leytonstone.

WINDING UP OF THE LATE MR. LAING'S ESTATE.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will submit to public competition, at the Auction Mart, Bartholomew-lane, on Thursday, June 15th, 1848, at 12 precisely, a very rich collection of DAHLIAS, comprising all the most valuable of the season; also a splendid assortment of Geraniums and other plants in bloom, the newest varieties of Fuchsias, Verbenas, and a collection of plants for bedding. May be viewed the morning of sale, and Catalogues had at the Mart, and of the Auctioneers, American Nursery, Leytonstone.

ORCHIDS FROM NICARAGUA.

MR. J. C. STEVENS is instructed to announce for Sale by Auction, at his Great Room, [illegible] King Street, Covent-garden, on Wednesday, 21st June, at 12 for 1 precise, AN IMPORTATION OF ORCHIDES, just received per Swanley, Steamer, from Nicaragua, forming the Collection of Mr. Joseph Von Warszewicz, on the high Lands of Segovia, Matagalpa, and Amotega. This being the first Collection ever made in these districts will probably comprise several new species of Cattleyas, Schomburgkias, &c. There is also a plant described as Vanilla? bearing about 1000 flowers, from 12 to 15 inches long, and 5 inches broad, with many other great rarities.—May be viewed the day prior and morning of Sale, and Catalogues had in due course.

WILLMORE'S AMERICAN AND GENERAL NURSERY GROUNDS,

STRAWBERRY GARDENS, HOT-HOUSES, AND PITS, EDGBASTON, NEAR BIRMINGHAM.

Containing about Ten Acres of LAND, a MEADOW of about two Acres, the remainder under Culture for the Growth of Fruits, Plants, and Shrubs.

TO BE DISPOSED OF, with early possession, the LEASE and STOCK of these attractive and well-established GARDENS and GROUNDS. The situation is most favourable to secure a good and steady demand for all descriptions of Plants, Fruits, and Shrubs. The whole is laid out with much taste in delightful walks, which, with the variety and beauty of the scenery around, and a never-failing Stream of soft Water running through the centre of the Ground, renders it a most attractive and favourite place of resort by the Gentry in the neighbourhood. It is sheltered from north-west, the north, and northeast winds by a fine plantation of Trees, it is also free from smoke. The Soil is fruitful and various and well suited to the growth of American Plants; Fuel abundant and cheap. Such part of the Fruits, Plants, Shrubs, and Flowers not disposed of to the numerous Visitors, find a ready sale in the excellent Market Hall, within a distance of two miles. Any person fully competent to the management of the above, with skill and industry, will find the present a most eligible opportunity for a remunerative investment of capital. References: Messrs Ronald and Son, Brentford, Middlesex; Messrs. Cadbury Brothers, Birmingham; A. W. Willmore, on the premises.

Strawberry Vale, Edgbaston, near Birmingham.

TO BE DISPOSED OF, a Walled in NURSERY, about Three-fourths of an Acre, with Greenhouse, Frames, &c. Stock to be had at a fair valuation, or for the sum of [illegible] together with a good Jobbing Trade. Well worthy the attention of any industrious man, as a good living may be realised. Also a Span Roof Greenhouse, about 25 feet by 8 feet, not connected with the Nursery.—Apply to Mr. Lane, 7, Bentley's-place, Kingsland.

SOUTH HAMPSHIRE.

TO BE SOLD, by Private Contract, A FARM of about 140 acres, situated half a mile from a Railway Station. The land is chiefly arable, and lies compactly together. —Apply to Mr. Storey, 17, Featherstone-buildings, Holborn, London.

MERRIOTT, NEAR CREWKERNE, SOMERSETSHIRE.

TO BE LET, and entered on immediately, on most advantageous terms, an Old Established and Well Stocked NURSERY, containing, by estimation, Ten Acres (more or less), situated in the above parish; together with an excellent Hothouse thereon, filled with choice Vines in full bearing, and valuable plants; adjoining which is a comfortable Cottage, with convenient Cart-house, Packing Sheds, Seed Room, &c.

Merriott is situated within a short distance of the populous towns of Ilminster, Ilchester, Yeovil, Crewkerne, Chard, Taunton, &c., to which latter place conveyances pass to and fro daily, in connection with the railways to all parts of England.

To view the above, application may be made to Mr. Andrews, at the Cottage on the Nursery; and further particulars and terms of letting may be known on application to Mr. Whitley, Solicitor, Wrington, near Bristol, Somerset.—Wrington, June 10.

TO BE LET ON LEASE, for the term of 14 or 21 years, A NURSERY GROUND of nearly 5 acres, with a suitable House, near the Church, at Streatham, Surrey; rent, 40l. per annum. The whole is well stocked, and in full business. The Stock to be taken at a valuation. For further particulars, enquire of Messrs. Protheroe and Morris, American Nursery, Leytonstone; or of Mr. Gaitskell, Solicitor, 59, Upper Stamford-street, Waterloo-road.

TO BE LET, on an Improvement Lease of 21 years, AN ALLOTMENT OF LAND in the West Riding of Yorkshire, of about 600 acres, within a ring fence, partly cultivated, bounded by good roads, and within easy reach of good markets and railways. The above may be taken in one or more lots, to suit the convenience of tenants. For particulars, apply (prepaid, to J. H. Charnock, Esq., Agent and Drainage Surveyor, Wakefield, Yorkshire.

FLORICULTURE.

WANTED, BY A FLORIST, about 2 or 3 Acres of GOOD LAND, with a Comfortable Dwelling House, in a healthy and respectable neighbourhood near London, or contiguous to a railroad station within 4 miles of town.—A letter prepaid, to A. S., No. 2, Waterloo-street, Hammersmith.

SMOKY FIREPLACES PREVENTED.

W. AND M. FEETHAM take leave to acquaint their Friends and the Public that they undertake to prevent this evil effectually, and to [illegible] Flues to descend or otherwise [illegible] Chimneys, Large Rooms, &c. Warmed [illegible] Stoves, Hot-Water on the most economical principles.—Apply at their Store Warehouse, 11, Catford-street, or at the Manufactory, No. 422, Oxford-street.

HORSES AND CATTLE [illegible]

NEW ZEALAND COMPANY'S [illegible]

A SALE AND CLEARANCE [illegible] OF INDIA, [illegible] DISEASES OF THE SKIN AND [illegible] AND PILLS [illegible]

CAPTAIN CHISSOLD [illegible] PROFESSOR OF PHYSIC AND [illegible] University College, [illegible] Physic, [illegible] has been sent to all Colonies [illegible] continues to treat cases of [illegible] TRACTION OF THE CHEST, [illegible] system, for the complete [illegible] to the youth of both [illegible] object of which is to strain to the [illegible] this accord that [illegible] of the Medical Profession.

Captain C. may be consulted on Tuesdays and Thursdays, between the hours of Two and Three.

PARR'S LIFE PILLS are acknowledged to be the best Purge in the [illegible] before the [illegible] public [illegible] the annals of the world, [illegible] press; the [illegible] wherever tried, [illegible] tion; hundreds [illegible] PARR'S LIFE PILLS had [illegible] The startling facts [illegible] at once [illegible] common, [illegible] fame for and with [illegible] on the face of [illegible] and [illegible] of transmission. The Undersigned, [illegible] countries, [illegible]

The sale of PARR'S LIFE PILLS [illegible] boxes weekly, [illegible] This single [illegible] than the [illegible] Parr.

Beware of spurious imitations.—Be sure to see that the words "Parr's Life Pills" are [illegible] Red Ground, [illegible] the Government [illegible] box. Also, that the [illegible] "T. Roberts and Co., Crane-court, Fleet-street, London," [illegible] the Directions.

Sold in Boxes at 1s. 1½d., 2s. 9d., and 4s. 6d. each, [illegible] Medicine [illegible] the world. Full directions are given with each box.

Just Published, price 1s. 6d., free by post 1s. 8d.,

LABELS FOR THE HERBARIUM, CONSISTING OF THE NAMES OF THE Classes, Alliances, Orders, and Sub-Orders OF PROFESSOR LINDLEY'S VEGETABLE KINGDOM,

So printed, in large type, that they [illegible] pasted [illegible] THE HERBARIUM.

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Now ready, to be had of all [illegible]

SUMMERLY'S ART-MANUFACTURES, [illegible] Bell, Cresswell, [illegible] Townsend, Westmacott, &c.

Stratford Sh. keepers [illegible]		Bronze [illegible]	
Statuette		.. ..	
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Carved [illegible]		.. ..	
various [illegible]		Water Vases and [illegible]	
Earthenware [illegible]		.. ..	
cooler		Fish [illegible]	
Gilt [illegible]		[illegible]	
Glass [illegible]		Centre	
[illegible]		Trays [illegible]	
Vases [illegible]		[illegible]	
Shakspeare [illegible]		Bust [illegible]	
Bacon		Bust [illegible]	
Urns and the Lord [illegible]		Inkstand [illegible]	
Portrait [illegible]		[illegible]	
Inkstands [illegible]		Portfolios [illegible]	
Pavilion		Nonsuch	
Nonsuch		Pavilion	
Silver and Plated [illegible]		Nonsuch Chandelier [illegible]	
.. .. ..		.. .. ..	
Nonsuch Chandelier [illegible]		Vase	
.. .. ..		Nonsuch	
Pavilion Inkstand [illegible]		Pavilion Candlesticks.	
.. .. ..		.. .. ..	

The Art-Manufactures Circular, with [illegible] post free, on application to [illegible] Cranbourn-street, [illegible]

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Residence in many of the Colonies allowed, *without additional charge*, and the premium required for the *East or West Indies*, and other extra risks, is more than usually moderate.

On Policies taken out for the whole term of life, *one-third* of the Annual Premiums may remain unpaid *till death*; thus parties are enabled to effect an assurance, say for 1200*l.*, by the payment of Premium on 800*l.* only.

The *half credit system* for five years is also adopted.

Four fifths, or 80 *per cent.* of the entire profits are appropriated to assurers entitled to share therein.

The *Bonus* at the last division averaged 23 *per cent.* on the amount of Premiums paid.

Advances continued to be made to assurers on assignable property or income, and also on the guarantee of most undoubted personal securities.

WILLIAM RATRAY, Actuary and Secretary.

PROVIDENT LIFE OFFICE, 50, Regent-street, and 2, Royal Exchange-buildings, London.
Established 1806. Invested Capital, 1,230,000*l.*
Annual income, 140,000*l.* Bonuses declared, 743,000*l.*
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The profits (subject to a trifling deduction) are divided among the insured. The plan upon which they are divided gives to each party insured a share proportionate to the amount of the Premiums he has contributed.

In addition to the above advantages, the Directors have determined to adopt the principle of allotting a prospective Bonus to Policies lapsing between the Septennial Periods of Division, in order that all the Policy-holders may participate equally in the Profits of the Society.

The following Table shows the amount of Bonuses added to Policies existing at the present time.

Policy No.	Date of Policy.	Sum insured.	Bonuses added.	Increase on original Insurance.	Total Sum payable to which future Bonuses will be added.
		£	£ s. d.		£ s. d.
21	1806	500	415 10 2	83·10 per cent.	915 10 2
521	1807	900	982 12 1	109.17 ,,	1882 12 1
1174	1810	1200	1160 5 6	96.68 ,,	2360 5 6
1395	1811	1600	1328 8 6	83.02 ,,	2928 8 6
3286	1820	2000	1906 13 5	95.33 ,,	3906 13 5
3392	1820	5000	3558 17 8	71.17 ,,	8558 17 8
4356	[illegible]	3000	[illegible]	[illegible]	5541 3 6

Prospectuses and full particulars may be obtained upon application to the Agents of the Office in all the principal towns of the United Kingdom; and the head Office, No. 50, Regent-st.

ARGUS LIFE ASSURANCE COMPANY,
39, Throgmorton-street, Bank.
Empowered by special Act of Parliament, 5 & 6 Will. IV. c. 76.

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Persons Assuring in this Office have the benefit of the Lowest Rate of Premium which is compatible with the safety of the Assured, and which is, in effect, equivalent to an Annual Bonus; they have, likewise, the security of a large subscribed capital—an Assurance Fund of nearly a quarter of a Million—and an Annual Income of upwards of £60,000, arising from the issue of between 5,000 and 6,000 Policies.

Annual Premium to assure £100.

Age.	For One Year.	For Seven Years	Whole Term.
20	£0 17 3	£0 19 1	£1 11 10
30	1 1 3	1 2 7	2 0 7
40	1 5 0	1 6 9	2 14 10
50	1 14 1	1 10 10	4 0 11
60	3 2 4	3 7 0	6 0 10

One-half of the "Whole Term" Premium may remain on credit for seven years, or one-third of the Premium may remain for Life as a debt upon the Policy at 5 per cent., or may be paid off at any time without notice.

Policies assigned as a security to others, will not be rendered void in consequence of death by suicide, duelling, or by the hands of justice. In case of death by the above causes, where the Policies are not assigned, the gross amount of Premiums received will be returned.

Claims paid in one Month after proofs have been furnished.

The Medical Officers attend daily at a Quarter before Two o'Clock, and Policies issued the same day.

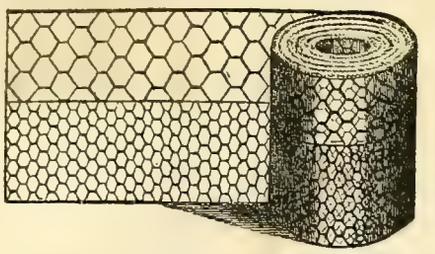
EDWARD BATES, Resident Director.

A Liberal Commission to Solicitors and Agents.

METCALFE AND Co's NEW PATTERN TOOTH BRUSH and SMYRNA SPONGES.—The Tooth-Brush has the important advantage of searching thoroughly into the divisions of the teeth, and cleaning them in the most extraordinary manner, and is famous for the hairs not coming loose—1s. An improved Clothes Brush, that cleans in a third part of the usual time, and incapable of injuring the finest nap. Penetrating Hair-brushes, with the durable unbleached Russian bristles, which do not soften like common hair. Flesh Brushes of improved graduated and powerful friction. Velvet Brushes which act in the most surprising and successful manner. The genuine Smyrna Sponge, with its preserved valuable properties of absorption, vitality, and durability, by means of direct importations, dispensing with all intermediate parties' profits and destructive bleaching, and securing the luxury of a genuine Smyrna Sponge. Only at METCALFE & Co.'s Sole Establishment, 130 B., Oxford-street, one door from Holles-street.

CAUTION.—Beware of the words, "From Metcalfe's," adopted by some houses.

IMPROVED DOUBLE MESH WIRE GAME NET.



BARNARD AND BISHOP, Norwich, can strongly recommend the above NET to the notice of the Nobility and Gentry, as being the cheapest yet introduced: it has met with general approbation, and has been found most efficient in the preservation of young Trees, Gardens, &c., from the depredations of game. The extra strong 2-inch is the same strength as the stoutest article in the market. On inspection, it will be found better manufactured than anything else of the kind, and 20 per cent. cheaper. It is sent out in rolls of 50 yards, or any other length, at prices as under

		per yard—*s.*	*d.*
Double Mesh Net 24 ins. wide, 1⅝ & 3¼-in. mesh,	strong	0	6½
... ...	extra strong	0	9
... ... 2 & 4 ...	strong	0	5½
... ...	extra strong	0	7¼
Single Mesh ... ... 1⅝ ...	light	0	7
... ...	strong	0	9
... ...	extra strong	1	0
... ... 2 ...	light	0	6
... ...	strong	0	7½
... ...	extra strong	0	10

The prices quoted for double net are for equal proportions of each mesh, which may be varied if required, thus, three parts fine to one of coarse, or *vice versa*, at prices accordingly; and it can be made any mesh and width to 7 feet.

A finer description for Aviaries, Pheasantries, &c., sparrow proof, 3*d.* per square foot; or, if made in copper, at 5*d.* per square foot. The Iron Wire Net is twice dipped in anti-corrosive composition, and sent free to London or Hull.

☞ Patterns forwarded per post, free of expence.

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N.B.—Patterns and specifications for contracts sent in to order.—Address by letter as above; but parties calling will please enquire for the Wire Works, near Victoria Station, Strangeways.

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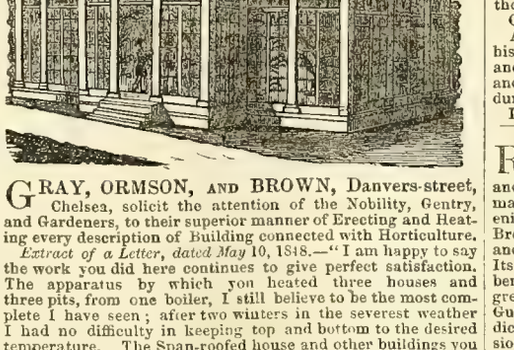

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Extract of a Letter, dated May 10, 1848.—"I am happy to say the work you did here continues to give perfect satisfaction. The apparatus by which you heated three houses and three pits, from one boiler, I still believe to be the most complete I have seen; after two winters in the severest weather I had no difficulty in keeping top and bottom to the desired temperature. The Span-roofed house and other buildings you erected here are equally satisfactory. I shall be happy to show the work, or answer any references you may please to direct, —F. R. KINGHORN, Gardener to the Earl of Kilmorey, Orleans-house, Twickenham, Middlesex."

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THE BOTANICAL REGISTER.
By Dr. LINDLEY, EDWARDS, and Others.

The Publisher having been requested by many Subscribers, possessing only the latter Numbers of the above beautiful work, to republish the early Volumes, it is intended to do so, commencing July 1 next, when a Double Number, containing 16 Plates, will be published, and continued Monthly, price 5*s.*, originally published at 8*s.* After this publication the copper plates, &c., will be destroyed. Those Ladies and Gentlemen wishing to complete their sets of the latter numbers are requested to do so without delay, as Single Numbers cannot be guaranteed after Dec. 31 next.

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THE HORTICULTURAL MAGAZINE.—A New Edition of the INTRODUCTORY NUMBER is just published, price 1*s.*, containing 96 columns of letter-press, and 12 Engravings. Complete in itself.

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*** This work, compressing into a small space the important improvements of the last 15 years, has an interest quite independent of the object for which it has been written, namely, as Supplementary to the "British Husbandry," published in the Farmer's Series of the "Library of Useful Knowledge," which consists of

1. THE HORSE: its History, Breeds, and Management. By William Youatt; with a Treatise on Draught, by I. K. Brunel, Esq., 8vo, cloth, 6*s.* 6*d.*
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5. A MISCELLANEOUS VOLUME on FARMS, PLANTING, &c., entitled Husbandry, Vol. III. 8*s.*

London: ROBERT BALDWIN, Paternoster-row.

THE EDINBURGH REVIEW, No. CLXXVII.—ADVERTISEMENTS for insertion in the forthcoming Number of THE EDINBURGH REVIEW are requested to be forwarded to the Publishers before Friday the 23d, and BILLS by Monday the 26th inst.

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Published this day, in 8vo, price 2*s.* 6*d.* sewed,

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HINTS ON THE PLANTING AND GENERAL TREATMENT OF HARDY EVERGREENS.

"We can affirm this work to be well worth purchasing."—*London's Gardeners' Magazine.*

Edinburgh: T. and T. CLARK. London: HAMILTON and Co.

AT THE ANNUAL GENERAL COURT OF THE ROYAL AGRICULTURAL COLLEGE, held on the 6th June, 1848, the Right Hon. EARL BATHURST, the President, in the Chair, the Report of the Council for the past year was read, adopted, and ordered to be printed for circulation amongst the Shareholders.

The recommendation of the Council to raise the Fee for In-students to 80*l.*, and for Out-students to 40*l.* per annum, was adopted, and the Council were empowered to act thereon.

Mr. Pusey, M.P., and Mr. Fisher Hobbs, having retired from the Council, were replaced by Sir Robert Throckmorton and the Rev. Alex. Huxtable.

One-third of the Council being balloted out were re-elected.

A vote of thanks was passed to the Hon. Mr. Bathurst for his valuable present of a Clock for the College tower, and another to the President, Vice-President, Auditors, Treasurers, and Council for their attention to the business of the Institution during the past year. PHILIP BOWES, Secretary.

London Office, 15, Duke-street, Adelphi, June 10.

BEAUTIFUL TEETH.

ROWLANDS' ODONTO, OR PEARL DENTIFRICE.—A white powder, compounded of the choicest and most *recherché* ingredients of the Oriental Herbal, of inestimable value in preserving and beautifying the Teeth, strengthening the Gums, and in giving sweetness and perfume to the Breath. It extirpates all tartarous adhesions to the Teeth, and ensures a pearl-like whiteness to the enamelled surface. Its Anti-Septic and Anti-Scorbutic Properties exercise a highly beneficial and salutary influence; they arrest the further progress of decay of the Teeth, induce a healthy action of the Gums, and cause them to assume the brightness and colour indicative of perfect soundness; while, by confirming their adhesion to the Teeth, they give unlimited enjoyment and fresh zest to appetite, by perpetuating effective and complete mastication. The Proprietors of this Dentifrice pledge themselves that its efficacy in preserving and embellishing the Teeth far surpasses anything of the kind ever yet offered to the public, and has, in consequence, obtained its selection by Her Majesty the Queen, the Court and Royal Family of Great Britain, and the Sovereigns and Nobility throughout Europe.—Price 2*s.* 9*d.* per box.

CAUTION.—To protect the Public from Fraud, the Hon. Commissioners have directed the Proprietors' Name and Address, thus—"A. ROWLAND & SON, 20, HATTON-GARDEN," to be engraved on the Government Stamp, which is affixed on each box.—Sold by the Proprietors and by Chemists and Perfumers.

Printed by WILLIAM BRADBURY, of No. 6, York-place, Stoke Newington, and FREDERICK MULLETT EVANS, of No. 7, Church-row, Stoke Newington, both in the county of Middlesex, Printers, at their office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the Office, No. 5, Charles-street, in the parish of St. Paul's, Covent-Garden, in the said county, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY, JUNE 10, 1848.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 25.—1848.] SATURDAY, JUNE 17. [PRICE 6d.

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THE SLOUGH PINK AND PANSY ANNUAL SHOW will take place on Thursday, June 22, 1848, at W. BRAGG'S, North Star Tavern, Slough, when the usual prizes will be given to amateurs for Pinks, 12 blooms; Pansies, 24 do.; nurserymen, Pinks, 12 blooms; Seedlings, Certificates. Flowers to be ready for the Judges at 12 o'clock. A Dinner at 2 o'clock, *3s. 6d.* each.

ROSE VICOMTESSE DE CAZES.

H. LANE AND SON can supply good Plants of this best of all Yellows for Greenhouse culture and south walls, at *5s.* each. It was successfully exhibited at the Horticultural Society by them on the 10th inst., and at the Botanic on the 10th of May.—The Nurseries, Great Berkhamstead.

CAMELLIA JAP. VAR. MATHOTIANA.

J. B. DE SAEGHER, NURSERYMAN, Ghent, Belgium, begs to offer to Camellia amateurs, and to the Trade, his new Camellia, figured in the "Annales de la Societé Botanique de Gand," 1847; it is the finest variety of all those yet in the Trade. J. B. de SAEGHER is ready to send out this magnificent variety, at the following conditions. Fine plants, about 1 foot high, *2l.*; ditto, about 2 feet high, *3l.*

THE TREES, FLOWERS, AND FRUITS OF NEW ZEALAND for *5l.*—A person who is about going to thoroughly examine the Botany of that rich country, and publish an account thereof, will, for the above sum, send persons in this country seeds or plants of 100 species, together with his Work. Botanists may have 150 dried specimens sent them for *2l.* The money to be paid in advance.—For particulars address to B. O. J., at the Market Coffee House, Covent-garden, London.

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12 CHOICE NAMED HERBACEOUS PLANTS.

The whole set of 112 plants for 50*s.*, delivered carriage free to any station on the Great Western line.—Apply to WILLIAM E. RENDLE and Co., Plymouth.

F. WARNER begs to inform his Friends and the Public that, finding circulars are going the round of his Connection, under the head of "WARNER and SON, of Cornhill," he begs respectfully to state that he has no knowledge of such a firm in the Seed line, or is there opened any house in Cornhill but his own. He is the only surviving partner of the late firm of "WARNER, SEAMAN, and WARNER, of 28, Cornhill."

F. W. takes the present opportunity of returning his thanks for all past favours, and to assure his friends that every attention will be paid to their orders.

F. W. will be obliged by all letters being addressed to him at his Warehouse, No. 3, Laurence Pountney-lane, Cannon-street, London.—FREDERICK WARNER, 28, Cornhill, and 3, Laurence Pountney-lane, Cannon-street, London, June 5th, 1848.

F. W. also begs to call the attention of his Friends to Girling's Early Danecroft PEAS, being earlier than the Emperor, of a long, dark green, glossy pod, a large cropper, dwarf habit, and in every respect a PEA superior to all yet introduced.

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GARAWAY, MAYES, AND CO. have the pleasure to announce that they are prepared to send out their new and very singular variety of Holly, which they have named Ilex latispina. It has been acknowledged by all who have seen it to be one of the most curious and ornamental varieties ever grown; of strong erect habit, and dark green thick foliage, with very broad variable spines. Good established plants, 21*s.* each.

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Durdham Down Nurseries, Bristol, June 17.

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FUCHSIAS, including One in the Ring, Napoleon, Hero, Mayle's Purity, May's Purity, White Perfection, Acantha, Leucantha, Delicata, Atrosanguinea, Dr. Jephson, L'Reine de France, Goliah, Empress, &c., at 6*s.* per dozen, and many other choice varieties at 4*s.* per dozen.

A remittance or reference requested from unknown correspondents.—Groves Nursery, York, June 17.

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Averuncators	Garden Scrapers	Pick Axes
Axes	Grape Gatherers and Scissors	Potato Forks
Bagging Hooks	Gravel Rakes and Sieves	Pruning Bills
Bills	Greenhouse Doors and Frames	,, Knives, various
Borders, various patterns	Hammers	,, Saws
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Edging Irons and Shears	Marking Ink	Sickle Saws
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,, Stands in Wires and Iron	Menographs	Spuds
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Galvanic Bordersand Plant Protectors	Milton Hatchets	Thistle Hooks
Garden Chairs and Seats	Mole Traps	Transplanting Tools
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		Watering Pots
		Weed Extractorsand Hooks
		Wheelbarrows
		Youths' Set of Tools

G. and J. DEANE are sole Agents for LINGHAM'S PERMANENT LABELS, samples of which, with the Illustrated List of Horticultural Tools, can be sent, post paid, to any part of the United Kingdom.—DEANE'S Horticultural Tool Warehouse, opening to the Monument, 46, King William-st., London-bridge.

GARDENERS' REGISTER OFFICE.

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J. WEEKS AND CO., ARCHITECTS AND BUILDERS OF HOTHOUSES, GREENHOUSES, CONSERVATORIES, PITS, &c.—The Nobility and Gentry about to erect Horticultural Buildings, may depend on the best seasoned materials and first-rate workmanship employed. The various works in progress will testify our facilities for executing such buildings.

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There is a choice and valuable collection of Stove and Greenhouse plants, as also all the common varieties.

THE SEED DEPARTMENT at this establishment is conducted with the greatest care and attention. Samples of every variety are proved before sent out.

PLANS, ESTIMATES, AND CATALOGUES upon application. The whole of the prices at this establishment are very moderate.

NEW PINE, YOUNG'S DOUBLE T.

C. TURNER will exhibit blooms of this much admired variety at the Royal South Lond n Horticultural Society's Meeting on Tuesday next, the 20th inst., to which he invites inspection. Chelsea, near Windsor.

SPLENDID EXHIBITION OF ROSES.

A. PAUL AND SON have the pleasure to inform their friends and the public in general that their COLLECTION OF ROSES, comprising nearly 2,000 varieties, is now coming into bloom. The display this year will be most gorgeous from the present time to the end of June, the specimens will however continue flowering till November. Every novelty of interest has been added.

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N.B. Subscribers' copies of "THE ROSE GARDEN" are now ready.—Cheshunt, Herts, June 17.

MONSTER PLANTATION OF ROSES.

WM. WOOD AND SON have the pleasure of informing their friends and the patrons of horticulture generally that their superb collection of ROSES, which is unsurpassed by any other collection in Europe, is now coming into splendid bloom, and will continue in flower during the Rose season.

W. W. and Son have greatly increased their stock, and have added several acres to their already immense plantation of Roses; some idea of the quantity of plants and flowers display may be formed, when it is stated that in one quarter alone, upwards of 70,000 budded Roses may be seen at one view.

Maresfield is distant from Hayward's Heath 12 miles, which is the nearest station on the London and Brighton Railway, where conveyances to the Nursery may be obtained.

ADMITTANCE GRATIS.

Woodlands Nursery, Mare-field, near Uckfield, Sussex, June 17.

ROSES.

EDWARD DENYER, NURSERYMAN, &c., Loughborough-road, Brixton, near London, begs to inform the nobility, gentry, and public in general, that he has the largest stock of STANDARD and DWARF ROSES within three miles of London, consisting of 700 varieties of every shade and colour, and comprising all the new and rare sorts known. They may now be seen in bloom to the greatest advantage, being arranged each side a walk 700 feet in length. Orders taken for plants now in bloom, and executed in November next. Admittance gratis, Sundays excepted.

E. D. respectfully informs his friends that he has no other place of business in London or elsewhere but the above.

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THOMAS GIBBS AND Co.,

(By Official Appointment the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND,"

Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

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WIRE-WORK, HOT-WATER APPARATUS, GREENHOUSES, &c.

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D. and E. BAILEY, who were the first to introduce Metallic Curvilinear Hothouses to Horticulturists, erect various descriptions of Horticultural Buildings, and execute all kinds of metal work at their Manufactory, 272, Holborn.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

HORTICULTURAL SOCIETY OF LONDON.—

EXHIBITION AT THE GARDEN,
June 10th, 1845.

AWARD OF THE JUDGES.

THE CERTIFICATE OF HONOUR.

1 To Messrs. Frazer, of Lea-bridge-road, for a collection of 30 Stove and Greenhouse plants
2 To Mr. Mylam, gardener to S. Rucker, Esq., jun., F.H.S., for 20 species of Exotic Orchids

THE LARGE GOLD MEDAL.

1 To Mr. Donald, gardener to Mrs. Lawrence, F.H.S., for a collection of 30 Stove and Greenhouse plants

THE GOLD KNIGHTIAN MEDAL.

1 To Mr. Green, gardener to Sir E. Antrobus, Bart., F.H.S., for a collection of 15 Stove and Greenhouse plants
2 To Mr. Plant, gardener to J. H. Schroder, Esq., F.H.S., for 10 species of Exotic Orchids
3 To Mr. Mylam, gardener to S. Rucker, Esq., jun., F.H.S., for 15 varieties of Cape Heath
4 To Messrs. Rollisson, for the same

THE GOLD BANKSIAN MEDAL.

1 To Mr. Cole, gardener to H. Colyer, Esq., of Dartford, Kent, for a collection of 15 Stove and Greenhouse plants
2 To Mr. May, gardener to E. Goodheart, Esq., of Langley-park, Beckenham, for a collection of 10 Stove and Greenhouse plants
3 To Mr. Williams, gardener to C. B. Warner, Esq., F.H.S., for 10 species of Exotic Orchids
4 To Mr. W. Cock, F.H.S., for 12 new varieties of Pelargonium in 8-inch pots
5 To Mr. Dobson, gardener to Mr. Beck, F.H.S., for the same
6 To Messrs. Lane, of Great Berkhampstead, for 12 varieties of Roses, in pots
7 To Mr. May, gardener to E. Goodheart, Esq., Beckenham, Kent, for 10 varieties of Cape Heath
8 To Messrs. Fairbairn, of Clapham, for the same
9 To Mr. Green, gardener to Sir E. Antrobus, Bart., F.H.S., for tall Cacti in flower

THE LARGE SILVER-GILT MEDAL.

1 To Mr. Kyle, gardener to R. Barclay, Esq., of Leyton, for a collection of 15 Stove and Greenhouse plants
2 To Mr. Taylor, gardener to J. Coster, Esq., of Streatham, for a collection of 10 Stove and Greenhouse plants
3 To Mr. Bassett, gardener to R. S. Holford, Esq., F.H.S., for 10 species of Exotic Orchids
4 To Mr. Dobson, gardener to Mr. Beck, F.H.S., for 6 species of Exotic Orchids
5 To Mr. Staines, of Middlesex-place, New-road, for 12 new varieties of Pelargonium, in 8-inch pots
6 To Mr. Gaines, F.H.S., for the same
7 To Mr. Parker, gardener to J. H. Oughton, Esq., Rochampton, for 6 varieties of Pelargoniums, in 11-inch pots
8 To Mr. Gaines, for the same
9 To Messrs. Paul, of Cheshunt, for 12 varieties of Roses in pots
10 To Mr. Green, gardener to Sir E. Antrobus, Bart., F.H.S., for 9 varieties of Cape Heath
11 To Mr. Ayres, nurseryman, Blackheath, for the same
12 To Mr. Stanly, gardener to H. Berens, Esq., F.H.S., for 6 distinct species of Pelargonium
13 To Mr. Gaines, F.H.S., for 6 fancy Pelargoniums
14 To Mr. Glendinning, F.H.S., for a collection of Statices
15 To Mr. Iveson, gardener to the Duchess Dowager of Northumberland, F.H.S., for Gardenia Stanleyana
16 To the same, for a collection of uncommon Tropical Fruits
17 To Messrs. Frazer, Lea-bridge-road, Essex, for Ixora coccinea
18 To Messrs. Veitch, of Exeter, for a new species of Hoya from India

THE CERTIFICATE OF EXCELLENCE.

1 To Mr. Jack, gardener to R. G. Loraine, Esq., Wallington, for a collection of 10 Stove and Greenhouse plants
2 To Mr. Donald, gardener to Mrs. Lawrence, F.H.S., for 10 species of Exotic Orchids
3 To Mr. Carson, gardener to W. F. G. Farmer, Esq., F.H.S., for the same
4 To Mr. Jack, for 6 species of the same
5 To Mr. Robinson, gardener to J. Simpson, Esq., Thames-bank, Pimlico, for 12 new varieties of Pelargonium, in 8-inch pots
6 To Mr. Staines, of Middlesex-place, New-road, for 6 varieties of Pelargonium, in 11-inch pots
7 To Mr. Terry, gardener to Lady Puller, Youngsbury, for 12 varieties of Roses in pots
8 To Mr. Francis, of Hertford, for the same
9 To Messrs. Paul, of Cheshunt, for a collection of Roses in 50 varieties
10 To Mr. Taylor, gardener to J. Coster, Esq., Streatham, for 9 varieties of Cape Heath
11 To Mr. Pamplin, of Lea-bridge-road, for the same
12 To Mr. Jack, for Leschenaultia biloba
13 To Mr. Epps, F.H.S., for Aphelexis grandiflora
14 To Mr. Wood, Norwood, for 20 hardy dwarf Herbaceous plants
15 To Mr. Mylam, gardener to S. Rucker, Esq., jun., F.H.S., for Vanda Batemanni

THE LARGE SILVER MEDAL.

1 To Mr. Bruce, gardener to Boyd Miller, Esq., Tooting, for a collection of 10 Stove and Greenhouse plants
2 To Mr. Pawley, of Bromley, for the same
3 To Mr. Malyon, gardener to T. Brandram, Esq., Lea Grove House, Blackheath, for the same
4 To Mr. Bruce, for 6 species of Exotic Orchids
5 To Mr. Eyles, of Rochampton, for the same
6 To Messrs. Veitch, of Exeter, for Phalænopsis grandiflora
7 To Mr. Wiggins, gardener to S. Sanders, Esq., Staines, for 6 varieties of Pelargonium, in 11-inch pots
8 To Mr. Kinghorn, gardener to Lord Kilmorey, Orleans House, Twickenham, for 6 varieties of Calceolaria, in 11-inch pots
9 To Mr. Gaines, F.H.S., for the same
10 To Messrs. Lane, of Great Berkhampstead, for a collection of Roses, in 50 varieties
11 To Mr. Dobson, gardener to Mr. Beck, F.H.S., for 12 varieties of Roses, in pots
12 To Mr. Terry, gardener to Lady Puller, Youngsbury, Herts, for a collection of Roses in 25 varieties
13 To Mr. Kinghorn, for Erica Cavendishii
14 To Messrs. Frazer, of Lea-bridge-road, Essex, for Erica vestita coccinea
15 To Mr. Green, gardener to Sir E. Antrobus, Bart., F.H.S., for a collection of Greenhouse Azaleas, in 6 varieties
16 To the same, for Dipladenia crassinoda
17 To Mr. Taylor, gardener to J. Coster, Esq., Streatham, for Aphelexis sesamoides
18 To Mr. Falconer, gardener to A. Palmer, Esq., Cheam, for Leschenaultia formosa
19 To Mr. Pamplin, of Lea-bridge-road, Essex, for Dillwynia clavata
20 To Mr. Williams, gardener to C. B. Warner, Esq., F.H.S., for 10 species of hardy Ferns
21 To Messrs. Veitch, of Exeter, for Browallia Jamesoni
22 To Mr. Brewin, gardener to R. Sumter, Esq., F.H.S., for a Queen Pine Apple
23 To Mr. Ingram, gardener to Her Majesty, at Frogmore, for Black Hamburgh Grapes
24 To Mr. Davis, of Oak Hill, East Barnet, for the same
25 To Mr. Ingram, for Muscat of Alexandria Grapes

THE SILVER KNIGHTIAN MEDAL.

1 To Mr. Carson, gardener to W. F. G. Farmer, Esq., F.H.S., for a collection of 10 Stove and Greenhouse plants
2 To Mr. Glendinning, F.H.S., for the same
3 To Mr. Green, gardener to Sir E. Antrobus, Bart., F.H.S., for Dendrobium nobile
4 To Mr. R. Ellis, Woolwich, for 24 varieties of Pinks
5 To Mr. Turner, Chalvey, Windsor, for the same
6 To Mr. Laing, Twickenham, for a collection of Roses, in 50 varieties *
7 To Mr. Driver, gardener to W. Broadhurst, Esq., F.H.S., for the same, in 25 varieties
8 To Messrs. Lane, of Great Berkhampstead, for a collection of Yellow Roses, in 6 varieties
9 To Mr. Bruce, gardener to Boyd Miller, Esq., Tooting, for Erica mutabilis
10 To Mr. Pawley, Bromley, for Erica elegans
11 To Mr. Williams, gardener to C. B. Warner, Esq., F.H.S., for 10 hothouse Ferns
12 To Mr. Carson, gardener to W. F. G. Farmer, Esq., F.H.S., for Calystegia pubescens
13 To Mr. Taylor, gardener to J. Coster, Esq., Streatham, for 10 species of hardy Ferns
14 To Messrs. Henderson, of Pine-apple-place, Edgeware-road, for Chironia glutinosa
15 To Mr. Mylam, gardener to S. Rucker, Esq., F.H.S., for the best-named collection of Plants (no error in 20)
16 To Mr. Davis, of Oak Hill, East Barnet, for a Providence Pine Apple
17 To Mr. Barnes, gardener to J. C. Whitmore, Esq., of Apley Park, Bridgenorth, for the heaviest bunch of Black Hamburgh Grapes, 2 lbs. 5 oz.
18 To Mr. Davis, of Oak Hill, East Barnet, for the heaviest bunch of Black Hamburgh Grapes in the Market Gardeners' Class, 3 lbs. 4½ oz.
19 To Mr. Fleming, gardener to the Duke of Sutherland, F.H.S., for Black Hamburgh Grapes
20 To Mr. Mitchell, of Brighton, for the same
21 To Mr. Evans, gardener to C. N. Newdigate, Esq., of Arbury Hall, Warwickshire, for Violet Hative Peaches
22 To Mr. Carson, gardener to W. F. G. Farmer, Esq., F.H.S., for the heaviest Melon, a Hybrid Greenflesh, 6 lbs. 3½ oz.
23 To Mr. Gadd, of Betchworth, for the heaviest Melon in the Market Gardeners' Class, a Cantaloupe, 7 lbs. 2½ oz.
24 To Mr. Fleming, for the best flavoured Melon, a hybrid between the Hoosainee and Ispahan
25 To Mr. Gadd, for the best-flavoured Melon in the Market Gardeners' Class, a sort unnamed
26 To Mr. Chapman, gardener to J. B. Glegg, Esq., F.H.S., for Nectarines

THE SILVER BANKSIAN MEDAL.

1 To A. Rowland, Esq., F.H.S., for a collection of Roses in 50 varieties
2 To Mr. J. Halliday, of Woolwich, for 24 varieties of Pinks
3 To Messrs. Norman, of Woolwich, for the same
4 To Messrs. Paul, for a collection of yellow Roses in 6 varieties
5 To Mr. Malyon, gardener to T. Brandram, Esq., of Blackheath, for Erica ventricosa superba
6 To Messrs. Rollisson, of Tooting, for Erica Cavendishii
7 To Mr. Slowe, gardener to W. R. Baker, Esq., F.H.S., for a collection of Roses, in 25 varieties
8 To Mr. Green, gardener to Sir E. Antrobus, Bart., F.H.S., for Aphelexis sesamoides purpurea
9 To Mr. Wood, of Norwood, for 10 species of Hardy Ferns
10 To Mr. Green, gardener to Sir E. Antrobus, Bart., F.H.S., for a species of Browallia
11 To Mr. Bassett, gardener to R. S. Holford, Esq., F.H.S., for a new Cœlogyne from Borneo
12 To Mr. Gerric, gardener to Sir J. Cathcart, Bart., F.H.S., for Stanhopea oculata
13 To Mr. Bruce, for Phymatanthus tricolor
14 To Mr. Donald, gardener to Mrs. Lawrence, F.H.S., for the second best-named collection of Plants (three errors in thirty)
15 To Mr. Chapman, gardener to J. B. Glegg, Esq., F.H.S., for a Montserrat Pine Apple
16 To Mr. Cox, gardener to M. Ricardo, Esq., of Kiddington House, Oxon, for Black Prince Grapes
17 To Mr. Chapman, of South Lambeth, for Black Hamburgh Grapes
18 To Mr. Challis, gardener to Miss Irvine, of Egham, for Sweetwater Grapes
19 To Mr. Toy, gardener to Mr. Harrison, Oatlands Palace Gardens, Weybridge, for Black Frontignan Grapes †
20 To Mr. Turnbull, gardener to the Duke of Marlborough, F.H.S., for Royal George Peaches
21 To Mr. Davis, of Oak Hill, East Barnet, for Noblesse Peaches
22 To Mr. Foggo, gardener to the Marquis of Abercorn, F.H.S., for Nectarines
23 To the same, for Figs
24 To Mr. Snow, gardener to Earl de Grey, F.H.S., for Early Purple Guigne Cherries
25 To Mr. Elliott, gardener to J. B. Boothby, Esq., Twyford Abbey, for British Queen Strawberries
26 To Mr. Lydiard, of Bath Easton, Bath, for Alice Maude Strawberries
27 To Mr. Parsons, gardener to A. George, Esq., of Enfield, for Keens' Seedling Strawberries
28 To Mr. Ingram, for the second best-flavoured Melon (Beechwood)

THE CERTIFICATE OF MERIT.

1 To Mr. Jack, gardener to R. G. Loraine, Esq., Wallington, for Dipladenia crassinoda
2 To Mr. Mylam, gardener to S. Rucker, Esq., jun., F.H.S., for Gloxinia Teuchleri
3 To Mr. Glendinning, for four plants of Erica Cavendishii
4 To Mr. Bassett, gardener to R. S. Holford, Esq., F.H.S., for Vanda fuscoviridis
5 To Mr. Rollisson, for the third best-named collection of Plants (two errors in 15)
6 To Mr. May, gardener to E. Goodheart, Esq., Langley Park, Beckenham, for the fourth best-named collection of Plants (two errors in 15)
7 To Mr. Groom, gardener to H. Bentley, Esq., of Leeds, for Royal George Peaches
8 To Mr. Evans, gardener to C. N. Newdigate, Esq., of Arbury Hall, Warwickshire, for Brinion Nectarines
9 To Mr. Braid, gardener to H. Perkins, Esq., F.H.S., for Figs
10 To Mr. Rust, gardener to J. Mac Laurin, Esq., F.H.S., for Alice Maude Strawberries
11 To Mr. Slowe, gardener to W. R. Baker, Esq., F.H.S., for Keens' Seedling Strawberries
12 To Mr. Snow, gardener to Earl de Grey, F.H.S., for the third best-flavoured Melon, "Snow's Hybrid Green-fleshed."

* Mr. Francis was disqualified by showing four of his Roses in pairs instead of in threes.

† The Judges also commended highly the Black Hamburghs from Mr. Foggo and Mr. Barnes, for which, however, they had no Medal at their disposal.

GENUINE CIDER: GOOD FOR DRAFT OR BOTTLING.

DEVONSHIRE has for centuries been famous for its CIDER, and when obtained in a pure and genuine state, is much and deservedly esteemed.

Messrs. RENDLE and CO., 13, Octagon, Plymouth, beg to inform the nobility, gentry, and the public in general, that they can supply them with a first-rate article on the following terms. A new cask (value 8s.) containing TWELVE GALLONS of well-conditioned, bright, bottling CIDER (superior to some wine sold as champagne), will be forwarded, freight paid, by steamer to London, Cork, Dublin, Belfast, Sligo, Southampton, or Falmouth,

For a Post-office Order value Twenty Shillings.

*** *To persons taking ten casks at one time, one will be given over, making eleven for 10l.*

WILLIAM RENDLE and Co., Cider Merchants,
June 17. 13, Octagon, Plymouth.

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JAMES PHILLIPS AND CO., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS FOR CONSERVATORIES.

CUT TO SIZE UP TO 40 INCHES LONG.			SMALL SQUARES of SHEET.	
16 oz. to the foot	2¾d.	per foot	4 by 3 and 4½ by 3½ .. 1½d.	per ft.
21 „	5	„	5 „ 3 „ 5½ .. 2	„
26 „	7½	„	6 „ 4 „ 6½ „ 4½ .. 2¼	„
32 „	10	„	7 „ 5 „ 7½ „ 5½ .. 2½	„
			8 „ 6 „ 8½ „ 6½ .. 2⅝	„
			Not above 10 „ 8 .. 3	„

GLASS MILK PANS, PROPAGATING GLASSES, AND BEE GLASSES. GLASS TILES AND SLATES.

CREAM POTS, from 3 to 24 quarts, at 6d. per quart.

CUCUMBER GLASSES, from 12 to 26 inches long, 1d. p. inch.

LACTOMETERS for trying the quality of Milk, 4 tubes 7s. 6d., 6 tubes 10s; Peach Glasses 10d. each; Fish Globes from 1s. 6d. each; Wasp and Fly Traps 3s. 6d. per dozen; Plate and Window Glass; Lamp Shades and Chimneys; and every article in the trade.

SASHES AND FRAMES MADE AND GLAZED.

GLASS.

APSLEY PELLATT AND CO. (late PELLATT and GREEN), Falcon Glass Works, Holland-street, Blackfriars, have always on hand, Bee Glasses 1s. 6d. per lb., Cucumber Glasses, 1s. 6d. per lb.; Milk Pans, 18 in., white glass, 5s. 6d. each; Propagating Glasses, white, 1s. per lb., do. green, 10d., do. Condensing, 2d. per lb. extra; Asparagus Tubes, 18s. to 21s. per gross; Grape Shades, 1s. 6d. to 2s. each; Fish-bowls, from 1s. 6d. each; Wasp and Fly-traps, 40s. per gross, or 3s. 6d. per dozen. By the use of these traps fruit may be preserved from (otherwise certain) destruction.

GREAT REDUCTION IN THE PRICE OF PLATE GLASS.

THE UNION PLATE GLASS COMPANY, Pocket Nook, St. Helen's; 99, Hatton-garden, London; 13, York-street, Mosley-street, Manchester; and 26, North John-street, Liverpool; inform Builders and the Public generally that they are now selling ordinary glazing sizes of PLATE GLASS from 2s. to 3s. per foot, and smaller plates, suitable for Cottages, Greenhouses, and Conservatories, at 6d. to 1s. per foot.—RICHARD YATES, Secretary, London.

STRONG HORTICULTURAL 16-oz. SHEET GLASS FOR CONSERVATORIES,

GREENHOUSES, PITS, FRAMES, &c.—FURTHER REDUCTION.

HETLEY AND CO. publish Prices in the *Gardeners' Chronicle* the first Saturday in every month. Wholesale and Retail Glass Shade, Sheet, Crown, and Patent Plate Glass Warehouse, 35, Soho-square, London.

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JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

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BEE-HIVES.—All persons desirous of Cultivating that pleasing and profitable branch of rural economy—the Honey Bee—are respectfully informed by G. NEIGHBOUR and SON, that they have prepared for the season an extensive supply of their various improved BEE-HIVES; their collection consists of "Nutt's Collateral Hive," "The Single Box Hive," "The Improved Cottage Hive," "The Ladies' Observatory Hive," "Taylor's Bar Hive," &c., from either of which the Honey may be taken at any time without injury to the Bees, and may be worked with safety, humanity, and profit, by the most timid and unaccustomed to Bee-manipulation. A descriptive paper, with drawings and prices, will be forwarded on receipt of a postage stamp.—Apiarian Depot and Honey Warehouse, 127, High Holborn, London.

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LINGHAM, BROTHERS, 170, Little Hampton-street, Birmingham, sole Manufacturers of the improved wood MENOGRAPH or LABELS for Garden-borders, Flower-pots, &c., have now perfected several patterns in Zinc suitable for the same purposes, which can be written upon with the greatest facility with their Metallic Ink, prepared exclusively for this purpose, and when dry an indelible inscription is secured. Directions for use sent with each box.

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N.B. Samples to be seen at the Office of this Paper.

MICROSCOPES.—A Good Compound Microscope, magnifying 20,000 times, with apparatus complete, for examining live or dead insects, flowers, animalcula, minerals, crystals, seeds, &c., with full instructions for use, price 3l.

Pocket Magnifiers, with single, double, and treble powers, for flowers and insects, 2s. 6d. and 5s. Self-registering Sixes Thermometers, not liable to get out of order, 21s. and 18s. Garden Thermometers, 2s. each. Orders by post carefully attended to.—HENRY BAKER, Optician, &c., 90, Hatton-garden, London.

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GREEN AND HOTHOUSES, CONSERVATORIES, &c., made and fixed Complete in all parts of the Kingdom, at a considerable reduction. One, two, and three light Cucumber and Melon Boxes, and Lights of all sizes, kept ready for use, packed and sent to all parts of the Kingdom; warranted best material. Two-light Boxes and Lights complete, from 1*l.* 5*s.* Garden-lights of every description at JAMES WATTS's, Hothouse Builder, Claremont-place, Old Kent-road.

Reference may be had to the Nobility, Gentry, and the Trade, in most of the counties in England.

PERUVIAN AND BOLIVIAN GUANO ON SALE,
By THE ONLY IMPORTERS,
ANTONY GIBBS AND SONS, LONDON;
WM. JOSEPH MYERS AND CO., LIVERPOOL;
And by their Agents,
GIBBS, BRIGHT, AND CO., LIVERPOOL and BRISTOL;
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To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

THE LONDON MANURE COMPANY beg to offer, on the best terms, Peruvian Guano, warranted genuine, delivered direct from the Importers' warehouses; Superphosphate of Lime, in any quantity; Sulphate of Ammonia, Nitrate of Soda, Sulphuric Acid, fine Bone Sawdust, Gypsum, Potter's Guano, Soda Ash, Petre, Agricultural and Fishery Salt, and every other artificial Manure.

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Corn Manure	14*l.* per ton.	Grass Manure	14*l.* per ton.
Clover do.	14*l.* ,,	Turnip do.	7*l.* ,,

Superphosphate of Lime, 7*l.* per ton.

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GUANO, PERUVIAN, direct from Import Warehouse.
SUPERPHOSPHATE OF LIME, manufactured from Bone only (superior to the cheap qualities made from fossils).
DRIED NIGHT SOIL.
BONE DUST AND HALF-INCH BONE.
SULPHURIC ACID.

Also Soda Ash, wireworm destroyer; pure Gypsum, or Mineral Sulphate of Lime (the rubbish offered cheap contains but little acid, the rest being carbonate of lime and water); Agricultural Salt, Nitrate of Soda, and all other Manures of known value. Prices current on application.

PROTOXIDE PAINT FOR STUCCO FRONTS, for Iron, Brickwork, and Wood. Manufactured only by CHARLES FRANCIS and SONS, Cement Works, Nine Elms.

MESSRS. NESBIT'S CHEMICAL AND AGRICULTURAL SCHOOL, 38, Kennington-lane, London.—A sound practical knowledge of Analytical and Agricultural Chemistry, Geology, Surveying, Levelling, Railway Engineering, &c., may be obtained in Messrs. NESBIT'S Academy, in addition to a good modern education.

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These Machines may also be seen at Mr. Slight's, Leith-walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill, 135, Buchanan-street, Glasgow; Mr. Robert Charles, Mill-hill, Leeds; Messrs. Penny and Finch, Penkeridge, Staffordshire; Messrs. Drummond and Son, Dublin; and at Mr. John Connor's, Newtown Limavady, County Derry.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as building and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.

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THE IMPROVED HYDRAULIC RAM, fixed by FREEMAN, POPE, Fountain Manufactory, 79, Strand, London, can be worked by a small stream of half an inch, where a fall of two feet can be obtained. The same RAM, without the aid of a Tank or Cistern, arranged to throw a Jet of Water constituting a Fountain with the head of water beneath.

ENGINES FOR DEEP WELLS OF ALL KINDS, DOUCHE AND OTHER BATHS, BUILDING ELEVATED BY HOT WATER, WATER WHEELS, to work from 2 inch Pumps, from 15 Elevation, given for the supply of Towns, &c.

A newly invented PORTABLE VAPOUR BATH, all complete for 4*l.*

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J. LEGG begs to return thanks to his patrons and friends, and at the same time to inform them that he continues to execute his improved Hydraulic Engines, Water Rams, &c., on reasonable terms in all situations where a fall can be obtained, from 1 inch to 6 inches. Deep Wells, &c. J. L. also begs to inform his friends that he has made several improvements on his Hydraulic Machines, and flatters himself that he is able to compete with any powers of the present day in the construction of the above machines.

Apply to JOHN LEGG, Chelmsford.

PATENT FLEXIBLE INDIA-RUBBER PIPES and TUBING for RAILWAY COMPANIES, BREWERS, DISTILLERS, FIRE ENGINES, GAS COMPANIES, GARDENING and AGRICULTURAL PURPOSES, &c.

THE PATENT VULCANISED INDIA-RUBBER HOSE PIPES are made to resist Hot Liquor and Acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible), and as they require no application of oil or dressing, are particularly adapted for Fire-engines, Pumps, Gas, Beer-engines, Gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes from ¼ inch bore upwards, and of any length to order.

Vulcanised India-rubber Garden Hose, fitted with brass taps, copper branch, and roses complete, ready to be screwed to Pumps, Water-butts, or Cisterns.—Sole Manufacturer, JAMES LYNE HANCOCK, Goswell Mews, Goswell-road, London.

N.B.—Vulcanised India-rubber Washers of all sizes for Joints of Hot-water and Steam Pipes, and Vulcanised Sheet Rubber, any thickness, for all kind of Joints, and other purposes.

WIRE NETTING ONE PENNY PER SQUARE FOOT.—This article forms a light and durable fence for the protection of Flower Gardens and Shrubberies against the depredations of Hares and Rabbits. For Aviaries, Pheasantries, and to prevent Poultry from straying, it is a cheap and elegant substitute for the more heavy fences, and is also peculiarly adapted for training Honeysuckles and other creeping plants. The following widths always kept in stock in large quantities:—24 inches wide, 6*d.* per running yard.

30	do.	7½*d.*	do.	do.
36	do.	9*d.*	do.	do.
48	do.	1*s.*	do.	do.

T. H. FOX is particularly desirous of directing the attention of the public to his great variety of useful and ornamental Wirework, consisting of Flower Stands, Trainers, Bell-in Rods, Garden Arches and Bordering, Fire Guards, &c.; Wire Blinds, Riddles, Fenders, Fly-proof Dish Covers, and every description of Wove Wire.

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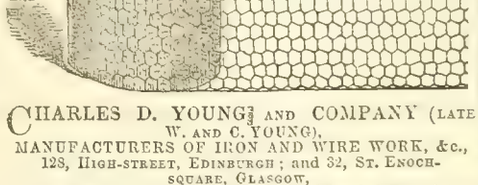
STRONG PREMIUM HARE AND RABBIT PROOF WIRE NETTING.



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MANUFACTURERS OF IRON AND WIRE WORK, &c.,
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Beg respectfully to call the attention of Landed Proprietors and others to their strong Wire-Net Fence, for excluding Hares and Rabbits from Gardens, young Plantations, Nurseries, &c.

This Net was exhibited at the Show of the Highland and Agricultural Society of Scotland, held lately at Inverness, where its Efficiency, Great Strength, and Exceeding Cheapness attracted general attention, and had awarded from the Judges the Society's Silver Medals, with high commendations.

The immense damage done by Hares and Rabbits in Gardens and Young Plantations, is often so great, that in the course of a year or two it will amount to more than the entire cost of protecting them with this Net. It is so durable, that when Plantations are sufficiently advanced to be independent of its protection, it can be removed to other exposed situations with the greatest facility, by any labourer. As a Fence against Hares and Rabbits, it is of itself quite sufficient, having only to be unrolled and attached, with small wire sent for that purpose, to wooden stakes driven into the ground, about every six or seven feet apart. It is, besides, peculiarly adapted for rendering Hedges, Paling, or other existing Fences, *completely impervious* to such vermin: and by being cut up into small pieces of three or more feet, as required, it forms a most efficient guard, at little expense, for individual Plants and Shrubs.

PRICES.—18 ins. high, 9*d.*; 24 ins., 1*s.*; 30 ins., 1*s.* 3*d.*; and 36 ins., 1*s.* 6*d.* per lineal yard.

Or a web of 100 yards, 18 ins. wide, will cost	...	...	£3 15 0
Do. of 100 yards, 24 ins. wide	...	...	5 0 0
Do. of 100 yards, 30 ins. wide	...	...	6 5 0
Do. of 100 yards, 36 ins. wide	...	...	7 10 0

If more or less than a web is required, it would be charged at the same rate per yard.

This Netting is also admirably adapted for Pheasantries and Poultry-yards, and is charged at the same rate. As carriage has, in many instances, been an obstacle to parties at a distance requiring this Net, C. D. Y. and Co. have made arrangements by which they will undertake to deliver it at any of the principal ports of Scotland, England, and Ireland, for One Halfpenny per lineal yard.

C. D. YOUNG and Co. cannot give a better idea of the great strength of their Premium Wire Netting than by stating that the weight of one yard of their 24-inch at 1*s.* is equal to 2¾ yards of another article in the market, the same width, at 6½*d.* per yard. Samples for inspection sent free of expense.

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Workmen sent to all parts of Scotland, England, and Ireland.

SHANKS' IMPROVED GRASS CUTTING AND [illegible]

The [illegible] this Improved Machine [illegible] tion for cutting the Grass of Lawns, [illegible] the most [illegible] commence, [illegible] ber, and [illegible] England, [illegible] be set [illegible] adopted [illegible] for Ornamental [illegible] shrubbery [illegible].

Orders [illegible] Messrs. [illegible] &c., Messrs. [illegible] thomas [illegible] Messrs. [illegible] Messrs. J. and [illegible] Gardens, Bath; [illegible] Messrs. [illegible]

WRIGHT'S STACK PRESERVER.—The [illegible] Hay, Barley, [illegible] improvement [illegible] prevents [illegible] Wheat [illegible] chimney should [illegible] needed, and [illegible] wool-lined bag [illegible] cutting away a [illegible] Corn or [illegible] access to the [illegible] mind that the [illegible] heating cannot [illegible] is so low and [illegible] as to recommend [illegible] had of J. Wright, [illegible] Ironmongers in the country.

Price 1*l.* 1*s.*, 2 Barrel carriage [illegible]

MARY WEDLAKE AND CO.'S PATENT HAY-MAKING MACHINES, with [illegible] Hay-rake, of superior [illegible] early. Linseed Crusher, [illegible] doing Beans, Linseed, and [illegible] doing upwards of 25 Bags of [illegible] Gorse bruising machine, [illegible] buckets of 14 lbs. [illegible] Machine, 100 to 200 [illegible] line, Dressing Machine, [illegible] rake, Oil-cake Breakers, [illegible] Plough, Double Plough, &c.—Mary Wedlake and Co., 118, Fenchurch-street, opposite Mark Lane.

TRUE DRUMHEADS FOR CATTLE, [illegible] at THOMAS WELLBORE'S, [illegible] alming, Surrey, at [illegible]

ANNATTO.—Farmers and others [illegible] to apply at SIMS and CO.'s, [illegible] ING CELLS. Also, [illegible] London or country [illegible] a greatly reduced price, [illegible] the United Kingdom [illegible] sale chemist, [illegible] Samples if required [illegible]

CAPTAIN CHIOSSO (assisted by his SON), PROFESSOR OF FENCING AND GYMNASTICS at the UNIVERSITY COLLEGE, LONDON, and [illegible] Physical Education, 16[illegible] has Removed to 21, Gower-street, [illegible] continues to treat cases of SPINAL [illegible] CONTRACTION OF THE CHEST, DEBILITY, &c. &c. His system, for its simplicity and efficacy, is [illegible] to the youth of both sexes, as well as adults. As it can be productive of no strain to the muscles, or [illegible] on this account that it is recommended by the highest authorities of the Medical Profession.

Captain C. may be consulted on Tuesdays and Thursdays, between the hours of Two and Three.

A CLEAR COMPLEXION.

GODFREY'S EXTRACT OF ELDER FLOWERS is strongly recommended for [illegible] Invigorating, Beautifying, and Preserving the SKIN, and [illegible] and charming appearance. [illegible] fume and delightful cosmetic. It will [illegible] Sun-burn, Redness, &c., and by its [illegible] qualities, render the skin soft, pliable, [illegible] scurf, &c., clear it from every humour, [illegible] and, by continuing its use only a short time, the skin will become and continue soft and smooth as [illegible] perfectly clear and beautiful. Sold in bottles [illegible] directions for using, by all Medicine Vendors.

STARR'S PATENT PROTEAN JET.—This simple, yet effective JET, is the most [illegible] brought before the public for [illegible] ates the necessity of changing a variety of [illegible] forms, as in the Protean Jet they are all [illegible] and the change immediately effected by turning a [illegible] purpose. They can readily be fitted to any description of Garden Engine now in use.

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The above are manufactured only by Messrs. STOCK and SHARP, Temple-street, Birmingham, and are to be procured through any respectable Plumber or Ironmonger in the Kingdom.

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PART II.

Chap. 1. Linnæan Sexual System. Chap. 2. Analytical Method. Chap. 3. The Manner of Studying. GLOSSARY.

SPECIMEN OF THE ABOVE WORK.

Deorsum.—Downwards.
Depauperatus.—When some part is less perfectly developed than is usual in plants of the same family. Thus, when the lower scales of a head of a Cyperaceous plant produce no flowers, such scales are said to be depauperated, or starved.
Dependens.—Hanging downwards.
Depressed.—Broad and dwarf, as if, instead of lengthening perpendicularly, growth had taken place horizontally. (*cxlvii.*)

CXLVII.

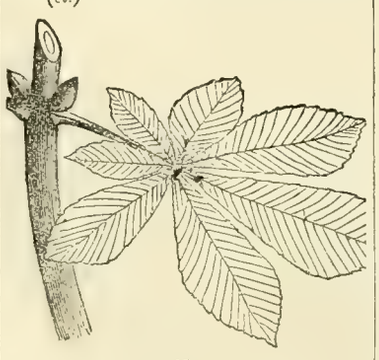
Depresso-truncatus.—Same as *Retuse.*
‡ *Deregularis.*—Something between regular and irregular.
Derma.—In Greek compounds = the bark or rind.
‡ *Dermis.*—The skin of a plant.
Descending.—Having a direction gradually downwards.
‡ *Desconeus.*—The root.
Desinentia.—The manner in which a lobe terminates.
Desmos.—In Greek compounds = anything bound to another or brought into close contact with it.
Deuterostrophes.—Spirals of a third degree in the development of leaves.
Dextrorsus.—Turned to the right hand.
Dextrorsum-volubilis.—Twisting to the right. (*cxlviii.*)

CXLVIII.

Di.—In Greek compounds = two.
‡ *Diachenium, Diakenium.*—Same as *Cremocarp.*
Diachyma.—The green cellular matter of leaves.
Diadelphous.—Consisting of two parcels of stamens or fraternities (SB. 53).
Diagnoses.—The short characters or descriptions by which plants are distinguished from each other.
Dialypetalus.—The same as *Polypetalous.*
Dialyphyllus.—The same as *Polysepalous.*
‡ *Diaphysis.*—A præternatural extension of the centre of the flower, or of an inflorescence.
Diaphanus, ‡ *Diophanus.*—Transparent, or nearly so.
Dichlamydeous.—Having both calyx and corolla.
‡ *Dichogamus.*—When the florets of an inflorescence are of two separate sexes.
Dichotomia.—A forking or division by two. (adj. *Dichotomus,* ‡ *Dichotomalis*)—Having the divisions always in pairs; a term equally applied to branches, or veins, or forks. (*cxlix.*)

CXLIX.

Diclinous.—Having the stamens in one flower and the pistil in another.
Diclesium.—A one-seeded indehiscent fruit inclosed within a hardened perianth, as in the Marvel of Peru.
Dicoccus.—Splitting into two cocci.
Dicotyledonous.—Having two cotyledons.
Didymus.—Double; growing in pairs, as the fruit of Umbellifers; ‡ divided into two lobes, like the prongs of a fork.
Didynamous.—Having two stamens longer than the two others (SB. 173, 2).
Digitatus.—When several distinct leaflets radiate from the point of a leaf-stalk. (*cl.*)



CL.

584. When a separation in the pericarp takes place across the cells horizontally, the dehiscence is *transverse; Ex.* Anagallis.

585. If the dehiscence is effected by partial openings of the pericarp, it is said to take place by pores; *Ex.* Poppy.

586. Sometimes the cells remain closed, separating from the axis formed by the extension of the growing point (230); *Ex.* Umbellifers, Euphorbia.

587. Or the cells open and separate from the axis, which is formed by a cohesion of the placentæ which separate from the dissepiments.

All these are cases of central placentation, and are much more common than is supposed.

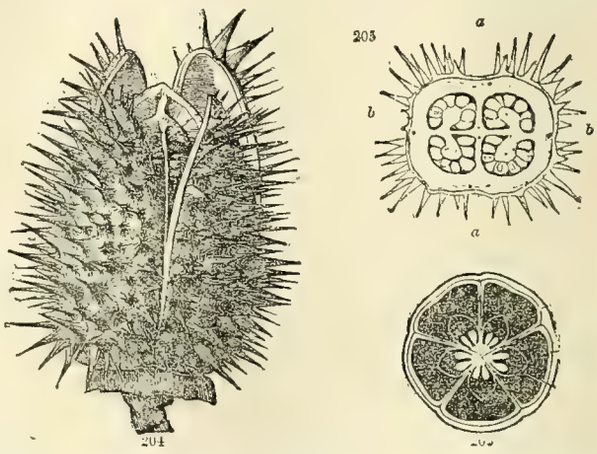
588. Sometimes the dissepiments cohere at the axis, and separate from the valves (578) or back of the carpels, when the dehiscence becomes *septifragal*[204].

In such cases the dissepiments are either composed of mere placentary plates, or of the sides of carpellary leaves.

589. The dissepiments of a fruit are usually formed by the confluent sides of carpellary leaves (480), and are placed at right angles to the axis.

590. But peculiarities of structure interfere with this rule, and give rise to spurious dissepiments having a different position.

Thus in Stramonium[204] one dissepiment[205] *a a* is produced by the sides of carpellary leaves, and another *b b* by the confluence of the placentæ and a projection of the dorsal suture. In Nigella[206], on the other hand, where 10 cells occur in a fruit



derived from 5 one-celled follicles (596), the 5 additional cells are spurious, and caused by the separation of the endocarp from the mesocarp; in this instance the anomalous dissepiments are formed by the endocarp, and the spurious cells are mere *lacunæ*, or air cavities.

591. All fruits are either *simple* or *multiple.*

592. Simple fruits proceed from a single flower; *Ex.* Pæony, Apple, Nut, Strawberry.

593. Multiple fruits are formed out of several flowers; *Ex.* Fir, Pine-apple, Fig. They are masses of inflorescence in a state of adhesion, and are called *anthocarpous.*

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ROYAL SOUTH LONDON FLORICULTURAL SOCIETY.

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HER MOST GRACIOUS MAJESTY THE QUEEN.

THE THIRD EXHIBITION this Season will be held at the ROYAL SURREY ZOOLOGICAL GARDENS, on TUESDAY, June 20, 1848. Open to all Exhibitors: when Prizes will be awarded for the following collections, viz.—Miscellaneous and Orchideous Plants, Pelargoniums, Cape Heaths, Roses, Ranunculuses, Pinks, Calceolarias, and Fruit. In addition to the above, the following Members offer Extra Prizes. Messrs. J. and J. Fairbairn, to Amateurs, for Cape Heaths; Messrs. Paul and Son and Mr. E. Denyer, to Amateurs, for Roses; W. Meates, Esq., and W. Betham, Esq., to Nurserymen, for Roses in pots; and by Subscription, for Seedling Pelargoniums of 1847 and 1848.

Lists of Prizes and the Rules of the Society may be obtained from JOHN TAYLOR NEVILLE, Secretary.

Ebenezer House, Peckham.

The Gardeners' Chronicle.

SATURDAY, JUNE 17, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

MONDAY	June	19	Chemical ..... 8 P.M. Statistical ..... 8 P.M.
			Royal South London ..... 1 P.M.
TUESDAY	—	20	Linnean ..... 8 P.M. Civil Engineers ..... 8 P.M.
WEDNESDAY	—	21	Microscopical ..... 8 P.M.
THURSDAY	—	22	Medico Botanical ..... 8 P.M.
SATURDAY	—	24	Royal Botanic ..... 8 P.M.
MONDAY	—	26	British Architects ..... 8 P.M. Geographical ..... 8 P.M.
TUESDAY	—	27	Medical and Chirurgical ..... 8 P.M. Zoological ..... 9 P.M.

COUNTRY SHOWS.—Monday, June 19: Aylesbury Floral and Horticultural.—Tuesday, June 20: Weald of Kent Horticultural.—Thursday, June 22: Maidstone Horticultural, Chichester Horticultural.—Friday, June 23: Devon and Exeter Horticultural, Staines Horticultural.—Tuesday, June 27: Edinburgh and North British Gardeners'.—Wednesday, June 28th: Manchester Horticultural.

A POURING rain and a sunless sky are not favourable to HORTICULTURAL EXHIBITIONS under canvas; and therefore the meeting at Chiswick on Saturday last was a failure. Nevertheless, although the beating of the rain drops on the tents almost drowned the sound of the musical instruments, as well as the visitors, and although the lawn had become a swamp, 870 persons, among whom was the Duchess of SUTHERLAND, Lady HOWARD DE WALDEN, Lady BRIDPORT, and Lady CHARLOTTE DENISON, had the courage to face the storm.

But if it was a failure as a meeting, as an exhibition it was a triumph. The Azaleas were hardly missed, so rich and varied were the tints of the gaudy plants that took their place, and so admirable their cultivation. Of some of them indeed we want words to express the merits. It was on this occasion that Mr. PARKER showed how Pelargoniums may be grown; no stiff and sticked formality was there, but the easy and graceful forms of Nature, assisted only, not constrained. Roses too in pots from Messrs. PAUL, of Cheshunt, deserved much commendation for the same reason; they formed a group of beautiful bushes on one of the semicircular tables and were universally admired, although not large enough for the space allotted to them. It is evident that with a little management they would be admirably suited for masses; far better indeed than for exhibition in line, as is their usual fate. The Roses from Mr. FRANCIS, beautiful as they were, were spoiled by the ungainly sticks. Ferns are beginning to form a striking feature, and deserve the favour they enjoy; they however require to be somewhat better selected, so as to produce more variety of foliage. One of the objects in growing them is to have at hand a constant supply of the most charming foliage for stands and vases of flowers in sitting rooms. No one who has not seen them thus introduced can form a notion of the beautiful effect they produce when arranged with the taste which is displayed by many English ladies. For such purposes however some are too coarse, and others too tiny. Collectors should bear this in mind. They will easily understand what we mean if they compare the exquisite beauty of Cheilanthes lendigera, perhaps the most admirable of all Ferns, with the broad uninteresting foliage of such plants as Polypodium aureum and its allies.

In addition to fine cultivation the growers of flowers produced some striking novelties. Among *new species* there was the glorious golden and yellow Browallia Jamesoni—a hardy greenhouse shrub, a most delicate new Hoya from Moulmein, together with a rosy Peruvian Oxalis, with a purple eye, to which the judges hardly did justice, all from Messrs. VEITCH. Mr. MYLAM produced the superb Vanda Batemanni, rich purple on the outside, golden yellow within; but it was a poor specimen, the plant not being old enough to show its habit. Mr. HOLFORD's gardener, BASSETT, had the new Vanda fuscoviridis, a nice, though not very showy species. Mrs. LAWRENCE included among her collection a wonderfully fine yellow and brown Mormodes, probably a variety of pardinum; and there was a glowing crimson Chironia glutinosa from Messrs. HENDERSON's.

Of *new varieties*, the most striking, to our taste, was a dwarf, compact bush of Erica ventricosa grandiflora, supplied by Mr. GLENDINNING, of the Chiswick Nursery. This plant is perfectly different from a variety, under the same name, shown by Messrs. ROLLISSON, its rich, rosy colours being far more vivid, and its flowers nearly twice as large; in fact, it deserved its name, which the other did not.

The fruit was better than in May; in some respects excellent. Some Alice Maude Strawberries, from Mr. LIDYARD, of Bath, surpassed everything that had before been seen; one might say that the old adage of "two bites to a Cherry" required in their case to be doubled. Mr. ROBERTS', gardener had three bunches of beautiful Black Prince Grapes; Mr. MITCHELL, of Brighton (whose place, by the bye, should be visited by everybody who wishes to know how to garden well and profitably: we regard it as a model), showed some capitally swelled Black Hamburghs; so did Mr. INGRAM and Mr FLEMING. We were, however, disappointed in the competition for large bunches. The prize was won by Mr. S. BARNES with a bunch of Black Hamburgh weighing only 2 lbs. 5 oz., and among market gardeners by DAVIS, of Oak-hill, with what was called a bunch weighing 3 lbs. 4¼ oz., but which in reality was two bunches, and ought to have been on that account rejected. Some of the Melons were very good. In particular, a hybrid variety from Mr. FLEMING again attracted the particular attention of the judges; but one of the best, called "PITT's Improved," from Mr. DRUMMOND, of Pontypool Park, arrived after the exhibition was over. Of the Pines we can only say that the best were middling, and the worst were—no matter what. Upon the whole, we are constrained to add that as flower-growers gain ground, the fruit-growers are losing it; that is to say, the fruit-growers who exhibit. This is much to be regretted, and we trust that on the 12th of July the country gardeners will come forward to vindicate the reputation they have earned with so many years of industry and skill. It is lamentable that the visitors to these exhibitions should go away with the conviction that the spirit of the English fruit gardener has departed from him. That it is not so we know full well, and most willingly testify; but the public has no such information, and forms its opinion upon the specimens produced at the meetings of the Horticultural Society. This is a real and serious injury to the great country gardeners; and if we were one of them, we should regard it as a point of honour that the misapprehension should be removed without loss of time.

IN inquiring into the nature of the soils best suited to the culture of COTTON, we have first to determine whether we should take the soil of the wild or that of the cultivated plant as our standard. There is no doubt, that, in cultivating a new plant it is of the first importance to obtain accurate and detailed information respecting the site, soil, and climate in which it is found growing naturally: as for instance, if we could obtain and attempt to grow any of the valuable Cinchonas, or the Myrrh tree or rose-wood in new situations. But with a well cultivated plant, the case is different. In the first place we are unacquainted with the wild state of many of our most extensively cultivated plants, and no one need search for wild Wheat before he commences cultivating that most valuable and now generally diffused cereal, because in fact success has given much, if not all, the information for which we are obliged to seek in the case of a new plant. Culture, moreover, is calculated to favour the secretion of some, and to prevent the formation of other products of plants, as, to cite familiar instances, is the case of the Carrot and the Lettuce, neither of which should we take in their wild state as guides in cultivation, unless we wished to employ them as medicines. In the case of Cotton the product is a natural one, but we have only vague information respecting the plants in a wild state, and no proof of the quality of this staple, nor of the quantity in which this is produced; both of which are most important considerations for the planter who looks to profit. We shall, therefore, take the soils of Cotton fields, where that staple is already produced, as examples which it is desirable to imitate or to avoid, though not neglecting any information obtainable from the state of the same plants in a wild state, because these often give us hints respecting their powers of existence under different circumstances.

Before determining on the soil which would, *à priori*, appear best suited for the production of the Cotton plant and its wool, we should refer to the chemical analysis of the ashes of an entire plant, so as to be certain about what it takes up from the soil. But unfortunately no such experiment has yet been made. We know that like all other vegetable matter the Cotton plant must contain carbon, with oxygen, hydrogen, and nitrogen, all of which it may and probably does obtain from the atmosphere. The seeds secrete a good deal of oil, for which an excess of hydrogen will be required. We are glad to be able to refer to an analysis of the ashes of Cotton wool by Dr. [illegible] and chemist having slowly burned 2000 grains of clean Sea Island Cotton [illegible] thoroughly incinerated the [illegible] so as to consume every particle of [illegible], a light grey ash was obtained, [illegible] of six similar experiments [illegible] nearly 1 per cent. of the Cotton used.

One hundred parts of the [illegible] contained—

1. Matter soluble in water, [illegible]	
Carbonate of potash	[illegible]
Muriate of potash	[illegible]
Sulphate of potash	[illegible]
2. Matter insoluble in water.	
Phosphate of lime	[illegible]
Carbonate of lime	[illegible]
Phosphate of magnesia	[illegible]
Peroxide of iron	[illegible]
Alumina and loss	[illegible]
	100.0

Sea Island Cotton is cultivated on a range of islands lying along the coast of South Carolina and of Georgia from 32° 30' to 30° of N. lat. Mr. PIDDINGTON, of Calcutta, having received some of this Sea Island Cotton soil, describes it, when dry, as appearing like a mixture of fine dark grey sand and charcoal dust, with fragments of shells, wood (both dry and charred), twigs, leaves, and even the shells of Cotton seeds. But the land-agent who sent it stated: "In order to view this soil as it is, wet it, as though a shower of rain had fallen upon it." Upon sifting nine ounces of the soil, eight ounces passed through muslin in the state of fine sand mixed with charcoal looking dust. The remaining ounce was coarse sand, with fragments of shells and vegetable rubbish. Upon burning some of the dark coloured powder in a glass tube, acrid and highly disagreeable smoke was evolved, such as characterises the peats and lignites, whence Mr. P. considers it to be lignite or peaty matter in the state of very fine powder, of which a portion is readily taken up by cold water. Another specimen of Sea Island Cotton soil, of a uniform brown colour, was also analysed. On analysis 100 parts of the fine sifted parts of these soils yielded—

Saline matter, muriates of lime and soda, but no potash	[illegible]	[illegible]
Vegetable matter, mostly lignite or peaty powder, with a little water	[illegible]	[illegible]
Iron (protoxide)	[illegible]	[illegible]
Lime (carbonate)	[illegible]	[illegible]
Alumina	[illegible]	[illegible]
Silex	[illegible]	[illegible]
	99.15	99.55
Water and loss	.85	.45
	100	100

Uplands Georgian Cotton received its name from being cultivated in the interior of that state. From the sea coast to the interior, for a considerable breadth, the country is level and the soil a sandy loam. Beyond these places stretch the hilly undulating tracts which have a deep black loamy soil. Analyses of the soils have been made both by Mr. PIDDINGTON and by Professor E. SOLLY. The former obtained some upland Cotton soil from what was stated to be one of the best estates. It was a light, fawn-coloured, sandy soil, with coarse particles of silex, of felspar, and of shells, some peaty much divided vegetable matter, but without any saline matter. Analysis yielded—

Extractive matter, but no saline	0.10
Vegetable matter, peat or lignite	[illegible]
Iron (protoxide)	1.25
Alumina	[illegible]
Lime, carbonate of	[illegible]
Silex, coarse grains	[illegible]
	99.25
Water and loss	.75
	100.0

Professor E. SOLLY analysed the soils of four Georgian cotton farms obtained by Lord PALMERSTON from Mr. CONSUL MOLYNEAUX. One plantation was much elevated; the land of a deep chocolate colour, and yielding from 10[illegible] to 1[illegible] lbs. of seed Cotton to the acre. A second was said to produce the best Cotton in the state of Georgia. A third was situated in a limestone region, "which invariably grows a good product." A fourth was a specimen of poor land, and the quantity of its Cotton is what is termed "deficient in staple." Mr. S. observes that these were all of a similar nature, their difference being merely in the relative quantity of the constituents. The structure of all was light, porous, and friable, of such a nature as to possess a considerable retentive power for water, and yet, from its openness, to allow of a sufficient degree of drainage. They consist mostly of sand, the poorest of little else. They also all contain alumina, oxide of iron, and manganese, but with hardly any lime. The organic matters consist either of decayed portions of plants, &c., or very finely divided and soluble matter: these in the soils vary from 4 to 8 per cent., and in the subsoils from 1 to 1½ to 4 per cent. The soils also contain traces of saline matter.

Cotton culture, it is well known, extended from

Georgia into South Carolina, west into the hilly country, and into all the southern states, that is into the alluvial plains of the Alabama and Mississippi. The soil here is a rich fertile alluvium, of a blackish colour, no doubt containing much organic matter, but we have seen no analysis of it.

Mr. PIDDINGTON also analysed some Cotton soil of the best description from the Mauritius. This consisted of saline and extractive with vegetable matter, protoxide of iron, and of carbonate of lime, as much as 40 85 per cent., with a trace of magnesia, alumina, and silex. Some soil from Singapore, in which good Cotton had been grown, was found to resemble the peaty soil of the Sea Island Cotton, with only a trace of iron, no alumina, and little carbonate of lime or saline matter. The Egyptian soil in which excellent Cotton is cultivated is described to be of a sandy nature but enriched by the deposits of the Nile.

In contrast with these soils, it is desirable to compare those in which Cotton is cultivated in India. Of these, one is distinguished by the name of the "Black Cotton soil," in which native Cotton is much cultivated, and which seems to extend with very little variation from Bundlecund nearly to the south of the Peninsula. Mr. PIDDINGTON describes the soil, when dry, as a dark brown, heavy clay, interspersed with soft nodules of *kunkur* (or calcareous concretion, containing from 50 to 80 per cent. of carbonate of lime, some magnesia, iron, and alumina), which forms, with water, a tenacious clay that dries into tough lumps. It differs from the American soils, in displaying no trace, when heated, of any lignite or peaty matters. The lime is in larger proportion, and the silex in the state of a fine powder. Mr. PIDDINGTON's analysis corresponds very nearly with one given by Dr. SPRY.

Mr. E. SOLLY obtained 9 per cent. of carbonate of lime in a specimen which he examined.

	Bundlecund.	Coimbatore.
Vegetable matter	2·00	2·30
Saline	0·33	trace.
Iron protoxide ? (and extractive)	7·75	4·00
Lime (carbonate of)	11·90	7·50
Magnesia	trace.	trace.
Alumina	3·10	2·80
Silex	74·0	82·80
	99·0	99 40
Water and loss	1·0	·60
	100·0	100·00

The red soil of India which is produced by the disintegration of granitic rocks, and in which American Cotton has been usually found to succeed better than in the black soil, differs from this, especially in the iron being in the state of peroxide or red oxide. It may be described as a coarse yellowish red soil, intermixed with small fragments of *kunkur*, of silex, felspar, and aluminous earth. The finer parts formed about one-half of the whole, and in analysis yielded—

Extractive and saline matter	0·20
Vegetable matter	0·15
Iron peroxide, with some carbonate ..	2·83
Carbonate of lime	19 50
Magnesia	0·15
Alumina	2·00
Silex	74·00
	98·83
Loss ..	1·12
	100·

We shall proceed to observe on these soils and the climate of Cotton districts on another occasion.

OUR attention has been drawn to a very curious disease with which some PEAR TREES have been affected for the last year or two. We are not aware that it has been hitherto noticed by our correspondents, but it is not new, as it was observed in Belgium by Madame LIBERT in 1832, and in the north of France, some eight years since, by DESMAZIERES. It does not, however, appear that the cause of it was considered by them as a destructive parasite, but simply as a new form of mould. We notice this merely to show that it has not any especial connection with the Potato blight, either as regards natural affinity or physical origin. It appeared, too, in both instances, in the autumn, and not before the development of the midsummer shoot.

The disease was first observed by one correspondent three years ago, in the same year with the Potato malady, and it has become worse in each succeeding year. At first the leaves only were attacked, but now the disease has reached the young shoots, which are blotched with it, and in some cases quite distorted. Two Jargonelle Pear trees are attacked by it, the one a standard and the other on a wall. The former is fully exposed to sun and air, and till the parasite made its appearance was remarkably healthy and fruitful. It is now, however, quite evident that the injury the leaves sustained last year has had the effect of rendering the tree unfruitful this year.

Just as the leaves have arrived nearly at their full growth, little round patches appear on their underside, of a delicate olive green, mostly parallel to the midrib and often near to it. In this stage of growth there is no indication on the upper surface of the presence of the parasite, but as the spots increase and become confluent they appropriate to themselves the subjacent nutriment, and the upper surface soon becomes black and discoloured, and, finally, they are ruptured in the centre, and the leaves to a greater or less extent wither and decay, especially when the petioles and young shoots are involved in the malady.

The parasite is of a very simple structure, consisting of extremely short mostly unbranched knotted threads, to which are attached ovate-oblong, more or less pointed spores, which often contain two or three nuclei. It is referred by LIBERT and DESMAZIERES to the genus Helminthosporium, but it appears to us a Cladosporium, a genus which in more than one instance attacks living plants. Too little is known of the manner in which these minute parasites are introduced into the tissues to indicate a certain remedy. The best chance, as in all such instances, where practicable, is to pull off and burn the affected portions, and we would suggest too the propriety of removing the surface soil and substituting some not from another part of the same garden, but from some good pasture.

We should be obliged by our correspondent forwarding a few more leaves, in the course of two or three weeks, not from newly attacked portions of the tree, but from those already affected, that we may ascertain whether the fungus exhibits any difference of structure when quite mature.—*M. J. B.*

THERE is in the trade a STRAWBERRY called the ABERDEEN BEEHIVE, concerning which we have had many inquiries. Our answer has been that we know nothing about it; from which it might have been inferred that we had no reason to give it a good character. The other day we received from a correspondent the following letter, and a specimen of this "Beehive."

"*Manchester, June* 8, 1848.

"SIR,—Enclosed I send you a truss of Strawberries, the produce of a strong plant of the wonderful Aberdeen Beehive, obtained direct from Mr. MATHEISON last autumn. The sample is equal to anything produced in this district from plants received at that time. I should suggest that Mr. M. will forward for your inspection his sample, in order that we may know what we have been paying such an enormous price for.

"RICHARD S. YATES, *Sale, Cheshire.*"

The specimen which reached us was very much like the Grove-end Scarlet, if not the same; it was a poor thing, and wholly undeserving the character of either a novelty or an improvement. Upon the propriety of bringing such a Strawberry into the market at a high price it is needless to offer an opinion. Of course the vendor will return all the money he has received for it, and also recompense his customers for their disappointment.

We advise buyers of such plants in all cases to refuse to purchase until there is such public proof of their value as may be gained at some great exhibition, or at least till the world has the testimony of those who are known to be uninterested and incapable of a bias. It is almost indispensable for the public that what are called novelties should receive the warrant of those who, to inflexible honesty of purpose add an experience in detecting impositions and a highly cultivated taste. If the vendors of so-called novelties are afraid of such a test, buyers will do well to be afraid of their representations.

It is possible, indeed, that buyers may not always agree in the judgment of those to whom we advise them to defer: but in the long run they will find that opinions publicly expressed by men of knowledge and character are the best guide they can follow. It will generally happen that the cause of disappointment under such circumstances, if disappointment there be, lies with the unskilfulness of ordinary cultivators, and not with the judgment publicly pronounced. A striking example of this is before us.

It is now some time since Mr. GRIGOR, of the Forres Nurseries, produced an AQUILEGIA GLANDULOSA, of which we gave a very high character, in consequence of which his advertisements in our columns produced him a vast number of customers. From some unexplained cause, it would seem that the English cannot grow this species as it is managed in Scotland, and hence it has fallen into disfavour, and has never yet been seen, that we remember, at any of our great metropolitan exhibitions. Nevertheless, this plant is, perhaps, the handsomest hardy perennial in cultivation; its stems rise about 2 feet high, and sometimes carry from 50 to 80 blossoms each. We have a plant now before us, which, after a journey from Scotland, has 21 expanded flowers, each 3½ inches in diameter, with broad, thin, delicate, spreading sepals, of the deepest ultramarine blue, surrounding five shorter petals, the upper half of which is pure white, resting on an azure ground. The effect is beautiful in the extreme; and no description that we have formerly given of it has done justice to its exquisite appearance. We cannot too strongly recommend those who possess it to set about learning how to grow it. If Mr. GRIGOR will give us a detailed account of his mode of management, we shall be only too happy to publish it in our columns.

CAPE HEATHS.—No. X.

QUITE a *bijou* among flowers is Erica odore rosæ—a fit occupant of a lady's boudoir. One is at a loss which to admire the most, the chasteness of outline of its blossoms, their purity of colour, or delicacy of perfume. Nor are any of its beauties transitory. Weeks witness no change in its appearance; and decay, when it does come (as come it will), is so gradual in its work of destruction that regret is relieved of its poignancy, and dies with the object it mourned. As both flowers and foliage are viscid, care should be taken that no dust or rubbish come in contact with them; as, such being difficult of removal, much of the beauty of the plant is destroyed. It is a weak rooting species, requires little pot room, and is an abundant bloomer.

Like the species above described, as regards delicacy of appearance, and no less beautiful in every other respect, is propendens. A more profuse-blooming Heath cannot be named. As its foliage is very minute, and the leaflets closely set, it is liable to the attacks of mildew; and as from it, and specimens of a like character, the annoyance is difficult of removal, a loss of much of its beauty is frequently sustained from such an attack. Much care is requisite in establishing the health of delicate specimens after profuse bloomings. They frequently die at this period. The whole vital energies of the plant seem prostrated, and if the specimen requires repotting, the operation cannot be performed too carefully, nor its after condition too assiduously attended to. Here appropriately might be placed denticulata moschata, which is neat in habit, profuse, but not showy in the production of its blossoms, which are of a pale lemon colour, the reflexed limb of each segment being a few shades deeper. When in bloom, a delicate odour, savouring sufficiently of musk to render it agreeable, is emitted.

Another easily cultivated and desirable Heath is campanulata, which is similar in habit, and in the shape of its blooms, to propendens, to which it is a fit companion. The latter a dark lilac, and the former a yellow, afford a good contrast in colour. Campanulata is not so profuse a bloomer as propendens, and its flowers are somewhat hid by the foliage, which detracts somewhat from its attractions. As my intention is merely to point out a few of the more easily cultivated and desirable species and varieties, apologies need not be offered for the indiscriminate manner in which they are selected. Quite distinct from those previously described is Willmorei superba, which, when in good health and blossom, is a magnificent Heath. It belongs to the tubular section; it is a luxuriant grower, an abundant bloomer, and requires a liberal application of the knife to keep it in order, as regards habit. Shoots 12 or 18 inches in length, densely set with blossoms, have a noble effect.

The vestitas are all deserving of cultivation, rosea perhaps claiming paramount attention. Amongst the ventricosas it would be difficult to particularise; superba is magnificent, and is well known to most lovers of flowers, but for chasteness and delicacy, hirsuta alba must bear away the palm; dwarf and compact in habit, liberal in blossom, and of moderate growth, it addresses itself to every grower, however moderate his means of accommodation. Its delicate waxy blossoms defy description.

Those who can accommodate only small collections, of course aim at procuring as distinct species as possible. Those who possess andromedæflora, a delicate looking and beautiful Heath, need not procure pomifera; the difference is scarcely discernible, except in name. Again, Bonplandii is but a retrograde remove from trossula, although both are exquisite Heaths; indeed, trossula is superb. Previously to the expansion of the buds it is a charming plant, and after expansion, when the colour is the faintest remove from white, the changes are beautifully gradual to a delicate rose tint.

Thunbergiana is a peculiar Heath, externally almost unlike one, and when pale in colour and scantily in bloom, unnoticeable in a good collection; but quite a picturesque object when the reverse of this. Its colour is then peculiar and rich, and it produces its quaint blossoms in abundance. Its pale pea-green foliage and orange-vermilion flowers afford a beautiful contrast.—*G.*

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

GENERAL MANAGEMENT OF THE FLOWER-GARDEN.—The late rains, while they have delighted every gardener, have increased his responsibilities and labours. So heavy were some of the showers that the ground is pressed into a compact mass, unfavourable to the growth of plants recently bedded out, transplanted annuals, &c. The rake must therefore be carefully applied as soon as possible, that, the surface being pulverised, every facility may be given for healthy and rapid growth. The soil being like a hotbed, weeds will almost suddenly come to a great size, and hoeing and raking

must diligently keep them down. A few days' rain and wind show a gardener his weak points in reference to staking and tying-up. All things before neglected in this way should be attended to immediately; for Hollyhocks, and similar growing plants, if laid down by the wind, will turn up their tops vertically, and it will be afterwards difficult to get them erect. Flower-stakes long and strong enough, and use strong cord for fastening; otherwise, when the flowering plants are in their glory, and a gusty wind arises, the peaceful slumbers of the night will be contested with vexation and wrath, as you see in the morning your favourites prostrate on the ground. Hollyhocks, and similar herbaceous plants, if not done before, should be thinned out previous to this final tying; three or four stems will be better than a dozen, which is often the number a flourishing Hollyhock will produce.

Everything should now be in the place it is intended to occupy in the flower beds, for, generally, nothing put out after the middle of June will make much show, unless, indeed, at the time of removal, it is a full grown plant. Allow for the growth of everything, that in a short time the beds may be filled. Verbenas, Petunias, and other creeping plants, should be trained and fastened with neat hooked sticks, or brushwood may be stuck all over a bed, and the plants allowed to climb and trail among it; this plan produces a good effect, and is practised in the extensive pleasure-ground of Colonel Sowerby, of Putteridge, Bury. Small beds of Verbenas look beautiful when surrounded with basket-work, made either of wire or Osiers. In short, taste and judgment are now demanded, and if exercised in time, the happiest results will follow. It is lamentable to see how time and money are thrown away in some gardens through the absence of a presiding spirit to do for the plants and flowers what Milton represents as one of the occupations in Paradise of Adam and Eve.

Look over all young standard Roses, and where strong branches of the head appear heavy, protect them, or a high wind may rend away the whole graft from the stock. Only this week I saw in the garden of a friend several heads thus destroyed, from the want of proper protection. Two years at least must elapse before a budded Rose can be safely left to itself.—*H. B.*

ENTOMOLOGY.

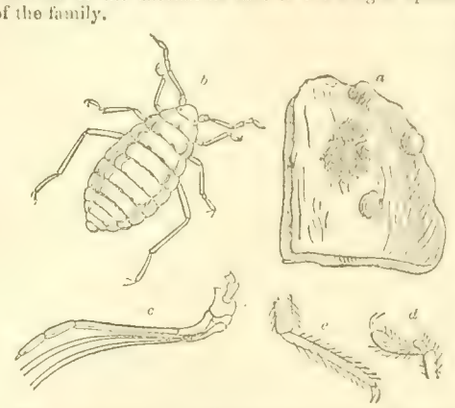
The Jerusalem Artichoke Aphis.

It is surprising that notwithstanding all the suggestions which have been made for substituting some vegetable in lieu of the Potato for the consumption of the lower classes, so little advance has been made in rendering general the use of such plants of easy growth as the Parsnip, Beet-root, and Jerusalem Artichoke. The last of these vegetables is even easier of cultivation than the Potato, and when properly cooked, either boiled or roasted, is relishing and nutritious. Another great advantage which it possesses to a greater degree even than the Potato, is its comparative freedom from insect enemies. The strong growth of the leaves and stem seems to defy their attacks, and it is very rarely indeed that any damage is caused by insects to the roots; in fact, the only insect which we have hitherto found peculiar to the plant is the Aphidoous insect represented in the accompanying woodcut.

Among the many singularities presented by the different species of plant lice (Aphidæ) which render their examination and investigation very worthy of the lover of Nature, there is one which has been but little noticed, namely, that several of the species live underground; these species being, as might indeed be imagined from their peculiar habits, destitute of wings, which would of course be useless to them in their underground retreats. Several of these species have been described by continental authors, and have been formed, from their structural peculiarities, into different genera, such as Forda, Trama, Paracletus, and Rhizobius. Several of the species of which these genera are composed are found in the nests of different species of ants, the fondness of which for the saccharine matter discharged by the aphides is well known; but some at least of these underground species do not possess saccharine tubercles, so that it is unknown for what purpose they occur in the ants' nests, or what can be the nature of their food, as it does not appear probable that they can obtain nourishment from the particles of vegetables laid up in store by the ants, either for provender or the construction of their nest.

The species before us, however, confines itself to the surface of the tuber of the Jerusalem Artichoke, thrusting its long proboscis into its substance, and thereby obtaining its supply of food. We have found these insects in the middle of winter on digging up the tubers of this plant, generally secreting themselves in the crevices formed by the juxta-position of two or more of the tubers. Here they are to be found in small societies, consisting of one or two large individuals (females) and a few smaller and more slender ones (young). Our figure *a* represents one of these little communities upon a portion of a tuber. Of course were they to occur in great numbers they would deteriorate the quality of the vegetable, but we have seldom found above two or three dozen upon some of the scattered tubers.

The full-grown insect is opake white, with a slight buffish tinge, finely sericeous and setose; the head and first segment of the body with a slightly greyish-brown tinge, and the legs and antennæ of a light buffish brown. Fig. *b* represents a full-grown female magnified. The antennæ are moderately long, and apparently six jointed, the third joint being the longest; under a powerful lens the extremity of the [illegible] articulation. The mouth is [illegible] manner as that of all the Aphides, [illegible] terous and haustellated. [illegible] determined; for the [illegible] from Circæ and Cicada, [illegible] calcarders of insects, that they [illegible] formed by some recent [illegible] tinct order; and [illegible] and A. Smee) have observed the [illegible] as only furnished with [illegible] represent the tongue, and [illegible] or maxillæ, whereas the upper lip is [illegible] and, by careful [illegible] closed with [illegible] these insects to possess [illegible] mandibles and two maxillæ; [illegible] more slender than the other pair. [illegible] the head (with the two basal joints of the antennæ), the four-jointed proboscis, closely applied beneath; the four setæ detached at the extremity of the first joint of the proboscis, and the short pointed upper lip, which is here horizontal and carried forwards. The four anterior legs offer nothing peculiar; their tarsi are two-jointed (fig. *d*), but the two hind legs are inserted quite at the sides of the body; they are long, with a long tarsus composed of a single joint (fig. *c*), and are furnished only with two hooks. The peculiar lateral insertion of this pair of legs enables the insect to throw them upwards, backwards, and forwards, in the same manner as a Dytiscus throws its hind legs about. We observed that they used these hind legs as feelers. The abdomen is destitute of the saccharine tube of the winged species of the family.



This insect enters into Burmeister's genus Rhizobius, and possibly into that of Trama of Van Heyden; but, as Kaltenbach describes the latter as having the antennæ short and apparently seven-jointed, we have retained the insect in the former genus, and have named it specifically Rhizobius Helianthemi. (Proceed Entomol. Soc, January, 1843, Ann. Nat. Hist., xiv. 453.) It has been suggested (Reports of Zoology, Ray Club, 1844, p. 398) that this insect is probably the Trama radicis of Kaltenbach (Monogr. der fam. der Pflanzenlausen, vol. i. p. 211); but that insect feeds on the roots of Leontodon Taraxacum, Cnicus arvensis, Sonchus oleraceus, Lactuca sativa, and Hieracium Pilosella.—*J. O. W.*

Home Correspondence.

Wintering Hydrangeas.—Although the Hydrangea hortensis is a common plant it is a favourite with many yet, and would be more extensively grown by cottagers and others if they had winter accommodation for it. Perhaps the following mode of preserving it through the winter may be new to some of your readers. Last year a friend tried to preserve a few half hardy plants, by putting them on a shelf within a covered well, expecting the heat from the water to keep the frost from the plants. The well had a roof upon it facing the south, and a door facing the north; in arranging the plants a Hydrangea fell into the well, it was allowed to remain as it was, in an upright position; and as it liked to have plenty of water during the summer, it would not want for it in winter, and also be beyond the reach of the frost; it was not perhaps the best place of abode for it, however the plant lived, and when the weather began to get warmer it put forth leaves although 3 feet beneath the surface of the water. Many such plants might be saved with little trouble, by placing them in ponds or other places where the frost would not reach them.—*P. M.*

Strawberries.—A gentleman who is said to be a very successful grower of Strawberries, told me his plan is the following. He makes the substratum of his Strawberry beds of stones or rubbish, and does not put more, at most, than 6 inches of earth over this. He attaches great importance to this, as he says when the plants can throw their roots into a deep soil they produce leaves not fruit: secondly, in winter he covers them lightly with straw, pea haulm, &c., and thirdly, in the spring, he top-dresses with leaf mould. He has beds which have borne profitably for five years without being renewed. Do your readers approve of this plan?—*C. E. P.*

Cockroaches.—The "phosphoric rat poison," is the only thing I have tried that makes any visible diminution in the number of cockroaches. I am clearing my house rapidly in this way. I spread (or rather place small pieces of) the poison on Cucumber rinds, and place them near their haunts; they greedily devour it, preferring rind with poison to rind without. The cock-

[illegible]

H. Cuming & Co., Manchester.

The Hawthorn.—[illegible] a Rhus [illegible] been to kill [illegible] species that have [illegible] not with the [illegible] is taken of [illegible] or at least [illegible] known in the [illegible] more than to be [illegible] common, we have [illegible] erected by the [illegible] dendron pontium [illegible] in the [illegible] a reason be given why the [illegible] in this one case, [illegible] *W. H.*

Pytchley Horticultural Society.—[illegible] tural Society through [illegible] beautiful. The number and [illegible] Geranium, Cineraria, [illegible] specimens from cottages who [illegible] come in free—was surprising. [illegible] Potatoes and small heavy, [illegible] Onions from the cottagers [illegible] believed. The cottagers [illegible] think as one's own, [illegible] bags of large size. [illegible] ceive it to any part of [illegible] Strawberries and new Currants [illegible] common glass: and the [illegible] large and graceful [illegible] flowers is great [illegible] tremely difficult task to adjudge [illegible] vegetables, the flowers or [illegible] the advantages to the cottagers [illegible] *W. Brown.*

Sporting Nature of the Laburnum.—[illegible] Laburnum, a large [illegible] summer, has gone [illegible] parentage (Cytisus [illegible] high in the stem [illegible] possibly these dingy red [illegible] I have observed [illegible] a branch of the common [illegible] all uncommon. [illegible] currence.] I shall [illegible] (Scilla autumnalis) [illegible] here, the two varieties with [illegible] —*C. P., York.*

Mildew.—Mildew in its worst form made its appearance on my Vines and Cucumbers [illegible] ago, and many others in this neighbourhood are in the same plight, and although air has been freely admitted both night and day, the evil is still on the increase. My Vines have not been syringed since [illegible], I therefore conclude that the disease [illegible] exist in the air or be caused from [illegible] at the root. Is this so, and what is the remedy?—*A Constant Subscriber, Dover, June 13.* [illegible] prevalent this year. Probably caused in the first instance by our cold, gloomy, rainy [illegible]

Yew Trees in Sheep [illegible] Injurious.—I have lately witnessed [illegible] which 13 sheep have been [illegible] by eating [illegible] having picked it from the [illegible] cut at any time previously [illegible] with the statement that [illegible] prove fatal if eaten, [illegible] from the trees by [illegible] to think is an error, and [illegible] because it [illegible] to persons who may [illegible] premises. In the [illegible] turned in [illegible] and it was the [illegible] from the trees, or eat [illegible] them. Several of them, however, were found [illegible] in the morning, and the [illegible] by. Six were [illegible] their stomachs [illegible] they [illegible] upon well known [illegible] had been on the same premises [illegible] *F. H. W.*

The Damask Rose.—[illegible] summer immediately after flowering, [illegible] this Rose [illegible] an [illegible] autumn? I pruned one in August [illegible] best results. It should also be known that [illegible] a kindly nurse for other sorts if budded upon it; which

will obviate the objection to a Rose occupying so much space, that its flowers are over so soon. Budded with Gloire de Rosamène, Bougère, and Lamarque, the plant would be seldom without bloom through the summer and autumn. With regard to Lamarque, however, it will be advisable to prune it late in spring, as its flowers are not wanted when the Banksian is in bloom.—*O. P.* [It is best to prune the Banksian immediately after flowering; its new shoots have then time to ripen before winter; they will hardly become inconveniently long, and if they do their points may be pinched off after the wood has ripened.]

Rain.—In a thunder-storm this afternoon (Monday June 12), 1.52 of rain fell between 3 P.M. and 5 P.M. The storm advancing from the S.S.W., and the wind being N.N.E. There was no hail, nor was the rain at any time excessively heavy, but a more steady and continued downfall I do not recollect to have seen in England.—*J. R., Sevenoaks.*

The Pea Weevil.—I have been annoyed by this pest here. I procured a hen and a batch of ducks, and in three or four days the depredators disappeared.—*Matthew Sharp, Newby, near Ripon.*

Birds.—I have a large fruit garden, at a little distance from my house, in a wooded country. For several years past I have lost nearly all my common fruit (Gooseberries, Currants, and Cherries), from the depredations of birds, the most formidable of which are the blackbirds. These often come into the garden in numbers before sunrise, and in a short time will almost strip a fruit tree. I tried nets last year, but it is difficult to apply them to separate bushes, and in many instances the birds were detected tearing the net to pieces; of course many birds were caught in this way, but not much fruit was saved; the attack is always made before the fruit is quite ripe. Can you suggest any remedy?—*Sussex, June* 12. [They can only be removed by—1, shooting; 2, poisoning; 3, trapping. The last is the best. You can hardly scare them away.]

Overgrowth of the Fir Stump.—Some time ago I was wandering in an old Fir wood; in some places the soil was shallow and the roots of the trees were in close contact with a rotten kind of basaltic rock, and in high winds some of the trees in exposed places were blown over; one tree, a Scotch Fir, I found had been blown over for some time and allowed to remain; it did not die, for some of its roots remained in the soil, but what was rather remarkable one of the large roots that was broken and exposed to all the vicissitudes of the seasons lived also and increased in size, and new wood and bark was extending over the splinters of the stump. Is this circumstance different from that noticed in your Paper of the 3d inst.—*P. M.* [Apparently.]

Societies.

HORTICULTURAL, *June* 10.—The SECOND SHOW of the season took place in the Garden at Chiswick on Saturday last. As the leading features of this great exhibition are to be found in another column, any introduction here is rendered superfluous. We will therefore commence at once to describe the scene in detail.

In large collections of STOVE and GREENHOUSE PLANTS, Messrs. Frazer, of Lea-bridge, were first. At the back of this group of fine plants stood a large, well-bloomed Polygala acuminata, which could not have been less than 4 feet through and as much high, and supporting it an Ixora grandiflora, of similar height; a beautiful Clerodendron Kæmpferi; an Epacris grandiflora, of large dimensions; a beautifully flowered Erica ventricosa breviflora, 3 feet high and as much through; E. ventricosa tricolor, forming a ball of flowers 2½ feet in diameter; Coleonema rubra, 3½ feet high, and covered with pink blossoms—perhaps the best plant in the collection; Statice macrophylla; a thinly bloomed Sollya linearis, on a cylindrical trellis, 5 feet high; Vinca rosea, and Azalea variegata. In front were Franciscea acuminata; a small, but well-flowered Ixora grandiflora; the pale, yellow blossomed Erica densa; E. pulverulenta, profusely covered with small pink blossoms; Chorozema varium nanum; Franciscea augusta, a prettier species than acuminata; the large, purple flowered Everlasting (Aphelexis purpurea macrantha); Boronia serrulata, the yellow blossomed Gompholobium splendens, a spreading Azalea lateritia, Leschenaultia formosa, a most beautiful Pimelea Hendersoni, the useful Sphenotoma gracilis; the Hoya-like Cyrtoceras reflexum; Dillwynia rudis, Erica Cavendishii, and the white flowered Pimelea hispida.—At the back of the collection contributed by Mr. Donald, gr. to Mrs. Lawrence, of Ealing-park, which was second, stood a specimen of Cereus speciosissimus, quite 7 feet high, and well bloomed; and, supporting it, a capital Pimelea decussata, of large dimensions; Stephanotis floribunda, on a cylindrical trellis, 7 feet high, hardly sufficiently advanced in bloom; a huge Erica intermedia; Clerodendron Kæmpferi; an Eriostemon buxifolium, flowering for the second time this year — thinly, however; a fairly blossomed Epacris grandiflora; Epiphyllum Jenkinsoni, covered with flower-buds; Statice macrophylla, Justicia carnea, the double-blossomed Tabernæmontana coronaria, Dipladenia crassinoda, the Tree Statice (S. arborea); Pimelea decussata, a complete ball of pink blossoms, 3 feet in diameter; the white-flowered Xanthosia rotundifolia, Jatropha panduræfolia, Cyrtoceras reflexum, a good plant of the white-flowered Vinca, Polygala Dalmaisiana, thinly bloomed, Azalea variegata, the purple variety of Aphelexis macrantha, Clerodendron paniculatum, the red variety of Dillwynia rudis, which is handsomer than the species; a white Stylidium and the purple blossomed Statice puberula.

To three collections of 15 STOVE and GREENHOUSE PLANTS, prizes were awarded in the following order: 1st to Mr. Green, gr. to Sir E. Antrobus, Bart., Cheam; 2d to Mr. Cole, gr. to H. Colyer, Esq., Dartford; and 3d to Mr. Kyle, gr. to R. Barclay, Esq., Leyton. Mr. Green's group was a capital one; it consisted of beautifully grown and well flowered plants of Dillwynia rudis, Aphelexis purpurea macrantha, Gompholobium splendens, Polygala cordifolia, a large Stephanotis floribunda, Leschenaultia Baxteri—a brilliant mass of red flowers, the yellow blossomed Erica Cavendishii, Sphenotoma gracilis, a large Phænocoma proliferum, the violet-purple flowered Tetratheca verticillata, a pretty plant when well bloomed; Allamanda cathartica, in beautiful condition; Aphelexis humilis, a Chorozema, and Leschenaultia formosa. Mr. Coles' plants, the next in point of merit, were also fine specimens of cultivation; they consisted of a huge Pimelea decussata, a somewhat thinly flowered Allamanda cathartica, a blue Leschenaultia, Sphenotoma gracilis, a small well flowered Ixora grandiflora, a Cape Heath, Azalea lateritia, neat plants of Pimelea Hendersoni and Ixora crocata, a purple flowered Everlasting, Azalea Gledstanesii, Tetratheca verticillata, Erica Cavendishii and Stephanotis floribunda.—In Mr. Kyle's group were good plants of Azalea variegata, Statice macrophylla, Clerodendron squamatum, Ixora coccinea, Boronia serrulata, Stephanotis floribunda, Dillwynia rudis, a beautiful little Aphelexis spectabilis grandiflora; Polygala acuminata, thin but well flowered; a fine plant, indifferently bloomed, of the Holly-leaved Mirbelia (M. illicifolia); and small plants of Erica Westphalingia, Pimelea decussata, Leschenaultia formosa, Euphorbia splendens, and Erica Cavendishii.

Collections of 10 STOVE and GREENHOUSE PLANTS were numerous. As many as 10 were staged, and of these, eight were rewarded with prizes. The best in point of merit was that shown by Mr. May, gr. to E. Goodheart, Esq., of Beckenham, Kent. It contained a well flowered spreading Azalea lateritia; Aphelexis sesamoides; Erica Cavendishii, in good condition; a large and fine plant of Crowea saligna, hardly, however, forward enough; Pimelea Hendersoni; a well flowered Erica ventricosa alba, 3 feet high, and as much through; a beautifully blossomed Leschenaultia formosa; Azalea Gledstanesii; and a capital Aphelexis spectabilis.—Mr. Taylor, gr. to J. Coster, Esq., of Streatham, from whom the next best collection came, contributed plants of Aphelexis sesamoides and humilis; Epiphyllum speciosum, finely flowered; Stephanotis floribunda, covered with flower buds, few of which were, however, expanded; Pimelea linifolia and decussata, Polygala cordifolia, Leschenaultia formosa, and Azalea variegata.—Mr. Jack, gr. to R. G. Loraine, Esq., of Wallington, who was third, sent a capital Franciscea acuminata; Erica tricolor, and E. perspicua nana; Epidendrum crassifolium; a well flowered Ixora coccinea; Aphelexis humilis; the blue and white flowered Torenia asiatica; Æschynanthus Javanicus, a pretty species; a beautiful Epiphyllum speciosum, quite a mass of flowers; and Leschenaultia formosa.—The collections of Mr. Bruce, gr. to B. Miller, Esq., of Tooting; Mr. Pawley, of Bromley; and Mr. Malyon, gr. to T. Brandram, Esq., Blackheath; were considered equal in point of merit, and were equally rewarded. Of these, Mr. Bruce sent the small white Epacris heteronema, Russellia juncea, Stephanotis floribunda, Aphelexis sesamoides and humilis, Erica depressa well flowered, Pimelea Hendersoni, the ever blooming Æschynanthus ramosissimus, Sphenotoma gracilis, and a blue Leschenaultia. Mr. Pawley contributed Stephanotis floribunda, trained over a large circular trellis; Oncidium altissimum, Azalea decora, a pretty rosy pink variety; and Erica Cavendishii. Mr. Malyon the same yellow Heath, the white flowered Calanthe veratrifolia, Vinca rosea and alba, Ixora coccinea, Phymatanthus tricolor, Erica ventricosa breviflora, Franciscea acuminata, the yellow blossomed Dillwynia floribunda, and Aphelexis humilis.—Mr. Carson, gr. to W. F. G. Farmer, Esq., Cheam; and Mr. Glendinning, of the Chiswick Nursery, sent collections, to each of which a Silver Knightian Medal was awarded. The former contributed a large Allamanda cathartica, a good Plumbago capensis, a large Stephanotis floribunda, Franciscea latifolia, a nice plant; Jatropha panduræfolia, a large Pimelea decussata, Clerodendron Kæmpferi, bearing a fine panicle of scarlet flowers; and the beautiful Dipladenia splendens bearing five open flowers.—Mr. Glendinning sent nice plants of Ixora coccinea, Cyrtoceras reflexum, Dipladenia crassinoda; Stephanotis floribunda, Tetratheca verticillata, Erica Cavendishii, E. perspicua nana, and E. ventricosa grandiflora. Of this last, plants were supplied by Messrs. Rollisson, of Tooting, and by Mr. Rucker's gardener, but these were both very inferior in beauty to Mr. Glendinning's plant, whose flowers were not only larger and handsomer in form, but their rich rosy colour was also much deeper than that of either of the plants just mentioned. Other groups of 10 were shown by Mr. Slowe, gr. to W. R. Baker, Esq., of Bayfordbury, and Mr. Stanly, gr. to H. Berens, Esq., of Sidcup, Kent.—Mr. Slowe produced plants of Sphenotoma gracilis, Aphelexis humilis, a fine Polygala acuminata, Boronia pinnata, a Cuphea, some Azaleas and Cacti.—From Mr. Stanly were Gardenia radicans, Clerodendron fallax, a nice Erica perspicua nana, Dipladenia crassinoda; Vinca rosea and Ixora coccinea.

The display of ORCHIDS was magnificent, most of the plants being extremely fine specimens. In large collections, Mr. Mylam, gr. to S. Rucker, Esq., of Wandsworth, was the only exhibitor. In this fine collection were Saccolabium præmorsum with two flower-spikes; S. guttatum, a large plant in a square basket with 15 spikes; an Aerides roseum with 5 spikes; the red and pale varieties of A. crispum, each with two branching flower spikes; an Aerides, apparently odoratum; Brassia verrucosa, with 6 spikes; and a huge mass of B. Lanceana; the yellow flowered Cyrtochilum alatum; the singular Cirrhæa viridipurpurea; the yellow flowered Dendrobium sulcatum; Lycaste tyrianthina, with 12 blossoms; a variety of Oncidium leucochilum; O. ampliatum, with two fine spikes of yellow flowers; Vanda teres; the brown flowered Oncidium crispum; O. Lanceanum, with 9 spikes, of which 6 were in full blossom; Angræcum caudatum, and the brown flowered Paphinia cristata.

Collections of 10 species were shown and rewarded in the following order:—Mr. Plant, gr. to J. H. Schröder, Esq., Stratford-green; Mr. Williams, gr. to C. B. Warner, Esq., Hoddesdon; Mr. Bassett, gr. to R. S. Holford, Esq., of Westonbirt, Gloucestershire; Mr. Donald, gr. to Mrs. Lawrence, of Ealing Park; and Mr. Carson, gr. to W. F. G. Farmer, Esq., of Cheam. Mr. Plant sent a nice panful of Lycaste aromatica; Coryanthes macrantha, with one open flower; Brassia Wrayæ, bearing 10 flower spikes; Saccolabium guttatum, with 11 charming racemes of purple flowers; Maxillaria tenuifolia; the large blossomed Phalænopsis; the Cinnabar coloured Epidendrum (E. cinnabarinum); Saccolabium præmorsum, with one flower spike; Aerides odoratum, and Dendrobium chrysanthum.—From Mr. Warner's garden came a large and fine Dendrobium cærulescens; Saccolabium guttatum, with 4 flower spikes; Cattleya Mossiæ, with 12 flowers; Epidendrum crassifolium; a fine plant of Brassia Lanceana; Phaius Wallichii, with six flower spikes; Odontoglossum citrosmum, Epidendrum cinnabarinum, Aerides crispum, and a nice Oncidium divaricatum.—Mr. Bassett sent Coryanthes macrantha, with one flower; Oncidium Lanceanum; Aerides crispum, with two flower spikes; the beautiful Cattleya superba; C. Mossiæ, small but well flowered; a nice Barkeria spectabilis; Saccolabium guttatum; Schomburgkia tibicinis, with a flower spike 8 feet in length; and a Sobralia macrantha, 5 feet high and as much through, bearing 16 open blossoms.—Mr. Donald contributed Epidendrum vitellinum, Cattleya Mossiæ, the pale lilac flowered Barkeria Lawrenceana; Oncidium flexuosum; Stanhopea tigrina; a large Sobralia macrantha, with two flowers on it; Aerides odoratum; a new Mormodes, having a beautiful spike of yellow-brown spotted flowers of great richness, perhaps a variety of pardinum; Oncidium pulvinatum, and Aerides affine.—Mr. Carson's plants consisted of a Dendrobium chrysanthum, more remarkable for fine growth than bloom; a good Acanthophippium bicolor; the rose coloured variety of Epidendrum macrochilum, Oncidium luridum guttatum, Cattleya intermedia, the somewhat scarce Acineta Humboldti, a nice Aerides odoratum, Gongora maculata, and the queer Scuticaria Steelii.

Collections of 6 species, for all of which prizes were awarded, were shown by Mr. Dobson, gr. to Mr. Beck, of Isleworth; Mr. Jack, gr. to R. G. Loraine, Esq., of Wallington; Mr. Bruce, of Tooting; and Mr. Eyles, of Roehampton. Mr. Dobson's plants were Aerides crispum, Cattleya Mossiæ superba, a new variety of Barkeria spectabilis with purple tipped petals, Oncidium stramineum, Zygopetalum crinitum, and Oncidium Baueri.—Mr. Jack produced Aerides crispum, Acanthophippium bicolor, Camarotis purpurea, Maxillaria aromatica, Vanda teres, and Oncidium altissimum. In Mr. Bruce's six we remarked nice plants of Oncidium flexuosum, and Brassia verrucosa.—Of Mr. Eyles' plants the best were Coryanthes macrantha, Brassia Lanceana, Epidendrum cinnabarinum, and Lycaste cruenta.—As specimen Orchids, Messrs. Veitch, of Exeter, showed Sobralia macrantha and Phalænopsis grandiflora; Mr. Green, gr. to Sir E. Antrobus, Bart., a large and fine Dendrobium nobile; Mr. Gerrie, gr. to Sir J. Cathcart, Bart., a noble Stanhopea oculata, producing numerous flower-spikes, of which, however, only four were in perfection.—Of rare Orchids, Mr. Mylam exhibited Vanda Batemanni, a glorious species, the flowers of which are purple on the outside, yellow in the inside, and beautifully spotted all over with brown.—Mr. Bassett sent a white flowered Cœlogyne from Borneo, and Vanda fuscoviridis, a dingy yellow species, pretty, but not striking; Mr. Plant, an Aerides; and Mr. Eyles, a Vanda, apparently a variety of Roxburghi.

Terrestrial native ORCHIDS were exhibited by Mr. Turner, of Hornsey-road. These consisted of Ophrys muscifera and apifera, Listera ovata, Orchis maculata, pyramidalis, and latifolia, Epipactis palustris, Aceras anthropophora, Herminium monorchis, Gymnadenia conopsea, and Platanthera bifolia.

We now come to CAPE HEATHS, and of these, as usual, there was a large and fine display. In collections of 15 plants, among private growers, Mr. Mylam, gr. to S. Rucker, Esq., carried off the first prize with plants capitally cultivated and well bloomed. They consisted of ventricosa alba, v. prægnans coccinea, Cavendishii, tricolor rubra, one mass of flower; densa, not sufficiently advanced in bloom, a remark which also applies to his fine plant of metulæflora bicolor; associated with which were fine plants of depressa; the ventricosa grandiflora previously alluded to; tricolor inflata, a good variety; and a most beautiful mutabilis, a foot high and about 1½ foot through, completely studded

with flowers.—Mr. May, gr. to E Goodheart, Esq., showed the 2d best group. It contained plants of Beaumontia, tricolor, Westphalingia, depressa, perspicua, Massoni, Halicacaba, splendens, Cavendishii, elegans, &c.—In the *Nurserymen's Class* the best collection of 15 was contributed by Messrs. Rollisson, of Tooting, among whose plants we remarked thymifolia, a distinct variety covered with small purple blossoms; the ventricosa grandiflora previously mentioned; v. hirsuta, jubana rosea, Westphalingia, pregnans superba, Cavendishii, and pulverulenta.—The next group in point of merit came from the nursery of Messrs. Fairbairn, of Clapham. It contained, among others, nice plants of Massoni, ventricosa globosa, v. alba, v. brevifiora, Cavendishii, Sprengelii, and Vernonii; the latter a large flowered desirable variety. Collections of nine varieties were numerous. The best was sent by Mr. Green, gr. to Sir E. Antrobus, Bart. The more remarkable plants in this collection were perhaps Westphalingia, ventricosa carnea, v. superba, and tricolor.—The next best group came from Mr. Taylor, gr. to J. Coster, Esq. It contained plants of Cavendishii, ovata, Bergiana, translucens, and ventricosa superba.—Among *Nurserymen*, Mr. Ayres, of Blackheath, obtained the 1st prize with plants of Bergiana, depressa, tricolor, Cavendishii, ventricosa alba and v. rosea.—Mr. Pamplin, of Lea-bridge-road, was second with tricolor elegans, ventricosa globosa, v. superba, perspicua nana, &c.—As specimen Heaths Mr. Kinghorn, gr. to Lord Kilmorey, Orleans House, Twickenham, showed a beautiful Cavendishii; Mr. Bruce, of Tooting, a good mutabilis; Mr. Malyon, of Blackheath, ventricosa superba.—Among *Nurserymen*, Messrs. Frazer, of Lea-bridge produced a vestita coccinea, a wonderful plant, quite 4 feet high and as much through, each branch ornamented with rich crimson blossoms; Mr. Pawley a good elegans, which has however been noticed once or twice in our columns already; and Messrs. Rollisson a Cavendishii.

The Rose season is now about to open, and the present rains, which have come at so unfortunate a time for our exhibitions, will increase the beauty of the flowers yet unexpanded. The Roses in pots shown on Saturday last were numerous, and as a whole wonderfully fine. In particular we would point to the superb specimen of magna rosea in Mr. Francis's collection. This had on it 65 fully expanded blooms! The first prize for pot Roses was awarded to Messrs. Lane; and the second to Messrs. Paul, of Cheshunt, who sent—*Damask:* Duke of Cambridge. *Hybrid China:* Belle Marie, Blairii No. 2, Velours episcopal, Comtesse de Lacepède. *Noisette:* Madame Plantier, Madeline. *Bourbon:* Paul Perras, Henri Barbet. *Tea-scented:* Caroline. *French:* Adèle Prevost. *Hybrid Perpetual:* Louis Bonaparte. Several of these were 3 feet high clear of the pot, trained in a pyramidal form, and when better filled out will make capital specimens. Mr. Francis, of Hertford, and Mr. Dobson, gr. to Mr. Beck, were equally rewarded, the former sending —*Hybrid Perpetual:* Aubernon. *Bourbon:* Capitaine Sirrolet, Las Casas, Belle de St. Cyr, Charles Duval, Paul Perras, Triptolème. *China:* Chenédolé, Magna rosea, Comtesse de Lacepède. *Damask:* La Ville de Bruxelles. *Austrian Briar:* Persian Yellow. Mr. Dobson sent—*Hybrid Perpetual:* Mrs. Elliott, Marshal Soult, Lady Fordwich, Princess Helene, Madame Laffay, Prudence Rœser. *Hybrid China:* Hortense Leroy. *Moss:* Cristata and Celina. *Bourbon:* Queen. *Damask:* Pulcherie. *Hybrid Provence:* Aspasia. Among private growers a certificate of excellence was awarded to Mr Terry, gr. to Lady Puller, of Youngsbury, for General Allard, Col. Coombes, Persian Yellow, William Jesse, &c. Yellow Roses, in sixes, were shown by Messrs. Lane and Paul. For cut Roses in 50 loose bunches, prizes were awarded, 1st to Mr. Paul, 2d to Messrs. Lane, 3d to Mr. Laing of Twickenham; and 4th to A. Rowland, Esq., of Lewisham. Mr. Francis, of Hertford showed 50 good bunches, which were, however, disqualified, from his having shown four of his Roses in pairs instead of in threes, as directed by the Society's rules. For cut Roses in 25 varieties, prizes were awarded, 1st to Mr. Terry, 2d to Mr. Driver, gr. to W. Broadhurst, Esq., and 3d to Mr. Slowe, gr. to W. R. Baker, Esq., of Bayfordbury.

Of tall Cacti there were two collections shown in good condition; the best from Mr. Green, gr. to Sir E. Antrobus, Bart., whose plants consisted of Epiphyllum Ackermanni, 5 feet high and well flowered; a capital Cereus speciosissimus, together with fine plants of Epiphyllum rubrum cæruleum, E. aurantiacum, and E. Jenkinsonii. In the next collection, to which no name was attached, were plants of Cereus Scottii, C. speciosissimus, Epiphyllum Ackermanni, Jenkinsonii, and speciosum grandiflorum—the latter a larger and much handsomer variety than the old speciosum.

Of Azaleas, a collection was exhibited by Mr. Green, gr. to Sir E. Antrobus, Bart., but the glory of these had evidently passed; the varieties did not appear to be different from those that were shown in May.

Of Single Specimens there was a numerous array, and all of them displayed good cultivation. Mr. Iveson, gr. to the Duchess Dowager of Northumberland, sent a good plant of the Sierra Leone Gardenia Stanleyana, loaded with large, deep brown spotted trumpet-shaped flowers and flower buds; Mr. Jack, gr. to R. G. Loraine, Esq., a beautiful blue Leschenaultia; Mr. Taylor, gr. to J. Coster, Esq., Aphelexis sesamoides; Mr. Falconer, gr. to A. Palmer, Esq., of Cheam, a beautifully managed Leschenaultia formosa; Mr. Green, the lovely pink-flowered Dipladenia crassinoda; and Mr. Bruce, Phymatanthus tricolor.—Among *Nurserymen*, Mr. Frazer sent a huge Ixora coccinea fairly bloomed; Mr. Epps, of Maidstone, Aphelexis grandiflora; Mr. Pamplin, a good Dillwynia clavata; Mr. Malyon, Erica ventricosa superba; Mr. Slowe, Cereus Mallemonii; Mr. Bonham, of Staines, Hoya carnosa; and Mr. Kinghorn, a good plant of the rosy pink flowered Abelia floribunda.

Of New Plants, in addition to those already mentioned, Messrs. Veitch showed the beautiful new Hoya from the Indian province of Moulmein, mentioned in another column; also the hardy greenhouse shrub Browallia Jamesoni, and the same rose-coloured dark-eyed Peruvian Oxalis which was at the last meeting in Regent street.—Messrs. Henderson, of Pine-apple-place, sent Chironia glutinosa, a very beautiful large flowered species; Mr. Green, gr. to Sir E. Antrobus, Bart., a purplish lilac flowered Browallia with a white eye; Messrs. Jack and Epps, Siphocampylus glandulosus; Mr. Iveson, gr. to the Duchess Dowager of Northumberland, Miconia urophylla, a white flowered Melastomad of little beauty, and the violet coloured Curcuma cordata; Messrs. Rollisson, a yellow Gomphobobium and a Hoya, perhaps H. trinervis; and M. Van Houtte, of Ghent, Cheirostylis marmorata. Under this head Messrs. Veitch showed a collection of Pitcher-plants, to which, however, no prize could be awarded, because they were not in blossom, the rule being that all plants should be in flower. The case in which these were shown contained Nepenthes Rafflesiana and a variety of the same, N. Loddigesii, N. ampullacea, the old N. distillatoria, Sarracenia flava and purpurea, Physurus pictus, Arrectochilus setaceus, striatus, and Lobbianus, and Cephalotus follicularis.

Collections of British Ferns were shown by Mr. Williams, gr. to C. B. Warner, Esq.; Mr. Taylor, gr. to J. Coster, Esq.; and Mr. Wood, of Norwood. Mr. Williams's plants were Adiantum Capillus-Veneris, Aspidium Thelypteris, lobatum, and Filix-mas; Scolopendrium vulgare, Osmunda regalis, Blechnum boreale, Athyrium Filix-femina, Polypodium vulgare and Lastræa dilatata.—Of tender Ferns, Mr. Williams showed Acrostichum scandens, Cheilanthes lendigera, Adiantum cuneatum, assimile, and pubescens; Aspidium macrophyllum, Polypodium phymatodes and areolatum, Gymnogramma Massoni, and Blechnum australe.

Miscellaneous Subjects comprised a nice plant of Calystegia pubescens, but not well-flowered, from Mr. Carson, gr. to W. F. G. Farmer, Esq.; the purple variety of Aphelexis sesamoides, from Mr. Green, gr. to Sir E. Antrobus, Bart.; Dipladenia crassinoda, with very highly coloured flowers, from Mr. Jack, gr. to R. G. Loraine, Esq.; Gloxinia Teuchleri, a new blue striped variety; and the beautiful G. Fyfeana, from Mr. Mylam, gr. to S. Rucker, Esq.; and four nice plants of Erica Cavendishii, from Mr. Glendinning, of the Chiswick Nursery.—Mr. Wood, of Norwood, showed a collection of Alpine plants in pots; Mr. Jackson, of Kingston, a variety of Erica Aitoniana, called superba; and a red variety of E. jubata; Mr. Plant, Gloxinia concinna, a pretty, light variety; Mr. Jack, G. maxima alba; and Mr. Bowers, of Busbridge, Gedalming, a seedling Epiphyllum, named Paragon, a large, red flowered variety in the way of Ackermanni.

Of Statices, Mr. Glendinning, of the Chiswick Nursery, showed a small collection, consisting of good plants of arborea, macrophylla, mucronata, pseudo armeria, sinuata, and frutescens.

The tent assigned to the Pelargoniums was filled with these beautiful flowers, which on this occasion were exhibited in fine condition, it being just the height of the season for such things. In the first class for new and first-rate varieties, cultivated with superior skill, the first prize in the *Amateurs' Class* was awarded to Mr. Cock, of Chiswick; his collection consisted of the following sorts — Isabella, Sikh, Sylvia, Paragon, Painted Lady, Negress, Forget-me-not, the Pearl, Aurora, Zenobia, Orion, and Hebe's Lip. The 2d prize was awarded to Mr. Staines, who exhibited Duchess of Leinster, Miss Holford, Pericles, Chimborazo, Clarinda, Marc Antony, Orion, Camilla, Sunset, Minerva, Zenobia, and Favorita. Mr. Robinson, of Pimlico, received the 3d prize for Juliet, Orion, Matilda, Hector, Signet, Aurora, Nestor, Sunrise, Sarah, Pearl, Mustee, and Duke of Wellington.—In the *Nurserymen's Class* Mr. Dobson, gr. to Mr. E. Beck, of Isleworth, received the 1st prize for Centurion, Cracker, Favorita, Emilie, Rajah, Cinderella, Princess, Cassandra, Star, Blanche, Gustava, and Gulielma. Mr. Gaines was awarded the 2d prize for Cymba, Admiration, Princess Olga, Forget-me-not, Marian, Glowworm, Aspasia, Model, Mrs. Brock, Feu de Joie, Florabunda, and Queen of Beauties.—For Pelargoniums in collections of six varieties grown in 11-inch pots, in the *Amateurs' Class*, the 1st prize was awarded to Mr. Parker, gr. to J. H. Oughton, Esq., for Aurora, Zenobia, Sylph, Emma, Resplendent, and Lord Nelson; 2d prize to Mr. Stains for Queen Phillippa, Duke of Cornwall, Pompey, Pæon, and Matilda; 3d, to Mr. Wiggins, gr. to S. Sanders, Esq., Staines. His sorts were Comte de Paris, Lady Essex, Duchess of Sutherland, Regulator, Auguste, and Alicia. In the same class, for *Nurserymen*, Mr. Gaines was the only exhibitor. His plants were Orion, Emma, Pirate, Shield of Achilles, White Surrey, and Miss Holford.—For Fancy Pelargoniums, in six varieties, Mr. Gaines was the only exhibitor. He showed the following finely bloomed varieties, Queen Victoria, La Belle d'Afrique, Anais, Ytoliski, Ibrahim Pacha, and Yeatmaneanum grandiflorum.

In Calceolarias there was great improvement in the sorts exhibited; they were finely grown, and in good healthy condition.—In the *Amateurs' Class* a prize was obtained by Mr. Bingham, gr. to the Earl of Limorey, for Van Tromp, Cleopatra, Lady Emma, Perfection, Conrad, and Arcana; and to Mr. [illegible], gr. to H. Berens, Esq., for Commander, Beauty, Lord Hardinge, Duke of Albany, Lord Melbourne, and Beauty Supreme. In the class for *Nurserymen*, Mr. Gaines was the only exhibitor. The sorts were Van Tromp, Chieftain, Refugeme, Constantia, Cleopatra, and Hero.

Fuchsias were exhibited in pots of [illegible] sorts. In the *Amateurs' Class*, the 1st prize was awarded to Mr. R. Lane, of Woolwich, who [illegible] sorts:—Hendrick's Prince Albert, Hendrick's Mrs. Jean, Masterpiece, [illegible], Beauty of Clapham, Madona, Lilly's Beauty, [illegible], [illegible], Agra, Lord Brougham, Prima Donna, Norman's Henry Steers, Smith's Diana, Lady Flora Hastings, Duke of Marlborough, King of Purples, [illegible], Lord Byron; Legg's Prince Albert, Carr's Harriet, Prima Donna, Alpha, Hendrick's Conception, Hodge's Melona, Henbrey's Grey Beauty, Legg's Albert, Bunkell's Queen, Grey Lad, Norman's Lucretia, Meade's Susanna, Kerr's Harriet, Carson's Rival, and Lord Brougham.—In the *Nurserymen's Class*, Mr. Turner, of Chalvey, obtained the 1st prize; his stand contained Parker's Jenny Lind, Henbrey's Queen, Turner's Beauty, Kerr's Harriet, Turner's Morning Star, Heartstone's Prince Albert, Young's Taylor's Rival, Smith's Oxoniensis, Meade's Lady Dorothea, Kirtland's Grey Lad, Young's H. H., John Bull, Marcia, Lucretia, Young's Lady Mildmay, [illegible], John Dickson, Walter's Mrs. Fry, Henbrey's Robert, White's Warden, Hulyer's British Queen, Bell's Benjamin, Parker's Beauty of Bath, Bunkell's Prince Albert, Hodge's Melona, and Meade's [illegible]; Messrs. Norman, Woolwich, for Norman's Merry Monarch, Parker's Jenny Lind, Smith's Queen and Diana, Henbrey's Rubens, Bunkell's Prima Donna, Hodge's Melona, Ellis's Mary, Parker's Beauty of Bath, Kerr's Harriet, Hale's Queen of England, Parker's Lady Hallowell, Lockwood's Duchess of Manchester, Willmer's Prince of Wales, Hodge's Queen, Parker's Lady Flora Hastings, Stow's Elizabeth, Hurst's King of Purples, Neville's John Dickson, Lee's Jane Sarah, Colcutt's Ovid, Campbell's Lady Harrington, Kirtland's Beatrice, Norman's Henry Steers.

There were many Seedling [illegible], some for which the Society do not offer prizes, and others from not being shown according to the required regulations could not be noticed by the judges. Among the latter were boxes of cut flowers of Calceolarias, one from Mr. Kinghorn, of Twickenham, the other from Mr. Holmes, of Sudbury; each box contained a few superior varieties.—Among the Pelargoniums we noticed a few superior seedlings; from those contributed by Mr. Beck, a seedling of the present season, named Lovelace, a very promising flower, with clear white centre, very [illegible] petals, the top ones being deep in colour, with the exception of a narrow border of rose; Prima, somewhat in the same style, but with a salmon tint united with the rosy colour; another named Jessie, a fine flower, high in colour; and Flora, a compact and finely formed variety, with rich velvety top petals, and a cherry colour prevailing in the under ones; Hoyle's Crusader, a stout flower of fine form and clear colours, with the petals gently curving inwards, showing its colours to great advantage; and Excelsior, from the same grower, a free bloomer, and a clear constant, and high coloured variety. Tipping's Emblem, from Messrs. Veitch and Son, proves this variety to be very constant.—Several new fancy Pelargoniums were exhibited, some were too much like those already out, and others not sufficiently good to send out. Andrews's Jenny Lind, a light variety, and Defiance, a dark flower, were among the best of the new sorts.—A seedling Pink, named Captain Tyson, raised by Dr. M'Clean, appeared to be a promising variety; the guard petals large and stout, and marking good; the edges are a little rough, but that appears to be a prevailing fault this season.

Fruit.—Pine-Apples were few, and not remarkable as regards weight. Of Queens, two fruit, the best shown were produced by Mr. Bream, gr. to R. Gunter, Esq., of Brompton. These weighed respectively 4 lbs. 3 oz. and 3 lbs. 14 oz. Mr. Goss, gr. to Mrs. Davenport, of Capesthorne, Cheshire, sent a Queen weighing 1 lb. 14 oz.; Mr. Fraser, of Providence, Mr. Davis, of Oak-hill, East Barnet, showed a well-formed handsome fruit, weighing 3 lbs. 11 oz. Two Montserrats, weighing respectively 2 lbs. 11 oz. and 2 lbs. 11 oz., came from Mr. Chapman, gr. to J. B. Gregg, Esq. The same variety of Pine, weighing 2 lbs. 10½ oz., was also exhibited by Mrs. Davenport's gardener, Mr. Goss.—Mr. Elphinstone, gr. to the Speaker, at Hatfield-house, showed a fruit of 3 lbs. 6 oz., and Mr. Bearis, gr. at Boltonhall, an Enville 2 lbs. 14 oz. Such were the Pine-apples.

Exhibitions of Grapes were numerous, and of Black Hamburgh especially fine. Of the latter variety, the best among private growers came from Mr. Ingram, of the Royal Garden. For some, the bunches being large, well coloured, and the berries well swelled. The next in point of merit—beautiful bunches—were produced by Mr. Fleming, gr. to the Duke of Sutherland, at

Trentham; and the judges also commended highly the Black Hamburghs from Mr. Foggo, gr. to the Marquis of Abercorn, and of Mr. Barnes, gr. to J. C. Whitmore, Esq., of Apley park; for which, however, they had no medals at their disposal.—Three beautiful large bunches of Black Prince, 17 inches in length, were exhibited by Mr. Cox, gr. to M. Ricardo, Esq., of Kiddington-house, Oxon.—In the *Market Gardeners' Class*, the best bunches were produced by Mr. Davis, of Oak hill, East Barnet. These were in every respect beautiful examples of Grape growing; and scarcely inferior were those contributed by Mr. Mitchell, of Brighton, and Mr. Chapman, of South Lambeth.—Black Hamburgh Grapes, all of them creditable specimens, were exhibited by Mr. Turnbull, gr. to the Duke of Marlborough, at Blenheim; Mr. Elphinstone, gr. to the Speaker, at Hackfield; Mr. Giles, gr. to Mrs Davenport, at Capesthorne; Mr. Spurgin, of Wanstead, and Mr. Toy, gr. to Mr. Harrison, Oatlands Palace Gardens, Weybridge.—Mr. Rust gr. to J. Maclaurin, Esq., of Parkley House, Sussex, also showed Black Hamburgh Grapes, which were however very badly coloured.—Black Frontignans, good bunches but indifferently coloured, were shown by Mr. Toy, of Oatlands Gardens, Weybridge.—Of White Grapes, Mr. Challis, gr. to Miss Irvine, of Egham, produced good bunches of Sweetwater; Mr. Ingram, beautiful Muscats; Mr. Chapman, of South Lambeth, Dutch Sweetwater; Mr. Groom, gr. to H. Bentley, Esq., Muscats, which however were not ripe; and Mr. Giles, of Capesthorne, Sweetwater. White Frontignans were exhibited by Mr. Barnes, gr. to J. C. Whitmore, Esq.—Some seedling black Grape, with large berries, but not ripe, was shown by Mr. Giles; and Mr. Mitchell, of Brighton, a Grape called Victoria, which however did not appear to be perfectly distinct from the Black Hamburgh.—Of specimen bunches of Grapes Mr. Davis, of East Barnet, showed a bunch of Black Hamburgh, weighing 3 lbs. 4½ oz. This was, however, a double bunch produced from the same joint. Mr. Barnes, gr. to J. C. Whitmore, Esq., showed a bunch of the same variety of Grape, weighing 2 lbs. 5 oz. Mr. Elphinstone also showed a bunch of Black Hamburgh.

The PEACHES shown were generally good, and so were the Nectarines. Of the former, Mr. Evans, gr. to C. F. Newdigate, Esq., of Arbury hall, Warwickshire, sent Violette Hative—fine specimens; Mr. Turnbull, of Blenheim, Royal George; and the same was also shown by Mr. Groom, gr. to H. Bentley, Esq.—In the *Market Gardeners' Class*, Mr. Davis, of East Barnet, showed capital specimens of Noblesse. Grosse Mignonne Peaches were exhibited by Mr. Chapman, gr. to J. B. Glegg, Esq.; these were large and fine, but over-ripe. Madeleine de Courson, by Mr. Busby, gr. to S. Crawley, Esq., Stockwood park, Luton; Royal George, by Mr. Tillery, of Wellbeck; and the same variety by Mr. Boyce, gr. to Sir L. Shadwell, Bart., Barnes, Surrey. Mr. Toy also showed Peaches.—Of Nectarines, the best were shown by Mr. Chapman, gr. to J. B. Glegg, Esq., the sort being Violette Hative; the next in point of merit (Elruge) came from Mr. Foggo, gr. to the Marquis of Abercorn. Mr. Evans, gr. to C. N. Newdigate, produced good specimens of the Brinion Nectarine; and Mr. Davis, of East Barnet, Elruge.

FIGS were exhibited by Mr. Foggo; Mr. Braid, gr. to H. Perkins, Esq, of Hanworth-park; Mr. Pike, gr. to the Rev. J Brook, of Haughton Hall, Salop, and Mr. Giles, of Capesthorne. Of these the best were Black Ischia, from Mr. Foggo; and Brown Turkey from Mr. Braid.

Of CHERRIES the best were produced by Mr. Snow, gr. to the Earl de Grey, the variety being the Early Purple Guigne, well coloured, and altogether a fine dish of fruit, from a west wall. May Duke and Early Purple Guigne or Griotte came from Mr. Ingram, of Frogmore, and Circassian and May Duke from Mr. Gainesford, of Brentford.

The exhibitions of STRAWBERRIES were all of them good. Famous dishes of British Queen were shown by Mr. Elliott, gr. to J. B. Boothby, Esq., of Twyford Abbey; of Alice Maude, by Mr. Rust, gr. to J. Maclaurin, Esq.; and of the same variety from Mr. Lydiard, of Bath. The best Keens' Seedling came from Mr. Parsons, gr. to A. George, Esq., of Enfield, and Mr. Slowe, gr. to W. R. Baker, Esq., of Bayfordbury. Admirable Keens' Seedlings came also from Mr. Rust; and well ripened fruit from Mr. Urquhart, gr. to Lord Cottenham; Mr. Munro, gr. to Mrs. Oddie, of Colney House; Mr. Smith, gr. to S. Ricardo, Esq., of Titness Park; Mr. Lydiard, of Bath; Mr. Griffin, of the same place; and Mr. Toy, gr. to Mr. Harrison, of Weybridge. The latter likewise showed British Queens, as did also Mr. Lawrence, of Isleworth.

Of MELONS there was a goodly quantity, and among them some fine fruit. The heaviest was a Cantaloupe, weighing 7 lbs. 2½ oz., from Mr. Gadd, of Betchworth Castle; and the next, a hybrid green-flesh, 6 lbs. 3½ oz., from Mr. Carson, gr. to W. F. G. Farmer, Esq., of Cheam. For the best flavoured Melon the 1st prize was awarded to Mr. Fleming, gr. to the Duke of Sutherland, at Trentham, for his hybrid between the Hoosainee and Ispahan; 2d, to Mr. Ingram, for a Beechwood; and 3d, to Mr. Snow, for Snow's Prolific Hybrid Green-fleshed.—In the *Market Gardeners' Class*, the 1st prize was awarded to Mr. Gadd, for a green-fleshed sort unnamed. The Hampton Court green-fleshed Melon was shown by Mr. Spivey, gr. to J. Houblon, Esq., Bishop's Stortford; Snow's Prolific Green-fleshed, and a China Melon, by Mr Chapman, gr. to J. B. Glegg, Esq.; Beechwood, by Mr. Rust, gr. to J. Maclaurin, Esq.; a Cantaloupe by Mr. Hill, gr. to T. Davis, Esq., of East Acton; and some hybrid from Mr. Stevenson, gr. to J. H. Ward, Esq., of Cowes, Isle of Wight.

Of RARE TROPICAL FRUITS, Mr. Iveson, gr. to the Duchess Dowager of Northumberland, sent fruit of Xanthochymus pictorius; Nutmeg (Myristica moschata); Papaw (Carica Papaya, not ripe); and flowers and flower buds of the Clove-tree (Caryophyllus aromaticus). The fruit of the Papaw is eaten when cooked, and is esteemed by some; but it appears to have little to recommend it.

ROYAL BOTANIC, *June* 14.—This Society held its second Show of the season on Wednesday last. Altogether the exhibition was a good one, and, the weather being favourable, the company was numerous. In consequence of its happening only three days after Chiswick, however, most of the plants assembled on that occasion were shown again here; and as we have given a full report of that meeting in another column, we shall not travel over the same ground again, but will confine our remarks to what was not then present.

Collections of 30 STOVE and GREENHOUSE PLANTS were again shown by Messrs. Frazer and Pawley, in good condition; but in these we did not remark anything we had not seen before, except perhaps a tall plant of the white blossomed Pavetta caffra in Mr. Frazer's group.—Collections of 20 Stove and Greenhouse Plants were produced by Messrs Green, Cole, and Kyle. In Mr. Green's group was a remarkable Epiphyllum speciosum, at least 5 feet high and covered with blossoms. Mr. Cole had nice plants of Erica inflata, Kalosanthes miniata, Dipladenia crassinoda, Cyrtoceras reflexum, Vinca alba, and Clerodendron fallax. Of 10 Stove and Greenhouse Plants, collections were produced by Messrs, Hunt, Jack, Clarke, Taylor, May, and Malyon. From Mr. Hunt came Chorozema cricoides, a glorious specimen 3 feet high and as much through; Azalea Gledstanesii; Aphelexis purpurea grandiflora, a capital Polygala cordata, a small Ixora crocata, beautiful plants of Ericas Cavendishii and perspicua nana, a lovely Leschenaultia formosa, and a good Pimelea decussata. Mr. Jack a well bloomed Cereus speciosissimus, and a nice little Aphelexis purpurea macrantha. Mr. Clarke produced a most beautiful Gesnera splendens, than whose scarlet flowers nothing of the sort could be richer; Kalosanthes miniata, a Cape Heath, a large Polygala cordifolia, and other plants.

ORCHIDS were rich and numerous, comprising, in addition to those shown at Chiswick, a collection from Mr. Rae, gr. to J. J. Blandy, Esq., of Reading, as well as one or two other plants in the large collection from Mr. Mylam, gr. to S. Rucker, Esq., which was first. Mr. Rae showed, among other things, Stanhopea tigrina, and the larger variety of S. saccata, Cymbidium brevilabre, the red variety of Aerides affine, a beautiful Epidendrum primulinum, a huge Sacceolabium guttatum, the somewhat rare Cattleya granulosa, Vanda lamellata, a pretty though not showy species, and the white-flowered Anguloa uniflora.—Groups of 15 plants were shown by Messrs. Williams and Plant; and of 6, by Messrs. Dobson, Green, and Hunt. For new Orchids, Mr. Mylam obtained the 1st prize, with the same Vanda Batemanni noticed in another column, and the same exhibitor had also a plant of the variety of Sacceolabium called giganteum, with a noble raceme of flowers. Mr. Williams had a good plant of Lælia bicolor, bearing two strong spikes of greenish yellow flowers.

Exhibitions of CAPE HEATHS were numerous and fine, especially the plants produced by Mr. Hunt, gr. to Miss Traill, of Bromley. Than these better specimens couldn't possibly be produced; they were perfect in every respect, and justly deserved the 1st prize which was awarded them. Among these we remarked Westphalingia, tricolor, with its red variety; Cavendishii, perspicua, Clowesiana, Shannoniana, elegans, ventricosa splendens and alba, and Massoni. Among Nurserymen, Messrs. Fairbairn obtained the 1st prize for 12 plants; and for 6 plants, Mr. Mylam, gr. to S. Rucker, Esq., of Wandsworth.

ROSES in pots were produced in good condition by Messrs. Paul, Francis, Lane, and Dobson. Mr. Lane was awarded a 1st prize for a collection of Yellows, the sorts being La Pactole, Clara Wendell, Vicomtesse Decazes, Ne Plus Ultra, Elise Sauvage, Comte d'Osmont, Smith's Yellow, Sulphurea superba, Barbot, and Persian Yellow. Cut Roses were numerous, and as a matter of course, were universally admired.

Of SHOWY PLANTS there were some Clerodendrons and two collections of Cacti, among which was a beautiful large-flowered variety of Epiphyllum coccineum, apparently a hybrid between E. Jenkinsonii and Cereus speciosissimus, the flowers measuring upwards of 6 inches across, and an Epiphyllum called refulgens, also a desirable variety. We likewise observed a specimen of Echinocactus claviformis bearing eight fully expanded delicate pink flowers, each 4 inches across, from Mr. Hoyle, of Reading.

Among NOVELTIES not at Chiswick, the most remarkable was a specimen of the Borneo Hoya imperialis in flower, from Messrs. Lucombe, Pince, and Co., of Exeter. This proves to be a species of robust growth, bearing a bunch of flowers seven in number, each 3 inches across, green on the outside, and glossy deep brown inside, with a white centre. The foliage is large and handsome, and of a bright green. The same nurserymen had also a small plant of Burtonia villosa, a Swan River plant of some promise. We remarked, moreover, a little Siphocampylus called nitidus, a plant of third-rate character, from Messrs. Henderson, of Pine-apple-place; a small Gardenia amœna from Mr. Jack, and Rhynchosperum jasmineum from Mr. Spurgin, of Wanstead. Of plants not in bloom, Messrs. Standish and Noble produced a handsome Mexican Taxodium, which was stated to be hardy; Messrs. Veitch a beautiful red and white veined Marantia and Thea assamica, and Messrs. Rollisson a plant of Venus's Fly-trap.

Among MISCELLANEOUS SUBJECTS were Gloxinias, Hydrangeas, and Achimenes, various Alpine plants, and large and fine collections of Ferns.

The weather being favourable, the PELARGONIUMS appeared to great advantage. Mr. Cock obtained the 1st prize in the *Amateurs' Class*. The collection contained Forget-me-Not, Armada, Zenobia, Pearl, Hebe's Lip, Nigress, Hector, Sikh, Paragon, Painted Lady, Isabella, and Orion.—The 2d prize was awarded to Mr. Robinson, gr. to J Simpson, Esq., for Sunrise, Orion, Pearl, Signet, Nigress, Matilda, Mustee, Duke of Wellington, Juliet Duke of Cornwall, Adonis, and Aurora.—3d prize to Mr. Staines, for Camilla, Rosy Circle, Clarinda, Zenobia, Pericles, Orion, Favourite, Sunset, Armada, Miss Holford, Duchess of Leinster, and Chimborazo.—In the same class for *Nurserymen*, Mr. Dobson, gr. to Mr. E. Beck, obtained the 1st prize. The collection consisted entirely of flowers of his own raising; the sorts were Centurion, Cinderella, Guilelma, Cavalier, Cruenta, Blanche, Rajah, Princess Cassandra, Favonius, Grandiflora, and Star.—2d prize, Mr. Gaines for Feu de Joie, Purpurea, Hebe's Lip, Admiration, Salamander, Talisman, Marian, Princess Olga, Mrs. Brock, Queen of Beauties, Minerva, and Nigress.—In the *Amateurs' Class* for six specimen Pelargoniums, Mr. Parker, gr. to J. Oughton, Esq., obtained the 1st prize for six magnificent plants—Sir J. Newton, Resplendent, Emma, Margaretta, Sylph, and Adonis.—2d prize was awarded to Mr. Staines for Matilda, Queen Phillippa, Rosetta, Duke of Cornwall, Pompey, and Pæon.—3d prize, Mr. Wiggins, gr. to J. Sanders, Esq., for Matilda, Champion, Augusta, Lady Essex, Mustee, and Comte de Paris.—In the same class for *Nurserymen*, Mr. Gaines was the only exhibitor. His plants were Shield of Achilles, Miss Holford, Pirate, Emma, Champion, and White Surrey.—For a collection of fancy Pelargoniums, Mr. Gaines obtained the 1st prize for the following six well bloomed varieties: Anais, Lady Rivers, Queen Victoria, Ytolinsii, La belle d'Afrique, and Bouquet tout fait.—Collections of CALCEOLARIAS were shown, and the 1st prize awarded to Mr. Gaines, for Masterpiece, Punch, Conrad, Constellation, Washington, and Antler.—2d, Mr. Stanly, gr. to H. Berens, Esq., for Lord Hardinge, Eliza Cooke, Beauty Supreme, Duke of Albany, and Jenny Lind.—3d prize, Mr. Wright, gr. to the Hon. Miss Rushout, for Zebra, Argus, Royal Purple, Standishii, Regulator, and President. PANSIES.—Two prizes were awarded among the Pansy growers: 1st, to Messrs. Cutter and Co; 2d, to Mr. Turner, of Chalvey. The box of the former contained Bragg's Goliah, Youell's Supreme, Model of Perfection, Rainbow, Duchess of Rutland, Collison's Juno, Seedling ditto, Mary Jane, Hall's Matilda, Shakespeare, Seedling, Mrs. Hamilton, Pizarro, Arethusa, Perfection, Snowdrop, Hamlet, King of Holland, Superb, Optimus, Duke of Norfolk, two seedlings. Mr. Turner's collection comprised Gossett's Lord Hardinge, Polyniceus, Electia, and Alexis; Brown's Arethusa, Thompson's Pizarro, Gossett's Orestes, Thompson's Duchess of Rutland, Peddies' Massie, Major's Milton, Hooper's Mary Jane, Bell's Climax, Hall's Rainbow, Youell's Supreme, Turner's Achilles, Atwell's Princess Royal, Turner's Caroline, Chalvey Rival, Hooper's Wonderful, Turner's Sylph, Brown's Euphrosyne, Turner's Optimus and Prince of Wales, and Hore's Superb. PINKS.—In this class two stands were selected for prizes: 1st, Mr. Turner, of Chalvey, for Hillyer's Goliah, Smith's John Bull, Henbrey's John Bull, Kirtland's Prince Albert, Smith's Diana, Collis' Majestic, Young's X X, Kirtland's Gay Lad, Hillyer's British Queen, Smith's Whipper-In, Kerr's Harriet, and Walker's Mrs. Fry; 2d, Mr. Ward, of Woolwich, for Smith's Diana, Unworth's Omega, Willmer's Laura, Ward's No. 3, Henbrey's Rubens, Baker's Kentish Hero, Hodges' Melona, Harris's King of Purples, Coster's Alfred, Norman's Henry Steers, Barker's Beauty of Bath, and Bob Tickler.—A stand of Carnations and another of Picotees were exhibited by Mr. Turner.—The 1st prize for FUCHSIAS was awarded to Mr. Gaines, of Battersea, for Bianca, Queen Pomare, Climax, Comte de Beaulieu, Beauty of Leeds, and Lord Hill; 2d, to Mr. Godfrey, Tottenham, for Haiseii, Delicata, Exoniensis, Prince Albert, Cassandra, and Eximia.—Stands of RANUNCULUSES were exhibited, but no prizes were awarded. Among them were a few seedlings of great merit, fine in form, clear and distinct in colour; in Mr. Tyso's stand, Vesta, clear yellow, with brown spot; Eliacine, white, with pink spot; were two fine varieties.—From the Seedling PELARGONIUMS exhibited, the judges selected for prizes, Loveliness, from Mr. Beck, a flower with a pure white centre, deep rosy pink under petals, the top ones being covered with a deep spot, leaving a narrow margin of bright colour; Borah, also from Mr. Beck, good shape, but poor in colour; to Nonsuch, from Mr. Hoyle, a flower of good form, with a deep blotch on each of the lower petals; a 2d prize to Crusader, from Mr. Hoyle, a seedling of 1847; a clear flower, of great substance, and good form. Also a 1st prize to Mr. Hoyle, for Spark, being the nearest approach to scarlet.—There were several seedlings of great merit, not noticed by the judges, which, in high and fine colour and other properties, would grace any collection. We have omitted to mention that Mont Blanc No. 2 was also rewarded with a prize; this is a white variety, with a small purple rose spot on the top petals; a very desirable variety from Mr. Beck.—From the Calceolarias those selected were: Surplice, Warrior, and Miranda, from Mr. Gaines, all flowers of good form: 1st, red-brown spots upon a light buff ground; 2d, dark crimson spots upon a lighter crimson ground; 3d, spots upon a stained buff ground. And one named Dr. Neil, from J. Anderson, Esq, with small spots upon a straw ground.—Blooms of a fine herbaceous Poppy were shown by Mr. W. Holmes, Sudbury; the petals are of a most brilliant scarlet, with a large patch at the bottom of each; very ornamental for a border. A half herbaceous Calceolaria was also exhibited that appeared admirably adapted for bedding; it is a free blooming variety, rather dwarf, straw ground, spotted with a bright brown, approaching scarlet.—A Certificate was awarded to Mr. Turner for a seedling Pink named Double X.

Reviews.

Essays on Human Happiness. By Dr. Henry Duhring. 12mo. Longmans. pp. 87.

The gifted writer of this charming volume is no ascetic. He does not look upon human life as a state of misery and mortification: but as a condition of existence capable of everything happy and beneficent, unless disturbed by man's willfulness or unreasoning folly. The advocate of industry, which he regards as the only foundation of happiness: the friend of enjoyment, for which he contends that man was especially created: the lover of freedom, the foe of anarchy, Dr. Duhring reads us all a beautiful lesson upon our moral and social obligations, by which the world cannot fail to profit, if it will but listen to his gentle yet irresistible arguments.

Much as we admire the eloquence and admirable reasoning with which these essays abound, it would have been no part of our duty to bring them under the notice of our readers, had not the author, fortunately for us, devoted one of his chapters to gardening, of which it is evident that he is a genuine lover. A few extracts from this portion of the volume may be taken as an example of the whole.

"If, in my two last essays, I should have succeeded to prove, as I flatter myself, that man, to be happy, must become an active member of human society; and, therefore, must labour, either with the mind or body, if not with both:—that relaxation of both our mind and body is also an indispensable condition to our happiness; and that, in consequence, a well balanced activity, mental and physical, or motion and rest well united together, may be considered as the best or surest basis of a happy life; then it will be very easy for me, I hope, likewise to prove, that the enjoyment of nature, and the practice of horticulture, *combined* with an active social intercourse, of all recreations, are the most conducive to our happiness. For what other relaxations are equally calculated to occupy and to relieve our mind as well as our body? What, also, can impart to both that life and vigour which Nature affords? If, therefore, we reverse the seasons, or exclude from our recreations Nature's fresh, vital breath, and the inspiring light of heaven, are we not sure to forfeit our health as well as our cheerfulness?

"Moreover, as every recreation in the open air, which not only benefits our mind and body, but also produces something that lives or grows, must be productive to us of more enjoyment than what merely affords us some momentary amusement; is it, likewise, not evident, that a man who daily spends an hour or two in decorating a pleasure-ground, in planting an orchard, or in sowing the seeds of grace, life, and beauty, around his dwelling-place, will lay a better and far

more enduring basis for his happiness than he who goes out to kill, to play at bowls, or merely to draw fresh air?

"Of all the numerous evils to which human life is subject, may, also, the very greatest not be traced to disappointed expectations? For what is more excruciating to a man of sensibility,—what more corroding to his soul, than the remembrance of disappointed hope from misplaced confidence? What also is more trying, not only to the temper of our mind, but to the very pulses of our heart, than to set it upon what appeared to us a kindred nature, and to be disappointed? But on what object can we place our affections with less fear of being disappointed, than on the vegetable productions of Nature, such as flowers, shrubs, and trees? Is not the whole animal kingdom always liable to conflicting passions? and everything human may it not prove false? When and where, however, did we ever meet with capricious Roses, vindictive Laburnums, or with a Catalpa in flowers that refused to smile on an aristocrat as well as on a democrat?

"Nobody, then, can well be surer of enjoyment, and more independent in his happiness, than he who delights in cultivating his garden as well as his mind. For, while in summer, when Nature offers to us the best of all recreations, and liberally rewards every care bestowed on her, the smallest garden may easily be made the source of great and daily enjoyment, mental as well as physical; in winter, when storms, frost, and snow compel us to rest from our labours within doors, the working of our mind, and the free or unrestained intercourse with the most excellent, or the most congenial of authors, constitute a fountain of light and happiness, which no season, however dark, can dim, nor any cold, however great, can freeze."

After contending for the importance of combining with rural life and scenery the pleasures of refined social intercourse, the author thus proceeds—

"To *combine* then, mental and physical activity, with the enjoyment of Nature, and a well conducted social intercourse, appears to me best calculated to promote the health and happiness of every cultivated being. This, however, can only be done, at least in general, in two ways; and these are:—either by intersecting and surrounding the town we live in with public walks and recreation-grounds; or, by fixing our abode in a suburban villa, close to the theatre of our daily labours. And I certainly do not know a position more interesting for a person of any mind to be placed in, than that which permits him to enjoy the quiet and seclusion of a country life, *combined* with the comforts of a great town; and with all the delightful advantages of a select human intercourse and literary resources.

"In what, also, does consist the charm which tempts so large a number of healthy persons annually to spend a month or two at a watering place, except in the opportunity which several of these places afford, to meet the polish of the world, in close union with the seclusion of retirement; and to enjoy the freshness and beauty of Nature, surrounded by the luxuries of art, and in company with men who engraft, on its rustic simplicity, their own superiority of education and manners?—Is it, however, not obvious that, by creating parks or recreation-grounds in or near the town we live in, all these benefits, not only may be equally enjoyed, but also in combination with several other advantages which but very few watering-places are capable of affording? For how great soever the attractions of some of these places may be, it is impossible that we can meet with many and great benefits of social life, such as various mental and physical resources, and a select or more intimate human intercourse in places, where, in general, there is no *permanent* society; or where society is constituted anew, from year to year, and that too from diverse and often very discordant, if not hostile elements.

"It likewise cannot be contested, that a great number of those persons who annually flock to a fashionable watering-place only regard it, and come to it, as to a convenient arena for exhibiting their follies and vanities, if not for the purpose of indulging vicious excitements, to the certain detriment of themselves and others.

"How great, therefore, the expenditure required to lay out and to keep a park or recreation-ground, of some extent, in proper order may be, no inhabitant of a large town ever should grudge to pay his share of it. Indeed, if this expenditure is properly divided among all the householders of such a town, then the share which a single one of them has to contribute amounts to a mere trifle, compared with the benefits and enjoyments which are offered him in return. For what a charming and wholesome contrast do such rural retreats offer to the inhabitants of all large towns, after the fatigues of a day spent in the midst of the noise and bustle of crowded streets, or after a protracted confinement within doors, if not within an impure atmosphere of ill-ventilated and ill-lighted manufactories, counting-houses or workshops! And as those parks, likewise, greatly tend to withdraw man from the haunts of all secret or low and debasing [illegible] do contribute much, not only to [illegible] and physical, but also to the social well being of every human community."

The only complaint that we have to make concerning these beautiful essays is, that they are far too short. Take for example the seventh, in which it is shown that "if, driven by a false ambition, woman forsakes her sphere, she forsakes herself, and her very sex becomes but a dazzling degradation." What a text is this! How great and how vast a theme for contemplation times past, present, and to come! But Dr. Doring dismisses it in a dozen small pages, full indeed of many healthy thoughts, but so few and short as to produce regret rather than satisfaction. We, however, trust that they are but the shadow of others yet in store.

THE LOBED CATTLEYA.

[illegible] Lip rolled round the column [illegible] We have had this plant in our possession since May, 1847, when it flowered with Messrs. Loddiges, who received it from Brazil; it is No. 7[illegible] of their catalogue. The flowers are of one uniform purple, tinged with white, and marked with crimson veins on the lip. It is nearly allied to C. labiata, of which perhaps it is a variety. The excessive [illegible] of the petals and lip, and the comparatively small size of the former, seem, however, to point to a specific difference. At all events it is as well marked a form of this genus as C. M[illegible] and, for the purposes of cultivators, may be [illegible] as a distinct species.

Miscellaneous.

Action of Leaves on Timber.—M. Van Hall has [illegible] the observation that the increase of growth in timber, in point of thickness, is considerably lessened by the tearing off of the leaves; and that the cutting off of many and strong branches, which [illegible] to the opinion that [illegible] of pruning trees. He attributes, [illegible] the increase of thickness in trees in different months of the year, and he relies on this point [illegible] a proof that the growth of trees in Holland is very variable, which no doubt is owing to the weather and temperature of that country. As a general rule, however, we learn that the months of June and July are those in which trees increase most in thickness, for the growth in these two months is [illegible] that of all the other months put together. M. Van Hall did not observe a suspension of growth of trees in the latter half of June to the middle of August, as noticed by Duhamel for France; this is [illegible] owing to the fact that there is no dry season in the summer in Holland. The opinion of Agardh is confirmed, that trees grow more in length in the first part of the summer, and more in thickness in the latter part of it. Trees do not increase in thickness during the winter

For the meaning of these symbols see Lindley's Glossary.

NEW GARDEN PLANTS, PUBLISHED IN BOOKS.

N.B.—* = Very handsome. † = Second rate. ‡ = Third rate. ¶ = Unimportant.

Name.	Where Published.	Name of Country.	Quality.	Natural Order.	Colour of Flowers.	Time of Flowering.	When first Flowered.	Where.
Fuchsia spectabilis ..... * *The Queen of Fuchsias.*	Gard. Chron., p. 319, 1848	Peru	G. ½	Onagrads	Crimson	April, &c.	1848	Veitch and Son.
Jatropha podagrica ..... † *Gouty Jatropha.*	Bot. Mag., t. 4376	New Grenada	S. ½	Spurgeworts	Crimson	?	1848	Kew.
Anoptĕrus glandulōsus ..... † *Glandular Anopterus.*	Bot. Mag., t. 4377	Van Diemen's Land.	G. ½	Saxifrages ?	White	Winter	1846	Loddiges and Kew.
Thyrsacānthus strictus ..... † *Upright Thyrsiflower.*	Bot. Mag., t. 4378	Honduras	S. ½	Acanthads	Dark salmon	March, April	1847	Hort. Soc., Kew.
Corynocārpus laevigātus ..... ‡ *The Karaka Tree.*	Bot. Mag., t. 4379	New Zealand	G. ½	?	Green	?	1846	Hurst House.
Gesnĕra libanēnsis ..... † *Many flowered Gesnera.*	Bot. Mag., t. 4380	Cuba	S. ½	Gesnerads	Scarlet	?	1848	Kew.

months; the buds, however, thicken. The branches of Birch, Maple, and similar trees, are seen to be filled with rising watery juices in March and April, if the weather is mild, which cannot be perceived so much, or not at all, as soon as the weather becomes warmer. These juices, however, have no influence whatever upon the increase of thickness in a tree. The superabundance of this rising juice decreases as soon as the leaves have perfectly shot forth; it seems, therefore, to be more concentrated in the leaves; and the growth of trees in point of thickness only commences after the leaves are capable of fulfilling their functions; this has been proved by all the measurements which M. Van Hall instituted. The influence of the leaves upon the increase of trunks, in point of thickness, exhibited itself, among others, more distinctly in the Italian Poplar. On one of these trees being deprived of almost all its branches, in the month of March, the increase in thickness was proportionably slight during the months of June and July. The growth of a Lime tree, on the other hand, in which the side branches, also those lower down on the trunk, as well above as beneath the point of measurement, had, for the greater part, been purposely left, was considerable, and increasing every year. An experiment was made with two equal sized Oaks, situated under the same circumstances, all the lateral branches were taken from one and left in the other; the result was, that the increase of thickness, in the tree which had not been pruned, was much more considerable than of the one which had been pruned. The trunks of Monocotyledons also increase in thickness, according to the observation of M. Van Hall. An Aletris fragrans had increased by 17½ millimeters in thickness in five years, and a trunk of Dracæna Draco, by 23½ millimeters in the same period of time. These excellent observations confirm the theory which Thouars has advanced, respecting the increase of trees in thickness.—*Ray Reports.*

Calendar of Operations.

(*For the ensuing Week.*)

CONSERVATORY AND GREENHOUSE.

It may be presumed that the distribution of that portion of the stock of plants devoted to decorative purposes out of doors has been effected. The surplus stock should now be looked over, and a due proportion selected for potting, a reserve always being kept to make up deficiencies in the beds; a cold pit is best adapted for nursing those plants intended for the embellishment of the conservatory. Cut down Pelargoniums after blooming, and employ the branches for cuttings; the old stools, after a few weeks' rest, may be turned out of their pots, the soil shaken from them, and repotted in a pot of reduced dimensions. By pinching off the blossom buds of the young Pelargoniums a late bloom may be secured. The Perpetual and Bourbon Roses which have been forced should be placed in a cool situation, with the view of repressing further activity; after a season of rest the soil should be shaken from them, and all decayed roots removed, after which they should be repotted in fresh rich earth, and removed to the protection of a cold pit, and there plunged. A few plants of the dwarf Orange should be placed in a shady situation as soon as the young wood is sufficiently ripened; an early winter bloom may thus be obtained. Propagate Luculia gratissima by cuttings. Gesnera zebrina may still be potted for late blooming. The Cacti may be removed from the stove, shifted, placed in a close pit, and supplied liberally with moisture. Balsams and tender annuals for succession should at once be shifted. Gesneras, Achimenes, Begonias, for the same purpose, should also be repotted progressively. Regulate Orchids so that those requiring most humidity or air may occupy those positions most suitable to them. Avoid watering plants which are not in activity. Build up the sides of those kinds which seem to prefer substance to thin air. Look well about the stands of Stanhopeas and Oncidiums now about blooming, that no snails are concealed.

FRUIT FORCING.

Pines.—Attend scrupulously to watering, particularly while the weather is bright and warm. It must be remembered that the absorptive powers of large healthy plants in activity is considerable; tepid manure-water may be advantageously given to well rooted growing plants; succession plants should be progressively shifted; arrange for the admission of air to the Pines generally; an adequate supply is more important at this than perhaps at any season. *Vines.*—Those intended for late work may be retarded before the bursting of the buds without injury, but as soon as activity is decidedly manifested, a certain degree of heat is essential, particularly from the first development of the bunch to the setting of the berries, and during the progress of the fruit; while excessive heat may be repressed, they should still be guarded from the influence of cold ungenial weather. *Vines in Pots*, while in activity, should have abundance of light, heat, and humidity, restricting the last when the plant attains a required extension. *Peach-house.*—On the removal of the fruit the trees may receive another watering, and let care be given to secure continued health in the foliage, that it may perform its important functions properly. It will still be necessary to pinch rambling shoots and check the progress of laterals. *Figs.*—Continue to supply the plants liberally with water; a few shoots on each plant may be allowed a few joints beyond the prescribed length, otherwise stop at five or six joints long.

FLOWER GARDEN AND SHRUBBERIES.

Grass and Box edgings should be clipped and trimmed, the latter (Box) during damp weather. Mowing and rolling may again be proceeded with. Attend to staking Dahlias and all plants likely to require such support. Follow the progress of creepers with the necessary precautions. Propagate China Roses, Pinks, Carnations, and Double Rockets.

KITCHEN GARDEN AND ORCHARD.

The present character of the weather favours all kitchen garden operations, particularly planting, which should be proceeded with directly. The early sowing of winter greens, if not already planted, should be got out without delay. Continue to plant Celery, and sow a good bed of Endive; for a fair supply, sow Peas. The Wrinkled Marrow and Early Frame may be employed. Transplant Onions if necessary. Continue the successional sowings of Lettuces and Radishes. *Orchard.*—Lay in the shoots of Apricot and other wall trees while the wood is pliable. We have seldom seen so fine a development of wood on espalier trees; advantage may be taken of the circumstance to lay in an extra quantity, with a view to the ultimate removal of old unsightly wood. Continue to stop and destroy superfluous shoots on the trained Pear trees; many shoots may be twisted or broken short about half way up. Look over Peach trees frequently. The weather lately has been favourable to the production of the aphis. Stop and tie in Vines, thin Raspberry suckers.

State of the weather near London, for the week ending June 15, 1848, as observed at the Horticultural Garden, Chiswick.

June.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 9	7	29.821	29.623	67	53	60.0	S.W.	.27
Satur.. 10	8	29.627	29.376	63	53	58.0	S.W.	.95
Sun. .. 11	9	29.811	29.730	71	50	60.5	S.W.	.00
Mon.. 12	10	29.784	29.515	65	55	60.0	E.	.78
Tues.. 13	11	29.919	29.499	65	42	53.5	S.E.	.12
Wed.. 14	12	29.974	29.924	73	50	61.5	S.	.00
Thurs. 15	13	29.833	29.770	80	56	68.0	E.	.01
Average...		29.824	29.652	69.1	51.2	60.2		2.12

June 9—Very fine; rain at night.
— 10—Constant heavy rain, almost throughout.
— 11—Overcast; cloudy and fine.
— 12—Cloudy; overcast; thunder, lightning, and heavy rain in afternoon.
— 13—Cloudy; heavy showers; clear at night.
— 14—Fine; very fine; cloudy.
— 15—Very fine throughout.

Mean temperature of the week, 1½ deg. below the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending June 24, 1848.

June.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 18	73.3	51.6	62.5	12	0.25 in.	1	2	2	2	3	4	5	3
Mon. 19	71.6	50.3	61.0	12	0.37	1	2	1	2	1	1	10	6
Tues. 20	72.6	51.6	62.1	10	0.21	1	2	1	1	4	6	6	1
Wed. 21	74.0	51.9	62.9	9	0.68	1	2	3	1	1	10	3	—
Thurs.22	73.3	49.0	60.9	11	0.59	1	2	1	1	2	4	5	1
Fri 23	72.9	49.6	61 2	5	0.46	1	1	2	1	3	9	4	1
Satur. 24	72.5	49 7	61 1	8	0.49	—	2	3	1	2	8	5	1

The highest temperature during the above period occurred on the 19th and 22d, 1846—therm. 93 deg.; and the lowest on the 22d, 1830—therm. 39 deg.

Notices to Correspondents.

BEES—*Bee-keeper*—Dahlias are not poisonous to bees, but, except the single ones, they seldom frequent them. The notion that they are poisonous to bees may have arisen from wild bees sheltering in Dahlia blooms during cold nights in autumn, becoming apparently torpid, especially drones when dispersed from the nests. But when placed in the sun, they speedily gain strength, as do other weak bees that may have sheltered amongst the sweetest flowers. *W.*——*T*—While your straw hive is wind and water-tight, we cannot advise you to coat it with Roman cement; that would make it less porous, in fact it would render it so tight as to prevent the escape of perspiration or damp from the bees, consequently they would be more or less affected by change of weather than if their dwelling was a simple straw hive. *W.*

BOOKS—*C B H*—He will find no book so well suited to his purposes as the "Theory of Horticulture." If he will *study* it—*not merely read it*—he will not find it difficult to understand. "School Botany" will help him, but not in physiology. He should also have Loudon's "Self-Instruction for Young Gardeners."

CALCEOLARIA—*J R Campbell*—The sport in the form of the bloom of the Calceolaria is not uncommon; we have seen it many times.*

EMIGRATION—*A Journeyman*—We can only refer you to the many replies we have already given to similar questions. We cannot take upon ourselves to say where you had best go; some persons succeed well in the United States, others do not. We prefer new Zealand, or the other Australian colonies. If you go to North America, avoid the southern states.

FUCHSIAS—*N F G*—Procure the following sorts:—*Light:* White Perfection, Wright's Leucantha, Dickson's Acantha, Dr. Jephson, Meillez' Napoleon, Turville's One in the Ring, Cassandra, Delicata, Countess Cornwallis, Mayle's Purity, Delicatissima, and Epps's Nymph. *Dark:* Willmoreana, Lowryii, Corallina, Smith's Eximia, Smith's Ne Plus Ultra, Fowle's Exquisite, Pope's Criterion; Kendall's Beeswing, Haiseii, and Crimson King; Smith's Dr. Smith, and Nichol's Beauty of Leeds.*

INSECTS—*A B*—We find no insects on your flowers; but they are covered with blue mould. Is that what you call an insect? You must manage badly to bring them to such a state. They look as if they were kept too cold, close, and damp——*J C*—The blades of the Oats have been devoured by the larvæ of a very minute two-winged fly (Oscinis vastator?), which are now changed to chrysalids, so that, unless there is a succession of generations, the mischief is finished for the present season. The flies will shortly appear, and might be destroyed by running a loose flapper over the fields, covered with pitch. The fibres of the roots of the Wheat appear to have unnaturally swollen, but we could not detect any insect. *W.*——*J F O*—The insects you reared out of the old *dead* standard Roses are Diodontus trislis. They are your friends, as they bury other destructive insects for the prey of their progeny. They are quite distinct from the maggot which burrows into the Rose pith. *W*——*J A C*—Your caterpillar was too much shrivelled up to be recognised. The one you allude to is that of the swallow-tailed moth, Geometra sambucaria. *W.*——*Georgiana*—We cannot advise you without seeing specimens of your enemies, of which you have evidently several different kinds, as those which nibble the leaves of Aquilegias do not burrow into the stems of Fuchsias. *W.*——*E K*—Thank you for the specimens of the weevil in its different states. It is the Otiorhynchus sulcatus, whose history is given in *Gardeners' Chronicle*, 1841, page 292. *W.*

LEAVES—*H H*—We have no further information. Such experiments require more care and patience than are sometimes given to them.

LETTUCES—*A J B*—For summer use the Brighton or the Paris Cos, the Maltese or the Versailles Cabbage Lettuce; for winter the hardy Hammer mith.

MANURES—*M H L*—It is in vain to seek for *rules* and quantities in manuring; that is all a matter of experience and judgment, guided by circumstances. The principle is to use fluid manures very weak and frequently. Guano water is good, *if guano be used.* Put a handful of guano to a pottul of water; it will be strong enough. Good health is all that your Roses require in order to bloom freely. Take care that you do not give them manure that is too strong and forcing.

MELONS—*G C O*—Mr. Fleming is gardener to the Duke of Sutherland at Trentham, and his Melon is a capital one. The nurserymen can furnish or procure the seeds. They have been advertised.

MONSTROUS SLOE—*Chirurgicus*—Your fruit is in a state rare but not unknown. A Bird Cherry in the Himalayas is so generally in the same condition that it has been taken for a peculiar species and called Prunus cornuta. The appearance is caused by the excessive enlargement of the carpels of the Sloe and the non-development of the seed; but why this has happened we do not know. The peculiarity has been ascribed to the attack of an insect; but we find no insect in your specimens.

NAMES OF PLANTS—*B B*—Clitoria Ternatea.——*R D*—Rosa sulphurea.——*Somerset*—Apparently Tragopogon pratensis.——*S N*—Rosa mollis, a variety of R. villosa.——*W S*—1, Some exotic Dianthus, near Plumarius; 2, near Sisymbrium officinale, but different in the pods——*H H*—1, Papaver hybridum; 2, P. argemone, if English; 3, Geranium macrorhizon; 4, Erysimum repandum. You should give us the history of such puzzles as these.——*W S*—We do not recognise your plant, and the flowers are so imperfect, as well as decayed, that it is not susceptible of determination.——*J Y O*—1, Nepeta amethystina; 2, Veronica austriaca; 3, V. pinnatifida; 4, Epilobium angustifolium.——*J S Kemerton*—Echium vulgare.——*S N*—Scilla Peruviana.——*C L*—We are unacquainted with the flower. It looks like a white variety of Sprekelia Cybister.

PEACHES—*W L*—Your leaves are sadly blistered, from the attacks of aphides chiefly. Syringe frequently with plain water, and sometimes with Tobacco-water.

POLMAISE HEATING—*A Q*—It has now become necessary for us to apply to this subject the rule we have laid down in other matters, not to recommend tradesmen. The success of the plan has produced a host of ingenious persons, any of whom may be advantageously employed. All that we can now do, and it is for the last time, is to give the following names:—Plumridge, working bricklayer, of Bletchingly, near Reigate; Lewis, of Stoke Newington; Smith, of Leamington; Haden, of Trowbridge; Whitehead, of Preston; Seward, of Lancaster; Hazard, of Bristol, &c. Although at a distance, any would probably undertake the work notwithstanding.

POTATOES—*Sub*—They are all the better for having their blossoms picked off.‡

ROYAL DUBLIN HORTICULTURAL SOCIETY—Thanks for your information, which is invaluable, because it enables us to see clearly the course which is pointed out to us by duty, though not inclination. Next week we will refer to the subject.

SUMMER PRUNING—*J B*—If you perceive your trees manifesting a disposition to push a number of shoots from the bases of those which you first shortened, you would best allow the upper bud, on the part shortened back to three inches, to push without check for some time longer; provided these secondary shoots are not too numerous and shade too much the spur leaves. Strong shoots of Nut trees may now have their points cut off.‖

MISC—*M D P*—Fuchsia spectabilis is a greenhouse plant.‡——*O P*—Chrysanthemums bloom on the lateral shoots. In topping them just nip the ends off the main shoots with the finger and thumb. This will induce them to become bushy.‡——*A G*—Much obliged, but we have all the Numbers. We cannot state the value of the work you mention.

SEEDLING FLOWERS.

ANTIRRHINUM—*J W W*—Both your seedlings are good and clear-coloured varieties; the same sorts are to be seen in most collections, but not so bright in colour; the yellow we consider the better flower of the two.*——*S N*—The individual flowers of your seedlings are large, and generally they form very fine spikes of bloom. No. 1 is rather dull in colour, but the flower is large and well formed, and the spike is large, compact, and handsome; 2, 6, 7 are somewhat alike in colour, and want variety and novelty; 3, large and handsome spike of flowers, but wanting brightness and novelty; 13 and 11 are too much alike, of the two we prefer 11, a deep rich velvety crimson, forming a fine head of flowers; 9, large spike, two degrees lighter than 11; 4, white tube with crimson lips, good, but we have seen specimens brighter than your variety; 14, not so brilliant as 4, but a fine variety; 10, common; 7, dull, consisting of mixed and poor colours; 6, ditto; 8, good, but not uncommon; 12, flowers white, large, and handsome, and forms a large compact spike of bloom.*

CACTI—*J A*—Your seedling is a good flower; the colour is strong, but it wants more of the purple tinge which is slightly visible in the inside. The petals are narrow; and in splendour of colour it does not equal seedlings which have been submitted for examination during the season.*

CALCEOLARIAS—*O O*—Your seedlings are pretty in colour and marking, the deficiency is in the form of the flowers, they are either too flat in front or the looping is too visible at the bottom of the flower. No. 1 is most free from this defect.*——*R R*—Your flower is a good example of form, but it is too dull in colour, the ground colour is too dark.*——*R P K*—Most of your seedlings are too flat in front, they do not project sufficiently, and in many of them the outline at the bottom appears looped, as 10, 6, 4, 1; the best flowers among your seedlings are 6, 13, 8, and 3.*——*J T B*—Many of your seedlings are too small, some are quite common in colour and marking, and others are too flat; the following we consider the best, 76, 2, 18, 52, 13, 45, 8, 32, 59, 12, 19; they are flowers with clear grounds and decided spotting; a prevailing fault among your seedlings is, that the front of the flower does not project sufficiently.*

EPACRIS—*W J E*—Your seedlings are small and pretty flowers, but not possessing sufficiently good qualities to rank with the best sorts.*

FUCHSIAS—*A B S*—Your specimens arrived in so damaged a state that it was impossible to form a correct opinion of them.*——*Cavanensis*—Your specimens are like those commonly raised from seed: they want novelty, and possess no qualities to distinguish them from many we are in the habit of seeing.*

GLOXINIA—*H T T*—Your flowers are both good varieties, but too like G. Cartonii.*

PANSIES—*Y Y*—Nos. 4, 42, 45, 50 possess no qualities beyond those of common garden varieties; 5 is good in form and substance, but the colour about the eye appears to be too undefined; in other respects it is a good dark self.*——*B B*—Of your Primrose selfs, 180 and 190, the former we consider the better flower; it is superior in general form, and the edges of the petals less frilled than 190. It wants substance, and is not better than those of the same colour already out. 32, brilliant yellow ground, with purple top petals, and margin round the lower petals; eye clear of the belting, and wanting a little more precision where it joins the margin. The flower is stout and good in form, and is likely to prove a good variety.*

PETUNIAS—*J B H*—The appearance of petals in the centre of your seedling is no improvement upon the flower; it is an illustration of morphology, and is in fact an elongation of the anthers.?——*F C*—Your specimens are not sufficiently distinct to send out; they are but common varieties which are generally obtained from saving seed.*

HAY-MAKING MACHINES.—Improved Double Motion Reversing Hay-making Machines, Price Twelve Guineas. These Machines have all the latest improvements of the Double Rake Cylinders, driven from both ends, which causes them to work very lightly, and admits of their turning in any direction at the end of the field, without impeding the working of the machine; they have also an additional motion by which the rakes can be turned the reverse way, leaving the hay remarkably loose and light.

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The Agricultural Gazette.

SATURDAY, JUNE 17, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

TUESDAY, June 20—Agricultural Society of England.
THURSDAY, — 22—Agricultural Imp. Society of Ireland.
TUESDAY, — 27—Agricultural Society of England.
THURSDAY, — 29—Agricultural Imp. Society of Ireland.

FARMERS' CLUBS.—June 17: Reading.—June 19: W. Market.—June 23: Wadebridge.—June 30: Stranraer.

"THE atomic theory involves the whole DOCTRINE OF WASTE." We quote from a former article on the subject of farm economy.

This statement is not, however, absolutely true of agriculture any more than it is of practical chemistry. For in the farm-yard, far more than in the laboratory, loss arising from accident and negligence frequently exceeds that which is due to ignorance of the laws of proportion in chemical combinations. But, *apart* from these ample sources—carelessness and roguery—all waste in agriculture may be truly said to arise from contraventions of what is called THE ATOMIC THEORY.

Perhaps the best way of presenting this theory to one previously unacquainted with it might be thus:—Take a specimen of any mechanically simple, *i. e.* unmixed substance—lime, for instance: it is capable of amazing reduction by trituration and other mechanical means, but it is not infinitely divisible: by and bye, supposing you were able to carry the process so far, you would come to the ultimate atoms of which it is made up, and these are indivisible by any further mechanical process; and, if the substance be chemically simple, *i. e.* incapable of chemical decomposition, they are indivisible absolutely. If the substance, however, be compound, its atoms, though incapable of mechanical division, may be decomposed by chemical means: *e. g.*, the atoms *a* and *b* may be separated, which make up one atom of the compound substance *ab*. An atom of lime may thus be divided into one of calcium and one of oxygen, these being the substances which, chemically united, form lime. In any case the atoms of each kind of matter are uniform in every respect—in quality, form, size, weight. Compound bodies are formed by the *union* of atoms of different kinds of matter—simple bodies by the *aggregation* of the atoms of one kind of matter. The atoms of various descriptions of matter unite each to each, according to their several inherent tendencies or affinities, and the proportion of each matter, which goes to form the compound, depends of course on the relation in point of weight subsisting between their respective atoms. And thus, conversely, the relative weight of atoms is capable of demonstration from the ascertained proportions in which the substances made of them will unite with one another. It has been ascertained that if 1 lb. of hydrogen gas be mixed with 8 lbs. of oxygen gas, and chemical union be induced between them, there will result 9 lbs. of water; while any excess of either gas beyond this proportion is left unaltered. It is concluded that one atom of hydrogen unites with one of oxygen to form one of water. There must, therefore, be the same number of atoms in 1 lb. of hydrogen as in 8 lbs. of oxygen, and hence the atom of oxygen must weigh eight times as much as the atom of hydrogen: or, the atom of hydrogen being 1, that of oxygen must be 8. In a similar way it has been determined—the atoms of hydrogen and oxygen being respectively 1 and 8—that an atom of calcium weighs 20.5; one of carbonic acid, 22.12; one of phosphoric acid, 71.7; one of sulphuric acid, 40.1: that an atom of ammonia weighs 17.2, and one of iron, 28. And proceeding further on the same principle, we conclude that an atom of lime, made up of calcium and oxygen, weighs 28.5; one of carbonate of lime, 50.62; of sulphate of lime, 68.6; or, as it is found in nature, united with two atoms of water, 86.6; one of phosphate of lime, 100.2; of biphosphate of lime, 171.9; one of carbonate of ammonia, 39.32; one of the oxide of iron, 36; of the sulphate of iron, 76.1, or, as it is sold in the crystallised form, united with seven atoms of water, 139.1: the numbers being in every case obtained, just as the compound atoms themselves are, by adding together those whose combination forms them. To add one instance more, we learn in a similar way that the atomic number of sulphate of magnesia is 60.8, or, as it is sold, in the form of Epsom salts, containing seven atoms of water, 123.8. It is thus that absolute exactness is the unfailing characteristic of all chemical combinations. To present to a given number of atoms of any substance in any chemical process, a greater number of the atoms of any other substance is simple waste of the difference: to present to any substance more of any other than in the proportion subsisting between the weights of their respective atoms, is an act of waste so far as any chemical relationship between them is concerned.

But the atomic theory is not confined to minerals: organic substances, too, are made up of atoms. The extension of organic chemistry during late years has just been the gradual demonstration of this truth throughout the animal and vegetable kingdoms of Nature: it has been the extension of rigid atomic chemistry into regions where formerly the unknown principle—life—was believed to exercise its mysterious sway alone. The gluten, the starch, the fibrin, forming the substance of vegetable food, possess as strict an atomic structure as any of the mineral compounds: and the same is true of the albumen, fibrin, and fat of animal bodies. No doubt the laws of chemical proportion determine the processes of growth in animal and vegetable bodies as conclusively as they regulate those of combination and decomposition in the mineral kingdom. And though imperfect knowledge and imperfect means still hinder the strict application of chemical laws in the management of the field and the fold-yard—the feeding houses respectively of plants and of animals—yet we believe the time will come when it will be understood *how* the result in either case may be made to depend not more on the nature of the machine, plant or animal, which produces it, than on the atomic constitution of the raw material with which the machine is fed. The laws of chemical combination, as well as those of vegetable and animal physiology, are already known to influence this result, and modes of economically applying them to the attainment of any desired end will no doubt, ere long, be devised.

Meanwhile it is to a comparatively humble department of agriculture that the atomic theory can alone as yet be fully applied. We refer to the manufacture and management of manures. It may be considered unnecessary to refer for the hundredth time to the loss of ammonia from the tank and the manure heap; we only do so to illustrate the avoidance of waste in the processes of fixing it. Our atomic numbers given above apply thus: Every bulk of manure, liquid or solid, containing 17.2 lbs. of ammonia or 39.32 lbs. of its carbonate, requires 86.6 lbs. of gypsum or 139.1 lbs. of green vitriol, or 123.8 lbs. of Epsom salts, or oil of vitriol enough to supply 40.1 lbs. of sulphuric acid, in order to check the loss of this volatile substance.

More would be waste of means, less would allow waste of their object; these are the quantities which in each case supply acid enough to unite, atom to atom, with the ammonia present, so as to form the fixed salt—sulphate of ammonia. Of these substances the acid or the Epsom salts is the best, and the iron salt the worst. The Epsom salts, as suggested by Dr. SMITH, are especially suited for use in the liquid manure tank; their action on its contents results in the sediment of crystals of the ammoniacal phosphate of magnesia—a substance of admirable composition as a manure. Another excellent fixer of ammonia in dungheaps is the chloride of manganese—a refuse from some of our chemical manufactures: for a quantity of manure containing 39.32 lbs. of carbonate of ammonia, 63.2 lbs. of this chloride will be needed.

The atomic numbers are obviously useful, also, as guides to the manufacture of "bones and acid." But to this subject we have already (page 141) at full length referred. It must suffice for the present, therefore, to state what these numbers teach, that to every lot of bones containing twice 100.2 lbs. of phosphate of lime, 40.1 lbs. of sulphuric acid, independently of the portion called for by the other ingredients of the bones, must be added. We may add to these remarks, for the guidance of further calculations, that ordinary farm manure may be held to contain about 20 lbs. of carbonate of ammonia in every ton; and the liquid manure of the tanks, supposing it to be undiluted urine, may contain nearly 40 lbs. of the carbonate or its elements in every 100 gallons.

We hope enough has been said to show every aspirant after agricultural improvement how hopefully it may be looked for in the direction of agricultural chemistry. Scarcely a farm process exists that does not depend on the atomic theory for its results: and if the very atom of loss present can be shown to rest on the one foundation as upholds the whole fabric of chemical science, there can be little doubt that the Art and the Science must grow together, each partaking of the improvement which the other experiences. Those who desire to have an opportunity of leading their minds to the same by joining the Agricultural Chemistry Class, whose proceedings occupied so much of last week's *Agricultural Gazette*.

SALT AS A MANURE.

SEVERAL articles have recently appeared in the *Gazette* on this subject, some of which speak favourably of its effects on various crops, while in others the writers seem to attach but little importance to its use in agriculture. Mr. LAWES, in his interesting and highly philosophical remarks on Prof. DUMAS' inquiry regarding the employment of salt as a manure, has placed the subject in a very satisfactory light, and given it a far more intelligible bearing than it has ever yet borne from the published results of practical experiments, which, if we except the single and vague statement of its action of salt in imparting firmness to the straw and quality to the grain of cereals, are either so contradictory or so devoid of economical advantage as to present scarcely any inducement for their repetition, otherwise than as a point of theoretical investigation to the curious. The fact adduced by Mr. LAWES in support of his position, and which is confirmed by all accredited analyses, that chloride of sodium forms but an insignificant portion of the ash left by incinerating the grain of cultivated corn crops, or of the beef, mutton, or pork reared upon and carried off our farms, ought to be sufficient to assure the practical farmer that any exhaustion of his land in loss to be apprehended from neglecting to apply common salt as a manure, than those substances, such as phosphoric acid, ammonia, lime, and magnesia, which form the principal proportion of the essentially fertilising matter removed permanently from the soil in the commonly exported produce of his farm. Connected with this strongly inductive argument against the general and indiscriminate use of salt as a manure is another fact, mentioned by Mr. BROWN, of Cirencester, in No. 21 of the *Agricultural Gazette*, that on the Cotswold Hills, 30 miles from the new passage of the Severn, rain water contains salt, in quantities not only appreciable by the usual chemical test, but actually visible to the eye on windows after the rain which held it in solution has evaporated. The mechanical evaporation of various kinds of otherwise involatile substances, such as common salt and the salts of potash and soda, along with the vesicular vapour of water, is a well known occurrence, and frequently an annoying one, in the commonest experiments of the laboratory; and irrespective of the undeniable evidence which chemical re-agents afford of the presence of common salt in rain water, we might very safely conclude that rapid evaporation could scarcely occur from the wide expanse of the ocean without the vapour carrying along with it, in mechanical suspension, a minute quantity of those saline substances which give sea water its peculiar character.

This being the case, it is very reasonable to suppose that in all seaward districts, and even those not having a strictly littoral aspect, the land receives a diluted top-dressing of salt from the clouds, in heavy and general rains, sufficient to supply the ordinary wants of that department of vegetation in which the farmer is interested. From the locality where these remarks are written, the German Ocean is distant about 10 miles as the crow flies, and in heavy rains from that quarter the rain-water brings along with it so much salt that a few drops of nitrate of silver added to a wine-glassful of the water, as it comes direct from the clouds, occasions a turbidity of a milky colour, so dense as almost amounts, as chemists term it, to a precipitate. Farther to the eastward, on that peninsular portion of Fife known as the "East Neuk," rain borne from the sea is so saturated with salt, and the other constituents of sea-water, that the windows and walls of houses exposed to it become incrusted with a thin, white film of saline matter immediately when the rain has ceased, and the moisture evaporated from them. Of course, under such and all similar circumstances, any specific application of salt to the soil by way of improving its fertility, would be a work of supererogation, and something decidedly more ridiculous than "carrying coals to Newcastle," or "salt to Dysart;" yet instances are not unknown to the writer where land that touched the very sea-beach, has been top-dressed with common salt purchased and carted from a considerable distance, notwithstanding that every shower borne from the ocean covered the walls and windows of the adjoining houses with a saline incrustation, and consequently the soil also, but less visibly there, from the rain sinking downwards and carrying the saline matter along with it. The use of common salt on farms lying very close to the sea must still further be considered as at least uncalled for, if we take into account the fact that on very many of them sea-weed, which contains a very considerable proportion of salt, is largely used as manure. In sea and districts there does not appear to be any reason for employing common salt as a manure, and it is only in inland counties, remotely situated from the ocean, that it can be at all advisable to use it generally for the purpose of improving the fertility of the soil.

There is one point, however, in which salt may be used advantageously, and upon which a considerable amount of confirmatory results have been obtained, viz.,

the influence which it exerts in repressing an over-luxuriance of straw, and at the same time increasing the specific quantity of the grain, which, however, may be only a secondary consequence arising from the improved texture of the straw. The published Transactions of the Highland and Agricultural Society of Scotland contain a large amount of evidence, drawn from field experiments, proving the peculiar action of common salt in strengthening the culms of Wheat, Oats, and Barley; and although the Rye crop does not seem to have been experimented on, yet, by parity of reasoning, we are led to a similar conclusion in regard to it. The *rationale* of the action of salt on corn crops has not yet assumed any definite form, and, to the practical farmer, the question has little of interest in this aspect. That common salt exercises special functions in the animal economy (acting beneficially both as a tonic and alterative) is a well-known fact, and probably the juices of certain plants (as hinted at by Mr. Lawes) are so altered by a more than ordinary amount of this substance freely supplied to them, as to modify that excessive development of cellular tissue to which corn crops grown on soft, rich soils are so liable. If these views be correct, or even an approximation to the truth, the application of common salt to the soil must be considered as only useful under certain circumstances: 1, in inland districts where the rain-water is unable to carry saline matter; and 2, on soft, rich soils, where over-luxuriance of straw is to be guarded against.

With regard to root crops, the use of salt as a manure seems unnecessary in those districts bordering on the sea, especially when such crops are consumed on the farm; but, further inland, a better effect will generally be produced on the bulk of green crops than on corn crops by the use of salt. The prevention of the ravages of slugs, by using salt, was long a favourite nostrum, and is so still to some extent; but the fact that these animals retain their vitality for a considerable time after immersion in a strong solution of salt is sufficient to prove that a few hundred weight per acre, strewed over the ground, is quite inadequate to effect the great results usually attributed to its application. The same remark applies to a mixture of salt and lime (converted by exposure to air into carbonate of soda and muriate of lime); the good effected being due not to the destruction of the slug, but to the more vigorous condition of the crop induced by an application of these substances.

The use of salt, as a condiment and tonic to animals, is greatly to be recommended; but it should be administered in such a manner as not to force them to take more than they would of their own accord. It should not, therefore, be mixed with their food (because in this case instinct must succumb to hunger), but given in its natural state, and placed within reach of all animals, whether horses, cattle, sheep or pigs. A writer of some authority (Mr. Robertson) has recently attributed bad effects to the use of salt when given to breeding ewes; and probably there may be danger in causing pregnant animals of any kind to swallow a large amount of salt every day among their food, but doubtless there can be none when instinct makes the choice.—*J. H.*

NOTES ON CATTLE AND MANURE.

(*Continued from p.* 371.)

To calculate profit on feeding requires a knowledge of the quantity of food which is required to fatten an animal. Professor Johnston says, in his most valuable lectures, that no accurate experiments have been published showing the quantity of food necessary to supply the daily waste in animals, but comparing this with experiments made on a full grown man, he gives a table of the quantity of different foods which would require to be given to replace the waste in an animal; he gives 120 lbs. of Turnips, or 115 lbs. of Wheat straw, or 20 lbs. of meadow hay, as the proper quantities; he further shows that a mixed food, and even that changed, is best. For practical purposes the food given should be sufficient not only to sustain but to increase the animal. If fat is wanted, fatty or oily substances should be given. The husk of grain is found to contain most oil, hence its fattening qualities. The young animal requires supplies for bone and muscle, phosphates are therefore necessary. The size and condition of the animal must regulate the quantity and quality of the food, the larger the muscle and bone the greater will be the daily waste. If an animal requires a fiftieth or sixtieth of its weight of dry food to supply this, a larger portion must be given for fattening. An animal of 100 stones will convert 2 stones of hay daily into dung; what it eats more will go to the increase of weight. One of 50 stones requires 1 stone a day to sustain its body. Lord Kames states that a middling-sized ox eats 30 lbs. of hay, Dutch weight, and drinks 48 Scotch pints in 24 hours. An ox or a sheep eats one-third of its own weight in 24 hours. He recommends feeding cattle on red Clover, cut, in sheds temporarily erected on the fields. A horse or cow will eat 10 Dutch stones in a day. He found that beasts took on daily in May and September at Grass in the field 2 lbs., which is more than in any other months. He thinks a spayed heifer the most profitable to feed, and urges the use of oxen for field draught, as they cost less, and when done for this purpose can be fattened and sold. To return to feeding: large beasts will convert much produce into rich dung, but are thought by Johnston to require larger proportional quantities to enable them to lay on fat. Small ones, he thinks, if equal in quietness and breed, ought to yield proportionally more beef and be more profitable. Heat, air, light, quiet, and exercise all have an effect on the animal in fattening.

The usual feeding of cattle is three times a day; some give as much as half a cwt. of Turnip at each time, with as much straw as they will eat, clearing out all refuse before each fresh feed. I have been in the habit of giving about three quarters of a cwt. of Turnip with half a stone of meadow hay to animals of about 32 stones each, as the whole daily food; also some straw. These were tied up. Taking 120 lbs. of Turnips per day and 20 tons an acre, as averages of feeding and produce, and 5 months as the time of fattening, each beast would require 18,000 lbs. of Turnip, while at 20 tons each acre would give 44,800 lbs., which would be at the rate of nearly 2½ beasts to an acre of Turnip for the time. If meadow hay was given at half a stone per day, each would require for the five months 75 stones of hay. If oil-cake or Linseed was given, less Turnip and hay would be required; but in calculating cost, the actual first outlay at least would be in favour of Turnips and hay. It may not be out of place to remark what great consequence it is to proportion the stock to the quantity of produce, as the feeding should go on increasing to the last; any failure in the last week or two might turn the scale of profit or loss to the wrong side. An experienced practical feeder reckoned that three Scotch acres of average crop of Turnips would feed three oxen for three months. By reference to the cost of feeding on different systems, the rate varies considerably. I have not found the expenses which I intended to insert, but there is an excellent article, at page 749, in the vol. for 1846. Lord Kames reckoned it at 9*d.* per day—5*s.* 3*d.* per week. In calculating in cash, including everything, the expense of keep cannot well be put below 1*s.* per day. It is not certainly direct outlay, but a proportional increase on the purchase price of the animal must be looked for. At this rate there would be an expense of 7*l.* on five months' feeding. Beef at 9*s.* per stone of 22 lbs., the animal would require to have increased at least 16 stones in the time, about 1 stone a week. It is said that unless a bullock takes on 2 stones a week, he will not pay. I have not met with any one who has accurately weighed the animals for the purpose, but give some extracts which, as they were for particular purposes, are probably above the averages. Mr. Morton's experiments on sheep show an average of a gain of 23 lbs. to 28 lbs. from November to March. Professor Johnston gives an instance of a gain of 2 lbs. a week on a fowl and 3 lbs. on a turkey. Mr. Huxtable's lambs gained 4 lbs. a week, pigs 11 lbs. My own experience has been without weighing, but in cash, on poor wet Grass land, which would only feed West Highland cattle of about 16 stones, for which I paid from 5*l.* to 5*l.* 10*s.* in May, I got in October from 8*l.* to 9*l.* For fattening I generally buy short-horned stots in October, which fatten up to, say 32 or 34 stones; for these I pay 7*l.* to 7*l.* 15*s.*, and sell in March for 11*l.* or 15*l.* 5*s.* It is found here that heavy large cattle, I allude to Scotch animals which are much smaller than many English breeds, pay best for fattening. Few proprietors have sufficient subtilty to be a match for the dealers they may meet in a market; the less they have to do there the better. If their own overseers are not sufficiently acquainted with the business, there are respectable commission agents who receive a certain per centage on the sales or purchases. In the sale of fat stock, by living weight seems the proper way of obtaining a fair transaction; this was the opinion of Lord Kames, which is still of great weight. He gives the following division of the ox and sheep:

Ox.—The four quarters...¾ of living weight.
The skin .....1-18th ditto.
Tallow ..... 1-12th ditto.
These make 23-36ths of the whole. The head, feet, tripe, and blood give the remaining one-third.

Sheep.—The four quarters...¾ of living weight.
The skin .....1-11th ditto.
Tallow .....1-10th ditto.
Offals less than ..... ½ ditto.

From these may be calculated the value of the living animal, of which he gives the following examples:

Suppose a bullock of 72 stones living weight:

	£	s.	d.
4 quarters 36 stones, at 4*s.* per stone	£7	4*s.*	0*d.*
Hide, at 4*s.* per stone	0	16	0
Tallow	1	12	0
Offals	0	7	6
	£9	19	6

Off 5 per cent. for butcher's profit.

A sheep 6 stones 14 lbs. Dutch living weight:

	£	s.	d.
4 quarters 55 lbs. at 3*d.* per lb.	£0	13*s.*	9*d.*
Value of wool 11¼*d.*, skin 10*d.*	0	1	9¼
Tallow 1-10th part, 11 lbs., at 4*d.*	0	3	8
Offals valued at	0	1	0
	£1	0	2¼

Off 5 per cent. for butcher's profit.

Without entering into these minute calculations, the knowledge of the living weight would render the transaction fairer for both parties, as at present the butcher offers according to what his experience leads him to suppose is the weight.—*Forester.*

(*To be continued.*)

TURNIP CULTURE IN DEVONSHIRE.

It has often been remarked that in those countries and districts where nature has been most lavish in her bounties, man has not laboured in a corresponding degree to avail himself of such advantages. I may instance the county of Devon, which, from its romantic beauty, is justly styled the garden of England, and, on account of the mildness and serenity of its winters, is the resort of those who from delicacy of constitution could not remain with impunity in the less favoured parts of our island; yet though it possesses a rich soil and favourable climate, it has not, up to this period, made that progress in agriculture which such advantages would lead us to expect. It may perhaps appear presumptuous on the part of a stranger to offer his opinion upon the agricultural capabilities of a county, without any practical experience wherewith to support his views. But the subject upon which I am about to write, namely, the advantages which the climate of the west of England offers for the cultivation of the Turnip and other root crops, can, I believe, be explained upon general principles far more satisfactorily than by any results arising from individual experience. Whoever has traversed the counties of Devon and Norfolk, and compared the system of agriculture carried on in them, cannot but be struck with the comparatively small portion of land which is devoted in Devonshire to the growth of the Turnip. In Norfolk the Turnip crop is justly considered as the foundation of good husbandry; in Devonshire it is almost neglected. In the former, the amount of stock which the farmers are capable of breeding and fattening by means of the Turnip crop is prodigious. According to M'Culloch the number of sheep brought into the Norwich market alone, in the year 1836, amounted to above 214,000; while in Devonshire, the total stock of sheep has been estimated at 630,000, though, according to the same authority, the number of acres in tillage and pasture is the same in both counties. This would almost lead us to conclude that the agriculturists of Devonshire consider their soil and climate unsuited to the cultivation of the Turnip. If such is the general opinion, I hope I shall succeed in proving that it is erroneous. The effect of climate upon agricultural produce has for some time particularly engaged my attention; indeed the state of the weather is a constant subject of inquiry among all farmers. Its provoking uncertainties are pointed out as the source of all their woes, and in spite of the promises of that venerable astrologer, Mr. Francis Moore, physician, and his modern rival, the renowned Mr. Murphy, the rain always falls when their hay is ready to carry, and the droughts set in just as their Turnips and the ever accompanying fly appear in their fields. Being convinced that no knowledge at present exists by which a man can predict the state of the weather even for a day, I set little value on the statements of those who profess to give tables for a whole year in advance.

When observations on temperature and the fall of rain are continued for a few years, it is found that each locality has its peculiar climate, which varies but little one year with another. Comparisons can therefore be instituted with respect to the advantages which the climate of one county has over that of another for the growth of any peculiar crop. It is well known to all farmers that different crops thrive in different soils; some succeed best in the clays, others in the sand; the same peculiarities extend to climate, which exerts a still greater influence upon produce than the soil itself.

The condition of the Turnip and Mangold Wurzel crops in any farm or district may be considered as a tolerable criterion of the style of its agriculture; the peculiarly artificial nature of these crops requiring all the skill and energy of man to bring them to a proper state of development. But even when the agriculturist has done his utmost to secure a crop by due attention to tillage and manure, his hopes are often destroyed by the unfavourable state of the weather, these crops being more dependent upon climate, and more affected by its variations, than any other. Thus it is necessary to know the sort of weather which is most favourable to the cultivation of root crops, and to ascertain from observations the average climate of various districts, before we can determine which of them is capable of producing in a series of years, and with an equal amount of skill, the most productive root crops; or, in other words, which has the greatest natural capabilities for growing them.

I will therefore, in the first place, describe the peculiar state of weather in which the Turnip delights, and then show, by comparison, how far the climate of Devonshire is suited to its growth. Whoever has walked over a field of Turnips exposed to the burning summer sun, with its broad leaves lying flat upon the ground, enervated and flaccid, its roots in vain seeking from the parched soil that moisture which the hot air was removing with too great rapidity from its leaves, and has returned in the evening when the erected leaves were extending themselves to imbibe the falling dews,—must feel convinced that rain is an essential element in the growth of the Turnip. The very composition of the plant shows its intimate connection with water, some varieties containing 93 or 94 per cent. of that element, and none less than 85. Abundance of moisture being, therefore the first requisite for the proper development of the Turnip, a degree of heat which may be called moderate is the second. The disease called mildew, so liable to attack early-sown Turnips, although not yet satisfactorily accounted for, is most probably caused by too warm an atmosphere affecting the healthy functions of the plant. The season of 1845, in the south and east of England, was very favourable to the Turnip crop, and, in consequence, the produce was so great, that thousands of acres were given away to any person who would bring stock to consume them. The season of 1846, on the contrary, was equally unfavourable, and on many farms, where 40 or 50 acres of Swedes were sown, not one produced a crop. A comparison of the climate of these two years shows that in 1845 the summer was cold and very rainy; the autumn rainy and warm. In 1846 the summer was very hot and dry, and the autumn cold and wet. The early part of last season was very unfavourable to the Turnip, but the usually mild autumn, extending almost to Christmas, lengthened the period of its growth, and the crop was very much better than might have been anticipated.

Now let us examine the climate of Devonshire, and see whether it possesses the necessary qualifications for the favourable growth of the Turnip crop.

In Sir James Clark's work upon the influence of climate on diseases, tables of the climate of various places in the West of England are given, from which I have selected the following:

	Inches of rain which fell during the three months, Oct., Nov., Dec.
Torquay	9¼
Exeter	10
Penzance	15
London	8

We see by this table that the amount of rain which falls during the autumn, is greater in the West of England than in London. The next table gives the mean temperature of the same months, which is still more important.

	Mean Temperature. Oct.	Nov.	Dec.
Torquay	53 ..	194 ..	163
Exeter	53 ..	45½ ..	43¼
Penzance	53¾ ..	49 ..	46
London	51¾ ..	43¼ ..	35¼

I mentioned before that the good quality of the Turnip crop depends greatly upon the winter being delayed to a late period. The frosts that often occur early in November arrest its growth, which would otherwise continue for two months longer. Now, it is evident that, in the West of England, upon an average of seasons, the temperature is such as to enable the Turnip to grow up to Christmas; a most important advantage, the value of which cannot be too well understood. In most parts of England, farmers are obliged to sow their Swedes in the beginning of the month of June to insure a heavy crop, otherwise the cold weather arrests the growth of the plant before it has arrived at its full weight. There are, however, many disadvantages attending early sowing. In the first place, the fly is much more prevalent at that period, and the risk of losing the crop much greater than later in the year. In the second place, the month of June is generally a dry month, and it is with difficulty that some soils can be brought to a proper state of tilth so early in the season. Experience has also shown, that it is only in remarkably favourable seasons that a good crop of white Turnips can be obtained after the earliest Tares are mown or fed off, and Swedes are hardly ever attempted. Now the mean temperature of Exeter for the month of December being exactly the same as that of November in London, the farmer who sows his Turnips on the 1st of July at Exeter, may calculate upon as many days' growth for them as he who sows them on the 1st of June near London. Were I a Devonshire farmer I should commence sowing Tares upon my Wheat stubbles as soon as my crop was off the ground, and continue sowing a portion every fortnight until the middle of October. With a liberal supply of dung, these Tares would be fit for stock in June and July, and as each portion was consumed I should sow Turnips; merely drilling in with them a small quantity of artificial manure. The only portion of ground I should keep as a fallow in the autumn, would be that which I intended for Mangold Wurzel. This crop being sown in May, no previous crop can of course be obtained. Such a course as I have now suggested can, I believe, be adopted with success upon all soils which are not absolutely heavy clays; these are more adapted to the growth of Mangold Wurzel than of Turnips. I must now conclude my remarks, which I shall consider have not been made in vain, if they attract the attention even of one agriculturist. The time is fast approaching when the produce of unexhausted soils and the most favoured climates are to be brought into competition with the growth of our own fields; low prices we certainly must expect, and a period of agricultural distress; but with a population so large and so rapidly increasing, the cultivation of our own soil must always be a profitable occupation; and, if the capabilities of the soil and climate of Devonshire were taken advantage of to the fullest extent, the agriculture of that county would be second to none, and its farmers among the wealthiest of the cultivators of the soil in the British Isles.—*J. B. Lawes, Rothamsted Park, Herts.*

LETTERS ON RAILWAYS AND AGRICULTURE,

IN LINCOLNSHIRE.—No. V.

(*Continued from p. 354.*)

Before proceeding to see what railways may do to advance the highly cultivated tract which so justly excited Mr. Pusey's admiration, I could not pass over the intermediate belt lying between Great Grimsby, a line from Great Grimsby to Boston, and the Wolds. This belt, as I have before observed, has been under cultivation from the earliest ages of which we have any record, at periods when whole counties of England now fertile and populous were mere wastes of wood and water. The character of the soil and its proximity to the pasture land near the sea enable the farmers to breed a large head of stock, and the strong clay land only requires a sound system of draining and subsoil ploughing to produce never failing crops of Wheat of the finest quality.

In making my way across it toward the foot of the Wolds, a distance of about eight miles, the neatness of the general cultivation was as remarkable as the great size of the farm buildings. The gates, always a test of neatness, were universally in good order. The corners of the fields evenly worked up, not presenting, as is too often the case, a heap of weed-growing rubbish; but then, to be sure, great pains seemed to have been taken to make each field square, avoiding those crooked corners which no plough can get at. The hedges were closely and carefully trimmed. In many days' riding in every direction I did not see one of those thick covert hedges that disgrace so many of our counties. Still there was a great difference in the style of trimming hedges. There can be no question that the Scotch style is by far the best; by which, on first planting, each quickset is treated as a separate tree, and set at a distance of at least 10 inches, protected as usual by a strong double rail fence, but no ditch. As soon as sufficiently grown, it is cut, not with shears or a clumsy bill, but with a sharp sail tool at the end of a pole, with a clean upper cut, into the shape of a horse's hogged mane, so as to admit as much light and air as possible, and prevent the upper branches from dripping on the lower, than which nothing can be more injurious, even on old hedges.

Trimming on what I will call the horse's mane principle, will soon produce a great improvement and eradicate a fence which, without any ditch, will be almost impervious to man or beast, while the lower part impassable, but clear of brushwood and weeds, will not harbour vermin. Where a Blackthorn has been cultivated for a few years in this style it presents a bullfinch so high, thick, and strong that it takes a very first-rate hunter to get over it. The style of growing hedges is much exceeding in North Lincolnshire, introduced from Scotland I believe by that celebrated cattle breeder and excellent farmer, Mr William Torr, late of Riby now of Aylsby—at any rate I saw the best specimens on his farms. Perhaps a fine growing fence is one of the first steps towards a good farm, once up, and a little clipping keeps it always in order at small and calculable expense.

The drill system for grain sowing seemed all but universal, and the Wheat looked well running for miles in mathematical lines from the hedgerows. Although there are undoubted advantages in the broadcast system, especially in very dry seasons, there are two points in favour of drilling or other regular mechanical mode of sowing which must cause it in this country to become universal. First, from the facility it affords for cleaning the crop of weeds, by harrowing; and secondly the power it gives for regulating and economising the distribution of seed. It is a beautiful sight in the spring of the year to go into a Wheat field and see the admirable ease and regularity with which a boy with a light harrow, drawn by a steady horse, cleans the weeds from between the rows of Wheat, stirring up the soil, and giving the green expanse the fresh trimness of a garden.

Among other signs of good farming I found on most establishments the best modern implements in use. Crosskill's clod-crusher was to be found everywhere. That most useful instrument the scarifier was also nearly as common as the harrow. The wheelwrights' shops have quite a scientific effect, from the number of patent tools to be found there for repair. Steam-engines, known by their chimneys at a distance, were to be found on large farms, and I am informed that when the railway opens, and brings down the price of coal, they will become much more numerous. Two other points cannot fail to strike the most careless passer by through this district—the stately appearance of the lofty corn-ricks, well built and thatched in fine open yards; and the well furnished look of the cattle-yards and pens which are attached to every farm. Every farmer in this district, whatever the value of his farm, feeds some number of horned beasts for the sake of manure. You always find the cattle in fair condition, and plenty of straw under their feet. It is a melancholy sight in many parts of England—I particularly noticed it in Gloucestershire, when there last winter—to find fine beasts wandering about ill paved yards, covered with about 6 inches of mud, when they might be converting two yards deep of straw into fine oil-cake manure.

The riding horses here are generally superior. The farmers as well as the gentry are all sportsmen, and the hacks and harness horses have a good stamp and some breeding about them; but the cart horses I met on the road and saw at work in the fields, were by no means of first-rate quality either in appearance or action. They struck me as being small and slow. It is rather dangerous to found a theory on these cursory impressions, but it occurred to me that the value and comparative deficiency of pasture land might have something to do with it. The farm servants are a fine race, tall, well made, and ruddy, for the most part fair haired; but, although civil, not over acute beyond matters of daily routine, and strangely deficient in the rudiments of education.

During several days in which I passed over the country in every direction, I was much impressed by the generally high tone of intelligence pervading among the farmers, who seem to hold feelings much the reverse of the same class in most counties. I had a good opportunity of hearing many opinions as I followed the Brocklesby hounds on several cold scenting days, and talked to every one, according to my custom. In many counties, the farmer who purchases new implements, tries new manures, or ventures on new experiments, is looked upon with pity, not unmixed with contempt. These sort of speculations are considered only proper for landlords indifferent to profit and fond of agricultural fame. Such is not the case in the districts round Grimsby and Brocklesby; an account even from a stranger of any recent invention, or seed importation, bearing upon agriculture, is listened to with attention, and the tenant farmers most noted among the scientific agricultural world for their ingenious investigations, are also the most highly esteemed among their Lincolnshire neighbours. I ought to have mentioned when describing the house that a very [illegible] warmth, [illegible] very much [illegible] low and far between, [illegible] have been improved [illegible].

On a good many of the [illegible] between the [illegible] many respects [illegible] a tolerable amount [illegible] pasture, I found [illegible] good [illegible] pounds. Of all the [illegible] culture in the [illegible] Devonshire [illegible] and also, perhaps, [illegible] being [illegible] part a [illegible] low [illegible] question, no [illegible] pressing, [illegible] kept [illegible] cheaper; and [illegible] corn [illegible].

The farmers in the [illegible] contrast [illegible] most of [illegible] it is not [illegible] or rather [illegible] celled [illegible] 14s. [illegible] drain, Nature [illegible] trier the draining is something [illegible] straining.

In this matter, [illegible] improving influence, by [illegible] draining tiles. A [illegible] stack [illegible] stations on the [illegible] found preparations commencing for draining on a large scale, and judging by the progress which every acre of improvement has made in the light lands, there is every reason to believe that scientific draining will soon become the rule on the clay farms of Lincolnshire.

There is nothing very picturesque in the country lying between the Humber and the Wolds, which is generally flat and squarely divided in a [illegible] manner, which does not conduce to picturesque effect, although of the utmost possible use in [illegible] the farmer to carry [illegible] of each field. An ill cultivated country [illegible] studies for the artist than [illegible] agriculture. Banks covered with [illegible], and yellow furze, corn fields [illegible] intersected by quick [illegible] trees—these are the [illegible] on, and these are [illegible] in North Lincolnshire, [illegible] studies of another kind. [illegible] constantly suggests ideas of energy, [illegible] applied to produce [illegible].

But I must own that my eye was [illegible] unnecessary ugliness in [illegible] and cottages are mostly built [illegible] plan: bare brick, without [illegible] after the model of a deal box with [illegible] and windows. Among other [illegible] to be hoped that railways will bring a few architects with eyes for simple unexpensive effects. Beauty of form and arrangement is often quite as cheap as ugliness, and the great size of the farm buildings with the steam engine chimneys would afford scope for considerable taste and ingenuity, especially when stone and timber, steam conveyed, become cheaper.

At Aylsby, a parish with a pretty stone church, held almost entirely in two farms, I visited a farm, which I examined again two months after, and which well deserved more time than I was able to bestow on either occasion, as it affords a specimen of the average soils of the lowland district, which, after being for years under a very decent sort of rule of thumb system, had just then fallen into the hands of Mr. William Torr, certainly one of the first practical and scientific agriculturists in the kingdom, as well as a celebrated breeder of short-horns and pure Leicesters. He has some of the best of the late Lord Spencer's breed of the one, and thirty of the finest ewes in the kingdom purchased at the sale of the celebrated Mr. Bakewell's representative.

This farm consists of about 240 acres of strong clay, of which he has cleared several fences and hedgerows, and divided it into 12 fields; 200 of a lighter loam divided into eight fields: 60 acres of silty sand, divided by fences into two enclosures, but, in regard to crops, into four divisions; and, in addition, of about 300 acres of good pasture at a little distance from the first 300 acres. A good deal of the arable land required draining, which Mr. Torr was preparing to do at 40 inches deep and 10 yards apart, with a tile and sole. For that district, with the average fall, he thinks and finds any increased depth beyond 40 inches a useless expense, or at any rate not sufficiently beneficial to pay for the extra expense. Some pasture on gravel he was engaged in draining, at a depth of 30 inches only. I cannot help thinking that the love of singularity has led some of our farming friends too far into the bowels of the land for profitable returns; and I agree with Mr. Torr that, on old pasture on gravelly soil, draining may be overdone.

I hope on a future occasion to be able to produce a design for an improved drainage tile, from the workshop of my ingenious friend. A new plough (also marked with the initials "W. T.") will probably be ready for the exhibition of the Royal Agricultural Asso-

ciation in July. We passed over a large piece of pasture intended to be broken up, and about to be burned as soon as dry. "It is not," said Mr. Torr, "correct on scientific principles to destroy so much of the fertilising principle, by burning the turf, for the sake of the small residuum in the ashes; but, in practice, I find that burning this turf will destroy a quantity of wireworm and larvæ of destructive insects, which would otherwise more than appropriate the results of the fertility I shall destroy by burning." Some of the ploughed fields were already in very fine order, after a course of double ploughing, harrowing, and scarifying, at a most lavish expense for labour; and the Wheat, in spite of heavy rains, was looking well. But there was one field, about 50 acres, in which the conjunction of strong soil and heavy rain had defied every effort to pulverise; it was sown with spring corn, and would have been a melancholy prospect to a tenant who had no other acres to fall back upon for a general average. Next year draining will tell quite a different tale.

This farm, under its new management, is expected to carry about 1000 sheep, 100 fat beasts, and all the young stock of a considerable breeder, beside the Wheat to pay the rent. The cost of bones, guano, and other tillages, will not be under 1*l.* 10*s.* a year per acre, and perhaps double that sum for the first two years; and here, again, the tenant counts on advantages from being within two miles of a railway station.

(*To be continued.*)

DISEASES OF POULTRY.

(*Continued from p. 243.*)

Animal Economy.—There are many questions interesting to modern naturalists which might be settled by taking a medium course between the wild and the artificial states of animals. Although the habits of animals become much changed in their transition, yet many of their propensities remain the same; and it is by the observance of their inherent habits we must be guided in our care of them. The Economy of Nature is truly wonderful in providing against untoward circumstances, which would tend to thwart her beautiful operations. This is specially exemplified in the treatment of the Turkey and the Pea-fowl, which are much allied in their natures, retaining many of their natural propensities. Both are fond of roving, migratory, preferring to roost in trees or on high places, and the cocks are cruel towards the young ones. The consequence is, that the Pea-hen chooses her nest as much as possible out of the way, and as much as possible covers her eggs when leaving the nest, lest the cock might gain access to it in her absence, when he would break the eggs; then, so soon as the brood is hatched, she leads them immediately away to some thicket for protection against the cruelty of the cock, where she remains concealed during a certain period, until they have "shot their tops," and then cannot be mistaken by him for any other species of bird, otherwise he would destroy them also. Precisely the like propensities appertain to Turkeys; but being more valued, kept and bred for their edible qualities more than for their ornamental, they are more liable to the depredations of robbers and poachers, greater care is from this necessity bestowed upon their guardianship. The generality of poultry keepers hitherto have merely imitated the "practice" of others, seldom acting upon any scientific principle, and where others have done well before them, or when governed by necessity (confined space and the like), they cannot do better. Audubon, who affords the best account of the wild turkeys in America, gives many very interesting facts in connection with their natural habits, as also Charles Waterton, and Charles Buonaparte. Whence it would appear, that in breeding Turkeys in the farm-yard and confined places, the safest precaution is to separate the cocks from the hens, at least during the period of incubation, and after the brood is hatched for the term of three weeks, until they "shoot the red," although some writers ridicule and deny altogether this necessity. But the practice cannot be unnatural, when it is recollected that a notable cock Turkey, in a particular district, sometimes serves for the hens of several surrounding villages during the season; none but hens, as a matter of economy, being kept by the cottagers. This too, as pointed out by the able experimentalist before named, is a proof of the fecundity of the Turkey, and of "one tendance of the male of birds being sufficient to impregnate the entire egg-cluster," at all events sufficient, when so habituated, for one clutch of eggs. If there be any difference between the two species, the pea-fowl feeding upon reptiles, its flesh is little better than carrion, tough and rank, as is the case with the wild Turkey in America; but the flesh of the turkey properly fed upon farinaceous and granivorous food and herbs, is delicate and extremely wholesome. The peacock is perhaps the more after his nature cruel, because less confined, and the turkey would be the most migratory, if permitted to rove. Be that as it may, I have not unfrequently seen a cock turkey toss up and send half a dozen young ones sprawling, before assistance could be sent in time to prevent the destruction, they with the mother happening too soon to meet him on the same path. Hundreds fall annually in this way, erroneously believed to have died by accident or disease. For this reason turkey chicks are imagined to be difficult to rear, and are really so under our present compulsory mode of management, and as an alternative the cocks should be carefully separated from the brooding hens, or like the pea-hen, where possible, be suffered to hide herself in some contiguous covert. The guinea-fowl and pheasant require the same precaution, a fact likewise not generally known, and requiring the exercise of much judgment and ingenuity on the part of those who would wish to be successful breeders. The readers of this Journal are much indebted to the able pen of your correspondent "D.," whose article on the breeding and rearing of this useful bird shows uncommon industry, and is decidedly the most perfect, considering the limits of a journal, that has yet appeared. See No. 50, p. 822, 1847. The original country of the Turkey, and the etymology of the name, are involved in some obscurity. But its introduction was coincident with the discovery of the Americas by the Portuguese and Spaniards. In those languages it is called Peru, no doubt from the province in South America, where those enterprising people first found it. From all that I have been able to trace of the history of the present superior breeds of Norfolk and Cambridge, it appears that they have originated in accidental crossings from the Peruvian breeds with the Virginian, and then again with the old English Bustard, Otis tarda. Names are frequently given from some property or likeness, real or imaginary, and the resemblance of the Turkey, Gallina Turcica, to that in pictures of the Turkish soldier is very striking, the casque of mail being painted in those pictures of a grey colour, and fastened round and under the chin by red scarlet lappels. Buffon's name for it, Meleagris, taken from the ancients, is founded in error, from the fable of the two sisters, Meliagrides, which is proved by the Turkey laying many spotted eggs, as does the Pintado or Guinea-fowl, whereas it is the Bustard which lays but two spotted eggs. See No. 22, 1845, p. 372.

Eggs.—Connected with the subject of incubation, there is a point which has been disputed, on which your correspondent, "D.," and myself must also "agree to differ," and on which I venture to think he has decided too hastily in the negative, whether there exist any criterion for discovering that an egg may contain the embryo of a cock bird or of a hen by any outward sign. I am inclined to believe that there is, and that the two examples named are not quite infallible, size and shape of an egg, or position of the air sac, central for a cock, and lateral for a hen. See No. 42, 1847, p. 690. After frequently marking the eggs, and when I have been able to recover the shell, immediately after the exclusion of the chick, I have found the first to be less certain than the second, and the second decisive in seven cases out of ten. I speak of the eggs of the common fowl.

9. *Worms, Intestinal.*—Birds are liable to have another species of worm, infesting the intestines, precisely like a species in dogs, rather transparent, white, and from 1 to 2 inches long. The only symptom is, when they are perceived to pass from them with the fæces, either singly or in clusters. Sometimes their presence causes inactivity, and the feathers appear ruffled. The cause I have never been able to ascertain, except that they are picked up accidentally, when they breed as well in the intestines of fowls as in dogs. I have never observed much mischief to arise from their presence in fowls. *The Cure.*—Pellets of Barley meal, with red brick-dust pounded, and some time after a dose of castor oil; or what is sometimes more effectual, the same quantity of Linseed oil. Leaves of Wormwood and Feverfew bruised and added to the above pellets may be tried with advantage, or a small portion of Aloes. The vermifuges mentioned in the preceding article (8) will prove highly efficacious in removing these worms.

10. *Canker and Cancer.*—The first is a very troublesome disease if neglected, taints the whole system, becomes infectious, and very often degenerates into cancer. The symptom generally first shows itself in the mouth, in shape of a yellow fungus, having a very fetid smell, oftener about the root of the tongue, than other parts of the body, forming a troublesome corrosive sore, which in the end becoming cancerous, infects the whole system, and is then incurable. *The Cause.*—Poultry fed upon much animal matter, often given to them in a tainted condition,—from some of the London markets are much infected, and should always be well examined before purchase, unless warranted by honest dealers. The generality of hawkers are a low-minded, very ignorant, dishonest set, who are too stupid to perceive, that if they get an extra shilling by cheating, they lose their customer, and perhaps 20 shillings of future gain they might have made by him. An honest man, the noblest work of God, is like the mint, always coining money easily, and without anxiety or remorse of conscience. *The Cure.*—Frequently remove the yellow substance from the sore, which should be done with the end of a rusty nail, and if a little rawness be produced, and a little blood should flow, so much the better. Then wash the wound each time with a little tincture of myrrh diluted with water, or a lotion composed of water and burnt alum, or a small pinch of borax, or made with white wine vinegar instead of water. At the same time give occasional doses of castor oil. I have never yet tried an ointment made of burnt alum and honey, or a lotion composed of burnt alum mixed with about five grains of white vitriol, with the addition of a small proportion of white wine vinegar, or a few drops of tincture of iodine, all of which have been recommended.

Note.—Any other cause I have never been able to ascertain, and would feel obliged to any of your ingenious readers who can give any information on this and other diseases and their cures, which are difficult to discover, except often by accident. Moubray disputes the existence of any such disease, and infers that it is merely an invention; but it does exist, and is a complaint incident to confined places, markets, and towns. Living in the country, where poultry are free to help themselves to those requirements which they cannot obtain when confined, he may not have met with it. Although an eminent veterinary surgeon, he gives no account of any dissections of birds. Indeed, he says very little on diseases at all.

11. *Gout.*—This in general is a complaint among old fowls. Little is known about it or the cause. The symptoms are swellings or chalkstones on the joints. The cure, if any, is to remove the chalkstones, when possible, without creating a wound.

12. *Cramp and Rheumatism.*—All animals are subject to these ailments, and the symptoms soon discover themselves, often in small chickens too late to effect a cure. The causes are cold and damp, whether in the atmosphere or from the earth, or contact with cold boards of floors, and the latter is perhaps more difficult to avoid. Coops should therefore, after being washed and cleansed, be always made dry. *Cure.*—Warm confinement, dry wadding or flannel in the baskets in which they should be nursed, occasionally taken out to feed and drink during the day, often requiring much patience and attention before the little sufferers show symptoms of recovery. Sometimes they require, when very restless, to be secured by using a binder, about 2 inches wide and 2 yards long, fastened round the legs to secure them in a comfortable position, and the ends then, *secundum artem*, twisted round the body to secure the wings, and tied over the back. A warm bath, not too hot, in water and vinegar, I have found very beneficial.

13. *Dropsy.*—This is another fatal complaint not at all uncommon among birds. The symptom is enlargement of the abdomen, which in time prevents a fowl from walking. *The Cause.*—Owing to confined situation, or arising from want of exercise, or some error in diet, any other I have not been able to discover. *Cure.*—If there be any, puncture the abdomen in three or four places with a fine needle, which must be done "artistically," without wounding the intestines. Give dry food, and water very sparingly at meal times only.

N.B.—Most of these disorders are accompanied with sudden atrophy, great loss of appetite, and inability to take food. In such cases the invalids must be assisted, requiring to be occasionally fed, a little at a time, with a spoon, and they must sometimes be forced to drink, or they will rapidly decline and die.—*D. S. E.*

Home Correspondence.

Salting in Damp Hay and Grass.—Damp hay, or even Grass, may be stacked with layers of straw, or of old hay, sprinkled with salt, to prevent heating, and to draw out the juice from the damp Grass, which is then absorbed by the straw. Mouldy hay, put together with salt, from 8 lbs. to 25 lbs. per ton, was better relished by the cattle, and did them more good than sound hay stacked without salt; of which many instances are recorded. (Johnson on Salt, p. 105, &c.) An excellent farmer, at Landrake in Cornwall, many years ago, stacked damp hay with salt, which came out almost a paste when the rick was opened, but the cattle devoured it greedily. In Germany, they even cure fresh cut Grass by pitting with salt, 1 lb. to the cwt.; it comes out quite a paste, and is said to go farther, in food, than the same quantity of Grass made into hay: and in this country other green food has been kept in like manner. The advantage of dry straw, to absorb the juice drawn out by the salt, is twofold,—first, in preventing the souring of the Grass,—and second, in rendering the straw itself nourishing and palatable, by the juice thus absorbed. The proportion of straw may vary from 1-8th to 1-4th; and the salt, from 1 lb. to 3 lb. per cwt., according to the dampness of the new hay. If old dry hay is used instead of straw, it must be in larger proportion, because less absorbent. And where neither can be had chaff or young furze might do; or even bran, if salted enough to prevent fermentation.—*J. Prideaux.*

Sawdust Charring and Clay Burning.—Having been repeatedly applied to for instructions for charring sawdust, and also for burning clay subsoils, containing little or no organic matter to act as fuel, I take the occasion of Mr. Whitmore's paper at the Royal Agricultural Society, as lately reported by you, to bring the two questions together, and let them answer each other. Charred sawdust is a form of charcoal particularly adapted for manure, but the difficulty is to keep so light and loose a substance from falling into the fire and burning away, if put on sparingly, or if heaped up, to prevent this from filling and choking the air way, and thus extinguishing the fire. The clay subsoil of stiff soils, turned up and burnt, not only manures by yielding its alkaline and other fertilising ingredients, but at the same time both deepens and loosens the soil; three benefits of great importance. But such subsoils, rising in heavy clods, as contain very little combustible matter require fuel to keep them burning; which is not always at hand, nor to be had cheap. When sawdust is within reach it is just the thing, the clay will supply the knobs to build up with, and support the sawdust with air way between; the skill of the burner being exercised in so proportioning and arranging them, that the sawdust shall fall in fast enough to keep up the fire, and moderate the air way to the charring point, without filling in so as to extinguish it. And this may be done by varying the arrangement according to the proportions. Where clay burning is the object, one ton of sawdust would probably suffice for 100 tons of clay; and where the object is to char the sawdust, I think with

skilful management, two tons of clay would do for one ton of sawdust, considering that the clay does not consume and will shrink but little, whilst much sawdust falls in through the hollows, as it becomes charred; where clay is not at hand, sods of peat may be used instead. Both are improved by the charcoal being disseminated through the substance of the clay, which may be easily done with the shovel before burning and while the clay is soft, but this may hardly pay for the labour unless in garden culture. There is yet another method of charring sawdust for manure, on a different principle; *i. e.* by the heat produced in slaking lime. If wet sawdust be heaped up with fresh burnt lime, the wet will be drawn out by the lime for slaking, and the heat produced may fire the heap, and burn the sawdust to ashes; but if the proportion of sawdust to lime is very great, keeping the stones of lime far apart, the heat of slaking will be too much weakened by dispersion to produce fire. By keeping a medium then, and covering well in from the air, we may attain a point at which fire will be produced in the heart of the heap, but prevented from breaking out to destroy the charcoal. This medium must depend more or less on the quality and dampness of the sawdust; but for that of Fir in its ordinary damp state in the saw-pit, by the changes of weather, we might try 20 bushels to one of lime, laying one-fourth as a bed, mixing one-fourth of the wettest with the lime, and covering in with the remaining half. If the fire break through, more sawdust might be heaped on, and so much more charred; or if no more, the holes may be stopped with earth in the usual manner.—*J. Prideaux.*

The Weather, Green Crops, &c.—This is a busy season for farmers. What with procuring seeds and tools, repairing fences and buildings, and fitting their grounds for the various descriptions of crops, they have as much as they can attend to. The art of farming has made great progress in this section of country within a few years past; particularly in draining, the growing of Turnips and Mangold Wurzel, which are found to be a profitable as well as very pleasant employment. Yet notwithstanding the immense increase of green crops consumed and sold by our farmers, there are many, very many acres within this county and neighbourhood which produce little or no crops of this description. The consequence is, that there is a great deficiency in the supply of the more substantial varieties, such as Mangold Wurzel, Carrots, Indian Corn, &c., and this deficiency is the more sternly felt, in consequence of the largely increasing demand for export. There is no reason to believe that the price will fall much below that mark until the product be at least doubled. Enterprising men have therefore every encouragement to employ their time and capital in a business whose returns, though slow, are large and comparatively sure. In no way can a man do more for posterity (endowing schools perhaps excepted) than in cultivating at the same time the more permanent fruits in their hedgerows peculiar to the climate. Notwithstanding the immense number of fruit trees sold by our nurserymen, there are hundreds of acres of hedgerows, slopes attached to the railroads within the towns and villages which produce no fruit of any description. While many of the older orchards are decaying, or being turned into building lots, the young trees which have been set out since the passion or mania for raising fruit commenced some four or five years ago, have not began to develope to any extent their legitimate results. For this reason there is a great deficiency in the supply of the more substantial varieties, such as Apples, Pears, Plums, &c. Indeed, so great has this latter demand become, that the utmost exertions of the farmers and horticulturists of the whole kingdom, particularly Ireland, will not be able to meet it in 20 years.—*Philo-Pomon, Chester.*

Thin Sowing.—I am aware that when an individual repeatedly brings forward his particular practice, and speaks of himself and his doings in the first person, he must necessarily come before the public in a very unfavourable manner. I often fear that my desire to support my departures from beaten tracks of farming by continual appeals to results, as developed by my crops, must have led me into a strain by no means favourable to me individually as a writer; but I am a matter-of-fact person, and, in arguing to the public upon farming, purposely base my reasons upon results. I begin with giving favourable results, as shown in my experience, and then reason why they are so; and I do so that I may particularly speak home to farmers who are to be led by their eyes and not by their ears; and hence, in the first work that I wrote on farming, I began by prefacing with the old adage, that "the proof of the pudding lies in the eating;" and saying that what I recommended I practised, and inviting farmers to observe the result. Were I to consult my own feelings, I should now retire from taking any further part in discussing the question of thick and thin sowing. I would leave to time the settling the point, and be satisfied with the rapid progress it is making. But when I see my fair crops, gotten with little more than half the ordinary expenses, and on land usually thought to be scarcely worthy of cultivation, and reflect that the saving of seed, if general, would afford food to maintain millions, I feel I owe a duty to others, and should not let sneers prejudice a practice so important, and which I am prepared (as I have been year after year for the last 12 or 14 years) to prove at least to have been uniformly successful with me. It is on this account urged further that I leave this farm, and thus may not continue to have the opportunity of supporting by example, that I once more invite farmers to inspect the result of thin sowing, namely, the crops from 3 pecks of Wheat per acre, as sown by me at Spring-park, near Croydon. Further, my Wheat is all grown after Peas or Beans, upon one ploughing, on inferior land, never fallowed, or at rest summer or winter, and has had no dressing for five years. The Wheat is the Chidham—one of the most delicate grown, realising the highest price at a sacrifice of quantity. As I probably am for the last time alluding to the subject, allow me to repeat what I have so often urged—namely, that the saving of seed that I successfully make is equivalent to 10*s.* an acre per annum off the rent of arable land, and the waste of corn in Britain in excess of seed sown, as my practice proves, amounts to five or six million quarters per annum, or an income of seven or eight million pounds. This is written in reply to Mr. Baker, who has taken advantage of individual failures to run down a practice in which even he has shown some faith—for he has been diminishing his quantities of seed of late years, and by many will be thought a thin sower by the comparative small quantities he uses. Mr. Baker's understanding is not an ordinary one. His experience as a farmer is extensive, and I put it to him if he cannot give another reason than the small quantity of seed why the crops he mentions, and infers to have failed, may have done so. He knows that Wheat after Wheat, upon any seeding, has never yet answered, and failures where 3 bshls. of seed per acre have been sown on Rye-grass leys are not uncommon. The crops he alludes to were thus taken in these courses. It is too much to expect thin seeding will supply other essentials to growing fine crops. This is said, supposing Mr. Baker would not hint at failures without first ascertaining them to be so. I do not know whether they are or are not, and the question is not to be decided by single instances of failures; if they are, mine are not.—*Hewitt Davis, 3, Frederick's-place, Old Jewry, London, June 14.*

The Clay Farmer of the Old School.—His holding is about 150 acres of stubborn clay land, well saturated with moisture. The pasture aboundeth in Rushes and sour Grass, and in damp weather "poaches" considerably. The arable is cut up into long slices, of a pale unwholesome colour, and in summer rejoiceth in Thistles, which he says is a sign of its strength, as all the world knows that land which groweth good Thistles groweth good corn. The Rushes aforesaid he hath also a considerable liking to, as affording "a bite for the stock when they can get nothing else." His dwelling is situate apart from the highway and usually in a hollow; it is timber framed, filled in with brick or earth-work as the case may be, and shows every outside evidence of damp and inside ditto of smoke; his garden is a bit of a wilderness, unwholesomely crowded with Apple trees, which have covered themselves with a substantial great coat of Moss and grown together in the most admired confusion. The buildings are of an ancient date, and the pride of their holder; they consist of a barn, with a wonderful extent of thatched roof, of a hovel nearly roofless, of a stable where daylight never enters, and of a piggery pre-eminent for the damp and cold lodging it affords its inmates. These time-honoured buildings inclose a yard sloping gradually to a pond verdant in summer with duckweed, and in the winter the recipient of the little richness that can be washed out of poor dung. The man himself may be about 40, of less than the average size, with a pursed-up mouth and contracted cheeks, but with a look of peculiar confidence in his own astuteness; he indulgeth in a round frock, as becoming his station; corduroy smalls, laced-up boots, and leather leggings; from a somewhat pertinacious habit of keeping his hands in his breeches-pockets, he has avoided any great outlay in gloves, and contracted a considerable stoop in his shoulders. His father was a farmer before him, and "he has been brought up to farming all his life, and ought to know something about it;" and his opinion is that he does, and that he has arrived at perfection in the pursuit, and he has a great contempt and pity for any one who follows the occupation without having had the benefit of an apprenticeship like himself. He followeth the same rotation his father did before him—Fallow, Wheat, and Oats; and looketh upon any one as a dreadful heretic who follows any other. He knows "that it is the best and most paying," albeit he never keeps accounts. He considereth his neighbour who draineth as one demented, and "knows he'll be nicely catched the first dry summer." Turnips on clay, he says, will never do; and if his neighbour getteth a crop of them, he says "it will never pay to go to such expense, and that he will find it out before long." His stock is of what he calls a "hardy kind," somewhat stunted in growth and long in the coat; in summer they run in the rushy meadows before alluded to, and in the winter are taken into the yard to luxuriate upon Oat-straw and the rich fluid from the pond, unsheltered, but endeavouring to keep up their animal warmth by chasing and poking each other about. In regard to implements, he looketh upon a wooden turnwrest plough as the perfection of human ingenuity; he hath seen an iron plough in the course of his travels, which he describeth to his men, "as a gimcrack affair, and never no use to nobody." The even tenor of his way is sorely disturbed at the prospect of rent day, for which he is rarely prepared; albeit he selleth all he can off his farm; his appeal to his landlord's agent is somewhat of an earnest character; he assureth him that he hath laid out large sums upon the farm, and that it is now just beginning to pay; a reprieve is granted, but he seldom looketh up arrears. His amusements are few, and inexpensive; he goeth to church on a Sunday, in a blue coat with brass buttons, and passeth the afternoon in watching the progress of his grass, in the sky and smoking his pipe. He goeth to market at the next village once in the week and talketh both of the superiority of his farming, and endeavoureth to prove by round argument that if "they free traders" had not interfered and cheated his forefathers by the withdrawal of "protection," that he should have grown 12 sacks to the acre the last year, and stand as proudly three inches high as he did when his produce was not over five. He getteth home from the market in a somewhat confused state, and is prepared to be ready on the following morning. Once in a year he attendeth an agricultural meeting, and is roused to an unusual degree by the speeches then and there delivered; his enthusiasm, however, only shows itself in convulsive hurried whiffs of his pipe, and in the few words that fall from him being delivered more slowly and solemnly than usual. Such, we believe, a correct portrait of the "Clay Farmer of the Old School." And such he will be to the end of all time, a solemn piece of mortality truly.—*A Surrey Sub.*

Filling up Drains (Leeds).—The oldest, and with many at the present day the best method, is that of ramming. It is done in the manner:—The bridge or core is placed at the bottom of the drain, and some of the clay is pulled in upon it; then it is rammed down similarly to the paving-stones in London, and the bridge being pulled forwards as the work proceeds, leaves a tunnel behind it. This seems to be a very contradictory process; after digging out the stiff coat to make it still more impervious to the water, but if the theory that the water enters the drain not at the top, but at the bottom and sides, is true, it can make no difference; and it stands well I know, having frequently seen drains cut across that have been done from 20 to 30 years, and the top appeared to be as perfect as the day it was done. The next in rotation is making straw ropes of the size to fit tight into the neck of the lower spit, and pushing them in with the feet. This plan seems to have seen its day, and is now rarely done. The most prevailing plan seems to be putting in the place of the lowest spit bushes cut from the hedges, and just placed so as to keep out the soil till it is consolidated again. But the best of all that I have seen (except putting in tiles) is pieces of turf or peat cut into lengths, and of the width of the lower spit. These when carefully put in and well trodden down, there is no doubt will last for 50 years or longer, and there is no objection to them like ramming, as the water will pass through them just like a sponge after it is saturated with moisture; but the expense in this part is too much for them to be generally used; not the actual cost of the material, but the carriage, as they have to be brought from the fens in Cambridgeshire. There is one other point to which I would draw the attention of those who may be only just beginning to drain, that is to carry every drain directly into the open ditch or main drain, as I have frequently seen many acres of drains rendered worse than useless by the leader becoming filled up.—*E. X., near Braintree.*

Second Crops off Good Soil.—Rye stubble will shoot, after a cutting about the end of June, and produce corn. Winter Tares or Rye (by receiving a proper top dressing) after the first cutting will produce a second crop of green food. Rape may be sown in June, after Rye or Tares (1 peck an acre), and it will supply green food till the land is wanted for sowing Wheat, &c. Swedes or Mangold Wurzel may be transplanted, or the White Turnip sown after early Rape, Tares, or Rye. Rape seed may be sown in a bed in June, and after being thinned may be transplanted in September after Tares, and then succeeded by Turnips. Two crops of Potatoes may be raised in one year from the same land. Turnips may be got after early Potatoes. These crops should only be attempted on soil in a high state of cultivation, clean and deeply drained.—*No Failure.*

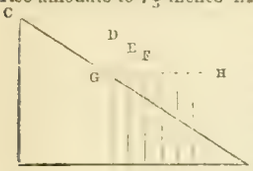
Rotations of Cropping.—I offer you the following simple rotations, which may be useful to some of your readers:—An acre of land is 160 perches. If an occupier of 1 acre divide his 160 perches into three parts he will have somewhat more than 53 perches in each division, or one-third part of 1 acre. Now were he to devote his acre to the growth of Wheat, Potatoes, and Beans, the labour of it would be more evenly divided than by occupying the whole with only Potatoes and Wheat, which is frequently the course chosen. His wants would be more certainly supplied. Should bread corn be high, if he has not a sufficiency of Wheat, he could mix it with his best Beans; and were Potatoes ever to fail a few Turnips might be grown between the rows of Beans; they of course being wide, say about 27 inches apart between the rows. I imagine the following crops might be raised in quantities nearly as follows:

		Bush.
Wheat ... 53 perches, at 4 bsh. p. acre, would yield	of Wheat	1½
Potatoes 53 do. 270 do.	do. of Potatoes	80
Beans... 53 do. 24 do.	do. of Beans	8
159 perches under crops.		

Occasionally two of the three pieces could be sown with Wheat, and still one would be retained for Potatoes. By producing Beans, part would be saved that is mostly paid for bran, pollard, &c. for feeding the pig. From the above there would also be a trifle of refuse Wheat, Beans, and Potatoes. The Bean straw might be exchanged for something else in the form of cow meat, should it be wanted, and the Wheat straw would be trodden down by pigs for manure another year. By the growth of Beans perhaps there would not be such a falling off of the other crops as might be expected; for

would not both Wheat and Potatoes bear better than when sown successively, and, on the whole, produce as much?—*Swede.*

One Disadvantage of Farming Steep Hills.—The difficulties connected with farming a steep hill-side are, no doubt, familiar to those who have cultivated land in such localities; but the disadvantage which I am about to mention is not perhaps sufficiently thought of, or even taken into account at all. By way of illustration we may consider a somewhat extreme case, where the rise amounts to 7½ inches in a foot. Let the line AB represent four yards, and AC three yards; then BC, representing the hill, must measure five yards. (For the square of the line BC, opposite the right angle BAC, is equal to the squares of the lines AB, AC, containing the right angle. And $3^2+4^2=9+16=25$; and the square root of 25 is 5.)



It appears also from an examination of the perpendicular lines D, E, F &c., that as many trees or Wheat stalks could be grown upon the four yards or acres AB, as upon the five yards or acres CB; for of course the distance between the plants D, E, F, &c., upon the hill, must be measured not along the sloping ground CB, but upon the horizontal line GH. From these considerations it is evident that five acres upon such a slope as we are supposing can only contain as many ears of corn or blades of Grass as four acres of level ground. Or in other words, though the quality of the land be the same, the rent, tithe, taxes and rates as high, and the expense of cultivation greater upon an acre of the hill-side, yet the produce will be just one-fifth less. But one-fifth of the produce of level land is as much as any farmer would reckon on as his profit, and therefore he cannot gain anything by the cultivation of such a hill; and his profits will always be lessened in proportion by every considerable rise of ground. May not this also be one among many causes why so great a difference of opinion exists respecting the profitableness of farming, and why there is so little uniformity in the result of various experiments even when made with the greatest care?—*An Essex Man, Colchester.*

Drainage of Land.—As every expression of sentiment on this important subject tends to elicit truth, I venture to offer a few observations. Public discussions show great diversity of opinions with regard to the best depth for drains; as a general principle, the minimum depth advocated being 2 feet 6 inches, and the maximum depth 5 feet. Experience shows me that two tile-drains, 3 feet deep, are not more costly than one tile-drain 5 feet deep; consequently I greatly prefer the former, say at 24 feet apart, to drains 5 feet deep and 48 feet apart; inasmuch as the former gives double the number of drains for collecting water, and, what is even of more importance, for circulating air through the ground, and reduces by one-half the area between the drains; their depth is as far as atmospheric air can beneficially operate, and sufficient to protect them against injury from above, and, if at proper intervals, to keep the active soil harmless—unless it may be in case of peat-moss, against the bad effects, and yet within reach of the advantages, by reason of capillary attraction from below; their construction being always more practicable both as to stratification and outfall. Where deeper drainage is considered requisite, apply the boring irons; water may thus be brought to the drains at incomparably less expense than the drains can be taken to the water. With all submission, I beg to direct attention to a communication which appeared in your Paper, in September last, wherein I proved the beneficial effect produced by a free circulation of atmospheric air through drains, first recommended by me in February, 1846; and every day's experience enables me boldly to affirm that drains 3 feet deep are by this means rendered equivalent to drains 3 feet 9 inches, if not 4 feet deep, without such assistance. The most convincing proof which occurs to me in favour of frequent over-distant drains is (taking an extreme case) where a solitary drain is found in the midst of very wet clay land discharging, it may be, an abundance of water, yet without improving the herbage or texture of the soil to the least extent on either side thereof—the conducting pores of the subsoil, not the drain, being glutted and preoccupied with water, there being no neighbouring drain to promote interchange of communication; consequently, fertile atmospheric air, which alone can ameliorate the condition of subsoil, is excluded. Such is always, more or less, the result of deep and distant drains; for, however limited may be the space left at the centre beyond the influence of drains on either side thereof, it will be enough to prevent that free interchange or circulation of air which I have proved to be of so much importance.—*Simon Hutchinson, Manthorpe Lodge, Grantham.*

Protection to the West Indian Planter.—In a late number of the *Pharmaceutical Times*, there was an able article on this question, showing that the planters neglected their own interests, and committed a great waste of property in not extracting more than 7 per cent., instead of 20 per cent., from the canes. What will the public think, when they find that the farmers are committing almost the same thing by threshing their corn by the flail instead of the machine? On Thursday, March 9, Mr. S. Smith, of Uxbridge, tried a new threshing machine before several of the leading farmers of that neighbourhood, on some straw that had been threshed by hand. The result was half-a-pint of corn from a truss of straw, the machine, a 3-horse power, was turned by hand for the occasion, which was against it; had he tried it with horses, it might have been greater; but if we take it at half-a-pint the truss, and a man threshes 12 trusses per day, there are 3 quarts, or 18 quarts per week, therefore the farmer that grows 50 acres of Wheat a year, and 2½ loads of straw per acre, loses 33 bushels of corn every year, and at 7*s.* per bushel the sum of 12*l.* in money.—*B.* [Perhaps if that same straw had also been rethreshed by hand an equal produce might have been obtained. We greatly prefer machinery to hand threshing; and believe the former to thresh more cleanly and more cheaply: but you can reason from the produce of hand-threshed straw when passed through the machine only by comparing it with the produce of the flail from machine threshed straw. That straw was no doubt clean at last, but it had been threshed twice.]

Chicken Hatching.—I was about to order an incubator and chicken mother, induced solely by the high praise of some of your correspondents, and depending on the authority of the *Gazette*, but the astonishment expressed in a recent paragraph by the author of the invention, at the information you furnished on the Egyptian mode of hatching induces me to pause. If Mr. Cantelo did not know that this plan had been long successful in Egypt, how is it that he should, in his pamphlet, utterly condemn it; if he did know it, how could he speak of the "partial success" of oven hatching, seeing that the same number (two chickens out of three eggs) is produced by both plans? It is the furthest possible from my wish to depreciate the ingenious invention in question, but the incubators are very expensive, and cannot, as it seems to me, judging even from Mr. Cantelo's own estimates, be worked to a profit except when fowls are high, and when vast numbers are produced. When there are "18 hatchings in a year," there must be 378 days in that year at the least. Except near towns or large watering places fowls never reach 5*s.* or 6*s.* a couple; nor are chickens of "two or three years of age" common anywhere. That the blood-heat of fowls was not that of human beings was well known to M. Reaumur and the scientific world in general, long before vulcanised india-rubber was invented, or pipes filled with hot water acted "like Nature" as a chicken mother. See *Gazette* for 1847, p. 443. "*Peream qui ante nos nostra dixerunt,*" Mr. Cantelo may cry, as was cried, perhaps, long before even Egyptian oven hatching arose. Since then, as one might naturally expect, the invention is viewed by its author somewhat *soul'eur de rose*, and some of the chickens must be taken *cum grano salis.* Will "W. M.," "W. M. F.," "M. A. C.," or any other correspondent who has recommended the system, give us some details of their own experience, now that it has doubtless been tried by themselves or friends? The mode of rearing and feeding the fowls seems wonderfully ingenious and successful; still the experience of a totally disinterested person may, with perfect respect to the inventor, be desired by any one desirous of attempting the process.—*A Constant Reader.*

Chicken Hatching: The Incubator and Oven.—Egypt is visited by so many summer tourists now that no doubt some of the readers of the *Gazette* have seen and can describe the whole process of hatching and rearing chickens on the vast scale on which it has for generations been common in that country. Mr. Cantelo, in a paragraph in your Paper of the 29th April, says, out of 100 eggs subjected to his process, "do not count on more than 66, and you will be sure to be right." That is, 2 out of every 3 eggs. It is remarkable that this is the precise proportion of those hatched in Egypt, and as the numbers operated on are enormous, there can be no mistake. In 1831, Mr. Lane states that in Upper and Lower Egypt together, there were, in 164 establishments, 26 millions of eggs placed in ovens, of which something more than 8 millions and a half were spoiled, and something more than 17 millions came out chickens, so that it would seem that by applying the proper degree of heat, by oven or incubator, top contact, or all round, "10 days hot and 11 days cold," or 21 days at 106° Fahr., "as sure as eggs is eggs," you will get chickens. Now, as an Egyptian oven, according to all accounts, fitted up for hatching some thousands of chickens can be erected at small cost, while a five-tray incubator to produce (at 75 even out of the 100 eggs), 375 eggs at a hatching, costs 100 guineas, and so on, in proportion to the number of trays, it is desirable to have further information on the subject. The author of "A Wayfarer's Notes" says, speaking of a makhmal or great oven "incubator," at Cairo, "the chickens that we saw had been hatched the same morning, 4000 in all. It was curious to see their incessant waving motion as they were crammed together in two square compartments on the floor." Now here we have the chickens, hatched out of about 6000 eggs, in a "long, narrow chamber, with five or six double ovens on each side," a cheap enough apparatus, the heat of which can be generated as easily and effectually in England as in Egypt. The rearing them will, of course, be equally easy or difficult by whatever method they may have been hatched. Many of them die in Egypt; how many at Chiswick, if any? Now Mr. Cantelo, in his "Estimates," speaks of 1550*l.* for a "license for a 56-tray patent incubator, and 14 chicken mothers for rearing the poultry, including the cost of them at the manufactory." The chicken mothers are 15 guineas each. Deduct, therefore, 220*l.* 10*s.* from the 1550*l.*, and you have 1329*l.* 10*s.* for an apparatus for 5600 eggs, out of which you are to look for 3733 chickens, each hatching, or about 1400*l.* for an incubator to bring out the said number of 4000 chickens hatched out of 6000 eggs in Egypt by oven heat. Mr. Cantelo exclaims, "Ovens! are they like bakers' ovens, or what are they like?" Why it is precisely from him your readers look for information on the subject, seeing that he speaks in his pamphlet of the partial success of the Egyptian method, and says that the continuance of the oven plan in that country is not owing to the correctness of its principle. The partial success, however, having been shown to be the same in the oven and the incubator, we infer the same amount of correctness in the principle. Now, really, having summarily condemned the oven and all other plans, and the sanction of the *Agricultural Gazette* having been given to the new process by some very well written articles of correspondents in its favour, it will be expected that Mr. Cantelo will furnish us with some better reason for preferring an expensive incubator to a cheap oven, than that the latter is not like Nature. Whether oven heat, or that of warm water flowing over a macintosh apron is most like Nature, it would probably puzzle the whole population of a 56-tray incubator to tell.—*C.*

Peat Draining Pipes.—I am glad to learn from the remarks of "Scotus" that this subject has engaged the attention of others besides myself, and that "Scotus" and his friend have effected an improvement on the peat tile cutting spade, which I also have tried and found inefficient. An improved spade of that kind will be useful as a *dernier resort* if machines fail, but I still hope for better things, for after all I fear these pipes made with the spade must be heavy and clumsy, require a wider drain than the small machine-made pipe, and take a much longer time to dry for use. I was aware that the Highland Society had offered a premium for practical information on the subject; but I preferred calling attention to it in England, because it is only in a very few districts of Scotland that proprietors are beginning to awake to the importance of pipe machines, even as regards clay tiles, although they have made such strides in England within the last few years. Indeed few of the machines with which your readers are familiar are known in Scotland. I beg to state that since my former communication further experiment has satisfied me that a machine working horizontally is preferable to one working vertically. In the latter, the peat pipe is apt to break off. The experiment was tried with two of Clayton's machines differently arranged. I see no reason to doubt the perfect practicability of making these pipes by machinery, when the peat is very solid and compact and the fibre much decayed; but in general it is only near the bottom of a deep moss that this can be found, involving proportionate expense in digging. The chief difficulty to be overcome is the reduction of the small grassy fibres, which, if effected economically, would bring into play a large amount of material to be obtained at little expense.—*A Highland Proprietor.*

Letter from a Canadian Emigrant.—It is now 15 years since you left here; if you were here now, you would find great alterations around the neighbourhood since we then came and settled in the bush; very great improvements have been made these last 10 or 12 years at Guelph; there are now in it 8 or 9 churches. These last 5 or 6 years the seasons have been a great deal better, the summers much freer from frosts, and the winters much shorter, the weather at this time quite mild, cattle and sheep all out in the fields, but we had sharp frost a week ago, and some little snow, but it is all away again, and the roads in a most terrible muddy state,—the people around Guelph are in a great way for a macadamized road from Guelph to Dundas this next summer; I heartily wish them success. Our best prices for our best winter Wheat at Guelph are 5*s.* York, or 3*s.* 1½*d.* currency, per bushel, Barley 1*s.* 10½*d.* Peas 1*s.* 10½*d.* Oats 1*s.* Beef 2*d.* to 2½*d.* per lb. Fat Pork by the hog 3 to 5 cents per lb. The prices at Dundas I do not know at present; Wheat was 3*s.* 9*d.*, but I have heard it is lower now, and I fear it will be low, for the millers and merchants, as they call themselves, take every advantage of the cries from the old country at this season of the year, knowing well that the people must sell at this season, as they cannot get away with it at any other time, from bad roads and being busy at home. I harvested nearly 50 acres of Wheat, 14 acres of fall and the remainder spring, from which I think I shall have at least 1000 bushels, and at such a poor price it will make but very little money—it's like working hard for almost nothing. Seeing how hard I have toiled both early and late through the heat of a hot summer for a crop producing about, or a little more than 100*l.* sterling, and have to pay about 50*l.* of it for two labouring men, and keep them as well, it seems to leave very little for myself and teams, rent, interest on stock, or capital employed, and pay blacksmith, and other bills with; the tradespeople (or mechanics, as they call themselves here) are very extravagant chargers. Through the winter we wear altogether the wool from off our own flocks, except shoes, hat, and neckerchief; we mix the black and white together,—I had 20 black sheep at one time. We have formed an agricultural society in our township to exhibit stock and produce for prizes; I exhibited a two year-old colt, for which I took the best prize, 10*s.*; a yoke of oxen took the second prize, 15*s.* Swedish Turnips, first prize, 10*s.*; white Turnips, first prize, 10*s.*; Cheese, first prize, 20*s.*; and butter and Timothy grass seed. I showed my Swedish Turnips at the district show at Guelph, and took the best prize

there; Mr. H. thought to have taken it with Mr. H.'s sort of seed that he brought out with him, but his were not near the size of mine, but he took the second prize. Mr. I. took 4 prizes. About two-third's of the whole prize money came on the Plains. I had one Swede when taken up weighed 18½ lbs., and a great many of them would weigh 12 to 16 lbs. each; the ones I showed were from 12 to 14 lbs., and there were scarcely any small ones in the field of about 8 acres, from which I had 2300 bushels of Swedes, and 1200 bushels of white Turnips; they were drilled 4 feet apart, and ploughed between, after Mr. Cobbett's plan; it was the best piece of Turnips I ever saw in any country, and many others said the same.—*T. A.*

Speckled Dorkings.—Permit me to correct a mistake that has lately appeared in your pages as a rule instead of an exception. The case refers to the speckled Dorking fowls. Having myself kept the pure speckled Dorking now for nearly 20 years, without ever experiencing, in a single instance, their liability (as complained of by a correspondent in your last) to pine away and die just when attaining maturity, it seems only just to the merit of this breed of birds to state that such, and such like, maladies do not appear to be necessarily connected with the Dorking fowl. Having been careful to introduce a fresh and well-selected cock bird or two into the walk every second or third year at furthest, I have found the race uniformly hardy, healthy, and prolific. Has your correspondent's want of similar success arisen from overlooking this important particular?—*Anon.*

Dorking Hens in Cumberland.—Richardson in "Domestic Poultry," says "they" the Dorkings "were first noticed, and the variety adopted by the Cumberland breeders, whence they were soon brought into Lancashire and Westmoreland, and gradually spread over all England." There seem now to be few in Cumberland of the genuine five-toed kind, though they may occasionally be seen. A breed called by the country people "the Jew kind," have many of the characteristics of the race, and are perhaps their descendants. With respect to the pheasant breed, though it is thought by the country people to come from the true pheasant blood, this is by many excellent judges denied; and there is no doubt if so descended they must have, by careful management, become long ago a distinct class, possessing many qualities very different from those of the cross between the pheasant and hen. The shape of the body, however; the lowness and shortness of the comb—the fact that both in the pheasant breed and in the "mule" pheasant, the beauty of the race lies with the hens, and in many instances the colour of the plumage—would all lead one to believe that the "pheasant breed" was originally descended from the pheasant blood. This, however, must be left for those who are more learned in such matters to decide. As "mules," so called between the pheasant and hen, breed on with the cock pheasant, or with the common dunghill cock, is it not probable that the "pheasant breed" has been thus by judicious management established?—*Chanticleer.*

Sulphuric Acid and Salt.—In seeking information respecting the influence of sulphuric acid and salt upon iron [We had not noticed any specification of the soil.] soils, it was not the action of those substances mixed but separately which was referred to. I saw an account last year (I think in the columns of the *Gazette*) of the good effect of sulphuric acid upon a crop of Potatoes grown in a soil much impregnated with iron. Common salt, also, might be expected greatly to ameliorate such soils, and it has often been applied to them, I believe, but no authentic reports of the results are, if published, easily attainable. *Salt.*—I was glad to observe that Professor Way did not concur in the opinion respecting the use of salt in agriculture arrived at by M. Dumas. May it not be questioned whether the salt districts to which M. Dumas was referred for information on the subject, were the most likely to furnish correct results? Is it so respecting lime? The whole of our sea-coasts may be said to be salt districts, but where the subject has attracted attention at all among persons residing near the sea, the most discordant opinions exist. At Newcastle, for example, as elsewhere, very little precise information could be had on the subject, and very different opinions respecting its value, even, held. In the columns of the *Gazette*, I believe, M. Dumas might have seen more practical information collected than he could have attained anywhere else. And yet, even there, for want of the previous conditions of the soil being accurately given, comparatively little could be learnt of the specific action of the salt in the great majority of the cases. It was impossible to say whether the improvements reported were the result, for example, of its action in fixing ammonia, or forming soluble salts with substances previously existing in the soil; or whether, as some of the correspondents seemed to believe, the benefit was the result of some specific fertilising property in the salt itself. Perhaps it is not too late to supply this want, and thus to make the reports of your correspondents very much more valuable than as they at present stand. Many of them, doubtless, could state in what kind, and under what previous conditions of soil, the salt was applied in their various reports, and then a summary of the whole would furnish some genuine knowledge on the subject, which might almost be called experience. An examination of the evidence in your columns in its present state justifies us in believing that whenever it was applied with lime, or with ammoniacal manures, its beneficial results were proved. The best agriculturists seemed to agree in the practical good arising from salting manure heaps, and in some of the paragraphs of your correspondents, in which the result given appeared to be attributed to the salt alone, it seemed probable that the increased fertility was owing to the new compounds formed with substances, usually lime and ammonia, previously existing in the soil. Thus, at p. 769 in last year's *Gazette*, "Constant Reader" remarks that on poor land, covered with Heath, Rushes, and Bent Grass, 600 feet above the level of the sea, draining and applying 10 double horse-loads of lime much improved the herbage, and that "at this stage" 5 cwt. of salt per acre produced admirable results, the pasture which sprung after the first rains being of a fine kind, and eagerly cropped close to the earth by the cattle. Here the chloride of calcium formed [and] a soil extremely light—three years ago a poor barren sandy common, incapable of supporting vegetation of any kind, even weeds not excepted. This correspondent has found that farmyard manure applied alone to very light soils does not produce crops. We infer therefore that dressings of farm-yard manure had been applied to the soil mentioned. Is it not probable that the salt alone would have had little or no effect also on this soil, and that the fertility was owing to the presence of the two dressings? Applied alone to the light soil, the most valuable portions of the dung were rapidly dissipated or washed away, while as soon as the salt was acted on the muriates formed and soda set free offered a more permanent food to the plants, and the moisture attracted from the atmosphere aided in the rapid covering of the earth with verdure, and thus prevented the injurious effects of arid winds and scorching suns on a soil so unsuited to bear them. A circumstance which occurred by chance last year corroborated the opinion that the discordant statements respecting salt, as respecting so many other substances, was owing to the previous conditions in the various experiments not having been considered. I had scattered about 1 lb. of salt over a portion of a Grass plot, sufficient to cause the herbage to blacken and wither to a considerable extent. By mistake a pailful, or two at the most, of house slops were thrown upon the middle of the portion so salted, and while the herbage on which the salt alone had fallen remained brown and scanty, the central portion shot up into extraordinary luxuriance, became of a dark rich green, and grew up again and again after being cropped; all the rest, salted and unsalted, remaining during the dry weather pretty stationary. The food, the moisture, and the prevention of evaporation (I suppose), all conduced to the superiority of the central portion. Had the liquid not been thrown over the salted Grass, it would have been said, in this case salt is of no use; it would have been considered as telling against its employment as a manure; yet as house slops were thrown over other portions of the Grass, and the little portion above-named was by far the darkest, closest, and finest, there can be no doubt that, either by rendering the ammoniacal manure less perishable, or by forming with it more fertilising compounds, the salt was of the greatest utility. The value of salt in stiffening the straw of Wheat, by presenting the silica in a soluble form, seems another fact proved by the evidence of your correspondents. I hope that some of your contributors, learned in these subjects, will take advantage of the facts and opinions recently accumulated in your columns, to extract from them, if possible, correct rules for the guidance of agriculturists in the employment of this cheap, convenient, and apparently important manure.—*Tyro.*

Butter Making has for some time past attracted considerable attention and discussion in your Paper, without much useful information being elicited. Such of your readers as may desire good practical information on the subject, and the general management of the dairy, will find a series of papers in the early volumes of the Bath Agricultural Society's papers, published about 60 years ago, well worth referring to. In the same volumes are also some good papers on drilling and thin seeding, by a Rev. Mr. Close.—*Lusor.*

The Use and Abuse of the "Good Creatures of God."—Agreeing as I entirely do with your two recent articles upon "When to Pay Wages," and "A Word to the Poorer Classes upon Savings' Banks," and knowing your hearty desire for the improvement of the rural population in particular, I am induced to address a few words to your numerous readers, particularly farmers, and strike a blow at the root of all the evil complained of by your correspondents in these and every other institution for the elevation of our country intellectually and morally. What is the cause? The pot house—that mother of drunkenness! It was proved that the grain worse than wasted in Ireland alone in the manufacture of intoxicating liquors, would have provided every man, woman, and child with at least one good meal a day. And the point I wish to call the attention of your agricultural readers to, is the use of this Barley. I was very much struck with the speech of an Hertfordshire farmer at the anniversary of the National Temperance Society, at Exeter-hall, on the 25th inst., which I earnestly recommend as an example worth following. He came to the determination of not sowing a single grain to propagate the great evil under which his country groaned. On part of the land formerly devoted to Barley, he grew 15 acres of Peas, which answered very well; but still "what was to be done with the Barley?" He sent it to the mill, and had it [illegible] ground into meal. He [illegible] them with it [illegible] than. He [illegible] would try [illegible] the success of many 10 year [illegible] that it [illegible] but what was the [illegible] He had the [illegible] of sending the [illegible] they had had for many years [illegible] ty of that great [illegible] by [illegible] ment in the manure, that no [illegible] to be got off a farm in any other [illegible] Wheat and [illegible] Perhaps some of your [illegible] was the subject, would [illegible] the [illegible] of the use or ten [illegible] of Barley now were then thrown away. [illegible] more work it [illegible] How many more cattle [illegible] fed, and the [illegible] Are not the organic [illegible] very much the same in Barley as Wheat? Were [illegible] to the soil in the manure, with the [illegible] of [illegible] and other mineral [illegible] crop of Wheat?—*Edward Hudson, Capheaton, Morpeth.*

Drainage Reports.—[illegible] relating to [illegible] in your Paper, and [illegible] we may continue to [illegible] the pages, for the more precise [illegible] and practical [illegible] Hudson, near Thirsk, [illegible] from iron water, a [illegible] to with low level [illegible] several legs, and being [illegible] inconvenience, [illegible] remedy the former defect, simply by [illegible] serpentine [illegible], in the [illegible], that I now have it in my full power at any [illegible] water on the whole from the upper end of the [illegible] now effectual and permanent, and [illegible] being miserable quaking bogs [illegible] completely cut through the peat (as was [illegible] by cutting [illegible] ming with a thin coat of [illegible] very valuable pasture and [illegible]—*C. P., of York.* [Would you oblige us by a more detailed account of your plans?]

Tenant Right.—The [illegible] of liberty has always been a most predominant feature of the human mind; the philosopher and the [illegible] manifested an equal eagerness to obtain it. What the [illegible] was the desire to act as they [illegible] but the philosopher sighed for the liberty of the mind only. The consequence of their own [illegible] was a restraint upon the liberty of both, and the philosopher fell short of the object of his desire because of his inability to fix his eye upon the [illegible] good. The idea which filled the mind of the philosopher told him that liberty was only [illegible] with the absence of inequalities—that where there was no [illegible] there could be no security, and where there was no superiority there could be no [illegible]. It is [illegible] that the mob orators of antiquity ever [illegible] their partisans with the hope of [illegible] liberty and equality at one and the same time; it has been reserved to the present day for men to [illegible] their [illegible] the greatest lie in nature. Yet this idea of [illegible] at the foundation of the present agitation in behalf of tenant right; it proceeds upon the idea that a tenant having discharged his pecuniary obligations to his landlord, the latter has no further claim upon him. The class of duties which the word fealty represents have no hold upon the mind of the man who agitates for tenant right; yet the class of duties represented by the word fealty are necessary to the well being of society, and on that account are as binding upon every member of it as the obligations of a pecuniary contract. [How do you define "Fealty?] That which we see in external nature does not suggest to us the idea of equality; everything we can place our eyes upon presents to our minds the idea of a great one ruling over many small ones; or of many small streams tributary to one large river. Everything we see suggests the idea of the large and powerful embracing and protecting many small, or of many small things running into union with each other, and forming one great whole. Whatever in the institutions of society harmonises with the plan of nature is likely to be safe, because it recognises a truth; whatever is not in harmony with nature will bring evil in its train, because falsehood lies at the foundation of it. The laws of our country which regulate the relations of landlord and tenant are in harmony with the plan of nature; because they represent a landlord protecting his tenants, and they represent his tenants as feeding streams, perpetually augmenting the wealth of the landlord. That there are false ideas in the modern mind in harmony with those truths, is a proof that there is little in the modern mind in harmony with the minds which framed these laws. The question of changing the Laws relating to the tenure of land resolves itself therefore into the question, whether or not we are wiser than our ancestors, and whether or not men are likely to live most happily under a constitution of society in harmony with the plan of nature, or of one which is perverse to it. He who enters upon the occupation of land recognising a truth which the laws of his country recognise has a better chance of surmounting all obstacles than he who enters upon its occupation fenced round with a barricade of tenant rights: by so protecting himself, he creates an obstacle to his own success, for the character of mind which requires tenant right also renders it impossible for landlord, tenant, and labourer to act in harmony for a series of years. If, therefore, I possessed a lease with a number of tenant rights attached to it, I would hope to

live and see the end of it, and leave another to my heir stripped of such an appendage ; for I would be apprehensive lest its tail should resemble the tails of Sampson's foxes, and carry fire among the corn. [But the legal instrument called "Lease" is surely as incompatible with your views as the tenant right stipulation which you blame.] A lease itself very frequently becomes the subject of a law-suit, it can scarcely fail of occasioning one, when it leaves behind it a brood of angry, snappish tenant rights ; my heir might be too wise a man to bear anything resembling an insult or an injury, or another Pharaoh might arise, and while landlord and tenant contended for straw, lawyers would pocket gold. He who enjoys most has most difficulty in making out his title to the enjoyment of it. If therefore we mean to demonstrate to all the world that we have a right to all we possess, either our wit must be great, or our possessions small. Constituted as the world is, the man who goes through it with the determination that no one shall take from him must also make up his mind to the condition of having little to bestow.—*John Russell.*

Irish Experimental Farms.—To allow the faulty system of agriculture to continue in Ireland, or to leave its improvement to the landlords alone, who are almost ruined by the burthens under which they stagger, is impolitic, and shows a want of kindness, which is not the characteristic of John Bull. Those who are blessed with enough, and have a little to spare, will not hesitate to support a plan so well calculated to diminish the distress, now so prevalent in our sister country, as the establishment of spade husbandry farms ; to give effect to the scheme, and to set going 10 farms it would require 30,000*l.*, 3000*l.* for each, which would constantly employ 50 men or more (wet and dry). The labourers would be well instructed in every branch of agriculture, and many of them would be capable, in the course of a few years, of undertaking the responsible situations of head men on large holdings ; after the first year, the income should (deducting a certain portion for the maintenance of the sick on each farm) be expended in carrying out the scheme still further till every union or district of a certain extent had a similar establishment within its circle. The proceeds of the farms should then be available for educational purposes ; a difficulty may arise in the management of experimental farms, so as not to give offence to any party, this may be a serious objection to many individuals, and deter them from subscribing, although they may otherwise approve of the suggestions thrown out. To meet the views of persons who may dislike the idea of the affairs of experimental farms being intrusted to the care of a committee of superintendence, and picture to themselves every description of confusion, favouritism, &c., the following is offered to their serious attention. Instead of raising 30,000*l.*, let the sum be 20,000*l.* to be placed in the hands of four gentlemen who will act as trustees (without any remuneration even for expenses), and correspond with the landed proprietors in the most distressed districts, offering 2000*l.* to any one of them if he will undertake, and guarantee on good security, to cultivate a farm of 200 acres, or more, not less, by manual labour without the aid of a single horse. The trustees must lay down rules, to be strictly observed under a heavy forfeit, to guard against the introduction of quadrupeds, instead of bipeds, and also to ensure proper draining, &c. The landlord having no rent to pay for the soil, and reaping all the profit, which in the second year would be great, it appears that 2000*l.* would be ample to meet the extra cost of wages, wheel-barrows, &c. There is one fact in favour of the project not being very ruinous, which seems to be unanswerable, viz., "That 1 acre of land will pay when tilled by the spade ;" why should not 200 do the same, provided a man has capital to pay his way in the first instance. A spade farm brought into operation in every union in England, together with the preservation of the wasted manure of towns, would soon reduce the rates, and enable us to grow food and provide work for all.—*Spade.*

Premiums as Rewards for Provident Habits.—It reflects honour on this country that there exist in it societies for the promotion of worthy objects, which diffuse rewards among the deserving and meritorious class of our poorer industrious population. The Agricultural Society distributes its premiums to farm-labourers of good conduct, who have continued in one service for a lengthened period. The Horticultural Society awards its prizes to the humble cottager for his vegetable or floricultural productions. The Society for Improving the Condition of the Labourer grants allotments to the most deserving among the labouring classes. It also evinces a philanthropic spirit in private individuals who come forward and aid in the promotion of this praiseworthy object, and thus by their example testify to the utility of such rewards, and their influence on those to whom they are bestowed. Among the latter benevolent class especially, instances are not wanting of their bestowing premiums, more particularly at agricultural anniversary meetings, on the deserving labourer or domestic servant, who has been the most regular savings'-bank depositor, or has contributed longest to a friendly society. In adducing these examples the same thought which has naturally reverted to my mind may occur to your readers, of the beneficial tendency these premiums or rewards to the industrious and provident classes would create, were the plan more generally carried out. They would not only serve as a stimulant to increased industry and frugality, but would at the same time be promoting the very object of these institutions—the instilling provident habits. The manifest object of the legislature in providing such institutions was, the facilitating and encouraging the savings of the industrious classes, as well as the making provision against sickness and old age. But, to attend this end, the provident man first needs a more powerfully incentive motive for becoming so than is at present offered. He is addicted to intemperance, the worst enemy of a spendthrift, and all his earnings go to the ale-house, apart from which the meetings of every friendly society should be held. Or he has not a due regard to economy ; he does not improve in industry, and never dreams of raising himself in his social condition. Here are positive evils to be dealt with which deter a man from entering a savings'-bank or joining a friendly society. It avails little to tell him that he can here deposit his savings, or make a provision for future want. You must hold out to him some encouragement and inducement, some prospect of reward, before he is reformed in his habits and becomes a depositor, or member of a friendly society. In proportion as his moral and social condition is improved so will the value of his services to his employer be raised. The amount of the premiums usually awarded, it is true, is small, but they should not be estimated by their pecuniary value alone. This consideration is only an additional motive for local agricultural societies, or private individuals awarding them. In the distribution of these rewards at the annual meeting of the agricultural societies none appear to me more fitting for the task than those connected with them. The most influential members are generally comprised of the landowners, clergy, and gentry of the district in which the prizes would be distributed as at present, and who are best acquainted with the conduct and habits of the class I have more particularly alluded to, especially in rural parishes, so that no undeserved reward or undue preference would be likely to occur.—*J. H.*

Workhouses, &c.—What I wish particularly to bring under the notice of the public is, the waste of capital locked up in the different workhouses, which, with careful management, might be profitably employed. Also the destruction of manure caused by allowing the refuse of towns to be swept away in rivers and brooks. By attaching a farm to every union, and cultivating the soil by spade husbandry, a vast amount of labour might be turned to account, and made to support the paupers, thus relieving the ratepayers from an intolerable and increasing burthen, which the maintenance of idlers entails upon them. The additional machinery required to carry out this project would be trifling when compared with the advantages to be obtained by making the paupers useful, and giving them habits of industry, which they do not gain by breaking stones or crushing bones, provided more as a punishment than anything else. Besides all this, it would be the means of proving what might be done by manual labour, without the assistance of horses. With regard to the scourings of towns, &c., there can only exist one opinion as to their value for dressing corn ; the difficulty to be overcome is the formation of receptacles to preserve the compost, so as to allow it to dry and not become offensive to the neighbourhood. In these days of scientific knowledge this would form no great obstacle, and if ratepayers would consent to double their payments for one year, in order to set the scheme in motion, there could be no doubt of its success, and once established in any particular locality, the benefit to the public would be so evident that it would soon spread. Supposing a town to number 40,000 inhabitants, and the value of manure per head to be calculated at the low rate of 3*s.*, this would amount to the large sum of 6000*l.*, and it may be fairly set down much higher. It is an extraordinary fact that we all grumble at the enormous expenses incurred in maintaining the poor, yet no one will take the trouble to strike out and superintend a better system, although the materials are close at hand, viz., the scourings of towns and land. It not the fashion of the day to advocate any commonplace proposal for the melioration of our fellow creatures—which is much to be regretted, as any home scheme for advancing the interests of the labouring classes, is so much preferable to foreign emigration, which carries off great multitudes unprepared to support themselves in their adopted country. The United Kingdom is not over-populated, but many of her resources are yet lying dormant, which, when called forth, will prove her capable of growing much more food than is at present reaped from her soil. This is rather an unconnected composition, but I hope it may induce others to take up the same strain.—*Falcon.*

Oil-gland on the Tail : Necks of Birds.—The length of the necks of birds varies much according to their habits ; but your correspondent "O.," at p. 91, mentions that the "necks of all birds are made of sufficient length for the tip of the bill to reach the tail ; in the same way that the necks of ruminants are in proportion to the length of the legs, so as to allow the animal to eat Grass." However plausible this may be, it will not bear close inspection. Some short-necked birds certainly cannot reach their tail with their bill,—owls, for instance. And from the above quotation, one might reasonably suppose that the necks of birds are proportionate in length to their backs, and not what they really are, varying in length according to their manner of collecting and eating their food. An owl catches or seizes his prey with his talons, yet his short wide throat, a very Golgotha for mice, is just as serviceable to him, as the long one of the heron is to that bird, which allows him to spear with his bayonet-shaped bill a slippery eel at 3 feet distance in muddy water. These interesting though despised birds were in former times accounted "a suitable dish for kings," whose long legs look like a tail while they are flying ; they can easily dress their longest feathers with their bill, but not so the owl. Yet "O." states, that "by the bill of the bird the feathers of the tail, wings, back, and those even over the thighs are well lubricated," &c., meaning from the supposed oil-gland or glands in the rump. This is a common opinion, which "O." backs with weighty authority ; but colleges and closets are not the proper places to study the habits of birds in captivity, nor is a knowledge of the subject in question to be gained by experiments on their mutilated bodies. In my former letter I stated that the feathers are supplied with sufficient nourishment from their own roots, varying according to the habits of the bird. With that "O." seems partly to agree, for he observes, that the small feathers are supplied from "small sebaceous follicles," and also, from small "sweat glands." If so, why not the larger feathers, which are deeper rooted ; what prevents the proper supply of nourishment extending to the extremities more than to the rest of the plumage on other parts of the body ? I do not deny the existence of glands in the rumps of fowls, but I do that they pick or tap them for the purpose of oiling their feathers, otherwise the rumps of large water fowls would appear somewhat like running sores instead of closed nipples. And it is worthy of remark, that if the feathers were smeared while fowls dress themselves, the oily matter would be visible and soil one's hands, whereas, they do not even stain the finest linen or paper. No, no ; as the colouring matter ascends to the feathers from their roots, so does that which gives the plumage the power of repelling water.—*J. Wighton.*

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A WEEKLY COUNCIL was held at the Society's House, in Hanover-square, on Tuesday last, the 13th of June ; present, Mr. RAYMOND BARKER, in the Chair ; Rev. G. C. Cotes ; Mr. Dyer ; Mr. Eggar ; Mr. Brandreth Gibbs ; Mr. H. M. Hawkins ; Mr. Fisher Hobbs ; Mr. J. Holder ; Mr. Hudson, Castleacre ; Mr. Edward Jones ; Mr. Kinder ; Mr. Laycock ; Col. Mac Douall ; Mr. Maddison ; Mr. Parkins ; Prof. Sewell ; Mr. T. Turner ; Mr. T. R. Tweed ; and Prof. Way.

The following new members were elected :

Pugh, George, Coalport, Ironbridge, Salop.
Walker, James, Newberries, St. Alban's, Herts.
Penfold, James, Lancing, Shoreham, Sussex.
Dartmouth, Earl of, Sandwell-park, Birmingham.
James, William, King-street, Hereford.
Karkeek, W. F., Truro, Cornwall.
Felton, Clement, Dunton, Fakenham, Norfolk.

The names of eight candidates for election at the next meeting were then read.

The following communications were received :

1. Letter from Mr. THOMPSON, expressing the pleasure it would give to accede to the wishes of the Council respecting the drawing up of the Report of the Exhibition and Trial of Implements at the York Meeting, for subsequent publication in the "Journal" of the Society.

2. Letter from Mr. EATON, of Haverfordwest, recommending a drink of one quart of new milk fresh drawn from the cow, as an effectual preventive of hove in cattle, provided it be administered while the animal is able to walk about.—Prof. Sewell remarked that from the excited state in which the animals were while suffering under the complaint in question, it was difficult to administer any drink to them ; but easy to make use of the effectual means offered by the trocar and probang.—Mr. Hudson, of Castleacre, had not found the trocar successful, inasmuch as the animals relieved by its use had not thriven well afterwards.—Prof. Sewell attributed that result to the employment of an imperfect instrument, and expressed his willingness to furnish Mr. Hudson with an improved trocar, similar to those he had recently presented to the Council.

3. A Letter from Mr. GREEN, of Scarborough, on the period of suckling.

4. Letter from Mr. GOLDSWORTHY GURNEY on the subject of crops raised under a fibrous covering.—Several of the members present favoured the Council with their remarks on the subject.—Prof. Way considered it to open a wide field for experiment, as it included the action of light and electricity upon vegetation.—Col. Mac Douall had found Grass, drawn up, to be deficient in nutritive properties.—Mr. Hudson thought it would have been desirable if Mr. Gurney had stated in what condition the sheep on his land under fibrous covering were in.

5. Notice of motion from Mr. SHAW, of London : "That, in order to afford greater facilities for obtaining correct analyses of manures, soils, roots, and other agricultural products, and to encourage the application of chemical science to practical agriculture, an annual grant of 200*l.* be made to the English Chemical Agricultural Association."

PRESENTS TO THE SOCIETY.—Mr. READ on the "Flexible Tube and Probang ;" Mr. Parkes's "Essays on the Philosophy and Art of Land Drainage ;" Mr. Coleman's "European Agriculture," vol. ii. part 8 ; Mr. Coxworthy's "Electrical Condition applied to Facts ;" Mr. Blacker, of Armagh, on "Improving the Condition of the Irish Labourer ;" and Mr. Thom's "Statistics of Ireland."

ADJOURNMENT.—Mr. BARKER moved the adjournment of the Council to the 20th inst., and then over the following week, to the 4th of July.

Farmers' Clubs.

North Walsham.—At a late meeting of this Society Mr. Mechi made the following remarks:—

He said: Mr. Chairman, and gentlemen, I feel very much obliged to the members of this club for having done me the honour to invite me on the present occasion. I assure you that I feel it to be an honour to have an invitation coming from gentlemen whom I have always been accustomed to consider as in the first rank of agriculturists. When I reflect upon what has been done in Norfolk, by that truly worthy member of society, the late Lord Leicester, I am overwhelmed with the importance of the results produced by his extraordinary judgment and patriotism. I feel that to that noble landlord is due the great bulk of the improvements which I see have taken place in this county. And I do hope and trust, and I feel, that his example in extending beyond the confines of this county. It was my good fortune to day to travel with one of his late lordship's tenants. On asking him the former and present condition of his land, I was gratified to find, that the rental had increased 300 per cent., that the land was worth four times as much now as it was 25 years ago. I was gratified also to find that that tenant had expended on a farm of 1200 acres in the course of his holding, which extended over 25 years, the sum of 20,000*l.* in artificial manures, and the sum of 40,000*l.* in oilcake, making together the sum of 60,000*l.* in 25 years, on a farm of 1200 acres. Now, gentlemen, if that has been done with profit to the tenant, has it not been done with advantage to the landlord, and to the community at large? And is it not a most beautiful and impressive illustration of the advantage of landlords seeking for good men, improving men, as their tenantry, and encouraging such men when they have got them? I admire the landlords of this kingdom as a body, and I feel that they only require, many of them, to know that it is their interest and for the interest of their successors, to have on their farms men of capital and intelligence, instead of grovelling and servile and poor men. We know perfectly well that we are not all blessed with capital, nor all equally blessed with intelligence; but let those who are landlords and have an abundance of means, let them by all means encourage those men and seek for those who have capital. I will now proceed to the general question of agriculture, and touch upon a few points of my own practice; and I shall be very happy, as I go on, to hear your opinions, and to answer any questions, and to receive any censure that I may deserve. If there are any points in my practice that are not correct, I shall be very happy to hear them corrected as I go on. I am but a young farmer, and as such I look around to those who are older and more practised than myself, to see if something cannot be learned. I think we are bound not to assume that we are perfect in our vocations, but to go on improving from day to day. I have been extremely gratified, on this my first visit to Norfolk, to see that in this district you have such good land, and that you have farmed it so excellently. It stands out in bold relief, compared with many parts of the kingdom that I have lately visited. Still, I think there are many things which might be improved. I think there are some weak points as well as strong ones. I think that your inclosures generally are far too small to be profitable, and that they are encumbered with a great deal too much timber, and timber that I think is not profitable to the landlord, certainly very unprofitable to the tenant. I think that the tenants, some of them, might trim their fences a little more neatly. The inclosures being so small it would be very desirable that the fences which encompass them should be also extremely small, and when you consider that the cost of doing that is not more than 3*d.* per acre per annum, I think that its being undone betrays a considerable amount of neglect. The waste of liquid manure I perceive is also rather common in this county, as it is in most others in the kingdom. I consider the waste of the liquid portion of the excrements a very great curse to this country generally, because science has told us that the liquid portion of the manure is essentially that part which will produce the kernel of our grain; the strawy and woody fibre of the solid part of the excrements do not produce the kernel except in a very slight degree, but the liquid portion of the manure is essentially that which forms the kernel of the grain; and as we already sell off from our farms quite enough grain which does not find its way back again, I think we ought especially to take care of that which will replace it. I am aware that it requires rather a different sort of building, and that troughing must be put up, and so on; and while I am aware that in every case it cannot be done, I am quite sure that in a great many cases it might be done with advantage to all parties. The system of box-feeding is a very admirable one, and I believe that the country generally, I for one, feel that I am indebted to your neighbourhood for its introduction on my farm. I consider that all manure should be made under cover free from water, for then the animals are kept in a more healthy condition, and the manure is also kept in a more healthy condition, ready to go on to the soil uninjured, unwashed, and undried, whenever it is required. I have adopted the box system for my animals with advantage, and I regret extremely that the whole of my farm-yards are not entirely covered up. If I had to rebuild them, not one drop of water should fall in any portion of them. I know of no model for a farm-yard so good as the large show-place in Kingstreet. I saw there an enormous number of beautiful animals which seemed very comfortable, and I have no doubt, that if the farm-yards of the kingdom were made on that principle, there would be a great deal more beef produced, and more corn grown. We should have less disease arising from those sudden changes of temperature which are very fatal to both man and beast. On the subject of feeding animals, I think it brings us to the consideration—a very important one—of the best and cheapest way of obtaining manure. Now, when I began farming, I had a notion that purchased manure, such as guano, and nitrate of soda, and many other things, were profitable; but experience has taught me, that by far the most profitable way of obtaining manure—which is, in fact, obtaining additional produce—is to purchase a considerable quantity of grain, or of Linseed, and to feed stock that is bred upon the farm. Mr. Lawes, in an admirable paper in the last number of the "Royal Agricultural Society's Journal," has shown clearly, that for every 5 lbs. of flesh that is put on by the animal, 25 lbs. is rejected or ejected in the manure. That has been proved beyond a doubt. Therefore, if we can purchase a large quantity of grain—I do not care of what sort or from what country—and it we can purchase it, and sell that grain to our animals on the farm, at the price we gave for it, it requires no conjuror to show, that we are enormous gainers by getting our manure, of the best quality, for nothing. It was proved in the paper to which I have alluded, that where animals were purchased at a dear rate for grazing—where they were fed with hay and oilcake and grain, all purchased—that though those animals lost money, as we know they frequently do when the account is balanced with them, that still the manure gained from them was not half the cost of guano; and of course it was far more advantageous in its bulk, which is, in my opinion, an important consideration. We know, practically, that where box manure is applied to the land—I see it clearly in my fields,—that the land feels it at least a year or two longer than any artificial manure you can put on. I am not speaking of washed farm-yard manure, because I consider it is something like the tea-leaves that are left in the pot after the best of the tea has been poured away. But I am quite sure, and I shall be glad to have my opinion confirmed by practical members present, that a farmer will never thrive so well as when he invests as much of his capital as he can afford in breeding stock, in fattening the cattle purchased lean, and, in fact, in selling to his stock that spring-board which is now frequently sold never to return to the farmer. He should send his spring corn into the market on four legs, instead of through the merchant or miller. I conceive that one of the most important points in agriculture, and, for my own part, I am now consuming and purchasing at the rate of 300 qrs. of Barley-meal annually, on a small farm of 150 acres; and I find that it answers my purpose so well, that next year I shall purchase 1000 qrs. of corn. I do not tie myself to any particular sort, for it depends upon the price, but I shall purchase 1000 qrs. of corn, and consume it on the farm and stock, in addition to the Peas and Beans that I now grow, of course in addition to all the roots and all the green crops. I am not at all satisfied that we do right in giving our animals a large quantity of roots or green food, unassisted by some thing of a more rich and solid character. I think that they ought to have the Swedes, the Mangold Wurzel, the Tares, and the Rye, as a sort of salad after dinner; but that their dinner should consist of oilcake, of grain, or of Mr. Warne's excellent compound, and that the other part should form merely the smack and relish afterwards; and that they should not be kept, as is frequently the case, in a constant state of cramming or chartbove, by eating an unlimited quantity of this stuff. It may be said, that the Land would get too rich. There is not much fear of that; but if you think so, take a crop of Wheat, or Oats, or Potatoes, which people will buy most readily in London; and then take Wheat again. I hope your landlords will not tie you down, when farming in this rich manner. I hope, when the farmer shows his landlord that he is not only consuming his own spring crops, but also that he is buying a good deal from other people—that he is buying Beans from Egypt, Indian Corn from America or anywhere else; and considering all this, I hope such a farmer will not be tied to any particular course of cropping, at all events, during the greater part of his lease; because it is quite clear the effect of his making this purchase must be not only to make money for himself, but also to improve, to an incalculable degree, the permanent value of the soil. A gentleman who has taken a farm into his own hands said to me, "Look at my land; my father has been taking rent of a bad farmer, who has been exhausting his land from year to year; I am sure that the whole of the rent which has been paid will not compensate for the deterioration which the land has incurred by the neglect of that farmer, for a certain number of years." What can be more convincing that a bad farmer is a most injurious person, not only to himself, but also to the landlord, and to the country at large? and the converse of the proposition. A good one must be an equal blessing; and therefore I do hope to see the character of our tenantry improved. I do hope to see them more like gentlemen. I consider the higher the farmer ranks in comfort, capital, and in conduct—and that was a strong point with the late Earl of Leicester; for he said, "I rejoice to see my farmers drinking champagne; I am glad to see them able to do it." Let that be the feeling of the landlords—the higher, the more capital, the more intelligence you get among the tenantry of this kingdom—the better it will be for all classes of the community; for the landlord, the mechanic and the manufacturer. I feel strongly on this point, because I am sure that there remains in this country (but in a very limited degree, I am happy to say) a little feeling of the old feudal times; which is, that letting the land was not a mere act of business. I consider that letting and hiring land is essentially a matter of business. I do not see that you can call it anything else; but still, in all matters of business, whether between the trader and his supplier, or between the landlord and the tenant, there will always be, between right-minded men, a good and a kind feeling. We see it illustrated as much in manufactures and in trade as in agriculture. I speak personally, being connected with both; and I can say, that the same feeling of "doing as you would be done by," does exist between men of all parties. Bad landlords and bad tenants, of which I hope there are comparatively few, will always find business disagreeable enough. I consider that agriculture, at present, is comparatively in its infancy. I feel that in my own farming I am but an infant, although I am trying to farm tolerably well. It is true, that I have got my steam-engine, and I have no doubt the time will shortly arrive—especially when there is a proper security for permanent investments being made by the tenantry—I say that we must have a security for money; because no man would put up an expensive steam-engine, which at the lowest would cost 500*l.*, and other matters connected with it, unless he has permission to remove it. It is not to be expected that people will do so; nor do I believe that the landlords of the country wish it. But at present, I say, we are only in the infancy of agriculture. When I go to the neighbourhood of London, I find a market gardener, holding some hundreds of acres, who tells me that he puts on 45*l.* worth of manure per acre for each crop. I can give you the authority; and he says that the more he puts on the more profitable he finds it. Now, gentlemen, when 45*l.* per acre can be profitably invested in a market garden in manure alone, I think we have a right to infer that we have the power of producing a very much larger amount of food, both for man and beast, than at present. I allude particularly to the green crops; such as Tares and Rye after Wheat. Now I consider it a piece of bad farming, although it is customary to attempt to grow those kinds of crops upon an exhausted Wheat stubble. If we act on the principle that I have described, of producing a very much larger quantity of manure, by purchasing food, we shall, if we are afraid of being overburdened with manure, put on 40 or 50 loads per acre; for our Tare or Rye crop depends upon it, and it will grow all the better. That is my practice; for if I can spare 20 or 30 loads of manure for my green crops, I find that they are truly grateful for it, as it has the effect of producing more mutton or beef to sell. I get the return on four legs which I do not get in the shape of grain, which it would not do to supply so much manure to. I mention this because my own Rye is as high as this table, although on poor land; and I believe it is because I put a quantity of manure under it. I have not seen any such in this neighbourhood, although the land is a great deal better than mine. I do not say it from vanity, but to illustrate the principle that we cannot apply too much manure for our green crops. After all, when we have a large green crop, it is equivalent to having a certain sum of money; because it is the means of producing money. There is the waggon question, which is hardly worth adverting to, for it is now pretty well settled. For my own part, I think waggons are expensive and lumbering, and certainly not very useful appendages to a farm. I use Hannam's carts, and I should recommend you to do the same, if you study economy and facility in the transfer of your produce. I shall be very happy to state the details, if required, and also what each cart is capable of taking. I do not see the advantage of dragging a ton weight of timber from one part of a farm to another, when 7 cwt. will do the same work. Perhaps the club is agreed on that question.—As to steam engines, I am glad to find that you have portable ones. There is no doubt that you will have fixed ones by-and-bye, when this long-debated question of compensation is settled. You cannot call it *tenant* right,—as it is quite as right, ultimately, for the landlord as the tenant. It is a question between man and man between the outgoing and the incoming tenant. There is no doubt, when the act is passed on the subject, it will be essentially a question between the outgoing and the incoming tenant. Every farmer will be glad to pay his money away when he sees the value for it, and no man should wish to receive money unless there is the value. With regard to draining, your land here is particularly situated. Much of it does not appear to require draining; but I think I saw a considerable portion in which the water, though not apparent on the surface, was rather too near to it, [illegible] comfortable to the crops. We are [illegible] and I would at always to assume [illegible] subsoiled, digging it [illegible]

not know whether it is so in the neighbourhood, but if you do so in many places, where water is [illegible] near to the surface—you will find it soon flow, especially [illegible] 4, or 5 feet deep. Therefore, by digging such holes, if the level of the water is found within 3 or 4 feet of the surface, I should decidedly recommend such land to be drained to that depth, and I believe it is for want of depth of soil that [illegible] year, especially after a wet season. I [illegible] go on flourishing up to the [illegible] of May [illegible] assumed a yellow and [illegible] appearance, and [illegible] mendy called, gone off [illegible] having a desire to go deeper into the soil, and [illegible] stagnant water. It is much the same as [illegible] in a flower pot and giving it water, or [illegible] the flower-pot full of water. You will [illegible] the result of that is to turn the plant yellow, as I have [illegible] you have observed. As to the mode of draining, I am quite convinced that it ought to be up and down the hill, and not across it. A very striking instance of that occurred to my farm the other day. A piece of land on the slope had been drained across the hill, at only 2 feet deep. I had occasion to put some posts for rails on the ground below the drains, and I found that the holes were full of water, exactly level with the drain, which although 2 feet deep, being 2 feet higher at the top, of course did not take the water from that part below. Now, if that drain, instead of being cut across the hill, had been cut down the hill, it would have met the water and have been an equal distance from each portion of earth down the hill; or if cut 4 feet instead of 2, the water would have found its way down to the drain; but by cutting shallow drains across hill, and carrying them across a hill, it is clear that the water [illegible] has no power to go into it, but has a long way to go to find the way into the next drain, whereas, if the drain were cut up and down the hill, every portion of soil, as it descended, would gradually find its way to the drain from both sides. I am afraid I am getting rather tedious. "No, no," and applause.) Well, there is another point. I have been feeding sheep on Mr Barnard's plan—what is called board wages. (Laughter.) I find that it is a very successful practice, and I do not see that [illegible] in operation in this immediate neighbourhood. I have had my sheep on boards for several months, and they thrive admirably well; and when I tell you, that, at one year old, several of them weigh 12 stones, which is 24 lbs. a quarter for hogget sheep, you will naturally agree with me that it is a profitable way of feeding them. I sold some of them the other day at 2*l.* a piece. I find, in practice, that no disease attaches to sheep so situated. Occasionally, one or two, from being apoplectic and fat, were inclined to be giddy; and I was glad to get rid of them, for they were immediately consigned to the butcher. There is no foot-rot, and they generally present a most healthy and comfortable appearance. On our cold and exposed land, they certainly thrive infinitely better than some I have tried on the old system of folding. They consume less food, in proportion to the fat they put on. There is no expense for straw, and their manure falls through on some dust and burnt earth. By using about half a bushel of gypsum per day, and sweeping it down between the cracks, we have an excellent crop of manure to grow the Turnips for next year. It is neither too wet nor too dry, but just in that state in which, in a hot summer's day, the Turnip roots will find a very comfortable meal. I think we are bound to look at all these operations, not as advocates—no man should *advocate* a principle in agriculture. We should state the facts, and the result, as a matter of profit. (Applause.) And then those who have the opportunity of seeing the fact can draw their own conclusions. I know practically that, where there is capital, there is generally an ample desire on the part of farmers to do everything that is profitable. I do not agree in the vulgar prejudice, that agriculturists are slow to observe things conducive to their own interests. There are some few old prejudices, but I do not accuse agriculturists of being slow in adopting what is profitable. The question of thin sowing is now rather a ticklish one; and judging from what I have seen in your neighbourhood, it has not made much progress here. But still a change is coming over the Norfolk mind in that respect, slowly and gradually. One of Lord Leicester's best farmers told me, the other day, that he had 150 acres of Wheat growing from 5 pecks per acre, on light soil, and that it was very much thicker than it ought to be. He wished that he had only put in half the quantity of seed, considering the season; although his neighbours were putting in 4 bushels, he feels quite sure, that he should never put in more than 5 pecks, that is dibbled, but most likely 4, according to the state of the land. My own experience has invariably been in favour of 4 pecks of seed. I make it a rule every year, and in almost every field, to leave a portion of my land drilled with 2 bushels, as well as 1 bushel, in order that I may, every year, arrive at certain results. Those results, as I said before, have been invariably in favour of thin sowing: the difference last year being equal to the rent of the land. I should be very happy to hear from those gentlemen present, who have tried the different quantities, the result of their experiments, and I do hope, and I do think, that you are all in justice bound to alter your drills on one acre or half an acre in each field, and when we meet again, to collate your evidence: and then use which you have found the most advantageous. I recollect, that in Suffolk, a very able and careful old farmer, after what I said at a Suffolk meeting, altered his drill on an acre of land in the middle of a 15-acre field. He told me, two months ago, that on that acre drilled with a bushel, he had 7 bushels more corn than he had on the rest of the field which had been drilled with 2 bushels; so that, in fact, thin sowing in that instance, without any difference in the soil, gave him an advantage of a quarter of Wheat per acre. I shall be happy to give any gentleman his name. He is a man well known. In another field he tried the same operation a month later, which was in November. There he had no increase from thin sowing; but he saved the bushel of seed, which is an object, being worth 7*s.*; and he also weighed the straw from the same field, and found what I have found, that thin sowing, as it is called, produces more weight of straw per acre than thick sowing. Now, gentlemen, your Wheats are looking brilliant at present, and quite thick enough. I hope that we may not find that, in a month, or the beginning of June, excessive luxuriance causes that crop to fat. We have known such a thing; but I am sure you must feel, as I do, that it would be attended with enormous loss. Were we to have a continuance of wet growing weather, those Wheats get heavy in the month of June, the loss to you, as farmers, and to the community, must be very considerable. At all events, I hope you will not think that I am assuming too much, that each of you should try the experiment and form your own conclusions. I shall be extremely gratified, and I think you are bound to do it. In the practice of farming, the great difficulty is to get a profit out of the land. We know that there are so many contingencies that farming is comparatively a slow business. The great losses arising from diseases in stock, from diseases in horses, and other casualties, render farming at all times rather a precarious affair. It becomes, then, of great importance that the details of the expenditure should be very closely watched. So far as my own experience goes, I have found considerable advantage in certain operations from the use of an implement which I do not see. I am sorry to say, in your neighbourhood. I speak of Garrett's horse-hoe. Now hoeing is an operation which requires to be done very quickly, at a particular time, and, if possible, very cheaply. I assure you, that during the last five weeks, with a pair of horses and one man, in a week of seven days, I generally [illegible] acres of Wheat, at the high rate of 1*s.* 6*d.* per acre, [illegible] any weather to destroy or injure such weeds as there were between the rows. Now that operation was effected at a cost of 1*s.* per acre: and I have in hoeing in the spring [illegible]

hoe, would have cost at least 12s. per acre, to have done it as deeply and perfectly. Therefore I consider that that implement is a most important one for agriculture. It is not the weeds in the immediate row of the Wheat that do so much injury; because the Wheat has the power to take care of itself generally in the rows; but it is the weeds in the intervals that do the damage. The mere cultivation of that space between the rows I consider exceedingly advantageous, and I should be better pleased to see a little more hoeing amongst your Wheats, instead of seeing them so thick, because if you put less seed in you will have to hoe more than you do at present. I shall be very happy to show any of you, at all times, all the operations going on on my poor farm. We have no secrets there. We are open at all times to public inspection, and, if necessary, to public censure. I do it on public grounds. I am always happy to receive a castigation for anything that I do not farmer-like and consistently; and, probably, I deserve it more than any other man, because I lay myself open to public observation. Therefore, all that I do in agriculture, is done carefully from the theory and practice of other practical and able men, and there is very little merit due to me in the matter; but I do think we are all bound to look round and see what others are doing, as is done in trade. If we see one man more successful than ourselves, then it is our duty to inquire into the cause of that success, and adopt his measures. I have a very strong opinion on the importance of deep drainage, and deep cultivation in general. You, perhaps, are less affected by it than any other neighbourhood I know; but it is lamentable to see, in travelling over this rich kingdom, the thousands and hundreds of thousands of acres that are rendered comparatively sterile for want of the removal of the stagnant water. And my opinions are so strong on that point, that if I were offered 1000 acres of very heavy tenacious land, to be farmed without paying rent, and to keep it undrained, I would decline to accept the offer. I consider the difference between drainage on very heavy tenacious clay and non-drainage, is the difference in a succession of wet seasons, between a profit and ruin. I have often been censured for erecting permanent buildings. Now there is nothing so cheap as brick and slate, and iron. Everything in the shape of wood and thatch, I am convinced, can only be excused on the ground of want of means, which is quite a sufficient excuse; but where means exist either on the part of the landlord or tenant, practice has shown that everything should be made as permanent as possible, in order to be ultimately cheap. Look at the iron hurdles made by Garrett. They cost 6s. 9d. each; they will be good or useful 20 years hence; and will outwear 6 or 7 sets of wooden hurdles, that cost 1s. each; and with the iron, 1 0l. at the end of that period would still be worth 50l. where you would have spent 200l. in the time on wood. You may multiply that by your pig troughs and almost everything you use. Therefore, do not let us imagine that the most durable things are not the cheapest. I think, with the prospect of the population increasing as it is annually, we must all, bye and bye, do things in a very different way from what we do them now. If we have not got a sufficient capital to take a farm of 500 acres, we shall be more wise to invest it in 200 acres; that will be more profitable to the landlord, the tenant, and the country. If what I have stated about market-gardening can be applied in some degree to land, there is no doubt that we can and must carry out the principle of forcing very large crops and producing a large quantity of meat on a small quantity of land.—I may inform you, that I have a six-horse power steam engine fixed. The consumption of coals by that is, as nearly as possible, a bushel per hour, and it has the power of doing the work of two relays of 9 horses each, that is of 18 horses working 10 hours per day. No man should calculate upon putting up a steam-engine as a permanency, under an investment of 500l. The price of the engine probably would be 150l., but then you would naturally put up a threshing machine, you would have a pair of mill-stones to grind your own corn, especially if you consumed much on the farm, which I hope you will do. You will also make it pump the water, cut chaff and turn the grinding-stone. And I am not sure that we shall not grind our own Wheat into flour, so that we may have the offal. I slaughter much of my own meat, that I may have the blood, instead of sending it down the drain of London to be wasted.—After remarking that he should be happy to hear an attack or discussion on his principles, Mr. Mechi sat down amid loud applause.—*Norfolk Chronicle.*

Reviews.

A Short Plea for the Advancement of Scottish Husbandry by Science, through the establishment of an Association unconnected with the Highland Society. By Sir G. S. Mackenzie, Bart., F.R.S., V.P.R. S.E., &c. Edinburgh: Neill and Co.

The plea is:—There is an enormous amount of work for an independent association; and the principle of the division of labour, thus *à fortiori* deserves to guide the arrangements which may be adopted for its performance. There can be no doubt of the truth of this position: the only question that can arise is, whether the advantages thus aimed at may not be purchased too dearly at the cost of the double establishment which would be required. And on this, unacquainted with the business of the Highland Society, or the mode and means of its transaction, we can offer no opinion. But such knowledge is not needed to form a judgment of these arrangements apart from the question—Who is to superintend them? And Sir G. Mackenzie's pamphlet will do good service by pointing out the many important branches of inquiry requiring investigation by the agricultural chemist, thus teaching the necessity of adequate means being devoted to the prosecution of agricultural chemistry. We hope the Society, when their plan, hitherto secret, shall come to be known, will prove to have been guided by a due appreciation of the vast importance of this subject, in its connection with that of agricultural improvement.

Calendar of Operations.

JUNE.

BERWICKSHIRE MERSE FARM, *June* 9.—Since last report we have been employed preparing land for sowing Turnips; seven pair ploughing, harrowing, rolling, &c.; 28 workers gathering weeds, one man turning dung, three mowing Whins, one mending fences.—*J. B.*

DORSET FARM, *June* 12.—Since last Calendar we have been employed at hay-making, preparing the ground for and sowing Turnips, sowing Carrots, Parsnips, and Mangold Wurzel, the latter being dibbled between the drills of early Peas; in every other drill, the Peas being 16½ inches apart, they (the Peas) are now being laid over two drills together off the Mangold Wurzel and the ground hoed. The weather, although on the whole dry, has been backward for hay-making. On the 9th and 10th we had a good deal of rain, and the ground is now completely soaked.—*G. S.*

DUMFRIESSHIRE AND THE STEWARTRY, *June* 7.—We have had fine rains and some sunshine for eight days, which have done great good to all crops. Never did the country look better. White crops, Wheat, Oats, and Barley are thick and forward; Beans well planted and luxuriant; Turnip of large breadths, and put in in very superior style, the brairds looking healthy, through here and there considerably injured with the fly. The Potato crop.—I mentioned the early crops as being affected in the same manner as those of last year. I have seen much more of it, but I am happy to say the early plants are showing increased constitutional strength, and have, in most instances that I have seen, thrown off the disease, got new fibres, and are now putting forth new buds, shoots, or leaves from the stem. This they did last year, after a more severe struggle, about eight or ten days later than the present time. I am sanguine, therefore, that the Potato crop is likely to succeed to a great extent. —*J. H.*

SOMERSETSHIRE FARM, *June* 11.—This last week we have been engaged in ploughing, harrowing, rolling, filling, hauling and spreading dung; drilling Swedes 27 inches apart; hoeing and earthing-up Potatoes, which look very promising. Hauling and storing about two-thirds of burnt ashes from a field that was pared and burnt (on which the ashes are not all wanted), to be drilled at a future time. Turning and mixing dung, shearing sheep, and cutting Grass for making hay.—*R. C.*

SOUTH DEVON FARM, *June* 12.—Since last report the weather has been very favourable for field operations, and also for the growth of plants. We have planted our flatpole Cabbages for the cows, in rows 27 inches apart every way, manured with about 20 tons of dung per acre, and are now very busy working and ploughing land intended for Swedes. Also digging back dung-heap, and mixing sulphuric acid and bone-dust in the manure-house in a basin moulded out of earth. One man very busy paring hedges. Our Mangold Wurzel and Carrots are brairding very well, and late Barley is making rapid progress. Wheat earing out.—*T. M.*

SOUTH HAMPSHIRE FARM, *June* 10.—We have to report since our last communication a great and sudden change in the weather, which appears to have done immense damage to the hay, which in this county upon most soils is a very light crop, and very little of it has been got up in useful condition. Our horses have been employed chiefly in working the fallows for the Turnip crop; also a few days carting hay and carting guano for the Turnip crop; also carting ashes to be mixed with night-soil for the same purpose. We commenced drilling Skirving's Swedes on June 7th, upon land ploughed once after Swedes fed off with sheep in April and May last, which has been our practice for some years past, upon a portion of the land where the Turnips cannot be fed off in time to be sown with lent grain, and we generally obtain a better crop from the second sowing than from the first; but they are very liable to decay in the second crop, in consequence of which we feed them off before Christmas and sow Wheat. We commenced on the 9th sowing Skirving's Swede upon the fallow land, 3 lbs. of seed per acre, drilled 2 feet apart between the rows. Our favourite application, and the one which has proved uniformly successful for two years past, has been, per acre, 4 bushels superphosphate mixed with 20 bushels ashes saturated with night-soil, and applied by the drill; also, in addition, 2 cwt. Peruvian guano, sown broadcast and harrowed in previous to drilling the seed. Our object in using the above-named manures in the manner stated, is because the peculiar action of the superphosphate in forcing an early growth is best calculated to insure a regular plant, and also by applying the guano broadcast there is no danger of destroying the vegetation of the seed; and when distributed over all the ground, as soon as the roots of the Swedes begin to extend into the space between the rows, they continue to find nourishment for the plant during all stages of its growth, which we believe to be highly essential in maturing the crop. Indeed, we do not hesitate to say from our own observation, that the greatest weight of crop cannot be obtained by the application of superphosphate and ashes alone. In the course of a few days we shall finish soiling our cart horses and cattle with Trifolium, having used it constantly during five weeks past for milch cows, horses, and pigs, and we have found for years past that it has afforded a greater weight per acre, and more nutritious food than any other green crop with which we are acquainted. Our labourers have been employed in mowing Grass and stacking hay, and also breaking and sifting guano, &c., and mixing ashes in readiness for the drill; they have also been employed in hoeing Potatoes and Carrots. The shepherds have been feeding the sheep on Tares, which are cut up and given in hay racks, serving with a fresh supply every two hours during the day; at night they are removed into the pastures. The women have now full employment, by hoeing Quicks, hay making, pulling Docks and Thistles in the pastures, weeding Oats and Barley, and hoeing Carrots.—*J. B.*

SOUTH WIGTONSHIRE FARM, *June* 5.—Since last report we have had delightful weather—sunshine and rain beautifully intermingled, and under the influences of which vegetation has made rapid progress. On the 28th of April we finished sowing Oats, which, up to the present, look tolerably well. Four tons of Potatoes were planted in the early part of May, in the manner described in last report. Three acres of Carrots were sown on the 16th, 17th, and 18th of May, in drills 12 inches asunder, manured with guano and gypsum; they are now above ground and look pretty well, though in appearance much inferior to those of last season. Our Bean crop does not come up to expectations, being dwarfish and thin, and not at all likely to realise what we anticipated a few weeks ago. In no season do we recollect a greater abundance of Grass than the present; our pastures are flowing, and our cattle thriving well; from the large supply of Turnip we were able to afford them in winter, they are now in excellent condition, and present a very healthful appearance. Our horses are doing well, in the stable, receiving Italian Rye-grass, which now yields an abundant sward. Our pigs are receiving the remains of our Turnips and Carrots, steamed with plenty of excellent winter-sown Vetches. Our manual operations on the farm are preparing and sowing Swede Turnips, manured on 35 carts of good farm-yard manure, 11 bushels of bones subjected to the action of 60 lbs. of sulphuric acid for some days previous to sowing, and 4 cwt. of gypsum per acre; the latter we sow in combination with the bones. We have yet a considerable breadth of Turnips to sow, our operations in this respect being considerably in arrear of those of other seasons less favourable. We understand that the early-sown Turnips in this neighbourhood have suffered much from the ravages of the fly; for our part, we cannot speak from experience, having had none sown earlier than the 29th ult. Our auxiliaries are employed in cleaning hedges at ¾d. per rood, cleaning and hoeing Potatoes, preparing Oats for the market, and one woman preparing thatch for harvest. —*D. M.*

SUSSEX FARM, *June* 12.—The corn crops have improved very much with the late rains; and, on the meadows that were lately eaten off with the sheep, we have a prospect of a fine crop of hay. Our Swedes come up beautifully, and no signs of the flea at present. We have cut all our seed hay except part left for seed. Rye-grass strong, but Clover deficient. We are still engaged in sowing Swedes and Aberdeen yellow and Dale's Hybrid Turnips; part manured with 25 loads of dung per acre, part with bone dust and sulphuric acid, and part with guano and wood-ashes. Scarifying and harrowing the land for Rape, intended for the ewes; ploughing, drilling, carting dung and seed hay, and horse-hoeing the Mangold Wurzel; men filling and spreading dung, turning lime and mould, weeding young hedges and cleaning out ditches. Women turning and raking hay, and weeding Wheat and Oats.—*J. B.*

WEST SOMERSET FARM, *June* 12.—Since last report in March, we have been busy planting Mangold Wurzel, which the fine dry weather in April and May enabled us to conclude very satisfactorily. Twenty-four acres have been sown in the way I before mentioned, with half a pint of artificial manure to each plant, 15 by 27 inches apart. About four acres of those first put in are now well up and are being singled; where the plant has missed, we transplant others to fill their places, putting them in where the manure was before. In another field containing the remainder, they, until very lately, have not borne so promising an appearance, having in many places missed plant and very irregular, so much so that we were about to break it up with the scarifier and sow it to Swedes; but within the last few days, from effects of the rain, they are coming up in every direction, so that there is now every reason to hope some Mangold Wurzel. The following is the estimated expense per acre for dibbling them:—

	£	s.	d.
10 men at 1s. 8d.	0	16	8
6 women at 6d.	0	3	0
8 children at 4d.	0	2	8
1 horse at 3s.	0	3	0
Performing 2½ acres a day.	£1	5	4
For Drilling.			
2 men and boy with drill	0	3	8
1 man with harrow	0	1	8
4 men with putts for manure ...	0	6	8
7 horses at 3s.	1	1	0
Performing 5 acres.	£1	13	0

We commenced Turnip sowing on the 3d, the weather has been very favourable for it, and some of those first sown are already up, on which as yet there is no appearance of fly. The land was first dunged at the rate of 25 loads an acre, being a very poor stony soil, ploughed in, and then the seed drilled in with superphosphate of lime, 2 cwt. per acre, and about 80 bushels of fine peat earth and ashes. We have some Clover and Saintfoin lying about, which was mown the beginning of the month, rather injured by the wet. This week we go on ploughing for and sowing Rape, also sheep shearing.—*H. E.*

Notices to Correspondents.

AGRICULTURAL EDUCATION—*C*—It would be a capital plan for you; but we doubt if it be possible—*i. e.* if any "first-rate farmer" would be disposed to give instruction for the assistance which an uninstructed young man would give him on the farm.

BOOKS—*Young Miller*—A work by Messrs. Blackie, of Glasgow, on Practical Engineering, would probably suit you. We do not know its title, but your bookseller can obtain it for you.

MILDEWED BEANS—*J C M*—Your Beans are covered with Uredo Fabæ, P., of which a figure will be found in Grev. Scott. Crypt. Fl. tab. 95. It is a very common species, but is seldom seriously injurious. It is remarkable to what an extent Uredines sometimes exist without causing much damage. A plant of the double yellow Persian Rose, which seemed in the spring certain to be the victim of Uredo pinguis, D. C., is now pushing vigorously, and appears to have completely conquered its enemy, though the whole stem was infected. *M J B.*

SWANS—*A Subscriber, H V N*—There is no bird in the least comparable to the swan as an agent for clearing a pond of weeds. It does not, however, eat all weeds indiscriminately; it seems scarcely to touch the Water Lilies, white and yellow, except perhaps in a very young state, though it no doubt checks their increase by seed. These, when too numerous, may be uprooted by means of a long pole armed with an iron claw, and used either from the shore or from a boat; once detached from their moorings they may be floated away. Swans seem to prefer, first, what we call the lower forms of vegetation, the Confervæ and the Characeæ, and then the Callitricha aquatica, or Water Starwort and the long list of Potamogetons, or pond weeds; the rhizomata of all sorts of Reeds, Rushes, Arrow-heads, &c., are greedily torn up and devoured. A lake of half an acre in extent is quite large enough (with the assistance of corn and refuse vegetables and Grass clippings, when the weeds run short) not only to maintain a pair of swans, but to supply an acceptable lot of fat cygnets every autumn, as a careful reperusal of the articles lately published will show has been demonstrated. Swans have been kept successfully in a much more limited space. In one instance within my own knowledge, where the extent of water is not a quarter of an acre, the annual brood, as soon as they entered the pond in company with their parents, were devoured by some enormous pet pike that equally shared their owner's favour—a hint that one cannot breed swans and fresh-water sharks at the same time and place. But if all communication is not completely cut off between "H. V. N.'s" pleasure-ground and the nearest main stream, the swans will disappear by migration as surely as did the wigeon and the pintails. It is cheaper in the end to give a fair price for a pair of old, well-seasoned birds to begin with than to undergo the care, the delay, and perhaps the disappointment of nursing cygnets through their youth of three long years' duration. Brightness and clearness of the orange on the bill, and full development of the knob or "berry," indicates the complete maturity of the bird. A service might be rendered to economical ornithology by trying the hooper, of whose tameability Linnæus speaks so highly; it is less graceful however, bearing more resemblance in its attitudes and carriage to the Canada goose. There is also the Polish swan, that produces white cygnets, and Bewick's swan, if to be procured alive, averaging one-third less than the cygnus olor, might originate a stock of great value for limited pieces of water. None of the species can be less domestic than the mute swan, if it would really open its heart to us; but, being a "game bird" of great pluck, it carries off matters with a high hand, and temporarily conceals its hatred of the trammels in which it is compelled to live. If amount of purchase-money be of little importance, the black swan is a creature of much gentler manners, less in size, less tyrannical to other water-fowl, and indeed altogether taking in its ways. It is odd that their price should still be kept so high, as they breed in this country, frequently though not abundantly, under circumstances that must be considered unfavourable. I suspect from the localities in Australia where they were originally found, that they would thrive all the better for an occasional marine diet, and, like the gaudy shell drake, enjoy now and then a treat of cockles and shrimps, with perhaps a barrowful of sea-weed as the joint on which to cut and come again. The American canvas-back duck might render the required service, but even if procured, a work of some difficulty, the chance of keeping it at home would remain very problematical. *D.*

Markets.

POTATOES, SOUTHWARK, WATERSIDE, JUNE 12.

The Committee report that we continue to be well supplied with Potatoes for this time of year, and it is with difficulty sales are effected at the following quotations:—Yorkshire Regents, 100s to 140s; reds, 120s to 140s; Wisbeach Regents, 80s to 90s; blues, 60s to 80s; Scotch cups, 110s to 120s; whites, 90s; Dutch do., 60s to 70s.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, June 15.

Prime Mead. Hay	65s to 75s	New Hay	—s to —s	Straw	26s to 29s
Inferior ditto	60 66	Clover	80 98		
Rowen	— 63	New Clover	— —		J. COOPER.

CUMBERLAND MARKET, June 15.

Prime Mead. Hay	75s to 80s	Old Clover	90s to 95s	Straw	28s to 32s
Inferior	55 70	Inferior	75 84		
New Hay	50 65	New Clover	— —		JOSHUA BAKER.

WHITECHAPEL, June 15.

Fine Old Hay	65s to 72s	Old Clover	90s to 100s	Straw	24s to 28s
Inferior Hay	50 60	Inferior	80 84		
New Hay	— —	New Clover	— —		

HOPS, FRIDAY, June 16.

Messrs. PATTENDEN and SMITH report that the Hop market remains in a very dull state. The duty is estimated at 180,000*l.*

Mid. & East Kents, p. cwt.	60s to 100s	Yearling Kents, p. cwt.	48s to 60s
Weald of Kents	56 — 76	Yearling Sussex	48 — 58
Sussex	54 — 68	Old Hops	20 — 40
Farnhams	80 — 120		

COVENT GARDEN, June 17.

The market is well supplied with Vegetables and most kinds of Fruit. Pine-apples are sufficient for the demand. Hothouse Grapes are plentiful, and Peaches and Nectarines abundant. Melons are also sufficient for the demand. The supply of English Cherries is rather short, but foreign ones are plentiful and cheap. Good Maydukes fetch from 6s. 6d. to 8s. 6d. per doz. lbs. Strawberries abundant and cheap. Nuts are sufficient for the demand. Filberts fetch from 11s. to 20s. per 100lbs. Oranges [illegible]. Lemons are moderately plentiful. Among Vegetables, Carrots and Turnips are abundant and good; Cauliflowers, Greens, &c., sufficient for the demand. Asparagus is abundant. Seakale is all but over, and French Beans are scarcer. New Potatoes are plentifully supplied. Ash-leaved Kidney fetch from 2s. to 3s. 6d. per doz. lbs.; Cornish, [illegible] 3s. Green Peas are abundant, and sell at 2s. 6d. to 4s. 6d. per bushel sieve. Lettuces and other salading are sufficient for the demand. Mushrooms are a little scarcer. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Fuchsias, Carnations, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 6s to 10s	Oranges, per 100, 2s to 17s
Grapes, hothouse, per lb., 3s to 5s	— Bitter, per 100, 8s to 16s
— Portugal, per lb., 1s	Lemons, per doz., 1s to 2s
Peaches, per doz., 6s to 15s	— per 100, 6s to 14s
Nectarines, per doz., 6s to 15s	Almonds, per peck, 6s
Melons, each, 4s to 8s	— sweet, per lb., 2s to 3s
Strawberries, per pottle, 6d to 1s	Walnuts, per bush., 15s to 18s
Cherries, per lb., 6d to 3s	Nuts, Barcelona, per bush., [illegible] to 22s
Apples, dessert, per bush., 5s to 12s	— Filberts, per 100 lbs., 11s to 20s
— kitchen, p. bush., 4s to 7s	— Cob, per 100 lbs., 2[illegible]s to [illegible]s
Gooseberries, green, p. hf sieve, 1s 6d to 3s	— Brazil, per bush., 1[illegible]s to 16s
Currants, per half sieve, 2s 6d to 3s	Chestnuts, per peck, 3s to 6s
Oranges, per doz., 9d to 2s	

VEGETABLES.

Asparagus, per 100, 1s to 5s	Onions, pickling, per half sieve, 2s to 3s
Cabbages, per doz., 6d to 1s	Shallots, per lb., 6d to 8d
Greens, p. doz. bunches, 9d to 1s	Garlic, per lb., 8d to 1s
Cauliflowers, per doz., 2s to 4s	French Beans, per 100, 2s to 2s 6d
Sorrel, per half sieve, 6d to 9d	Radishes, per doz. hands, 4d to 1s
Potatoes, per ton, 100s to 180s	— Turnip, do., 9d to 1s
— per cwt., 6s to 9s	Artichokes, per doz., 2s to 4s
— per bush., 3s to 4s 6d	— Jerusalem, p. hf. sieve, 1s
— Kidney, per lb., 6d to 1s	Lettuce, Cab., per score, 1d to 1s
Turnips, p. bunch., 4d to 1s	— Cos, do., 6d to 1s
Red Beet, per doz., 6d to 1s	Mushrooms, per pottle, 6d to 1s
Horse Radish, per bundle, 1s to 6s	Small Salads, per punnet, 2d to 3d
Rhubarb, per bundle, 4d to 1s	Fennel, per bunch, 2d to 3d
Cucumbers, each, 3d to 1s	Savory, per bunch, 3d to 4d
Leeks, per doz., 1s to 1s 6d	Thyme, per bunch, 3d to 4d
Celery, per bundle, 1s to 2s	Watercress, p. 12 small bun., 6d to 9d
Carrots, per bunch, 4d to 1s	Parsley, per half sieve, 6d to 9d
Spinach, per sieve, 1s to 2s	— Roots, per bundle, 1s to 1s 6d
Peas, per sieve, 2s to 4s 6d	Mint, green, per bunch, 2d to 4d
Beans, per half sieve, 1s to 2s 6d	Marjoram, per bunch, 6d to 9d
Onions, per bunch, 3d to 8d	
— Spanish, per doz., 1s to 4s	

SMITHFIELD, Monday, June 12.

The supply of Beasts is not so large as it has lately been; consequently, although the demand is not great and the trade slow, a choice Scot, &c., makes rather more money. Inferior qualities move off slowly, at no advance. The number of Sheep is by no means excessive, yet the trade is perfectly inactive. We have not known so few buyers in attendance for many weeks, consequently prices are lower, and many remain unsold. There is scarcely any trade for Lamb, except for a few of the choicest kinds, and these are lower. Calves are selling about the same as on Friday last. Trade is rather better for Pigs. From Holland we have 321 Beasts, 19·0 Sheep, and 176 Calves; from Spain 95 Beasts, Scotland 30°, and 1900 from Norfolk and Suffolk.

Per stone of 8 lbs.—	s d	s d	Per stone of 8 lbs.—	s d	s d
Best Scots, Herefords, &c.	4 0	to 4 2	Best Long Wools	....	
Best Short Horns	3 8	— 3 10	Ditto Shorn	4 4	— 4 8
Second quality Beasts	2 8	— 3 4	Ewes and second quality	....	
Calves	3 8	— 4 8	Ditto Shorn	3 8	— 4 0
Best Downs & Half-breds	....		Lambs	5 4	— 6 0
Ditto Shorn	4 8	— 5 0	Pigs	4 4	— 5 2

Beasts—3131. Sheep and Lambs—26,180. Calves—299. Pigs—300.

Friday, June 16.

The supply of Beasts, although not extraordinary, is more than equal to the demand. Monday's quotations are barely supported, 4s. being the top price for choice qualities. We are fairly supplied with Sheep; a great many are coming to market in very middling condition, and the trade for these is not good; the choicest kinds find more buyers at fully Monday's prices. There is more inquiry for Lambs, but prices cannot be quoted higher. The number of Calves is unusually large, and trade is very dull; it takes a very choice one to make 4s. 8d. The warm weather causes slow trade among the Pigs. From Holland we have about 1[illegible]0 Beasts, 1580 Sheep, and 226 Calves; from Scotland 250 Beasts; and 120 Milch Cows from the home counties.

	s d	s d		s d	s d
Best Scots, Herefords, &c.	3 10	to 4 0	Best Long Wools	....	
Best Short Horns	3 6	— 3 8	Ditto Shorn	4 6	— 4 8
Second quality Beasts	2 8	— 3 4	Ewes and second quality	....	
Calves	3 8	— 4 8	Ditto Shorn	3 8	— 4 2
Best Downs & Half-breds	....		Lambs	5 4	— 6 0
Ditto Shorn	4 8	— 5 0	Pigs	4 0	— 5 0

Beasts—916. Sheep and Lambs—10,930. Calves—615. Pigs—293.

MARK LANE, Monday, June 12.

Messrs. Kingsford and Lay report that the supply of English Wheat by land carriage samples from the neighbouring counties was moderate this morning, and cleared at the prices of this day se'nnight. Good dry descriptions of foreign were in request, and fully supported our quotations, but out of condition parcels continue neglected.—There was little Barley offering, and its value is unaltered.—Beans, owing to a considerable arrival of Egyptian, are 1s. per qr. cheaper.—Peas are the same as last week.—The Oat trade is firm at former rates.—We observe no alteration in the value of Flour or Maize.

BRITISH PER IMPERIAL QUARTER.	s	s		s	s
Wheat, Essex, Kent, and Suffolk ......White	46	54	Red	43	47
Norfolk, Lincolnshire, and Yorkshire	44	48	White	44	50
Barley, Malting and distilling, 27s to 30s Chevalier	30	33	Grinding	25	28
Oats, Lincolnshire and Yorkshire ......Polands	22	25	Feed	20	24
Northumberland and Scotch ......Feed	21	23	Potato	23	25
Irish ......Feed	19	23	Potato	22	25
Malt, pale, ship	—	—			
Hertford and Essex	—	—			
Rye	27	30			
Beans, Mazagan, old and new ..30s to 36s....Tick	30	33	Harrow	31	40
Pigeon, Heligoland ......35 40 ....Winds	—	—	Longpod	—	—
Peas, White ......34 38 ....Maple	35	37	Grey	30	33

Friday, June 16.

The arrivals of grain during the week have been small, with the exception of Barley and Oats from abroad, which are good. Wheat, either English or Foreign, commands the extreme rates of Monday last, but the sales are limited.—In Barley, Beans, and Peas, we observe no alteration.—The Oat trade is heavy, and out of conditioned qualities the turn cheaper.—Indian Corn in some of the Irish markets is rather dearer again.

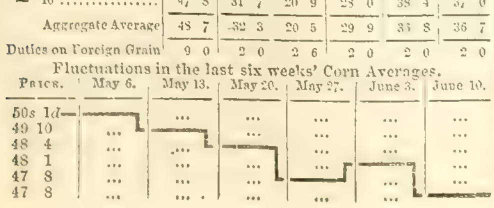
[During the last eight days heavy rains have fallen at intervals throughout England, and although the Wheat in places has been much beaten down, such cases are the exception, and more than counterbalanced by the benefit accruing to the spring corn crops. We hear complaints from some districts that the Wheat is coming into ear unevenly, and unkindly, and an opinion based upon our present position as regards stocks, future prospects of the crops, and foreign supplies, that there is little probability of any material decline upon the current prices, is becoming more general. During the last few days an increased firmness has been evinced in the principal markets, rendering purchases on late terms difficult. The improved prospects of the spring corn have produced a dullness in the demand for Barley, Peas, and Beans, and the two latter must be written fully 1s. per qr. cheaper. The value of Oats has been maintained here, but been rather lower in many of the provincial markets. Flour is unaltered. An inquiry for Indian Corn has somewhat revived, at rates which during the previous week were unobtainable. Letters from Dantzic represent the quality of the Bug Wheat as inferior to what was anticipated. Prices are unaltered. In the lower Baltic ports good red Wheat 62–63lbs. is obtainable at 33s. to 35s. per qr., f. o. b.; 52–53lbs. Barley, 18s. to 19s. per qr., f. o. b.; Oats, 15s. to 14s. 6d. per qr., f. o. b. Freights, 4s. to 4s. 6d. for Wheat. In Odessa on the 3d inst. there had been some purchases of Wheat made for Marseilles account at 24s. to 26s per qr., f. o. b. Freights were declining, and second-class vessels obtainable at 5s. per qr. New York letters of the 30th state that the arrivals of Flour had been good, but freely taken off by the demand for the interior, and former prices were supported. The appearances for a speedy termination of hostilities between Germany and Denmark are less favourable than of late.]

ARRIVALS IN THE PORT OF LONDON THIS WEEK.

	Wheat. Qrs.	Barley. Qrs.	Oats. Qrs.	Flour.
English	3980	1610	890	4260 sacks.
Irish	—	—	—	
Foreign	3480	9730	14390	— barrels.

Imperial Averages.	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
May 6	60s 1d	32s 4d	19s 8d	31s 11d	35s 7d	36s 3d
— 13	49 10	32 8	20 2	29 10	35 6	35 9
— 20	48 4	32 7	20 4	29 2	36 3	35 9
— 27	47 8	32 8	20 8	28 9	35 9	36 11
June 3	48 1	31 8	21 0	30 8	37 10	38 0
— 10	47 8	31 7	20 9	28 0	38 4	37 0
Aggregate Average	48 7	32 3	20 5	29 9	35 8	36 7
Duties on Foreign Grain	9 0	2 0	2 6	2 0	2 0	2 0

Fluctuations in the last six weeks' Corn Averages.



Sales by Auction.

TO [illegible].

MR. J. C. STEVENS is instructed by [illegible] to sell by Auction, at his Great Room, 38, King-street, Covent-garden, [illegible] 30th June, at 12 for 1 o'clock, [illegible] STOCK, cultivated in pots, [illegible] for immediate [illegible]. [illegible] morning of Sale, and Catalogues had.

ORCHID [illegible].

MR. J. C. STEVENS is instructed to announce for Sale by Auction, at his Great Room, [illegible], Covent-garden, on Wednesday, [illegible] June, [illegible], AN IMPORTATION OF ORCHIDS, just received [illegible] Steamer, from [illegible], [illegible] Joseph von Warscewicz, on the [illegible] galpa, and Xnotecea. [illegible] in these districts will probably [illegible] Cattleyas, Schomburgkias, &c. [illegible] a Vanilla bearing about 100 flowers, [illegible] 15 inches long, and 5 inches broad, with [illegible] rarities; also 12 plants of the [illegible]. May be viewed the day prior and morning of Sale, and Catalogues had in due course.

IMPORTANT SALE OF ABOUT 1000 CAMELLIAS, in first-rate condition, and well set with bloom buds.

MESSRS. PROTHEROE and MORRIS are favoured with instructions by Mr. [illegible] to Public Competition by Auction, on the Premises (near the Church), Hornsey, on Tuesday, June 27th, 1848, at 11 o'clock, about 1000 CAMELLIAS, from 18 inches to 11 feet, comprising the finest specimens in the country of [illegible], conspicua, imbricata alba, Fordii, [illegible], Blackburniana, Frankofurtensis, King, Press's, Queen Victoria, and many others. Gentlemen and Florists are respectfully invited to inspect and purchase a few specimens of this delightful assortment, and so increase the attraction of their Greenhouses, by adding varieties rarely to be met with.—May be viewed prior to the Sale, and Catalogues had on the premises of the principal Seedsmen, and of the Auctioneers, American Nursery, Leytonstone.

WILLMORE'S AMERICAN AND GENERAL NURSERY GROUNDS, STRAWBERRY GARDENS, EXOTIC HOUSES, AND PITS, EDGBASTON, NEAR BIRMINGHAM,

Containing about Ten Acres of LAND, a MEADOW of about two Acres, the remainder under Culture for the Growth of Fruits, Plants, and Shrubs.

TO BE DISPOSED OF, with early possession, the LEASE and STOCK of these attractive and well-established GARDENS and GROUNDS. The situation is most favourable to secure a good and steady demand for all descriptions of Plants, Fruits, and Shrubs. The whole is laid out with much taste in delightful walks, which, with the variety and beauty of the scenery around, and a never-failing Stream of soft Water running through the centre of the Ground, renders it a most attractive and favourite place of resort by the Gentry in the neighbourhood. It is sheltered from north-west, the north, and north-east winds by a fine plantation of Trees; it is also free from smoke. The Soil is fruitful and various, and well suited to the growth of American Plants; Fuel abundant and cheap. Such part of the Fruits, Plants, Shrubs, and Flowers not disposed of to the numerous Visitors, find a ready sale in the excellent Market Hall, within a distance of two miles. Any person fully competent to the management of the above, with skill and industry, will find the present a most eligible opportunity for a remunerative investment of capital. References: Messrs. Ronald and Son, Brentford, Middlesex; Messrs. Cadbury Brothers, Birmingham; A. W. Wilmore, on the premises.

Strawberry Vale, Edgbaston, near Birmingham.

MERRIOTT, NEAR CREWKERNE, SOMERSETSHIRE.

TO BE LET, and entered on immediately, on most advantageous terms, an Old Established and Well Stocked NURSERY, containing, by estimation, Ten Acres (more or less), situated in the above parish; together with an excellent Hothouse thereon, filled with choice Vines in full bearing, and valuable plants; adjoining which is a comfortable Cottage, with convenient Cart-house, Packing Sheds, Seed Room, &c.

Merriott is situated within a short distance of the populous towns of Ilminster, Ilchester, Yeovil, Crewkerne, Chard, Taunton, &c., to which latter place conveyances pass to and fro daily, in connection with the railways to all parts of England.

To view the above, application may be made to Mr. Andrews, at the Cottage on the Nursery; and further particulars and terms of letting may be known on application to Mr. Whitby, Solicitor, Wrington, near Bristol, Somerset.—Wrington, June 17.

TO BE LET ON LEASE, for the term of 14 or 21 years, A NURSERY GROUND of nearly 5 acres, with a suitable House, near the Church, at Streatham, Surrey; rent, 40l. per annum. The whole is well stocked, and in full business. The Stock to be taken at a valuation. For further particulars, enquire of Messrs. Protheroe and Morris, American Nursery, Leytonstone; or of Mr. Gaitskell, Solicitor, 99, Upper Stamford-street, Waterloo-road.

ROWLANDS' TOILET ARTICLES. — ROWLANDS' MACASSAR OIL, for the growth, and for preserving and beautifying the human hair. ROWLANDS' KALYDOR, for improving and beautifying the Skin and Complexion. ROWLANDS' ODONTO, or PEARL DENTIFRICE, for preserving and beautifying the Teeth and Gums. The especial Patronage of Her Majesty the Queen, H.R.H. Prince Albert, the Court, and Royal Family of Great Britain, and of every Court of the civilized world, together with numerous Testimonials constantly received of their efficacy, affords the best and surest proof of their merits.

⁎ BEWARE OF SPURIOUS IMITATIONS. Some are offered under the implied sanction of Royalty and the Government Departments, with similar attempts at deception. The only genuine of each bears the name of "ROWLANDS'" preceding that of the article on the wrapper or label. Their name thus—A. ROWLAND & SONS, is also, in red, on the wrappers of the Macassar Oil and Kalydor, and on the Government Stamp of both the Kalydor and Odonto.—Sold by them at 20, Hatton garden, London, and by every respectable Chemist and Perfumer throughout the kingdom.

THE ROYAL PATENT PEARL GLASS: Patronised by Her Majesty and H. R. H. Prince Albert.—MECHI, 4, Leadenhall-street, London, has made arrangements with the inventor of this elegant manufacture for its introduction to his new show-room for Papier Maché and other elegancies. Some of the most brilliant specimens represent our national Cathedrals, such as Lincoln, Lichfield, Peterborough, and York Minster; Warwick Castle is also beautifully delineated. Some are daylight and other moonlight views. They are at present adapted to folios and work-boxes, and will shortly be applied to all those articles which usually ornament the boudoir and drawing-room. A new invention, Patent Fern Painting on Glass, is in a forward state, and Mechi will soon have the pleasure of submitting specimens to his friends and the public. His new show-rooms comprise an immense variety of elegancies suitable for presents.

PRESENTS for WEDDINGS, BIRTHDAYS, AND ALL FESTIVALS.

Art Manufactures [illegible] each [illegible] to [illegible] directly as possible from Nature. These principles are by no means yet [illegible] an universal rule; but it is thought they may be adhered to advantageously in most articles of [illegible], and may possibly revive the growth of a style which England of the nineteenth century may call its own. Several of our best Artists have already expressed their willingness to assist in this object, among them may be named:—

John Bell, Sculptor; T. Creswick, A.R.A.; [illegible], R.A.; J. R. Herbert, R.A.; J. C. Horsley; [illegible]; D. Maclise, R.A.; W. Mulready, R.A.; R. Redgrave, A.R.A.; H. J. Townsend; [illegible]; &c. &c.; and executed by [illegible].

THOSE NOW READY ARE PRICED.

A New Wine Tray, [illegible] and [illegible]. [illegible].

"Salt and Fresh Water [illegible]." **A Fish-Knife and Fork.** [illegible] by J. Bell. [illegible].

"Vintagers." **A series of Decanter Stoppers.** Designed by J. C. Horsley. [illegible].

A Bride's Inkstand, [illegible]. Modelled by J. Bell. [illegible] will also be published [illegible].

Kissing Children, [illegible], and [illegible].

Boy and Dolphin, [illegible], with a gilt [illegible].

A Beer-Jug in Parian; [illegible] Storing, and Employment of the Hop. Designed by H. J. Townsend, price [illegible].

⁎ The [illegible] Messrs. Minton and Co., [illegible] Superior Art and Manufacture [illegible].

The Infant Neptune. Modelled by H. J. Townsend, 27s. in Parian. The same in Silver, [illegible].

Water-Jugs, in Glass. Designed by R. Redgrave, A.R.A., price 1l. 5s. and upwards; [illegible] 10s. each. The Vase on a smaller [illegible] and Porcelain.

The "Bitten Tongue." **A Mustard-Pot,** in Parian. Modelled by John Bell, price [illegible]. [illegible] to a Silver and Plated [illegible].

A Pair of Carved Wood Brackets: price [illegible] and upwards.

Dorothea, a Statuette, in Parian. Modelled by John Bell, [illegible]; also in Bronze.

Purity, or Una and the Lion, a Statuette, Modelled by J. Bell; [illegible] "Velvet [illegible]."

Waterloo Bust of the Duke of Wellington. Modelled by S. Joseph. Price [illegible].

The Milk-Jug which received the Prize awarded by the Society of Arts in [illegible], executed in Porcelain, [illegible] Silver by Hunt and Roskell. [illegible].

"Heroes, [illegible]." **A [illegible]ving Mug,** price 4s. and upwards, [illegible] each. Designed by R. Redgrave, A.R.A.

"Bubbles bursting." **A Champagne and Soda-Water Glass.** Ornamented by H. J. Townsend. At various prices.

A Wine Glass and Finger Glass. Designed in enamelled colours by R. Redgrave, A.R.A. [illegible].

A Cake Dish in Glass. Designed and ornamented with gilt Enamel by John [illegible].

Terra Cotta Trusses, [illegible] each.

A Set of Dessert Knives and Forks, executed by Rodgers and Sons.

"The Camellia" **Tea-pot,** executed by [illegible] after a design by R. Redgrave, A.R.A., in Silver, [illegible] plated; [illegible]; and [illegible].

"Prayer and Belief." **Two Statuettes of Children,** in Parian. Modelled by J. Bell, [illegible].

A Brown Earthenware Jug, [illegible] with bas-reliefs [illegible] by H. J. Townsend.

A Salad Fork and Spoon, in [illegible] and Ivory, with Ruby Glass [illegible]. Modelled by J. Bell.

"**The Hayfield,**" after the Picture by W. Mulready, R.A., exhibited at the Royal Academy in 1847. Painted on a Porcelain Vase.

A Grate, with Chimney-piece, Hearth, and Fire-irons, [illegible] metal and pottery. [illegible] Mr. J. Sylvester.

The Shakespeare Clock-case, in Metal and Porcelain. [illegible] J. Bell.

"[illegible]." **A Christening Cup** in Silver. By R. Redgrave, A.R.A.

A Lady's Work-box, in [illegible].

A Wall Paper, [illegible] by R. Redgrave, A.R.A.

Candlesticks, in Silver and Plated Metal.

A Bread Platter in [illegible] and Bread Knife [illegible].

"**The Distressed Mother,**" a Statuette, by Sir R. Westmacott, R.A.

A Dish for the Drawing-room, to receive Visiting Cards. Designed in Colours by D. Maclise, R.A.

An Arm-chair in [illegible] Carving.

London: Cundall's, 12, Old Bond-street.
The Art Manufactures Circular, with [illegible], sent on the receipt of three postage stamps.

ROYAL AGRICULTURAL COLLEGE, Cirencester.
Patron—H. R. H. PRINCE ALBERT.
President of Council—Right Hon. EARL BATHURST.
Vice-President—Right Hon. EARL DUCIE.
Principal—JOHN WILSON, F.R.S.E., F.G.S., &c.
Chaplain and First Master—Rev. G. M. TANDY, M.A.
Second Master—JOHN S. MORELAND, C.E.
RESIDENT PROFESSORS.
Agriculture—JOHN WILSON, F.R.S.E., &c.
Chemistry—JOHN BLYTH, M.D.
Botany and Geology—JAS. BUCKMAN, F.G.S.
Veterinary Practice—JOHN ROBINSON, M.R.C.V.S.
Mathematics and Natural Philosophy—Rev. G. M. TANDY, M.A.
Practical Surveying and Engineering—JOHN S. MORELAND, C.E.
OBJECTS.
The object of this Institution is to provide such a course of instruction as will be most useful to the practical farmer. The benefits to be derived by the agriculturists from a judicious application of scientific information are becoming more and more extensively acknowledged; while the means of obtaining that information, if, indeed, it can be obtained at all, without for the time sacrificing a due attention to the practical operations of husbandry, are so scattered and costly as to be within the reach of very few. The College course of instruction is conducted in such a manner that, while the student is well based in the principles of each science, its relations with agriculture are specially touched upon and explained, and their practical application shown, as far as possible, in the operations of the College farm. The theoretical and practical teaching go hand in hand, and the whole is combined with the advantages of collegiate discipline. By order of the Council,
PHILIP BOWES, Secretary.
London Office, 15, Duke-street, Adelphi.

AT THE ANNUAL GENERAL COURT OF THE ROYAL AGRICULTURAL COLLEGE, held on the 6th June, 1848, the Right Hon. Earl BATHURST, the President, in the chair, the Report of the Council for the past year was read, adopted, and ordered to be printed for circulation amongst the Shareholders.

The recommendation of the Council to raise the fee for In-students to Eighty pounds, and for Out-students to Forty pounds per annum, was adopted, and the Council were empowered to act thereon.

Mr. Pusey, M.P., and Mr. Fisher Hobbs, having retired from the Council, were replaced by Sir Robert Throckmorton and the Rev. Alexander Huxtable.

One-third of the Council being balloted out were re-elected.

A vote of thanks was passed to the Hon. Mr. Bathurst for his valuable present of a Clock for the College Tower; and another to the President, Vice-President, Auditors, Treasurers, and Council, for their attention to the business of the Institution during the past year.—PHILIP BOWES, Secretary.

London Office, 15, Duke-street, Adelphi, June 17.

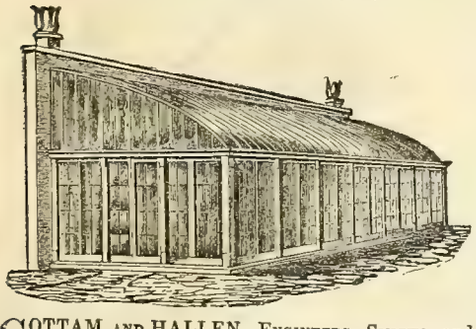
ROYAL AGRICULTURAL IMPROVEMENT SOCIETY OF IRELAND.—The GREAT NATIONAL CATTLE SHOW AND ANNUAL EXHIBITION of this Society will take place at KILKENNY, on the 26th of July next, and the days following. Upwards of One Thousand Pounds will be distributed in Premiums upon this occasion, together with the Agricultural Challenge Cup for Stock, value One Hundred Sovereigns. Arrangements are in progress with the different Steam-boat and Railway Companies to convey all Stock and Implements regularly entered for exhibition free of carriage to the Show, as far as accommodation will allow.

Premium Sheets and Blank Forms of Notices of Entry can be had on application to the Secretary in Dublin by letter, by whom every information will be given respecting the conditions.

Monday the 10th of July will be the last day for receiving Notices of Entry, and none can be received after.

The Show is open for general competition to the United Kingdom. Signed, by order,
Society Rooms, EDWARD BULLEN, Secretary.
41, Upper Sackville-street, Dublin.

WARMING BY HOT WATER, AND ALSO BY AN IMPROVED POLMAISE STOVE.



COTTAM AND HALLEN, ENGINEERS, SMITHS, and IRON FOUNDERS, No. 2, Winsley-street, Oxford-street, and Cornwall-road, Lambeth.

CONSERVATORIES, FORCING HOUSES, and every description of Horticultural Buildings, Churches, Dwelling-houses, &c. perfectly warmed by the circulation of Hot Water through cast iron pipes; the principle being rendered very simple in construction, effective in operation, and economical in the cost of the apparatus and consumption of fuel—the result of the great experience which C. and H. have obtained by their warming buildings for every possible purpose for many years past.

AN IMPROVED POLMAISE STOVE, exposing a much larger heating surface than flat plates.

Horticultural Buildings erected of Iron or Wood, or of Iron and Wood combined; Verandahs, Ornamental Iron and Wire Work, Hand-glass frames, Flower Stakes, Hurdles, and every description of Fencing; Bedsteads, brass and iron; the patent Rheocline or Spring Bedstead; Stoves, Ranges, Furnishing Ironmongery, Agricultural Implements, &c.

Show Rooms for every description of Iron Work, &c., at the Manufactory, No. 2, Winsley-street, and 76, Oxford-street, three doors from the Princess's Theatre.

NEW ZEALAND COMPANY, OTAGO.—THE COURT OF DIRECTORS OF THE NEW ZEALAND COMPANY hereby give notice that a FURTHER BALLOT for priority of Choice of Land in the Settlement of OTAGO will take place at New Zealand House on Thursday, the 22d of June instant, at One o'clock precisely, when Purchasers or their Agents are requested to attend.

The full sum of 120*l.* 10*s.* for each Property, consisting of 60½ acres, must be paid either to the Commercial Bank of Scotland, in Scotland, or to Messrs. Smith, Payne, and Smiths, Bankers in London, on the New Zealand Company's account, on or before Tuesday, the 20th instant.

Further particulars may be obtained at New Zealand House, London; and at the Offices of the Otago Association, No. 27, Hanover St., Edinburgh, and No. 3, West Nile St., Glasgow.
By order of the Court,
THOMAS CUDBERT HARINGTON,
New Zealand House, 9, Broad-street Buildings, London, June 17.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND. YORK: 1848.

PROGRAMME.

THURSDAY, JULY 6.—Last day of receiving Implements, Seeds, &c, to be exhibited in the Implement Yard, and arranged by the Stewards for the Judges' inspection.

TUESDAY, July 11.—The Implement Yard open to the Public from 8 o'clock in the morning till 6 in the evening, at 2*s.* 6*d.* each person.

The Public exhibition of the working of the Light Land Implements [illegible] the fields of Mr. H. Stafford Thompson, adjoining the Helmsley turnpike road, at the distance of about half a mile from the Show-yard; and that of the Heavy Land Implements on the fields of Mr. H. Stafford Thompson, situate about a quarter of a mile beyond the former, and nearly adjoining the Helmsley road.

Stock received in the Show yard from 8 o'clock in the morning till 4 in the afternoon.

At 4 o'clock in the afternoon Professor Johnston, of Durham, to deliver a Lecture in the De Grey Rooms, on the Application of Science to Agriculture. Members and their friends admitted by free tickets, to be obtained of the Secretary, at the De Grey Rooms. Doors open at half-past 3.

WEDNESDAY, July 12.—The Implement yard open to the Public from 8 o'clock in the morning till 6 in the evening; admission 2*s.* 6*d.*

The Judges to inspect the stock and award the Prizes.

In the evening, after all the Judges have delivered in their awards, the public to be admitted into the Cattle yard on the payment of 1*l.* each person. Members of Council and Governors being admitted by Tickets, to be purchased at the Finance Department of the Society, at the De Grey Rooms. N.B.—Notice will be posted over the entrance to the Cattle Yard when the Judges have completed their awards.

At 4 o'clock in the afternoon, Professor Simonds, of the Royal Veterinary College, London, to deliver a Lecture in the De Grey Rooms, on the Subject of Calving and Lambing, with coloured Illustrations on a large scale. Members and their friends admitted by free tickets, to be obtained of the Secretary, at the De Grey Rooms. Doors open at half-past 3.

At 6 o'clock the Council Dinner in the Guildhall, at which a discussion will take place on subjects connected with Practical Farming; followed by the reading of the Judges' Award of Prizes, with the exception of the awards of Prizes for Horses, which will not be announced until the following day.

THURSDAY, July 13.—The Cattle and Implement Yards open to the Public from 6 o'clock in the morning till 2 in the afternoon; admission 2*s.* 6*d.*:—and from 2 o'clock till 6 in the evening at 1*s.*

Dinner of the Society in the Great Pavilion, on St. George's Field, at 4 o'clock: doors open at half-past 3.

FRIDAY, July 14.—General Meeting of the Members in the Guildhall at 10 o'clock in the forenoon.

The Cattle and Implement Show Yards are situate on the Bootham Stray, about one mile north of York, at the intersection of the Helmsley Turnpike road with the Scarborough Railway.

President.....THE EARL OF YARBOROUGH.

STEWARDS OF DEPARTMENTS.

Cattle	Mr. Druce, Mr. Kinder, and Mr. Hudson.
Implements	Mr. Shelley, Mr. Thompson, Colonel Challoner, and Mr. Shaw, jun.
Finance	Colonel Austen.
Sale of Tickets	Mr. Henry Wilson.
Receipts and Admissions to Show Yards	Mr. Raymond Barker.
Council and Pavilion Dinners	Sir John V. B. Johnstone, Bart., M.P.
General Arrangement of Show	Mr. Brandreth Gibbs.

By Order of the Council, JAMES HUDSON, Secretary.
London, June 6, 1848.

By the Regulations of the Society—

All Persons admitted into the Show Yards or other places in the temporary occupation of the Society during the Meeting, shall be subject to the Rules, Orders, and Regulations of the Council.

N.B. Sale of Tickets for the Pavilion Dinner, to Members of the Society, at the De Grey Rooms (near the Bootham Bar, and about 150 yards west of the Cathedral), from 12 to 4 o'clock on Wednesday, the 12th of July, and from 8 to 12 o'clock on Thursday, the 13th of July; and to Members or their friends, from 12 to 2 o'clock on the latter day:—price (including a pint of wine) 10*s.* each. Sale of Council Dinner Tickets, at One Guinea each (including a bottle of wine) to Members of the Society, and of Wednesday Evening Cattle Yard Tickets, at 2*s.* 6*d.* each; to Members of Council and Governors of the Society at the same Rooms, on Wednesday the 12th of July, between the hours of 12 and 4 o'clock.

THE HORTICULTURAL MAGAZINE.—A New Edition of the INTRODUCTORY NUMBER is just published, price 1*s.*, containing 96 columns of letter-press, and 12 Engravings. Complete in itself.
London: C. Cox, 12, King William-street, Strand.

NEW WORK ON DRAINAGE.
Published this day, in 8vo, price 2*s.* 6*d.* sewed,
ESSAYS ON THE PHILOSOPHY AND ART OF LAND-DRAINAGE. By JOSIAH PARKES, C.E., Honorary Member of the Royal Agricultural Society of England.
London: LONGMAN, BROWN, GREEN, and LONGMANS.

This day is published, 3d edition, with additions, price 1*s.*
AGRICULTURAL CHEMISTRY.
By the Rev. C. A. A. LLOYD.
Published at the request of the Shropshire Natural History Society.
In this book is pointed out how the Soils in this Kingdom may be made equally productive, allowing for latitude and elevation above the sea.
London: LONGMAN and Co., Paternoster-row.

THE HONEY-BEE.
A Lecture on the Honey-Bee, containing its Natural History and Domestic Management, Price 3*d.*
By the Rev. C. A. A. LLOYD.
This is a useful little Book to distribute among Cottagers.
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HEAL AND SONS have made a considerable REDUCTION in the lower qualities of BED-FEATHERS and are now selling them at the following prices, warranted quite sweet and free from dust, being purified by steam with patent machinery.

Poultry	per lb. 0*s.* 10*d.*	Best Grey Goose, per lb.	2*s.* 0*d.*
Grey Goose	„ 1 2	White Goose	„ 2 6
Foreign Grey Goose	„ 1 6	Best Dantzic do.	„ 3 0

A list of prices of every description of Bedding sent free by post on application to HEAL and SON'S Factory, 196 (opposite the Chapel), Tottenham-court-road.

THE BOTANICAL REGISTER,
By Dr. LINDLEY, EDWARDS, and Others.
The Publisher having been requested by many Subscribers, possessing only the latter Numbers of the above beautiful work, to republish the early Volumes, it is intended to do so, commencing July 1 next, when a Double Number, containing 16 Plates, will be published, and continued Monthly, price 5*s.*, originally published at 8*s.* After this publication the copper plates, &c., will be destroyed. Those Ladies and Gentlemen wishing to complete their sets of the latter numbers are requested to do so without delay, as Single Numbers cannot be guaranteed after Dec. 31 next.
London: JAMES RIDGWAY, Piccadilly, and by order of every Bookseller.

This day is published, a Second Edition, price 6*d.*, post-free.
ON THE PREPARATION OF COOKED LINSEED FOOD, for the Fattening of Cattle, and the Advantage of using it along with cut straw, hay, Turnips, or other vegetables. By THOMAS HARKNESS, Dumfries.
"We strongly advise those of our readers who wish to learn further on the subject, to procure a copy of this tract."—*Gardeners' Chronicle and Agricultural Gazette.*
WM. BLACKWOOD and SONS, Edinburgh and London.

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THE BRITISH MUTUAL LIFE ASSURANCE SOCIETY entertains proposals of any description involving the contingency of human life.
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SWINTON BOULT, Secretary to the Company.
June 17. BENJ. HENDERSON, Resident Secretary, London.

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ESTABLISHED 1807.
It is respectfully notified to parties holding policies in this office, the renewals of which fall due at Midsummer, that the same should be paid on or before the 8th of July. The receipts are lying at the head office, and in the hands of the several agents.

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In addition to the above advantages, the Directors have determined to adopt the principle of allotting a prospective Bonus to Policies lapsing between the Septennial Periods of Division, in order that all the Policy-holders may participate equally in the Profits of the Society.

The following Table shows the amount of Bonuses added to Policies existing at the present time.

Policy No.	Date of Policy.	Sum insured.	Bonuses added.	Increase on original Insurance.	Total Sum payable to which future Bonuses will be added.
		£	£ *s.* *d.*		£ *s.* *d.*
21	1806	500	415 10 2	83·10 per cent.	915 10 2
521	1807	900	982 12 1	109.17 „	1882 12 1
1174	1810	1200	1160 5 6	96.68 „	2360 5 6
1895	1811	1600	1328 8 6	83.02 „	2928 8 6
3286	1820	2000	1906 13 5	95.33 „	3906 13 5
3392	1820	5000	3558 17 8	71.17 „	8558 17 8
4356	1822	3000	2541 3 6	84.7 „	5541 3 6

Prospectuses and full particulars may be obtained upon application to the Agents of the Office in all the principal towns of the United Kingdom; and the head Office, No. 50, Regent-st.

Printed by WILLIAM BRADBURY, of No. 6, York-place, Stoke Newington, and FREDERICK MULLETT EVANS, of No. 7, Church-row, Stoke Newington, both in the county of Middlesex, Printers, at their office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the Office, No. 5, Charles-street, in the parish of St. Paul's, Covent-Garden, in the said county, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY, JUNE 17, 1848.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 26.—1848.] SATURDAY, JUNE 24. [Price 6d.

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ROYAL BOTANIC SOCIETY, REGENT'S-PARK.—The last EXHIBITION this season will take place on EDNESDAY, JULY 5th, and will include FRUIT as well as LANTS and FLOWERS. Tickets to be obtained at the ardens by orders from Fellows, price 5s., or on the day of chibition 7s. 6d. each.

GRAND HORTICULTURAL EXHIBITION AT YORK. Open to all England. During the meeting of e Royal Agricultural Society, on the 11th, 12th, and 13th ly next. The Schedule of Prizes (to the value of 150l.), with les and regulations for this very splendid Fete, may be obined *Gratis* on application to Mr. R. Dempsey, Hon. Secretary. ☞ The Entries must be made on or before the 1st July next. High Ousegate, York, June 24.

HANDSWORTH AND LOZELLS FLORAL AND HORTICULTURAL SOCIETY.—The SECOND EXHIBITION this season will (through the kindness of Samuel enrick, Esq.), be held on the Lawn in front of Handsworth all, on Tuesday next, the 27th inst. By permission of the on. Colonel Scarlet and Officers of the Fifth Dragoon Guards, e excellent Band of the Regiment will attend. Admission to on-subscribers, One Shilling. Gates open at 1 o'clock.
Charles James Perry, Hon. Sec.
Hampstead-road, near Birmingham, June 24.

ZOOLOGICAL GARDENS, REGENT'S-PARK.—Visitors are admitted WITHOUT ORDERS on MONDAY, in every week, at SIXPENCE EACH; on the following days at ONE SHILLING EACH. Children at Sixpence each, except on June 24 and July 22. The Band of the First Life Guards will perform every Saturday at 4 o'clock; admission as usual. The new entrance in the Broad Walk is now open.

HUGH LOW and Co. have imported the undernamed TROPÆOLUMS, which they can supply in fine ound roots:—

AZUREUM	42s. per dozen,	5s.	each.
TRICOLOR	12s. do.	1s. 3d.	do.
BRACHYCERAS ..	9s. do.	1s.	do.
EDULE	60s. do.	7s. 6d.	do.

Clapton Nursery, June 24.

ROSES.—The Roses at Sawbridgeworth are now in full bloom. The collection is the largest in Europe, and extends over many acres. There are six down trains daily per Eastern Counties Railway to Harlow Station, which is the most convenient, and is about one mile from the Nursery.
Thos. Rivers, Sawbridgeworth, Herts.

FOR SALE, a PAIR of magnificent VARIEGATED AMERICAN ALOES, of upwards of 50 years' growth, in fine condition.—Apply to W. S., 14, Gutter-lane, Cheapside.

ROSES.
EDWARD DENYER, Nurseryman, &c., Loughborough-road, Brixton, near London, begs to inform the nobility, gentry, and public in general, that he has the largest stock of STANDARD and DWARF ROSES within three miles of London, consisting of 700 varieties of every shade and colour, and comprising all the new and rare sorts known. They may now be seen in bloom to the greatest advantage, being arranged each side a walk 700 feet in length. Orders taken for plants now in bloom, and executed in November next. Admittance gratis, Sundays excepted.
E. D. respectfully informs his friends that he has no other place of business in London or elsewhere but the above.

ILEX LATISPINA.
GARAWAY, MAYES, and CO. have the pleasure to announce that they are prepared to send out their new and very singular variety of Holly, which they have named Ilex latispina. It has been acknowledged by all who have seen it to be one of the most curious and ornamental varieties ever grown; of strong erect habit, and dark green thick foliage, with very broad variable spines. Good established plants, 21s. each.
Also seed of their beautiful new PHLOX DRUMMONDII OCULATA can be had on application in the autumn. A splendid collection of ROSES, including all the best and new varieties, are now in full bloom.
Durdham Down Nurseries, Bristol, June 24.

IMPROVED FLOWER STICKS.—These Flower Sticks are of a circular form, thereby avoiding angles and sharp edges, which are liable to cut and injure the plants. They may be had stained brown or green to suit the various plants.—To be had of all respectable Nurserymen and Seedsmen, and dealers in Garden Implements. Manufactured and sold Wholesale, at H. Morrell's, 149, Fleet-street, London.
N.B. Samples to be seen at the Office of this Paper.

CRYPTOMERIA JAPONICA SEEDLINGS.
MESSRS. STANDISH and NOBLE, Nurserymen, Bagshot, have the honour to inform the Nobility, Gentry, and the Public, that they have succeeded in obtaining a quantity of SEED of the above truly magnificent Tree from the north of China, and are now able to send out SEEDLING Plants at the undermentioned low scale of prices.
It was first sent home by Mr. Fortune to the Horticultural Society, in 1844, and has now proved to be perfectly hardy in this country, having stood out in many exposed situations during the severe winter of 1846 and 1847. It is a tree of rapid growth, and some very fine specimens may now be seen in the gardens of the Horticultural Society nearly 10 feet in height, and very graceful in form.
"I met here (Shanghae), for the first time, with the beautiful Cryptomeria japonica, a species of Pine not unlike the Araucarias of Australia and Brazil. When growing luxuriantly it is highly ornamental, rising from the ground as straight as a Larch, and sending out numerous side branches almost horizontally from the main stem, which again droop towards the ground in a graceful and WEEPING *manner. The wood of the tree has a kind of twisted grain, possessing great strength and durability, and is highly valued by the Chinese."*—Fortune's Wanderings in China.
We need scarcely inform the lovers of hardy evergreens that Seedlings of this species are of much more value than cuttings. The latter never make handsome plants, and grow much slower. Our Seedling Plants, which we are now sending out, if properly managed, will be more than 2 feet high by next spring, the proper time to plant them out in the open ground.
Messrs. Standish and Noble can now supply nice healthy plants, in 60-size pots, at the following low price, viz., 3s. 6d. per plant, 36s. per doz., or 12l. 10s. per hundred. A liberal allowance to the Trade from the above prices.
N.B.—The above is for cash only.

SUPERB CHRYSANTHEMUMS, ACHIMENES, &c.—12 splendid new CHRYSANTHEMUMS, 15s., including King of Crimsons, Poniatowski, Temple of Solomon, &c.
25 fine varieties, 12s., or 40 vars., including the above, 30s.
12 do., 6s.; 12 superior do., 9s.
12 ACHIMENES, beautiful varieties, 9s.; 6 do., 5s.
50 fine and select vars. of GREENHOUSE PLANTS, 50s.; 25 do., 28s.; 12 do., 15s.; 12 very superior do., 25s.
PENTSTEMON gent. coccinea, 5s. per doz.; gigantea elegans, strong plants, 12s. per doz.; carnatum, 6s. per doz.
All the finest varieties of FUCHSIAS, PETUNIAS, VERBENAS, &c. &c., from 4s. to 15s. per doz.
Descriptive Priced Catalogues of Plants, on application. Post-office orders payable to Bass and Brown, Seed and Horticultural Establishment, Sudbury, Suffolk.

HERTFORD NURSERIES.
E. P. FRANCIS invites attention to his extensive collection of ROSES, which are now in full bloom. Trains direct from Shoreditch.

F. WARNER begs to inform his Friends and the Public that, finding circulars are going the round of his Connection, under the head of "Warner and Son, of Cornhill," he begs respectfully to state that he has no knowledge of such a firm in the Seed line, or is there opened any house in Cornhill but his own. He is the only surviving partner of the late firm of "Warner, Seaman, and Warner, of 28, Cornhill."
F. W. takes the present opportunity of returning his thanks for all past favours, and to assure his friends that every attention will be paid to their orders.
F. W. will be obliged by all letters being addressed to him at his Warehouse, No. 3, Laurence Pountney-lane, Cannon-street, London.—Frederick Warner, 28, Cornhill, and 3, Laurence Pountney-lane, Cannon-street, London, June 5th, 1848.
F. W. also begs to call the attention of his Friends to Girling's Early Danecroft PEAS, being earlier than the Emperor, of a long, dark green, glossy pod, a large cropper, dwarf habit, and in every respect a PEA superior to all yet introduced.

CLEARING OUT OF SPRING STOCK.
WILLIAM E. RENDLE and CO. *are now clearing their houses of Spring Stock, to make room for further novelties, and offer the following Collection of Plants, out of pots, packed in damp moss, and correctly named, for the sum of* 50 *shillings, delivered carriage free to any station on the Great Western Railway.*

20	CHOICE NAMED	FUCHSIAS
20	,, ,,	CHRYSANTHEMUMS
20	,, ,,	DAHLIAS
20	,, ,,	ACHIMENES
20	CUPHEA PLATYCENTRA	
12	CHOICE NAMED HERBACEOUS PLANTS.	

The whole set of 112 plants for 50s., delivered carriage free to any station on the Great Western line.—Apply to William E. Rendle and Co., Plymouth.

MONSTER PLANTATION OF ROSES.
WM. WOOD and SON have the pleasure of informing their friends and the patrons of floriculture generally that their superb collection of ROSES, which is unsurpassed by any other collection in Europe, is now coming into splendid bloom, and will continue in flower during the Rose season.
W. W. and Son have greatly increased their stock, and have added several acres to their already immense plantation of Roses; some idea of the quantity of plants and general display may be formed, when it is stated that in one quarter alone, upwards of 70,000 budded Roses may be seen at one view.
Maresfield is distant from Hayward's Heath 12 miles, which is the nearest station on the London and Brighton Railway, where conveyances to the Nursery may be obtained.
ADMITTANCE GRATIS.
Woodlands Nursery, Maresfield, near Uckfield, Sussex, June 24.

VALUABLE [illegible]
J. HALLY is [illegible] all that part of the [illegible], at Blackheath, that can be [illegible] of the year, to the Great [illegible] Eastern Railway. [illegible] Kalmias, Azaleas, [illegible] which may be removed as well at [illegible] A choice collection of [illegible] mellias, Indian Azaleas, [illegible] Verbenas, Heliotropes, [illegible] ding out for the summer. [illegible] including Evergreens, [illegible] ticas, Gentianas, [illegible] tity of fine Box Edging, [illegible] A choice collection of [illegible] of Deodara, Pinus grandis, [illegible] &c., Araucaria imbricata, Cedar of [illegible] Mount Atlas, Cryptomeria Japonica, and [illegible] the attention of Gentlemen and the Trade.
N.B. The business will be continued [illegible].

GENUINE CIDER: GOOD FOR DRAFT OR BOTTLING.
DEVONSHIRE has for centuries been famous for its CIDER, and when obtained in a pure and genuine state, is much and deservedly esteemed.
Messrs. RENDLE and CO., 14, Octagon, Plymouth, beg to inform the nobility, gentry, and the public in general, that they can supply them with a first-rate article on the following terms. A new cask value 8s.) containing TWELVE GALLONS of well-conditioned, bright, bottling CIDER (equal to some wine sold as champagne), will be forwarded to the rail, by steamer to London, Cork, Dublin, Belfast, Sligo, Bristol, Liverpool, or Falmouth.
For a Post-office Order value Twenty Shillings.
*** *To persons taking ten casks at one time, one will be given over, making eleven for 10l.*
William Rendle and Co., Cider Merchants,
June 24. 14, Octagon, Plymouth.

SEEDS.—CORNER OF HALF-MOON-STREET.
THOMAS GIBBS and Co.,
(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND,"
Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.
Priced Lists of Agricultural Seeds are always ready, and may be had on application.

GLASS.
APSLEY PELLATT and CO. (late Pellatt and Green), Falcon Glass Works, Holland-street, Blackfriars, have always on hand. Fine Glasses 1s. 6d. per lb., Cucumber Glasses, 1s. 6d. per lb.; Mushroom, Pine, white glass, 2s. 4d. each; Propagating Glasses, white, 1s. per lb., 2s. green, 1s. 6d., do. Condensing, 2d. per lb. extra: Asparagus Tubes, 1s. to 21s. per gross; Grape Shades, 1s. 6d. to 2s. each; Fruit-boxes, from 1s. 6d. each; Wasp and Fly-traps, 4s. per gross or 6d. per dozen. By the use of these traps fruit may be preserved from (otherwise certain) destruction.

STRONG HORTICULTURAL 16-oz. SHEET GLASS FOR CONSERVATORIES.
GREENHOUSES, PITS, FRAMES, &c.—Fifteen Reduction.
HETLEY and CO. publish Prices in the *Gardeners' Chronicle* the first Saturday in every month. Wholesale and Retail Glass Shade, Sheet, Crown, and Patent Plate Glass Warehouse, 35, Soho-square, London.

GREAT REDUCTION IN THE PRICE OF PLATE GLASS.
THE UNION PLATE GLASS COMPANY, Pocket Nook, St. Helen's; 92, Hatton-garden, London; 7, York-street, Mosley-street, Manchester; and 26, North Johnson-street, Liverpool; inform Builders and the Public generally that they are now selling ordinary glazing sizes of PLATE GLASS from 2s. to 3s. per foot, and smaller plates, suitable for Cottages, Greenhouses, and Conservatories, at 8d. to 1s. per foot.—Richard Yates, Secretary, London.

GLASS FOR CONSERVATORIES.
JAMES PHILLIPS and CO., 115, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS FOR CONSERVATORIES. CUT TO SIZE UP TO 40 INCHES LONG.			SMALL SQUARES SHEET. 4 by 4 and 4 by 5 .. 1s. per ft.
16 oz. to the foot	3¼d. per foot	5 ,, 3	5½ .. 6½ 2 ,,
21 ,,	5 ,,	6 ,, 4	5½ .. 4½ 2½ ,,
26 ,,	7½ ,,	7 ,, 5	7½ .. 5½ 3 ,,
32 ,,	10 ,,	8 ,, 6	8½ .. 6½ 3½ ,,
		Notched ..	5½ .. 6½ ,,

GLASS MILK PANS, PROPAGATING GLASSES, AND BEE GLASSES. GLASS TILES AND SLATES.
CREAM POTS, from 3 to 24 quarts, at 9d. per quart.
CUCUMBER GLASSES from 12 to 24 inches wide, 1s. per inch.
LACTOMETERS for trying the quality of Milk, 4 tubes 5s., 6 tubes 10s; Peach Glasses 1s. each; Pine Glasses 1s. 6d. each; Wasp and Fly Traps 4s. per dozen. Plate and Window Glass; Lamp Shades and Chimneys; and every article in the trade.
SASHES AND FRAMES MADE AND GLAZED.

BAKER'S PHEASANTRY, Beaufort-street, King's-road, Chelsea, by special appointment to her Majesty and H.R.H. Prince Albert.—ORNAMENTAL WATER FOWL, consisting of black and white swans, Egyptian, Canada, China, bernacle, brent, and laughing geese, shelducks, pintail, widgeon, summer and winter teal, gadwall, Labrador, shovellers, gold-eyed and dun divers, Carolina ducks, &c., domesticated and pinioned: also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking fowls; white Japan pea, and common pea-fowl, and pure China pigs; and at 3, Half-moon-passage, Gracechurch-street.

ROYAL BOTANIC SOCIETY, REGENT'S PARK,

EXHIBITION, JUNE 14th, 1848.

AWARDS OF THE JUDGES.

THE EXTRA GOLD MEDAL.

1 To Mr. Frazer, nurseryman, Lea-bridge-road, for 30 Stove and Greenhouse plants
2 To Mr. Mylam, gardener to S. Rucker, Esq., Wandsworth, for a large collection of Orchids

THE MEDIUM GOLD MEDAL.

1 To Mr. Green, gardener to Sir E. Antrobus, Bart., Cheam, for 20 Stove and Greenhouse plants
2 To Mr. Hunt, gardener to Miss Traill, Bromley, for 15 Cape Heaths
3 To Mr. Pawley, nurseryman, Bromley, for 30 Stove and Greenhouse plants
4 To Mr. Rae, gardener to J. J. Blandy, Esq., Reading, for a large collection of Orchids
5 To Mr. Williams, gardener to C. B. Warner, Esq., Hoddesdon, for 15 Orchids

THE GOLD MEDAL.

1 To Mr. Cock, Chiswick, for 12 Pelargoniums, in 8-inch pots
2 To Mr. Cole, gardener to H. Colyer, Esq., Dartford, for 20 Stove and Greenhouse plants
3 To Mr. Dobson, gardener to Mr. Beck, Isleworth, for 12 Pelargoniums, in 8-inch pots
4 To Messrs. Fairbairn, nurserymen, Clapham, for 12 Cape Heaths
5 To Mr. May, gardener to E. Goodhart, Esq., Beckenham, for 15 Cape Heaths

THE LARGE SILVER-GILT MEDAL.

1 To Mr. Dobson, for 6 Orchids
2 To Mr. Green, for 6 tall Cacti
3 To Mr. Hunt, for 10 Stove and Greenhouse plants
4 To Mr. Jack, gardener to R. G. Lorraine, Esq., Carshalton, for 6 Orchids
5 To Mr. Plant, gardener to J. H. Schröeder, Esq., Stratford, for 15 Orchids
6 To Messrs. Paul, nurserymen, Cheshunt, for 12 Roses in pots
7 To Messrs. Veitch and Son, nurserymen, Exeter, for a collection of Pitcher plants

THE LARGE SILVER MEDAL.

1 To Mr. Ayres, nurseryman, Blackheath, for 12 Cape Heaths
2 To Mr. Gaines, nurseryman, Battersea, for 12 Pelargoniums, in 8-inch pots
3 To the same, for 6 ditto, in 11-inch pots
4 To Mr. Parker, gardener to J. H. Oughton, Esq., Roehampton, for 6 Pelargoniums in 11-inch pots
5 To Mr. Robinson, gardener to J. Simpson, Esq., Pimlico, for 12 Pelargoniums, in 8-inch pots

THE SILVER-GILT MEDAL.

1 To Mr. Clarke, gardener to W. Block, Esq., Muswell-hill, for 6 tall Cacti
2 To Mr. Fletcher, gardener to Dr. Young, Kennington, for 20 Exotic Ferns
3 To Mr. Francis, nurseryman, Hertford, for 12 Roses in pots
4 To Mr. Frazer, for 12 Cape Heaths
5 To Mr. Gaines, for 6 Calceolarias
6 To Mr. Hunt, for a specimen plant, (Erica Massoni)
7 To Mr. Jack, for 10 Stove and Greenhouse plants
8 To Mr. Kyle, gardener to R. Barclay, Esq., Leyton, for 20 Stove and Greenhouse plants
9 To Messrs. Lucombe, Pince, and Co., nurserymen, Exeter, for a new plant in bloom, (Hoya imperialis)
10 To Mr. Mylam, for 6 Cape Heaths
11 To Messrs. Rollisson, nurserymen, Tooting, for 12 Cape Heaths
12 To Mr. Stains, New-road, for 6 Pelargoniums, in 11-inch pots
13 To Messrs. Veitch and Son, for a new plant in bloom, (Hoya sp.)

THE SILVER MEDAL.

1 To Mr. Ayres, for Correct Labels, second class
2 To Mr. Clarke, for 10 Stove and Greenhouse plants
3 To Mr. Cole, for 4 Clerodendrons
4 To Mr. Frazer, for a specimen plant, (Ixora coccinea)
5 To Mr. Gaines for 6 fancy Pelargoniums
6 To the same, for 6 Fuchsias
7 To Mr. Green, for 6 new tall Cacti
8 To the same, for 6 Cape Heaths
9 To the same, for 6 Orchids
10 To Mr. Hunt, for 6 Orchids
11 To Messrs. Lane and Son, nurserymen, Great Berkhampstead, for 12 Roses in pots
12 To Mr. Mylam, for a specimen plant, (Erica mutabilis)
13 To the same, for a specimen Orchid, Oncidium Lanceanum)
14 To the same, for a new Orchid, (Vanda Batemanni)
15 To Mr. Parsons, gardener to A. George, Esq., Ponder's-end, for 50 cut Roses
16 To Messrs. Paul, for 100 cut Roses
17 To Mr. A. Smith, gardener to J. Anderson, Esq., Regent's-park, for 30 British Ferns
18 To the same, for correct Labels, first class
19 To Mr. Stains, for 12 Pelargoniums, in 8-inch pots
20 To Mr. Taylor, gardener to J. Coster, Esq., Streatham, for 10 Stove and Greenhouse plants
21 To Mr. Wiggins, gardener to S. Sanders, Esq., Staines, for 6 Pelargoniums, in 11-inch pots
22 To Mr. Wright, gardener to the Hon. Miss Rushout, Wanstead, for 6 Calceolarias
23 To Mr. Williams, for 20 Exotic Ferns

THE SMALL SILVER MEDAL.

1 To Mr. Chitty, gardener to J. Oldham, Esq., Stamford-hill, for 10 Gloxinias
2 To Mr. Cutter, nurseryman, Slough, for 24 Pansies
3 To Mr. Dobson, for 12 Roses in pots
4 To Mr. Godfrey, Tottenham, for 6 Fuchsias
5 To Messrs. Henderson, for a new plant in bloom, (Chironia glutinosa)
6 To the same, for ditto, (Siphocampylus nitidus)
7 To Mr. Hoyle, Reading, for a Seedling Pelargonium with deepest scarlet flowers, "Spark"
8 To Mr. Jack, for a specimen plant, (Leschenaultia biloba)
9 To the same, for a rare plant in bloom, (Gardenia amœna)
10 To Messrs. Lane and Son, for 6 yellow Roses in pots
11 To the same, for 100 cut Roses
12 To the same, for 12 single blooms of Roses
13 To the same, for 12 new Roses
14 To Messrs. Lucombe, Pince, and Co., for a new plant in bloom, (Burtonia virlosa)
15 To Mr. Malyon, for a specimen plant, (Erica ventricosa)
16 To the same, for 6 Cape Heaths
17 To Mr. May, for 10 Stove and Greenhouse plants
18 To Mr. Mylam, for a new Orchid, (Saccolabium guttatum giganteum)
19 To the same, for correct Labels, first class
20 To Mr. Stanly, gardener to H. Berens, Esq., Sidcup, for 6 Cape Pelargoniums
21 To the same, for 6 Calceolarias
22 To Mr. Taylor, for 30 British Ferns
23 To the same, for correct Labels, second class
24 To Mr. Turner, nurseryman, Chalvey, for 12 Pinks
25 To Messrs. Veitch and Son, for a new plant in bloom, (Browallia Jamesoni)
26 To Mr. Williams, for a specimen Orchid, (Cattleya Mossiæ)
27 To Mr. Wood, nurseryman, Norwood, for 12 Alpines
28 To the same, for a collection of variegated plants

THE BRONZE MEDAL.

1 To Mr. Dobson, for a seedling Pelargonium of 1847, "Mont Blanc, No. 2"
2 To Mr. Francis, for 100 cut Roses
3 To the same, for 12 new Roses
4 To Messrs. Henderson, for a new plant in bloom, (Genista sp.)
5 To Mr. Hoyle, for a seedling Pelargonium of 1847, "Crusader"
6 To Mr. Jackson, nurseryman, Kingston, for a specimen plant, (Erica depressa)
7 To Mr. Malyon, for 10 Stove and Greenhouse plants
8 To Mr. Mylam, for a new plant in bloom, (Gloxinia Teuchleri)
9 To Messrs. Paul, for 12 single blooms of Roses
10 To Mr. Plant, for correct Labels, second class
11 To Mr. Robinson, for 6 Fuchsias
12 To Messrs. Rollisson, for a plant not in bloom, (Dionæa muscipula)
13 To Mr. A. Smith, for 12 Alpines
14 To Mr. Spirgin, Wanstead, for a new plant in bloom, (Rhynchospermum jasminoum)
15 To Messrs. Standish and Noble, nurserymen, Bagshot, for a plant not in bloom, (Taxodium sp.)
16 To Mr. Taylor, for 6 Cape Heaths
17 To the same, for correct Labels, first class
18 To Mr. Turner, Chalvey, for 24 Pansies
19 To Messrs. Veitch and Son, for a new Orchid, (Phalænopsis grandiflora)
20 To the same, for a new plant in bloom, (Gloxinia Teuchleri)
21 To the same, for a plant not in bloom, (Thea assamica)
22 To the same, for ditto, (Maranta sp.)
23 To Mr. Ward, florist, Woolwich, for 12 Pinks

THE CERTIFICATE OF MERIT.

1 To J. Anderson, Esq., Edinburgh, for a seedling Calceolaria, "Dr. Neill"
2 To Mr. Beck, Slate Works, Isleworth, for a seedling Pelargonium of 1848, "Dorah"
3 To the same, for ditto, "Loveliness"
4 To Mr. Bray, gardener to Sir J. L. Goldsmid, Bart., Regent's-park, for a new Fuchsia, "Miss Robarts"
5 To Mr. Cole, for correct Labels, second class
6 To Mr. Falconer, gardener to A. Palmer, Esq., Cheam, for a specimen plant, (Leschenaultia formosa)
7 To Mr. Gaines, for a Seedling Calceolaria, "Warrior"
8 To the same, for ditto, "Maranda"
9 To the same, for ditto, "Surplice"
10 To Mr. Gill, gardener to G. Bishop, Esq., Regent's-park, for 6 Fuchsias
11 To Mr. Green, for a plant not in bloom, (Erythrina sp.)
12 To Mr. Hoyle, for a specimen plant (Echinocactus claviformis)
13 To the same, for a seedling Pelargonium of 1848, "Nonsuch"
14 To Mr. May, for correct Labels, first class
15 To Mr. Mylam, for a new Orchid, (Aerides sp.)
16 To Messrs. Paul, for 12 new Roses
17 To Mr. Plant, for a new Orchid, (Aerides erectum)
18 To Mr. A. Smith, for a new Orchid, (Epidendrum sp.)
19 To Mr. Turner, Chalvey, for a new Pink, "Double X"
20 To Mr. Turner, gardener to — Williams, Esq., Holloway, for 12 Alpines
21 To Mr. Williams, for a new Orchid, (Lacæna bicolor)

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash,—250, Oxford-street, near Hyde-park.

MILTON'S BEE-HIVES.—An Extensive Assortment of each variety of Glass and Straw Hives, arranged for the season. "The Improved Huber," "Hexagon Apiary," and "The Box Hive," are particularly worthy of attention, as they have been extensively patronised, and worked with complete satisfaction and profit to the purchasers. Bee-Glasses of all sizes. Illustrations of Hives 1s., at MILTON'S, 10, Great Marylebone-street, Wimpole-street, London.

THE PRACTICAL BEE-KEEPER, 4s. 6d.

BEE-HIVES.—All persons desirous of Cultivating that pleasing and profitable branch of rural economy—the Honey Bee—are respectfully informed by G. NEIGHBOUR and SON, that they have prepared for the season an extensive supply of their various improved BEE-HIVES; their collection consists of "Nutt's Collateral Hive," "The Single Box Hive," "The Improved Cottage Hive," "The Ladies' Observatory Hive," "Taylor's Bar Hive," &c., from either of which the Honey may be taken at any time without injury to the Bees, and may be worked with safety, humanity, and profit, by the most timid and unaccustomed to Bee-manipulation. A descriptive paper, with drawings and prices, will be forwarded on receipt of a postage stamp.—Apiarian Depot and Honey Warehouse, 127, High Holborn, London.

NUTT ON BEES (6th Edition), just published.

DEANE'S WARRANTED GARDEN TOOLS.—Horticulturists, and all interested in Gardening pursuits, are invited to examine G. and J. DEANE'S extensive Stock of GARDENING AND PRUNING IMPLEMENTS, best London made Garden Engines and Syringes, Coalbrookdale Garden Seats and Chairs.

Averuncators	Garden Scrapers	Pick Axes
Axes	Grape Gatherers and Scissors	Potato Forks
Bagging Hooks	Gravel Rakes and Sieves	Pruning Bills
Bills	Greenhouse Doors and Frames	,, Knives, various
Borders, various patterns	Hammers	,, Saws
Botanical Boxes	Hand-glass Frames	,, Scissors
Cases of Pruning Instruments	Hay Knives	,, Shears, [riety.
Chaff Engines	Hoes of every pattern	Rakes in great va-
Chaff Knives	Horticultural Hammers and Hatchets	Reaping Hooks
Daisy Rakes	Hotbed Handles	Scythes
Dibbles	Ladies' Set of Tools	Scythe Stones
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Draining Tools	Lines and Reels	Sickles
Edging Irons and Shears	Marking Ink	Sickle Saws
Flower Scissors	Mattocks	Spades and Shovels
,, Stands in Wires and Iron	Menographs	Spuds
Fumigators	Metallic Wire	Switch Hooks
Galvanic Bordersand Plant Protectors	Milton Hatchets	Thistle Hooks
Garden Chairs and Seats	Mole Trape	Transplanting Tools
,, Loops	Mowing Machines	Trowels
,, Rollers		Turfing Irons
		Wall Nails
		Watering Pots
		Weed Extractorsand Hooks
		Wheelbarrows
		Youths' Set of Tools

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STEPHENSON AND CO., 61, Gracechurch-stree London, and 17, New Park-street, Southwark, Invento and Manufacturers of the Improved CONICAL and DOUBL CYLINDRICAL BOILERS, respectfully solicit the attention scientific Horticulturists to their much improved method applying the Tank System to Pineries, Propagating House &c., by which atmospheric heat as well as bottom-heat secured to any required degree, without the aid of pipes or flue S. and Co. have also to state that at the request of numero friends they are now making their Boilers of Iron, as well Copper, by which the cost is reduced. These Boilers, whi are now so well known, scarcely require description, but those who have not seen them in operation prospectuses w be forwarded, as well as reference of the highest authority; they may be seen at most of the Nobility's seats and princip Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufacto 17, New Park-street, every article required for the constructi of Horticultural Buildings, as well as for heating them, may obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the mo ornamental designs. Balconies, Palisading, Field and Gard Fences, Wire-work, &c.

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By THE ONLY IMPORTERS,
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To protect themselves against the injurious consequences using inferior and spurious Guano, purchasers are recor mended to apply only to Dealers of established character, or the above-named importers, who will supply the article in a quantity, at their fixed prices, delivering it from the Impo Warehouses.

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MARK FOTHERGILL, 201a, Upper Thame street, begs to offer the following MANURES for t Turnip Crop, viz.—
GUANO, PERUVIAN, direct from Import Warehouse.
SUPERPHOSPHATE OF LIME, manufactured from Bo only (superior to the cheap qualities made from fossils).
DRIED NIGHT SOIL.
BONE DUST AND HALF-INCH BONE.
SULPHURIC ACID.

Also Soda Ash, wireworm destroyer; pure Gypsum, Mineral Sulphate of Lime (the rubbish offered cheap contai but little acid, the rest being carbonate of lime and water); Agr cultural Salt, Nitrate of Soda, and all other Manures of know value. Prices current on application.

PROTOXIDE PAINT FOR STUCCO FRONT for Iron, Brickwork, and Wood. Manufactured only CHARLES FRANCIS and SONS, Cement Works, Nine Elms.

THE LONDON MANURE COMPANY beg offer, on the best terms, Peruvian Guano, warrant genuine, delivered direct from the Importers' warehouse Superphosphate of Lime, in any quantity; Sulphate of Am monia, Nitrate of Soda, Sulphuric Acid, fine Bone Sawdus Gypsum, Potter's Guano, Soda Ash, Petre, Agricultural an Fishery Salt, and every other artificial Manure.

The GUARANTEE of the LONDON MANURE COMPANY h now stood the test of seven years, with a largely increasing sal It is recommended with the greatest confidence for Turnip Mangold Wurzel, Carrots, and all root crops; also for Colesee Tares, Barley, &c. Unlike many other artificial Manures, i effects are not exhausted by the first crop; and when from an cause the crop of Turnips to which it has been used fails, i full fertilising properties remain for the next full crop. Testi monials and full particulars forwarded free. The LONDO MANURE COMPANY most earnestly request their friends t order the Guarantee direct from themselves, or their accredite Agents, so as to prevent any other article of a totally differen manufacture being substituted. EDWARD PURSER, Sec.

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THE following MANURES are Manufactured b Mr. LAWES, at his Works at Deptford-creek:—

Corn Manure .. 14l. per ton.	Grass Manure .. 14l. per ton
Clover do. .. 14l. ,,	Turnip do. .. 7l. ,,

Superphosphate of Lime, 7l. per ton.

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NEW IMPLEMENT.

CHANDLER'S PATENT LIQUID MANUR DRILL, for Drilling Corn or Turnips on the flat or ridge or for Watering Pastures broadcast.

The Patentee, THOMAS CHANDLER, Stockton, Heytesbury Wilts, invites agriculturists, visiting the Royal Agricultura Society's Show, at York, to Stand No. 61, to inspect the above implement. The high character that this Drill has obtained i Wiltshire and adjoining counties may be appreciated by the nu merous testimonials (which will appear in circulars) from gen tlemen who have worked it on their farms.—Stockton, June 24

HORTICULTURAL SOCIETY OF LONDON.—HIS GRACE THE DUKE OF DEVONSHIRE, President of the Horticultural Society, has kindly directed the grounds of Chiswick House to be opened for the reception of the visitors to the Society's Gardens at the next Exhibition, on WEDNESDAY the 12th July. Tickets are issued to the orders of Fellows of the Society only, at the office, price 5s., or at the Garden in the afternoon of the 12th July at 7s. 6d. each, but then also only to orders signed by Fellows of the Society. *But respectable strangers, or residents in the country, who will forward their addresses in writing to the Vice-Secretary, 21, Regent-street, before the day of Meeting, may obtain from that office an authority to procure tickets on this occasion.*

N. B. No tickets will be issued in Regent-street on the day of Exhibition.

The Gardeners' Chronicle.

SATURDAY, JUNE 24, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

MONDAY	June 26	British Architects	8 P.M.
		Geographical	8 P.M.
		Civil Engineers	8 P.M.
TUESDAY	— 27	Medical and Chirurgical	8½ P.M.
		Zoological	9 P.M.
MONDAY	July 3	Entomological	8 P.M.
TUESDAY	— 4	Horticultural	3 P.M.
WEDNESDAY	— 5	Royal Botanic Gardens	2 P.M.
FRIDAY	— 7	Botanical	8 P.M.
SATURDAY	— 8	Royal Botanic	3½ P.M.

COUNTRY SHOWS.—Tuesday, June 27: Edinburgh and North British Gardeners', Norwood Floricultural.—Wednesday, June 28th: Manchester Horticultural.

IT has been for so many years the custom of the HORTICULTURAL SOCIETY OF LONDON to hold their Chiswick meetings on a Saturday, that it seems desirable to mention that the next and last Exhibition for the season is on a WEDNESDAY. The beautiful grounds of Chiswick House will be open on this occasion to the visitors, and we see it announced that for the convenience of persons who are unacquainted with the Fellows of the Society, respectable strangers, and residents in the country, will be supplied with orders for tickets, upon making *written application* to the Vice-Secretary, 21, Regent-street, and inclosing their addresses.

WHEN we drew attention a few weeks since (p. 315) to the condition of the ROYAL HORTICULTURAL SOCIETY OF IRELAND, we were far from imagining that we were opening a wound which it might become necessary to probe with more severity than would be agreeable to either ourselves or our patient. We are, however, driven, by irresistible evidence, to the painful conviction that its constitution is so unsound as to render palliatives and alteratives useless; and that a total reformation of its habits is indispensable. To drop metaphor, we are forced to admit that the principles on which this Society is conducted are as unworthy of high-minded gentlemen as they are degrading and offensive to those who suffer from them.

The statements of "Hortulanus Hibernicus" (p. 365) are uncontradicted; we may add that we know them to be incapable of disproval: they are true; and that being so, the wonder which we now feel is, not that the Irish Horticultural Society is unpopular and therefore ruined, but that it should continue to exist. For to what do the charges of our correspondent amount? He not only confirms all that we have said, but he alleges further that the proceedings of the Council are at variance with their declared rules, contrary to common sense, haughty, disingenuous, and dishonest. He does not, indeed, use these particular words, but they express the true meaning of his allegations.

That the practice of the Council is at variance with the declared rules of the Society is shown by their conduct as to the all-important question of judges. They promise that the judges shall be unbiassed persons, and they select them from among the competitors; they promise that the judges shall not enter the exhibition-room, or see the subjects of competition, until the exhibitors are gone, and all is ready for exhibition, thus setting themselves up as models of purity and fairness, and then, having first constituted themselves the judges, they break through every rule, rush to the place of exhibition, still crowded with competitors, consult with one man, gossip with another, make themselves masters of all the hopes and wishes and interested expectations of the parties concerned, each squad of Judges comparing notes with the others, and then they proceed to their award. Is it possible that men, even although they be Irish gardeners, can be satisfied with conduct like this? or that even, if the Judges were immaculate, any body would believe them to be so. No wonder that this lamentable self-seeking should produce disgust in the minds of lookers on; still less wonderful is it that it should end as it has ended, in the Judges giving the prizes to themselves. Incredible as it may seem, we assert, without fear of contradiction, that at the very last exhibition the Lord Lieutenants' prize was awarded by one of the three disinterested Judges to himself, *he actually being a member of the Council!*

We need hardly insist upon such proceedings being contrary to common sense; they are much worse.

The haughtiness of this Dublin Council is ludicrous. They have an annual dinner, to which are admitted all persons who can afford to buy a ticket—except the very men to whose talents and ill-requited skill they owe the opportunity of having a dinner to eat. Gardeners are excluded from the table of the Dublin *Dorotes!* Till this light broke upon us we had no idea that such creatures as Horticultural Highmightinesses existed. We know nothing of them in England, and as the doings of St. Patrick in Ireland are matter of history, we should certainly have looked for them in that kingdom. The English higher classes have the credit of being inaccessible, and over proud—of their wealth, rank, high deeds, or ancient lineage. In their defence it may at least be alleged that *they* have something to be proud of: but they are all humility compared with the grandees of Dublin. We have seen English Dukes at table with pigjobbers, on the occasion of a public agricultural meeting; the head of the great house of RUSSELL did not shrink from occasional contact with honest plebeian folk; but an Irish Horticultural Councillor cannot permit a gardener, not even if Vice Regal, "to come between the wind and *his* nobility."

The disingenuousness charged against the Council is worthy of the rest of their conduct. They invite people to see their Show, take the 2*s.*, and then when the money is pocketed, they turn round and say—Oh! good people you can only see the flowers; the fruit is reserved for your betters; it is not for eyes profane. There are the Cabbages and the Potatoes and the rest of it for *you*; but the fruit is for *us*. Are the Council afraid of the crowd? Are the visitors, who pay 2*s.* a head for a peep, in a state of starvation? and do the Council dread the hunger of their famished meeting?

But this is nothing to the robbery which, as we are advised, has been committed upon the unhappily successful Exhibitors. The winners of prizes are not only deprived of any honour that belongs to them, but they do not even get the paltry money which its failing funds permit the Society to offer. We have been told by those who profess to be conversant with the private acts of the Council, that although the honour is given to the masters the money is given to the gardeners. If this were true it would be an affront to the humble but honest men in question; for we place no exaggerated value upon the feelings of an Irish gardener when we say that the honour of success weighs more with him than the money which he is to gain. In fact what *is* he to gain? when prizes range between five shillings and a pound. The money will not pay his expenses, and nothing remains except the honour, which his master appropriates. But there is an unsuspected reason why the money is given up by the Dublin masters in favour of their Irish gardeners. Of them, the saying of the poet is literally fulfilled,

"Who steals my purse steals trash"

—*the money is not paid.* The Irish Horticultural Society's promises to pay are of the same value as Spanish or Pennsylvanian Bonds, or the *securities* with the infliction of which the luckless French Railway owners are threatened. The Council receive the money of the Subscribers, and the money of the visitors to their shows, and they undertake to pay the winners of their prizes. But they break their word: the Council gets the money, the prizemen get nothing. Can anything be conceived more entirely scandalous and disgraceful? These gentlemen are, however, mistaken if they fancy that repudiation exonerates them from legal responsibility. We understand that the Dublin Horticultural Society is not a corporate body; and, if not, then any member of the Acting Council may be selected by the creditors, and compelled to pay the prize money.

We ought to publish the names of this Irish Council, and we would do so, if it were not for one reason; it would be unjust to some of the highly honourable men who belong to it, and who must look upon the proceedings in question with as much disgust as ourselves. No one can imagine that the whole of the Council are implicated in acts of this nature; we know that many are not even cognizant of them, and that they will be as much surprised as we were at the revelations which have been made. The doings in question are those of a mere minority of the Council, interested parties, exhibitors; and it would not be fair to identify with them such men as the Duke of LEINSTER, Lord CHARLEMONT, Mr. TIGHE HAMILTON, Mr. LYONS, and some other noblemen and gentlemen of high honour and integrity, by whose acts we or any man would be willing to be bound. We trust, however, that this forbearance of ours will not be misunderstood, and that the gentlemen in the Council will feel it to be their duty, either to put an end to these scandals or to break up the Society. They may depend upon it that the public will support them in any measures which may be directed against the jobbers with whom they are now associated, and that in

Dublin, [illegible] of property [illegible] motto, "[illegible]

[illegible] were laid out, [illegible] Sons, of Brentford. [illegible] of London and [illegible] laudably known, [illegible] not given much attention [illegible] which may have been [illegible] the great majority of [illegible] suburbs of the metropolis [illegible] unknown. That there [illegible] the arrangement of [illegible] we think generally clear. [illegible] designers for the result with [illegible] when we look at the difficulties [illegible] had to contend [illegible] had to work, and the limited [illegible] space on which they could [illegible] To expect that mourners [illegible] path to the grave which is to receive one whom they have long and dearly loved, [illegible] than a general sense of the [illegible] of the spot—or that while surrounded by [illegible] of a common mortality they should attempt to examine the taste displayed by the designers—would be in the teeth of human nature and human experience. But others, bearing in mind the *genius loci*, and not lacerated in spirit by a recent loss, can judge if the plan be tasteful in principle and harmoniously carried out.

We hardly know to what we should compare the outline of the ground itself. In some degree it is not unlike that of Birkenhead Park, only that from the eastern point for about one-third of the whole length it is very much narrower. The Harrow-road, slightly varying from a straight line, [illegible] it on the north; and on the south side at about one-third from the eastern point, the boundary widens by a rapid curve until at the western extremity the whole ground is bounded by a gently curved line running from the Harrow-road, southward. The view from the grounds over the southern prospect is most beautiful; the varied hill and dale, [illegible] the Notting-hill Church standing out as the prominent object in relief, yield a calm delight to the spectator. In another respect this view reminds us very much of that from Birkenhead Park. It [illegible] a river in the distance to give the finishing touch to the scene—and the characteristics of the two views would then be alike. But there is this difference again. At Birkenhead you gaze upon laughing nature and pure art, with nothing in the way you see to make your spirits droop; at Kensal Green you cannot forget for an instant that you are standing amid the dust and ashes of fellow-men.

The arrangement within the [illegible] is remarkably simple and chaste; and it should be borne in mind that when so much of that space must be reserved for the purposes of interment, the field on which the designers could exercise their skill was very limited indeed. Along the whole of the boundary there runs a line of shrubbery, which on the north side has the effect of excluding the Harrow-road completely from the ear and imagination as well as from the sight. Parallel with this line of shrubbery is a path round the whole of the ground. At the eastern extremity is the Dissenters' Chapel, and in the front of it a circular plot of Grass dotted with shrubs. Passing from this point westward you walk along a wide path in the centre, at the end of which stands the Episcopal Chapel—a very beautiful building—as indeed are most of the buildings in the Cemetery. Not quite half-way from the eastern boundery this central path has another branching off on each side by a gradual curve to those which are parallel with the boundaries north and south. You have not [illegible] however, towards the Episcopal Chapel when you come to a boldly-laid out circular piece of ground—surrounded by a path—and intersected at right angles by other paths running north to south and east to west—and the borders of each segment tastefully adorned with shrubs. Beyond the Episcopal Chapel again, there are variations in design introduced with quiet unobtrusive skill; and then you will have traversed the whole space. Only observe, however, with what taste, at intervals on the sides of the paths, beds of shrubs and flowers are placed. The difficulties to be met were not slight.

The extremely irregular shape of the ground—in outline not unlike a long Pear—very narrow from the stalk for at least one-third of its whole length, and then swelling out to great obesity to the other end—would hamper most artists. But perhaps the greater difficulty was to display art and skill and taste just enough, and not too much—and moreover just in harmony with the object for which the spot was to be laid out. This has been accomplished, we think, with great success. Everywhere as you walk around you are struck with the graceful simplicity of the whole design: you perceive that, as in Birkenhead Park, the CURVE is the principal line in the picture, while the straight line still appears in due relief: and you can foresee that as years pass away the scene within those boundaries will each year improve and show the correctness and the excellence of the original design.

Thus much for the plan of the ground and its accessories. So far all deserves almost unqualified praise. But when we come to observe the monumental taste exhibited on the same spot, we grieve that in so many cases the expense incurred may be regarded as the measure of the survivor's regret, while the taste has been left to the mason, who has evidently had an eye principally to the expense. We may be wrong, but, to our minds, the simple head and footstones standing in long array—with no pretension and no pride—all marking with painful accuracy where "each in his narrow cell for ever laid" awaits his last great change—tell a tale far more affecting than the haughtier mausoleums that seem to look down upon them with disdain. Examine those indications of wealth as well as of grief. Let us ask if, on the whole, there was ever seen so much bad taste condensed into so small a space. The shattered column is a favourite idea. But even here there is an inconsistency, or rather a deficiency. We do not see in every case the portion that has been broken off, lying on the ground beneath. And if it be not, what is the meaning of the emblem? The obelisk of the true Farringdon-street pattern is also in high favour. We never saw so many together, and yet not one true obelisk among them all. Short, tall, thin, fat, in every possible variety of the wrong sort—there they stand: and we should very much like to know what they actually mean. They must all express the same feeling, it is clear. But there is one that entirely baffles our powers of solution. It is a hybrid between a squat pyramid and a dwarf obelisk—only it has something very like flame issuing forth from its apex. It looks for all the world like a mis-shapen pastille just beginning to burn. Look, however, at one of those large mausoleums. In a niche on one side of a massive structure is a cherub holding an hour-glass, with the inscription beneath, "TEMPUS FUGIT,"—and in another niche, opposite, is another cherub, holding a skull with the legend below—"MEMENTO MORI." The idea is not bad. But look in their faces: they look just like very fat children who are a great deal too happy, because they have eaten a great deal too much. We could multiply such examples of bad taste. But we forbear. We only say that it is a relief to turn from such sights to the more simple memorials around, embosomed as they are amid scenery so gracefully disposed. =

AQUILEGIA GLANDULOSA.

THE stock from which I cultivate this beautiful flower was raised from seeds produced about 10 years ago from a plant which appeared much more robust in habit than common, being taller in growth and larger in the blossoms than any other of the species which I had previously observed. Plants may be multiplied by cuttings, and by dividing old roots, but these never flower freely, and are unworthy of cultivation. Propagation by seed is the only method practised here; and it is worthy of remark that, unlike other Aquilegias, seeds of this plant have never been known to produce many varieties; and difference even in strength of growth or size, under the same treatment, is very rare. Sometimes a double blossomed plant is to be met with, but it has been found that that distinction is neither permanent in the plant itself, nor in the seedlings it may produce. Of many thousands of seedlings in bloom here, I cannot perceive the slightest variety.

As this Aquilegia is quite hardy, it is cultivated as an open ground plant, and from the middle of May to the end of June it is by far the most gay and attractive object of the season. The flower-stalks usually rise to the average height of from 15 to 20 inches, and very seldom exceed 2 feet. Seedlings sometimes flower the second, but more commonly during the third summer of their growth. The first time the plant generally yields 8 or 10 blossoms, and for several years the number increases greatly. I have just counted 75 on a plant six years old. When plants attain the age of seven or eight years they generally get exhausted, when their flowering becomes very uncertain, and only here and there a flower-stalk is produced; consequently such are unfit for forming a bed or clump in the flower garden. The ground should, therefore, be cleared of the old roots, and young plants inserted.

The seeds of this plant are usually ripe about the beginning of autumn, and may be sown any time before the end of March; when sown in autumn, some plants generally appear above ground in a few weeks, but the principal part commonly remain dormant until spring. Such as get up in autumn require to be protected, lest they be ejected by severe frost during winter. It is not unusual for seeds of this plant to vegetate after remaining in the ground for 12 months. In a bed where a moist heat is applied, the seeds spring more readily, but under any circumstances they are more stiff to vegetate than any other Aquilegia, and rise far more unequal than any other plant we know. The ground for seed should be rich and friable; moisture and shade are found to be preferable to deep covering. The soil which I have found most suitable for the growth of the flower is a rich mellow earth, partaking a little of bog or peat earth, and rather cool and moist than otherwise—approaching to that usually termed swampy. In such I have had the same plants flower most vigorously for six or seven summers, with many blossoms nearly 5 inches broad. But I have flowered plants very well for two or three years on rich dry sandy ground; on such, however, they soon cease to flower freely, and become worthless. I am satisfied that the age and condition of the plant is of more importance than the quality of the ground. The nurseries here comprehend soil of almost every sort, common, and of very opposite qualities, and I have never failed in flowering young plants well for a few years on spots apparently very unsuitable.

When seedling plants have grown one summer I remove the strongest of them and transplant them into beds, or lines about a foot apart. Plants of equal strength commonly flower at the same time and appear last; any time between September and April admits of their removal, but if the plants are strong enough to flower the first summer they should be removed before the month of March. Those that remain in the seed bed are fit for being transplanted after the second summer's growth, when they are classed into sizes in being removed. Such as are thinned out and left at distances for flowering in the seed beds, are very seldom found to be so vigorous as those that are early removed. After the plants are three years old they do not admit of being transplanted with much success. I have known old plants which, after being removed, would produce abundance of foliage but not one flower in 10 years. Such is the propensity of this beautiful plant.

When cultivated as greenhouse plants they should be inserted, when one year old, into 6 or 7-inch pots, and kept very moist during the progress of the flower stalk, which commonly begins and ends its height in the month of April. The best specimens, however, are generally from the open ground.—*John Grigor.*

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

TREATMENT OF PLANTS IN POTS.—The following remarks are not intended for the owners of greenhouses, unless they are on a very small scale. It is presumed that when a man builds a conservatory, he either knows how to manage it himself or has a gardener with the requisite qualifications; I say, this is presumed, for that all greenhouses are properly managed, it would be ridiculous to affirm. These horticultural structures are often mere appendages of riches or fashion, and, not drawing to themselves the affections of their possessors, are horribly neglected. A few days back I saw a greenhouse tucked in a shady corner of a very large garden, where there was good choice of situation; its plants were all lanky and infested with aphides; its shelves and pots were green, not from paint, but from damp; and, wishing to grow Grapes, my friend had dug a hole in the Grass-plot in front, tucked in a Vine, and a spindley branch about as thick as a Carnation stalk was wending its melancholy way towards the roof! I never like to see birds in cages, but imprisoned plants are a sadder spectacle, mourning the absence of air and sunlight. If any reader calls such a floral den as this his own, I beseech him forthwith to turn out every pot; to set a man to wash them free from mouldiness; to scrub the stands and shelves; to pull up all such misnamed Vines, and, if possible, to remove the house to a better situation. Even then, unless more time and care are to be given to the greenhouse in future, little good will ultimately be effected by these lavations. Consider well whether you are willing to grapple with the pleasing difficulties of growing exotics in-doors; and if not, pull down the house, and make a present of it to some poorer amateur.

To return from this digression. The plants in pots, belonging to those who garden on a small scale, and require only a few to grace their windows and sitting-rooms, demand much attention just now, when drought and heat conspire to injure them. The green fly should be resolutely kept down; and this is best done by placing your collection, as far as infested by it, in a frame, and burning about half an ounce of tobacco among them. The tobacco may be put into a flower-pot at the top of a few live coals; this pot to be placed in another rather smaller than itself, to secure a current of air through the hole in the bottom. When you are sure that the mass is ignited, and will gradually moulder away, close the frame and cover it with mats or old carpets. Let it remain close until the next day, when the plants should have a good syringing. In addition to this wholesale slaughter of your enemies, do not neglect little skirmishes against them with your finger and thumb, whenever you find them plucking up courage and attacking your plants. Remember that the aphis multiplies prodigiously, and that every one you kill, when looking at your flowers, or in any other incidental way, prevents myriads from coming into being. If you are very nice and do not like to soil your fingers by crushing these insects, be sentimental enough to believe that their blood is only the sap of the leaves on which they feed, and that to destroy them is only like pinching and breaking a flower stalk.

Pelargoniums must be cut down when the flowering is over, and repotted when the old wood has shot out a little; the cuttings, if wanted, must be struck, to produce young plants for next year. At this warm season, nothing should be kept in-doors, unless in bloom, and required there for ornament. Most greenhouse plants do best out of doors now; their woody fibre is rendered compact by the sun and air, and provision is thus made for abundant flowering another year. Roses, and other plants expected to flower again, should be plunged up to the rim of the pot in any light soil. I disperse mine about the garden. They require no watering when thus treated, and the equal temperature and moisture of the roots causes them to grow more rapidly, and keeps them in good health. When about to bloom, they may be removed to the window or sitting-room. Bulbs, of course, should be quite at rest when the foliage is decayed; a few weeks' entire dryness is generally beneficial to them. Verbenas, and other trailing plants in pots, should be carefully trained, according to the situation they are destined to occupy.—*H. B.*

Home Correspondence.

Kew Gardens.—I do hope that the suggestions which your contributor made some time since in respect to these gardens, may, on one point at least, be responded to by the authorities. I allude to the keeping of the gate fastened which separates the Botanic Gardens from the pleasure grounds. The latter will be open from Midsummer-day to Michaelmas-day, on Thursdays as well as Mondays, until dusk. And on the former days, when both the gardens and the grounds are open, I really can conceive no plausible reason why there should not be free passage between the one and the other at all hours, or why when the Botanic Gardens are closed at 6, the people visiting them should not, if they please, go through the gate for a cool evening ramble in the pleasure grounds, instead of going a mile or two round for the same purpose. No additional expense would be incurred, for the same man, who now stands on guard to see that no one climbs over the said gate, may just as well play the polite by its side while it is open. And it is not that there is a difference of admission to the respective grounds, the very same individuals have the same privilege of admission to both. Why then should not this much wished-for boon, be cheerfully and gracefully conceded at once?—*Horticulturus, June* 15.

Variegated Stocks.—This remarkable season has had a very marked effect upon vegetation; and, as you well know the value of facts, I have inclosed some flowers of the Stock, that you may see how curiously variegated they are this year in all the gardens round Hayes, although last year they were pure in colour, and we had some splendid double spikes of flowers from the seed near which the inclosed was raised. If you can find a corner to ask if this sporting of the Stock has been noticed elsewhere to any extent, you will oblige me. I may also mention the influence which the sun has had upon the Acacias here, which are more profusely covered with white flowers than I ever before saw them in England.—*J. C.* [In our own gardens almost every plant of the crimson giant Stock has run to bad stripes, and we see the same circumstance all around.]

Picotees, Black Aphis, &c.—I have a small bed of seedling Picotees which are sadly infested with the black aphis, and I am much afraid that they are going off in consequence, as some of them are turning yellow and drooping their heads. What can I do to save them? I fear the insects are in the ground, having in former seasons, in taking up the plants, found them in dozens congregated round the neck of the plants.——*C. N. R.* [We should imagine that the bed in which the seedling Picotees are growing is infested with wireworms, in which case the plants are invariably ruined before they give indications of the attack, as the worm usually eats the pith of the plant, forcing its way upwards. On the other hand, the black aphis will seriously affect both buds and stems, causing them to droop and turn yellow. We have applied Scotch snuff, when the buds have been covered with moisture, with good effect; also weak tobacco-water. It will be necessary, in preparing the beds for the reception of seedlings, to examine them well, picking out the wireworms, which are easily seen. A small portion of quicklime may be applied at least a fortnight previous to planting; and, as further security, divide some Potatoes, putting them immediately below the surface of the bed; these must be examined every morning, and the wireworms will be found eating their way into them.]

Artichokes.—I have been spending a few days in this interesting place (Kinsale), and am glad to perceive that the old-fashioned gardens, on the hill overhanging the pretty harbour, are well attended to. The one, in extent and cultivation, that demands most notice is that of John I. Heard, Esq., whose fruit and vegetables are of the very best; but as his Artichokes are the finest I have ever seen (averaging, in a very large square, from 14 to 17½ inches in circumference), a few words as to their cultivation (by Mr. Curtayne, his gardener)

may be of service to your readers by the sea-side. They are of the large Globe kind; the first dressing is early in November. He proceeds to thin out the stools to three or four stocks, then opens a trench round them, and exposes the roots, as much as possible, without injury (having previously collected some boat-loads of sea-weed, which being placed in a heap, has been allowed to heat for a week or 10 days); he puts as much as he can of this round and between the plants, immediately landing them up as high as possible for the winter. In March another slight thinning takes place, if required. This process has been going on for years, and never fails of producing a wonderful crop.—*J. B. Warren, Kinsale, Co. Cork, June* 16.

Wasps.—I lately destroyed two wasps' nests in the top of an empty beehive. They were nearly close together, which shows that no enmity exists between queen wasps, which are very numerous this season, and where no means are taken to destroy them, the loss of fruit by these pests must be great. Dr. Bevan, who has always an eye to his beehives, wrote me the other day that he destroyed a great quantity of queen wasps; also Mr. Downie, gr. to the Earl of Traquair. The following account of those taken by the latter appeared in the *Dumfries Courier*:—"The Earl of Traquair has for many years been in the habit of giving a premium of 3*d.* per dozen to the children in the neighbourhood, in the months of April and May; and that the present has not been a barren season to the young people, the following account will show. The youths are directed to attend in the ancient hall of Traquair House on certain appointed days, where they are drawn up rank and file, like a young regiment of foot soldiers with their bags in hand, filled with tiny quarry. Beginning at the one end of the line, the wasps are all counted by Mr. Downie, and immediately the young sportsman is paid ready cash for the booty produced, off he goes, like a lamplighter, ready to renew the sport. Owing to the coldness of the weather, there were no wasps brought forward this season till the 6th of May, when 22 children presented 219 dozen, one of whom had 24 dozen, weight 11 oz.; 9th of May, 24 boys with 380¾ dozen, weighing 18 oz.; one boy had 34 dozen; 13th of May, 23 girls brought 375 dozen, weighing 20 oz.; one fortunate girl had 43 dozen, and another 35 dozen—the former the highest number taken by one individual this season; 16th of May, 9 boys brought forward 111½ dozen, weighing 6 oz., the highest number by one individual, 26½ dozen; 20th of May, 31 girls brought forward 151½ dozen, weighing 7½ oz., which closed the sport for the season. The total, in round numbers and weight, is 14,750, or 1237½ dozen, weighing 63 oz. There is a considerable difference in the proportionate weight, on account of the weather being at times very warm and dry, at other times wet, when the insects were caught." *J. Wighton.*

Novelties.—The only excuse for gardeners being so eager to purchase novelties is the desire most men have not to be thrown behind the times. When a plant or fruit is publicly announced to be something extraordinary, many purchase it immediately, others do not. Those who purchase, if it prove a good thing, generally keep it as private as possible, proud of possessing something superior to their neighbours; those who did not purchase, on hearing its merits extolled, feel thrown in the back-ground, and it is perhaps several seasons before they can be on an equal footing with their neighbours, which is rather crippling. The above was my own case with the British Queen Strawberry, with which I was long behind-hand, from not having purchased on its first announcement. For this reason I procured from Mr. Mathewson himself, his much-vaunted Aberdeen Beehive, which I have proved, both in forcing and in common growth in the garden, to be nothing more than the Grove-end Scarlet. I hope Mr. Mathewson will return me and others their money, or else prove that the Strawberry is worth its price.—*J. L. Snow, Swinton Park, June* 21.

Aberdeen Beehive Strawberry.—I beg you will insert the following, in reply to your remarks, with reference to the Aberdeen Beehive Strawberry, the merits of which you have sepulchred alive, judging from a simply specimen, the produce of Runners, planted last autumn, which could not be expected to be a fair sample, except of the earliest rooted plants, judiciously treated: most likely they were neither, therefore I am inclined to think your statement harsh and unwarrantable: as I am prepared to submit a large stock to the judgment of *impartial experienced Honest Men*: Further I challenge the Trade of England to produce a Strawberry "*Grove End*," or any other sort, a cropper equal to the "Bee Hive" at present open for public exhibition at Cunnigar Hill; allowed to be a novelty, and an improvement.—All those who have seen them, seem to be satisfied; but should the people of Manchester expect to see on each plant Hives of Bees by the 100, they will undoubtedly be disappointed; as the Crope will be Bright Scarlet Strawberries.—*James Mathewson, Cunnigar Hill Nurseries, Aberdeen, 21st June,* 1848.

How to Destroy Large Birds, as Blackbirds, Thrushes, &c.—Entrap them with common-sized rat-traps, baited with two ripe Cherries, tied underneath the pan by the stalks; or in default of Cherries use ripe Raspberries. With half a dozen traps we have captured 100 in a week. (Starlings are not so easily taken.) The traps should be placed over a small gully-hole level with the surface soil, or in nine cases out of ten you will catch only the bill of the bird. By the above expedient they are generally caught by the neck; if caught by the legs they never fail to shriek, and should be extricated and killed as soon as possible, removing and re-baiting the trap occasionally. The traps should be placed in sequestered situations, at some distance from the spot where the depredations are committed, as the shrubbery, or alleys between Asparagus beds, rows of Peas, &c., and more especially between Broad Beans, where they take refuge to devour the stolen fruit. Young birds are sure to be entrapped, the old ones are more cunning. In winter use Raisins or flesh baits.—*Hardy and Son, Maldon, Essex, June* 20.

Bees.—"S. A.'s" bees clustering during the hot weather of the greater part of May is a circumstance not to be wondered at; not so their fighting: something must be wrong, for working bees of the same colony never fight with each other. They seldom store up much honey while they cluster outside the hive; when the weather becomes colder, they draw closer together, and so appear to decrease in numbers. As to the expulsion of drones, and of their brood, although so early in the season, I suspect "S. A." has lost his first swarm and need not expect another. This would account for all his difficulties, except the fighting above referred to.—*J. Wighton.*

Pine Growing.—The assertion, "That as flower growers gain ground the fruit growers lose it," is liable to be disputed, and in support of the negative I venture to send a list of Pines cut at Chatsworth last year, in hopes that it may tend to cheer the drooping spirits of those who weep over our degenerating productions. That there are scores of places in England capable of furnishing a better list I have no doubt, and I venture to hope that gardeners will forward them for insertion. I would remark that the French system has been adopted by Mr. Paxton since 1839, with some modifications, and I fully agree that it is far preferable to the method in use in my boyhood, 40 years ago. That the fruit exhibited at Chiswick does not fairly represent English gardening is not surprising, for the Society shows more favour to a dingy Pleurothallis, or some worthless weed, with a name of learned length and thundering sound, than they do to the productions of a Mills or a Barnes; at least such is the impression of nine-tenths of the gardeners of my acquaintance. [It may be our correspondent's impression; and, if so, we advise him to lose no time in correcting it, for it is wholly inconsistent with fact.] We fruit growers are men of the spade and fork, and oftener bathed in the sweat of our brows than in Rowland's Kalydor.

	lbs	oz.
July, 1847—		
20—1 Providence	9	12
26—1 ,,	9	4
Aug.		
17—1 Trinidad	6	12
20—1 Providence	8	6
1 Queen ..	4	0
21—1 Providence	8	8
26—1 ,,	9	0
1 ,,	9	4
1 ,,	7	8
30—3, 10 lbs. each	30	0
1 Providence	11	8
1 ,,	9	0
1 ,,	8	0
1 ,,	7	0
1 ,,	8	0
1 Trinidad ..	7	8

	lbs	oz.
Sept.		
4—1 Providence	6	0
1 Queen ..	3	8
11—1 Trinidad	7	4
1 ,,	5	14
16—1 Providence	7	8
1 ,,	6	4
17—1 Lemon Queen	6	4
1 Ripley	5	8
21—1 ,,	5	0
26—1 Moscow Queen	6	8
30— Queen	4	4
,,	4	6
1 Cayenne	7	8
1 ,,	6	5
Jan. 1 ,,	5	2
1 ,,	5	4
Feb. 1 ,,	4	8
1 ,,	4	0

—*One of the Unwashed.*

Queen of the Bourbons Rose.—Will one of your Rose growing correspondents help an amateur in the matter of this very beautiful flower, who can neither get it to grow or flower as other Roses? I have discarded one standard, thinking that it was, perhaps, sickly, and procured in its place last autumn a strong healthy looking plant, which, although having been subjected to the same treatment as my other Perpetuals, and very fair treatment too, will not grow or flower in any but the most uncomfortable, diseased-looking manner, while William Jesse, Louis Buonaparte, Mrs. Bosanquet, and others, within a few feet of it, flourish amazingly.—*H. H., June* 21.

Societies.

Royal Caledonian Horticultural, *June* 1.—This, the florist's flower competition, was without doubt the most extensive and the richest ever witnessed in Edinburgh; and although the weather was rather unfavourable, there was a large attendance of company. We shall mention in detail the awards made on the occasion. For collections of double Anemones a first premium was awarded to Mr. Millar, Falkirk, and a second to Mr. Forrester, Florist, Ratho. For 24 choice Pansies there was a keen competition, all the competitors producing admirable stands. The highest premium was found due to Mr. Downie, gr. to J. Russell, Esq., whose sorts were Consolation, Cook's Star, Pitto, Excellent, Marchioness of Breadalbane, Arethusa, Superb, Rainbow, Hunt's Wellington, Duchess of Rutland, Lord Hardinge, The Prior, Cook's Prince Albert, Climax, Field Marshal, Mrs. Hamilton, Supreme, Lord Nelson, Prince of Wales, Clio, Trafalgar, Pizarro, Milton, and Kerr's Prince Albert. A second premium was awarded to Mr. Millar, and a third to Mr. Rutherfurd. For 12 choice Tulips (4 roses, 4 byblomens, and 4 bizarres), a first premium was awarded to Mr. Young, gr. to T. Oliver, Esq., whose kinds were: Byblomens—Louis the 16th, Grand Monarque, Reine de Mauritius, Washington; roses—Athalie, Camus de Craig, Duchess of Newcastle, Crew; bizarres—Strong's Hero, Gold Cup, Waterloo, and Supreme en Noir. A second premium was voted to Mr. John Oliver, of Falkirk. The collections of Brompton Stocks, three red and three white, were very fine. A first award was made to Mr. Gordon, gr. to J. H. Mackenzie, Esq.; a 2d to Mr. Young; and a 3d to Mr. Paxton, gr. to Miss Baird. For Perennial Herbaceous Plants, the 1st premium was assigned to Mr. Maclachlan, gr. to W. R. Ramsay, Esq., for Pentstemon procerum, Philogyne triloba, and Saxifraga pyramidalis; and the 2d to Mr. Forrester, for Dodecatheon elegans, Cypripedium parviflorum, and Trillium sessile. For the best six Alpine Plants, cultivated in pots, there was a most interesting display, evidently proving that the cultivation of this tribe is becoming every year more general, both by amateurs and practical gardeners. A 1st prize was awarded to Mr. Maclachlan, for Erinus alpinus, Linaria alpina, Ramonda pyrenaica, Sedum ternatum, Alyssum olympicum, and Antennaria dioica; and a 2d premium to Mr. Thomson, gr. to Captain Falconar, for Dianthus nitidus, Erinus hispanicus, Saponaria ocymoides, Antennaria alpina, Alyssum olympicum, and Ramonda pyrenaica. For the best specimens of Cacti in flower, two awards were made: the 1st to Mr. Downie, for Jenkinsonii; and the 2d to Mr. White, gr. to Mrs. Haig, for Ackermanni. For the best brace of Cucumbers the premium was found due to Mr. Blair, gr. to J. C. Renton, Esq., for a variety named Martin's Long Green. For a prize of three guineas, offered, through the Society, by Mr. Beck, of Isleworth, for the six finest and best-flowered stage Pelargoniums, there was a keen competition. After a careful inspection the vote was in favour of a collection bearing the motto G. A.; and on opening the accompanying sealed note, the successful competitor was found to be Mr. Cossar, gr. to Lady Hay, King's Meadows, Peebles; the kinds being Roxy Circle, Exquisite, Queen Anne, Vixen, Arabella, and Beck's Mustee. The Society's Silver Medal, as 2d premium, was voted to Mr. Cameron, gr. to S. Hay, Esq., for Beck's Isabella, Zenobia, Mark Antony, Lyne's Diomede, Vixen, and Beck's Mustee; a third premium was awarded to Mr. Maclachlan.—A prize offered by Messrs. Dickson and Co., of the Leith-walk Nurseries, to practical gardeners, for the six finest varieties of Calceolaria, was assigned to Mr. Ritchie, gr. to W. M. Innes, Esq., for Imogene, Duchess of Sutherland, Compacta, Countess of Haddington, Mrs. Farrie, and Infant Sappho. A Society's prize was at the same time voted for a collection sent by Mr. D. Nicol, of Dean.—An extra Silver Medal was voted to Messrs. J. Dickson and Sons, for exhibiting for the first time in Edinburgh a flowering specimen of Gardenia Stanleyana—a stove plant, native of Sierra Leone, and remarkable for its spotted trumpet-shaped flowers.—Another Silver Medal was awarded to Mr. Veitch, Arniston, for a rich collection of British Mosses and Ferns, cultivated in pots, and correctly named. As usually happens, many fine plants and florists' flowers were sent for exhibition only. Some of the productions being highly meritorious, extra honorary awards were made for them. In particular to Mr. Anderson, Maryfield Cottage, for seedling Calceolarias, raised by himself, many of them singularly marked on yellow grounds; to Mr. Weir, Castlecraig, for seedling Calceolarias, many of them singularly marked on yellow grounds; to Mr. Lightbody, Falkirk, for a stand of Tulips, evincing excellent management; to Mr. Blair, Dysart House, for a rich display of Hybrid Rhododendrons; to Mr. Handasyde, for a beautiful assortment of Ghent Azaleas; to Mr. White, for a well-bloomed specimen of Cattleya Mossiæ superba; to Mr. Thomson, gr. to Dr. Neill, for a flowering specimen of Trichopilia tortilis, showing superior cultivation; to Mr. Cossar, for well-bloomed specimens of Azalea Gledstanesii and A. lateritia; to Mr. Cameron, for a magnificent specimen of Pimelea spectabilis, clothed with bloom; to Mr. Grainger, for Acacia pulchella; to Mr. Sleigh, for Pimelea Hendersonii; to Mr. Watson, for a tray of tastefully arranged Cape Heaths; to Mr. Sievewright, for beautiful double Anemones; and to Mr. Carstairs, for Grayson's Giant Asparagus, 25 heads weighing 2 lbs. The principal nurserymen in the neighbourhood fully maintained on this occasion the high character they deservedly hold, their productions being splendid and universally admired. Messrs. Dickson and Co. sent a magnificent assortment of greenhouse plants, including Zichya tricolor, Gompholobium virgatum, Physolobium gracile, with some well marked Calceolarias, many of them seedlings raised by themselves. Messrs. J. Dickson and Sons also contributed liberally to the exhibition; in their collection the Cape Heaths stood pre-eminent, as also Tetratheca verticillata. Messrs. Lawson sent, in addition to some well grown Cape Heaths, beautifully flowered specimens of Actas ericoides and Kennedya monophylla. Mr. Carstairs sent some well flowered specimens of greenhouse plants, including Bossiæa linophylla, and a remarkable dwarf seedling Calceolaria, named Tom Thumb. Mr. Kelly sent a select collection of plants, including a splendid specimen of Erica ventricosa superba; and Mr. R. T. Macintosh, a tray of fine Cape Heaths. For all these productions the thanks of the Society were specially voted. Thanks were likewise voted to Mrs. Haig, for an interesting display of fine plants; in this collection Boronia crenulata, Erica ventricosa globosa, Cypripedium spectabile, and Tropæolum tricolorum standing 6 feet high, and trained in the form of a lyre, were conspicuous; to Professor Dunbar, for some interesting Cape Heaths, with Ipomœa Learii, Cattleya Forbesii, and Gloxinia albo-sanguinea; to A. F. Adam, Esq., for Arum triphyllum and Gladiolus ramosus; to Mr. Handasyde, for Alpines and fine Pansies; to Mr. Levingston, for Pansies; to Mr. Young, for Tulips and Ranunculuses; and to Mr. Lauder, for fine Broccoli.

Microscopical, *June* 1.—G. Busk, Esq., in the chair. Mr. M. Marshall read a letter from Professor Bailey, of New York, in which he stated that a backwoodsman in America had succeeded in making an object-glass, ⅛ of an inch focus, which resolved objects in a manner that could not be effected by glasses of

European manufacture. A communication was read by Mr. Legg from Mr. Nicholson, of Fareham, on a means of insulating objects on the field of the microscope by means of a little instrument, having at the end a small wire ring, which was placed between the lens and the object.

June 21.—Charles Norton, Esq., was elected a Fellow. Mr. Marshall stated that he had succeeded in resolving the object sent him from America with a lens of Smith's manufacture $\frac{1}{12}$ of an inch focal distance. The object was a species of Navicula, smaller than N. Hippocampus. Mr. John Quekett read a paper on the structure of cartilage. The author had examined this substance for the purpose of ascertaining if any relation existed between its cells and those of bone. He detailed the appearances he had observed in the cartilages from various parts of the bodies of animals, and found that their cells bore no relation to those of bone. Dr. Lankester remarked on the resemblance between the cells of cartilage and those of plants, and asked Mr. Quekett, as doubts had been thrown out with regard to the development of the cells of plants from the cytoblast, his opinion with regard to that point in animal tissue. Mr. Quekett stated, as the result of his observations, that the cytoblast in animals was the source of the cell. Just in proportion as the cytoblast was developed were the tissues healthy, and when the cytoblast disappeared the tissues were then unhealthy and useless. Mr. Busk, as an addition to his paper on Notamia Bursaria, stated that although he had found striated muscles in this animal, he had examined a large number of molluscous animals without being able to detect them. Mr. Varley described the structure of a fungus found on the bodies of dead flies, differing in many of its characters from the Sporodesmium which has been found in the same situation. This was the last meeting for the session.

ROYAL SOUTH LONDON FLORICULTURAL, *June* 20.—This, the third Show of the season, was held in the Surrey Zoological Gardens. The exhibition was an average one for the season. Several collections of Miscellaneous Plants were produced, the best of which came from Mr. Cole, gr. to H. Colyer, Esq., of Dartford. And of Pot Roses, nice groups were shown by Messrs. Paul and Francis. Cape Heaths were present from Messrs. Fairbairn, Mr. Cole, and others; the former producing a magnificent single specimen of the variety of ventricosa called Bothwelliana. And of Orchids, two groups of six plants were shown by Mr. Beck and Mr. Bruce, gr. to B. Miller, Esq., of Tooting. The most prominent flower amongst the florists' productions was the Pink, and the exhibition was well supplied with stands of this favourite flower; the weather has been favourable for the development of the blooms, and the colour and lacing were brought out in perfection. Probably there has never been brought together so rich and fine a display of these favourite flowers, nor produced by the growers in greater perfection. The following is some account of the awards.

PINKS.—The 1st prize, in the *Amateurs' Class*, was awarded to J. Edwards, Esq., of Holloway, who showed Goliah, Rubens, Old English Yeoman, Henry Steers, Twyford Rival, Oxoniensis, Lady Mildmay, Lady Flora Hastings, Harriet, Prince Albert, Whipper-in, and Hero; 2d, to R. Ellis, Esq., Woolwich, for Duchess of Marlborough, Lord Valentia, Ellis's Adonis, Norman's Seedling, Hodge's Melona, Alpha, George Glenny, Ellis's Gem, Ellis's Brilliant, Wood's Great Britain, Norman's Henry Steers, and Kerr's Harriet; 3d, to J. Halliday, Esq., Woolwich, for Hale's Queen of England, George Glenny, Lord Valentia, Lord Mildmay, Gay Lad, Alfred Morrison, Tom Long, Melona, Kerr's Harriet, Edward Bennet, Tom Deans, and Earl of Cheltenham; 4th, to Mr. Hales, of Hillingdon, no names attached. In the *Nurserymen's Class*, the 1st prize was awarded to Mr. C. Turner, whose stand contained — British Queen, Prince Albert, Young's Double X., Norbury Buck, Twyford Rival, Oxoniensis, Hooper's Pride, Diana, Lord J. Russell, Nonpareil, George Glenny, Lady Mildmay, Rubens, Morning Star, Lord Valentia, Goliah, President, Gay Lad, Mrs. Fry, Harriet, Criterion, Alfred Morrison, Whipper-in, and Great Britain; 2d, to Messrs. Norman, of Woolwich, for Norman's Lord Hardinge, Oxoniensis, Omega, George Glenny, Fisher's Matilda, Great Britain, Duchess of Marlborough, Melona, Whipper-in, Gay Lad, Lord Valentia, Harriet, Stow's Elizabeth, Rubens, Queen of England, Ellis's Brilliant, President, Looker's Seedling, Alfred Morrison, Criterion, Norman's John, Queen of Roses, White's Warden, and Norman's Henry Creed; 3d, to Mr. Ward, Woolwich, for Ward's Great Britain, Parker's Harriet, George Glenny, Omega, Rubens, Surpriser, White's Warden, Queen of England, Diana, Lord Valentia, Smith's Princess Royal, Gay Lad, Henry Steers, Alfred Morrison, Alpha, Nonsuch, Kentish Hero, Hardstone's Prince Albert, Willmer's Laura, Criterion, Bob Tickler, Jelf's Marianne, Garret's Prince Albert, and Creed's President; 4th to Mr. Keynes, Salisbury, who showed two seedlings, Goliah, Rubens, two seedlings, Diana, Princess Royal, Omega, Harriet, Hardstone's Prince Albert, Oxoniensis, Lord Hardinge, Lord Mildmay, Gem, Hopkins's Seedling, Masterpiece, Alfred Morrison, Dr. Daubeny, Mrs. Herbert, Gay Lad, and Alpha. There was also exhibited, but not for competition, an admirable stand of Picotees from J. Edwards, Esq., Holloway, and one of Picotees and another of Carnations from Mr. C. Turner, of Slough.

RANUNCULUSES.—The season being on the decline, the flowers were not in good condition. In the *Amateurs' Class*, the 1st prize was awarded to Mr. K. Smith, Poplar; 2d, to Mr. Hook, Brixton; and in the *Nurserymen's Class*, to Mr. Franklin, of Islington.

PANSIES.—*Amateurs' Class*: 1st, to Mr. Hall for 24 varieties, as follows: Harriet, Arethusa, Victory, Shakspeare, Optimus, Rainbow, Perseus, Sulphurea elegans, Mr. Hamilton, Pliny, Constellation, Lord Hardinge, Mary Jane, Duchess of Rutland, Companion, Candidate, White Sergeant, Pizarro, Hector, Milton, Perfection, Great Britain, Curion, and Purple Circle; 2d, to Mr. Over, Streatham, for Duke of Wellington, White Sergeant, Rainbow, Duchess of Rutland, Thompson's Rainbow, Jehu, Iver Queen, Shakspeare, Candidate, Beauty of Guildford, Climax, Almanzor, Excellent, Lord Hardinge, Pliny, Curion, Model of Perfection, Euclid, Optimus, Supreme, Superb, Pizarro, Fanny, and Desirable. In the *Nurserymen's Class*, Mr. Thompson received the 1st prize for Rainbow, Climax, Curion, Seedling, Notabilis, Thompson's Rainbow, Constellation, Fair Flora, Great Britain, Perfection, Model of Perfection, Sulphurea elegans, Duke of Wellington, Premier, Desirable, Pizarro, Seedling, King of Holland, Seedling, do. Iver Queen, Supreme, Victory, Duchess of Rutland, Optimus, Lucy Neal, Superb, Tom Pinch, Seedling, do. White Sergeant, Seedling, Satirist, Princess Royal, Pre-eminent, and Blue Queen.

PELARGONIUMS, for 6 varieties in 11 inch pots, Mr. Parker, gr. to J. Oughton, Esq., received a 1st prize for Aurora, Desdemona, Isabella, Sylph, Shield of Achilles, and Beauty of Clapham. For collections of 8 varieties in 8-inch pots, Mr. Robinson, gr. to J. Simpson, Esq., received a 1st prize for Orion, Signet, Juliet, Duke of Cornwall, Armada, Adonis, Negress, and Sarah; and for Pelargoniums in collections of 12 varieties in the *Nurserymen's Class*, the prize was obtained by Mr. Dobson, gr. to Mr. E. Beck, Isleworth; his sorts were Cinderella, Star, Leader, Cruenta, Pearl, Mustee, Centurion, Cavalier, Dorcas, Aurora, Cardinal, and Desdemona. Mr. Gaines contributed a large collection of fancy sorts, consisting of Lady Rivers, Ibrahim Pacha, Nosegay, Diadematum rubescens, Queen Victoria, Anais, Yeatmannia grandiflora, Sidonia, La Belle d' Afrique, Bouquet tout fait, Negro Boy, and Quercifolia coccinea.

CALCEOLARIAS.—In this class, for *Amateurs*, the prize was adjudged to — Shuckford, Esq., for Symmetry, Examplar, Queen, Rubens, Alexandrina, Jesse, Louis Philippe, and Lawtoni; and, in the *Nurserymen's Class*, Mr. Gaines had 12 well grown varieties, Unit, Rajah, Angelina, Jehu, Magna, Rebecca, Lady C. Douglas, Curiosa, Unique, Sunshine, and Pluto.

SEEDLINGS.—The seedling Pelargoniums were flowers of great merit, and fine in colour. Those selected for reward were—1st, Loveliness, from Mr. Beck, a seedling with a pure white centre, and clear rosy purple bottom petals; a narrow rim of rose surrounds the top petals, which are of a deep maroon; 2d, Sarah, a large flower with white centre, deep pink under petals, a large showy variety, with large trusses; 3d, Mont Blanc No. 2, a white flower with small rosy purple spot in the top petals, a decided acquisition in its class.—Among the Fancy Pelargoniums, two were selected—Bridesmaid, ground colour French white, rosy purple top petals, with a lighter spot in each, and a spot of rosy purple in the bottom petals (Mr. Ambrose); Ne plus Ultra, French white ground, with a belt of rosy purple round each petal, leaving a margin of the ground colour as a rim round the flower (Mr. Gaines).—Two Seedling Pinks of 1847 were selected for certificates—Young's double X, from Mr. Turner, of Chalvey, flower round and crown well elevated, petals broad and stout, gently cupped, and even on the edge, lacing good, colour purple, a fine variety for showing; the Hon. Mrs. Herbert, from Mr. Keen, Salisbury, rather novel in colour, being of the darkest purple, white pure, lacing good, flower large, crown well up, but the petals rather small; 1848, Jenny Lind, from Mr. Harrison, of Richmond, a very promising variety, circular outline, large petals, smooth on the edge, with broad purple lacing.

Reviews.

Essays on the Philosophy and Art of Land drainage. By Josiah Parkes. 8vo, pp. 82. Longmans and Co.

Draining is usually understood to signify the formation of channels for carrying off superfluous moisture from the soil; but we have long considered the operation, when duly performed, to be highly important in another point of view, and that is in regard to its increasing the temperature of the soil, by withdrawing cold and stagnant water from below, which water from its density would otherwise maintain its position, and prevent rain-water of a higher temperature from descending, and consequently from communicating its heat to the subsoil. We are therefore glad to find that the author of the pamphlet before us has more especially directed attention to this view of the subject.

The pamphlet consists of two essays, first published in the "Journal of the Royal Agricultural Society of England;" and they are now preceded by a useful analysis of contents. The first essay is "On the Influence of Water on the Temperature of Soils; also, on the quantity of Rain-water, and its discharge by Drains." The second essay comprises a "Lecture on Draining, read before the Society at Newcastle-upon-Tyne." The first essay is the one, however, which we propose chiefly to notice, because we consider the theories it contains to be of the utmost importance, and if acted upon would unquestionably produce the most beneficial results to this country. The following are the heads of the first essay: Physical action of Water on Soil; of the effect produced by Drainage; a New Theory proposed; Physical Properties of Earthy Matter, in relation to the heat and moisture of soil; Cause and Physical action of Dew; Experiments on the Temperature of Soils; on the Quantity of Rain compared with the Quantity of Water evaporated from or filtrated through Soil, with some observations on the quantity of rain-water discharged by drains.

With regard to water being a non-conductor of heat, downwards, the author remarks, that "water, in a quiescent state, is one of the worst conductors of heat," in that direction. "If it be warmed on the surface—and it derives, when mixed with the soil, nearly all its heat from the sun's rays—water transmits little or no heat downwards. If it be heated from above, *i. e.*, on the surface, the film of warmed water floats on the top, by virtue of its superior levity, and no heat is conveyed below; there is no circulation from above downwards."

"When a soil is naturally so porous, or is brought into such condition by art, viz., by drainage, that rain-water can sink into the earth, it becomes a carrier, an alert purveyor of heat; and tends to raise, permanently, the temperature of the mass of useful soil; and this more particularly and beneficially during the vegetative season. Rain-water at that time conveys downwards the more elevated superficial heat of the soil, and imparts it to the subsoil in its course to the drains; it leaves the soil in a fit state to receive fresh doses of rain, dew, and air, and in a better condition to absorb and retain heat, at the same time that it promotes, in other ways, its fertility and productiveness."

"In order to render the change of water perfect, and its action uniform throughout a field, all drains should be deeper than the active or worked soil, and covered. If drains are open, much of the rain precipitated on the surface necessarily passes into them before it has permeated the whole mass; consequently it carries off with it heat which would have been usefully employed in warming the lower strata. If drains are not deeper than the worked bed, water remains below in a stagnant state, which must chill the roots of plants, and diminish the temperature of the superincumbent mass."

The Sections on the Physical Properties of Earthy Matter, and on the Cause and Physical Action of Dew, are interesting; but with this remark we shall, at present, pass them over, in order to follow up more closely the subject of the transmission of heat to the mass of soil, by affording a free descent to rain-water. In the Section containing Experiments on the Temperature of Soils, the author refers to those of Schübler, at Tübingen and Geneva. "At Tübingen his experiments were directed to the ascertainment of the mean highest temperature of the earth by a thermometer placed on its surface, the bulb being covered only $\frac{1}{12}$ of an inch high with earth. These observations were recorded in perfectly fine weather between noon and 1 o'clock, whenever the weather happened to be perfectly fine at that part of the day."

"It appeared that during the six hottest months, from April to September inclusive, the mean temperature of the surface was 131°.4. Now it is evident that, if rain fell upon the earth when it was so highly heated, the surface must be cooled by it; but it is equally evident that the substrata would be warmed, for the temperature of the atmosphere in the shade, which was also recorded at the same hour, was 70°.4; and that of rain, had it then fallen, would have been much the same. Thus the rain, on reaching the earth, would acquire a temperature of about 100°, and communicate heat, as it descended, to the under portions of soil possessing a lower temperature." The author's own experiments are, however, more definite; and afford the most conclusive evidence that it is possible to convey a large amount of heat downwards by a proper system of drainage.

"The site of the few experiments I have to describe as made by myself was a peat bog, called Red Moss, near Bolton-le-Moors, in Lancashire. The depth of the bog, at the spot where the thermometers were inserted, was nearly 30 feet, and its temperature from 12 inches beneath the surface downwards to the bottom, was uniformly 46°. I never found any variation to occur in the results afforded by thermometers placed at various depths during nearly three years' observations; excepting in the winter of 1836, when the thermometer nearest the surface fell to 44° for a few days.

"To this uniformity of temperature throughout the mass of the natural bog, I shall, subsequently have to call your attention very particularly, as it seems to stamp with certainty the fact, that the more elevated temperature marked by the thermometers in the cultivated [drained] bog soil, was solely due to the change effected in its mechanical condition, and to the removal of stagnant water."

The preparation of the bed, in which the thermometers were sunk, was as follows:—"The surface had been ploughed in 1836 by the steam-plough to a depth of 9 inches, and was well pulverized. A plot of about 216 square yards area, clear of the drains, was divided into 12 beds intended for experimental culture. Each bed was 6 yards in length by 3 yards in breadth; and each was insulated from its neighbour, and from the surrounding bog, by an open drain, 24 inches broad at top, 12 inches at bottom, and 36 inches deep. Previously to opening these drains, the plot had been surrounded by a catch-water drain, 38 inches deep, communicating with a main drain 40 inches deep." On the 1st of June five thermometers were placed in the centre of one of the plots at the respective depths of 7, 13, 19, 25, and 31 inches below the surface. "At the

same time a naked thermometer was inserted to the depth of 7 inches in the natural bog adjoining. I did not commence any regular register of the indications till June 7th, being desirous that the thermometers should first become well settled in the soil, and arrive at what may be called a true working state.

"The observations were continued for 12 days, during which time the constant temperature of the natural bog, from 12 inches to 30 feet deep, was 46°, and the thermometer planted in the same substance at 7 inches deep, constantly indicated 47° during the term of the experiments. Now the thermometer at 31 inches deep in the worked bed exhibited a maximum heat of 44¼°, having gradually gained 2¼°, and it was, apparently, still rising. The thermometer at 7 inches below the surface reached 66° after a thunder-storm, showing a maximum increase of 19°, and, on a mean of the 35 observations, of 10° over its fellow, at the same depth in the natural bog. The inference may be permitted, even from these few experiments, that, in the month of June, rain-water carries down heat, and raises the temperature of the subsoil; whilst the loss of heat by the strata nearer the surface is quickly restored by the sun's rays."

Based on such facts as the above, the author proposes what he terms a new theory: "By drainage, *i. e.* by establishing a free passage for rain-water through the soil, the greater heat of the surface is conveyed downwards by the water during the vegetative season, and the mean annual temperature of the soil becomes thereby permanently raised."

That the temperature of the soil will be raised by good drainage, during the summer months, there can be no doubt; but as to the mean annual temperature being permanently raised, we require proof. It appears that, undrained, the Red Moss maintained, winter and summer, a uniform temperature of 46°. This, we presume, is nearly the mean annual temperature of the air of the locality. But in ground free from stagnant water, as in the garden of the Horticultural Society, the temperature at 2 feet deep was found to sink below the mean annual temperature of the air 9¾°, on the average of February; and to rise above the annual mean of the air about 13°, according to the average of daily observations in July, nearly keeping pace with the progressive increase of temperature in the atmosphere; and this is what vegetation requires. It would have been desirable to have had the author's thermometrical experiments continued for at least a year, in order to ascertain how much the temperature of the drained exceeded that of the undrained portion in summer; and how much the former fell below the latter in winter; also in what respect the averages of both differed on the whole year. But whether the mean annual temperature of the drained portion should have proved a little above or below that of the natural bog adjoining is immaterial to the agriculturist, so long as a greatly increased temperature is insured for the vegetating period of the season. If the agriculturist has a moderate spring, and a fine summer and autumn, he does not care so much about the severity of the winter. It is better to have a severe winter, and plenty of heat in summer, than to have the winter less severe, but the summer not so warm; and so with regard to the soil, it is better to have it cold in winter and warm in summer, than that it should maintain a nearly uniform temperature, when, as in our climate, that temperature must necessarily be lower than is suitable for agricultural crops. We therefore conclude that the author should lay more stress upon the beneficial effects resulting from an elevated summer temperature of the soil, than upon its mean annual temperature being permanently raised. The latter assertion is not clearly proven in his essays.

"By establishing a free passage for rain-water through the soil the greater heat of the surface is conveyed downwards by the water during the vegetative season," we have already admitted to be, essentially, a true theory; but it is not new, as will appear from a few extracts from a communication which appeared in the "Gardeners' Magazine," vol. xiii., p. 14, for January, 1837. A box, 3 feet deep, water-tight, was supposed to be filled with soil, and saturated with snow-water, rendering the mass below 40°. When rain of 60° began to fall, the contents of the box being saturated with nearly gelid water, cold and heavy, and mechanically immovable by the descending warmer and lighter fluid, the latter must recede by the surface in quest of an unoccupied lower level, after producing only a slight impression on the surface of the contents of the box." Then the bottom of the box is supposed to be pierced and drained, and the surface exposed to rain of 60°. "Water of the above warmth would percolate speedily from top to bottom, and communicate its heat during its progressive descent. The soil being dry a portion of the water would be held by capillary attraction among the particles of the former in the first instance; superabundance to this would be carried off by the drainage at the bottom, making room for a fresh supply of water, imparting a farther elevation of temperature; till the whole became ultimately on a par with the rain, or very nearly so."

In the same article it is further remarked that "The distinction between warm and cold soils, bearing the same relation to the solar heat, will be nearly done away with if we can render the soil so pervious as to enable us to deprive it of its store of gelid moisture, in order that it may imbibe the summer showers." We believe the above extracts, published 11 years ago, will be found to embrace the principles of the author's supposed new theory.

Mr. Parkes by no means overrates the value of his experiments. On the contrary, he states that they can only be regarded as a slight contribution to our stock of knowledge on the subject. Compared with what would be desirable, this is indeed the fact; yet we consider those he has furnished to be highly important, because their results confirm theory with regard to the effect of draining in elevating, in summer, the temperature of the soil. He enumerates the phenomena which demand attention in the branch of science under consideration. Such are briefly the temperature of soils, air, and rain; the pressure of the air; the quantity of rain, and, compared therewith, the quantity of water passed by drainage from a measured extent of land; the dew point, and quantity of dew deposited; and, finally, the hygrometric condition of the soil. We beg to differ from his remark on self-registering thermometers, because although they do not afford information as to intermediate fluctuations, yet they give us maxima and minima which can be depended upon as much to a greater extent than could be the case from casual observations. Many long-kept registers of temperature are of little value, in consequence of not being comparable either with others taken at different hours, or with the indications of registering maximum and minimum thermometers. From long experience in these matters, we would by all means recommend the use of self-registering thermometers. Whatever others may be employed for special purposes, the registering ones should never be omitted in any extended series of thermometrical observations connected with horticulture or agriculture.

The author advocates the advantages of deep draining in general. Of these, we consider the following extract from his "Lecture on Draining" affords an excellent illustration: "I was invited in February last to visit the property of the Duke of Wellington at Strathfieldsaye. I found a particular Grass field, which it was desirable to drain, very wet; and it was thought that no drainage deeper than about 2 feet would have any effect upon it, as drains in other parts which had been made 3 feet 6 inches deep had not effected much more good than the shallower ones. It was also thought that the mass of clay would be found almost impervious to water, as cracks had already opened in hot seasons to about 15 in. deep. However we had the turf and mould borne off a space of about 5 feet square and 22 inches deep, when a bed of plastic clay appeared. Into this bed, which was soft and easily worked by the hand, a hole was sunk. But a very slight quantity of water oozed into the hole until we reached about 4 feet 3 inches, when the hole rapidly filled with water. It was still clay, but evidently of a more porous nature, and there a mass of free water resided. It was immediately apparent that the cause of the upper clay and surface soil being so wet, in defiance of the shallow drains, was now discovered; for as the upper clay reposed on what relatively may be called a pidow of water below, the capillary force, always in action, continually sucked up this water, and supplied the incumbent soil with a constant excess of fluid. The shallow drains might have done their duty in removing the water of rain—the surface-water; but they could in nowise effect the liberation of the bottom water. An experimental drain was then made, 5 feet in depth and 350 yards long, laid with 1½-inch bore pipes. Clay was puddled in over this line of pipes up to 2 feet 6 inches from the surface, and another line of similar pipes was then laid; so that we had a shallow and deep drain in the same trench, the object being to measure the relative discharges of water from each, and the lower drain was puddled over, to prevent as much as possible the top water from mixing with the bottom. The result was that, the bottom drain discharged, from the commencement, a stream averaging 1 gallon per minute during 76 days, being equal to nearly 5 tons every 24 hours. The run then rapidly diminished, and speedily came to drop only. A second 5 feet deep drain had been made 36 feet distant, so as to insulate a space of land on one side of the experimental drain; and it will be found that, taking the length of 350 yards, with a breadth of 12 yards, as affording water to the bottom drain (6 yards on each side of it), no less than an area of 4200 square yards of water, 5½ inches deep, had been removed by this one drain. At first the upper line of pipes answered to rain, but the action soon ceased, and the whole of the water finally passed off through the lower and deep drain." With regard to the above calculation, we would observe that it is not quite clear that the experimental drain obtained its supply of water from an area of 350 yards, its length, by 12 yards in breadth, that is, 6 yards on each side of the drain. It may be fairly allowed half the space between it and the other drain, distant 12 yards; but there is no telling from what distance it may have drawn water from the other side, on which there was no drain to interrupt the supply.

On some portions of Sir Robert Peel's estates at Drayton Manor, the author had to contend with one of the causes of stoppage to subterranean drains, namely, peroxide of iron, as it was ascertained to be by Mr. Phillips, of the Geological Museum. Inch-pipes, collared at the joints, were employed; and it will be interesting to know whether the water is likely to maintain a clear passage through these for many years. Instances are also adduced of the stoppage of drains by roots; a circumstance which ought to be guarded against: for we know from experience that roots of trees will follow the course of a drain a long way, and will insinuate themselves through the smallest possible crevice.

On the whole, we consider the [illegible] work to the [illegible] one [illegible] and that [illegible] usually [illegible] of [illegible] to be [illegible] want of [illegible] fertility [illegible] naturally [illegible] and [illegible] latter to the [illegible] quite a [illegible] heat, [illegible] rally nor artificially drained.—P.

Garden Memoranda.

Mr. Rivers' Nurseries, [illegible], Herts.—It is quite [illegible] the whole [illegible] I think I [illegible] is laid on [illegible] down, it is [illegible] see in the [illegible] &c., and *experts* [illegible] kind you order, [illegible] tell you or your [illegible] eager and [illegible] Rose, which, in the [illegible] waiting for a [illegible] saying that he [illegible] he has had for [illegible] not recommending [illegible] to have a corner in your Paper for the [illegible] intricated frauds or errors, or [illegible] might warn the [illegible] the collection of dwarf [illegible] found Mr. Rivers was [illegible] as regards fruit, for [illegible] common kinds, he has [illegible] myself, one of the [illegible] stock, root-pruned Pears, and [illegible] can not have a peck of [illegible] the more genial climate of [illegible] fruit, which was nearly all set [illegible] Monkey (which I saw in Mr. [illegible] Exeter, and which I [illegible] makes me long to be [illegible] cast winds blowing over [illegible] and the cold London clay [illegible].

I have often wondered [illegible] which has been taken by [illegible] and the erecting [illegible] growing fruit, and which you have [illegible] Mr. Rivers, however, has [illegible] any more than in any [illegible] culture. He [illegible] water pits, with slate troughs, made at a small [illegible] has already two [illegible] of different kinds of Grapes, [illegible] times selected from the Continent. These (from 50 to 60 feet long) are erected at a small [illegible] each; they are [illegible] about 2 feet high in front and [illegible] about 12 or 14 feet long. These are [illegible] sawed, with the rebate for holding the glass, at Montgomery's saw-mills, at Brentford, and I suppose may be got at any other saw-mill; and the pieces of wood cut out to make the rebate serves for a trellis. As regards the glass, it is about 36 [illegible] to the pound, 2 feet by 1 foot. The ventilation is effected by sliding-doors at the front and back; and he has a front and back inside border, in which he has planted his Vines, Peaches, and Figs. Besides [illegible] of young Vines in pots for pot culture, most of them in good bearing. I brought away a pot with nine bunches on it; though [illegible] high) I do not expect to ripen them. The pots plants are not to stand. I presume, [illegible] has divided the border, [illegible] coarse slabbing, having a wall below the surface from the middle.

In addition to these houses of fruit [illegible] the same plan and [illegible] Roses for cutting; and these, [illegible] to 60 feet. He [illegible] which he finds quite sufficient. I have erected a Vinery on the same plan, but have not divided the border: the rafters are 14 [illegible] and I have Peaches and Figs, and at the front next the Vines I planted last August, and though I have not come to bear this year, I expect to have from 10 to 12 feet on each rafter of good ripened wood. The border is inside, and the cost (including a brick Arundel's stone) under 40s., although I have the front and back ventilators and a door at each end. I find during the hottest weather my plants are obtaining sufficient ventilation, and have added a third door at the back, in the middle of the house, which in very hot weather may be opened: and in order, in early spring, to prevent any too much draught of cold air coming to the vines when beginning to grow, I mean to add on the inside wire gauze sashes. In addition to this cheap grapery, I had about 70 feet of cheap lights, 12 feet long, made, using the same rafters

as I used for the Vinery, only slighter, those I supported on posts about 6 ft. at back and 3 ft. in front, and they cover a row of Peach and Nectarine trees trained to the trellis made of the pieces cut from the rafters. The trees were not planted till early in the spring, and there is not one which has not fruit, and some have a fair crop. There is no more trouble in training and syringing these trees than those on a wall, and the protection of the glass insures the trees first against the frost and cold winds in early spring, and next the ripening of them in a bad autumn. And thus a thing better than a wall of 14 feet high, is obtained at less than half the cost. As the trees were small, the border, which was prepared in August, was planted with Strawberry plants, under the impression that being under glass they would fruit a week or a fortnight before those unprotected. The hot weather, however, has brought those in the open ground this year into bearing quite as early, and under a heating earlier than under the glass; but in a bad season, I take it, this would be otherwise. It will be observed that the sides are open all round; that there is no labour or care requisite beyond what is necessary for trees against a wall, and I expect in September and October to have well ripened wood, whilst if we have a wet autumn my Peaches against the wall will be growing as fast nearly as they were in June. Although the sides are left open during the very cold winds, I observed my gardener had for a short time suspended in front some nets or mats, as a protection against the wind, but I doubt if this was necessary.—*Dodman.*

P.S. In giving you an account of what I saw at Sawbridgeworth, I omitted to notice the large collection of rare hardy shrubs which Mr. Rivers is cultivating with great success, and I believe there are many to be found here which are not easily obtained. I saw amongst a number of fine Ilex, &c. &c., a large frame of well grown plants of Rhododendron robustum.

Calendar of Operations.

(*For the ensuing Week.*)

CONSERVATORY AND GREENHOUSE.

Contributions from the stove should still assist the ordinary stock in maintaining the gaiety of the conservatory. The removal of some of the larger specimens from the stove will afford much useful space for the young and delicate portion of the stock, which now should be shifted and otherwise encouraged. This recommendation applies to seedling stove or recently introduced tender plants, which should have all appliances to induce a vigorous growth the first season, as our winters are sadly trying to such immature things. Where stove and greenhouse plants afford suitable cuttings, propagation may still be pursued; as, generally speaking, it can be practised with greater success in the early than in the latter part of the year. It should be remembered that the propagation of most plants is facilitated by the employment of bottom-heat and bell-glasses. It will be necessary frequently to look over greenhouse plants plunged out of doors, and check the havoc of worms and the robbery of weeds, and attend to their security from the effects of high winds. *Orchids.*—The prevailing dull weather will render the use of the syringe less frequently necessary. Atmospheric humidity may be sustained by frequently damping the house. If the regular and continuous admission of air can be managed, however small the amount, it will be found useful. Let a supply of turfy peat be kept at hand, to make up the baskets and feed vigorous plants.

FRUIT FORCING.

Pines.—Proceed with the arrangement and shifting of succession plants, if not already completed, preserving as far as possible, an uniformity of height and a natural division of sorts, separating, for instance, the Black Pines from the Queens; a final shift may now be given to those plants intended for early fruiting; pot off suckers, and after doing so encourage them to root by a little extra heat and humidity; by all means avoid packing the young stock, employ good sandy loam, and drain well with lumps of fibrous turf. *Vines.*—The red spider is apt to make its appearance during the period the ripe bunches are allowed to remain on the Vines, encouraged by the dry atmosphere necessarily kept; a little soap and water and sulphur applied underneath the leaves where they are established will effectually check them; a soft brush or flannel should be used for the purpose. Discontinue the use of the syringe as soon as advancing crops begin to ripen; check the growth of laterals by timely pinching; beware of applying too much night-heat to forward Grapes; allow of no declension of temperature in the Muscat house. *Melons.*—Maintain the linings to those pits which are dependant on them for heat; the precaution is necessary, as a check induced by the occurrence of cold ungenial weather would produce a most injurious effect on the swelling fruit. Water the plants overhead occasionally. The Cantaloupes and hardy kinds should, during fine sunny weather, be allowed abundance of air. *Peach-house.*—A free circulation of air should be permitted to the ripening fruit, and fire-heat discontinued.

FLORISTS' FLOWERS.

Tulips should now be taken out of the ground; when allowed to remain in too long, it acts prejudicially on them. In fact, bulbs that remain in the ground till next blooming season are apt to become foul, and the roots divide into offsets. They should, when taken up, be wrapped (each sort separately) in thin paper, and allowed to dry gradually in the shade, the outside skin and roots being allowed to remain till they can be separated without difficulty. *Auriculas* will often, at this season of the year, be attacked with the aphis or green-fly; remove them with a camel-hair brush. Keep the plants in the shade, and occasionally water them; as the capsules of seed become of a brownish tint, gather them with the stalk. Tie eight or nine together, and let them dry carefully; after which put the heads in small paper bags, and hang them up in a cool airy place till they are wanted to be sown. *Pinks.*—These may be piped or struck from cuttings. There is little art in this operation, as if kept moderately moist in a shady situation, they will soon strike root. *Carnations and Picotees.*—Disbud those sorts that generally produce small flowers to one; if the variety is of strong habit two buds may be left for blooming. Destroy aphis by brushing them off, but by no means crush them on the bud, as there seems to be something extremely prejudicial in the juices of these insects.

KITCHEN GARDEN AND ORCHARD.

Lose no time in planting out Broccolies and winter greens generally. Brussels Sprouts cannot be too highly recommended. Continue to ridge out Celery. Another sowing of Peas may be tried. Keep the hoe in action, and so prevent the soil crusting about growing crops. Earth up Potatoes; as yet we are entirely free from the disease. Stop Peas and Beans, and stake Runners. A piece of ground should be trenched and richly manured to receive a batch of Strawberry plants of this season's forcing; they are to be preferred for the purpose. Our practice is to make and destroy a bed each season. It is advisable to begin the selection and potting of Strawberry-runners for next year's forcing as soon as they are advanced sufficiently for the purpose, that is, when they show a disposition to root; peg them in small pots nearly filled with rich loamy soil, and probably plunged. Collect a good heap of compost for ultimate potting: we employ successfully a mixture of loam, rotten cow-dung, and decomposed night-soil.

State of the weather near London, for the week ending June 22, 1848, as observed at the Horticultural Garden, Chiswick.

June.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 16	○	29.822	29.748	82	54	68.0	S.	.09
Satur.. 17	15	29.800	29.734	72	54	63.0	S.W.	.00
Sun. .. 18	16	29.992	29.865	68	52	60.0	S.W.	.07
Mon.. 19	17	30.142	30.062	65	51	58.0	N.E.	.00
Tues.. 20	18	30.130	30.075	66	47	56.5	N.E.	.00
Wed.. 21	19	30.065	30.063	77	52	64.5	N.E.	.01
Thurs. 22	20	30.019	29.866	81	55	68.0	E.	.00
Average...		29.995	29.919	73.0	52.1	62.5		0.16

June 16—Very fine; cloudy at night; rain.
— 17—Cloudy and fine; overcast.
— 18—Densely overcast; cloudy; rain at night.
— 19—Overcast and cold; cloudy.
— 20—Overcast throughout.
— 21—Fine; cloudy and fine.
— 22—Very fine throughout.

Mean temperature of the week, 1 deg. above the average.

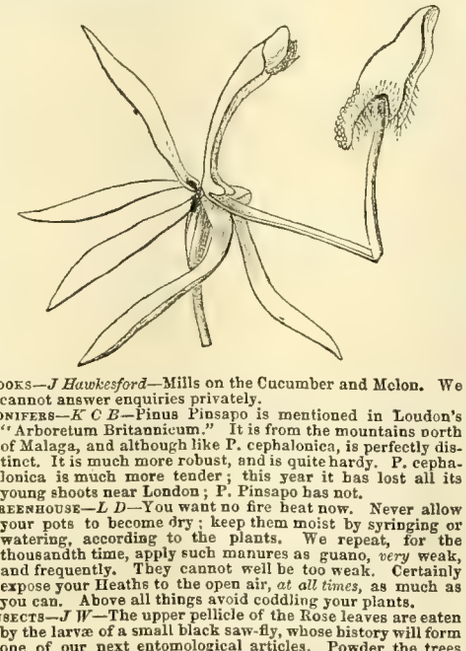
State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending July 1, 1848.

June and July.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 25	71.0	49.6	60.3	12	0.72 in.	1	1	5	1	2	6	4	2
Mon. 26	71.1	50.0	60.6	10	1.00	1	2	4	—	1	7	6	1
Tues. 27	72.7	51.0	61.8	12	0.30	2	2	1	2	3	6	6	—
Wed. 28	72.4	48.8	60.6	7	0.65	2	2	3	1	2	4	3	4
Thurs.29	72.3	50.5	61.7	5	0.20	2	4	2	—	—	7	5	2
Fri 30	73.2	50.8	62.0	8	0.80	—	4	3	1	4	4	4	2
Satur. 1	72.0	53.0	62.5	11	0.38	1	2	4	—	4	5	5	1

The highest temperature during the above period occurred on the 28th 1826—therm. 91 deg.; and the lowest on the 1st July, 1837—therm. 37 deg.

Notices to Correspondents.

IRRITABILITY—*J M R*—Drakæa elastica is the plant you inquire about. It is a Swan River terrestrial Orchid, only known to botanists in a dried state. The irritability resides in the stalk of the lip, which has a movable elbow-joint. The following is a magnified view of this singular species.



BOOKS—*J Hawkesford*—Mills on the Cucumber and Melon. We cannot answer enquiries privately.

CONIFERS—*K C B*—Pinus Pinsapo is mentioned in Loudon's "Arboretum Britannicum." It is from the mountains north of Malaga, and although like P. cephalonica, is perfectly distinct. It is much more robust, and is quite hardy. P. cephalonica is much more tender; this year it has lost all its young shoots near London; P. Pinsapo has not.

GREENHOUSE—*L D*—You want no fire heat now. Never allow your pots to become dry; keep them moist by syringing or watering, according to the plants. We repeat, for the thousandth time, apply such manures as guano, *very* weak, and frequently. They cannot well be too weak. Certainly expose your Heaths to the open air, *at all times*, as much as you can. Above all things avoid coddling your plants.

INSECTS—*J W*—The upper pellicle of the Rose leaves are eaten by the larvæ of a small black saw-fly, whose history will form one of our next entomological articles. Powder the trees with lime, or syringe them with gas-tar water or smelling-salt water. *W.*—*C M H*—The Apple-leaves sent appear to be infested with the caterpillars of a leaf-rolling tortrix, whose history is now under examination. We have never heard of this insect proving injurious, and think it must rather have been the web-spinning lackey, or small ermine caterpillars, which have done the mischief, and whose ravages are now over for this year. *W.*—*E E*—Your Vines are infested by Thrips, and must be fumigated with brimstone several times, and then syringed with clear water. *W.*

NAMES OF PLANTS—*S E N*—Lepidium campestre.—*C K*—1, apparently a morsel of Anchusa italica; 2, some Umbellifer, not determinable in such a state; send the fruit and leaves hereafter.—*C D*—1, Epidendrum odoratissimum; 2, Ep. tripterum. Grow Lælia superbiens in a damp stove, without much rest beyond withholding water when its annual growth is over.—*W J Epps*—Delphinium mesoleucum.—*J M*—1, a Pithecoctenium; 2, a Calliandra; neither is in a state for more exact determination, nor can we undertake a task involving so serious a loss of time as the naming exotic plants of difficult orders and unknown in gardens, unless those who send them will also supply full particulars of their history and origin.—*M J P*—The fragments are not British; but they are not determinable. Some garden outcast.—*J S Bentley*—The Verbascum is handsome, as are many of the species; which is it?—*A S M*—1, Potamogeton heterophyllum; 2, Epilobium angustifolium; 3, a fragment of some Melampyrum; 4, Euonymus europæus; 5, Genista anglica; 6, Lepidium campestre.

ORCHARDS—*Inquirer*—Orchards are best cultivated, especially where the trees are apt to get too dry in summer. If circumstances render it necessary to lay an orchard down in Grass, and if the latter be mown, the ground should be well manured. ‖

PEAR-TREES—*Inquirer*—By shortening every shoot to 3 inches, including leaders, at the winter pruning, your dwarf standard Pear trees could not fail to produce a mass of spray shoots. What you must do at present is, to select a moderate quantity of leaders best situated for extending the tree in all directions horizontally. Leave them to go on untouched; but shorten, and thin out all others. Shorten first by taking a little off all the points of the shoots, excepting leaders. Then, after a few days, begin to thin by cutting out, close to the last year's wood, some of the shoots, where a number have sprung from almost the same place. In order not to deprive the tree of too much foliage at once, wait a few days after the thinning, and then commence farther shortening the shoots left to 3 or 4 inches. It is well to shorten and thin the upper part of the tree, before the lower; but by all means avoid the contrary. Your Winter Nelis has probably been checked by cold in spring. When the first blossoming of trees is prevented, they frequently make a second effort in the same season. ‖

PEAS—*W Fairbeard*—Your Champion of England, a sample of which we have received, is a fine looking Pea. The pods are large and contain from five to eight Peas each. The latter are excellently well flavoured, and if, as you state, it is a great bearer, and nearly as early as the double blossomed Frame, it must prove a desirable variety. ‡

STRAWBERRIES—*W R Griffiths*—Your seedling Strawberry is quite as large as Myatt's British Queen, but the flavour is not so good, we think, even after making allowance for the deterioration caused by carriage. ‖

TOBACCO—*P Fay*—You should answer such enquiries by an advertisement. We cannot advertise for you.

VINES—*C C*—A low moist temperature is the cause of the affection of which you complain. You have certainly allowed your young shoots to grow too long; but we do not think it would be of service to shorten them now. ‡

YELLOW ROSES—*M P*—Your Rose is like most of your neighbours'. This sort is a very capricious bloomer. It usually fails in producing more perfect blossoms than the ones you enclose, and is often covered with buds without producing one perfect flower. Cause unknown.

MISC—*E H*—You can have No. 41; No. 25 is out of print.—*A Y*—The Peach-leaves you have sent are covered with mildew, an evil terribly prevalent this year. It has probably been caused in the first instance by our cold gloomy rainy spring. ‡—*A B S*—We do not know the Pea by the name you mention. You may yourself perceive whether it is likely to grow dwarf or tall; and knowing this, act accordingly.—*Reader*—Statice arborea is a hardy stove plant. ‡—*W P*—Florists' flowers are those which have produced multitudes of varieties under the hands of "florists," who assign to them special properties by which alone their merits are judged of.

SEEDLING FLOWERS.

ANTIRRHINUMS—*S N*—Your dark flowers are both very fine varieties, but on comparing them we decide in favour of 15, from its presenting a much larger surface of fine and rich colour to the eye (although 11 is the deeper colour of the two, and more refined in its form and surface, and more compact in its growth); they are both fine and large flowers. 16, a large mottled rosy purple and white, makes a good variety with the others. *

CACTUS—*B H P*—Your seedling is a very large and handsome flower. It is also fine in colour, being of an intense red, with the purple in the centre of the flower. It measures 8 inches in diameter.*

CALCEOLARIAS—*W S*—Nos. 1 and 2 are extremely pretty varieties, but too small for show flowers; the remainder are large, fine in form (with the exception of 11), good in colour, but too great a sameness prevails amongst them. 3, 4, 7, 10, and 12 would form an excellent variety, with lighter and different coloured flowers. No. 11 is large and fine in colour and velvety in surface, but in form it is not so perfect as the others, being rather flat and looped at the bottom.*

PELARGONIUMS—*W L*—Your seedling resembles Foster's Matilda, but it is inferior to that old favourite in substance and smoothness; the lower petals are too long, and there is a tinge of French white in the flower which injures it; there are much better whites in cultivation.*—*G R*—Your specimen is one of the old high coloured sorts with small feathery spots in the top petals; these varieties are getting out of date, as we have the same high colours in larger and better formed flowers.*—*F F*—Both your specimens are very inferior to the varieties shown at present, they are poor in colour and deficient in form.*—*S S*—Your seedling is a high-coloured flower, but it is too small to be of any use.*—*M H*—The form of your flower is very good, but the colours want brilliancy; it is too dull.*—*R R*—Both your seedlings are very inferior to the flowers now raised; they want size, substance, and brilliant colour.*—*W E R*—The flower sent is a well-formed flower, broad, white under petals, the upper petals plum colour, with a narrow margin of white; this is a good flower of its colour, but should not be kept where seedlings are raised.*—*J D*—The fault in your white seedling is the plum-coloured spot; flowers of this character are discarded from all good collections, more especially where seedlings are raised, the plum colour having a contaminating influence upon the colour as well as the white of flowers. The Pearl was admired and sought after from the absence of this colour. Your seedling is a good flower of its class.*—*W*—Your light seedling is a flower of good form, with broad, well shaped under petals, but it is common in colour, and in the spot also. The dark variety is rich and good in colour, but the form is not sufficiently good; the under petals are narrow and long.*

PICOTEES—*E B*—Your specimen is too thin of petals, and the are also too small; the guard petals are not half the size they ought to be, and the white is very impure.*

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those numerous correspondents, the insertion of whose interesting contributions is still delayed.

HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND.—EDINBURGH SHOW.—The Society's Show of Stock, Implements, Dairy Produce, and Poultry will take place at Edinburgh on the 2d, 3d, and 4th of August.

Bills of the Premiums and Regulations, and Forms of the Certificates of Entry, are to be had on application to the Secretary. No Certificate of Entry will be received after the 5th July.

Society's Hall, 6, Albyn-place, J. HALL MAXWELL, Sec.
Edinburgh, June 20.

TO FARMERS AND GARDENERS.

FOR SALE, and constantly on hand, at 1s. per ton, a quantity of the WET LIME used in purifying gas. This substance is charged with ammonia, &c., forms an excellent manure for heavy soils. It is of a nature to admit of its being loaded in carts or barges.—Direct to Mr. Preston Lumb, at the London Gas Works, Vauxhall.

The Agricultural Gazette.
SATURDAY, JUNE 24, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.
THURSDAY, — 29—Agricultural Imp. Society of Ireland.
TUESDAY, July 4—Agricultural Society of England.
THURSDAY, — 6—Agricultural Imp. Society of Ireland.
FARMERS' CLUBS.—June 30: Stranraer.—July 1: Newcastle, Durham, Melrose.—July 3: Clayden.

EXCLUSIVE MANUAL HUSBANDRY in the case of large farms is a thing either unknown or confined to mere patches and corners where horse power is inapplicable. But it is questionable whether certain portions of a farm, those coming, in the rotation, under some suitable crop, might not with profit be cultivated constantly by the spade or the fork. Every one knows the great expense of horse keep: and the above will no doubt be especially true in cases where the amount of land being barely sufficient to require the existing number of horses, a pair (with all its implements of husbandry) might be spared—were some few acres permanently abstracted from the extent demanding horse cultivation. This is certainly the best way of diminishing the amount of horse power needed on a farm. To let the land remain an extra year in Grass would have the same effect—but while it diminished the expenses it would also diminish the gross produce of the farm. And, as it is the labour of the busiest month that regulates the force required, to take a crop of Beans in the rotation in place of a root crop would also lessen it, but this would be severer on the land. To cultivate certain fields by hand, however, would neither exhaust the soil nor diminish its produce: it would increase the crop, benefit the labourer, and diminish the cost of horse cultivation.

Having verified all this in our own experience, we can confidently recommend its trial elsewhere. By the hand cultivation of 13 acres of Carrots, and autumn digging about 20 acres for Wheat and Mangold Wurzel, we have been able to dispense with the services of one pair of horses during the present year. We have thus saved—

The wages of a ploughman during the year	£26	0	0
And the keep of two horses, at least	50	0	0
Or in all	£76	0	0
By an outlay of—			
On digging 20 acres at 30s.	£30	0	0
And on that part of the culture of Carrots formerly done by horse power, 13 acres at 2l.	26	0	0
Amounting in all to..	£56	0	0

The actual saving is considerable; the increased produce will no doubt be somewhat; 50*l.* worth of food is saved; and 30*l.* worth of additional labour employed.

We have had some experience, too, on the exclusive hand cultivation of small farms, and believe that, where population is abundant, land good, and sufficient superintendence possible, manual is more profitable than horse husbandry. On a farm of 20 acres, two horses would be a waste of power, and one would be insufficient: a plough, harrows, cart, &c., would be needed, notwithstanding the higher acreable outlay, as compared with larger farms, involved in their purchase. The whole of this expense would be saved by spade husbandry, where every labourer brings his own tools; and for the little carting needed, the occasional hire of a horse would suffice. Perhaps the best possible arrangement, however, would be in the case of farms of 80 to 100 acres, where one pair of horses would more than perform all the carriage required, and the cultivation, properly so called, would, for the most part, still remain in the hands of the labourer.

In Ireland, where the labour market is so full, and employment, relatively, so scarce, there can be no doubt that a kind but resolute employer could successfully cultivate, on the system of spade husbandry, with profit to himself and good to all around him. Mr. YULE, whose pamphlet on this subject * we have already noticed, is very confident on the point: and he has had abundant experience. He gives the following as his estimate of the cost of labour on a 20-acre farm cultivated by the hand:—

"I shall suppose the system of farming to be a four course rotation: the most expensive of any, yet the most profitable. In this case the farmer each year will have five acres of green crops, five acres of grain after green crops, five acres of Clover after grain crops, five acres of lea Oats. The expense for cropping such a farm at my rates would be as follows:—

	£	s.	d.
5 acres for green crops, dug into drills, 12 inches deep, at 1*l.* 6*s.* 8*d.*	6	13	4
For wheeling manure from head-lands, 200 yards, at 2*d.* per yard	1	13	4
Splitting drills by the spade, to cover the manure, at 6*s.*	1	10	0
3 acres of Wheat, after green crops, at 7*s.* 6*d.* ..	1	2	6
2 acres of Oats, after green crop, at 15*s.* per acre, for digging and covering seed	1	10	0
5 acres of lea Oats dug, and seed covered, at 1*l.* ..	5	0	0
5 acres of Clover	0	0	0
20	£17	9	2

The land would be tilled to double or treble the depth common with small farmers; the crops got in earlier, in better order also, and free of all the injurious effects caused by the horses' feet, and consequently in many cases double produce may be reasonably expected, with less than half the usual expense of labour, and giving employment to men in place of horses. It will be said by many, without giving the system a trial, that milk cows cannot be made useful for draught without injuring them; but this must be first proved by experience, or shown that Nature intended that they should be excluded from labour. The fact is that we find bullocks and heifers just as strong as horses when trained to draught in youth. We have the very high authority of Mr. YOUATT, who recommends that brood mares be returned to labour a month after foaling, and kept at work until within a few days of foaling next season, not only he says without injury but with decided advantage, which many farmers are aware of, and never hesitate in driving a cow very far advanced in calf or in full milk to a distant fair, of 10 miles and back, without perhaps receiving any food whatever. This day's unusual fatigue will do a cow more injury than a year's light, gentle carting, two hours each day as exercise, if housefed as they should be, in place of driving a number of cows, as most of housefeeders do, into some small place convenient to the farm-yard for two hours each day for exercise, and there to leap and horn each other."

In this case, what horse-labour cannot be replaced by the hand, it is proposed shall be performed by the house-fed cows: a suggestion on the merits of which we shall not at present speak. But here is an experienced man maintaining that in Ireland land can be almost wholly cultivated by hand for less than 1*l.* per acre, much less than the sum generally spent in *wages* on the ordinary system of horse culture in this country. We happen to have had a 20 acre spade husbandry farm in hand for the last few years, and must confess that our experience is very different from that of Mr. YULE as to the expenses of its cultivation; but at the same time the result which it has afforded abundantly justifies us in joining with him to recommend the system for general trial in Ireland. We are glad to believe that his calculation of wages paid will prove too low, as it is not only in the horse food saved and the gross produce increased, but the larger labour employed, that the merits of the spade husbandry especially lie.

* The Importance of Spade Husbandry and General Manual Agriculture, &c. By ALEXANDER YULE. J. M'GLASHAN, 21, D'Olier-street, Dublin.

THIN SOWING AND DEEP DRAINING.

Mr friend Baker (of Writtle), is born to be unfortunate. It *is* a misfortune to be ever advocating a losing cause. It implies a want of foresight and a dubiosity of temperament, with a strong affection for old established customs, without a sufficient enquiry into their correctness or error. My friend Baker's "protection" being gone for ever, he clings with desperation to thick sowing and shallow draining, but I venture to predict that he is in danger now, and must soon look out for another plank. I charge Mr. Baker with very gross neglect, in not trying deep draining and thin sowing on his own farm on a small scale, before he presumes to censure those who do experiment, and who have facts to guide them. The "insinuating" system, by asking questions, proves nothing, and is neither creditable nor admissible in matter of fact farming. Geologists or antiquarians may argue for centuries about that which can never be proved, but there is nothing in farming but may be tested by actual result. It is so frequently my lot to meet with rabid opposers of rational seeding, that I adopt the following mode of treating their cases. I ask, "have you ever tried thin sowing?" "Oh! no! it won't answer on our land." "How do you know, if you have not tried it." "I am sure it won't answer on our land; we like plenty of seed." I then wish them good morning. Most of my Wheats are drilled with one bushel per acre, but to confirm my own mind annually, and to convince others, I usually leave in several fields a couple of lands drilled with 2 bushels. The other day a violent opposer of thin seeding came to view my farm. Argument I knew was of no avail, so I quietly placed him in one field and requested him to point out the two lands sown with two bushels, the rest of the field having only one bushel. He exultingly promised to do this forthwith. It was in vain that he crossed and recrossed the thick sown stetches. I reminded him that he had done so. His countenance changed from knowing to doubtful, and he at last, in evident embarrassment, placed himself on one of the thin sown lands, declaring that to be the two bushels, and when shown the thick sown, admitted he could not distinguish the difference. Now, if the thin sown is thick enough in May, what will it be at harvest! My recorded experiments, and those of Mr. Hewitt Davis, are worth volumes of "Bakerism," or mere talking about the matter. A very amusing instance of drawing wrong conclusions from right premises occurred the other day after my attending the North Walsham meeting. I asked a good farmer there why he did not try thin sowing? He said he had and that it had failed; I asked for the particulars: "Well, he said, I drilled a bushel and got 7 quarters per acre; the following year I again drilled a bushel, it was so rank and thick in March, that I fed it off close; but after that it grew thicker still, so I fed it off close again in April and spoiled the crop, so I would not try thin sowing any more!" For the future I shall not attempt to argue the question with any practical agriculturist who has not (as he ought to do) tried various quantities on a small scale; it is throwing away time to attempt to convince people against their will. With respect to my crops in general, I have on 170 acres of land (landlord's measure), 32 acres of Wheat; 20 acres of Red Clover (good); 9 acres of White Clover and Trefoil (good); 7 acres of Beans, 2 feet 4 inches from row to row (good); 6 acres of White Peas, ditto, ditto; 4 acres of black or winter Barley (after Wheat), a very heavy crop, just ready to cut; 17 acres of Mangold Wurzel (a fair plant); 8 acres of pasture and Lucerne; 4 acres of Rape (after spring Rye); 6 acres for Kohl Rabi and Swedes. My Wheats are a full plant except about 6 to 8 acres injured by wireworm, but filling up again, so quickly indeed that it will hardly give the spring sown the chance of getting up. The Wheats generally on my land are by no means so good as last year, owing to the wet March and April, but they are rapidly improving, and will no doubt as usual develope very large heads and kernels; still I have perfect reason to be satisfied with them in comparison with others, including those of Mr. Baker, which I see *en passant* by rail. I think we do very wrong not to guano or top dress the land after a root crop is drawn off; I omitted it this year, at the request of my bailiff, who considered the land could not require it after a strong dressing of farm yard manure for the roots. But, depend upon it, 28 tons of Mangold Wurzel per acre take more out of poor hungry land than a Wheat crop, and must be compensated for by additional manure. I found the 2 bushels of seed were just as much eaten by the wireworm as the 1 bushel, and I defy Mr. Baker to point out the difference; I think generally speaking we do not above half farm. The same cause (want of food) that prevents a Rose tree on poor soil developing its numerous buds is equally applicable to a corn crop. The latter looks flourishing so long as its food lasts; but like a starving man, looks pallid and ghastly, in the months of May and June—its demand for food exceeds its supply. The bilious appearance of the Wheat crops between my residence and the metropolis give unmistakeable evidence of the truth of my assertion. As to the sneering question, Do Mr. Hutley's drains act or run? I answer they do, although Mr. Baker and half the practical men of Essex said they would not, although of course they had never tried deep drains on such soils. If when drains do run freely after rains, Mr. Baker still considers them of no use, I should decidedly recommend his stopping up the holes in the flower pots containing those beautiful flowers I have enjoyed when partaking of my friend Baker's hospitality at Writtle. I shall refer to my stacks after harvest for further particulars; any failure of mine seems to afford so much gratification to agriculturists generally, that I really must try and make one on a small scale, annually, to keep them in good spirits.—Mr. Baker is not candid enough to state that the Rev. Mr. Cooke, whose buildings he so justly praises, is a thin seeder.—*J. J. Mechi.*

ORNAMENTAL POULTRY.

PEA-FOWL.

So charming is the perfect combination of grace and splendour displayed by these most lovely creatures, so excellent is their flesh, so hardy are they in their adult state, that, were it not for certain inconveniences attendant upon keeping them, and also perhaps for the indifference with which everything not rare is apt to be regarded by us, they would be sought after as never-tiring objects wherewith to gratify the sense of sight. Who does not remember the thrill of delight with which, in childhood, he first gazed upon their brilliant gorgeousness! Peacocks and gold fill our youthful imaginations as fit elements of the magnificence of Solomon; and no fable more fitly chose its decorations than that which attached these feathered gems, in association with the many-coloured Iris, to the train of imperial Juno. Even the hen of the Pea-fowl, though sober in her colouring, is most harmoniously shaded, and every movement is coincident with the line of beauty.

The causes which disincline many persons from indulging themselves with the daily spectacle of this inapproachable model of beauty, are, in the first place, the depredations that it commits upon gardens. For this there is no help. The dislike which these birds have to enter a fowl-house, and their decided determination to roost on trees or lofty buildings, prevents our exercising a control which should restrain them from mischief till an eye can be kept upon their movements. At the first dawn, or at the most unsuspected moments, they will steal off to their work of plunder. With great conveniences for keeping them in their proper places, I was compelled to choose between the alternative of banishing a very perfect and familiar pair, or of depriving my children of Strawberries. A friend who

has been well acquainted with their habits for years, informs me, as the result of his experience, that their cunning is such, that if frequently driven away from the garden at any particular hour of the day or evening, after a certain time they will never be found there at that special hour, but will invariably make their inroads at daybreak. As a last resource I have tried ejecting them with every mark of scorn and insult, such as harsh words, the cracking of whips, and the throwing of harmless brooms. Most domestic animals, and I believe many birds, are sensitive of disrespectful usage, and would feel as a severe rebuke the manner in which they were thus turned out. But pea-fowl are incorrigible marauders.

A mansion, therefore, whose fruit and vegetable garden is at a distance, is almost the only place where they can be kept without daily vexation. The injury they do to flowers is comparatively trifling; though, like the guinea-fowl, they are great eaters of buds, cutting them out from the axillæ of leaves as cleanly as a surgeon's dissecting knife would. They must also have a dusting hole, which is large and unsightly; but this can be provided for them in some out-of-the-way nook; and by feeding and encouragement they will soon be taught to dispose themselves into a *tableaux vivans*, at whatever point of view the tasteful eye may deem desirable. No one with a very limited range should attempt to keep them at all. But where they can be kept they should be collected in considerable numbers, that their dazzling effect may be as impressive as possible. Many gardenless castles and country-houses on the Continent would lose their semi-barbarous and semi-ruinous appearance, by employing these birds as an embellishment. For they are not less pleasing to the eye than the stork, which is so much encouraged; and they would render in great measure the same services, with the advantage of remaining at home all the year round. It should be understood, however, that no vineyard be at hand. The greenness and sourness of the Grapes, which caused the fox to refrain, would be but a weak argument with them. A peacock that was suffered to go at large in the dirty back-lanes of a town struck me as being more out of its place than any I had ever seen.

A charming instance of the ornamental use of pea-fowl was to be seen a dozen years ago (and perhaps may still) at the Palace of Caserta, near Naples. There is an English garden,* admirably laid out, on a slope commanding the most enchanting views. In one part is a small piece of water, in the midst of which is an island planted with trees and shrubs, and inhabited by numerous pea-fowl.† Of course they must be pinioned, to prevent their escape. My own birds had no hesitation in flying to and fro, in order to visit an island similarly situated, and which is cultivated as a kitchen garden. People may talk about humming-birds, sun-birds, birds of paradise, or any other feathered beauty, but nothing can equal the magnificence of a peacock in full flight, sweeping across a sheet of water, or glancing in the sunbeams among the topmost branches of a Fir tree.

A second objection to them is their alleged wanton destructiveness towards the young of other poultry,‡ a propensity respecting which I have heard and read § such contradictory statements, that they can only be reconciled by the hypothesis that the peacock becomes more cruel as he advances in life, and also that males of this species vary in disposition; that, as the human race has produced individuals of such diverse tempers, so the peacock family includes individuals of different degrees of bloodthirstiness. My own bird, three years old, was perfectly inoffensive; others have been mentioned to me equally pacific. On the other hand, the list of murders undoubtedly committed is long and heavy. The same friend says, "I have known them kill from 12 to 20 ducklings, say from a week to a fortnight old, during one day; but if they came across a brood of young chicks or ducklings a few days old, they would destroy the whole of them." And yet, in the face of all this condemnatory evidence, we now and then see a favourite bird, with neck of lapis lazuli, back of emerald, wings of tortoiseshell, and tail outshining the rainbow, in some old-fashioned farm-yard, the pet of his mistress, who is perhaps the most successful poultry woman in the neighbourhood, and whose stock shows no sign of any murderous thinning. The peahen, who, when she has eggs or young, seems really a more guilty party, is not in general even suspected. So true is it that one man may steal a horse while another must not look over the hedge.

The hen does not lay till her third summer; but she then seems to have an instinctive fear of her mate, manifested by the secresy with which she selects the place for her nest; nor, if the eggs are disturbed, will she go there again. She lays from four or five to seven. If these are taken, she will frequently lay a second time during the summer, and the plan is to be recommended to those who are anxious to increase their stock. She sits from 27 to 29 days. A common hen will hatch and rear the young; but the same objection lies against her performing that office, except in very fine long summers, for the pea-fowl, as for turkeys; namely, that the poults require to be brooded longer than the hen is able conveniently to do so. A turkey will prove a much better foster-mother in every respect. The peahen should of course be permitted to take charge of one set of eggs. Even without such assistance she will be tolerably successful. Those students of poultry who have carefully read my articles on the guinea-fowl and the turkey, and industriously carried them into practice, will have no difficulty in rearing pea-chicks. A friend writes, "As soon as the young could be decoyed into a shed or house, we always caught them and gave to each poult three black peppercorns." I only mention the practice for the sake of condemning it; and must most decidedly, though deferentially, recommend that it be omitted, according to my theory of poultry rearing. They are engaging little things, most elegant in appearance, and very tame and confident. I have heard of one reared under a hen, that would sit upon the hand to peck flies from a window. The same wise provision of nature already noticed in the guinea-fowl (p. 626), is evinced in a still greater degree in the little pea-chicks. Their native jungle, tall, dense, sometimes impervious, swarming with reptile, quadruped, and even insect enemies, would be a most dangerous habitation for a little tender thing that could run and squat merely. Accordingly they escape from the egg with their quill feathers very highly developed. In three days they will fly up and perch upon any thing 3 feet high; in a fortnight they will roost on trees or the tops of sheds, and at a month or six weeks you would see them on the ridge of a barn, if there were any intermediate low stables or other building that would help them to mount from one to the other. It must be a clever snake that would get at the cunning little rogues when they were once perched on the feathery branch of a Bamboo. Old birds received from a distance are difficult to settle in a new home. Housing they do not like, and will scarcely bear. Most liberal feeding is the best bond of attachment, but even with that they will unexpectedly be off, and will perhaps be stopped on the high road, like other suspicious vagrants. Were I myself to recommend keeping them, I would procure a sitting of eggs, place them under a turkey hen, and have the pleasure of watching their whole progress, literally *ab ovo*. Those who are impatient to have a full-grown stock, should still select birds not more than three years old.

The peacock is capable of considerable attachment to man; and, as might be expected of a bird that has been reared in captivity for several thousand years, may be rendered very tame. By regular feeding he may easily be made to take his place as a liveried attendant at the front door, to show himself and await his meal with great punctuality. My own bird would come instantly to my call, and not only eat from my hand, but, if I held a piece of bread as high in the air as I could reach, would fly from the ground to take it. The hen was more timid, and could never be induced to give such proofs of confidence. She occasionally erects her tail like the hen turkey, nor does such display appear to denote the absence of any feminine virtue.

The natural disposition of the peacock is selfish and gluttonous, and it is only by pampering this weakness that he can be persuaded into obedience and attachment. He is vain, and at the same time ungallant. He is far from manifesting the politeness and attention which the common cock shows towards his mates. The peacock will greedily snatch from the mouth of his hens those titbits and delicate morsels which the cock would either share with his favourites or yield to them entirely. The peahen, in return, cares less for her lord and master, and is more independent of him when once her amorous inclinations have been indulged. She then regards the display of his tail, his puffings and struttings, and all the rattling of his quills, with the coolest indifference. Nor does *he* seem to care much about *her* admiration, or to make all this exhibition of his attractions to secure *her* notice, but is content if he can get some astonished hen, or silly, bewildered duck, up a corner, to wonder what all this fuss is about. Like other vain coxcombs, he expects the lady to make the first advances. Although occasionally cruel, the peacock is shy of fighting, particularly when in full plumage; nor do they so frequently engage with each other as with birds of a different species, such as drakes, cocks, &c. One, out of feather, was seen to keep up a three hours' struggle with a musk drake; had it been in full plumage, it would not have shown fight at all. Their probable term of life is 18 or 20 years. They may be eaten as poults at 9 months old. If fatted, they should be shut up together with any turkeys that they may have been in the habit of associating with, and fed exactly the same. If confined alone, they pine. They are, however, an excellent viand at a much more advanced age, and without any fatting, provided they have been well fed, and killed at a proper season (that is, when they are not renewing their plumage), and are in the larder hung up a sufficient time before cooking. A disregard to these points has probably led to their being so little appreciated as a dainty dish. Shotten herring, black salmon, pork in the dog days, and illegal oysters, might, in a similar manner, give a bad repute to other good things, did we not manage them better. When dressed for table, they should be larded over the breast, covered with paper, roasted at a gentle fire, and served with bread-sauce and brown gravy, exactly like partridges or pheasants. When moulting, extra diet and varieties of food, including Hemp-seed and animal substances, is most desirable.

In general the peahen makes her nest on the bare ground, amongst Nettles or rank weeds; sometimes she chooses the shelter of a young Fir tree. The egg very much resembles that of the ostrich in miniature, being smooth but indented all over with little dimples, as if pricked with a strong pin. It is somewhat bigger than a turkey's egg, bulging considerably at the larger end, of a dull yellowish white, and occasionally, but not always, spotted, or rather freckled, with a few small reddish brown marks. The new hatched chicks are striped on the head and neck with alternate stripes of dingy yellow and pale brown; the legs are of a dusky yellowish tinge.

There are two varieties of the common pea-fowl, namely, the pied and the white. The first has irregular patches of white about it, like the pied guinea fowl, the remainder of the plumage resembling the original sort. The white have the ocellated spots on the tail faintly visible. These last are tender, and are much prized by those who prefer variety to real beauty. They are occasionally produced by birds of the common kind in cases where no intercourse with other white birds can have taken place. In one instance, in the same brood, whose parents were both of the usual colours, there were two of the common sort, and one white cock and one white hen.

Nervous and fastidious persons object to their cry or call, which, indeed, is not melodious; and a strip of woollen cloth is sometimes hung round their neck in the fashion of a collar, to silence them; the appendage, however, is anything but an ornament, and the effect is not permanent. But I must take it to be an unhealthy symptom, when any natural or rural sound is displeasing to the ear. The cawing of rooks, the pattering of rain, the hum of bees, the pealing thunder, the laughter of children, the breezy rustling of a grove, the lashing of wintry and the sighing of summer waves, have all been felt by listeners in their happiest moods to be most musical — to have an effect more touching than any music; and should, therefore, be welcome, instead of distasteful, to the healthy sense. And even the screams of peafowl, ringing from a distance on a summer's evening, will suggest an abundance of images and recollections that cannot fail to interest any but the most dull and unimaginative minds.

The common peacock was, till lately, supposed to be the only species of its genus; but both preserved and living specimens of the Aldrovandine pea-fowl, which for a long while was supposed fabulous, have recently been introduced into this country. But there is also a third sort, which, on account of the confusion of synonyms, has not received from naturalists the attention it deserves. The difficulty has been increased by the conversion of "Japan" into "Japanned" by some writers. Japonensis, or Japonicus, are not, however, synonymous with Javanensis or Javanicus; Java and Japan are countries separated by many hundreds of miles of distance, even by many degrees of longitude and latitude. Yet Sir W. Jardine, in the "Naturalist's Library" gives the Pavo Javanensis as the same as the Japan peacock. His figure represents the Java bird, as also does that in Griffith's edition of Cuvier's "Animal Kingdom," although the title "Japan peacock" is added to it. I am not aware that any figure of the real Japan bird has yet been published. Both Sir W. Jardine, and the late Mr. Bennet, in his "Gardens of the Zoological Society," have so well described and figured the Java species that I need not here particularise its striking peculiarities. Living Japan pea-fowl are now (June, 1848) to be seen in London. In the Zoological Gardens they are labelled "Pavo cristatus," as if they were only a variety of the common sort; but Mr. Hunt, the intelligent and experienced head keeper, considers them as specifically distinct, an opinion which is also strongly maintained by the Messrs. Baker, the eminent dealers in rare birds. It is for naturalists to decide the point; but if the Japan breed be only a variety, it is a very marked and permanent one, not departing from its character for generation after generation. The Japan peacock is somewhat less in size than the common, the white patches of naked skin on the cheeks are smaller, the wings are blue-black edged with metallic green instead of being mottled like tortoise-shell, the imbricated feathers on the back are smaller and less con-

* The gravel for some of the walks was brought from Kensington.

† "Itaque genus alitum nemorosis et parvulis insulis, qualis objicent Italiæ, facillime continetur. Nam quoniam nec sublimiter pétest, nec per longa spatia volitare, tum etiam quia furis, ac noxiorum animalium rapinæ metus non est, sine custode tuto vagatur, majoremque pabuli partem sibi acquirit. Fœminæ quidem suâ sponte tanquam servitio liberatæ, studiosius pullos enutriunt: nec curator aliud facere debet, quam ut diei certo tempore, signo dato, juxta villam gregem convocet, et exiguum hordei concurrentibus objiciat, ut nec avis esuriat, et numerus advenientium recognoscatur. Sed hujus possessionis rara conditio est." Translation: "Therefore this genus of fowls is most easily kept in the small woody islands which lie before Italy. For since they can neither fly very high nor for a long distance, and since there is no fear of loss by thieves or vermin, they can safely go at large without a keeper, and find themselves the greater part of their food. The peahens, indeed, as if freed from slavery, will of their own accord feed their young with greater care; nor should their keeper do more than call the flock towards the farm at a certain time of the day by a known signal, and throw them a little Barley as they assemble, so that the birds may not be famished, and their number may be told. But the opportunity of using this kind of landed property is rare."—*Columella*, lib. viii., cap. xi. This is very like our pheasantries in Alder and Osier carrs. The whole chapter is curious and worth reading.

‡ Columella gives a fanciful reason for keeping hens that have families of chickens from coming near peahens that have broods, which relieves the latter at least from all blame. "Satis autem convenit inter auctores, non debere alias gallinas, quæ pullos sui generis educant, in eodem loco pasci. Nam cum conspexerunt pavoninam prolem, suos pullos diligere desinunt et immaturos reliquunt, perosæ videlicet quod nec magnitudine, nec specie pavoni pares sint." "Authors are sufficiently agreed that other hens, which are rearing young of their own kind, ought not to feed in the same place. For after they have seen the brood of the peafowl they cease to cherish their own, and desert them while still immature, clearly hating them because neither in size nor beauty are they comparable to the peacock."—Book 8, chap 11.

§ See the "Penny Cyclopædia," article Pavonidæ:—"I have never kept pea-fowl, nor seen chicks just hatched, but have witnessed the abominable cruelty of the father of the family in knocking a whole brood of them on the head, when nearly a quarter grown."—*H. H.*

spicuous, and the whole colouring of the bird is of a darker tone. The hen, on the contrary, is much lighter than the common sort, with a tendency to spangled perhaps even ocellated plumage all over her body, and she has scarcely any glistening feathers on the neck; her size is also inferior, and her proportions more slender.

The records of the introduction of the Java pea fowl into Europe are clear and satisfactory; not so with respect to the Japan sort. By some the credit of the importation has been given to Lord Amherst. Sir Robert Heron, quoted in the "Penny Cyclopædia," states, "The japanned breed are, I believe, a variety originating in England. In Lord Brownlow's numerous breed of common, white, and pied, the japanned suddenly, in my memory, appeared amongst them. The same thing happened in Sir J. Trevelyan's flock of entirely the common sort; also in a breed of common and pied, given by Lady Chatham to Mr. Thornton; and in both cases to the extinction of the previously existing breed." (Zool. Proc., 1835.) This would appear conclusive did we not know the misadventures that have to be encountered by any newly imported rarity in the interval between its arrival in England and its safe delivery into its owner's hands. For instance, at the time when Chrysanthemums were being introduced from China at great trouble and expense, the first known specimen of the paper-white variety, a novelty then, though nearly discarded now, was bought in Covent-garden market for 6*d.*; and the unique ocellated turkey, the glory of the Paris Museum, after surviving the voyage from the West Indies, was killed on the Thames by some one who, doubtless, intended to pluck and roast it. I must, therefore, attribute the sudden appearance of the Japan Pea-fowl to other causes than to a mere freak of Nature.

The common kind has, probably, been tamed and domesticated ever since there have existed human eyes to admire it. Here is one tradition of its transmission to us:—

"Λεγέται δὲ ὁ ταὼς ἐκ βαρβάρων εἰς Ἕλληνας κομισθῆναι. Καὶ χρόνου πολλοῦ σπάνιος ὢν, εἶτα ἐδείκνυτο τῶν ἀνθρώπων τοῖς φιλοκάλοις μισθοῦ, καὶ Ἀθήνησί γε ταῖς νουμηνίαις ἐδέχοντο καὶ ἄνδρας καὶ γυναῖκας ἐπὶ τὴν ἱστορίαν αὐτῶν, καὶ τὴν θεαν πρόσοδον εἶχον· ἐτιμῶντο δὲ τὸν ἄρρενα καὶ τὸν θῆλυν δραχμῶν χιλίων, ὡς Ἀντιφῶν ἐν τῷ πρὸς Ἐρασίστρατον λογῳ φησίν."—*Ælian, Lib. V. c.* 21.

"The pea fowl is said to have been brought from the barbarians into Greece; and being for a long time rare, it was then exhibited for money to the admirers of beauty; and at Athens both men and women were admitted to examine it every new moon, and a profit was made of the show, and, as Antiphon says in his speech against Eristratus, the male and female were valued at 1000 drachmæ"—which, if we take the drachma at 7½*d.*, is 31*l.* 5*s.* the pair, a high price certainly, but not more than a pair of very rare birds, such as the ocellated turkey, or the apteryx, alive and in health, would fetch now in England, at the first bidding.

The remarkable point in this account is that the creature was not gratuitously exhibited, like the triumphal spoils of conquered nations, but was made a wild beast show, μισθοῦ, for a consideration, and as a matter of gain. One would like to know the price of admission, what sort of brass band performed before the doors, and whether the pictorial representations hung outside at all rivalled the brilliant display now made by Mr. Wombwell.—*D.*

LETTERS ON RAILWAYS AND AGRICULTURE,

IN LINCOLNSHIRE.—No. VI.

(*Continued from p.* 408.)

The labour will consist of a foreman, groom, shepherd, 18 men, 6 or 7 boys or women, beside harvesters in season, and 18 horses. It is a vulgar prejudice that our improved system of agriculture has diminished the demand for labour: it has not done so, although the employment of one implement may dispense with the services of one particular class of men. Mr. Torr observed, "I employ more men per acre than my father, and he employed more men than my grandfather." These men, according to the North Lincolnshire custom, are all fed on the premises, and most of the single ones live there too, at the foreman's house. The breakfast consists of bread and milk, with some bacon; the dinner, of hot beef, mutton, and bacon, alternately, with vegetables and bread and cheese; the supper of bread and cheese, and I saw more than once some very comfortable cold remains of dinner produced in addition for the boys. They get for drink a pint of beer daily, and very good beer too, the same that the farmer drinks himself. They do credit to their keep, and are all well clothed. A number of cottages are attached to most farms, in which the married labourers live. I saw some very old men living in these cottages, past work, but hobbling about doing little jobs of mending and watching. There are men who have been 10, 25, and 32 years in the service of the same family. The farm buildings at Aylsby were not completed, but I believe the general idea resembles the dairy farm, arranged by Mr. Torr at Liscard, described in the "Farmer's Magazine" for May, but on a less expensive scale, and with a view to a breeding and fattening establishment, rather than an extensive dairy.

That farm at Liscard is indeed a model farm; there the Chaff-cutting machine, on the modern principle of feeding, is constantly at work. Green crops, as well as hay and straw, are reduced into chaff for the horses and cattle, with Grass or Cover; sometimes of straw being added to make it eat easily. The boy or the cows is all steamed, by which it is found that the quantity and quality of their milk is improved. The churn, of wood, with two paddle-heels, revolving in opposite directions, is put in motion by steam power. This churn seldom fails to bring butter of the best manufacture within a very short space of time. On the occasion of a grand trial of churns between those of various descriptions, which took place at Liscard some months back, a churn on the principle reduced 80 gallons of cream into fine butter in 10 seconds less than 10 minutes. One of the [illegible] crowd of dairy-women, after handling the butter and finding it firm and fine in quality, declared it would be melted before morning—hinting at whichever [illegible] know that in many counties the empirical system still prevails over the butter churn, but even there it is destined to be defeated by mechanism and science.

Among the stock were some red and short-horn bull calves; one of the late Lord Spencer's breed a perfect picture. They get oilcake as soon as they begin to nibble, even while sucking; by this means each cow will support two calves, and the milk of one is saved for dairy purposes, and the young stock are kept in beautiful condition and brought to early maturity, on the same principle that thorough-bred stock fed on Oats in the same way are not only full grown at a period when coarser bred animals are still in all the shapelessness of coltism, but also attain a size and power, not to be found in the original stock—the Arab. So true is the maxim applied to the horse, but applicable to all animals, that "half the goodness goes in at the mouth." On the same principle, the ewes with twin lambs are drafted into separate fields, in order that they may have an extra allowance of oilcake. Among the 30 pure Leicester ewes I before mentioned are several approaching with marvellous exactness to the beau ideal of the breeder. Apropos of bulls, at the sale of Lord Spencer's short horn stock, Mr. Torr agreed with two farming friends to buy the best bull; at 460 guineas all competitors had dropped off, except M. St. Marie, the agent of the French Government; at 490 guineas the bull was knocked down to the farmers. The sale over, Lord Ducie began quizzing the trio, asking "How long is it since it took three Englishmen to beat one Frenchman?" "Let me put it another way, my lord," replied one of them, "what do you think of three tenant farmers beating the whole French Government?" In that answer lies the secret of our successes. There used to be a proverb, "Dutch children make what English break." In this country the people execute themselves what foreign governments lose time and money in planning. If we had the punishment of a Government Agricultural Board inflicted on us, with a silk manufacturer as its head by a dandy *attaché* at the head of it, we might expect regulations as disastrous to profitable investment as those which the deformed railway Commission has inflicted on the railway interest.

Among the objects most worthy of our agriculturists' attention are compost sheds; a cesspool pit, roofed in, with walls on three sides. In this kind of shed manure may be economically manufactured, with as much industry and care as on a Flemish farm. These kind of sheds are kept constantly filled with vegetable and animal refuse of all kinds, amongst which is mixed from time to time a bag of guano, to promote the decomposing fermentation; with the aid of liquid manure the mass is very soon converted into a highly exciting compost, and conveyed away either for immediate application, or to be preserved in a casing of soil, if no crop or ground be ready to receive it. Thus the manufacture is constantly going on, and guano, the most costly of imported fertilisers, is made to multiply its own peculiar properties to an incalculable amount. When guano was first introduced, many suffered severely in pocket by applying it to unsuitable crops and in excessive quantities, but the comparison of experiments effected by the reports published in the "Transactions of the Royal Agricultural Association," have given us the true value of this import, and this quality of setting decomposition rapidly afoot is certainly not its least valuable property; for economy in the liberal application of manure is certainly one of the first principles of successful farming. Some exceeding valuable and thoroughly practical information on the manufacture of manures is contained in a recently published work, "The Parson, the Pen, and the Pencil," in which the Rev. G. Musgrave gives a minute account of agriculture in Normandy. The manufacture of manures from materials produced at home is one of the processes in which the Flemish and French agriculturists excel us.

Great results may be anticipated from the introduction of artificial manures, by means of the Lincolnshire railways, which intersecting and communicating as they do with a series of populous towns, tap as it were the fountain heads of fertilisation. Hitherto very little town manure has been conveyed by railway. There are practical difficulties in the way of moving about a fetid decomposing mass of horse litter or night-soil. There are difficulties in the loading and unloading, and railway companies can only take charge of such unpleasant loads by reserving special trucks for the service. There has seldom been sufficient co-operation among the farmers of any one district to make such arrangements remunerative. These objections do not, of course, apply to lime, chalk, guano in bags, rape-dust, or even bones properly packed. But I am looking forward with great interest to the experiments making for converting the [illegible]

[illegible]

[illegible]

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tributed at hazard over a farm, half the labour is lost in zigzag journeys backwards and forwards.

I had had some conversation with several very competent parties on the debated question of single-horse carts as against waggons; the truth seems to be, that for taking and discharging a load on the farm, the light single-horse cart answers best, but when you have to send a bulky load, as of straw or brushwood, a considerable distance, you require something more capacious. I am not sure that the principle of the long light skeleton cart in use on the continent might not be adopted with advantage in large establishments—it is cheap, light, strong, and gives very little dead weight to the load. Could not an economical double cart be invented on the principle of the Duke of Wellington's carriage, which combines a Stanhope, a cab, and a phaeton?

Farmers are beginning now to imitate with advantage the orderly and economical arrangements of manufacturers, finding that, like manufacturers, the great source of profit lies not in a stint of labour, but in keeping labour constantly and usefully employed. Our amateur agriculturists generally eat up their profits by an injudicious outlay of capital in buildings and implements, which might have been profitably laid out on the same estate in other ways. As for instance in huge granaries and stores for crops, which might have been unexpensively and safely preserved, either in the open air or in a slight open shed, while the cost might have been more profitably employed in building feeding sheds, for if the farmer can only raise or buy feed on moderate terms, between the price of meat and the manure produced he will find fat cattle the safest investments.

In the same way it pays to put your cart mares to a good stallion, your cows and ewes to a good bull and ram, if you mean to rear the stock; but it does not pay on a farm of 200 or 300 acres to be giving fancy prices for cart-horses and cows, any more than it would answer the purpose of a man not connected with the turf to be breeding or buying blood stock.

What I saw on the well-regulated and well-planned farms of this district convinced me that large as are the exports made by Lincolnshire to less fertile and less cultivated districts of England, these exports will be greatly increased by the railway communication which the farmers are ripe and ready to use. To the advantages in the distribution of manures, coal, timber, and draining tiles, I have already adverted; but with respect to Pulse imported, and coarse grain exported, there is no doubt that a very important change will be produced.

Under the new tariff our more enterprising agriculturists have been experimenting on divers foreign kinds of grain and pulse for feeding stock. Egyptian Beans have been found profitable. It is said that an almost unlimited supply may be obtained. Already cargoes have been imported into Hull, but the greater quantity comes into Liverpool, which is at present too far off to be able to send to Lincolnshire. The opening of the Manchester, Sheffield, and Lincolnshire Railway will have a double effect in connecting the Mersey and the Humber, and in enabling the imports of Hull to be dispersed through Lincolnshire, as well as in giving an importance to Great Grimsby, which will tempt Levant vessels by the hope of a return cargo of Manchester, Sheffield, and Leeds goods—to bring Egyptian pulse and grain, there to be distributed by rail throughout the length and breadth of this isolated district.

When the new docks of Great Grimsby open, the advantages for North Sea and coasting trade will make that port the great market town—the Hull, in fact, of the district. A good deal of the earliest British grain requires to be mixed with hard foreign to make it grind well. The double road to London as well as to Manchester, opened by the Lincolnshire Railway, will attract many cargoes. There are considerable expenses in moving Wheat from one place to another. It must be warehoused, and can only be sold through a factor, loaded with expenses of commission. But when the docks are open to the public trade, and the railways open to London, Sheffield, and Manchester, corn-mills will be established on a large scale. The Wheat now sold in half-a-dozen markets will converge there, and reduced into flour, can be sold by sample in the furthest parts of the kingdom. The flour-merchant, or even the farmer, may take a contract with an hospital, a workhouse, or a great baker, in any of our principal towns, because able to calculate exactly the time and expense of delivering his contract. Within carting distance, the farmer will send his Wheat to the mills at Grimsby, the cart bringing back coals, oilcake, guano, timber, or town manure, as required. Where beyond carting distance, the loaded vehicle will be sent by rail on a truck, and drawn by a hired horse the short distance between the railway station and the market-place. In this way one horse would convey many carts, and the day's labour of some dozen teams would be saved. But this suggestion involves a question of railway arrangements and rates, which I must treat more at length when I have ended my tour, and begin to consider the general results.

Once more in the saddle, a few strides carried me within the boundaries of the Wold country, the country which, if our landed aristocracy had confined their pleasures to the court and city, would have been still wild moorland. In leaving the farms I had examined, taking them as a fair example of the best style of Lincolnshire clay farming in North Lincolnshire, the objects aimed at seemed to be—

1. A perfect system of drainage, for both arable and pasture land.

2. A complete pulverisation of the arable land, by draining, ploughing, subsoil ploughing, harrowing, scarifying, &c.

3. The maintaining of all growing crops as free from weeds as a garden.

4. An ample, not an unlimited distribution of every kind of manure over every part of the land, judiciously giving each crop its suitable nutriment. With this view a liberal investment in foreign manures, and a careful husbanding of articles on the farm suitable for turning into manure.

5. With the same view, the maintenance of a large head of stock, kept constantly in good condition by oil-cake, pulse, and grain, as well as roots.

6. An arrangement of farm buildings, so as to manufacture and store the greatest quantity at the least possible expenditure of labour.

7. The arrangement of the fields composing the farm, with the same view.

8. As the result of these preparations, the maintenance of the largest head of stock of the breeds arriving earliest at maturity, and the production of the greatest quantity of produce which the soil, under that climate, can possibly produce.

The success of these operations rests upon a minute attention and economy in carrying out the details of a plan founded on the principle of securing very large returns by a very large outlay of capital in stock, manure, implements, and labour of the best kind. The elephant-like capability of the railroad to rive a rock or pick up a pin, to convey the whole produce of a farm or deliver a single ram, will be found a powerful assistant for future improvements.

(To be continued.)

Home Correspondence.

Management of Calves.—In your Paper of the 3d June there is a paper on the management of calves, very good as far as it goes, but as it is to give advice to a young farmer, this may also help him. The paper goes on to state that calves should be well kept, and nothing better to begin with than mother's milk, "but no one can afford to give a cow's keep for a calf's growth." Now I have some doubt of this in many localities, where milk cannot be sold, especially as I find that the calves get on so much faster in the second four months (say from four to eight months old) than any other time while suckling. I suckle all my calves as a breeder of breeding stock, but that is of no consequence. One of my calves, an average one, choked on a Turnip when 8 months and 17 days old, just taken from its mother some 10 days before; it dropped down at once, but we had it bled, skinned, and clean. It weighed—Beef (or veal), 3 cwt. and 16 lbs.; tallow, 13¼ lbs.; hide, 44 lbs. Now would not this at beef or butcher's price pay a cow's keep? and would not such an animal if kept well up afterwards grow faster than one half starved, or kept alive on milk, &c.?—*Anonymous.*

Farm Accounts.—I was not aware till my attention was drawn to it by a neighbour that an enquiry had been made by a correspondent of your Journal for an account of my plan of farm accounts, or the application should have been attended to sooner. I now send you, for the information of your correspondent in page 279, No. 17, a copy of one month's entries in my farm ledger, and of one year's abstracts, in which that month's entries are shown, with the account of the month, completing the series; any person at all familiar with accounts will, I think, readily understand these forms. In addition, and for the rough material of these abstracts, there is, of course, a daily waste book, in which every day's receipts and disbursements are noted, to be abstracted at the end of the month into the accompanying forms, which exhibit alike every item by itself, the totals of the several heads under which the different items are classed, and the summary of all, both monthly and yearly. The account current shows how money matters stand each month between me and my manager, the totals and references to the pages of the ledger pointing immediately to any particulars I require to know.

Farm Receipts—1847.

September.	Dairy.	Poultry and Eggs.	Live Stock.	Corn.	Hay and Straw.	Sundries.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Supplies to house	2 11 9	1 6 0	...	3 2 6	...	...	7 0 3
Supplies to stable	...	...	...	1 8 0	3 8 3	...	4 16 3
Sold 5½ lb butter	2 19 9½	...	...	...	...	...	2 19 9½
Sold skim milk	0 6 1	...	...	...	...	...	0 6 1
Sold eggs	0 8 0	...	...	...	...	...	0 8 0
Mr. Wilkinson 2 sacks of Wheat	...	...	...	3 12 6	...	...	3 12 6
For small pig	...	...	0 11 0	...	...	...	0 11 0
Potatoes	...	...	...	...	...	1 14 0	1 14 0
Mr. Mews, 4 weeks rent	...	...	...	...	...	0 8 0	0 8 0
Totals	5 5 7½	1 6 0	0 11 0	8 3 0	3 8 3	2 2 0	21 15 10½

Farm Payments—1847.

September.	Labour.	Live Stock.	Implements.	Buildings.	Seeds and Grain.	Sundries.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Wm. Mews, 4 weeks	3 0 0	...	...	...	...	...	3 0 0
Wm. Childs, 4 weeks	0 18 0	...	...	...	...	...	0 18 0
Meads, 21 days	2 12 6	...	...	...	...	...	2 12 6
Mrs. Mews, 3 days	0 3 9	...	...	...	...	...	0 3 9
Boy for weeding	0 1 6	...	...	...	...	...	0 1 6
George Hares, 3 weeks	0 7 6	...	...	...	...	...	0 7 6
Hoeing Turnips	0 17 9	...	...	...	...	...	0 17 9
Meads, catching rats and moles	...	...	...	...	...	...	...
Meads, cutting one load of hay	...	...	...	...	...	0 1 6	0 1 6
6 bush. baskets 6s., piece of rope 10d.	...	0 6 10	...	...	...	...	0 6 10
Mending harness and 2 new straps	...	0 6 6	...	...	...	...	0 6 6
Grains 18s. 10d., Kingston-bridge 8d.	...	...	...	...	...	0 19 6	0 19 6
Catching 5 scores sparrows	...	...	...	...	...	2 3 0	2 3 0
Grinding 2 qrs. of Wheat	...	...	...	...	...	0 2 6	0 2 6
Sow and expense of fetching	...	...	...	...	...	0 4 0	0 4 0
Mr. Fuller's bill (builder)	2 15 10	...	...	...	...	...	2 15 10
Totals	8 1 0	2 15 10	0 13 4	3 17 9	...	3 12 0	18 19 11

Farm Receipts—1847.

Year's totals	Page.	Dairy.	Poultry and Eggs.	Live Stock.	Corn.	Hay & Straw.	Sundries.	Total.
		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
68 14 6	11. Jan.....	5 14 8½	0 8 0	23 1 10	3 12 0	0 1 8	1 8 4½	34 6 7
	11. Feb. ...	4 12 7	1 9 2	9 1 4	3 17 0	0 0 0	0 15 0	19 15 1
	11. March...	4 17 2½	1 14 9	6 4 7	8 8 0	21 7 7½	0 6 0	42 18 2
	13. April ...	5 4 1	1 12 0	8 12 0	2 14 0	0 7 6	4 5 0	22 14 7
	13. May ...	5 17 8½	1 6 0	6 19 0	2 0 0	0 0 0	0 10 0	16 12 8½
	13. June ...	6 14 1½	1 14 11	7 1 3	11 16 0	8 15 11½	0 13 0	36 15 3
	15. July.....	7 7 5	4 6 4	1 7 0	16 2 0	0 0 0	0 14 0	29 16 9
	15. August .	5 12 0¼	2 4 0	9 13 9	6 8 6	12 6 3	14 0 0	50 4 6¾
	17. Sept. ...	6 5 7¾	1 6 0	0 11 0	8 3 0	3 8 3	2 2 0	£21 15 10¾
	17. October	4 17 4½	0 13 6	2 14 0	6 8 6	1 13 0	0 10 0	16 16 4½
	19. Nov. ...	5 3 7	2 1 6	19 4 1½	8 13 9	7 7 9	17 10 6	60 1 2¾
	19. Dec.....	6 8 0½	1 13 6	30 0 3	10 9 0	14 19 0	12 16 6	76 6 3½
								£428 3 5

Farm Payments—1847.

Year's totals	Page.	Sundries.	Labour.	Live Stock.	Implements.	Buildings.	Seeds and Grain.	Total.
		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
32 16 8	1. Jan.....	1 3 4	10 9 2½	...	0 7 0	...	0 3 4	11 19 6½
	12. Feb. ...	0 5 3	9 2 4½	5 0 11	...	...	0 3 4	11 11 10½
	14. March...	0 18 7	10 17 11	...	...	...	...	11 16 6
	14. April ...	1 9 0	14 7 10½	...	...	...	0 14 6	16 5 0½
	16. May.....	0 12 8½	17 15 10	3 8 6	2 2 0	...	...	26 2 0½
	16. June ...	0 18 0½	7 7 3	...	2 5 0	...	...	8 1 9½
	18. July ...	2 12 8½	21 4 1	10 ... 0	...	...	...	42 0 3
	18. August .	10 5 8	8 1 0	2 15 10	0 15 4	3 17 9	...	18 19 11
	20. Sept. ...	3 12 0	7 7 9	...	...	...	...	11 19 9
	20. October	2 4 3	12 19 5½	33 11 11	4 3 8	...	48 15 7¼	
	22. Nov. ...	1 13 6	7 10 5	7 1 5	13 6 7	7 13 1	14 7 7	20 9 0
	22. Dec. ...	3 13 4	19 11 7½	...	...	Rent and Taxes.....	...	58 1 2¾
								140 0 0
								£432 19 8

Monthly Accounts Current.

	£	s.	d.
September. Farm Receipts ...	61	10	7
Balance forward ...	21	15	10¼
	61	13	10
	£83	9	8¼

	£	s.	d.
Balance forward ...	21	15	10¼
September Farm Payments ...	17	2	8¼
" do. ...	18	19	11
Gurdon do. ...	47	7	1
	£85	9	8¼

—*Suburban.*

Double Cropping.—It is a fearful thing to come forth against a theory supported in part at least by facts, especially the facts of a friend, and that friend, Richard Pigott of Stoke Ferry. However, he and I know each other too well not to be fully aware that our

mutual object is truth; and though in farming as in more important matters, we may travel by different roads, yet the point we would attain being the same, we may deviate a little in our course thither without fear of falling out by the way. I admit the partial success of the system of double and treble cropping, as detailed by my worthy friend, and do not for a moment question the correctness of his statement in a late number; still, even in the face of this, I do question the soundness of the practice of double cropping, for if the drill system is to be carried out in its integrity upon the principles so wisely laid down by its great founder, Jethro Tull, it must have fair play. I mean, the intervals between the rows should be left clear for the admission of the horse-hoe, and the rows themselves should not be crowded with two or more species of plants, each sponging upon the other for its nutriment, and gaining, if a livelihood at all, what can hardly be called an honest one. It is neither more nor less than the game of beggar my neighbour, at which I suspect there will be more losers than winners. "But," says my friend, "if I can obtain a good crop of Beet, in addition to a good crop of Cabbages, surely the Beet is so much into pocket." I am not so sure of this. The Cabbages, however good, would have been better without the Beet, and certainly the Beet would have been better without the Cabbages; for of all cattle crops this is the most exhausting, throwing out their roots and fibres like so many Lilliputian Ash trees, and appropriating to themselves the lion's share of the soil. So of the Potatoes planted between the rows of Cabbages; they may be, and in one sense undoubtedly are middling, but if ever so good, would have been better by themselves; at all events they prevent necessary and efficient hoeing by the only effective implement applicable to the drill husbandry, the horse-hoe, and that is an evil of no small magnitude. It is very easy to talk of drawing the Cabbages, or of removing either of the other crops during their growth; and I admit that in a garden on a very small scale the thing may be done with impunity, but where a cart is necessary, it cannot be done without additional expense in manual labour; and I will add, without considerable injury to the growing crops. Depend upon it, a separate plot devoted to any particular crop, whether it be Cabbages, Beet, or Potatoes, will in the long run be more profitable, and the land in better condition, than if crowded with a conglomeration of roots, each requiring its own peculiar mode of management; this, in musical phraseology, is cropping with variations. To continue the metaphor, such a combination of crops always reminds me of a person who attempts to play on every instrument, and per consequence plays none well.—*Samuel Taylor, Gloucester.*

Unfermented Bread.—As I see no one has answered the question of your correspondent "J. S. H.," and as I and the whole of my family have lived upon the unfermented bread (in preference to any other) for the last three or four years, perhaps I can answer it satisfactorily. I will state our present method of making it (after many failures). We now use the quantity of soda and acid recommended by Dr. Darling in his pamphlet, only we use the undiluted acid, which we find more convenient and cheaper, and of which, to 1½ lb. of flour we put 5 drachms, with the addition of one good wine-glass of ale, which greatly improves the bread. The proper weights and graduated glass can be purchased at Taylor and Walton's in Gower-street. This bread is best on the day it is baked, though it will keep any time, and it should be baked in earthenware pans. We have them of the same shape as baking tins, viz., square.—*Leonard Barber, Pentonville.*

Has the Adder any Cry?—The other evening, when walking near a young plantation, I heard a peculiar cry,—a loud singing chirrup: something between the "song" of a cricket, and of a grasshopper; but shriller, and louder, than either. The country people said it was the cry of the adder.—Were they correct?—*J. L.*

Swede Turnips.—Sown a month and three weeks since, are almost entirely destroyed by the fly. The ground must now be re-sown with other kinds. Same complaint everywhere in this part of the country. This spring, three-fourths of my Swedes were rotten by the end of February. In August last, on cutting them across, in many of them I observed incipient disease—black streaks in some—in others soft, frosted-looking spots inside:—externally, they appeared quite sound, up to the time of being taken out of the ground, in November.—In August being on a visit to a friend, about 10 miles off, I examined his Swedes, but did not find one unsound Turnip; these kept perfectly sound, till the middle of May! Mine is a light Turnip soil, on an open gravelly bottom. The sound Turnips were on a stronger soil, with a considerable admixture of clay.—*J. L., Dumfriesshire.*

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A SPECIAL COUNCIL was held at the Society's House in Hanover-square, on Friday, the 16th of June. Present: the Earl of YARBOROUGH, President, in the Chair; Sir M. W. Ridley, Bart.; Sir John V. B. Johnstone, Bart., M.P.; Colonel Austen; Mr. Raymond Barker; Colonel Challoner; Mr. Brandreth Gibbs; and Mr. Henry Wilson.

The PRESIDENT having communicated the result of his conference, as requested by the Council, with the Chairman of the London and North-Western Railway Company; and Sir John Johnstone having submitted to the Council the Report of the General York Committee held that day (at which, in addition to himself, Mr. Barker, Colonel Challoner, Mr. Druce, Mr. Gibbs, Mr. Hudson, M.P., and Mr. Kinder, had been present); the following points were confirmed and adopted by the Council.

1. That the Tender of Mr. Abraham Braithwaite, of the Black Swan Hotel, York, for the supply of the Council Dinner at the ensuing Country Meeting in that city, be accepted.
2. That the Tender of Mr. William Thomas, of St. Leonard's-place, York, for the supply of the Pavilion Dinner, on the same occasion, be accepted.
3. That the recommendations of the Committee respecting the conveyance of live stock and implements, the arrangements for police, and the additional works suggested by them in reference to the completion of the Show-yards, be carried out accordingly.

A WEEKLY COUNCIL was held on Tuesday last, the 20th of June; present, the Earl of YARBOROUGH, President, in the chair; Lord Bridport; Hon. Capt. Dudley Pelham, R.N.; Sir Robert Price, Bart.; Mr. Almack, Mr. Barker, Colonel Challoner, Mr. C. Cure, Mr. Dyer, Capt. Dyott, Mr. Eggar, Capt. Evans, Mr. Fuller, M.P., Mr. Brandreth Gibbs, Mr. Glegg, Mr. H. Hall, Mr. Archer Houblon, Mr. Kinder, Mr. Overman, Mr. Parkins, Prof. Sewell, Mr. Slaney, M.P., Mr. Stansfield, M.P., Mr. T. Turner, Mr. T. R. Tweed, and Prof. Way.

The following new Members were elected:

Marshall, Arthur, Headingley, Leeds
Bromwich, Thomas, Wolston, Coventry
Edmunds, Edmund, Rugby, Warwickshire
Gibert, James, Perry Barr, Staffordshire
Isham, Rev. Robert, Lamport Rectory, Northampton
Littledale, Henry Anthony, Bolton Hall, Clitheroe
Holmes, Rev. John, Brooke Hall, Norwich
Caldecott, William, Frating Lodge, Colchester

The names of eight candidates for election at the next meeting were then read.

CONTRACTS.—The contracts for the Council and Pavilion Dinners at York, having been duly entered into by the Secretary of the Society with the parties whose tenders had been accepted at the previous meeting, were laid before the Council and approved.

DISCUSSION.—Sir JOHN JOHNSTONE having called the attention of the Council to the subject of the practical discussion to take place at the Council Dinner at York, the Council decided on the following terms of the discussion in question; namely,—

"On the Rearing and Management of Cattle from the time of their being dropped to the expiration of the first year: it being proposed that, for general convenience, each gentleman who takes part in such discussion, should not speak more than 15 minutes."

STEWARDS.—Colonel CHALLONER submitted to the notice of the Council his suggestions for facilitating the arrangements of the Stewards, for the York Meeting, in their respective departments. These suggestions were unanimously adopted.

Mr. LUKE HOWARD (the well-known and venerable author of the "Climate of London") presented three parts of his large work, entitled "Barometrographia," exhibiting to the eye, by means of coloured diagrams on a large scale, the variations of the weather in this country from 1815 to 1826.—Mr. Fulbrook communicated a letter on prognostics of weather for the present season.—Mr. H. Strafford, of 3, Camden Villas, Camden-town, presented a copy of the eighth volume of his reprint and continuation of Coates's Herd-Book, illustrated by 13 lithographic portraits from his original drawings of celebrated animals of the Improved Short-horned Breed, and printed with such an economy of type, arrangement, and collateral reference, as to include within less space than that occupied by either of the two preceding volumes, but in type of equal size, no less than 300 additional pedigrees of cows of that breed, and their produce.—Mr. Thomas Turner presented the treatise of his brother Mr. James Turner, V.S., of Regent-street, on the Foot of the Horse, and the One-sided Nailing system of Shoeing, published in 1832, to which he had alluded at the discussion which took place in that subject, on the 10th of May last, on the presentation of a work on the same subject by Mr. Miles of Devonshire. Mr. Turner regarded his brother's work as the original text-book on the subject, and as farther valuable on account of the copious index it contained, adapted for a more extended work. The President, Sir J. Johnstone, and Prof. Sewell favoured the Council with interesting remarks on this subject.—Sir William Hooker favoured the Council with a further supply of the Hordeum cœleste, a skinless Barley forwarded to him from Bombay by the Agro-Horticultural Society of India.—Mr. Fuller, M.P., communicated, on the part of Sir T. F. E. Drake, Bt., the plan he had always found successful in driving away the fly from the young Turnip plant: namely, the application early in the morning, and repeatedly if necessary, of 10 lbs. per acre of Sulphur vivum, to which a mixture of wood ashes and soot is to be added.—Mr. Apsley Pellatt transmitted a specimen of winter Barley grown by him at his farm at Staines, from a few grains, in the first instance presented to him as "Bavarian" Barley.—Capt. Dyott laid before the Council three consecutive draining pipe-tiles, furnished with collars, and 1¾ of an inch in diameter, taken up from a depth of 3 feet in meadow land belonging to Sir John Tyrell, Bart., M.P., in Essex, in consequence of their interior, in the course of 1½ year, having become filled with the mass of a long fibrous root, which entirely impeded the operation of the drains, and caused the water to cease from flowing.

The Council having ordered their thanks to the respective parties who had favoured them with these communications, adjourned over next week (that of Quarter Sessions), to the 4th of July.

Reviews.

On the Preparation of Cooked Food for the Fattening of Cattle. 2d edition. William Blackwood and Sons, Edinburgh and London.

We noticed this little work on its first appearance, and are glad to find that a second edition is required to supply the demand for it. All the information on the subject of cooked food for cattle which the press-cake have supplied, and with which the writer's own observation has furnished him, is presented by it in a well-arranged and easily accessible form. Some new matter has been added to the tract since the first edition, there may not be more than sixpence worth of paper and typography in it, but the information it conveys will be worth much to many a farmer.

We present as a specimen the following statement on the farm practice, as regards cattle feeding, of Wigtonshire.

"*Wigtonshire.*—The Marshall system of feeding was last year very fully discussed among the members of the Rhins Farmers' Club; and has since been tried with decided approval by several enterprising and intelligent farmers. Of late years, few, if any, of the Scottish counties have progressed more rapidly than Wigtonshire in Turnip husbandry, either in point of enlarged breadths, or weight and quality. The examples shown upon the Holm farms of Lord Stair, of Colonel M'Douall, of Logan, and of Sir John M'Taggart, of Ardwell, have no doubt greatly conduced to this beneficial result. Oilcake, along with Turnip, was very generally given through the county several years ago, and a large increase of fat bullocks and sheep was the consequence, for which Glasgow, Liverpool, and Belfast afforded excellent markets.

"It is several years, however, since Colonel M'Douall showed the spirited example of feeding both horses and cattle upon bruised Linseed, mixed with Bean meal or other grain, in preference to oilcake; and we know from good authority—that of Mr. M'Culloch, Colonel M'Douall's factor, himself a leading agriculturist—that the new system has proved its superiority over the old one. On Logan home farm, and Auchness, are to be seen extensive and enlightened improvements in all departments of husbandry,—draining, subsoil-ploughing, the production and application of both solid and liquid manure, the management of Turnip, Carrot, and Mangold Wurzel, and the grazing of prime Galloway cattle, the improved breed of which has for many years been persevered in and promoted at Logan, in a style and with a beneficial result not excelled, if equalled, for that kind of stock, by any other county in the kingdom. That enlightened agriculturist, by proper cultivation, has grown, without deterioration of his land, Flax, principally for its seed, which being prepared by bruising and boiling with the light grains of the farm, with Bean, Barley, and Oat, or Indian meal, and mixed with chaff, cut straw, or hay, has been given in a way similar to the Marshall compound, from 4 to 8 and 12 lbs. being given lukewarm per day to each beast, with two or three feeds of good Turnip in alternate succession. Liquid manure tanks have been constructed on the best principle, and great value is placed at Logan upon their saving and effect. Colonel M'Douall's splendid Galloway oxen, which obtained in successive years high premiums, and still higher encomiums, at the Highland Agricultural Society's shows in Scotland, were so fed. He fed upwards of 145 prime Galloways at Logan last winter, and his factor about half as many at Auchness, fattened in a way similar to the Yorkshire plan; and, when the new onsteading of Logan home farm shall be finished (it will be one of the most extensive and complete in Britain), Colonel M'Douall will have, by his plan, accommodation for feeding 350 cattle each year, and for 50 horses, besides the cows of the home farm. Mr. M'Culloch, Auchness, has pursued the same plan upon his farm adjoining Logan, which has answered well—he being able to feed, with the same quantity of Turnip and fodder, nearly double the number of beasts, and vastly to increase the quantity and value of the manure. His offices are quite complete for the size of his farm, and an example worthy of consideration and imitation by the landlords and factors of the surrounding parishes, or of other counties. He has a liquid tank of the most substantial construction, in the centre of a covered manure-house, into which the whole solid and liquid manure is introduced from all the feeding-houses and stables, and from which evaporation or loss cannot occur.

"Mr. M'Bryde, Balker, and Mr. Gibson, in Beoch, who have extensive stocks of sheep and cattle, dairy, grazing, and feeding stocks, have adopted the Linseed cooked food system, with chaff, ground grain, &c., and find it to be very superior to the oilcake feeding plan. They put up boilers, and got Linseed crushers, and chaff cutters, for the purpose; and now the compound, as manufactured by Mr. Marshall, is given, by these spirited and enlightened practical farmers, to all their cattle, in quantities according to age and class."*

* Mr. Gibson has built a large liquid manure tank, with metal pump, &c., to put all his liquid upon his dunghill and compost, or to take it by a cart and barrel to his green crops and Grass, for cutting and soiling. Since the above was put in type, the writer has had a note from Mr. M'Bryde, in which he expresses himself decidedly in favour of the Marshall system of feeding. He had, since October last, fattened two large lots of cattle, the one lot being tied up after the other was sold fat. He says, "I have fed my horses with one feed per day, and never had them so healthy, or looking better. I also gave my cows, after calving, one feed per day, in addition, of course, to their other feeding, and we have been highly pleased with the quality and quantity of their produce. I am now feeding my calves upon boiled Linseed and Bean-meal, mixed with a portion

Calendar of Operations.

JUNE.

BERWICKSHIRE MERSE FARM, *June* 16.—Since last report we have been employed in preparing land and sowing Turnips manured with 4 cwt. of guano per acre; the workers have been employed in cleaning the land, sowing guano, and hoeing beans, &c.; three men mowing Whins, one mending fences, two cleaning hedges. We have had frequent showers for some time past, and the crops are looking well.—*J. B.*

DORSET FARM, *June* 19.—For hay making the past week has been anything but favourable. Only for a few hours now and then have we had any sunshine, and the consequence is, that no hay has been carried, and some which has been cut for some time (as a good deal has) will be very indifferent in quality; but in those cases where the ground was cleared beforehand, Swedes and Turnips have been got in under very favourable circumstances. All crops hereabout are looking well, Potatoes not excepted; but I have heard of one or two cases where symptoms of disease have showed themselves. For the past week we have been continuing the sowing of Swedes, which we are putting in with 1 cwt. of guano and 4 bushels of bones, which were mixed with wetted ashes for the purpose of getting them dissolved, but this method of dissolving we did not find come up to expectations, neither do I think, although it had dissolved them properly, that it is the best plan; because if they do decompose properly among ashes, a great fermentation must take place, and of course some of the ammoniacal gases must escape, which in dissolving with sulphuric acid would not be the case. We are still ploughing for Swedes, and up to the present time we have no prospect of being able to do anything with the hay. Labourers are cleaning hedges, cutting weeds in pastures, hoeing Mangold Wurzel, Carrots and Parsnips, and transplanting Mangold Wurzel, digging the corners of the Turnip fields, hoeing Potatoes, and mixing manures for Turnips.—*G. S.*

NORTH LINCOLNSHIRE FARM, *June* 19.—The Swedes were all got in on the 10th inst. in beautiful order, and have been above ground for four days. The first sown are, we hope, beyond the reach of the fly. During the past week the horses have been engaged in working a pared and burned field, and, when weather permitted, preparing the remainder of the fallow land for white and yellow Turnips. Women and boys weeding, and men mixing a small portion of lime with ashes taken from below the cattle. The lime is simply to make the ashes dry enough for the drill to work. [That may be its only *object*, but it will not be its only *effect*.] Preparing for, and sowing Turnips will occupy our force during the next fortnight. In the "Calendar of Operations" for last week, your Galloway correspondent gives a detailed account of his feeding operations for the past winter, and the profits arising therefrom, which we must confess are sufficiently small. Perhaps you will allow us space shortly to detail our own experience: On the 12th of October last, 60 head of cattle were put up to feed—40 Galloway and 20 short-horned bullocks; the latter of which paid more by from 2*l.* 15*s.* to 3*l.* a head than the former.

They were sold at various dates from the 10th of Jan. till the 11th of May, and cost when put up	£905	0	0
To save trouble of calculation, charge interest for the whole time	22	10	0
They consumed 12 tons of oil-cake, at 11*l.* 10*s.* per ton	138	0	0
Five tons of hay (grown on the farm) at 4*l.* ..	20	0	0
Attendance of a man and boy	26	0	0
	£1111	10	0
The cattle were sold for.. ..	£1197	2	0
They left 1300 yards of well made manure ready to put on the land, worth, at 3*s.* per yard ..	195	0	0
	1392	2	0
	£280	12	0

Besides the above-mentioned food, the cattle consumed from 8 to 10 stones of Swedes or Mangold Wurzel each per day, say 10 stones, amounting in all, without entering into details of the dates at which each lot went off, to 580 tons. Now this gives over 9*s.* 8*d.* per ton for the green food; or, taken by acre, they consumed 31 acres of green food, which gives 9*l.* 7*s.* per acre, from which deduct cost of pulling, carting, and storing, say 10*s.* per acre, leaving 8*l.* 17*s.* per acre, at which we can very well afford to grow Swedes and Mangold Wurzel. If your Galloway correspondent will convert his stalls into boxes, and fill them with cattle, which will come out in spring, weighing from 55 to 65 stones, instead of from 35 to 45 stones, we think he will find his profits greater, and his manure both better in quality and more in quantity. Besides the above-mentioned dung, we have from 250 to 300 qrs. of ashes well saturated with liquid manure.

NORTH LINCOLNSHIRE WOLD FARM [750 acres], *June* 20.—We have been employed since last Calendar in preparing the fallow land for Turnips, in burning Couch, stubbing Thistles amongst corn, turning manure in fold-yards, digging and breaking chalk, and in drilling 40 acres of green-top white Turnips upon ridges, manured with 2 cwt. of guano and 7 qrs. of ashes per acre. We calculate upon finishing Turnip sowing this month.—*H. J. S.*

SOMERSET FARM, *June* 15.—During this last week we have had very unfavourable weather for the hay-making, and obliged to keep turning it, without gaining any advantage; part of our Swede ground that worked fine (ready for the reception of the dung and seed), was so saturated with wet that we have been unable to touch it since. We have been engaged in draining, weeding Flax, thinning Mangold Wurzel, shearing sheep, &c. —*R. C.*

SOUTH DEVON FARM, *June* 19.—This past week we have been engaged in ploughing and otherwise preparing land intended for Swedes; the occasional heavy showers of rain, however, hindered us a little; but we have now every prospect of a favourable time for Turnip sowing. Four men are cutting Clover intended for hay, by task-work, getting 1*s.* 9*d.* and 3 quarts of cider per acre; also one man paring hedges (both sides and the top), at one halfpenny the land yard. Digging back dung-heap, and women weeding in the Grass land. The hay harvest appears now to be generally commenced, with every appearance of a heavy share of land hay, but Clover rather slight.—*T. M.*

SUSSEX FARM, *June* 19.—We are still favoured with fine growing weather. Carting marl, lime, and dung, into the Turnip and Rape land; ploughing, harrowing, rolling, and sowing Rape and Turnips; filling lime at the kiln, and carting drain tiles; also faggots to burn lime. I commenced this morning at 3 o'clock with eight men to lime part of Swedes and Turnips, to stop the ravages of the fly; men filling marl, lime, and dung, and spreading the same on the land, hoeing Potatoes, thinning Mangold and Carrots, women hoeing Mangold, Carrots, and Turnips.—*J. B.*

Notices to Correspondents.

BOOKS—*A Gentleman Farmer*—The works on the Horse, Ox, and Sheep, by the Society for the Diffusion of Useful Knowledge.

BUTTER MAKING—*C E F* says one of Lord Clarendon's practical instructors recommends the following mode for making butter. "To put as much milk as cream into the churn. This, (he says) improves the colour of the butter. To put as much hot water as will raise the temperature of the whole to 62° or 63°. This will ensure the butter always coming in nearly the same time, from 20 to 25 minutes, which will be of better quality than if it were either longer or shorter in churning." [There is a short paragraph on the Devonshire method, under the head Home Correspondence, at page 388, col. c.]

CAPONISING—*X Y Z*—The information was given at page 358.

CATTLE FEEDING—*Young Farmer*—The balance of profit covers the straw chaff employed in the compound, as well as the Turnips.

CHICKENS—*T T*—It is not easy, with such scanty data, to give advice respecting your chickens likely to prove either useful to the receiver, or satisfactory to the giver. A wetting in a sudden shower, a run through long Grass before the dew is off, an insufficient or irregular supply of food and drink, are any of them sufficient to produce the disappointing result mentioned. From the age of the chickens, one very likely cause is the hen being permitted to go to roost, leaving them to take care of themselves, instead of being confined with them all night in the coop. Or when the coop has been left abroad, I have known the family to be attacked by a rat or weasel; the hen has given the enemy a warm reception, and the little ones have escaped by squatting in Strawberry beds and behind box edgings, but they have all subsequently died from their night's exposure. If these points of mismanagement have been carefully avoided, it is difficult to propose any remedy. But the ailments and their antidotes, of fowls, on farms and in confined suburban occupations are so utterly different, that an opinion cannot be honestly ventured without some knowledge of the locality and circumstances. *D.*

COW—*G G T*—Under the circumstances, the parts should not be interfered with, but a dose of Epsom salts may be given internally, with plenty of Linseed gruel. *W. C. S.*

FARM PROFITS—*M H T*—They depend more upon market ability, common sense, energy, and a general acquaintance with business than upon science. Nevertheless a scientific knowledge of agriculture is a very useful and satisfactory thing. You had better procure for your son a good agricultural education from a money-making farmer (and there are such). Agriculture (producing the necessaries of life) can never in the long run be otherwise than a profitable business; nor, on the other hand (considering the numbers and consequent competition of agriculturists), can it ever be so profitable as other trades where competition is less or capital oftener turned.

FLAX—*A Correspondent*—It can be grown both for seed and fibre; but the former must not be ripe or the latter will be coarse. It sells from 50*l.* to 60*l.* per ton, and you may calculate on perhaps 4 to 5 cwt. per acre.

HAMS—*E C* asks with what and for what purpose London sold hams are whitened?

LAND AGENCY—*Country Subscriber*—We should suppose your qualifications would render you a valuable assistant to a land agent in large business, but can give no information about salary.

LIME AND SALT—*Cestrian*—Will any one state his experience of this manure?

LIQUID MANURE—*S S*—You cannot apply it to growing roots by water-cart without injuring the land. Could you not manufacture out of Larch poles some hundred yards length of shoots or wooden channels, supported on cheap tripods. If the tank is on a high level you might take the liquid into the field in this way, and when there carry it about in buckets.

'NEW WORK" ON DRAINAGE—*S*—The publisher, not the author, we presume to be responsible for the terms of the advertisement. It is not a fair designation of the book.

PIPER'S THICKSET—*Ed. Curtis*—The specimen sent appears to be true. It is a very short-strawed Wheat.

POTATOES—*A Suffolk Reader*—You had better make a compost against next spring of any vegetable rubbish you can gather; rot it by soaking it with liquid manure and turning it over. Add to it 3 cwt. of guano and 1 cwt. of sulphate of soda for every acre to which it is to be applied, and apply it in the drills above the sets.

RINGWORM ON PIGS—*J H*—Prussic acid 1 drachm, Elder flower water 6 oz., and apply the lotion to the parts twice a day, giving internally with the food a teaspoonful of sulphur to each pig. *W. C. S.*

ROTATION—*P Q*—Your arable land would not suffer, provided the manure from a portion of the hay, besides that from the straw and the Beans, and half the Peas were added to it. We should expect it to increase in richness.

SAWDUST—*M F*—If charred, it would tend to retain ammonia in guano.

SHEEP—*S G M*—Certainly. House-fed lamb is common. The Dorset breed bring forth early, and are well suited for this purpose. We do not know that two crops of lambs per annum is anything more than an occasional rarity in this country.

"SHOOTS" FOR LIQUID MANURE—*J U*—They are mere wooden channels resting on tripods, and so capable of being supported at any level according to the unevenness of the ground. One fits into another all the way from the tank-pump to the field, and there it is received in buckets and thrown about by men.

THISTLES—*A Suffolk Reader*—All seeds will grow if they are alive.

WIREWORM—*J L*—We cannot help you: and do not believe that there is now any help for you.

MISC—*X Y Z* has forgotten to send his address.

Markets.

POTATOES, SOUTHWARK, WATERSIDE, JUNE 19.

The Committee report that trade during the past week has been very heavy, particularly with stale Regents, which are scarcely saleable at any price. The following are the present quotations:—Yorkshire Regents, 60s to 120s; reds, 120s to 150s; Wisbeach Regents, 60s to 90s; blues, 60s to 70s; Scotch cups, 100s to 110s; reds, 100s to 110s; whites, 90s; Southend blues, 80s to 120s; Belgian whites, 60s to 70s; Hamburgh, 60s to 90s.

SMITHFIELD, MONDAY, June 19.

The supply of Beasts is, for the time of year, very large and of good quality. The demand is exceedingly limited, and trade is very slow at reduced prices, 4s. being the extreme quotation for the choicest Scots, &c. The number of Sheep and Lambs is small; quite as many, however, as are wanted. No quotable advance is realised. There is rather more inquiry for Lambs. We have a good supply of Calves, and Friday's prices are barely supported. From Holland we have 405 Beasts, 1510 Sheep, and 152 Calves; from Spain 100 Sheep; Scotland 700 Beasts, and about 1800 from Norfolk and Suffolk.

Per stone of 8 lbs.—s	d	s	d	Per stone of 8 lbs.—s	d	s	d
Best Scots, Herefords, &c. 3	10	to 4	0	Best Long Wools		....	
Best Short Horns 3	6	— 3	8	Ditto Shorn 4	4	— 4	8
Second quality Beasts .. 2	8	— 3	4	Ewes and second quality		....	
Calves 3	8	— 4	8	Ditto Shorn.. 3	6	— 4	0
Best Downs & Half-breds		....		Lambs..... 5	0	— 6	0
Ditto Shorn 4	8	— 5	0	Pigs 4	4	— 5	0

Beasts—3,99. Sheep and Lambs—24,920. Calves—331. Pigs—280.

FRIDAY, June 23.

We have to-day a very large supply of Beasts, and trade for them remarkably slow. Although a choice Scot may have made 4s., this cannot be quoted as a fair average for best qualities. There is also an increased supply of Sheep and Lambs, with a very limited demand. Monday's quotations are with difficulty supported. The number of Calves is unusually large; trade is excessively slow, at a reduction of fully 2d., and, in some instances, 4d. per 8 lbs. Pigs are plentiful, and meet with a dull sale. From Holland we have 150 Beasts, 800 Sheep, and 274 Calves; from Scotland 600 Beasts; and about 150 Milch Cows from the home counties.

Best Scots, Herefords, &c. 3	8	to 3	10	Best Long Wools.....		....	
Best Short Horns 3	6	— 3	8	Ditto Shorn 4	4	— 4	8
Second quality Beasts .. 2	6	— 3	2	Ewes and second quality		....	
Calves 3	6	— 4	6	Ditto Shorn 3	6	— 4	0
Best Downs & Half-breds		....		Lambs..... 5	0	— 6	0
Ditto Shorn 4	8	— 5	0	Pigs 4	0	— 5	0

Beasts—1260. Sheep and Lambs—12,990. Calves—755. Pigs—310.

HOPS, FRIDAY, June 23.

MESSRS. PATTENDEN and SMITH report that the accounts from the Hop plantations continue to come favourable, and the duty in consequence has advanced to 195,000*l.* The market is in a very dull state, at the following prices:

Mid. & East Kents, p. cwt.	50s	to	80s	Yearling Kents, p. cwt...	45s	to	58s
Weald of Kents	50	—	65	Yearling Sussex	45	—	52
Sussex	50	—	60	Old Hops	20	—	35
Farnhams	80	—	105				

COVENT GARDEN, JUNE 24.

The market is well supplied with Vegetables and most kinds of Fruit. Pine-apples are sufficient for the demand; a quantity of foreign ones has just arrived. Hothouse Grapes are plentiful, and Peaches and Nectarines abundant. Melons are also sufficient for the demand. Cherries are plentiful and cheap. Good Maydukes fetch from 4s. to 8s. 6d. per doz. lbs. Strawberries abundant and cheap. Some ripe Gooseberries and Currants begin to make their appearance. Nuts are sufficient for the demand. Filberts fetch from 14s. to 22s. per 100lbs. Oranges are abundant. Lemons are moderately plentiful. Among Vegetables, Carrots and Turnips are abundant and good; Cauliflowers, Greens, &c., sufficient for the demand. Asparagus is scarcer. French Beans are equal to the demand. New Potatoes are plentifully supplied from the Continent, and are much cheaper. Ash-leaved Kidney fetch from 1s. 6d. to 3s. per doz. lbs.; Cornish, 2s. to 3s. Green Peas are abundant, and sell at 2s. 6d. to 5s. per bushel sieve. Lettuces and other salading are sufficient for the demand. Mushrooms are a little dearer. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Fuchsias, Carnations, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 6s to 10s	Oranges, per doz., 9d to 2s
Grapes, hothouse, per lb. 5s to 8s	— per 100, 3s to 12s
— Portugal, per lb., 1s	— Bitter, per 100, 8s to 16s
Peaches, per doz., 6s to 15s	Lemons, per doz., 1s to 2s
Nectarines, per doz. 6s to 15s	— per 100, 6s to 14s
Melons, each, 4s to 8s	Almonds, per peck, 6s
Strawberries, per pottle, 6d to 1s	— sweet, per lb., 2s to 3s
Cherries, per lb., 6d to 3s	Walnuts, per bush., 12s to 18s
Apples, dessert, per bush., 5s to 12s	Nuts, Barcelona, per bush., 20s to 22s
— Kitchen, p. bush., 4s to 7s	— Filberts, per 100 lbs., 14s to 20s
Currants, per half sieve, 3s to 6s	— Cob, per 100 lbs., 25s to 30s
Gooseberries, green, p. half sieve, 1s 6d to 2s 6d	— Brazil, per bush., 12s to 16s
	Chestnuts, per peck, 3s to 6s

VEGETABLES.

Asparagus, per 100, 1s to 5s	Onions, pickling, per half sieve, 2s to 3s
Cabbages, per doz., 6d to 1s	Shallots, per bunch, 3d to 4d
Greens, p. doz. bunches, 9d to 1s	Garlic, per lb., 8d to 1s
Cauliflowers, per doz., 2s to 5s	French Beans, per 100, 1s to 2s
Sorrel, per half sieve, 6d to 9d	Radishes, per doz. bunds, 6d to 1s
Potatoes, per ton, 100s to 180s	— Turnip, do., 9d to 1s
— per cwt., 5s to 9s	Art chokes, per doz., 1s 6d to 2s 6d
— per bush., 3s to 4s 6d	— Jerusalem, p. half sieve, 1s
— Kidney, per lb., 2d to 6d	Lettuce, Cab., per score, 4d to 1s
Turnips, p. bunch., 4d to 8d	— Cos, do., 6d to 1s
Red Beet, per doz., 6d to 1s	Mushrooms, per pottle, 9d to 2s
Horse Radish, per bundle, 1s to 6s	Small Salads, per punnet, 2d to 3d
Rhubarb, per bundle, 3d to 6d	Fennel, per bunch, 2d to 3d
Cucumbers, each, 2d to 1s	Savory, per bunch, 3d to 4d
Leeks, per bunch, 4d to 6d	Thyme, per bunch, 3d to 4d
Celery, per bundle, 1s to 2s	Watercress, p. 12 small bun., 6d to 9d
Carrots, per bunch, 4d to 1s	Parsley, per half sieve, 6d to 9d
Spinach, per sieve, 1s to 2s	— Roots, per bundle, 1s to 1s 6d
Peas, per sieve, 2s to 5s	Mint, green, per bunch, 2d to 4d
Beans, per half sieve, 1s to 1s 6d	Marjoram, per bunch, 6d to 9d
Onions, per bunch, 3d to 8d	
— Spanish, per doz., 1s to 4s	

HAY.—Per Load of 36 Trusses.

SMITHFIELD, June 22.

Prime Mead. Hay	72s	to	80s	New Hay	..	—	to	—	Straw .. 27s to 32s
Inferior ditto ..	60	—	65	Clover	..	81	—	90	
Rowen	—	—	—	New Clover	..	—	—	—	J. COOPER.

CUMBERLAND MARKET, June 22.

Prime Mead. Hay	75s	to	84s	Old Clover ..	90s	to	96s	Straw ..	28s to 32s
Inferior	55	—	68	Inferior ..	75	—	84		
New Hay	55	—	65	New Clover ..	—	—	—	JOSHUA BAKER.	

WHITECHAPEL, June 22.

Fine Old Hay ..	65s	to	72s	Old Clover ..	90s	to	100s	Straw ..	26s to 28s
Inferior Hay ..	50	—	60	Inferior ..	70	—	80		
New Hay.. ..	—	—	—	New Clover ..	—	—	—		

MARK LANE, MONDAY, June 19.

Messrs. KINGSFORD and LAY report that the supply of English Wheat this morning was small, and quickly cleared at an advance of 2s. per qr. on the price of this day se'nnight. Dantzic was held for 1s. per qr. more money, but the demand was limited, whilst fine red for ign was in fair request at 1s. to 2s. per qr. over the rates of last week.—English Barley is scarce, and its value unaltered. The arrival of foreign, however, amounting to upwards of 24,000 qrs., exceeds what the momentary demand can take off, and must be noted a heavy sale at 1s. per qr. decline.—English Beans are nominally the same; Egyptian the turn cheaper.—Teas remain unaltered in value.—The supply of Oats is considerable, and a large proportion being out of condition are very unsaleable, although offered at a reduction of 1s. per qr. We observe no change in good dry qualities.—Flour attracts increased attention, but we cannot raise our quotations.

BRITISH PER IMPERIAL QUARTER.	*s*	*s*		*s*	*s*
Wheat, Essex, Kent, and Suffolk ..... White	46	55	Red.....	43	48
Norfolk, Lincolnshire, and Yorkshire	44	48	White ..	44	50
Barley, Malting and distilling, 27s to 30s	Chevalier	30	33	Grinding	25	28
Oats, Lincolnshire and Yorkshire.....	Polands	32	25	Feed	20	24
Northumberland and Scotch	Feed	21	23	Potato ..	23	25
Irish	Feed	19	23	Potato ..	22	25
Malt, pale, ship.....		—	—			
Hertford and Essex.....		—	—			
Rye.....		27	30			
Beans, Mazagan, old and new ..20s to 36s....	Tick..	30	38	Harrow..	24	40
Pigeon, Heligoland 35	40	Winds	—	Longpod	—	—
Peas, White.....	34	38	Maple	35	37	Grey	30	33

FRIDAY, June 23.

The arrivals of foreign Barley and Oats during the week have been large, but of other grain small. We observe no alteration this morning in the value of Wheat, either English or foreign. Sales have been very limited.—Barley is an extremely heavy sale, and 1s. per qr. cheaper.—Beans and Peas are unaltered in value.—The Oat trade is very dull, and ordinary and out of condition parcels must be 1s. to 2s. per qr. lower.

Since the 16th inst. the weather has been cloudy and showery, until to-day, which is clear and warm. An increased disposition to purchase Wheat on the spot, for shipment or afloat, has characterised the trade here, and although less animation has been observable in the principal provincial markets, prices generally are 1s. to 2s. per qr. higher. Some sales of Rostock 63lbs. have been made at 36s. per qr., f. o. b., Pomeranian 62lbs. at 34s. per qr., f. o. b., Polish Odessa 37s. per qr., cost freight and insurance, and 43s. cost freight was refused for Dantzic 61lbs. Flour has been in more active request, and a trifling advance generally obtained. Indian Corn continued in some demand, but is held for the most part beyond the views of purchasers; in some of the Irish markets it is quoted 10s. to 20s. per ton dearer. Spring Corn has been difficult of disposal, and we note Barley and Oats, of which the arrivals into this port are considerable, 1s. to 2s. per qr. lower. Egyptian Beans are the turn cheaper. The accounts from Dantzic represent the Wheat trade as less active, and the market bare of fine qualities, but the improvement here will doubtless cause some advance, although prices there are already higher in proportion than arrivals of flour. In Stettin, on the 17th inst. Wheat was 1s. per qr. dearer; good 61—62lbs. quoted at 31s. to 32s. per qr., f. o. b.; 52lbs. Barley at 18s.; Peas, 24s. to 25s.; Oats, 12s. to 13s. per qr., f. o. b. In Rostock the last quotations were 34s. to 35s. for 62—63lbs. Wheat per qr., f. o. b., and 34s. in Stralsund. In the Mediterranean, quotations of Wheat are too high to admit of importing here. In Odessa, on the 9th, prices were somewhat higher, and 28s. per qr. had been paid for fine 62lbs. Wheat. New York letters of the 6th inform us that the arrivals of flour were liberal, but continue to be taken off for the eastern markets; much of it arrived in bad condition, and prices varied in consequence from 24s. 4d. to 27s. 6d. per barrel, f. o. b. The supplies of Wheat had increased. White Genesee was quoted at 5s. 8d. to 5s. 11d. per bush. of 56 lbs., and western mixed at 4s. 11d. per bush. of 61 lbs. Indian Corn had advanced to 23s. 3d. for northern yellow; mixed western was obtainable at 19s. 4d. to 20s. 3d. per qr. of 60 lbs. Freights were rather dearer, and quoted 4s. per qr. Wheat. In Montreal, on the last inst., Flour was dull, at 26s. to 28s. 9d. per barrel, f. o. b., 6d.

ARRIVALS IN THE PORT OF LONDON THIS WEEK.

	Wheat. Qrs.	Barley. Qrs.	Oats. Qrs.	Flour.
English.....	3120	130	3360	3690 sacks.
Irish	—	—	3340	
Foreign.....	4310	14470	30090	— barrels.

IMPERIAL AVERAGES.	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
May 13	49s 10d	32s 5d	20s 2d	29s 10d	35s 6d	35s 9d
— 20	48 4	32 7	20 4	29 2	36 3	35 0
— 27	47 8	32 8	20 8	28 9	36 9	36 11
June 3	48 1	31 8	21 0	30 8	37 10	38 0
— 10	47 8	31 7	20 9	28 0	38 4	37 0
— 17	46 10	30 10	20 8	31 7	37 3	38 0
Aggregate Average	48 1	32 0	20 7	29 8	37 1	36 11
Duties on Foreign Grain	9 0	2 0	2 6	2 0	2 0	2 0

Fluctuations in the last six weeks' Corn Averages.

PRICE.	May 13.	May 20.	May 27.	June 3.	June 10.	June 17.
49s 10d		...	...	...	...	...
48 4	...		...	...	...	...
48 1	...	...		...	...	...
47 8	...	...	...		...	...
47 8	...	...	...	...		...
46 10	...	...	...	...	...	

SEEDS, June 19.

Canary .....per qr.	70s	to	78s	Linseed-cakes, Foreign, p. ton, 7*l.*	to	9*l.*
Caraway .....per cwt.	34		35	Mustard, White, p. bush., 7s	0d to	9s 0d
Clover, Red, English	35		44	Superfine p. bush,	—	—
— Foreign	35		40	Brown, per bush.,	—	—
White, English	38		44	Rapeseed, Eng., per last.....	28*l.*	32*l.*
— Foreign	38		42	Rape-cakes .....per ton	6*l.*	5*s.*
Coriander.....	10		20	Sanfoin	—	—
Hempseed .....per qr.	40		44	Tares, Eng., winter, p. bsh.,	5s 0	7s 0
Linseed.....	44		54	Foreign, per bush.,	3s 6	6s 0
— Baltic.....	—		—	Trefoil	17s 0	20s
— Cakes, Eng., p. 1000,	11*l.* 15*s.*	to	12*l.*	Turnip—too variable for quotation.		

of milk twice a day, and they are doing remarkably well. I am convinced, from my experience, that this mode of feeding is the least troublesome, the cheapest, and most productive."

Sales by Auction.

TO NURSERYMEN.

MR. J. C. STEVENS is instructed by Monsr. Chas. Van Geert, of Antwerp, to announce for Sale by Auction, at his Great Room, 38, King-street, Covent Garden, on Friday, 30th June, at 12 for 1 o'clock, 500 SINGLE CAMELLIA STOCKS, cultivated in pots, all strong healthy Plants and fit for immediate Grafting or budding. May be viewed the morning of Sale, and Catalogues had

IMPORTANT SALE OF ABOUT 1000 CAMELLIAS, in fine flowering condition, and well set with bloom buds.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions by Mr. Pierse to offer to Public Competition by Auction, on the Premises (near the Church), Hornsey, on Tuesday, June 27th, 1848 at 11 o'clock, about 1000 CAMELLIAS, from 18 inches to 11 feet, comprising the finest specimens in the country of triumphans, delicatissima, latifolia, conspicua, imbricata alba, Fordii, Sweetii, Blackburniana, Frankofurtensis, King, Presley's Queen Victoria, and many others. Gentlemen and Florists are respectfully invited to inspect and purchase a few specimens of this delightful assortment, and so increase the attraction of their Greenhouses, by adding varieties rarely to be met with. May be viewed prior to the Sale, and Catalogues had on the premises, of the principal Seedsmen, and of the Auctioneers, American Nursery, Leytonstone.

TO NURSERYMEN, SEEDSMEN, AND FLORISTS.

TO BE DISPOSED OF, A SMALL, COMPACT, ESTABLISHED BUSINESS, in the above line, in Windsor, with Greenhouse, Frames, &c.; to be entered upon immediately. The purchase money and coming in will be reasonable, as the present occupier has an appointment to go abroad. This offers an eligible opportunity for any person of knowledge.—For particulars apply to Mr. Ames, Victoria-street, Windsor.

TO NURSERYMEN, FLORISTS, GARDENERS, &c.—A most advantageous opportunity now occurs to any person desirous of taking an old-established PLANT and SEED BUSINESS. The Premises are situated in one of the most eligible leading thoroughfares, within three miles of the markets, on the Surrey side, and consist of a comfortable dwelling-house, seed-shop, and show-house attached, warerooms, greenhouses, ranges of pits, stables, &c., and about an acre of ground.

The locality offers peculiar advantages for carrying on a lucrative business. The premises will be let for a term of years (if preferred), at a moderate annual rent, and the coming-in will be within the means of a person with small capital.

For further particulars, apply to Messrs. Protheroe and Morris, Leytonstone, Essex.

TAPNEL FARM, THORLEY, ISLE OF WIGHT.

This valuable Farm is

TO BE LET, and entered on at Michaelmas next, containing

	A.	R.	P.
Arable	339	2	35
Grass .. 103 2 1½	153	2	39
Down .. 50 0 29 }			
Homestead, Roadways, &c.	4	0	19
Cottages, Gardens, Withey Bed, &c. ..	3	1	37
	501	0	1

This Farm, from its extent and improveable quality, offers to a respectable tenant with adequate capital an eligible opportunity for realising a good business. It is in a good state of cultivation, and has become vacant by the death of the late tenant.—For further particulars, and to treat for a lease, apply to Messrs. Sewells, Norris, and Estcourt, Solicitors, Newport, Isle of Wight.

MERRIOTT, NEAR CREWKERNE, SOMERSETSHIRE.

TO BE LET, and entered on immediately, on most advantageous terms, an Old Established and Well Stocked NURSERY, containing, by estimation, Ten Acres (more or less), situated in the above parish; together with an excellent Hothouse thereon, filled with choice Vines in full bearing, and valuable plants; adjoining which is a comfortable Cottage, with convenient Cart-house, Packing Sheds, Seed Room, &c.

Merriott is situated within a short distance of the populous towns of Ilminster, Ilchester, Yeovil, Crewkerne, Chard, Taunton, &c., to which latter place conveyances pass to and fro daily, in connection with the railways to all parts of England.

To view the above, application may be made to Mr. Andrews, at the Cottage on the Nursery; and further particulars and terms of letting may be known on application to Mr. Whitley, Solicitor, Wrington, near Bristol, Somerset.—Wrington, June 24

TO FARMERS.—A Gentleman who has a good knowledge of Chemistry and Botany wishes to obtain a thorough practical acquaintance with the best methods of FARMING. Proposals will be received from any Farmer who, occupying not less than 300 acres, will specify the extent and nature of the land, and state his terms for board, residence, and instruction.—Direct to A. T. W., care of Mr. William Thomas, British and Foreign Advertisement and Newspaper Office, 21, Catherine-street, Strand, London.

WIRE NETTING ONE PENNY PER SQUARE FOOT.—This article forms a light and durable fence for the protection of Flower Gardens and Shrubberies against the depredations of Hares and Rabbits. For Aviaries, Pheasantries, and to prevent Poultry from straying, it is a cheap and elegant substitute for the more heavy fences, and is also peculiarly adapted for training Honeysuckles and other creeping plants. The following widths always kept in stock in large quantities:—24 inches wide, 6d. per running yard.

30	do.	7½d.	do.
36	do.	9d.	do.
48	do.	1s.	do.

T. H. Fox is particularly desirous of directing the attention of the public to his great variety of useful and ornamental Wirework, consisting of Flower Stands, Trainers, Dahlia Rods, Garden Arches and Bordering, Fire Guards, &c.; Wire Blinds, Riddles, Fenders, Fly-proof Dish Covers, and every description of Wove Wire.

A Post-office order, payable to Thomas Henry Fox, 63, Snow-hill, London, for any article, will meet with immediate attention.

HAY-MAKING MACHINES.—Improved Double Motion Reversing Hay-making Machines, Price Twelve Guineas. These Machines have all the latest improvements of the Double Rake Cylinders, driven from both ends, which causes them to work very lightly, and admits of their turning in any direction at the end of the field, without impeding the working of the machine; they have also an additional motion by which the rakes can be turned the reverse way, leaving the hay remarkably loose and light.

The depressed state of the Iron trade enables Cottam and Hallen to offer IRON HURDLES at extraordinary low prices, (See Price List.) Also every description of continued and strained Wire Fence, and Agricultural and Horticultural Implements with the latest improvements.

C. and H. have regulated the prices of all their articles agreeably with the present low price of materials. Hatcher's Bennenden Tile Machine is also reduced from 25l. to 20l.

Cottam & Hallen, 2, Winsley-street, Oxford-street, and 76, Oxford-street, London.

BENJAMIN EDGINGTON, 2 Duke-street, London-bridge, would call the Trade and Shopkeepers to the Hospital Chelsea, for the Bazaar which took place on the 20th and 21st inst., respectfully informs the public, that a large sale or hire of a great variety of Tents, Marquees, and Pole Cloths, at his Manufactory, 2, Duke-street, London-bridge. A Watch set at 70, Pounds.

WRIGHT'S STACK PRESERVER.—The frequent loss occasioned through the spontaneous combustion of Hay, Barley, &c., renders the following Preserver and Ventilator of importance to every agriculturist. It is so simple in its construction and so cheap that it cannot be objected to on the score of permanent labourer, and it may be put together and fixed in a few minutes by its owner. It has been long used in part in foreign countries for ventilating Hay and Corn Ricks when stacked, and has been proved effectually to prevent them from ever heating. When first it is suspected that the rick is in a state of heating, a chimney should be made in the part of the rick where it is most needed, and how or at any season in which the rick is in course will infallibly be prevented, and the too frequent practice of cutting away a large part of the rick removed necessity. A circular aperture quickly made by leaving with the rake as low in the rick as may be required. It need be hardly necessary to mind that the heat occasioned by stacks damaged by overheating cannot be recovered from any Fire Office. The price is so low and the necessity to certain that it may safely as to recommend the possession of it to every Farmer. May be had of J. Wright, Manufacturer, Ongar, Essex, and of all Ironmongers in the country.

Price 1l. 1s., delivered carriage free.

ANNATTO.—Farmers and others will do well to try SIMS and Co's extra superfine ANNATTO for COLOURING CHEESE. None will be found superior either in the London or country markets, and the same can be supplied at a greatly reduced price, through the chemists and grocers of the United Kingdom, by their sole agent, W. S. Rowell, wholesale chemist, 1, Queen-square-place, Upper Thames-street. Samples (if required) forwarded by post.

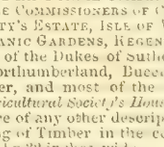
TODD'S PATENT METALLIC PROTOXIDE PAINT.—This Paint has been most severely tested for nearly four years, by Architects, Engineers, and Surveyors of the greatest eminence, and has been found, for preventing iron, stone, brick-work, and every description of painting, both external and internal, to be greatly superior to any other pigment; its innocuous qualities and great durability render it peculiarly adapted for the painting of house and factory establishments during their occupancy. Orders to be addressed to Mr. B. Todd, Patentee, 23, Dean-street, Soho, London.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as building and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. White and Sons, Millbank-street, Westminster.

CHEAP AND DURABLE ROOFING.

BY HER MAJESTY'S



ROYAL LETTERS PATENT.

F. McNEILL AND Co., of Lamb's-buildings, Bunhill-row, London, the Manufacturers and only Patentees of THE ASPHALTED FELT FOR ROOFING Houses, Farm Buildings, Sheddings, Workshops, and for Garden purposes, to protect Plants from Frost.

At the Great National Agricultural Shows, it is this Felt which has been exhibited and obtained two Silver Medal Prizes, and is the Felt solely patronized and adopted by

Her Majesty's Woods and Forests,
Honourable Board of Ordnance,
Honourable East India Company,
Honourable Commissioners of Customs,
Her Majesty's Estate, Isle of Wight,
Royal Botanic Gardens, Regent's Park,

And on the Estates of the Dukes of Sutherland, Norfolk, Rutland, Newcastle, Northumberland, Buccleuch (at Richmond), the late Earl Spencer, and most of the Nobility and Gentry; and *at the Royal Agricultural Society's House, Hanover-square.*

It is half the price of any other description of Roofing, and effects a great saving of Timber in the construction of Roofs. Made to any length by 32 inches wide.

Price One Penny Per Square Foot.

*** Samples, with Directions for its Use, and Testimonials of seven years' experience, with references to Noblemen, Gentlemen, Architects, and Builders, sent free to any part of the town or country, and orders by post executed.

☞ The Public is cautioned that the only Works in London or Great Britain where the above Roofing is made, are

F. McNEILL AND CO'S

Patent Felt Manufactory, Lamb's-buildings, Bunhill-row, London, where roofs covered with the Felt may be seen.

The new Vice-Chancellor's Courts, at the entrance to Westminster Hall, were roofed with F. McNeill and Co.'s Felt about two years since, under the Surveyorship of Chas. Barry, Esq., R.A. Her Majesty's Commissioners of Woods and Forests are so satisfied with the result that they have ordered the Committee Rooms at the Houses of Parliament to be roofed with their Felt. Quantity altogether used, 24,000 feet.

Note.—Consumers sending direct to the Factory can be supplied in lengths best suited to their Roofs, so that they pay for no more than they require.

Every information afforded on the construction of Roofs, on any proposed particular application of the Felt.

PATENT FLEXIBLE INDIA-RUBBER PIPES and TUBING for RAILWAY COMPANIES, BREWERS, DISTILLERS, FIRE ENGINES, GAS COMPANIES, GARDENING and AGRICULTURAL PURPOSES, &c.

THE PATENT VULCANISED INDIA-RUBBER HOSE PIPES are made to stand Hot Liquor and Acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible), and as they require no application of oil or dressing, are particularly adapted for Fire-engines, Pumps, Gas, Beer-engines, Gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes from ¼inch bore upwards, and of any length to order.

Vulcanised India-rubber Garden Hose, fitted with brass taps, copper branch, and roses complete, ready to be attached to Pumps, Water-butts, or Cisterns.—Sole Manufacturer, James Lyne Hancock, Goswell Mews, Goswell-road, London.

N.B.—Vulcanised India-rubber Washers of all sizes for Joints of Hot-water and Steam Pipes, and Vulcanised Sheet Rubber, any thickness, for all kinds of Joints, and other purposes.

SMOKY FIREPLACES PREVENTED.

W. AND M. FEETHAM take leave to acquaint their Friends and the Public that they undertake to prevent this evil effectually, and to construct Brick or Metal Flues to descend or otherwise for Heating or Ventilating, likewise Churches, Large Rooms, &c. Warmed by Stoves or Water on the most economical principles.—Apply at their Stove Warehouse, 9, Clifford-street, or at the Manufactory, No. 422, Oxford-street, London.

JOHN WHITEHEAD, Manufacturer and Contractor for [illegible]

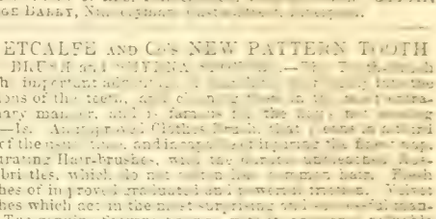
MARY WELLARD, Manufacturer of PATENT [illegible]

TO FARMERS AND THE TRADE.

THE ALNESS LOCK AND KEY MACHINE COMPANY [illegible] THE MACHINES [illegible] at the Company's Works, Alness, on the 3rd, 4th, and 5th of July next, at 11 o'clock A.M. Machines [illegible] in the room [illegible] Works at Alness, [illegible] station of the Locality [illegible] also at the Bazaar [illegible] All communications [illegible] correctly attended [illegible]

The Company [illegible] work, [illegible]; Mr. Robert [illegible] and Co., Dunmore [illegible] Wilkes, Leith; [illegible] bore line; [illegible] John Cormack, Newton [illegible]

SHANKS' IMPROVED GRASS CUTTING AND ROLLING MACHINES.



The complete success which has attended the introduction of this Improved Machine for Mowing Grass, and the high reputation for cutting the Grass of Lawns, Parks, &c., given by the numerous instances where it has been in constant use, particularly at Buckingham Palace, Windsor, Kimbolton, Petworth, Cowes, Cumberland, and at many other Noblemen's Seats in England, as well as abroad. The Machines are made of different breadths of 42, 30, or 20 inches, and are either hung adapted to horse-power. The Machines have different operations, viz., cutting the Grass and leaving it in a beautiful smooth surface, and others with the addition of abridging labour.

Orders may be addressed to Messrs. Alexander Shanks and Son, Machine Makers, Arbroath, N.B., to whom further particulars will be given.

Sold by Messrs. T. and J. Jackson, Nurserymen, Chester; Messrs. J. and C. Lee, Nurserymen, [illegible] and Mr. George Barry, Nurseryman, [illegible]

METCALFE AND Co's NEW PATTERN TOOTH BRUSHES AND MYRRH [illegible]—The Myrrh has the important advantage [illegible] the divisions of the teeth, and [illegible] the extraordinary manner, and is formed in the most [illegible] loose—is. Another [illegible] Clothes Brush, that cannot shed part of the hair, and [illegible] Penetrating Hair-brushes, with the [illegible] Australian bristles, which do not [illegible] hair. Flesh Brushes of improved [illegible] Velvet Brushes which act in the most surprising and [illegible] manner. The genuine Smyrna Sponge, with its [illegible] properties of absorption, [illegible] direct importations, dispensing with [illegible] profits and destructive [illegible] genuine Smyrna Sponge, [illegible] Establishment, 130 B., Oxford-street, one [illegible] Caution.—Beware of the words, "From Metcalfe's," adopted by some houses.

PARR'S LIFE PILLS are acknowledged to be the best Medicine in the world.—The Medicine has been before the British public [illegible] years, and [illegible] in the annals of the [illegible] was [illegible] gress; the virtues of this Medicine were [illegible] and wherever tried, a recommendation [illegible] tion; however, as some [illegible] PILLS had saved them and [illegible] The startling facts that were continually [illegible] at once remove any prejudice [illegible] the continual good it worked [illegible] their fame far and wide at this moment [illegible] on the face of the globe [illegible] and have sought [illegible] of transmission. The United States [illegible] China, have had immense [illegible] quantities, with the same [illegible]

The Sale of Parr's Life Pills [illegible] boxes weekly, [illegible] This simple fact [illegible] that the Pills [illegible]

Beware of Spurious Imitations.—No Medicine unless the words "Parr's Life Pills" are [illegible] a Red Ground, on the [illegible] each box; also the [illegible] the proprietors, "T. Roberts and Co., Crane-court, Fleet-street, London," on the Directions.

Sold in boxes at 1s. 1½d., 2s. 9d., and family packets at 11s. each, by all respectable medicine venders throughout the world. Full directions are given with each box.

DO YOU SUFFER TOOTH ACHE? If so, use PRANCE'S ENAMEL for filling the Decayed Spots. An instant and permanent cure. Arrests Decay, Pain ceases, and rendering the same Teeth useful in mastication. Is the same as sold by Dentists at 2s. 6d. Sold by Chemists everywhere, price 1s. 6d., enough for three or four teeth. London, wholesale by all the Medicine Houses.

NOTICE OF REMOVAL.

THE ROYAL AGRICULTURAL COLLEGE OFFICE removed on the 24th of June, 1848, to No. 26, King William-street, Charing-cross.

PHILIP BOWES, Secretary.

ROYAL AGRICULTURAL COLLEGE, Cirencester.

Patron—H. R. H. PRINCE ALBERT.
President of Council—Right Hon. EARL BATHURST.
Vice-President—Right Hon. EARL DUCIE.
Principal—JOHN WILSON, F.R.S.E., F.G.S., &c.
Chaplain and First Master—Rev. G. M. TANDY, M.A.
Second Master—JOHN S. MORELAND, C.E.

RESIDENT PROFESSORS.

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Botany and Geology—JAS. BUCKMAN, F.G.S.
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Mathematics and Natural Philosophy—Rev. G. M. TANDY, M.A.
Practical Surveying and Engineering—JOHN S. MORELAND, C.E.

OBJECTS.

The object of this Institution is to provide such a course of instruction as will be most useful to the practical farmer. The benefits to be derived by the agriculturists from a judicious application of scientific information are becoming more and more extensively acknowledged; while the means of obtaining that information, if, indeed, it can be obtained at all, without for the time sacrificing a due attention to the practical operations of husbandry, are so scattered and costly as to be within the reach of very few. The College course of instruction is conducted in such a manner that, while the student is well based in the principles of each science, its relations with agriculture are specially touched upon and explained, and their practical application shown, as far as possible, in the operations of the College farm. The theoretical and practical teaching go hand in hand, and the whole is combined with the advantages of collegiate discipline. By order of the Council,

PHILIP BOWES, Secretary.

London Office, 26, King William-street, Charing-cross.

AT THE ANNUAL GENERAL COURT OF THE ROYAL AGRICULTURAL COLLEGE, held on the 6th June, 1848, the Right Hon. Earl BATHURST, the President, in the chair, the Report of the Council for the past year was read, adopted, and ordered to be printed for circulation amongst the Shareholders.

The recommendation of the Council to raise the fee for In-students to Eighty pounds, and for Out-students to Forty pounds per annum, was adopted, and the Council were empowered to act thereon.

Mr. Pusey, M.P., and Mr. Fisher Hobbs, having retired from the Council, were replaced by Sir Robert Throckmorton and the Rev. Alexander Huxtable.

One-third of the Council being balloted out were re-elected.

A vote of thanks was passed to the Hon. Mr. Bathurst for his valuable present of a Clock for the College Tower; and another to the President, Vice-President, Auditors, Treasurers, and Council, for their attention to the business of the Institution during the past year.—PHILIP BOWES, Secretary.

London Office, 26, King William-street, Charing-cross.

TRAINING COLLEGE, Hoddesdon, Herts, established for General and Scientific Education, combining Classical, Mathematical, and Commercial with the Natural Sciences, Agriculture, Chemistry, and Civil Engineering.

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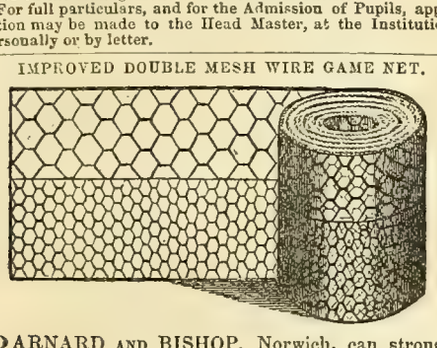

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Advances continued to be made to assurers on assignable property or income, and also on the guarantee of most undoubted personal securities.

WILLIAM RATRAY, Actuary and Secretary.

COUNTY FIRE OFFICE, 50, REGENT STREET, AND 2, ROYAL EXCHANGE BUILDINGS.

ESTABLISHED 1807.

It is respectfully notified to parties holding policies in this office, the renewals of which fall due at Midsummer, that the same should be paid on or before the 8th of July. The receipts are lying at the head office, and in the hands of the several agents.

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JOHN A. BEAUMONT, Managing Director.

PROVIDENT LIFE OFFICE, 50, Regent-street, and 2, Royal Exchange-buildings, London.

Established 1806. Invested Capital, 1,230,000*l.*
Annual income, 140,000*l.* Bonuses declared, 743,000*l.*
Claims paid since the establishment of the Office, 1,678,000*l.*

President.—THE RIGHT HONOURABLE EARL GREY.

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The Rates of Premium are those adopted by the principal Life Offices, the rate without bonus is lower than that of most other Offices.

The Bonuses are added to the Policies, or applied to the reduction of the Premiums.

Policies issued by this Office are purchased at their full value; or Loans may be obtained upon them after they have been in existence for five years.

If a party neglect to pay for the renewal of his Policy, he may repair the omission any time within 12 months, upon proof of good health.

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In addition to the above advantages, the Directors have determined to adopt the principle of allotting a prospective Bonus to Policies lapsing between the Septennial Periods of Division, in order that all the Policy-holders may participate equally in the Profits of the Society.

The following Table shows the amount of Bonuses added to Policies existing at the present time.

Policy No.	Date of Policy.	Sum insured.	Bonuses added.			Increase on original Insurance.	Total Sum payable to which future Bonuses will be added.		
		£	£	s.	d.		£	s.	d.
21	1806	500	415	10	2	83·10 per cent.	915	10	2
521	1807	900	982	12	1	109.17 ,,	1882	12	1
1174	1810	1200	1160	5	6	96.68 ,,	2360	5	6
1395	1811	1600	1328	8	6	83.02 ,,	2928	8	6
3286	1820	2000	1906	13	5	95.33 ,,	3906	13	5
3392	1820	5000	3558	17	8	71.17 ,,	8558	17	8
4356	1822	3000	2541	3	6	84.7 ,,	5541	3	6

Prospectuses and full particulars may be obtained upon application to the Agents of the Office in all the principal towns of the United Kingdom; and the head Office, No. 50, Regent-st.

ARGUS LIFE ASSURANCE COMPANY, 39, Throgmorton-street, Bank.

Empowered by special Act of Parliament, 5 & 6 Will. IV. c. 76.

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LOW RATES OF PREMIUM.

Persons Assuring in this Office have the benefit of the Lowest Rate of Premium which is compatible with the safety of the Assured, and which is, in effect, equivalent to an Annual Bonus; they have, likewise, the security of a large subscribed capital—an Assurance Fund of nearly a quarter of a Million—and an Annual Income of upwards of £60,000, arising from the issue of between 5,000 and 6,000 Policies.

Annual Premium to assure £100.

Age.	For One Year.			For Seven Years			Whole Term.		
20	£0	17	3	£0	19	1	£1	11	10
30	1	1	3	1	2	7	2	0	7
40	1	5	0	1	6	9	2	14	10
50	1	14	1	1	10	10	4	0	11
60	3	2	4	3	7	0	6	0	10

One-half of the "Whole Term" Premium may remain on credit for seven years, or one-third of the Premium may remain for Life as a debt upon the Policy at 5 per cent., or may be paid off at any time without notice.

Policies assigned as a security to others, will not be rendered void in consequence of death by suicide, duelling, or by the hands of justice. In case of death by the above causes, where the Policies are not assigned, the gross amount of Premiums received will be returned.

Claims paid in one Month after proofs have been furnished.

The Medical Officers attend daily at a Quarter before Two o'Clock, and Policies issued the same day.

EDWARD BATES, Resident Director.

A Liberal Commission to Solicitors and Agents.

SCOTTISH UNION FIRE AND LIFE INSURANCE COMPANY, instituted in 1824, and incorporated by Royal Charter, 37, Cornhill.

FIRE *Insurances may be effected with this* Corporation on the most liberal terms and conditions.

Special risks reasonably rated.

The additions made to the Life Policies for the last five years average nearly 2 per cent. per annum on the sums insured.

F. G. SMITH, Secretary.

Scottish Union-office, 37, Cornhill, London.

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On the 30th of June will be published, price 2*s*, with numerous Illustrations on Steel and Wood, Parts 19 and 20 (completing the Work) of

VANITY FAIR: PEN AND PENCIL SKETCHES OF ENGLISH SOCIETY. By W. M. THACKERAY, Author of "Mrs. Perkins's Ball," "The Snob Papers," &c. &c.

"In forming our general estimate of this writer, we wish it to be understood as referring principally, if not exclusively, to 'Vanity Fair,' so immeasurably superior in our opinion is this to every other known production of his pen. The great charm of this work is its entire freedom from mannerism and affectation, both in style and sentiment,—the confiding frankness with which the reader is addressed,—the thorough-bred carelessness with which the author permits the thoughts and feelings suggested by the situations to flow in their natural channel, as if conscious that nothing mean or unworthy could fall from him. In a word, the book is the work of a gentleman—one touch of nature makes the whole world kin, and here are touches of nature by the dozen."—*Edinburgh Review.*

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Printed by WILLIAM BRADBURY, of No. 6, York-place, Stoke Newington, and FREDERICK MULLETT EVANS, of No. 7, Church-row, Stoke Newington, both in the county of Middlesex, Printers, at their office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the Office, No. 5, Charles-street, in the parish of St. Paul's, Covent-Garden, in the said county, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY, JUNE 24, 1848.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 27.—1848.] SATURDAY, JULY 1. [Price 6d.

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ROYAL BOTANIC SOCIETY, REGENT'S-PARK.—The last EXHIBITION this season will take place on WEDNESDAY, JULY 5th, and will include FRUIT as well as PLANTS and FLOWERS. Tickets to be obtained at the Gardens by orders from Fellows, price 5s., or on the day of Exhibition 7s. 6d. each.

ZOOLOGICAL GARDENS, REGENT'S-PARK.—Visitors are admitted WITHOUT ORDERS on MONDAY, in every week, at SIXPENCE EACH; on the following days at ONE SHILLING EACH. Children at Sixpence. The Band of the First Life Guards will perform, every Saturday at 4 o'clock; admission One Shilling (except on July 22). The new entrance in the Broad Walk is now open.

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THE SLOUGH ANNUAL EXHIBITION of the above Flowers will take place on FRIDAY, July 14. Prizes on the same liberal scale as last season; Schedules of which may be had of Mr. J. S. Watts Hon Sec., Crown Hotel Slough.

ROSHERVILLE FLORICULTURAL SOCIETY. Under the patronage of the Right Hon. the Earl of Darnley and other distinguished individuals of the county.

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On this day, 20th July, the gardens will be open at 11 o'clock, at a charge of 2s. 6d. each until 3 o'clock; after 3 o'clock the entrance will be as usual, 6d each.

Office, Mouument Chambers, 15 Fish-street-hill, July 1.

TO SEEDSMEN, NURSERYMEN, AND OTHERS.

JOHN BETHAM (Member of the Royal South London Floricultural Society), CUSTOM HOUSE, SHIPPING, AND GENERAL FORWARDING AGENT. Consignments of Plants, Seeds, and FLOWER ROOTS forwarded to all parts of the Globe, with strict attention and despatch.

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12 ACHIMENES, beautiful varieties, 9s.; 6 do., 5s.

50 fine and select vars. of GREENHOUSE PLANTS, 50s.; 25 do., 28s.; 12 do., 15s.; 12 very superior do., 25s.

PENTSTEMON gent. coccinea, 5s. per doz.; gigantea elegans, strong plants, 12s. per doz.; carnatum, 6s. per doz.

All the finest varieties of FUCHSIAS, PETUNIAS, VERBENAS, &c. &c., from 4s. to 15s. per doz.

Descriptive Priced Catalogues of Plants, on application. Post-office orders payable to BASS and BROWN, Seed and Horticultural Establishment, Sudbury, Suffolk.

NEW HARDY CYPRESSES—TAXODIUM PINNATUM AND SEMPERVIRENS.

THOMAS JACKSON AND SON having a fine, healthy stock in pots of these extremely ornamental hardy Trees, respectfully offer them to Planters at the following very low prices. TAXODIUM PINNATUM has much the appearance of the Deciduous Cypress, and attains in its own country 200 feet in height. It was exhibited at the Royal Botanic Society's Show on the 9th of June, and awarded the Prize for a New Ornamental Tree. Fine strong bushy plants, 18 inches high, 10s. 6d. each. TAXODIUM SEMPERVIRENS is a beautiful Tree, with much of the habit of the Norfolk Island Pine. It attains in California the extraordinary height of 250 feet, and produces a most valuable timber. Fine handsome plants 6 feet high, 63s; 4 feet, 31s 6d.; 3 feet, 21s.; 2 feet, 10s. 6d.; 1 foot, 5s.; 1 foot, per dozen, 42s.

Nurseries, Kingston, Surrey, July 1.

HUGH LOW AND Co. have imported the undernamed TROPÆOLUMS, which they can supply in fine sound roots:—

AZUREUM ..	.. 42s. per dozen,	5s. each.
TRICOLOR ..	.. 12s. do.	1s. 3d. do.
BRACHYCERAS	.. 9s. do.	1s. do.
EDULE	.. 60s. do.	7s. 6d. do.

Clapton Nursery, July 1.

CRYPTOMERIA JAPONICA SEEDLINGS.

MESSRS. STANDISH AND NOBLE, NURSERYMEN, Bagshot, have the honour to inform the Nobility, Gentry, and the Public, that they have succeeded in obtaining a quantity of SEED of the above truly magnificent Tree from the north of China, and are now able to send out SEEDLING Plants at the undermentioned low scale of prices.

It was first sent home by Mr. Fortune to the Horticultural Society, in 1844, and has now proved to be perfectly hardy in this country, having stood out in many exposed situations during the severe winter of 1846 and 1847. It is a tree of rapid growth, and some very fine specimens may now be seen in the gardens of the Horticultural Society nearly 10 feet in height, and very graceful in form

"*I met here* (*Shanghae*), *for the first time, with the beautiful Cryptomeria japonica, a species of Pine not unlike the Araucarias of Australia and Brazil. When growing luxuriantly it is highly ornamental, rising from the ground as straight as a Larch, and sending out numerous side branches almost horizontally from the main stem, which again droop towards the ground in a graceful and* WEEPING *manner. The wood of the tree has a kind of twisted grain, possessing great strength and durability, and is highly valued by the Chinese.*"—FORTUNE'S WANDERINGS IN CHINA.

We need scarcely inform the lovers of hardy evergreens that SEEDLINGS of this species are of much more value than cuttings. The latter never make handsome plants, and grow much slower. Our Seedling Plants, which we are now sending out, if properly managed, will be more than 2 feet high by next spring, the proper time to plant them out in the open ground.

Messrs. STANDISH and NOBLE can now supply nice healthy plants, in 60 size pots, at the following low price, viz., 3s. 6d. per plant, 36s. per doz., or 12l. 10s. per hundred. A liberal allowance to the Trade from the above prices.

N.B.—The above is for cash only.

GENUINE CIDER: GOOD FOR DRAFT OR BOTTLING.

DEVONSHIRE has for centuries been famous for its CIDER, and when obtained in a pure and genuine state, is much and deservedly esteemed.

Messrs. RENDLE and CO., 13, Octagon, Plymouth, beg to inform the nobility, gentry, and the public in general, that they can supply them with a first-rate article on the following terms. A new cask (value 8s.) containing TWELVE GALLONS of well-conditioned, bright, bottling CIDER (superior to some wine sold as champagne), will be forwarded, freight paid, by steamer to London, Cork, Dublin, Belfast, Sligo, Southampton, or Falmouth,

For a Post-office Order value Twenty Shillings.

*** *To persons taking ten casks at one time, one will be given over, making eleven for* 10*l.*

WILLIAM RENDLE and Co., Cider Merchants,
July 1. 13, Octagon, Plymouth.

GARDENERS' REGISTER OFFICE.

HORTICULTURAL ESTABLISHMENT.

J. WEEKS AND CO., King's-road, Chelsea, have the honour to inform the Nobility and Gentry that 200 GARDENERS are registered and classed according to their various qualifications, with full particulars of the situations they have filled, the wages they require, &c. By application to this establishment, a Gardener can be selected suitable for every situation in the kingdom.

J. WEEKS AND CO., ARCHITECTS AND BUILDERS OF HOTHOUSES, GREENHOUSES, CONSERVATORIES, PITS, &c.—The Nobility and Gentry about to erect Horticultural Buildings, may depend on the best seasoned materials and first-rate workmanship employed. The various works in progress will testify our facilities for executing such buildings.

J. WEEKS AND CO.'S PATENT HOT-WATER APPARATUS is unrivalled for simplicity and efficiency. The whole apparatus, in various forms, may be seen in action on the premises. Economical Boilers of all sizes, the largest is capable of heating a range of Forcing Houses 300 feet long.

J. WEEKS AND CO. have lately established an extensive Ornamental Nursery. The Horticultural Buildings, are allowed to be the finest in the country; as also the complete arrangements of the Heating Apparatuses. The whole combining economy with utility and elegance.

There is a choice and valuable collection of Stove and Greenhouse plants, as also all the common varieties.

THE SEED DEPARTMENT at this establishment is conducted with the greatest care and attention. Samples of every variety are proved before sent out.

PLANS, ESTIMATES, AND CATALOGUES upon application. The whole of the prices at this establishment are very moderate.

SEEDS.—CORNER OF HALF-MOON-STREET.

THOMAS GIBBS AND Co.,

(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND," Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

Priced Lists of Agricultural Seeds are always ready, and may be had on application.

FLOWER-POTS AND GARDEN SEATS.

JOHN AGER LOCK, 250, Oxford-street, [illegible] above [illegible] tion. Lists, [illegible] EARTHENWARE [illegible] 250, Oxford-street, near Hyde-park.

BAKER'S PHEASANTRY, Bayswater, near Kensington-road, Cockney, by special [illegible] H.R.H. Prince Albert.—ORNAMENTAL [illegible] consisting of black and white swans, [illegible] bernacle, brent, and Egyptian geese, [illegible] widgeon, teal, and wood [illegible] shovelers, golden and common [illegible] dome-headed and pied ducks, [illegible] Mahy Pheasants, [illegible] and Bantam fowls, [illegible] and cream-coloured [illegible] wood pheasants, &c. at 84, Bayswater-road, Gate at Hyde-park-corner.

IMPROVED FLOWER STICKS.—These Flower Sticks are of a new and [illegible] form, [illegible] sharp edges, which [illegible] They may be had stained [illegible] plants.—To be had at [illegible] men, and dealers in [illegible] sold Wholesale, at H. MOSELEY'S, 149, [illegible]

N.B. Samples to be seen at the Office of this Paper.

MICROSCOPES.—A Good Compound Microscope, magnifying 250 times, with [illegible] for examining live or dead insects, flowers, [illegible] crystals, seeds, &c., with full instructions for use, price 1l.

Pocket Magnifiers, with single, double, and triple glasses, for flowers and insects, 2s. 6d. and 5s. [illegible] Thermometers, not liable to get out of order, 2s. 6d. and 5s. Garden Thermometers, 2s. each. Orders by post carefully attended to.—HENRY BAKER, Optician, & [illegible] London. H. B. supplies Crown and Sheet Glass, &c., at the market prices.

GLASS.

APSLEY PELLATT AND CO. (late PELLATT and GREEN), Falcon Glass Works, [illegible]-street, [illegible] have always on hand, Bee Glasses, 1s. 6d. per lb. Bell Glasses, 1s. 6d. per lb.; Fish Pans, [illegible] each; Propagating Glasses, white, [illegible] do. green, [illegible] do. Condensers, 2s. per lb. extra. Asparagus Tubes, 18s. to 21s. per gross; Grape [illegible] Fish-bowls, from 1s. 6d. each; Wasp and Fly-traps, 9d. per gross, or 2s 6d. per doz. n. By the use of these traps fruit may be preserved from (otherwise certain) destruction.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND CO., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS FOR CONSERVATORIES.

CUT TO SIZE UP TO 40 INCHES LONG.

16 oz. to the foot	3½d.	per foot.
21 ,,	5 ,,	
26 ,,	7½ ,,	
32 ,,	10 ,,	

GLASS MILK PANS.

12-inch diameter, each—	2s.	0d.	
14 ,, ,,	2	6	
16 ,, ,,	3	0	
18 ,, ,,	3	6	
20 ,, ,,	4	0	
22 ,, ,,	4	6	
24 ,, ,,	5	0	
26 ,, ,,	6	0	

PASTRY PANS from 18-inch to 26-inch 1s. per pan extra.

PROPAGATING GLASSES. each—	s.	d.	BEE GLASSES. s.	d
2-inch diam.	0	2 ..	0	3
3 ,,	0	3 ..	0	4
4 ,,	0	4 ..	0	5
5 ,,	0	6 ..	0	7
6 ,,	0	8 ..	0	10
7 ,,	0	11 ..	1	1
8 ,,	1	2 ..	1	4
9 ,,	1	6 ..	1	9
10 ,,	1	10 ..	2	1
11 ,,	2	4 ..	2	8
12 ,,	2	8 ..	3	3
14 ,,	4	0	Not made	
16 ,,	6	0 above		
18 ,,	9	0	12 inches.	

GRAPE GLASSES.

4-inch diam. ..	each	0	3	
5 ,, ..		1	0	
6 ,, ..		1	3	
7 ,, ..		1	6	
8 ,, ..		1	9	
9 ,, ..		2	6	

METAL HAND FRAMES.

12-inch	2s.	6d.	Glazed	6s.	6d.
14 ,,	3	6	,,	7	6
16 ,,	4	6	,,	8	6
18 ,,	5	6	,,	9	6
20 ,,	5	0	,,	10	6
24 ,,	6	0	,,	12	6

Glazed with stout Sheet Glass. To open at top, 1s. each extra.

SMALL SQUARES OF SHEET.

4 by 3 and 4 by 4	1d.	per ft.		
5 ,, 3 .. 5 .. 4	1½d.	,,		
6 ,, 4 ,, 6 ,, 4	2d.	,,		
7 ,, 5 ,, 7½ ,, 5	2½d.	,,		
8 ,, 6 ,, 8½ ,, 6	3d.	,,		
Not above 10 .. 8	3d.	,,		

GLASS CREAM POTS.

6-inch diameter	each	2s.	0d.
8 ,, ..		2	9
10 ,, ..		3	0
12 ,, ..		4	0
14 ,, ..		5	0
16 ,, ..		6	0
18 ,, ..		7	6

Not made above 18 inches. Covers for the above the same price as Milk Pans.

FLOWER POTS AND PRESERVE JARS.

3-inch diameter ..		0s.	6d.
4 ,, ..		0	6
5 ,, ..		0	9
6 ,, ..		1	0
7 ,, ..		1	3
8 ,, ..		1	6
9 ,, ..		2	0
10 ,, ..		3	0
11 ,, ..		4	0
12 ,, ..		5	0

Saucers half the price of the above.

CUCUMBER TUBES.

24 inches long ..		2s.	0d.
22 ,, ..		1	10
20 ,, ..		1	8
18 ,, ..		1	6
16 ,, ..		1	4
14 ,, ..		1	2
12 ,, ..		1	0

GLASS TILES and SLATES.

16 oz. ..	0s.	8d.	0s. 10d.
21 oz. ..	0	10	1 0
26 oz. ..	1	0	1 4
32 oz. ..	1	4	1 8

Made to any dimensions.

LACTOMETERS for trying the quality of Milk, 4 tubes 7s. 6d., 6 tubes 10s.; Peach Glasses 1s. 6d. each; Fish Globes from 1s. 6d. each; Wasp and Fly Traps 2s. 6d. per dozen; Plate and Window Glass; Lamp Shades and Chimneys; and every article in the trade.

SASHES AND FRAMES MADE AND GLAZED.

GLASS FOR CONSERVATORIES, GREENHOUSES, PIT FRAMES, &c.

HETLEY AND CO. are supplying the above article, packed in boxes containing 100 square feet each, of BRITISH Manufacture, at the following reduced prices for cash. A reduction on 100 feet.

Sizes. Inches.			Inches.			Per foot.	Per 100 feet.
From 6 by 4	to		8 by 6	at	2½d.	is £1	0 10
8 ,, 6	,,		10 ,, 8	,,	2¾d.	,, 1	2 11
10 ,, 8	,,		14 ,, 10	,,	3d.	,, 1	5 0
14 ,, 10	,,		20 ,, 12	,,	3½d.	,, 1	7 1
20 ,, 12	,,		40 ,, 14	,,	3¾d.	,, 1	9 2

21 oz. from 3d. to 5½d., per square foot, according to size.
26 oz. ,, 3½d. 7½d. ,, ,, ,,
32 oz. ,, 4d. 9½d. ,, ,, ,,

GLASS TILES AND SLATES made to pattern any thickness.
PROPAGATING, FLOWER, FRUIT, AND VEGETABLE GLASSES of every size and description.
BEE HIVE GLASSES from 4 to 12 in. diameter.
GLASS MILK PANS, from 12 to 26 in. diameter.
GLASS SHADES, as ornamental to, and for the preservation of every description of goods susceptible of injury by exposure. Prices, since the removal of the Excise duty, reduced one-half. List of Prices forwarded on application to JAMES HETLEY and Co., Glass Shade, Sheet, Crown, and Patent Plate Glass Warehouse, 35, Soho-square, London.

DEANE'S WARRANTED GARDEN TOOLS.—Horticulturists, and all interested in Gardening pursuits, are invited to examine G. and J. DEANE'S extensive Stock of GARDENING AND PRUNING IMPLEMENTS, best London made Garden Engines and Syringes, Coalbrookdale Garden Seats and Chairs.

Aerunicators
Axes
Bagging Hooks
Bills
Borders, various patterns
Botanical Boxes
Cases of Pruning Instruments
Chaff Engines
Chaff Knives
Daisy Rakes
Dibbles
Dock Spuds
Draining Tools
Edging Irons and Shears
Flower Scissors
,, Stands in Wires and Iron
Fumigators
Galvanic Bordersand Plant Protectors
Garden Chairs and Seats
,, Loops
,, Rollers
Garden Scrapers
Grape Gatherers and Scissors
Gravel Rakes and Sieves
Greenhouse Doors and Frames
Hammers
Hand-glass Frames
Hay Knives
Hoes of every pattern
Horticultural Hammers and Hatchets
Hotbed Handles
Ladies' Set of Tools
Labels, various patterns, in zinc, porcelain, &c.
Lines and Reels
Marking Ink
Mattocks
Menographs
Metallic Wire
Milton Hatchets
Mole Traps
Mowing Machine
Pick Axes
Potato Forks
Pruning Bills
,, Knives, various
,, Saws
,, Scissors
,, Shears [riety.
Rakes in great va-
Reaping Hooks
Scythes
Scythe Stones
Shears, various
Sickles
Sickle Saws
Spades and Shovels
Spuds
Switch Hooks
Thistle Hooks
Transplanting Tools
Trowels
Turfing Irons
Wall Nails
Watering Pots
Weed Extractorsand Hooks
Wheelbarrows
Youths' Set of Tools

G. and J. DEANE are sole Agents for LINGHAM'S PERMANENT LABELS, samples of which, with the Illustrated List of Horticultural Tools, can be sent, post paid, to any part of the United Kingdom.—DEANE'S Horticultural Tool Warehouse, Head Manufactory, the Monument, 46, King William-st., London-bridge.

HOTHOUSES, & HEATING BY HOT WATER. BEST MATERIALS AND WORKMANSHIP, AT SMITH'S, GLEBE-PLACE, KING'S ROAD, CHELSEA, LONDON. ESTABLISHED TEN YEARS.

WIRE-WORK, HOT-WATER APPARATUS, GREENHOUSES, &c.

ST. THOMAS BAKER, MANOR-HOUSE, MANOR-PLACE, KING'S-ROAD, CHELSEA, Manufacturer of INVISIBLE WIRE FENCE, to resist Grazing Stock, and rendered Rabbit-proof. WIRE-WORK in Trainers, Arches for Walks, Bordering, Flower Stands, Pheasantries, &c. HORTICULTURAL BUILDINGS, Green and Hothouses, Conservatories, &c. The same heated by HOT-WATER APPARATUS on improved and economical principles.
Parties waited on in Town and Country, and Drawings and Estimates free. Work for the Trade as usual.
Ward's Cases, or Domestic Greenhouses.

DUTY OFF GLASS.

GREEN AND HOTHOUSES, CONSERVATORIES, &c., made and fixed Complete in all parts of the Kingdom, at a considerable reduction. One, two, and three-light Cucumber and Melon Boxes, and Lights of all sizes, kept ready for use, packed and sent to all parts of the Kingdom; warranted best material. Two-light Boxes and Lights complete, from 1l. 5s. Garden-lights of every description at JAMES WATTS'S, Hothouse Builder, Claremont-place, Old Kent-road.
Reference may be had to the Nobility, Gentry, and the Trade, in most of the counties in England.

CLARK'S METALLIC HOTHOUSE WORKS, 55, Lionel-street, Birmingham.—Proprietor, Mr. THOMAS CLARK; Manager, Mr. JOHN JONES.
Mr. CLARK presents his grateful thanks to the Nobility and Gentry for their liberal patronage of the above Establishment, during a period of thirty years, and begs to state that the repeal of the duty on Glass enables him to offer his METALLIC HOTHOUSES at a greatly reduced price. These Houses are glazed with British Sheet Glass, in panes of from 24 to 30 inches in length, and of such thickness as to preclude all danger of accidental breakage, whilst that which arises from the action of frost is effectually prevented by the peculiar mode of glazing adopted. As a sample of his Metallic Hothouses, in which all the most recent improvements are happily combined, Mr. CLARK refers to the magnificent range erected by him in the new Royal Gardens at Windsor, admitted by competent judges to be the most complete of its kind in the world.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.
S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.
Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

TURNIP SOWING.

MARK FOTHERGILL, 201A, Upper Thames-street, begs to offer the following MANURES for the Turnip Crop, viz —
GUANO, PERUVIAN, direct from Import Warehouse.
SUPERPHOSPHATE OF LIME, manufactured from Bone only (superior to the cheap qualities made from fossils).
DRIED NIGHT SOIL.
BONE DUST AND HALF-INCH BONE.
SULPHURIC ACID.
Also Soda Ash, wireworm destroyer; pure Gypsum, or Mineral Sulphate of Lime (the rubbish offered cheap contains but little acid, the rest being carbonate of lime and water); Agricultural Salt, Nitrate of Soda, and all other Manures of known value. Prices current on application.

THE LONDON MANURE COMPANY beg to offer, on the best terms, Peruvian Guano, warranted genuine, delivered direct from the Importers' warehouses; Superphosphate of Lime, in any quantity; Sulphate of Ammonia, Nitrate of Soda, Sulphuric Acid, fine Bone Sawdust, Gypsum, Potter's Guano, Soda Ash, Petre, Agricultural and Fishery Salt, and every other artificial Manure.
The URATE of the LONDON MANURE COMPANY has now stood the test of seven years, with a largely increasing sale. It is recommended with the greatest confidence for Turnips, Mangold Wurzel, Carrots, and all root crops; also for Coleseed, Tares, Barley, &c. Unlike many other artificial Manures, its effects are not exhausted by the first crop; and when from any cause the crop of Turnips to which it has been used fails, its full fertilising properties remain for the next full crop. Testimonials and full particulars forwarded free. The LONDON MANURE COMPANY most earnestly request their friends to order the Urate direct from themselves, or their accredited Agents, so as to prevent any other article of a totally different manufacture being substituted. EDWARD PURSER, Sec.
No. 40, Bridge-street, Blackfriars.
☞ Sole Manufacturers of Mr. J. C. Nesbit's Chemical Manures.

PERUVIAN AND BOLIVIAN GUANO ON SALE,
By THE ONLY IMPORTERS,
ANTONY GIBBS AND SONS, LONDON;
WM. JOSEPH MYERS AND CO., LIVERPOOL;
And by their Agents,
GIBBS, BRIGHT, AND CO., LIVERPOOL and BRISTOL;
COTESWORTH, POWELL, AND PRYOR, LONDON.
To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

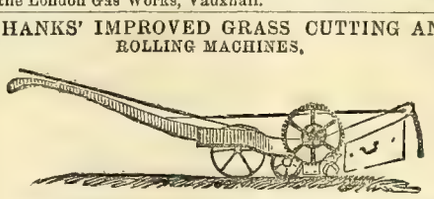
MR. J. C. NESBIT'S CHEMICAL MANURES.

THE LONDON MANURE COMPANY beg to announce that they have undertaken the exclusive manufacture of the manures recommended by Mr. J. C. Nesbit. The substances used in their preparation will be subjected to Mr. Nesbit's analysis, and every care will be taken in their manufacture. HOP MANURE, Superphosphate of Lime, Wheat and Clover Manure. A Pamphlet on Artificial Manures, by Mr. J. C. Nesbit, now ready.
The London Manure Company have also made arrangements for a large supply of Fishery and other Salt, which they can offer on good terms.
E. PURSER, Secretary, 40, Bridge-street, Blackfriars.

TO FARMERS AND GARDENERS.

FOR SALE, and constantly on hand, at 1s. per ton, a quantity of the WET LIME used in purifying gas. This substance is charged with ammonia, &c., forms an excellent manure for heavy soils. It is of a nature to admit of its being loaded in carts or barges.—Direct to Mr. Preston Lumb, at the London Gas Works, Vauxhall.

SHANKS' IMPROVED GRASS CUTTING AND ROLLING MACHINES.



The complete success which has attended the introduction of this Improved Machine for Mowing Grass, and its fine adaptation for cutting the Grass of Lawns, has been fully proved by the numerous instances where it has been tried, and now in common use, particularly at Rossie Priory, Camperdown, and Kinblethmont, Forfarshire; Breadalbane, Perthshire; Clumber, and at many other noblemen and gentlemen's seats in England, as well as abroad. The Machines are made to cut breadths of 42, 30, or 20 inches, as required, the latter being adapted to hand-power. The Machine performs three different operations at one time, viz., Rolling, Mowing, and Collecting the Grass; and works with perfect ease, producing a beautiful smooth surface, and attended with great saving in abridging labour.
Orders may be addressed to Messrs. ALEXANDER SHANKS and SON, Machine-makers, Arbroath, N.B., by whom further particulars will be given.
Sold by Messrs. F. and J. DICKSON, Nurserymen, Chester; Messrs. J. and C. LEE, Nurserymen, Hammersmith; and Mr. GEORGE BARRY, Nurseryman, Castle-street, Liverpool.

HAY-MAKING MACHINES.—Improved Double Motion Reversing Hay-making Machines, Price Twelve Guineas. These Machines have all the latest improvements of the Double Rake Cylinders, driven from both ends, which causes them to work very lightly, and admits of their turning in any direction at the end of the field, without impeding the working of the machine; they have also an additional motion by which the rakes can be turned the reverse way, leaving the hay remarkably loose and light.
The depressed state of the Iron trade enables COTTAM and HALLEN to offer IRON HURDLES at extraordinary low prices, (See Price List.) Also every description of continued and strained Wire Fence, and Agricultural and Horticultural Implements with the latest improvements.
C. and H. have regulated the prices of all their articles agreeably with the present low price of materials. Hatcher's Bennenden Tile Machine is also reduced from 25l. to 20l.
COTTAM & HALLEN, 2, Winsley-street, Oxford-street, and 76, Oxford-street, London.

MARY WEDLAKE AND CO.'S PATENT HAY-MAKING MACHINES, with back action, 14l. 14s.; Horse Hay-rake, of superior workmanship, 9l. 9s. Give your orders early. Linseed Crusher, 11l. 11s.; small ones, 6l. 15s.; ditto, doing Beans, Linseed, and Oats, 10l. 10s. Threshing machines, doing upwards of 25 loads of Wheat straw per day, 60 guineas. Gorse bruising machines, price 10l. 10s., will prepare 40 to 50 bushels of food a day. MARY WEDLAKE and Co.'s Chaff-cutting Machine, 100 to 200 bushels a day, price 7l. 7s. and 5l. 5s. Horse hoe, Dressing Machine, Turnip Cutter, Turnip Drill, Stubble rake, Oil-cake Breakers, Bean and Oat Crushers, Subsoil Plough, Double Field Roller, &c.—MARY WEDLAKE and Co., 118, Bunhurch-street, opposite Mark-lane.

NEW IMPLEMENT.

CHANDLER'S PATENT LIQUID MANURE DRILL, for Drilling Corn or Turnips on the flat or ridge, or for Watering Pastures broadcast.
The Patentee, THOMAS CHANDLER, Stockton, Heytesbury, Wilts, invites agriculturists, visiting the Royal Agricultural Society's Show, at York, to Stand No. 61, to inspect the above implement. The high character that this Drill has obtained in Wiltshire and adjoining counties may be appreciated by the numerous testimonials (which will appear in circulars) from gentlemen who have worked it on their farms.—Stockton, July 1.

PROTOXIDE PAINT FOR STUCCO FRONTS, for Iron, Brickwork, and Wood. Manufactured only by CHARLES FRANCIS and SONS, Cement Works, Nine Elms.

ANNATTO.—Farmers and others will do well to try SIMS and Co's extra superfine ANNATTO for COLOURING CHEESE. None will be found superior either in the London or country markets, and the same can be supplied, at a greatly reduced price, through the chemists and grocers of the United Kingdom, by their sole agent, W. S. RUMSEY, wholesale chemist, 8, Queen-street-place, Upper Thames-street. Samples (if required) forwarded by post.

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THE AINSLIE BRICK AND TILE MACHINE COMPANY (James Smith, Esq., of Beanston, Chairman) invite attention to their IMPROVED BRICK and TILE MACHINES, which are to be seen at work at Alperton, and at the Company's Office, 193A, Piccadilly, from 10 A.M. to 5 P.M. Mr. Robert Scrivener, who has been appointed Manager in the room of Mr. John Ainslie, will show the Machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, 193A, Piccadilly, London.
These Machines may also be seen at Mr. Slight's, Leith-walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill, 135, Buchanan-street, Glasgow; Mr. Robert Charles, Mill-hill, Leeds; Messrs. PEARY and Finch, Penkeridge, Staffordshire; Messrs. Drummond and Son, Dublin; and at Mr. John Connor's, Newtown Limavady, County Derry.

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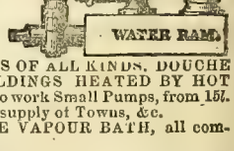

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J. LEGG begs to return thanks to his patrons and friends, and also to inform them that he continues to erect his improved Hydraulic Engines, Water Ram, &c., suitable for all situations where a fall can be obtained, also Engines for Deep Wells. J. L. also begs to inform his friends that he has made several improvements on his Hydraulic Machines, and flatters himself that he is able to compete with any parties of the present day in the construction of the above machines.
Apply to JOHN LEGG, Cheltenham.

HORTICULTURAL SOCIETY OF LONDON.—HIS GRACE THE DUKE OF DEVONSHIRE, President of the Horticultural Society, has kindly directed the grounds of Chiswick House to be opened for the reception of the visitors to the Society's Gardens at the next Exhibition, on WEDNESDAY the 12th July. Tickets are issued to the order of Fellows of the Society only, at this office, price 5s., or at the Garden in the afternoon of the 12th July at 7s. 6d. each, but then also only to orders signed by Fellows of the Society. *Not respectable strangers, or residents in the country, who will forward their addresses in writing to the Vice-secretary, 21, Regent-street, before the day of Meeting, may obtain from that officer an authority to procure tickets on this occasion.*

N. B. No tickets will be issued in Regent-street on the day of Exhibition.

The Gardeners' Chronicle.

SATURDAY, JUNE 31, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

MONDAY	July	3—Entomological	8 P.M.
TUESDAY	—	4 Horticultural	1 P.M.
WEDNESDAY	—	5—Royal Botanic Gardens	2 P.M.
FRIDAY	—	7—Botanical	8 P.M.
SATURDAY	—	8—Royal Botanic	4 P.M.
WEDNESDAY	—	12—Horticultural Gardens	1 P.M.

COUNTRY SHOW.—Tuesday, July 11: York Horticultural.

SEVERAL statements have reached us announcing the reappearance of the POTATO DISEASE; we have certain knowledge of its presence in the open ground in the neighbourhood of Ashford, and in Sussex; and tainted specimens are now before us from Lord ORANMORE'S estate in Mayo, and from Yorkshire—the latter in as bad a state as any we saw in 1845 or 1846. We however see nothing of it in our own neighbourhood, and should be obliged to our correspondents in different parts of England for some information as to the crop within their observation. Our own impression was, that it had either disappeared or ceased to be of any consequence, *for the present.*

THE last number of the "Chemical Gazette" contains a paper by the Messrs. ROGERS, ON THE DECOMPOSING POWER OF PURE WATER, AND OF WATER CHARGED WITH CARBONIC ACID. This communication is of importance to horticulture, and throws light upon some hitherto obscure points in the theory of cultivation. More especially it shows that decaying substances, such as constitute the larger part of manure, not only act of themselves by emitting carbonic acid, sulphuretted hydrogen, and other products of decomposition, but that they also break down and reduce to their elements the particles of earth with which they are mixed.

The Messrs. ROGERS have proved experimentally that water holding carbonic acid in solution acts with much energy in a short space of time, separating lime, magnesia, alkali, &c., from the hardest rocks. When such substances are finely powdered, "proof of the solvent power of the carbonated water may generally be obtained in less than 10 minutes after adding it to the powder."

The carbonated water was prepared by charging water to saturation with carbonic acid at a temperature of 60°. It is true that absolutely pure water, artificially deprived of air, also possesses the same power: but the action is comparatively slow. The precise difference in their value is not stated, but it is incidentally mentioned that the carbonated water does in 48 hours what pure water only effects in a week.

This seems to explain why common stable manure is so much more useful an agent in cultivation than its saline ingredients when separated; and also to show that it is not merely because stable manure is the best natural mixture of all the ingredients which plants require for their food, that it acts so beneficially, but also because it long remains an active source of carbonic acid, by whose agency the soil itself is freed from its soluble nutritious matters, which then, and then only, become the food of plants. Such being the case it may become a question whether, at least for certain garden purposes, it might not be worth while to introduce carbonic acid into water by some artificial process. Water has a great affinity for it, and readily takes up its own volume, and it is perhaps possible to charge water with it by some very simple and unexpensive contrivance. Might not, for instance, the air carried off by flues, and which consists largely of carbonic acid, be compelled to pass over tanks of water? Before however such an experiment were tried it would be desirable to use carbonated water experimentally for plants for some time, and carefully to mark the result. A bottle of chalk and some cheap acid, with a bent tube rising from the mouth and dipping into water, would supply in abundance carbonic acid, which might be caught in a large bell glass, from which the water would soon absorb it.

Another point in the researches of the Messrs. ROGERS has also a high practical value. Attention has been drawn for many years to the importance of determining by chemical analysis the nature of the ashes left by plants when burnt; and considerable sums of money have been expended by chemists in endeavouring to supply this desideratum. If such information is important to any one, as it most undoubtedly is, it is more especially so to gardeners, whose crops are so much more varied than those of farmers. But to have any great value, such analysis must be accurate, and, according to the Messrs. ROGERS, this has not as yet been the case, owing to an unsuspected source of error. That the fixed alkalies are to a certain extent volatile is well known; but, according to the authorities we are now quoting, they are much more so than is generally imagined; and, therefore, the determination of the quantity of them present in a plant is attended with much error, when they are analysed by means of burning, as is the usual practice. "From the great rapidity," say these chemists, "with which, according to our experiments, potash and soda and their carbonates, but especially potash and its carbonate, rise in vapour at a strong red heat, we are persuaded that a large error must be committed in estimating the amount of these materials contained in plants by the results of incineration; and we believe that in not a few cases the quantity obtained is scarcely one-half of what really exists in the vegetable mass. The important bearing of this consideration upon the late numerous and elaborate analyses of ashes should, we think, claim the special attention of chemists. Indeed it seems a little remarkable that the source of error here referred to has not already been brought to the notice of analysts, as likely to modify materially their results."

It seems important that this unexpected statement should be verified by those who are labouring at the tedious but necessary examination of the ashes of plants.

LOUDON, in one part of his remarks on GROUPING, to which we have already alluded, would almost seem to reduce it to an arithmetical question of permutations and combinations. His statement is very simple and very confident. "Of this any person may convince himself by placing a few dots on paper. Thus two trees, or a tree and a shrub, which is the smallest group, may be placed in three different positions with reference to a spectator in a fixed point: if he moves round them they will first vary in form separately, and next unite in one or two groups, according to the position of the spectator. In like manner, three trees may be placed in four different positions; four trees may be placed in eight different positions; five trees may be grouped in 10 different ways as to ground plan; six may be placed in 12 different ways, and so on."

There is no doubt that while these principles are true on a scale ever so small, they are equally true on a scale however large. They involve in either case the simplest forms of beauty. DOWNING, after some allusions to the office of the artist in America, consisting, as we have already remarked, in the application of skill more to clearing than planting, lays down the same doctrine on the particular question of grouping, which he advocates in respect to landscape gardening generally. He insists upon it that here, too, there are two distinct schools—the graceful and the picturesque. And he seems to us to make out his first case on the whole very fairly. "The elementary principles in the *graceful* school," he says, "are fulness and softness of outline, and perfect luxuriant development. To ensure these in plantations, we must commence by choosing, mainly, trees of graceful habit and flowing outlines: and of this class of trees the American Elm and the Maple may be taken as the type. Next, in disposing them, they must usually be planted rather distant in groups, and often singly. We do not mean by this that close groups may not occasionally be formed, but that there should be a predominance of trees grouped at such a distance from each other as to allow a full development of the branches on every side. Or, when a close group is planted, the trees composing it should be usually of the same or a similar kind, in order that they may grow up together and form one finely rounded head. Rich creepers and blossoming Vines that grow in fine luxuriant wreaths and masses, are fit accompaniments to occasional groups in this manner. . . . . Clear smooth stems, fresh and tender bark, and a softly rounded, pyramidal or drooping head, are the characteristics of a graceful tree. We need not add that gently sloping ground or surfaces rolling in easy undulations, should accompany such plantations." His meaning seems pretty clear—and it would be difficult to find any error in his views so far. Let us now hear him speak on the Picturesque School: "All trees are admissible in a picturesque place, but a predominance must be used by the planter of what are truly called picturesque trees, of which the Larch and Fir tribe and the Oak, may be taken as examples. In the Picturesque School everything depends on *intricacy* and *irregularity*, and grouping therefore must often be done in the most [illegible] manner, if ever, with [illegible] should seem to [illegible] but most frequently [illegible] or carrying a [illegible] Lebanon, and the [illegible] one of beauty to [illegible] will say that single [illegible] never picturesque? [illegible] an [illegible] Oak, for example [illegible] object picturesque [illegible] not an isolated [illegible] that very isolation [illegible] of their picturesqueness? [illegible] author wrong. The principle [illegible] would seem to [illegible] —uniformly carried out in the whole landscape to our minds would [illegible] altogether, would forbid society completely, and would render the whole scenery unintelligible by its very sameness of intricacy. The truth is that the two principles properly [illegible] with the end aimed at. Single and [illegible] objects enhance the effect of the [illegible] around. Each aids the other by the contrast which it yields.

The author indeed seems hardly consistent with himself when writing on this point. "There will be *open glades* unpicturesque as in graceful plantations; but these openings in the former will be bounded by groups and thickets of every form, and of different degrees of intricacy—while in the latter, the eye will repose on softly rounded masses of foliage, or single open groups of trees with finely balanced and graceful heads and branches." How all the objects should be closely connected together and yet there should be open glades is to us rather difficult of solution. And the author has not developed his ideas with his usual clearness and correctness; above all, his great defect is the total omission of the grander objects in nature and in trees—objects which occasionally isolated and always well-placed are characteristic features of the picturesque.

On this question, however, we differ from him, as much in respect to grouping of trees as to landscape gardening altogether. We deny that any given space should be necessarily laid out only in the graceful, or only in the picturesque style; or that there is any valid argument against the tasteful use of both within the same grounds. But there is one simple principle of universal application which he has laid down so well that we must quote it. "One of the loveliest charms of a fine park is, undoubtedly, variation or undulation of surface. Everything, accordingly, which tends to preserve and strengthen this pleasing character should be kept constantly in view. Where, therefore, there are no obvious objections to such a course, the eminences, gentle swells, or hills, should be planted in preference to hollows or depressions. By planting the elevated portions of the grounds, their apparent height is increased: but by planting the hollows all distinction is lessened and broken up. Indeed, where there is but a trifling and scarcely perceptible undulation, the importance of the swells of the surface already existing is surprisingly increased when this course of planting is adopted, and the whole yields to the eye a most pleasing variety."=

WE have to mention, with much regret, the decease of our valued correspondent, Mr. DAVID CAMERON, which occurred on Sunday last. Mr. CAMERON was an excellent British Botanist, had an extensive knowledge of exotic plants, was a good gardener, and a very worthy man. His notes and hints upon cultivation, which have occasionally appeared in our columns, showed the intimate knowledge he possessed of the habits of hardy plants, and the skill with which he knew how to turn that knowledge to account. For many years he filled the office of Curator to the Botanic Garden, Birmingham, with much credit to himself and advantage to the establishment: he was also a corresponding member of the Horticultural Society of London. He died at the age of 61.

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

ROSES.—A correspondent who signs himself "H. H.," in the *Gardeners' Chronicle* of last week, asks advice respecting the Bourbon Queen Rose, which he says will not flower well with him. His language is so pathetic that I quite feel for him, and as he is evidently a lover of flowers, I will attempt to console him. He says, "I have lately discarded one standard (of the Bourbon Queen) thinking it was perhaps sickly, and procured in its place, last autumn, a strong healthy-looking plant, which will not grow or flower in any but the most uncomfortable diseased-looking manner."

Now in this passage "H. H." has indicated the probable cause of the failure he complains of, in the fact that his Bourbon Queen was transplanted last autumn. It is indeed true that Roses will bear removing almost as well as any production, and will often flower as well and as profusely the same season as if they had not been disturbed; but this is by no means an invariable rule, as a little consideration will show. A standard Rose, carefully taken up, with all its roots, and skilfully planted in its new situation, will probably give no intimation of its being a new comer; but in most cases this attention is impossible. Nurserymen appear to think that roots are unnecessary appendages of a plant, and I have often been annoyed to find a tree deprived of its most important root-fibres. Perhaps this was the case with the standard of "H. H.," and this will account for its present "uncomfortable" appearance. A man, otherwise healthy, would have rather a cadaverous hue if some of his toes or one of his feet were cut off, until the natural process of healing were complete.

But however well a tree might be removed and planted last autumn, the long drought of the present spring was sufficient to account for a want of vigour, unless watering and mulching had been sedulously kept up. Many gardeners were led into error by the wet weather of March, and fancied that all transplanted trees were safe, and required no further attention. But, let us ask, when is a transplanted tree independent of artificial treatment? Certainly not until its minute root-fibres, destroyed by transplanting, have been reformed. Now the briar, or the Rose generally, makes no fibres until the temperature is rather high, and certainly not, in most cases, until April. Transplanted Roses, therefore, which looked well in March, and by the plumpness of their buds appeared quite safe, would be likely to recede and turn sickly during April and May. I found this the case with all I removed last autumn. They had no artificial watering, and many of them are only just beginning to put forth vigorous buds.

After all, "H. H." is but a tyro in Rose growing, if he expects to insure a good bloom from a single tree. He should have kept his Bourbon Queen for another season, and purchased two or three more, and then out of four plants a fine show might be relied on. I have at the present time about a dozen Bourbon Queens, on various stocks, and only two are really worth looking at. The same remark is true of the Bourbon Paul Joseph, and indeed of all the finer Roses. Some of my standard Hybrid Perpetuals present a horrid spectacle. They flowered pretty well, and then were attacked with the disease of the leaves so prevalent among Roses, and now present nothing but bare stems. Gardening would indeed be an occupation of unmingled pleasure if from a certain number of plants we could rely on a certain amount of bloom. Our mischances and enemies are innumerable; their attacks are often not to be foreseen, and while more scientific culture will lessen our disappointments, we must not hope to be entirely free from them. Whatever may have been the case once (and even that is doubtful), no garden now can be perfect. Causes in culture, in the inherent tendencies of the stock or the graft, in manures and soils, in the atmosphere, and in the temperature, come between us and our hopes, and when we expect a blooming Eden, leaves us blasting and decay. Our remedy is, to have as many various objects of affection as possible.

> "Or if you hear the stricken mother wail
> For one of her dear children who is dead,
> Hear not that wail alone, but also hear
> She still has children, still she is a mother."

So advises a transcendental German poet, and if "H. H.," and others similarly situated, wish to be consoled for finding a particular Rose tree with an "uncomfortable and diseased look," they must bring around them a progeny as extensive as possible. By the way, I cut down to a plump bud the Perpetuals which suffer as above described, and expect a good autumnal bloom. This is a good time to strike cuttings of all kinds of Roses. Climbers, such as Ayrshire, for stocks, will root if planted in a shady place.—*H. B.*

MR. FEARGUS O'CONNOR'S LAND SCHEME.

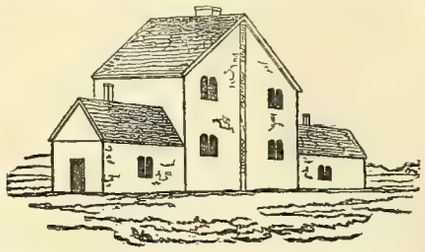
[The following communication will serve as an introduction to such notice as we may hereafter take of the Allotment project (or, as it is usually called, Land *Scheme*) of Mr. Feargus O'Connor. As a question of garden probabilities and labour possibilities it has become necessary, for the sake of the poor men concerned in it, that its true character should be understood. The following observations can be fully relied upon as being the result of inquiry and investigation by a working man on the spot. Since we received them, the second report of the House of Commons Committee upon this subject has reached us, and we have appended an extract or two from it by way of illustration.]

Happening to be in the neighbourhood of Rickmansworth, I paid a visit to the estate of the Chartist National Land Company, named Herringsgate or O Connorville, and of which Mr. F. O'Connor is chief director. The estate is situated on the top of a hill, about a mile from the little village of Mill-end in Hertfordshire, two miles from Rickmansworth, and six from the Watford station on the Birmingham Railway. The soil on the estate is, with little exception, from 2 to 8 inches deep, resting on a stratum of gravel and yellow sand upwards of 10 feet in depth; therefore poor, remarkably stony, and liable to be burned up in dry weather.

The estate consists of 104 acres, and is divided into 36 allotments, of four, three, and two acres each. Of the latter there are 17, and of the former 13. To each allotment there is a house, varying in accommodation according to the size of the allotment. The accompanying sketch represents the cottage for two four-acre allotments. It is in fact a double cottage under one roof, each occupant having five rooms, which are very small, the lean-to being the kitchen.

The holders came into possession of their respective allotments in May, 1847, the ground being then partially under crop; but, as I learned, barely enough to keep the occupants in food. They have had a most severe struggle to get through the winter. One of them stated that he had a wife and eight children, who had been wintered chiefly on Barley bread. He said at the present time he had not a halfpenny in his pocket nor in his house, and, except from a few Cabbages and early Peas, which fetch 1*s.* a peck in the neighbouring village, he had as yet no means of making money. He, however, did not repine at his lot; he had had always to work hard, and he had to do the same now, with this difference, that he was his own master, that he could take his dinner hour though he had nothing to eat, and that no bell called him to labour when the hour was up. He believed the worst was past, and entertained sanguine hopes of the future.

I learned that the way in which allotments were obtained was this. The Company, when this estate was bought, consisted of between 7000 and 8000 members, each of whom had deposited 5*l.*, which entitled him to a "draw," and the result was that out of these members 36 got allotments!! It will be asked what became of the rest; for all are to get prizes some time. They have to wait until another estate is purchased, and again to run the chance of losing (for to win is to find a needle in a bundle of hay), paying 1*s.* a year till they are lucky enough to get an allotment. Those who obtained holdings proceeded directly to take possession of them, and, in the case of a four-acre one, to



set them a-going they received from the Company a sum of 30*l.*, which was to be laid out to the best advantage for necessaries, making the total outlay for cottage, land, &c., somewhere about 300*l.*; and on this sum 4 per cent. interest, or 12*l.* a year, is to be paid in the shape of rent (1). As the first outlay is reduced, of course this rent is reduced in proportion, and when all is paid up the occupants are to sit rent-free, the 4 acres of land and cottage are to be their own, and the title deeds, according to promise, are to be handed over to them—at least so they expect. But will ever the allottees be able to pay off this 300*l.*? Time will prove.

"Coming events cast their shadows before them." One or two have already sold their allotments, and nine more are willing to sell, but cannot get buyers, even although they offer a three-roomed cottage (new) and two acres of the best land on the estate under crop for 80*l.*, with the prospect of its ultimately becoming the purchaser's own (2).

I was informed that one of the allotments is to be raffled for in Bishopsgate-street, at 1*s.* per member; but that few tickets had as yet been sold.

As regards their crops I think upon the whole they are nearly as good as those in the neighbouring farmers' fields, but in many places remarkably weedy, the strength available being unequal to the work to be done. When I state that one man, his wife, and a stout girl work a four-acre allotment, and carry the produce to market, some idea of the working of the system will be gleaned. The crops chiefly consist of Wheat, Barley, Peas, and Beans, Tares, Potatoes, and kitchen garden productions. Some of the four-acre allotments are thus apportioned: 2 acres Potatoes, 1 Wheat, and the rest in Cabbages, Peas, Beans, Onions, Parsnips, Mangold Wurzel, French Wheat, and Swede Turnips. The two latter crops are being sown now, and, together with the Mangold Wurzel, are for the pigs, which some are fortunate enough to possess. There are only four cows on the estate, and one man has three horses. Another has a couple of goats, which have produced two kids: the old gentleman, with beard long and silvery, the family intend to kill and eat. Some have been unfortunate in regard to their pigs, which have died, and they have no money. "Well," I asked, "how do you expect to pay the rent when rent-day comes in November" (for they have paid none yet, and do not know exactly what it will be). "Oh," said one, "I mean to sell a portion of my Potatoes and buy six pigs; I will feed them, and sell them again for, perhaps, 2*l.* a piece; there is my rent; and after that is paid I have the rest of the produce to maintain me and my family. But," added he, "in the event of not being able to raise this sum in that or any other way, I will borrow off the Company the sum of 20*l.* on security (which we four-acre holders can all get), and pay it out of that!!" I was informed that this 20*l.* had already been borrowed by several of the holders, and that this sum, together with the 30*l.* they had when they entered, was all spent, and that, even with this (which was about 1*l.* a week), they could barely get through the winter. Four per cent. interest on this 20*l.* is, of course, added to the rent (1).

At the extreme end of the colony, school-rooms and a teacher's house have been built (the latter not very substantially, for the front has pushed out and is propped up by wood) (3). At the respective gabel ends of the house, the school-rooms are attached—one for the girls and the other for the boys. A piece of ground is allotted to the school, and, among other things, the boys are to be taught to work. The number of labourers, however, I fear, will be but few, for, as yet, the schoolmaster has hardly got a scholar; in fact, the allottees cannot afford to pay teachers, and, besides, the labour of the youngsters is wanted at home. I therefore imagine the office of teacher will prove a sinecure.

Such is O'Connorville, and such its inhabitants—poor people, chiefly artizans, brought together from all parts, and located on a poor hungry soil, which might produce crops to pay if it was well manured; but how is this to be obtained? The allotments cannot produce sufficient manure, and the holders have no money to buy it. Thus a soil already poor must become poorer with each succeeding crop that is taken off it; in a year or two the holders, unable to pay rent, taxes, and poor-rates (for I imagine they will not be exempt from the latter), will be expelled, and then who is to step in and take possession? why the Land Company, which is, in point of fact, Mr. Feargus O'Connor. At least that this will turn out to be the result is the impression of your *Staffordshire Subscriber.*

[*Extracts from* Mr. P. McGrath's *Evidence, taken by the Parliamentary Committee.*

(1) "*Sir B. Hall:* Has any rent been demanded from them?—No. And consequently none has been received?—No: half a year's rent is due from the allottees at O'Connorville upon the 24th of this month: they will owe a year's rent, but the arrangement is that they will pay half a year's rent upon that day. But they do not yet know what amount they are to pay?—Not the precise amount.

"*Chairman:* Do they know at all the amount?—They have a general notion. What do you mean by 'a general notion'?—Every allottee knows that his rent will be regulated by a calculation of 5 per cent. upon what it has cost the Company to effect his location; he knows what the land of the estate upon which he is located cost, and he has a general notion what the expense of his house has been. Is the Committee to understand that they know that they are to pay 5 per cent.?—Yes. If they have said that they believe they are only to pay 4 per cent., they are in error?—They are in error decidedly; they could not say that after reading the rules."

(2) "*Captain Pechell:* How many cases do you know of parties wishing to dispose of their property?—I know of one case at present: I know of one man who has been offered 100*l.* for the right of location; his name is George Wheeler; he has not yet decided upon taking it. He has been offered 100*l.* for his bargain?—Yes: when I last saw him he had not decided upon taking it; he was expecting more."

(3) "*Mr. O'Connor:* Are you aware that I have built 35 houses of a superior description at Herringsgate?—I am. Are you aware that I have *built a splendid schoolhouse there?*—I am."]

DISBUDDING FRUIT TREES.

A friend of mine, whose attainments in gardening are of no mean cast, although merely an amateur, complains that the subject of disbudding, as applied to fruit trees in general, has not, as yet, been treated of in a satisfactory way; mere dry rules will not suffice, reasons are required. He complains that even gardeners are not agreed as to the extent to which such operations should be carried. This is certainly true; but we of the crooked knife are but on a par with doctors in such matters. The immediate as well as ultimate influence on the tree of such a denudatory process is indeed very considerable; no wonder that mistaken notions should prevail. And I am sorry to be obliged to confess that such, together with an unusual pressure of business in modern gardening, have, in the main, conspired to defeat the attainment of a system which shall supersede the necessity of mutilating processes; for such are ringing, root-pruning, &c., all which must at times be borne as necessary evils, but argue something wrong in the setting out. Utopian schemes of perfection are, however, not of a sublunary character, and, of course, no more to be expected in gardening than in any other art. Out-door gardening must ever be liable to change, from the vicissitudes of the season; and we must therefore deal with such affairs as we find them, and waive for the present all ideal perfection.

It should be borne in mind that every cut with the knife, and every pinch of the finger and thumb, technically termed "stopping," exercises, for a time at least, a corresponding amount of restriction on the root. Indeed, it would be no difficult matter to convert a young forest tree into a mere bush by commencing and rigidly pursuing such a course for the first seven years of its life.

One of the first points to appreciate, with regard more especially to trained trees, whether by the fan mode or horizontally, is the continual tendency of the main leaders of such trees to establish a new leader in the most perpendicular direction, or where the most spacious sap vessels exist. This is of course a mere consequence of an immutable law of nature, which in the main impels the shoots of trees upwards. Now it is perfectly obvious that when the main flow of sap obtains a new channel of this description, that such must be at the expense of the buds; and more especially the fruit situated near the terminal points of the horizontal or fan branches. The Winter Nelis Pear, and the Passe Colmar, are pretty good instances of this habit. It is

pretty obvious then, I think, that the first act of disbudding should commence with these decoys The season being young when this operation becomes requisite, all further disbudding should stand over until midsummer, when I hold it absolutely necessary to proceed in a progressive way, with the other portions of the tree. The next point is, to go over the whole of the leading shoots, and remove all over-luxuriant spray, without exception; leaving, perhaps, a couple of leaves at the base of each spray. The amount removed will in ordinary cases comprise about one-half of the young spray; this however depends on the character and age of the tree, for in the case of one old or hard worked, I hold it essential to permit a much greater amount of shade through the instrumentality of newly made wood; indeed close stopping with such trees would soon destroy them altogether.

Exceptions must however be again made here, as to the habits of the tree in question; for in running the eye over our orchard or kitchen garden fruits in general, two distinct groups will present themselves; the one bearing in the main on natural spurs, the other chiefly on the young wood. These broad distinctions must of course be kept in view at all times. Again, even in one family—for instance the Apple—one kind will bear the finest fruit on the last year's wood; and the fructification of such wood is in proportion to the amount of grossness. An illustration of this will be found in the Mank's Codling. The Nonpareil class, on the contrary, generally produces on the spur.

I am now, however, treating of over-luxuriance as an evil. This forms the rule, and requires most elucidation. To return then to my point of digression, the removal of all the over luxuriant spray about midsummer will be found to control, in a very powerful degree, the undue action of the root. Some of the embryo fruit-buds may be excited into wood, especially in showery weather; this, however, must be borne; for those that remain unexcited will be found much strengthened, and to develope a much more perfect blossom in the ensuing spring. We frequently see imperfectly formed blossoms on tender fruit trees in the spring; and why? because the embryo blossom-bud never received its necessary amount of light during its organisation. It is not so much heat of which an increased amount is requisite, but light. Some good-natured country folks think this is carrying an idea too far; rather too philosophical, they think. The writer, however, with all due respect, thinks differently. Instance the Melon: it is very probable that the Persian Melons enjoy as much light in one day in their own climate, as those in the murky skies of Britain do in a week. To be sure a bright sunny day in our own climate is light enough for anything, but behold how many cloudy, drizzly, or rainy days may be placed against such a state of weather. The tender incipient buds of fruit trees, natives of brighter skies, become what is technically termed "drawn" when smothered with young spray, and hence the abortions and malformations of the succeeding spring. A midsummer's disbudding will not, however, complete all that is necessary; a stopping in addition is, in most cases, necessary; 1st, it seems to concentrate the powers of the tree, thereby producing fruit of a larger character; 2d, it tends to equalise strength in trained trees, provided the most luxuriant alone are stopped; 3d, it tends to ripen the individual shoot acted on; and 4th, it exercises a farther amount of control over the wayward root; which, in the case of the Peach or Nectarine, frequently impels the young shoots to a September growth. I need scarcely urge that such cannot possibly benefit the tree.

The vast difference, therefore, between a course of summer's pruning, and that of the winter, should be kept steadily in view by young aspirants in fruit culture. A severe winter's pruning excites to wood; that of the summer ultimately checks such a tendency. Our spur-bearing fruits are in general much injured by succulent spray; and it should be borne in mind that the wall tree receives in the main less light in the aggregate than the ordinary espalier. This may appear a very disputable matter to some persons; but I feel persuaded that such is the case, more especially when we consider that the root in the former case is generally so placed as to receive a greater amount of nourishment—that is to say, in proportion to the amount of perspiratory surface of leaf. The ordinary standard grows, perspires, and of course elaborates uncontrolled from a much greater amount of leaf; whilst the severe curtailment necessary with the wall tree, destroys in a considerable degree that reciprocity which should exist between the absorbing and elaborating powers. I must postpone further remarks on this interesting subject to another occasion.—*Robert Errington, Oulton Park.*

Home Correspondence.

Scorching Effects of British Sheet Glass.—I have taken some interest in the question respecting the scorching effects of British sheet glass, and having had the top lights of a greenhouse glazed with it, I can bear testimony, from my own observation, to its injurious effects upon the foliage of Camellias, Azaleas, &c. Mine have suffered very much, and for some time I was at a loss to assign a reason for it. I consulted an extensive nurseryman, who said it was caused by an insect. I was certain that such was not the case, and on going into the house on one occasion when the sun was very powerful, I noticed a Calceolaria which was similarly affected; I observed at the same time an intense ray of light, such as would be produced by a lens, playing across that part of the stage where the Calceolaria was placed. This suggested to me the probable cause of the injury, and on ascending to the roof lights I passed my hand over them until I came to the one which produced the rays, and on examination I found it *much thicker in one part of the glass than in the other.* Some time after, curiosity led me to see the manufacturing process of the sheet glass, and my impression is, that such irregularities in thickness will exist so long as the present mode of flattening is adopted. You are probably aware that it is first made in a cylindrical form; these cylinders are then cut longitudinally on one side, and afterwards placed in a heated oven, the bottom of which should be perfectly level. When the glass is sufficiently heated, the workman proceeds to separate the edges, and gradually to reduce it to a flat plate by passing over the surface a piece of wood attached to a rod. Now I contend that it is possible, nay probable, that the glass may be so heated that ridges will be produced by passing this instrument over the heated glass; and further, that the thicker your glass is the more liable will it be to these inequalities, from the circumstance that the outside of the cylinder will be of greater circumference than the inside, and consequently that, in the act of flattening, ridges will be produced on that side of the glass which formed the outside of the cylinder, which will of course be so many lenses. I would advise all who intend to use sheet glass for horticultural purposes to have small squares, which will in some measure counteract the evil complained of, by breaking as it were the lenses; they would not in that case act at the distance at which the stages are usually placed; but after all, crown glass is, in my opinion, preferable, as not being liable to these defects. The size of panes in the greenhouse I have spoken of is 24 inches by 6 inches, and I am about to replace them with crown glass, of the following dimensions—5 inches by 6 inches. I enclose a few leaves from some affected Camellias.—*A Subscriber.* ——My employer has two Vineries erected, of 40 feet each, professing to be upon the principle of those recently erected at Dropmore, and glazed with British sheet glass, each square 2 feet 6 inches by 7 inches. The Vines up to last week had not reached their final destination, but were arranged in pots along the front of the back wall in the late house, which had been temporarily filled and treated as a greenhouse. The first house is chiefly employed for forcing, and in early spring I perceived blotches upon the foliage of several plants, such as Stephanotis, Passiflora, &c. I moved the Stephanotis, and replaced it with other plants; these also became spotted, which led me to suspect that the glass was at fault, and whilst ruminating on the mode of detecting the particular squares, my attention was arrested by several reflected lines of great brightness against the back wall, which I found issued from the upper squares. From these and similar appearances I was ever afterwards furnished with a ready clue to my enemy. I found the Stephanotis to have merely an extuberance on the upper surface of the leaf. I pasted over it a small piece of paper, and no more spots were seen; still this concentrated line of radiation appears, and only loses its intensity in this particular point. These rays concentrate in the centre of the square, running about four-fifths of its length; a slight longitudinal concavity in the under side seems to give it convexity on the upper; distance from acting point about 5 feet. In another instance I have four more or less distinctly scorched parallel lines running horizontally from west to east (action P.M.), and separated by distances of 3 to 5 inches; and these all the effects of one square, and nothing more than slight transverse undulation in conjunction with latitudinal cuneiformity appears. This line begins at the side and runs the whole length of the square. I will detail one other instance in which I witnessed the loss of the head of a young Vine, and from obliquity of positions the concentrated rays were then showing their line of reflected brightness to the length of 5 feet, diverging, as distance increased, from ¼ to 1 inch wide. The head of the Vine was 1 foot from the top of this divergent line. The effect was almost instantaneously visible, but before this line had passed over it drooped, and finally, from its reflexed nature, not only its extreme point, but a length of 2¼ inches was destroyed. In this instance the rays concentrated 2 inches from the side, running parallel with the edge the whole length of the square, which seemed to receive its convexity on the upper side by a widely expanded tubular concavity (of not more than 1 inch diameter), in the under surface. Point of destruction, about 8 feet. These longitudinal concentrations most generally issue from the side of the square, but only in some few instances run its full length, and in many do not appear to act visibly, though in others a slight convexity given by way of undulation or extuberance seems to give them the quality of a positively destructive lens.—*Jos. Worall, gr. to Sir J. Hanmer, Bart., M.P., Bettesfield Park, Whitchurch, Salop.*——I still find British sheet glass to burn the leaves of my Vines, though I have taken the precaution to paint every lap on the outside, as I found the leaves under the laps to burn in continuous lines corresponding with the laps. From the very conflicting accounts which have lately been published on this subject, I should imagine great differences exist in the quality of the glass, which, may in some measure account for the discrepancy in its merits a circumstance which I formerly adverted to.—*J. Spencer, Boxwood, June 27.*

New Diseases.—Within the last three or four days a disease, similar to that which attacked the Potatoes, has been destroying the young shoots of the Privet hedges in this neighbourhood. The bark dies at the base of the young shoot, and of course the leaf immediately withers. I send some specimens. The common Fern (Pteris aquilina) is also extensively affected in some parts of the south.—*Henry Doubleday.* [The Privet leaves become purple, then brown, and then drop. We find, in the specimens sent, no obvious cause for the affection.]

Kensal Green Cemetery.—In describing the Kensal Green Cemetery you say, "you believe it was laid out by Messrs. Ronalds, of Brentford." Messrs. Ronalds contracted for planting it, but the design and specifications were made by Mr. R. Forrest, landscape gardener. His design was given in competition with six others, and was successful. Mr. F. was requested to mark out the plan, by the committee, and also employed the late Mr. Ronalds, at his request, with a foreman, to carry out the arrangement of the planting properly.—*R. F.*

Bone-dust a good Manure for Shrubs.—A day or two ago I was remarking on the great growth of the shrubbery of a clergyman in this neighbourhood (lately deceased), and expressing my astonishment at the luxuriance which the shrubs had attained in the short time since they were planted. The person said that the clergyman had told him that "he had superintended the planting himself, and that he had put a hand-ful of bone-dust under every tree and shrub (which amount to some thousands), and to which alone he attributed the great growth they had made." I planted myself about 700 ornamental shrubs and trees about the same time, and although I spared no trouble or expense in my work (having drained and thoroughly trenched, and made my ground that I could easily thrust a stick for 2½ feet deep into good open soil, and I also superintended myself every tree and shrub planted, for which I am now amply rewarded by the great growth and beauty of the entire shrubbery, which is the admiration of every one who sees it), still I think that my shrubs are full a good year's growth, in point of size, behind those to which I allude, having had bone-dust used with them, and with equal advantage as to soil and situation also. And I should state that mine are nearly double the size of some of my neighbours', planted about the same time Now as I intend planting to some extent in September, I have ventured to trouble you with this, to ask your opinion as to the advantages of using bone-dust or any other material, likely to accelerate the growth of shrubs; and to ask you to state which is the most desirable way of using it; whether it should be put under the roots, or thrown in amongst them while planting, or mixed up with the top soil after the planting is completed.—*A Subscriber.* [There is no doubt about the advantage of bones dissolved in acid; we have frequently recommended superphosphate of lime, which is the same thing.]

Kohl Rabi.—I have never seen this plant in England in a useable state before the end of summer, but it is produced in the German vegetable markets by the middle of May, furnishing an agreeable variety for the table. One form of serving it is to place the tender leaves, cooked as a Spinach, in the centre of the dish, and to lay round it slices of the swollen stem, also cooked. This last particular is mentioned because it is not usual to eat the plant in a raw state, as is occasionally in France the fashion for Artichokes, or, further north, for Turnips. In the autumn the leaves are too coarse for a Spinach, and the so called bulb is larger; but though we have at that time so many better vegetables, even then it makes not an unacceptable change, if boiled entire two or three hours, according to size, served whole, like a dish of Artichokes, and eaten in slices with melted butter. But spring is the season when it is by far the most welcome. With the view of having it then, I made last year a late autumnal sowing, but the stems are only now (Midsummer) beginning to swell. In all the gardening books that I am acquainted with, information is either scanty or deficient; perhaps some one will inform me whether there is more than one variety of Kohl Rabi; the German spring specimens are smaller than we usually see here. Also, what is the best method of treatment to obtain a crop in May?—*D.*

Spanish Chestnut.—The following statement is made in order to obtain a little sound advice. A large Spanish Chestnut was blown down last autumn, greatly to the concern of the family I served, with whom the tree was a great favourite. It was cut into logs and removed. As it lay on the ground it has shot out several strong scions, from 6 to 18 inches in length. Would it be possible to strike these under glass, or in any other way; or would they be induced to strike root into earth heaped around them on the log, and afterwards have them removed and planted. They would be greatly valued as the offspring of a tree which was a great curiosity.—*W. W.* [It is quite possible that the logs which are forming shoots would also form roots if earth were heaped round them, and kept constantly damp without becoming wet. We would mix some superphosphate of lime with it.]

Pentstemons.—Your remarks concerning Aquilegia glandulosa have called my attention to one or two other subjects that appear (at least as far as my observation goes) in the same predicament as the Aquilegia. I allude to the two species of Pentstemon, P. Cobæa and P. Murrayanum. I have been informed that they are grown beautifully in Scotland; but it has never been my good fortune to see them fine in this country—always sickly and mildewed. I have seen P. speciosum tolerably fine, and grown it respectably; but still it is a scarce thing, and seldom to be seen. I do not know whether or not it does better in Scotland, but from

analogy I conjecture it does. Now the question arises, what do these things require to ensure success? Is it the different climate of the north? the soil, or the management, or all the three? The same may apply to Mr. Grigor's Aquilegia. I have had seeds of A. glandulosa from France—from the first seedsman in Paris; but I never got anything uncommon from their progeny. Again, there is the pretty little double blue Hepatica; I can well remember it plentiful in Scotland in my younger days, and grown without any difficulty, or any particular care more than others of the same race. Now, here it is rare to see it, and many gardeners cannot keep it alive. The query is, how are these matters to be accounted for, or success in the culture of these plants attained?—*Quercus.*

Kew Gardens.—Your Saturday's *Gardeners' Chronicle* contains a notice respecting Kew, and I rejoice in the existence of a journal when such subjects are discussed with good sound judgment, always keeping an eye to the people. If it were really for the good of the public, and for the interests of the Gardens, that this new request should be granted, the liberality of the Commissioners of the Woods and Forests is a guarantee that it would be accomplished. I am, however, by no means sure that the prayer of your correspondent could be granted without the establishment of men being greatly increased. I understand that 20 men are now required in the pleasure grounds for protection; and that in the Botanic Garden so great are the crowds now by the one entrance, that the men cannot work at all in the houses, and it is as much as they can do to keep a needful eye upon the people. The ordinary number of visitors in the Botanic Garden alone is, as I have ascertained, on good days 900 (sometimes 1200), and the present establishment of police and gardeners is not sufficient to keep them from running up and down the mounds and every green embankment, especially that at the base of the chimney shaft, and that of the fine terrace around the Palm-house. Visitors who come for instruction are already much interrupted by these crowds; and if the visitors to the pleasure-ground are also to be admitted, it would be inviting 2000 or 3000 more people to come in. In my opinion the majority of these holiday folks do not care to come in; and if they did, many of them would not know how to conduct themselves in a ground appropriated to science. I have been ashamed to see the quantity of pieces of paper and relics of prog lying about in the pleasure-ground after a public day; and this could not be tolerated in the Botanic Garden. In truth, the visitors to the two departments are of different classes, and the amalgamation of the two in one, and that the Botanic Garden, which has the most attractions, could only be productive of mischief. To my mind your correspondent is unreasonable; for what is there really and truly to complain of? There are 70 acres of Botanic Garden thrown open to the public, with no restraint on the part of the public but decent dress and decent behaviour; and there is another adjoining piece of pleasure-ground of 170 acres, with fine trees, walks, lawns, temples, &c., open to the public in the summer two days in the week; and yet people are not content. Your correspondent would like both to be thrown into one, and to be converted into a grand tea-garden. If, indeed, he had asked to have the pleasure-ground rendered more frequently accessible (for it is really a place of great enjoyment), there would have been more reason in his proposition; but I can conceive the existence of difficulties even as to that. The pleasure-ground is a nursery for game during the life-time of the King of Hanover, and this is in itself a bar to universal quotidian admission. Be this, however, as it may, I must, for one, protest against the Botanic Garden not being permitted to remain a scientific establishment, accessible, as it now is, to those who desire to visit it, but distinct from the actual pleasure-ground.—*A Frequent Visitor to Kew.* [We quite concur in this view. The public has already all such access to Kew as it can reasonably desire. The crowds who wish to visit the Botanic Garden have every facility for doing so; but we see no advantage in *inviting* mere idlers to wander from the pleasure-ground into it. The measure, moreover, could not be taken without largely increasing the inevitable cost of Kew, which, in our opinion, is not to be recommended, unless some better case can be made out than that which the "Visitor" has disposed of.]

Beehive Strawberry.—Instead of the epistle which Mr. Mathewson sent last week, I was in hopes he would have forwarded you a sample of fruit, from the large stock he alluded to, and which he states "he is prepared to submit to the judgement of unpartial, experienced, and honest men." Had he adopted this course it would certainly have appeared that he was inclined to meet the complaints of the public in a proper spirit, and it would then have been proved whether the description given in the *Gardeners' Chronicle* so frequently is correct. Referring to the advertisement of the 28th August last, it is stated, in addition to its great advantages as a cropper, that "the berries are all about one size, measuring 3½ inches in circumference," but in the one inserted this year, on the 8th April, although nearly the same words are used as in the preceding advertisement, all mention of the size is carefully omitted. Will Mr. M. explain the reason of this? Surely his opinion could not have changed on this point between August 1847 and April 1848. It seems other parties at a distance from Manchester are dissatisfied, and very properly require Mr. Mathewson to come forward and state his intention. In order therefore that he [illegible] his character, and set himself [illegible] may clear [illegible] dispute with the public, I again call upon him to forward specimens of his fruit for your inspection; indeed I think he ought to send a plant something like those so often alluded to—334 berries have, according to his account, been taken from a plant at one time. Should he, however, decline to comply with this request, probably some of your Aberdeen friends will favour us with their experience on the subject.—*Richard S. Yates, Sale, Cheshire, June* 26.

Raising Annuals, &c.—Though there is nothing novel in my way of raising annuals, yet perhaps it may be useful to some of your readers, especially in dry seasons, and I have often found amateur gardeners unacquainted with it. My mode is this: I raise the seeds in a seed pan, and as soon as they admit of being pricked out I lay some turves on the ground, the grassy side downward, and put on them 2 inches of fine mould, and on this I plant the seedlings in straight lines and at equal distances, where they remain until they are fit for the flower border; by which time they have struck root deeply into the turf. I then draw a knife completely through the turf between each row, and again the same transversely, when each plant comes up with the turf, now rotting and adhering firmly, so that it can be removed almost without a check, and the turf in rotting supplies excellent food to it in its after growth. I treat my Celery in the same way, and saw a striking instance of the good effect of it last year. The labourer who was planting it had, before I stopped him, shaken off the turf and mould from the roots of about a third of the row, and though every care was taken of the crop, watering with liquid manure, &c., that third of the row, though very good, yet never in its after-growth attained to near the size of the remaining two-thirds My method is certainly very different to the usual one of pulling up the plants by the roots, cropping their tops, &c.; but I believe that any one who tries a row planted on each plan will see how great a difference in the full growth arises from attention to the plants whilst quite young; and the same will apply to Cabbages, Cauliflowers, and, particularly, Lettuces in the midst of summer. Mine do not even flag when they are thus planted out, and receive no check in their growth. This is quite in analogy with the growth of animals; if the young are poorly fed, or exposed to cold, no after care will make them what they would otherwise have been.—*Corycius.* [We should be very glad to hear further from you.]

Horticultural Society's Exhibitions.—Upon what principle are vegetables excluded from these exhibitions? This question naturally suggests itself to a gardener from the country, who has been accustomed to look upon vegetables as a very important feature at our local shows. It cannot be that a society which has so nobly done its part in fostering and encouraging the more ornamental branches of horticulture, can undervalue the importance of this most valuable but most neglected branch of all; and I may here remark that it is generally admitted that plant growing has been carried to a point of excellence beyond which we can hardly hope to go; and if a new variety of fruit or flower is introduced, we have it exhibited, and its character, good or bad, published and known to the world. Not so with vegetables. As matters now stand, we have no central show (and where so fit as the Horticultural Gardens), where new varieties or well grown vegetables can be seen, and their quality proved and published. The want of such a guide is often felt by gentlemen and gardeners, who are tempted to purchase seeds at a high price, from the glowing description given of their excellence by persons having an interest in their sale, and in some cases they prove correct, but in many other cases the same or of less value than the sorts in common cultivation. I shall be glad to see the subject taken up by a pen more able than mine, in hopes that it may lead to some practical result.—*An Old Kitchen Gardener.* [We believe that the Society has some plan in contemplation with regard to vegetables; but we cannot agree with our correspondent that Chiswick is the place for them.]

Rose Stocks.—In the autumn of 1846, I purchased 18 Roses from a garden well known in the horticultural world, and looked forward with pleasure to their flowering in the summer of 1847. In this I was deceived, and consoled myself by fancying they must have been thrown back by their removal from a distance, and would certainly bloom splendidly in 1848. Alas for the vanity of all human speculations! there is scarcely a Rose on any of the trees, although the greatest care has been taken of them. To account for this mishap, I find, on examination, that the Briars on which the Roses are budded are old and worn out. Gardeners who wish to be recommended should be more careful in selecting their stocks. As an amateur, I prefer the Boursaults, Noisette, and Garden Briars, to operate upon. I feel convinced any one using the above, instead of the common Briar, would soon gain a reputation, for growing the most healthy standards for sale, and guard against so cruelly disappointing their customers as I have been. I have heard many complaints of the same house.—*Falcon.*

Banksian Rose.—A Dublin subscriber, in your Paper of the 3d inst., makes mention of a Banksian Rose "which covers a large space on a wall, say 10 feet each way." I wish I had any means of measuring one I had the pleasure of seeing in May at the Rectory, West Felton, Shropshire. It was a complete [illegible] from the bottom to [illegible] mass of [illegible] high [illegible] the top of the [illegible] bloom, [illegible], probably 30 feet or [illegible] house, three stories [illegible] 40 feet, and width in proportion. This was [illegible] the yellow Banksian. A white one on the same wall flowered well, but was a younger plant, and had not attained the same height, but seemed in a fair way of doing so.—*Anon.*

Vines and Carrion.—A friend and myself visited the principal places round Newcastle in Yorkshire and in Durham, in order to see what effect carrion had on the Vines where it had been applied, and the conclusion we have arrived at is, that the Vines are not so healthy nor so strong as where no carrion had been given. Vines planted in good borders of red loam and rotten stable dung, &c., are much better and stronger than any we have seen where carrion has been used. On our way from Ripon to Thirsk we called at Newby Park, and were shown round, and in all our rounds we saw nothing like the Vines at this place; they had reached the top of the rafters, which are 14 feet 6 inches long, many of them having stems 3 inches round. Each Vine had from six to seven bunches of Grapes upon it, each bunch weighing, I should say, from 1½ to 2 lbs. The Black Hamburghs measured 9 inches in length, and Muscats 1 foot. The Vines have only been planted 10 months and 2 weeks. What has Mr. Roberts and his carrion manured borders to say to this? A crop of Grapes in less than 12 months from the time of planting! All the houses are glazed with British sheet glass 21 ounces and 24 ounces to the foot, with no scorching effects; Vines, Melons, Peaches, Cucumbers, and Pines are splendid. We counted 48 bunches of Grapes upon five small Black Hamburgh Vines in pots.—*Robert Hawkins, Newcastle, June* 16.

The River Dee.—I have lately been informed that the River Dee Company are about to enclose the salt-marsh on the Cheshire shore of this estuary as far as the Barton-rock. In this place, between Parkgate and the King's-ferry-road, are some little "pieces of water" of peculiar loveliness, regardless of the relation in which they stand to surrounding objects. Perhaps the most perfect of these is the one nearly opposite the parish of Barton, if I remember rightly. Another, next to it in point of attractiveness, may be found more towards the ferry road. The convolutions of the outlines of these are so intricate and graceful, and their emerald islets so appropriately proportioned, as to render them worthy of being, in likeness at least, preserved from oblivion, though the work of reclamation may unavoidably demolish the inimitably beautiful originals. Let some of the readers of the *Chronicle*, who have the opportunity, pay a visit to this locality, and give their opinion on the above matter.—*J. R., Crewe, June* 18.

Gnats.—The sight of swallows flitting to and fro, and intersecting each other's courses over a limited piece of water before which I am sitting, suggests the query whether the mazy dances of gnats have not a similar object, that is to say, the capture of minute insects. Do there exist winged creatures invisible to the unassisted human eye? We know that there is an infinity of such which creep, burrow, and swim. Are all the microscopic animals perfect insects, and none of them the larvæ of flying atoms? The dances of gnats are usually performed over a narrow ditch, or in spots where either the air or the water beneath it is stagnant. The flittings to and fro of swallows are horizontal, those of gnats vertical; we can see the prey of the one, we cannot, nor can we expect to, distinguish that of the other. Herein lies the main difference. The blood-thirsty appetite of the insect does not indicate any averseness to a carnivorous diet. It will be an additional wonder to the thousands already demonstrated, if it shall be proved that there is a flying or floating thing small enough to be devoured by the probuscis or suctorial apparatus of a gnat.—*D.*

Pine Apples.—A correspondent, in last Number, who signs himself "One of the Unwashed" (by-the-bye, this is not a very happy signature, and it is to be hoped, for the credit of the place, that he is the only one kept there), writing for himself and nine-tenths of his acquaintances, gives it as their opinion that the failure of the Society's fruit shows is to be attributed to an unequal distribution of favours, and as a proof that the Pines exhibited are not a fair sample of the Pines grown in England, has forwarded a list of some of those cut at Chatsworth last year. The list is undoubtedly first rate, as far as it goes; but it would have been more satisfactory, to us humble gardeners, to have had a list of the number cut through the year, from which those were selected, with their average weights; for it must be allowed that it is comparatively easy to select a few first-rate fruit from such a stock as it is generally supposed is grown at Chatsworth. I agree with your unwashed correspondent, that there is better fruit grown in scores of places than those hitherto exhibited; but it is well known that some of the best gardeners have not the privilege of showing their fruit, and many others, at inconvenient distances, are afraid to risk them, and, without considering the value of the award, prefer sending them in a proper state to their masters' table. As none of these objections can apply to Chatsworth, it would afford a great treat, and cheer our drooping spirits, if some of those 10 and 11-pounders were brought out at the next show.—*One who has often been bathed in Sweat, but always found himself greatly Refreshed after a good Wash.*

Societies.

BOTANICAL SOCIETY OF LONDON, *June* 2.—The Treasurer in the chair. Several donations were announced.—Mr. H. Andrews, M.R.I.A (the Society's local secretary for Dublin), exhibited a beautiful collection of living specimens of Irish Saxifrages, collected in Kerry, and comprising specimens in illustration of the varieties

of Saxifraga umbrosa, S. hirsuta, and S. geum. Mr. A. also presented leaves from a cultivated specimen of an apparently new species of Saxifrage, the original plant having been discovered by him in Kerry, in September, 1845. In a letter to Mr. G. E. Dennes, the secretary, Mr. A., stated "that the form and structure of the leaf had not before been met with or described among the Saxifrages, and probably the flower might present some feature of interest."—Mr. S. P. Woodward presented specimens of a species of Carduus so nearly intermediate between Carduus Forsteri and C. pratensis as to render its proper specific name doubtful, until a larger series of specimens shall have been examined. It will probably prove an extreme form of the variety pseudo-Forsteri (London Catalogue), frequently mistaken for the true C. Forsteri. The specimens were collected by Mr. W. on the farm of Mr. Thomas Arkill, at Penhill, near Swindon, Wilts, in May last.

Linnean, *June* 6.—The Bishop of Norwich in the chair. Mr. Westwood read the conclusion of his paper containing descriptions of new or imperfectly known species of beetles belonging to the Lamellicorn genus Bolboceros, being for the most part natives of the East Indies, some of which were described from the typical Fabrician specimens now in the cabinet of the Rev. F. W. Hope.—On some remarkable monstrosities of the Viola canina, by Prof. E. Forbes. The abnormalities described in this paper occurred in the small variety of Viola canina, figured as V. flavicornis in the English Botany Supplement. They were gathered in the island of Portland in April last. At that time the Violets generally in that locality were affected by a parasitic fungus, the Granularia Violæ, of Sowerby's British Fungi. This caused various distortions of leaves and sepals, enlarging them either singly or symmetrically in the diseased plants. Among the latter were several instances of Peloria flowers, most of which had two spurs, and a single specimen occurred with three. The two-spurred flowers had only four petals, four sepals, and four stamens. The appendages of the stamens were aborted. The two upper and unspurred petals were tufted like the lateral petals of normal flowers. The two lower exactly resembled the basal or spurred petal. The three-spurred flower had three sepals, three petals, and the full number of stamens, all of which bore appendages. All the petals exactly resembled the ordinary basal or spurred petal. At some distance below the flower, the peduncle was encircled by a second whorl of sepals, five in number, and resembling bracts in form, accompanied by a single imperfectly formed spurred petal. No other floral organs were present. The usual pair of bracts were to be seen in the usual place. The explanation of these curious monstrosities proposed by the author was as follows: In the two-spurred flowers the upper petals were aborted, and their places taken by the lateral petals, as evinced by their tufts. Two of the sepals were united and also two of the stamens, as shown by the much greater comparative size of one of each of those organs. One of the two spurred petals was the basal petal, and the other a repetition of it. In the second or three-spurred Peloria, the axis, after developing the full number of sepals and a single petal, had elongated and terminated in a second flower, in which all the petals were aborted except the basal one, which was thrice repeated. One of the sepals and three of the stamens were possibly also supernumeraries, in the place of three sepals and three stamens aborted. Both these monstrosities, then, are abnormalities by repetition and suppression. Peloria Violets have been noticed by Leers and figured by De Candolle, who regarded the cases which came under his notice simply as irregularities of the ordinary petals; if so, they were very different from those now described.

Country Shows.

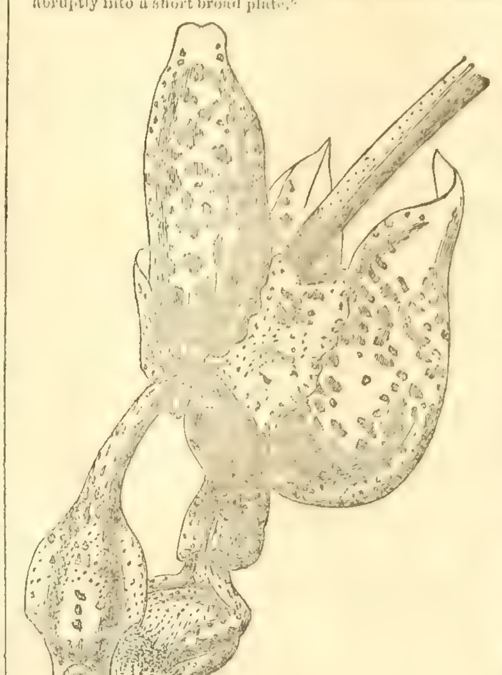
The Dorking Horticultural Society held its first, and most probably only, exhibition for this season, on Saturday, June 3. Like most local societies, this has for some time been in a languishing state, barely able to maintain its existence; it was, therefore, determined by the committee of management to make a vigorous effort for its restoration to its original efficiency, and accordingly the marquees of the Leslie and Wootton Archery Society and of the Dorking Cricket Club (liberally lent for the occasion) were erected on the cricket-ground of the club adjacent to Dorking—a situation admirably adapted for the purpose. The Dorking brass band was also engaged for the day. Unfortunately, however, the weather proved unpropitious, and, in consequence, the united charms of flowers and music failed to attract a large company, so that the Society, instead of benefiting, will suffer a pecuniary loss by its exertions. As there are not any professed plant-growers around Dorking, the exhibition, upon the whole, was creditable; it is, however, to be regetted that the judges should have fallen into the prevalent error of giving prizes to undeserving things, merely because there was "no better exhibition of the same class." The following awards were made:—Collections of six plants: 1, Mr. Whiting, gr. to H. T. Hope, Esq., M.P., for Aphelexis humilis, Erica Cavendishiana, gemmifera, ovata, perspicua nana, and Westphalingia; 2, Mr. Heritage, gr. to the Right Hon. H. Goulburn, for Azalea lateritia, A. variegata, Leschenaultia formosa, L. biloba, Erica ventricosa superba, Epiphyllum Ackermannii; 3, Mr. Scott, gr. to C. Barclay, Esq.—Collection of four plants: 1, Mr. Saunders, gr. to W. Strachan, Esq., for Leschenaultia biloba, L. formosa, Aphelexis humilis, Erica ventricosa carnea; 2, Mr. Ansell, gr. to R. Fuller, Esq.—Collection of three Azaleas: 1, Mr. Whiting, for ledifolia, fulgens, and a purple seedling; 2, Mr. Scott, for Gledstanesii, variegata, and a red variety,—Collection of four Cinerarias: 1, Mr. Tomlinson, gr. to Lady Caroline Cavendish, for Pride of Goring, Beauty of Wonham, Boyceana, and Eclipse; 2, Mr. Knowles, gr. to — Robinson, Esq.—Specimen Plant: 1, Mr. Whiting, for Euphorbia splendens: 2. Messrs. Ivery and Son, for Epacris grandiflora; 3, Mr. Heritage, for Azalea variegata; 4. Mr. Tomlinson, for Azalea lateritia. In this class fine plants of Polygala oppositifolia and of Torenia asiatica were exhibited by Mr. J. Scott and Mr. Ansell. Prizes were also given to collections of and seedling Calceolarias, to collections of and seedling Pelargoniums, seedling Azaleas, seedling Cinerarias, Pansies, Pinks, and Roses.

Chichester Horticultural Society, June 22. This Society held its summer fête in the gardens of the Lord Bishop of Chichester, under very favourable circumstances. The company was numerous. Besides the members and their friends, there were more than 250 who paid, upwards of 30*l.* having been taken. The display of plants and flowers exceeded, in cultivation and beauty, any before exhibited. The fruit was also much admired. Superb plants were shown by Mr. [illegible], Petworth, who received the first prize for [illegible] plants, and six fine Orchids were produced by Mr. Webster, [illegible]. Three Heaths and Pelargoniums [illegible] in fine condition and [illegible] well grown [illegible] of the exhibition. Mr. [illegible], of Chichester, [illegible] plants, and so were those of Mr. [illegible] and Mr. [illegible], to whom equal prizes were awarded. [illegible] as a whole to the rest of the exhibition. [illegible] were shown (not for competition), by Mr. [illegible], amongst which were [illegible] of [illegible] hardy plants, an interesting collection of [illegible] plants, some cut Roses, and a collection of [illegible] Pelargoniums. The judges considered Mr. [illegible] the best shown; among them were [illegible] very large [illegible] named Silverlock's Victoria. From the nursery of Messrs. Newman also came a variety of interesting plants. A large number of prizes were awarded; but we have only been furnished with a list of the awards, without the names of the subjects for which they were given.

THE SPECKLED STANHOPEA.

(*Stanhopea guttulata*, Lindl.)

Sp. Char.—Lip with a very narrow hypochilium, which is somewhat truncated and abruptly turned upwards at the point, furnished with a short reversed tooth; mesochilium [illegible] shorter than the epichilium, which is nearly flat, [illegible], and obscurely 3-toothed. Column [illegible] beyond the middle, above which it widens abruptly into a short broad plate.*



We have had a drawing of this plant in our possession ever since October, 1843, when it was sent from the garden of J. H. Wanklyn, of Crumpsall House, and published in the "Botanical Register" without a figure. We had expected that it would have made its appearance in some of the great metropolitan collections, but as we have since sought for it in vain, it seems desirable to draw attention to its existence by means of a figure. It is something like oculata, but it wants the "eyes," and is covered all over with purple speckles upon a pale nankeen ground. It should be compared with St. Lindleyi, formerly in Lord Derby's collection.

Garden Memoranda.

Bowes Manor, near Southgate, the Residence of Sir Thomas Wilde, Knt.—This is one of those delightful suburban residences which are now so plentiful in the neighbourhood of all large towns, and to which the cultivated mind loves to retire, to reap the enjoyment of a few hours' quietude after the business of the day or week is over. The little villa is pleasantly situated and tastefully kept. It has its lawn suitably ornamented with trees and shrubs—its miniature lakes, islands, and fountains; but it is to the lawn that attention is at present to be directed.

Many are sadly puzzled how to get rid of Moss on lawns, and enquiry after enquiry has been made as to the best means of effecting this desirable end. But it should be first enquired, is it desirable to free lawns from Moss? Does a little Moss not improve the sward and make it more elastic? It does; but Moss is decidedly objectionable when it completely gets the better of the Grass and increases to such an extent that the foot sinks into it, leaving a deep track wherever it moves. This was the case with the lawn in question, which is about two acres in extent, and off these two acres were taken upwards of 60 cart loads of Moss! The lawn had not been neglected, at least endeavours had been made by a former gardener to get rid of the Moss; but all his efforts ended in disappointment. The succeeding gardener (Mr. Kay), however, soon eradicated it. He set to work early last spring, and with common garden rakes, and a considerable amount of labour, completely relieved the Grass of its troublesome companion.

But as Moss only attacks lawns the soil of which is either wet or too poor [illegible] to support a green sward of Grass, will the advantages of the operation just alluded to be permanent? To this question we can only say that the Grass [illegible] rapidly, and the lawn is [illegible]. If the evil arose from [illegible], that can be remedied by giving it repeated [illegible], and if from wetness, the lawn should be drained.

It has been stated that "Moss [illegible], like any other weed, [illegible] to get rid of it [illegible] only by direct extirpation, i.e., by breaking up the lawn in which it occurs." [illegible] of getting rid of it [illegible], and one which has the advantage over the breaking up [illegible] can be done at less expense, and the [illegible] repaired after the operation. If the [illegible] should be more tardy, however, than is desirable, it may be improved by [illegible], and [illegible] of Crested Dog's-tail [illegible] afterwards when the lawn becomes dry.

Miscellaneous.

Bee-keeping in [illegible] "Husbandry of Bees, [illegible] for every housewife," published in [illegible], says, "I shall not [illegible] any of my good [illegible] or [illegible]; and though I [illegible] have written well and truly, and others more plentifully upon this theme, yet [illegible] by experience (being a bee master myself, [illegible]), I cannot find put into writing, and [illegible] our housewives will count [illegible]. The first thing that a good [illegible] about bees must be careful for, is an [illegible] and [illegible], for [illegible] rot and [illegible], [illegible] your hives and covers, and [illegible] for your bees; therefore you must make an house [illegible] along a sure dry wall in your garden, [illegible] or in your orchard, for bees love flowers and [illegible] their hearts. Let a frame [illegible] boarded, laid on [illegible], and [illegible] with boards, flat wise, [illegible] or clefts, lest in casting time the bees [illegible], and though your hives stand [illegible] one [illegible], yet [illegible]. [illegible] commends hives of wood: I [illegible] not: but straw hives [illegible], and I [illegible], with all the world, [illegible], cleanness, warmness, and [illegible] external motions of [illegible]. I [illegible] every hive, for a keeping swarme, to hold [illegible] at [illegible]. A May's swarm is worth a [illegible]; any time before Midsummer is good for casting, and [illegible]; before July is not [illegible], [illegible] the hive with [illegible] is to no purpose, for [illegible] cast it up: if your swarm light in the top of a tree, as [illegible] beat them not to fall down, [illegible] your service. The less your [illegible] the less is the wast of your honey—[illegible] sufficient, the bees will [illegible] the hive, a little honey is good; but if you want, fennel will serve to rub your hive withall. Have no hole in the hive but a piece of wood [illegible], to save the hive and keep out mice. Shake in your bees, or most of them, the remainder will follow: many use smoke, [illegible] &c., which I utterly dislike; ringing in the time of casting is meer fancy. violent handling of them is simply evil; bees of all other creatures love cleanliness and peace, and their keeper whom they know may do with them what he will without hurt. *Signs of a swarm if they be strong.*—1. They will avoid [illegible]. 2. They will sweat in the morning, [illegible] from them. *Signes of casting.*—1. The young swarme will once or twice in some faire season come forth mustring, as though they would cast, to preve themselves, and go in again. 2. The night before they cast, if you lay your eare to the hive's mouth, you shall hear two or three, but especially one above the rest, cry, up, up, up, or tout, tout, tout, like a trumpet sounding the alarum to the battel. Much descanting there is of and about the master bee, and their degrees, order and government: but the truth in this poynt is rather imagined then demonstrated; we see in the combs diverse greater houses then the rest, and sometimes bees of greater bodies than the common sort: but what of all this? I lean not on conjectures, but love to set down what I know to be true, and leave those things to them that love to divine. Keep none weak, for it is hazard [illegible] with losse. Feeding will not help them: for being weak, they cannot come down to meat. They gather not till July; for then they are discharged of their young, or else they are become now strong to labour, and now [illegible] is strong and proud by reason of time, and force of sun. The herbs of greatest vigour put forth their flowers: as Beans, Fennel, Borrage, &c., the most sensible weather for them is heat and drought, because the nesh bee can neither abide cold nor wet: and showres (which they well foresee) do interrupt their labours, unlesse they fall in the night [illegible] further them. After casting time, you shall benefit your stocks much if you help them to kill their drones, which are an idle kind of bees, and wasteful; when the bees want meat, you shall see the labouring bees fasten on them, two, three, or four at once, as if they were theeves to be led to the gallows, and killing them: they cast them out, and draw them far from home, as hateful enemies; our housewife may with her bare hand in the heat of the day safely destroy them in the hive's mouth. Snails spoyl bees by night like theeves: they come so quietly

* For the meaning of these technical terms, see Lindley's Glossary.

that the bees fear them not: look early and late. Mice are no lesse hurtfull; the remedy is good cats, rats-bane, and watching. The cleanly bee hateth smoak as poyson; they say sparrowes and swallows are enemies to bees, but I see it not, more bees perish by winter's cold then by all other hurts. Let none stand above three years, else the combs will be black and knotty and your honey will be thin and uncleanly. Smooking with raggs, rosen, or brimstone, many use: some use drowning in a tub of clean water, and the water well brewed, will be good butcher. Let no fire come neer your honey, for fire softneth the waxe and drosse, and makes them run with the honey. Break your combs small, into a sieve, born over a bowl, or vessel with two staves, and so let it run two or three dayes. And it is worth regard that bees thus used, if you have but 40 stocks, shall yield you more commodity cleerly than 40 acres of ground. And thus much may suffice, to make good house-wives love their bees."

Calendar of Operations.

(For the ensuing Week.)

CONSERVATORY AND GREENHOUSE.

Should the plant structures require repairs or cleaning, the stock may be removed with greater safety at this than at any period; it is injudicious to leave the completion of such work until late in the season. Enjoin care in watering, some importance belongs to the due adjustment of the supply to meet the varying requirements of the plants. Hard-wooded plants, such as Oranges and Myrtles, are particularly impatient of excess of water. Attend to the propagation of Pelargoniums and Calceolarias, and other half-hardy plants. Forward Chinese Primroses for winter blooming, and watch the general stock for autumn decoration. See that the Lilacs, Deutzias, and Provins Roses forced the preceding season are plunged and top-dressed. Propagate the Chinese Chrysanthemums for blooming in small pots. Bud and graft Oranges.

FRUIT FORCING.

Pines.—The linings about succession pits must not be neglected, even in July the advantage of a permanent and equable bottom heat cannot be too highly valued. Allow abundance of air and proportionate humidity to the young stock already established. Manure water may be advantageously applied to fruiting plants, with advancing fruit. *Vineries.*—No material declension of heat should be permitted to crops in progress, in fact great irregularities of temperature either way, as the Grapes are swelling, are to be avoided. The ripening process is best conducted steadily and progressively. *Peaches.*—A portion of the strong shoots should be stopped, as soon as the last swelling of the fruit commences. Employ the syringe twice a day while the fruit is in progress. Repress the red spider or mildew by prompt applications of sulphur. *Figs.*—Liberal supplies of water should be given the plants now throwing up the second crop. A top dressing of manure will now be found beneficial. Keep the paths of the house moist. Pinch the terminal buds if the shoots are gaining unnecessary length.

FLOWER GARDEN AND SHRUBBERIES.

Flower beds should be regularly looked over at this moment, before further progress is made, the ground loosened, weeds removed, and the various plants carefully pegged or tied. Stakes will be constantly in requisition; nothing looks so bad as fine plants sprawling on the ground for want of such attention. Bulbs may be taken up and stored away until the autumn, and their place immediately occupied with flowers from the reserve stock. Perpetual Roses, which have blossomed freely, will be benefited with a slight top-dressing and an application of manure-water, to insure a healthy second bloom. A better production of bloom will be obtained by picking off excessive buds. Climbers generally should be looked to. Lay Pinks and Cloves for potting. Russian Violets may be separated and fresh plantations made. Mow and roll Grass. Trim edgings. Attend to the propriety of walks, the weather at present encouraging the growth of weeds.

KITCHEN GARDEN AND ORCHARD.

The weather lately has encouraged a rapid and luxuriant growth in vegetation; advancing Peas should be attended to, and successional French Beans will require some protection against the attacks of slugs. If weeds be not followed up and destroyed they will become most mischievous in their effects. The early crops of Peas, Spinach, Radishes, and Cauliflowers, should be cleared off the ground as soon as their edible supply is exhausted; the ground well manured and dug might be planted with Cauliflowers or Walcheren Broccoli. Continue to ridge out Celery, and plant the Broccoli and Winter Greens on all disposable vacancies. Some attention should be directed to the proper distribution of sorts of Broccoli, appropriating, for instance, all protected situations to the tender sorts. Avoid planting borders fronting fruit walls. Sow Spinach, Turnips, Endive, Lettuces, and Radishes, to maintain the successional supply. Plant Leeks in well-manured land. *Orchard.*—As close gloomy weather is favourable to the fecundation of aphis, additional attention should be given at this moment to Peach, Cherry, and other espalier trees, with a view to the timely destruction of insect annoyances. Peach trees will require repeated attentions—directed to the judicious regulation of the wood with the view of maintaining the equilibrium of the tree. An undue growth of laterals should be suppressed, and the shoots regularly tacked to the wall, and the fruit exposed to the light. Trained Pears demand similar attention. Remove Raspberry suckers where a disproportionate quantity exists; four will be sufficient to remain. Strawberry runners will be found sufficiently advanced for layering. We prefer employing small pots for the purpose, and shifting them twice.

FORESTING.

Changeable weather during the hay and harvest season often interrupts the proper business of the time, and offers in such cases a favourable opportunity of applying the additional strength usually engaged towards works but too frequently neglected, such for instance as the removal of weeds from hedges and ditches, Nettles, Thistles, &c., from park pastures. Young hedges especially should be attended to at this season, as also plantations of last winter, and both carefully cleared of weeds. This is a good time for marking objectionable trees for removal, their effect being now most prominent.

COTTAGERS' GARDENS.

We trust that wherever a disposition is evinced by cottagers of pursuing the cultivation of their humble allotments with earnest perseverance, that their efforts will be seconded by their neighbour the gardener, particularly in regard to assistance which might be rendered by gifts of superfluous plants of winter greens, as Savoys, Green Kale, Brussels Sprouts, with which every available portion of ground should at once be stocked. Thin Parsnips and Carrots. Loosen the surface soil about Onion beds, and pursue weeds perseveringly.

State of the weather near London, for the week ending June 29, 1848, as observed at the Horticultural Garden, Chiswick.

June.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 23	21	29.830	29.591	75	55	65.0	E.	.41
Satur.. 24	(	29.633	29.560	69	52	60.5	S.W.	.04
Sun. .. 25	23	29.897	29.631	65	52	58.5	S.W.	.04
Mon.. 26	24	30.016	30.011	73	54	63.5	S.W.	.01
Tues.. 27	25	29.924	29.776	70	57	64.5	S.W.	.02
Wed.. 28	26	29.859	29.807	69	50	59.5	S.W.	.02
Thurs. 29	27	29.738	29.619	71	48	59.5	S.W.	.01
Average...		29.845	29.713	70.3	52.5	61.4		0.58

June 23—Hazy; dry air, yet a few heavy drops of rain occasionally; heavy rain in the evening.
— 24—Rain; clouds, with clear intervals; fine; slight rain at night.
— 25—Overcast; slight showers; cloudy.
— 26—Overcast; fine; overcast.
— 27—Overcast; cloudy; slight rain.
— 28—Overcast; fine; overcast.
— 29—Cloudy; fine; slight shower; cloudy.
Mean temperature of the week, ½ deg. above the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending July 8, 1848.

July.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 2	73.4	52.7	63.0	9	0.78 in.	1	2	2	—	4	6	6	1
Mon. 3	73.7	52.1	63.9	9	0.73	—	3	2	1	1	8	6	1
Tues. 4	77.5	53.7	65.6	5	0.24	—	1	3	1	4	7	6	—
Wed. 5	78.3	53.0	65.7	9	0.59	—	—	4	4	5	5	1	—
Thurs. 6	76.0	52.5	64.3	9	0.45	—	1	3	1	3	8	1	2
Fri 7	73.2	54.8	63.5	14	0.23	1	2	1	4	2	9	3	—
Satur. 8	73.8	51.8	62.8	12	0.46	—	—	3	1	1	8	6	3

The highest temperature during the above period occurred on the 5th 1845—therm. 95 deg.; and the lowest on the 6th, 1812—therm. 40 deg.

Notices to Correspondents.

TO OUR CORRESPONDENTS—May we beg it to be understood that we cannot answer inquiries privately through the post. We are ready to give any reasonable information in our power through our columns; but we cannot consent to the labour of writing letters.

AMERICAN PLANTS—*Peter*—If they are in pots they may be removed at any time; if in the ground they may, perhaps, under very fortunate circumstances, and with much trouble, be transplanted now; but we should not choose to undertake the operation.

AQUILEGIA GLANDULOSA—*W G*—This has no other resemblance to a Columbine than what consists in its being an Aquilegia.

BELLADONNA—*W H S*—Whether the expressed juices of the stalks of a plant are in their medicinal properties precisely similar, and consequently of equal value, to those of the leaves, can only be determined by actual experiment. In the case of Atropa Belladonna and Hyoscyamus niger, there is perhaps no difference further than that the leaves may be expected to be the more active.

BEES—*W W*—We cannot well suggest a remedy for the pranks of your bees, which arose from no queens being with the swarms. The old one would not leave the stock until her successors were of proper age; and an accident must have happened to the young queen at the issue of the second swarm, otherwise the bees would not have returned to the hive. Placing a queen amongst the clustering bees before they began to "fall off by twos and threes" might have detained them—a thing, however, not readily come at. You were successful in driving the bees, because the queen happened to be with them, but little was gained by disturbing the stock; they would have soon swarmed in their own way. We suspect you have already secured a second swarm. *W.*

BOOKS—*E*—We know of no better information on the subject of Cape Heaths than is to be found in the articles now being published in our columns.‡

DAPHNE CNEORUM—*Ignoramus*—Daphne Cneorum may be grafted any time after the young wood is sufficiently firm for the operation, but more depends upon the state in which the stocks are than the grafts, for if the stocks are not well established little success will attend grafting at any time. Graft now, and place your plants in a cold pit or frame kept quite close and rather moist, and well shaded from the sun, or you may place the worked plants under a close hand-glass in some shaded situation. D. Cneorum variegatum is as hardy as the common form of the plant. ¶

DISEASES—*L M N*—We are unacquainted with the disease which has attacked your Princesse Clémentine, and we advise you to throw her highness away, lest her disorder should be contagious.

EXHIBITIONS—*H W, a Constant Sub.*, says that he exhibited at a horticultural society eight plants, in the class of eight stove or greenhouse plants, one plant of his being Achimenes grandiflora; it was a very fine specimen, with about 50 spikes of bloom on it. The judges decided that it was disqualified, on account of there being too many in a pot; and he adds that they gave the prize to another collection that had two pots of cuttings—one of Pentas carnea the other Cuphea platycentra. If this is as stated, our correspondent has much to complain of, for his mode of showing the Achimenes was quite right, and the pots of cuttings in his competitors' collections were objectionable. Achimenes should always be shown in masses; in fact they must be, from their nature. —*A Subscriber*—Under the rules we do not see how Cucumbers can be shown at all, unless they are old ones. It is declared by Rule VI., that all specimens "must have been the property of the member showing them for not less than three months before the day of showing." Your plants fruited in six weeks, and are therefore disqualified. The effect of this rule is to encourage bad Cucumber growing, and to exclude good cultivation as to that plant. We do not conceive that it is necessary, under any regulations, that a man should raise the seed himself, as well as grow the plants. He who shows Cabbages for a prize, or Celery, or Cucumbers, &c., is entitled to purchase, or otherwise procure the seedlings, if he chooses to do so.

FUCHSIAS—*G S M*—Yes.

HEATING—*J H*—A brick Arnott stove, as used by Mr. Rivers, is found useful, and figured at p. 51, of 1846. You might easily Polmaise your house, if you understand the principle. Either of these you may do yourself, by the aid of a bricklayer.

NAMES OF PLANTS—*R C*—Philadelphus Gordonianus (true). Your Deutzia corymbosa is Philadelphus tomentosus.¶—— *T B*—Scrophularia nodosa. We cannot explain the state of the Fuchsia leaves; you have not sent any evidence.—— *Joseph Ellis*—Barkeria melanocaulon, a great rarity. We cannot answer letters privately.—— *S N*—Hypericum humifusum and Ervum tetraspermum.——*Ebor*—The crescent-shaped violet stain on the white Gloxinia is novel and pretty. Not Salvia indica, which has yellow flowers. The specimen is insufficient for determination, in so difficult a genus.——*Adelaide* —Swainsona coronillæfolia.—— *Æther*—Saxifraga stellaris, Sedum glaucum. Do not ask us to name drawings. What you have sent may be intended for Sempervivum monanthos. ——*H D*—Deutzia scabra.——*D D*—Marchantia polymorpha, Leschenaultia formosa.

PAINT—*J Evans*—See p. 303 of the current volume.‡

PEAS—*G Thurston*—Your "Reliance Pea," a sample of which we have received, appears to be a good variety. The pods measure between 4 and 5 inches in length, pointed, and slightly curved like those of the Scimetar. Seeds 7 to 9 in a pod.‖

RHUBARB—*Shower* asks how Rhubarb ought to be judged; for at a show the other day the judges gave the prize to six sticks which weighed 17 lbs. 4 oz., although there was some there which weighed 20 lbs. 4 oz. They were both the Victoria, and one looked as good as the other.

STRAWBERRIES—Mr. Myatt's Matinise Hautbois is so very like the Prolific Hautbois, that we see no advantage in distinguishing it.

VINES—*W Martin*—We have no idea what is the matter with your Vine.

MISC—*J R*—Are you sure your Melons are properly fertilised? The fact of your "fruit turning yellow and fading away when about the size of a full-grown Horse-Bean," appears to prove they are not. If they are, then the fault probably lies in their being kept too damp, or that you fruit them when too young.‡—— *W S*—We have seen blooms of Achimenes longiflora as fine about London as those you have sent; but not finer. Your plant, which measures 2 feet across and 18 inches high, covered with such blooms, must be very beautiful.‡——*J W L*—We make it a rule never to name florists' flowers. The leaves of your Vines show that they have too much vigour for the situation they grow in. If that situation were thoroughly and skilfully ventilated, such appearances would not present themselves. ——*J E P*—You can bud upon the shoot in question.‡——*Sigma*—Gloxinias may be propagated by cuttings, made either of the stem or leaves. Strike in sand and do not keep them over wet, or they will damp off. The plants like a light, pretty rich soil, say a mixture of loam, peat sand, and leaf mould.‡——*J R M* —Pocket magnifying glasses may be had of any optician; the price depends upon circumstances. Get some friend to enquire in Edinburgh.——*J W Drake*—Your Strawberries are rotten from wet.

SEEDLING FLOWERS.

ANTIRRHINUM—*J K*—There is so little difference between your seedlings that they may be considered the same variety; it is not uncommon, and your specimen is rendered less effective from the ground colour being dull.*——*D D*—Your seedlings are very good specimens, being bright in colour and good in form. Nos. 8 and 5 appear to be the best, the former white, with a touch of yellow on the tip, large and showy; the latter yellow, of good quality; the remainder are mixed colours, such varieties being found in a seedling bed.*—— *J W*—Your seedlings are large flowers, clear and distinct in colour and marking. No. 1, crimson and white, striped and spotted; 4, crimson and white, striped and spotted, with a spot of bright yellow on the lip, very showy; 3, rich crimson; 6, large white; 7, fine scarlet crimson; 8, white tube, with deep crimson lips, very handsome; 5, good yellow; 2 and 9, mixed colours, but bright and good. These flowers form handsome and compact spikes of bloom, and the flowers are clear and bright in colour.*—— *B U*—Flowers of this form are not improved by being double, and it is not uncommon.*——*T F H*—Many of your flowers are but repetitions of seedlings raised by every person who sows a little seed; the most novel are No. 7, yellow-striped and spotted with crimson; 8 is but a repetition of the same; 4, crimson with yellow in the under lip, very good; 9, not better than others of the same colour; 5 is a good yellow; the other varieties, 1, 2, 3, are common, and not quite so good as specimens we have seen; 6 is a showy variety.*

CALCEOLARIAS—*R S N*—Your seedlings are very inferior to the sorts at present raised by florists; neither in size nor marking are they at all equal to the sorts now exhibited.*——*J W* —In form, colour, and marking, your specimens are very common sorts, and not at all equal to the varieties seen at exhibitions.*

FUCHSIAS—*G B*—Neither of your seedlings are improvements upon the sorts generally cultivated; they both want stronger contrast in the colours.*

PANSIES—*W C*—No. 1 promises to become a good flower, form and colour are both in its favour, and it is flat and stout; we cannot judge from a first bloom, we must see it again. No. 2 is a constant flower, but the face of the bloom wants roundness.——*B B*—No. 24 resembles Rainbow in colour, it is not so good in form and texture, and the edges are very rough; 20, 30, 31, three flowers with yellow grounds, the first promises to be the best, it is the most perfect in form, and the marking is also very perfect, but this is a young bloom and requires to be seen again; 33 is too irregular in the belting; 24 and 35, too watery where the belting joins the ground colour; 37, better flowers exist, of the same colours.* ——*B B*—No 200, Mulberry self, fine in general, and flat, smooth on the edges, but with a poor, inferior eye; 17, 21, 24 are three fair flowers, with white grounds, but not sufficiently perfect for show varieties; 14, strong and bright in colour, fine eye, but in form rather too long; 18, 21, 201, not sufficiently good in form; 15, good general form, but imperfect centre; 19, a defective bloom, worth trying again. The most promising flower appears to be 20, a young bloom, with uniform yellow ground.*——*W S*—No. 1 is a large flower, of fine form and texture, not suitable for showing, from the eye mixing with the margin; 2, fine in form, colour, and texture, an improvement upon Rainbow, to which it bears a strong resemblance; 3, very pretty narrow margin of blue round the bottom petals, but the flower wants substance, and the notch is large in the lip; 5 and 6, common, not suitable for showing.*——*A S, Sussex*—As show flowers your seedlings are of no use whatever; they are specimens of good substance, and that is the only floral property they possess.*——*G R*—Your seedling is large, and a flower of good substance; it is rather rough on the edges, and the purple margins on the lower petals appear to be very uncertain, the notch on the lip is also a defect; we consider it a bold border variety, but not sufficiently good for a show flower in its present state.*

PINES—*F R*—Your Pink is a beautiful flower, it is, however, too thin; the petals are stout and broad, clean on the edge, well rounded, and regularly laced; its only fault is its thinness; we consider that it wants another row of petals.*

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The Agricultural Gazette.

SATURDAY, JUNE 31, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

TUESDAY, July 4—Agricultural Society of England.
THURSDAY, — 6—Agricultural Improvement Society of Ireland.
TUESDAY, — 11—Great Metropolitan Show.

FARMERS' CLUBS.—July 3: Clydon. July 10: Yoxford.—July 11: Dereham, Halesworth, Hadleigh, Wakefield, St. Austell.—July 13: Reading, East Kent.

WE beg the attention of our readers to the following excellent critique by Mr. TAUNTON, Barrister-at-Law, on the late monstrous decision in the Marylebone County Court, in the case of RANSOME against the Great Western Railway Company.

"The Hampshire county paper of June 17, states that in a late case of Ransome against the Great Western Railway Company, tried in the Marylebone Co. court, the facts were that a lamb of the plaintiff's had escaped from his land through the fence which the Railway Company were bound to maintain, into the railway, where it was destroyed by a railway carriage, and the plaintiff sought compensation from the Company for this loss. The defence was, that the fence was in sufficiently good repair to keep in larger cattle, and full grown sheep, but that the Company were not bound to maintain such a fence as would suffice to keep in young lambs; and that if the occupier of the land needed to stock his field with ewes and lambs, it was incumbent on himself to pitch hurdles, or other efficient fence, to keep the lambs within his field. The learned judge held, that if a sheep had escaped through the fence and been killed he should have given judgment against the Company, but that inasmuch as it was a lamb, and the plaintiff had not used proper means to prevent his lambs from getting on the railway, he must give judgment for the Company. Whether this be correctly reported I have no means of knowing, but if it has, I respectfully but firmly take the liberty of saying that this decision is not law, and I caution all farmers against taking it to be law. I dare the learned judge, whose name I have not the honour of knowing, or the advocate for the defendants, whose argument the learned judge seems to have adopted, to show any decision of any court, from the first volume of the year books, downwards to the present day, wherein it has been holden that he who is bound to repair and maintain a fence against his neighbour, generally, is not bound to maintain a sufficient fence against lambs, as well as other cattle. In 45 years' study and practice of the law, I have heard many monstrous and untenable arguments, but I never before heard this. When we recollect in how high estimation the law, from the earliest times, always has held the breeding and maintenance of sheep, it would be indeed strange if the whole flock, lambs as well as ewes, were not alike entitled to the protection of fences. Oppressive as are the advantages which railway companies take of the owners and occupiers of land, this would go beyond all; if these railroads, passing, as they do, so many thousands of miles through districts occupied by flock-masters, and bound (as the members of the Legislature have, I hope not vainly, supposed) to maintain a sufficient fence for the protection of the occupiers' stock, shall find themselves enabled to turn round upon their dupes, and say, "My lords and gentlemen, you have given us an act, it is true; you believed you had protected the occupier, but every farmer who keeps a ewe-flock must fence for himself; we shall not fence for him." I do sincerely hope that this decision will not be acquiesced in. It is very desirable that some one, to whom the question is rendered of sufficient importance, by the extent of frontage on a railway which his estates present, should compel his powerful neighbours by mandamus so to construct or improve the fence, which they are bound to maintain, that it may be a sufficient protection to lambs as well as to ewes and other sheep."

A MEMOIR by M. PASSY ON LARGE AND SMALL FARMS, read before the French Institute in 1844, has lately been translated and published.* It is a fair statement of very extensive experience on the subject. If M. Passy is as accurate on the agricultural economy of other countries as he is on that of England, he must be admirably qualified to judge on the merits of this question. His judgment is against the accumulation of land in the hands of individual occupiers. He advocates the establishment of small farms.

It is difficult for an Englishman, with Norfolk and Lincolnshire on one side of him, and Ireland on the other, to come to such a conclusion as this. M. Passy, however, does not reach a decision by avoiding the facts apparently so adverse to it. He brings together a vast amount of evidence and observation; much that appears opposed to his views as well as much that favours them—he discusses the causes to which, in both cases, the facts are owing, and after the effects of disturbing causes have been eliminated, he averages the results under either head, and arrives at a conclusion favourable, as we have said, to the establishment of small farms—to a class of farms below the size capable of supporting a plough and team.

The question he asks is:—Where is the largest net produce to be observed? On farm requiring three teams or more, or on those unable to maintain one? And the answer he considers conclusive of the whole discussion. We very much doubt if it be: and before making any further statement on M. Passy's argument, we would refer to two points connected with the subject on which he has not touched. One is the importance, not to speak of the unavoidableness, of a succession of steps or ranks in agriculture as in every other section of the social economy. A succession, desirable not so much for the maintenance of order or subordination or dependance as for the maintenance of energy and hope in each of those who occupy its several positions. This alone we think is decisive against the exclusive establishment, if that were possible, of any one class of farms, either small or large. A series of all sizes is wanted everywhere; they would thus form a ladder by whose successive steps one might attain a position that would otherwise be hopelessly out of his reach. Agriculture, just as Commerce or Manufactures, should admit of every position, from the labourer's to that of the highest proficient in the art, so that none occupying any one of them need despair of ultimately attaining any other. And the fact is—this must be so. M. Passy may succeed in influencing particular proprietors; but the general aspect of things is beyond his guidance; it will take its impress from the multitude engaged in them, and its several features will correspond to the varying energy and ability of the individuals. The variable distribution of land, whether as regards ownership or occupation, is as sure a result of human nature as is variety in any other description of property.

The other point to which we would refer is one brought out in the experience of Mr. BLACKER, of Armagh, and to which we have already alluded: it is the natural tendency of farms in well cultivated districts to increase in size. Mr. BLACKER's ideal of the size of farms most for the interest of the country we understand to be that, whatever it is, which exists in any district where farms are gradually increasing. The result desired is profitable agriculture, and no better proof of profitable farming exists than this gradual increase in the size of farms, for this most surely indicates the increasing wealth of the farmers; agriculture being in general the only investment open to them. Now, if an increasing size of farms be evidence of agricultural skill and profit, how can the existence of a small size be reconciled with a maximum of agricultural prosperity.

But to return to the work which has suggested these remarks, we have not room for extracts illustrative of the very full and interesting argument pursued in it: we must be satisfied with quoting the passage in which M. Passy has summed up the statements, *pro* and *con.*, of the parties to the discussion, believing that the dilemma in which the reader will at once find himself will induce a further perusal of the volume.

"The advocates of great farms state their case as follows:—The greater the farms are, the more do the large capitals, which the working of them requires, contribute to attract to the vocation of a farmer men who unite wealth to the advantages of education; such persons naturally display in their operations a degree of skill which is wanting to small farmers less at their ease and worse educated; all practicable improvements find in the former intelligent undertakers; and their desire to effect them is the greater, that the profit derived from these operations is proportionate to the extent of the surfaces over which they extend. Besides, great farms are the only ones that possess the advantages that result from the separation of tasks; the labourers on these have all their separate occupations; and, owing to this speciality in their mode of employment, they acquire a degree of dexterity which is wanting to men who are obliged to apply themselves by turns to several kinds of work, which, to be well done, require various aptitudes.

"On the other hand, to the economy of manual labour arising from the proper division of it, is joined that which results from the extent of the surfaces to which it is directed. Fewer ploughs and animals for draught are required, and this saving permits a greater number of bestial to be reared for sale. Another advantage attached to large farms is that they support sheep in sufficient numbers to pay the expense of herding and tending, while this augmentation of live stock furnishes those abundant and rich manures indispensable for obtaining plentiful crops.

"Finally, less capital is required for erecting such farms relatively to those small [illegible] houses, barns, and other [illegible] in number according as the farms are more or less in size, and small farms thus require the greatest amount of unproductive capital. [illegible] on a great scale effect many [illegible] and capital has been expended productively on its return, and hence an economy, [illegible] priority furnishes the class of farmers [illegible] ture with more abundant means of success.

"To these statements the partisans of small farms oppose other contrary statements. Small farmers, say they, [illegible] to the details of their business, a care and attention productive of the greatest advantage. They are masters of their field of which they do not know the capabilities, and on which they do not expend the appropriate improvements and culture. [illegible] which great farmers cannot take up their time with are for them a mean of profit, as those of the poultry-yard and dairy, in particular, generally furnish to small farmers an extra source of income, which adds considerably to what they draw from the land.

"Small farmers employ few labourers, and the greater part of the farm-work is done by the master and his family, with a degree of zeal and [illegible] that is never found in hirelings, who are the mere tools of their master so little at heart. The [illegible] preferred against them of a want of means to improve their land is unfounded, for as the profits which they realise are limited, the [illegible] which they have to keep or put in good condition are restricted, and only require advances corresponding to their size. It is not true that small farms rear fewer bestial than great, relative to their size. If sheep are less numerous on them cattle are more so; and this may be almost taken for granted, seeing that the products which they raise, and from which they derive their profits, are those which generally require the most manure.

"It is alleged that they require [illegible] and a greater outlay for farm buildings than large farms; but what does that signify if the surplus of the gross produce which they furnish suffices to cover all the additional expenses which they may so occasion. The extra labour which they demand is even an advantage when their net produce is not inferior to that of other farms, for they [illegible] a far denser rural population with an [illegible] of the manufacturing class, they contribute more than all others to the strength and power of the state."

The readers of this volume will, we are sure, however they may refuse M. Passy's conclusions, accord to him the merit of having investigated the subject with much interest, and of having brought great intelligence and skill to bear upon it.

LETTERS ON RAILWAYS AND AGRICULTURE,

IN LINCOLNSHIRE.—No. VII.

[illegible]

FROM Aylsby to Brocklesby the seat of Lord Yarborough, is a pleasant ride of about 4 miles, part of the way until you reach the Wolds, through green lanes, zigzagging, until they fall into the highway in a manner more calculated to define the boundaries of properties than to afford a direct route. Accustomed now to the straight lines of railroads we grow impatient over these picturesque but devious routes, when pressed for time and unable to indulge in the luxury of an amusing reverie. In spring time these lanes form [illegible] riding ground, all bordered with luxuriant springy turf, the banks beautifully covered with Primrose Harebell, Bluebell, and Foxglove. I passed from time to time spots where a few small freeholders lay among the great farms. In this part of England, at such a distance from markets, with less than 50 acres, they seldom succeed for more than one generation. The competition for land is keen, the expense of sending to market considerable, and manures expensive. Law, the [illegible] cancer of our English comforts and liberties, begins to eat up the small freeholder after the first bad harvest, or improvident speculation has sent him to borrow money for a temporary emergency.

Railroads offer the finest possible opening for small farmers, by opening up markets easy of access, where the constant expense of a team. Already all our principal towns derive immense supplies of garden produce from distances up to 50 miles. It is worth [illegible] that the land purchased by railway companies is invariably by a short form not permitted or not accustomed to be used by private individuals. A large fund of discontent would be removed—a large class interested in peace would be created if, to the advantages offered to the small cultivator by railroads, our legislature would add a cheap mode of legal transfer, conveyance, and a cheap mode of mortgaging land—in fact a comprehensive system of legislation. At present all landowners, great and small, are lawyer-ridden. The old man of the sea on Sinbad's shoulders was the exact representative of the conveyancer's position with re-

* On large and Small Farms, and their influence on the Social Economy; &c. By H. PASSY, Peer of France, &c. London: ARTHUR HALL & Co.

gard to landowners. Some parties imagine that the laws of entail and primogeniture stand very much in the way of agricultural as well as social improvement. It may be so, although I do not believe it; but I am quite sure that any alteration of those laws, unaccompanied by measures for abolishing our present absurd, vexatious, and costly system of title deeds, and for making land as easy of sale as stock or shares, would only tend to hand us over more hopelessly enslaved into the hands of the lawyers, and I am equally sure that an unexpensive safe system of registration and conveyance would render the sale of land so frequent, and the acquisition of it so easy, that the cry against our laws of limited entail would die away.

This is a farmer's question, because to a tenant the incumbrances of the landlord are matters of importance, and to a freeholder a mortgage on reasonable terms is a proper resource for improvements. It is a question which will not be properly settled until it is taken up by the landed gentry, whose estates an improved system of conveyancing would raise in value from 10 to 15 per cent. The dilletanti lawyers who pretend to improve the law, unless pushed behind by the non-professional public, will never do anything.

With the exception of the dots of small freeholders the farms all the way from Grimsby to Brocklesby are large, probably averaging above 400 acres. Brocklesby lies almost at the commencement of the Wolds, and contains within the demesne some of the highest land in the country, not very high though.

On my first day's journey (I have got back to the month of March) two matters pleased me much, of a different kind—the fine stock in the feeding yards and the pleasing bustle of numerous threshing machines at work. Among the stock were a good number of black polled Scotch. I did not notice any of the long-horned, deer-headed Highlander, so much in fashion with the London butchers for their fine-grained small boned meat. For a provincial district there is no place where you get better meat than in Lincolnshire; whether this pre-eminence will continue when the butchers have the means of sending away the choicest joints of dead meat by rail is doubtful.

The threshing machine at work is at all times a lively sight, especially in this county, where the labourers have a ruddy-brown, well-to-do appearance; and the substitution of the steam-engine for the perpetual round of the horses is not a bad change, if you only follow in your mind's eye the many useful operations the engine which drives the machine can perform. I rode into one farm-yard, where a six-horse power high-pressure engine was driving a threshing machine (the improved Scotch patent) gloriously along, worked by a shaft from the other side of the barn. One gang of men were hurrying in succession from a stack-yard close by, with a continuous succession of the unthreshed sheaves, a party of sunburnt comely dames and damsels were busy unloosening the sheaves and giving a perpetual feed to the maw of the machine, which roared and growled away like the monster of some magical romance or Christmas pantomime.

On the other side, pike in hand (I mean the agricultural, not the Irish pike), half-a dozen women and boys were busy piling up the straw; two sagacious hinds superintended the winnowing corn, while two more measured it off and put it up in sacks, for immediate exportation; a more busy scene it was impossible to imagine. The engine also put in motion the winnowing fan; and going round afterwards to the engine-house I found the boiler which made spare steam was steaming Potatoes for the pigs. All this was exciting and bustling, and suggestive of much more pleasant ideas to the man who thinks than the wearisome, mindless, and wasteful threshing of the flail. It is surprising to find our southern counties adhering to the flail system, which at greater cost produces an inferior article. If philanthropists, like the author of the "Agricultural Tour in France,"* who object to the employment of machinery lest labourers should be thrown out of employ, were to visit Lincolnshire and Nottinghamshire, they would see that the money effected by the steam threshing machine is all expended on other labour of a more useful character.

Two points require consideration before substituting steam for horse power—the amount of work required to be done and the price of coals. It will not do for a tenant farmer to put himself to the expense of working steam machinery unless he can find work for its employment every week without making work on purpose. Amateur agriculturists may pump up water from wells where a hand pump would serve every turn, but it must never be forgotten in preparing plans of agricultural improvement, that farming, like cotton spinning, is a matter of profit and loss. The price of coals is another important consideration. Here they cost about 16*s.* a ton. Two kinds of coal come into competition in the district. The Yorkshire by the Ancholm inland navigation, and the Newcastle, which come seaward into Grimsby. To the Newcastle colliers the Grimsby district is indebted for a very superior kind of limestone for burning, brought from Dorset as a ballast cargo in replacement of coals, and sold in consequence at the very low price of 8*s.* 6*d.* a ton. It is expected that the opening throughout of the Sheffield and Lincolnshire railway will bring additional coal pits into competition with the present trade, and lower the price from 2*s.* to 3*s.* a ton. The increased quantity will more than proportionably lower the price of slack for steam engines. In 10 years every arable farm of 500 acres in the district will have a small steam engine.

My next point was Brocklesby. Brocklesby, the seat of the Yarborough family, stands on the edge of the north-eastern extremity of the Wolds, on the highest ground in the neighbourhood, surrounded by large plantations arranged in an indented or star-like shape. These plantations are intersected by broad green rides, so ingeniously planned, that it is said that within the circle of the domain 11 miles of riding over turf and through woodland may be obtained. Some of the avenues are almost entirely composed of lofty evergreens, affording in the midst of winter a pleasing shade and verdure. The gallops of hunting parties down these rides bring to mind the more stately and less exciting hunts in the woods of Chantilly and Fontainbleau, when Louis le Grand, in a full periwig and phaeton drawn by four ponies, used to pursue and slaughter a fat, short-winded stag. The house (pleasantly situated on a sheet of water, in view of a fertile champaign country, and well relieved by the plantations) is a dull red-brick, capacious mansion, scarcely equal to the rank and position of the noble owner; built at an epoch when there was no choice between square brick and the bastard Italian style. An architectural genius of the Barry school would doubtless be able to transform Brocklesby into a picturesque and imposing something, in keeping with the surrounding pleasing and purely English scene. What has been done at Trentham, with much more unpromising materials, may suggest what might be done here. The house being under repair, I did not see the chief attraction—the picture gallery, but was well pleased to have an opportunity of looking over the celebrated kennels. These kennels are perfect. To describe them here would be out of place. A series of kennels and yards, with boiling and feeding rooms on a most extensive scale; the whole built in a solid, substantial manner, accommodate two packs, beside ample room for breeding. The division walls are of brick, and very lofty, and the yards are all flagged with Yorkshire stone; the drainage and ventilation are perfect. I should have expected that these cold stone floors and lofty walls would have produced a good deal of chronic rheumatism, and other disease from colds. Such, however, is not the case, and the pack are singularly free from kennel lameness. Perhaps the southern aspect, and the site, on a well-drained gravelly soil, with a chalky subsoil, have counteracted what must have been the result of such a long range of brick and stone buildings anywhere else.

The hounds, although not divided into dog and bitch packs, are allowed to be one of the most even packs in the field; they are of medium size, very powerful, handsome, and of the best blood of the country. The present noble proprietor of Brocklesby, like his father and his grandfather, is a keen sportsman, and has proved in his own person, contrary to the theory of chamber philosophers, that it is possible for the same man to achieve eminent success as a legislator, a sportsman, a railroad director, an agriculturist, and I may add from the universal suffrage of every man, woman, and child I spoke to in North Lincolnshire, as a popular landlord. The John Bright school will scarcely understand such a coalition of qualities.

But Brocklesby is most remarkable, not for its picture gallery, or its pack of fox hounds, but as being one of the centres from which proceeded that course of improvement which turned a vast part of wild heath land into a succession of richly productive farms, peopled by a race of farmers unmatched for intelligence, liberality, energy, industry, and hospitality.

Starting from Brocklesby, riding for nearly 40 miles towards the south, you pass an unbroken succession of large farms, composed, with exceptions I will presently describe, entirely of arable land, farmed by men of large capital under a customary tenancy at will.

There are in this great district no small farmers, and I believe I may add, improvidence apart, no poor farmers. There seems to be some difficulty in ascertaining who first imported Turnip-culture and bone-manure into Lincolnshire. When Arthur Young made his first tour in the county this great improvement had already taken root, although it was then but slowly extending itself. Under its influence the rental of the Brocklesby estates (as I am informed) has risen many thousands a year in rent from farms not under 300*l.* a year. The rental of other proprietors of lands on the Wolds has risen in like proportion, the rise having been from 2*s.* an acre for the waste pasture, to 25*s.* an acre after a series of Turnip culture and sheep feeding. In this instance a customary agreement to pay for improvements, and reliance upon the honour of an old family, stand in the place of a lease. No one would venture on mere verbal terms to lay out capital in reclaiming waste land, the property of a stranger capitalist. On the first day that I went to meet the Brocklesby hounds I had a delightful ride of eight miles to cover. The roads, hard and smooth, as in all chalk countries, showed their recent origin in their straight direction and breadth. It is one of the characteristics of the Wolds that there are scarcely any of those little high-banked crooked lanes which cut up an old cultivated county. Instead, there are a profusion of bridle roads leading through farms. My guide, a tenant farmer mounted on a hack pony that would fetch 60 guineas at a word in town, constantly turned from the highway to make a short cut of a mile or so across fields, passing through well kept bridle gates, at which our spirited nags always paused and helped the rider in opening them, in a manner which showed them trained from their earliest days in the way they should go. In this way I saw a great deal more of the county than by the turnpike road. As we passed along, there seemed one universal rule of farming; hundreds of sheep feeding off Turnips in the fields; scores of young stock feeding off cake and hay, and treading down straw in the yard.

Our first halt was to breakfast with the gentleman who was to take me off my guide's hands and up to covert side, my first guide being on other thoughts intent than hunting. Our breakfast host met us at the door, and he, his dwelling, his farm buildings, and his farm, were all fair specimens of what is to be found on the Wolds. He was a tall, portly, powerful man, nearly 6 feet in height, and about 15 stone in weight, with rosy, well cut, small features, a bald forehead, curly grizzly hair, with a big arm and a small hand, and gay jovial expression of countenance, welcoming the stranger as if he had known him and liked him before. The house, a brick villa, with a garden of a couple of acres well stocked with fruit trees, overlooking huge, bare, ploughed fields; just the style of house that near a large town would let for 100*l.* a year. Divided from the house by an occupation road were the farm buildings, a compact three-sided parallelogram. I counted 40 young beasts in one yard; there may have been more. There was first-rate stabling for about half a dozen horses. My new friend was one of the crack horsemen, and horse-sellers too, in the district. That was to be seen in the accustomed style of his boots, white cords, scarlet waistcoat and coat, with the button of the Brocklesby hunt. In the breakfast-room the table displayed, with its array of hot and cold meats, a picture not to be beaten by the Café de l'Europe before the Revolution. A gold mounted whip on the chimney-piece, with an inscription showing that it was presented by Lord Yarborough to the owner of the best three-year old hunting colt, and some sporting prints, gave a hint of the prevailing tastes of the owner, just as the pictures of prize bulls, sheep, and pigs, bred by my friend Tory, and hung round his room, show his preference. In a word host, hostess, house, furniture, everything, was thoroughly English, and the reception worthy of that English hospitality which in towns has been too often replaced by second-hand gentility. The farm is about 1100 acres, nine-tenths arable, and almost all reclaimed by the present owner from moorland, having been let or given as they term it to him by the late Earl in a wild state some 30 years ago, because he seemed a hard young fellow, and it would give him "something to do."

After breakfast, to which my preparatory gallop afforded an admirable sauce, we adjourned to the stable, where a horse, kindly lent by a gentleman whom I had not then had the pleasure of knowing (where else should I have found such kindness?), awaited me. As the letter in which Mr. N. announced his politeness spoke of "my father's horse," I expected, as a matter of course, some fat old screw. My surprise and pleasure were equal on seeing a fine well-bred mare, nearly 16 hands high, with an eye that looked like going, and she did not disappoint me.

Breeding, size, and power, distinguish the Lincolnshire hunters. They are chiefly bought at three and four years from Yorkshire and other breeders, and paired by those of the Wold farmers who have sporting tastes; that is to say, almost all. The want of pasture prevents much breeding. If circumstances should lower the price of horse-keep concurrently with the opening of the Lincolnshire railways, the trade in horses must, in the presence of the limitless demand, take a great development. My host showed me, before starting, three hunters, for size, power, beauty, and breeding not to be easily matched.

In proceeding to cover, our way lay almost entirely through bridle roads; occasionally we descended gorges where pasture grew luxuriantly. These are a sort of oases much prized; and farm-houses are usually pitched upon them. The general character of the soil renders summer feeding, except on artificial Grasses, impossible. Most of the farmers hold, in conjunction with their Wold farms, some pasture in the belt I have described along the sea. The style of cultivation is simple and uniform. We passed field after field, each, perhaps, containing 40 to 70 acres, white as snow, with chalk dug out from pits beneath the soil; a strong manuring with bones prepared for Turnips, which are now by some stimulated with guano. These Turnips are eaten off with sheep confined in apportioned spaces by net-folds. I cannot think why these net-folds, which are so light and easy to shift, have not universally superseded wooden hurdles. The only disadvantage of net-folds is to the sportsman, being, as they are, the most awkward leap a horse can take. The ground being prepared by the treading and dunging of the sheep, which have had oilcake for part of the time, is further enriched by the manure of the oilcake fed cattle, fed in the straw-yards all winter. This ploughed in, comes Barley and Wheat and seeds for summer feeding. The Wold farms are too large to summer feed in pens, the labour of cutting and bringing home the Grass would be too great. They often suffer in dry weather for want of water for horned stock. It is thought that Wold farming might be improved by feeding more stock than they do at present in winter. New means of conveyance will do much for them in bringing grain and pulse for winter feed, as well as artificial manures, nearer their doors. They have been suffering for some time from the competition of those lying near to rail road conveyance. A very careful system of husbandry

* The Parson, the Pen, and the Pencil, vol. iii.

and liquid manure would enable many to grow more artificial grasses for summer feed than they do at present. This is one of the improvements most required in the Wolds.

The scale of operations is to our southern eyes gigantic. Near a farm planted in a beautiful green gorse, along a hilly 70-acre field, I counted 22 pair horse ploughs, chiefly iron, at work, all the property of one man, and was told that was nothing extraordinary. I heard of one farmer selling in one year 1000 quarters of Wheat, 1000 sheep and lambs, and 120 fat bullocks. The hunting field was a test of thermometer of the wealth of the Brocklesby district, every farm turned out one or more horsemen chiefly in scarlet, well mounted, well appointed, so that when all [illegible] mobbed there was probably represented, 30,000*l.* or 40,000*l.* a year of farmers' rent. They came dropping in upon us from gates and over hedges on all sides; every field in the horizon had a dot of scarlet. According to the doctrine of some political economists, large farms should result in a miserable labouring class; so far from that being the case, I never saw a better looking, more contented race; the villages are pleasant sights, so clean and comfortable, and the women very pretty.

I shall not describe our sport on this or any other day. The country is a pleasant one to ride across, presenting no formidable obstacles to a well-mounted horseman—no morasses or rotten banks. The mange among the foxes was a sad spoil sport. The huntsman Smith is a capital horseman, with a very fine voice. He complained of the interruption of the railroad fences; in a few years he will think as little of it as they do in Durham, Gloucestershire and Cheshire. He does his work very quietly, and the pack being very silent, it requires a sharp eye or they steal away from cover before you are aware, and with a good scent it takes a wonderful horse to catch them, if they get a few fields ahead. I never saw hounds work so well with a bad scent, but I have an old fashioned prejudice in favour of a little music on breaking cover. At Brocklesby they told me that they draft more for tongue than any other foible.

After a day of eight hours on horseback, in which the even uniform cultivation of vast farms, the size of the farm buildings, the number and excellence of the sheep and horned stock, the neatness of the fences, gates, and general cultivation, excited my constant admiration; my greatest source of surprise lay in the farmers themselves. Like every other traveller in this county I wondered where the race came from; a fishing question on this point brought out from an apple checked farmer of 70, in scarlet, on a stout cob, a story which others may have heard before—I have not.

When Dr. Buckland was visiting the present Lord Yarborough (then Lord Worsley), after seeing the specimens of Wold farming, the same query fermented in his head: so at a dinner of farmers, his lordship presiding, in the course of an awful pause, the Dr. exclaimed "My Lord, the farming here is splendid, but what I want to know is, where do you get your tenants from?" Before Lord Yarborough could answer this puzzling question, a patriarch, from the other end of the table roared out, "I 'll tell you Doctor; his lordship breeds 'em."

TURNIP CULTURE IN DEVONSHIRE.

The first time I visited Devonshire I was strongly impressed with the great inferiority of the general management of the Turnip crop there, as compared with many other less favoured districts of this country. It was in winter, and I was astonished to see from the finest Turnip land cart-loads of Turnips passing along the roads, not much larger than Potatoes. But a farther acquaintance with the country, obtained by a repetition of visits to it at different seasons of the year, convinced me that in this, as in most other matters, a stranger should not too readily draw conclusions, from a limited experience, at variance with the generally established practice of a district. Of Mr. Lawes I desire to speak with the utmost respect, as I am happy to have this opportunity of bearing my humble testimony to the excellence of his papers on agricultural chemistry, combining, as they do, in a manner hitherto untried, the conclusions of science with the results of practice; and while I venture to differ from him in his estimate of the capabilities of Devonshire as a Turnip county, I shall state my reasons for doing so as briefly as possible. I may remark, however, that his comparison of the numbers of sheep sold at Norwich market with the whole stock of sheep in Devon, is not a just one; for this reason, that Norfolk is a feeding county in which thousands of sheep, bred and partly fed in the north, are kept for a few months fattening for the London market, whereas Devon breeds nearly all the stock that is fed in it.

In the first place, then, the want of Turnips, as winter food for stock, is [illegible] felt in Devon than in any other county in Great Britain. Its peculiar mildness of climate, neither bound up by the rigours of winter nor scorched by the unshaded sun of summer, renders it especially favourable to the growth of Grass, and the long continuance of this mildness, often into spring, brings an almost perpetual verdure on the pastures, which enables the stock, in the best parts of the county, to be kept in the fields throughout the season, with an occasional supply of hay in severe weather. Devon is famous for the quality of its butter and cream; and the chief return of the stock farmers probably arises from these sources. Now, it may be questioned whether for these natural pastures a substitution of Turnip culture [illegible] single crop of Turnips, you substitute [illegible] crop of Grass, a crop of Turnips produced at [illegible] cost and liable to failure, and [illegible] capable of conversion into the most delicious [illegible] good butter and cream, and [illegible], the natural produce of the soil, [illegible] growing spontaneously [illegible] necessarily for a drought, but [illegible] to follow like the Turnip crop, and [illegible] daily produce of the best quality.

In the next place, even if it were [illegible] to introduce an extensive change [illegible] management of Devon, I think [illegible] Turnip culture is so well suited to [illegible] of this county as Mr. Lawes seems to [illegible]. There are, doubtless, many instances [illegible], especially in the agricultural [illegible] in Devon, but [illegible] are exceptional, and this arises from [illegible] of skill in the management of the Turnip crop, for no crop is easier grown than the Turnip, when [illegible] and manure, but simply because the [illegible] for its profitable cultivation. Cornwall is a better Turnip country, as all who know the two counties can testify, but, being almost surrounded by the sea, Cornwall is cooler in summer than Devon. For this reason, however, Devon is far superior as a fruit county. This difference of the summer temperature of Devon and Cornwall, as known in the superior flavour and quality of the fruit of the former, was mentioned to me by Dr. Barham, of Exeter, a gentleman to whose observations Sir James Clarke and other writers on the climate of the south of England are indebted for many of their conclusions. In the greater part of South Devon, Grapes and Figs ripen in the open air. Now the county from which I write (Wigtonshire, the south-west county of Scotland) is a peninsula, somewhat like Cornwall, from its proximity to the sea temperate both in summer and winter, producing little fruit, even in sheltered gardens, of very fine flavour, but capable of producing as good and as heavy crops of Turnips as any other county in the island. We have here the kind of weather Mr. Lawes justly thinks most favourable for Turnip culture: not too hot in summer, mild in autumn, abundance of rain, and seldom frosts of any severity before Christmas. Here we find it advantageous to push Turnip culture to its utmost extent, both because we have a climate and soil favourable to it, and also because, unlike the farmers of Devon, we have no perpetual verdure to render us independent of it in winter. They, however, are the more fortunate if they can dispense with a crop which, beyond all others, is the most expensive grown by the farmer.

In recommending a change of management to any district, we should also consider the physical difficulties to be encountered. Norfolk and Devon do not admit of fair comparison in these respects. Norfolk is laid out in large fields of light easily wrought land, offering no obstruction to the expeditious and economical management of large breadths of green crops, consumed where they are grown, by sheep, with great advantage to the soil; in fact, without which, the soil could not be cultivated to advantage at all. Devon, on the contrary, is subdivided into very small enclosures by hedgerows of lofty trees, which in summer shade the Grass from the scorching heat of the sun, and in winter protect the stock from the severity of the blast. In many parts the soil is rather stiff for Turnips, and even where most suitable it cannot be cultivated so cheaply in small enclosures. Devon also has resources which many districts have not. By irrigation, hay can be produced for winter food there much more cheaply than Turnips. By top-dressing with guano a field of Italian Rye-Grass, between Honiton and Exeter, Captain Buller (as stated in the last Number of the Royal Agricultural Society's Journal) obtained an enormous produce, equal to "40 or even 50 tons of Rye-Grass per acre in a single season." Will an average crop of Turnips in the south of England yield an amount of food equal to this? or will the splendid fields of Cabbages which were to be seen in the neighbourhood of Peignton, in the beginning of May, not yield a much greater money return, as an article of human consumption, than if the same land had been devoted to a crop of Turnips to be eaten on the ground by sheep? It is just because Devon is the garden of England that it would be injudicious to exchange its garden cultivation and rich feeding and dairy lands for the coarser vegetable produce of less favoured districts. The frequent hedge-rows and small enclosures of Devon render it impossible to cultivate the land with the same economy as we do in the north. But should we therefore recommend the complete extinction of these distinguishing features of the country? Would it be for the advantage of the proprietors, the farmers, or the labourers, that their land should be rendered unattractive to the numerous strangers who at present flock to it from all parts of England? Would the employment of the labourer be increased by a substitution of animal for manual labour; would the profits of the farmer be greater as a small arable farmer than a great market gardener; or would the rent of the landlord be maintained under such a change? Would all of them be in a better position to meet the competition of distant countries, with which they are threatened, if they substituted the cultivation of the very articles which alone these countries can send to us for the vegetable produce, Potatoes, Cabbages, &c., which are too bulky and perishable for long voyages, or the fresh butter and milk which can only be got in perfection from our own fields? Large farms, Turnip culture, sheep feeding, [illegible] good grain, may be met [illegible] Lincoln [illegible] the south of [illegible]; where a system of [illegible] dairy [illegible] farmers [illegible] conveyance of [illegible] Exeter.—*James Caird, Baldoon, Wigtonshire, N.B.*

THE DEVON, &c.

In your *Gazette* of the 16th of this month is a letter from my old friend, Mr. [illegible] Baker, of Wimpole, which I think I ought to [illegible], to my friend a [illegible] to be present. Mr. Baker [illegible] my esteemed friend, Mr. Mechi, and my [illegible] in his sheep, and have been laid in [illegible] are metamorphosed into clergymen [illegible] coming forth [illegible] our [illegible] exhibition of 1847; but [illegible] least with myself, and I think [illegible] Norfolk will prove [illegible] ling either, but is [illegible].

Each of our friends [illegible], and, therefore, he must excuse [illegible] reply to but a small part of it. For example, Mr. Baker writes that "what is [illegible] most requiring, for want of the [illegible] to blow the *trumpet*; and, the [illegible] hope to be excused if [illegible] tion of a farm belonging to the Hon. Mr. Cook, of Somer." On reading [illegible] friend Baker's letter for the account of the [illegible] specimen of the "farm;" of [illegible] promised to bring into notice the [illegible]. I did not expect to find what it would [illegible] for him to have given: but I did expect to find, after the promised flourish of the trumpet, some account of Mr. Cook's farm; but, beyond the [illegible] I discover about the farm; that [illegible] "attractive," I conclude is meant [illegible] the promised blast of the "trumpet" [illegible]. But, if there be no account of the farm, ample [illegible] is made for the omission by a prolix description [illegible] farming buildings. These buildings, Mr. Baker writes, "obviate the defects in the old system [illegible] farmyards, which were entirely objectionable on account of the large quantity of straw consumed, and the large quantity of water imbibed in the manure, and by drought in summer months, by the action of sun and air combined," &c. Here I am puzzled again to find out how large quantities of water are imbibed, as Mr. Baker writes, by drought during the summer months; I can understand how water is imbibed by straw in wet weather, but I cannot comprehend how this is accomplished during the scorching heat of summer.

But Mr. Baker proceeds, and writes that Mr. Cook "has entirely covered his farm-yard with sheds, or rather carried extensive roofs over them." Roofs over sheds—a singular erection. But I return to what the writer has alluded to in reference to myself. This I could answer in a very few words, but it is due to the readers of the *Agricultural Gazette* that I enter into a little explanation. Mr. Baker writes that I have been "most assiduous in the practice of transplanting;" but has my friend Mr. Baker been correctly informed on this head? for he professes only to have heard of it. Correctly writing, the information is not correct. I did not "practise" transplanting, and much less was I "assiduous" in it; but still I did enough of it, but just enough, for cavillers to cavil at. But I believe were not the root of Wheat transplanted by me (and all was done by my own hands) is now alive. The time that I did transplant was done so late in the season, in the harsh and dry weather, that every root, I believe, withered and died. But suppose every root had lived, what would it have proved against [illegible] seeding, or "rational" agriculture, as Professor Liebig terms it—and I think appropriately also. In my opinion nothing whatever against the system, but only something against the [illegible] which the land was seeded. But what are the facts? They are these: and as I consider them most important, I beg to draw particular attention to them. All my life I have been an advocate of what is generally called thin seeding, or thin sowing of grain. As early as 1816 and 1817, I published some letters on the subject, such as I have resumed within the last few years, and in which I

lamented the waste of seed grain; I also regret that there was no instrument by which to deposit a certain quantity of seed, at certain depths, and at certain defined intervals, had not been invented. But at length, last autumn, led, I believe, by those inquiries of mine, Dr. Newington, wrote to me to say that he had invented such an instrument as I required. Upon this I determined to give it a trial; but I had no land fit for Wheat, but what had been wheated the two former crops; to wheat it again, then, would be the third time. But, after reflecting on it, I determined to do so; and, accordingly, I replied to my friend to say that Essex should have the honour of introducing his instrument, and that it should be done on my land, though for the third time Wheat. I also requested him to have the instrument so made as to dibble but exactly 1 peck of seed Wheat per acre, and this having been arranged between us, I endeavoured also to find out a drill which would deposit exactly the same quantity of seed, so as to give each a fair trial; but in this, as every farmer must know, I had very great difficulty, but at length a parishioner, who lets out a drill, told me that he would try to effect what I wanted, and drill but 1 peck an acre. Accordingly, he brought his drill to my land, and I directed him to set the coulters 12 inches apart, and we stopped up the cups with clay, and set the drill to work, and I left the field immediately after for the whole day. At night my parishioner told me that the quantity of seed used had been 1½ instead of 1 peck an acre, which a little disappointed both him and myself, but, as the quantity approached towards rationality, I could not complain. This was done early in November, and at the end of that month the dibbler was brought to me by my friend, and my man dibbled the remainder of the field, except a small plot, at exactly 1 peck an acre, and in the middle of December I had the small plot dibbled by hand only, without a machine, at the rate of 5 quarts per acre. I observe, also, that one part of my field was manured, and the other part had not been dressed since 1845. Such, then, are the facts as to the seeding my field for the third time in succession with Wheat, the maximum quantity of seed being 1½ peck an acre, and the minimum 5 quarts.

And what have been the results? Of the thinnest seeded every grain came up, and the crop is now most interestingly beautiful. Of that dibbled by Dr. Newington's machine, the whole of it came up and is a beautiful crop; the rows are as straight as an arrow, and the plants are as regular as if done with a square and rule. All the drilled seed, also, came up, and, I believe, every grain grew, but the plants were in bunches in some places, and consequently the rows were rather gappy, and to fill up a few of the widest gaps I removed roots from the bunches and put them into the widest gaps, but it was more for appearance than for profit, and had the whole so removed grown, I could not have expected half a bushel of grain at harvest from them; but even that was not the case, for, I believe, every root I removed, as I have said, withered and died. But, after all, suppose the whole had lived, what would it prove against thin seeding? Nothing; there was no fresh seed used, not a grain; all cause of complaint, therefore, is against the drill, but none whatever against the principle of thin seeding. But if Mr. Baker had been quite candid, why did he not inform the public that I was assiduous in pulling up and thinning and throwing away my Wheat plants, as all my neighbours know I did, and for every root I transplanted, more than 100 roots were thus thrown away by me, and still I have a splendid crop. I do not at all fear but I shall have six quarters an acre, and I think also more. One thing, also, I ought not to forget to state, that in 1846 I drained a part of the field 6 feet deep through stiff clay, and that that part is now most conspicuously the better part; it is, indeed, magnificent. I could not drain the other part so deep, for fear of cutting off the source which supplies my house with water, and consequently there the crop is not quite so good. Mr. Baker hints that Mr. Mechi has failed in draining a locality called Whig or "Wig-borough," but the only surprise to me would have been had he succeeded. With all my friend Mechi's prudence, I am surprised that he should have attempted the Herculean task of draining the stiff and stubborn clays in that Augean stable; Hercules himself would have turned from the labour in despair, and Mr. Baker should recollect that he himself essayed to accomplish it with his army of Protectionists, but that he gave up the siege, and left the place in a much more filthy state than he found it; surely, therefore, he cannot blame Mr. Mechi, valiant knight as he is, if he failed also.—*George Wilkins, Wix.*

P.S. I hope I need scarcely add that thin seeding and proper culture enabled me to grow three crops instead of one. I add also that I earnestly hope, every gentleman who is the least sceptical as to the above statements, will visit my crop and see it for himself; and if so, I will show him two other plots of Wheat, equal to mine, which were seeded with still less quantities, but done after my plans.

Home Correspondence.

Hydro Incubation v. *the Egyptian Oven.*—In a late *Agricultural Gazette*, two of your correspondents, who are naturally enough anxious to avoid the serious outlay incurred by the adoption of Mr. Cantelo's system of hydro-incubation, ask for information respecting the comparatively economical Egyptian mode of hatching eggs in ovens. The mere fact that an almost entire absence of rain is the distinctive peculiarity of the equable climate of Egypt, and that excessive humidity, and those frequent variations so fatal to young poultry, are as characteristic of our own, might be a sufficient answer to these queries. For more positive information, I would refer your correspondents to the 1st edition of Sir Gordon Wilkinson's "Topography of Thebes," in which, at p. 248, the Egyptian mode of hatching eggs is described, illustrated by a plan of an oven. At p. 249 he says: "Excessive heat or cold are equally prejudicial to this process; and the only season of the year at which they succeed is from the 15th Imsheer (23d Feb.) to 15th Bacamordeh (24th April), beyond which time they can scarcely reckon upon more than two or three in a hundred." I am not one of those, if such there are, who think a farmer can realise much, as a general rule, by the old-fashioned barn-door fowl, but if, as stated in the *Agricultural Gazette* of the 9th of May last, fowls weighing 2¾ lbs. each, at 96 days old, can be reared by Mr. Cantelo's process at an expense of 10*d.*, the experiment is worth trying. Corn might thus literally be sent to market as profitably, and as independently of the corn merchant and miller, on two legs, as, according to Mr. Mechi's receipt at North Walsham, on four. If either of your correspondents adopt Mr. Cantelo's system, it is to be hoped that, taking into consideration the present market price of corn, they will give the public the result of their experiments.—*A Member of the Royal Agricultural Society, June* 19.

Facts and Figures.—As a subscriber to your Paper, which I take in for information and knowledge, it is of the utmost importance that your reports of facts, as related at divers societies' meetings, should be correct, particularly as regards figures. In your report of the English Agricultural Chemistry Association of 10th June last, the Rev. Mr. Huxtable is reported to have said, that a manure, known as the refuse of seal skins, was put on the railway for him at 18*s.* per ton. As I am in the habit of buying this manure, and am charged by one who, I presume, is a respectable tradesman in the Borough, 5*l.* per ton, and others, I understand, pay the same, I felt astonished at the price reported in your paper of Mr. Huxtable's statement. Is it a mistake or misprint? Or can you inform me where this manure can be purchased for 18*s.* per ton? I have before noticed in your reports of the same nature, when figures are used, things stated as facts which I could not reconcile with any inquiries I have been able to make, and in statements where figures are most essential to be correct.—*C. W. K.*

Tenant Right, &c.—I wish to express my thanks to three writers in your *Agricultural Gazette* of last week The first is my esteemed friend Mr. Davis, for another of his very able papers; the oftener he writes, and the more extensive his practice, the better for all mankind. The second is a writer on tenants' rights, as it is termed, who signs his name John Russell. I wish he had given his address also, as I should have troubled him directly with a letter. I exactly agree, and always have, with all Mr. Russell has written; indeed, destructive to the welfare of our country as the five Chartists' points would be, I would rather subscribe to them than to the doctrines of the tenants' rights men, and I am sure the latter are the more mischievous and revolutionary. All the lawyers in England could not draw up a tenants' rights lease that could be acted upon by landlord and tenant reciprocally. The landlord alone would be bound by it, as the tenant could, at any time, where it was his interest to do so, evade it, and, if requisite, break, "without effects;" he could always come upon the estate of his landlord, though his landord, even when his estate was entirely ruined, could obtain no compensation from a dishonest tenant; or, these are my opinions, and if any lawyer can prove them to be wrong, I wish he would do so. I will not be a member of any agricultural club where tenants' rights are advocated, any more than I would be a Chartist. The third writer whom I wish to thank signs himself "Falcon;" but why does not a sensible gentleman give his name and address, and thus add more weight to his communications. I have also an article on workhouses, on precisely the same subject as "Falcon," has addressed to and laid before a board of guardians in the spring of last year. It is rather singular also that "Falcon" and I should have both gone exactly the same road, but that we have he may convince himself by obtaining a copy of the paper I laid before the board in question. Of course, he must write to me for the name of the union, which I shall be happy to give him if he would like to know it. I wish "Falcon" would also give us his opinion on what is miscalled stall-feeding of cattle; which he knows is a new plan of feeding cattle in dungeons sunken in the earth and not cleaned out more than three or four times in a year. If "Falcon" would write down this nasty cruel dungeon and modern abomination, he would confer an additional service to God's irrational, as well as to his rational creatures.—*George Wilkins.*

American Poultry.—The following method of rearing and feeding poultry, says Mr. Charles Whitlaw, I had from a Captain Dunn. "He had received some hints from the Chinese, and likewise imported all the different kinds of fowls he could get from that and other countries, in order to improve and cross the breed. After many years' experience, he found that the breed produced between the English and the Malay fowls was the best, taking size and flavour, and their being better suited to the climate, into consideration. The severities of the winters at New York require the employment of artificial heat, in order that the hens may lay all the winter, and that chickens may be reared all the year through. The houses for this purpose may be built either of brick or stone, one story high, with wooden roofs and must be heated by cast iron steam pipes; their ceilings and walls must be finished with Roman cement, in order to keep the houses free from vermin, which are apt to generate when heat is employed; each house is to be divided into compartments, the first for hatching and rearing chickens, the second for breeding turkeys, the third for ducks, and the fourth for geese. A furnace is to be built at one end, with a steam boiler to hold 50 or 100 gallons of water, which will heat a house 80 feet in length; the first two compartments must have the steam pipes passed through both rooms, at the bottom of the walls, for hatching chicken and turkey eggs, and they must pass once round the other two rooms, ducks and geese requiring less heat. The boiler must also be so constructed as to steam Potatoes, Parsnips, Carrots, and herbs, which when cooked and mixed with milk, Barley, Oats or Peas, meal or flour produce the finest chickens and other poultry. To make the hens lay all through the winter, mix powdered oyster shells and slate, or decomposed schistus with their food; the lime in the oyster shells is necessary to form the shells of the eggs, and the slate improves the quality and flavour. Those hens are found to lay better flavoured eggs which are bred on soils formed from decomposed schistus or granite. By persevering in the above plan, a sufficient quantity of poultry might be obtained to supply London at one-half the prices generally charged, and yet allow a fair profit to the farmers, and an abundant supply of eggs in the winter would always be certain.* The finest children I have seen in the United States were fed mostly upon bread, milk, eggs, and poultry; if parents would feed their children in this way, giving them little or no other animal food, they would not be so liable to disease, nor would contagious disorders be so fatal as they are now, owing to the excessive use of animal food, and particularly pork." The above quotation points to a plan which is worth enquiring into, as Mr. Cantelo seems to claim being Emperor of all the poultry; having, as he states, taken out patents for Great Britain and the colonies, France, Belgium, Holland, and America. Your correspondent "A Constant Reader" justly complains of the high price of the hydro-incubator, and "C." very truly remarks that the facilities of intercourse with Egypt and other countries is such, that a more perfect knowledge of artificial incubation may be easily obtained. What is to prevent the importation of a makhmal into England? No consideration would ever induce me to take a one-sided view of the subject. In the sincerity of my conviction, I wrote the articles signed by "W. M." "M. A. C." "W. M. F.," and up to this date by "W. J. Cantelo," which last, of course, he approved and signed, and from him I gained a great portion of my information; an invention which claims the investment of 25 or 30 millions of capital, to produce an abundance of nutritious food, is certainly deserving of the greatest consideration. I have not the slightest doubt but that chickens can be cheaply and profitably fed up, if the business be properly attended; Mr. Moffatt, in a 6*d.* book, published by Dean and Co., Threadneedle street, states that domestic poultry can be reared to 70 days old for 3*d.* or 4*d.* with bought food, and for much less if they have the run of a yard; and their guano is valuable as manure. I believe Mr. Cantelo's statements, which I assisted him to make, are perfectly correct on that point, and on almost every other; it is no use now trying to pluck from him the plume that he was the first to discover the blood heat of the feathered tribe to be 106°. The nearest statement I have seen to it, I found the other day in "the Library of Useful Knowledge," published by Baldwin and Cradock in 1829, on Animal Physiology, page 53; it is stated that the blood heat of ducks is 107°, and that 103° is the proper heat to apply in hatching out chickens; the precise degree is of the most vital importance, on the same principle that the internal warmth of the mother of every animal is the only heat that will bring her progeny to life and maturity. The breast of the hen becomes bare of feathers at the time she has a desire to sit, she lays her eggs in a retired shady place, pressing them with her hot breast, and covering them from the surrounding atmosphere with her wings, which are non-conductors; they thus act as a screen—if cold, for shelter, if not for shade, and hence the temperatures. The breast at 106° on a spot on the top of the eggs, and the small vacant space around them generally varying from 70° to 80°; and in this is to be seen the great merit of the hydro-incubator, which precisely imitates nature. Eighteen broods is quite correct, 20 times 24 hours being the precise time to hatch out a common hen's egg; 18 times 20 is 360, and hence there are 5 days over. It is incontestibly beyond a doubt, that the machines will hatch out 18 broods in a year, and after all, I am inclined to believe that with properly heated premises a very large proportion of them can be profitably reared; the greatest expence will be in the winter, but the highest prices will be obtained in the spring, to pay for it.—*W. M. F.*

Probabilities of the Weather.—I am obliged to your correspondent "Observer" for calling attention to what he considers a fallacy in the opinion I hazarded as to the probable state of the weather during the coming summer. When I mentioned the probability of a dry summer, I was referring more particularly to the early part of it, that being the time, as every farmer knows, when spring-sown corn suffers most from dry weather. I have generally observed that if any considerable

* Were the eggs placed underneath or above the pipes, or did the chickens stand under them, as Mr. Cantelo has it arranged.

quantity of rain falls during the months of February and March, as was the case this spring to an unusual extent, the months of May and June are usually dry. Since reading "Observer's" remarks, I have consulted Johnson and Shaw's "Farmers' Almanac," a most trustworthy periodical, and in the weather notices for March, I find the following statement, which tends somewhat to confirm my opinion. "It was very wet and stormy in 1818, 1835 and 1836, succeeded, in the two former instances, by a hot and dry summer, and in the last-mentioned year, by a long course of N. E. wind, and a very dry month of May." With regard to the subject of dibbling, I may just state that this year I am trying it with various kinds of crops, to the extent of about 50 acres, and with every prospect of complete success. Under any circumstances of the weather, if the operation be carefully performed, and the land is in proper order, I consider dibbling preferable to any other plan of depositing the seed.—*T. B., North Essex Farm.*

The Condition of Labourers.—A correspondent, under the signature of "A Labourer," mentions at p. 177 some particulars respecting the condition of English and Scotch farm servants, or labourers. By the tone of the writer, he seems better acquainted with the condition of the Scotch ploughman than the English. He observes that "single men in England are generally kept on very low wages, having less than married men; and that they often do nearly double the work." To this he remarks—"By what criterion employers are governed in this system I have never been able to find out; unless it is for the purpose of preventing them from rising higher than their forefathers." True it is that both single and married labourers have often very low wages; but this, in general, does not arise from any selfish motives in their employers, but simply from the labour market being overstocked. This holds good indeed with all kinds of employment; and any one acquainted with husbandry work knows that there can be no difference in the quantity of labour performed by the single or married man, provided that both occupy the same place or station on the farm. When it happens that there is difference in their wages, it is not owing to any bad feeling of the master against the single man, but rather from a good feeling towards the other, who may be burthened with a large family and glad to do extra or task work in the barn, for which of course he has a right to be paid. Therefore married men frequently do more work than single ones, instead of less, though the writer in question states the contrary. Perhaps he was led to think so, by the administrators of the old poor law, who at times gave a man an extra shilling or two a week, in order to help him along with his large family. But how far that held out a temptation for a single man to marry before he could maintain a family, and of course bring worse misery upon himself and others, it is needless for me to enter upon. Still the motive was good, and though not a farmer myself, yet I think the writer should be more liberal, and not ascribe selfish motives to them, as if they paid low wages in order to prevent their men from "rising higher than their forefathers." Besides, what could be their motive for such conduct? as self interest is after all the main-spring of life, of which it is said farmers are not deficient, and they are well aware that the labourer who endeavours to raise himself, that is, attends with care to his domestic comforts, is always the most trustworthy servant.—*J. Wighton, Cossey Hall Gardens.*

Speckled Dorkings.—The statement that these birds, when thorough bred, are less hardy and prolific than when an admixture of blood is admitted, is no mistake; and was not published without care having been taken to ascertain that it was confirmed by the experience of others, who have kept the pure speckled Dorkings on a large scale, both for private consumption and for the supply of the market, and who give, as their result, that the cross is more profitable. Of course, the circumstance of their pining away and dying just when attaining maturity, must be the exception instead of the rule; otherwise, the breed would have long since been extinct. I have merely said that they are apt to do so. Their constitutional weakness developed itself, with me, in this particular form, which will vary according to circumstances and situations. Others complain that they are soon worn out, and prematurely overtaken by old age. Indeed, I have never known a pure Dorking hen to be good for much, either in the way of laying or sitting, after her second season. All this shows some inherent defect. Good judges have thought that I have written only too favourably of the speckled Dorkings; but I agree with "Anon" in having a liking for them, and am glad to hear he has managed them so ably and successfully. The precautionary and remedial measure he has adopted, of introducing a fresh and well-selected cock bird or two into the walk every second or third year at furthest, is the very best that can be adopted; but it confirms, instead of refuting, my expressed suspicion, that the cocks of this race are deficient in vigour. For those who are indifferent about seeing the full complement of five toes, provided they can retain the other valuable points of the Dorkings, there is a fine variety called by the principal London dealers the "Surrey fowl," of even larger dimensions and more vigorous appearance, a trial of which I should recommend strongly, although without any practical experience of them at present.—*D.*

Pheasant Breeds of Fowls.—I agree in opinion with "D. S. E." that there are good grounds for supposing the pheasant breeds of fowls to be descended from the true pheasant blood. How they have become "established," by what crossing with other races (if they really derive their type from the pheasant), would probably be now very difficult to show. There are, however, so many sorts called pheasant fowls, as is remarked in the excellent paper on the subject in the *Agricultural Gazette* of April 1st, that it is not surprising that those best acquainted with them "have long ceased to attach any definite idea to the designation." Some, perhaps the truest, and certainly among the finest in Cumberland, have the resplendent markings of glossy gold and black plumage, very like the cock pheasant, the most "established," or what may be called the "type" of the breed, being those pheasant plumaged hens, like what are called "Sir John Sebright's bantams." But there are many other kinds of hues in the various breeds, among which are Polands, with combs like "king David's crown" (two or three small erect points), some of which have also muffs under their throats, and are most useful and beautiful everlasting layers; others are silver, some cream and fawn-coloured, with a few dark feathers interspersed. These last were among the most beautiful of all I ever saw of this race, still exhibiting the "longish" body, unmistakeable shape, and usually, though by no means always, short low comb. Although the produce of the hybrid from the pheasant and the common hen, it would appear, rarely lives, yet pheasants from the woods often breed with common poultry, and produce a beautiful race, which, carried forward with the pheasant blood, become smaller indeed, but elegant and graceful. I have just now a most beautiful creature of this breed, many of whose eggs, by a common cock, are now strong chickens. She is the daughter of a cock pheasant and a hen, the produce of a pheasant and a game hen, consequently has three-fourths of pheasant blood, and one-fourth of game hen. She is spangled all over with bright gold, brown and black feathers; while down her back a few white drops like snow flakes give her, to my eye, an appearance of high blood, like a white "ticked" greyhound; her shape is round, plump, and elegant, her motions especially graceful; and with all this wild blood, she is, perhaps from having been a pet, perfectly tame and familiar. The breeder of this race had his attention first drawn to the matter by seeing the cock come home frequently all bloody, while the hens remained in the wood, and on examination found the cock pheasant had carried off the whole seraglio. From the eggs of two game hens which he kept for sitting, he got broods of very fine birds, usually speckled, the mothers being a greyish buff colour, some darker, some lighter, some more equally and handsomely marked than others. The produce of these chickens next year by a cock pheasant again were generally smaller, but many very beautiful; they were reared easily enough. The hens are, many of them, very like a hen pheasant, the tails, however, always erect, though carried rather close, and what is curious, in two or three cocks known to be really half pheasants, the tail is, so far from being at all horizontal, carried quite back like a squirrel's, so that the head and tail meet at times. The cocks are often like a stout, red, game bird, many with black and gold semi-circular spangles over the breast. One thing ought particularly to be remarked; the comb universally, I think, in these mules (or hybrids) is in the hen short, flat, and low to my fancy. Now among the country people here this low comb is spoken of as characteristic of the pheasant breed (not the mules); the writer above quoted speaks also of his "pheasant Malay hens having scarcely any comb," and though I have seen rose combs and high fleshy combs, yet this was to be referred to the various crosses, and certainly the pheasant breed in this neighbourhood have the short, low comb—and this with the unmistakeable shape—rather long, and raised at the lower part of the backbone, and the regular cock pheasant-like spangles of the purer and darker breed, all indicate, I think, the origin of the race. That mules (so called) or hybrids produced in the usual way by cooping up a miserable cock pheasant and melancholy hen should be puny, and that their stock should rarely, if ever, be reared, even if Nature has placed no insuperable bar upon the continuance of this race, is what might be expected. But even under more favourable circumstances the produce of the direct crossing of these mules or hybrids seems very seldom reared. One man, who had some of the birds near a wood, indeed assured me that the breed was easily reared, and that "they grew more and more like pheasants every clutch," but I noticed he had hens of other breeds going with his pheasant mules or hybrids, male and female, and he was not sufficiently intelligent to be fully depended on. Besides though his cock and some of the hens were undoubtedly true hybrids, yet as he lived close by the wood side, it is most probable that, as in the former instance, the cock pheasant of the wood usurped the attentions of the whole sisterhood, thus accounting for the broods growing more like pheasants every generation. The most successful breeder of them admitted that, after many trials (of paired hybrids), he had "never brought up but two to be a'most hens," and that then they "took the (meghrims) staggers and died." From his description it would seem that they died of apoplexy, a disease to which, although contrary opinions have been expressed, it would seem fowls are exceedingly liable. Usually those that emerged from the shell "took the gapes the first or second day, threw back their heads, fell over, and died, even off at once." The usual unproductiveness, the extreme delicacy, and this mode of death (brain symptoms), all indicated the result of breeding "in and in," perhaps as well as the specific causes of unfruitfulness among first the race. However, as these birds, [illegible] pheasant blood, [illegible] game cocks, and others, [illegible] a large portion of the pheasant [illegible] direct crossing, and in this way [illegible] may probably, the true pheasant [illegible] originated, and, by good [illegible] established. But I am, with "D. [illegible] convinced of the impossibility of [illegible] bred by the direct cross. From the rarity of the attempts, and from the bird being rarely reared in pens, robust fowls, and those [illegible] blood (absolutely requisite) are [illegible] paired. The only plan to give the breed a fair trial would be to take a strong, robust cock and [illegible] near separate woods, and the mothers of which would be hardy, well accustomed hens of [illegible] breed [illegible] —say the Malay, the Dorking, the Spanish, the Polish (Spangled), or the game breed, and then rear them under favourable circumstances. Though the tendency of this breed from the game hen by going on, I mean with the cock pheasant, is to get smaller after the first cross, yet they lay well when they begin, and are said never to sit. The beautiful hen pheasant before me was a dark shelled, game-looking egg of the first cross, 2 oz. in weight. Could such birds, be reared and [illegible] become established, they would be among the most valuable and beautiful of all our breeds of poultry. With regard to the pheasant breed, so common in the farm yards, the good wives say they very rarely sit, some that they never sit; and they usually keep game hens for this purpose, when all the rest of their hens are of the pheasant breed. The cocks, so far as I can observe, are seldom handsome, seldom properly chosen, perhaps; but many are white, or common barn-yard red and black, frequently with white feathers in their tails; sometimes a white cheek; and always heavy, fleshy, ugly combs. Their legs, too, are sometimes apt to be rough, thick, and scaly; and in this also, as well as the comb, they resemble the pheasant "mule" cock as seen in this neighbourhood. I merely meant to send a brief memorandum, and have run on too long. However, any remark that may seem of any use, is heartily at your service. A number of the silver and gold-spangled pheasant fowls are said to be imported annually from Holland and Hamburgh. Where and how are they produced?—*C.*

Farmers' Clubs.

READING: *Cultivation and Management of Mangold Wurzel and other Root Crops.*

Mr. MARTIN SUTTON'S practice had been to sow every variety on the same kind of soil on the same day, with the same manure, and subject to the same subsequent treatment. Having thus sown one collection of sorts as early as possible, he sowed a similar collection on similar soil, &c., a little later, and a third much later. By this three-fold test, the best time for sowing was ascertained, as also the comparative produce of each kind. Last year, he grew six sorts of Mangold Wurzel, and the weight of each he carefully noted at the time of taking up. He did not think it necessary to enter into minute particulars of the weight per root, but was of opinion the most useful information would be to state the comparative weights, which were as follow: 1st, Yellow Globe and Long Yellow, which were about equal to each other: 2d, Long Red and Long Purple, also equal to each other: 3d, Red Globe: 4th, Long White, or White Silesia. The latter sort, though not so productive as some others, was cultivated on account of the large proportion of saccharine matter that it contained; but the Long Purple, which grew much larger, would be found to contain quite as much or more saccharine than the Long White. The Yellow Globe was generally preferred, on account of its large produce, and its keeping longer than the Red; also because the milk and butter were found to be of a milder flavour when the cows were fed on it. It had been stated by some dairymen that the cows gave a greater quantity of milk when fed with this description of roots. Then as to the Long Yellow, it was found to possess all the good properties of the Yellow Globe, and on good deep soils it might, perhaps, produce a greater quantity. This root was remarkable for being very small. As regarded the time of sowing, it was certain that the earlier the plants were established the larger the roots would become, provided they stood: but if they were too forward, many of them would run to seed. If they were sown early in April, and the subsequent weather was warm, they would most assuredly run to seed; if, on the contrary, the weather proved cold, the seed would not vegetate; or should the weather be mild in April, so as to bring the plants up, the first frost would cut them off. If sown very late the danger was, that, for want of rain, the seed would lie a long time before it vegetated (if it came up at all), and consequently the crop would be much lighter. Generally speaking, the best time was the latter end of April, or the first week in May; the seed should not be buried deep therefore (lest more than one seed should fall into a hole, dibbling was objectionable, and no made soil as drilling. The manure to be used should be the Peruvian guano, at the rate of 3 cwt. per acre. Mr. Sutton next stated that he had grown six sorts of Carrots, and the following was the relative weight: —1st, White Belgian and Yellow Belgian; 2d, Altringham; 3d, James's Orange; 4th, Long Surrey; and 5th, Short Horn. The greatest amount of saccharine matter was contained in the Short Horn and Long Surrey, and the least in the White Belgian; the Yellow Belgian was more nutritious than the White, and the weight of produce was fully equal. This sort was not generally known, but the seed was presented to him by Mr. W. P. Taunton, of Stourbridge. The James's Orange and Short Horn were particularly suited for poor and shallow soils, and especially for late sowing. The best time for sowing was from the middle to the end of April; if sown earlier the seeds would not so quickly vegetate, and the weeds have more time to get a-head. Pollard and saw-dust mixed with seed would facilitate the drilling much more than sand or ashes. A little mustard seed sown with Carrots to mark the drills would enable the farmer to hoe earlier, and was preferable to Barley. Of Parsnips he had grown several sorts, and last year found the short kind to be much larger and heavier than any other. The seed of this kind was received from Guernsey: the Parsnips were not more than 12 to 15 inches in length, but many of them measured 15 inches in circumference, and weighed 3lbs. each. The Parsnips grown in Guernsey and Jersey were very long, but those above alluded to were quite the reverse, and were yellow inside. It was well known that Parsnips were much more nutritious than Carrots, and the labour of digging them up would be greatly obviated by cultivating this variety only. Twenty-four different sorts of Swedes

and other Turnips were grown by him last year. To describe the whole of them would, he feared, occupy too much time of the meeting, but as considerable interest had been and was still manifested respecting the Ashcroft Swede, he would just state that he believed it to be an improvement on the Liverpool Swede, being broader in the crown, not quite so high above ground, but produced fully as great a quantity per acre, and was one of the heaviest Swedes in cultivation. Being remarkably quick in growth, they were useful for the first crop, and especially for the latest sowing. Some that he sowed last year after the harvest, came to a good size; and some sown at Southcote Farm the previous year after a crop of Peas, was one of the finest crops in the neighbourhood. The new description of root known as Kohl Rabi, he had grown in several different ways, and found that, for the purpose of obtaining as large a crop as possible, it should be sown about the first week in May, in drills 3 feet apart, and hoed out about 15 inches in the rows. Another plan more commonly practised was to sow the seed in beds, and transplant them the same as Drumhead Cabbage, but they would not thrive so well as by the former method. He had seen some heavy crops of Kohl Rabi and Drumhead Cabbage on Mr. Stephens's and other farms, but it was the opinion of some persons that a greater quantity of Swedes might be grown on the same space of ground. Kohl Rabi, however, possessed some advantages over both these crops; it was more hardy than either, not being injured by the severest winter, and consequently need not be housed, and early in the spring it threw out a large quantity of sprouts, the bulb remaining in good condition. Sheep were more fond of it than of Swedes, and horses and cows ate it with avidity. Some he had sold to a cowkeeper, who was afterwards very anxious to be supplied with more. During the unfavourable weather of last summer it thrived even after transplanting, while Swedes were dried up and destroyed by grubs. Mr. Sutton concluded by inviting members to call at his sample ground during the approaching season, when similar experiments would be made.

Calendar of Operations.

JUNE.

*N. B.—We have to beg our Correspondents for "*WOTTON-UNDER-EDGE,*" to substitute "*BERKELEY*" in their addresses.*

BERWICKSHIRE MERSE FARM, *June* 23.—Since last report we have been employed in preparing the land and sowing Turnips; the workers have been employed in cleaning the land, sowing guano, and hoeing Beans, &c.; three men mowing Whins; two cleaning fences and one mending them. We had a heavy fall of rain on the 19th, and had to stop ploughing.—*J. B.*

EAST LOTHIAN FARM, *June* 24.—Since last report of the 10th, we have finished the sowing of head ridges with Turnips, and have also been employed with the paring and grubbing ploughs among Beans; also hand-hoeing the same and Potatoes, likewise threshing and carting Wheat to market, and carting lambs to Edinburgh market. We have experienced showery and rather ungenial weather, particularly for Turnips, which have made little progress; a small space only are ready for singling. Winter sown Wheat is in the ear, early sown Oats are coming into ear, Barley and Beans are growing vigorously, Grass is plentiful.—*L.*

GALLOWAY FARM, *June* 26.—The weather being very favourable for cleaning the fallows, that operation is diligently proceeded with by grubbing, harrowing, rolling, and harrowing again, the disengaged root weeds being then gathered off the ground. The Beans have been all drill-grubbed, and 10 days ago advantage was taken of heavy rain to top-dress with guano (4 cwt. per acre) about 5 acres of the field which had not been dunged on the Wheat stubble. The first planted Potatoes are now being set up by the drill-plough for the last time, the drill-grubber preceding the drill-plough, to deepen the working soil and afford fresh earth for this second earthing up of the crop. The later planted Potatoes are being earthed up for the first time. The present appearance of the whole crop is very healthy and luxuriant. The drill-harrows are employed among the Turnips, preparatory to their being singled or hoed, which is also proceeded with, when the hoers are not engaged at the hay-making, which at present occupies the principal attention of our manual force. With regard to stock, they continue under the same management as mentioned in last report.—I feel very much obliged to your North Lincolnshire correspondent for the account he furnishes of the profits of cattle feeding, as a comparison with that sent in the last report from this farm. There are two points in it which deserve particular notice: 1st, the great discrepancy in the returns of manure; and, 2d, the fall in the price of butcher-meat since the last sales of your correspondent, 11th May. The quantity of manure which he places to the credit of his statement, seems to me unaccountable; 1300 yards of well made manure, from 580 tons of Turnips (containing not more than 58 tons of solid matter, the rest being water), and 12 tons of oilcake, besides hay and litter, is a quantity which exceeds all my experience, but as my cattle had litter *ad libitum*, straw being a very abundant commodity here, the comparison will be rendered more fair by throwing the manure altogether out of the account, taking it for granted that equal weights of feeding materials will leave equal quantities of manure in Lincolnshire or Galloway (the advocates of the box-feeding system asserting that their plan does not require a greater supply of litter than well littered stalls), and the quality of the manure made here being increased by the urine from the stalls, which is regularly pumped up and mixed with it from a tank where it is stored, a plan which, until mentioned by your Lincolnshire correspondent, I thought was not required by the box-feeding system. The comparative account should therefore stand thus—

Galloway Farm.

Cost of 30 cattle, including interest of money, attendance, and imported food, but exclusive of Turnips and litter	£361	0	0
Net price for which they were sold, fat	425	0	0
	£64	0	0

Which leaves for the 400 tons of Swedes consumed by them, 3*s.* 2½*d.* per ton, besides manure.

North Lincolnshire Farm.

Cost of 60 cattle, including interest of money, attendance, and imported food, but exclusive of Turnips and litter	£1111	10	0
Net price for which they were sold, fat	1197	2	0
	£85	12	0

Which leaves for the 580 tons of Swedes and Mangold Wurzel consumed by them 2*s.* 11½*d.* per ton, besides manure. But this is not all, for if your North Lincolnshire correspondent had not been fortunate enough to get off all his cattle before the recent fall in prices (which is not less than 1*d.* per lb., and therefore equal to from 50*s.* to 3*l.* on an ox of 50 to 60 stones) he would have had nothing for his Turnip crop, and not more than would have half repaid his imported food and expenses. It is much more pleasant to recount our successes than our failures, and as my only object in sending you the details of our cattle feeding was the elucidation of truth, I am glad it has called out your North Lincolnshire correspondent, whose figures, as analysed above, are an additional confirmation of the caution I ventured to give to the inexperienced against calculating on large profits from feeding cattle on Turnips.

MIDLOTHIAN FARM, *June* 20.—Although the late cold and wet spring which we have this year experienced has greatly retarded field operations, not only in the pulverising of the soil, but in the clearing out of root-weeds, and in the important matters of sowing and planting, the genial change since the beginning of May has, by rapid strides, repaired, and almost made up for the backwardness of the former months, so that we have now high hopes of an abundant and still early harvest. The Wheats in our county are full of healthy vigour, and rapidly bursting into ear; indeed, some of the more advanced fields are in blossom, and, before the end of this month, a continuation of the present weather will place the whole of this crop in the same forward state. The Barleys are luxuriant and forward, offering fair to rival the best of years, and in a week more the greater portion of this crop will also be in ear. Oats promise abundance, and are rapidly advancing; their fine, healthy, broad blades certainly astonish us when we consider the late and cold season in which they were sown. The Bean has suffered from the lateness of the seed time, but is perfectly healthy, notwithstanding which we can scarcely expect a full return from this crop, which is well known to require an early spring and lengthened autumn to bring it to full maturity. The hay crop will, after all, turn out a fair average one, and the quality is excellent; mowing commenced eight days since, and, if we are favoured with 14 days of fine dry weather, the whole will be safe in the rick; the price, however, will not be tempting as the low rate of 3*l.* per ton is already talked of as likely. A comparatively large breadth of Potatoes has been planted this year under favourable auspices; we believe that the number of acres will amount to at least two-thirds of former years, and when the enormous prices paid for seed are taken into account, we feel astonished, although pleased, at the exertions made by farmers to re-establish the culture of this favourite and useful root, still we trust the former dependance will not again be relied on, and that something more substantial will be added as an accompaniment at the poor man's table. The Potato has now a most vigorous and luxuriant appearance, some of the early planted fields being already earthed up, and in every instance a healthy aspect predominates. The only cases of failure we know or hear of are on two farms, near Edinburgh, where a few acres did not vegetate, in consequence of the badness of the seeds, which were procured at low prices, being the refuse of a cargo damaged at sea. The Turnip sowing is nearly concluded, and the young braird has in general a healthy appearance, although we hear some complaints of depredations committed by the fly. The earlier sowings are now being singled by the hoe, but from the prevalence of showery weather and sometimes heavy rains, the progress of this operation is slow and expensive. This state of the atmosphere has also much retarded the preparation of land for the late sowings, and greatly increased the farmer's outlay. The pastures are everywhere most luxuriant, and both cattle and sheep are rapidly fattening on them. We are happy also to state that few cases of disease now occur, and we trust that the late fatal epidemic will soon be unknown.—*B.*

SOMERSETSHIRE FARM, *June* 26.—For this last week we have been engaged in making and hauling hay, hauling, spreading, and covering dung; sowing Swedes, horse hoeing, and thinning Mangold Wurzel; burning turf. If we have fine weather we shall be fully occupied with the hay for the next 8 or 10 days.—*R. C.*

SOUTH HAMPSHIRE FARM, *June* 25.—We have, since our last report, experienced a succession of heavy rains, which has very much delayed Turnip sowing, yet those which have been put in at intervals between the showers look promising, the weather being very growing and forcing for vegetation. With regard to the hay crop, we may venture to say a more unfavourable season for it was never known in this county, none having been saved without some damage. The work upon the farm has been chiefly preparing the land for and drilling Swede Turnips. The horses have been employed a few days in carting Clover-hay, which is now finished. Since our last report we have drilled Turnips at five or six different times, and have about a third part of our land, intended for Swedes, now remaining to be drilled. We were drilling Swedes yesterday upon land once ploughed after Tares fed off with sheep. This land, which was seeded in the Wheat with Italian Rye-grass, afforded, after harvest, an abundance of good Grass, and was hurdled off for sheep feed in October, and sown with early Tares as late as November, yielding an abundant crop. We cannot help thinking (where land is free from Couch-grass) this succession of crops is far preferable to to the practice of some counties, of autumn preparation and winter fallowing for Turnips, for we do not hesitate in saying, that finer crops of Swedes cannot be obtained by any preparation than after Tares fed off. We have been horse-hoeing and earthing up Potatoes, and horse-hoeing Carrots, but the weeds do not die, the weather being so showery; we intend, therefore, to send women to pull and carry away the weeds between the rows, otherwise, should dry weather follow, they would clog and prevent the work of horse-hoeing. We have employed our horses, when the land has been too wet for ploughing, by threshing Wheat with machine, also in carting night-soil and ashes to the manure house and fetching oilcake and Egyptian Beans for the sheep. Our labourers have been employed in trimming and topping haystacks, in readiness for thatching, sowing guano before the harrows previous to every sowing of Turnips, mixing the superphosphate with night-soil and dry ashes in the manure house; cutting the bents off pasture land, after being fed with sheep, &c., for we find that, besides improving the appearance of pastures, the aftermath comes better; we have now commenced cutting the meadow Grass for hay, and the crop is good, having been much improved by the late heavy rains. Our shepherds are continuing to feed their sheep by one change per day of Tares, pasture Grass, and Clover, with an allowance of oilcake and Egyptian Beans; we have a considerable number of Southdown lambs now unsold; we consider they pay well for keeping, instead of selling them light weights, as we find in general heavy lambs are much in request at this period of the year. Our women have been employed by couching on Turnip fallows, hay-making, weeding Quicks, weeding pastures, Barley, and Oat crops, &c., hand weeding the rows of Carrots, and attending at the threshing machine.—*J. B.*

STIRLINGSHIRE CARSE FARM, *June* 24.—This week being very favourable for out-door labour, we commenced on Monday to cut down the hay, which, though varying in quality on parts of fields, is on the whole a fair crop. To-day (Saturday) we have begun to put it up into small hand coils, generally a row on every two ridges, and the method we adopt is as follows:—First, one man goes over the ground with a horse-rake, and draws every two or three swathes (according to the weight) into one; he is then followed by others, one on every ridge, who gather the hay thus condensed into coils, and these in turn are followed by women or boys, whose duty it is to dress the coils and have them neatly topped, and one of these for every row of coils going on. In this way five men and two boys will accomplish as much as 12 men without the horse-rake. We have also begun to pare the early sown Turnips.—*W. F.*

SUSSEX FARM, *June* 26.—With the late warm, showery weather, late crops, such as spring Wheat, Oats, and Peas, grow amazingly. The Potato crop promises to be good; there are no signs of blight. We shall finish Turnip sowing in the middle of the week. We sow the White Globe on the flat, with the Suffolk drill—the seed, bone-dust, and ashes at the same time. In the end of the week we shall cart faggots to burn; also cart drain tiles and bricks. Filling lime-kiln and carting faggots to burn lime; men planting Drumhead Cabbage, hoeing Potatoes, cleaning hedges, making ditches, repairing roads, wheeling earth into pond; women hoeing and thinning Turnips and pulling weeds out of Oats. We shall now draw out part of our fat cattle and sheep for market.—*J. B.*

Notices to Correspondents.

BEANS—*E T*—Turnips manured may be followed by Beans, and that by Wheat, and that by Clover, with every probability of good crops on good stiff loam.

CLUCKING HENS—*J L*—There are several modes that have the reputation of being able to arrest the incubating fever in hens, but they are mostly of such a nature as to render the person who practised them justly liable to the jurisdiction of the Society for Preventing Cruelty to Animals, and therefore I refrain from mentioning them. One of the least objectionable, communicated by a gentleman who is not likely to speak unadvisedly, is the following, of which, however, I have no personal experience. "I have known one or two doses of jalap relieve them entirely from a desire to sit; and in my opinion it is far better for the purpose than the cold-water cure. I have known English fowls lay in three weeks afterwards." But why not let the poor creatures obey their natural instinct, particularly at this most propitious season? Or, surely, some neighbour would just now gladly exchange a laying hen for one that wanted to sit. *D.*

DRAINAGE—*An inexperienced Farmer* on the spot is a better judge than one of long experience elsewhere. From the insufficient information you give we should imagine drainage, at intervals of 8 yards, with clean stones about 2 inches diameter, thrown into ditches 3 feet 6 inches deep and 4 inches wide at bottom, till within 2½ feet of the top, and then filled in with the material that was taken out, would probably be effectual.

GYPSUM—*A*—Use sulphuric acid on your dung heap. Do not think of manufacturing gypsum out of it an quicklime. The carbonic acid which the former would detach and which the latter might retain, is of no importance. Plants can find plenty of it in the air for every necessary purpose, after they have once attained an advanced stage of growth.

MANURE FOR SWEDES—*S S*—Sow the compost broadcast over the drills. Split the drills and sow. You might mix 3 cwt. of guano and 2 cwt. of salt, with soot and coal ashes *ad lib.*, per acre.

MR CANTELO—*X*—We have no experience, and have heard of none but his own.

MR. SWETE'S PIGGERIES—*A Fisher* will find the references in the next number.

MUSK DUCKS—*B B* should have stated whether his enquiries had reference to adult birds or to their young. For the former the best food is whatever they will swallow, which is not absolutely poisonous—grain, cooked vegetables, garbage, slugs, worms, mice, frogs, or even a nest-full of half grown sparrows. On a farm they will shift very well for themselves, taking their share of corn with the other poultry. Merely "encouraging" them to enter the water will prove of little effect; it being generally necessary to them push in, *nolens volens*. But the young are much more tender than common ducklings, and will get on all the better for being pampered with the same nice and nourishing food as is given to little turkeys. Watering them (except a supply to drink) may safely be left to the instinct of their mother. But when it is remembered that in their native country they would find the pools, if they ever resorted to them, at least 20 degrees warmer than in this climate, the breeder will not be over anxious to see them swimming in his pond. "B. B." should read the article on the Musk Duck which appeared in the *Agricultural Gazette* of October 23, 1847, and which may perhaps one day reappear in an enlarged and corrected form. *D.*

POND MUD—*Constant Reader*—The mud should be suffered to drain and partially to dry. Then break it down and mix some guano with it—say 2 cwt., with the quantity you propose to apply per acre.

SALT—*Scientist*—The sum of the affinities between muriatic acid and soda, and carbonic acid and ammonia, which preserve these salts as they are, is nearly equal in amount to the sum of the affinities between carbonic acid and soda, and muriatic acid and ammonia, the union of which you desire from their mixture. Not quite, however, we believe: and thus the fixation of ammonia by this method is partly, though, we believe, not perfectly, effected. 59 lbs. of the dry salt (chloride of sodium) contains the same number of atoms as 39·32 lbs. of carbonate of ammonia. To every bulk of liquid or solid manure, therefore, containing this quantity of ammonia, that quantity of salt should be added. But great excess may well be used in the case of so cheap and otherwise useful a fertilizer.

STEAM ENGINE—*Mona's Isle*—The piston of the engine ought to travel 220 feet per minute; with a 16-inch stroke it would give 82 revolutions per minute for the crank shaft; so that it will work with more than double the power it is now working at. To put the fly-wheel upon a second motion will not benefit the working of the engine in its present state; it is altogether wrong, you ought to get an engineer to examine it. *R.C.*

VITALITY OF EGGS—*Anon*—It is impossible to fix any precise limit to the duration of the vital principle in eggs, since it varies, from the very first, according to the vigour of the parents of the inclosed embryo, and, in the end, appears not to be suddenly extinguished, but to fade away into gradual powerlessness. Those who are anxious to secure a valuable variety, one chicken of which is worth a whole brood of ordinary sorts, will run all risks; after seven or eight weeks their chance is not utterly gone. Some of the chicks will be found dead in the shell, but those that are hatched, if they survive the first 48 hours—the great difficulty—are not afterwards more weakly or troublesome than others. In the meanwhile air should be excluded from the eggs as much as possible: it is best to set them on end, and not to suffer them to lie and roll on the side. Dry sand or hard-wood sawdust (not deal, on account of the turpentine) is the best packing. But when choice eggs are expected, it is more prudent to have a hen waiting for them, than to let them wait for her. A good sitter may be amused for two or three weeks with a few addle eggs, and so be ready to take charge of those of value immediately upon their arrival. *D.*

WILD OAT—*Mr Harkness*—Your specimen is Avena fatua.

Markets.

SMITHFIELD, MONDAY, June 26.

We have not quite so large a supply of Beasts to-day; some of the choicest qualities are therefore sold dearer than on Friday. There is an increased supply of Sheep and Lambs. The weather being good, the demand is rather larger for the former, although it is difficult to obtain any advance in price; for the latter, trade is exceedingly dull, and a great many of middling quality remain unsold. There is rather more inquiry for good Calves; prices are, however, very little better. Trade is more brisk for Pigs. From Holland we have 270 Beasts, 850 Sheep, and 150 Calves; from Scotland 500 Beasts; and about 1700 from Norfolk and Suffolk.

Per stone of 8 lbs.—s	d	s	d
Best Scots, Herefords, &c.	3	10 to 4	0
Best Short Horns	3	6—3	8
Second quality Beasts	2	8—3	2
Calves	3	6—4	6
Best Downs & Half-breds	....		
Ditto Shorn	4	8—5	0

Per stone of 8 lbs.—s	d	s	d
Best Long Wools	....		
Ditto Shorn	4	4—4	8
Ewes and second quality	....		
Ditto Shorn	3	6—4	0
Lambs	4	10—5	10
Pigs	4	4—5	0

Beasts—3296. Sheep and Lambs—23,930. Calves—329. Pigs—290.

FRIDAY, June 30.

We have a much shorter supply of Beasts, and trade is consequently brisk, at an advance of 2d. per 8 lbs. on all descriptions. The number of Sheep is not so large, and in some instances a few choice Downs make 5*s.* 2d., and the most selling Long Wools, 4*s.* 10d., but these can scarcely be quoted as average for best qualities. We are abundantly supplied with Lambs; prices are fully 2d. per 8 lbs. lower. Although the number of Calves is large, there are not so many as on Friday last; the trade is more cheerful, and Monday's quotations are well maintained. From Holland we have 72 Beasts, 140 Sheep, and 242 Calves; from Scotland 250 Beasts, and 114 Milch Cows from the home counties.

Per stone of 8 lbs.—s	d	s	d
Best Scots, Herefords, &c.	4	0 to 4	2
Best Short Horns	3	8—4	0
Second quality Beasts	3	10—3	4
Calves	3	8—4	6
Best Downs & Half-breds	....		
Ditto Shorn	4	10—5	0

Per stone of 8 lbs.—s	d	s	d
Best Long Wools	....		
Ditto Shorn	4	6—4	8
Ewes and second quality	....		
Ditto Shorn	3	10—4	4
Lambs	4	8—5	8
Pigs	4	0—5	0

Beasts—849. Sheep and Lambs—10,400. Calves—622. Pigs—320.

HOPS, FRIDAY, June 30

Messrs. PATTENDEN and SMITH report that the accounts continue to come very favourable from the plantations, and the duty has advanced to 200,000*l.*, with a very dull market.

Mid. & East Kents, p. cwt.	80s to 90s	Yearling Kents, p. cwt...	45s to 56s
Weald of Kents	50 — 65	Yearling Sussex	45 — 52
Sussex	50 — 60	Old Hops	20 — 35
Farnhams	80 — 105		

COVENT GARDEN, July 1.

The market is well supplied with Vegetables and most kinds of Fruit. Pine-apples are sufficient for the demand. Hothouse Grapes are plentiful, and Peaches and Nectarines abundant. Melons are also sufficient for the demand. Cherries are plentiful and cheap, and the same remark applies to Strawberries. Ripe Gooseberries and Currants are beginning to make their appearance. Nuts are sufficient for the demand. Filberts fetch from 14s. to 20s. per 100 lbs. Oranges are abundant. Lemons are moderately plentiful. Among Vegetables, Carrots and Turnips are abundant and good. Cauliflowers, Greens, &c., sufficient for the demand. Asparagus is scarce. French Beans [illegible] demand. New Potatoes are [illegible] supplied from the Continent. Ash leaved Kidney fetch from 1s 6d. to 3s per doz. [illegible]; Cornish, 2s to 3s. Green Pease are abundant, and sell at 2s 6d to 5s per bushel [illegible]. Lettuces and other salading are sufficient for the demand. Mushrooms are a little dearer. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Fuchsias, Carnations, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 6s to 10s	Oranges, per 100, 3s to 12s
Grapes, hothouse, per lb. 3s 6d to 6s	— bitter, per 100, 8s to 16s
Peaches, per doz., 1s to 18s	Lemons, per doz., 1s to 2s
Nectarines, per doz., 6s to 16s	— per 100, 6s to 11s
Melons, each, 4s to 8s	Almonds, per peck, 6s
Strawberries, per pottle, 6d to 1s	— sweet, per lb., 2s to 3s
Cherries, per lb., 6d to 3s	Walnuts, per bush., 12s to 18s
Apples, dessert, per bush., 6s to 12s	Nuts, Barcelona, per bush., 20s to 22s
— kitchen, p. bush., 4s to 7s	— Filberts, per 100 lbs., 14s to 20s
Currants, per half sieve, 3s to 6s	— Cob, per 100 lbs., [illegible]
Gooseberries, green, p. hf. sieve, 1s 6d to 2s 6d	— Brazil, per bush., 12s to 16s
Oranges, per doz., 9d to 2s	Chestnuts, per peck, 3s to 6s

VEGETABLES.

Asparagus, per 100, 1s to 5s	Onions, pickling, per half sieve, 2s to 4s
Cabbages, per doz., 6d to 1s	Shallots, per bunch, 3d to 4d
Greens, p. doz. bunches, 9d to 1s	Garlic, per lb., 8d to 1s
Cauliflowers, per doz., 2s to 5s	French Beans, per 100, 1s to 2s
Sorrel, per half sieve, 6d to 9d	Radishes, per doz. bunds, 6d to 1s
Potatoes, per ton, 100s to 180s	— Turnip, do., 9d to 1s
— per cwt., 5s to 9s	Artichokes, per doz., 1s 6d to 2s 6d
— per bush., 3s to 4s 6d	— Jerusalem, p. hf. sieve, 1s
— Kidney, per lb., 2d to 6d	Lettuce, Cab., per score, 4d to 1s
Turnips, p. bunch., 4d to 8d	— Cos, do., 6d to 1s
Red Beet, per doz., 6d to 1s	Mushrooms, per pottle, 9d to 2s
Horse Radish, per bundle, 1s to 6s	Small Salads, per punnet, 2d to 3d
Rhubarb, per bundle, 3d to 6d	Fennel, per bunch, 2d to 3d
Cucumbers, each, 3d to 1s	Savory, per bunch, 3d to 4d
Leeks, per bunch, 1d to 6d	Thyme, per bunch, 3d to 4d
Celery, per bundle, 1s to 2s	Watercress, p. 12 small bun., 6d to 9d
Carrots, per bunch, 4d to 1s	Parsley, per half sieve, 6d to 9d
Spinach, per sieve, 1s to 2s	— Roots, per bundle, 1s to 1s 6d
Peas, per sieve, 2s to 5s	Mint, green, per bunch, 2d to 4d
Beans, per half sieve, 1s to 1s 6d	Marjoram, per bunch, 6d to 9d
Onions, per bunch, 3d to 8d	
— Spanish, per doz., 1s to 4s	

POTATOES, Southwark, Waterside, June 26.

The Committee report that the waterside trade is all but finished for this season, and in a manner anything but profitable to the holders of old Potatoes, of which there are more than there ought to be. We cannot quote prices, as they are nominal. Yorkshire Regents are selling from 4?s to 60s. per ton, for which 130s. was refused a few weeks since. In closing our report for the season, we are happy to say that at present there is every prospect of a large crop of Potatoes, as the breadth of land planted never was so large, and the accounts of the plant are very cheering.]

HAY.—Per Load of 36 Trusses.

Smithfield, June 29.

Prime Mead. Hay	70s to 80s	New Hay	.. 55s to 70s		Straw	.. 26s to 30s
Inferior ditto	.. 60	68	Clover ..	.. 84	101	
Rowen	.. 63	—	New Clover	.. 75	85	J. Cooper.

Cumberland Market, June 29.

Prime Mead. Hay	75s to 80s	Old Clover ..	92s to	98s	Straw ..	28s to 32s
Inferior ..	.. 60 68	Inferior ..	75	86		
New Hay	.. 60 65	New Clover ..	—	—	Joshua Baker.	

Whitechapel, June 29.

Fine Old Hay ..	70s to 73s	Old Clover ..	95s to	105s	Straw ..	26s to 30s
Inferior Hay ..	55 60	Inferior ..	75	80		
New Hay ..	— —	New Clover ..	—	—		

MARK LANE, Monday, June 26.

Messrs. Kingsford and Lay report that there was a fair supply of English Wheat by land carriage samples at market this morning, which fully realised the terms of this day se'nnight. Foreign was in moderate request, and we are unable to note any improvement in value.—The arrivals of foreign Barley continue large, but meet a better demand at a reduction of 1s. to 2s. per qr. upon the prices of Monday last.—Beans and Peas must be written 1s. per qr. cheaper.—Oats are more inquired after at the decline quoted on Friday.—Flour is unaltered.

BRITISH PER IMPERIAL QUARTER.	s	s		s	s
Wheat, Essex, Kent, and Suffolk ....White	46	65	Red......	43	48
Norfolk, Lincolnshire, and Yorkshire	44	48	White ..	44	50
Barley, Malting and distilling, 27s to 29s Chevalier	30	32	Grinding	24	27
Oats, Lincolnshire and Yorkshire..........Polands	22	25	Feed ...	20	24
Northumberland and Scotch ....Feed	21	23	Potato ..	23	25
Irish ....Feed	19	22	Potato ..	22	25
Malt, pale, ship..................................	—	—			
Hertford and Essex	—	—			
Rye..	27	30			
Beans, Mazagan, old and new ..30s to 36s....Tick..	30	38	Harrow	34	40
Pigeon, Heligoland ......35 40 ....Winds	—	—	Longpod	—	—
Peas, White....................31 38 ....Maple	35	37	Grey	30	33

ARRIVALS IN THE PORT OF LONDON LAST WEEK.

Flour, 9010 sks — — bls	Wheat. Qrs.	Barley. Qrs.	Malt. Qrs.	Oats. Qrs.	Rye. Qrs.	Beans. Qrs.	Peas Qrs.
English........	3783	113	6648	3008	—	256	23
Irish	—	—	30	3319	—	—	—
Foreign.......	6721	17735	—	39813	—	1914	2525

Friday, June 30.

The arrivals of foreign Oats and Barley continue good, of other grain small. We observe no alteration in the value of English or Baltic Wheat, but there has been a good business done in Black Sea qualities for shipment coastwise at fully 1s. per qr. over the prices obtainable on Monday last, and a large sale of Polish Odessa Wheat afloat has also been effected at 37s. per qr. cost freight and insurance.—There is no alteration in the price of Barley, Beans, and Peas.—Oats meet a free sale on Wednesday at rather improved rates, and were held firmly this morning, but transactions were not extensive.—Flour remains as last quoted.

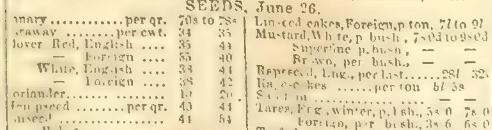
[The weather throughout the country during the last eight days has been stormy, and in places heavy rain has fallen, but we do not hear that it has occasioned much damage to the crops, and in a few instances only have sellers been enabled to realise 1s. per qr. advance on their Wheat. Spring Corn has been dull, with a tendency to decline. We have experienced a good demand here for Baltic Wheat, f. o. b. Rostock was paid as high as 41s. 6d. per qr., cost and freight; and Dantzic 41s. per qr., cost, freight, and insurance; and on Wednesday some large purchases of low descriptions of duty paid Wheat were made for shipment coastwise. In the Continental or American markets no important change has occurred in the Wheat trade. In St. Petersburgh, on the 17th inst., the stock was estimated at 175,000 qrs. Prices varied from 28s. 9d. to 31s 7d per qr., f. o. b. The stock of Oats was good, and during May about 30,000 qrs. had been sold at 13s. 8d. to 15s 8d. per qr., f. o. b., but the inquiry had subsided, and prices were slightly lower. Odessa, 16th—the bulk of the supplies from the interior were arriving; nevertheless, 61—62lbs. Wheat was still quoted at 24s. to 27s. per qr., f. o. b.; about 11,000 qrs. had been sold during the week. By the last advices, the American markets were about 6d. per barrel cheaper for Flour.]

ARRIVALS IN THE PORT OF LONDON THIS WEEK.

	Wheat. Qrs.	Barley. Qrs.	Oats. Qrs.	Flour.
English..............	2930	80	1490	1890 sacks.
Irish	—	—	1850	
Foreign..............	140	5424	12170	— barrels.

Imperial Averages.	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
May 20	48s 4d	32s 7d	20s 4d	29s 2d	36s 3d	35s 9d
— 27	47 8	33 8	20 8	28 9	36 9	36 11
June 3	48 1	31 8	21 0	30 8	37 10	38 0
— 10	47 8	31 7	20 9	28 0	38 4	37 0
— 17	46 10	30 10	20 8	31 7	37 3	38 0
— 24	46 11	31 2	20 9	29 4	36 11	38 4
Aggregate Average	47 7	31 9	20 8	29 7	37 3	37 4
Duties on Foreign Grain	10 0	2 0	2 6	2 0	2 0	2 0

Fluctuations in the last six weeks' Corn Averages.



SEEDS, June 26.

Canary ....per qr.	70s to 78s	Linseed cakes, Foreign, p. ton, 7l to 9l		
Caraway ....per cwt.	34	35	Mustard, White, p. bush., 7s 0d to 9s 0d	
Clover, Red, English	35	44	Superfine p. bush., —	—
— Foreign	35	40	Brown, per bush., —	—
White, English	38	44	Rapeseed, Eng., per last......28l	32l
— Foreign	38	42	Rape-cakes ......per ton	6l 5s
Coriander.................	14	20	Sainfoin .... —	—
Hempseed ....per qr.	40	44	Tares, Eng., winter, p. bsh., 5s 0	7s 0
Linseed	41	54	Foreign, per bush., 3s 6	6s 0
— Baltic..............	—	—	Trefoil 17s 0	26s
— Cakes, Eng. p. 1000, 11l 15s to 12l			Turnip—too variable for quotation.	

FLINTSHIRE AND [illegible]SHIRE.

FOR SALE BY PRIVATE CONTRACT, a [illegible] compact and beautiful [illegible] FREEHOLD ESTATE, containing [illegible] of rich land, within a Ring Fence, called [illegible] Hall, [illegible] on the bank of the river [illegible] between Chester and [illegible]. Also [illegible] of good productive Land, near [illegible]. The Knolton Estate [illegible] residence, with 25 acres of Wood and Plantations, [illegible] beautifully situated near the Vale [illegible] and sporting country, and [illegible] and Chester Railway.—For further particulars apply to Mr. Muscott, [illegible], Shropshire; Messrs. [illegible] and Co., [illegible], Coleman-street; and Mr. Henry D. [illegible], Exeter. Part of the purchase money may remain on mortgage.

TAPNELL FARM, THORLEY, ISLE OF WIGHT.
This valuable Farm

TO BE LET, and entered on at Michaelmas next, containing

				A.	R.	P.
Arable	.. ..			3?9	2	35
Grass	.. 103	2	1	153	2	30
Down	.. 50	0	29			
Homestead, Roadways, &c.				4	0	19
Cottages, Gardens, Withey Bed, &c. ..				3	1	37
				5??	0	1

This Farm, from its extent and improveable quality, offers to a respectable tenant with adequate capital an eligible opportunity for realising a good business. It is in a good state of cultivation, and has become vacant by the death of the late tenant.—For further particulars, and to treat for a lease, apply to Messrs. Stallis, Norris, and Estcourt, Solicitors, Newport, Isle of Wight.

MERRIOTT, NEAR CREWKERNE, SOMERSETSHIRE.

TO BE LET, and entered on immediately, on most advantageous terms, an Old Established and Well Stocked NURSERY, containing, by estimation, Ten Acres (more or less), situated in the above parish; together with an excellent Hothouse thereon, filled with choice Vines in full bearing, and valuable plants; adjoining which is a comfortable Cottage, with convenient Cart-house, Packing Sheds, Seed Room, &c.

Merriott is situated within a short distance of the populous towns of Ilminster, Ilchester, Yeovil, Crewkerne, Chard, Taunton, &c., to which latter place conveyances pass to and fro daily, in connection with the railways to all parts of England.

To view the above, application may be made to Mr. Andrews, at the Cottage on the Nursery; and further particulars and terms of letting may be known on application to Mr. Whitley, Solicitor, Wrington, near Bristol, Somerset.—Wrington, July 1.

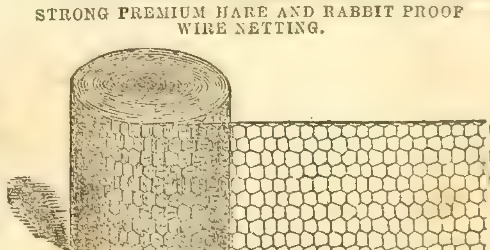
PATENT FLEXIBLE INDIA-RUBBER PIPES and TUBING for RAILWAY COMPANIES, BREWERS, DISTILLERS, FIRE ENGINES, GAS COMPANIES, GARDENING and AGRICULTURAL PURPOSES, &c.

THE PATENT VULCANISED INDIA-RUBBER HOSE PIPES are made to stand Hot Liquor and Acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible), and as they require no application of oil or dressing, are particularly adapted for Fire-engines, Pumps, Gas, Beer-engines, Gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes from ¼ inch bore upwards, and of any length to order.

Vulcanised India-rubber Garden Hose, fitted with brass taps, copper branch, and roses complete, ready to be attached to Pumps, Water-butts, or Cisterns.—Sole Manufacturer, James Lyne Hancock, Goswell Mews, Goswell-road, London.

N.B.—Vulcanised India-rubber Washers of all sizes for Joints of Hot-water and Steam Pipes, and Vulcanised Sheet Rubber, any thickness, for all kinds of Joints, and other purposes.

STRONG PREMIUM HARE AND RABBIT PROOF WIRE NETTING.



CHARLES D. YOUNG and COMPANY (late W. and C. YOUNG), MANUFACTURERS OF IRON AND WIRE WORK, &c., Castle-buildings, Derby-square, Liverpool; 128, High-street, Edinburgh; and 32, St. Enoch-square, Glasgow, Beg respectfully to call the attention of Landed Proprietors and others to their strong Wire-Net Fence, for excluding Hares and Rabbits from Gardens, young Plantations, Nurseries, &c.

This Net was exhibited at the Show of the Highland and Agricultural Society of Scotland, held lately at Inverness, where its Efficiency, Great Strength, and Exceeding Cheapness attracted general attention, and had awarded from the Judges the Society's Silver Medals, with high commendations.

The immense damage done by Hares and Rabbits in Gardens and Young Plantations, is often so great, that in the course of a year or two it will amount to more than the entire cost of protecting them with this Net. It is so durable, that when Plantations are sufficiently advanced to be independent of its protection, it can be removed to other exposed situations with the greatest facility, by any labourer. As a Fence against Hares and Rabbits, it is of itself quite sufficient, having only to be unrolled and attached, with small wire sent for that purpose, to wooden stakes driven into the ground, about every six or seven feet apart. It is, besides, peculiarly adapted for rendering Hedges, Paling, or other existing Fences, *completely impervious* to such vermin: and by being cut up into small pieces of three or more feet, as required, it forms a most efficient guard, at little expense, for individual Plants and Shrubs.

Prices.—18 ins. high, 9d.; 24 ins., 1s.; 30 ins., 1s. 3d.; and 36 ins., 1s. 6d. per lineal yard.

Or a web of 100 yards, 18 ins. wide, will cost	... £3	15	0
Do. of 100 yards, 24 ins. wide ...	...	5	0	0
Do. of 100 yards, 30 ins. wide ...	...	6	5	0
Do. of 100 yards, 36 ins. wide ...	...	7	10	0

If more or less than a web is required, it would be charged at the same rate per yard.

This Netting is also admirably adapted for Pheasantries and Poultry-yards, and is charged at the same rate. As carriage has, in many instances, been an obstacle to parties at a distance requiring this Net, C. D. Y. and Co. have made arrangements by which they will undertake to deliver it at any of the principal ports of Scotland, England, and Ireland, for One Halfpenny per lineal yard.

C. D. Young and Co. cannot give a better idea of the great strength of their Premium Wire Netting than by stating that the weight of one yard of their 24-inch at 1s. is equal to 2½ yards of another article in the market, the same width, at 6d. per yard. Samples forwarded free of expense.

C. D. Young & Co. manufacture every description of IRON and WIRE WORK required [illegible].

Workmen sent to all parts of Scotland, England, and Ireland.

FARMING.—An experienced [illegible], residing in a [illegible] [illegible].

WIRE NETTING, ONE PENNY PER SQUARE [illegible]

[illegible]

3?	do.	[illegible]	do.	[illegible]
3?	do.	[illegible]	do.	[illegible]
4?	do.	[illegible]	do.	[illegible]

T. H. [illegible] particularly [illegible] the attention of the public to his great variety [illegible] Wirework, [illegible] Garden Arches [illegible] Wire Blinds, [illegible] and every description of [illegible].

A [illegible] hill, London, [illegible].

THE GROWTH AND PRESERVATION OF THE HAIR.

ROWLANDS' MACASSAR OIL [illegible] its balsamic properties [illegible] the Hair in [illegible] it from Scurf and Dandriff, [illegible] and continues its possession of healthy [illegible] luxurious redundancy [illegible]. In the growth of Whiskers [illegible] also [illegible] especially recommended [illegible] head of hair, [illegible] necessary. A small pamphlet [illegible] Rowland's Macassar Oil, [illegible] and on its preservation and beauty [illegible] of human life. Price 3s. 6d.; 7s.; family bottles (equal to four small), 10s. 6d.; and double that size, 21s. per bottle. Each bottle of the genuine article [illegible] "Rowlands' Macassar Oil," engraved in two lines on the Wrapper, and on the back of the Wrapper [illegible] 20,028 letters.—Sold by them at 20, Hatton-garden, London, and by all Chemists and Perfumers.

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HOLLOWAY'S PILLS ARE AN EXCELLENT REMEDY FOR INDIGESTION, BILIOUS AND LIVER COMPLAINTS.—All painful and [illegible] arising from these complaints (which are [illegible]) require a description here of their [illegible] easily removed by a few doses of this [illegible] for such is its efficacy that the [illegible] effectually strengthened and the [illegible] thus giving buoyancy to the spirits, creating an appetite, and promoting digestion. At this season, when [illegible] are so prevalent, these pills should be taken, as they surpass every other remedy as a preventative of [illegible] of the most malignant kind.—Sold by all druggists, and at Professor Holloway's Establishment, 244, Strand, London.

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Poultry..	.. per lb. 0s. 10d.		Best Grey Goose, per lb.	2s. 0d.
Grey Goose ..	,, 1	2	White Goose ..	2	6
ForeignGreyGoose ,,	1	6	Best Dantzic do.	3	0

A list of prices of every description of Bedding sent free by post on application to Heal and Son's Factory, 196 (opposite the Chapel), Tottenham-court-road.

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GODFREY'S EXTRACT OF ELDER FLOWERS is strongly recommended for Softening, Improving, Beautifying, and Preserving the SKIN, and in giving it a blooming and charming appearance, being at once a most fragrant perfume and delightful cosmetic. It will [illegible] Tan, Sun-burn, Redness, &c., and by its balsamic and healing qualities, render the skin soft, pliable and free from dryness, scurf, &c., clear it from every humour, pimple or eruption; and, by continuing its use only a short time, the skin will become and continue soft and smooth, and the complexion perfectly clear and beautiful. Sold in bottles, price 2s. 9d., with directions for using it, by all Medicine Vendors and Perfumers.

STARR'S PATENT PROTEAN JET.—This simple, yet effective JET, is the most useful and economical hitherto brought before the public for horticultural purposes, as it obviates the necessity of changing a variety of jets [illegible] forms, as in the Protean Jet they are all comprised in one, and the change immediately effected by turning a handle for that purpose. They can readily be fitted to any description of Garden Engine now in use.

T. S. STOCK'S REGISTERED PORTABLE FIRE AND GARDEN ENGINE.—The advantages of this Engine are its possessing great power, combined with simplicity of construction, portability, and economy.

The above are manufactured solely by Messrs. Stock and Sharp, [illegible] and are to be procured through any respectable Founder or Ironmonger in the kingdom.

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Captain C. may be consulted on Tuesdays and Thursdays, between the hours of Two and Three.

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Policy No.	Date of Policy.	Sum insured.	Bonuses added.	Increase on original Insurance.	Total Sum payable, to which future Bonuses will be added.
		£	£ s. d.		£ s. d.
21	1806	500	415 10 2	83·10 per cent.	915 10 2
521	1807	900	982 12 1	109 17 ,,	1882 12 1
1174	1810	1200	1160 5 6	96 68 ,,	2360 5 6
1395	1811	1600	1328 8 6	83.02 ,,	2928 8 6
328	1820	2000	1906 13 5	95.33 ,,	3906 13 5
3392	1820	5000	3558 17 8	71.17 ,,	8558 17 8
4356	1822	3000	2541 3 6	84.7 ,,	5541 3 6

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THE BRITISH MUTUAL LIFE ASSURANCE SOCIETY entertains proposals of any description involving the contingency of human life.

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NOTICE *Insurances may be effected with this* Corporation on the most liberal terms and conditions.

Risks reasonably rated.

Additions made to the Life Policies for the last five years have been nearly 2 per cent. per annum on the sums insured.

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Wheat, Beans, Peas, Barley, Rye, and Vetches or Tares for seed, from ... ... Per acre 6*d.*
Oats, from ... ... 5*d.*
Vetches or Tares (green), Turnips (ditto), Potatoes, Mangold Wurzel or Beet, and Clover for hay ... 1*s.*
GLASS in Hothouses, Greenhouses, &c., 20*s.* per cent. and upwards.

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	£. s. d.		£. s. d.
Stratford Shakespere Statuette	3 3 0	Bronze Inkstand (and silver)	6 6 0
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Belief (girl) Statuette	1 4 0	Water Vases and Jugs (glass), various prices.	
Carved wood Brackets, various prices.		Fish Carvers (silver)	10 10 0
Earthenware Salt-cellar	0 3 9	The "Flax" Paper Cutter	2 5 0
Gilt Decanters, each	3 3 0	Wine Tray (papier maché)	2 10 0
Gilt Wine Glasses, each	0 6 0	Hop Story Beer Jug	0 18 0
Soda-water Glasses, various prices.		Britannia Metal Teapot	0 16 0
Shaving Pot	0 4 0	Teapot (silver)	21 0 0
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Una and the Lion (Parian)	3 3 0	Tea Caddy Spoon (silver)	3 10 0
Dorothea (Bronze and Parian)	2 2 0	Tea Caddy in wood, various prices.	
Neptune Salt-cellar (Silver and Parian)	1 7 0	New-bread Knife	1 1 0
Kissing Children (Parian)	0 9 0	New-bread Platter, various prices.	
Bride's Inkstand (Parian)	1 13 0	Terra Cotta Brackets, each	3 0 0

The Art-Manufactures Circular, with 24 pictures, sent, on receipt of 3 postage stamps, from CUNDALL'S, 12, Old Bond-st.

*** At the request of numerous Subscribers, the price of THE TREE ROSE has been reduced from 4*s.* 6*d.* to 3*s.* 6*d.* (post free.)

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PRACTICAL INSTRUCTIONS FOR ITS FORMATION AND CULTURE

ILLUSTRATED BY TWENTY-FOUR WOODCUTS.

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Comparison between budding and grafting

London: Published at the Office of the GARDENERS' CHRONICLE, 5, Upper Wellington-street, Covent Garden.

This day is published,

THE JOURNAL OF THE HORTICULTURAL SOCIETY OF LONDON. Volume III., Part 3.

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London: Published by the Society, at their House, 21, Regent-street. Sold by all Booksellers.

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This day is published, price 2*s*, with numerous Illustrations on Steel and Wood, Parts 19 and 20 (completing the Work) of

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THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 28.—1848.] SATURDAY, JULY 8. [Price 6d.

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ROYAL SOUTH LONDON FLORICULTURAL SOCIETY.

UNDER THE PATRONAGE OF HER MOST GRACIOUS MAJESTY THE QUEEN.

The Fourth Exhibition this season will be held at the ROYAL SURREY ZOOLOGICAL GARDENS, on TUESDAY, the 18th July, 1848, open to all Exhibitors, when Prizes will be awarded for the following collections, viz., Miscellaneous Plants, Cape Heaths, Fuchsias, Carnations, Picotees, Roses, Cut Flowers, Hollyhocks, Fruit, and Honey. In addition to the above, the following Members offer Extra Prizes, viz.: by W. T. Iliff, Esq., for cut Indigenous Plants; John Chapman, Esq., and Mr. John Fowle, for Antirrhinums. The last Exhibition for this season will also take place at the above Gardens, on WEDNESDAY, 13th September. The liberal promises from the many eminent cultivators to the "Dahlia Prize Improvement Fund," warrant the committee in stating that the September Exhibition will be on an extended and splendid scale worthy this noble autumnal flower. List of Prizes and the Rules of the Society may be obtained from JOHN TAYLOR NEVILLE, Secretary, Ebenezer House, Peckham.

ROSHERVILLE FLORICULTURAL SOCIETY.

Under the patronage of the Right Hon. the Earl of DARNLEY and other distinguished individuals of the county.

The first FLORICULTURAL EXHIBITION this season will take place in the Rosherville Gardens on Thursday, July 20, 1848, open to all exhibitors, free of entrance. Prizes will be awarded for the following productions (arranged in classes for the accommodation of large and small growers), viz: For Collections of Miscellaneous Plants, Heaths, Fuchsias, Cut Roses, Verbenas, Cut Flowers, Cock's-combs, Balsams, Hydrangeas, Fruits, &c. Tickets and Lists of Prizes, with particulars, may be had of B. Thornton, Esq., Monument Chambers, 15, Fish-street-hill, London; of the Superintendent, Mr M'Nally, Rosherville; at the Rosherville, Clifton, and Falcon Hotels, Gravesend; the Sun Hotel, Chatham; the White Hart, Bromley; and of Mr. Neville, Ebenezer Cottage, Peckham.

BOYES THORNTON, Secretary.

On this day, 20th July, the gardens will be open at 11 o'clock, at a charge of 2s. 6d. each until 3 o'clock, after which the entrance will be as usual, 6d. each.

ZOOLOGICAL GARDENS, REGENT'S-PARK.—

Visitors are admitted WITHOUT ORDERS on MONDAY, in every week, at SIXPENCE EACH; on the following days at ONE SHILLING EACH. Children at Sixpence. The Band of the First Life Guards will perform every Saturday at 4 o'clock; admission One Shilling (except on July 22).

The new entrance in the Broad Walk is now open.

BIRMINGHAM BOTANICAL SOCIETY.—THE SECOND EXHIBITION

will be held at the Garden on THURSDAY, July 13th, 1848. All specimens for exhibition must be at the Garden before 9 o'clock, A.M., on the day of Exhibition. The gates will be open to visitors at 1, P.M.

Edgbaston, July 8. G. B. KNOWLES, F.L.S., Hon. Sec.

FLEMING'S NEW HYBRID PERSIAN MELON.

H. LANE AND SON have a few packets left; this has been awarded First Prizes at all the Horticultural and Botanic Shows this season.

Fleming's New Hybrid Persian	.. ..	2s. 6d. per packet.
Ispahan, Genuine (Fruit weighing 12 lbs.)	1 6	,,
Seymour's Red Matchless Celery	.. 2 6	,,

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Nurseries, Kingston, Surrey, July 8.

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W. AMBROSE has the honour to inform the Nobility, Gentry, and others, that he intends letting out the above first-class FANCY GERANIUM, the best we know of, in October, at 21s. each; it received first-class certificates at the following places, in 1847: Horticultural Rooms, Regent-street, June 1; Royal Botanic Society, Regent's Park, June 9, Horticultural Society, Chiswick, June 19; Royal South London, June 24; also a Bronze Medal, as a second year's seedling, at the Royal Botanic Society, Regent's Park, on May 10, 1848. W. A. begs to say he will have other new ones to let out in the autumn, of which due notice will be given. The most strict attention to orders in rotation. The above for cash only. The usual allowance to the Trade when three are taken.

Battersea, July 8.

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,, odoratissima	2 6	Luculia Pinciana	7 6

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It was first sent home by Mr. Fortune, for the Horticultural Society, in 1844, and is now for the first time offered for sale in this country, having stood out in the open ground at Bagshot during the severe winter of 1846-47. It is a very rapid grower, and some very fine specimens may now be seen in the gardens of the Horticultural Society nearly 10 feet in height, and very graceful in form.

"*I met here (Shanghae), for the first time, with the beautiful Cryptomeria japonica, a species of Pine not unlike the Araucarias of Australia and Brazil. When growing luxuriantly it is highly ornamental, rising from the ground as a straight as a larch, and sending out numerous side branches almost horizontally from the main stem, which again droop towards the ground in a graceful and weeping manner. The wood of the tree has a kind of twisted grain, possessing great strength and durability, and is highly valued by the Chinese.*"—FORTUNE'S WANDERINGS IN CHINA.

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HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANIC GARDENS, REGENT'S PARK,

And on the Estates of the Dukes of Sutherland, Norfolk, Rutland, Newcastle, Northumberland, Buccleuch (at Richmond), the late Earl Spencer, and most of the Nobility and Gentry; and *at the Royal Agricultural Society's House, Hanover-square.*

It is half the price of any other description of Roofing, and effects a great saving of Timber in the construction of Roofs. Made to any length by 32 inches wide.

PRICE ONE PENNY PER SQUARE FOOT.

*** Samples, with Directions for its Use, and Testimonials of seven years' experience, with references to Noblemen, Gentlemen, Architects, and Builders, sent free to any part of the town or country, and orders by post executed.

☞ The Public is cautioned that the only Works in London or Great Britain where the above Roofing is made, are

F. M'NEILL AND CO.'S

Patent Felt Manufactory, Lamb's-buildings, Bunhill-row, London, where roofs covered with the Felt may be seen.

The new Vice-Chancellor's Courts, at the entrance to Westminster Hall, were roofed with F. M'NEILL and Co.'s Felt about two years since, under the Surveyorship of Chas. Barry, Esq., R.A. Her Majesty's Commissioners of Woods and Forests are so satisfied with the result that they have ordered the Committee Rooms at the Houses of Parliament to be roofed with their Felt. Quantity altogether used, 24,000 feet.

Note.—Consumers sending direct to the Factory can be supplied in lengths best suited to their Roofs, so that they pay for no more than they require.

Every information afforded on the construction of Roofs, on any proposed particular application of the Felt.

HAY-MAKING MACHINES.—Improved Double Motion Reversing Hay-making Machines, Price Twelve Guineas. These Machines have all the latest improvements of the Double Rake Cylinders, driven from both ends, which causes them to work very lightly, and admits of their turning in any direction at the end of the field, without impeding the working of the machine; they have also an additional motion by which the rakes can be turned the reverse way, leaving the hay remarkably loose and light.

The depressed state of the Iron trade enables COTTAM and HALLEN to offer IRON HURDLES at extraordinary low prices, (See Price List.) Also every description of continued and strained Wire Fence, and Agricultural and Horticultural Implements with the latest improvements.

C. and H. have regulated the prices of all their articles agreeably with the present low price of materials. Hatcher's Bennenden Tile Machine is also reduced from 25*l.* to 20*l.*

COTTAM & HALLEN, 2, Winsley-street, Oxford-street, and 76, Oxford-street, London.

MARY WEDLAKE AND CO.'S HORSE AND STUBBLE and HAY-RAKE, of superior workmanship, 9*l.* 9*s.* Linseed Crusher, 11*l.* 11*s.*; small ones, 6*l.* 15*s.*; ditto, doing Beans, Linseed, and Oats, 10*l.* 10*s.* THRESHING MACHINES, doing upwards of 25 loads of Wheat straw per day, 60 guineas. MARY WEDLAKE and Co.'s CHAFF-CUTTING MACHINE, 100 to 200 bushels a day, price 7*l.* 7*s.* and 5*l.* 5*s.* Horse-hoe, Dressing Machine, Turnip Cutter, Turnip Drill, Stubble-rake, Oil-cake Breakers, Bean and Oat Crushers, Subsoil Plough, Double Field Roller, &c.—MARY WEDLAKE and Co., 118, Fenchurch-street, opposite Mark-lane.

PERUVIAN AND BOLIVIAN GUANO ON SALE,
By THE ONLY IMPORTERS,
ANTONY GIBBS AND SONS, LONDON;
WM. JOSEPH MYERS AND Co., LIVERPOOL;
And by their Agents,
GIBBS, BRIGHT, AND Co., LIVERPOOL and BRISTOL;
COTESWORTH, POWELL, AND PRYOR, LONDON.

To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

THE LONDON MANURE COMPANY beg to offer, on the best terms, Peruvian Guano, warranted genuine, delivered direct from the Importers' warehouses; Superphosphate of Lime, in any quantity; Sulphate of Ammonia, Nitrate of Soda, Sulphuric Acid, fine Bone Sawdust, Gypsum, Potter's Guano, Soda Ash, Petre, Agricultural and Fishery Salt, and every other artificial Manure.

The URATE of the LONDON MANURE COMPANY has now stood the test of seven years, with a largely increasing sale. It is recommended with the greatest confidence for Turnips, Mangold Wurzel, Carrots, and all root crops; also for Coleseed, Tares, Barley, &c. Unlike many other artificial Manures, its effects are not exhausted by the first crop; and when from any cause the crop of Turnips to which it has been used fails, its full fertilising properties remain for the next full crop. Testimonials and full particulars forwarded free. The LONDON MANURE COMPANY most earnestly request their friends to order the Urate direct from themselves, or their accredited Agents, so as to prevent any other article of a totally different manufacture being substituted. EDWARD PURSER, Sec.

No. 40, Bridge-street, Blackfriars.

☞ Sole Manufacturers of Mr. J. C. Nesbit's Chemical Manures.

PROTOXIDE PAINT FOR STUCCO FRONTS, for Iron, Brickwork, and Wood. Manufactured only by CHARLES FRANCIS and SONS, Cement Works, Nine Elms.

TURNIP SOWING.

MARK FOTHERGILL, 201A, Upper Thames-street, begs to offer the following MANURES for the Turnip Crop, viz.—

GUANO, PERUVIAN, direct from Import Warehouse.
SUPERPHOSPHATE OF LIME, manufactured from Bone only (superior to the cheap qualities made from fossils).
DRIED NIGHT SOIL.
BONE DUST AND HALF-INCH BONE.
SULPHURIC ACID.

Also Soda Ash, wireworm destroyer; pure Gypsum, or Mineral Sulphate of Lime (the rubbish offered cheap contains but little acid, the rest being carbonate of lime and water); Agricultural Salt, Nitrate of Soda, and all other Manures of known value. Prices current on application.

TO FARMERS AND GARDENERS.

FOR SALE, and constantly on hand, at 1*s.* per ton, a quantity of the WET LIME used in purifying gas. This substance is charged with ammonia, &c., forms an excellent manure for heavy soils. It is of a nature to admit of its being loaded in carts or barges.—Direct to Mr. Preston Lumb, at the London Gas Works, Vauxhall.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as building and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

SHANKS' IMPROVED GRASS CUTTING AND ROLLING MACHINES.

The complete success which has attended the introduction of this Improved Machine for Mowing Grass, and its fine adaptation for cutting the Grass of Lawns, has been fully proved by the numerous instances where it has been tried, and now in common use, particularly at Rossie Priory, Camperdown, and Kinblethmont, Forfarshire; Breadalbane, Perthshire; Clumber, and at many other noblemen and gentlemen's seats in England, as well as abroad. The Machines are made to cut breadths of 42, 30, or 20 inches, as required, the latter being adapted to hand-power. The Machine performs three different operations at one time, viz., Rolling, Mowing, and Collecting the Grass; and works with perfect ease, producing a beautiful smooth surface, and attended with great saving in abridging labour.

Orders may be addressed to Messrs. ALEXANDER SHANKS and SON, Machine-makers, Arbroath, N.B., by whom further particulars will be given.

Sold by Messrs. F. and J. DICKSON, Nurserymen, Chester; Messrs. J. and C. LEE, Nurserymen, Hammersmith; and Mr. GEORGE BARRY, Nurseryman, Castle-street, Liverpool.

PATENT FLEXIBLE INDIA-RUBBER PIPES and TUBING for RAILWAY COMPANIES, BREWERS, DISTILLERS, FIRE ENGINES, GAS COMPANIES, GARDENING and AGRICULTURAL PURPOSES, &c.

THE PATENT VULCANISED INDIA-RUBBER HOSE PIPES are made to stand Hot Liquor and Acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible), and as they require no application of oil or dressing, are particularly adapted for Fire-engines, Pumps, Gas, Beer-engines, Gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes from ¼ inch bore upwards, and of any length to order.

Vulcanised India-rubber Garden Hose, fitted with brass taps, copper branch, and roses complete, ready to be attached to Pumps, Water-butts, or Cisterns.—Sole Manufacturer, JAMES LYNE HANCOCK, Goswell Mews, Goswell-road, London.

N.B.—Vulcanised India-rubber Washers of all sizes for Joints of Hot-water and Steam Pipes, and Vulcanised Sheet Rubber, any thickness, for all kinds of Joints, and other purposes.

IMPROVED DOUBLE-MESH WIRE GAME NET.

BARNARD AND BISHOP, Norwich, can strongly recommend the above NET to the notice of the Nobility and Gentry, as being the cheapest yet introduced: it has met with general approbation, and has been found most efficient in the preservation of young Trees, Gardens, &c., from the depredations of game. The extra strong 2-inch is the same strength as the stoutest article in the market. On inspection, it will be found better manufactured than anything else of the kind, and 20 per cent. cheaper. It is sent out in rolls of 50 yards, or any other length, at prices as under.

				per yard—*s.*	*d.*
Double Mesh Net 24 ins. wide, 1⅝ & 3¼-in. mesh,			strong	0	6½
... ...		...	extra strong	0	9
... ...	2 & 4	...	strong	0	5½
... ...		...	extra strong	0	7½
Single Mesh	1⅝	...	light	0	7
... ...	...	...	strong	0	9
... ...	...	...	extra strong	1	0
... ...	2	...	light	0	6
... ...	...	...	strong	0	7½
... ...	...	...	extra strong	0	10

The prices quoted for double net are for equal proportions of each mesh, which may be varied if required, thus, three parts fine to one of coarse, or *vice versa*, at prices accordingly; and it can be made any mesh and width to 7 feet.

A finer description for Aviaries, Pheasantries, &c., sparrow proof, 3*d.* per square foot; or, if made in copper, at 5*d.* per square foot. The Iron Wire Net is twice dipped in anti-corrosive composition, and sent free to London or Hull.

Patterns forwarded per post, free of expence.

TODD'S PATENT METALLIC PROTOXIDE PAINT.—This Paint has been most severely tested for nearly four years, by Architects, Engineers, and Surveyors of the greatest eminence, and has been found, for cemented houses, iron, stone, brick-work, and every description of painting, both external and internal, to be greatly superior to any other pigment; its innocuous qualities and great durability render it peculiarly adapted for the painting of houses and large establishments during their occupancy. Orders to be addressed to Mr. B. TODD, Patentee, 23, Dean-street, Soho, London.

BENHAM'S ICE CLOSETS, for keeping Provisions perfectly cool during the hottest weather. For economy as well as comfort they are invaluable; also for cooling wine or ensuring a delicious draught of cold water to admirers of that beverage. Price 3 guineas.

BENHAM'S CREAM FREEZERS will freeze a quart of cream fit for the table in six minutes. Price 5 guineas.

Patent KNIFE CLEANERS.—BENHAM and SONS, agents, price 7*8s.* These machines not only clean but actually polish the knives, and the most unskilful person can accomplish the work in less than one-fourth the time usually employed; they are now adopted at all the principal Hotels.—19, Wigmore-street, Cavendish-square.

STARR'S PATENT PROTEAN JET.—This simple, yet effective JET, is the most useful and economical hitherto brought before the public for horticultural purposes, as it obviates the necessity of changing a variety of jets to produce various forms, as in the Protean Jet they are all comprised in one, and the change immediately effected by turning a handle for that purpose. They can readily be fitted to any description of Garden Engine now in use.

T. S. STOCK'S REGISTERED PORTABLE FIRE AND GARDEN ENGINE.—The advantages of this Engine are its possessing great power, combined with simplicity of construction, portability, and economy.

The above are manufactured *solely* by Messrs. STOCK and SHARP, Temple-street, Birmingham, and are to be procured through any respectable Plumber or Ironmonger in the kingdom.

METCALFE AND Co.'s NEW PATTERN TOOTH BRUSH and SMYRNA SPONGES.—The Tooth-Brush has the important advantage of searching thoroughly into the divisions of the teeth, and cleaning them in the most extraordinary manner, and is famous for the hairs not coming loose—1*s.* An improved Clothes Brush, that cleans in a third part of the usual time, and incapable of injuring the finest nap. Penetrating Hair-brushes, with the durable unbleached Russian bristles, which do not soften like common hair. Flesh Brushes of improved graduated and powerful friction. Velvet Brushes which act in the most surprising and successful manner. The genuine Smyrna Sponge, with its preserved valuable properties of absorption, vitality, and durability, by means of direct importations, dispensing with all intermediate parties' profits and destructive bleaching, and securing the luxury of a genuine Smyrna Sponge. Only at METCALFE & Co.'s Sole Establishment, 130 B., Oxford-street, one door from Holles-street.

CAUTION.—Beware of the words, "From Metcalfe's," adopted by some houses.

PARR'S LIFE PILLS are acknowledged to be the best Medicine in the world.—This Medicine has been before the British public only a few years, and perhaps in the annals of the world was never seen success equal to their progress; the virtues of this Medicine were at once acknowledged wherever tried, and recommendation followed recommendation; hundreds had soon to acknowledge that PARR'S LIFE PILLS had saved them, and were loud in their praise. The startling facts that were continually brought before the public at once removed any prejudice which some may have felt; the continual good which resulted from their use spread their fame far and wide, at this moment there is scarcely a country on the face of the globe which has not heard of their benefits, and have sought for supplies, whatever might be the cost of transmission. The United States, Canada, India, and even China, have had immense quantities shipped to their respective countries, with the same result as in England—universal good.

The sale of PARR'S LIFE PILLS amounts to upwards of 30,000 boxes weekly, more than all other patent medicines put together. This simple fact needs no further comment; it tells plainly that the Pills of Old Parr are the best medicine in the world.

BEWARE OF SPURIOUS IMITATIONS.—None are genuine unless the words "PARR'S LIFE PILLS" are in White Letters on a Red Ground, on the Government stamp, pasted round each box; also, the fac-simile of the signature of the proprietors, "T. ROBERTS and Co., Crane-court, Fleet-street, London," on the Directions.

Sold in boxes at 1*s.* 1½*d.*, 2*s.* 9*d.*, and family packets at 11*s.* each, by all respectable medicine venders throughout the world. Full directions are given with each box.

HORTICULTURAL SOCIETY OF LONDON.—HIS GRACE THE DUKE OF DEVONSHIRE, President of the Horticultural Society, has kindly directed the grounds of Chiswick House to be opened for the reception of the visitors to the Society's Gardens at the next Exhibition, on WEDNESDAY the 12th July. Tickets are issued to the orders of Fellows of the Society only, at this office, price 5s., or at the Garden in the afternoon of the 12th July at 7s. 6d. each, but then also only to orders signed by Fellows of the Society. *But respectable strangers, or residents in the country, who will forward their addresses in writing to the Vice-secretary, 21, Regent-street, before the day of Meeting, may obtain from that officer an authority to procure tickets on this occasion.*

N. B. No tickets will be issued in Regent-street on the day of Exhibition.

The Gardeners' Chronicle.

SATURDAY, JULY 8, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

Wednesday	July	12—Horticultural Gardens	1 P.M.
Thursday	—	13—Medico Botanical	8 P.M.
Tuesday	—	18—Royal South London	1 P.M.
Saturday	—	24—Royal Botanic	3½P.M.

COUNTRY SHOW.—Tuesday, July 11: York Horticultural.

FEW productions cause so much annoyance to the cultivator as the various forms of FUNGI. Some attack the living plant, destroying the beauty of the foliage, robbing the fruit of its proper juices, deforming the flowers, or entirely changing the nature of the seed. Others attack the stems of his fruit trees, and speedily destroy them, by softening the most solid tissues, and admitting the wet to finish the evil. When his fruit is gathered a host of moulds are ready to attack it. But this is not all; the very frame-work of his forcing-houses in a few years not unfrequently gives way from the attack of dry rot and its allies. No sooner, again, has he prepared his forcing beds than the dung Agarics thrust themselves through the mould and disturb his seedlings; and when these have ceased to grow others succeed and sometimes in such numbers as to push aside every thing else, and to make all other growth impossible. In the tan pit a frothy slime of a whitish or yellowish hue appears running over the plants, spreading with great rapidity, and in a day or two diffusing a noisome cloud of spores soiling and blackening all around. A plague of this latter description has lately been communicated to us which we do not recollect to have noticed before. A bed for Cucumbers was prepared with Hops from a brewery, which make better hotbeds than horse-manure. The Cucumbers grew as usual, but to the great annoyance of our correspondent a fungus suddenly made its appearance involving everything in a slimy and at length a dusty mass, and though daily destroyed, in 12 hours it was as vigorous as ever. The specimens exhibit clearly a species of *Licea*, whose habit is that of *L. fragiformis*, but differing in not assuming at any stage of growth the beautiful Strawberry colour of that species. The spores, too, are of dull purplish brown, instead of being amber coloured. The species is certainly undescribed, and may be characterised—*Licea perreptans, n. s.* effused or conglomerate; peridia oblong, mostly distinct; spores purple-brown.

The slimy white mycelium creeps over every substance with which it comes in contact, and here and there protrudes a mass of oblong peridia, which at length assume a reddish brown tint, or in some cases of premature exsiccation, black. The peridia are far tougher than in *Licea fragiformis*, and are often quite distinct.

The specimens first sent by Mr. TOWNSHEND were much injured, and being mixed with the dried cotyledons of young mustard plants presented somewhat the appearance of a Reticularia with its irregular flocci; the spores are, however, almost destitute of flocci, organs which are rarely, if ever, entirely absent in Myxogastrous fungi.—*M. J. B.*

WE have received, by the favour of our correspondents, the following cases of POTATO DISEASE within their knowledge. So many having reached us, in several cases with specimens of leaves or tubers, it is evident that the danger to the general crop is serious.

ISLE OF WIGHT. — Slight symptoms near Ryde; *Colonel Harcourt.*

DEVON.—With some intensity near Torquay; many sorts affected; *W. Dowler.* No doubt in the Valley of Sydenham. Pea-pods also diseased, and stalks rotting near the ground; *Signature illegible.* Leaves certainly diseased from another correspondent near Tavistock. Disease appeared, and certainly with more intensity than ever. If it continues for another fortnight, I shall not have a green leaf left; *John Huyshe, Rector of Clysthydon.*

CORNWALL. — No disease; mere reports; *H. S. Powell, Truro.* Sudden destruction of very luxuriant haulm; unequivocal evidence; leaves completely blighted in one place; *James Penn, Woolstone, near Stratton.* Leaves blotched and withered; tubers not generally affected; *W. W. Wingfield, Gulval, near Penzance.*

DORSET.—Leaves blotched, and fetid, in a low, close situation in a garden. In other places healthy; *J. B. Knight, Netherberne, near Dorchester.*

HANTS.—Disease spreading here; unfavourable reports from Burbage, in Wilts; *J. Holmes, Amport.*

SURREY.—Stems and tubers decayed. The disease as virulent as ever; *J. B. Whiting, Dorking.*

SUSSEX — Ash-leaved and Early Manley attacked; *H. Holist, Lodsworth, Petworth.* Early Kidneys have become much diseased; *J. N. B., Lewes.*

KENT. — Spreading; but not rapidly; *H. Ogle, Eridge Castle.* Many places on the line of road to Chatham. A large patch struck with disease two miles from Shooter's-hill; ascribed to frost; *Este, Welling.*

ESSEX.—At Brentwood, in the form of an aggravated attack of Tuburcinia; *Dr. Jackson.* Near Maldon, but not to an alarming extent; *Hardy and Son.*

MIDDLESEX.—We have seen slight symptoms here and there; *Ed.* A patch destroyed near Cranford, otherwise the crops looking well; but the stem is still cankering underground. Frost on the morning of July 1; *F. S. Graham.* At least a bushel of diseased Potatoes in one small garden; *A. Greville, Enfield.*

BUCKS.—Leaves badly attacked in a patch 10 by 4 yards—suddenly. Rumours of disease at Brick hill; *H. Burney, Wavendon Rectory.*

NORFOLK.—The rot is spreading very fast in this quarter. Some of my neighbours' Potatoes are so bad that one may both see and smell the rotten stems at a distance; *J. Wighton, Cossey, Norwich.* Likely to have plenty of it here; growers hurrying their crops to market. A repetition of 1845 is to be anticipated, unless the weather changes; *E. S. Dixon, Norwich.*

SUFFOLK.—Saw many virulent cases in a journey through this county, as bad as in 1845; *H. Hardy, of Maldon.*

BEDFORDSHIRE.—Again appeared; progressing rapidly; serious apprehensions entertained; *J. Usher, Blunham.* Acres and acres in a deplorable condition; heath land still, as formerly, safe; *G. H. Sandy.*

CHESHIRE.—Crops near Chester just beginning to be diseased. The whole plant is affected, and I have no doubt that in a few weeks the haulm will be completely cut off and no tubers formed. Nothing can exceed the present luxuriant appearance, unhappily a too sure indication of the malady. Where the plant looks yellow there is at present no injury. Every diseased leaf has an abundant crop of Botrytis; *M. J. Berkeley.*

LANCASHIRE.—Rotten putrid Potatoes received from *Mr. Burnett*, of *Roby Hall, Prescot.* "These are from a cottager's garden. I have seen many as bad: the more I inquire, the more I hear of disease; one farmer says half his Lemon Kidneys were as bad as those sent. Growers hurrying to market, because the longer they are kept the worse they become. Bad accounts from the Cheshire side. Late crops still apparently healthy."

YORKSHIRE.—Near Hemsworth perfectly rotten in some places; *Anon.* Crop planted in February without manure, after white Carrots, seriously affected; after Clover, which was highly manured with dilute nightsoil, worst—the green having almost disappeared; *J. Hurst, Rotherham.*

BANFFSHIRE.—Ominous appearances. Disease progressing; *A. Walker, Gardener, Mayen House.*

N. WALES.—In the neighbourhood of Llanrwst, in many places getting bad, and sooner than last year. In the writer's garden, where five or six kinds were planted, all early and second early, the whole are bad, and the haulm mostly gone. The disease commenced about 12 days ago with the common black spot, gradually extending to the tubers—a third or fourth of which are more or less tainted. The Ash-leaved Kidney are the worst. The sets were planted whole and sound; *J. Ferguson.*

IRELAND.—The blight has appeared in places in this neighbourhood; *W. Jones, Kilboy, Nenagh.* In Mayo: *Lord Oranmore.* We observe that this is contradicted by the Irish correspondent of the *Daily News.* We can only say that we received the information from his lordship himself, along with a sample of young Potatoes and haulm, about which there could be no doubt.

SINCE our paper on the chemical analysis of Cotton wool and of Cotton soils was written, we have received an ANALYSIS of NEW ORLEANS COTTON WOOL, and of the seed of the same kind of Cotton, made by an American chemist, which, we believe, has not yet been published. This is interesting, not only on its own account, but as showing the great value of employing the seed as a manure for the Cotton plant.

One hundred parts of Cotton wool, on being heated in a platina crucible, lost 85·89 parts. The residuum, on being ignited under a muffle till the whole of the carbon was consumed, lost 12·735, and left a white ash which weighed nearly 1 per cent., or 0·9147. Of this ash nearly 44 per cent. was soluble in water. Its constituents were as follows:

Carbonate of potash (with a trace of soda)	44·29
Phosphate of lime (with a trace of magnesia)	23·34
Carbonate of lime	8·87
Carbonate of magnesia	6·75
Silica	4·12
Sulphate of potassa	2·10
Alumina	1·40
Chloride of potassium, Sulphate of lime, Phosphate of potassa, Oxide of iron (a trace) } and loss	9·23
	100·00

Analysis of Cotton Seed.

One hundred parts treated as before lost 77·347, and the residuum, after being burned under a muffle left 2·653 of a perfectly white ash, the composition of which was as follows:

Phosphate of lime (with traces of magnesia)	61·24
Phosphate of potassa (traces of soda)	31·78
Sulphate of potassa	2·65
Silica	1·45
Carbonate of lime	·47
Carbonate of magnesia	·22
Chloride of potassium	·25
Carbonate of potassa	
Sulphate of lime	
Phosphate of magnesia and loss	1·93
Alumina and oxide of iron	
	99·99

With respect to these analyses, we may say at the present crisis, that the seeds yielded nearly four times as much ash as the Cotton wool did, and at the same time contained a much larger proportion of phosphoric acid and of lime. In this respect the quantity of both these substances is greater, as shown by the American analyses, than in that of Dr. Ure. Whether this may be owing to different kinds of wool having been employed, or to differences in the modes of analysis, can only be known when the analyses have been repeated by chemists with different kinds of Cotton.

In resuming our observations on soils, it is first of all necessary to observe that, though we do not dispute the paramount importance of the chemical constituents of the soil, yet these may be considered in some respects to be only of comparative value, as it is equally necessary to attend to the physical state of the soil, and to both in connection with the climate of particular localities. The mechanical state of a soil, its greater or less degree of porosity or of tenacity, enabling the roots to spread with more or less facility, so as to fix the plant steadily in the earth, at the same time that they supply it with a large portion of its nutriment, is of great importance. But as a considerable portion of the food of plants is supplied by the air, the different states and due supply require also to be attended to, in addition to climate, for chemical composition or mechanical state will compensate for unsuitableness of climate. We all know that our Oaks are as little likely to flourish within the tropics, as South American Palms in our greenhouses, and no one now expects that our rich variety of Orchids would flourish, if, supplying them with every requisite of site, of soil, of culture, and even of temperature, we denied them a moist atmosphere. And yet a few years only have elapsed since it was considered a rarity to flower these *air-plants*; and also since mountain Rice was attempted to be cultivated here in the open air, because it came from a cool climate, and was said to be cultivated without irrigation. But it was forgotten that, during the season of cultivation in its native mountains, rain falls almost every day, and the air is in a state of continual moisture. So, also, in the culture of Cotton, a certain state of the soil, both with respect to its chemical composition and its mechanical state, may be well suited to one situation, and yet not be desirable in another, chiefly from a difference in the condition of the atmosphere. For instance, a certain degree of porosity of the soil may retain and bring just enough of water within reach of the roots, and yet if the atmosphere became more damp, the soil may require to be made drier by drainage. Again, if in another situation the air is more dry, and evaporation necessarily greater, both from the surface of the earth and from that of the leaves, a soil more retentive of moisture will be more suitable than one which is more open, and which thus allows moisture to escape, not only by evaporation but by drainage. These varieties may be observed not only in the soil and climate of different localities, but even in the same locality at different seasons of the year, especially in a country like India, which in the language of meteorologists, is in many parts one of extremes. As plants obtain from the ground their water, holding in solution saline and earthy particles, and are dependent upon the air for the elements of organic matter, it is evidently essential to pay equal attention to both, for it is difficult, nay impossible in most cases to say whether the soil or the climate has the most influence upon successful cultivation, and it is nearly as useless, to use the words of Mr. NEILL, as "attempting to decide which half of a pair of scissors has most to do in the act of cutting, or which of the factors 5 and 9 contributes most to the production of thirty."

With respect to the practical inferences deducible from the chemical analyses, we may first quote the opinion of Mr. PITTINGTON, that carbonate of lime was essential to good Cotton soil. Subsequently he observed that the American, the Mauritius, and the best Singapore soil contain a considerable per centage of vegetable matter, and some part of it easily soluble in cold water, while the Indian soils contain very little vegetable matter, and this wholly insoluble in water; but that the best contain a far larger proportion of carbonate of lime, and some of them, their iron in a different state from the others. The lime, it might not indispensable, he supposes, may be highly useful; but

he ascribes greater value to the presence of vegetable matter. For a soil in Bengal (which contained but exceeding minute portions of lime and carbonaceous matter, and in which he cultivated Cotton, worth from 9*d.* to 11*d.* per lb., as an experiment, for seven or eight years, during which he had always good and often abundant crops, he ascribes this effect to the plants having been constantly manured with the black, peaty earth, so abundant in the jheels (pieces of water) of India, and of which an average good specimen contains 26.00 per cent. of vegetable matter, and 15.00 per cent. of carbonate of lime, yielded chiefly by the small shells contained in the above deposits.

Mr. E. SOLLY, as the result of his analyses, remarks "that the goodness of the soils from Georgia depended, probably, far more on the mechanical structure than on the chemical composition, and that the presence of lime or any other substance would appear of far less importance than that the soil should be, not too rich, but of a light and porous character, so that the delicate fibres of the roots might penetrate easily in all directions." This opinion is probably not far from the truth wherever the climate is most suitable to the cultivation of Cotton.

Dr. WIGHT, after practical experience of some years, states that where it is in his power to choose, he prefers "a deep dark coloured light, almost sandy loam, and if it has been long out of cultivation so much the better." The black Cotton soil in which so much of the Cotton of India is grown, and which is generally considered the best for the purpose, is remarkable for its power of retaining moisture; while of the red soil he says, "again I am informed that in some parts of the country, for example in the Vizagapatam district, the finest Cotton crops, both as to quantity and quality, are raised on red soils, and the redder the better for the purpose." But the suitableness of these several soils we must consider in connection with climate.

GARDENIA WHITFIELDII.

A DOUBT was expressed by Mr. Whitfield, subsequently to his introduction of this plant into European gardens, as to its flowering, at least until it had attained considerable age and size, which would have rendered it totally unfit for general culture, and quite useless to those possessing only limited means, and who are naturally chiefly desirous of cultivating free flowering plants, more especially such as are highly fragrant. That this Gardenia holds out the latter inducements I have much pleasure in affirming, having recently bloomed it in perfection.

About two years ago, a cutting, then recently struck, was shifted into a 6-inch pot, using turfy loam and peat intermixed with a little silver sand; it was then placed in a tan bed in a stove, where a high and humid atmosphere was constantly kept up. During the summer it grew vigorously, and towards autumn it was allowed to harden its wood and go to rest until the following spring, when it was repotted with similar compost into a 12-inch pot, and again plunged into the bark-bed, when abundance of heat and moisture was maintained. By the close of summer it had made a good growth; it was then, as formerly, induced to ripen its young shoots and set its blooms. In order to prevent the plant from flowering at an unfavourable season, it was removed from the high temperature of from 70° to 80°, to which it had been exposed during its season of growth, into a colder and drier atmosphere, where a temperature ranging only between 50° and 60° was kept up. In this situation it remained during winter. About March last it was placed in a warmer house, where its flower-buds gradually began to push. By the end of April they were 6 inches long and hanging down like inverted trumpets; they began to expand, presenting a novel and beautiful appearance, being 3 inches and upwards in diameter at the mouth and nearly white in colour, contrasting charmingly with the large green foliage. Altogether it is one of the most striking plants I have ever seen in flower, and very desirable for any collection, even supposing it was quite scentless; but, unlike the other large tubular-flowered species, which are only slightly fragrant, this possesses nearly the fragrance of the Cape Jasmine, a desideratum, I presume, not unimportant to those who delight in highly odoriferous flowers.

One of the best and at the same time most simple systems in the culture of Gardenias is, to place them during the season of growth in a pit or frame filled with tan, and the heat promoted by linings of stable litter; and to those who have no other convenience than merely a greenhouse to receive them when in bloom, this plan may be pursued with success. Indeed, it is the mode adopted by those who so largely cultivate the Cape Jasmine for the London market; and their success must be obviously impressed upon the minds of all who traverse during summer the streets of London.—*R. Glendinning.* [This plant was also published under the name of *G. malleifera* in the "Botanical Magazine;" but two or three years after it had been named G. Whitfieldii in the "Botanical Register."]

BEES.

THE curious habits and economy of the Solitary or Mason Wasps are well known, but the apiarian is not aware, I believe, that one of them, named Odynerus parietinus, is a very formidable enemy in the hive, and exercises a very baneful effect upon the society of bees where it intrudes itself. This I first learned last September, when a friend in Suffolk, who has had a good stock of bees for some years, informed me that one of his hives was so infested with insects that it was worthless. On examining the inside a large number of cases, composed of earth and grains of sand, were sticking to the bottom; their forms were irregular, and they looked exactly like lumps of earth (fig. 1); but on opening them I found the inside lined with a glutinous substance, of a shining dull white tint, and no doubt impervious to air or water. Within these cells were fleshy larvæ of a yellow colour (2), composed of 13 segments tapering to the head, which was small, horny, and ochreous, the mouth being armed with little jaws; the neck was bent, the body inflated, and the tail conical (3); these lived through the winter, and changing to pupæ they produced 13 wasps of both sexes at the end of May and beginning of June.

The solitary-wasps were included by Linnæus and Fabricius in the genus Vespa, but Latreille and all recent authors have named this group Odynerus, which is justified by their dissimilar economy as well as by differences in the form of the mouth.* The male (4), is five or six lines long, black, punctured, and downy; the head has two lateral compound eyes, and on the crown are three minute simple ones in a triangle; the nose, upper lip, and outside of the jaws are bright yellow, as well as a dot between the horns, which are slightly clubbed and composed of 13 joints; the basal one is yellow beneath, and the remainder are orange on the under side, the tip forming a claw (5): the body is shining black, ovate-conic and 7-jointed, the basal joint is like a short bell, the edges having a broad yellow margin, lobed on each side, the following segments are edged with yellow, forming bands: the four wings, folded in longitudinal plaits when at rest, are smoky, with a brown stigma and pitchy nervures: the legs are bright yellow, the thighs black, except at the tips, and the four anterior are yellow on the inside: the coxæ also exhibit six yellow spots, and the intermediate shanks have a short black line inside; the feet, which have an orange tinge, are dusky at their extremities, excepting the anterior pair. The female is larger, being 6½ lines long, and the wings expand 1 inch: it differs considerably from the male in the yellow markings: the head is entirely black, excepting the yellow

dot between the horns, a stripe on each side the nose, a spot at the base of each jaw, and a dot behind each of the lateral eyes: the tips of the horns, which are 12-jointed, are not hooked: the front of the collar is yellow, as well as the scapulars, and two spots on the scutel: the body is 6 jointed and armed with a sting, the first joint is yellow, excepting the base, with a lobe in the centre, more or less broad: the coxæ and thighs are black, the tips of the latter yellow; all the shanks have a black stripe inside towards the apex; the tarsi are brown, terminal joints ferruginous (6). I have been thus particular in identifying both sexes, because there are about 20 species of Odyneri that inhabit England, and it will be very desirable to ascertain if any of the others are equally offensive to bees.

The common wasps, which are social, it is scarcely necessary to observe, form combs of woody fibres, considerably resembling the honeycomb of bees in structure, and like that tribe also the nest comprises three sexes, male, female, and neuters or workers. The solitary-wasps, on the contrary, live secluded, viz., a female forms a certain number of irregular cells, without the presence of males or the assistance of neuters. The various species of Odyneri† select very dissimilar localities for their nests; some burrow into sandy banks, where they construct cells, the entrance to which is a filigree tunnel ingeniously modelled of grains of sand, so loosely united that it falls to pieces on the slightest touch, and of course precludes the entrance of any larger or more careless visitor than the artful architect; others enter our houses and take possession of undisturbed books and papers, seeming to delight in appropriating to themselves the neglected volumes. I have seen the spaces between the heads of several bound books, with one laid over the top, pretty well filled with the muddy cocoons, and sheets of folded paper are equally applicable to their wants.

In each cell the female deposits an egg, and then carries and stores up with it flies and caterpillars of small moths, as well as other larvæ, for the maggots to feed upon when the eggs hatch. Sufficient provision having been thus provided by the industrious mother, the cell is closed, and she proceeds to the structure of another, to be similarly furnished, and thus she prosecutes her labours, probably for several weeks in June, July, and August, whilst the idle males are revelling amongst the farina of flowers. It is the opinion of some authors that the solitary-wasps supply their young with pollen, and the O. parietinus taking up its abode in a beehive would induce one to suspect it was for the purpose of robbing the bees to feed their brood, but I observed imbedded in the earthy cases several pupæ of flies (7); now whether the full grown maggots were brought by the wasps into the cells from which they escaped, or whether the caterpillars had been inoculated by Muscidæ, which had crawled forth and become pupæ outside, so that when the flies hatched they might be at liberty, it is difficult to determine; indeed there is a great deal yet to be learnt, and a complete history of this solitary-wasp alone would fill a volume.

In this, as in similar cases, the mischief may be traced to a want of knowledge and attention. The solitary-wasp when known should be watched for and captured in a pair of forceps on her return to the hive. Old garden walls, with a warm aspect especially, must be kept in repair and well pointed, as old nail holes and chinks are amongst the favourite spots which mason-wasps select to build in and multiply, and where such good accommodation is afforded, they are sure to establish themselves.—*Ruricola.*

* Curtis's Brit. Ent., pl. 137 and 760, where both genera are figured with dissections.

† Curtis's Guide, genus 695.

STATEMENT FROM THE COUNCIL OF THE ROYAL HORTICULTURAL SOCIETY OF IRELAND.

THE attention of the Council of this Society having been drawn to a Leading Article which appeared in the *Gardeners' Chronicle*, of the 24th June last, reflecting in strong and unjustifiable language upon their proceedings, they feel themselves called upon to disabuse the public mind of any false impressions which the perusal of that article may have created. On the language, tone, and style of the article in question the Council will make no comment; but they cannot avoid expressing surprise that a document of such a nature, containing such gross charges against a body of gentlemen, whose sole object in their capacity of Council, is the improvement of horticulture in all its branches, should have been published in any respectable journal, upon the assumption that the statements and charges of anonymous correspondents were true, and without seeking any explanation from a body about to be so grossly assailed.

In this reply the Council will confine themselves to a mere statement of facts in answer to each charge brought against them in the publication under consideration.

First, with respect to the appointment of judges—

The Council have invariably appointed to each section those, who in their opinion, were best qualified to form a correct and unbiassed judgment upon the merits of the specimens upon which they were to adjudicate. The judges are not selected from the competitors, neither are they confined to members of the Council, but they are selected from among the most skilful amateurs and practical horticulturists, whether in or out of the Council—whether members or not members of the Society; and it is a regulation strictly adhered to, that no person can be appointed a judge in any section in which he may be a competitor. The adjudication never takes place until the exhibition rooms have been cleared of all except those members of the Council who may be in attendance; and with reference to the statement, that "the judges consult with the interested parties, compare notes, &c., and then proceed to their award," the Council consider it too palpably calumnious to need contradiction; but they will merely say that, if any judge were proved guilty of such conduct, he would, if a member, be expelled from the Society, and if not a member, would never be again appointed to judge.

With reference to the assertion "that, at the last exhibition, the Lord Lieutenant's prize was awarded by one of the three judges to himself, he being a member of the Council," the following explanation will show that such was not the fact. The gentleman alluded to, who is a member of the Council, was appointed a judge in the section of "Lord Lieutenant's prizes," in which, according to the printed schedule, there was a class for Auriculas. Upon the day of exhibition, the Auriculas were removed from this section, placed along with the other Auriculas entered for competition, and were adjudicated upon by the judges appointed to that section. The gentleman before mentioned attended and acted as one the judges in the section to which he had been appointed, from which, as already stated, the Auriculas had been removed; he therefore did not award the Lord Lieutenant's prize to himself, although the contrary was asserted "without fear of contradiction."

Secondly, with reference to the "haughtiness of the Council in excluding gardeners from the annual dinner," it is merely necessary to state that there is no rule to exclude gardeners who are honorary or associate members from those dinners, and upon the last occasion some did join the dinner.

Thirdly, with reference to the "disingenuousness of the Council in inviting the public to see their show of flowers and fruits, and then, after receiving their money, telling them they can only see the flowers, &c.;" the Council consider this charge scarcely worth contradicting, as every person who visits the Rotunda on the days of exhibition can testify that the fruit is arranged for exhibition on stages made for the purpose, in a department open to the public, and afterwards distributed among the visitors, at about 5 o'clock in the afternoon.

The last charge against the Council is that of "dishonesty," or as the article before them says, "the robbery which, as we have been advised, has been committed upon the unhappily successful exhibitors, who not only are deprived of the honour that belongs to them, but do not get the paltry money which its failing funds permit the Society to offer." "The Council receive the money of the subscribers and the money of the visitors to their shows, and they undertake to pay the winners of their prizes; but they break their word—the Council gets the money, the prizemen get nothing." This is a very serious charge, and may call forth stronger proceedings than the mere publication of an explanation; but the Council, as a public body, feeling that it is their duty to the public to reply to a published accusation, no matter how false or how calumnious that accusation may be, do not hesitate to make the following statement of facts, in answer to this charge.

The rule of the Society, adopted after mature consideration, and acted upon for many years is, to award the prizes to the owners of the specimens exhibited. The Council do not feel it necessary to enter into the reasons which induced them to adopt this rule; it is sufficient to say that they considered it to be a useful and salutary one. The prizes are awarded to the owners, and so published, adding the names of their respective gardeners, thereby awarding the prize, according to the rule, to the employer, but giving to the public at the same time the name of the gardener who may have been the grower or cultivator of the specimens which gained the prize. The Council pay the amount of the prizes to the persons to whom they are awarded, or to their order, and it appears upon reference to their books that in the great majority of cases the prizes have been paid to and received by the gardeners themselves.

The resignation of the late Assistant Secretary at the end of last September, and his non-attendance afterwards, rendered it impossible for the Council and their present Assistant Secretary, in preparing their annual report, to ascertain the names of the gardeners; they were obliged, therefore, reluctantly to

publish the list of prizes awarded during the past year with the names of the proprietors only, as they appeared in the late Assistant Secretary's record.

With respect to the non-payment of prizes, alluded to in language so discreditable to any person professing honourable or gentlemanly principles, the practice of the Council has been to pay at the close of each year, to every person entitled to receive them, the amount of the prizes awarded to them during the year, where the sum reaches 1*l.* and upwards, in separate drafts in favour of the claimant; where the amount is under 5*l.*, drafts for the collective amount of several demands are handed to the Assistant Secretary, with directions to pay them. There never was a single instance of any person being refused payment of a just demand.

At the close of last year, the Council found it extremely difficult, in consequence of the continued absence of their late Assistant Secretary (as particularly mentioned in their last Annual Report) to wind up the financial business of the year, and to ascertain satisfactorily the outstanding demands against the Society. Under these circumstances they caused advertisements to be inserted in the public papers calling on all persons having claims against them to send them in on or before a certain day. Upon examining the demands as they came before them, the Council found that there were some claims for prizes awarded in previous years which, upon reference to their books, appeared to have been paid; they, therefore, resolved to postpone the settlement of those claims until they should have time to investigate them fully, and to confine their payments to the demands for 1847, all of which were accordingly paid off in full, with the exception of prizes awarded to members of the Council, who declined bringing forward their claims, until every other demand against the Society should have been satisfied. The few outstanding claims for previous years, amounting to about 15*l.* in all, will be paid off as soon as their correctness shall have been ascertained.

The Council, in concluding this statement, which nothing but their desire to undeceive the public mind would induce them to offer, wish it to be generally understood that they are, and always have been, desirous to receive any suggestions from members, competitors, or others, that would tend to assist them in the better carrying out the objects of the Society. Suggestions of this nature, whenever brought forward, have been considered with due attention, and when likely to be attended with beneficial results adopted. They also have invariably attended to any complaints that from time to time may have been brought before them, and they feel pleasure in saying that these have been but few, and where any grievance existed they have redressed it.

The Council are happy to say that they cannot credit the assertion of the *Gardeners' Chronicle*, that "the Society is unpopular, and therefore ruined." That it is *not* unpopular is proved by the crowded attendance of visitors at their exhibitions; and that it is *not* ruined can be proved by the comparatively large sum now lying to their credit at their banker's and in Government Stock.

The Council, many of whom have been members since the establishment of the Society in its present form, a period of nearly 20 years, have devoted much valuable time and labour to the interests of the Society; their reward has been the great improvement that has taken place in every branch of horticulture, the confidence and support of the subscribing members, and of the great majority of the respectable gardeners connected with the Society, and the continued favour of a discriminating public. The difficulty of managing an institution like this must be apparent to any unprejudiced mind, and the wonder is, not that there are complaints, but that there are so few of them.

So long as the Council receive this support, and enjoy this confidence and favour, they will continue to carry out the objects intrusted to them, and will be always ready, as they ever have been, to adopt such changes or regulations as may, upon mature consideration, tend towards the improvement of horticulture, or towards the better management of the affairs of the Society.

"Resolved, that this statement be adopted, and forwarded to the Editor of the *Gardeners' Chronicle*."

[We received this paper too late for notice to-day, but we shall refer to it specially next week. If we find that we have been misled by inaccurate information, we shall do ample justice to the parties aggrieved. In the meanwhile we have to state that the information upon which we have proceeded was not anonymous, but derived from correspondents of high character and station. "Hortulanus Hibernicus" will probably communicate with us as soon as he sees this.]

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

ON FILLING VACANCIES IN FLOWER-BORDERS.—Although the subject above-stated has often been alluded to in the *Gardeners' Chronicle*, correspondents still ask for information as to the best mode of supplying deficiencies in the beds and borders, occasioned by the decay of early flowers. "G. T." states his wants in the following way:—"At certain times of the year there is a great vacancy observable in many gardens, particularly those belonging to persons of limited or moderate means. The Pinks and Verbenas are just coming into bloom, or my garden would have a very naked appearance. I grow standard Roses, which have produced a good sprinkling of bloom, but something is required for the borders, &c., not only to keep up a succession of flowers, but also to fill up the void. Will you have the kindness to name a few good herbaceous plants suitable for small gardens, at a moderate price, that bloom at different seasons?"

In reply to this and similar inquiries we observe, that herbaceous plants will not be likely to answer the purpose of "G. T." They generally bloom early, and are from their size unfit for small gardens, unless very sparingly used. Looking round my own garden, I find the varieties of Pæony, Spiderwort, Veronicas, perennial Lupins, Campanulas, &c., are mostly gone off, and will present a shabby appearance for a long time to come. They do very well in a large space, to fill up distant spots, the edges of shrubberies, and similar situations, where general effect rather than near inspection is consulted, but in beds with Roses they are out of place, and should not be used. What few herbaceous plants I have I am not satisfied with, because they frequently flower but a short time, and yet their foliage takes up much room, and requires a long time to perfect it. I would advise "G. T." to dismiss this class of flowers altogether, and cultivate others more compact in their habits, and more durable in their bloom.

In July we expect the flower-garden to look as splendid as at any season, at the close of the month at all events. The large class of tender plants, trained for bedding out, begin now to be established in their new quarters, and to bloom profusely. A small stock of these should be in reserve in every well-managed garden, that when a vacancy occurs they may be introduced. For instance, the common Peony is found in many borders, and certainly looks gay in May and June, but now it is destitute of flowers, and a patch of green covering a square yard is not desirable during the finest part of the season. It will not do to cut down the foliage if the plant is to be grown well, and the remedy is, to remove a few of the oldest branches, and tie up the rest. A scarlet Pelargonium, or a China Rose, or a Pentstemon may then be planted in front of the Peony, and prevent the bald appearance of which so many complain. The same may be done with Crown Imperials, Jonquils, &c., which drop their foliage at this time. Let the withered leaves be removed, and a Verbena or Petunia, grown strong in a pot, may be placed in the exact spot. Of course anything of this kind may be procured in nurseries, and at about 6*d.* each good plants can be purchased, 20 or 30 of which will give to "G. T.'s" garden a very different aspect from that he complains of. Nothing will beat the Scarlet Pelargonium for effect in the cases now under consideration; its hardy habit as to soil, its oriental-looking foliage, and its vivid flowers, give it a preference over many other beautiful things, which perhaps require a particular situation, and soon lose their charm.

The grand obstacle in the way of a well filled flower garden is the want of foresight on the part of their owners. A gardener should have the wants of his borders at every season present to his mind at any time. He should know in January what he will require all through the year; more than this, he should know *now* what he will want next summer, that he may, by striking and hardening a sufficient number of plants, be prepared to fill his flower beds and supply vacancies when they occur.—*H. B.*

Home Correspondence.

The Beehive Strawberry.—In addition to the complaints already made respecting this Strawberry, I have to enter mine. Induced by the wonderful character given of it in Mr. Matthewson's advertisement, I bought 20 plants, for each of which I paid 2*s.* 6*d.*, and, thinking to beat all my neighbours in Strawberry culture, I grew them well. In the course of the season I purchased a dozen more for pot culture. The latter also received liberal treatment; notwithstanding all this, however, they produced but little fruit, and that small and sour. I had expected to have seen some of Mr. M.'s wonderful productions last Wednesday at Regent's-park show; but none were there. They are, no doubt, reserved for Chiswick, on Wednesday next.—*S. Knight, Badsey, July* 4.

Rhododendron maximum.—Many of the groups of Rhododendron here contain an admixture of this species, and although by no means so gay and beautiful as many others, it nevertheless relieves by its snowy blossoms for a lengthened period what would otherwise have been a dull and uninteresting monotony of foliage. They are still in flower, and likely to remain so for several weeks should the atmosphere prove cool and moist as at present. As the foliage of this plant is somewhat impatient of cold, the sheltering influence of this system of planting in groups, causes it to grow more freely, and to expand its blossoms much finer, than it otherwise would have done.—*James Duncan, Basing Park, July* 3.

Vipers.—I have no doubt whatever as to the fact of young vipers entering the stomachs of their mothers in cases of alarm; for I have seen it happen under my own eyes. About 10 years ago I was building a wall near my house; and an old quarry being near, my men were taking from it some loose stones, under which they had found and killed several vipers; at length they moved a large stone under which lodged about a dozen little vipers, about 5 inches long and about the thickness of a tobacco pipe; they were very active and ran away in all directions, we killed several of them, and saw four or five go under another large stone near, upon moving which we found, not the little vipers but a large one; from the size of the latter, I suspected that it must have received the young ones into its stomach; we killed it and immediately after saw the head of one of the young ones coming out of its mouth! I obtained a glass bottle, which I placed against the old one's mouth; one of the men trod upon the tail, and with a stick I gently pressed the stomach, out of which four or five young vipers ran with great activity into the bottle, which I stopped closely with a cork, and gave to Mr. Adye, surgeon, of Bradford, our then county coroner, who kept the vipers alive in it for some time.—*William Stone, Winsley, near Bradford, July* 1.

Kew Gardens.—You agree with the view of the "Frequent Visitor" of these gardens, unless I can make out a better case for mine. There is a point, however, on the very threshold. If you ever saw the late Liston in one of his favourite characters, you will remember his answer to a most eager lover whom he advised to carry off his betrothed to Gretna Green. The lover honestly stated that there were difficulties in the way of the scheme. "What are they?" asked Liston. "There are a great many," answers the lover. "In the first place, I have no money." "That's quite enough—you need not say a word more," was the reply, uttered in that peculiar tone which always set the house in a roar. So with Kew Gardens. If the authorities have not the money required for making the proposed change—there is an end of the whole question. But now for the merits of the case. I will not stay to ask how many of the visitors to the Botanic Gardens are really in search of scientific knowledge—and how many are mere loungers after pleasure. I doubt whether a fair enquiry would not show that there are very few scientific visitors, or visitors for the sake of science, at the Botanic Gardens in proportion to the whole mass of people who promenade there throughout the year, or scarcely more than those who on the same day visit the pleasure-grounds. The next majority of those who visit both are there for recreation and not for study. It is not denied that the very same persons have the privilege of visiting both grounds on the same day. The question of different classes then, so far as passages is concerned, falls at once. I appealed only in favour of the manifest convenience of those who would wish to visit both on the same day; and I cannot, for my life, see how one additional man can be required in consequence of the proposed change. But the "Frequent Visitor" has a holy horror of bits of paper, and what he, not very classically, terms "prog." I have a spell to subdue even this horror of spirit. I had spoken of a privilege being granted to the passage of going from either of the grounds to the other. Let it stand thus, however. On entering the Botanic Gardens, as at present regulated, every basket which might contain the awful and above recited "prog" is stopped and put into bond. I would suggest then that all persons who enter the Botanic Gardens on Thursdays may pass into the Pleasure-grounds, but that no persons shall pass from the Pleasure-grounds into the Botanic Gardens. If the present regulations for the Botanic Gardens are properly carried out, will not this suggestion prevent the evil which clearly changes your correspondent into a sort of human Aspen leaf? I now approach your editorial self—as more than confirming your correspondent's views—with very great diffidence. You approve of the idea that so far as Kew Gardens are concerned the people have already quite enough of privilege. With regard to public privileges of many kinds, great concessions have been made of late years—all of which are now confessed to have been justly given. But can you name one of which it was not said antecedently, that the people already enjoyed "quite enough?"—*Hortulanus, July* 3. [We hold to our opinion that it is not desirable to hold out inducements to the holiday people to crowd the Botanic Garden more than they now do. We do not on this account advocate the removal of any facility which exists. We merely object to an increase of it. If persons wish to visit the Botanic Garden of Kew they already have full opportunity granted them. What more our correspondent wants we do not understand, unless it be to incumber it needlessly with idlers, who would rather pass through it into the Pleasure-grounds than go to the latter by some other road.]

Price of Digging.—I see in the *Agricultural Gazette* of the 24th ult., at page 425, a statement that digging can be performed at 30*s.* per acre, and at 40*s.* Such a statement, in such a place, is likely to do much ill to both overlookers and labourers. Can any man dig 5½ yards square, and 1 foot deep, with a fork or spade straight down, not sloping, even in a good sandy loam, under 3*d.* per pole, that is 40*s.* per acre? If good strong Wheat land it must be 4*d.* per pole, that is 5*s.* 4*d.* per acre. No one can get bread under that, which is little enough. Then again I notice for wheeling manure from headlands, 200 yards at 2*d.* per yard. What is that meant for? to wheel it 200 yards? or 200 square yards to be wheeled? If not, what distance is to be wheeled for 2*d.*? as there will be 15 barrow-loads to a yard. I cannot understand this. These things should be made clear; for though it may not affect those overlookers that well know what work is, it certainly tends to deceive gentlemen who see such prices, and do not know the value of work.—*No Stranger to the Wheelbarrow.* [We are certainly surprized to hear that land can be *dug*, for 30*s.* an acre. It may be *turned* in for that price, but turning in is no better than ploughing.]

Bees.—In your Number for July 1, page 439, appeared a paper, headed "Bee-keeping in 1660," of which the writer seems therein to have considered one Simon Harward to have been the author. Any one acquainted with works which have been published within the last three or four centuries on bees, will at once see that the said writer has applied the name of Harward to a subject on which it is probable that he never entered. What he did treat of was, "On the Art of Propagating Plants, and the True Ordering of Fruits, &c.," in or before the year 1597: and further, the extract on bee-keeping just alluded to is too much curtailed, and has omissions that might have rendered it more useful to bee-keepers. There is a second edition of the work on bees, bearing date 1623, in black letter. The latter is in my possession, and a complete extract from it shall be at your service if acceptable; it is about twice the length of the incorrect paragraph already inserted in No. 27.—*Apiarius, Canterbury, July* 2. [We should be obliged to you for it.]

Potato Disease.—On the 27th, there was here a damp, dense fog, turning to rain in the evening. A plot of Potatoes, previously quite healthy, were found next day to have been struck with the Potato blight, the leaves blotched, and the (now well known) disagreeable odour powerful. The blight took effect in a broad list across the plot, leaving those outside uninfected, in the same way as I have observed a list of blight in a Wheat field, spreading from a Barberry-bush for a considerable distance. On my remarking

that this was a new feature in the attack of Potato blight, an intelligent labourer who stood by, remarked that it came in a similar manner last year over a plot in the parish of East Compton, where he then was; but that it afterwards spread right and left over the whole. My labourers have about 2½ acres of Potato allotments in a field of 20 acres sown to Turnips, in an open airy situation, than which nothing can at present be more healthy. Those which are struck in the next parish are in a low and close situation in a garden.—*J. B. Knight, Netherberne, near Dorchester, July* 3 —— The disease has again made its appearance at this place. I detected it on Saturday morning last, and it continues spreading, although not so rapidly as in 1846. I have made inquiries in this neighbourhood, and find that it has made its appearance in many plantations during the past week. Its early appearance this year, compared with last, I think is to be ascribed to the wet dull weather we have had for the last month.—*Henry C. Ogle, gr. to the Earl of Abergavenny, Eridge Castle, Tunbridge Wells, July* 5.——*Este* begs to state that since the cold night of Friday a large patch of Potatoes in the garden of a gentleman has been struck with the disease most severely. The space of a rod square is marked by the haulm being in the same state as in July or August 1846. The Potatoes are in a wet subsoil quite surrounded by trees. The district two miles from Shooter's Hill, on the road to Dartford. On the Friday night in question, *i. e.* between the 30th June and 1st July, "Este's" self-registering thermometer marked 27°, and on Saturday night 29 5°. The thermometer is attached to a post a yard from a north wall, 5 feet high. A man who was mowing close to this place early on Saturday morning, says that when he wiped his scythe first, the blade was coated with ice.

Bee Flowers.—Being a bee-master, and having made my observation on the flowers most sought after by the bees, I have found none which they seek so eagerly and constantly as the Callichroa. In the shrubbery borders, and the kitchen-garden, there were some patches of this sown last year, which early this spring came up in large quantities, being self-sown; and whilst it lasted in flower, it was covered with bees during the whole day. Except the Crocus (for pollen) in the early spring, and the Raspberry, when in flower, I have never seen a plant so much frequented by bees as the Callichroa. I have collected all the seed, and mean this autumn to sow a large border solely for my bees.—*Dodman.*

Remarkable Plant of Cow-Parsnip.—At the Nursery-grounds of Messrs. Backhouse, Fishergate, York, is now growing a splendid specimen of the "Heracleum giganteum," the "Gigantic Cow-Parsnip-plant." It is botanically allied to the common Carrot and Parsnip, and is therefore an Umbellifer. It is biennial; sown in autumn it perfects its growth in the following summer. A tolerable estimate may be formed of its astonishing rapidity of growth, from the following measurement, previous to which, it may be stated, that the present subject was sown in August of 1847, and showed no signs of special vigour until early in May, of the present season. Its dimensions are as follows:—Height, 10 feet, the stem being 10 inches in circumference at the base. A single flake of the leaf, which is formed of three equal divisions, is 3 feet 6 inches in length, and the entire length of one leaf, including its stalk, is 6 feet 6 inches. The foliage of this single plant extends 13 feet in width, thus giving a circumference of 39 feet! It is calculated that it would require a period of 10 years, or more, for a plant of the common Hawthorn of our hedges to attain an equal diameter of growth with that, which in the above instance, has, to a great extent, been formed in the almost incredibly short space of two months! Its flowers are of a creamy white colour, borne on long radiating pedicels, or stems springing from a single focus, or centre, like the spokes or wires of an umbrella, and graduated in length, so as to form remarkably large and slightly rounded table-like heads or umbels, from 12 to 18 inches across. The rapidity and luxuriance of its growth may form a parallel with the most wonderful instances of tropical vegetation, and is considered to be the largest known plant of the order to which it is physiologically allied. For its truly magnificent growth, especially as a hardy plant, thriving in the commonest soils, it is well worthy of a place in every garden sufficiently large to display its proportions, or where vegetable structure is admired. Richly manured ground would no doubt induce much greater vigour than that now described.—*William Wood.*

Societies.

HORTICULTURAL, *July* 4.—W. W. SALMON, Esq., in the chair. Lord Ashburton, T. Heathcote, and J. Eisenberg, Esqrs., were elected Fellows. Of subjects of exhibition, Messrs. Veitch and Son sent a Peruvian Thibaudia, a pretty Vaccinium-like shrub, with long, waxy, rosy-pink, tubular blossoms, tipped with white; and a pale yellow Mexican Lisianthus named *frigidus*, for which a Certificate was awarded.—From Mr. Glendining, of the Chiswick Nursery, was a specimen of the new Allamanda Schottii, a handsome Brazilian species, perhaps more shrubby than A. cathartica, and with flowers of a glowing yellow, larger than those of the large flowered variety of that species. Besides the size and copiousness of the blossoms, this fine species is stated to have the merit of flowering in a small state. A Banksian Medal was awarded it.—Messrs. Loddiges, of Hackney, exhibited a collection of Orchids, consisting of Aerides affine and three other species; the larger flowered variety of the orange-scarlet blossomed Epidendrum vitellinum; a good Brassia brachiata; the white-lipped Oncid (O. leucochilum) one of the best of its class; the Mexican Stanhopea Martiana, a beautiful species; Dendrobium sanguinolentum, Odontoglossum cordatum, Oncidium bifolium, Cattleya citrina, and some others. A Banksian Medal was awarded for the five first-mentioned plants. A similar award was also made to Mr. Henderson, of Wellington Nursery, St. John's Wood, for a collection of Pelargoniums, Cape and fancy varieties. Of the Cape species which were named, the most beautiful were, ardens, bipinnatifidum, and flexuosum; some others, to which numbers only were attached, were also very pretty, exhibiting in a striking degree the charm of which the better formed and more showy varieties of the florist are in a great measure deficient, viz, variety. The same nurseryman also showed a Phlox named depressa, a hybrid obtained between P. Brownii and Drummondii. Blooms of Hoyle's Scipio Pelargonium came from Mr. Silverlock. Mr. Keynes, of Salisbury, showed a light-flowered Fuchsia named Snowdrop. A Certificate of Merit was awarded to Mr. Moore, gr. to the Earl of Auckland for a well-flowered plant of a sweet-scented Amaryllis, named Natalensis, if not the same, much resembling A. Forbesii, a species introduced by the Horticultural Society some 20 years ago. As an instance of the good effects of dry cool winter treatment for such things, it was mentioned that of two bulbs perfectly sound and of equal size, received in July, 1846, the one exhibited was kept dry and cool till the following spring, the other was potted immediately and grew before winter—very weakly, however, and it was stated that it still remains in a sickly state, the bulb feeling soft. The other—wintered dry—was placed in a Vinery at work. It grew vigorously but did not blossom in 1847; it was kept growing till July, when it was gradually dried off, and kept for the remainder of the summer on a shelf near the glass; it was wintered dry and cold, and was again placed in spring in a Vinery at work, and when it had grown to some size it was watered with weak liquid manure; it began to show for blossom about the middle of June, and has flowered beautifully. A variegated variety of Thunbergia aurantiaca named Doddsii was shown by Mr. Dodds, gr. to Col. Baker. The same grower also sent nine Providence Pine-apples, rather imposing in appearance as a whole, but to which the epithet handsome fruit could hardly be applied, for nearly all of them were defective in form. They weighed respectively 8 lbs. 11 oz., 7½ lbs., 7 lbs. 4½ oz., 7 lbs. 12 oz, 7 lbs. 10 oz., 7 lbs. 5 oz., 6 lbs. 13 oz, 6 lbs. 7 oz, and 6 lbs. It will be seen that, for Providences, these weights are not very remarkable. The best fruit in every respect was that weighing 7 lbs. 4½ oz., and for that a Certificate of Merit was awarded. These were stated to have been cut from plants 23 months old, grown in peat and in pots. A Providence Pine, over ripe, but considerably heavier than any of these, viz., 9 lbs. 13½ oz., was exhibited by Mr. Chapman, gr. to J. B. Glegg, Esq., for which a Banksian Medal was awarded; and a similar award was also made to Mr. Burton, gr. to J. Strutt, Esq., for a well-formed, beautifully-swelled Enville. The latter was stated to be the production of a sucker which had been left on an old stool grown in a pot.—Of miscellaneous subjects, some Potatoes were produced by Mr. Whiting, from a cottager's garden near Dorking, bearing unequivocal proofs of the return of the Potato disease of 1845 in its worst form; and from Mr. Allnutt, were Grapes literally covered with mildew (Oidium erysiphoides), an evil unusually abundant this year. It was stated that it had overrun the whole Vinery from which these Grapes came, to the great injury if not the entire loss of the crop. From the garden of the Society were Mr. Fortune's double-flowered Convolvulus (Calystegia pubescens), which, though hardy, makes a pretty greenhouse twiner; Indigofera decora, also a Chinese plant, remarkable for the length of time it continues in flower; the useful Roella ciliata; Mr. Lobb's Æschynanthus (Æ. Lobbianus); Gardenia Rothmanni; and a large specimen of the New Zealand Veronica speciosa, just coming into flower. The latter, which requires protection in winter about London, has been found to be perfectly hardy in Cornwall. From the same collection were also Salvia hians, a pretty hardy, herbaceous, blue and white-flowered perennial from Cashmere; Fuchsia tetradactyla, a slender growing species of no beauty, so named from its deeply-cleft stigma, which when stripped of its tiny envelopes looks not unlike the foot of some gallinaceous bird; Monardella undulata, a sweet-scented hardy annual, raised from seeds sent from California by Mr. Hartweg; Adamia versicolor, and other plants. The Adamia, which is one of Mr. Fortune's Chinese introductions, is a greenhouse plant, and looks not unlike a Hydrangea, so far as the foliage is concerned, but the flowers are different. When in bud, they are at first white, but gradually change to pink; and, when fully expanded, the interior is a violet blue. The flowers should be succeeded by little berries of a fine blue colour, which are as pretty as the flowers; but attempts to fruit it have hitherto failed.

ROYAL BOTANIC, *July* 5.—The third and last show of the season, held under the auspices of this Society, took place in their garden, Regent's Park, on Wednesday last. The day was favourable, and, as a whole, the exhibition was a good one for July. Of Stove and Greenhouse Plants, there were two large collections, one from Messrs. Frazer, the other—a very inferior one—from Mr. Pawley, of Bromley. Messrs. Frazer's group was also very uneven, some of the plants in it being very large, while the majority of them were small. Of the former, it contained huge plants of Stephanotis floribunda, Crowea saligna, insufficiently bloomed; Pavetta caffra, in like though better condition; Ixora grandiflora, Allamanda cathartica, a fine specimen; and an immense Schubertia graveolens, which promised an abundant display of bloom. The rest of the plants were smaller, and consisted of several species of Kalosanthes, Vinca rosea, a mass of Gloxinia Youngii, Sollya linearis, Statice arborea, the yellow-blossomed Tristania neriifolia, Swainsona galegifolia, well ornamented with purple flowers; Tropæolum speciosum, poorly flowered; a small well bloomed Ixora grandiflora, Roella ciliata, the sweet-scented Sphenotoma gracilis, some Cape Heaths, and other plants. The best plants in Mr. Pawley's group were Kalosanthes coccinea superba, and two other varieties; Stephanotis floribunda, a healthy Crowea saligna, not in flower; Achimenes longiflora, and two small plants of Pimelea Hendersonii.

Good collections of 20 STOVE and GREENHOUSE PLANTS were staged by Messrs. Green and Cole, the former gaining the first prize. Mr. Green had Dipladenia crassinoda unusually well flowered; a neat Leschenaultia Baxteri and formosa; Aphelexis purpurea macrantha, a beautiful mass of flowers; a large Stephanotis floribunda, and a smaller plant of the same; Pharbitis ostrina, a pretty twiner; a large Rondeletia speciosa, Allamanda cathartica (? Schottii), and grandiflora; Phænocoma proliferum; Ixora rosea; a large Crowea saligna, not sufficiently advanced in bloom; a lovely Tetratheca verticillata, loaded with violet blossoms, which remain long in beauty; the showy Kalosanthes miniata, Æschynanthus pulcher, some Cape Heaths, and other plants. Mr. Cole's plants were in good condition as regards bloom—clean and healthy. They consisted of Tetratheca verticillata, Stephanotis floribunda, Clerodendron fallax and paniculatum, a well flowered Allamanda, the comparatively new Schubertia graveolens, Kalosanthes coccinea, and miniata grandiflora; Ixora grandiflora and crocata, Dipladenia crassinoda, the blue flowered Sollya linearis, Vinca alba, Roella ciliata, the Hoya like Cyrtoceras reflexum, and some good Cape Heaths.

Of 10 STOVE and GREENHOUSE PLANTS there were several collections, and in this class some keen competition. The first prize was awarded to Mr. Hunt, gr. to Miss Traill, for Clivia nobilis, Polygala cordifolia; the larger variety of Crowea saligna, not in blossom; a good specimen of Phænocoma proliferum; Leschenaultia formosa, a capital plant; the large-flowered variety of Aphelexis purpurea; Erica infundibuliformis, 2 feet high and more through, a mass of beautiful pink blossoms; Roella ciliata, and other less remarkable plants.—2d prizes were awarded to Mr. Jack and Mr. Taylor. The former produced Cereus speciosissimus; Erica metulæflora bicolor, one of the handsomest of Heaths; Epiphyllum speciosum, a mass of pink blossoms; a beautiful scarlet Gesnera, named "Meerrekii;" a neat specimen of Torenia asiatica; Æschynanthus pulcher, Ixora coccinea, and three other plants.—Mr. Taylor's group contained a beautiful specimen of Hydrangea japonica; Allamanda cathartica, Aphelexis humilis, a well-flowered Kalosanthes, Crowea saligna, not sufficiently in flower; Ixora coccinea, Achimenes longiflora, Erica metulæflora bicolor, and other Heaths.—Collections of 10 Plants were also shown by Mr. Malyon and Mr. Stanly; the former sending, among other things, Stephanotis floribunda, Vinca alba, Aphelexis humilis, a beautifully grown but poorly flowered Russellia juncea, Cyrtoceras reflexum, and some Cape Heaths. Among Mr. Stanly's plants we remarked Achimenes longiflora, Clerodendron fallax, two plants of Aphelexis, and two Cape Heaths.

ORCHIDS.—Of these there was a fair display for the season, the greater portion of the plants being contributed by Mr. Mylam, gr. to S. Rucker, Esq., and Mr. Rae, gr. to J. J. Blandy, Esq., Reading.—Mr. Mylam's collection, which was first, contained three species of the curious genus Cirrhæa; Huntleya violacea and Meleagris; Lycaste tetragona, well flowered; the same beautiful Oncidium Lanceanum noticed in a previous report, still in blossom; the curious brown spotted, green flowered Cycnoches maculatum; also C. ventricosum, Coryanthes macrantha, Broughtonia sanguinea, a good Brassia Wrayæ, Angræcum caudatum, a fine plant with four flower-spikes; the Brazilan Stanhopea Martiana, a beautiful variety of S. tigrina, S. maculosa, and S. saccata, Galeandra cristata, the somewhat scarce and beautiful Saccolabium Blumei, Phalænopsis amabilis, Aerides maculosum and odoratum, Mormodes pardinum, and Vanda Batemanni, still in flower—even in better condition than when we last saw it on the 14th June, which shows that to its extreme beauty it adds the desirable quality of remaining long in blossom.—In Mr. Rae's group were two plants of Aerides quinquevulnera; Stanhopea tigrina, quadricornis, and oculata; the beautiful Cattleya Harrisoni, in excellent condition; a variety of C. Mossiæ and C. intermedia, a large mass of Aerides odoratum, the pretty Oncidium roseum, O. bifolium, and a small Sobralia macrantha.

Collections of 15 ORCHIDS were shown by Mr. Bassett and Mr. Williams, gr. to C. B. Warner, Esq. Mr. Bassett's plants, which were mostly small, consisted of Aerides maculosum, the beautiful Lælia majalis, the rare Anguloa Clowesii, Mormodes luxatum, the little white-blossomed Burlingtonia venusta, Renanthera coccinea, a branch on a block in a pot; Brassia brachiata, and the following plants in wire vases, viz, Stanhopea oculata, S. tigrina, and Aerides affine—the latter a pretty plant, whose numerous racemes of pink flowers gracefully overhanging the vase had by no means an unpleasing effect.—Mr. Williams had large plants of Aerides odoratum, Epidendrum crassifolium, and Phaius albus; and smaller plants of Oncidium Lanceanum, Cycnoches ventricosum, Saccolabium guttatum, Vanda teres, Dendrobium secundum, the beautiful Cattleya superba, Aerides affine, and Coryanthes macrantha.

Groups of 6 ORCHIDS were produced by Mr. Plant, gr. to J. H. Schröder, Esq.; Mr. Jack; and Mr. Dobson, gr. to Mr. Beck, of Isleworth. Mr. Plant sent Lacæna bicolor, bearing a strong spike of pale yellow and brown flowers; a nice Oncidium Lanceanum, Maxillaria tetragona, Cirrhæa fusco-lutea, and Aerides quinquevulnera. Mr. Jack, Dendrobium calceolare, two Oncids, the curious Maxillaria stapelioides, Lycaste cruenta, and Vanda teres. Mr. Dobson, Cattleya Mossiæ; a new variety of Barkeria spectabilis; Gongora maculata, a fine plant; two Oncids; and a variety of Zygopetalon crinitum.—Of specimen Orchids, Mr. Mylam and Mr. Bassett sent magnificent specimens of Aerides odoratum, the former gaining the 1st prize; and of new Orchids, Messrs. Veitch, Dendrobium Kuhlii, and a beautiful little Oncid; and Mr. Mylam, Aerides maculosum.

CAPE HEATHS were numerous, and generally speaking, in excellent condition. The 1st prize for 15 was awarded to Mr. Hunt, gr. to Miss Traill, for plants of Parmentieri rosea, a lovely salmon-coloured variety, a huge tricolor, ferruginea, the small pink flowered procumbens, tricolor rubra 3 feet high and as much through, viridiflora, Mr. Lee's tricolor, Clusiana, a huge infundibuliformis, Massoni, past its best, and elegans.

For 6 HEATHS, Mr. Mylam obtained the 1st prize, with famous plants of ventricosa hirsuta alba, a pretty variety; metulæflora bicolor, covered with long rosy pink blossoms tipped with white; Savilleana, one of the handsomest of the small flowered kinds; the Bothwell Castle variety of ventricosa; jasminiflora alba, and Wilson's tricolor, the best of the many varieties of this pretty species. Mr. Cole had among others, small plants of Savilleana, Shannoni, Parmentieri, Massoni, and a variety of tricolor. Mr. Green, ventricosa superba, metulæflora bicolor, Savilleana, and others.—Extra prizes for 6 plants were awarded to Messrs. Taylor, Malyon, and Jack.

Among *Nurserymen* the 1st prize for 12 plants was awarded to Messrs. Veitch, who sent well-cultivated specimens of metulæflora, and its variety bicolor; obbata, one of the best of Heaths, and, in this instance, admirably flowered; gemmifera; Hibbertiana, a distinct orange-yellow flowered species; ru-

bella, loaded with minute pink blossoms; Parmentieri rosea, and viridiflora.—Mr. Epps, of Maidstone, obtained a 2d prize, as did also Messrs. Rollisson. Among Mr. Epps's plants were Parmentieri rosea; ampullacea, and its red variety; Cavendishii, viridiflora, tricolor superba, inflata alba, and metulæflora bicolor.—Messrs. Rollisson sent Mussoni, 3 feet wide and 1½ high; obbata; Holfordiana, not well flowered; Parmentieri rosea, very highly coloured; Kingsecotiana, Dunbariana, and some others.—Mr. Ayres showed plants of Parmentieri rosea, inflata, Bergiana, tricolor, a beautiful infundibul formis, retorta major, ventricosa Bothwelliana, Cavendishii, and others.—Twelve beautifully grown Heaths came from Mr. Fairbairn's Nursery, at Clapham, but with the exception of ventricosa Bothwelliana, they were not sufficiently advanced in bloom to merit further remark. Twelve Pines were also exhibited by Mr. Pamplin.—For Specimen Heaths a first prize was awarded to Mr. Hunt, for a large obbata, and a second to Mr. Ayres for tricolor major. Some Seedling Heaths, too much alike, were contributed by Messrs. Rollissons.

Of Showy Plants there were two collections of tall Cacti, one from Mr. Green the other from Mr. Stanly, and groups of Clerodendrons from Messrs. Cole, Frazer, and Malyon.

Single Specimens, in addition to those already mentioned, consisted of a well managed Cyrtoceras reflexum, from Mr. Jack; a most beautiful Sollya linearis and Kalosanthes miniata, from Messrs. Frazer; a dwarf, excellently well-flowered Clerodendron nitidum and Hindsia longiflora alba, from Messrs. Rollisson; Stephanotis floribunda, from Mr. Taylor; Leschenaultia splendens, from Mr. Green; Roella cihata, from Mr. Pamplin; and Kalosanthes miniata, from Mr. Hamp.

Novelties came chiefly from Messrs. Veitch, who sent a cut specimen in a pot of Fuchsia spectabilis, the Thibaudia and Lisianthus mentioned in another column, also Agahnyia staminea, Æschynanthus miniatus and longiflorus, and Begonia albo-coccinea; Messrs. Henderson, a Hæmanthus; Mr. Green, an Echites named rosea campestris; Mr. Henderson, St. John's Wood, Adamia versicolor; Mr. Dodds, the variegated Thunbergia named Doddsii; Messrs. Rollisson, a Java plant, which looked like some Capparidi, and another unnamed plant, apparently Nauclea Adina, an old acquaintance. Of plants not in bloom, Messrs. Veitch showed Laurus aromatica, and some Jacaranda; Messrs. Rollisson, Xanthymus oblongus; and Mr. Henderson, a Lycopodium.

Roses.—Mr. Rowland, of Lewisham, received a 1st prize for eight plants in pots; and of cut Roses there was a large display from Messrs. Lane, Paul, Francis, Parsons, and Rowland. For 12 single blooms, Mr. Paul was first, Messrs. Lane second, and Mr. Francis third. For 12 new, first-rate, and distinct varieties, the 1st prize was awarded to Mr. Francis, and the 2d to Messrs. Lane. Mr. Lane's Roses were:—*Hybrid Perpetual:* Marquise de Moyré, Duc d'Alençon, Sydonie, Comte de Montalivet, Commandant Fournier. *Hybrid Bourbon:* Comtesse Molé. *Bourbon:* Leveson Gower. *Provence:* Duchatel Beer. *Tea:* Vicomtesse de Cazes. *Hybrid China:* Juno. *Moss:* Princess Royal, Lanei. Mr. Francis's were—*Hybrid Perpetual:* Marquise d'Ailsa, Cymedor. *Noisette:* Solitaire, Cloth of Gold. *Bourbon:* Le Grenadier, Duprétit Thouara, Comte d'Eu, Souchet, Leveson Gower, Coupe de Cynthie. *Hybrid Bourbon:* Zebler. *Hybrid Perpetual:* Geant de Battailes.

Of Miscellaneous Subjects were collections of Lisianthus Russellianus from Mr. Cuthill, of Camberwell; Ferns from Messrs. Smith, Williams, and Taylor; one or two groups of Geneaceous plants, some Alpines, dwarf Cacti, and other subjects.

The collections of Pelargoniums were numerous, and generally in fine condition. In the *Amateurs' Class*, for 12 first-rate varieties, the 1st prize was awarded to Mr. Black, gr. to E. Foster, Esq., Clewer, for The Doctor, Sylvia, Phillis, Victory, Ondine, Norah, Alonzo, Ariel, Armada superb, Lalla Rookh, Orion, and Lamartine: and a 1st prize also to Mr. Cock, of Chiswick, for Aurora, Forget-me-not, Hector, Negress, Paragon, Pearl, Hebe's Lip, Lord Stanley, Orion, Ariel, Emperor, and Sylvia; 2d, to Mr. Staines, of the New-road, for Forget-me-not, Bianca, Minerva, Mustee, Orion, Duke of Devonshire, Pearl, Satellite, Clarinda, Camilla, Ariel, and Sunset; 3d, to Mr. Robinson, gr. to J. Simpson, Esq., Pimlico, for Orion, Pearl, Magog, Pluto, Aurora, Beauty of Clapham, Rosetta superb, Negress, Milo, Shield of Achilles, Aurora, and Queen of Trumps.—In the *Nurserymen's Class*, the 1st prize was awarded to Mr. Dobson, gr. to Mr. Beck, of Isleworth, for Rosamond, Sundown, Gustavus, Cassandra, Rosa, Criterion, Cavalier, Blanche, Star, Princess, Rufus, Gulielma; 2d, to Mr. Gaines, Battersea, who showed Mrs. Brock, Negress, Princess Olgar, Talisman, Salamander, Rosy Circle, Rambler, Oriflame, Melpomene, Minerva, and Milo.—For collections of six specimens, grown in 11-inch pots, the 1st prize was awarded to Mr. Parker, gr. to J. Oughton, Esq., for Meteor, Sunrise, Matilda, Duke of Cornwall, Louisa, and Rosy Circle; 2d, to Mr. Staines, for Rosetta, Matilda, Camilla, Champion, Pluto, and Sir R. Peel.—In the same class for Nurserymen, Mr. Gaines exhibited Champion, Magog, Milo, White Surrey, Rosetta, and Sarah Jane.—For 6 varieties of Fancy Pelargoniums, a 2d prize was awarded to Mr. Staines, whose varieties were: Lady Rivers, Statinski, Anais, Nymph, Lady Flora Hastings, and La Belle Alliance; and a 1st prize to Mr. Gaines, for Anais, Ibrahim Pacha, La Belle Africane, Nosegay, Queen Victoria, and Bouquet tout fait.

Mr. Gaines exhibited a collection of Calceolarias, for which he obtained a 1st prize; the sorts were—Caro, Queen of May, Royal Standard, Pickwick, Alphonso, and Tricolor.

In collections of Fuchsias, the 1st prize was awarded to Mr. Bray, gr. to Sir J. L. Goldsmid, Bart., for six admirably grown specimens—Exoniensis, Fame, Corallina, Miss Roberts, Sir H. Pottinger, and King of Beauties; 2d, to Mr. Robinson, gr. to J. Simpson, Esq., for Napoleon, Trafalgar, Nymph, Exoniensis, Prince Albert, and Esmeralda; 3d, to Mr. Gaines, for Bianca, Lord Hill, Beauty of Leeds, Queen Pomare, Delicata, and Matilda.

Though early in the season, stands of Carnations and Picotees were exhibited. In the former, the 1st prize was awarded to Messrs. Norman, of Woolwich, whose stand contained Hepworth's Hamlet, Puxley's Princess Royal, Smith's Duke of Wellington, Martin's President, Beauty of Woodhouse, Colcut's Juba, Ely's Lovely Ann, Addenbrook's Lydia, Holmes' Count Paulina, Toon's Ringleader, Jackson's Squire Trow, and Willmer's Telemachus; 2d, to Mr. Ward, of Woolwich, for President, Colcut's Brutus, Elliot's Matilda, Cartwright's Rainbow, Puxley's Royal Adelaide, Ely's Regular, Hale's Prince Albert, Cartwright's Rainbow, Cheetham's Alice, Young's Earl Grey, May's Edgar, and Burley's Music; 3d, to Mr. Turner, of Chalvey, for Colcut's Brutus, May's Caliban, Smith's Vernon, Count Paulina, Hale's Prince Albert, Lord Byron, Beauty of Woodhouse, Smith's Vernon, Admiral Curzon, Hero of Middlesex, King Arthur, and Edgar.—In Picotees, the 1st prize was obtained by Mr. Norman, for Burroughes' Mrs. Bevan, Garrat's Lady Dacre, Costar's Mr. Cobden, Burroughes' Magician, Barnard's Pride, Burroughes' Duke of Newcastle, Ely's Emperor, Matthews' Ne Plus Ultra and Enchantress, Mrs. Barnard, Holliday's Bridal Ring, and Crask's Prince Albert; 2d, to Mr. Ward, for Harlstone's Beauty of Cray, Lady Dacre, Hardstone's Prince of Wales, Matthews' Ne Plus Ultra, Shaw's Beauty, Willmer's Princess Royal, Mrs. Bevan, Dickson's Trip to Cambridge, Matthews' Enchantress, Sir W. Middleton, Burroughes' Duke of Newcastle, and Crask's Prince Albert; 3d, to Mr. Turner, Chalvey, for Burroughes' Mrs. Bevan, May's Olivia and Portia, Rutland's Mrs. Annersley, Matthews' Ne Plus Ultra, Miss Desborough, May's Portia and Sebastian, Brinkler's Lady Chesterfield, Mrs. Barnard, May's Miranda, Lady Dacre, and May's Isabella.

Pinks.—Several stands were exhibited, but as the season for these pretty flowers was so much on the decline, one prize only was awarded; this was obtained by Mr. Turner of Chalvey, for George Glenny, Mr. Edwards Hale's Queen of England, Rutland's Lord Valentia, Criterion, Youngs's Sir J. Scott, Great Britain, Morning Star, Scarlet Scarborough Nymph, Whipper in, and Costar's Alfred Mortimer, Esq.

Prizes for Pansies were awarded 1st to Mr. Turner for Homer, Milton, Youell's supreme, Bervas, Arethusa, Alice, Seedling, Lord Harcourt, seedling ditto, Polemic, White Serpentel, Seedling, Candidate, Cicero, Comet, Pizarro, Duchess of Rutland, seedling, Cicero seedling, Aurora, Marquis of Lothian, and Seedling 2d to Mr. Thompson, of Ley, for Premier, Tom Pinch Superb, Socrates, Seedling, Madonna, Supreme Satirist, Seedling, Optimus, Arethusa, Duchess of Rutland, Coronation, Aurora, Gloria Mundi, Seedling, Exquisite, Seedling, Candidate, Seedling, Pizarro, Seedling, and Zabdi.

Seedlings.—From the seedling Pelargoniums, the judges awarded 1 prize to the following varieties: 1st to Kings of 1817, Malaspur (Mr. Gaines), a flower of good form edges of the petals clean and even; the general colour of the flower a scarlet rose, with a small feathery spot in the top petals; and Certificates to the following sorts, seedlings of the present year: Helax (Mr. Beeby), deep maroon top petals, with a narrow margin of light rose, white centre, and painted bottom petals. Telemorphus, Mr. Hoyle, flowers rather small, of fine form, light pink under petals, deep maroon top petals, with a narrow margin of rose; the same to Mr. Hoyle, for a seedling named Flavia (from its near approach to scarlet), a very brilliant flower, little too much frilled on the edges of the petals, akin to a fancy Pelargonium, from Mr. Gaines, named Madame Roxati, ground colour French white, spot in the top petals lighter than the ground colour, and with a spot in each of the bottom petals; and to Mr. Ayres for a scarlet named Brocklands Scarlet, a very brilliant scarlet, with a small white centre, truss compact, and foliage handsome. Mr. Storey exhibited a seedling Fuchsia, named Elegantissima, scarlet tube and sepals, and dark purple violet corolla, a very handsome variety.

On this occasion Fruit was shown, and, as a whole, the display was somewhat imposing. On close examination, however, it was found that quality in many cases had been sacrificed to quantity, a remark especially applicable to Grapes; of which some 15 dishes were shown, and of these scarcely more than one or two surpassed mediocrity. Many of the Pine-apples too, of which there were 33, were not very remarkable either for weight or form, but among them were nevertheless some first-rate fruit. Cherries were generally good, and so were Strawberries. Among the latter we noticed a punnet of Myatt's Mammoth, a variety remarkably large, but reported to be worthless as regards flavour. It is, however, a very late Strawberry, and on that account may find favour with some. We also remarked specimens of the Bicton, a white variety seldom seen. Of Melons there were some 34, most of them green-fleshed varieties; and of Peaches and Nectarines 23 dishes. A collection of fruit, to which a first prize was awarded, was shown by Mr. Ingram, of Frogmore; it consisted of (as far as we could ascertain among the crowd), Black Hamburgh, West's St. Peter's, and Muscat Grapes, the latter not ripe; Mayduke, Elton, and Black Eagle Cherries; Murray and Eliuge Nectarines, British Queen Strawberries, Victoria and Goliah Plums, Violet Native Peaches, and Moor Park Apricots, the latter in a state of good preservation.

Of Pine-apples, Mr. Dodds showed the nine Providences mentioned in another column, and Mr. Chapman again showed his fruit, which was over-ripe and not well formed, but weighed half an ounce more than the fruit to which the 1st prize was awarded, whose weight was 9 lbs. 14 oz. The latter was from Mr. Joy, of Devizes.—Mr. Spencer showed a Providence weighing 8 lbs. 2 oz. and another 7 lbs. 6 oz. Other Providences, as far as they were weighed, ranged between 6 and 8 lbs. Of Queens, a first-rate fruit, but perhaps hardly ripe, weighing 6 lbs. 12 oz. without the stalk, was shown by Mr. Drummond, of Pontypoole Park, who also exhibited other good but inferior fruit to the one in question.—A fruit of the old Queen, weighing 4 lbs. 14 oz, was produced by Mr. Henderson.—Five Queens, all good, but hardly ripe enough, were exhibited by Mr. Fleming, and the same variety was also shown by Messrs. Lawrence, Toy, Davis, and others.

Grapes.—By far the best Black Grapes shown were from Mr. Henderson, who sent three bunches well coloured, which weighed 2 lbs. 1¾ oz., 2 lbs. 7 oz., and 2 lbs. 9 oz. Bunches of the same variety, inferior to these, were produced by Mr. Jackson, of South Lambeth, and others. Of White Grapes, Mr. Davis, of Oak-hill, showed admirable bunches of Muscat of Alexandria; but they were little more than half ripe; they, however, gained the 1st prize. For three distinct varieties, the 1st prize was awarded to Mr. S. Barnes for Black Prince (middling bunches), Black Hamburgh, and White Frontignan. A 1st prize was awarded to Mr. Wright, of Wanstead, for well-fruited Black Hamburghs in pots.

For green-fleshed Melons Mr. Fleming obtained a first prize for his hybrid between the Ispahan and Hoosainee; and for scarlet-fleshed (Busby's) Mr. Weir, of Hampstead, got the 1st prize. For four dishes of Peaches and Nectarines, the 1st prize was awarded to Mr. Parker, of Roehampton, for Violet Hative and Elruge Nectarines, and Gallande and Tawney Peaches; 2d, Mr. Munro, gr. to Mrs. Oddie. For two dishes the 1st prize was awarded to Mr. Snow, gr. to the Earl de Grey, for most beautiful Violet Hative and Noblesse Peaches; Mr. Turnbull was 2d, and Mr. Wright 3d.

The best dish of Cherries (Elton) was produced by Mr. Snow; and Mr. Lydiard, of Bath, sent the best four dishes of Strawberries, which consisted of Alice Maude, British Queen, Elton Pine, and Keens' Seedling. Figs came from Mr. Fogo. Raspberries, Currants, and other small fruits were also exhibited, especially from Mr. Wiltshire, and we noticed some Golden Harvey Apples in a state of good preservation.

Entomological, *July* 3.—Captain Frederick Parry, F.L.S., V.P., in the Chair. A great number of exhibitions of new and rare insects, both British and exotic, took place: amongst which were a number of very beautiful species (many of which were new), from the Zulu country, above Port Natal, collected by Mr. Angers, who has just returned from a tour in that unexplored part of Africa, and has brought home large collections of drawings, as well as ethnographical and zoological collections; a fine series of beetles, from the interior of Ceylon, lately received by Captain Parry; a specimen of Papilio Machaon, which had remained two years in the chrysalis state, by Mr. Ingpen; both sexes of the extraordinary Cyrtosoma Saundersii, from New Holland by Mr. Saunders; a new British Monodontomerus reared from the nest of the Mason bee, by Mr. Newport: Erastria sulphurea, from Suffolk, by Mr. Douglas; and a great number of minute British Lepidoptera, including several new British species by Messrs. Weir, Douglas, Stainton, and Sircom. A paper was read by Mr. Wing, containing descriptions (with figures) of various hermaphrodite Lepidoptera, namely, Celias Edusa, Anthocaris Cardamines, Smerinthus populi, Diaphora mendica, Orgyia antiqua, Acronycta aceris, Biston prodromarius, and Nyssia zonaria; in almost all of which cases the left hand half of the specimens exhibited the characters of the male, and the right side those of the female. Mr. Stainton communicated a paper containing a critical revision of a memoir upon insects by [illegible], published in the last volume of the "Linnæan Transactions." A proposal was read for altering the bye-laws so as to admit a class of members without payment of the admission fee.

Country Show.

Royal Horticultural Society of London. [illegible] held an extra meeting on Wednesday last, for the purpose of exhibiting and [illegible] Roses, [illegible] before which [illegible] the auspices of the Society, and [illegible] has fully warranted the proposal [illegible] ordinary meetings. The [illegible] Roses in our [illegible] Medal, to Mr. [illegible] June. Best [illegible] W. Dowell, Esq., for [illegible] Large [illegible] and Elegans [illegible] Rosy Circle, [illegible] Cornwall, Acidalie, Lucida [illegible] and Rival de Suzeraine. To Mr. Lowry, for Remembrancer, Forget-me-not, Rosy Circle, and Othello. Lord Bear: Bronze Medal to Mr. Lowry, for Tobey's Blest Prince, [illegible] and Hoyle's Mount Etna. [illegible] Mount Etna, Paul's Model [illegible] W. Dunbar, Esq., for Adelaide, Perfection, Rosy Circle; [illegible] to Mr. G. C. Paul, for [illegible] Rosa mosa, Hoyle's Isabella, and Paul's Rosy Circle; [illegible] to Mr. Lowry, for Magnet, Venus Queen, and [illegible] ling, Mr. Parnham, [illegible] Hoyle's [illegible] best six in pots, Mr. Parnham, [illegible] Mount Etna, Hoyle's Isabella, Mrs. Lowry, Queen of Beauties, and Paul's Rosy Circle. Best 12 cut flowers, single blooms, Mr. Parnham, [illegible] d'Auvergne, William Jesse, De [illegible] Adolphe Coquette, Belle Marie, [illegible] Schmaker, and Magna Rosea. 2d, Mr. W. [illegible] hamet, Yellow [illegible], Auburn, Comte [illegible] Charles Duval, Lucida, William Jesse, and [illegible] Williams, Esq.: La Vida de Rosamonde, [illegible] White Bijou, Hippocrate, Glory of the Garden, [illegible] William Jesse, Commodine, Orange, and La Reine. Mr. Symmons and Mr. Parnham, [illegible] gained prizes for cut flowers. Some extra prizes were also awarded.—Gardeners' Chronicle.

Reviews.

Fish in Rivers and Streams. By Gottlieb Boccius. London: Van Voorst, 1848.

This is a very interesting book on a subject which is at the heart of every true angler, and one that ought to excite the sympathy of those who will increase the amount of healthful food for all classes of society. The author is in the best sense of the term a practical man. Not only has he devised what he believes to be a sound theory, but many years of actual trying have proved that theory to be good. His own words speak his real design in this fresh fruit of his observations.

"In again taking up my pen to give such information as I can on artificial spawning, breeding, and rearing of fish, I trust that the number of years in which I have practised this art with perfect success will warrant me in attempting to show how rivers and streams may be restored to their former productiveness, upon simple, cheap and unvailing principles, so that there never need be a scanty supply of fresh-water fish as an article of food."

Dr. Johnson loved a good hater. We admire an honest enthusiast. It is to true enthusiasts that we owe our principal social improvements, and the author is one of them. He writes con amore. He is no indulger in day dreams, however—the Cuvier test is to his success; and it is surprising what a mass of general principles, minute particulars, valuable knowledge, and equally valuable conclusions he has compressed within less than 40 very readable pages. For all these matters we must refer our friends to this excellent little book itself, for we have no space to do justice to its well-arranged argument and details. The great inference, however, after perusal, will force itself upon every reader, that whether in respect to public or private advantage, the author's principles are equally sound and good, for he speaks only truth when he says: "If my data be looked into—and if they are they will bear investigation—and if my system be carried out by owners of fisheries, we might well calculate upon a greatly augmented increase of employment, a new source of revenue, and a large supply of wholesome food at a price so reasonable as to bring it within the means of the poorest classes."

Miscellaneous.

Green Centres in Roses.—I think you will agree with me that the causes of the tendency of many Roses to give bunches of leaves instead of flowers, in short, to become viviparous, should be better known than at present they seem to be. Complaints upon complaints are forwarded every year to the gardening periodicals: and I confess that I think the answers in some instances are far from being satisfactory. Sudden changes of weather, wet after a duration of dry weather, or hot forcing weather after much rain, have been generally assigned. Now, we are always subject to these changes of weather in this variable climate, and should be prepared to counteract their effects. Some seven years ago, on my first essay as a Rose cultivator, I laboured under the delusion that if the plants were induced to grow vigorously, I must have in time fine flowers. I obtained about 100 varieties of the best Roses then known, and set to work. At the bottom of each hole I threw in a good shovelful of fresh cow-manure, then some strong soil mixed with an equal quantity of hot-bed manure: on this the Rose was planted, the hole filled up with more prepared soil, and the whole topped

up with another good large shovelful of the same fresh cow-manure. All were similarly treated. Oh, how they did grow that summer! Eight or 10 of the most vigorous Hybrid Chinas (Brennus, &c.) did not give any flower-buds at all. The rest did. But where I expected to have seen flowers, nothing but ugly green clusters of leaves made their appearance. Of course, like others in distress, I complained of them to the *Gardeners' Chronicle*. The reply accused me of having given them too much manure, and that in too fresh a state. It was impossible to have received a better answer. Most assuredly that was the true reason. I have acted upon this ever since with perfect success. Every Rose that exhibits the slightest tendency to produce green centres has a mark placed against its name; and when the manuring time comes round, I either cut off the supplies altogether for the year, and content myself with giving the soil around the roots two good soakings with weak liquid manure—the first, when the young shoots begin to appear, the second, when the flowers are on the point of opening; or else I remove some of the soil around the roots, and apply fresh. Should any manure be considered necessary, a portion of old cow-manure, turned to soil, is given. Having added, every year at least, 50 fresh Roses to my stock, all the best varieties of every class have come under my notice, and this treatment has almost invariably succeeded. Madame Hardy and De Neuilly will flower here without any green centre whatever; and Charles Louis, a beautiful Rose but for this fault, is reduced to good behaviour, although he cannot in every instance forget his bad habits. Though I heard on all sides last year complaints of the abundance of green centres, yet my Roses flowered most perfectly, with one solitary exception—Great Western. This Rose did not grow sufficiently well during the summer of 1845; therefore, the following February some new manure was forked in around it, hence the cause of the green centres. I think I have now sufficiently shown that the indiscriminate use of manure is the principal cause of the development of bunches of leaves, instead of perfect flowers, in that most lovely of all shrubs, the Rose.—*A Rose Amateur, in Paul's Appendix to the Rose Garden.* [It is probably the azotised matter in the manure that does the mischief.]

Calendar of Operations.

(For the ensuing Week.)

A THOROUGH revision of plants belonging to the greenhouse should now take place, with the view of affording them a final shift for the season, repressing irregularities of growth, and giving, where necessary, support by judicious tying. The obvious reason for shifting during the summer is, that before the approach of winter the plants may possess a sufficient mass of roots to support them through that trying season. While no direct deviation from the principles of superior culture can be allowed, the rule should be considerably modified to meet peculiar circumstances. Many are restricted in space, and cannot afford to encourage large pot specimens; it thus with them becomes necessary to adopt a system of treatment which produces a plant small in size, but at the same time exhibiting all its most elegant characteristics. Allow conservatory border plants the full advantage of favourable weather, that a compact hardy habit may be produced. Regulate the shoots of Mandevilla suaveolens, the Passifloras, and other climbers, and see that adequate supplies of water are given and insects repressed early. Azaleas may still be kept in activity, syringe them daily. Attend to stopping. *Stove.*—Encourage the forward progress of the young stock for winter blossoming, maintain a moist and comparatively high temperature. *Orchids.*—An increased circulation of air may be allowed during bright weather, that succeeds a period of gloom, the humidity constantly stagnant will otherwise have an injurious effect.

FRUIT FORCING.

Vineries.—In damp and gloomy weather it will be advisable to employ fire heat, and so to induce a brisk circulation of air in the house, to carry off the excessive humidity, which otherwise is liable to condense upon the bunches and spoil the bloom. Maintain an uniform high temperature in the Muscat house, and attend to tying up shoulders and thinning the late crops *Pineries.*—Increase the amount of air as the fruit approaches maturity, and restrict the supplies of water; maintain a steady temperature, with considerable atmospheric humidity, in the succession fruiting pits; remove and pot suckers; shift succession plants as they require it; do not allow the heat to decline materially in the dung linings, the variable nature of the weather at present demands the precaution. *Figs.*—Less than the average amount of atmospheric humidity will be sufficient as the fruit ripens, otherwise before they reach maturity they will turn mouldy; the roots must be well supplied, and a little dung-water added once a week, to help the second crop.

FLOWER GARDEN AND SHRUBBERIES.

The value of a good stock of plants in reserve will now, as the Phloxes, Campanulas, and Rockets decline, be fully appreciated. Delphinium cæruleum may be pricked out to continue the effect of the tall Campanulas. Zinnia elegans, the German Asters and Stocks, will assist effectually to fill up the vacancies caused by the removal of bulbs or early flowering annuals. Attention will be well bestowed at this moment upon bedded out plants—deficiencies should immediately be made up, and stakes supplied to feeble plants. Ageratum mexicanum should be constantly pegged down, as also some of the taller Verbenas. Decayed blossoms should be removed from Perpetual Roses, and the young wood cleansed from insects. Attention to the trees at this moment will ensure a good autumn bloom. Continue to propagate Picotees, Pinks, and Pansies. Clip Box edgings in cloudy weather, bud Roses, mow and roll lawns, and follow up assiduously the extirpation of weeds.

FLORISTS' FLOWERS.

Carnations and Picotees will now demand constant attention; the aphis or green fly must be kept down, and we have never been able to discover a more effectual preventative than Scotch snuff, applied early in the morning when the dew is on, or after a shower of rain, when these pests will be found congregated on the underside of the bud; the same application will also be found a preservation against the small black shining insect which intrudes just within the points of the calyx, and eats away the colour from the petals. The best means of application is to get a bottle of Indian rubber, which may be obtained of any stationer, in the neck of which insert a small tube, a piece of tobacco-pipe will answer well, round which some waxed twine must be tightly bound. This drives the snuff with killing effect on the enemy, and does not in any way injure the bud; it will not be advisable to apply it after the flower has at all expanded. Seedlings should be immediately pricked out, shading them and watering when necessary till they have taken fresh root. Pipings may be struck on gentle bottom-heat, shading from the direct rays of the sun. *Pinks.*—Fertilise those intended for seed, taking especial care that both parents are rose-leaved, with as many good qualities as possible. Continue to put in pipings. Tulip seed may now be gathered where the stem has become yellow between the capsules and the roots. The latter may be taken up. *Dahlias.*—Attend to watering with weak liquid manure; mulch round the roots, and insert small sticks, to which the laterals may be tied when sufficiently long. Entrap earwigs on every opportunity. *Ranunculuses.*—As the Grass turns yellow take up the roots; do not wait till the whole collection is ready, or else those which have arrived at maturity will again have begun to grow, which will most likely cause their destruction. *Annuals and Polyanthuses.*—Because these are out of flower do not forget them. Weed the pots; keep them free from aphis, and water as they need, bearing in mind that in spring they will well repay for any extra attention now bestowed on them.

KITCHEN GARDEN AND ORCHARD.

Under the apprehension of the reappearance of the Potato plague, for which it appears there exist grounds, let an abundant supply of Brussels Sprouts, Green Kale, Savoys, and Broccolies, be planted. The early Potato quarters may be thus occupied. The crops of Peas and Beans will be increased by stopping. Ridge out a good proportion of Celery, and slightly earth-up the early ridges. Cabbage sown at this time will afford a late and very useful supply of young heads. Sow Cauliflower and Walcheren Broccoli. Prick out Endive, Lettuces, and Leeks. *Orchard.*—Look over espalier Pear, Apple, and Cherry-trees at least once a week, and pursue the system of stopping and shortening the shoots; the removal of superfluous wood may also be effected at this moment with advantage to both the tree and fruit; it is always advisable to afford the latter the advantage of a full exposure. Let the shoots of Peaches, Apricots, and Plums, be laid at once to the wall. Proceed with the layering of Strawberries for forcing, and let them be kept watered. Fruit trees generally may now be budded.

State of the weather near London, for the week ending July 6, 1848, as observed at the Horticultural Garden, Chiswick.

June, and July.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 30	●	29.615	29.538	67	37	52.0	S.W.	.03
Satur.. 1	1	29.783	29.530	65	40	52.5	N.W.	.04
Sun. .. 2	2	29.876	29.838	68	50	59.0	W.	.07
Mon.. 3	3	29.813	29.728	67	52	59.5	S.W.	.29
Tues.. 4	4	30.137	29.940	73	48	60.5	E.	.00
Wed.. 5	5	30.186	30.121	82	50	66.0	S.	.00
Thurs. 6	6	30.085	29.969	83	59	73.5	S.	.00
Average...		29.948	29.809	72.8	48.0	60.4		0.48

June 30—Overcast; rain; showery; cold at night.
July 1—Clear and cold; cloudy; clear and cold.
— 2—Fine; cloudy; partially overcast.
— 3—Drizzly; overcast; rain.
— 4—Overcast; light clouds; overcast at night.
— 5—Fine; very fine, with scattered white clouds; clear.
— 6—Very fine, with bright sun; very hot throughout; clear.
Mean temperature of the week, 3½ deg. below the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending July 15, 1848.

July.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 9	73.5	51.2	62.4	6	0.57 in.	3	1	—	—	2	6	3	3
Mon. 10	74.3	51.8	63.0	6	0.36	—	1	1	3	11	3	3	
Tues. 11	74.6	52.6	63.6	6	0.71	2	—	2	—	4	5	5	4
Wed. 12	74.1	52.0	63.0	10	1.10	—	1	1	—	3	6	6	5
Thurs.13	74.4	51.9	63.1	9	0.60	—	1	1	—	3	8	8	1
Fri 14	75.9	51.3	63.6	8	1.16	—	1	1	—	3	8	8	1
Satur. 15	74.9	51.0	62.9	11	0.15	1	2	2	—	3	8	7	1

The highest temperature during the above period occurred on the 14th 1847—therm. 93½ deg.; and the lowest on the 13th, 1810—therm. 41 deg.

Notices to Correspondents.

TO OUR CORRESPONDENTS—May we beg it to be understood that we cannot answer inquiries privately through the post. We are ready to give any reasonable information in our power through our columns; but we cannot consent to the labour of writing letters.

APPRENTICE FEES—*A Yorkshire Gardener* will find upon consideration that this subject may be looked at in more ways than one. We may perhaps advert to it in a special manner.

BOOKS—*J S*—Try the "Manse Garden." If you will state what sort of gardener you want, in complete detail, the age, religion, &c., which you require, and the wages you give, we will try to find one for you.

EMIGRATION—*Zealand*—Apply to H. F. Alston, Esq, 41, Charing-cross.

FORCING AZALEAS, RHODODENDRONS, &c.—*Δελτα*—As you do not desire novelty in this matter, but appear to be taking "first steps" in forcing, we would advise a first attempt with the American deciduous Azaleas in the main. The old yellow or ponticum, and most of the varieties of the nudiflora or nosegay class, are very easily managed. We would also add some of the hardier Indian or Chinese Azaleas, such as indica alba, phœnicea, &c. Amongst Rhododendrons, a beginning might be made with any of the varieties of R. ponticum or catawbiense which are well set for bud. Let care be taken, however, that the buds are of a decisive character; malformations do not force well. Perfect buds and decided rest are absolutely necessary.‡

GRAPES—*Este*—The two bunches of Grizzly Frontignans are attacked by "rust," a disease the real origin of which is uncertain, but which appears to be caused by some check to the growth at an early age.——*R R*—Yours is a very bad case of mildew, caused by the attacks of Oidium erysiphoides. Sulphur has been recommended, but we have no faith in it, nor do we know how to stop the progress of the evil.

INSECTS—*B W G*—The caterpillars are those of the common peacock butterfly, which feeds on Nettles, and are not injurious. *W.*——*R J*—Place small bits of raw meat on the floor, which will attract the ants, which may be destroyed by dipping the meat on which they have collected into boiling water. Spirits of turpentine poured into their nest, and then covered over with a cloth, will destroy them. *W.*——*D*—See the last reply. *W.*——*A W G and T D J*—The Rose leaves are eaten by the larvæ of a small black saw-fly, most of which have now disappeared for the season. Syringe the trees well with lime-water or tobacco-water repeatedly, and then with clear water. Your chief object should now be to cause the trees to throw out fresh shoots and leaves. *W.*——*T D and W C T*—The unopened ears of Barley have been attacked by the larvæ of a species of Wheat-fly (Chlorops sp.), against which we fear there is little remedy, except changing the crops. *W.*——*J S*—You have wasted a deal of time in killing the humble bees, which are harmless creatures. There are upwards of 40 British species. The black one with a red tail is Bombus lapidarius, the orange one is B. muscorum, and the large black with yellow bars is B. terrestris. A work containing short descriptions of the 10,000 or 11,000 British insects, with all the particulars you ask for, would be too expensive for any publisher to undertake, and most of the English entomologists have lost too much already by their publications. Stephens's "Nomenclature," or Curtis's "Guide," gives a list of the names of the British species. Your specimens were smashed to pieces in the post, and there were no numbers or labels to them. *W.*——*M J E*—The gall at the root of the Oak is caused by the puncture of a species of Cynips. The gall appears different from that formed by C. aptera in the same situation. *W.*——*J K*—The insect sent is Necrophorus Vespillo, the burying beetle, which feeds upon carrion, which it buries for the food of its young. *W.*——*A H*—Pour boiling water or spirits of turpentine into the ants' nests, and then close them down; also watch for the period when the winged ones swarm (which will now speedily take place), and then destroy them. *W.*——*H W*—Pounded Laurel leaves put under a close vessel will speedily kill butterflies without injuring their plumage. *W.*

NAMES OF FRUITS—*C Parsons*—Gooseberry Pippin Apple. ‖

NAMES OF PLANTS—*G S*—Cotyledon umbilicus.——*A B*—Asplenium major.——*J T*—Broussonetia papyrifera.——*P W J*—It is the Rosa mollis of English botany, a variety of R. villosa——*Sylvanus*—Buddlea globosa, and Heaven knows what, it looks like a fragment of some kind of Ash tree.

ROSES—*Delta*—There are no evergreen perpetual-flowering Roses. The kinds most so, and best suited for your purpose, are the following:—*Hybrid Perpetual*—Duchess of Sutherland, Jacques' Lafitte, Marquis of Ailsa, Mrs. Elliot, Robin Hood. *Bourbons*—Bouquet de Flore, Imperatrice Josephine, Lavinie d' Ost, Madame Lacharme, Marquise d' Ivry, Pierre de St. Cyr, Souvenir de la Malmaison, Triomphe de Plantier. *Rose de Rosamene*—Eclair de Jupiter, Gloire de Rosamene. *Noisette*—Aimée Vibert, Desprez, Du Luxembourg, Fellenberg, Grandiflora, La Biche, L'Angoime. Prudence Rœser, Pourpre de Tyre, Solfaterre. These Roses may be budded on the Boursault stocks already planted, which are in your case better than Briars. By great attention and judicious management they may be made to cover the wall without the intermixture of Ivy. Should you require any addition to the stocks already planted, try the Manettii Rose and some of the freest growing varieties of Rosa sempervirens.‡

ROYAL IRISH HORTICULTURAL SOCIETY—Communications respecting this body continue to reach us, and we take this opportunity of thanking the writers. It is, however, a mistake to suppose that we are actuated by any other feeling than an anxious desire to promote the true interests of the Society, as well as of the gardeners in communication with it. The Society is very ill advised if it is told that our views may be safely disregarded. Some of our correspondents will understand these hints.

VINES—*A Subscriber*—The brown or pale spots on your Grapes are the seat of swarms of spawn belonging to some mildew fungus; to what we know not. There is nothing in the appearance of the Grapes or foliage to suggest the cause of the attack; both seem to be otherwise most healthy.

MISC—*M C*—Your Chrysanthemum leaves appear to have been attacked by some mining insect, which has escaped.——*D B*—Galvanised iron labels are the best yet known. They may be seen in the Apothecaries' Garden, Chelsea. There is no recent edition of the "Hortus Britannicus," but there is a supplement (just out) to Paxton's Dictionary. Gardeners can have the "Journal of the Horticultural Society" at trade price, upon applying to the Vice-Secretary. Gladiolus, yes; it is in type.——*P P C*—The Pink, of which the Carnation is a variety, is a coast plant; therefore sea sand may be employed in its culture with advantage; but it should not be taken from below high-water mark, or if it is, it should lay for some eight or twelve months before it is used. We cannot give proportions without knowing the sort of soil to be mixed with it.‡——*E S*—Common rat-trape.‡——*C C*—It is unusual for the Ash-leaf Kidney Potato to bloom and produce seed. Such will hardly take place under common circumstances.‡——*Amicus*—Your Pelargonium leaves are affected by the soot mildew—Torula fumago. Washing with lime water will sometimes remove it.——One shilling each will be given for No. 21, 1846; and 20, 1847.

SEEDLING FLOWERS.

PELARGONIUMS—Foquett's Magnificent. This is a flower rich and splendid in colour; there is a very slight tinge of blue in the centre, which appears to increase its brilliancy; the bottom petals are rosy vermilion, and the upper petals have the deep blotch surrounded by rosy crimson, and the spot leaves off abruptly towards the centre; the petals are stout, of a good shape, and indicate good general form.*——*C W*—No. 1 is common in colour, and the under petals are too long, it is inferior to the show flowers of the present day; 2, white Pelargoniums with plum-coloured spots are not valued, nor are they admitted into the best collections; a tinge of plum colour spreads over the whole flower.*——*G W*—Your flower is too small, and the under petals are too narrow.*——*R C*—Your seedling is a large and good flower, but not of a superior order; white centre, pink under petals, with a small rosy purple spot in each; top petals dark, with a margin of rosy crimson.*——*M M*—None of your seedlings are first-rate varieties; the largest is the best, the approach to scarlet being attractive, but the spot in the upper petals wants depth and decision; this and the other flower having richer top petals, is a showy variety also; these are the best, the others are common in colour and less perfect in form.*——*J W*—Your flower is very poor in colour.*

TO BE LET ON LEASE, ARABLE FARMS, within 4 miles of Harwich, in the county of Essex.

1. THE POUND FARM, in the parish of Dovercourt, consisting of 94 acres of Arable Land of the best quality, with a good and substantial Farm-house and all necessary Farm Buildings. To be entered upon next Michaelmas.

2. THE MILL-HOUSE FARM, in the parish of Ramsey, consisting of 87 acres of Land of excellent quality, with a good Farm-house and all necessary Farm Buildings. To be entered upon next Michaelmas.

3. THE RAY-ISLAND FARM, in the parish of Ramsey, consisting of 188 acres of Arable and Pasture Land of excellent quality, some of it being alluvial and capable of great improvement. To be entered upon next Michaelmas.

Leases of 7, 14, 21 years, on a corn rent, may be granted under certain conditions.—To view these Farms, apply to Mr. MALPAS, at Michaelstow Hall, in the parish of Ramsey; and for the Conditions on which Leases will be granted, and for the terms of occupation, apply to Mr. JOHN MORTON, Whitfield, Berkeley, Gloucestershire.

The Agricultural Gazette.

SATURDAY, JULY 8, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

TUESDAY,	July	11	Meeting of the Agricultural Society of England at York.
WEDNESDAY	—	12	
THURSDAY	—	13	
THURSDAY	—	13	Agricultural Imp. Society of Ireland.
TUESDAY	—	18	Agricultural Society of England.
THURSDAY	—	20	Agricultural Imp. Society of Ireland.

FARMERS' CLUBS.—July 10: Yoxford.—July 11: Debenham, Bakesworth, Hadleigh, Wakefield, St. Austell.—July 15: Reading, East Kent.—July 17: W. Market.—July 21: Wadebridge.

We have already referred to the practice of SPADE HUSBANDRY, and to an experience recommending the trial of it on large farms, either in places where horse cultivation may be inconvenient or in the case of those crops, Carrots, for instance, where it is confessedly imperfect. Let us now consider how far it may be applicable, to the entire exclusion of horse-power, on such small farms as may be placed in suitable circumstances.

Having for some years occupied a spade husbandry farm of about 20 acres, in a neighbourhood where labourers are sufficiently numerous, we can speak from experience on this point. The following is a statement, in round numbers, of the results on this farm for 1847.

Profit on the Grain crops				£55	0 0
Profit on the green crops, including 5 acres of Potatoes (sold), 2 acres of Carrots (sold), and 3 acres of Mangold Wurzel (part sold)				50	0 0
Total profit				£105	0 0
From this is to be deducted					
Rent and taxes	£47	0	0		
And that portion of the dormant capital account chargeable on the current year	18	0	0	65	0 0
Leaving a net profit of ...				£40	0 0

Which is 16*l.* per cent. upon the capital (250*l.*), employed on the farm.

If it be objected to this that the crop was for the most part sold—not consumed on the farm—and that the system of husbandry followed cannot, therefore, be considered a self-sustaining one, we may reply that upwards of 30*l.* worth of guano, bone-dust, &c., were purchased during the year, and that this, with the manure made in feeding about 300 stones of beef, sold off the farm during the year, was amply sufficient to maintain fertility. Indeed the crops now growing indicate an increase rather than diminution of fertility in the land, as the consequence of its treatment during the past year.

We may mention here, by the way, that we believe a system of green manuring (perfectly practicable in South England), united with the purchase of artificial fertilisers, will maintain fertility, though all the crops be sold off the land. We believe, for instance, that where the preceding Wheat crops shall have had Italian Rye-grass sown amongst them for digging into the land during the following April, good crops of Turnips or other roots may be always obtained without the use of farm manures—bone-dust or guano taking their place. The union of "green" with "artificial" manuring in this way may, we believe, be made to render the farmer almost entirely independent of home manures: and we know that there are many cases where the practice, if proved politic, would certainly be profitable. Of course it can only be adopted where the land is kept clean and well cultivated, and may, therefore, be especially, perhaps exclusively, applicable to spade husbandry farms. The digging in of green crops, such as Rye or Rye grass, or Rape, and the occasional consumption of stubble Turnips or other "stolen" crops on the land, though practised as preparing the land for fallow crops which are to be sold off the land, will, we believe, if these be well manured with bone-dust and guano, and well cultivated during their growth, restore to the land more than has been taken from it.

To return, however, to the farm in question. Another important item in its history for the year is furnished by its labour bill. About 6*l.* per acre were paid upon it as wages during 1847; a sum so large that any mode of agriculture profitable to the farmer, and yet involving such an expenditure for labour, might well be considered desirable in thickly-populated districts. How desirable would it not be in many parts of Ireland, where men have famished not more for want of food than for inability by labour to procure the means of its purchase.

We have to add to this short notice of our experience certain details of expenditure which correspondents have inquired for. Stubbles on still land may be dug with the grafting tool 14 inches deep, and laid in drills 2 feet wide, and as high as the earth will lie, for from 2½*d.* to 3*d.* per perch of 5½ yards square. They may be dug flat with the common spade, about 6 inches deep, for 1½*d.* per perch. Land, if already once dug, may be forked over, from 8 to 10 inches deep, for 1*d.* per perch. The intervals between rows of Carrots or other roots, 18 to 20 inches apart, may be forked over for 1*d.* per perch These intervals may be hacked over with a heavy hoe, as for Potatoes, for 6*s.* to 8*s.* per acre. Potatoes may be earthed up for 4*s.* per acre. They may be dug up at harvest time for from 1½*d.* to 2½*d.* per perch, according to the nature of the land, the depth of the planting, and the excellence of the crop. These are the principal units required to guide calculations of the expense attending manual cultivation. Take the following as an instance:—A Carrot crop would require a deep digging in autumn—a hacking over in spring, the manure being previously sown broadcast over the drills—an earthing up to form the drills again, on which the seed may then be sown—a hand-hoeing to single the plants—a hacking between the rows while the plants are still young—and a digging with the fork between the rows before the intervals are covered by the overhanging leaves. Thus the cost of this crop in cultivation alone, and leaving out the operations of sowing and harvesting, would amount nearly to 6*d.* per perch, or 4*l.* per acre.

But we need not multiply instances to show the large amount of labour which spade husbandry involves, nor thus enlarge upon what is no doubt the highest merit of the system, provided its returns shall prove in the long run to exceed its expenses. And, where accustomed hands to guide it, and abundant leisure for superintendence, and sufficient capital, meet in a district where labourers are numerous and land good, we believe the system to be capable of yielding higher profits, both per acre and per cent., than are commonly met with on large farms where horse husbandry prevails.

THE IRISH AGRICULTURAL INSTRUCTION SCHEME.

SOME time ago an idea was conceived and set forth, that to engage practical instructors for the Irish farmer in the remote and impoverished districts of Ireland would be attended with great advantages not only to the farmers themselves, but to Ireland and the United Kingdom generally. The idea was most wisely acted upon by the Earl of Clarendon, Lord-Lieutenant of Ireland, and so far as the instructors' influence could go, has, to speak generally, been successfully carried out. And the consequence is, improved crops have been got in where such had been rarely more than heard of before; but as if to add a new blight to the poor people's prospects, these practical instructors are now called home, at the precise time when their services could be most efficiently applied; for in Ireland the difficulty is much less to get men to commence an experiment than faithfully to carry it out; nor is this fault confined to the poor ignorant squatter on half-a-dozen acres of a bog or mountain, being evident in the conduct of some of the most wealthy proprietors, who attempt farming for show more than profit, and thus perpetuate the evils which they profess to remove.

I beg to assure you, and to assure the public through your pages, that the labours of the practical instructors throughout Ireland will be entirely abortive if they are removed now on the supposition that those who have been by their teachings influenced to sow green crops will succeed, as nine out of every ten of such people will not, because they know not how to clean, weed, hoe, or thin them. And being thus disappointed in their expectations, founded on the preachings of the practical instructors, that it will be much more difficult to get such people to attempt such cropping next year than it was in this—for such is the case this year with those who made attempts at improved cropping last year, and were disappointed because of not knowing how to proceed either with the after culture of such crops or their judicious application for cattle feeding. Therefore let not your countrymen for a moment suppose that because so much seed has been given out by the British Association and others; and because they will be told that so many thousand acres of green crops have been under cultivation, that corresponding returns may be reasonably expected. And this brings me to another point—the statistics of 1847, than which nothing could be less perfect, owing principally to the machinery employed in obtaining the returns.

The police, next to the driver bailiff or process-server, are looked on in Ireland, by the farmers generally, with the utmost suspicion, horror, and hatred; and hence it was that in 99 cases out of every 100 they were never told a single word of truth relative to the quantity of land under crops, the varieties of crops grown, or the probable acreable produce of such crops; and hence all the discrepancies, irregularities, and misstatements contained in the report "presented to both Houses of Parliament by command of her Majesty," some of which I will notice specially to you hereafter, if you deem it of service. In the mean time I would suggest that as the agricultural statistics of any country is a matter of grave importance, the more especially of such a country as Ireland, as, having nothing but her agriculture to depend upon or to aid England in the support of her paupers, her abilities to do the one and the other should be correctly ascertained by every government worthy the name. Now my suggestion is this, that these practical instructors be left out where they are to assist by their advice in the cultivation of the crops which they may have induced the people to sow, and that they be also made instrumental in obtaining correct agricultural statistics, and thus confer a real instead of an imaginary benefit on the community.

Let it not be supposed that in commenting on the police I had the least idea of reflecting in any way on Captain Larcom, who did the best he could under such circumstances; neither let it be supposed I am a party interested in the thing one way or the other. I send you my name and address, which you are at liberty to give to any respectable man who may be disposed to doubt the truth of what I state, or question the value of the suggestions which I offer thus humbly.—*An Irishman.*

LETTERS ON RAILWAYS AND AGRICULTURE, IN LINCOLNSHIRE.—No. VIII.

IT must not be inferred from the account I have given of the Brocklesby tenants, that they are exceptional in position to the tenantry in North Lincolnshire. In numbers, wealth, and intelligence they are only to be equalled (if equalled) on the estates of the Duke of Sutherland, the Earl of Leinster, and the Duke of Buccleuch, but throughout North Lincolnshire you find the same stamp of men flourishing on the land of wise and liberal landlords. The customs and traditions of the county are in the right direction, and custom is stronger than law. Good landlords make good tenants, and it is not any peculiarity in the soil that renders the district flourishing, but the due relationship which exists between the landowner, the tenant, and the labourer. Certain broad and equitable principles have been accepted by universal consent all over the district. The tenants are expected to have a due amount of capital; the landlords are prepared to provide proper farm buildings, to contribute in due proportion towards draining and other permanent improvements. The result has been a constant flow of capital and direction of intellect towards Lincolnshire farming. There has been much discussion lately upon the subject of tenant farmers' tenure, a subject on which discussion cannot fail to do good. What I saw in Lincolnshire compared with what I have seen in other counties convinces me that for agricultural tenures there can be no universal rule.

Custom and confidence in families—in the Rutlands, the Yarboroughs, the Chaplins, the Drakes—effect in Lincolnshire what leases do in the Lothians. A lease may ruin a tenant; it may also make his fortune. Tenants must learn to depend on their own foresight and calculations. Legislative dry nursing can never rear a healthy race of agriculturists. But this is no argument against granting a lease to a substantial tenant willing to accept one.

It is not a tenant's place to build or effect permanent improvements; he can in all ordinary circumstances employ his capital on the land and in the fold-yard more profitably. With respect to the unexhausted improvements, by manures, &c., some experienced farmers are of opinion that an agreement for an invariable 18 months' notice to quit, instead of six months—a fixed allowance for purchased manures (taking, for instance, bones as good for three years, and so on, a per centage paid the landlord on draining—farm buildings be made perfect and put in repair on commencement of tenancy by landlord, and kept in repair by tenant, with a few other arrangements of the same kind—would be better than any lease.

There are three points which interfere with improved cultivation—want of capital, which leads a landowner to wish a tenant to do what he ought to do himself—a desire for political influence, in addition to rent; and game reservations.

On the other hand landlords suffer from tenants without sufficient capital and without character. A tenant may always learn the character of a great landlord, and his agent, which is of more importance, but it is not so easy to learn the character of a tenant. To expect political influence beyond what personal popularity will obtain is simply to sacrifice so much rent. As to game there is a great deal of low cant abroad, mixed, however, with some little truth about it. Game is very plentiful in North Lincolnshire. I never saw it more plentiful anywhere: and I did not meet with one among scores of tenant-farmers who objected to a reasonable head of game. Give them leave to keep down the hares and rabbits—and the tenant who does not insist on this is very foolish—and they do not object to partridges and pheasants, except in thousands for the sake of the battue.

In a very few years the daily increasing intercourse

among farmers will lead to a general knowledge of the principles necessary to be observed for a mutually advantageous bargain for cultivating land. Good tenants will be only to be had on fair terms, and, if I mistake not, good tenants are more valuable every day. Acts of Parliament will only make work for the lawyers, who have too much out of the land already. Railways will render communication between the different counties easy—public opinion will act on all parties with advantage. The absurd restrictions of old leases will be put in the fire, and no man of sense and capital will constitute himself a bare tenant at will without custom or confidence to lean on. But in agriculture, as in everything else, any legal meddling that impairs foresight and self reliance is injurious. Every farmer can reduce tenant right to a personal agreement suited to the farm, before taking a farm, much better than a general statute.

It seems to me that the Royal Agricultural Association might with great propriety and utility collect and publish a report of the various tenures under which land is farmed in this country. It would be well, too, if they engaged some thoroughly competent party or practical farmer, of sufficient scientific and literary ability, to collect and edit, with notes, the sketches of agricultural progress in different counties which have, from time to time, appeared in the "Journal of Transactions," so that we might learn the advantages and deficiencies of culture throughout the kingdom. Such a work would be a matter of time and expense, but of the greatest possible practical value, especially if sold at a reasonable price.

The custom of hiring servants at annual statute fairs still prevails in Lincolnshire. Many respectable people wish to put an end to these fairs, but the peasantry insist upon them, well knowing that there are not too many holidays in England. The 1st of May is the grand statute day, and being on that day at a farmer's who had some hiring to do, I rode up with him to a village on the Wolds where the fête was to take place. It was a beautiful warm day: a favourable season had brought out the green and bloom of hedgerows and banks along the road from every lane and path, the lads and lasses came tripping along in their best attire, lively, healthy, and comely, fit studies for a Wilkie or Mulready. In these remote parts we get a little gay variety of costume, which in such scenery pleases the eye better than the universally dingy garments of a town population. The smock-frock is being replaced in the northern districts by velveteen and fustian, an improvement both for appearance and for activity. As you get down toward Lincoln, the smock-frock, generally blue, reappears, and with it a more clownish, slow moving peasantry than the inhabitants of the northern Wolds. The prevailing costume of the lads able to earn wages as ploughmen, was a round-crowned black felt hat, a coloured shirt with a gay handkerchief tied loosely round the throat, a ruby or violet-coloured velveteen shooting jacket, a double-breasted party-coloured waistcoat with glass buttons, fustian trousers invariably turned up at the bottom to display a pair of stout laced boots, all the attire seeming stiff and new, and the owners rather uncomfortable in them. The faces under the felt hats were plump, sunburned, and freckled, with fair hay-like hair, blue eyes, and a simple not unintelligent expression. The height of the men seemed rather above average, and their walk less lounging than in strong clay countries. The girls were fresh, rosy, and fair, but female fashions travel so fast now that their costume had no pleasing peculiarity; there were smart shawls and black visites; I should have preferred one of the old scarlet cloaks. The village, which stands under the shadow of Brocklesby woods, was enlivened by half-a-dozen orange and gingerbread stalls, a stray organ, and a fiddle. The sun shone hot on the white chalky road; the green woods on the one side, the neat whitewashed cottages and country inn on the other; the farmers and their wives riding on well-bred nags, the lads and lasses crowding round the stalls, the groups of bargainers, the pleased faces of those who having hired were about to spend the "binding half-crown," made up a famous rural picture, for scenery and good looks not easily to be equalled; but I must own that, under the same circumstances in France or Germany, the beautiful turf under the shade of the trees would have been enlivened by a dancing party.

The wages ranged from 8*l.*, for youths of 16, to 14*l.* a year, with board and lodging. My friend engaged a youth of 20, as ploughman, at 14*l.* a year. Two, a ploughman and a waggoner, were engaged to go into a part of Cheshire where wages are lower and the labour dearer. All the best farmers agree that cheap labour is not worth having.

I was sorry to find the state of education not satisfactory. The children earn wages so early that they are independent of their parents. It is difficult to find among the best farm-labourers a man who can read and write fluently. This information I had from a gentleman who had been trying to obtain an overseer for a farm in a benighted part of the kingdom. He found plenty of men with practical skill, but no more writing than would make a mark. A clergyman who has taken great pains in establishing a school near Louth, told me that he had the greatest possible difficulty in collecting a reasonable per-centage of the village boys to receive education gratis. The children were moral, all under the control of their parents. If asked why some aged 7 were not at school, the reply would often be, "He wunna go," and that, as with the cottagers of Glenburnie, is considered a sufficient answer. Most boys, gentle as well as simple, prefer roaming the fields, halloing, and birds-nesting, to the drudgery of A, B, C, but when to the pleasure of air and liberty, wages are added, the preference of the Lincolnshire urchins for field work over school work is not at all surprising. The parents, too, see no advantage in education, but consider it a sort of compliment paid to the clergyman. The fact is that reading and writing has very little money value, at a distance from large towns. In towns curiosity to decipher the placards, the play-bills, not to mention the penny periodicals with cuts of dreadful murders, the demand for errand boys that can read, the pleasure of a warm room, the attraction of kindness from a superior, fill "the ragged schools" with half-starved intelligences. In rural districts, even if a boy learn to read well, there are scarcely any books for him to read, and rarely occasions for him to write.

Our chamber philosophers are always making the mistake of judging mankind by the very exceptional specimens to be found within an easy walk of the Temple. The educationary system which would be admirable in a town, would utterly fail in the rural counties. Hence the urgent necessity of securing the zealous services of the rural clergy.

A great deal of the harvest work is done by contract with the labourers, the married ones bringing in their wives and children to help in the bargain; which is generally settled as to details by the labourers themselves. The practice, introduced of late years, of employing women and children to gather the stones brought on the land with chalk, and convey them to the roads, has very much increased the demand for weak, unskilled labour. Roads which were formerly mended with chalk and stones from the pit, are now mended with weeded stones alone.

The fashion of dabbling in agricultural science, which fortunately so much prevails, occasionally produces scenes like those which occurred to the *bourgeois gentilhomme* after he found that he had been talking prose all his life. A great landlord, as learned in agriculture as M. Jourdain, hot from a paper on the virtues of chalk, was riding along one of the Wold roads the other day, when he came upon an aged labourer mending the road in the way he had been in the habit of mending them all his life, that is to say, by filling up the ruts with the contents of a neighbouring and very stony chalk pit. He had filled up a hollow place with a barrowful of material—value, considering quantity and quality close at hand, under a farthing—when our landowner and magistrate, struck with horror at the waste, pulled up and said, "Stop, my man, stop; do not do that! Do you know what you are doing?" "I be mending the roads, sir," touching his hat and rather frightened. "Yes, yes; but do you know what that is?" "It be chalk, sir." "Let me tell you, my man, that is manure; you must not waste that. Do not lay down any more." So, having said this with an air that carried authority, he trotted off, and left the old man staring and wondering, until his master informed him, on his journeying to the farm, that, manure or not manure, it was to mend the road until some cheaper material turned up.

On the Brocklesby estate it is desired that, where possible, the labourer should have a cow as well as a pig, and arrangements are made to facilitate so desirable an object. Gardens are almost universal, but many farmers assign a piece of land annually, besides the garden where that is less than a quarter of an acre, all ready manured and prepared, in a Turnip field, for the use of their men. This gives them a good crop at the least possible expence and labour, and it obviates all fear of the land becoming sick for want of change of crop, but there are moral advantages in a permanent tenure of a garden close to a cottage.

Allotments seem to fail, where they are more than a few yards from the residence of the occupier, and when they are overlaid with rules and regulations; which, putting the impertinence of them on one side, are founded on the erroneous principle, that it is only sober, decorous, religious people who deserve to eat Potatoes, Cabbages, and Onions. Paying rent punctually seems to me the only indispensable qualification for an allottee. Virtue must be cultivated in other ways; we have no right to make decent necessities the reward of decorous behaviour. Next to our system of transferring land, our law of settlement is the greatest obstacle to the decent housing of our peasantry, as well as to the due cultivation of the land.

Our labouring classes can never enjoy the full advantages which the railway system offers for equalizing the demand for labour until the laws are modified, which made parish officers see in every strong backed hind the father of a race of claimants for board and lodging at the expence of the union.

There never was a county more dependent on a good system of conveyance than North Lincolnshire. All the improvements are founded on a transfer of earths, an importation of manures, and an exportation of produce.

In the course of one of my rides, I came upon a piece of heath in progress of reclamation. The Gorse had been stubbed up, the turf pared and burned; a deep ditch round it, and numerous intersecting open drains, gave to view a yellow tender sand, so dry and friable that it broke away in large masses as the horses leaped across. I never saw anything apparently more hopelessly barren. Dotted over the ground were heaps of blue clay, brought from some distance, which men were hard at work in increasing in number. It was a contract job, an arrangement that Englishmen and Scotchmen like, and Irishmen and Frenchmen do not. This blue clay, after being exposed for some little time to the air, crumbles down. It would then be spread and mixed with the sandy soil, so as to strengthen, solidify, and invigorate it. A crop of Turnips, assisted by a course of bones, would follow, and perhaps next year I may happen to see scores of sheep feeding off the Turnip field where the original scanty herbage of the waste would not have supported a single head.

Not among the least advantages of field sports are the temptations they hold out for travelling out of the beaten tracks of streets and highways; trotting from covert to covert, traversing field after field, with gun over shoulder, under a September sun, a thousand scenes and incidents present themselves. Multitudes of facts, anecdotes, experiments bearing on rural life and rural pursuits, awaken an interest in the cultivation of the soil in the breasts of many who mounted or took the gun in hand merely for sport or for want of something better to do. Field sports, for which almost all Englishmen, except Quakers, have a passion at one period or other of their lives, have a more intimate connection than is generally imagined with our preeminence in agricultural skill. All the great improvements have been propagated by great landowners and great farmers, and it is not unreasonable to believe that without the attraction of field sports our Cokes, our Spencers, our Westerns, and all the illustrious race of living aristocratic agriculturists and breeders would have followed the example of the enervated aristocracy of the continent, and sought their occupations in the theatre, the casino, and the smoking-room.

It is said on authority that our mail-coach road system (which did not attain the perfection which distinguished it until the steam horse put an end to the four-horse team), originated in the experiments and experience of the Four-in-hand Club. In the same way both landlords and tenants on cold scenting days get an opportunity while trotting after the hounds to compare crops, fences, farm buildings, and state of ground. On these occasions the effects of good draining are very noticeable. I remember a gentleman recently arrived from the continent to assume the dignities of a country squire, asking me how it was one field was dreadfully poached by our horses' feet, while another parallel to it was scarcely touched. The question enabled me to improvise a short discourse on the virtues of draining and the duties of wise landlords. We are an aristocratic people by nature and education, but a good day's sport is an amazing leveller.

It was in these cross-country rides that I found practical illustrations of the exporting and importing importance of North Lincolnshire. I constantly heard such observations as these, "Those horses are going to London;" "Those bullocks are for the Rotherham market;" "These sheep are fatting for Smithfield;" "That Wheat must be threshed out, to go to Manchester;" "That Barley will just suit the Sheffield market." And in respect to imports, guano from South America and Africa, oilcake, rape-seed, and bones from the Baltic ports; Beans and other pulse from the Levant, Indian corn and meal from the United States, employ a large proportion of the capital of the most enterprising agriculturists, while coal, iron, agricultural implements, woollen rags, have to be brought from distant parts of the kingdom; and so, in commencing operations on a new farm (even if the bricks are found on or near the premises), the timber, stones, and slates, have to be imported seawards.

So long as the rest of England enjoyed only ordinary means of communication, the sea on the one hand, and the rivers and artificial navigations on the other, afforded Lincolnshire farmers sufficient means for exchanging their surplus produce for the supplies of other counties and countries; but the introduction of railways effected a revolution in the stream of traffic all over the kingdom.

Perhaps Rotherham, a small town near Sheffield, affords as good an example as can easily be found of the effects of railway transit upon the cattle trade. With barely 10,000 inhabitants, it has become one of the greatest cattle markets in the kingdom, while Sheffield, with its large population, has no cattle market. But Rotherham stands in the way to the cluster of towns forming the clothing district of Yorkshire; cattle sold in Rotherham can be successively moved on to Barnsley, Huddersfield, Wakefield, Halifax, Bradford, and Leeds.

If our anti-manufacturing philanthropists were to watch this march of solemn oxen and bleating bewildered sheep, whether along the dusty roads before the compelling goad of a drover or more comfortably conveyed to slaughter in the steam drawn cars of companies begotten by capital out of speculation, they would cease their sneers and revilings at the system under which the agriculturists finds a market for what would otherwise have never been bred or grown for his profit.

The plans for accommodating the increased traffic of the county of Lincolnshire were prepared under the auspices of men, some of whom had a great stake in the land, and others a great stake in the manufactures, and were more wisely laid out than many schemes of greater pretensions, although perhaps not of greater importance. So far I have only confined my observations to North Lincolnshire, whose surplus produce consists entirely of beef and mutton in a live state, and bread and beer in the state of Wheat and Barley. As the light lands have become better cultivated, Oats have given way to Barley.

The Wolds Railways commence at Barton-on-the-

Humber, and, extending across to Barrow, proceed toward the south, leaving Market Rasen on the edge of the western boundary, and Louth on the eastern extremity, and rolling a nearly even breadth until ending near Spilsby within sight almost of the Fens. One part of the railway system commences at Barton, the more ancient ferry, and proceeding to New Holland, the modern ferry, exactly opposite Hull, which has completely thrown ancient Barton into the shade, runs on, crossing an angle of the northernmost extremity of the Wolds close to Brocklesby Park, until at Grimsby it forms a junction with the East Lincolnshire (a line leased to the Great Northern, although part of the system of the engineer who laid out the Sheffield and Lincolnshire), by which, in a very short time, a communication will be opened with London through Louth, Boston, and Peterborough, the section from Grimsby being carried parallel to the eastern side of the Wolds until it approaches Spilsby, where it bends toward the west across the tail of the Wolds, to avoid the Fens.

Another part of the system may be said to commence at the Docks of Great Grimsby, and, after passing over part of the ground already traversed, crosses the Wolds so as to run into Glanford Bridge or Brigg, a town which has sprung up on the Banks of the Ancholme Navigation (a canal communicating with the Humber), on which the principal corn trade has hitherto been conducted. At Brigg the railway divides, one arm running parallel with the western side of the Wolds through Market Rasen to Lincoln, there opens a communication by means of the Midland Railway with Nottingham and Derby and the Great Northern to Boston. The other line from Brigg proceeds through Gainsborough to Retford, where the Great Northern will eventually open up a road to Doncaster and York. From Worksop the line runs into Sheffield, where the Midland railway and the Lancashire and Yorkshire affords a communication with Leeds and all the Yorkshire clothing district. The parent line completes a communication with Manchester, Liverpool, and all the Cheshire and Lancashire cotton districts.

Thus it will be seen that while the clay land and marsh land pasture of North Lincolnshire has the benefit of one line of railway, the northern Wolds are crossed at either extremity, and encircled by the junction of two lines running parallel to each other for a considerable distance, not more than 15 to 20 miles apart. Many of the Wold farmers would have been glad to obtain a line from Market Rasen, which following the present highway through Caistor, and creeping along a gorge in the hilly ridge should have so descended to Great Grimsby, thus affording access to pasture lands, and a more convenient line for their grain. But there is no traffic to support such an undertaking at present, although at some future period it is possible a tram-road over that course, worked by horse power, for coal and farm produce, might be made a useful adjunct to the railways. The completion of the Lincolnshire lines will provide :

1. An improved local communication for all its principal towns and centres of population lying on both sides of the Wolds, between the Humber, Spilsby, and Lincoln, as well as the advantages of railway stations within carting distance for all the farms lying within a circle of which these lines may form a centre—a wonderful change to the many accustomed to nothing better than road conveyance.

2. A direct communication with the metropolis for the district commencing at Hull and passing Great Grimsby in an unbroken line to Boston, or by way of Lincoln and the main line of the Great Northern when that is completed.

3. A direct communication by means of the Midland, Lancashire, and Yorkshire, and eventually the Great Northern Railways, with the manufacturing districts of Yorkshire.

4. A direct and certain communication with Lincoln, Nottingham, and Derby.

5. The means of forwarding the exports and distributing the imports of Great Grimsby, by lines radiating from every important town in Great Britain.

Thus North Lincolnshire will acquire almost at one and the same moment complete communication with every railway in the kingdom. It will be interesting and instructive to watch the effect of this new power conferred on a county hitherto flourishing in spite of very insufficient means for the conveyance of its produce to the best markets. Up to the present time Hull has been the port both of import and export for North Lincolnshire ; but as the local position of Hull is very inferior to that of Great Grimsby, and as the artificial advantages of the latter port in dock accommodation will also soon be superior (as docks open at all hours must be, in comparison with docks open for four hours only in the 24), there can be no question that on the opening of the railroads, the Lincolnshire and midland counties trade of Hull must be transferred to Great Grimsby, while the trade of Hull itself, which is now very great, will be stimulated and increased. It is the opinion of some agriculturists of great sagacity that at free trade will induce farmers of skill to give up the growth of inferior kinds of grain, and confine themselves to Wheat, and feeding cattle largely in stalls on cheap imported grain and pulse.

If this should turn out correct, Grimsby must secure, in consequence of its favourable position as regards the Baltic, a large share of this grain trade. Thus the importation of grain from the Continent, as well as bones, cake, and other foreign tillages—of timber, of Swedish iron for Sheffield steel, of German wool for Yorkshire, will probably follow the railways—as well as a coasting trade in coal, building stone, and limestone. There is no reason to give why the colonial produce, wine, and spirits consumed within a paying railway distance should not enter the county by the same gate for railway distribution, with a saving of price to the dealer and consumer. If this be so, time only will be required to see miscellaneous cargoes follow in the wake of more simple ones.

If the number of ships bringing cargoes continues to increase in proportion to the extended lengths of railways opened up, there will be no difficulty in finding return cargoes. Leeds, Halifax, and Bradford, can find woollen and mixed goods ; Sheffield hardware, Derby porcelain, Manchester every kind of textil fabric. For all these merchandise Hamburgh, just opposite, offers, if not a market, a free port of distribution. Two local trades, connected with the sea, may also arise—coasting in the conveyance of grain to London and the deep sea fishery.

The fish caught by deep sea fishing off Grimsby cannot be surpassed ; cod and turbot are to be had in any quantity worthy of the London market.

It may be asked, What has the creation of a new port at the mouth of the Humber to do with the agriculture of North Lincolnshire ? I answer, everything. If, as I anticipate, the combination of railway communication and perfect dock accommodation, with indefeasible local advantages, restore Great Grimsby to its ancient preeminence as a port and populous town, the North Lincolnshire farmers will obtain what they have never before enjoyed, a large local consumption close to their doors, and all the advantages to be derived (and they are not slight) from the fertilising refuse of a large population. The *Patres Conscripti* of Grimsby, I am happy to say, are wide awake, and will not let the fertilising drainage of the future burgesses be wasted, as is done in the Thames.

Plans and precautionary measures are being prepared which will ensure health and profit from what in the London lay-stalls only breeds death and disease. We shall see the time when even the refuse fish weeded from tons sent daily to the metropolitan and midland counties, will be regularly transferred for manuring corn land or garden ground. A communication with the clothing factories of Yorkshire will bring down woollen rags, vulgarly called shoddy, one of the best manures for Wheat.

I hope I have said enough to draw attention to an experiment which, although it has often been tried before with eminent success, has never before been tried on a district where it will be so easy to watch the effects of ample economical railway communication. I have been minute in describing the localities connected, in order that in ten years' time any one who has read these sketches may enquire or see for himself what railways have done for North Lincolnshire.

NOTES ON CATTLE AND MANURE.

(*Concluded from p. 406.*)

Chemical preparations are acknowledged to be valuable assistants ; but farm-yard dung is the main support of the land ; as doubts have been thrown on the actual value of dung, properly so called, over rotted vegetable substances, I referred to Johnston's lectures, who states that in comparing the effect of the same vegetable substances before mastication and after, the weight of dry dung voided is considerably less than the quantity of dry food eaten ; but vegetable matter is more sensibly active as manure after it has passed through the body of the animal, than if applied to the land in an unmasticated state. In becoming animalised, vegetable substances undergo certain changes. The lungs and skin give off carbon, leaving the solid excretions richer in nitrogen and saline matters, on which depend the value of manures, weight for weight, than the crude vegetable. The state of combination in which the nitrogen exists in the excretions has also a material effect. The quality of the dung depends greatly on the food eaten. The use of oilcake and other substances is said to double the effect of the dung. The purpose for which the animal is fed has an influence. A milk cow, for instance, appropriates more of the food given than an animal which has not such a demand upon its system. The manner in which the dung-heap is treated materially alters the value as a manure ; dung rapidly loses weight by being exposed ; the moisture evaporates, the volatile matter escapes by fermentation, rain and wind deprive it of its most valuable qualities. By the time the straw is half rotted the loss amounts to one-fourth the bulk ; if left long, little more than the weight of dry food remains. A quicker mode of fermentation under cover would be attended with less loss. The great value of urine and drainings of dung-heaps may be judged of ; for they are found to contain all the ingredients of the best dung. This suggests the propriety of saving it, and pumping it over heaps of vegetable matter. The quantity of fresh dung to be obtained from a given amount of food is said to be twice the weight of dry food, and the straw spread out ; that is to say, for every 10 cwt. of dry fodder and bedding taken together, 20 to 23 cwt. of fresh dung may be calculated upon ; but if Turnips or green food are given, as they contain so much water, less proportional dry manure is to be expected. The horse and cow, for 100 lbs. of dry food, give 216 of fresh, or 43 lbs. of dry dung ; of roots, half their weight of fresh, 1-12th of dry dung. Six cows, getting 120 lbs. of food each, would give about 1300 lbs. of fresh dung. It was stated in your Paper that 1 ton of Swedes, according to the litter, gave one ton of manure, and one ton of straw, near ten tons of manure.

I may mention a kind of farming in practice in the west of Scotland which is found to answer particularly well for both landlord and tenant. It is for a dairy farm. The proprietor provides cows, byres, and other buildings, and all dairy utensils, with food for the cows summer and winter. The tenants pay so much for each cow, and give the dung. They take entire charge of the cows, and sell butter and milk. There can thus be had a the best dung wherever there are suitable buildings. The system can be modified in various ways. The tenant may provide his own cows and utensils, and pay a rent for the fields in pasture and buildings ; he will probably buy the winter food from the proprietor, who stipulates that he is to get the dung at a certain rate. This system ought to be extended, as it is of great benefit to a poor class of tenants, who never thrive on a regular farm, but on this system are found to thrive and pay punctually. The minute detail of cow feeding and dairy-work requires constant attention, which is much more likely to be given by a man's own family personally interested in its success than by paid servants, while the proprietor will work the ground better and manure more liberally than a tenant. He is also clear of markets. There is therefore reason for the system working well, as each has that department to manage which he will do best. The following are some calculations on cattle and dung.

To 20 stots at 7*l.* 10*s.*		£150	0*s.*	0*d.*	
Interest for 5 months		5	0	0	
Expenses on cattle		1	0	0	
					£156 0*s.* 0*d.*
Ten acres of Turnips at 10*l.*		100	0	0	
1500 stone of meadow hay at 1*l.*		25	0	0	
Attendance		12	0	0	
					137 0 0
Leaving a balance of					51 10 0
					£312 10 0
Sold 20 stots at 14*l.* each					£280 0 0
Say 250 tons of dung at 5*s.* per ton					62 10 0
					£342 10 0

Let us next look to the return of the same 10 acres, if occupied by a different crop, and where dung can be bought instead of keeping cattle.

	£	*s.*	*d.*		£	*s.*	*d.*
To 250 tons of dung at 5*s.* per ton	62	10	0	The above 10 acres to let at rent [illegible]			
To driving 130 carts, being 2 loads a day, 2½ miles, at 5*s.* per cart, and tolls	35	0	0	per acre	100	0	0
				Meadow hay sold	25	0	0
Leaving a balance of	107	10	0				
	£205	0	0		£205	0	0

The carriage of the dung is charged at 5*s.* on 130 carts, as they can go twice a day, and on the road can take a full ton ; as they can take part of this load at least direct to the field, and would have to cart from the dungheap in the other case, the charge is too high. It may also be remarked that the money for cattle has to be expended in October and is returnable, subject to loss from death or accident, in March, whereas for dung it is not paid out till after the article is got, and a month's credit or more. In my own case dung can be bought at 4*s.* 6*d.*, and Potatoes sold as high as 25*l.* per acre. Where dung can be bought it implies consumers of produce, and with so large a balance in favour of cropping other crops might be grown with equal advantage. Probably the best plan for a proprietor will be to have sufficient stock of cows, bullocks, and sheep to supply the winter, at least, use of the house. These with the young beasts bringing on in sheds and loose boxes, together with the stable dung, and careful addition of all vegetable substances, will form a considerable dung-heap, which can be added to by purchase of dung, by giving Potato ground for their dung to the cotters, or on a more extended scale by the system of letting cows above mentioned. A proprietor whose property is in a populous district may sell the greater part of his crops on the ground, provided he conscientiously returns to the soil a full allowance of the best dung, but even their consciences are not sufficiently scrupulous on the subject to render it a safe way to treat the soil.—*Forester.*

Home Correspondence.

Unnatural and Injurious Over feeding of Breeding Animals.—At very many of the meetings and gatherings of the president, vice-presidents, and members of council, as well as at the yearly general and country meetings of the Royal Agricultural Society, and, in short, at most agricultural societies, you will find this subject discussed, and correct views on it most strongly and urgently recommended, and instructions given to the judges not to take into consideration the fatness of of animals in awarding prizes to stock intended for the purpose of breeding. In the face of these instructions, what is the general result ? Why, that year after year, and meeting after meeting, the premiums are still given to a most unnatural and (to breeding stock) very injurious fatness. Fat is sure and certain to carry away the palm whenever placed in competition against rational and fitly fed animals of every class and description, and that are in a natural and much safer condition for breeding, both as regards themselves as well as their produce, but that are not made almost immoveable—most unwieldy, by their joints and sinews being, as it were, rendered of no effect by useless and injurious fat. Bear in mind that I confine my observations wholly and solely to breeding stock, and if the judges would, in awarding the premiums, take into consideration the aptness and fitness of condition for breeding, combined

with shape and make and quality, and give these their proper and right and all important place (even to the discarding of over-fed breeding animals), they would be doing greater and truer and stricter justice to the intentions and objects of the Society, and confer a much greater benefit on those engaged in the breeding, not the fattening (for they should be viewed and considered separately), of animals than by encouraging, as the awards mostly do, the great and injurious evil of feeding breeding stock so over and preposterously fat.—*A Breeder of Stock.*

Facts and Figures.—In reply to the "Facts and Figures" of "C. W. K.," and for his guidance in his future dealings with his "respectable tradesman," I beg to inform him that the figures of your reporter were perfectly correct, and that the facts were as he stated them.—*A. Huxtable.*

Wheat.—Might I venture to suggest the insertion of a request to your correspondents, that they would announce to you the first cutting of Wheat in their respective districts, mentioning soil, aspect, and period of sowing; also the manure used, and the previous crop.—*Ebor.* [We beg to second this request.]

Transmutation of Corn.—I was attracted in passing a cottage garden on the 30th May by some fine ears of Barley, and so unusually early a period for its development made me suspect it had been planted as Wheat. On enquiry I found this to have been the case; the occupier of the garden (James Tompson, of Paston, a village on the sea coast), informed me that his son and himself dibbled a very choice sample of red Wheat a few days before old Michaelmas; that from its growing rank, he mowed it the beginning of January, and the result has been a fine crop of Barley, the ears well set with grain; on one side, where the plants were not touched, the natural produce of Wheat has been produced. The North Walsham Club, in whose district the village of Paston is, will most likely, through some of its members, draw attention to it. What will be the result of the crop next year from this seed Barley?—*R. P. Kemp, Manor House, Coltishall, Norfolk.*

Salt having been much recommended as a cure or preventative of the wireworm, upon the occasion of breaking up a piece of worn-out Saintfoin, in which I had reason to apprehend injury from that insect, I sowed over a part of it 4 bushels, and over another part of it 5 bushels to the acre of common salt, in the winter, after ploughing and before sowing. The soil is a light detritus of chalk and small flints, mixed with brown light loam, on a subsoil of chalk. I sowed on the several parts of it Dyoch Oats, White Tartar Oats, White Georgian Oats, and April Wheat. All of these crops have suffered severely from the wireworm, whence I conclude, either that 4 and 5 bushels of salt per acre are not a sufficient dose, or that salt is not so effective a cure for the wireworm as some have supposed. Will any correspondent kindly state what quantity of salt per acre has been found an effective cure?—*Hantoniensis.*

Profits of Feeding.—Your North Lincolnshire Farm correspondent of June 19th, gives, as the result of fatting 60 head of cattle, a return of 8*l.* 17*s.* per acre for 31 acres of Swedes and Mangold Wurzel, by valuing 1300 yards of manure at 3*s.* per yard. If he would state the price at which the straw contained in the manure could have been sold on the premises, and the interest of the money which the cattle sheds cost, he will much oblige a reader who thinks these additions would materially reduce the return for the Swedes and Mangold Wurzel.—*W. P. G.*

Spade Husbandry.—Your correspondent "Spade," in an article on "Irish Experimental Farms," in the *Gazette* of June the 17th says, there is one fact in favour of manual labour—that one acre of land will pay when tilled by the spade." Now, "facts are chiels that winna ding." If this one can be proved, it will tell greatly to the advantage of our agricultural labourers, too many of whom have frequently to stand all the day idle, because no one will hire them. Will your friend "Spade," give his facts in figures, for the general good? I beg to hand you the statement of my own experience in spade husbandry, and regret it is not more favourable to the system. The land tilled was of excellent quality, and the time, 1846-7. I am this year trying it, on 5 acres of inferior land, and with different cropping.

SPADE HUSBANDRY.

Cost of Half an Acre of Wheat.

	£	s.	d.
3 loads of Manure	0	15	0
Spreading	0	3	0
Digging, at 4*d.* per rod	1	6	8
3 pecks of seed	0	6	0
Dibbling and filling in	0	3	6
Hoeing and hand-weeding	0	6	6
Reaping and tying up	0	3	6
Carting home, ½ mile	0	4	6
Threshing 23 bushels	0	5	9
Rent, Rates, & Tithes	1	10	0
	5	4	5

Cost of Half an Acre of Roots.

Trenching in Nov. 1846	2	0	0
Manure 5 loads, and spreading	1	8	0
Digging in manure	0	13	4
Seed and sowing	0	3	6
3 hoeings and hand-weeding	0	14	0
Carting and stacking	0	4	6
Rent, Rates, & Tithes	1	10	0
Cost of one acre	£11	17	9

Produce of half an Acre of Wheat.

	£	s.	d.
21 bushels best, at 6*s.*	6	6	0
2 ditto, tail Wheat	0	6	0
Straw	0	15	0
	£7	7	0

Produce of half an acre of Roots.

169 bushels Mangold, at 4½*d.* per bushel	3	3	4
85 bshls Swedes, at 5*d.*	1	15	5
	£12	5	9
Deduct cost of tillage	11	17	9
Balance, or profit	£1	8	0

—*Richard Pigott, Stoke, Norfolk, June* 20.

Carduus pseudo-Fosteri (*Watson*).—If a farmer can ever deserve praise for encouraging the growth of Thistles, such credit is due to Mr. Thomas Arkell, of Penhill, Wilts, whose good management has converted some very worthless pasture (on the Oxford clay), covered with "Wood-wax" (Genista tinctoria, L.), Carnation-grass (Carex glauca, Scop.), and Meadow Thistle (Carduus pratensis, L. sp.), into good arable land, where the Thistle is no longer slender and single-flowered, but a stout, handsome plant, with branching stem and pinnatifid leaves, flowering nearly a month earlier than before. As it grows, mixed with C. lanceolatus, there may be some suspicion of illegal intercourse between them. I hope Mr. Arkell will take great care of this weed, for at least 100 specimens will be required annually for the next five years by collectors of British plants. Specimens have already been sent to the Royal Agricultural College, the British Museum, and various societies, and eminent botanists.—*S. P. Woodward.*

The Potato Disease.—Within the last five or six days my attention has been drawn to the state of the Potatoes, by hearing unfavourable accounts from different quarters as to the appearance of their roots. I am sorry to say, from my own inspection, I see causes to believe them already affected similarly to what they were at this season of the last two years. I find the root stems presenting the rusty, corroded appearance that I have before noticed, and in some instances the ends are rotting and the leaves evidently suffering. Although I am far from entertaining fears as to consequences at all approaching to what have been promulgated on former occasions, still I fancy we are not likely to have the same growth of grain this year, to cover the deficiency that we had last year, and a failure of Potatoes will ever be felt in proportion to the means afforded to meet it, by the comparative productiveness of the corn crops. The prospect the latter presents at this period is, therefore, a serious consideration. As far as I can judge from the opinions of others and my own inspections, I should say, in the southern half of England, the Wheat crop is likely to be rather under an average; the Barley to be decidedly inferior; the Oats bad generally; and Beans and Peas only moderate at best. If I am correct in this estimation of the grain crops, a deficiency in the Potatoes will this year be felt much more seriously than it was last year, when these crops were all good. The estimate of an individual, after all, is liable to be based on partial views, and of little account when placed by itself; but I feel it may be made of consequence if it become the means of drawing together the opinions of a number of persons in different situations, and should those opinions be found to coincide, then the attention of merchants may be timely turned to prepare accordingly. I am, therefore, in hopes these observations may induce others of your correspondents to give attention to the appearance of the Potatoes, and the prospect of the grain crops, and to report to you upon them. At this time, occasion to seek any large amount of grain from abroad would be likely, in a monetary point of view, to disturb the country seriously, so that in various ways the subject is an important one.—*Hewitt Davis, 3, Frederick's-place, Old Jewry, London, July* 4.

Poultry.—I am inclined to think that the pheasant breed of poultry mentioned by "Chanticleer" are Bolton bays, for I know that fowls answering to the description given by him, were sent from Lancashire to Matterdale, in the neighbourhood of Metfell, in Cumberland, upwards of 30 years since. The breed abounds in the country around Bolton, Manchester, and Stockport, and are found of every shade of grey, from nearly white to nearly black, of every shade of gold spangled, and likewise black, with some of their feathers slightly tipped with white or bay. I believe they are also to be met with in Yorkshire, and I have been told that a similar breed is to be found in Worcestershire. For my own part, I think they are the same breed as the Dutch every-day-layer, for some of the grey ones are marked exactly like the silver-spangled fowls of that breed, and when pure bred they never sit. A Devonshire servant who saw some fowls of the breed that Mr. Smith was 40 years bringing to perfection, and which an inexperienced person would pronounce to be Bolton greys, said that there was a similar breed in the neighbourhood of Torrington, and that they were called harrowers, or some such name. Do any of your readers know them by that name? I hope your correspondent who writes upon the diseases of poultry will excuse my hinting that his prescriptions would be of far greater value if the quantities were expressed with more precision.—*B.*

Highland Cotter System.—I owe you an apology for delaying so long to tender you thanks for myself and brother Perthshire crofters, for your insertion of my letter of the 22d March, which, I trust, may have helped to put us right with the charitable public, and especially with "Southrons," who by such representations as therein commented on, will be apt to classify all us Highland crofters and cotters as superior only to the aborigines of New South Wales, or the other savage natives of the islands of the Pacific. My excuse is, that I have had my hands otherwise too full for the past quarter; but having now my Turnips sown, my Peas and Beans earthed up, my Potatoes weeded, and, last, though not least important of the Highland crofter's summer duties, my peats in a fair way; I beg to furnish you, as requested, with a short note of our mode of cultivation. Allow me, however, first to premise that though the Highlands of Perthshire have, in common with most of the north, had their own share of "dire depopulation's deepening gloom" (as each successive census since the commencement of the present century testifies), yet the ejected portion of the natives were not congregated, as they were in Ross, Sutherland, and Caithness shires, on the thick-planting system, in settlements of scores or hundreds of families, on muirlands and other unreclaimable patches of land, where—

> Spite of Nature, crops are taught to rise
> Which to these northern climes wise Heaven denies;

but at once—as, perhaps, the least of evils—removed part of them to the villages and towns of the low country, the majority across the seas to North America, and, of late years, to our Australian colonies, &c. With the exception, therefore, of a more extended portioning of land in the neighbourhood of such growing villages as Aberfeldy, Pitlochry, Bridge of Tilt, &c. &c., and one or two new colonies, such as that by the Marquis of Breadalbane's lead miners at Clifton, near Tyndrum, our crofter population are chiefly the remains of the old system—hamlets of from six to a dozen occupants, each with a horse, and one, two, three or four cows, and from 2 to 8 acres of arable land—not, however, on the "rig and baulk" principle, but with well defined marches to each, while the pasture and hill ground for their cattle and sheep—almost always an appendage—are held in common. Such a state of things still exists as on the estates of Strowan, part of the dukedom of Atholl, &c, on which last, by the way—as at Bohespig and neighbourhood—is to be seen the nearest approximation to the squalid laziness of the old Gairlochers that I know of, and where the schoolmaster of Tullaghobegly might find some congenial exercise in registering the number of broken windows, and cataloguing the substitutes for glass, in the shape of bundles of cast off unmentionables, &c. This is the more reprehensible that it exists on the property of a duke, who would gain more credit by looking to the comforts of his crofters, than squabbling with science-loving tourists in Glentilt; and that it is under the full view of every traveller to the north by the Crieff and Dalnacardoch turnpike road. But without writing any further remarks on this subject, I proceed to notice the system of rotation which prevails among us crofters. As far as I am aware, we are all restricted to a "foursome course," viz., 1, Oats; 2, Potatoes, and other green crops; 3, Barley, Bere or Chester, as it is called, with Grass seeds; 4, hay. Till within the last few years Potatoes occupied three-quarters or more of the green crop portion, being the staple support of the family, and Turnips the remainder. Since the failure of the Potatoes its place is now, to a considerable extent, occupied by Peas and Beans, and perhaps a slight increase to the Turnip plot. A few like myself, fond of speculating, have in addition to the old established white and yellow Turnips, added Swedes, and a few drills of Beet and Carrots. Swedes are a very desirable crop; but Beet and Carrots, at least in my case, with a thin soil and open bouldery subsoil, did not succeed to my wish. In the garden they both, as well as Parsnips, turned out excellently. Barley is rarely used by the crofters, Chester being the variety generally sown. Considerable attention is paid to the changing of the grain seeds; but for Rye-grass, the produce of the hay-rick, however coarse or mixed, is too often considered good enough. I may remark, in passing, that the local agricultural associations do not give that stimulus or encouragement to crofters or cotters that they deserve, as none of them that I know of offer any prizes to these classes. Though this letter has extended to too great a length already, I cannot help observing that the appearance of the crops, Potatoes not excepted, is in this quarter most luxuriant; the weather for some time, if not too rainy for some parts, being all that could be desired.—*A Four-acre Perthshire Crofter, Cille Bhraan, June* 20.

Economy of Farm-yard Manure.—I was glad to see in the *Gazette* of 3d June that the above subject had occupied the attention of the Newcastle Farmers' Club. It is a subject of great importance, and directly concerns the whole agricultural community, and indirectly the community at large. Draining directly affects only those who are owners and occupiers of wet land; grubbing of fences and hedge-row timber directly affects only those who own and cultivate land where they exist. But the proper management of home-made manure concerns alike the occupiers of the lightest sands and the most obdurate clays—the man of 1000 acres, without scarce fence or tree, as well as the man that humbly cultivates his rood with the spade. Indeed, it is a matter of national as well as individual importance; it affects the consumer as well as the producer. Waste of manure is tantamount to waste of food. The process of making and applying farm-yard manure must, like the improved process of bleaching, be effected with less exposure to sun, rain, and wind. The system of feeding or soiling of horses in the yard during summer is much practised in Suffolk, and thus stamping the straw into muck, as it is there termed, when the yards are provided with sheds and spouts to carry the water from the eaves of the buildings, has a decided advantage over the barbarous method that obtains in some parts of the country, where the horses are worked from 5 in the morning until 1 in the afternoon, without intermission for food or rest, and then during summer, in the heat of the day, are chained by the fore-leg in the field to gather their own food, the manure being left on the land exposed and dried by sun and wind. I know some assert that great advantage is derived from the horses treading the land, and yet strange as it may appear, in connection with this system of consolidating the soil, four, and sometimes five horses to a plough, may be seen in preparing the same land for the following crop of

Wheat, so hard and laborious is it to plough the land. urely, the manure would be more effectually preserved, nd the horses better fed, if each, at least during mmer, had a loose box, with excavated bottom and oveable receptacles for the food; in short, Mr. Varnes' box-feeding, applied to horses, would, I think, reserve the manure in the best manner possible. I m aware that the tenant farmer experiences great difficulty in obtaining the necessary improved and enrged buildings for sheltering his stock and preserving anure; but this difficulty must be overcome—this on must be conceded. A time there was when drainig-tiles were scarce and dear, and difficult to be obined; but these difficulties have almost ceased to xist, and so it must be with all other obstacles to improvement. The knowledge diffused by agricultural cieties, the prizes given for essays, the discussions of rmers' clubs, and the facility of transmitting ideas, owever humble, through the columns of the *Gazette*, ust, and do, all exert their influence in the cause of provement; and the subject of preserving and applyg home-made food, for sustaining and maturing the ants we cultivate, will soon be better understood; id, with the understanding, I hope the means for rrying it out in practice will be liberally supplied.—. *Curtis, Gatcombe, Isle of Wight.*

The Dorking and the Hamburgh Breeds.—Your intesting correspondent "Chanticleer," at p. 411, has oted rather partially from Richardson, omitting e commencing lines of the chapter, p. 31, "the orking would appear to owe its name to its having en chiefly bred and cultivated in a town in Surrey:" bsequently he asserts, in apparent contradiction to the ove, "they were first noticed, and the variety adopted the Cumberland breeders." Probably in a third ition he will either correct this, which appears to be error, or state grounds for it. The breed is very cient, and appears to have reached us from Normandy, here it has existed from time immemorial. I would int out another, among the many, mistakes of chardson, who makes it appear (p. 32), that the Hamrgh breeds are crested, and of two varieties only, the ld and the silver spangled; and he denies the accuracy Dickson, who says (p. 15), truly enough: "The Hamrgh fowl: this is a large breed, the prevailing colour lack, with iridiscent green, and the wattles and comb, en of the hens, are unusually large." But I doubt correctness of Dickson, who continues to say, "it is dently a variety from the Paduan, which the nourishnt expended in that to form a crest of feathers, goes enlarge the comb and wattles." Richardson appears confound two of the pheasant breeds with the Hamrgh, and the last quotation from Dickson seems to the merest theory, unsupported by any practical of, and unless made clear from some known facts, l better be omitted in a new edition. It by no means lows, that because sets of fowls are imported from land or Hamburgh, that they should go by either of se names. Richardson says, the Hamburgh fowl is sted, gold and silver spangled—Dickson, on the conry, that it has comb and wattles more than usually ge. Which of these two descriptions is the correct ? The greatest proportion of gold and silver span-d, crested and tufted fowls, in the London markets, ne from Holland, and those from Hamburgh have, re generally, large combs and wattles without crests. alers often give names, and I have bought varis by both names.—*A Correspondent, June* 20.

Land Drainage.—The remarks of "J. B.," of Allesare generally so to the purpose, I hardly dare follow ; yet I have been, like him, an observer, and, perps, wild speculator, in improvements; I hope, therefore, I shall not be uselessly intrusive upon your room any of my vagaries. It cannot be denied that in the inage of land, so long as the water oozes from the tom of the sides, or bottom of the cutting, they can be too deep, always excepting considerations of cost; the greater the remove from the chill produced from l damp, and the greater the fertility supplied by id percolation. I can point out land in which subtial stone drains were made 50 years ago, not with exact fall of the land, yet still great (then the practi here), and 4 feet or more deep at the least, and are now in as good order as ever. The same fields e been redrained partly with sods across the fall, yet this pasture exhibits to this day its wet nature the growth of Carnation Grass (Carex); I am practily satisfied that no drainage will effectually dry strong esive clays except breaking the subsoil, and adding e quantities of sand, gravel, or the like substances, make the soil more open in its composition. To maintances of mine making new gardens on strong s, it has always been my recommendation to drain , and to fill up to the bottom of the soil with stone, and then trench upon brushwood. I have followed practice 30 years with Asparagus. I am not so ain as to "J. B.'s" observation upon the growth of Aira cæspitosa always indicating wetness. I think n point out localities of exceeding dry land resting open limestone rock troubled with them; but rally it effects low, deep lands—with this remark, the older the sward the more the nuisance is ed. I have tried several remedies, but being a g growing plant it is very difficult to eradicate. I ve the cheapest, and therefore the best method, to ntinuous low cutting. I have coveted them with , and it being my custom for many years to place salt in my pastures, I place it upon the tussock, ll two birds with one stone.—*C. P., of York.*

Cow Parsnip.—A correspondent, "Lusor," asks how Cow Parsnip may be eradicated from mowing Grass-land. This, like the Dock and other deep rooted plants, should be drawn when the land is very wet. Perhaps even in the winter the top may afford sufficient hold for the purpose. Those in the hedges should be pulled up, as well as those in the field, and not one should be allowed to seed itself.—*S. P. W.*

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A Special Council was held at the Society's House, in Hanover-square, on the 24th of June; present, the Earl of Yarborough, President, in the Chair; Duke of Richmond; Lord Portman; Sir T. D. Acland, Bart., M.P.; Sir M. W. Ridley, Bart.; Sir C. Lemon, Bart., M.P.; Sir J. V. B. Johnstone, Bart., M.P.; Mr. Bramston, M.P.; Col. Challoner; Mr. E. Denison, M.P.; Mr. B. Gibbs, Prof. Sewell, and Mr. Shelley.

The President having informed the Council of the intention of H. R. H. Prince Albert to be present at the York meeting of the Society, the Council took into consideration the requisite arrangements to be made for the reception of his Royal Highness.

A Monthly Council was held on Tuesday last, the 4th of July; present, the Duke of Richmond, K.G., in the Chair; Earl of Egmont, Earl of Lonsdale, Lord Portman, Hon. Capt. Dudley Pelham, Sir M. W. Ridley, Bart.; Sir C. Lemon, Bart., M.P.; Sir J. B. V. Johnstone, Bart., M.P.; Sir R. Price, Bart., M.P.; Mr. R. Barker, Mr. Barnett, Mr. S. Bennett, Mr. H. Blanshard, Mr. Bramston, M.P., Mr. Brandreth, Mr. Burke, Col. Challoner, Mr. F. Cherry, Mr. Druce, Mr. Hodgetts Foley, Mr. Fisher Hobbs, Mr. Hudson, M.P., Mr. Hudson (Castleacre), Mr. Jonas, Mr. Pendarves, M.P., Mr. Chandos Pole, Mr. Pusey, M.P., Mr. Aystford Sanford, Prof. Sewell, Mr. Shaw (London), Mr. T. Turner, and Mr. H. Wilson.

The following new Members were elected:

Graham, Carolus, Strawan, Crieff, Perthshire
Wood, John, Coroner of York
Archer, Wm., Tulliebardine Cottage, Auchterarder, Perthshire
Preston, Cooper, Flasby Hall, Skipton, Yorkshire
Wells, John, Aimyn, Boothferry, Yorkshire
Hall, Benjamin, Hanley Castle, Upton-on-Severn
Marr, William, Yarm, Yorkshire
Gibbons, Stephen, Brocklesby, Great Limber, Lincolnshire

The names of 16 candidates for election at the next meeting were then read.

Finances.—Mr. Raymond Barker, Chairman of the Finance Committee, presented the Report of the Committee for the previous month, from which it appeared, that on the last day of June, the current cash-balance in the hands of the bankers was 1294*l.*, which the Chairman explained to be made up as follows: York balance, 497*l.*; arrears received, 127*l.*; compositions, 501*l.*; available balance for current purposes, 169*l.*

Analysis of Plants.—On the motion of Mr. Pusey, M.P., seconded by Lord Portman, the Council voted the grant of a sum not exceeding 300*l.*, to be placed at the disposal of the Analysis Committee, for the prosecution of Professor Way's analyses of the Ashes of Plants, in continuation of the results on that subject already published in the Journal of the Society. Mr. Pusey took that opportunity of remarking, that valuable as the researches published in the Journal had hitherto been, on inquiries connected with Geology, Entomology, Chemistry, and other sciences connected with agricultural improvement, he was happy to say that a field of inquiry, no less interesting and important to the farmer, on the anatomy, physiology, functions, and diseases of live stock, had been opened by the valuable lecture already delivered before the members in London by Professor Simonds, and which was then in the press, illustrated with numerous woodcuts, for the new number of the Journal; and he had no doubt that Professor Simonds's lecture about to be delivered at the York meeting, would be found no less important and interesting than its predecessor.

Draining.—Lord Portman favoured the Council with an interesting statement of the result of his draining 40 acres of meadow-land, 24 years ago, with young Scotch Fir boughs, obtained as the thinnings of his plantations. The boughs were cut in June and July, when the trees were full of their sap and turpentine; and being laid longitudinally in the drains of the meadow, at a depth of 3 feet, to within 9 inches of the surface, they were covered over with clay and turfed down. His lordship having recently had occasion to make a cut across the meadow in question, for hydraulic purposes, he had the satisfaction of finding that, after a period of 24 years, every drain was found to be doing its work most admirably; and the boughs, instead of being decayed, were found in perfect preservation, and with their wood become firmer in its substance, and harder to the cut of the knife.—Mr. Fisher Hobbs had the pleasure of fully corroborating Lord Portman's statement of the value of Fir boughs for the purpose of draining in strong clay or marl, some of his own drains, formed of them, having stood from 15 to 20 years. He had found, however, that, unless the boughs were cut while full of turpentine, the wood would soon decay. He took that opportunity of correcting what he thought a misapprehension as to the character of Sir John Tyrell's pipe-tiles, exhibited to the Council at the last meeting as having been choked up with a fibrous vegetable substance. Those pipes were furnished, not with collars, as he had seen it stated, but with sockets, a difference which he thought essential in reference to the facility or otherwise of the entrance of the fibrous substances into the pipes through their joinings.—The Hon. Captain Dudley Pelham thought it was a matter almost of indifference in that case whether the pipe-tiles were furnished with sockets or collars, for he had found the insidious fibrous substance gain an easy entrance into, and completely fill up and stop, even pipe-tiles of his own, which had been completely and imperviously cemented together at their ends.

Mr. Agnew, of Manchester, presented to the Council a statement connected with his large painting of the Society's Country Meeting; Mr. Sewell, of Henrietta-street, Cavendish-square, a statement of Analyses and Products of the Bituminous Shale, or Schistus, of the Island of Portland; the author of "A Review of the Agricultural Statistics of France," a copy of that work; and Messrs. Fullarton and Co., of Edinburgh, three parts in continuation of their "Rural Encyclopædia:" for which the thanks of the Council were ordered.

The Council then adjourned over the York Meeting to the Weekly Council in London on Tuesday, the 25th of July.

Tweedside Union Agricultural.—At the late Annual Meeting of this Society, Mr. Milne thus described a contrivance for recording the issue of water from a drain.

Mr. Milne proceeded to describe the apparatus, which consisted of a wooden box, to be placed at the mouth of the drain, the water from which, entering the box by a funnel at the top, passed into one of the two compartments of a tin or metal receiver. The receiver was so constructed and hung upon an axle, that when one of its compartments became filled, it fell down with the weight of the water and emptied itself, at the same time lifting up the other compartment to take its place under the funnel; and the again becoming filled, it emptied itself, and lifted up its neighbour; and thus the process went on. Connected with this movement was a cog-wheel and rack, which moved one tooth with every discharge of the receiver, and by this means an index was obtained; the apparatus could thus be left at the mouth of the drain for weeks or months, and on opening it the quantity of water discharged from the drain during that time would be found duly registered on the index. Mr. Milne then proceeded to describe some arrangements of drains for applying this apparatus, in order to ascertain the quantity of water discharged from shallow as compared with deep drains. He had a 20 acre field drained in two sets—one part 3 feet deep, 15 feet apart; and the other part 4½ feet deep, 30 feet apart. Each set of drains discharged into one mouth, and at each mouth he should place an instrument of this description. Hitherto this matter had been a matter conjecture. They had nothing but opinion upon it, and no facts. He wrote to Parkes and Smith, and some other agricultural engineers, and they informed him that there was no such instrument for testing the point; and accordingly he had been occupying himself for the last six months to have one made. He had his own opinion on the subject, as they would understand by his proposing "deep draining" as a test; and he merely proposed to them a simple instrument by which that point could be ascertained. It had always appeared to him that the only test by which they could come to a certain knowledge as to what was the proper depth of drains, was the depth to which plants would throw down their roots in the soil—the depth of soil from which plants will, by their nature, seek nourishment. If it be found that a particular crop never by possibility goes lower than 2½ feet, one did not well see the necessity of making the ground dry to a lower depth; but by draining to a lower depth, common crops would throw their roots deeper, that would afford greater nourishment and greater power of growth. That was one important element which should be attended to in draining. Let it matter little to what depth these roots will go; and it is for the farmer that he ought to make their land capable of giving nourishment to that depth, by means of draining. That was an element which went far to settle this question. For example, Peas were well known to go down 30 inches, the roots of Turnips went sometimes even deeper, and even the roots of Wheat to a very considerable depth. An experiment he had tried, which confirmed his view of deep draining. He drained three parts of a field in three different ways and mentioned the depths and distances of the three kinds of drains. The result was that the deep drains produced one-fourth more on the deep drained than on the shallow drained part. He might be right, or he might be wrong; but he mentioned the circumstance as having passed on his mind. The Chairman agreed with him as to the advantage of deep drains: and he would perhaps give them his views on the point.—The Chairman, Mr. Grey of Dilston, said not only many advantages had arisen from 4 feet drains, but they had not been compared with the advantages arising from drains of a greater depth. He had seen them in ways sufficiently satisfactory to himself, to make him deem it more safe to drain at 4 feet than at 2 feet depth, and brought him to this conclusion, that he would pay for no drains which were less than 4 feet deep. They were not draining for two or three years, but for a permanent benefit, and therefore they should take the safe course. Mr. Milne had adverted to the depth to which the roots of plants would penetrate. The late Bishop of Durham, Dr. Barrington, who was curious in such matters, made an observation on this point of considerable interest. It was found that the roots of some Wheat at Auckland Castle penetrated to the depth of 6 or 7 feet below the surface of the soil. He did not say that it was necessary they should go that deep with the drains; yet if the roots had power to go so deep, they could not do better than afford them the opportunity of getting their nourishment from as great a depth as possible; and to whatever depth they withdrew the water, to that depth they were affording the roots of plants the opportunity of obtaining nourishment, and affording also to that depth access to the atmospheric air, the constituents of which contributed greatly to the fertility of the soil. There were cases in which draining might not be required to be so deep; but he remembered an instance of a field having been drained with 4 feet drains without effecting the benefit expected from it. It was then determined to cut 4 feet drains at intervals between each two of the 2 feet ones, and this was done. He was staying with the proprietor. I had been raining heavily the whole night, and it being suggested in the morning that this would be a good opportunity to examine the drains, they accordingly went, when they found the 4 feet drains venting all the water, and quite clear, while the shallow drains were throwing off a very small quantity, perfectly turbid. The first direction which agricultural improvement must now take, generally speaking, in this country, was draining. No benefit could be derived from wet land, until they had first carried off the surplus water, which not only prevented the roots from penetrating, but kept the land cold. Evaporation was always going on over wet lands: the greatest cold was produced by evaporation, and that cold was pernicious to the crops. By making a free course for the water, and admitting the atmospheric air and its ammonia, they were laying the first foundation of fertility.

Reviews.

The use and value of the Ammoniacal Liquor and Refuse Lime of Gas-works, for Agricultural Purposes. By E. Taylor, Rochdale; Whittaker and Co., Ave Maria-lane, London.

This pamphlet (pp. 22) simply contains evidence of the value of these manures, and instructions for their use. We have hitherto been most industriously catechised on this subject by correspondents—the same questions as to the methods of applying gas refuse having been often repeated in successive weeks. Let us now publish once for all those recommended by Mr. Taylor, and advise our readers to procure this tract for themselves.

"A question may arise as to the best manner of using it and the most suitable time. An exact and full answer to this question could not be given without a lengthened and careful set of experiments, but to some extent it may now be answered. From the examples quoted of its use it will be seen that if the ammonia water be used in too strong a state the effect for a considerable time is injurious, it burns the plant. It must then be diluted or mixed with water. The most proper strength for using it would be to mix the ammoniacal liquor of the strength (3 Tweddle) it is sold at the gas works with at least five times its proportion of water, or 1 gallon of ammonia water to 5 gallons of water. If it be laid on the land in wet weather, that is during a shower, it may be used stronger, about half liquor and half water, but it is not economical to use it during continued rain, as then the rain carries it lower than the roots too quickly. It should not be sprinkled on the land on a clear sunshiny day, if it be, a considerable portion of the ammonia will fly off, owing to the heat of the sun. Cloudy weather is the most fitting for its application. A watering cart, such as used for watering the streets of towns in dusty weather, appears to be the best contrivance yet thought of for applying it when it is used on meadow land, and for equally distributing it. An excellent mode of using the ammoniacal liquor would be to mix it with substances that will absorb it, such as dry sawdust, dry coal-ashes or sifted cinders, burned earth or clay, charcoal, and the dry scrapings of roads. It can, when thus absorbed, be thrown on the land with a spade or ploughed in. As to the most suitable time of the year to apply the ammoniacal liquor: For Grass lands the best time would be, after the Grass has begun to grow in the spring, and as late as it can be applied without injury to the growing Grass from treading down, but, if used at this time it should be used in a weak state—about 1 gallon to 7 of water. The most convenient time, however, for Grass lands, would, under all circumstances, be in the early spring, that is, just at the commencement of the growth of Grass. Immediately after a first cutting of Grass a sprinkling of ammonia water would produce an abundant second crop in a short time; then it might be used a little stronger, say about 1 part to 5 parts. When used for seeds or roots they should be allowed to sprout before its application, and then used in a very weak state, or else used as a compost, before they are sown or set."

Miscellaneous.

Mr. Mechi's Farm.—On Tuesday, 27th June, Lord Rayleigh, Sir Francis Lawley, Bart., Sir Edward Baker, Bart., Captain Thompson (H.M.B. Espiegle), Mr. Richard Marriatt, Mr. Osgood Hanbury, Mr. Osgood Hanbury, jun., and Mr. Brown, of the Royal Agricultural College, Cirencester, visited Mr. Mechi's farm at Tiptree, for the purpose of inspecting and scrutinising that gentleman's system of farming. After spending several hours in examining minutely every part of the farm, they confessed themselves much satisfied and highly gratified with what they saw, particularly with the thin sown Wheat; they afterwards returned (accompanied by Mr. Mechi) to Mr. Hanbury's, at Holfield Grange, where old English hospitality was spread out with its usual bounty. The next morning the party made a survey of Mr. Hanbury's home farm, where several fields, drained two years ago 4 and 5 feet deep, with pipes, on the modern system, exhibited very superior and improved crops.

Calendar of Operations.

JUNE AND JULY.

N. B.—We have to beg our Correspondents for "Wotton-under-Edge," to substitute "Berkeley" in their addresses.

Bedfordshire Farm, *July* 4.—The weather of the past month has been most suitable for, and has made vast improvements upon, the growing crops. In comparison with last year, our Wheat, Bean, and Barley crops appear equally good, with some few exceptions. We began mowing Clover on the 16th ult., but the continued rain has much damaged it. We stack it with straw and salt, to increase the quantity and improve the quality. The prices for mowing in this quarter range from 2*s.* 6*d.* to 3*s.* an acre; and for mowing, making, and loading, from 5*s.* to 7*s.* an acre. We always prefer carts to waggons for hay and harvest work—in short, for everything. Our men get a regular daily allowance of beer for a month, whether wet or fine, but none is allowed for more than a month, and the hay is generally secured within that time; such method may not be advisable in every case, but has been found to answer better than the irregular allowance of beer on large farms, where many hands are employed. Each man gets an imperial half pint, numbered, so that when a party are together the beer is divided without confusion or delay. The boys also get a monthly allowance of beer. We have two gangs, which together number 35. Both men and boys' time is from 5 o'clock in the morning to 7 at night. We finished sowing Swedish Turnips on the 29th ult., and have now 12 acres of green crops. The horses have been engaged with Turnip sowing and hay carting. The men and boys have also been engaged with the Turnips and hay. The Mangold Wurzel has partially failed, and has been filled up with Turnips dibbled in by boys. We have still Mangold Wurzel of last year in good preservation, which the fatting stock live upon, with Lucerne and a little meal. Our horses and cows are soiled in-doors, with green food. This is an excellent method for making good manure. All our green crop land was well dunged, and still there is some left, and more making for autumn dressing.—*R. V.*

Berwickshire Merse Farm, *June* 30.—Since last report we have been employed in preparing land and sowing Turnips; one field manured with 4 cwt. of guano, the other with 20 loads of cow-dung and 2 cwt. of guano. We had a fall of rain last night and had to stop making, but we are going on with the grubbers, harrowing and gathering on the light land, threshing Oats for the horses, one man with pair of horses at the coals, five men cleaning hedges, cutting Thistles, &c. We have finished shearing the ewes and marking the sheep.—*J. B.*

Dorset Farm, *July* 3.—We can report but little progress at hay-making since last Calendar. The weather could not have been more unfavourable; nearly every day it has rained, and very little hay has been carried, and that I fear has not been in good order, and still there is no appearance of a change for the better. Since yesterday a good deal of our Barley, and some of our Wheat, has been laid down by the rain. But our Turnip crops are looking very well. We have had hardly any signs of the fly; we steeped our seed for a few hours the day before sowing, and mixed a little sulphur along with them; but perhaps their safety from the fly may be accounted for by frequent rains more than by the precautions taken with the seed. Our work has been ploughing for and sowing Swedes; horse and hand-hoeing Mangold Wurzel, Carrots, Parsnips, Rape, and Peas; cleaning and trimming hedges, cutting weeds in pastures, mixing manures for Turnip sowing, and making hay when the sun shone.—*G. S.*

East Lothian Farm, *July* 1.—Work upon the farm during the week has been chiefly confined to the singling of Swede Turnips. Owing to the showery weather that prevails, the hand-hoe can scarcely be used to advantage, and the operation is mostly performed with the hand. Little is doing with the horses, except threshing and carting Wheat to market. Markets are keeping pretty steady in price for all sorts of grain.—*L.*

Galloway Farm.—The Rye-grass hay is now all safe in rick, and the weather, though rather cold, being showery, brings the Turnips fast forward. This week we shall be pretty well over them with the hoe, for the first time. As yet the Potatoes in the field show every sign of vigorous health, but in the garden the shaw is again beginning to be affected. It has not communicated itself to the tubers, and may be but a symptom which dry sunny weather may remove. With reference to a statement by a correspondent in Dumfriesshire with regard to the rottenness of his Swede Turnips on light dry land, and the soundness of a friend's crop on land of heavier quality, it would be interesting to know what kind of manure was used in each of the cases to which he refers. Mr. Lawes, in his paper on Agricultural Chemistry, proves that a sound crop of Turnips cannot be produced by a manure which is deficient in organic or carbonaceous matter, unless the soil to which it is applied is naturally rich in organic matter. Light soils are generally deficient in this respect, strong soils abundant. Hence it is very easy to overdose light soils with stimulating manures, such as guano; and we have found that where used at the rate of 6 cwt. per acre, along with 20 bushels of bones on light Turnip land, which received no dung, the half of the crop (a great one) rotted in the spring; while the same season a similar quantity of manure exactly, applied to strong land, rich in organic matter, produced a sound and excellent crop. Rape cake, as containing a large amount of organic matter, is recommended by Mr. Lawes to be used in conjunction with mineral manures where a deficiency of organic matter in the soil exists, and farm-yard dung cannot be had. The arguments used by Mr. Lawes directed my attention to a rational cause for the unsoundness of my Turnip crop, and several circumstances appeared to confirm them. Five or six adjoining Turnips in a drill were entirely rotten, while for the next few yards they were comparatively sound. This occurred in frequent cases in all parts of the field, and no doubt arose from the person who sowed the guano applying on these particular spots an extra handful. A field of light Turnip land, on the opposite side of the road from that just mentioned, manured with 3 cwt. of guano and 16 bushels of bones per acre, produced the same season a perfectly sound crop, not so bulky as the first, but much more valuable. Here we may suppose the stimulating manure was not in excess in reference to the organic matter naturally present in the soil. But these facts teach us that a due proportion must be maintained in the elements of our manures, in order to produce sound crops of Turnips, and that on light soils too heavy an application of guano, unless accompanied by farm-yard dung, Rape-cake, or other vegetable matter, will not only do no good, but may positively prove injurious. They also show the propriety on light land farms of collecting and hoarding up vegetable matter of every description for application to future Turnip crops.

Lammermuir Sheep Farm, *June* 30.—At the date of our last report rain had began to fall after the severe drought; since then, the weather has sometimes been very showery—sometimes very wet, and frequently accompanied with thunder. Upon Grass which had begun to suffer severely, this abundant supply of moisture has had a most beneficial effect, and pastures whether of sown or natural Grasses, are now very luxuriant; though we fear that the former when of the first year will not stand well, as the summer advances, the great heat and want of rain in May, which rushed the Rye-grass prematurely to seed, having caused a great want of bottom. From the same cause, hay from sown Grasses will be rather light, while that from natural Grass will be heavy. The black-faced wedder lambs were castrated about 10 days ago. We are now engaged with the clipping, having made a beginning on the 24th inst.; the sheep were washed a few days before by swimming them three or four times through a deep pool, by which means the wool is made very clean. It is the general rule in this district for neighbours to assist each other at sheep shearing, arranging matters in such a way that each farm may have its own days. On the 24th inst., we had 12 hands at work, who began at 7 o'clock in the morning, and finished about 600 cheviot ewes and hogs by 5 o'clock in the evening, at which time they were stopped by rain. On the 26th inst., we had 9 hands and finished 400 in the same time. A boy carries away the fleeces, another puts on the stock mark with pitch, while two women roll up the fleeces. We shall still have two days' clipping, one in the end of this week and another during the following. Having, in former years, found quick-lime, strewed in the pens, an excellent preventative of foot-rot, we have had this carefully attended to. The wool is of good quality this year, and few broken fleeces, though the price will be miserable. Our lambs have seldom had a more promising appearance at this season, being strong, healthy, and in excellent condition. The same observation applies to old sheep. Turnip sowing was completed 10 days ago; we are sorry to say that they are not doing well, part having now been sown three times, the fly not having left a vestige of the two first sowings; those that have escaped in part, are not growing vigorously, though we expect to have some ready for thinning in the first week of July. The horses are employed in lifting earth, and driving lime to mix with it for compost; the lime is brought from East Lothian, a distance of 16 miles, and from the nature of the road we are obliged to put two horses in a cart, which makes it a very tedious and expensive operation. The workers have been hoeing Potatoes and cutting Thistles. Similar employment with the thinning and hoeing of Turnips will occupy us for some time.—*A Lammermuir Farmer.*

North Essex Farm, *June* 30.—Since we finished Swede sowing on the 16th inst. our horses have been employed in ploughing for white Turnips, ploughing Clover lea intended for Wheat, hoeing Mangold Wurzel with horse-hoe, carrying home timber trees from hedgerows, and carrying out the timber top wood. Our other work has been mowing Clover for hay, hand-hoeing Carrots and Mangold Wurzel, topping and brushing down hedges, hoeing Hop ground and threshing Wheat.—*T. E.*

Pembrokeshire Farm, *July* 1.—Since last report we have finished sowing Green-top and Purple-top Yellow Turnips, likewise Green-top White Turnips, the latter sown with 3 cwt. Peruvian guano per acre, to be eaten off with sheep. Being of light soil, well adapted for Turnips, they have come up well, escaped the fly, and are now ready for the hoe. Our Swedes being on heavy soil, and the weather very dry, not allowing them to get into rough leaf quickly, the fly mastered them, and we have been obliged to re-sow with Yellow Turnips, which have come up well, but the fly is again at work. We have been horse and hand-hoeing Potatoes; they are continuing to grow well; they have got the drill plough through them the first time. Our seed hay is all in cocks, and part of it carted to stack; the weather is by no means favourable for that operation. Wheat is now far advanced, will be a good crop, but not so bulky as we have seen it. Barley and Oats are now in ear and will be good crops. Beans have blossomed well, but will be rather short in straw, the month of May having been dry for them. Stock of all kinds are doing well, having still excellent pasture. Men and horses have been employed in carting and threshing remainder of stacks in barn-yard; women preparing thatch for hayricks, likewise cutting Thistles in Grass fields.—*J. H.*

South Devon Farm, *July* 3.—Since our last report we have been prevented by the very showery state of the weather from doing much to our hay; a few fine days, however, enabled us to stack a portion of it, and the rest is now in large packs. Our Turnip sowing is progressing slowly; those already sown are brairded very well. Our mode of sowing is as follows:—The ground, being well worked, is ridged up about 27 inches apart, and dung to the amount of 20 tons per acre is drawn out and placed between the ridges; the ridges are then split back, thus forming another ridge over the manure; the seed is then sown with Mr. Slight's (of Edinburgh) two-ridge Turnip and manure drill (quantity of seed 2 quarts per acre), and drilled in with 2 cwt. of superphosphate of lime, mixed with fine mould and sand, per acre. Our corn crops are looking very luxuriant and the Mangold Wurzel and Cabbages making good growth.—*T. M.*

Stirlingshire Carse Farm, *July* 1.—The weather this week having been very changeable, with a heavy fall of rain on several days of it, we have not got on so well with hay and Turnip as could have been wished; however, we have got the greater part of the hay into the small coil, and although the wet weather has not suited hay and Turnips (indeed, Turnips in this neighbourhood had to be sown over again in several cases sometime ago), yet it has done a great deal of good to the Beans and little injury, if any, to the other crops.—*W. F.*

Sussex Farm, *July* 3.—The weather still continues showery. We are threshing Wheat, the straw intended for thatch. The teams will, for the most of the week, be engaged in carting fuel to burn lime. If the weather is fine we shall commence to mow the meadow hay in a day or two. We are now cutting Italian Rye-grass for the horses the second time. The ewes and lambs are now eating off the Tares. Men wheeling earth into a pond bog, planting Cabbages, repairing hedges and roads; women thinning Swedes and hoeing Thistles.—*J. B.*

Notices to Correspondents.

Cabbage—*Inquirer*—You will not have much of a crop unless you plant quickly. May and early June are the proper time of transplanting for a November crop.

Cut Clover—*Inquirer*—To mix straw with Rye, Rye-grass, &c. and cut both into chaff, is beneficial in so far only as it enables the consumption of the former, not as increasing in any degree the nutritiveness of the latter.

Lime—*Inquirer*—Its immediate effect as a manure will, no doubt be the less for its long exposure to the air.

Mousetail Turnip—*J Reed*—Apply to Messrs. Gibbs, corner of Half-moon-street, Piccadilly, London. Or try the common White Stone Turnip, which will better suit field culture.

Relative Values as Food—*Inquirer*—Mr. Hyett, acquainted with the researches of previous writers, and himself a student of this very subject, gives the following list of equivalents:

Wheat	41	Oats	55	Potatoes	2
—— straw	450	—— straw	300	Cabbage	2
Peas	45	Beans	61·5	Carrots	2
—— straw	125	—— straw	450	Beet	3
Barley	54·5	Clover hay	90	Green clover	4
—— straw	300	Ordinary hay	100	Turnips	5

Transplanted Mangold Wurzel—*Sigma*—In so far as transplanting checks the growth of the plant, it hinders it from seeding. But, of two equally forward crops, we should greatly prefer the one *not* transplanted.

Wheat-chaff—*Glamorgan*—We are not aware of the prejudice against it as food for horses; there is none such in our neighbourhood that we know, and we do not know how it is to be justified.

White Clover—*Coxton*—It will not benefit you much to sow over the aftermath. Far better give the land a top-dressing with wood-ashes, or some such manure: that will be more likely to bring the Clover plant into being.

Wind-power—*J L*—It has been applied to the drainage of land, but is now almost entirely abandoned. If your land is sufficiently extensive to pay for it, you should adopt steam power; and you might attach a flour mill to it, or both crushing machinery, or other means of keeping it fully employed. The mode in which it is made to lift water, is by a species of water-wheel, with very deep float-boards, which are made to lift the water a height equal to about one-third of the radius of the wheel.

Markets.

SMITHFIELD, Monday, July 3.

The supply of Beasts is shorter than of late; trade is consequently brisk at an advance of fully 2d., and, in some instances, 4d per 8 lbs. A choice Scot makes 4*s.* 4*d.* pretty readily. We have also a smaller number of Sheep on offer. Trade is active, but prices are not very much higher. The demand for Lamb is still very limited; a few of the choicest kinds may be quoted rather higher. Calves sold slowly at late prices. From Holland we have 2,23 Beasts, 1550 Sheep, and 201 Calves; and from Scotland, 240 Beasts.

Per stone of 8 lbs.—	s	d	s	d	Per stone of 8 lbs.—	s	d	s	d
Best Scots, Herefords, &c.	4	2 to 4	4		Best Long Wools	....		....	
Best Short Horns	4	0 —	4	2	Ditto Shorn	4	6 —	4	
Second quality Beasts	3	0 —	3	6	Ewes and second quality	....		....	
Calves	3	8 —	4	6	Ditto Shorn	3	8 —	4	
Best Downs & Half-breds	....				Lambs	4	8 —	5	
Ditto Shorn	5	0 —	5	2	Pigs	4	0 —	4	

Beasts—2380. Sheep and Lambs—24,150. Calves—385. Pigs—220.

FRIDAY, July 7.

The supply of Beasts is considerable, and the demand small, the hot weather having caused a bad trade at the dead markets. Although something cheaper has made a little over 4*s.*, more than that cannot be quoted for best quality; indeed all kinds suffer a reduction of about 4*d.* per 8 lbs., and many remain unsold. The number of Sheep and Lambs is large; trade for them is very slow, at about 2*d.* per 8 lbs. less price. Calves are plentiful, and are 1*s.* lower; it must be a choice one to make anything over 4*s.* 4*d.* From Holland we have 224 Beasts, 610 Sheep, and 285 Calves; and 142 Milch Cows from home counties.

Best Scots, Herefords, &c.	3	10 to 4	0	Best Long Wools	....	
Best Short Horns	3	8 — 3	10	Ditto Shorn	4	4 —
Second quality Beasts	3	8 — 3	4	Ewes and second quality	....	
Calves	3	6 — 4	4	Ditto Shorn	3	8 —
Best Downs & Half-breds	....			Lambs	4	4 —
Ditto Shorn	4	8 — 5	0	Pigs	4	0 —

Beasts—1203. Sheep and Lambs—11,320. Calves—578. Pigs—310.

HOPS, Friday, July 7.

Messrs. Pattenden and Smith report that the accounts from the plantations continue to come very favourable. Duty 200,000*l.* Market dull of late prices.

Mid. & East Kents, p. cwt.	50*s* to	90*s*	Yearling Keats, p. cwt.	45*s* to	80*s*
Weald of Kents	50 —	65	Yearling Sussex	45 —	
Sussex	50 —	60	Old Hops	20 —	
Farnhams	80. —	105			

COVENT GARDEN, July 8.

The market is well supplied with Vegetables and most kinds of Fruit. Pine-apples are sufficient for the demand. Hothouse Grapes are plentiful, and Peaches and Nectarines abundant. Melons are also sufficient for the demand. Cherries are not so plentiful. Gooseberries and Currants are cheaper. Nuts are sufficient for the demand. Oranges are abundant; Lemons moderately plentiful. Among Vegetables, Carrots and Turnips are abundant and good; Cauliflowers, &c., sufficient for the demand. Asparagus is scarce. French Beans are equal to the demand. New Potatoes are plentifully supplied. Peas are abundant, and sell at from 2s. to 4s. per bushel sieve. Lettuces and other salading are sufficient for the demand. Mushrooms are a little dearer. Cut Flowers consist of Bratias, Pelargoniums, Gardenias, Fuchsias, Carnations, Moss and other Roses

FRUITS.

Pine Apple, per lb., 6s to 10s
Grapes, hothouse, per lb. 3s 6d to 6s
Peaches, per doz., 4s to 15s
Nectarines, per doz. 6s to 15s
Melons, each, 4s to 8s
Strawberries, per pottle, 6d to 1s
Cherries, per lb., 6d to 3s
Apples, dessert, per bush., 8s to 12s
— kitchen, p. bush., 4s to 7s
Currants, per half sieve, 2s 6d to 6s
Gooseberries, per hf. sieve, 2s 6d to 6s
Raspberries, per punnet, 10d to 1s
Oranges, per doz., 9d to 2s
Oranges, per 100, 3s to 12s
— bitter, per 100, 8s to 16s
Lemons, per doz., 1s to 2s
— per 100, 6s to 11s
Almonds, per peck, 6s
— sweet, per lb., 2s to 3s
Walnuts, pe bush. 12s to 18s
Nuts, Barcelona, per bush., 20s to 22s
— Filberts, per 100 lbs., 11s to 20s
— Cob, per 100 lbs., 25s to 30s
— Brazil, per bush., 12s to 16s
Chestnuts, per peck, 3s to 6s

VEGETABLES.

Asparagus, per bundle, 1s to 4s
Cabbages, per doz., 6d to 1s
Cauliflowers, per doz., 1s to 4s
Sorrel, per half sieve, 6d to 9d
Potatoes, per ton, 100s to 160s
— per cwt., 5s to 8s
— per bush., 3s 6d to 5s
Turnips, p. bunch., 3d to 8d
Red Beet, per doz., 6d to 1s
Horse Radish, per bundle, 1s to 6s
Scotch Beans, per 100, 1s to 1s 6d
Rhubarb, per bundle, 3d to 6d
Cucumbers, each, 2d to 8d
Leeks, per bunch, 1d to 2d
Celery, per bundle, 1s to 1s 6d
Carrots, per bunch, 3d to 6d
Spinach, per sieve, 2s to 3s
Peas, per sieve, 2s to 4s
Beans, per bushel, 2s to 2s 6d
Onions, per bunch, 3d to 8d
— Spanish, per doz., 1s to 4s
Onions, pickling, per half sieve, 2s to 3s
Shallots, per bunch, 3d to 4d
Garlic, per lb., 8d to 1s
Radishes, per doz. bunch, 6d to 1s
— Turnip, do., 9d to 1s
Art chokes, per doz., 1s to 2s 6d
Vegetable Marrow, per doz., 6d to 1s
Lettuce, Cab., per score, 4d to 1s
— Cos, do., 6d to 1s
Mushrooms, per pottle, 9d to 2s
Small Salads per punnet, 2d to 3d
Fennel, per bunch, 2d to 3d
Savory, per bunch, 3d to 4d
Thyme, per bunch, 3d to 4d
Watercress, p. 12 small bun., 6d to 9d
Parsley, per half sieve, 6d to 9d
— Roots, per bundle, 1s to 1s 6d
Mint, green, per bunch, 2d to 3d
Marjoram, per bunch, 6d to 9d

ENGLISH TIMBER AND DARK, July 8.

Round Timber. Per Load.	Plank. Per Foot, Cube.	Inch Board. Per Foot, Superficial.
Oak ....£6 0 to £7 10	3s 0d to 5s 0d	0s 4d to 0s 5d
Ash ..... 4 10 — 6 0	2 6 — 4 0	0 3 — 0 4
Elm..... 3 0 — 4 0	1 6 — 2 3	0 2 — 0 3
Beech.... 2 10 — 3 10	1 6 — 2 6	0 2 — 0 2½
Lime .... 3 0 — 4 10	2 0 — 2 6	0 3 — 0 4½

Bark, per load of 45 cwt., 10l to 12l. J. S.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, July 6.

Prime Mead. Hay	75s to 80s	New Hay	50s to 70s	Straw	21s to 30s
Inferior ditto	65 72	Clover	84 100		
Rowen	65 —	New Clover	75 85	J. Coopen.	

CUMBERLAND MARKET, July 6.

Prime Mead. Hay	75s to 81s	Old Clover	90s to 98s	Straw	28s to 32s
Inferior	50 68	Inferior	70 84		
New Hay	50 65	New Clover	— —	Joshua Baker.	

WHITECHAPEL, July 6.

Fine Old Hay	70s to 75s	Old Clover	95s to 105s	Straw	26s to 30s
Inferior Hay	50 60	Inferior	60 70		
New Hay	— —	New Clover	— —		

MARK LANE, Monday, July 3.

Messrs. Kingsford and Lay report that there was a small supply of English Wheat by land carriage samples for this morning's market, which was freely taken by the millers at an advance of fully 1s. per qr. upon the prices of this day se'nnight. A similar improvement was realised upon low descriptions of foreign, but it was difficult to progress with sales of the finer qualities excepting at last week's rates.—Barley met a better sale at our quotations.—Beans are very unsaleable.—Peas are taken at late prices.—Fine qualities of Oats find buyers on rather better terms, and there is an improved demand for other descriptions.—The top price of Flour is advanced 2s. a sack.

BRITISH PER IMPERIAL QUARTER.	s	s		s	s
Wheat, Essex, Kent, and Suffolk ..... White	50	55	Red.....	43	48
Norfolk, Lincolnshire, and Yorkshire	44	48	White ..	44	52
Barley, Malting and distilling, 27s to 29s Chevalier	30	32	Grinding	24	27
Oats, Lincolnshire and Yorkshire..... Polands	22	25	Feed	20	24
Northumberland and Scotch ..... Feed	21	23	Potato ..	23	25
Irish ..... Feed	19	22	Potato ..	22	25
Malt, pale, ship.....	—	—			
Hertford and Essex	—	—			
Rye.....	37	30			
Beans, Mazagan, old and new .. 28s to 32s.... Tick..	30	34	Harrow..	33	36
Pigeon, Heligoland ..... 34 37 .... Winds	—	—	Longpod	—	—
Peas, White..... 33 36 .... Maple	33	35	Grey	30	32

ARRIVALS IN THE PORT OF LONDON LAST WEEK.

Flour, 8895 sks — bls	Wheat. Qrs.	Barley. Qrs.	Malt. Qrs.	Oats. Qrs.	Rye. Qrs.	Beans. Qrs.	Peas Qrs.
English.....	3391	80	1047	1624	—	299	43
Irish	—	—	111	3439	—	—	—
Foreign.....	1494	7375	—	17834	—	1731	47

FRIDAY, July 7.

The arrivals of corn from our own coast are small, but considerable of foreign Oats and Barley from abroad. At to-day's market there has been but a limited sale for Wheat, either English or foreign. Monday's prices are, however, maintained in the trifling sales made.—Beans and Peas remain without alteration in value.—In order to make any progress in sales of Barley and Oats, it was necessary to submit to a decline in prices.

[The weather continued cold and showery until the 4th instant, since when it has become clear and warm; and the markets, which at the close of last and commencement of the present week advanced 1s. per qr. for Wheat, with an increasing inquiry, particularly for foreign f. o. b. and afloat, have since become dull, with scarcely any business transacting. Spring corn, with the exception of Barley, which meets a good demand at former rates, is in little request, and its value barely supported. The Wheat crop is very variable, and the yield beyond doubt deficient compared with last year's, but it has been greatly improved by the late rains, especially in the principal Wheat-growing districts. Reports from the Baltic are unfavourable of the state of the crops, the heavy storms of the last eight or ten days having laid a good many fields. The prices of Wheat there rose 1s. to 2s. per qr., and the latest quotations are, for good 62 lbs. Pomeranean at Stettin, 35s. to 36s.; Mecklenburgh, 62 lbs. to 63 lbs.; at Rostock, 37s. to 38s.; good high mixed Polish at Dantzic, 38s. to 40s.; and 63 lbs. Wahren at Hamburg, 41s. per qr. all f. o. b. Spring corn, in consequence of some inquiry from the interior, had also improved in value. Letters from New York of the 20th June state, that in consequence of the reports from this side, the demand for Flour and Grain was slack, and supplies continuing moderate prices had somewhat given way. Flour was quoted 23s. 3d. to 26s. 6d.; Wheat 41s. to 48s.; Indian Corn, 19s. 9d. to 21s. 7d.; Freight, 4s. 6d. to 5s. per qr.]

ARRIVALS IN THE PORT OF LONDON THIS WEEK.

	Wheat. Qrs.	Barley. Qrs.	Oats. Qrs.	Flour.
English.....	4390	730	3170	3010 sacks.
Irish	—	—	560	
Foreign.....	4230	14550	25460	— barrels.

Imperial Averages.	Wheat.	Barley	Oats.	Rye.	Beans.	Peas.
May 27	47s 8d	32s 8d	20s 8d	28s 9d	36s 9d	36s 11d
June 3	48 1	31 8	21 0	30 8	37 10	38 0
— 10	47 8	31 7	20 9	28 0	37 0	38 0
— 17	46 10	30 10	20 8	31 7	37 3	38 0
— 24	46 11	31 2	20 9	29 4	36 11	38 4
July 1	48 2	30 5	20 10	30 2	36 8	38 2
Aggregate Average	47 7	31 5	20 9	29 9	37 4	37 9
Duties on Foreign Grain	10 0	2 0	2 6	2 0	2 0	2 0

Fluctuations in the last six weeks' Corn Averages.

Prices.	May 27.	June 3.	June 10.	June 17.	June 24.	July 1.
48s 2d	...	...	...	...	...	...
48 1	...	...	...	...	...	...
47 8	...	...	...	...	...	...
47 8	...	...	...	...	...	...
46 11	...	...	...	...	...	...
46 10	...	...	...	...	...	...

SEEDS, July 3.

Canary.....per qr.	70s to 78s	Linseed-cakes, Foreign, p. ton	7l to 9l
Caraway ..... per cwt.	34 35	Mustard, White, p. bush., 7s 0d to 9s 0d	
Clover, Red, English	35 44	Superfine, p. bush., — —	
— Foreign	35 40	Brown, per bush., — —	
White, English	38 44	Rapeseed, Eng., per last.....	28l 32l
— Foreign	38 42	Rape-cakes .....per ton	6l 0s
Coriander.....	10 20	Samlein	— —
Hempseed .....per qr.	40 44	Tares, Eng., winter, p. bush.,	5s 0 7s 0
Linseed	36 40	— Foreign, per bush.,	3s 6 6s 0
— Baltic	32 36	Trefoil	17s 0 20s
— Cakes, Eng. p. 1000,	11l 15s to 12l	Turnip—too variable for quotation.	

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE and MORRIS will submit to public competition by Auction, on the premises, Hillroad Nursery, Abbey-road, St. John's-wood, on Monday, July 17th, 1848, at 12 o'clock (by order of the trustee for creditors), the whole of the Greenhouse Plants, four capital Greenhouses, several Pits, Frames, Boxes, and Lights, Brick work, erection of Stable and Shed, Cart, Harness, Dung, Garden pots, &c. Also the valuable Lease of the premises for the unexpired term of 13½ years at Midsummer, 1848, with a newly-erected Cottage thereon, and the Nursery Stock. May be viewed prior to the day of sale, and Particulars and Catalogues had, of Mr. Henry Cramer, Solicitor, 13, George street, Mansion-house; of Mr. Samuel Jones, 73, Basinghall street, of the principal Residences, on the Premises, and of the Auctioneers, American Nursery, Leytonstone.

SPLENDID SALE OF THE WOODHALL COLLECTION OF EXOTICS, PINE PLANTS, AND HOUSES containing the same.—There will be sold by Auction, within the Gardens of Woodhall, in the parish of Bothwell, and county of Lanark, lying 10 miles east of Glasgow, and near to the Holytown Station of the Caledonian Railway Company, on Thursday, the 10th day of August next, commencing at 11 o'clock forenoon, the whole of that extensive and celebrated collection of HOTHOUSE, GREENHOUSE, AND PINE PLANTS, consisting of numerous rare and valuable species, among which are many very fine specimens of Camellias, with a variety of Pelargoniums (Geraniums), Indian Azaleas, and other miscellaneous Greenhouse Plants and Shrubs. After which will be sold the whole range of Glass, which is very extensive. The collection is well known, and is in the best state of health, and may be viewed any day prior to the sale, by applying at Woodhall Gardens. For her information learned, and particulars given, or application to Mr. Webster, Thankerton, Holytown.—Woodhall, July 8.

TO NURSERYMEN AND FLORISTS.

TO BE SOLD, by Private Contract, a SMALL NURSERY, in an excellent situation, comprising One Acre and a Quarter of very fine Land, a capital brick-built Cottage, two Pits, and two Greenhouses (nearly new); held on Lease, by ears unexpired, at a ground-rent of 15l. Stock to be taken at a valuation.—For particulars apply, on the premises, Lea-bridge Nursery, Lea-bridge-road, Clapton.

THE ESTATE AND MANOR OF SCOREBY, NEAR YORK.

THIS important Estate, comprising a compact Domain of about 1300 acres, only five miles from York, nearly all Freehold and Tithe Free, and in a high state of cultivation, with beautiful Woods and Plantations, containing a rare collection of Plants, as formerly advertised, is FOR SALE, by Private Contract, by direction of the Executors of the late Ottiwell Wood, Esq.—Particulars, with Plans, Rental &c., may be had of Messrs. Daniel Smith and Son, Land Agents, in Waterloo-place, Pall Mall; or of Messrs. Lightfoot, Robson, and Lightfoot, Solicitors, Castle-st., Leicester-square, London.

MERRIOTT, NEAR CREWKERNE, SOMERSETSHIRE

TO BE LET, and entered on immediately, on most advantageous terms, an Old Established and Well Stocked NURSERY, containing, by estimation, Ten Acres (more or less), situated in the above parish; together with an excellent Hothouse thereon, filled with choice Vines in full bearing, and valuable plants; adjoining which is a comfortable Cottage, with convenient Cart-house, Packing Sheds, Seed Room, &c.

Merriott is situated within a short distance of the populous towns of Ilminster, Ilchester, Yeovil, Crewkerne, Chard, Taunton, &c., to which latter place conveyances pass to and fro daily, in connection with the railways to all parts of England.

To view the above, application may be made to Mr. Andrews, at the Cottage on the Nursery; and further particulars and terms of letting may be known on application to Mr. Whitley, Solicitor, Wrington, near Bristol, Somerset.—Wrington, July 8.

COODE'S PATENT IRRIGATOR.—This Implement distributes from 6 to 12 tons of Liquid per hour, with the equality of a shower of rain. It covers about one acre in that time. It works with equal advantage on land in Grass, or any crop, or on bare ground. The cost of distribution is not more than fourpence per acre, or three farthings a ton, with the addition of the cost of pumping, when the reservoir of liquid is too low to supply the implement. It will be exhibited at York during the ensuing meeting.—Haydock Park, near Warrington.

ANNATTO.—Farmers and others will do well to try SIMS and Co.'s extra superfine CAKE ANNATTO FOR COLOURING CHEESE. None will be found superior either in the London or Country Markets, and the same can be supplied at a greatly reduced price, through the Chemists and Grocers of the United Kingdom, by their sole agent, W. S. Rumsey, Wholesale Chemist, 3, Queen-street-place, Upper Thames-street. Samples (if required) forwarded by post.

ROWLANDS' TOILET ARTICLES. — ROWLANDS' MACASSAR OIL, for the growth, and for preserving and beautifying the human Hair. ROWLANDS' KALYDOR, for improving and beautifying the Skin and Complexion. ROWLANDS' ODONTO, or PEARL DENTIFRICE, for preserving and beautifying the Teeth and Gums. The especial Patronage of Her Majesty the Queen, H.R.H. Prince Albert, the Court, and Royal Family of Great Britain, and of every Court of the civilised world, together with numerous Testimonials constantly received of their efficacy, affords the best and surest proof of their merits.

*** BEWARE OF SPURIOUS IMITATIONS. Some are offered under the implied sanction of Royalty and the Government Departments, with similar attempts at deception. The only genuine of each bears the name of "ROWLANDS'" preceding that of the article on the wrapper or label. Their name thus—A. ROWLAND & SONS, is also, in red, on the wrappers of the Macassar Oil and Kalydor, and on the Government Stamp of both the Kalydor and Odonto.—Sold by them at 20, Hatton-garden, London, and by every respectable Chemist and Perfumer throughout the kingdom.

H. WALKER'S NEEDLES (by authority), the "Queen's Own," have large eyes, easily threaded, even by the blind, improved points, temper, and finish. The labels are correct likenesses of the Queen and Prince Albert, in relief, on coloured grounds. Sent free by post by any respectable dealer, on receipt of 13 stamps for every 1s. value. H. Walker's Needles for the Million are about half the price of the "Queen's Own." H. W. Manufactures improved Crotchets, Fish-hooks, Hooks and Eyes, Steel Pens, &c.—Gresham street West, New Post-office, London.

CAPTAIN CHIOSSO (assisted by his Son) PROFESSOR OF FENCING AND GYMNASTICS at the University College, London, and author of a treatise on Physical Education, respectfully begs to announce that he has Removed to 21, Gower-street, New-road, where he continues to treat cases of SPINAL DEFORMITY, CONTRACTION OF THE CHEST, DEBILITY, &c. &c. His system, for its simplicity and efficacy, is peculiarly adapted to the youth of both sexes, as well as adults. As it can be productive of no strain to the muscles, or over-exertion, it is on this account that it is recommended by the highest authorities of the Medical Profession.

Captain C. may be consulted on Tuesdays and Thursdays, between the hours of Two and Three.

PRESENTS for WEDDINGS, BIRTHDAYS, AND ALL FESTIVALS.

ART MANUFACTURES will aim to produce in each article superior utility, which is not to be sacrificed to ornament: to select pure forms: to decorate each article with appropriate details relating to its use, and to obtain these details as directly as possible from Nature. These principles are by no means put forward as forming an universal rule; but it is thought they may be adhered to advantageously in most Articles of Use, and may possibly contain the germs of a style which England of the nineteenth century may call its own. Several of our best Artists have already expressed their willingness to assist in this object, among them may be named—

John Bell, Sculptor; T. Creswick, A.R.A.; W. Dyce, R.A.; J. R. Herbert, R.A.; J. C. Horsley, S. Joseph, Sculptor, D. Maclise, R.A.; W. Mulready, R.A.; R. Redgrave, A.R.A.; H. J. Townsend; Sir R. Westmacott, R.A. John Absolon, &c. &c.; and executed by the first English Manufacturers.

THOSE NOW READY ARE PRICED.

A New Wine Tray in paper mache, especially for decanters and glasses; designed by R. Redgrave, A.R.A., with bee, butterfly and flowers in suite, the Tray executed by Jennens and Bettridge. Price of the Tray 30s. and upwards.

"Salt and Fresh Water Fishers." **A Fish-Knife and Fork.** In Silver. By J. Bell. 10 and 11 guineas.

"Vintagers." **A series of Decanter Stoppers.** Designed by J. C. Horsley. In Silver and Electro-plated.

A Bride's Inkstand, in Parian, with Tazza. Modelled by J. Bell, R. Wyon, without lizards, and upwards. The Inkstand will also be published separately in Bronze 2l. 2s., and Silver.

Kissing Children, surmounting a Paper Weight, 2s., and a Loving Cup, 1l.

Boy and Dolphin, as a Seal or Paper-knife Handle, with a gilt blade ornamented with the flax, in a case, 2l. 2s.

A Beer-Jug in Parian: emblematical of the Gathering, Storing, and Employment of the Hop. Designed by H. J. Townsend, price 15s.; or with extra Figures, 21s.

*** The Gold Medal of the Society of Arts was awarded to Messrs. Minton and Co., the Manufacturers, for the Union of Superior Art and Manufacture which this Jug displays.

The Infant Neptune. Modelled by H. J. Townsend, 27s. in Parian. The same in Silver, 25 guineas.

Water-Jugs, in Glass. Designed by R. Redgrave, A.R.A., price 1l. 5s. and upwards; also goblet to match, price 10s. each. The Vase on a smaller scale is executed in Parian and Porcelain.

The "Bitten Tongue." **A Mustard-Pot,** in Parian. Modelled by John Bell, price 9s. The figure will also be applied to a Silver and Plated Metal Mustard-pot.

A Pair of Carved Wood Brackets; price 3l. 5s. and upwards.

Dorothea, a Statuette, in Parian. Modelled by John Bell, 2l. 2s.; also in Bronze.

Purity, or Una and the Lion, a Statuette. Modelled by J. Bell; a companion to Danecker's Ariadne, or "Voluptuousness," 3l. 3s.

Waterloo Bust of the Duke of Wellington. Modelled by S. Joseph. Price 1l. 10s.

The Milk-Jug which received the Prize awarded by the Society of Arts in 1846, designed by Felix Summerly, executed in Porcelain and Glass, 5s. and upwards: also in Silver by Hunt and Roskill, 156, New Bond street, 3l. 10s.

"Heroes, bearded and beardless." **A Shaving Mug,** price 4s. and upwards, with Brush and Brush-dish en suite, 1l. each. Designed by R. Redgrave, A.R.A.

"Bubbles bursting." **A Champagne and Soda-Water Glass.** Ornamented by H. J. Townsend. At various prices.

A Wine Glass and Finger Glass. Designed in enamelled colours, by R. Redgrave, A.R.A. At various prices.

A Cake Dish in Glass. Designed and Ornamented with gilt Enamel, by John Absolon.

Terra Cotta Trusses, 2l. each.

A Set of Dessert Knives and Forks, executed by Rodgers and Sons.

"The Camellia" **Tea-pot,** executed by Dixon, after a design by R. Redgrave, A.R.A., in Silver, 20 guineas; plated, 4os.; and Britannia metal, 16s.

"Prayer and Belief." **Two Statuettes of Children,** in Parian. Modelled by J. Bell, each 24s.

A Brown Earthenware Jug. Ornamented with bas-reliefs emblematical of travelling, by H. J. Townsend.

A Salad Fork and Spoon, in Wood and Ivory, with Ruby Glass Bowl. Modelled by J. Bell.

"The Hayfield," after the Picture by W. Mulready, R.A., exhibited at the Royal Academy in 1847. Painted on a Porcelain Vase.

A Grate, with Chimney-piece, Hearth, and Fire-irons en suite; exhibiting a new combination of metal and pottery. The Grate and Fender after the patent of Mr. J. Sylvester.

The Shakespeare Clock-case, in Metal and Porcelain. Modelled by John Bell.

"Guardian Angels." **A Christening Cup** in Silver. By R. Redgrave, A.R.A.

A Lady's Work-box, in Buhl.

A Wall Paper, especially for hanging gold frames upon, by R. Redgrave, A.R.A.

Candlesticks, in Silver and Plated Metal.

A Bread Platter in Wood, at various prices, and Bread Knife to Match. Price 12s. and upwards.

"The Distressed Mother," a Statuette, by Sir R. Westmacott, R.A.

A Dish for the Drawing-room, to receive Visiting Cards. Designed in Colours, by D. Maclise, R.A.

An Arm-chair in Wood Carving.

London: Cundall's, 12, Old Bond-street.

The Art Manufactures Circular, with 24 pictures, sent on the receipt of three postage stamps.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

PROGRAMME.

THURSDAY, JULY 6.—Last day of receiving Implements, Seeds, &c., to be exhibited in the Implement Yard, and arranged by the Stewards for the Judges' inspection.

TUESDAY, 11.—The Implement Yard open to the Public from 8 o'clock in the morning till 6 in the evening, at 2*s.* 6*d.* each person.

The Public exhibition of the Light Land Implements to take place on the fields of Mr. H. Stafford Thompson, adjoining the Helmsley Turnpike Road, at the distance of about half a mile from the Show-yard; and that of the Heavy Land Implements on the fields of Mr. H. Stafford Thompson, situate about a quarter of a mile beyond the former, and nearly adjoining the Helmsley-road.

Stock received in the Show Yard from 8 o'clock in the morning till 4 in the afternoon.

At 4 o'clock in the afternoon, Professor Johnston, of Durham to deliver a Lecture in the De Grey Rooms, on the Application of Science to Agriculture. Members and their friends admitted by free-tickets, to be obtained of the Secretary, at the De Grey Rooms. Doors open at half-past 3.

WEDNESDAY, 12.—The Implement Yard open to the Public from 8 o'clock in the morning till 6 in the evening; admission 2*s.* 6*d.*

The Judges to inspect the stock and award the prizes.

In the evening, after all the Judges have delivered in their awards, the public to be admitted into the Cattle Yard, on the payment of 1*l.* each person, at the Special Entrance; Members of Council and Governors being admitted by Tickets, to be purchased at the Finance Department of the Society, in the De Grey Rooms. N.B.—Notice will be posted over such entrance when the Judges have completed their awards.

At 4 o'clock in the afternoon Professor Simonds, of the Royal Veterinary College, London, to deliver a Lecture in the De Grey Rooms. "On the subject of Calving and Lambing," with coloured illustrations on a large Scale. Members and their friends admitted by free tickets, to be obtained of the Secretary, at the De Grey Rooms. Doors open at half-past 3.

At 6 o'clock the Council Dinner in the Guildhall, at which a discussion will take place "On the Rearing and Management of Cattle, from the time of their being dropped to the expiration of the first year:" and, for general convenience, it is proposed, that each gentleman who takes part in such discussion should not speak more than fifteen minutes. The Council Dinner and Discussion, will be followed by the reading of the Judges' award of Prizes, with the exception of the awards of Prizes for Horses, which will not be announced until the following day.

THURSDAY, July 13.—The Cattle Yard open to the Public from 6 o'clock (and the Implement Yard from 7 o'clock) in the morning till 2 in the afternoon; admission 2*s.* 6*d.*:—and from 2 o'clock till 6 in the evening at 1*s.*

Dinner of the Society in the Great Pavilion, on St. George's Field, at 4 o'clock: doors open at half-past 3.

FRIDAY, July 14.—General Meeting of the Members in the Guildhall at 10 o'clock in the forenoon.

The Cattle and Implement Show Yards are situate on the Bootham Stray, about one mile north of York, near the intersection of the Helmsley Turnpike road with the Scarborough Railway.

President.....THE EARL OF YARBOROUGH.

STEWARDS OF DEPARTMENTS.

Cattle	Mr. Druce, Mr. Kinder, and Mr. Hudson.
Implements	Mr. Shelley, Mr. Thompson, Colonel Challoner, and Mr. Shaw, jun.
Finance	Colonel Austen.
Sale of Tickets	Mr. Henry Wilson.
Receipts and Admissions to Show Yards	Mr. Raymond Barker.
Council and Pavilion Dinners	Sir John V. B. Johnstone, Bart., M.P.
General Arrangement of Show	Mr. Brandreth Gibbs.

By Order of the Council, JAMES HUDSON, Secretary.
London, June 24, 1848.

By the Regulations of the Society—

All Persons admitted into the Show Yards, or other places in the temporary occupation of the Society during the Meeting, shall be subject to the Rules, Orders, and Regulations of the Council.

N.B.—Sale of Tickets for the Pavilion Dinner, to Members of the Society, at the De Grey Rooms (near the Bootham Bar, and about 150 yards west of the Cathedral), from 12 to 4 o'clock on Wednesday, the 12th of July, and from 8 to 12 o'clock on Thursday, the 13th of July; and to Members or their friends, from 12 to 3 o'clock on the latter day:—price (including a pint of wine) 10*s.* each. The sale of Cattle-yard Tickets, at 2*s.* 6*d.* each, for Wednesday Evening, to Members of Council and Governors, at the same rooms, on Wednesday the 12th of July, between the hours of 12 and 4 o'clock.

REAPING SCYTHES.

DRUMMOND'S IMPROVED REAPING SCYTHES continue to give complete satisfaction, and may be had from the Subscribers, carriage free, to London, Liverpool, Hull, Newcastle, Belfast, Londonderry, Dublin, and Cork, at 11*s.* 6*d.* each, or 10*s.* 6*d.* each when three or more are taken.—N.B. Orders from unknown correspondents must be accompanied with a remittance.—WILLIAM DRUMMOND and SONS, Agricultural Museum; STIRLING, N.B., and 58, Dawson-street, Dublin.

*** Priced Lists of Agricultural Implements may be had free on application.

TO CARNATION AND PICOTEE CULTIVATORS.

JOHN DICKSON begs to inform the floricultural world that a Treatise on the Culture of the above Flowers, by an Amateur, is in the press, and will shortly appear. J. D. feels great pleasure in earnestly recommending this valuable little work, which he has carefully reviewed, and feels no hesitation in pronouncing it perfect. It is at once calculated to instruct the Tyro, assist the Amateur, and, indeed, improve every class of Growers. A Deseriptive List of the best Flowers out in this class will be given in addition. Price 1*s.* 6*d.*—July 8.

MECHI'S TABLE CUTLERY has long been famed for its admirable qualities, combined with cheapness. His Manufactory is at 4, Leadenhall-street, four doors from Cornhill. Balanced handles, in sets of 50 pieces, 2*l.* 10*s.*, 3*l.* 10*s.*, 4*l.* 10*s.*; common kitchen, per dozen, 10*s.*, 12*s.*, 16*s.* 6*d.*, 21*s.*, 25*s.* Table steels, patent sharpeners, cases of dessert knives, Sheffield plated goods, &c. MECHI'S penknives are excellent and economical, from 1*s.* upwards. His peculiar steel razors and magic strop and paste have given comfort to many a suffering shaver, and the Ladies pronounce his scissors to be unequalled.

DO YOU SUFFER TOOTH-ACHE? if so, use BRANDE'S ENAMEL for filling the Decayed Spots. An instant and permanent cure, giving no pain when applied, and rendering defective Teeth useful in mastication.—The same as sold by Dentists at 2*s.* 6*d.* Sold by Chemists, everywhere, price 1*s.* only, enough for three or four teeth. London, wholesale by all the Medicine houses.

NOTICE OF REMOVAL.

THE ROYAL AGRICULTURAL COLLEGE OFFICE removed on the 24th of June, 1848, to No. 26, King William-street, Charing-cross.

PHILIP BOWES, Secretary.

ROYAL AGRICULTURAL COLLEGE, Cirencester.

Patron—H. R. H. PRINCE ALBERT.

President of the Council—Right Hon. EARL BATHURST.
Vice-President—Right Hon. EARL DUCIE.
Principal—JOHN WILSON, F.R.S.E., F.G.S., &c.
Chaplain and First Master—Rev. G. M. TANDY, M.A.
Second Master—JOHN S. MORELAND, C.E.

RESIDENT PROFESSORS.

Agriculture—JOHN WILSON, F.R.S.E., &c.
Chemistry—JOHN BLYTH, M.D.
Botany and Geology—JAS. BUCKMAN, F.G.S.
Veterinary Practice—JOHN ROBINSON, M.R.C.V.S.
Mathematics and Natural Philosophy—Rev. G. M. TANDY, M.A.
Practical Surveying and Engineering—JOHN S. MORELAND, C.E.

OBJECTS.

The object of this Institution is to provide such a course of instruction as will be most useful to the practical farmer. The benefits to be derived by the agriculturists from a judicious application of scientific information are becoming more and more extensively acknowledged; while the means of obtaining that information, if, indeed, it can be obtained at all, without for the time sacrificing a due attention to the practical operations of husbandry, are so scattered and costly as to be within the reach of very few. The College course of instruction is conducted in such a manner that, while the student is well based in the principles of each science, its relations with agriculture are specially touched upon and explained, and their practical application shown, as far as possible, in the operations of the College farm. The theoretical and practical teaching go hand in hand, and the whole is combined with the advantages of collegiate discipline. By order of the Council,

PHILIP BOWES, Secretary.

London Office, 26, King William-street, Charing-cross.

AT THE ANNUAL GENERAL COURT OF THE ROYAL AGRICULTURAL COLLEGE, held on the 6th June, 1848, the Right Hon. Earl BATHURST, the President, in the chair, the Report of the Council for the past year was read, adopted, and ordered to be printed for circulation amongst the Shareholders.

The recommendation of the Council to raise the fee for In-students to Eighty pounds, and for Out-students to Forty pounds per annum, was adopted, and the Council were empowered to act thereon.

Mr. Pusey, M.P., and Mr. Fisher Hobbs, having retired from the Council, were replaced by Sir Robert Throckmorton and the Rev. Alexander Huxtable.

One-third of the Council being balloted out were re-elected.

A vote of thanks was passed to the Hon. Mr. Bathurst for his valuable present of a Clock for the College Tower; and another to the President, Vice-President, Auditors, Treasurers, and Council, for their attention to the business of the Institution during the past year. PHILIP BOWES, Secretary.

London Office, 26, King William-street, Charing-cross.

Now ready, price 2*s.* 6*d.*,

HEWITT DAVIS'S FARMING ESSAYS:

Containing

1. ON SELECTING A FARM.
2. FARM LEASES AND TENANT RIGHT.
3. ARTIFICIAL MANURES.
4. SPRING PARK FENCING.
5. PREMATURE DECAY OF WHEAT.
6. AGRICULTURE, ANCIENT & MODERN; DRAINING; OVER-SEEDING; HOMESTEAD ACCOMMODATION, &c.

By HEWITT DAVIS, Author of "Injury and Waste of Corn," "Farmers' Resources," &c. &c.

London: JAMES RIDGWAY, Piccadilly, and all Booksellers.

This day, Part I., price 2*s.* 6*d.*

FLORA HERTFORDIENSIS; or, A CATALOGUE of Plants growing wild in the county of Hertford.

By the Rev. R. H. WEBB, and the Rev. W. H. COLEMAN.
London: WILLIAM PAMPLIN, 45, Frith-street, Soho.
Hertford: STEPHEN AUSTIN, Fore-street.

HARE AND RABBIT PROOF IRON HURDLES.—Six feet long and 3 feet high, 5*s.*, 6*s*, and 6*s.* 6*d.*, each, painted green; 6 feet high, 10*s.*, each; 2 feet high, 4*s.* each; the whole part of each hurdle is rabbit-proof; for forming large enclosures for pheasants, &c., fencing in lawns, and other purposes requiring a good invisible fence, they are recommended. — ROBERT RICHARDSON, 21, Tonbridge-place, New-road, London.

WIRE NET PAINTED, ¾*d.* PER SQUARE FOOT, less than 2-inch mesh, or 6 feet high, 1*s.* per running yard, to act as a fence against Hares and Rabbits, Cats, Dogs, Sheep, Deer, &c. Enclose Fowls, Pheasants, &c., &c., 15 inches high, 3*d.* per yard; 18 inches, 3½*d.*; 24 inches, 4½*d.*; 3 feet, 6¾*d.*; 4 feet, 9*d.*, &c. This is much the cheapest article in the market, being nearly double the thickness of that sold at 1*d.* per square foot, and from its being worked in oil in powerful machinery, will last without repainting longer than any other kind of wirework. 1-inch mesh by 2 inches, an oblong square, which is warranted to exclude the very youngest Rabbits, 1*s.* 6*d.* per yard, 6 feet run in width, or narrower at a shade above 1*d.* per square foot.—Any quantity sent on application to R. RICHARDSON'S, 21, Tonbridge-place, New-road, London.

FISHING NETS, SHEEP NETS, HORSE NETS.—Draw Nets, Seine Nets, and Trammel and other Nets, from 4 to 400 yards long, kept constantly on Sale; also Casting Nets, Hoop Nets, &c. &c., on very moderate terms. Strong New Zealand Cord or Cocoa Nut fibre Sheep Nets, nearly 4 feet high, 4½*d.* per yard. Nets for Carriage-horses and Saddle-horses, 7*s.* 6*d.* each; for Cart-horses, 5*s.* 6*d.* and 6*s.* 6*d.* Nets to enclose Fowls, Pheasants, for Shooting and for Rabbit Catching; and Nets made to order for any purpose.—ROBERT RICHARDSON, 21, Tonbridge-place, New-road, London.

WASP NETS, FOR PEACHES, &c, made of three-strand Thread or Worsted, effectually Preserving Wall Fruit from Wasps, Flies, &c.; and also a most effectual Protection to Blossom in the early period of the year; also for Shading Flowers, Greenhouses, &c. Price 6*d.* per square yard. Samples sent if required.—R. RICHARDSON, 21, Tonbridge-place, New-road, London.

TENTS & RICK-CLOTHS. — Rick-cloths, 30¾ feet by 30 feet, cover for 30 tons of hay, 5*l.*, complete, with side-lines; other sizes in proportionate price. Tents, 5*l.* each, 30 feet diameter, made on the principle of a parasol, put up or taken down in a few minutes; Square Tents, without a centre pole, 5*l.* 10*s.* each, 12 feet square. All are 6 feet high in the lowest part. Two Booths, 36 feet by 22 feet, 10*l.* each; or forming one Tent, 72 feet long, 20*l.*; only been let out three times.—R. RICHARDSON, 21, Tonbridge-place, New-road, London.

GARDEN NETS.—Old Fishing Nets properly mended up, ¾*d.* per yard; new Herring Nets 1½*d.* per yard, 1-inch mesh; do. ¾ inch mesh, 2½*d.* per yard. Worsted Garden Nets 2½*d.* per yard, 3-strand Thread or Worsted Nets 6*d.* per square yard, a very approved protection against wasps and flies.—R. RICHARDSON, 21, Tonbridge-place, New-road, London.

PROVIDENT LIFE OFFICE, 50, Regent-street, and 2, Royal Exchange-buildings, London.

Established 1806. Invested Capital, 1,230,000*l.*
Annual income, 140,000*l.* Bonuses declared, 743,000*l.*
Claims paid since the establishment of the Office, 1,678,000*l.*

President.—THE RIGHT HONOURABLE EARL GREY.

Directors.

The Hon. ARTHUR KINNAIRD, *Chairman.*
The Rev. JAMES SHERMAN, *Deputy Chairman.*

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Henry Blencowe Churchill, Esq.	George Round, Esq.
George Dacre, Esq.	James Sedgwick, Esq.
Alexander Henderson, M.D.	Frederick Squire, Esq.
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JOHN A. BEAUMONT, Managing Director.

Physician—JOHN MACLEAN, M.D., F.S.S., 29, Upper Montague-street, Montague-square.

The Rates of Premium are those adopted by the principal Life Offices, the rate without bonus is lower than that of most other Offices.

The Bonuses are added to the Policies, or applied to the reduction of the Premiums.

Policies issued by this Office are purchased at their full value; or Loans may be obtained upon them after they have been in existence for five years.

If a party neglect to pay for the renewal of his Policy, he may repair the omission any time within 12 months, upon proof of good health.

The profits (subject to a trifling deduction) are divided among the insured. The plan upon which they are divided gives to each party insured a share proportionate to the amount of the Premiums he has contributed.

In addition to the above advantages, the Directors have determined to adopt the principle of allotting a prospective Bonus to Policies lapsing between the Septennial Periods of Division, in order that all the Policy-holders may participate equally in the Profits of the Society.

The following Table shows the amount of Bonuses added to Policies existing at the present time.

Policy No.	Date of Policy.	Sum insured.	Bonuses added.	Increase on original Insurance.	Total Sum payable, to which future Bonuses will be added.
		£	£ s. d.		£ s. d.
21	1806	500	415 10 2	83·10 per cent.	915 10 2
521	1807	900	982 12 1	109.17 ,,	1882 12 1
1174	1810	1200	1160 5 6	96.68 ,,	2360 5 6
1395	1811	1600	1328 8 6	83.02 ,,	2928 8 6
3286	1820	2000	1906 13 5	95.33 ,,	3906 13 5
3392	1820	5000	3558 17 8	71.17 ,,	8558 17 8
4356	1822	3000	2541 3 6	84.7 ,,	5541 3 6

Prospectuses and full particulars may be obtained upon application to the Agents of the Office in all the principal towns of the United Kingdom; and the head Office, No. 50, Regent-st.

VICTORIA LIFE ASSURANCE COMPANY, 18, KING WILLIAM STREET, CITY.

Residence in many of the Colonies allowed, *without additional charge*, and the premium required for the *East or West Indies*, and other extra risks, is more than usually moderate.

On Policies taken out for the whole term of life, *one-third* of the Annual Premiums may remain unpaid *till death*; thus parties are enabled to effect an assurance, say for 1200*l.*, by the payment of Premium on 800*l.* only.

The *half credit system* for five years is also adopted.

Four fifths, or 80 *per cent.* of the entire profits are appropriated to assurers entitled to share therein.

The *Bonus* at the last division averaged 23 *per cent.* on the amount of Premiums paid.

Advances continued to be made to assurers on assignable property or income, and also on the guarantee of most undoubted personal securities.

WILLIAM RATRAY, Actuary and Secretary.

SCOTTISH UNION FIRE AND LIFE INSURANCE COMPANY, instituted in 1824, and incorporated by Royal Charter, 37, Cornhill.

FIRE *Insurances may be effected with this* Corporation on the most liberal terms and conditions.

Special risks reasonably rated.

The additions made to the Life Policies for the last five years average nearly 2 per cent. per annum on the sums insured.

F. G. SMITH, Secretary.

Scottish Union-office, 37, Cornhill, London.

IMPORTANT INFORMATION.

DR. ROBERTS'S CELEBRATED OINTMENT, called the POOR MAN'S FRIEND, is confidently recommended to the public as an unfailing remedy for wounds of every description; a certain cure for Ulcerated Sore Legs, if of 20 years' standing; Cuts, Burns, Scalds, Bruises, Chilblains, Scorbutic Eruptions, and Pimples in the Face, Sore and Inflamed Eyes, Sore Heads, Sore Breasts, Piles, Fistula, Cancerous Humours, and is a specific for those afflicting Eruptions that sometimes follow Vaccination. Sold in pots at 1*s.* 1½*d.* and 2*s.* 9*d.* each. Also, his PILULÆ ANTI-SCROPHULÆ, confirmed by more than 40 years' experience, to be, without exception, one of the best Alterative Medicines ever compounded for purifying the blood, and assisting Nature in all her operations; hence it is useful in Scrofula, Scorbutic Complaints, Glandular Swellings, particularly those of the neck, &c. They are efficacious also in Rheumatism, and form a mild and superior Family Aperient, that may be taken at all times without confinement or change of diet. Sold in boxes at 1*s.* 1½*d.*, 2*s.* 9*d.*, 4*s.* 6*d.*, 11*s.*, and 22*s.* each.

To Messrs. BEACH and BARNICOTT, Successors and Executers to the late Dr. ROBERTS.

Gentlemen,—About 17 years ago I had the misfortune of knocking my leg while felling some timber, which broke the skin, and my scratching brought it to a wound. I applied many remedies, to no purpose; it continued to get worse. I became an out-patient of Taunton and West Somerset Hospital, in which I continued three months, and I went as out-patient to the Bridgewater Infirmary; but it continued to get worse. At length I was advised, by my uncle, to get the Poor Man's Friend, which he said would cure me; I continued the application, and after using three pots of the Ointment, and two boxes of the Pills, I am happy to inform you that I am now perfectly cured, and have been so for 12 months, after suffering for 17 years. Knowing the misery of a bad leg, I send you this for the benefit of those suffering in like manner.

I remain, your obedient servant,
Taunton, Nov. 17, 1837. SIMON STONE MITCHELL.

Sold Wholesale by the Proprietors, BEACH and BARNICOTT, at their Dispensary, Bridport; by the London Houses; Retail by all respectable Medicine Vendors in the United Kingdom.

OBSERVE.—No Medicines sold under the above names can possibly be genuine unless "BEACH and BARNICOTT, late Dr. ROBERTS, Bridport," is engraved and printed on the stamp affixed to each package.

Printed by WILLIAM BRADBURY, of No. 6, York-place, Stoke Newington, and FREDERICK MULLETT EVANS, of No. 7, Church-row, Stoke Newington, both in the county of Middlesex, Printers, at their office in Lombard Street, in the Precinct of Whitefriars, in the City of London; and published by them at the Office, No. 5, Charles Street, in the parish of St. Paul's, Covent Garden, in the said county, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY, JULY 8, 1848.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 29.—1848.] SATURDAY, JULY 15. [Price 6d.

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ROSHERVILLE GARDENS.—On Thursday, July 20th, under the Patronage of the Earl of Darnley, the GRAND FLOWER SHOW will be held on these Grounds. In the Evening there will be an extraordinary display of Fire Works, which will contain emblematic devices of flowers, &c. Gellini's Ascent on the Inclined Tight Rope. Tickets 2s. 6d., will admit from 11 till 3 o'clock. After 3 o'clock the public will be admitted at 6d. each. Tickets to be had at the Lodge, Rosherville; Clifton, Falcon, and the Rosherville Hotels; White Hart, Bromley; Mr. Neville, Peckham; and at the Office, Monument Chambers, Fish-street-hill. Refreshments may be had on the Grounds. The Steam-boats call at the Rosherville Pier.

SUPERIOR SWEET-WILLIAMS, in 20 distinct varieties, mixed.—A Packet of the above choice Seeds may be obtained by enclosing 12 postage stamps, addressed to Messrs. Hardy and Son, Seed-growers, Maldon, Essex.
This being the best month for sowing, early applications are necessary.

GRIGOR'S AQUILEGIA GLANDULOSA.—The Subscribers beg to intimate that the Seeds of this beautiful Columbine are nearly ripe, and will be sent free by post, in packets, at 1s. each, or 12 packets for 10s. A description of this remarkable flower is given by Professor Lindley in the *Gardeners' Chronicle* of 17th June; and the mode of treatment by Mr. Grigor will be found in the *Chronicle* of 24th June last. Orders for young plants will be supplied after September, at 2s. per pair, or 70s. per 100, or for postage stamps of that value. —John Grigor and Co., the Nurseries, Forres, N.B.

NEW HARDY CYPRESSES—TAXODIUM PINNATUM AND SEMPERVIRENS.

THOMAS JACKSON and SON having a fine, healthy stock in pots of these extremely ornamental hardy Trees, respectfully offer them to Planters at the following very low prices. TAXODIUM PINNATUM has much the appearance of the Deciduous Cypress, and attains in its own country 200 feet in height. It was exhibited at the Royal Botanic Society's Show on the 9th of June, and awarded the Prize for a New Ornamental Tree. Fine strong bushy plants, 18 inches high, 10s. 6d. each. TAXODIUM SEMPERVIRENS is a beautiful Tree, with much of the habit of the Norfolk Island Pine. It attains in California the extraordinary height of 250 feet, and produces a most valuable timber. Fine handsome plants 6 feet high, 63s.; 4 feet, 31s. 6d.; 3 feet, 21s.; 2 feet, 10s. 6d.; 1 foot, 5s.; 1 foot, per dozen, 42s.
Nurseries, Kingston, Surrey, July 15.

CRYPTOMERIA JAPONICA SEEDLINGS.

MESSRS. STANDISH and NOBLE, Nurserymen, Bagshot, have the honour to inform the Nobility, Gentry, and the Public, that they have succeeded in obtaining a quantity of SEED of the above truly magnificent Tree from the north of China, and are now able to send out SEEDLING Plants at the undermentioned low scale of prices.
It was first sent home by Mr. Fortune to the Horticultural Society, in 1844, and has now proved to be perfectly hardy in this country, having stood out in many exposed situations during the severe winter of 1846 and 1847. It is a tree of rapid growth, and some very fine specimens may now be seen in the gardens of the Horticultural Society nearly 10 feet in height, and very graceful in form.
"I met here (Shanghae), for the first time, with the beautiful Cryptomeria japonica, a species of Pine not unlike the Araucarias of Australia and Brazil. When growing luxuriantly it is highly ornamental, rising from the ground as straight as a Larch, and sending out numerous side branches almost horizontally from the main stem, which again droop towards the ground in a graceful and WEEPING *manner. The wood of the tree has a kind of twisted grain, possessing great strength and durability, and is highly valued by the Chinese."*—Fortune's Wanderings in China.
We need scarcely inform the lovers of hardy evergreens that Seedlings of this species are of much more value than cuttings. The latter never make handsome plants, and grow much slower. Our Seedling Plants, which we are now sending out, if properly managed, will be more than 2 feet high by next spring, the proper time to plant them out in the open ground.
Messrs. Standish and Noble can now supply nice healthy plants, in 60-size pots, at the following low price, viz., 3s. 6d. per plant, 36s. per doz., or 12l. 10s. per hundred. A liberal allowance to the Trade from the above prices.
N[illegible] above is for cash only.

ZOOLOGICAL GARDENS, REGENT'S-PARK.—Visitors are admitted WITHOUT ORDERS on MONDAY, in every week, at SIXPENCE EACH; on the following days at ONE SHILLING EACH. Children at Sixpence. The Band of the First Life Guards will perform every Saturday at 4 o'clock; admission One Shilling (except on July 22).
The new entrance in the Broad Walk is now open.

CATTELL'S SUPERIOR DWARF BARNES CABBAGE.—A packet of the above Seed, containing 1 oz., may be had as usual, by enclosing 12 postage stamps, addressed to John Cattell, Seedsman, Westerham, Kent.

SUPERB FANCY GERANIUM—"JENNY LIND."

W. AMBROSE has the honour to inform the Nobility, Gentry, and others, that he intends letting out the above first-class FANCY GERANIUM, the first week in October, at 21s. each; it received first-class certificates at the following places, in 1847: Horticultural Rooms, Regent-street, June 1; Royal Botanic Society, Regent's Park, June 9; Horticultural Society, Chiswick, June 19; Royal South London, June 23; also a Bronze Medal, as a second year's seedling, at the Royal Botanic Society, Regent's Park, on May 19, 1848.
W. A. begs to say he will have other new ones to let out in the autumn, of which due notice will be given. The most strict attention to orders in rotation. The above for cash only. The usual allowance to the Trade when three are taken.
Battersea, July 15.

PRELIMINARY ANNOUNCEMENT.

The South Devon Railway Company have just entered into an arrangement with William E. Rendle and Co., *Plymouth, for a portion of their Nursery Stock, (the ground being required for their Plymouth Station) the whole of which must be removed within three weeks.*
W. E. RENDLE and CO. beg to inform the Nobility, Gentry, and the Trade, that the Nursery Stock of nearly 2 acres of ground will be offered
BY PUBLIC AUCTION.
Catalogues and full particulars will be ready in a few days, and will be forwarded on application to
William E. Rendle and Co., Plymouth.
P.S.—The Business of the Establishment will be carried on as usual.

NOTICE.

JOHN SALTER begs to inform his friends and the trade in general, that the deplorable condition of France, arising from the civil war, has compelled him to leave Versailles, and until he can find suitable premises in England to carry on his business (which, as heretofore, will be chiefly confined to the introduction of continental novelties), requests that all communications may be addressed to him at No. 2, Beaufort-street, Chelsea.
P.S.—Wanted, a comfortable House, with from 2 to 5 acres of Land, in the neighbourhood of London, or near a Railway station.

TURNIP SEEDS.—Quick growing Stubble Turnips, for sowing in July and August.
Green-top Hybrid Stone.—This is a cross between the large White Stone Turnip and a large kind of Yellow Swede; it is an extraordinary quick growing large kind, very hardy, colour yellowish, and of excellent feeding quality. Price 1s. 6d. per lb.
Dale's Hybrid .. .. 1s. 6d. per lb.
Orders addressed to John Rivers, Seedsman, Sawbridgeworth, Herts. Carriage paid to London.

STRONG BEDDING PLANTS FOR FILLING UP VACANCIES.

JOHN HAYES, Farnham, Surrey, begs to say he can supply Scarlet, Oak and Fennel-leaved GERANIUMS, at 2s. 6d. per dozen. Verbenas, Petunias, Calceolarias, Cuphea platycentra, at 1s. 6d. per dozen. A quantity of different kinds of plants out of pots at 1s. per dozen. The above are all in full bloom; no charge for package or hamper.

FLEMING'S NEW HYBRID PERSIAN MELON.

H. LANE and SON have a few packets left; this has been awarded First Prizes at all the Horticultural and Botanic Shows this season.
Fleming's New Hybrid Persian .. .. 2s. 6d. per packet.
Ispahan, Genuine (Fruit weighing 12 lbs.) 1 6 "
Seymour's Golden Perfection .. 1 6 "
Great Berkhamstead.

TO SEEDSMEN, NURSERYMEN, AND OTHERS.

JOHN BETHAM (Member of the Royal South London Floricultural Society), Custom House, Shipping, and General Forwarding Agent. Consignments of Plants, Seeds, and FLOWER ROOTS forwarded to all parts of the Globe, with strict attention and despatch.
Cox and Hammond's Quays, Lower Thames-street, London.

SEEDS.—CORNER OF HALF-MOON-STREET.
THOMAS GIBBS and Co.,
(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND,"
Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.
Priced Lists of Agricultural Seeds are always ready, and may be had on application.

IMPROVED FLOWER STICKS.—These Flower Sticks are of a circular form, thereby avoiding angles and sharp edges, which are liable to cut and injure the plants. They may be had stained brown or green to suit the various plants.—To be had of all respectable Nurserymen and Seedsmen, and dealers in Garden Implements. Manufactured and sold Wholesale, at H. Morrell's, 149, Fleet-street, London.
N.B. Samples to be seen at the Office of this Paper.

BECK'S SEEDLING PELARGONIUMS of 1848.

Story's Mont Blanc Sos. 1 and 2,	..	..	..	£1	11s. 6d.
Beck's Delicatissima	..	..	..	1	1 0
" Emilia ..	..	..	..	1	1 0
" Princess	..	..	..	1	1 0
" Reflegent	..	..	..	1	1 0
" Star	..	..	..	1	1 0
" Symmetry	..	..	..	1	1 0
" Sundown	..	..	..	1	1 0
" Harlequin	..	..	..	0	15 0

Or the set for 8l. 8s. Usual allowance to the Trade when three plants of any sort are taken. For prepayment only, first remittances to secure the first selection. A descriptive catalogue is preparing of the above and others, which E. B. has to offer. It will be advertised as soon as ready.
*** The Plants will be sent out in October next.
Worton Cottage, Isleworth.

GENUINE SEEDS FOR PRESENT SOWING.

CLARKE and Co., Seedsmen, 86, Borough, London, beg to intimate that they will, on application, forward to the Trade a list of articles now in demand for present sowing, of the truest quality, and prices which cannot fail to give satisfaction. Annexed is a few articles selected from their list.

ONION, fine White Lisbon ..	..	..	2s 6d	per lb.
" new Tripoli ..	..	..	5 0	"
TURNIP, Early Garden Stone ..	..	..	0 9	"
CABBAGE, superfine Early Dwarf York ..			2 6	"
" Shilling's Queen, much recommended			5 0	"
SPINACH, Prickly or Winter ..	..	..	1s 0d	per bush.
LETTUCE, Brown or Bath Cos ..	..	..	3	per lb.

Field Turnips, Mustard, Essex Seed Rape, Red [illegible], Buckwheat, Mushroom Spawn, Russia Mats, &c.—[illegible]

SPLENDID EXHIBITION OF CARNATIONS & PICOTEES.

YOUELL and Co.'s Annual Exhibition of the above commences on Tuesday next, the 18th inst., and will continue about three weeks.
UPWARDS OF 3000 POTS OF THE FINEST VARIETIES WILL BE ST[illegible].
Admission daily from 9 till 6 o'clock, Sundays excepted. Catalogues may be had on application.
Youell and Co. [illegible] the following, viz.—
12 finest varieties [illegible] for 2s.
NEW AND SUPERB CHRYSANTHEMUMS.
50 of the finest sorts in cultivation, comprising all the newest and best varieties, for 25s.
25 for 15s., or 12 for 8s. These can be forwarded by post or plants well established, in small pots.
Single ANEMONE SEED, saved from the finest selected sorts, 2s. 6d. per packet, sufficient to sow a bed of large size; if sown in July a fine bloom will be insured [illegible] the autumn and winter months.—Great Yarmouth Nursery.

STRONG HORTICULTURAL 16-oz. SHEET GLASS FOR CONSERVATORIES, GREENHOUSES, PITS, FRAMES, &c.—Further Reduction.

HETLEY and CO. publish Prices in the *Gardeners' Chronicle* the first Saturday in every month. Wholesale and Retail Glass Shade, Sheet, Crown, and Patent Plate Glass Warehouse, 35, Soho-square, London.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS and CO., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS FOR CONSERVATORIES. CUT TO SIZE UP TO 40 INCHES LONG.				SMALL SQUARES of SHEET.	
16 oz. to the foot	3½d. per foot			4 by 9 and 4½ to 8 .. 1½d. per ft.	
				5 " 3 " 5½ " 8 ..	"
21	"	5	"	6 " 4 " 6½ " 4½..2½	"
				7 " 5 " 7½ " 6½..2½	"
26	"	7½	"	8 " 6 " 8½ " 6½..2½	"
32	"	10	"	Not above 10 " 8 ..3	"

GLASS MILK PANS, PROPAGATING GLASSES, and BEE GLASSES. GLASS TILES and SLATES.
CREAM POTS, from 3 to 24 quarts, at 8½. per quart.
CUCUMBER GLASSES from 12 to 24 inches long, 1½. per inch.
LACTOMETERS for trying the quality of Milk, 4 tubes 7s. 6d., 6 tubes 10s.; Peach Glasses 10d. each; Fish Globes from 1s. 6d. each; Wasp and Fly Traps 3s. 6d. per dozen; Plate and Window Glass; Lamp Shades and Chimneys; and every article in the trade.
SASHES AND FRAMES MADE AND GLAZED.

BAKER'S PHEASANTRY, Beaufort street, King's-road, Chelsea, by special appointment to her Majesty and H.R.H. Prince Albert.—ORNAMENTAL WATER FOWL, consisting of black and white swans, Egyptian, Canada, China, bernacle, brent, and laughing geese, shelldrakes, pintail, widgeon, summer and winter teal, gadwall, Labrador, shovellers, gold-eyed and dun divers, Carolina ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Derking fowls; white Japan, pied, and common pea-fowl, and pure China pigs: and at 8, Half-moon-passage, Gracechurch-street.

HOTHOUSES, & HEATING BY HOT WATER, BEST MATERIALS AND WORKMANSHIP. AT SMITH'S, GLEBE-PLACE, KING'S ROAD, CHELSEA, LONDON, ESTABLISHED TEN YEARS.

WIRE-WORK, HOT-WATER APPARATUS, GREENHOUSES, &c.

ST. THOMAS BAKER, MANOR-HOUSE, MANOR-PLACE, KING'S-ROAD, CHELSEA, Manufacturer of INVISIBLE WIRE FENCE, to resist Grazing Stock, and rendered Rabbit-proof. WIRE-WORK in Trainers, Arches for Walks, Bordering, Flower Stands, Pheasantries, &c. HORTICULTURAL BUILDINGS, Green and Pothouses, Conservatories, &c. The same heated by HOT-WATER APPARATUS on improved and economical principles.
Parties waited on in Town and Country, and Drawings and Estimates free. Work for the Trade as usual.
Ward's Cases, or Domestic Greenhouses.

ROYAL BOTANIC SOCIETY, REGENT'S PARK,

EXHIBITION, JULY 5th, 1848.

AWARDS OF THE JUDGES.

THE EXTRA GOLD MEDAL.

1 To Mr. Frazer, nurseryman, Lea-bridge-road, for 30 Stove and Greenhouse plants
2 To Mr. Mylam, gardener to S. Rucker, Esq., Wandsworth, for a large collection of Orchids

THE MEDIUM GOLD MEDAL.

1 To Mr. Bassett, gardener to R. S. Holford, Esq., Westonbirt, for 15 Orchids
2 To Mr. Green, gardener to Sir E. Antrobus, Bart., Cheam, for 20 Stove and Greenhouse plants
3 To Mr. Hunt, gardener to Miss Traill, Bromley, for 15 Cape Heaths
4 To Mr. Ingram, Royal Gardens, Frogmore, for a miscellaneous collection of fruit
5 To Mr. Rae, gardener to J. J. Blandy, Esq., Reading, for a large collection of Orchids

THE GOLD MEDAL.

1 To Mr. Black, gardener to E. Forster, Esq., Clewer, for 12 Pelargoniums in 8 inch pots
2 To Mr. Cock, Chiswick, for ditto
3 To Mr. Cole, gardener to H. Colyer, Esq., Dartford, for 20 Stove and Greenhouse plants
4 To Mr. Dobson, gardener to Mr. Beck, Isleworth, for 12 Pelargoniums, in 8-inch pots
5 To Messrs. Veitch and Son, nurserymen, Exeter, for 12 Cape Heaths
6 To Mr. Williams, gardener to C. B. Warner, Esq., Hoddesdon, for 15 Orchids

THE LARGE SILVER-GILT MEDAL.

1 To Mr. Hunt, for 10 Stove and Greenhouse plants
2 To Mr. Pawley, nurseryman, Bromley, for 30 Stove and Greenhouse plants
3 To Mr. Plant, gardener to J. H. Schröder, Esq., Stratford, for 6 Orchids

THE LARGE SILVER MEDAL.

1 To Mr. S. Barnes, gardener to J. Whitmore, Esq., Apley-park, for 3 dishes of Grapes
2 To Mr. Epps, nurseryman, Maidstone, for 12 Cape Heaths
3 To Mr. Gaines, nurseryman, Battersea, for 12 Pelargoniums, in 8-inch pots
4 To the same, for 6 ditto, in 11-inch pots
5 To Mr. Jack, gardener to R. G. Lorraine, Esq., Carshalton, for 6 Orchids
6 To Mr. Parker, gardener to J. H. Oughton, Esq., Roehampton, for 6 Pelargoniums, in 11-inch pots
7 To Messrs. Rollisson, nurserymen, Tooting, for 12 Cape Heaths
8 To Mr. Stains, New-road, for 12 Pelargoniums in 8-inch pots

THE SILVER-GILT MEDAL.

1 To Mr. Ayres, nurseryman, Blackheath, for 12 Cape Heaths
2 To Mr. Bunney, nurseryman, Stratford, for 30 dwarf Cacti
3 To Mr. Drummond, gardener to C. H. Leigh, Esq., Pontypool-park, for a Ripley Queen Pine-apple
4 To Mr. Gaines, for 6 Calceolarias
5 To Mr. Green, for 6 tall Cacti
6 To Mr. Davis, gardener, Oakhill, for Muscat of Alexandria Grapes
7 To Mr. M. Henderson, gardener, Coleorton-hall, for Black Hamburgh Grapes
8 To Mr. Jack, for 10 Stove and Greenhouse plants
9 To Mr. Joy, gardener to Mrs. Colston, Roundaway-park, for a Providence Pine-apple
10 To Mr. Mylam, for 6 Cape Heaths
11 To Mr. Parker, for 4 dishes of Peaches and Nectarines
12 To A. Rowland, Esq., Lewisham, for 8 Roses in pots
13 To Mr. Stains, for 6 Pelargoniums, in 11-inch pots
14 To Mr. Taylor, gardener to J. Coster, Esq., Streatham, for 10 Stove and Greenhouse plants.

THE SILVER MEDAL.

1 To Mr. Bray, gardener to Sir J. L. Goldsmid, Bart., Regent's-park, for 6 Fuchsias
2 To Mr. Cole, for 6 Cape Heaths
3 To the same, for 4 Clerodendrons
4 To Mr. Dobson, for 6 Orchids
5 To Messrs. Fairbairn, nurserymen, Clapham, for 12 Cape Heaths
6 To Mr. Gaines, for 6 fancy Pelargoniums
7 To Mr. M. Henderson, for a Queen Pine-apple
8 To Mr. Hunt, for a specimen plant (Erica obata)
9 To Mr. Jackson, gardener to H. Beaufoy, Esq., Lambeth, for Black Hamburgh Grapes
10 To Mr. Kemp, gardener to Mrs. Grillion, East Acton, for Muscat of Alexandria Grapes
11 To Messrs. Lane and Son, nurserymen, Berkhampstead, for 100 Roses
12 To Mr. Malyon, gardener to T. Brandram, Esq., Blackheath, for 10 Stove and Greenhouse plants
13 To Mr. J. Munro, gardener to Mrs. Oddie, Colney-hatch, for 4 dishes of Peaches and Nectarines
14 To Mr. Mylam, for a specimen Orchid (Aerides odoratum)
15 To the same, for a new Orchid (Aerides maculosa)
16 To Mr. Parsons, gardener to A. George, Esq., Ponder's-end, for 50 Roses
17 To Mr. Robinson, gardener to J. Simpson, Esq., Pimlico, for 12 Pelargoniums, in 8-inch pots
18 To Mr. A. Smith, gardener to J. Anderson, Esq., Regent's-park, for 30 British Ferns
19 To the same, for correct labels, first class
20 To Mr. Snow, gardener to the Earl de Grey, Wrest-park, for 2 dishes of Peaches
21 To Mr. Spencer, gardener to the Marquis of Lansdowne, Bowood-park, for a Providence Pine-apple
22 To Mr. Taylor, for correct labels, second class
23 To Messrs. Veitch and Son, for a new plant in bloom (Fuchsia spectabilis)
24 To Mr. Wright, gardener to the Hon. Miss Rushout, Wanstead, for Vines in pots.

THE SMALL SILVER MEDAL.

1 To Mr. Ayres, for a specimen plant (Erica tricolor major)
2 To Mr. Bassett, for a specimen Orchid (Aerides odoratum)
3 To Mr. Beck, Slate-works, Isleworth, for a seedling Pelargonium of 1847 "Adolphus"
4 To Mr. Dodds, gardener to Col. Baker, Salisbury, for a Providence Pine-apple
5 To the same, for ditto
6 To the same, for ditto
7 To Mr. Drewett, gardener, Hursley-park, for Muscadine Grapes
8 To Mr. Fleming, gardener to the Duke of Sutherland, Trentham, for a hybrid Persian Melon
9 To Mr. Foggo, gardener to the Marquis of Abercorn, Stanmore, for Black Hamburgh Grapes
10 To Mr. Francis, nurseryman, Hertford, for 100 Roses
11 To the same, for 12 new Roses
12 To Mr. Frazer, for 4 Clerodendrons
13 To the same, for a specimen plant (Sollya linearis)
14 To Mr. Gaines, for a seedling Pelargonium of 1847, "Meleager"
15 To Mr. Godfrey, Tottenham, for 10 Gesneraceous plants
16 To Mr. Green, for 6 Cape Heaths
17 To the same, for Black Hamburgh Grapes
18 To Messrs. Henderson, nurserymen, Pine-apple-place, for a new plant in bloom (Æschynanthus pulcher)
19 To Mr. Jack, for a specimen plant, (Cyrtoceras reflexum)
20 To Mr. Lawrence, gardener to H. Stainton, Esq., Lewisham, for a Queen Pine-apple
21 To Mr. Lydiard, Bathealton, for 4 dishes of Strawberries
22 To Mr. Norman, florist, Woolwich, for 12 Carnations
23 To the same, for 12 Picotees
24 To Messrs. Paul and Son, nurserymen, Cheshunt, for 100 Roses
25 To the same, for 12 single blooms of Roses
26 To Mr. Robinson, for 6 Fuchsias
27 To Messrs. Rollisson, for a new plant in bloom (a new fragrant plant from Java)
28 To the same, for ditto (a new plant from South America)
29 To the same, for a specimen plant (Clerodendron affine)
30 To the same, for correct labels, second class
31 To A. Rowland, Esq., for 50 Roses
32 To Mr. Snow, for Elton Cherries
33 To Mr. Spencer, for a Providence Pine-apple
34 To Mr. Stains, for Cape Pelargoniums
35 To the same, for 6 fancy Pelargoniums
36 To Mr. Stanly, gardener to H. Berens, Esq., Sidcup, for 6 tall Cacti
37 To Mr. Taylor, for a specimen plant (Stephanotis floribunda)
38 To the same, for correct labels, first class
39 To Mr. Turnbull, gardener to the Duke of Marlborough, Blenheim, for two dishes of Peaches and Nectarines
40 To Mr. C. Turner, nurseryman, Chalvey, for 12 Pinks
41 To the same, for 24 Pansies
42 To Messrs. Veitch and Son, for a new plant in bloom (Agalmyla staminea)
43 To the same, for ditto (Æschynanthus miniatus)
44 To the same, for ditto (Æschynanthus longiflorus)
45 To the same, for ditto (Lisianthus frigidus)
46 To the same, for ditto (Thibaudia species)
47 To the same, for a plant not in bloom (? Laurus aromatica)
48 To Mr. Weir, gardener to J. Hudson, Esq., Hampstead, for Busby's scarlet-fleshed Melon
49 To Mr. Williams, for a new Orchid (Epidendrum verrucosum)
50 To the same, for 30 British Ferns
51 To Mr. Wood, nurseryman, Norwood, for 12 Alpines

THE BRONZE MEDAL.

1 To Mr. Chapman, gardener to J. B. Clegg, Esq., Whittington-hall, for a Providence Pine-apple
2 To Mr. Chitty, gardener to J. Oldham, Esq., Stamford-hill, for 10 Gesneraceous plants
3 To Mr. Coles, for correct labels, second class
4 To Mr. Dodds, for a Providence Pine-apple
5 To the same, for ditto
6 To the same, for ditto
7 To the same, for ditto
8 To Mr. Fleming, for a Ripley Queen Pine-apple
9 To the same, for ditto
10 To the same, for ditto
11 To Mr. Gaines, for 6 Fuchsias
12 To Mr. Green, for a specimen plant (Leschenaultia splendens)
13 To the same, for a new plant in bloom (Echites rosa campestris ?)
14 To Mr. Hamp, gardener to J. Thorne, Esq., Lambeth, for a specimen plant (Kalosanthes miniata)
15 To the same, for a rare plant in bloom (Stigmaphyllum aristatum)
16 To Mr. E. Henderson, nurseryman, St. John's-wood, for Cape Pelargoniums
17 To Mr. Jack, for 6 Cape Heaths
18 To Mr. Kyle, gardener to R. Barclay, Esq., Leyton, for a hybrid Ispahan Melon
19 To Messrs. Lane and Son, for 12 new Roses
20 To the same, for 12 single blooms of Roses
21 To Mr. M'Ewen, gardener to Colonel Wyndham, Petworth, for a Montague Melon
22 To Mr. Malyon, for 6 Cape Heaths
23 To the same, for 4 Clerodendrons
24 To Mr. Mylam, for correct labels, first class
25 To Mr. Pamplin, nurseryman, Walthamstow, for a specimen plant (Roella ciliata)
26 To Mr. Parker, for 2 dishes of Peaches and Nectarines
27 To Mr. Parsons, for 4 dishes of Strawberries
28 To Messrs. Rollisson, for a plant not in bloom (Xanthochymus oblongus)
29 To Mr. Stanly, for 10 Stove and Greenhouse plants
30 To the same, for Cape Pelargoniums
31 To Mr. Smith, nurseryman, Hornsey-rd, for Verbenas in pots
32 To Mr. Taylor, for 6 Cape Heaths
33 To the same, for 30 British Ferns
34 To Mr. Thompson, Iver, for 24 Pansies
35 To Mr. W. Turner, gardener to — Williams, Esq., Holloway, for 12 Alpines
36 To Messrs. Veitch and Son, for a new Orchid (Dendrobium Kuhlii)
37 To the same, for ditto (Oncidium sp.)
38 To the same, for a plant not in bloom (Jacaranda sp.)
39 To Mr. Ward, Woolwich, for 12 Carnations
40 To the same, for 12 Picotees
41 To Mr. Wright, for 2 dishes of Peaches and Nectarines

THE CERTIFICATE OF MERIT.

1 To Mr. Ayres, for a seedling Pelargonium, "Brooklands Scarlet"
2 To Mr. Beck, for a seedling Pelargonium of 1848, "Ilax"
3 To Mr. J. M. Clabon, Park Village East, for British plants
4 To Mr. Cumming, gardener to S. W. Silver, Esq., St. John's Wood, for a Peach tree in fruit
5 To Mr. Cuthill, nurseryman, Camberwell, for plants of Lisianthus Russellianus
6 To Mr. Dodds, for a new plant in bloom (Thunbergia Doddii)
7 To Mr. Foggo, for a dish of Figs
8 To Mr. Francis, for 12 single blooms of Roses
9 To Mr. Frazer, for a specimen plant (Kalosanthes miniata)
10 To Mr. Gaines, for a seedling Pelargonium of 1848, "Madame Rosati"
11 To the same, for a seedling Calceolaria, "Aspasia"
12 To the same, for ditto, "Apollo"
13 To Mr. Gainsford, Brentford, for Black Tartarian Cherries
14 To Mr. Green, for an Ispahan Melon
15 To Mr. E. Henderson, for a plant not in bloom (Lycopodium umbrosum)
16 To Mr. Hoyle, Reading, for a seedling Pelargonium of 1848, "Telemorphus"
17 To the same, for ditto, with scarlet flowers, "Flavia"
18 To Mr. Hunt, for correct labels, first class
19 To the same, for ditto, second class
20 To Mr. Kemp, for Black Eagle Cherries
21 To Mr. McEwen, for a hybrid green-fleshed Melon
22 To Mr. J. Munro, for 2 dishes of Peaches and Nectarines
23 To Mr. Parker, gardener to H. Brown, Esq., Finchley, for a scarlet-fleshed Melon
24 To Messrs. Rollisson, for a specimen plant (Hindsia longiflora alba)
25 To Mr. A. Smith, for 12 Alpines
26 To Mr. Turnbull, for a dish of Figs
27 To Mr. C. Turner, for 12 Carnations
28 To the same, for 12 Picotees
29 To Messrs. Veitch and Son, for a new hybrid Fuchsia, "Elegantissima"
30 To Mr. H. Williams, gardener to W. Haslewood, Esq., Hoddesdon, for British Plants
31 To Mr. W. Williams, gardener to Captain O'Brien, Hoddesdon, for Black Eagle Cherries
32 To Mr. Wood, for a collection of variegated plants
33 To Mr. Young, gardener, Suttons, Romford, for Black Eagle Cherries.

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SPECIMEN OF THE ABOVE WORK.

Deorsum.—Downwards.

Depauperatus.—When some part is less perfectly developed than is usual in plants of the same family. Thus, when the lower scales of a head of a Cyperaceous plant produce no flowers, such scales are said to be depauperated, or starved.

Dependens.—Hanging downwards.

Depressed.—Broad and dwarf, as if, instead of lengthening perpendicularly, growth had taken place horizontally. (*cxlvii.*)

CXLVII.

Depresso-truncatus.—Same as *Retuse.*

‡ *Deregularis.*—Something between regular and irregular.

Derma.—In Greek compounds = the bark or rind.

‡ *Dermis.*—The skin of a plant.

Descending.—Having a direction gradually downwards.

‡ *Descensus.*—The root.

Desinentia.—The manner in which a lobe terminates.

Desmos.—In Greek compounds = anything bound to another or brought into close contact with it.

Deuterostrophes.—Spirals of a third degree in the development of leaves.

Dextrorsus.—Turned to the right hand.

Dextrorsum-volubilis.—Twisting to the right. (*cxlviii.*)

CXLVIII.

Di.—In Greek compounds = two.

‡ *Diachenium, Diakenium.*—Same as *Cremocarp.*

Diachyma.—The green cellular matter of leaves.

Diadelphous.—Consisting of two parcels of stamens or fraternities (SB. 53).

Diagnoses.—The short characters or descriptions by which plants are distinguished from each other.

Dialypetalus.—The same as *Polypetalous.*

Dialyphyllus.—The same as *Polysepalous.*

‡ *Diaphysis.*—A præternatural extension of the centre of the flower, or of an inflorescence.

Diaphanus, ‡ *Diophanus.*—Transparent, or nearly so.

Dichlamydeous.—Having both calyx and corolla.

‡ *Dichogamus.*—When the florets of an inflorescence are of two separate sexes.

Dichotomia.—A forking or division by two. (adj. *Dichotomus,* ‡ *Dichotomalis*)—Having the divisions always in pairs; a term equally applied to branches, or veins, or forks. (*cxlix.*)

CXLIX.

Diclinous.—Having the stamens in one flower and the pistil in another.

Diclesium.—A one-seeded indehiscent fruit inclosed within a hardened perianth, as in the Marvel of Peru.

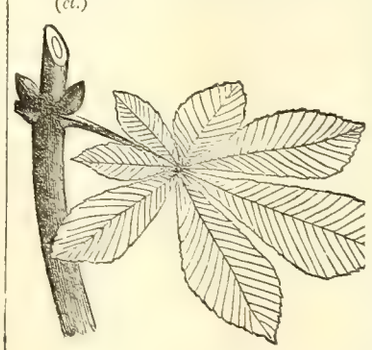
Dicoccus.—Splitting into two cocci.

Dicotyledonous.—Having two cotyledons.

Didymus.—Double; growing in pairs, as the fruit of Umbellifers; ‡ divided into two lobes, like the prongs of a fork.

Didynamous.—Having two stamens longer than the two others (SB. 173, 2).

Digitatus.—When several distinct leaflets radiate from the point of a leaf-stalk. (*cl.*)



CL.

584. When a separation in the pericarp takes place across the cells horizontally, the dehiscence is *transverse; Ex.* Anagallis.

585. If the dehiscence is effected by partial openings of the pericarp, it is said to take place by pores; *Ex.* Poppy.

586. Sometimes the cells remain closed, separating from the axis formed by the extension of the growing point (230); *Ex.* Umbellifers, Euphorbia.

587. Or the cells open and separate from the axis, which is formed by a cohesion of the placentæ which separate from the dissepiments.

All these are cases of central placentation, and are much more common than is supposed.

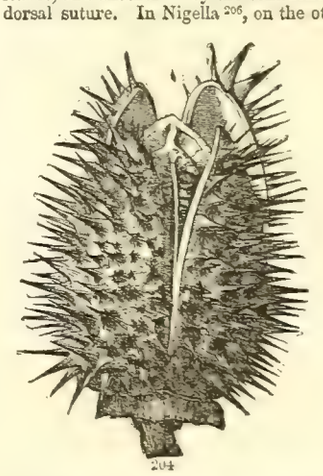
588. Sometimes the dissepiments cohere at the axis, and separate from the valves (578) or back of the carpels, when the dehiscence becomes *septifragal* [204].

In such cases the dissepiments are either composed of mere placentary plates, or of the sides of carpellary leaves.

589. The dissepiments of a fruit are usually formed by the confluent sides of carpellary leaves (480), and are placed at right angles to the axis.

590. But peculiarities of structure interfere with this rule, and give rise to spurious dissepiments having a different position.

Thus in Stramonium [204] one dissepiment [205] *a a* is produced by the sides of carpellary leaves, and another *b b* by the confluence of the placentæ and a projection of the dorsal suture. In Nigella [206], on the other hand, where 10 cells occur in a fruit



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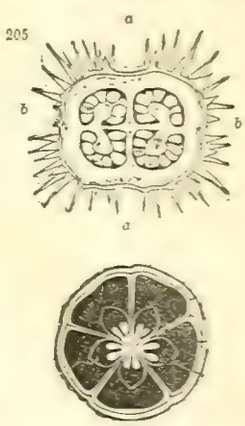

derived from 5 one-celled follicles (596), the 5 additional cells are spurious, and caused by the separation of the endocarp from the mesocarp: in this instance the anomalous dissepiments are formed by the endocarp, and the spurious cells are mere *lacunæ*, or air cavities.

591. All fruits are either *simple* or *multiple.*

592. Simple fruits proceed from a single flower; *Ex.* Pæony, Apple, Nut, Strawberry.

593. Multiple fruits are formed out of several flowers; *Ex.* Fir, Pine-apple, Fig. They are masses of inflorescence in a state of adhesion, and are called *anthocarpous.*

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EXHIBITION AT THE GARDEN,
JULY 12th, 1848.

AWARD OF THE JUDGES.

THE CERTIFICATE OF HONOUR.

1 To Messrs. Frazer, of Lea-bridge-road, for a collection of 30 Stove and Greenhouse plants
2 To Mr. Mylam, gardener to S. Rucker, Esq., jun., F.H.S. for 20 species of Exotic Orchids

THE LARGE GOLD MEDAL.

1 To Mr. Cole, gardener to H. Colyer, Esq., of Dartford, Kent, for a collection of 30 Stove and Greenhouse plants
2 To Mr. Rae, gardener to J. J. Blandy, Esq., F.H.S., for 20 species of Exotic Orchids

THE GOLD KNIGHTIAN MEDAL.

1 To Mr. Green, gardener to Sir E. Antrobus, Bart., F.H.S., for a collection of 15 Stove and Greenhouse plants
2 To Mr. Williams, gardener to C. B. Warner, Esq., F.H.S., for 10 species of Exotic Orchids
3 To Mr. Mylam, gardener to S. Rucker, Esq., jun., F.H.S., for 15 varieties of Cape Heath
4 To Messrs. Rollisson, Tooting, for the same

THE GOLD BANKSIAN MEDAL.

1 To Mr. Donald, gardener to Mrs. Lawrence, F.H.S., for a collection of 15 Stove and Greenhouse plants
2 To Mr. Jack, gardener to R. G. Loraine, Esq., Wallington, Surrey, for a collection of 10 Stove and Greenhouse plants
3 To Mr. Carson, gardener to W. F. G. Farmer, Esq., F.H.S., for 10 species of Exotic Orchids
4 To Mr. Cock, F.H.S., for 12 new varieties of Pelargonium, in 8-inch pots
5 To Mr. Dobson, gardener to Mr. Beck, F.H.S., for the same
6 To Messrs. Paul, Cheshunt, for 12 varieties of Roses in pots
7 To Mr. May, gardener to E. Goodhart, Esq., of Langley-park, Beckenham, for 15 varieties of Cape Heath
8 To Mr. Epps, F.H.S., for the same

THE LARGE SILVER-GILT MEDAL.

1 To Mr. Malyon, gardener to T. Brandram, Esq., Blackheath, for a collection of 15 Stove and Greenhouse plants
2 To Mr. Taylor, gardener to J. Coster, Esq., Streatham, for a collection of 10 Stove and Greenhouse plants
3 To Mr. Plant, gardener to J. H. Schröder, Esq., F.H.S., for 10 species of Exotic Orchids
4 To Mr. Gerrie, gardener to Sir J. A. Cathcart, Bart, F.H.S., for 6 species of Exotic Orchids
5 To Mr. Terry, gardener to Lady Puller, Youngsbury, for 12 varieties of Roses in pots
6 To A. Rowland, Esq., F.H.S., for the same
7 To Mr. Francis, of Hertford, for the same
8 To Messrs. Veitch, Exeter, for 15 varieties of Cape Heath
9 To Mr. Green, gardener to Sir E. Antrobus, Bart., F.H.S., for 9 varieties of Cape Heath
10 To Mr. Ayres, Blackheath, for the same
11 To Mr. Staines, Middlesex-place, New-road, for 6 distinct species of Pelargonium
12 To the same, for 12 new varieties of Pelargonium, in 8-inch pots
13 To Mr. Gaines, F.H.S., for the same
14 To the same, for 6 fancy Pelargoniums
15 To Mr. Parker, gardener to J. H. Oughton, Esq., Roehampton, for 6 varieties of Pelargonium, in 11-inch pots
16 To Mr. Glendinning, F.H.S., for 6 species of Statice
17 To Messrs. Frazer, for Sollya linearis
18 To Mr. Donald, gardener to Mrs. Lawrence, F.H.S., for Tabernæmontana coronaria
19 To Messrs. Veitch, for Pleroma elegans

THE CERTIFICATE OF EXCELLENCE.

1 To Mr. Carson, gardener to W. F. G. Farmer, Esq., F.H.S., for a collection of 10 Stove and Greenhouse plants
2 To Mr. Bruce, gardener to Boyd Miller, Esq., Tooting, for the same
3 To Mr. Green, gardener to Sir E. Antrobus, Bart., F.H.S., for 6 species of Exotic Orchids
4 To Mr. Iveson, gardener to the Duchess Dowager of Northumberland, F.H.S., for 6 species of Achimenes
5 To Messrs. Lane, of Great Berkhampstead, for 12 varieties of Roses, in pots
6 To Messrs. Paul, for a collection of cut Roses in 50 varieties
7 To Mr. Taylor, gardener to J. Coster, Esq., for 9 varieties of Cape Heath
8 To Mr. Pamplin, of Lea-bridge-road, for the same
9 To Mr. Miller, gardener to R. Mosley, Esq., Pine-apple-place, Edgeware-road, for 6 scarlet Pelargoniums
10 To Mr. Stanly, gardener to H. Berens, Esq., F.H.S., for 6 distinct species of Pelargonium
11 To Mr. Staines, for 6 fancy Pelargoniums
12 To the same, for 6 varieties of Pelargonium, in 11-inch pots
13 To Mr. Gaines, F.H.S., for the same
14 To Messrs. Veitch, for 6 new Hardy Evergreens in pots
15 To Mr. Green, gardener to Sir E. Antrobus, Bart., F.H.S., for 6 varieties of Tall Cacti, in flower
16 To Mr. Carson, gardener to W. F. G. Farmer, Esq., F.H.S., for Allamanda cathartica
17 To Mr. Rollisson, for Clerodendron affine
18 To Messrs. Veitch, for a new species of Echites

THE LARGE SILVER MEDAL.

1 To Mr. Pawley, of Bromley, for a collection of 10 Stove and Greenhouse plants
2 To Mr. Dobson, gardener to Mr. Beck, F.H.S., for 6 species of Exotic Orchids
3 To Mr. Ingram, gardener to Her Majesty, at Frogmore, for Stanhopea tigrina
To Mr. Knott, gardener to the Rev. C. Pritchard, F.H.S., for 6 species of Achimenes
5 To Messrs. Lane, for a collection of cut Roses, in 50 varieties
6 To A. Rowland, Esq., F.H.S., for the same, in 25 varieties
7 To Mr Riddell, gardener to G. Wynn, Esq., Charlton, Kent, for Erica tricolor coronata
8 To Mr. Ayres, for Erica infundibuliformis
9 To Mr. Gaines, F.H.S., for 6 Calceolarias, in 11-inch pots
10 To Mr. Edwards, of Wace Cottage, Holloway, for 24 varieties of Carnation
11 To the same, for 24 varieties of Picotees
12 To Mr. Turner, of Chalvey, near Windsor, for 24 varieties of Carnations
13 To Messrs. Norman, of Woolwich, for 24 varieties of Picotees
14 To Mr. May, gardener to E. Goodhart, Esq., for Roella ciliata
15 To Mr. Iveson, gardener to the Duchess Dowager of Northumberland, F.H.S., for Curcuma Roscoeana
16 To Messrs. Veitch, for Fuchsia serratifolia
17 To Mr. Wood, of Norwood, for a collection of Hardy Dwarf Herbaceous plants
18 To Mr. Taylor, gardener to J. Coster, Esq, for a collection of Hardy Ferns
19 To Messrs. Rollisson, for Ixora odoratissima
20 To Mr. Brewin, gardener to R. Gunter, Esq., F.H.S., for a Queen Pine Apple, weighing 5 lbs. 3 oz.
21 To Mr. Dryden, gardener to W. Evans, Esq., M.P., for an Enville Pine, weighing 6 lbs. 5 oz.
22 To Mr. Mitchell, gardener to the Earl of Ellesmere, Worsley-hall, Manchester, for a Providence Pine Apple, weighing 11 lbs. ½ oz.
23 To Messrs. Garraway and Co., Bristol, for the same, weighing 9 lbs. 8¼ oz.
24 To Mr. Lushey, gardener to J. Hill, Esq., Streatham, for Black Prince Grapes
25 To Mr. Riddell, gardener to F. Ashby, Esq., Staines, for Dutch Sweetwater Grapes
26 To Mr. Cox, gardener to M. Ricardo, Esq., Kiddington House, Oxon, for Cannon Hall Muscat Grapes.

THE SILVER KNIGHTIAN MEDAL.

1 To Mr. Francis, Hertford, for a collection of Cut Roses in 50 varieties
2 To Mr. Terry, gardener to Lady Puller, for the same in 25 varieties
3 To Mr. Bruce, gardener to Boyd Miller, Esq., for Erica Parmentiera
4 To Messrs. Jackson and Son, Kingston-on-Thames, for Erica Massoni major
5 To Mr. Elliott, gardener to J. B. Boothby, Esq., F.H.S., for Oncidium pulverulentum
6 To Mr. Kemp, gardener to Mrs. Grillion, East Acton, for 6 species of Achimenes
7 To Mr. Williams, gardener to C. B. Warner, Esq., F.H.S., for a collection of hardy Ferns
8 To J. W. Newhall, Esq., Woolwich, for 24 varieties of Carnations
9 To Messrs. Norman, for the same
10 To J. W. Newhall, Esq., for 24 varieties of Picotee
11 To Mr. Turner, Chalvey, for the same
12 To Mr. Bray, gardener to the Baron de Goldsmid, St. John's Lodge, Regent's-park, F.H.S., for 6 Fuchsias
13 To M. Linden, Luxembourg, for Alloplectus speciosus
14 To Mr. Cole, gardener to H. Colyer, Esq., for the best-named collection of plants (no error in 30 names)
15 To Mr. Jones, gardener to E. J. Hutchins, Esq., Dowlais House, Glamorganshire, for a Queen Pine Apple, weighing 4 lbs. ½ oz.
16 To Mr. Jackson, gardener to H. Beaufoy, Esq., South Lambeth, for a Trinidad Pine-apple, weighing 7 lbs. 2 oz.
17 To Mr. Christie, gardener to Viscount Folkestone, for a Providence Pine Apple, weighing 10 lbs. 7½ oz.
18 To Mr. Cole, gardener to H. Colyer, Esq., for Grapes in pots
19 To Mr. Ogle, gardener to the Earl of Abergavenny, for the heaviest bunch of Grapes exhibited (Black Hamburgh, weighing 3 lbs. 12 oz.)
20 To Mr. Hyde, gardener to G. Willis, Esq, Oak-hall, Wanstead, for Black Hamburgh Grapes
21 To Mr. Rust, gardener to J. MacLaren, Esq., F.H.S., for Muscat of Alexandria Grapes
22 To Mr. Gadd, of Betchworth Castle, for White Frontignan Grapes
23 To Mr. Butcher, gardener to W. Leaf, Esq., F.H.S., for Grapes, seedling from Black Hamburgh
24 To Mr. Wright, gardener to the Hon. Miss Rushout, Wanstead Grove, Essex, for Royal George Peaches
25 To the same, for Violet Hative Nectarines
26 To Mr. McEwen, gardener to Col. Wyndham, F.H.S., for the heaviest Melon exhibited (Windsor Prize, weighing 8 lbs. 14 oz.)
27 To Mr. Gadd, for the second heaviest Melon exhibited in the Market Gardener's class (Cantaloupe, weighing 5 lbs.)
28 To Mr. Jones, gardener to E. J. Hutchins, Esq., for the best-flavoured Melon exhibited (green-fleshed)

THE SILVER BANKSIAN MEDAL.

1 To Mr. Stanly, gardener to H. Berens, Esq., F.H.S, for a collection of 10 Stove and Greenhouse Plants
2 To Mr. Ellis, Woolwich, for 24 varieties of Carnations
3 To Mr. Ward, for the same
4 To Mr. Ellis, for 24 varieties of Picotees
5 To Mr. Ward, for the same
6 To Mr. Iveson, gardener to the Dowager Duchess of Northumberland, for Oncidium guttatum
7 To Mr. Williams, gardener to C. B. Warner, Esq., F.H.S., for Hothouse Ferns
8 To Mr. Wood, of Norwood, for 10 Hardy Ferns
9 To Mr. Gerrie, gardener to Sir J. Cathcart, Bart., F.H.S., for Erica Cavendishii
10 To Messrs. Pamplin, for Erica ampullacea
11 To Mr. Linden, for Maranta albo-lineata
12 To Messrs. Rollisson, for a species of Capparis, from Java
13 To Mr. Cooper, gardener to Jas. Gaddesden, Esq., F.H.S., for Lisianthus Russellianus
14 To Mr. Hamp, gardener to J. Thorne, Esq., South Lambeth, for Stigmaphyllon aristatum
15 To Mr. Rae, gardener to J. J. Blandy, Esq., F.H.S., for the second best-named collection of Plants, (no error in 20 names)
16 To Mr. Hewitt, gardener to J. Purday, Esq., Queen's-row, Bayswater, for a Queen Pine-apple, weighing 3 lbs. 12¼ oz.
17 To Mr. Elphinstone, gardener to the Speaker, F.H.S., for a Trinidad Pine-apple, weighing 5 lbs. 12 oz.
18 To Mr. Hamp, for a Providence Pine-apple, weighing 7 lbs. 4½ oz.
19 To Mr. Jackson, gardener to H. Beaufoy, Esq., South Lambeth, for Black Hamburgh Grapes
20 To Mr. Chapman, the same place, for the same
21 To Mr. Taylor, gardener to J. Coster, Esq., for white Muscadine Grapes
22 To Mr. Kemp, gardener to Mrs. Grillion, for Muscat of Alexandria Grapes
23 To Mr. Hewitt, for Grizzly Frontignan Grapes
24 To Mr. Elphinstone, for Victoria Grapes
25 To Mr. Snow, gardener to Earl de Grey, F.H.S., for Violet Hative Peaches
26 To Mr. Graham, gardener to Mr. Smith, Bersted Lodge, Bognor, for Nectarines
27 To Mr. M'Ewen, gardener to Col. Wyndham, F.H.S., for brown Turkey Figs
28 To Mr. Busby, gr. to S. Crawley, Esq., Stockwood-park, Luton, for black Eagle Cherries
29 To Mr. Lydiard, of Bath, for Strawberries
30 To Mr. M'Ewen, for the second best flavoured Melon (Lord Montague's scarlet-fleshed).

THE CERTIFICATE OF MERIT.

1 To Mr. Hale, gardener to Mrs. Davies, Clapham Park, for Erica ampullacea major
2 To W. H. Story, Esq., F.H.S., for a seedling Erica "Nobilis."
3 To Mr. Iveson, for Hothouse Ferns
4 To Mr. Jack, for a variety of Erica Shannoni
5 To Messrs. Veitch, for Chætogastra strigosa
6 To Mr. Gaines, F.H.S., for a fancy Pelargonium "Shylock"
7 To Messrs. Rollisson, for the third best named collection of plants (no error in 15 names)
8 To Mr. Fleming, gardener to the Duke of Sutherland, F.H.S., for Bellegarde Peaches
9 To Mr. Fogo, gardener to the Marquis of Abercorn, F.H.S., for Murray Nectarines
10 To the same, for white Marseilles Figs
11 To Mr. Snow, for Florence Cherries
12 To Mr. Joynes, gardener to Mrs. Hall, Totteridge, for Passingham Melons

NOTICE OF REMOVAL.

THE ROYAL AGRICULTURAL COLLEGE OFFICE removed on the 24th of June, 1848, to No. 26, King William-street, Charing-cross.

PHILIP BOWES, Secretary.

ROYAL AGRICULTURAL COLLEGE, Cirencester.

Patron—H. R. H. PRINCE ALBERT.
President of the Council—Right Hon. EARL BATHURST.
Vice-President—Right Hon. EARL DUCIE.
Principal—JOHN WILSON, F.R.S.E., F.G.S., &c.
Chaplain and First Master—Rev. G. M. TANDY, M.A.
Second Master—JOHN S. MORELAND, C.E.

RESIDENT PROFESSORS.

Agriculture—JOHN WILSON, F.R.S.E., &c.
Chemistry—JOHN BLYTH, M.D.
Botany and Geology—JAS. BUCKMAN, F.G.S.
Veterinary Practice—JOHN ROBINSON, M.R.C.V.S.
Mathematics and Natural Philosophy—Rev. G. M. TANDY, M.A.
Practical Surveying and Engineering—JOHN S. MORELAND, C.E.

OBJECTS.

The object of this Institution is to provide such a course of instruction as will be most useful to the practical farmer. The benefits to be derived by the agriculturists from a judicious application of scientific information are becoming more and more extensively acknowledged; while the means of obtaining that information, if, indeed, it can be obtained at all, without for the time sacrificing a due attention to the practical operations of husbandry, are so scattered and costly as to be within the reach of very few. The College course of instruction is conducted in such a manner that, while the student is well based in the principles of each science, its relations with agriculture are specially touched upon and explained, and their practical application shown, as far as possible, in the operations of the College farm. The theoretical and practical teaching go hand in hand, and the whole is combined with the advantages of collegiate discipline. By order of the Council,

PHILIP BOWES, Secretary.

London Office, 26, King William-street, Charing-cross.

AT THE ANNUAL GENERAL COURT OF THE ROYAL AGRICULTURAL COLLEGE, held on the 6th June, 1848, the Right Hon. Earl BATHURST, the President, in the chair, the Report of the Council for the past year was read, adopted, and ordered to be printed for circulation amongst the Shareholders.

The recommendation of the Council to raise the fee for In-students to Eighty pounds, and for Out-students to Forty pounds per annum, was adopted, and the Council were empowered to act thereon.

Mr. Pusey, M.P., and Mr. Fisher Hobbs, having retired from the Council, were replaced by Sir Robert Throckmorton and the Rev. Alexander Huxtable.

One-third of the Council being balloted out were re-elected.

A vote of thanks was passed to the Hon. Mr. Bathurst for his valuable present of a Clock for the College Tower; and another to the President, Vice-President, Auditors, Treasurers, and Council, for their attention to the business of the Institution during the past year. PHILIP BOWES, Secretary.

London Office, 26, King William-street, Charing-cross.

TO FARMERS AND GARDENERS.

FOR SALE, and constantly on hand, at 1s. per ton, a quantity of the WET LIME used in purifying gas. This substance is charged with ammonia, &c., forms an excellent manure for heavy soils. It is of a nature to admit of its being loaded in carts or barges.—Direct to Mr. Preston Lumb, at the London Gas Works, Vauxhall.

THE IMPROVED HYDRAULIC RAM, fixed by FREEMAN ROE, Fountain Maker, 70, Strand, London, can be worked by a small stream of half-an-inch, where a fall of two feet can be obtained. The same RAM, without the aid of a Tank or Cistern, arranged to throw a Jet of Water constituting a Fountain with the head of water beneath.

ENGINES FOR DEEP WELLS OF ALL KINDS. DOUCHE AND OTHER BATHS. BUILDINGS HEATED BY HOT WATER. WATER WHEELS to work Small Pumps, from 15l. Estimates given for the supply of Towns, &c.

A newly invented PORTABLE VAPOUR BATH, all complete for 4l.

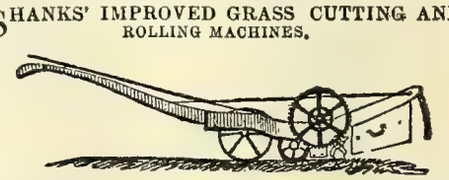
PATENT FLEXIBLE INDIA-RUBBER PIPES and TUBING for RAILWAY COMPANIES, BREWERS, DISTILLERS, FIRE ENGINES, GAS COMPANIES, GARDENING and AGRICULTURAL PURPOSES, &c.

THE PATENT VULCANISED INDIA-RUBBER HOSE PIPES are made to stand Hot Liquor and Acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible), and as they require no application of oil or dressing, are particularly adapted for Fire-engines, Pumps, Gas, Beer-engines, Gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes from ¼ inch bore upwards, and of any length to order.

Vulcanised India-rubber Garden Hose, fitted with brass taps, copper branch, and roses complete, ready to be attached to Pumps, Water-butts, or Cisterns.—Sole Manufacturer, JAMES LYNE HANCOCK, Goswell Mews, Goswell-road, London.

N.B.—Vulcanised India-rubber Washers of all sizes for Joints of Hot-water and Steam Pipes, and Vulcanised Sheet Rubber, any thickness, for all kinds of Joints, and other purposes.

SHANKS' IMPROVED GRASS CUTTING AND ROLLING MACHINES.



The complete success which has attended the introduction of this Improved Machine for Mowing Grass, and its fine adaptation for cutting the Grass of Lawns, has been fully proved by the numerous instances where it has been tried, and now in common use, particularly at Rossie Priory, Camperdown, and Kinblethmont, Forfarshire; Breadalbane, Perthshire; Clumber, and at many other noblemen and gentlemen's seats in England, as well as abroad. The Machines are made to cut breadths of 42, 30, or 20 inches, as required, the latter being adapted to hand-power. The Machine performs three different operations at one time, viz., Rolling, Mowing, and Collecting the Grass; and works with perfect ease, producing a beautiful smooth surface, and attended with great saving in abridging labour.

Orders may be addressed to Messrs. ALEXANDER SHANKS and SON, Machine-makers, Arbroath, N.B., by whom further particulars will be given.

Sold by Messrs. F. and J. DICKSON, Nurserymen, Chester; Messrs. J. and C. LEE, Nurserymen, Hammersmith; and Mr. GEORGE BARRY, Nurseryman, Castle-street, Liverpool.

ROYAL SOUTH LONDON FLORICULTURAL SOCIETY.

UNDER THE PATRONAGE OF HER MOST GRACIOUS MAJESTY THE QUEEN.

The Fourth Exhibition this season will be held at the ROYAL SURREY ZOOLOGICAL GARDENS, on TUESDAY, the 18th July, 1848, open to all Exhibitors, when Prizes will be awarded for the following collections, viz., Miscellaneous Plants, Cape Heaths, Fuchsias, Carnations, Picotees, Roses, Cut Flowers, Hollyhocks, Fruit, and Honey. In addition to the above, the following Members offer Extra Prizes, viz.: by W. T. Iliff, Esq., for cut Indigenous Plants; John Chapman, Esq., and Mr. John Fowle, for Antirrhinums. The last Exhibition for this season will also take place at the above Gardens, on WEDNESDAY, 13th September. The liberal promises from the many eminent cultivators to the "Dahlia Prize Improvement Fund," warrant the committee in stating that the September Exhibition will be on an extended and splendid scale worthy this noble autumnal flower. List of Prizes and the Rules of the Society may be obtained from JOHN TAYLOR NEVILLE, Secretary, Ebenezer House, Peckham.

The Gardeners' Chronicle.

SATURDAY, JULY 15, 1848.

MEETINGS FOR THE FOLLOWING WEEK.

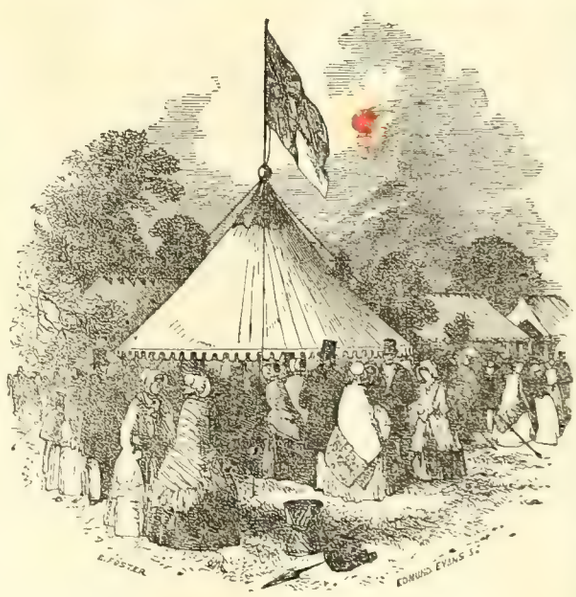
TUESDAY July 18—Royal South London ..... 1 P.M.
SATURDAY — 22—Royal Botanic ..... 3½ P.M.

WE must refer to our full report of the meeting of the HORTICULTURAL SOCIETY at Chiswick, on Wednesday last, for the details of as good a July Exhibition as we have ever seen. Time and space limit our own remarks to a very few words.

The gems of the Exhibition were *Pleroma elegans*, a delightful greenhouse shrub, with deep violet flowers, from Messrs. VEITCH, of Exeter, and a *Maranta albo-lineata*, with the most beautiful dark green foliage, striped with white, which it is possible to conceive; the latter brought by Mr. LINDEN, from Belgium. There was a marvellous *Aerides odoratum*, from Mr. RUCKER's garden, which, however, was disqualified by the regulations; a couple of admirably arranged Stanhopeas, from Her Majesty's garden at Frogmore; and the best *Cattleya citrina* that has ever been seen in England, from Mr. PLANT. The Fruit, too, was good: some very fine Pines and Grapes were this time the winners of the prizes.

The great charm of the day, which was hot without being oppressive, was the shady lawn and the elastic turf in the grounds of Chiswick House, which were thrown open to the Society by the Duke of DEVONSHIRE; when filled with the gay crowd, and enlivened by the music of the military bands, it presented a scene of real enjoyment, such as could only be felt in a garden, and that garden in England.

We borrow from our excellent contemporary, the "Florist," a couple of clever views of the tents and company, which give as good an idea of the appearance of the Society's Garden as can be conveyed by means of a newspaper. They will serve to tell the stranger what sort of scene may be witnessed at the Exhibitions of the Horticultural Society; only he must recollect that the dog in the foreground of the larger cut is introduced by the poetical license of the artist.



The number present was 14,084, viz., 227 Fellows, 13,823 visitors admitted by ordinary tickets, and 34 by ambassadors' tickets. This is the largest number on record; on the 13th June, 1846, there was only 13,421, and the 11th June, 1842, only 13,351.

WE regret to find that in our anxiety to do the ROYAL IRISH HORTICULTURAL SOCIETY a service we have done its Council some wrong. Its friends and opponents in Ireland had together made out a seeming case of misgovernment such as no journalist could, consistently with his public duty, hesitate to expose in a manner certain to ensure an immediate stop to what appeared to be a flagrant abuse of power. We undertook, most unwillingly, the ungracious task; in doing which it became necessary to give some point to a series of uncontradicted charges brought against the Council by a correspondent signing himself "Hortulanus Hibernicus" (page 365). The Council have now denied the truth of these charges, and we feel bound to admit that our latest information satisfies us that in one respect, that of withholding payment of prizes, they are nearly blameless. It was alleged that the Council received the money of the Society, and the money of the visitors to their Shows, and of course undertook to pay the winners of the prizes; but that they neglected this obligation, the Council getting the money, the prizemen nothing. This was a misapprehension on the part of our correspondent. The truth is, that somebody ran away with the money, and that when his roguery was discovered, the Council at once admitted their liability, and have since paid all claims, except a few which they considered doubtful, although they now allow them to be just. They have, therefore, suffered in public opinion for having questioned claims which they now find it necessary to pay. Under the circumstances it would have been wiser not to throw difficulties in the way of a settlement, in which case the supposition that they had withheld the prize money could not have been so generally entertained. The Council say that the amount in dispute was not more than 15*l.*; but when it is recollected that their prizes vary between 5*s.* and 20*s.*, it will be seen that the cases of withheld payment may have been as many as 60; quite enough to produce the most unfavourable impression upon exhibitors. And after all "Hortulanus Hibernicus" was not wrong; for money has been withheld; all that the Council say even now is that they intend to pay. Perhaps they do no know that no reply has been vouchsafed to repeated applications, about the justice of which there was no dispute.

We must here observe that, from the words of the reply of the Council to this allegation, it would appear as if the members had been charged with putting the money into their own pockets; no such charge was made; no such idea could have been entertained; the charge was that they did not pay. The Council complain of the strong expressions used by us in commenting upon this transaction; surely they must agree with us in thinking that no language of reprobation could have been too strong had the charge been as serious as it had the appearance of being.

They may, however, say that we had no sufficient ground upon which to support the charge. To this point we now address our views.

The first notice of the Irish Horticultural Society in our columns was on the 13th of May. This produced various letters from Irish correspondents, all complaining, some bitterly, of the conduct of the Council. From these we selected the one signed "Hortulanus Hibernicus," which appeared on the 3d of June, containing a series of statements, the truth of which we fully supposed would have been immediately denied on the part of the Council. If our readers will refer to page 366, it will be seen that we expressed such an expectation; which we were the more justified in entertaining because we had already been in personal communication with a member of the Council, to whom we confidently refer as a witness of the good feeling which we then expressed towards all the parties concerned. Our surprise—we will even say our indignation—may then be conceived when, instead of a counterstatement, a letter reached us from a gentleman of high station in Dublin, in which were the following words, "I am one of those who consider the Society rotten to the very core. There is not a sentence in the letter of 'Hortulanus Hibernicus' which is not strictly true; you may depend on that in whatever you may yourself say on the subject." Could the most cautious man have suspected, after reading such a statement, and knowing the honourable character of the writer, that there was any room for doubting the truth of the charges brought by our correspondent? The belief at least which was entertained by the best society in Dublin is sufficiently shown by it. Some of the Council are, we understand, indignant at the manner in which we have dealt with them; we are sorry to hear it, for it shows that they feel the substantial justice of our comments; but they ought to be thankful; for in no other way could they have been driven on their defence, and been forced to place themselves right with the world, as far as their conduct will admit.

And now as to other points. The Council declare that they are not haughty; we regret to say that, in this respect, opinion is against them. We have now before us a letter dated May 30, 1848, from a correspondent who we happen to know has himself been on the Council, in which he says, "I do not think that, as at present managed, that Society will progress; it is too aristocratic, and the gardeners are not, I fear, kindly treated, or their remonstrances properly attended to." The refusal of the Council to notice the civil but serious letter of "Hortulanus Hibernicus," until they were goaded to it, and left without an alternative, supports the allegation.

The Council deny that there is any rule to exclude gardeners, *who are honorary* or *associate* members, from their dinners; but this, obviously, does not meet the complaint; on the contrary it evades it. Do the Council mean to say that any

other gardeners who wish to buy a dinner ticket can do so? Can they assert that no obstacles have been thrown in the way of gardeners by individuals of their own body, and apparently representing them. Have they never heard of gentlemen meddling extra-officially? of intimations that the presence of very respectable persons, whose main offence consisted in being gardeners, would not be tolerated, or would be disagreeable? We are curious to have these enquiries answered.

They say that at their exhibitions the fruit is open to the public; "Hortulanus Hibernicus" says it is under a guard of police, and is accessible to the Council and their friends alone; another correspondent tells us that it is only put behind a screen of wirework. With our readers must be the task of reconciling this conflicting testimony. The Council think the charge "scarcely worth contradicting;" we look upon it as a very serious allegation. They ought to have stated distinctly that the public never *has been* excluded. We have reasons for believing that this has happened on more than one occasion. And here we will venture upon another question or two. Is not or has not the fruit been placed in a back room? or at the end of the long room, across which stretches a very high barrier or stage, surmounted by a high wire fence; and is not the fruit shown (?) at a considerable distance within this barricade? and finally is not the rear of the barricade, where alone the fruit can be seen, inaccessible to the paying visitors, unless they have the good fortune to be friends of the Council?

The Council admit that members of their own body are both exhibitors and judges; but they deny that they are ever judges in the class in which they are exhibitors. We have before us a schedule of prizes for 1848, and at the spring Show we find Lord Lieutenant's prizes offered for single Exotics, groups of Exotics, and Auriculas. We learn that on that occasion a member of the Council was appointed, with his own concurrence, one of the judges of the Lord Lieutenant's prizes, that he showed Auriculas, and that his Auriculas won; as was in fact announced in *Saunders' Newspaper* of April 29, and as the Council admit. What inference could the public draw from such a fact except that he gave the prize to himself? This is said to have been a misapprehension; but how was the public to know that? people cannot suppose that an official declaration has to be read backwards. The occurrence shows how objectionable is the management of the business of the Society. In this case the Council appoint one of their number a judge in a particular class; instead of rejecting the office he becomes a competitor in his own class and takes the prize. It then turns out that by some means, of which the Council know nothing, his plants are placed under another set of judges; unexceptionable men, we dare say, but not those named for the purpose. That this transaction had a very bad colour is sufficiently shown from the fact that the matter was investigated by the Council, when the prize was renounced by the winner. But we are in a condition to prove that the Council do virtually give their prizes to themselves. At the meeting on the 22d of June last, five members of the Council were appointed by the Council to be judges, and of these five three acted, viz., Dr. CROKER, Mr. EDMUND D'OLIER, and Mr. WILKIE; Dr. PLANT and Mr. LENTAIGNE were absent. In the printed award we find that 22 prizes were declared for flowers from private gardens, out of which nine were given to members of the Council. Can any one seriously deny that in this case the Council gave the prizes to themselves. Why Dr. CROKER, a member of the Council assisted in awarding four prizes to Mr. CROFTON, another member of the Council. At least we are assured that this was so; and our authority is the official declaration published by direction of the Council. Be it observed that we do not question in any way whatever the fairness of the awards, although the public do. All we contend for is that such awards cannot give satisfaction, and are open to the gravest suspicion. That the Council should not themselves see the false position in which they are placed by their own act, shows conclusively how unfit the majority of them must be for conducting the affairs of a public body.

No one knows better than ourselves the difficulty about judges at these exhibitions—difficulties which are in some respects insuperable. But if it is certain that no faith would be placed in England in awards made by the Council, who are all interested parties, what must be the case in Ireland? There is no objection to the Council being exhibitors; quite the contrary: they ought to be so when they have the means; but it is indispensable that the independence of the judges should be above suspicion. It would be as well if judges were not permitted to be exhibitors: but this can seldom be accomplished in large meetings; and so long as the judges of one class are not able to interfere in another class, and the rules, be they what they may, are peremptorily carried out, the first of which should be that no man shall be a judge in his own case, no serious evil will arise from judges being exhibitors also.

It is denied that exhibitors can remain in the room after the judges have assembled, and perhaps the description of the proceedings of the Council is here a little exaggerated; but the Council admit that they remain themselves, and as the Council (numbering 21 members) are, or have been, in many cases, and may be in all cases, exhibitors, the truth of the main charge is admitted. The Council ought not to hold any communication with the judges in the exhibition-rooms till the awards are made. If they have any business to transact, it should be done elsewhere.

The Council flatter themselves that the Society under their charge is not unpopular and therefore ruined. We most sincerely trust that they are right: though our letters tell us a different tale. There is, however, no reason why they should be unpopular; quite the reverse. It is enough to refer to such names as those of Messrs. BLACKBURNE, HAMILTON, LYONS, MOORE, and Colonel SHAW to show that there is a nucleus round which all the elements of success may be attracted. They are placed amidst a people excitable, emulous, and eager for distinction. Let them encourage and foster carefully such honourable feelings, not by awarding money and honours to themselves, and trumpery paper certificates to the hard working gardeners, but by carefully giving all honour where honour is due, by substantially rewarding skill to the extent of their means, by carrying out their regulations without fear or favour, and, above all, by avoiding acts that cannot fail to give rise to grave suspicions, which all the denials in the world will fail to dispel.

Since the above was in type, we have received several letters, from among which we select the following from Mr. TIGHE HAMILTON, one of the Council.

"I feel bound to mention to you that I was not a party to the statement adopted by the Council of the Royal Irish Horticultural Society, and that my reasons for dividing against it were, first, that it seemed throughout to imply a defence of rules which I think indefensible; and secondly, that, as to some matters, it does not convey the facts with sufficient clearness to enable the public to distinguish the acts of the Council from those of individuals. With respect to the manner or degree in which the rules of the Society may have answered their purpose I will say nothing, as they are about to be reconsidered. But I am constrained to set forth the whole of the facts in one particular instance, already much noticed, in which it would appear, from the statement, that the Council were more responsible than was really the case. Previous to the spring show, Dr. Plant, a member of the Council, was appointed one of the judges for the Lord Lieutenant's section, without the Council being made aware that he would be an exhibitor in one of its three classes or subdivisions, though he was present at the time, and the fact was notified to him by the usual official letter. On its appearing in the authorised account of the show, taken from the books of the Society and published in *Saunders' Newspaper* of the 29th April last, that Dr. Plant was the successful competitor in one class, and also one of the judges in the three classes, the matter was at once investigated. The explanation given was, that Dr. Plant 'was appointed a judge of the Lord Lieutenant's prize in Auriculas without his knowledge, and that he did not act in that class as a judge,' and is so entered with the addition that he had, however, withdrawn his claim to the prize. It subsequently appeared that the adjudication was not made by the judges appointed by the Council for that particular section, but that the plants having been locally placed with others in another section, were really decided on by the judges appointed for the latter. That these judges acted correctly in their part is unquestionable. But how the plants were transferred to that section for the actual decision, and then restored to their own section, for the formal judgment, does not appear. I therefore dissented from a statement from which it might be inferred that the Council had transferred the adjudication, whereas nothing took place but a removal of the plants from one locality to another. It is needless for me to say, that I think the Council have not done any act even bordering on what could be considered dishonourable. But at the same time I must say, that I think they have been much mistaken, in so long upholding rules which are not only objectionable in themselves, but which, from their very nature, must involve continual misrepresentations and misunderstandings on the part of exhibitors, extremely hurtful to the feelings of this Council, and injurious to the objects they have in view; *W. T. Hamilton.*"

WE regret to add to the memoranda respecting the POTATO DISEASE, already published by us, that it seems to be increasing; and that in most cases which have come under our own inspection the form assumed by it is either that of 1845 or 1846, the former marked by a rapid putrefaction of the tubers, the latter by the sudden blight of the leaves and stem. We believe that we shall best perform our duty by putting the naked facts before the public without comment: indeed the only remark which the subject calls for is, that no means at present exist of judging to what extent the evil will spread.

JERSEY.—I regard them with fear, since in many places in my parish the disease has come on with virulence. The haulms within three or four days have become black and very fetid, and the Potatoes are exactly presenting the same characters as heretofore. In other parishes I have learnt that the disease has appeared, and is spreading; *Thomas Ingles, St. Peters.*

CORNWALL.—On Saturday, July 1, I perceived some symptoms of disease in a plot of "early frames," planted on the 18th of February, whilst another part of the same plot, planted with the same kind of Potato on the 10th of January, seemed without a blemish. All, however, are now (July 8) more or less affected, and the disease is spreading with its usual rapidity. The roots, so far as I have seen, are of a good size and perfectly sound; from which, I am inclined to hope, the disease has lost much of its severity, although it has made its appearance here 17 days earlier than last year; *Wm. B. Booth, Carclew, July* 10.

ISLE OF WIGHT.—Accompanying this are diseased Potatoes from a garden in this parish (Northwood). The owner informs me that the first symptoms of the disease appeared on Sunday, July 2, and, in the short space of three days, the haulm was quite dried up, and all the tubers on one side of the garden have become affected to the same extent as those specimens sent. I am likewise informed by the gardener of Parkhurst Prison, that the disease has made its appearance in their fields, but not to a serious extent; *A Subscriber, Northwood Park.* Much disease in this neighbourhood, and it is progressing; *E. Curtis, Galcombe, July* 11.

SUSSEX.—The disease has made its appearance here; up to the third week in June the Potatoes were looking well; at the beginning of the fourth week the disease began to show itself, after a day or two I found it worse, and now, I am very sorry to say, it is making fearful and rapid strides; *A. S.*

WILTS.—The disease has attacked the whole of the crops in this and the immediate neighbourhood. I have examined some hundreds of plots in various situations, and on very different soils, and I find the whole of them infected, more or less; some quite black, others in the first stage only. The early crops are fine, extremely so; and the latter crops present the most vigorous appearance to the eye, did not the black spots on different parts of the plants bespeak the incipient stage of the disease; *J. Spencer, Bowood.*

HEREFORD.—Unequivocal signs in several places; in some cases the haulm is completely rotten. The field crops look very luxuriantly. Early Potatoes infected this year, which has not in former years been the general case; *Robert M. Longwood, Lyston, near Ross, Herefordshire.*

GLOUCESTERSHIRE.—Has appeared in many places, but not at present to a serious extent; *J. C. Morton, and another, July* 4. Now progressing fast; *J. C. M., July* 11.

SOMERSETSHIRE.—Has appeared in streaks in some fields; *Rev. George Rous.*

KENT.—The Potatoes generally diseased; *John Ansell, Kemnal Garden, Chislehurst.*

NORFOLK.—In this part very bad. In almost all the cottage gardens they are all turned black, and many of the tubers not fit for use. Ash-leaf Kidneys and Pink-eyes, about one acre in the garden at Gunton all tainted, and going fast to decay. It is astonishing how they have gone within these two or three days, and my firm opinion is that it will be as fatal as the two last seasons. —*J. Walton, gr., Gunton Park.*

LINCOLNSHIRE.—The Ash-leaved Kidney, hitherto looking unusually healthy, are now becoming blotched, and the tubers assume the appearance of a bruised Apple; *Richard Rilott, Florist, Dorrington, near Spalding.* Potatoes attacked, and very much worse during the past two days. Our own, which were filling the drills at 3 feet asunder, are emitting an odour, from the decay of the tops, which is quite perceptible on passing; *Thomas Aitken, Spalding Fen.* Disease making rapid progress in this part; *S. Webb, Great Holbeck Hall, Horncastle, July* 12.

SOUTH WALES.—I forward you haulm of Potatoes diseased, which, I am sorry to say, is too prevalent in this neighbourhood; *George Frederick Heslop, Hay, S. W., July* 13.

CHESHIRE.—Commenced here 10 days since, and is now proceeding with wildfire rapidity; *R. Errington, Oulton-park, July* 10.

THE HIGHLANDS.—I have undoubted information of the reappearance of the Potato disease in several parts of the Highlands. It has been observed in some parts of Skye, and is already doing much injury in Loch-olsh, Wester Ross. [This we guarantee.]

IRELAND.—That the crop of this country is in much danger no possible doubt exists. It has made such formidable progress near Dublin that Mr. Moore, the very intelligent and cautious Curator of the Glasnevin Botanic Garden, has communicated to the Royal Dublin Society the unquestionable fact that the rot has commenced on the haulm of most of the Potatoes in that neighbourhood, and in some instances in a virulent form. We have seen diseased samples from Kilrush and Tuam; in the Priest's field of the latter place, fully one-third is seriously tainted, and in Mr. Brereton's garden about one-twentieth is blighted. At Ballandine,

in Mayo, the disease progresses; our correspondent now looks upon it as contagious or infectious—a significant intimation of what is going on. At Castle Connell (Co. Limerick) it was spreading rapidly, July 11, and the fields were beginning to stink. About the same time, however, the crop is reported as unaffected at Banbridge (Co. Down), near Limerick, Waterford, Ballina, Belfast, Enniskillen, Monaghan, and Drogheda. We do not give our authority for these statements, for the sake of the informants, who would be in some personal danger if they reported ill of the Potato; but we guarantee their truth.

What then is to be done? There is nothing very possible except to adopt the recommendation of Mr. Moore, of Glasnevin, and Mr. Errington, to transplant Turnips from the fields into every spare corner where they can be made to grow, and to begin sowing Cabbages, winter Greens, and Horn Carrots.

ON PROPAGATING OR MULTIPLYING MUSHROOM SPAWN, AND ON RAISING OF MUSHROOMS IN WINTER.

Mushroom spawn (or the mycelium of the Agaricus campestris) may often be found on the floor of an empty outhouse where horses had been kept for a length of time; and from that source I originally obtained it at Pinkie. It may be preserved in small masses in a dry place, for future use.

There are various ways of increasing Mushroom spawn; but the following is perhaps one of the most simple, and I have always got the best spawn by adopting it. In the month of July prepare a quantity of short litter mixed with horse-droppings. Lay this heap in the corner of a shed, about 2 feet thick, beating it gently down. This heap will heat pretty strongly at first, but when the heat has subsided till about milk-warm, insert pieces of spawn into the centre of the heap. If the heap get rather cold, and there be not enough of heat to cause the spawn to run, cover the heap with warm horse-dung, so as to diffuse a gentle heat through the whole mass. When the spawn has run through every part, have the whole taken into a dry loft, where it is to be kept till wanted.

Another way which is sometimes adopted, and which I believe is the most general way of increasing Mushroom spawn, is the following:—Collect a quantity of horse-droppings, to this add one-fifth of cow-dung, and a very little earth, preferring a stiffish loam; these are well mixed and beaten together. Then have the mixture formed into pieces like bricks, by means of a common brick-mould, forming two holes in each brick to receive the spawn. Lay the bricks out in the sun till nearly dry, when pieces of spawn are to be put in the holes. Then, in any convenient shed, form a bed of warm horse-dung, 9 inches deep and 3 feet wide. On this bed lay the bricks edgeways, about 3 inches apart, one layer crossing the other at right angles, until about 2 feet deep. Cover the whole with horse-dung, warm enough to send a gentle heat through the bricks. When the spawn has properly run through them, get them all stored into a dry place till required.

The material I make up a Mushroom-bed with consists entirely of horse-droppings, preferring those of horses kept on Oats and hay, which are far more productive than those of horses fed with Grass and Clover, or other soft food. The droppings are collected into a shed as they can be gathered from the stables, turning the mass out in the day time to dry a little, if weather permit. When we have collected enough to make a bed, I have it all taken into the Mushroom-house, and, if not enough dried, it is spread on the floor and on the tops of the flues, turning once or twice a day until we consider it half dried. It is then laid altogether in a heap, to sweat the rank heat of it, turning it over three or four times a day, to keep it from burning. When the heat has well subsided, which is generally in about five or six days, we begin to make up the bed, on a shelf fitted up for the purpose, 2 feet 6 inches broad and 11 inches deep. This is filled up till within 1 inch of the top, beating the mass down in successive portions with a brick or mallet as firm as possible as the shelf is being filled. If it do not heat very vehemently, then all is going on well; but if it begin to burn, turn it up with a dung-fork, to let the rank heat escape; when that has passed off, beat all down as before, and in a day or two the bed is ready for spawning.

The heat in the bed when spawned should not exceed 90° Fahrenheit when the thermometer is sunk 5 inches into the bed. When of this heat, insert pieces of spawn, a little larger than a hen's egg, 9 inches apart, and just so deep as to be little more than covered. Lay on earth immediately, of a strong loamy character, 3 inches deep, and beat it all over firm with the back of a spade. In this state let the bed lie for 8 or 10 days, by which time the heat has declined a little. Then cover it all over with hay, which increases the heat considerably; water it on the top of the hay with a syringe, two or three times a week, with water of the same temperature as the house, which is generally kept about 60° Fahrenheit. I never water directly on the surface of the bed, finding this from experience to have a very bad effect. In about five or six weeks at longest the Mushrooms make their appearance. I generally gather two pints a day from a bed 2½ feet broad by 27 feet long. I have frequently, however, got as much as two pecks in one day when the bed was in full bearing; and on one occasion I had 2½ quart bottles of ketchup made from a single gathering; *Mr. John Lyall, Pinkie-house, in Transactions of the Caledonian Hort. Soc., Jan.* 22, 1848.

NOTES ON THE CRYPTOMERIA JAPONICA.

The Cryptomeria japonica is the most beautiful tree of the Conifers which is met with in China. Our first knowledge of the existence of the species is derived from the writings of Thunberg, the Swedish traveller, who found it in Japan. In the 14th vol. of the "Linnean Transactions," the late Professor Don described and figured it from a dried specimen which had formerly belonged to Thunberg, and which had been left to the Society by Sir J. E. Smith. It does not appear that Thunberg or any other traveller made any attempt to introduce the tree to Europe from Japan, or if the attempt was made it had not succeeded.

In the autumn of 1843, when I first visited the province of Kiangnan, in China, I met with the Cryptomeria growing in the country a few miles from the city of Shanghae. Here it was evidently not indigenous, the land being too flat for the members of the Fir tribe. It was, however, a great favourite with the Chinese, who were wont to plant it round the tombs of their deceased relatives, in company with the Cypress, Juniper, and Pine. When I discovered it, the branches were covered with its little cones, which were perfectly ripe. The stems of the trees were very tall and straight, having no branches nearer the ground than 40 or 50 feet. I tried to induce my Chinese servant to climb, but he exhibited great astonishment at the request, and politely informed me that squirrels only, such as we had seen in the wild mountain districts, were fitted for such an undertaking. "Well, then," said I, "I must turn squirrel for the time being, and try it myself." Like all boys who have the opportunity, I had been fond enough of this occupation in my youthful days, but I little thought that the knowledge I acquired in climbing for the nests of wood pigeons and rooks, when my more sober elders consoled me with the prophecy that I would break my neck, would turn out so useful as it afterwards often did. Throwing off my coat and shoes, I clasped the noble tree with my arms, and soon found that, although I had not climbed for years, I had not forgotten my early lessons in the art. I soon reached the branches and procured a fine supply of ripe seeds, which I threw down to the Chinaman, who packed them up and carried them home to Shanghae. From these seeds the first plants seen in England were raised.

I have already said that the tree is not indigenous to the district near Shanghae, and that the ground there is too flat for its growth. In the mountain districts near Ningpo, particularly at a celebrated temple named Tein-tung, some noble specimens were met with; they were as straight as Larches, from 80 to 100 feet in height, and clothed with branches to the ground. They resembled the Araucarias of Australia and Brazil more than any other tree with which I am acquainted. Like all the other trees of the Pine tribe, they evidently were more at home on the hilly, undulating land in this part of the country than in the neighbourhood of Shanghae. This fact will afford us a useful hint for the treatment of the tree in this country.

Judging from the climate of the north of China and Japan I never had any doubt of the Cryptomeria proving hardy in this country. The severe winter of 1846-47 has proved it to be as hardy as the Deodar, to which it will be a most suitable companion in our woods and parks. It strikes readily from cuttings, but seedlings generally make the best and most handsome trees. Like the common Scotch Fir, it likes a loamy soil, and thrives best in those situations which the generality of the Pine tribe prefer.

It has often been a subject of regret that the beautiful Australian and Brazilian Araucarias are not hardy in this country. Here, however, we have a tree having the same striking habit and certainly much more graceful in form, perfectly hardy, and suitable to our northern climate. In a few years it may be expected to produce a very striking effect on our landscape. The wood is twisted in the grain, not unlike the common Yew, and possesses great strength and durability. As the tree grows very straight it is often employed by the Chinese to form the long poles which are generally seen in front of the Government residences of the mandarins. I have frequently examined these poles, and found them perfectly sound after having been up for ages; even when the outside was decaying the centre was generally as hard and firm as on the day the trees were cut. This shows that the wood of Cryptomeria is very durable, and as its growth is very rapid, it may be expected to be valuable as a timber tree in this country; *Robert Fortune.*

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

Celery.—The luxuries of the table must not be forgotten in our attention to floral beauties, and at this season a judicious gardener will be laying up a stock of care and skill in various culinary productions, to appear again with interest upon his table in autumn and winter. Among these vegetable luxuries Celery must not be forgotten now, unless we wish to remember it with vexation when, a few months hence, we find ourselves destitute of it. When a gentleman asks his friend to come and take bread and cheese with him, and intends literally to entertain him with those humble provisions, some Celery and Radishes will raise his supper much in the estimation of the visitor. These things give a charm to the simplest banquet, and are therefore to be looked upon as highly promotive of economy; for a clever housewife will furnish as good an entertainment of bread and cheese, and a salad, as others would with more costly materials.

Horticultural shows have introduced the system of growing Celery to an enormous size, and if the amateur wishes to be a successful competitor he must grow in the train of other candidates. But this custom is vicious, and ought not to be tolerated, for such gigantic specimens of vegetable growth are seldom good and certainly never to be met with on the table as those of moderate dimensions. A stick of Celery 4 feet long and 4 inches in diameter may astonish by the assistance necessary to raise it, but it would enjoy the taste of it to much as that of a smaller one. Besides, the eatable portion is often very small, not larger, indeed, than that of a stick of moderate proportions; and the rest is nothing worth, and consequently the carriage expended on its growth is wasted. What the gardener should aim at is a succession of Celery [illegible] or earthy taste, free from [illegible] and of good colour. Most persons will be found to prefer that which is of medium size, as possessing the best properties in the greatest degree.

Most gardeners sow a little seed in a hot-bed frame, to secure an early crop. The plants are pricked out as soon as possible, and when large enough are transferred to the trenches. But very early Celery is not so esteemed as the main crop, which is required for the late autumn and winter months; and for this purpose, a seed bed in a warm situation in the open air is all that is needed. We have had a plentiful supply of Celery from a bed about a yard square, the young seedlings being thinned out until the bed contained about 324 plants, that is, each plant having two inches square to grow in. These may be either transplanted into a nursery bed, as is commonly done, the tops first being removed previously; or they may be at once planted to the trenches. By the latter mode time and labour are spared, and the Celery is quite as fine. Amateurs who work in their own gardens will often find that the established modes of doing things often rest more on custom than reason, and may be advantageously departed from.

Celery trenches should be about 12 inches deep in ordinary soils, and at the bottom a good supply of well-rotted manure may be incorporated with the mould. Care must be taken that no coarse manures are put in, for the Celery will imbibe a taste from the manure it is grown in. Leaf-mould is perhaps preferable to any other compost, and by it the finest flavour will be secured. If the trenches are 18 inches wide, two rows may be put in, and much space will thus be economised. We always put two rows in a trench ourselves, and find the plan as advantageous for the plants as any other, besides the saving of time in mounding up. In one garden under our observation the plants are put in six or a dozen in a row, and when earthed up present a compact mass. This process of mounding up must be performed gradually, a little at a time, and we have found it useful to throw in some lime or ashes at each operation to correct the ravages of worms and slugs; *H. B.*

CAPE HEATHS.—No. XI.

There is a number of Heaths, though distributed among the several sections into which the genus has been divided, yet in the aggregate, claim a common resemblance, and as such may be regarded as a section exhibiting peculiarities in foliage and general habit completely their own. Aristata in the anthers. Massonii in the tubular, and tricolor in the ventricose sections will furnish sufficient illustration of the type of the section under discussion. The foliage of all is short and compact; crimson in its numerous shades the prevailing colour; and the flowers of all are covered with varnish of a viscid nature, which heightens the colour of the corolla. The presence of this gummy varnish is a source of many eccentricities in the economy of the plants. Insects, attracted by the nectar in the flowers, on alighting on them, become completely glued to the spot. Wasps, flies, and numerous bright and gaudy insects, enticed either by the sweets within or the rich colouring without, may, on examining a head of flowers, be found in a dead or dying state.

To illustrate the tenacity of this exudation, I once saw a golden-crested wren, attracted [illegible] by the dead insects, quite unable to extricate itself, and was removed by the hand. All the Heaths resembling the character just alluded to, are worthy of cultivation. Amongst them are some of the most showy of Heaths. An amateur may form a nice collection with all of them, as they are expensive at first and difficult of propagation; but in a collection, taking the term in its broadest sense, they are indispensable.

For those whose taste for flowers borders on the curious, and who can admire a flower simply for its beauty, there is a curious little Heath I would advise them to procure, satisfied they will not be disappointed. Its name is hyemalis, and a most appropriate name it is in pointing out its general appearance. When not in bloom it bears a striking resemblance to a pot of Lycopodium stoloniferum. Its branches take the same decumbent position, its leaflets are sessile and inserted in the same manner; but they are slightly more circular in outline, and of a different green. The difference, however, between the two plants is not so apparent till placed side by side; but foliage and habit are not its only recommendations. It produces thousands of pale, almost pure white, blossoms: both sepals and corolla are alike in this respect. The paleness is interestingly relieved by cinnamon-coloured anthers protruding beyond the mouth of the corolla. The flowers, like the foliage, are drooping. There is this precaution to be taken, however; never handle it roughly, or place it in a

strong draught, its delicate branches are so very easily broken. Fragile in this respect as the whole genus is known to be, all fall very short compared with lycopodioides; so delicate is it that it would not be a bad precaution to label it "touch me not." An excellent companion for the Heath just described, in every respect, and at the same time essentially dissimilar, is atrosanguinolenta. Differing in foliage and flower as regards shape and colour, but alike in size, in minuteness of growth, and general habit, it forms a suitable companion and contrast.

Dilecta is a very pretty Heath. Its habit is as symmetrical as the most fastidious in those matters could wish. Its growth is perfectly semi-globular, assuming the rim of the pot as a diameter. The numerous star-like blossoms, barely elevated above the foliage, altogether give the plant a peculiarly interesting appearance.

Gelida is somewhat analogous to intermedia, but differs from that variety in having a tint of beautiful green in its blossoms. Its qualities claim for it a place in a collection of the most choice species. Grown by the side of a dark variety, Hartnelli for instance, its appearance is superb. Persoluta and its white variety are two desirable Heaths, easily grown, abundant bloomers, the former especially, and remaining a length of time in beauty. The purple variety is a charming plant, and when in good health and blossom must delight every lover of flowers. Vernix, its variety coccinea, and ardens, are all attractive; the former if not checked in its early growth has a tendency to form a very straggling plant. Ovata, as a distinct and pretty Heath, deserves all that can be said of it; scariosa is neat, and should be grown with it. Metulæflora is charming, and its variety bicolor, though not so abundant a bloomer, is beautiful; no difficulty need be apprehended in growing a compact specimen. Cerinthoides and its varieties has many claims on us; the distinct habit, dissimilar bloom, and late period of flowering, are all in its favour. A scantiness of flowers may be urged to their disadvantage, but their beauty will compensate for that. I have seen heads of flowers on C. superba, composed of nearly 60 individual blossoms; anything more beautiful in the way of flowers it would be difficult to describe. Straggling in their growth, making long slender shoots, and blooming at the extreme point of each without much ramification, they require to be neatly supported with stakes as a permanency, an auxiliary which scarcely any other Heath requires.—*G.*

Home Correspondence.

Monstrosities.—It is stated in the *Chronicle* of the 1st inst., that a paper was read at the Linnæan Society by Prof. E. Forbes, on some remarkable monstrosities of Viola canina. He mentions that the plants were affected by a parasitic fungus which caused various distortions of leaves and sepals, that some of the flowers of the plants had two spurs, and a single specimen had three; and, that at some distance below the flower, the peduncle was encircled by a second whorl of sepals five in number, and resembling bracts in form. That the fungus was the cause rather than the effect of this change of structure is a point which, I think, may very reasonably admit of doubt. Till the appearance of the Potato disease, it was generally understood by botanists that a fungus did not appear on a plant till that plant had become diseased, and this opinion, I believe, is still entertained by the majority of scientific men. In garden plants, we find nothing so common as that of a change of structure from cultivation alone; and, in fact, it is this change of structure which forms their characteristic mark; but this change is not produced by a fungus, but by the cultivation to which the plants are subjected. Had Prof. Forbes shown that the fungus appeared previous to the change of structure, there might have been grounds for believing that the irritation caused by it to the plant had produced the abnormal structure; but it will be observed that the plants were not examined till after the abnormal structure appeared. During the earlier investigations which took place as to the cause of the Potato disease, it was found that the diseased Potato had also an abundance of fungi, and hence it was concluded that the fungus was the cause of the Potato disease. A more rigid inquiry into the subject began gradually to dispel the fungus theory, and bring back the opinions of botanists to the views they previously entertained, namely this, that the fungus was the effect, and not the cause of disease in the Potato plant; here then is the point which Prof. Forbes has assumed in accounting for the change of structure in Viola canina. Having observed that many plants of Viola canina presented an abnormal structure, and were at the same time covered by a fungus, he gives no weight whatever to the effect that would be produced by the unnatural growth of the plant, or the state of its juices. On the contrary, he assumes, without proof, that the fungus is the cause, and not the effect, of the altered state of the plant. Nor does he even glance at the supposition that the appearance of the abnormal structure, and the fungi on the plant, at the same time, may have been a mere coincidence, and that each may have had its own separate cause. On these grounds I think we cannot conclude, with the learned Professor, that the views so long entertained by botanists as to the appearance of fungi on diseased plants alone, have been adopted without due inquiry and research, so that, contrary to all previous observation, a fungus may now appear on a plant entirely free from disease. On the contrary, I think that nothing has yet appeared to disprove the fact that the growth of a plant must first have been interfered with before fungi appear on it, and that, till then, the plant cannot form a proper nidus for a fungus to grow on; *Anti-Fungus, Elgin.*

Bees.—Feeling much interest in all that concerns bees, I read with attention the article of "Ruricola" on the solitary or mason wasp (p. 452), which he says is a formidable enemy in the hive, and exercises a very baneful effect upon the society of bees where it intrudes itself. I cannot, however, make out from his remarks in what manner the injury is effected. He describes the solitary wasps as living a secluded life; and as there is no pretence for saying that they feed upon pollen, we might infer from "Ruricola's" silence as to any food laid up for store in the cells with the fleshy larvæ, that the latter feed upon the larvæ of the bees; but this, from the well known habits of the Odyneri, can scarcely be the case. Are we then to infer that it is merely the presence of the Odyneri as intruders into the hive which is so baneful? This also can scarcely be the case, for the Odynerus builds its cells very quickly, and we are not sure whether the bees would allow another insect, entering their hive without any thoughts of molesting them, to pass and repass with impunity. Is it, therefore, in the last place the presence of a merely inert extraneous mass of matter introduced into the hive which annoys the bees? This can also scarcely be the case, as we know that they will remove such masses of matter, or at least coat them over with wax. But is "Ruricola" certain that the particular hive in which the nests of the Odynerus were found, was brought into a bad state by the Odynerus? I cannot but think that the hive was weak, and the Odynerus found in it a good situation for its cells, just as wasps will occasionally do in weak hives. It is in fact evident that if Odynerus parietinus were a real enemy to the bee, such a fact would have been ascertained long ago, but no writer upon bees up to the present time has ever noticed any such circumstance; *J. O. W.*

New Roses at Regent's-park Show.—In reading the report of the Royal Botanic exhibition in the *Chronicle*, I find you have given the names of the Roses exhibited for 12 new varieties, and as I have had some experience in this beautiful queen of flowers, am at a loss to account for the awards. Mr. Francis was first, and his are mostly sorts which have appeared for years past in the different catalogues; on the contrary, of Messrs. Lane and Son's, which were awarded the second prize, some few are of very recent date in catalogues, and others have not yet appeared. The public are at all times inclined to place the most implicit confidence in the awards of the judges, and no doubt these gentlemen have acted to the best of their judgment; but besides conscientious motives, great care and a competent knowledge of the subject are requisite; *Vindex, Cambridge.* [The facts are as our correspondent has stated them. We too are at a loss to guess on what grounds the 1st prize was awarded to Mr. Francis; for of his 12 Roses shown some 6 or 8 have been catalogued for years, whereas Mr. Lane's were really *new* Roses, only three of the sorts having appeared in catalogues of 1846; the others being of more recent date. Many of Mr. Francis' varieties (and better blooms) were to be seen diffused over the different exhibitions of 100 cut blooms.]

White Banksian Rose.—I lately pruned a white Banksian which was planted within 4 feet of the outside of a wall, facing the south-west. The severe frost of 1837 killed it down to the ground. It reached the top of the wall again, which is 25 feet high, in 1842, and has been cut level with its top. I was obliged to thin the top of the tree very much this year, and I cut out pieces thicker than my finger. The breadth of the tree is 35 feet, and I believe it would have been more if it could have been trained in both directions from the stem instead of in one, which it is. Can any one tell me how to make it bloom later? as the late frosts destroyed so many of the flower buds, and I fear the expense of covering it would be greater than the gratification the blossoms would afford; *Thomas Neal, Gardener to Miss Holmes, Denmark Hill, Camberwell.*

Propagation.—Is it fair or good taste in a respectable nurseryman, whom one is in the habit of employing, to refuse to give one a hint as to propagating any particular plant? Of course I do not mean that he should disclose a secret about anything that is specially rare or curious; but would it not be almost worth his while to give an amateur a little help in such things as grafting Roses, rearing some of the ordinary plants by cuttings, &c., instead of locking up his propagating-house as unfit for the *profanum vulgus?* I heard a large Rose-grower once tell a friend that budding was a secret, but that was some few years ago. I should like to hear the feeling of the profession on this point; *S. R. F., Banbury, July* 10. [What our opinion is may be easily imagined.]

Preserving Currant Juice.—England is almost the only country where a refreshing beverage can rarely be obtained, and yet fruits adapted to this purpose grow there most luxuriantly; namely the Currant, Raspberry, &c. The following is the way Currant juice can be kept without the expense of sugar. Pick any quantity of red or white Currants from the stalk, place them in open jars, and put these jars in a pan of cold water; heat the water to boiling, and until the Currants are quite soft; leave them to cool gradually. When cold, squeeze the juice out through a coarse cloth or sieve; replace the juice only in jars, and boil it again gradually as before. When perfectly cold, bottle in half-pint bottles, to be well corked and kept in a cellar. N.B. Take care not to let the water get to the Currants. If not too much squeezed the pulp may be reboiled with coarse sugar to serve for tarts. Every one who has been in France knows how exquisite sirop de groselle framboisé is on a hot day—that is made with sugar, and some Raspberry added to the Currant, and is of course more expensive; 4, *Alpha-place.*

Rain.—The fall of rain here during the last quarter has been far less than the average; although June was a very wet month indeed, no less than 5.885 inches having fallen in that month; but in April and May we had so little that the total for the quarter is only 8.886 inches, viz.:

April ..	1.852 inches	..	17 wet days.
May ..	1.149 "	..	11 "
June ..	5.885 "	..	22 "
	8.886		50

As I mentioned in April, the enormous quantity that fell here in the three first months of the year was 23.782 inches; so that compared with this the last quarter's fall seems little enough. How far this makes for or against the predictions of the weather mentioned by "T. B." depends on when summer is supposed to begin. May with us was hot, dry, and summery; but for all farming purposes our summer does not begin before June, and we have long been and are still looking in vain for settled hay-making weather to get the crops in; *T. S. P., Windermere, July* 7.

A Case of Felony in Birds: In removing a dead tree at Foulden, in Norfolk, a Misletoe thrush's nest, of this year's build (1848), was found in it. A peculiarity in its appearance causing it to be examined, part of the materials of which it was constructed was found to consist of a linen cuff, a long cambric frill (being the tucker of a child's frock), and a small linen collar, all which articles had been missed from the bleach in the spring; *Anon.*

Rose Insects.—I have made a discovery during the last week, which must be useful I think to all who grow Roses extensively. I have long kept my Rose trees quite clear of green fly and other spring vermin by using a mixture, the receipt for which was communicated to my employer by Mr. Paul, the well known nurseryman and Rose grower, of Cheshunt. The recipe is this: To 12 gallons of cold water add 1 bushel of soot and about half a peck of unslacked lime; stir and mix. Let the mixture stand for 24 hours. The soot will have come to the surface; skim it off. It may be afterwards used several times. Syringe the Roses from a hand syringe or a garden engine. But although this mixture is perfectly efficient during the spring, yet about this time of the year an enemy appears on whom it has no effect. This is a small white grub with a scaly brown head, the scales of which are of a surprising hardness and strength. It destroys the fleshy part of the leaves, leaving them skeletons of fibres not unlike fine lace. Though curious, these destroyed leaves are in a mass unsightly. I need hardly add that this premature destruction of the leaves seriously injures the health and strength of the plants. I have till very lately been quite unable to get rid of this pest by any other method than the laborious one of picking them off by hand, which in large collections is all but impracticable. The lime and soot mixture, tobacco-water, snuff, sulphur, I have all tried in vain. I find, however, that by adding 1 lb. of soft soap to the 12 gallons of lime and soot water this grub is effectually and quickly destroyed. The soft soap should be dissolved in warm water before it is added to the other ingredients; *Wm. Corvell, Haileybury, Hertford.*

Toads.—It is an old phrase oft repeated that toads will destroy insects, and we see them put into the Cucumber and Melon frames, with all sorts of vermin running over their backs; but it is my opinion that there is only one species of toad that is a friend to gardeners. Last summer my attention was drawn to this subject, through seeing one busy on the lawn at a nest of winged insects (which, I think, you call the saw-fly), and I amusingly watched its motions, and, delighted with the result, to see him sit and catch them with his tongue, which was about half an inch in width, and extended about that length beyond his jaws, which more than a little surprised as well as requited me. Will you favour me with an answer to these suggestions, for if I am right, many of your correspondents must ascertain the species of toad, or they will look in vain for a friend in other kinds.—*A Constant Reader.* [There are but two sorts of toad in this country: and we believe them both to be devourers of insects.]

Allotments.—Being an advocate for improving the condition of the labouring classes (not by leading them astray, and promising them that which never can be fulfilled, but by offering them opportunities of obtaining the comforts of life by hard labour and the strictest economy), I must again recur to allotments, and endeavour to gain some insight into the system as practised in various localities. Having received no answers to the questions propounded in the *Gardeners' Chronicle*, I conclude the information furnished to me relative to the exorbitant price at which land is very often let to the poor man, compared with farm holdings of the same description, is correct. I trust I may be in error on this subject; I shall only be too glad to be set right if I am mistaken. Should it not be so, there can be no doubt of the evil tendency of such a proceeding both to the landlord and tenant. If a man is to be either a large or small farmer, he should have capital to work with according to his acreage. A labouring man with 1, 2, 3, or 4 acres of land, without money and without stock, is in a worse position than one entirely dependent on his daily exertion; but a husbandman

who has a quarter of an acre, at the farmer's rate, on which to raise himself and his pig food, is infinitely better off than either; and can, if he is respectable and industrious, enjoy life as much and more than many hundreds of his fellow-creatures, with, nominally, ten times his income. It is absolute folly to attempt to raise the labourers into cottage farmers; thus introducing the Irish plan, which has ruined the country, without improving the moral of the peasantry. Let every man fill his own station in society so long as he professes to be attached to a certain class; should he be able, by care and attention to business, to elevate himself in rank, let him at once assume his new name, and reap all the advantages pertaining to it. Whilst we have steps in the ladder of society, which always have existed, and will continue to the end of time, let us call things by their proper titles; a farmer with his 30 acres or more, a market gardener with his three or four, and a labourer with his quarter of an acre. No one should attempt to usurp the privileges and occupations of the rank above him till he can do so in reality with credit to himself and benefit to his fellow creatures. The injury done, by permitting labourers to hamper themselves with land at a rent (and as a favour), at nearly double the farm holding (adjoining), can only increase misery and dissatisfaction. It is said to be a man's own fault; he is not obliged to take it. True: but a drowning man will catch at a straw. The English labourer is justly considered the most contented mortal in existence; seldom guilty of an offence till driven to it by dire necessity, the effect of unwilling idleness; having every inclination to provide for himself and family, and yet denied the chance of gaining an honest livelihood; not because the land is cultivated to its utmost extent, but because men are so short-sighted they will not employ a sufficient number of hands to bring the soil into a highly productive state, thus forcing on the labour market immense strength, which might be profitably engaged in making food, instead of consuming a quantity without a corresponding return. In fact it is so much capital lying dormant, and requiring the interest of the capital of others to be expended upon it. Under such circumstances how does a poor man act? He cannot ensure constant employment, and rather than starve, or go to the union, he jumps at an offer of land at any price. A. B. rents a farm at 1*l.* 10*s.* per acre, and thinks he pays quite enough, yet the cottager is obliged to give 3*l.*, and is restricted to the use of the spade or fork in tillage. If any difference is made it should certainly be the reverse of what is above stated. The servant should not pay more than the master, otherwise our boasted English justice will lose caste. It should be distinctly understood that accommodation land is not field allotments. Part of a farm may be annually fertilised by spade husbandry with advantage to the renter both directly and indirectly; the former by the growth of heavier crops, the latter by increasing work and lowering the rates, and last, though not least, adding to the well-being of the peasantry here and hereafter. What a blessing those restless spirits would confer upon the country if, instead of exciting expectations amongst the working ants of the community which can never be realised, they were to form companies in their respective neighbourhoods for the purpose of saving town manure, tilling waste lands, and introducing schemes to engage the surplus bone and muscle, now consuming itself. We should then hear little of the six points. The grand culminating point would be contentment. I am aware of the disadvantage under which an anonymous writer labours, and the little attention that is paid to him under his assumed name, yet let me hope that a suggestion, even from an incognito, may not be quite ineffectual. I will conclude by entreating any gentleman who may have the power of trying the allotment system, to observe the following rules, and if his neighbourhood does not experience a change under such management, human nature must be fast degenerating. Let your land to the labourer at the same price as the farm. Do not allow any man to occupy more than the third of an acre; in most cases a quarter will be quite enough. Insist upon punctual half yearly payments, no working out the rent—let it be paid in hard cash the same as wages. Let each family have house-room sufficient to preserve decency. "A man hath the tiller in his hand, and may steer against the current, or may glide down idly with the stream, till his vessel founder in the whirlpool"; *Falcon.*

Beech Trees and Lightning.—De Candolle mentions in his "Physiologié Végétale" a statement made by M. Horneman at the meeting of Naturalists held at Berlin in 1830, to the effect that the Beech tree is never struck by lightning; and he asks whether it would not be worth while to make a series of experiments and observations, in order to confirm or refute that opinion. I should be glad if any of your correspondents could inform me whether any, and if any, what experiments have been made upon the subject; *W. C. Howell, Tysoe, Warwickshire.*

Filling up Vacancies in Flower Borders.—Surely a simpler solution of "G. T.'s" difficulty (page 453, July 8), may be found than by going to a nurseryman's for Pelargoniums (say 20 or 30 at 6*d.* each), when he may, year after year, supply himself with varieties of Campanula dwarf sorts, now in full flower; Cistus do., Stone-crops, Golden Moss, Sweetwilliams, Phloxes, Pentstemons, Mimulus, &c. &c., and autumn-sown plants of Nasturtium, Collinsia bicolor, Chryseis crocea, Gilia vars, &c. *Quæ num scribere longum est!* I mention this because I think your correspondent "H. B.'s" suggestions, however good, are not within everybody's reach, even with the means of purchasing a supply. What I have advised, once in the garden, may be had from season to season; *Original Subscriber.*

Lady Agnes Byng Geranium.—Of all the summer and autumn beauties that adorn our gardens, perhaps none are more showy and more in favour with the fair sex than the scarlet Geraniums, which, thanks to the gardeners of the present time, are so much improved in form and colour as to supersede the old scarlet altogether. Among the scarlets there is one that may be placed in the first class, if it be not even the best yet produced. It was raised by Mr. Grant, the late gardener at Great Livermere, Suffolk, and named, by request of the late Lady Katharine Jermyn, after Lady Agnes Byng, the then lady of the hall. Any one who has seen the gorgeous beds that Mr. Grant had on the lawn must have been struck with the number and beauty of its blossoms, the bright green of its foliage, and its symmetrical growth, which at once place it in the van of the scarlets. I have had these facts forcibly recalled to memory, and wish to preserve them, not only from the lamented decease of all the above parties, but also that, as a local plant, a gem which sprang up at our own doors ought, at least in this neighbourhood, to bear its proper name; but I am sorry to say that the liberality of the gardener was abused, and that persons in the trade, to whom he gave cuttings, sent it out under two or three different names, and it is better known around this town as "Frogmore," or "Frogmore Improved," and even the plant that obtained a prize at our show last year was exhibited as "Frogmore," to which it is far superior. Allow me now, Sir, to express a hope that, after this its true history, my brother gardeners, in the neighbourhood at least, will discard all other names, and remember our late old friend Mr. Grant, in his pet seedling, the Lady Agnes Byng Geranium; *H. T.*

Heracleum giganteum.—If allowed to perfect its seed it becomes a great pest. A plant, self-sown, has attained 11 feet in height, umbel 2 feet 5 inches, and 11 feet at its base; it seeds most abundantly, and I should be happy to supply plants or seeds gratuitously to any one desirous of obtaining this noble Umbellifer. It has insinuated itself in the Box edgings, and I am at a loss to know how it is to be extirpated, as in digging the borders I find plants perpetually springing up. I have therefore directed the umbels to be destroyed before the plant arrives at maturity; *N. S. Hodson, Botanic Garden, Bury St. Edmund's.*

Scorching Effects of Sheet Glass.—Complaints have been made respecting the scorching effects of sheet glass used in Vineries and conservatories. From an advertisement in your Paper of the 24th June, it appears that a plate glass company are selling polished glass suitable for cottages, conservatories, &c., at 6*d.* to 1*s* per foot, and there is the strong rough plate glass a quarter to three-eighths of an inch thick, such as is used for skylights and for the roofs of railway stations, and which being in some measure obscured, would probably effectually prevent the effects complained of, and be also proof against damage by hailstorms; and this, I should suppose, could be bought in sizes suitable for conservatories, at such rates that it would ultimately prove to be cheaper than sheet glass, though it might amount to more in the first cost; *A. B., July* 11.

Foreign Correspondence.

COLOGNE, *July* 4, 1848.—As an Englishman, fancying that we are the gardeners of the world, you may judge my surprise on visiting the garden of Mr. Koch, which is situated in the midst of this city, to find ourselves fairly beaten. This gentleman, who is a silk manufacturer, devotes his entire time to his garden, and may be said to live in it, so passionately fond is he of his flowers. He showed me at one *coup d'œil* 30,000 Camellias, of which he possesses 700 varieties. After walking through a splendid avenue of Magnolia trees, we came to several beds of Tree Pæonies of 14 years' growth, consisting of 120 varieties, and at the end of the path was a fine specimen of the Pawlownia imperialis. The Azalea beds were no less remarkable, containing 300 varieties, and under glass were 15,000 Cacti. To produce these varieties he has an apiary of 400 hives, which yield 1200 lbs. of honey annually; and by the system pursued by him, the bees are never destroyed. To visit this gentleman's garden in the month of May, would be a treat for your travelling readers, who may be pleased to know that such a garden is to be seen, and is willingly shown by its polite owner; *A. H. R.*

Societies.

HORTICULTURAL, *July* 12.—The third and last meeting for the season held by the Society in their garden at Chiswick, took place on Wednesday last, and under most favourable circumstances. As the leading features however of this, in many respects, great exhibition appear in another column, we will proceed at once with our report. Of LARGE COLLECTIONS OF STOVE AND GREENHOUSE PLANTS, two were staged—the first, a magnificent one for July, by Messrs. Frazer, of Leabridge; the second, by Mr. Cole, gr. to H. Colyer, Esq., of Dartford. At the back of the first group stood a bush of the yellow blossomed Tristania neriifolia, and on either side, noble specimens of the white blossomed Stephanotis floribunda and Schubertia graveolens; in front a huge Crowea saligna; a well flowered Allamanda cathartica; a tall Ixora grandiflora; Clerodendron fallax; the white blossomed Pavetta caffra; four nice plants of the showy genus Kalosanthes; together with Statice macrophylla; Franciscea augusta; a small Soliya linearis; the white flowered Sphænotoma gracile; and a small Burtonia conferta. The same collection also contained a spreading Vinca rosea; the new Tropæolum speciosum, the best plant of it we have seen, but hardy sufficiently in blossom; Statice arborea; Convolvulus squamatum; Leschenaultia splendens a comparatively new, upright habited species, whose flowers, showy enough though somewhat rigged, are produced but thinly; Roella ciliata, and some Cape Heaths, among which juliana and the neat, globular, rose pea flowered rubens were conspicuous.—In Mr. Cole's group, which, though good, was much inferior to the above, were Clerodendron fallax and C. paniculatum, the latter with two fine panicles of orange flowers; a medium Allamanda cathartica; the new active twiner Senecio grandiflora graveolens; Stephanotis floribunda; two good plants of Kalosanthes; a somewhat thin Soliya Linearis; two good plants of Aphelexis; two Ixoras; the white blossomed pink eyed Vinca; the beautiful Lechenaultia formosa with four flower spikes; Roella ciliata; Tetratheca verticillata; Leschenaultia formosa; an Achimenes, and some Cape Heaths.

Two nice collections of 15 STOVE AND GREENHOUSE PLANTS were produced by Mr. Green, gr. to Sir E. Antrobus, Bart., Cheam, and Mr. Donald, gr. to Mrs. Lawrence, of Ealing Park, the former obtaining the first prize. Mr. Green had a large well flowered Pleronocema proliferum, the green flowered Heath (E. viridiflora), a good bush of Ixora rosea, Allamanda cathartica, fairly bloomed; a large Rondeletia speciosa ornamented with numerous orange scarlet blossoms, a well flowered Stephanotis floribunda, lovely bushes of Leschenaultia Baxteri and formosa, Aphelexis purpurea macrantha, a mass of blossoms; a well flowered Ixora crassinoda, Crowea saligna, Lechenaultia superba, the white blossomed Ericas jasminiflora, well bloomed plants of Kalosanthes miniata, and Leschenaultia splendens. Mr. Donald had at the back of his collection a tall Clerodendron Kæmpferi, a noble Stephanotis floribunda, thinly flowered; and supporting these huge bushes of Burchellia capensis and Erica retusa hyemalis, the latter at least 5 feet through; the yellow eyed white flowered Tabernæmontana coronaria, the green flowered Heath (E. viridiflora), Lemonia spectabilis, a useless plant as regards display; Kalosanthes miniata, a well flowered Exostemma aquaticum, Vinca alba, a good Soliya linearis, about 2½ feet high; Dipladenia crassinoda, a small Allamanda grandiflora, Cyrtoceras reflexum, and Statice puberula.—A collection of 12 plants was sent by Mr. Malyon, gr. to T. Brandram, Esq., Blackheath. Among these the more remarkable were Stephanotis floribunda, well flowered; Clerodendron paniculatum and splendens, Achimenes longiflora, Aphelexis humilis, the larger flowered Allamanda (A. grandiflora), a Kalosanthes, Cyrtoceras reflexum, and some Cape Heaths.

Of collections of 10 STOVE AND GREENHOUSE PLANTS, there were several, and good for the season; the best was contributed by Mr. Jack, gr. to R. G. Lerane, Esq., of Wallington, in whose group we remarked a spreading Exostemma aquaticum, a fair plant of Justicia carnea, Torenia asiatica, a neat specimen: Dipadenia crassinoda, highly coloured; Cyrtoceras reflexum, the sweet smelling Aerides A. odoratum), a pretty scarlet Gesnera, and a nice Erica metuliflora bicolor.—Mr. Taylor, gr. to J. Costar, Esq., of Streatham, was second with nice plants of Erica metuliflora bicolor, Stephanotis floribunda, well flowered; a middling Justicia carnea, the hardy white Japan Lily, a handsome Aphelexis humilis, a beautiful Hydrangea japonica, a pretty little Kalosanthes miniata, Erica Irbyana, and Crowea saligna.—From Cheam, Mr. Carson, who was third, sent a nice collection, consisting of Vinca alba, Aphelexis humilis, Soliya linearis, Torenia asiatica, the showy Kalosanthes coccinea, Rondeletia speciosa, Jatropha pandurifolia, the beautiful Dipladenia splendens, Vinca rosea, and Leschenaultia formosa.—Mr. Bruce, gr. to B. Miller, Esq., of Tooting, obtained a similar award for 10 nice plants, among which were Erica metulæflora bicolor, Stephanotis floribunda, Kalosanthes nitida, Æschynanthus oblongatus, Aerides odoratum, Euphorbia splendens, and a neat Torenia asiatica.—Other collections came from Mr. Pawley, of Bromley, and Mr. Stanly, gr. to H. Berens, Esq., Sidcup, Kent. The former had a large Crowea saligna, two nice plants of Kalosanthes, a Stephanotis floribunda, two Pimeleas, and other plants. Mr. Stanly sent Dipladenia crassinoda, Pleronema proliferum, Leschenaultia formosa, some Achimenes, Kalosanthes, and Cape Heaths.

ORCHIDS were numerous and very fine for July. Two large collections were produced, the first by Mr. Mylam, gr. to S. Rucker, Esq., of Wandsworth; the second by Mr. Rae, gr. to J. J. Blandy, Esq., of Reading. Mr. Mylam sent the somewhat scarce Saccolabium Blumei with two charming flower spikes; a small Sobralia macrantha; the same Vanda Batemanni formerly exhibited; Cirrhæa squalens: a red variety of Saccolabium guttatum, Cycnoches maculatum: the green flowered, brown spotted Sidenidium racemosum, a new though not very handsome species; Vanda cristata and insignis; Phalænopsis amabilis: Angræcum caudatum, with two flower spikes; Oncidium Lanceanum: the lovely Aerides maculosum, with two spikes of purple and blush coloured flowers; Cattleya candida, with one of the better varieties of Galeandra Baueri; Lycaste tetragona, finely flowered: a tall Aerides odoratum, Oncidium luridum, and Stanhopea tigrina and saccata.

Mr. Rae had the brown flowered Acropera Loddigesii, Aerides odoratum purpuraceum, a variety of Vanda Roxburghi, Cycnoches Loddigesii, the orange flowered, brown spotted Stanhopea Bucephalus, a rather new species; the large variety of Epidendrum vitellinum, a fine plant of the purple variety of Cattleya Mossiæ; Stanhopea insignis; the neat purple veined Mexican Epidendrum verrucosum, Aerides maculosum and affine, with three flower spikes; Odontoglossum hastatum, a bad variety of O. grande, a small Cattleya Mossiæ, a pretty specimen of the beautiful C. Harrisonii, a handsome variety of Stanhopea saccata, Epidendrum alatum, Oncidium roseum, and a small plant of the yellow flowered Cattleya citrina.

In collections of 10 ORCHIDS three awards were made —1st to Mr. Williams, gr. to C. B. Warner, Esq., of Hoddesdon; 2d, to Mr. Carson, gr. to W. F. G. Farmer, Esq., of Cheam; 3d, to Mr. Plant, gr. to J. H. Schröder, Esq., of Stratford-green, Essex. Mr. Williams sent a large Phaius albus, the yellow and brown flowered Gongora maculata, Aerides affine, Cattleya superba, the large variety of Oncidium papilio, bearing four large blossoms; a well flowered Cycnoches ventricosum, a good plant of Oncidium Lanceanum, not sufficiently in bloom, a highly coloured Dendrobium secundum, Vanda teres, and Aerides quinquevulnera, the latter insufficiently in flower. Mr. Carson had a noble Stanhopea tigrina, with some dozen large and highly coloured flowers on it; the rose coloured Oncid (O. roseum), Cattleya Mossiæ, a tall Sobralia macrantha, the orange blossomed Dendrobium chrysanthum, Stanhopea oculata, Epidendrum fragrans, a tub-full of Miltonia spectabilis, Camarotis purpurea, and Broughtonia sanguinea. From Mr. Plant came Phaius bicolor, a good Oncidium Lanceanum, Cattleya citrina, bearing two large yellow flowers; Galeandra Baueri, the brown Paphinia cristata, a variety of Stanhopea tigrina, and some others.

Collections of 6 ORCHIDS were shown by Mr. Gerrie, gr. to Sir J. A. Catheart, Bart., Mr. Green, and Mr. Dobson, gr. to Mr. Beck, of Isleworth. Mr. Gerrie sent Odontoglossum grande, Aerides odoratum, a large mass in a wire basket; a beautiful specimen of the true Stanhopea Devoniensis; the singular looking Brassia caudata, Odontoglossum citrosmum, and an Oncid. Mr. Green, a nice Aerides odoratum, Calanthe veratrifolia past its best, and three other indifferently flowered plants. Mr. Dobson, Phalænopsis amabilis, Cattleya candida, C. Mossiæ, Aerides odoratum, Oncidium Baueri, and Broughtonia sanguinea.—A group of six plants was also shown by Mr. Jack, who produced a tall Dendrobium calceolare; the green flowered Catasetum trifidum; Lycaste cruenta; the curious brown barred Maxillaria stapelioides; an Oncid and Vanda teres.—Of specimen Orchids, Mr. Ingram, of the Royal Gardens, Frogmore, exhibited a capitally well bloomed Stanhopea tigrina, and S. oculata; Mr. Elliott, gr. to J. B. Boothby, Esq., a nicely flowered Oncidium pulverulentum; Mr. Iveson, gr. to the Duchess Dowager of Northumberland, Oncidium guttatum; and Mr. Mylam, a large Aerides odoratum. As new Orchids, Mr. Linden, of Luxemburg, showed an Epidendrum like a pale variety of E. verrucosum; and Mr. Williams a lilac Cattleya in the way of C. Harrisonii.

A small collection of TALL CACTI tolerably well flowered was exhibited by Mr. Green. The varieties were the same as those mentioned in former reports.

CAPE HEATHS formed an attractive feature of the show, being numerous and generally in good condition as regards bloom. Two excellent collections of 15 were shown by Mr. Mylam and Mr. May, gr. to E. Goodheart, Esq., of Beckenham, Kent. Among Mr. Mylam's plants were metulæflora bicolor, a lovely Heath; Dunbariana; Massonii; Lee's tricolor; the pretty pink flowered Savilleana; Wilsonii, a capital variety; ampullacea; eximia; the neat white blossomed ventricosa hirsuta alba; the variety of tricolor called elegans; and t. splendens. Of Mr. May's plants we remarked Irbyana, the pink blossomed infundibuliformis a small but neat plant of Ewerana, ampullacea, depressa, princeps, juliana, jasminiflora, and Parmentieri. The *Nurserymen's Class* was well supplied by fine collections from Messrs. Rollisson, Epps, and Veitch. Messrs. Rollisson showed, among others, compacta; Parmentieri rosea; ampullacea; Massonii; Grisewoodiana, a pretty variety; Kingscotiana; a huge Ewerana superba; the white blossomed reflexa; ferruginea, covered with small waxy pink flowers; Irbyana; Dunbariana; obbata; and eximia. Mr. Epps sent the larger variety of retorta, Templeana, inflata alba, ferruginea, ampullacea and its variety rubra, Parmentieri rosea, a highly coloured metulæflora bicolor, jasminiflora, tricolor superba, and others. Among Mr. Veitch's plants were a variety of Aitoni named turgida, metulæflora and its variety bicolor; obbata, a large fine Heath; Parmentieri rosea; eximia; the neat, small pink-blossomed rubella; the red variety of tricolor, viridiflora, and gemmifera.

Of collections of 9 HEATHS, four nice groups were shown by Messrs. Green, Taylor, Ayres, and Pamplin. Mr. Green had Wilson's tricolor, Savilleana, tricolor coronata, and other well-grown plants of sorts whose names we have already given. The same remark also applies to the other collections.—Of Specimen Heaths, Mr. Riddell, gr. to G. Wynn, Esq., of Charlton, Kent, sent a well-managed tricolor; Mr. Bruce, Irbyana and Parmentieri rosea; Mr. Gerrie, Cavendishii; Mr. Hale, gr. to Mrs. Davies, ampullacea; Mr. Ayres, juliana; Mr. Jackson, of Kingston, a huge retorta, Jacksoni pallida, and Massoni major; Mr. Pamplin, ampullacea; Mr. Jack, Shannoni and tricolor; and Messrs. Rollisson, Holfordiana. — Mr. Story showed a seedling named nobilis, a long, buff-flowered, distinct looking variety of some promise.

ROSES in pots made an attractive display, being numerous and fine. For 12 varieties, Messrs. Paul were first, with nice plants of—*Bourbon:* Bouquet de Flore, Armosa, Souvenir de la Malmaison, Theresia Margat. *Tea:* Lyonais, Nina, Comte de Paris, Madame de St. Joseph. *Noisette:* La Victorieuse, Aimée Vibert. *Hybrid Perpetual:* Rivers. *China:* Mrs. Bosanquet. —Mr. Francis, of Hertford, was second, with—*Tea:* Reine de Bonheur, odorata, Pauline Plantier, Elize Sauvage, Mirabilis, Comte de Paris. *Bourbon:* La Gracieuse, Acidalie, Pierre de St. Cyr, Coupe de Hebe. *Noisette:* Aimée Vibert. *China:* Abbé Moiland.—Messrs. Lane and Son were third, with—*Tea:* Adam, the new yellow Vicomtesse de Cazes, Robert Bruce, Lutescens grandiflora, Blush or odorata, and Barbot. *Bourbon:* Proserpine, Pierre de St. Cyr, Souvenir de la Malmaison, Theresita, Acidalie. *China:* Henry 5th. —In the *Amateur's Class*, Mr. Terry, gr. to Lady Puller, gained a 2d prize with—*Tea:* La Victorieuse, Princesse Marie, Nisida, Lady Granville, Elize Sauvage. *China:* Clarisse, Brennus.—A similar award was also made to A. Rowland, Esq., of Lewisham, for Safrano, Devoniensis, Triomphe du Luxembourg, Sully, Mrs. Bosanquet, Miellez, Queen, Charles Duval, Wellington, Victoria, Aumay, &c. Yellow Roses were shown, but they were all disqualified, because they did not consist of yellows and nothing else.

CUT ROSES were exhibited by Messrs. Paul, Lane, Francis, Rowland, and Terry, each of the nurserymen having 50, and the private growers 25 bunches, which made a large display.

AS SINGLE SPECIMENS of superior cultivation, Mr. Donald showed a large bush of Tabernæmontana coronaria; Mr. Carson, a fine Allamanda cathartica, 7 feet high, on a cylindrical trellis; Mr. May, a pretty Roella ciliata; Mr. Iveson, the orange coloured Curcuma Roscoeana; Mr. Hamp, Stigmaphyllum aristatum; Mr. Cooper, Lisianthus Russellianus; Messrs. Frazer, the splendid Sollya linearis formerly noticed; Messrs. Rollisson, Clerodendron affine, and Messrs. Veitch, a beautifully managed and well flowered Fuchsia serratifolia, a species by many discarded on account of its being a shy bloomer. Other specimens inferior to these in point of merit were also shown.

Of NEW PLANTS, Messrs. Veitch sent the beautiful violet purple blossomed Pleroma elegans, an exceedingly handsome species; a yellow eyed salmon coloured Echites; Chætogastra strigosa, a rosy pink flowered Melastomad; Lisianthus frigidus, Tropæolum umbellatum, Angelonia moschata, the Thibaudia and the Moulmein Hoya formerly exhibited, and Agalmyla staminea; Messrs. Rollisson, Ixora odoratissima, the Capparis, and Nauclea formerly noticed; and also Macleania cordata; Mr. Harrison, of Richmond, Lophospermum Cliftonii; Mr. Linden, Alloplectus speciosus, and Maranta albo-lineata, and rosea lineata; and from Kew, Mr. Smith sent the large lilac flowered Chirita Moonii, some little purple and white flowered Gesnerad, and a yellow flowered Impatiens from Ceylon.

Of MISCELLANEOUS SUBJECTS were various groups of Ferns (hothouse and hardy), which bid fair to become favourites at flower shows, and deservedly; several collections of Achimenes; a nice group of Statices from Mr. Glendinning, of the Chiswick Nursery; and a group of Alpines in pots from Mr. Wood, of Norwood.

A collection of NEW HARDY EVERGREENS was produced by Messrs. Veitch, the sorts being Berberis Jamesoni and macrophylla, Pœppigia cyanocarpa, Laurus aromatica, Escallonia macrantha, and Fagus antarctica. Some of these are, however, only hardy in the south-western counties.

Among the FLORISTS' productions, the Carnations and Picotees were the chief source of attraction, and these were produced by the exhibitors in very fine condition; the Pelargoniums were still in good order, and, in the quality of colour, had never been shown better. In collections of new and first-rate varieties, 1st, among the *Amateurs*, stood Mr. Cocks' collection, containing Forget-me-not, Lord Stanley, Mount Etna, Paragon, Hebe's Lip, Emperor, Hector, Negress, Ariel, Aurora, Pearl, and Sikh; 2d to Mr. Staines, who showed Ariel, Duchess of Leinster, Camilla, Orion, Pearl, Mustee, Duke of Devonshire, Sunset, Isabella, Vesuvius, Bianca, and Hebe's Lip. In the same class for *Nurserymen*, Mr. Dobson, gr. to Mr. E. Beck, exhibited 12 well-selected varieties, rich and brilliant in colour; the sorts were Cruenta, Adolphus, Centurion, Cassandra, Seedling, Star, Sundown, Rosamond, Blanche, Princess Ariel, and Rufus; 2d, to Mr. Gaines for Forget-me-not, Melpomene, Talisman, Lord Warden, Oriflame, Rosetta, Orion, Painted Lady, Sylvia, Mrs. Brock, Paragon, and Rosy Circle. For collections of 6 varieties, grown in 11-inch pots, Mr. Parker, gr. to J. Oughton, Esq., exhibited 6 finely-grown specimens, in perfect health, and covered with bloom; the sorts were, Susanna, Rosetta, Matilda, Rosy Circle, Sir R. Peel, and Duke of Cornwall. Mr. Staines, of the New-road, obtained the 2d prize; his collection contained, Milo, Champion, Sir R. Peel, Matilda, Duke of Cornwall, and Pluto. Mr. Gaines' was the only collection in the nurserymen's class; it contained Magog, Milo, Shield of Achilles, Lady Kitty, Camilla, and Exoniensis. Two collections of Fancy Pelargoniums were exhibited, the 1st, from Mr. Gaines, contained Yeatmanyanum grandiflorum, Queen Victoria, La Belle Africane, Anais, Maid of Anjou, and Bouquet tout fait; the 2d was from Mr. Staines, in which were Nymph, Statinski, Yeatmanyanum, Lady Flora Hastings, Madame Miellez, and Lady Rivers. Mr. Miller, gr. to G. Moseley, Esq., exhibited a collection of 6 scarlet Pelargoniums; the sorts were, Frost's Superb, Compactum, Tom Thumb, Mrs. Mayler, Victoria, and Prince of Wales.

CARNATIONS and PICOTEES.—Some fine stands of these favourite flowers were exhibited, and excited much admiration from the company. For Carnations in pans of 24 distinct varieties, the 1st prize, in the *Amateurs' Class*, was awarded to Mr. J. Edwards, Wace Cottage, Holloway, for Flora's Garland, Mansley's Beauty of Woodhouse, Hale's Prince Albert, May's Hotspur, Duke of Sutherland, Village Maid, Miss Thornton, Count Paulina, Earl of Leicester, Strong's Duke of York, La Baibulaise, Sir H. Hardinge, Lady of the Lake, Thiers, True Briton, Ward's Sarah Payne, Isonia, President, Hugo Meynell, Sir R. Peel, Sylvius, Orlando, Earl Spencer, and Puxley's Prince Albert; 2d, Mr. Newhall, of Woolwich, for Halliday's Lord Rancliffe, Ely's Mrs. Bunkill, Wilmer's Hero of Middlesex, Ely's Sir Hugh Gough, Hodge's Bright Phœbus, Flora's Garland, Count Paulina, Mansley's Beauty of Woodhouse, Jacques' Georgiana, Ely's King of Scarlets, Appleby's Prince of Wales, May's Orlando, Puxley's Prince Albert, May's Ariel, Ely's Duke of Bedford, May's Hotspur, Simpson's Queen Victoria, Eason's Admiral Curzon, Holmes' Mary Ann, Scaley's Purple, Chamber's Kate, Scaley's Princess Royal, Ely's Lord Milton, and May's Hotspur; 3d, to Mr. Ellis, Woolwich. —In the same class for *Nurserymen*, Mr. Turner, of Chalvey, was awarded the 1st prize, for Flora's Garland, Eason's Admiral Curzon, Puxley's Prince Albert, Turner's William Penn, Count Paulina, May's Prince Arthur, Martin's President, Greasley's Village Maid, May's Ariel, Standard, Earl Spencer, Colcut's Brutus, May's Cardinal Wolsey, Hale's Prince Albert, Squire Trow, Duke of York, Hale's Sir H. Smith, May's Lorenzo, Beauty of Woodhouse, Arabella, Ibrahim Pacha, Ely's King of Scarlets, Ward's Sarah Payne, and Ely's Margo; 2d, Messrs. Norman, of Woolwich, Willmer's Conquering Hero, Wilson's Harriet, Hepworth's Hamlet, Jackson's Squire Trow, Wood's William IV., Willmer's Hero of Middlesex, Burroughes' Earl Spencer, Hale's Prince Albert, Flora's Garland, Squire's Defiance, Beauty of Woodhouse, Halliday's Lord Rancliffe, Ely's Duke of Bedford, Holmes' Count Paulina, Milwood's Premier, Ely's Lord Hardinge, Whales' Chance, Willmer's Telemachus, Admiral Curzon, King of Scarlets, Puxley's Prince Albert, Barrenger's Premier, Ely's Sir R. Hill; 3, Mr. Ward, who showed Cartwright's Rainbow, May's Ariel, Ward's Sarah Payne, Smith's Wellington, Hepworth's Hamlet, Wilmer's Duchess of Kent, Hale's Prince Albert, Ely's Lord Milton, Flora's Garland, Turner's Wm. Penn, Willson's Harriet, Don John, Colcut's Brutus, Bright's Phœbus, Puxley's Queen, Lodge's True Briton, Parker's Sophia, Squire's Defiance, Mansley's Beauty of Woodhouse, Ely's King of Scarlets, Elliot's Martha, Count Paulina, Strong's Duke of York, Ward's No. 3. In PICOTEES, the 1st prize was awarded to Mr. Edwards, Holloway, for the following 24 varieties: Lee's Privateer, Sharp's L'elegant, Wildman's Isabella, Ely's Favourite, Brinkler's Lady Chesterfield, Emma, Princess Alice, May's Sebastian, Matthews' Ne plus ultra, Gidden's Teaser, Willmer's Princess Royal, Burroughes' Mrs. Bevan, Wood's Queen Victoria, Matthews' Enchantress, Edmonds' Jenny Lind, Costar's Triumph, May's Portia, Yorkshire Hero, May's Jessica, Lady Alice Peel, Mrs. Barnard, May's Olivia, Edmonds' Ernest, and Jessop's Sir W. Middleton; 2d prize, Mr. J. W. Newhall, for Mrs. Bevan, Matthews' Enchantress, Barraud's Borderer, Wildman's Isabella, Mrs. Barnard, Kirtland's Augusta, Crask's Queen Victoria, Sharpe's L'elegant, May's Portia, Cox's Regina, Nulli secundus, May's Sebastian, Edmonds' Jenny Lind, Willmer's Princess Royal, Burroughes' Duke of Newcastle, Gidden's Teaser, Youell's Gem, Lord Hardinge, Norman's Beauty, Tolworthy's Isabella, Headley's King James and Venus, Vespasian, Wilson's Fanny Irby; 3d, to Mr. Ellis, of Woolwich, for Gidden's Diana, Wain's Queen Victoria, Burroughes' Lady Douro, Headley's Venus, Garret's Lady Dacre, Headley's King James, Vespasian, Hector, Burroughes' Mrs. Bevan, Wilson's Fanny Irby, Wildman's Isabella, Mrs. Barnard, Crask's Prince Albert, Lady Alice Peel, Burroughes' President, Willmer's Agnes, Anacreon, Seedling, Matthews' Enchantress, Sir W. Middleton, Ophelia, Seedling, Brinkler's Hope, Miss Desborough.—In the *Nurserymen's Class*, the 1st prize was awarded to Messrs. Norman, of Woolwich, for Burroughes' Duke of Newcastle, Matthews' Enchantress, Burroughes' President, Cox's Regina, Prinnet's Bendigo, Burroughes' Margiana, Wildman's Isabella, Wain's Queen Victoria, Headley's Generalissimo, Sharp's L'elegant, Burroughes' Amy, Willmer's Princess Royal, May's Juliet, Burroughes' Ajax, Mrs. Barnard, Headley's King James, Burroughes' Lady Smith and Mrs. Bevan, Crask's Queen Victoria, Headley's Venus, and Burroughes' General Jackson; 2d, to Mr. Turner, Chalvey, for May's Rosalind, Marris' Prince Albert and Celia, Edmond's Jenny Lind, Regina, May's Jessica, Holliday's Minerva, Lee's Privateer, May's Portia, Mrs. Bevan, Crask's Prince Albert, Venus, May's Sebastian, Ne plus Ultra, Hermione, May's Juliet, Costar's Rd. Cobden, May's Olivia, Burroughes' Amy, Turner's Ernestine. Wildman's Isabella, Lady Dacre, Burroughes' Miss Burdett Coutts and Mrs. Barnard; 3d to Mr. Ward, Woolwich, for Mrs. Barnard, Burroughes' President, Belle of the Village, Gidden's Diana, Crask's Queen, Crask's Prince Albert, Hard-

stone's Sarah, Wildman's Isabella, Lady Dacre, Wilson's Fanny Irby, John's Prince Albert, Sir W. Middleton, Smith's Lord Hardinge, Matthews' Enchantress, Ward's No. 3, Mrs. Bevan, Burroughes' Lady A. Peel, Willmer's Bride, Princess Augusta, Miss Desborough, Brinkler's Purple Perfection, Beauty of Cray, and Barraud's Bride.

Calceolarias were exhibited by Mr. Gaines, his collection consisted of Van Tromp, Ariel, Lady Blantyre, Rodolph, Tricolor, and Queen of May; and a collection of well grown Fuchsias was shown by Mr. Bray, gr. to the Baroness de Rothschild, of the following sorts, Dr. Jephson, Fame, Corallina, Cassandra, Exoniensis, and King of Beauties.—Mr. Gaines exhibited a seedling fancy Pelargonium, named Shylock, to which a Certificate was awarded; it was a very pretty variety, light purple rose ground, bright mulberry top petals, with a patch of the same on the lower petals, a margin of the ground colour round the flower.

Fruit.—As is usual in July, exhibitions of fruit were more numerous than at either of the two preceding Shows. Of Pine-apples there was a considerable number, and Grapes, as regards quantity, maintained a fair proportion, though we cannot say on the whole that they looked well, for in general they were badly coloured. Melons were plentiful, and there were some excellent Peaches and Nectarines. Other fruits were also well supplied.

Pine-apples.—The best Providence was shown by Mr. Mitchell, gr., Worsley Hall, near Manchester; it weighed 11 lbs. ¼ oz., and was, in every respect, a noble fruit. The next in point of merit, a fine fruit, weighing 10 lbs. 7½ oz., was produced by Mr. Christie, gr. to Viscount Folkstone, Longford Castle, Wiltshire. The same grower also showed fruit weighing respectively 8 lbs. ¼ oz., 7 lbs. 9½ oz., 6 lbs. 10½ oz., and 6 lbs. 4½ oz. Mr. Hamp, gr. to J. Thorne, Esq., of South Lambeth, showed a Providence weighing 7 lbs. 4½ oz., and among *Nurserymen*, Messrs. Garraway and Co., of Bristol, a fruit weighing 9 lbs. 8¼ oz. Another Providence came from Mr. Chapman, gr. to J. B. Glegg, Esq. Of Queens the best was produced by Mr. Brewin, gr. to R. Gunter, Esq., of Brompton, who showed a fruit weighing 5 lbs. 3 oz., and others 4 lbs. 12⅝ oz.; 4 lbs. 2 oz., and 4 lbs.; Mr. Jones, gr. to E. J. Hutchins, Esq., of Dowlais House, Wales, had two Queens, one 4 lbs. 3¼ oz. and the other 3 lbs. 11 oz.; and Mr. Hewitt, gr. to J. Purday, of Bayswater, a fruit 3 lbs. 12⅛ oz.; Mr. Gerrie sent a Queen weighing 3 lbs. 1 oz.; Mr. M'Ewen, gr. to Col. Wyndham, two weighing 3 lbs. 2⅜ oz.; Mr. Taylor, gr. to J. Coster, Esq., one 3 lbs.; Mr. Greensheils, gr. to J. Penn, Esq., one 3 lbs. 12 oz.; and Mr. Toy, gr. to Mr. Harrison, one 3 lbs. 3 oz.; Mr. Dryden, gr. to W. Evans, Esq., of Derby, had Envilles, one 6 lbs. 5 oz.; Mr. Jackson, gr. to H. Beaufoy, Esq., of South Lambeth, a Trinidad, 7 lbs. 2 oz.; Mr. Elphinstone, the same variety of Pine, 5 lbs. 12 oz.; Mr. Mitchell, of Worsley-hall, an Enville, 4¼ lbs.; and Mr. Toy, a small Black Jamaica.

Grapes.—The best bunches of Black Hamburgh came from Mr. Hyde, gr. to G. Willis, Esq., of Wanstead, Essex; but they were hardly seen to advantage, the box in which they were shown being too small. The next in point of merit were produced by Mr. Jackson, gr. to H. Beaufoy, Esq.; other exhibitions of Black Hamburgh were produced by Messrs. Foggo, Elphinstone, Gerrie, Chapman, Munro, Taylor, Busby, Smith, Lushy, and others. Most of these were badly coloured, especially those from Mr. Lushy, which were quite red.—In the *Market Gardeners' Class*, Mr. Chapman, of South Lambeth, had the best bunches of Black Hamburgh; but these, though well coloured, were small. The same variety of Grape was also shown by Messrs. Parsons, Gadd, Gold, Williamson, and Mitchell (of Brighton), whose Grapes were small, and not so good as we have seen them.—Mr. Lushy, gr. to J. Hill, Esq., of Streatham, had three bunches of Black Prince, well coloured, and otherwise good. Of White Grapes, very fine bunches of Cannon Hall Muscats, but hardly sufficiently ripened, came from Mr. Cox, gr. to M. Ricardo, Esq., and Mr. Rust, gr. to J. Maclaurin, Esq., sent good bunches of Muscat of Alexandria, which were much spoiled by travelling. Other Muscats came from Mr. Kemp, gr. to Mrs. Grillion, and Mr. Hewitt, gr. to J. Purday, Esq., Bayswater; Dutch Sweetwater came from Mr. Riddell, and White Muscadines from Mr. Taylor; Grizzly and White Frontignans from Mr. Hewitt; White ditto from Mr. Gadd; and Black from Mr. Toy.—Mr. Butcher, gr. to W. Leaf, Esq., sent a variety of Grapes, having large oval berries, a seedling obtained from the Black Hamburgh; and Mr. Elphinstone, "Victoria."—Of Specimen bunches, the heaviest (Black Hamburgh), weighing 3 lbs. 12 oz., was produced by Mr. Ogle, gr. to Earl Abergavenny, Tonbridge Wells; another, 2 lbs. 11¼ oz., by Mr. Cox, gr. to M. Ricardo, Esq.; a third (Name coloured Tokay), by Mr. Busby, of Stockwood-park; and a fourth, weighing 1 lb. 10 oz., from Mr. Gadd. Well fruited Grapes in pots were shown by Mr. Cole, gr. to H. Colyer, Esq., of Dartford.

Of Peaches, the best were produced by Mr. Wright, of Wanstead, who showed fine specimens of Royal George. An even well coloured dish of Violet Hative came from Mr. Snow, gr. to the Earl de Grey; and Mr. Fleming, gr. to the Duke of Sutherland, sent capital specimens of Bellegarde. Mr. Elphinstone had Royal George; Mr. Cole, apparently Noblesse; Mr. Toy, specimens of the same variety; Mr. Errington, fine fruit, but not ripe, of Bellegarde; Mr. Gold, Noblesse; Mr. Stacey, Royal George; and Mr. Wells, the same variety.—Violet Hative Nectarines came from Mr. Wright; Elruge from Mr. Grahame, gr. to Mrs. Smith, Bognor; Murray Nectarines from Mr. Foggo; Scarlet and other Nectarines from Mr. Toy; and Elruge from Mr. Parker, of Rochampton.

The heaviest Melon (a Windsor prize, 8 lbs. 14 oz.), was shown by Mr. M'Ewen, gr. to Col. Wyndham. In the *Nurserymen's Class*, the heaviest (a Cantaloupe, 5 lbs.), came from Mr. Gadd, of Betchworth Castle. The best flavoured Melon (a green-fleshed), was produced by Mr. Jones; the second best (Lord Montague's scarlet-fleshed), by Mr. M'Ewen; and the third (Passingham's green-fleshed), by Mr. Joynes, gr. to Mrs. Hall, of Totteridge. Among the many Melons which were shown, were various fine specimens of Knight's striped Hoosainee, Cabul, and Ispahan.

Of other fruits, Elton Pine and British Queen Strawberries were shown by Mr. Lydiard, of Bath; the same varieties by Mr. Rust; beautiful Florence Cherries by Mr. Snow; Black Eagle by Mr. Busby, of Stockwood Park; May Duke by Mr. Gadd; Biggareau by Mr. Kemp, gr. to Mrs. Grillion; and Mr. Elliott, gr. to J. B. Boothby, Esq.; Brown Turkey Figs came from Mr. Mc Ewen, and White Marseilles from Mr. Foggo; Red Dutch, Black Naples, and White Grape Currants, and Beehive Raspberries, from Mr. Lydiard; Raspberries by Mr. Griffin, of Bath; Seedling Strawberries by Mr. Kitley, of the same place, and Mr. Hutchinson, of Liverpool; new Red Grape Currants from Mr. Toy; Lawrence's Early Plum from Mr. Gadd; unripe fruit of Passiflora edulis from Mr. Chapman, gr. to J. B. Glegg, Esq.; and a collection of Gooseberries from Mr. Munro, gr. to Mrs. Oddie, of East Barnet.

Linnean, *June* 20.—Edward Forster, Esq., V. P., in the chair.—The Bishop of Norwich exhibited two cases of birds and insects collected in South Africa, and in the neighbourhood of Rio Janeiro, by Captain Stanley, R.N. Dr. Shaw, of Hop-house, Lincolnshire, was elected a Fellow. The Secretary read some extracts from a letter of the Rev. Mr. Ward, to R. Chambers, Esq., on the luminosity of bogs, called Will-o'-the-Wisp. The author thought the phenomenon attributable to insects. Professor Owen was rather inclined to attribute this curious light to the slow combustion of gas than to animal life. Sir Anthony Carlisle once caught a Will-o'-the-Wisp, and found it was nothing but air. Mr. Spence thought the phenomenon might fairly be referred to an insect which emitted light at one time and not at another, as is the case with the Fulgora. Dr. Forster was inclined to regard it as meteoric, and resembling in its nature falling stars. Mr. Edward Doubleday had often seen this light in America, but as to what produced it he had not the slightest notion. Mr. Newport read a postscript to his Memoir on Pteronarcys regalis.

Scottish Pansy Society.—The fourth annual meeting of this Society was held this year at Stirling, on the 13th ult. Upwards of 20 stands of Pansies were arranged for competition, besides a great number of stands for exhibition, and also seedlings; and when viewed either singly or as a whole, it was certainly a very interesting sight to the lovers of this favourite flower. In stands of 24 blooms, open to nurserymen and dealers only, the first prize was awarded to Messrs. Oliver, Brothers, Falkirk, for Pizarro, Blooming Girl, Excellent, Climax, Ne Plus Ultra, Optimus, Constel ation, Lord Nelson, Ne Plus Ultra (Bell), Conquering Hero, Star, Dulcifer, Pitho, Sir Robert Peel, Satirist, Trafalgar, Model of Perfection, President (Cook), Miranda, Rainbow, Duchess of Rutland, Castillan, Premier, and Brilliant Perfection. There was no competition for the second prize in this class. In stands of 18 blooms, open to gardeners and amateurs, the first prize was gained by Mr. Millar, Falkirk, with Sir Robert Peel, Mary Jane, Lord Nelson, Premium, Mr. Montgomery Harrison, Rainbow (Hay), Optimus, Dulcifer, White Serpentine, Beauty of Armadale, Consolation, and seven Seedlings; 2d, Mr. Downie, Edinburgh, with Pizarro, Lord Nelson, Sir Robert Peel, Prince, Ne Plus Ultra, Prince Albert (Kerr's), Miss Louisa, Rainbow, Mr. M. Hamilton, Douglas, Consolation, Hercules, Trafalgar, Prince of Wales, Supreme, Optimus and Venus; 3d, Mr. Alex. Mitchell, Arbroath. In stands of 12 blooms: 1st, Mr. Don, gr. Hay-park, Perthead, with Rainbow, Duchess of Rutland, Pizarro, Baroness Wenman, Excellent, Trafalgar, Model of Perfection, Venus, Climax Supreme, Fancy, and Dulcifer; 2d, Mr. Millar, with Russell Tailor, Midnight, Baroness Wenman, Wallace, Dido, Success, Conquering Hero, Trafalgar, and four Seedlings; 3d, Mr. Malcolm M'Millan. In stands of 6 blooms: 1st, Mr. Wilson, gr. Muirhead, Piemont, with Consolation, Rainbow, Pizarro, Duchess of Rutland, Mariana (seedling), and Venus; 2d, Mr. Don, with Hero of Lucknow, Consolation, Blooming Girl, Optimus, Conrad, and Prince Albert; 3d, Mr. Meldrum, Dundermline. A first-class certificate was awarded to Mr. Campbell, Falkirk, for a bizarre-coloured seedling, named Minerva. There were also a number of other promising seedlings from various quarters that may get claim certificates. At the close of the meeting 6 seedlings were forwarded from Mr. Mackie, Lanarkshire, one of which (No. 17, was an orange edd, of a rich bright colour and promises to be the best of this class, though still a little too thin. At present, the general meeting of the Society was held and the new office-bearers and members of committee elected, when it was unanimously agreed to that the competition should take place in Perth next year. We have much pleasure in being able to state that the Society is in a very vigorous condition at present, and is doing much to improve the Pansy and its cultivation in Scotland; *Stirling Journal*.

Morning of the Practical Gardeners' Society.—The second meeting for the season was held on the 24th ult., when the judges awarded the prizes as follows: Pelargoniums: 1st, to Mr. Young, gr. to T. Oliver, Esq., for Duke of Cornwall, Hebe's Lip (Beck's), Aurora Beck's), Miss Holford, Champion (Hoyle's), and Vampire. Twelve Pansies: 1st, to Mr. Downie, for Arethusa, Blue Queen, Climax, Consolation, Duchess of Rutland, Duke of Wellington, Hercules, Ne plus Ultra, Prince Albert (Cook's), Lord Hardinge, Sultan, and Rainbow. Six Tulips: Mr. Young. Sorts, Amicanus, Margrave, De Rada, Herion, Juno, Waterloo, and Cyclops. Six Ranunculuses: Mr. Paterson. Three Turban Ranunculuses: Mr. Young. Six Anemones: Mr. Young. Hardy Herbaceous Plants: 1st, Mr. Downie, for Delphinium grandiflorum, Pentstemon versicolum, Phlox Van Houttei, Aconitum versicolor, and Asclepias incarnata. Three Turnips, early white: Mr. Goudray. Two Early Horn Carrots: 1st, Mr. Douglas; 2d, Mr. Thomson, gr. to Mr. Roughead. Best Twelve Pansies Amateurs only: 1st, Mr. Fargie, Burghmuirhead, for Pitho, Consolation, Optimus, Arabella, Nonpareil, Black Bess, Dido, Lady Peel, Arethusa, Success, Compacts, and Juno. Best Twelve Garden Roses: Prize offered by Messrs. Dickson and Son: 1st, Mr. Downie, for Boule de Nanteuil, Kean, Louis Philippe, Brennus, Petit Pierre, Charles Duval, Common Moss, Blanchefleur, Baron Prevost, William Jesse, and Sophie de Marmier. In addition to the articles sent for competition, there were several others sent for exhibition, which attracted attention, among which we noticed the following: From Mr. Handyside Rowes and 40 varieties of new hybrid herbaceous Iris, which were considered by the judges much superior to the existing varieties; from Mr. Downie, a collection of Pansies; from Mr. Young, a stand of Pelargoniums; from Mr. Grieve, Pansies; and from Mr. Paterson, 2 fine Ranunculuses. Other prizes were also awarded, but we have not been furnished with the names of the subjects for which they were given.

Hornby Floral and Horticultural Society.—This Society held its first meeting on June 28. Several prizes were awarded, but we have only been favoured with a list of awards without the names of the subjects for which they were given.

THE ROUND-HEADED EVELYNA.

(*Evelyna capitata*. Poppig.)

This plant, which is a native of the West Indies, has flowered with Messrs. Loddiges, who obtained it from Guatemala. It is the Bletia capitata of the "Hortus Kewensis." In foliage it is so much like a Sobralia that it may well have been mistaken for one; but the flowers grow in roundish heads, supported by stiff, long-pointed green bracts; they are pale purple, rather unpleasantly scented, and of little beauty. Many other species of the genus are known, none of which are very ornamental.

THE YELLOW MILTONIA.

(*Miltonia flava*.)

Sp. Char.—Flower-stalk one-flowered, with equitant carinate sheaths. Sepals linear, lance-late, flat, acuminate. Petals of the same form, but twice as broad. Lip pandæuriform, slightly hairy, with a cordate-ovate end, and near the base an elevated ridge, which reaches half way down the lip, and divides at the point into two short plates. Column with a deep, purple, white-edged, toothed hood, and short triangular wings.[e]

A rather pretty Brazilian Orchid, from Messrs. Loddiges. We have only seen a single flower, beginning to wither. It was of a yellow colour, not unlike in size and colour that of Miltonia stellata, from which it differs in having an elevated plate passing down the middle, narrower sepals, and a flat pandæuriform lip. It is No. 1595 of Messrs. Loddiges' Catalogue.

[e] For the meaning of these technical terms, see Lindley's *Glossary*.

NEW GARDEN PLANTS, PUBLISHED IN BOOKS.

N.B.—* = Very handsome. † = Second rate. ‡ = Third rate. ¶ = Unimportant.

Name.	Where Published.	Name of Country.	Quality.	Natural Order.	Colour of Flowers.	Time of Flowering.	When first Flowered.	Where.
Bouvardia Cavanillesii	Hort. Journ., III., 247	Mexico	G. ♄	Cinchonads	Scarlet	June	1848	Hort. Society.
† *Cavanilles' Bouvardia.*								
Viburnum dilatatum	Hort. Journ., III., 247	China	H. ♄	Caprifoils	White	May	1848	Hort. Society.
‡ *Japanese Toothed Viburnum.*								
Mussænda macrophylla	Hort. Journ., III., 247	India	S. ♄	Cinchonads	Yellow	June	1847	Hort. Society.
† *Large-leaved Mussænda.*								
Rhododendron barbatum	Hort. Journ., III., xxxv.	Nepal	H. ♄	Heathworts	Deep rose	May	1848	Eaton Hall.
* *Bearded Rhododendron.*								
Rhododendron nilaghiricum	Bot. Mag., t. 4381	Nepal	G. ♄	Heathworts	Deep rose	April	1848	Lucombe and Co.
* *Nilgherry Rhododendron.*								
Vriesia speciosa	Bot. Mag., t. 4382	S. America	S. ♃	Bromeliads	Scarlet and yellow.	?	1848	Kew.
* *Showy Vriesia.*								

Miscellaneous.

Rules of the Pytchley Village Book Society, 1843.—1. To consist of such inhabitants of Pytchley, or the adjoining parishes, as shall subscribe not less than 5*s.* yearly, under the following rules:—2. There shall not be more than 15 members, and vacancies may be filled up by consent of the majority of those present at the annual meeting. 3. The subscription shall always be paid in advance, and no one shall be entitled to the rights of a member until he has paid his subscription and all his fines for the year before. 4. The yearly meeting shall be on the third Thursday in October, and members absent, except from sickness or being out of the country, shall pay 1*s.* fine. None but members shall be present. 5. Mr.——shall be Secretary, keeping the accounts, and ordering the books; and shall be admitted member at half the subscription. 6. The books shall be such as have been published since 1820, and such as contain nothing immoral, irreligious, or profane, nothing infidel nor against the Church of England, nothing slanderous, seditious, nor disloyal. There shall be no Novels, nor trifling Magazines, no controversial Periodicals, and no Newspapers, except such as the *Gardeners' Chronicle*. 7. Members shall order what books they choose, under the above restrictions; giving the name to the Secretary, who shall procure them through a bookseller. 8. Every member shall order each year a book or books equal in cost to his or her subscription; but not above four times that amount in one year. Two members may join in ordering one book. Members breaking this law shall pay a fine of half their subscription. 9. The Secretary, when he has procured a book ordered, shall write on it the name of the member ordering it, the number of days deemed sufficient for reading it, and a list of all the members arranged in the order which has been fixed, to be most convenient for all. Having done this, he shall give it first to the member ordering it. 10. Members receiving a book either at first, or from some other member, shall mark on it against their own name the day on which they receive it, and the day on which they pass it on, under penalty of 6*d.* They shall pass it free of expense to the next on the list; and it shall thus pass round all the members, and be returned at last to the Secretary, who shall keep it safe until the yearly meeting. 11. Books lost or materially damaged shall be replaced at the expense of the member in whose hands the injury happened. 12. A fine of one penny each volume per day shall be paid by any member keeping a book beyond the appointed number of days, provided that the fine shall never exceed the whole cost of the book. Sundays, and the days of receiving and forwarding, shall not be counted. 13. At the yearly meeting, all books which have been round the list shall be each put up to sale at half-price among the members present; and if no one bids more, the member who first ordered it shall have it and pay half-price. The meeting shall examine and pass the accounts, and decide what is to be done with any balance left on hand.

The Poison Oak.—August 24th. Found Mr. James this morning with his hand in a terrible state, from accidental contact, during our late expedition, with the Poison Oak or Poison Vine (Rhus toxicodendron or R. radicans), though where, or at what moment, he touched one or other of these venomous shrubs, he was quite unable to say. This gentleman is so susceptible to the poisonous influence of these plants, and of the Swamp Sumach (R. venenata), that momentary contact, or a brush from a branch in passing through a thicket, or getting over a fence, is sufficient to induce in him the usual irritative inflammation. For this reason he is obliged to be constantly upon the look out for his "old friends," as he jocosely calls them, which unfortunately abound too much in the haunt of the botanist to be easily avoided by him, whatever may be his vigilance and circumspection. To persons so constituted, this liability to meet an envenomed foe at every step, is a great drawback to the enjoyment of a sylvan stroll, as to others would be a ramble through a grove filled with wasps' nests. Mr. J. finds ammonia the best antidote to the poison of the Rhus, and generally carries a small phial of it about him when in the country. In the present case, the remedy was applied too late to avert the consequences it could only assuage. When I called this day, a large space on the back of the hand was covered with vesicles, the cuticle was in part cracked and excoriated, and the entire appearance was that of a severe burn or scald, from which he had no expectation of recovering for at least a week or 10 days to come. The account given by Kalm of the effects of these poisonous Sumachs on himself and others coincides with my own experience and the relation made to me by individuals who have themselves suffered from the venom. He, however, goes farther in his narrative of their mischievous powers than I am prepared to attest, as when he says that some dare not meddle with the tree (R. venenata) whilst its wood is fresh, nor can venture to touch a hand which has handled it, or even to expose themselves to the smoke of a fire made with its wood. Neither can I confirm what he asserts of himself and his servant, that the same person may be proof against the poison at one time and not another, and that even handling the seeds and wood in winter, when both these and the hands are cold, is not always a safe proceeding. These particulars, coming from such respectable testimony, must be supposed correct; for my part, I can only say, that I have repeatedly tried all these species, whenever an opportunity offered, the leaves, flowers, seeds, and wood, in summer and winter, when cool, and heated by exercise and the weather, and have uniformly failed to induce in myself the slightest symptoms of poisoning. It is to the Rhus radicans or toxicodendron that Moore alludes in his beautiful ballad, The Lake of the Dismal Swamp:

"And when on earth he sunk to sleep,
If slumber his eyelids knew,
He lay where the deadly vine doth weep
Its venomous tear, and nightly steep
The flesh with blistering dew."

Bromfield, in Hooker's Journal of Botany.

Calendar of Operations.

(For the ensuing Week.)

CONSERVATORY AND GREENHOUSE.

Allow conservatory border plants the full advantage of favourable weather, that a compact hardy habit may be produced. Regulate the shoots of climbers, and see that adequate supplies of water are given, and insects repressed early. Azaleas may still be kept in activity, syringe them daily. Attend to stopping. *Stove.*—Encourage the forward progress of the young stock for winter blossoming, maintain a moist and comparatively high temperature. *Orchids.*—An increased circulation of air may be allowed during bright weather that succeeds a period of gloom; the humidity constantly stagnant will otherwise have an injurious effect.

FRUIT FORCING.

Maintain a uniform high temperature in the Muscat house, and attend to tying up shoulders and thinning the late crops. *Pineries.*—Increase the amount of air as the fruit approaches maturity, and restrict the supplies of water; maintain a steady temperature, with considerable atmospheric humidity, in the succession fruiting pits; remove and pot suckers; shift succession plants as they require it; do not allow the heat to decline materially in the dung linings, the variable nature of the weather at present demands the precaution. *Figs.*—Less than the average amount of atmospheric humidity will be sufficient as the fruit ripens, otherwise before they reach maturity they will turn mouldy; the roots must be well supplied, and a little dung water added once a week, to help the second crop.

FLOWER GARDEN AND SHRUBBERIES.

The value of a good stock of plants in reserve will now be fully appreciated. Attention will be well bestowed at this moment upon bedded out plants—deficiencies should be made up, and stakes supplied to feeble plants. Decayed blossoms should be removed from Roses, and the young wood cleansed from insects. Attention to the trees will ensure a good autumn bloom. Continue to propagate Picotees, Pinks, and Pansies. Clip Box edgings in cloudy weather, bud Roses, mow and roll lawns, and follow up assiduously the extirpation of weeds.

FLORISTS' FLOWERS.

Ranunculuses.—We again urge on all cultivators of these beautiful flowers to watch their ripening; take them up as the leaves turn yellow, and allow the roots to dry in the shade. Seedlings, in pans or boxes, should be placed under cover; and in the course of a few weeks the roots, which are often very small, should be carefully taken out. Some florists allow them to remain in a dry situation till the time arrives to plant in the spring. *Carnations and Picotees.*—Cover the blooms as they expand, placing card-board collars beneath them; layering may be commenced, beginning with the Grass, or shoots, which are most forward. A stone, placed immediately over that part which is pegged in the ground, will speedily ensure its rooting. *Pinks.*—As the pipings root prick them out in good soil; we have seen some few acquisitions, amongst which are Read's Mary Anne, and Young's Double X. It will be advisable to pot some in small pots, to shelter during the winter. *Tulips.*—Crop the seed vessels and lay them up to dry; trench over the bed, intended for next autumn's planting, and prepare the soil necessary to renovate it. Look to *Dahlias*, thin out where required, stake, tie, mulch, &c.

KITCHEN GARDEN AND ORCHARD.

Let an abundant supply of Brussels Sprouts, Green Kale, Savoys, and Broccolies, be planted. The early Potato quarters may be thus occupied. The crops of Peas and Beans will be increased by stopping. Ridge out a good proportion of Celery, and slightly earth-up the early ridges. Cabbage sown at this time will afford a late and very useful supply of young heads. Sow Cauliflowers and Walcheren Broccoli. Prick out Endive, Lettuces, and Leeks. *Orchard.*—Look over espalier Pear, Apple, and Cherry-trees at least once a week, and pursue the system of stopping and shortening the shoots; the removal of superfluous wood may also be effected at this moment with advantage to both the tree and fruit; it is always advisable to afford the latter the advantage of a full exposure. Let the shoots of Peaches, Apricots, and Plums, be laid at once to the wall. Proceed with the layering of Strawberries for forcing, and let them be kept watered. Fruit trees generally may now be budded.

State of the weather near London, for the week ending July 13, 1848, as observed at the Horticultural Garden, Chiswick.

July.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 7	6	29.876	29.849	74	51	62.5	S.W.	.03
Satur.. 8	☽	30.063	29.983	70	51	60.5	S.W.	.22
Sun. .. 9	8	29.989	29.742	68	52	60.0	S.W.	.36
Mon.. 10	9	30.283	30.004	72	47	59.5	N.	.00
Tues.. 11	10	30.417	30.380	72	48	60.0	N.	.00
Wed.. 12	11	30.418	30.439	81	48	64.5	E.	.00
Thurs. 13	12	30.423	30.358	82	52	67.0	N.E.	.00
Average...		30.214	30.110	74.1	49.8	62.0		0.61

July 7—Overcast; sultry; cloudy and fine; overcast; slight rain.
— 8—Fine; heavy showers; clear at night.
— 9—Rain throughout; clear at night.
— 10—Clear; very fine; clear at night.
— 11—Fine; very fine, with light clouds.
— 12—Hazy, with heavy dew; very fine throughout; clear at night.
— 13—Very fine; light clouds; hot sun; clear.
Mean temperature of the week, 1 deg. below the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending July 22, 1848.

July.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 16	75.7	59.7	63.2	5	0.46 in.	1	3	3	1	5	5	2	2
Mon. 17	76.7	54.4	65.5	6	1.32	1	4	2	—	5	5	3	2
Tues. 18	73.5	52.3	62.9	10	0.60	—	—	1	1	5	7	6	2
Wed. 19	71.7	51.4	61.5	13	0.60	1	1	1	1	6	4	6	2
Thurs.20	71.3	51.7	61.5	13	1.47	1	1	1	—	1	9	8	1
Fri 21	72.0	51.8	61.9	8	0.84	2	—	1	—	3	7	6	3
Satur. 22	71.5	51.8	61.6	13	1.37	3	3	1	—	2	8	4	1

The highest temperature during the above period occurred on the 17th 1834—therm. 94 deg.; and the lowest on the 19th, 1832—therm. 41 deg.

Notices to Correspondents.

To our Correspondents—May we beg it to be understood that we cannot answer inquiries privately through the post. We are ready to give any reasonable information in our power through our columns; but we cannot consent to the labour of writing letters.

Back Numbers: One shilling will be given for No. 2, 1841.—*B D.* You can have either of the following Numbers for one shilling each: 1846; 51—1847; 17, 35.

Fancy Pelargoniums: Δίλτα. Jenny Lind, Defiance, and Garland.*

Fuchsias: Δίλτα. Three light Fuchsias: Dr. Jephson, One in the Ring, Meillez' Napoleon. Three dark:—Willmoreana, Loweryii, Smith's Eximia.*

Grass: *W.* Destroy it by a strong solution of corrosive sublimate, poured between the paving stones; only remember that this substance is a very dangerous poison. Arsenic will do as well. Coltsfoot can only be killed by incessant destruction of its leaves as fast as they appear. To manure it is to encourage it.

Hydraulics: *W H.* A forcing pump worked by a horse is, we suspect, the most effectual contrivance in your case.

Insects: *W L.* We suppose your very active brown insect was some kind of a sand wasp. Why did you not send a specimen, so as to enable us to determine. *W.—A H.* The small ants' eggs, as they are miscalled, are the cocoons of the small workers, and the large ones are the cocoons of the winged males and females, which will appear in the perfect state in a few weeks. *W.—H L J.* The brown insects which form their nests by burrowing into the sloping bank are the burrowing bee (Colletes fodiens), and the brilliant green and red one which does not sting is the parasitic Chrysis ignita, which deposits its eggs in their nests. *W.—**** The bacon grubs, and those which are feeding upon the parenchyma of the leaves are under examination. *W.*

Mildew: *W H B.* There is no known means of stopping the advance of the white mildew, so formidable this year on Grapes. The best way is to cut off the bunches and burn or boil them, so as to destroy the parasite. We think we have answered this inquiry before.

Names of Plants: *J R M.* Viburnum opulus.—*J A.* Epidendrum virgatum, Stanhopea guttulata (true).—*A S.* Apparently Nicotiana paniculata.—*Somerset.* Equisetum arvense. It is sometimes found in dry ground, if heavy, and recently drained. —*J S W.* A handsome variety of Delphinium elatum; that is all.—*Hardy and Son.* Nierembergia gracilis.—We must beg for the patience of some of our friends under this head; they shall be answered next week.

Orchis hyperborea: *A H.* It is an inconspicuous green-flowered thing, not worth introducing; it is figured in the "Flora Danica," we believe.

Pelargonium: *J H M.* The sport of which you have sent an example occasionally occurs, and is supposed to indicate one of the parents of the variety; by striking the branch that produces these flowers, you will most probably continue the sort.*

Pine-apple: We have received from Chatsworth a letter written in blue ink and interlarded with scraps of poetry, which the writer will thank us for keeping back. Its manner and matter are alike objectionable, and on the other hand it contains nothing to give it value or interest.

Roses: *Paul Peter.* Such lists as you ask for cannot be given in a newspaper. Procure the "Rose Garden," by Mr. William Paul.

Misc: *J A.* Veronica Lindleyana is V. salicifolia, and is not hardy.—*P, Margate.* Your Grapes are mildewed by Oidium erysiphoides.—*K L B.* Your pots are too small, 14-inch pots suit the Ispahan Melon best.—*Linchpin.* Water placed in an open vessel in a sleeping-room makes the air damper than it would be otherwise; that's all.—*J T.* The Weymouth Pine is a native of North America; it produces the soft timber which carpenters call "Pine." The best Spruce is the common Norway. Pinus maritima is only fit for firewood.

SEEDLING FLOWERS.

Calceolarias: *W H M.* The seedling with a yellow ground, although an attractive flower, is deficient in form; it is too flat in front; the other variety, with lilac-coloured spots upon a buff ground, is a good variety, and superior to the other in form.*

Fuchsia: *J S.* The variegated corolla of your seedling is not sufficiently distinct.*

Gladiolus: *H.* Your seedling belongs to a class of hybrids all beautiful, but yours is not distinct from some others.‡

Pelargoniums: *N R.* Your seedling is a flower of good substance and form, and desirable in colour; its principal fault consists in the edges of the petals being too full, which makes it frilled or puckered in that part of the flower.*—*Fouquett's Magnificent.* This splendid seedling is of a bright scarlet vermilion in the lower petals, with a slight tinge of blue in the centre, which is nearly white in the specimen before us; the upper petals are rich and dark, with a scarlet vermilion border. The petals of this fine seedling had fallen—we are anxious to know if it expands well.*—*Z Y X.* The quality in which your seedlings are deficient is that of form; the colours generally are clear and bright, and in many instances the flowers possess good substance; but the failure is generally in the lower petals, which are too narrow and long; they require to be rounder; take No. 8 as an instance, fine bright colour and good substance, lower petals too long; 17, ditto, lower petals too narrow; 16, white centre, ditto; 22, fine top petals, lower inferior, and the flower wanting a white centre; 7, broad under petals, wanting substance: these are the best among the seedlings sent. It now becomes a most difficult task to unite form, substance, and colour in the same flower, in order to carry the beauty of the Pelargonium still further, so much has been already achieved. Fine purple and fine white flowers are still desiderata, although whites are improving very much.*

Petunia: *W H M.* The seedling Petunia is fine in colour, and will make a handsome border variety.*

Pink: *J P.* Your specimen is nothing more than a common little border flower.*

Scarlet Geranium: *J G.* Your seedling is a very good flower, but it does not surpass those already in cultivation; the flower is a deep bright vermilion, truss moderate in size, with handsome horse-shoe foliage.*

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those numerous correspondents, the insertion of whose interesting contributions is still delayed.

TO BE LET ON LEASE, ARABLE FARMS, within 4 miles of Harwich, in the county of Essex.

1. THE POUND FARM, in the parish of Dover-court, consisting of 94 acres of Arable Land of the best quality, with a good and substantial Farm-house and all necessary Farm Buildings. To be entered upon next Michaelmas.

2. THE MILL-HOUSE FARM, in the parish of Ramsey, consisting of 87 acres of Land of excellent quality, with a good Farm-house and all necessary Farm Buildings. To be entered upon next Michaelmas.

3. THE RAY-ISLAND FARM, in the parish of Ramsey, consisting of 188 acres of Arable and Pasture Land of excellent quality, some of it being alluvial and capable of great improvement. To be entered upon next Michaelmas.

Leases of 7, 14, 21 years, on a corn rent, may be granted under certain conditions.—To view these Farms, apply to Mr. MALPAS, at Michaelstow Hall, in the parish of Ramsey; and for the Conditions on which Leases will be granted, and for the terms of occupation, apply to Mr. JOHN MORTON, Whitfield, Berkeley, Gloucestershire.

The Agricultural Gazette.

SATURDAY, JULY 15, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

TUESDAY, July 18—Agricultural Society of England.
THURSDAY — 20—Agricultural Imp. Society of Ireland.
FARMERS' CLUBS.—July 17: W. Market.—July 21: Wadebridge.—July 28: Stranraer.

WE have endeavoured to collect such information on the proceedings of the GREAT YORK MEETING as the bustle and confusion necessarily attendant on all similar gatherings would allow. We have by no means satisfied ourselves, and shrewdly suspect we shall not satisfy our readers, especially if they have made up their minds to expect a detailed account of every implement, horse, ox, or sheep exhibited on this occasion. The very magnitude of the thing renders any such attempt utterly hopeless. Why the mere catalogue of implements alone makes a book of 226 pages! And the difficulty is, not to make our report long enough, but short enough; for, do what we can, we must of necessity omit the mention of many exhibitors, both of implements and cattle, which, did time and space admit, we should have been but too happy to supply.

Of the general character of this, as compared with former meetings, we can speak most favourably. In the implement department particularly, the remark was in everybody's mouth, that, both in quality and numbers, the Show had never been surpassed; and though, as was to be expected, the Yorkshire implement-makers, being comparatively at home, evidently put forth all their strength (Mr. CROSSKILL alone furnishing enough for a good Show), yet there was no lack of distant contributors, Mr. GARRETT being at the head of the Suffolk manufacturers. His implements fully maintained their high character for excellence, both in workmanship and execution in the field: and we are able to congratulate him on an additional prize and medal for his Turnip drill on the flat, and horse hoe on the same system.

In surveying the implement-yard, one could not help being struck with the increase both in number and amount of certain machines, which but a very few years ago were either wholly unknown, or, at best, very imperfectly understood. Take, for instance, the dibbling machines. Everybody admits the excellence of the practice, but the difficulty was, by mechanical means, to supersede the necessity of relying entirely on such a precarious system as the hand-labour of mere children. The desideratum, it not accomplished, is very nearly so: for out of the 18 exhibited at York, both by hand and horse-work, surely some may be rendered so perfect as to be relied on for perfect correctness in the operation—the great doubt we have hitherto entertained respecting them. The one described in the *Agricultural Gazette* a short time ago (the invention of Dr. NEWINGTON) is certainly among the best, if not the very best, of the hand-dibbling machines; and no small recommendation in its favour is its cheapness. Again, of draining-tiles: a few years ago, and the very name of a machine for such purpose was unknown. Now they are as plentiful as Blackberries. Just so of long or farm-yard manure drills. Of these we had previously seen and heard of a few attempts at their introduction; and though we by no means intend to say the implement is perfect, we have no doubt in time it will be so.

However, we dare not now extend our speculation on what may be accomplished by the inventive powers of man. We must, for the present, quit the subject, contenting ourselves with a few general remarks on the meeting.

The fineness of the weather, and the expected visit of his Royal Highness Prince ALBERT, have brought together an immense concourse of visitors. Every inn and lodging-house is full, although many strangers take the advantage offered by the railway of moving off at night to some 10 or 20 miles distance, returning to York in the morning. With respect to the accumulated, and still increasing, size of these meetings, we must own we have had our misgivings as to the policy of keeping the snowball rolling. Surely, we thought, there must come a time when it will, and ought, if not to stand still, at least to be divided, lest it should become unwieldy and unmanageable. We thought all this before starting for York, but the facts have dissipated our doubts and fears. When we drew nearer and nearer to the scene of action, and found that the only difference to our personal comfort, and that of our fellow travellers, was the addition, almost without our knowing it, of carriage after carriage to our already long-extending train, all misgivings were exchanged for admiration at the marvellous facilities afforded by the rail to such immense bodies both of men and animals. Nay, the secret was at once explained of the cause of the increased and increasing success of this most important Society. We speak within bounds in saying that, but for the facilities of locomotion afforded by railways, probably not one half the number of visitors could possibly attend the several meetings.

His Royal Highness the Duke of CAMBRIDGE visited the Show-yard on Monday, and left York for London on Tuesday.

THERE is an idea on which the whole THEORY of FARMING rests, the truth of which, though as nearly as possible self evident, has not, we are convinced, that constant residence in the mind of the agricultural student which it deserves. The idea is connected with the atomic theory to which we lately adverted. It might be expressed thus:—Farm products are made of atoms, which though built up together, it may be for the first time, in the forms we see, have always, each of them, existed since the creation, possessed of the properties then conferred upon them. This may appear to be a very abstract proposition—one of little practical use—but we believe that no definite idea of the rationale of any farm process is possible without the admission of it.

The indestructibility and unchangeable nature of matter are capital points in the theory of agriculture. Strange as the statement may seem to one who sees the manure added to the soil, and the harvest taken from it, no farm process alters the nature of the matters on which it acts: the living plant or animal cannot change the character of the atoms presented to it; it flourishes or dies according as they are food or poison; it can but select those proper to its growth. Extra fertility is simply an extraordinary accumulation in the soil of those atoms which form the substance of our cultivated plants; skill in agriculture is for the most part simply that which enables the farmer to procure these atoms from the cheapest sources and collect them for use by the living seed or plant he has placed in the soil to assimilate them; the efficiency of all agricultural practice consists in its ability to detach these atoms from previous combinations, setting them free for use by the vegetable at the time it requires them.

Now take either an onwards or a retrospective glance at agriculture: consider in the one case how the soil during winter becomes broken up, disintegrated, and decomposed, under the influence of frost and rain, how it is enriched from the farm-yard in spring, and how the atoms thus prepared in it and added to it are absorbed along with other atoms from the air, and, uniting, form within and on the plant the produce aimed at by the farmer. Or, on the other hand, take a specimen of farm produce—flesh, for instance; consider whence the atoms which form it have been taken—the various processes, combinations, and decompositions which they have undergone since first taken from the earth or the air. Mark how each has maintained its individuality and its character throughout—the numberless companions from which it has parted—the others with which it has united, until all have become resident in the animal structure of which they ultimately form a part.

Such an examination, if worked out in detail, would convey a perfect idea of the nature of that chemical manufacture which we call farming. And while analysis enables us to conduct it more into detail as regards the general truth on which we have been insisting, so we are able to apply the idea with equal force to every portion of farm practice. That of manuring, for instance: how entirely it destroys the merit of mere bulk or weight, apart from composition! So many "cubic yards per acre" are often spoken of—but no information as to the value of the application can thus be conveyed. The question is whether the particles are really there which shall ultimately take their place in the product aimed at. We know of no better subject for investigation in this way than that which the English Agricultural Society has propounded for one of their Essays for 1849:—How to increase the produce of meat? A full discussion of it will involve every agricultural process, from the preparation of the soil to the sale of the ox. The atoms of which meat is formed are no doubt worked apart from the soil by nature; added to it by art; absorbed by plants; taken from the air and the rain; united, and parted, and re-united as the crop matures; and, when harvested and mixed with other matter imported on the farm, prepared for food; and ultimately separated during digestion for the nutrition of the various parts of the animal. At every stage of the lengthened process, economy may be usefully applied or waste suffered, and thus everywhere there is room for the application of skill and intelligence.

The atomic theory, so to speak, of farm practice will lead us, too, to see how fertility may be self-sustained: how, in the long run and over the surface of a large territory, it will appear that the actual weight of matter comprised in the animal, or in the vegetable, or in the mineral kingdom, remains constant, so that no transposition of matter from the one to the other is carried on to any great extent—to the enrichment of the one or the impoverishment of the other. The atoms removed from the soil, it will thus appear, should, under good management, all return to it again—and to a great extent they do. This point we propose to illustrate at some length, from an experience extending over a few acres but many years, with the interesting details of which we have been favoured. But we must postpone further remarks to another opportunity.

UNPRODUCTIVE EMPLOYMENT AT UNION WORKHOUSES.

I WISH, through the medium of your widely circulating Paper, to draw public attention to the waste and ill feeling occasioned by the unproductive employment of the inmates of union workhouses. On account of morality, as well as economy, all compulsory labour should be productive, for nothing is so destructive of good feeling in a man as compelling him to perform that which is painful to him and useless to others; it is a punishment which savours so much of revenge that it is highly calculated to produce the feelings of hatred and malice; as a test of poverty it acts more severely on the well disposed unfortunate poor than it does on the idle and dissolute, who seek the union house for winter quarters; to make their labour profitable to the rate payers would be the greatest punishment that could be inflicted on the latter, whilst to the former it would be a relief.

The well known objection to making the union houses workshops is valid, inasmuch as it would have a tendency to increase the number of inmates by the effects of competition on free labour, but to the employment of paupers in the cultivation of land by the spade or fork I think there can be no valid objection, for in that case the competition would be with horses not with men; to show the utility of employing the inmates of union houses instead of horses in the cultivation of land, it is not necessary to prove that land may be more profitably cultivated by manual than by horse labour, but that a man may be more profitably employed in digging land than in the usual occupation available in workhouses.

From the statements which have frequently been made of the advantages of spade cultivation over that of the plough (and my experience would induce me to believe them to be correct on many soils), it would be fair to suppose that an able labourer judiciously employed in digging would earn 12*s.* per week, which would pay for the food consumed by himself and three other inmates; land would afford employment not only to the able labourer, but the aged; the women and children might also be productively employed in its cultivation. The labour which is now performed in the workhouses is more of a penal than a useful character, but if it were productively employed in the cultivation of land, the rate-payer would be relieved from a part of his burden, and the pauper would be invigorated and refreshed by his more healthful employment and therefore better able to obtain a livelihood out of the union house.

I will not anticipate the objections that may be raised to the plan of attaching land to the union workhouses for the employment of paupers, for these may be many, and yet they may be capable of being satisfactorily answered; my object in troubling you with this communication is to draw attention to what appeared to me a cruel absurdity, namely, the practice of employing men on unproductive and painful labour because they are poor. If some of your intelligent correspondents will turn their attention to this subject, and dilate on the principles which I have briefly noticed, I doubt not but rate-payers generally will see the economy of employing labour productively, and all those who have any feelings of philanthrophy will soon see the barbarity of a policy which tortures the best feelings of humanity, in order to test the poverty of the unfortunate; *W. Stace, Berwick, near Wooler.*

LAND DRAINAGE REPORTS.

No. XIII.—RATHO, N.B.—Seeing that the advocates of 4 feet deep drains are most assiduous in their communications to you in support of their favourite system, and believing that that system is far from deserving a universal application, perhaps you may find some parts of the subjoined experience, which I have had, of use to you in the making out of the general drainage returns, and I shall follow the mode exhibited in your

Paper, of the 27th March last year, as to the manner of making them out.

Date of Operation, 1835 to 1841.

Extent Drained, 400 acres imperial.

Nature of Soil, various; from decomposed greenstone to a soft, sandy clay: generally 1 foot deep.

Nature of Subsoil.—There being several outbursts of trap on the farm, the parts so situated required no draining, save at the junction with the usual strata of the district; and these consist of deep beds of sandy clay, full of boulders of all sizes. The boulders are all whin or trap, the small ones a good deal decomposed; and added to a general wetness, arising from the close subsoil, there existed many outbursts of water that found its way to the surface from the higher levels, where the subsoil of the flats was of a porous nature.

Mode of Drainage.—Upwards of 50 years ago the first drains had been executed in this farm; the mode adopted was by cutting from 4 to 5 feet drains 18 inches wide at bottom, and filled 2 feet with broken or kevelled stones, a box being formed in the bottom, and the others packed in above. Almost all of these are still good, and most effectual in their operation between the trap and clay; but where they were extended over the flat, retentive parts of the farm, in the spring season, a white streak alone marked their situation. In fact, they merely showed the necessity of a uniform system being adopted. These being very expensive to form, after many hundred chains had been executed, a cheaper mode was adopted, viz., by cutting 3 feet deep, making the bottom 18 inches or 1 foot wide, and filling 1½ foot with the cut whinstone; after these followed a different sort altogether. About the year 1830 a good many tiles were laid down to the depth of 18 inches, and mostly without soles; these have either been now all taken up again or are choked. In 1835, Mr. Smith's system was introduced; there was no attention paid to the former drains, save as to using them as mains, or where they coincided with the parallel ones; but the whole land was gone regularly over with 2½ feet drains, cut from 4 to 7 inches wide in the bottom, and filled from 10 to 16 inches deep with whinstone, broken to pass through a 3-inch ring; at the distance of, in the widest intervals, of 36 feet, and in the closest 18 feet. The cost of digging averaged 4*d.* per 6 yards, the stones 8*d.* per do.; cartage, filling, putting on turf or stone over them, &c., 4*d.* Had tiles been used the cost would have been alike. Tiles being much cheaper now, 200 acres would be drained every 18 feet apart, 150 acres every 36 feet, and 50 acres, each 27 feet. Except in a few cases, the drains followed the direction of the ridges and down the slope. Not one of these drains has needed to be opened, from being choked.

Results.—The land, previously to the drainage that commenced in 1835, had been under a regular rotation of green, grain crops, and pasture for a great many years, and was in average condition; lying in 18 feet ridges, not very much raised in the centre, but little if anything grew in the furrows, and Turnips were rather precarious, especially in wet seasons. The fields are all laid flat now, with the furrow markings retained for sowing and reaping, and the effects are such where drained each 18 feet as to prevent water ever from being seen to stagnate on the surface, and the soil is as dry as that lying on the trap rock itself. Yet, save where the fields are under green crop, I have never been able to obtain such an immense increase in the produce of the white crops, and taking the quantity per acre given in a rotation previous to the drainage, and ditto since, I find that the surplus since would just about be the produce of the furrows, or say one-ninth greater. Turnips will have increased one-quarter, and pasture about the same, while Potatoes would be one-sixth. Where drained at intervals of 36 feet the centre space shows symptoms of wetness in some spots, whilst at others it is quite dry, the nature of the subsoil being the cause; but as it sometimes happened that one of the old 4 or 5 feet drains ran along parallel to the new ones, and served so far as one of them, I have never seen that their greater depth in the stiff till dried a greater extent of land on either side of them than did the 2½ feet ones, and after dry weather when all the drains were dry, and where one of these opened into a ditch alongside of 2½ feet ones, and equidistant from them, that when rain came the shallow ones began first to run; and of this I am quite sure that had the 2½ feet drains been cut 4 feet deep, and had just a pipe or tile put into the bottom of them, that it would have been so much labour and money lost over all the stiff stony clay subsoil.

I do believe that where there is a porous bottom, or even where the clay is well mixed with sand and free of stones, that these 4 feet deep pipe tile drains may do, but this situation is not of that nature. In one field, not on my farm, but that I have frequently examined, that had a stiff, close, retentive subsoil, and which had been drained with 5 feet drains on the Elkington principle, and where there was 3 feet of till on the top of the stones, the surface was so little changed in its appearance that even in the spring it was impossible to say which way the old drains lay, and that had all to be redrained in every furrow 2 feet 2 inches deep with tiles, and in hardly any instance did they open into the old ones, whilst after the application of these shallow drains it has been effectually dried. In short, so far as my own experience goes, I find that with a subsoil such as I have of a stiff sandy clay, 2½ feet is amply deep enough, and that when the outbursts of water take place from porous open joinings of the trap with the flat strata, 4 feet is the surest and safest, as then we have both water from below and that from above also, whilst on the flats it is merely the rain that we have to convey away.

No. XIV.—KILMUX BY LEVEN, N. B.—*Date of Operations.*—From 1818 to 1847.

Extent Drained, 400 acres.

Nature of Soil.—200 acres clay soil and subsoil; 200 acres of soft loam, mostly on a clay subsoil, with partings of siliceous sand.

Mode of Drainage.—From 1818 to 1827 most of the land was drained in the old-fashioned method, by cutting drains from 3 feet to 6 feet deep, along the top of the spring, betwixt the wet and the dry; although a great deal of water was found in these drains, the soil was not rendered dry. From 1827 to 1833 another plan was adopted, and drains were cut 3 feet deep, and filled with stones, with sufficient declivity across the descent for the water to run, about 72 feet apart; by this the land was made drier, but not so much so as to render it fit for raising green crops. In 1833, Mr. Smith of Deanston's pamphlet came under my notice, which led me to commence to cut the drains up and down the descent, which system has been continued ever since, and all the land which had been previously drained by the old method, as well as the undrained land, is now thoroughly drained, and made dry and fit to carry green crops. The drains are all cut as narrow as they can be by the common spade, from 2½ feet to 3 feet in depth, and 16½ feet apart, filled with stones 16 inches from the surface; the stones are cut thin with the hammer, and set on their thin edge in the bottom, which leaves several runlets for the water; above these the drains are filled with smaller stones.

The Cost of the operation was as follows:—The drains cost for cutting, at an average, 2*l.* 2*s.* 8*d.* per statute acre; quarrying stones, about 1*l.* 1*s.* 4*d.*; cartage, breaking stones, and filling drains, about 3*l.* 4*s.*; or 6*l.* 8*s.* per acre.

The Results.—The land formerly was mostly kept under summer fallow, except a small portion of the driest parts, on which Turnips and Potatoes were raised with uncertainty. Now summer fallow is almost completely given up, and good crops of Turnips are raised almost with certainty. After the drainage it was found that the white crops were not so bulky, although stiffer in the straw; in such cases it is necessary to apply additional manure to bring the land into heart, in order to reap the full benefit of drainage. The great advantage derived from the land being drained, is owing, in a great measure, to the increased power given to keep and fatten stock of all kinds on the farm by the raising of green crops. Formerly few or no cattle were fattened in winter on this farm, and no sheep were kept; from 60 to 70 head of the former are now fattened in winter, and from 15 to 20 score of the latter are fattened on Turnips on the land. By this system the manure is increased in quantity, as well as improved in quality, thus enriching the soil for the production of corn crops. The land is now dry, and not a ditch left open; the drains are all running, not one having been seen to fail; *J. Fernie.*

No. XV.—MOUNTQUHANIE and RATHILLET lying in the County of Fife, belonging, respectively, to David Gillespie and David Carswell, Esqrs., comprising on the former estate portions of the farms of Starr and Drumnod held on 19 years' lease by David Anderson and John Haxton.

Date of Operations.—1841 and 1842.

Extent drained.—118 acres.

Nature of the soil, &c.—62 acres of flat, alluvial land, composed of an upper soil of black alluvium, lying on a substratum of bluish clay, intersected by frequent veins of running sand. A small river, (the Motray), about 12 or 14 feet wide bisects this land, cutting off 35 acres on the Mountquhanie side from 27 acres on the Rathillet side. A mill-pond is situated at the lower end, which belongs to Mr. Carswell, and the water is used by him for the purposes of an Oatmeal and Barley mill. The top of the dam-dyke is on a level with a considerable portion of the land specified, and some parts of this land are even below the level of the dyke, the consequence of which was that when the pond was full, or in high floods, the whole of the land was saturated, and some portions entirely submerged. In order to rectify this evil and lay the land dry, an arrangement was entered into between the respective proprietors of the land to drain it on both sides of the river without interfering with the water privilege which one had an exclusive right to. This was accomplished by bringing up a deep drain, the mouth of which issued below the mill-pond, and by embanking the river to prevent it overflowing either when the pond was full or in floods. This main, or mutual drain, is on the Mountquhanie property; it is 20 feet deep at its outlet, and 10 feet deep at the upper end, the whole length being 322 yards. The drain itself consists of an arched conduit 2½ feet wide and 3½ feet high to the spring of the arch. The land on the Rathillet side of the river is drained by a close-jointed conduit which passes transversely under the river, discharging the contents of the small drains into the main conduit. The land on both sides of the river is drained with parallel drains 2½ feet deep and 36 feet apart filled to within 16 inches of the surface with stones (trap) broken sufficiently small to pass through a 3-inch ring. The stones were covered partly with inverted sods cut from the meadow, and partly with straw and couch Grass. The rest of the land drained consists of 56 acres of hardish, clayey loam, resting on a great variety of substrata—some parts being composed of hard impervious till, others of gravel beds, and the remainder of clay. This land which, for the sake of distinction, I shall designate No. 2, is a gently sloping bank bounded at the bottom by the low land above described, and the ridges vary from 200 to 450 yards in length. It was formerly drained, partially, by cross drains in the old-fashioned style, but in consequence of their terminating in the low undrained ground, the most of them ultimately became choked up. The draining of the low land by opening up a free outlet rendered the task of laying the higher ground dry comparatively easy. Forty-one acres of this land were drained straight down the slope with 2½ feet drains 36 feet apart, and filled with stones. The flattest of the stones were placed on their edges in the form of a wedge, and then packed behind and above with smaller stones. The remaining 15 acres were, by way of experiment, drained rather more than 3 feet deep, with drains 54 feet apart. The expense was about the same as the shallower drained portions, and as yet the advantage seems to be rather in favour of deep draining.

ABSTRACT OF THE ABOVE.—COST.

	£	*s.*	*d.*
Main or mutual drain between the two properties, 322 yards in length, much of which passes through solid rock, of which Mr. Gillespie paid 165*l.*, and Mr. Carswell 55*l.*	220	0	0
Embanking the river on both sides, levelling, &c.	70	0	0
Conduit through below the river	20	0	0
62 acres of meadow land, cost for digging, and material for filling	134	10	0
Carriage of 6200 loads of stones at 4*d.*	103	0	8
56 acres hardish clay loam, cost for digging and material for filling drains	171	2	6
Carriage of stones, &c.	93	6	8
Carriage of stones for 1172 yards of sub-main drains, at 1*s.* per yard	58	12	0
Total	£870	11	8

Or 7*l.* 7*s.* 6¾*d.* per acre nearly.

Results.—Much of the 62 acres of meadow land before being drained were almost worthless for tillage, and seldom could a remunerating crop be calculated upon, whereas now it produces heavy crops of Oats, Turnips, and Grass. The enhanced value of the land is not overstated at 25*s.* per acre, or about 17 per cent. for the money expended; *John Haxton.*

ORNAMENTAL POULTRY.

THE WIGEON.

IT must already have appeared that the object of these essays is not merely to give some account of such birds as are usually domesticated with us, but also to endeavour to indicate others which there is a reasonable hope of rendering subject to the rule of man, and available to his use. But it is only after much patience and many trials that we can expect to enslave and attach to ourselves any creatures hitherto wild and unsubdued. Even then failures will occur; but I think there are principles that may guide us in choosing the most likely subjects for our experiments, which the following account of my very limited dealings with the wigeon may serve to illustrate.

When a species of bird or animal has been for many generations, perhaps for many hundred years, in the neighbourhood, within the view and under the partial care of man, and yet cannot be made to lose its innate shyness, and to prefer the plenty and comfort of domestication to a wild and unrestrained mode of life, there is little hope that further attempts on our part will have any effect in bringing such creatures into closer intimacy with us. The water-hen and the pheasant are two sufficient instances among birds, the zebra appears to be one among quadrupeds. But if, in any untried race, we find an attached, confiding, and intelligent disposition, hopes of success may then be entertained, in spite of great apparent difficulties. One which would appear to be a bar to all reasonable hope of domestication, is the migratory instinct. But it is not so. The tame duck is descended from the mallard, which twice a year crosses the northern seas. One or two species of geese have been tempted to prefer the luxuries of home and the friendship of man to their former periodical voyages through the clouds; and there cannot be a more settled, quiet creature than the common goose, which is said, with what probability we shall discuss hereafter, to be the offspring of some one or two of these restless varieties. It is not for want of means of escape that the dove-house pigeon does not betake itself to its native rocks; for it is said occasionally to come in the morning from the Low Countries to the Norfolk coast to feed on certain crops, and return home in the afternoon; and an excursion across the Wash of Lincolnshire is merely an agreeable trip for exercise. Even the sheep is to this day a migratory animal. "In Spain the number of migratory sheep (Merinos) is calculated at ten millions. Their whole journey is usually more than 400 miles. It is necessary to exert great vigilance over the flock during the last three or four days, for the animals are eager to start away, and often great numbers of them make their escape."* The sheep of the patriarchs were probably not free from a similar roving disposition. And therefore the circumstance that a bird visits in the arctic circle, or now and then performs flights of 2000 or 3000 miles, is less opposed to the possibility of its being domiciled in our court-yards than if it haunted the very shrubbery before our windows, displaying at the same time a certain shyness, flightiness, suspiciousness of temper, well known to the observant naturalist, that coquets with the authority of man, but will never yield to it. It may be said that such untameables are wise; that if we took them under our protection, it would only be to kill and eat them. But though we may devour the individuals, we multiply and perhaps preserve the species. Were the turkey

* Youatt on Sheep, p. 151.

as wild and irreclaimable as the bustard, it would soon be as rare and as likely to be obliterated from the list of existing species. What a pity, then, it is that we cannot, before it be too late, rescue, by domestication, some of those curious Australian birds and animals, whose extinction from the face of the earth Mr. Darwin, we may fear, so truly predicts in his "Voyage of the Beagle round the World."*

The wigeon is a migratory bird, arriving here in the autumn. A friend, the owner of a decoy, sent me a couple that had just arrived. I cannot call them a pair, because, being taken from a large flock, they might possibly have no more acquaintance with each other than a gentleman in the pit of the Opera need have with any given lady in the boxes. After peeping into the hamper, we were going to turn them out into an enclosed yard to have a better view of them, when an acquaintance who was present suggested that they were not pinioned. The operation was performed. They each uttered one faint cry, looking at us imploringly with their large, clear, intelligent eyes. This was no hospitable reception. They were then put under a hen-coop on the lawn, within two or three yards of the living-room window, and supplied with corn and water. We were constantly looking at them, and shifting their coop to a fresh patch of Grass. They did not then allow us to see them eat, but there is no doubt that in the night they made up for the partial abstinence of the day. After a week's confinement in this way, I thought it time to give them greater freedom, by inclosing a small square with wicker hurdles on an island that I wished to become their future haunt, and by removing them there. In a day or two the female had disappeared; but how? Some railway navvies at work close by were at first suspected, quite unjustly, I believe; but the hen wigeon was never after seen or heard of. A few of the web-footed birds have the faculty of climbing up perpendicular surfaces, which would hardly be expected from their conformation, and it is most likely that the escape was thus effected. The horizontal twigs composing the hurdles would easily be laid hold of by her claws and bill. A fence of reeds placed uprightly confines water birds much more securely. Mr. Swainson quotes a feat of climbing performed by the gargeney duck, and Audubon relates the following still more curious instance.

"A dozen or more (young wood ducks) were placed in empty flour barrels, and covered over for some hours, with a view of taming them the sooner. Several of these barrels were placed in the yard, but whenever I went and raised their lids, I found all the little ones hooked by their sharp claws to the very edge of their prison, and the instant that room was granted, they would tumble over and run in all directions. I afterwards frequently saw these young birds rise from the bottom to the brim of a cask by moving a few inches at a time up the side, and fixing foot after foot by means of their diminutive hooked claws, which, in passing over my hand, I found to have points almost as fine as those of a needle."—"Ornithological Biography," vol. iii, p 56.

The hen having thus scansorially evaded it was cruel and useless (for breeding purposes) to retain the male bird in solitary confinement. He was, therefore, set at complete liberty; but instead of following the example of his companion—I cannot call her his mate—he appeared determined to make himself comfortable where he was, taking his corn with the ducks, grazing fearlessly at short distances from the house, and courting quite as much as withdrawing from our notice. His favourite position during the day, when he seemed fond of dozing and sunning himself after he had had his fill of Grass, was to bask on the turf before the dining-room window, close by the spot where he had been originally placed in the hen-coop. As the spring advanced he became uneasy, but by no means wild, whistling for a companion, without finding one to answer his call. In April or May he departed, a brook close at hand enabling him to do so. I fear that in his mutilated state the vain search for a partner ended only in capture or death.

From what I saw of these birds I must believe the wigeon to be domesticable. A fairer experiment would be, if possible, to procure birds bred in captivity, to keep them in a confined space (Grass is necessary to their welfare) feeding them highly and giving them officious attention for two or three generations. Unfortunately instances of their increasing in captivity have hitherto been rare. Their appearance and manners are extremely pleasing; their flesh is excellent. Although there is little fear of their being at present erased from the catalogue of living creatures, like the apteryx or the bustard, there is great probability that they and all other wild fowl will, before many years, become very much scarcer in England. Railroads, draining, and increased population have already done something, and are daily doing more to diminish their numbers. They will find a refuge in the swamps of the north, but it would be delightful, meanwhile, to provide some of them with a settled home amongst ourselves; *D.*

* "A few years since this country abounded with wild animals; but now the emu is banished to a long distance, and the kangaroo is become scarce; to both the English greyhound has been highly destructive. It may be long before these animals are altogether exterminated, but their doom is fixed. The aborigines are always anxious to borrow the dogs from the farm-houses; the use of them, the offal when an animal is killed, and some milk from the cows, are the peace-offerings of the settlers, who push farther and farther towards the interior. The thoughtless aboriginal, blinded by these trifling advantages, is delighted at the approach of the white man, who seems predestined to inherit the country of his children."—"Journal," second edition, page 441. See also Dr. Ernest Dieffenbach's Travels in New Zealand."

MORAL, INDUSTRIAL, AND EDUCATIONAL TRAINING OF BOYS IN AGRICULTURE.

It is now nearly three years since I first formed a gang of boys, taking them merely as daily labourers, and paying them at the rate of 3*s.* per week in winter, and 4*s.* ditto in summer; but finding I could make no certainty of their attendance, and that there was considerable difficulty in adopting a regular system of discipline, owing to the want of education and bad management at home, I made the necessary accommodation for the reception of 20 boys on my premises, about 15 months since, and took them under my own care entirely, for a term of four years, boarding, clothing, and educating them, in lieu of their daily labour on the farm, their ages averaging between 9 and 14 years. The system that I adopted was this. Each boy was to be provided with two suits of clothes—one for working in and the other for better use, also a complete stock of linen, shoes, &c.; and at the end of four years, I send them back with a like equipment. The working hours are from six till six in summer, and during the winter they work while it is light. The meal times are at nine o'clock, when they have half an hour for breakfast; at one o'clock, an hour for dinner; and at six o'clock, when they have half an hour for supper; and the evenings are spent in education until nine o'clock, when prayers are read, and they retire to rest. The food consists of bread and milk, or bread and broth for breakfast; bread, meat, and vegetables for dinner; and bread and cheese for supper, with the addition of coffee and pudding on Sundays. According to the rule universally observed on my farm, no beer or cider is allowed, excepting during the hay and corn harvests. The labour consists of the general farm work; but I may more particularly observe the planting or dibbling of Wheat and other corn and root crops, and the hand hoeing of corn, Turnips, &c. The evening education is that of reading and writing, arithmetic, &c., and such religious and other instruction as time and opportunity will admit; in which, as well as their daily labour, they are superintended by a young man for the purpose, who was four years at the Woburn national school, and six years at the Duke of Bedford's farm, where he also worked in a gang; to which I may add, that I make it my duty to attend personally each evening to assist. The enclosed calculations will show the cost of clothes per year and per week, and the cost of food per week, attendance, &c.:—

Calculation of Clothes, Making, and Attendance: 20 Boys for One Year.

	£	s.	d.
34½ yards of moleskin, at 1*s.* 2½*d.* per yard	2	1	8½
44½ yards of cord, at 11*d.* per yard	2	0	4½
8 yards of canvas, at 7*d.* per yard	0	1	9
3 gross of buttons, at 1*s.* 6*d.* per gross	0	4	6
2½ lbs. of thread, at 2*s.* 10*d.* per lb.	0	4	3
160 yards of calico, at 2*d.* per yard	2	0	0
3½ dozen pairs of stockings, at 9*s.* per dozen	1	10	0
Shoes and mending, per contract	10	0	0
Making 20 suits, 50 days, at 2*s.* 6*d.*	6	5	0
Mending, say 25 days, at 2*s.* 6*d.* per day	3	2	6
20 pairs of braces, at 6*d.*; 20 handkerchiefs, at 6*d.* ..	1	0	0
78 lbs. of soap, at 5*d.* per lb.	1	12	6
20 caps, at 2*s.*; 20 ditto, at 1*s.*	3	0	0
20 smock frocks, at 4*s.* 6*d.* per frock	4	10	0
Attendance	25	0	0
	£62	12	6½

Being 3*l.* 2*s.* 7½*d.* per boy, per year; or 1*s.* 2½*d.* per week. This calculation does not include the person who works with the boys.

TWENTY BOYS' KEEP PER WEEK,

Taken at average market prices, as per amount consumed.

3 bushels of Wheat flour, at 7*s.* 6*d.* per bushel ..	1	2	6
9½ lbs. of cheese, at 5*d.* per lb.	0	3	11½
1½ lbs. of treacle, at 4*d.* per lb.	0	0	6
3½ lbs. of dripping, at 6*d.* per lb.	0	1	9
35 lbs. of fresh and salt meat, at 6*d.* per lb.	0	17	6
1¼ bushel of Potatoes, at 6*s.* per bushel	0	9	0
3 oz. of coffee, at 2*s.* per lb.	0	0	4½
Or 2*s.* 9½*d.* per week, per boy.	£2	15	7
Each boy's keep per week .. .. 2*s.* 9½*d.*			
Each boy's clothes per ditto .. .. 1*s.* 2½*d.*			
Total expense for each boy per week 3*s.* 11¾*d.*			

I shall now proceed to show some of the advantages derived from the system; and in the first place I may mention, as a general rule, that their work is much more carefully done than any man can do it, working by the piece, at the prices usually given, and as shown by the annexed statement:

Boys.	*Men.*
Wheat planting*, 6 or 7 boys at 8*d.* per acre, 4*s.* 8*d.*	Not done in this county.
Wheat hoeing, 6 boys, at 8*d.* per acre, 4*s.*	Men per acre, 4*s.*
Turnip hoeing, 5 boys, at 8*d.* p. acre, 3*s.* 4*d.*	Ditto, 6*s.* 6*d.* to 7*s.*
Do., second time, 3 boys, at 8*d.*, 2*s.*	
Mangold Wurzel, 6 boys and 1 man plant 5 acres per day, say 1*s.* 3*d.* per acre	Ditto, 3*s.*
Cleaning and heaping Swedes, 6 boys, at 8*d.* per acre, 4*s.*	Ditto, 6*s.*

You will perceive that this statement is in favour of the boys very considerably. In planting corn there is a considerable saving of seed (which will, of course, vary according to the idea of the farmer, as to quantity required); the seed is all in the ground, and at the required distances apart, to admit of hoeing and weeding, and thus it requires less harrowing to cover the seed. The hoeing is as perfect as it well can be done by hand, and all the surface is moved—a system which is seldom carried out when it is hoed by the piece. In the Turnip hoeing the plants are at regular distances, and all the surface is moved, so that no weeds escape. I may mention that the judges of Swede crops for the Herefordshire Agricultural Society, the season before last, mentioned the cultivation of my Swede crops as the most perfect they had ever seen; and I believe that in a field of 40 acres a man might have crossed it in six places

* Mr. Mechi tells me that in his neighbourhood they pay 11*s.* per acre for planting Wheat.

and not have found six double plants. Of incidental work I need say little more than to remark that in weeding, collecting Couch, &c., saving Turnips and Potatoes, making hay, turning Barley and other crops at harvest, picking stones from the land, &c. &c., the boys are peculiarly adapted, as these operations do not require strength, but care, and from their size the boys get so much closer to their work. But these are few of the great advantages to be derived. Whilst my boys are learning to be good and steady labourers, and to get their living, they are rescued from what are too frequently dens of immorality and vice, and are learning their duty towards God, and their duty towards their neighbour. They are learning habits of cleanliness, and a systematic mode of living, and may be, I trust, the commencement of a better race of men. You may ask—Is this system appreciated by the surrounding class? I should say, most decidedly it is. I have in three months after I had filled up my number I had refused as many as 60 applicants (some from a distance), and one poor woman waited 24 hours to get her boy placed with me, but my number was already made up.

There is another great advantage. I must not omit to mention that in keeping these boys I am consuming my own manufactures (Wheat, pigs, sheep, &c.) by which means I have the bran back on the farm; I have the butcher's profit on the sheep and pigs; I get the manure (night-soil) on the land and I keep my capital in my own country (my farm), instead of sending it abroad (*i.e.* the labour market). I believe I have given you every particular requisite, and I think the calculation very near. The only items I have omitted are milk (skimmed), which would otherwise go to the pigs, and garden stuff, which they have when in abundance. The calculation is from Sunday morning to Saturday night, and the boys have lived in the usual manner. The expense may vary, but I believe this is about the average. I have said nothing of the accommodation and expense of fitting up, but it is not great. There are also books, &c., which are those generally used by the national schools, published by the Society for the Diffusion of Christian Knowledge; in these a sovereign will go a long way. This and the interest of capital invested in furniture, &c., when divided amongst 20 boys, amounts to very little per week; perhaps in all, 2*s.* per boy; *Mr. Batson, of Kynaston Court; in the Hereford Times.*

THIN SEEDING, &c.

I have stated in former letters that I have written only to elicit truth; that I have never acted upon any other principle, and I trust never shall. I am equally convinced with Messrs. Mechi and Wilkins that a large quantity of seed corn is wasted annually; that what is sufficient to effect the object is enough; and it is only by close and careful investigation, and the making accurate experiments, and noting facts, that we shall ever be able to arrive at such general deductions as may lead us to the adoption of a principle that will best insure success; and with this view I commenced last year publishing some facts stated by Mr. Hall, of this county, which no sooner appeared than Mr. Wilkins made an attack upon them, and by the utmost sophistry endeavoured to render of contrary import. I am now pursuing the course I then proposed, and shall be prepared with the results at the proper time, and have at the present moment no hesitation in stating that from 6 pecks of seed per acre I have an appearance of as fine crops of Wheat as I have ever before grown, and as Mr. Wilkins challenges my production, it is accepted against his rational seeded corn, giving him the privilege of selecting any portion from the farm of his friend Mechi also; and to meet him in point of quantity I will accept it upon a single acre or upon two or more acres, the amount to be named by himself, and applied by the winner as an award for the "best written essay supported by facts" upon the subject.

As Mr. Wilkins grounds his proceeding upon "rational principles," he, by inference, denounces all other practice as irrational, and therefore I inquire of him how the entire produce of one farm in this county, in the last season, upon which 2½ bushels per acre were drilled, could have been 682 quarters from 104 acres, all white Wheat, of the rough chaff variety? Why another farm in two consecutive years should have produced upwards of 5½ quarters of marketable Wheat per acre over and above the quantity taken out as seed corn, &c., which also averaged above 2½ bushels per acre? I can, if he is not satisfied, give him also several instances of single fields producing a still higher average; but I think I have stated sufficient to prove that although thin sowing *may*, that thick sowing (as it is termed) *will* produce an abundant crop. As I have not seen the crops of either Mr. Wilkins or Mr. Mechi this year, I only obtain information through the observation of others, that they will not only bear the hoe, but that there is ample room for its exercise. Mr. Mechi says that he has 82 acres of Wheat, and then goes on to give the quantity of other grain grown on the farm, with observations upon its quality, most of which is good, but not, in Mr. Wilkins's phrase, "splendid." Now, as I invited him to give us the results of the thin sowing, it does appear singular that he should pass over the Wheat crop, except as to the number of acres, without an observation. The old lady that lived in the shoe, and who had such a numerous family, gave all her children something—the pets having the broth, the others the bread; but Mr. Mechi's pet gets nothing, but is put to bed *sans ceremonie*. The "insinuating" system, as he terms, it by asking questions, proves nothing; and if not creditable,

it gives the opposite party the opportunity of stating the facts. Mr. Mechi's epistles upon farming subjects lead strangers to suppose that he is imbued with a kind of farming inspiration, so that he is thought to be a prophet or seer of his order, and foretels not only the results of his own experience, but also the failures of others, because he has experimentalised more upon draining than any other town drainer, he condemns all practice that does not agree with his own, and reads me as severe a lecture upon the subject as if it was a practice that had never come within the range of my capability, when it may be questionable whether I have not, before he commenced, cut more rods of drains than he has feet since; it is quite notorious also that "he does not well consider the end" on all occasions, *vide* his speech at North Walsham club, where, after his experience of the tank system having failed, he substitutes box feeding, and now finds it expedient to declare that covered yards are best of all, unless the Huxtable board and lodging system should divert his fancy.

It is all very right to enunciate new opinions, and to bring bad practices into disrepute, but it is not because a practice is old, and has been long established, that it is to be cast aside as barbarous, and some new theory substituted, of mushroom growth and existence. If I have observed rightly, I believe that long practice has established the opinions of our farmers as to the best modes of cultivating particular districts; and if farming is so very easy of acquirement, why do farmers from distant counties rarely succeed in Essex, and *vice versa*. The whole processes, I maintain, depend upon extensive practical experience to enable any one successfully to realise a profit; it is by attending to minutiæ daily and every day, by constant and continual attendance to all the various processes, not only doing them at proper time but in proper manner, with the best of all bailiffs —self attendance. Theories and theorists cut splendid figures in print, but are of the "much cry and little wool" character in the result.

But this, although it proves nothing, only shows that a constant and steady perseverance will achieve an object when frequently the best appliances fail—that science, if judiciously brought to bear upon practice, will accomplish a great deal; but that science, capital, and energy, however powerful, unless they also take skill, judgment, and practice on board, will never navigate a vessel safely into harbour, or farm to a beneficial result. It was said by Quarles, of Tusser, that he was "a rolling stone and gathered no moss"—that he was as the whetstone to the scythe, although he remained blunt himself he made others cut, so it is with all theorists and enthusiasts, although they overshoot the mark, others from the example select that track as the best that lies midway between the one newly pointed out and that which has been longest beaten, and it is undoubtedly so with the newly propounded system, urged as it is by Mr. Wilkins, whose zeal certainly outstrips his judgment as to the quantity of seed requisite, for he must know that variety of soil, situation, and condition of land, and difference of season, must always occur to such an extent as to so far vary the circumstances and results as to cause the one system entirely to supersede the other, or *vice versa*, as circumstances alter, so that the advocate of neither system will be enabled to say at the time he commits the seed to the soil that he is right. As with political and social revolutions, the happy man is found between the extreme opinions of parties, and so it will turn out with this system, the investigation will hereafter show that it is neither the extreme advocates of the one or the other that is right, but that truth lies midway between them. My "sneering question," as Mr. Mechi terms it, "Do Mr. Hutley's drains run?" is answered by stating that they do; but have they been of any benefit? and during the last wet season was it perceptible? as Mr. Hutley states that no beneficial result was observable excepting, "immediately over the drain." I felt I was not stepping out of the path to ask the question, feeling assured that it would long ago have been proclaimed in Gath, had such an occurrence happened.

It may not be apart from the subject to state, that the Wheat crop in this immediate district is so greatly improved as to almost equal that of past years, but that every other description of pulse and grain are deficient, and upon a very large proportion to a great extent. Upon the heavy land district a decided falling off must occur, and if I should say to the extent of from 30 to 35 per cent. from last year, I should be within the limit. The grass crop is an average, but the Mangold Wurzel the greatest failure I ever have recollected; *Robert Baker, Writtle, June* 26.

P.S. I have observed the disease among my Potatoes to-day, but at present not extensively.

Home Correspondence.

Double Cropping.—The theory of this is called in question in your *Gazette* of the 26th ult., even admitting the success of the practice, of which, if the writer has much doubt, he may see the most striking instances in the market gardens at Fulham, and on the Jamaica-level, Deptford; the most productive land I believe in the world exceeding both the Dutch and Belgian (Hort. Tour, p. 264). But having been led by theory from the earliest period of my attention to agricultural chemistry, to recommend this system of culture as a sort of present rotation of crops, having some advantages over that which is entirely successive, it may be opportune to lay that theory again before Mr. Taylor and your readers. The plants then grown in alternate rows, should be as in the successive rotation of different natural families, and draw from the soil different ingredients; when, instead of each sponging upon its neighbour, they may help each other in the decomposition of their food. In illustration of this, if we throw sulphate of lime (gypsum) into a solution of pure ammonia, it will fall to the bottom without decomposition; the lime attracting the acid more strongly than the ammonia does. But add carbonic acid, either from the air, fermentation, or otherwise, and the decomposition takes place, the carbonic acid attracting the lime, whilst the ammonia draws upon the sulphuric acid. So in the culture of Beans, for instance, they will go on drawing their requisites from the soil, until checked by the attraction of the other ingredients, when their appropriate manure becomes dormant; but if Carrots, Turnips, or Potatoes, be interlined between the Beans, so as to draw off their appropriate constituents, at the same time instead of waiting for another season, the balance of forces being then kept up, each may go on extracting its proper ingredients, without hindrance; until they reach the complete passive state of the manure, and even upon that they may act with some advantage. This theory appears to explain (without occupying your columns with subordinate explanations), the increased product of double cropping, which I think might be much more generally employed. That it exhausts the soil in proportion, and requires a proportionate return in manure, is no more than may be said of other agricultural increase; nor will it be denied, that it consumes more labour; but, if it enables 2 acres to employ as many hands, and produce as much food, as 3 under ordinary culture, this will hardly be held an objection, in a country where the land is insufficient for the people; *J. Prideaux.*

Overgrown Barley; Salt; Superphosphate of Lime.—One of the chief uses of salt may, perhaps, be put to the test (if not too late), by the present condition of the Barley; which can hardly fail of overgrowing, under the unseasonable continuance of rain. And salt appears specifically to restrain over growth, and stiffen the straw and leaf, and have somewhat the same tendency, perhaps by neutralising the ammonia in the soil; and phosphates certainly promote seeding. Probably, therefore, the addition of superphosphate of lime to the salt may remedy, in some degree, the damage of the season: say 2 cwt. salt and 1 cwt. superphospate, per acre, mixed with dry earth (not ashes), and strewed upon alternate ridges, to show their effect, by comparison. But farmers need take care what they buy as superphosphate, a sample having been recently brought me that was quite insipid, and consequently not superphosphate at all; *J. Prideaux.*

St. Marylebone Bank for Savings, 76, Welbeck-street. Established 5th July, 1830. Comparative statement of progress at specified periods during the last seven years:

	Open Deposit Accounts.	Sums invested with National Debt Commissioners.
On 5th July, 1842	13,100	£275,073
" " 1843	13,820	305,383
" " 1844	14,638	340,509
" " 1845	15,724	356,265
" " 1846	16,729	346 977
" " 1847	17,939	319,340
" " 1848	18,564	284,757

D. Finney, Secretary and Actuary.

Surface of Steep Land.—"An Essex Man," Colchester, endeavours to make it appear (June 17, 1848), at p. 410 of the *Agricultural Gazette*, that hilly ground will admit of no more plants than its base or level on which it stands. He observes that "five acres upon a slope (his slope of course) can only contain as many ears of corn or blades of Grass as 4 acres of level ground." Now the idea that the dotted line G H, in his figure, represents the true position of the growing place of plants is fallacious had the crops stood upon G H, and not upon the line C B where they actually do, this demonstration of their distances might have been acknowledged. The difference of the length of these lines divided by the number of plants, will give the difference of the distances of or between the plants on the line C B and of those upon A B; therefore, if the plants were placed at an equal distance in both cases, that is upon C B and A B, the line C B (or hilly ground) would admit more plants than the line A B (or level ground), this being the case, I do not acknowledge that 4 acres of level land will contain as many ears of corn or blades of Grass as 5 acres of hilly ground. Would "An Essex Man," Colchester, as I believe he is sufficiently learned, furnish us with a second production or calculation of the extra number of plants or trees it requires for 5 acres of hilly ground than for 4 acres of level land, and also favour us with his results of the numbers necessary for 5 acres at various elevations. I should be sorry to see the *Agricultural Gazette* become a disseminator of errors, which, on reconsideration of the subject or a note from its clever Editor at the time, would have been amply sufficient to detect or correct; *Diagram and Tangent.* [We suggest that "Diagram" should try how many more houses of a given size he could build on the line C B, the side of a hill, than on the line A B, the ground plan of the same hill. "An Essex Man" he will find is right enough—it is not the number of seeds sown but the number of plants that ripen that determines the produce, and that depends not on the number planted but on the room for their growth. There is as much room for upright plants on a horizontal plot as there is on the steepest slope with which that plot may be covered.]

An arrangement for the collection and distribution of Sewage Water Manure, connected with a House and Establishment of a moderate size, with a Kitchen Garden and about 10 Statute Acres of Land which is thoroughly Drained.—1. A tank has been constructed about 40 yards from the house, 15 feet long by 6 feet wide, 6 feet deep, built with stone and lime, coated with Roman cement, arched with brick, and the arch covered with nearly 3 feet of earth. Into this tank a well-constructed sewer, with an egg-shaped bottom, discharges itself, and conveys every soluble substance from the house, offices, and stables; washings from the kitchen, dairy, and wash-house; from all the water closets; urine from the stables; and a large quantity of water falling upon the roofs of the house and offices and from the yards. The quantity, therefore, of valuable matter is considerable, and it is diluted by a large quantity of water. The relative quantity of matter suspended in the water of course varies with the wetness or dryness of the weather; but in the course of the whole year the quantity of fluid is very considerable, and of a quality abundantly fertilising, even when most diluted. 2. An overflow-drain has been connected with the tank, to prevent accident or reflux in the sewer, but the object must be to render unnecessary the action of the overflow drain, by applying beneficially the whole contents of the tank, in order to which, 3. A forcing pump of power and easy action has been erected on the tank, with a large air vessel, from which a pipe is conducted to a point at one side of the tank, where, under ground, a three-way brass cock, of sufficient dimensions, is placed. 4. From one of the branches of the three-way cock a cast-iron pipe of one and a half inch inside diameter has been laid for 30 yards, passing under the wall of the kitchen garden to a point one yard within the wall, where the pipe rises to the surface and is fixed in a flag, with a brass screw nosle, of the same diameter as the pipe. 5. To this nosle, when it is wished to use the liquid manure in the garden or hot-houses, is attached what is termed a universal or revolving joint, made of brass, so that it can be pointed in any direction; and to this joint is attached, by a brass coupling, a canvas hose of one and a half inch inside diameter, and 50 yards in length, but divided into three parts, uniting as may be required, also with brass screwed couplings. By means of this hose it is easy to apply the manure to almost any part of the garden, but this object it is intended fully to effect, by extending the iron pipe 40 yards farther, to a point precisely in the centre of the garden, and from that point a hose of 40 yards, working in shorter and longer lengths, to an extreme circumference of 40 yards, will reach every part of the garden. 6. The hose is terminated by a distribution pipe, made of copper about 3 feet long; it is easily handled, either as a simple pipe, or with a fan which delivers a sheet of water. 7. If the contents of the tank were applied, throughout the year, to the garden, fruit-trees, and hot-houses, as might suit them, there can be no doubt that in the garden a great state of fertility would be induced, but that would no doubt carry the system too far—and it is proposed, 8. To lay from the three-way cock an iron pipe of 112 yards in length, by which the sewage water will be conducted to a small field in pasture, which has been thoroughly drained; over the whole of this field the hose will distribute the sewage water from the termination of the iron pipe; and it is believed that the result will be that three or four crops of very fine Grass will be produced between March and December, in each year, to be used in soiling, and the value of the land be enhanced probably four-fold. 9. Experience can alone determine how far the sewage water can extend its benefit, in other words what its real quantity and power is. Should it prove to be more than sufficient for the garden and field, a third pipe may be laid from the three-way cock, in a different direction, and an additional extent of land may receive the water, all passing from the tank by means of the forcing pump, which one man can work. 10. There can be no question that by this arrangement a very considerably increased produce will be due to the sewage water manure, and its distribution is easy and at no great cost; at the same time an odious nuisance is removed. Formerly the sewer ran into a pond, and made it most offensive. Besides the removal of the nuisance, the cause of the nuisance is converted into a source of a very appreciable pecuniary value. The principles and mechanical arrangements above briefly explained, are applicable to all cases, on a vastly larger—as well as upon a smaller scale—they are alike applicable to the enormous products of crowded cities (enormous as nuisances, and enormous as a source of profit), and almost of the most humble dwellings. The abatement of nuisance, the promotion of cleanliness and health, and great economical and pecuniary advantages, are combined in the extensive adoption of such arrangements, and they are much more easily carried into effect than may be supposed; *Anon.*

Drainage of Land.—In addition to uniform parallel drains in the direction of the most fall, more immediately for collecting and discharging water, I confidently continue to recommend, after long and successful practical experience, as being essential, an air drain resembling the underground outfall drain in area, and like it, having guarded openings at each end, to connect the upper ends of all such parallel or minor drains; by this means unhealthy, exhausted air is speedily displaced by a perpetual current of fertile atmospheric air through the drains and through the cracks in the ground caused by its shrinking; the fissures in the subsoil are thereby multiplied to an indefinite extent, the decomposition of inert vegetable and mineral substances

is promoted, and atmospheric air and rain-water obtain a more free passage to the roots of plants and to the drains; air alone contributing at times to the former moisture and nourishment, operating as a safety-valve against injury arising from drought by as well as from rainy seasons: in short to the combined influence of atmospheric air, rain-water, and vegetable remains the natural superiority of surface soils over subsoils is solely to be attributed. By this circulation of air the bottom of the drains and the ground below are relieved of excessive moisture by systematic not surface evaporation, after drainage by gravitation ceases, and stones or tiles become less liable to sink. This air drain also in effect shortens minor drains, arrests the progress of water issuing from higher lands, and serves such lands, if needed, in the capacity of an outfall drain, but in such a case it should always be made straight, and deeper than the minor drains below it, so that an air communication only may exist between them. The practical advantages arising from the above method may be satisfactorily tested at a trifling expense, especially where a field is already under-drained, by admitting a current of air through the drains of one part thereof and comparing its effects with the remainder; and it would be well for the information of the agricultural community that results should be notified; *Simon Hutchinson, Manthorpe Lodge, Grantham, June* 18.

Unfermented Bread.—I have used unfermented bread in my family for some time past. At first we made it by using the quantities of bicarbonate of soda and muriatic acid mentioned in the "Physician's" pamphlet, viz, to 3 lbs. avoirdupois of flour, 9 drachms of bicarbonate of soda, and 11¼ fluid drachms of muriatic acid, apothecaries weight. We soon found a very great improvement both in the appearance and flavour of the bread by diminishing the quantities of soda and acid to less than one-third of the foregoing. As however it was by no means desirable to trust so powerful an acid in the hands of servants, in order to avoid the trouble of having to superintend the weighing and manipulation of the ingredients, I conceived the idea of using a dry acid, which combining with the soda would disengage the carbonic acid gas and produce a tasteless and harmless salt. After a considerable number of trials I have adopted the following mode of making the unfermented bread which is now regularly used in my house. I carefully mix by sifting with the flour first tartaric acid, and next bicarbonate of soda in the following proportions—viz.: to 14 lbs. avoirdupois of flour, 8 drachms of tartaric acid, and 11 drachms of bicarbonate of soda. Once mixed it will keep any length of time, and is always ready for use. Sufficient cold water to make it into dough rather thinner than ordinary, and immediate baking in a quick oven (either in tins or not) is all that is required to make it into bread. The superiority of this process over the former one is obvious. The bread is of excellent quality, and is much admired by all who have tasted it. I have 10 stones of flour at a time mixed with the two powders, the cost of which of the best quality for that quantity of flour is 1*s.* 8*d.*, or 1*d.* for 7 lbs. of flour. For making brown bread it will be found necessary to use larger quantities, viz. 1 drachm of bicarbonate of soda with ¾ of a drachm of tartaric acid to each pound of meal; *P., Camberwell.*

Provident Habits among the Labouring Classes.—The late Mr. Loudon in his "Encyclopædia," in advising young men to form provident habits, observes, "With respect to saving money, we shall not attempt to state the neat proportion of wages that may be yearly saved; nor how the money may be best laid out; as these depend on circumstances. All we need suggest, is the necessity of keeping the ultimate object (being independent in old age), and its great advantages, continually in view, and to prefer security of principal to high interest. The vulgar reason why a young man ought to save is, that he may get together as much as may enable him to collect some furniture and get married. This, however, may be called saving to produce want and misery. A young loving couple, anxious to consummate their first wishes, will not be very nice in the quantity or quality of their furniture. All they consider necessary is accordingly often acquired before they are 20. Housekeeping and propagation are commenced; and thus the foundation laid of a life of hard labour, scanty food, and their attendants, bad temper, and often disease. After 25 years of bustle and distraction, half a score of children have been produced, and are most probably growing up in rags and ignorance; and all that this couple can say is they have struggled hard to create nine times as much misery as that by which they are themselves oppressed. If the man had limited himself for 25 years to making the heads of pins, he might have accumulated as much as would have made him independent and comfortable, and still had sufficient time before him to marry, and enjoy the comfort and solace of a wife and children." The foregoing is but too true a picture. Labouring men are apt to delay to begin to save until they are married, or as we have seen to save only in order to their marriage. This is either a great mistake, or a great neglect. It is young unmarried men that can save most; and it is then also that they are apt, by misspending small sums, to acquire those habits, alike shunning opportunities of improvement and independence, that ruin so many of them. It is said to be a disgrace to any working man not to have a stock on hand before he marries; yet it is melancholy to see how many young labouring men not only squander money, by carelessness and dissipation, but ruin health, habits, characters, and, if they are married, families also, when they might preserve all, and be ere long independent, comfortable, and respectable by simply laying by spare earnings. None can look back and say he is the better of all the shillings and pounds he has mis-spent. On the contrary, how much more independent, and comfortable, and respectable would such a man have been had he saved all these sums to spend them afterwards in improving the comfort of himself and family, his little stock, or his allotment, if he has obtained one. Wages ill spent do those who get them harm in place of good. Both good and bad habits are acquired by degrees, perhaps imperceptibly. The misspending of small sums begins the ruin of many; it matters not therefore how small the sum is that any one has to begin with. The money will gather by degrees, faster than is believed; and the habit and character of steadiness is beyond all price. The savings-bank seems to me to offer the safest and most desirable mode of investment for savings; yet there are very many who know or think but little about it. Among its advantages are:—1. That sums as low as 1*s.* at a time may be either put in or taken out; and it is well known that many who have possessed large funds began by lodging only one or a few shillings. 2. That each depositor gets a book for his account for nothing, when he first commences, and which book contains full information about the rules, &c. 3. That nobody is allowed to see the bank books, so that nobody knows what a depositor puts in, except the depositor himself and the officers of the bank. 4. That besides being safer than it would be anywhere else, the money or any part of it, in addition to interest, can be got back any day. If labouring men live at a distance any one else may go for them, or for any number of them at a time. Those who have begun to lay by little sums soon have as much as would serve to keep them in comfort and independence for weeks, or months, or years, even if unable to do or obtain work. A man may be an expert workman, and work hard too, but he will never be in comfort if his habits are not steady and economical. What could be thought of a farmer who worked hard all the year round, but neglected to preserve his crop when harvest arrived, or consumed it the day it was gathered in, so that he had left neither food for the winter, nor seed for the spring? Yet this is just what many labouring men do, especially every Saturday evening. Thus immorality, ignorance, and destitution prevail, and the remuneration to the well-doing portion of society is kept much lower than it otherwise would be. Improvident men not only injure themselves, but do great injury to their fellow workmen; for it is when work is abundant, and wages are high, that these men become most dissipated: this compels employers to introduce more new hands than the employment itself can permanently support, which has the effect instantly, but still more afterwards, of sadly reducing wages. It is when work is scarce, and wages are low, that these men work hard for mere subsistence, and their ill-timed and increased competition then reduce wages further down to the most melancholy state of depression. In other words, when wages are high these men are traitors to the common interest; when wages are low, they become unfair burdens on the then scanty supply of labour. Undoubtedly a large measure of cure for depressions in wages would consist in reversing these irrational habits. Hence the importance, as appears to me, of the savings-bank being pressed upon the attention of all to whom it would be useful; *J.*

Drilling and Broadcast Sowing.—Jethro Tull, the father of drill husbandry, was of opinion that land ploughed deep and exposed to the action of frosts in winter and the hot suns of summer was a sufficient preparation for the land, without manures, to yield a good crop of Wheat—the Wheat to be drilled and hoed. Experience showed that good crops of corn cannot be raised without manure, and Jethro Tull's theory fell to the ground; though at the same time the system of drilling and its advantages must be manifest to all. To Tull belongs the credit and praise of introducing the drill; but that land, by the mere operation of ploughing alone, could yield white crops successively without manures, is now an exploded theory. Leguminous and green crops are best when drilled, and in many instances the cereals when thus sown are found to yield superior crops to those sown broadcast; but the object of drilling was to enable the crops to be hoed, and on lands subject to weeds no system can be more judicious. We ourselves have found by long experience the broadcast system to be more profitable, but our land was clean; besides, we have found our crop when drilled to suffer more extensively from the ravages of the wireworm and slugs—the plants have entirely disappeared; not that drilling causes this, but that the thinness of the plant, and, being in rows as a necessary operation of drilling, did not allow a sufficient number of plants to cover the ground. The broadcast system meets this difficulty; you can cover your ridge with plants, and those left after the ravages of insects tiller out, and have yielded a crop that has surprised me. On poor or middling soils drilling Wheat is a bad practice; *R. S. S.*

Humidity the Cause of the Potato Disease.—Dr. Buckland, in the letter you recently published, speaks of electricity as one probably of several causes producing the decay of the Potato during the years of blight. What I now desire to bring before your readers is one of those other causes, a prominent and manifest one—one which I have never found doubted as a plainly accelerating cause, at least of the former destruction of the Potato. My own observation is quite confirmed to the fact that whatever be the remote causes, nothing contributed more than humanity to the total destruction of the tuber. For instance, in the same garden where the disease generally prevailed, it was found invariably to be worse where the soil was wetter, more retentive, &c., and *vice versa*. The contrast was quite remarkable in 1845 and 1846 between the effect produced in porous sandy soil and wet heavy clay. The former was tested by the neighbourhood of Leominster and Burnham, near Bridgewater, compared with a part of the valley of the Tone, Worcestershire. It is a fact that whilst in the former places (till reached by external demand), the price of the Potato was scarcely varied by the first year of blight; in the latter the price was speedily doubled. At Burnham, good Potatoes grown in the sand were selling at 7*d.* the peck; at Tenbury, for 1*s.* 4*d.* at the same time. That year was remarkable for the extreme humidity of the summer months, as I perceive from notes made at the time. But why should I adduce proof of that of which any degree of observation must have convinced any one, viz., that a plain proximate contributory cause of the destruction of the Potato was excessive moisture in the earth. Having, therefore, these data, the problem was to secure a plant so obnoxious to wet as the Potato at all times is from the same effects in future. The plan which occurred to me, and which I have tried for this purpose, is abundantly simple; if it had not been so, and successful, as far as hitherto tested, I would not have troubled you with an account of it. Having had my ground trenched, as for the winter, I caused the sets to be dibbled in at the usual distances on the top of the ridges to about half their depth, or rather less (say 6 inches), thus leaving the thorough drainage of the trench on each side to carry out my theory. The result has been to myself, and to a brother clergyman who tried it, most gratifying, speaking as to the quality and keeping property as well as freedom from disease of the Potato. The same I believe might be said of yield, but of this I am less confident, having had no means of forming a comparative estimate; I only know that it was good. My resolution to prolong this treatment (for in my case it can no longer be termed an experiment), is fixed, and already in operation. Of the two propositions,—the one, to give up the Potato—the other, to apply means to protect and secure it, the latter is far more attractive to my mind, and I should think to that of most men. Whilst we have instances of human maladies which seem to have become extinct, we have no instance that I know of any of the beneficent gifts of the Creator for the food of man being wholly lost, even if originally exotic. No esculent at present discovered comes near the Potato in utility and value; and we must try every resource before we yield it up in despair, as more subject than other crops to uncertainty and destruction; *Caleb Whitefoord, Rector of Burford, Feb.* 14.

Foreign Correspondence.

BONN ON THE RHINE, *July* 2.—In the two last numbers of your *Gazette* that have reached me, I observe in one a question as to the employment of oxen in farm work; in the second you speak of having employed hand labour instead of the plough on your own farm with profit, and propose [We only quoted the proposition of another on that subject.] using your house fed cows in such work as they are capable of undertaking. Though a subscriber to your journal of perhaps four years' standing, reading it with the greatest enjoyment, I have no present connection with agriculture: I take, however, the information I glean with me to various places, and, having no better occupation, compare the modes of farming spoken of and recommended with what happens to fall under my eye. In this district a great proportion of farm work is performed with oxen: not unfrequently is a cart or plough seen to move under the influence of a one-cow-power "house-fed:" at this season of the year hardly an animal is to be seen; the gentle lowings of cows are to be heard from almost every house one passes in the villages. The Germans are gentle and kind in their manner to their animals; this gentleness is universally repaid by the animal in return, and it is pleasing to see the harmony and intelligence existing between the man and his brute. I could relate various instances, but your time would hardly be well employed in such details. I witnessed, however, the last interview between a man and an ox he had had for about three years: it was a very noble looking animal, not over fed but in fine condition, it was not driven nor led, but followed his owner, who walked rather hurriedly through the streets, like a dog, till he arrived at the butcher's house, when he was delivered over to slaughter. He had worked for more than two years on the farm, increasing in size and weight, and earning his keep the whole time.—Primogeniture is, I believe, unknown here; the land is a good deal subdivided, we see no teams, nor any large bodies of labourers under the direction of a manager; all the work performed is by persons having nearly a direct interest in its results. Your case, when you describe the effects of your hand cultivation, is something similar; it is, in fact, worked on the system of a small holding, without the use of those fine and expensive implements requisite on large farms; you perform with hand labour, at a lower cost, with increased benefit to your poor neighbour, but with larger returns, the same work as is performed more expensively and with less human labour, and consequently less wages

than the larger occupier. I follow this view out, and large farms are shown to be injurious to the common weal, which, I suspect, is the case. Mr. Warnes, I believe, holds 52 acres; Mr. Mechi, 150; they both have a very large capital, perhaps, far above the average invested on their farms. You shall find men holding three and four times the quantity of land in their occupation, without as much capital. This I take to be an admitted, notorious fact. How, then, can these latter do justice either to the soil, the country, or those poor agricultural labourers whose right in the produce of the soil is recognised by law, and whose means of sustenance for themselves and families lies in working the soil. I read (and I always read with respect and pleasure, everything that comes from Mr. Mechi) of steam-engines in farms. Sometimes, as I wander amongst the fields here, I endeavour to solve to my own mind the economy of his steam-engine, whilst he has, perhaps, 20 bullocks in boxes fatting in absolute idleness. I inquire whether it would not be b tter economy to make those bullocks work till within the last three or four months of their lives, and earn their keep at least till that time by their labour. I suspect that we are acting against Nature, and our own interests, in hurrying those animals so speedily through life. Here they work and live till about four or five years of age, and I believe the meat of an animal at four years old is reckoned in its prime. Twenty months to two years is about the average allotted period of life for bullocks in these days, all in idleness. An extension of life, with moderate labour, might probably be found to pay. Carting green crops and Turnips home, manure out, turning machinery, instead of steam, &c.: those occupations, in which great speed is not requisite, I would, and will give them, whenever I realise my day-dreams by occupying land. Mr. Hewitt Davis announces his retirement from farming, or writing for your columns. I hope he will still give us the benefit of his idle hours at times. I regret his determination very much. I never look at the thick, broad-cast, prostrate Rye here, without thinking of him; I see no corn drilled (it is very thick and weak in the straw, not, I should say, promising much this year); no dibbling of any kind can I see, except Potatoes, which are good and abundant this year, as are vegetables and fruit generally, being, I believe, cheaper this year than for some years before. I saw a waggon carrying Clover yesterday; the Clover was bound by a broad iron strap, such as is seen bind ng bales of goods, only much broader. Cord is cheap here, and so is iron. The advantage I take is with iron, from its breadth, grasping more, and its durability. You will, of course, make whatever use of these lines and this paper you like.—A word to a lover of all rural sounds: did he ever listen to the croaking of innumerable frogs? If not, let him ascend the Rhine; *A Tourist.*

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

THE MEETING AT YORK.

July 11.—It seems as if each meeting of this Society were destined to be greater than that of the year preceding. We have attended many meetings, but certainly none with which, on the whole, we have been better satisfied, both as regards the quantity and quality of the implements exhibited, than on the present occasion. To attempt, in the brief space necessarily allotted to our subject, to give more than a rough outline of the day's proceedings would be next to impossible. Our anxious desire is to consult the interest of the public, whilst, at the same time, we do full justice to the enterprise and skill of the exhibitors. Our difficulty is to condense, and this without offending either party. The reader will fully understand us when we state that the bare catalogue of implements alone shown at the York meeting occupies above 200 pages of letter-press.

Classing them alphabetically, as in last year's arrangement, we shall find, of Barn Implements, a long list of threshing-machines, both portable and fixed, and of a quality fully equal, if not superior, to those of former exhibitions. Of dressing-machines, there were a great variety, and of course possessing more or less of merit; but we regret that, at the time of our dispatching this report, there had been no decision come to by the judges as to the merits of any particular maker, either of dressing or threshing-machines. But for the steam-engine for threshing, and other agricultural purposes, the prize was awarded to Mr. Hornsby, near Grantham. There is a great and growing competition for implements of this description; and we hope to-morrow to state further particulars. Meantime, we may briefly notice that, if there was nothing very remarkable or meritorious in the barn implement department generally, there was at least no falling off either in ingenuity of invention or execution.

Of Bruisers of Corn and Cake, there were, as usual, a great variety, and some possessing considerable merit, but as the judges had not decided as to whom to award the prize for the best grinding mill, we can only now state that the prize for the best gorse bruiser was awarded to Messrs. Barrett, Exall, and Co., of Reading. Their description is as follows: This machine first cuts the Gorse as chaff, and then passes it through two sets of rollers running at different speeds, which rubbing the Gorse as well as compressing it, reduces it to a sufficiently pulpy condition to render it fit food for cattle. It can be applied to either horse, steam, or water. Two horses will cut and crush from 250 to 300 bushels per day, if the Gorse is young. This machine requires two horses to drive it at 75 revolutions per minute. It is driven by gear work and connecting rods attached to a fly-wheel of 4 feet diameter, and which weighs 1¾ cwt.

Carts and other Wheel Carriages.—Of these, the number was very great; Mr. Stratton, of Bristol, carrying off the prize for the best waggon, and Mr. Eaton, of Woodford, near Thrapstone, for the best One-horse Cart. The latter observes of his invention, as follows:—"This cart has a patent tipping apparatus and a self-acting tailboard; the wheels are of wood, of superior and well seasoned materials and workmanship, with 2-inch iron arms, and the tire 2½ by ⅝ inch. The body of this cart is constructed of well-seasoned Oak framing and boarding, with Ash shafts and harvest shelvings. The tipping apparatus, as also the self-acting tailboard, is a new invention, registered May 1, 1848, being one of the most simple adaptations of mechanical science; the tipping iron is placed up the cart front, and the rod and handle are parallel with the bottom bearer, at the cart side; it releases the body at intervals, or tips quite down without the sword coming out of its place. The tips of the cart are turned outwards, to admit of the tailboard passing them, which is caught by a spring catch beneath the cart, and being released by a lever raising it, it is caught by a self-acting catch on each side the cart, that passes through an iron attached to the tailboard. This cart will carry from 20 to 25 cwt. Price 12*l.* 10*s.*; without the harvest roves or shelvings, 11*l.* 10*s.*" On minute inspection, we are fully disposed to acquiesce in the justice of the above description. There are the two requisites, ingenuity and simplicity; and the attention that was bestowed on the implement by the different spectators, sufficiently attested its merits.

Chaff-cutters.—Every succeeding year seems to leave us less and less to say on this particular class of implements. Mr. Cornes, as usual, carried off, if not the prize, the medal for his machine; and a good one it is; though there were many others in the Show by no means destitute of merit. Among these, we would particularly note that of Mr. John Gillett, of Brailes, near Shipston-on-Stour, Warwick, thus described in the catalogue. "*New Implement*: A Patent Power Guillotine Chaff Engine, invented by James Ward, of Stratford-on-Avon, and improved and manufactured by the exhibitor. This article presents a superior principle to all others, the knife being actuated by a crank moving it up and down; it has two edges, and cuts both ways, passing through a groove, whereby the feed gets a bearing on both sides whilst it is cut, the perpendicular motion preventing the roller from becoming clogged. There is also a very excellent delay motion in the working of this machine, by which the feed is at rest during the ascent and descent of the knife. Price 11*l.* 11*s.*" There are a great variety of other cutting machines, which we must defer noticing for the present.

Clod Crushers.—Mr. Crosskill, as usual, takes the lead in these machines, but there are many on a similar principle, particularly the Norwegian harrow. When we say on a similar principle, we should rather add for the same purpose of pulverising the surface. In this respect, as in many others, great improvements have been effected.

Cultivators, Grubbers, and Scarifiers.—Of these there were a vast variety, but the prize was awarded to Messrs. Sharman and Co. To attempt to describe the different kinds would be impossible, but the following is stated by the manufacturers of the machine in question: "A patent scarifier, with seven wrought-iron tines, invented by Mr. Arthur Biddell, of Playford, and improved and manufactured by Ransomes and May, of Ipswich. This implement received the prize of 10*l.* from the Society last year at Northampton. It is made principally of wrought iron, and covers a space of nearly 5 feet; the tines can be moved to different distances apart, to suit various modes of tillage. It is equally efficient as a grubber or cleaner of land, and as a general cultivator where the surface is not required to be turned down; cast-iron or wrought-steel hoes, from 4 to 9 inches wide, can be put on, with which it is admirably adapted to clean Bean or Pea stubble after harvest, break up Clover leys where failed, or prepare for Turnips. Price, delivered in London, 18*l.* 18*s.*; in Peterborough, Wellingborough, and York, 19*l.* 15*s.*"

Of Scarifiers, Scufflers, and such like implements, some by their weight and power amply sufficient to supersede the action of the plough, whilst others were more adapted to surface-work, there were, besides those already adverted to, a vast variety possessing more or less merit, but our space will not admit of particulars.

Dairy Implements.—Besides churns and cheese-pressers of almost every variety of form and construction, there was an interesting exhibition by Mr. James Phillips, of Bishopsgate-street Without, of glass milk pans, cream pots, preserve jars, and lactometers for testing the quality of milk; the comparatively low prices of which cannot but recommend them to the admirers of neatness in dairy operations. On the same stand we noticed some excellent specimens of sheet glass pantiles, from 8*d.* to 1*s.* 4*d.* each. Of the churns, Mr. Robinson, of Belfast, contributed three, in size varying from 3 to 24 gallons of cream or milk, and in price from 2*l.* 10*s.* to 4*l.* There were also machines for a similar purpose, exhibited by Messrs. Henshaw, of Holmes Chapel, Cheshire; Richmond and Chandler, of Salford, Lancashire; Robert Brackshaw of Longstow, Salop; five, varying in quantity from ½ lb. to 28 lbs., and in price from 16*s.* to 2*l.*, by Mr. Edward Weir, of 351, Oxford-street, London; and several by Cottam and Hallen, of Winsley-street, London.

Draining Implements.—Of these, Messrs. Mapplebeck and Lowe, of Birmingham, contributed several; as did also Mr. H. Clayton, of 21, Upper Park-place, Dorset-square, London. Under this head we must not omit to mention a model of a very powerful machine invented and manufactured by Mr. Joseph Paul, of Thorpe Abbot's-hall, Norfolk, which is thus described by the inventor. "This machine may be worked with three or more horses, and by a single operation will cut a drain from 3 to 5 feet in depth at the rate of 4 feet per minute, leaving it in a finished state with a perfectly level bottom for the tiles to rest upon. It is also calculated for raising subsoil to the surface for the purpose of claying lands, and, when used with four horses, will raise from 4 to 5 cwt. of clay per minute, and on stony soils it may be made equally efficacious, although the operation would be somewhat slower. It may be used to the greatest advantage when the surface of the soil may have become so hard, either by frost or dry weather, as to render it impracticable to accomplish the cutting of drains by manual labour. The utility of this implement, when it is required to cut drains on Clover lands in course for Wheat crops, and from which the first crop has been taken, is clearly seen; as the clay, from being immediately spread upon the surface, becomes thoroughly pulverised, and comes into immediate operation for the succeeding crop, while, from the rapidity with which the work is accomplished, the second crop of Clover is not retarded in its growth. Price 50*l.*, exclusive of royalty, which must vary under the circumstances in which it may have to be used." We had previously heard something of the working of this machine; and have no doubt, from the ingenuity and respectability of Mr. Paul, as a large, practical farmer, that his description of its capabilities and powers are fully borne out by facts. Mr. Paul has applied the same principle to a separate machine for deep subsoiling and pulverising the land to the depth of 20 or 30 inches, and at the same time bringing up such portion of the subsoil, to be distributed on the surface, as may be deemed expedient. Price 30 guineas.

Harrows.—Of these we noticed perhaps 100 varieties, from the powerful drag to the light seed harrow, and from the common oblong to the diamond, zig-zag, circular, and serpentine form. The Norwegian, or revolving spike harrow seems to have lost none of its former value, if we may judge the increase in the number and quality of those exhibited on this occasion. Mr. Richard Stratton, of Bristol, alone, had five of different dimensions, chiefly invented by G. E. Frere, Esq., of Roydon, in Norfolk, but improved by himself. The chief improvement in their construction (speaking of the machine generally) consists in the facility with which they may be raised and lowered at the land's end; and on this point none pleased more than that of Mr. Samuel Smith, of Northampton, thus described by himself as the inventor, improver, and manufacturer: "This implement is made principally of wrought-iron; it has four wheels—two cast and two wrought-iron; it has likewise a strong wrought-iron frame, and four rollers full of spikes, the spikes on the front roller being two inches longer than those on the other three, so that it may mount the large clods more easily. The front axletree is made to oscillate, so that the wheels always take a level boring; it is also provided with a very powerful lever, by which it can be raised or lowered at pleasure. Price, at Northampton, 20*l.*" The following letter to Mr. Stratton so satisfactorily explains the nature and operation of one of these machines, that we do not hesitate to give it a place in our report.

"*To* Mr. Richard Stratton, *Bristol.*—Sir: When I received the Norwegian harrow last winter, I was disappointed with it, believing it to be too heavy, and finding my workmen unwilling to use it. This opinion I shortly expressed to you at the time. I have now, however, a very different story to tell. It is not too heavy; and it is as absolutely requisite for the efficient cultivation of my land as a plough and the common harrow. Without it I could not have sown my Oats, Barley, or Mangold Wurzel, nor have brought my ground into proper order for Potatoes and Turnips. This is no exaggeration whatever. During the late dry weather, as soon as I had ploughed the land, I ran the Norwegian harrow over it once. It broke the clods to pieces, and left a fine light bed beneath. No drags or harrows would have accomplished anything to be compared to it, and most certainly not without ten times the work; though I do not believe it could have been done at all without it. The men who used it were astonished at the work, and praise the machine in unbounded terms. I lent it to many of my neighbours, and their opinion of it does not differ from mine. One says he could not have got his land fit for Potatoes, nor have sown his Barley in a satisfactory manner without it; another says it is worth 50*l.*; and others, that it was worth to them at least a guinea a day. All their workmen concur with them in their praise of it. I could relate many instances of an entire failure to bring land, not differing in its quality from mine, into cultivation during this season; and of instances of days being occupied to do work which the Norwegian harrow accomplished in a few hours. It is the only occasion I am acquainted with, when a general concurrence in the value and importance of a new instrument was universal, without qualification or exception; and when the workmen were actually delighted to use it. There is always a prejudice among ploughmen against a new implement; and that any such feeling should have been silenced by the most obvious and manifest efficiency of the Norwegian harrow, is the strongest testimony that could be given of its great value.—Your very obedient Servant,

"Thomas Falconer.

"Wootton, Christ Church, Hants, May 23."—Price 15*l.* 10*s.*

PROFESSOR JOHNSTON'S LECTURE.

"*On the Application of Science to Agriculture.*"—At 4 o'clock, a numerous part of the company adjourned from the implement-yard to the De Grey Rooms, when Lord Yarborough, the President of the Society, took the chair, and introduced Prof. Johnston, who addressed the meeting in a very able manner, of which we can only furnish a mere outline.

He argued, from the great diversity observable in the productive qualities both of corn and herbage, the evidence of design on the part of the Creator, that the soil should be cultivated and improved by the intellect and intelligence of man; and to the want of scientific skill might be attributed many of the defects observable in the general cultivation of the land. He was aware of the existence of many besides natural obstacles to agricultural improvement, and amongst these might perhaps be reckoned the law of landlord and tenant; but what he would principally direct their attention to at present were the discrepancies frequently observable on the same farm, one part of which might be a fine healthy green, another a pale sickly yellow. How comes it that the one should produce 40 bushels, the other perhaps but 20 bushels an acre? It was too frequently owing to defective knowledge, and to a neglect of the application of scientific skill to the cultivation of the soil. True, in our standard books there was a mass of knowledge; but that knowledge was unknown to the mass of the farming community, and all he required was to see it diffused. These large meetings he regarded as peculiarly favourable to this purpose; they were a sort of Lancasterian schools by which the waters of knowledge were destined to be distributed, and would in time equalise the difference between good and bad crops both of corn and herbage.

The Professor then adverted to the present state and future prospects of this agricultural knowledge. Old farming books were too often found opposing chemistry as a science too deep for common farmers. Now, almost every agricultural newspaper was more or less the advocate of chemistry in connection with farming. Where experiments were made, there was too often a vagueness and inattention to accuracy which materially injured and often wholly defeated the ends for which such experiments were made. Nay, it was frequently a mere matter of guess-work. This was bad. He strongly maintained the necessity of strict attention to *facts* and all their minutiæ, however apparently unimportant, involving precision in number, weight, and measure. He would not dwell on particular cases of the advantage of combining chemical with agricultural knowledge; but he might state generally a few leading principles; such as that lime shortens and strengthens the straw of corn; salt often changes the quality both of straw and corn; lime and salt were better than salt alone. Such deductions were invaluable.

The Professor at considerable length animadverted on the discordant statements frequently put forth by pretended experimentalists, adducing them as so many additional proofs of the want of the attention to accuracy of which he had complained; concluding a very able and interesting lecture by explaining and enforcing the policy of farmers making themselves acquainted with the composition of artificial manures, their ignorance of the component parts of which often led to serious loss and inconvenience, not to mention the imposition it might lead to on the part of the venders of such prepared manures.

Here we must, though with great reluctance, conclude our brief outline of a most interesting and able lecture, which, we have pleasure in saying, was listened to with the utmost attention by a large auditory, many of whom were plain, practical farmers.

On the subject of the *Norwegian Harrows*, we beg to observe, in conclusion, that four rows or cylinders of tines appear preferable to a smaller number; and such seems to be the opinion of those who have tried them. Still we ought not perhaps to make too much a point of this, when we find the prize awarded to Mr. Crosskill, of Beverley, whose machine consisted but of three rows or sets of rowels, as he calls them. The same maker exhibited his combined Norwegian Harrow, and Ducie's Drag; making a most formidable and powerful implement. Price 20*l*.

Haymaking Machines.—These implements are evidently in course of improvement; and we only wonder that their great superiority over the manual system of shaking and separating the swathes of Grass have not rendered them more popular. In traversing the country to the show, and much of it a hay country too, the number in operation was comparatively trifling. But they must eventually succeed; as is manifest by the attention directed to them by so many of the manufacturers. There were several brought for exhibition; A. Smith & Co., of Stamford, having the Society's Medal awarded them for their machine. This implement, in its first and unimproved form, was honoured by the Royal Society's prize of 5*l*. at the Newcastle meeting. (There was no prize offered for haymakers at the Northampton meeting.) It also obtained a prize of 5*l*. 5*s*. at the Derbyshire, and one of 5*l*. 5*s*. at the Great Yorkshire meetings. Since these prizes were awarded, very important improvements have been effected in it by the patentees (Smith & Co., the exhibitors), which, however, do not materially affect its general form and appearance, but relate chiefly to the arrangement of its parts and its construction, combining that which is so desirable in instruments of agriculture, simplicity, strength, ease of working, and durability. The substituting of wrought for cast-iron, wherever practicable or necessary, whilst greatly increasing the strength of the machine, has materially decreased the weight and still more diminished the draught, so that now a stiff cob can work it without difficulty, and a boy may manage to ted and afterwards turn from 20 to 30 acres a day; if a heavy crop, a man and one stout horse. The teeth are placed on bars of wood, which have two bearings of wrought iron (formerly only one bearing of cast iron), and two double-action steel springs to each bar (instead of one). The double action, and throwing into and out of work, are obtained, as before, by the simple lever at the side, under the entire control of the person who drives, but may now be done with the thumb and finger. The main spindle is entirely covered, so that the hay cannot wind round. It is adapted to turn the heaviest crops, and works as effectively on irrigated or furrowed land as on other. The body of the machine is raised and lowered to the swathe by an easier and lighter mode. It is mounted on Smith & Co.'s patent wrought iron wheels. When not in use, the shafts are easily removed, and it may be placed in a small space. Price, as before, 15*l*. 15*s*. Want of space alone prevents our adverting to many others in the catalogue of different degrees of merit.

Horse-hoes.—Mr. Garrett's beautiful invention is so well known, and so firmly established in the public opinion, that we do not wonder to see him the recipient of a medal on this occasion, thus adding another wreath to the five more substantial marks of honour obtained by him. For ridge work, the horse-hoe of Mr. Busby, of Newton Willows, Yorkshire, also received a medal, and a variety of others were very much admired. This is so important a branch of agricultural mechanism, that we do not wonder it should excite increased attention both from makers and users of such implements. The drill culture is in fact a mere nullity without it, and had Tull lived in these days, he would have rejoiced to see his labours doubly and generally seconded.

Ploughs.—Here, too, an endless variety attracts the attention at every turn. Mr. Busby being the winner of the prize for the heavy land, as was Mr. Howard, of Bedford, for that of the light land plough. The former received the 10*l*. prize for the same implement last year at Northampton.

Rollers.—The simplicity of this implement seems to preclude the possibility of any great alteration for the better in its construction; and yet of more than a score exhibited at this meeting, there was some difference in the make and go of each.

Sowing Machines.—A wide field is here before us; and perhaps there is no branch of agricultural machinery to which greater attention has been devoted, or in which more important improvements have been effected. We advert to this subject in another place. Mr. Hornsby, of Grantham, seems to have been receiver-general of the premiums on this occasion. His prize drill for general purposes is thus described:—A Turnip-seed, Mangold Wurzel, and manure drill, two rows upon ridges, and three on the flat; invented, improved, and manufactured by the exhibitor. This drill received the prize of 10*l*. of the Royal Agricultural Society of England at the subsequent trial of drills at Pusey, October, 1845. This drill is fitted on wheels, and is capable of depositing compost, bones, guano, or any other pulverised manure, in a moist or dry state, fitted with stirrers in the manure part, with rotary motion and lever to put ditto in or out of action as the drill travels. By the use of the stirrers, and the front of the box moving inward by a lever, the whole of the manure can be deposited without the assistance of a person pottering. Also with double-actioned iron levers the manure coulter and seed coulter act independently of each other, so that a large quantity of coarse, badly prepared, moist compost can be deposited deep and covered up, and the seed fleet immediately after, or the manure and seed together if required. A pair of concave rollers are also attached to this drill, to roll the ridges; the rollers made to shift on the axle to suit different widths, and can be easily taken off when not required. Price 24*l*.—Mr. Garrett had also some excellent corn and mixed drills. Indeed, the number of exhibitors in this department was great, and the implements generally excited a proportionate share of interest.

Subsoil Ploughs and Pulverisers.—Of these there were upwards of 20 varieties, more or less effective in their operation; but that of Mr. Paul, on the principle of his patent deep-draining machine (adverted to in another place), will eventually surpass all others in its permanent operation and effect on the soil.

Steaming Apparatus.—Mr. Robinson, of Lisburn, obtained the prize (being his third for the same implement from the Royal Agricultural Society during the last three years). It is an American invention, and a very excellent one it is. The apparatus of Messrs. Richmond and Chandler, of Manchester, for this object, was also much approved.

Steam Engines.—These, as we elsewhere observed, are evidently on the increase for farm purposes. Mr. Hornsby was the fortunate winner of the 50*l*. prize for the best engine, thus described:—A six horse power portable steam engine, invented, improved, and manufactured by the exhibitor. The above steam engine is simple in its construction, fitted with governors, and easy to manage, with tubular boiler, fire-box, and smoke-box complete. The thickness of boiler plates as follows: fire-box various, $\frac{1}{4}$ inch, 7-16ths, $\frac{3}{8}$ inch, and $\frac{1}{4}$ inch thick; the horizontal part $\frac{1}{4}$ inch thick; smoke-box, $\frac{3}{8}$ inch; and chimney, $\frac{1}{8}$ inch thick; the quality, Page's best scrap plates; the diameter of cylinder, 10 inches; length of stroke of the piston, 14 inches; number of revolutions of the crank shaft, 110; crank shaft, 3 inches diameter; journals, $2\frac{7}{8}$ inches, wrought iron; diameter of fly wheel, 6 feet; weight of ditto, 7 cwt., which acts as driving pulley. The engine calculated to work at six horse power; probable time it will require to generate steam to working pressure is 45 minutes; quantity of fuel it will consume in getting up the steam is 84 lbs.; consumption of fuel for every hour it is in full work is 84 lbs. Mounted upon carriages with four wheels and double shafts complete for threshing corn and other agricultural purposes. Price 250*l*. Besides this there were 16 other steam engines exhibited, and we have no doubt that they will continue to increase both in number and excellence, so long as they are encouraged and rewarded by the patronage of societies, as this.

Tile making Machines.—Having elsewhere alluded to this branch of manufacture, we shall only state, that in our humble judgment the prize is not always the best and surest criterion of the merits of what are too often set down by the competitors as rejected machines. The truth is, there is, probably, hardly a machine of this, or of any kind, but in some of its parts may have its peculiar excellencies. All cannot get the prize, and, therefore, some one or more good points must be sacrificed to the general good. This the judges alone can determine, and, taking all circumstances into consideration, we are bound to acquiesce in the general soundness of their decisions.

Threshing Machines.—Of these a goodly show. Here we are happy to be enabled to fill up a gap in the judges' award, in which the prize under this head had not been determined till after the said award had been printed. Mr. Garrett was the winner of the 20*l*. prize for the best threshing machine, this making his third prize at the York Meeting.

Turnip Cutters.—Various, but none surpassing that of Mr. Gardner, manufactured by Ransome and others.

Judges of Implements: Messrs. T. P. Outhwaite, Wm. Hazeltine, P. Love, C. Paget, O. Wallis, J. Allnutt, T. Baylis, R. Clyburn, W. N. Parsons. *Consulting Engineer*: Mr. Acton.

AWARDS OF THE JUDGES OF IMPLEMENTS.—PRIZES:

Kind of Implement.	Prize.	No. of Stand.	No. of Article	Exhibitor.
	£			
For the best Plough for heavy land	10	81	1	Mr. Busby
Plough for light land	10	33	2	Messrs. Howard & Son
Drill for general purposes	15	24	1	Mr. Hornsby
Turnip Drill on the flat	10	87	6	Mr. Garrett
Turnip Drill on the ridge	10	24	4	Mr. Hornsby
Hand Drilling Machine	5			Withheld
Scarifier or Grubber	10	124	1	Messrs. Sharman & Co.
Machine for making Draining Tiles or Pipes	20	141	1	Mr. Whitehead
Harrow	5	33	10	Messrs. Howard & Son
Steaming Apparatus	10	124	16	Messrs. Sharman & Co.
Skim or Paring Plough	5	113	6	Mr. Kitty
Horse Seed Dibbler	10	3	1	Mr. Newberry
One-horse Cart	5	30	1	Mr. Eaton
Waggon	10	120	35	Mr. Stratton
Threshing Machine	20			
Steam Engine	50	24	7	Mr. Hornsby
Corn-dressing Machine	10			
Gorse Bruiser	5	59	15	Messrs. Barrett, Exall, and Co.
Implement for distributing Pulverised Manures	10	24	6	Mr. Hornsby
Grinding Mill	15			
Grate or Stove for Cottages	5	11	21	Mr. W. N. Nicholson

* N.B.—The Judges had not completed the Trial of these articles on Monday evening.

MEDALS.

Kind of Implement.	Award	No. of Stand.	No. of Article.	Exhibitor.
Norwegian Harrow	Silver Medal	64	52	Mr. Crosskill
Hay-making Machine	—	34	1	Mr. Smith, Stamford
Horse Rake	—	117	14	Mr. Hensman
Horse Hoe on the Flat	—	87	11	Mr. Garrett
Horse Hoe on the Ridge	—	81	7	Mr. Busby
Grass Land Cultivator	—	81	21	Mr. Busby
Linseed and Corn Crusher	—	124	15	Messrs. Sharman & Co.
Liquid Manure Drill	—	61	2	Mr. Thos. Chandler
Chaff Cutter	—	85	5	Mr. Cornes
Cake Breaker	—	11	4	Mr. W. N. Nicholson
Root Washer	—	64	61	Mr. Crosskill
Cesspool and Tank Cleanser	—	134	4	Messrs. Lean, Drey, & Co.
Cheese Press	—	80	8	Mr. Bruckshaw
Shock Remover	—	97	2	Mr. Summers
Level	—	7	1	Mr. Blundell
For his Improvements in the Transparent Water Gauge as attached to the Steam Engine	—	22	1	Mr. Howe
Steaming Apparatus	—	25	6	Mr. R. Robinson.

B. T. Brandreth Gibbs, Hon. Director of the Show.

Miscellaneous.—Under this head we might almost double the extent of the report already drawn up. We can only notice a few of these.—An admirable cart with newly invented tipping apparatus, price 12*l*. 10*s*., by Mr. Eaton, of Woodford, near Thrapston.—Several curious models, and other articles, by Mr. Webster, of Houndsdown, Southampton.—A cottage range, with registered improvements, by Mr. Nicholson, of Newark-upon-Trent, highly useful and cheap, at 2*l*. 2*s*.—New implement: A model of a portable sheep cot; invented by the exhibitor, and manufactured by James Henderson, of Fochabers, Morayshire. The cot is intended for shelter for sheep when eating off Turnips, &c., for ewes at lambing time, or (by leaving out the gables or back boards) for shade and air in the heat of summer. It is quite water tight, will allow from 36 to 40 sheep to feed at the three racks. The whole can be moved from field to field in one load of a Scotch single-horse cart with the hay frame on, and can be set up in a very short time by two men, after very little practice. It can be lengthened to any extent, and exhibited by Mr. Wagstaffe, of Gordon Castle, Fochabers, price, complete, 4*l*. 4*s*.—A great variety of agricultural seeds at the respective stands o Messrs. Thomas Gibbs and Co., and George Gibbs and

Co.—We meant, in the proper place, briefly to notice, as one of the best of its kind, a three-rowed presser, with a three-rowed drill attached; improved and manufactured by the exhibitor. The machine presses the seams 9 inches apart, and deposits the seed and manure in the seam. It is regulated by a rising and a falling screw, which deposit the seed and manure in equal quantities on hilly ground as if the same were level. Price 14*l.* 10*s.* Maker, Thomas Buxton, of New Malton, Yorkshire.—Again apologising for the very imperfect nature of this report, we shall, if possible, remedy, on a future occasion, any palpable errors that in the hurry of compilation may have crept into it.

EXHIBITION OF LIVE STOCK.

July 12.—At 5 o'clock this afternoon the judges of stock completed their awards, and the gates of the show yard were open to the public on the payment of 1*l.* each, and to the Members of the Council, and to Governors of the Society on payment of 2*s.* 6*d.* each. His Royal Highness Prince Albert, and suite, attended by Lord Yarborough, President of the Society, and the Members of the Council, was amongst the first arrivals. Despite the attraction of royalty, the attendance was very meagre—not more than about 100 people being present at one time. On the first announcement of the new regulation, by which parties were to be admitted this evening, we looked upon it as an extremely useful alteration. Many parties who attend the implement show are unable to stay till next day, and these we opined would avail themselves of the opportunity of taking a peep at the cattle on the Wednesday evening. That it was not so may be attributed, on the one hand, to the high price of the tickets, and on the other to the circumstance that the parties visiting the yard were not permitted to have a catalogue of the entries, nor to see the award of prizes. Few people therefore were disposed to pay so high a price for the privilege of looking for an hour or two at so large a number of animals, without having any means of knowing whose or what the animals in each class were. We do not find so much fault with the awards not being posted up as with the catalogues not being issued, as without them it was impossible for the spectator to know the age or breeding of any of the stock, and consequently a matter of uncertainty for him to pass his private opinion, with any approach to correctness, upon the respective merits of the several animals. We hope that the Council will take this subject into their consideration, and endeavour to make the privilege of entry on the Wednesday evening what it ought, and what it easily might be made, a great boon to the farmer and breeder who may wish to inspect the stock carefully, and, at the same time, a benefit to the Society.

The cursory examination which we have been able to make this evening enables us to assert, with safety, that this is to be, both in numbers and quality of the stock exhibited, the most successful meeting the Society has yet held. The new regulation, by which parties, who fail to exhibit the animals which they have entered, are subjected to a fine, has worked well; and, comparatively speaking, but few empty pens are to be seen. Nothing looks more unseemly than those gaps which, in former years, were too commonly found in the cattle and sheep sheds. On the present occasion, we do not think that there are 20 stalls vacant in the whole yard. With reference to the character of the show, as to quality of the stock, I will only here state, that in horses, sheep, shorthorns, and pigs, for all of which Yorkshire ranks high as a breeding county, I recognise many animals that have on previous occasions been known to fame—and amongst them the names of the competitors are those of the best known breeders from the most distant counties of England. For this we are in a great measure unquestionably indebted to the liberal conduct of the railway companies generally, with respect to the carriage of stock, &c., for exhibition.

PROFESSOR SIMONDS' LECTURE.

His Grace the Duke of RICHMOND in the chair. This very important and interesting lecture, on the subject of Calving and Lambing, was delivered in the De Grey Rooms just previous to the Council dinner. We will endeavour, if possible, to give the substance before we finally close this report; but just now time will not admit of more than the brief remark, that it excited, as it deserved, the anxious attention of a very crowded room.

LIST OF PRIZES FOR CATTLE, &c.

SHORT HORNS.

Judges of Bulls, Messrs. SWAFFIELD and WALKER. *Judges of Cows and Heifers*, Messrs. STOKES and TORR.

Class I.: Bulls calved previously to the 1st of January, 1846.—1st prize, 40*l.*, to Mr. R. Keevil, of Shaw Farm, Melksham, Wilts; 2d, 20*l.*, to Mr. A. Bannerman, of South-lodge, near Chorley, Lancashire.

Class II.: Bulls calved since 1st January, 1846.—1st prize, 20*l.* to Mr. W. Linton, of Sheriff Hutton, Yorkshire; 2d, 10*l.*, to Mr. Thos. Crisp, of Hawkhill, near Alnwick, Northumberland.

Class III.: Cow in Milk, or in Calf.—1st prize 20*l.*, to Mr. J. M. Hopper, of Newham Grange, Stockton-on-Tees; 2d, 10*l.*, to Mr. R. Booth, Warlaby, Northallerton, Yorkshire.

Class IV.: In-calf Heifers.—1st prize of 20*l* to Mr. R. Booth, Warlaby, Northallerton, Yorkshire; 2d, 10*l.*, to Mr. J. B. Stanhope, Revesby Abbey, near Boston, Lincolnshire.

Class V.: Yearling Heifers.—1st prize of 10*l.* to Mr. William Smith, West Rasen, near Market Rasen, Lincolnshire; 2d, 5*l.*, to Mr. J. Kirkham, Hagnaby, Spilsby, Lincolnshire.

HEREFORDS.

Judges, Messrs. CHAMBERLAINE, ETCHES, and JAMES.

Class I: Bulls calved previously to the 1st of January, 1846.—1st prize, 40*l.*, to Mr. J. N. Carpenter, Eardisland, near Leominster, Hereford; 2d, 20*l.*, to Mr. H. Higgins, of Brinsop-court, near Hereford.

Class II.: Bulls calved since January, 1848.—1st prize, 20*l.*, to Mr. J. Monkhouse, of The Stow, near Hereford; 2d, 10*l.*, to Mr. E. Williams, Lowess-court, near Hay, Radnor, South Wales.

Class III.: Cows in Calf or in Milk.—1st prize, 20*l*, to Mr. E. Williams, Lowess-court, near Hay, Radnor, South Wales; 2d, 10*l.*, to Mr. S. Aston, of Lynch-court, near Leominster.

Class IV.: In-calf Heifers.—1st prize 20*l.*, to Mr. J. Walker, of Holme, near Hereford; 2d, 10*l.*, to Mr. S. Aston, of Lynch-court, near Leominster.

Class V.: Yearly Heifers.—1st prize, 10*l.*, to W. F. Hobbs, of Boxtead Lodge, near Colchester; 2d, 5*l.*, to Mr. S. Aston, of Lynch-court, near Leominster.

DEVONS.

Judges.—Messrs. CHAMBERLAINE, ETCHES, and JAMES.

Class I.: Bull calved previously to the 1st of January, 1846.—1st prize, 40*l.*, to Mr. J. Hole, of Knowle-house, near Dunster, Somerset; 2d, 20*l.*, to Mr. T. W. Fouracre, of Durston, near Taunton, Somerset.

Class II.: Bull calved since 1st of January, 1846.—1st prize, 20*l.*, to Mr. G. Turner, of Barton, near Exeter; 2d, 10*l.*, to the Hon. Dudley Pelham, of St. Lawrence, Ventnor, Isle of Wight.

Class III.: Cow in Milk or in Calf.—1st prize, 20*l.*, to Mr. Thomas Bond, of Bishops Lydiard, near Taunton, Somerset; 2d, 10*l.*, to Mr. T. W. Fouracre, of Durston, near Taunton, Somerset.

Class IV.: In-calf Heifer.—1st prize, 20*l.*, to Mr. T. W. Fouracre, of Durston, near Taunton, Somerset; 2d, 10*l.*, to Mr. George Turner, of Barton, near Exeter.

Class V.: Yearling Heifer.—1st prize, 10*l.*, to Mr. James Hole, of Knowle-house, near Dunster, Somerset; 2d, 5*l.*, to Mr. T. W. Fouracre, of Durston, near Taunton, Somerset.

CATTLE OF ANY BREED.

Judges.—Messrs. CHAMBERLAINE, ETCHES, and JAMES.

Class I.—The 1st prize of 25*l.* to Mr. E. Cane, of Berwick-court, Lewes, Sussex. The 2d prize of 10*l.*, no competition.

Class II.—The prize of 15*l.*, no competition.

Class III.—The prize of 15*l.* to Mr. John Bowes, of Streetham-castle, near Barnard-castle, Durham.

Class IV.—The prize of 10*l.* to Mr. Thomas Beards, of Stowe, near Buckingham.

Class V.—The prize of 10*l.* to Mr. Thomas Beards, of Stowe, near Buckingham.

HORSES.

Judges.—Messrs. SPOONER and DAY.

Class I.—The 1st prize of 30*l.* to the Most Hon. the Marquis of Downshire; 2d, 15*l.*, to Mr. J. Ward, of East Mersid, near Colchester.

Class II.—The prize of 20*l.* to Mrs. G. Townshend, of Sapcote-field, near Hinckley.

Class III.—The 1st prize of 15*l.* to Mr. H. Eddison, of Gateford, near Worksop; 2d, 10*l*, to Mr. J. Dennison, of Monker, near Ripon.

Class IV.—1st prize, 10*l.*, to Mr. A. Chibnale, of Bromham, near Bedford; 2d, 10*l.*, to the Right Hon. Lord St. John, Melchbourne, near Highland Ferrers, Bedford.

Class V.—1st prize, 10*l.*, to the Right Hon. Lord St. John, Melchbourne, near Highland Ferrers, Bedford; 2d, 5*l.*, to the Right Hon. Lord St. John.

LEICESTER SHEEP.

Judges—Messrs. CHAPMAN, WRIGHT, and FRANKLIN.

Class I.: Shearling Rams.—1st prize, 30*l.*, to Mr. J. Borton, of Barton-le-street, near Malton, Yorkshire; 2d, 15*l.*, to Mr. R. B. Harvey, of Pulham St. Mary, Harleston, Norfolk.

Class II.: Best Ram of any age.—1st prize, 30*l.*, to Mr. J. Borton, of Barton-le-Street, Malton, Yorkshire; 2d, 15*l.*, to Mr. W. F. Hobbs, of Boxstead Lodge, Colchester, Essex.

Class III.: Shearling Ewes.—1st prize, 20*l.*, to Mr. W. Sanday, of Holme Pierrepoint, Notts.; 2d, 10*l.*, to Mr. W. Sanday.

SOUTHDOWN SHEEP.

Judges.—Messrs. PURVES, MATON, and GRANTHAM.

Class I.: Shearling Rams.—1st prize of 30*l.* to Mr. J. Webb, of Babraham, near Cambridge; 2d, 15*l.*, to Mr. J. V. Shelley, of Maresfield park, near Uckfield, Sussex.

Class II.: Ram of any other age.—1st prize of 30*l.*, to Mr. Wm. Sainsbury, of West Lavington, near Devizes, Wilts; 2d, 15*l.*, to Mr. G. Drake, of Manor-farm, East Tytherley, Stockbridge, Hants.

Class III.: Shearling Ewes.—1st prize of 20*l.*, to His Grace the Duke of Richmond, of Goodwood, near Chichester; 2d, 10*l.*, to Mr. J. V. Shelley, of Maresfield-park, near Uckfield, Sussex.

LONG-WOOLLED SHEEP.

Judges.—Messrs. BEMAN, CLARKE, and COX.

Class I.: Shearling Rams.—1st prize of 30*l.*, to Mr. G. Hewer, Ley Gore, Northleach, Gloucester; 2d, 15*l.*, to Mr. G. Hewer.

Class II.: Rams of any other age.—1st prize of 30*l.*, to Mr. W. Garne, of Aldsworth, Northleach, Gloucester; 2d, 15*l.*, to Mr. E. Handy, of Sevenhampton, Andoversford, Gloucester.

Class III.: Shearling Ewes.—1st prize of 20*l.*, to Mr. C. Large, of Broadwell, Oxfordshire; 2d, 10*l.*, to Mr. W. Simpson, of Kirby Grindalyth, Sledmere, Yorkshire.

PIGS.

Judges (large breed), Messrs. ELLIOTT and CLAYDEN. *Judges* (small breed), Messrs. KEMP and ELLISON.

Class I.: Boars of a large breed.—1st prize, 15*l.*, to Dr. Hobson, Park-house, Leeds; 2d, 5*l.*, to Dr. Hobson.

Class II.: Boars of a small breed.—1st prize, 15*l.*, to Mr. R. Smith, Givendale, Ripon, Yorkshire; 2d, 5*l.*, to Mr. W. F. Hobbs, Boxstead Lodge, Colchester, Essex.

Class III.: Sow of a large breed.—1st prize, 10*l*, to Mr. J. Tuby, Exley Head, Keighley, Yorkshire.

Class IV.: Sow of a small breed.—1st prize, 10*l.*, to Mr. E. Eddison, Headingley-hill, near Leeds.

Class V.: Three breeding Sow Pigs of a large breed.—1st prize, 10*l.*, to Mr. Tuby, Exley Head, Keighley.

Class VI.: Three breeding Sow Pigs of a small breed.—1st prize, 10*l.*, to Mr. J. Roper, Keighley, Yorkshire.

LOCAL PRIZES.—SHORT HORNS.

Judges of Bulls, Messrs. WALKER and SWAFFIELD. *Judges of Cows and Heifers*, Messrs. STOKES and TORR.

Class I.: Bulls of any age.—1st prize, 20*l*, to Mr. H. Ambler, of Watkinson-hall, near Halifax, Yorkshire; 2d, 10*l.*, to Mr. Thos. Bates, of Kirkleavington, near Yarm, Yorkshire.

Class II: Bulls above one year, and not exceeding two.—1st prize, 20*l.*, to Mr. Wm. Linton, of Sheriff Hutton, Yorkshire; 2d, 10*l.*, to Mr. J. B. Thompson, of Anlaby, near Hull, Yorks.

Class III.: Best Cow above 3 years old.—The prize of 10*l.* to Mr. R. Booth, of Warlaby, near Northallerton, Yorkshire.

Class IV.: Pair of In-calf Heifers.—The prize of 10*l.* to Mr. R. Booth, of Warlaby, near Northallerton, Yorkshire.

HORSES.

Judges.—Messrs. GREAVES and KARKEEKE.

Class I.: Stallions for hunting purposes.—1st prize, 30*l.*, to Mr. R. Gaunt, of Hall Field Cottage, Wetherby, Yorkshire; 2d, 15*l.*, to Mr. Silvester Reed, of York.

Class II.: Stallions for carriage purposes.—1st prize, 30*l.*, to Mr. J. Shaw, of Acomb-hall, Yorkshire; 2d, 15*l.*, to Mr. Elgie, of Thrintoft, near Northallerton, Yorkshire.

Class III.: Stallions qualified to get roadsters.—The prize of 20*l.* to Mr. J. Wake, of Market Weighton, Yorkshire.

Class IV.: Cleveland Stallion.—The prize of 20*l.* to Mr. J. Langdale, of Leckonfield-park, near Beverley, Yorkshire.

Class V.: Mare and Foal for hunting purposes.—1st prize, 20*l.*, to Mr. W. Firth, of Kirkstall, near Leeds, York; 2d, 20*l.*, to Mr. J. Newburn, of Leake-house, near Thirsk, Yorkshire.

Class VI.: Mare and Foal for carriage purposes.—1st prize, 20*l.*, to Mr. R. Goodlass, of Hutton Cranswick, near Driffield, Yorkshire; 2d, 10*l.*, to Mr. J. Haw, of Flawith, near Easingwold, Yorkshire.

Class VII.: Cleveland Mare and Foal.—The prize of 20*l.* to Mr. H. Richardson, of Upsall, near Thirsk, Yorkshire.

LEICESTER SHEEP.

Judges.—Messrs. CHAPMAN, WRIGHT, and FRANKLIN.

Class I.: Shearling Ram.—The prize of 15*l.* to Mr. John Borton, of Barton-le-street, near Malton, Yorkshire.

Class II.: Shearling Ewes.—The prize of 5*l.* to Mr. W. B. Botterill, of East Thorpe, Market Weighton.

LONG-WOOLLED SHEEP.

Judges.—Messrs. BEMAN, CLARKE, and COX.

Class I.: Shearling Ram.—The prize of 15*l.* to Mr. W. Simpson, of Kirby Grindalyth, Sledmere, Yorkshire.

Class II.: Shearling Ewes.—The prize of 5*l.* to Mr. W. Simpson, of Kirby Grindalyth, Sledmere, Yorkshire.

PIGS.

Judges (small breed), Messrs. ELLISON and KEMP. *Judges* (large breed), Messrs. CLAYDON and ELLIOTT.

Class I.: Boar, large breed.—The prize of 5*l.* to Dr. Hobson, Park House, near Leeds, Yorkshire.

Class II.: Boar, small breed.—The prize of 5*l.* to Mr. R. Smith, of Givendale, near Ripon, Yorkshire.

Class III.: Sow, large breed.—The prize of 5*l.* to Mr. T. Smith, of Hoyland-hall, near Barnsley, Yorkshire

Class IV.: Sow, small breed.—The prize of 5*l.* to Mr. Mark Stainsbury, jun., Lady Pit Lane, Hunslet, near Leeds, Yorks.

COMMENDATIONS.

SHORT HORNS.

Class 1. The judges highly commended Mr. Ambler's bull, Mr. Bate's bull, and Mr. Tod's bull. The following were also commended: Mr. Maynard's bull, Mr. Stewart's bull, Viscount Hill's bull, Mr. Hall's bull, and the Earl of Harewood's bull.—Class 2. The judges highly commended Mr. Thompson's bull and Mr. Weatherell's bull. The following were also commended: Lord Feversham's bull, Mr. Ferguson's bull, and Mr. Knowle's bull.—Class 5. The judges highly commended Mr. Smith's heifer.

HEREFORDS.

Class 1. The judges commended Mr. Price's bull.—Class 2. The judges commended Mr. Perry's bull and Mr. Walker's bull.—Class 4. The judges highly commended Mr. Williams' heifer.

DEVONS.

Class 1. The judges commended the Earl of Leicester's bull.—Class 2. The judges highly commended Mr. Turner's bull.—Class 3. The judges commended the Hon. Dudley Pelham's cow and the Earl of Leicester's cow.—Class 4. The judges commended Mr. Bond's heifer and Mr. Hole's heifer.—Class 5. The judges commended Mr. Turner's heifer.

LEICESTERS.

The judges highly commended Class 2 generally.

HORSES.

Class 1. The judges highly commended Mr. King's stallion. The following were also commended: Mr. Brown's stallion and Mr. Reed's stallion.—Class 2. The judges highly commended Mr. Wright's stallion.—Class 3. The judges highly commended Mr. Bell's stallion. The following also were commended: Mr. Marshall's stallion and Mr. Setterington's stallion.—Class 4. The judges highly commended Mr. Douglas's mare and foal. The judges also commended Mr. Foxton's mare and foal.—Class 5. The judges highly commended Mr. Skipworth's filly.

LONG WOOLS.

Class 1. The judges highly commended Mr. Large's ram. The judges also commended: Mr. Handy's ram.—Class 2. The judges highly commended Mr. Large's ram.

PIGS.

Class 1. The judges highly commended Mr. Eddison's boar. The following were also commended: Mr. Martin's boar, Mr. Pusey's boar, and Mr. Newton's boar.—Class 2. The judges highly commended two boars belonging to Mr. John Roper.—Class 3. The judges highly commended Mr. Eddison's sow, Earl Fitzwilliam's sow, Mr. Smith's sow, and Mr. Williamson's sow. The judges also commended Mr. Rinder's sow.—The judges commended Classes 2 and 4 generally.

EXTRA STOCK.—HORSES.

The judges highly commended Mr. Chas. Timm's mare. The judges also commended Mr. George Wood's mare.

CATTLE.

The judges highly commended the Earl of Carlisle's bull calf, Lord Feversham's short horned cow, and Mr. Thomas Bate's two short horned cows. The following were also commended: Mr. John Bowes' Argyle cow, Mr. Thomas Bates' two short horned heifer calves, and Mr. Henry Bentley's Alderney bull calf.

PIGS.

The judges commended Mr. George Swann's three sows, Mr. J. Robinson's boar, Mr. Chas. Jackson's sow, and Mr. M. Cartwright's sow.

LOCAL PRIZES.—SHORT HORNS.

Class 3. The judges highly commended Mr. J. M. Hopper's cow and Mr. Richard Booth's cow.

HORSES.

Class 1. The judges highly commended Mr. G. Holmes' stallion. The following was also commended: Mr. W. Walkington's stallion.—Class 2. The judges highly commended Mr. W. Burton's stallion. The following was also commended: Mr. Wm. Hodgson's stallion.—Class 3. The judges highly commended Messrs. T. and H. Smith's stallion. The following was also commended: Mr. P. Ramsdale's stallion.—Class 4. The judges highly commended Mr. T. Richardson's stallion. The following was also commended: Mr. Wm. Hansill's stallion.—Class 5. The judges highly commended Mr. T. C. Hinck's mare and foal. The following was also commended: Mr. Joseph Wilkinson's mare and foal.—Class 6. The judges highly commended Mr. H. Elgie's mare and foal.

Erratum in Catalogue.—Short-horns, Class I., No. 30, instead of a 3 years old and 11 months pure Short-horned bull, read 2 years and 11 months.

B. T. BRANDRETH GIBBS, *Hon. Director to the Show.*

SHORT-HORNS.

Class I.—From the award it will be seen that in this instance the northern breeders have failed to take that position which it was expected they would, the prize bull for all ages being a Wiltshire animal, descended, we believe, from the stock of Mr. Garne, of Northleach, Gloucester. He is a fine large animal, symmetrical, but at the same time what breeders term *fleshy*, rather than fine in his figure. If anything, he is also a shade too "leggy." This award, it may be believed, has been a good deal canvassed, as in the class were many animals of a high order of merit. In many cases, it appeared to be thought that the best points which characterise the high-bred short-horns were scarcely developed sufficiently in him to justify his position. Amongst the 30 competitors which he had, Mr. Bannerman's bull (Lancaster) was selected for the second. He is an animal which does his breeder great credit, and possesses extraordinarily beautiful hind-quarters.

Amongst the unsuccessful comes Mr. Bates' famous Scarborough prize bull, by Duke of Northumberland. Possessing as he does the splendid touch which characterises Mr. Bates' stock, were his fore-rib and shoulder up to the mark, there would be no difficulty in pointing where he should stand in the class. He is placed 2d for the local prize. Another animal of rare merit was exhibited by Mr. Maynard. There were not wanting eminent breeders, who considered his quality and shape

of the first order. No. 11. Mr. Ambler's bull, who obtained the 1st local prize, did no discredit to Castle Howard, or the blood of his house. Mr. Tod, East Lothian, had many admirers for his white bull. The Earl of Harewood's bull, No. 25, is a little too light in his skin, otherwise he would find few to go before him. If we remember rightly, he is a prize animal of the Yorkshire Society on a previous occasion.

Class II. (24 competitors).—The prize animal 34 has we believe, often been successful in public. His quality and shape entitle him to his honour. He is in the very highest condition, it is however fair to say. He obtains of course both local and general prize. No. 51, Mr. Wetherell's bull, only wants a little more age to make him an awkward customer.

Class III.: Aged Cows. (19 competitors.)—Perhaps it may be thought that we exaggerate when we say that the competition in this class was never equalled in England. For the general prize, Violet, purchased by Mr. Hopper, at Mr. Carruthers' sale, near Otley, Yorkshire, for 350 guineas, came 1st; and for the local prize she was met by the two prize Cows, Hope and Cherry Blossom, belonging to Mr. Booth, and defeated by Hope. Each of these cows is a winner of the Royal Agricultural Society's 1st prize, one at Newcastle and the other at Northampton; so that in this class for the local prize to-day, we had the three best cows in England—three winners of the 1st prize in three successive years, for competition. Hope, in this case, will not deceive her friends. It would be absurd to attempt superficial criticism of such animals as these. "Here stand three animals, worth 1000 guineas, and I will give 600 guineas for two of them," was the ejaculation of an eminent Lincolnshire breeder who was examining them.

Class IV.: Two-year-old Heifers (10 competitors.)—In this class a splendid heifer, Charity, of Mr. Booth's, literally soared over every other animal. This animal, even in the presence of Hope, Violet, &c., we are inclined to call A 1 in the show-yard. Her merits are a speaking exemplification of the principle which regulates breeding, that like produces like, as she is a daughter of Hope. Mr. Stanhope's heifer by Cramer, loses no credit in being placed second.

Class. V.: Yearling Heifers (18 competitors).—No. 87, Mr. Smith's Christmas Rose, by Baron of Ravensworth, an easy winner. No. 89, Mr. Kirkham's heifer, we fancy, must have had some difficulty in being placed second: her hind quarters might be much improved. Lord Ducie showed an animal in this class, of indisputable quality; but few in the yard equal her, in our opinion, in promise. Perhaps her fore-quarter may be equalled, but it will be hard to excel.

HEREFORDS.

There was a fair competition in Herefords, if we consider the locality of the show. 30 animals, in 5 classes, were exhibited. The 1st prize aged bull (Mr. Carpenter's) is a very symmetrical animal; of the 2d, we cannot say as much. He certainly has the merit of size. Mr. Price, of Leominster, shewed an animal (108) of merit. The young bulls were a good class, and the cows equally so. Mr. Williams may congratulate himself on possessing an animal in his prize cow (No. 118) combining the merits of her breed in a high degree. In the heifers, the competition was on the whole very close. No. 120, the 2d prize, would have perhaps been nearer the mark had she shown more figure in the rump.

DEVONS.

In numbers the Devons were about equal to the Herefords, and the competition was equally close. Mr. T. W. Fouracre was deservedly successful in several classes. His cattle are evidently of *a family*, and that of no common sort. The prize bull (No. 136) of that gentleman we scarcely think his best animal. No. 137, Mr. Hole's bull, has all the points of a 1st class animal, and deserved the honour he obtained.

CATTLE OF ANY BREED.

In this class we admired the long-horned heifers of Mr. Beard. Mr. Bowes exhibited an Argyleshire cow of wonderful frame and fattening capabilities.

HORSES.

Famed as Yorkshire is for its horses, we expected in this class great competition. The money apportioned for local prizes being so much added to the usual sum devoted by the Society, ensured numbers; and, in this county, numbers cannot fail to produce excellence.

Class I.: Stallions for agricultural purposes—(32 competitors).—This was a splendid show. The 1st and 2d prize animals were noble animals. Many otherwise fine animals, in this class were too light in the middle; this is a prevailing fault.

Class II.—A very excellent show. The 1st prize, No 208, a gigantic specimen of animal power. The competition close, though the numbers were few. Seven competitors.

Class III.—Of two-year-old stallions we cannot say much.

Classes IV. and V.: Mares and fillies for agricultural purposes. An excellent show. In both classes the south of England defeats the north. In many animals exhibited there was a want of substance for the purpose for which they are intended.

LOCAL PRIZES.—HORSES.

The exhibition in these classes was extremely great. For stallions for hunters, 20 horses were entered. The prize was awarded to an animal of rare power and figure. This horse, when three years old, obtained 2d prize of the Yorkshire Agricultural Society, and afterwards the 1st prize of the same Society at Wakefield in 1846. The string of medals round his neck speak of many other provincial victories. He was bred by the late Christopher Wilson, Esq., after whom he is named "Father of the Turf." Some excellent young stock by this horse were shown in their respective classes. The horse is now the property of Mr. Gaunt, Wetherby, Yorkshire. Mr. Reed's horse was a very deserving second.

In the classes for Cleveland Horses, Carriage Horses and Roadsters, more than 40 were exhibited. Amongst the roadsters were many of first-rate action and speed, and but few capable of getting weight carriers. The mares and foals of the several classes were a good show, with the exception of those of the Cleveland breed, two only being shown. The 1st prize hunting brood mare however had 12 competitors. She is a superb animal, and had a splendid foal by the 1st prize thorough bred horse at her foot. She has been shown on many occasions we are told, and never was beat.

SHEEP: LEICESTERS.

For shearling rams there was an extraordinary competition; 70 entries, and 66 exhibited. Amongst these were animals from nearly every noted breeder of Leicesters in England. Messrs. Harvey, Jewson, Souley, Richardson, Borton, Kendall, Robinson, Sanday, Abrahams, Watkins, Botterell, Turner, Pawlett, Birchley, Dinning, Smith, Bennett, &c. &c. exhibited, many of them having half a dozen animals. When we remember that last year no Yorkshire sheep were shown at Northampton, owing, we believe, to the impression that the different character and style of the Yorkshire breed from the Leicester sheep of the southern and midland counties, the manner in which the Yorkshire breeders have plucked up their courage and come to the post is praiseworthy. The result will perhaps have been unexpected, nevertheless it cannot fail to stimulate to future struggles, as in this case, as well as in the aged rams, a Yorkshire breeder, Mr. Borton, carries away the head prize. Mr. Borton's ram (252) is an animal of the finest symmetry imaginable. Perhaps he might have a shade more of what breeders term quality. The 2d prize sheep (241) belonging to Mr. Harvey (Norfolk) has some excellent points. His loins and back are beyond dispute before anything seen in the yard. In forerib and shoulder, and depth of side, he is deficient. Out of such a number of excellent animals we shall not attempt to particularise others.

For rams of any other age, except shearlings, Mr. Borton was again successful against the same exhibitors. Nearly 40 animals were shown in this class. The winner, we believe, took the first prize as a shearling at Scarborough last year, at the Yorkshire Agricultural meeting. For local prizes in these, the class of rams, Mr. Borton, of course, took the prize with his shearling ram. In shearling ewes Mr. Sanday, of Holme Pierrepoint, took 1st and 2d prizes; against his first prize animals were a beautiful stock, full of blood and quality. Mr. Botterill, of Easthorpe, had five very even ewes in the class. These took the local prize very deservedly.

SOUTHDOWNS.

The competition for Southdowns was most creditable to the south-country breeders, the classes being well filled. 25 rams were entered, and more than 20 exhibited in the two classes. For shearlings, Mr. Jonas Webb was of course successful. In this class the show was both numerous and excellent. The aged ram of Mr. Sainsbury, to which the 1st prize was awarded, we look upon as an astonishing animal. Perhaps he might be improved a little about the head, but his carcass would be very difficult to make more like growing weight. But four pens of ewes were shown, and there was little difficulty in awarding the prizes, merit in this class being anything but equally divided.

LONG-WOOLS.

The long-wools are a very good class in this show. More than 30 rams were exhibited in the two classes. In the shearlings Mr. George Hewer, Northleach, obtained the 1st and 2d prizes with two splendid animals. Such quality, with such size, we have seldom seen. Mr. Garne, Northleach, for the aged ram, was equally meritorious. For Mr. Handy's ram, we must also confess a *penchant* that would induce us to put in the front rank in any competition. The honour of 2d prize, in this instance, was no mean one.

In shearling ewes, Mr. Large obtained the 1st prize without difficulty. Mr. Simpson, Sledmere, Yorkshire, who obtained 2d for ewes, had little competition in the local prizes, and obtained the prize for rams and ewes. The Yorkshire long-wool is, as yet, much behind the Oxfordshire and Gloucester sheep in the essential qualification of frame.

PIGS.

Yorkshire being celebrated for its hams, we should presume that more than common attention would be paid to the breeding of the animal; and it is so. In no other county, we believe, is pig breeding made so much a business by the farmer, tradesman, and cottager, and so much of a fancy by the higher classes. This will explain the extraordinary competition, which both in point of numbers and quality, has never been equalled. 22 boars of the large breed, and 37 of the small breed. The 1st and 2d prize animals of both classes were very good. No. 496, an Essex boar belonging to Mr. Smith, is the best we ever saw of the kind. Of large sows 19 were entered. The winning sow is an animal of wonderful frame, and has won many prizes. In sows of small breed the prize was awarded to a very pretty Essex sow. 22 sows were exhibited in this class. In the class were many animals of almost unexceptionable quality and shape. Many of these animals were, however, of the improved Leicester breed, which is so very opposite in size, head, and colour to the Essex pigs, that to judges who prefer the latter sort, the Leicesters, however meritorious, of course have no chance. In this class Lord Fitzwilliam exhibited a fine animal. A sow also, with a litter of 8 pigs, the property of Mr. John Hannam, North Deighton, was much admired for her size and quality. This sow, we believe, has won the Yorkshire Agricultural Society's prize (beating the winner of the Royal Agricultural Society's Newcastle prize) and several other prizes. Mr. Fisher Hobbs showed some beautiful animals of the Essex breed. The other classes of pigs were equally well contested.

EXTRA STOCK.

About 30 head of extra stock were exhibited. Shorthorn cattle by Mr. Bates, Mr. Booth, Lord Carlisle, &c., all of which were of the highest excellence. The pigs in this class were also first rate.

The attendance of his Royal Highness Prince Albert added considerably to the numbers, as well as the interest of the Council Dinner. Lord Yarborough took the chair, and, in giving the usual loyal toasts, observed how gratified he was at the attendance on that occasion of his Royal Highness Prince Albert. The cheers which accompanied these observations having subsided, his Royal Highness briefly acknowledged the compliment.

The Chairman then announced, that as the Council dinners were not merely convivial meetings, a discussion would take place on the Rearing of Calves, and called on Mr. Thompson to favour them with the result of his experience. That gentleman accordingly proceeded to detail his method, which, without descending to minute details, might be termed high keeping; justifying the increased expense by the increased profit, not only in this particular case, but advocating high farming generally.

Sir Tatton Sikes, the Hon. Mr. Pelham, Mr. Turner, and Mr. Mechi took part in the discussion, the general result being in favour of a mixed plan of management, something between the starving and the high system pursued by the first speaker. Mr. Mechi, in particular, was for following Nature as far as possible in these matters; but whatever system they followed, insisted strongly on the importance of warmth and cleanliness in the treatment of all stock. After the various speakers had delivered their opinions, the award of prizes for cattle, &c, was read by Mr. Gibbs, which, having finished, the noble Chairman gave the health of the successful candidates, coupling therewith that of his Grace the Duke of Richmond, who, on returning thanks, was warmly greeted, and said, that, though successful on that occasion, he was not always so; but, whether conquering or conquered, he always made up his mind to acquiesce in the decision of the judges. The business of the evening being over, the noble Chairman again adverted to the pleasure it afforded him to be honoured by the presence of their illustrious guest, not only on that occasion, but he was sure they would all rejoice with him to hear that his Royal Highness had signified his intention to be present at the Pavilion dinner to morrow.

Loud cheers followed this announcement, and the company then separated.

July 13.—An immense increase of visitors attended the implement and cattle yards to-day. His Royal Highness Prince Albert being the earliest of the number—having risen for that purpose as early as 6 o'clock, and made a very careful inspection, both of the cattle and the implements, with which he seemed greatly pleased. In the course of the day the Prince repeated his visit, and was everywhere warmly greeted by the assembled multitudes. At 4 o'clock the company adjourned to the Pavilion, where 1200 (the number it would hold) sat down. Lord Yarborough, president, in the chair, supported by his royal guest, the Lord Mayor, the Ambassadors from Belgium, Prussia, and America; Lords Fitzwilliam, Fortescue, Wharncliffe, Morpeth, Egremont, the Duke of Richmond, and many other distinguished personages. The health of the Queen having been given, it was followed by the royal family, which His Royal Highness acknowledged in a speech, distinguished alike for its good practical sense as for its patriotism—regarding agriculture as a main ingredient in the prosperity and happiness of the realm. His Royal Highness concluded by proposing as a toast, the Royal Agricultural Society of England. (Great cheering.) Earl Fitzwilliam then gave the Foreign Ambassadors, complimenting each in high terms. They severally returned thanks in addresses which it would be a mockery in us to attempt to give even a faint outline of. After a variety of speeches from Lords Fortescue, Feversham, Wharncliffe, the Duke of Richmond, the Marquis of Abercorn, Sir John Johnstone, and others, the meeting broke up, all acknowledging it to have been one of the most interesting and successful they had ever attended. The Earl of Egremont was announced as the President elect.

Farmers' Clubs.

NEWCASTLE, *May* 5: *On the Comparative Merits of Single & Double-horse Carts.*—Mr. ALLEN read as follows:

In the employment of single-horse carts, as compared with double-horse carts, so great a saving, in some cases, of farm-work can be effected in carting as from 25 to 30 per cent.; and in leading out manure from the fold-yards, a saving so great as 44 per cent has been made. And I have also the authority of a thoroughly practical and highly-enterprising farmer, who farms [illegible] acres in Northumberland, employing 12 pairs of

horses—he formerly used no other description of cart than that drawn by two horses. He has become convinced, from practical experience, of the superior advantages attainable by the use of the single-horse cart, for, as his old stock wears out, he is now replacing in their stead single-horse carts; he informs me that he considers three horses, when employed in single carts, quite equal, if not superior, to four horses when employed in two double-horse carts. He is no theorist. I am told by another farmer, that he finds a saving of one horse in three when employing the single-horse cart. Should I be able to prove this to those who now employ two horses in a cart, that one in three, or even one in four, can be gained by the use of the single-horse cart, I trust this may be deemed a sufficient inducement, by those who have not yet adopted the single-horse cart system to do so. Lightness of cart is of considerable importance in the business of a farm. This is more particularly evident when we consider that, by the use of the light single-horse Scotch cart (weighing from 7 to 8 cwt.) with the same strength of draught, one-fourth more work can be done in the same length of time, than can be done with the heavy double-horse cart commonly employed in this district (weighing from 10 to 12 cwt.); and as the use of the single-horse cart has been introduced to a very limited extent in this neighbourhood, I shall, therefore, carefully endeavour to give a just estimate of the advantages derivable from the use of the single-horse cart, as compared with that from the double-horse cart. Practice and opinion are agreed in assigning a greater power of draught to one horse working singly than to any number harnessed together; for in proportion to the distance at which horses are removed from their load, so is the loss of power. This loss may be accounted for in three ways, viz.:—Distance from the object to be acted upon; horizontal line of draught; and diversity of pulling—for no one will dispute the fact that the nearer you can bring your horse to the point from which he draws, the greater power he will exert over it; that is to say, when he is at once attached to the body to be moved; because every exertion he makes is at once communicated to the mass, and therefore the horse produces more effect, because his force is applied immediately to the resistance. Again, in a horse drawing in a horizontal position at slow paces, there is a loss, I believe, varying from one-fifth to one-sixth of his power, and as it is known that a horse can apply his strength to the greatest effect and advantage when the line of draught is from the point of his shoulders to his hocks (which is an angle of 18 degrees), as in the case of the line of draught of the plough. Again, the diverse pulling of either horse greatly embarrasses the effects of the other, for seldom is it, indeed, that you see two horses so equally matched in temper, pace, and size, that they at all times take alike an equal and continued share of the burthen, for as it too frequently happens, that good horses have license to work themselves to death, whilst an old knowing one has leave to act the rogue. It will be generally admitted, I think, that a horse can exert his powers with the greater ease and effect when working singly than when he draws in conjunction with another; for when alone he has nothing but his load to contend with, whereas when he draws in conjunction with another he is greatly embarrassed by some difference of pace, the horse before or behind him being quicker or slower than himself, and he is frequently incommoded by the greater or lesser height of the other. The shaft horse has a double share of the work, and frequently the duty of both horses imposed upon him to perform; for, when turning, the whole exertion is required of him, and in descending hills he has the retarding of the two horses' load, and as we occasionally, but not unfrequently see, at the same time, the trace horse pulling, thereby increasing the already over-taxed exertions of the horse in the shafts; and these are no over-drawn statements, as such scenes may be observed every market-day in this town, in two-horse carts laden with corn descending such a hill as Dean-street. Again, in ascending a hill, should either horse relax his draught, the other horse must of necessity tax his powers to twice their natural extent. Such are a few of the disadvantages attending the use of double-horse carts. The use of the single-horse cart has been introduced into this neighbourhood to a very limited extent; but I trust I shall be able to show, by comparison of the statements of others, combined with my own practical experience, extending over a period of five years in Berwickshire, and the northern parts of Northumberland, the undeniable advantages it possesses. As an example of the advantages of single-horse carts over double-horse carts, I shall quote the authority of a well-known agriculturist of this district—a member of our own club, whose absence from home, I regret, prevents him from being present. He, in writing to me, says—in using single-horse carts, on a farm employing six horses and three men, in leading out dung to the distance of a mile from the fold-yard, six carts, two men filling in the fold, and the other spreading and shaping dunghill, four boys or girls driving, will each go twelve times, carrying one ton each time—the expense of which will be—

Three men, at 2*s.* 6*d.*	...	...	7*s.* 6*d.*
Four drivers, at 1*s.*	...	...	4 0
Six carts, at 3*s.* 6*d.*	...	...	21 0
Leading out tons ...		72)	32 6
			0 5½ per ton.

Then, using double-horse carts, according to the system usually followed in this neighbourhood, each man fills, teams, and spreads his cart of dung, leading to the distance of one mile, will go nine times, carrying 25 cwt. each time. The expense will be—

			s.	*d.*
Three men, at 2*s.* 6*d.*	...	...	7	6
Two double carts, at 6*s.* 6*d.*		...	19	6
Leading out tons ...		84)	27	0
			0	9½ per ton.

	£	*s.*	*d.*
The cost of leading a dunghill of 300 tons one mile, with double-horse carts, at 9½*d.* per ton	11	17	6
The cost of leading a dunghill of 300 tons one mile, with a single-horse cart, at 5½*d.* per ton	6	11	3
Showing a difference in favour of single-horse carts of	5	6	3

Single-horse carts to lead out the above will require 4½ days.
Double do. do. 8 14-17, or nearly 9 days.

By the above calculation the difference in favour of the single-horse carts amounts to 44 per cent.—a large sum certainly; and, from the above details, I think it will be conceded that the trace horse is not of any service. I can only say that when I came to ——, I had several double-horse carts made, but we used them indiscriminately with the single ones, finding that one horse could draw as much dung as could be placed on the cart, which amounted to about one ton. At the same time, were we considering the leading of short manure from a town, we must calculate that the single-horse cart will carry one-third less than the double-horse cart; but then, again, we expect that a man will have the care of two single-horse carts, so that they, even on this ground, are preferable to the double-horse cart. Then, again, as regards the time required to carry the aforesaid dunghill, there is two to one at least in favour of the single-horse carts. And we all know of how great importance this is in fickle seasons—such as we must always expect in these northern latitudes. Again, in a letter from a gentleman, resident in Berwickshire, an intelligent and an interprising agriculturist, he informs me, "that his loads are, to Berwick generally, and with return carriage of coals, 3 quarters of Wheat, 3½ to 4 quarters of Barley, 4½ quarters of Oats, and we never load heavier than 16 cwt. of coals, the distance to the pit and back again being 39 miles, and the pace at which my horses travel from 3 to 3½ miles per hour, but on good roads with short distances I would have no hesitation of putting on a load of 18 to 20 cwt., and this can be done with less distress to the horse than when working double and conveying one-third load less in quantity and weight." I believe more than 20 per cent. is lost in driving on the road. I am informed by a gentleman residing in the northern part of this county that the usual loads of double and single horse carts are as follows:—

	Single-horse carts.	Double-horse carts.	Two single-horse carts.
Oats	18 bolls (36 bushels)	24 bolls (48 bushels)	36 bolls
Barley	15 ,,	20 ,,	30 ,,
Wheat	12 ,,	18 ,,	24 ,,
Coal	9 ,,	12 ,,	18 ,,

From the above table you will perceive that with single carts 2 horses are capable of doing nearly or quite as much work as 3 horses in double carts, that 10 single horses can convey to market 180 bolls of Oats, while it would require 15 horses in double-horse carts to accomplish the same end; an immense saving in favour of single-horse carts in an economical point of view; and in harvest work, on level farms in dry weather, 3 single-horse harvest carts will convey into the stack-yard as much hay or corn in sheaf as 2 double-horse carts. First, then, I shall describe the one-horse Scotch cart, such as I employ on my farm; and next, the double-horse cart, commonly used in this district. And I shall attempt to point out some of their relative merits, advantages, and disadvantages in point of construction. The single-horse cart, of which there are two varieties, viz., the coup or tilt, and dormant or whole-bodied cart. The one-horse coup or tilt cart.—The body of the cart, with its bolster or cods, rests upon the axle, and to which the shafts are joined by means of a joint-iron rod that passes through the bolsters at the ends of the shafts. The shafts are secured to the body by means of the lock at the front end of the cart, which fastens the body to the slot-sheath or cross-beam joining the shafts. The side boards, or top sides, are fitted so as to take off at pleasure, as required. On withdrawing the bolt at the front end of the cart, the fore part of the body rises up from the shafts, while the other end sinks, and so allows the load to be deposited on the ground. The price of such a cart as I have described is 10*l.* 10*s.*, and the weight 8 cwt. This cart I find, in practice, the best adapted for the general purposes of husbandry, owing to the great facility afforded by the body being moveable, in at once discharging its load. This point is one of considerable importance where loads of earth, lime, or stones are to be conveyed only for short distances, and the whole load deposited at one place and time; but, on the other hand, the disadvantages arising from the body of the cart not being immoveably fixed to the shafts, as by the description before given. It will be remembered that the body is fastened to the slot-sheath by means of a lock, consisting of a bolt and eye. These, in time, wear the bolt smaller, and the eye larger; consequently there is a degree of motion between the shafts and the body, which interferes with the motion of the horse; and it will be allowed that it is injurious wherever there is any movement between the body of the cart and the shafts,—as, for instance, carriages that are hung on C springs, are notoriously the worst to pull, and are in the stable expressly called horse murderers—requiring heavy powerful horses to drag them, while lighter animals are able to drag much greater weights in carriages that do not admit of this motion. This objection is obviated, as will be seen by the description I shall give of the dormant-bodied cart, to which I give a decided preference, where the produce of a farm and the leading back of manure are to be conveyed a distance of many miles. The body is fixed immoveably to the shafts or blades, and the horse pulls at once to the shafts, which are fixed immediately both to the load and to the axletree. The dormant-bodied cart has its body similarly constructed to the coup cart, excepting the shafts and bolsters. The cart requires no bolsters, but, instead thereof the shafts, are prolonged backwards, taking the place of, and serving most of the purposes of the bolsters, the body being immovably fixed to the shafts. The price of this cart is 10*l.*, weighing from 7½ to 8 cwt. For conveying loads long distances, this cart is infinitely superior to the coup cart. The greatest disadvantage attending their use, arises from the extra trouble experienced in discharging a load from them, as, at each time, the horse has to be loosened to permit emptying the load. Those carts seemed to be very generally used among the railway contractors now employed in this town, and in their business, dispatch being of consequence, their using this description of cart argues that the advantages gained in other respects must be found sufficient to compensate for the loss of time which may arise from the body being immovably fixed to the shafts, as I previously described. Any loss of time, I freely allow, is a disadvantage attending the use of this cart; but where the discharging of a load is only required twice or thrice in a day, as in the leading of manure from town, this loss of time is not quite so serious a matter. But in the formation of manure heaps of straw dung, there is a method which is now practised by some farmers of not driving the carts on to the manure heap, and there couping the load, but of throwing all straw manure lightly up from the cart on to the manure heap, for, says an intelligent farmer, in a letter to me, "I do not approve of the system of couping up straw manure, or even drawing it out with an implement called a muck-hawk." All straw dung should be griped and thrown lightly up. The bodies of each of the carts I have just described can be lifted from off the axle and wheels. Of the harvest or Scotch corn cart, which consists of open frame-work with boarded bottom, it is light and cheap in construction, and can carry a bulky load. It is chiefly used for the purpose of carting hay, straw, corn in sheaf, or similar bulky materials. It is a more efficient vehicle than the coup cart and hay frame. "Of the double-horse coup cart, which is so universally employed in this district, it will be unnecessary for me here to give you any description, as all must be so well acquainted with its construction. A statement of the price and weight, I trust, will therefore be deemed sufficient. By an estimate I have received from a well-known country cartwright in this neighbourhood—

The cost of a double-horse coup cart is	£14.	
Weight ditto	10½ to 11 cwt.	

You will be likewise fully acquainted with the construction of the double-horse long cart used in this neighbourhood for carrying hay, straw, &c. By above estimate—

The cost of long cart is	£15
Weight ditto	11 cwt.

I, however, am informed by a cartwright of this town that his prices are as follow—

The cost of double-horse coup cart	£17 10
The cost of long cart	20 0

Fearing you may think the latter estimate above an average, in making my calculation of the comparative statement of cost of single and double-horse carts, I have taken the former. On a farm employing three pair of horses it would require

With Single-horse Carts.

Two single-horse coup carts, at 10*l.* 10*s.* ...	£21	0
Four ditto dormant, at 10*l.*	40	0
Three ditto long carts, at 3*l.* 10*s.* ...	10	10
	£71	10

With double-horse Carts.

Three double-horse coup carts, at 15*l.* ...	£45	0
Three ditto long carts	42	0
Total	£87	0
Deduct single-horse carts ...	71	10
Saving	£15	10

Three additional cart saddles and breechings would be required when single-horse carts are employed, so that you will perceive that in adopting the single-horse cart system there is even a saving in the outlay of capital.

Calendar of Operations.

JULY.

SOUTH DEVON FARM, *July* 10.—We have, during the past week, succeeded in stacking all our Clover hay, and have also cut down a portion of our land Grass. Our Swede Turnips are now all sown, and those already up looking remarkably well. Horses preparing the land for common Turnips and hoeing Mangold Wurzel, which have been previously singled with the men and women. Also sowing common Turnips in ridge drills, with the same treatment as described in a previous report for Swedes; *T. M.*

SOUTH HAMPSHIRE FARM, *July* 8*th.*—Since our last report the weather has continued to be very showery and unsettled, and almost as unpropitious for the gathering of pasture hay as it was for the Clover hay during the past month. Yet as it may be said the weather is always favourable for some kinds of agricultural produce, the Turnips, pasture Grass, and late sown lent grain, have made great and rapid progress. Our horses have been employed hay carting when the weather permitted; at other times, when they could not be employed on the land, they were at work with the threshing-machine, and carting manure from the sheds and cattle boxes to the yard, and there mixed and spread evenly, in store for the Wheat crop; they have likewise been harrowing and collecting the remains of the Vetch haulm, previous to ploughing for Turnips, from land where the Vetches have been fed off by sheep. We have sown several fields with Swedes since our last report, and have but a few acres now remaining to be sown. The last few days our horses have been busy preparing land for common Turnips after Tares, Trifolium, &c., which we do in the following manner. The land having some Couch Grass in it, we shallow rafter plough it, then work it fine by harrowing and rolling, then collect and cart off the weeds and Grass; afterwards scarify and work fine, and collect Grass as before. We prefer this mode of treating the land to that of deep ploughings, for cleaning the land previous to the final ploughing or seed earth. Our odd horses have been horse-hoeing Carrots, and also Swedish Turnips, which we do in the following way:—During the first hoeing we pass the share as close on one side of the row of Turnips as we can without burying the plants; at the second hoeing we pass the share close on the other side of the row, thus leaving only a small space of land where the Turnip is growing unmoved; we find this plan possesses great advantages over the usual plan of passing the horse-hoe between the rows promiscuously, the ground having been moved close to the rows of plants on each side, it accelerates the growth of the young plants, and leaves much less work to be done by the hand-hoe. We generally hand-hoe our Turnips before the plants are big enough for harrowing, otherwise we like the action of the harrows across the rows of Turnips before hand-hoeing. Our labourers have been engaged hand-hoeing Carrots and Potatoes, hay-making, stacking, and thatching hay, also mowing the Grass of our late meadows, where we find an excellent crop, being greatly improved in bulk by the late heavy rains. We cannot help here alluding to what we have observed whilst cutting the meadow Grass—the great improvement produced by the application of Peruvian guano, which we applied in the first week of April last, 3 cwt. of Peruvian guano per acre, upon a portion of meadow land, which seldom in any season produced more than half a ton of hay per acre, of very poor quality, but this year that part which received the guano will give two tons of hay per acre, of excellent quality, full of white Clover, &c., whereas the portion not having guano upon it does not, even under this most favourable season, produce but little more than usual, either in quantity or quality. Our shepherds have been learing and dredging the sheep with fly powders, to prevent the attack of the fly upon the wool, as without this the sheep often lose much wool, and are very much disfigured. Our mode of feeding the sheep at present is with Tares in racks at night, with a change of white Clover at day-time, receiving also a pint per day each of Egyptian Beans. The women have been hoeing and singling Carrots, picking Couch from the fallows, hay-making, weeding the Quicks, and pulling Docks and Thistles in pasture land; *J. B.*

Notices to Correspondents.

COMPOSITION OF WOOL AND HAIR: *Sub.* Wool contains 2 per cent. of ash, human hair about 1. The latter consisted in one case of:

Soluble chlorides and sulphates	.51
Oxide of iron	.39
Insoluble sulphates and phosphates and silica	.20
	1.1

The organic part is as follows:

	Human hair.	Wool.
Carbon	50.65 ..	50.65
Hydrogen	6.36 ..	7.03
Nitrogen	17.14 ..	17.71
Oxygen	20.85 ..	24.61
Sulphur	5. ..	
	100.	100.

COMPOST: *An improving Subscriber.* Add to the manure 2 cwt. of superphosphate of lime, 1 cwt. of guano, 2 cwt. of salt, and 2 cwt. of gypsum for every acre on which you intend to apply it. Mix well, and cover up with a thick coating of vegetable earth till March or April, when you can apply it.

FEEDING PIGS: *J T L* asks what kind of pig-trough is it which Mr. Paxton, in his "Cottagers' Calendar," calls a "Witch."

HAVE ADDERS ANY CRY? I think not. I have seen and caught some scores of them, and snakes as well, but I never heard them cry. I have heard frogs cry when a snake or adder has been in pursuit of them for their food, as I believe snakes and adders live generally on frogs, mice, eggs, and young birds. Snakes are very destructive in a poultry-yard; *T. Neal, Denmark-hill, Camberwell.*

HAY BARNS: *Eboracensis* says, there is a prejudice against hay barns, viz., that the hay being in some degree supported by the pillars, does not consolidate, and does not in consequence undergo the process of "sweating," which is necessary to a certain degree to the formation of good hay. [Is all this just?]

MUSCLE SHELLS: *Sulphate of Lime.* Burned and slaked, they would make good lime. That is all, or nearly all. They may contain, perhaps, 1 or 2 per cent. of phosphate of lime. The shell *fish* would be a good manure, and probably contains enough nitrogen to furnish, during decomposition, 6 or 7 per cent. of ammonia.

NAME OF PLANT: *A T C C.* Trifolium incarnatum; apply to any seedsman.

NEW SOUTH WALES: *J Denway.* Professor Low's "Elements of Agriculture," for the general subject; and "Atkinson on Agriculture and Grazing in New South Wales," for the special application of it.

Markets.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, July 13.

Prime Mead. Hay	75s to 93s	New Hay	.. —s to —s	Straw	.. 24s to 30s
Inferior ditto ..	65 72	Clover ..	.. 83 105		
Rowen	65 —	New Clover	.. 70 85		J. COOPER.

CUMBERLAND MARKET, July 13.

Prime Mead. Hay	76s to 85s	Old Clover ..	95s to 100s	Straw	.. 28s to 32s
Inferior	55 70	Inferior ..	75 88		
New Hay ..	50 65	New Clover ..	— —		JOSHUA BAKER.

HOPS, FRIDAY, July 14.

MESSRS. PATTENDEN and SMITH report that the accounts continue favourable. Duty 205,000*l.*

Mid. & East Kents, p. cwt.	50s to 80s	Yearling Kents, p. cwt.	40s to 50s
Weald of Kents	45 — 60	Yearling Sussex	40 — 50
Sussex	42 — 52	Old Hops	20*l* — 35
Farnhams	80 — 100		

SMITHFIELD, Monday, July 10.

The supply of good Beasts being small, the trade has rallied from the depression experienced on Friday; and the prices of Monday last are in most instances pretty readily obtained. The number of Sheep and Lambs is about the same as of late; trade has rather improved, the demand, however, is not very large. Trade is slow for Calves. A choice one, however, makes fully 5d. per 8 lbs. more than on Friday. Pigs are a slow trade. From Holland there are 204 Beasts, 1430 Sheep, and 179 Calves, from Scotland, 400 Beasts; Norfolk and Suffolk, 160; and Leicester, 150.

Per stone of 8 lbs.—s	d	s	d	Per stone of 8 lbs.—s	d	s	d
Best Scots, Herefords,&c. 4	0	to 4	4	Best Long Wools		....	
Best Short Horns 3	10	— 4	2	Ditto Shorn	4	6 — 4	8
Second quality Beasts .. 3	0	— 3	6	Ewes and second quality		....	
Calves 3	0	— 4	8	Ditto Shorn.....	3	8 — 4	2
Best Downs & Half-breds		....		Lambs.....	4	2 — 5	8
Ditto Shorn 4	10	— 5	0	Pigs	4	0 — 5	0

Beasts—3318. Sheep and Lambs—24,410. Calves—295. Pigs—310.

Friday, July 14.

The number of Beasts is not so large as on Friday last, but the demand is small, and a reduction of 2d. per 8 lbs. from Monday's quotations is submitted to. We have rather a large supply of Sheep and Lambs. Trade is consequently slow at about Monday's prices; some few choice Downs being rather nearer unlike little more. The supply of Calves is unusually large; they make fully 2d. per 8 lbs. less, and many remain unsold. From Holland there are 174 Beasts, 1200 Sheep, and 458 Calves; and about 120 Milch Cows from the home counties.

Best Scots, Herefords,&c. 4	0	to 4	2	Best Long Wools.....		....	
Best Short Horns 3	8	— 4	0	Ditto Shorn.....	4	6 — 4	8
Second quality Beasts .. 2	10	— 3	4	Ewes and second quality		....	
Calves 3	4	— 4	6	Ditto Shorn	3	10 — 4	2
Best Downs & Half-breds		....		Lambs.....	4	8 — 5	6
Ditto Shorn 4	10	— 5	2	Pigs	4	0 — 5	0

Beasts—932. Sheep and Lambs—12,020. Calves—353. Pigs—290.

COVENT GARDEN, July 15.

The market is well supplied with Vegetables and most kinds of Fruit. Pine-apples are very plentiful. Hothouse Grapes, Peaches, and Nectarines abundant. Melons are also sufficient for the demand. Cherries are not so plentiful. Gooseberries and Currants are cheaper. A few Apricots begin to make their appearance. Strawberries are nearly over. Nuts are sufficient for the demand. Oranges are abundant: Lemons moderately plentiful. Among Vegetables, Carrots and Turnips are abundant and good; Cauliflowers, &c., sufficient for the demand. Asparagus is scarce. French Beans are equal to the demand. New Potatoes are plentifully supplied. Peas are abundant. Lettuces and other salading are sufficient for the demand. Mushrooms are a little dearer. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Fuchsias, Carnations, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 6s to 8s	Oranges, per 100, 3s to 12s
Grapes, hothouse, per lb. 3s 6d to 6s	— bitter, per 100, 8s to 16s
Peaches, per doz., 6s to 15s	Lemons, per doz., 1s to 2s
Nectarines, per doz., 6s to 15s	— per 10 s, 6s to 14s
Melons, each, 4s to 8s	Almonds, per peck, 6s
Strawberries, per pottle, 6d to 1s	— sweet, per lb., 2s to 3s
Cherries, per lb., 6d to 3s	Walnuts, per bush., 12s to 18s
Apples, dessert, per bush., 6s to 12s	Nuts, Barcelona, per bush., 20s to 22s
— kitchen, p. bush., 4s to 7s	— Filberts, per 100 lbs., 14s to 20s
Currants, per half sieve, 3s to 5s	— Cob, per 100 lbs., 25s to 30s
Gooseberries, per hf. sieve, 3s to 5s	— Brazil, per bush., 12s to 16s
Raspberries, per punnet, 10d to 1s	Chestnuts, per peck, 3s to 6s
Oranges, per doz., 9d to 2s	

VEGETABLES.

Asparagus, per bundle, 1s to 4s	Onions, pickling, per half sieve, 2s to 3s
Cabbages, per doz., 6d to 1s	Shallots, per bunch, 3d to 4d
Cauliflowers, per doz., 1s to 4s	Garlic, per lb., 3d to 1s
Sorrel, per half sieve, 6d to 9d	Radishes, per doz. bunds, 6d to 1s
Potatoes, per ton, 60s to 100s	— Turnip, do., 9d to 1s
— per cwt., 3s 6d to 6s	Artichokes, per doz., 1s to 2s 6d
— per bush., 1s 9d to 3s 6d	Vegetable Marrow, per doz , 6d to 1s
Turnips, p. bunch., 3d to 8d	Lettuce, Cab., per score, 4d to 1s
Red Beet, per doz., 6d to 1s	— Cos, do., 6d to 1s
Horse Radish, p. bundle, 1s to 6s	Mushrooms, per pottle, 9d to 2s
French Beans, per 100, 1s to 1s 6d	Small Salads, per punnet, 2d to 3d
Rhubarb, per bundle, 3d to 6d	Fennel, per bunch, 2d to 3d
Cucumbers, each, 2 1 to 8d	Savory, per bunch, 3d to 4d
Leeks, per bunch, 1d to 2d	Thyme, per bunch, 3d to 4d
Celery, per bundle, 1s to 1s 6d	Watercress, p. 12 small bun., 6d to 9d
Carrots, per bunch, 3d to 6d	Parsley, per half sieve, 6d to 9d
Spinach, per sieve, 2s to 3s	— Roots, per bundle, 1s to 1s 6d
Peas, per sieve, 2s to 4s	Mint, green, per bunch, 2d to 4d
Beans, per bushel, 2s to 2s 6d	Marjoram, per bunch, 6d to 9d
Onions, per bunch, 3d to 8d	
— Spanish, per doz., 1s to 4s	

MARK LANE, Monday, July 10.

Messrs. Kingsford and Lay report that the supply of Wheat by land carriage samples for this morning's market from Essex was fair, and that from Kent large. The former was taken off at last week's prices, whilst in red and inferior parcels of the latter a decline of 1s. per qr. was submitted to. Fine Saale and Mediterranean Wheats brought late rates, but the general qualities were neglected. There was some inquiry for f. o. b. cargoes. Polish Odessa was held for an advance of 1s. to 2s. per qr.—Barley was less sought after than last week, and grinding qualities are the turn cheaper.—Beans must also be written 1s. per qr. lower; Peas are unaltered in value.—The supply of Oats from abroad having been considerable, this article met a slow sale at 1s. per qr decline.—English Flour remains without alteration; fine fresh barrels are in request.—Some cargoes of Galatz Maize have been sold at 31s. to 31s. 6d. per qr., f. o. b., including freight and insurance.

British per Imperial Quarter.	s	s		s	s
Wheat, Essex, Kent, and Suffolk ..... White	50	55	Red.....	43	48
Norfolk, Lincolnshire, and Yorkshire	44	48	White ..	44	52
Barley, Malting and distilling, 27s to 29s Chevalier	30	32	Grinding	24	27
Oats, Lincolnshire and Yorkshire.....Polands	21	24	Feed ...	20	23
Northumberland and Scotch .....Feed	20	22	Potato ..	22	25
Irish .....Feed	19	21	Potato ..	22	24
Malt, pale, ship.....	—	—			
Hertford and Essex	—	—			
Rye.....	27	30			
Beans, Mazagan, old and new ..37s to 38s....Tick..	30	33	Harrow..	32	35
Pigeon, Heligoland 34	36	....Winds —		—	—
Peas, White.....33	36	....Maple	33	35	Grey	30	32

Friday, July 14.

The arrivals of grain during the week have been moderate, and the attendance at market, both on Wednesday and this morning, being small, the sale of Wheat, either English or foreign, could not be forced without submitting to a reduction of fully 1s. per qr., which holders were not inclined to accept, and consequently scarcely any business resulted.—Barley was less inquired after, and must be noted the turn cheaper.—Beans and Peas support our quotations.—Oats met a heavy sale, and out-of-condition qualities are somewhat lower.

The weather became unsettled again on the 8th, and on the 9th a heavy and general rain, accompanied with much wind, has in some places damaged the crops, but not very extensively. Since the 10th it has been fine and warm, and in many of the country markets Wheat has been sold at a slight reduction upon the prices of the previous week. The Scotch and Irish markets, owing to the bareness of stocks, are the turn dearer. Barley has been taken freely, although in many instances at rather less money; and the value of Oats and Beans is late per qr. lower. The grain crops in Scotland and Ireland are represented as presenting a favourable appearance. In England they are very variable, and the produce promises at present to be much under that of last year, particularly as regards Wheat. We hear of partial complaints of the Potato disease from all quarters, but at present they appear to be most serious in Holland. It is yet too early to form an opinion of its probable extent in this country. By the latest accounts from the Baltic prices had advanced 1s. to 2s. per qr. Wheat, Red qualities are held 36s. to 40s. per qr., f. o. b., and Dantzic 36s. to 42s. 6d. Stocks are everywhere very small. In Tuscany the new crop is proving deficient, and disappointing the expectations which had been formed from its appearance. Odessa letters of the 30th state that 28s. 6d. per qr. was paid for good Wheat. Vessels were scarce, and 8s. 6d. per qr. was asked for the only one in port of 300 tons. No arrivals were expected, as all moderate-sized ships were being chartered at Constantinople as fast as they arrived, for Galatz at 12s. per qr. Supplies of Wheat continued good, and the stocks were estimated at about 300,000 quarters. The export from the Sea of Asoph was expected to be trifling, the crops having been destroyed by the excessive heat and swarms of locusts. The American markets are dull, but it is impossible that any supplies of consequence will arrive from there for some months, unless our prices advance.]

ARRIVALS IN THE PORT OF LONDON THIS WEEK.

	Wheat. Qrs.	Barley. Qrs.	Oats. Qrs.	Flour.
English.....	4810	170	120	3960 sacks.
Irish	—	—	1530	
Foreign.....	3210	5840	12980	— barrels.

Imperial Averages.	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
June 3	48s 1d	31s 8d	21s 0d	30s 8d	37s 10d	38s 0d
— 10	47 8	31 7	20 9	28 0	38 4	37 0
— 17	46 10	30 10	20 8	31 7	37 3	38 0
— 24	46 11	31 2	20 9	29 4	36 11	38 4
July 1	48 2	30 5	20 10	30 2	38 8	38 2
— 8	48 10	30 1	20 8	31 0	36 5	37 4
Aggregate Average	47 9	30 11	20 9	20 2	37 4	37 10
Duties on Foreign Grain	10 0	2 6	2 6	2 6	2 6	2 6

Fluctuations in the last six weeks' Corn Averages.

Price.	June 3.	June 10.	June 17.	June 24.	July 1.	July 8.
48 10d	...	...	...	...	...	...
48s 2	...	...	...	...	...	...
48 1	...	...	...	...	...	...
47 8	...	...	...	...	...	...
46 11	...	...	...	...	...	...
46 10	...	...	...	...	...	...

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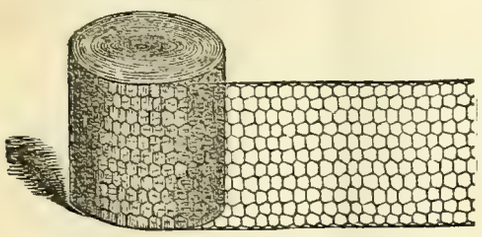

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521	1807	900	982	12	1	109.17 ,,	1882	12	1
1174	1810	1200	1160	5	6	96 68 ,,	2360	5	6
1395	1811	1600	1328	8	6	83.02 ,,	2928	8	6
3286	1820	2000	1906	13	5	95.33 ,,	3906	13	5
3392	1820	5000	3558	17	8	71.17 ,,	8558	17	8
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By CHARLES MCINTOSH, C.M.C.H.S., of Dalkeith Palace. Bound in cloth, price 21*s.*; and also with Specimens of choice Flowers, coloured, 26*s.*

"The labour and experience of a life devoted to the science of Horticulture we now present to the public."—*Vide Author's Preface.*

With an Appendix, describing a new and economical method of producing uniform Bottom Heat from Hot Water Tanks upon the most simple plan, with explanatory Diagrams, and Reference to Buildings now in successful operation.

London: T. KELLY; and SIMPKIN, MARSHALL, and Co.

HAIR RESTORED.—Further confirmation of the unfailing virtues of OLDRIDGE'S BALM of COLUMBIA. The wonderful efficacy of this inestimable compound in restoring the hair to its pristine beauty, and the certainty with which its conservative agency operates in preserving it, has received, as might be expected, the most flattering testimonials from the grateful thousands who have experienced its effects.

To Messrs. C. and A. OLDRIDGE.

Beresford-street, Camberwell, May, 1848.

"GENTLEMEN.—I consider it due to the merits of your valuable BALM of COLUMBIA, to state the facts of a restoration effected by it. Towards the latter end of last year I found my hair falling off, especially when combed; after consultation and recollection of the benefits derived by Mrs. Drury, who used it a few years back, I was induced to try your BALM, and am happy to attest that, after using only two small bottles, I observed a great change, and the third fully completed the restoration and strengthening of my Hair. Yours, &c., T. DRURY."

C. and A. OLDRIDGE'S BALM causes Eyebrows to grow, prevents the Hair from turning grey, and the first application causes it to curl beautifully, frees it from scurf, and stops it from falling off. Price 3*s.* 6*d.*, 6*s.*, and 11*s.* per bottle; no other prices are genuine.

OLDRIDGE'S BALM, 1, WELLINGTON-STREET, the second house from the Strand.

HEAL AND SON'S BEDDING MANUFACTORY.

The peculiar feature of their Establishment is, that it is confined exclusively to the Manufacture of Bedding, and consequently they are enabled to keep the largest Stock, and greatest variety of any House in London.

HEAL AND SON'S LIST OF BEDDING,

Containing a full description of Weights, Sizes, and Prices, sent free by Post, on application to their Factory, 196, opposite the Chapel, Tottenham-court-road.

ROYAL PAPIER MACHE AND JAPAN WORKS.

JENNENS AND BETTRIDGE, MANUFACTURERS TO HER MAJESTY, PRINCE ALBERT, and the ROYAL FAMILY, 6, Halkin-street West, Belgrave-square, London, and also at Birmingham. At these Works are Manufactured Papier Mache Trays, Tables, Chairs, Cabinets, Desks, Inkstands, &c. &c.

JENNENS and BETTRIDGE'S Manufactures can be had at the Establishments above-named, and of the principal Wholesale and Retail Houses in the United Kingdom. Also of their correspondents in every important city in the world.

N. B. All goods marked with JENNENS and BETTRIDGE'S names are warranted.

Strangers of respectability visiting Birmingham may inspect these works and obtain introductions to the other establishments of interest.

A CLEAR COMPLEXION.

GODFREY'S EXTRACT OF ELDER FLOWERS is strongly recommended for Softening, Improving, Beautifying, and Preserving the SKIN, and in giving it a blooming and charming appearance, being at once a most fragrant perfume and delightful cosmetic. It will completely remove Tan, Sun-burn, Redness, &c., and by its balsamic and healing qualities, render the skin soft, pliable, and free from dryness, scurf, &c., clear it from every humour, pimple, or eruption; and, by continuing its use only a short time, the skin will become and continue soft and smooth, and the complexion perfectly clear and beautiful. Sold in bottles, price 2*s.* 9*d.*, with directions for using it, by all Medicine Vendors and Perfumers.

BENHAM'S ICE CLOSETS, for keeping Provisions perfectly cool during the hottest weather. For economy as well as comfort they are invaluable; also for cooling wine or ensuring a delicious draught of cold water to admirers of that beverage. Price 3 guineas.

BENHAM'S CREAM FREEZERS will freeze a quart of cream fit for the table in six minutes. Price 5 guineas.

Patent KNIFE CLEANERS.—BENHAM and SONS, agents, price 78*s.* These machines not only clean but actually polish the knives, and the most unskilful person can accomplish the work in less than one-fourth the time usually employed; they are now adopted at all the principal Hotels.—19, Wigmore-street, Cavendish-square.

Printed by WILLIAM BRADBURY, of No. 6, York-place, Stoke Newington, and FREDERICK MULLETT EVANS, of No. 7, Church-row, Stoke Newington, both in the county of Middlesex, Printers, at their office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the Office, No. 5, Charles street, in the parish of St. Paul's, Covent Garden, in the said county, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY JULY 15, 1848.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 30.—1848.] SATURDAY, JULY 22. [Price 6d.

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OPEN TO ALL ENGLAND.

THE NORTHAMPTONSHIRE FLORAL AND HORTICULTURAL SOCIETY.—There will be a PUBLIC EXHIBITION of Flowers, Fruit, and Vegetables, at the George Hotel Assembly Rooms, Northampton, on Thursday, the 27th of July instant, at 1 o'clock.—Schedules of Prizes may be obtained of the Secretaries, Northampton.

ZOOLOGICAL GARDENS, REGENT'S-PARK.—Visitors are admitted WITHOUT ORDERS on MONDAY, in every week, at SIXPENCE EACH; on the following days at ONE SHILLING EACH. Children at Sixpence. The Band of the First Life Guards will perform every Saturday at 4 o'clock; admission One Shilling (except on July 22).

The new entrance in the Broad Walk is now open.

A BARGAIN.—Thirty Josling's St. Alban's Vines, from Eyes, to be sold for 15*l*. Apply to H. J. Jones, Bedford, Bedfordshire.

TURNIP SEEDS.—Quick growing Stubble Turnips, for sowing in July and August.

Green-top Hybrid Stone.—This is a cross between the large White Stone Turnip and a large kind of Yellow Swede; it is an extraordinary quick growing large kind, very hardy, colour yellowish, and of excellent feeding quality. Price 1*s.* 6*d.* per lb.

Dale's Hybrid .. .. 1*s.* 6*d.* per lb.

Orders addressed to John Rivers, Seedsman, Sawbridgeworth, Herts. Carriage paid to London.

GRIGOR'S AQUILEGIA GLANDULOSA.—The Subscribers beg to intimate that the Seeds of this beautiful Columbine are now ready, and will be sent free by post, in packets, at 1*s.* each, or 12 packets for 10*s.* A description of this remarkable flower is given by Professor Lindley in the *Gardeners' Chronicle* of 17th June; and the mode of treatment by Mr. Grigor will be found in the *Chronicle* of 24th June last. Orders for young plants will be supplied after September, at 2*s.* per pair, or 70*s.* per 100, or for postage stamps of that value.—John Grigor and Co., the Nurseries, Forres, N.B.

BECK'S SEEDLING PELARGONIUMS of 1848.

Story's MONT BLANC, Nos. 1 and 2,				..	£1	11*s.* *d.*
Beck's DELICATISSIMA	..	..	..	..	1	1 0
,, EMILIA	..	..	..	..	1	1 0
,, PRINCESS	..	..	..	..	1	1 0
,, REFULGENT	..	..	..	..	1	1 0
,, STAR	..	..	..	..	1	1 0
,, SYMMETRY	..	..	..	..	1	1 0
,, SUNDOWN	..	..	..	..	1	1 0
,, HARLEQUIN	..	..	..	..	0	15 0

Or the set for 8*l.* 8*s.* Usual allowance to the Trade when three plants of any sort are taken. For prepayment only; first remittances to secure the first selection. A descriptive catalogue is preparing of the above and others, which E. B. has to offer. It will be advertised as soon as ready.

*** The Plants will be sent out in October next.

Worton Cottage, Isleworth.

GRANTCHESTER NURSERY, CAMBRIDGE.

SAMUEL WIDNALL gratefully acknowledges the encouragement he has received from his kind friends and patrons, and begs to inform them that he has taken Mr. Thomas Davis (his late father's traveller) into partnership, who now joins with him in soliciting a continuance of their support, with an assurance that all orders entrusted to their care will have every attention, and be accurately and promptly executed.—July 22.

PLANTS OF CABBAGE, SAVOY, KALE, BROCCOLI, AND CELERY.

In consequence of the disease now so rapidly spreading in the Potato crop, no time should be lost in filling all vacant pieces of ground with vegetables suitable for the ensuing winter and spring,

JOHN CATTELL, Seed and Nurseryman, Westerham, Kent, begs respectfully to inform the public that fine plants of his superior true sorts of the above will be forwarded to order on receipt of postage stamps, or post office order, at the undernamed prices, package included.

All the varieties of Early Cabbages, Savoys, and Kales (including Brussels Sprouts), 4*s.* 6*d* per 1000.

Also, all the varieties of Autumn and Spring Broccoli and Celery, Red and White, 6*s.* per 1000. (6*d.* per 1000 less when no Mat or Package is required.)

Packages of 1000 and upwards delivered free of carriage to the Edenbridge Station, South Eastern Railway.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

ANEMONE SEED, saved from the finest selected Sorts, is now being sent out by Youell and Co. per post, free, at 2*s.* 6*d.* and 5*s.* per packet, sufficient to sow a bed of 12 and 24 yards; if sown during the present and following month, a fine bloom will be insured during the autumn and winter months.—Great Yarmouth Nursery, July 22.

SUPERIOR SWEET-WILLIAMS, in 20 distinct varieties, mixed.—A Packet of the above choice Seeds may be obtained by enclosing 12 postage stamps, addressed to Messrs. Hardy and Son, Seed-growers, Maldon, Essex.

This being the best month for sowing, early applications are necessary.

RARE OPPORTUNITY for those who wish to possess SUCCULENTS, FERNS, and ORCHIDACEÆ.

WILLIAM MASTERS, Exotic Nursery, Canterbury, having grown large collections of these curious and interesting plants for the past 12 years, and the specimens having increased beyond the limits assigned, he has determined to reduce, by offering them for sale, in lots varying in value from 1*l.* to 5*l.* each. Want of space making it necessary to reduce their numbers, the selections will be liberally made, at the prices above named.

The plants may be seen and selected at the Nursery; or, upon application, W. M. will be happy to write their names and descriptions.—July 22.

THOMAS PRESTON begs to offer to the public his Superior Early VICTORIA CABBAGE, acknowledged to be one of the best grown, in half-oz. packets at 1*s.* each.

Croydon Nursery, Surrey.

CRYPTOMERIA JAPONICA SEEDLINGS.

MESSRS. STANDISH and NOBLE, Nurserymen, Bagshot, have the honour to inform the Nobility, Gentry, and the Public, that they have succeeded in obtaining a quantity of SEED of the above truly magnificent Tree from the north of China, and are now able to send out SEEDLING Plants at the undermentioned low scale of prices.

It was first sent home by Mr. Fortune to the Horticultural Society, in 1844, and has now proved to be perfectly hardy in this country, having stood out in many exposed situations during the severe winter of 1846 and 1847. It is a tree of rapid growth, and some very fine specimens may now be seen in the gardens of the Horticultural Society nearly 10 feet in height, and very graceful in form.

"*I met here* (*Shanghae*), *for the first time, with the beautiful Cryptomeria japonica, a species of Pine not unlike the Araucarias of Australia and Brazil. When growing luxuriantly it is highly ornamental, rising from the ground as straight as a Larch, and sending out numerous side branches almost horizontally from the main stem, which again droop towards the ground in a graceful and* WEEPING *manner. The wood of the tree has a kind of twisted grain, possessing great strength and durability, and is highly valued by the Chinese.*"—Fortune's Wanderings in China.

We need scarcely inform the lovers of hardy evergreens that Seedlings of this species are of much more value than cuttings. The latter never make handsome plants, and grow much slower. Our Seedling Plants, which we are now sending out, if properly managed, will be more than 2 feet high by next spring, the proper time to plant them out in the open ground.

Messrs. Standish and Noble can now supply nice healthy plants, in 60-size pots, at the following low price, viz., 3*s.* 6*d.* per plant, 36*s.* per doz., or 12*l.* 10*s* per hundred. A liberal allowance to the Trade from the above prices.

N.B.—The above is for cash only.

ROBERT DONALD, Jun., of the Goldworth Nursery, Woking, near Ripley, Surrey, begs to acquaint the very numerous friends and supporters of the late Firm of DONALD and SON that he has taken to the entire Stock, and as it will be his utmost endeavour to produce such an article as to ensure sale, he trusts all those who dealt with the Firm will deal with him, and those who have not dealt will give him one trial, at the same time assuring them that every attention shall be paid to their orders. His Stock consists of every variety of Fruit, Forest, and Hardy Ornamental Trees and Shrubs; they are this season unusually well grown, and give promise of being extremely fine.

The name of DONALD and SON will be continued.

N.B. All accounts due to or owing by the late Firm that are prior to the 29th day of September last are requested to be handed in and settled. For dissolution of Partnership, see *Gazette* of Tuesday, July 11, 1848.

VINAIGRE DE BORDEAUX.

WINE VINEGAR, well matured, is the strongest, finest, and purest of all; for pickling and every domestic use, it is preferable to all other. Sold throughout the Kingdom, by Chemists, Grocers, and Wine Merchants, whose names may be learnt from the Importers, W. and S. Kent and Sons, Upton-upon-Severn. London Stores, 3, Queen-street-place, Cheapside; W. S. Rumsey, Agent.

SEEDS.—CORNER OF HALF-MOON-STREET.

THOMAS GIBBS and Co.,

(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND,"

Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

Priced Lists of Agricultural Seeds are always ready, and may be had on application.

DO YOU SUFFER TOOTH ACHE? if so, use BRANDE'S ENAMEL for filling the Decayed Spots and rendering defective teeth sound and painless. Price One Shilling. Twenty Testimonials accompany each box. Sold by all Chemists, or sent free by return of post, by sending 1*s.* and a stamp to J. Willis, 4, Bell's-buildings, Salisbury-sq., London.

CUCUMBER BLIGHT, &c. "H. B," the writer of a [illegible] in the *Gardeners' Chronicle* of July 15, is requested to favour Messrs. Gent with his address, as they have a lady and Gent[illegible] to Board [illegible] the Country, and situa[illegible] half a mile [illegible] extensive [illegible] to cultivate [illegible] Pony a[illegible] tunity for [illegible] spondence. H. B, Post-[illegible] Luton, Beds.

A GENTLEMAN AND HIS WIFE [illegible] a quiet [illegible] CHEERFUL LIFE, in the [illegible] Hunting, with [illegible] a Clergyman in or near [illegible] a Gentleman's family, [illegible] accustomed to [illegible] the last 2 or 3 years. Wine [illegible]. Any part of [illegible] objected to. To [illegible] Mr. [illegible] a meeting of [illegible] would be [illegible] to L. M., [illegible] Gould [illegible], 19, Clarges-street, St. James's-square, London.

Any [illegible] replied to.

THE GENUINE HARE RABBIT.

THE LARGEST [illegible] WEIGHING WHEN AT MATURITY FROM [illegible] LBS.

The Proprietor of the above [illegible] has appointed James Barnes as his Agent for the sale of [illegible] respectfully to state that a [illegible] at 5*s.* per pair, [illegible] William Andrews, North-[illegible], Yarmouth, who will meet with prompt attention.

Price, 3 to 4 months, 15*s.* [illegible] 21*s.* per pair, &c.

Great Yarmouth, July 22.

STRONG HORTICULTURAL BLACK GLASS FOR CONSERVATORIES, GREENHOUSES, PITS, FRAMES, &c.

HETLEY and CO, [illegible], 14-oz. Sheet Glass of British Manufacture, [illegible] per square foot, for the [illegible] feet of which are kept [illegible] Crown, Sheet, Patent [illegible] Ornamental Window [illegible] Warehouse.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS and [illegible], [illegible] Upper-Crescent, Windmill-street, are supplying [illegible] the following reduced Prices for [illegible]

HORTICULTURAL GLASS FOR CONSERVATORIES CUT TO [illegible]

INCHES.				per foot.
15 oz. to the foot	4	,,	[illegible]	,,
21 ,,	5	,,	[illegible]	,,
26 ,,	7½	,,	[illegible]	,,
32 ,,	10	,,	[illegible]	,,

GLASS MILK PANS, PRESERVING [illegible] GLASSES.

GLASS [illegible]

CREAM POTS, [illegible] per doz.

CUCUMBER GLASSES [illegible]

LACTOMETERS [illegible]

6 tubes [illegible]; Peach [illegible] each; Wasp and Fly [illegible]; Plate and Window Glass; Lamp Shades and Chimneys; also every article in the trade.

SASHES AND FRAMES MADE AND GLAZED.

BAKER'S PHEASANTRY, Broad-street, Kingsroad, Chelsea, by special appointment to Her Majesty and H.R.H. Prince Albert.—ORNAMENTAL WATER FOWL, consisting of Black and white swans, Egyptian, Canada, China, bernacle, brent, and laughing geese, sheldrakes, pintail, widgeon, summer and winter teal, pochard, Labrador, shovellers, gold-eyed and dun divers, [illegible] domesticated and pinioned: also Spanish, Chinese, Guinea, Mauy Poland, Surrey, and Dorking fowls; white Japan fowls, and common poultry, and pure unadulterated Canary birds, from the moss passage, Gracechurch-street.

DEANES WARRANTED GARDEN TOOLS.—Hor. culturists, and all [illegible] are invited to examine G. and J. Deane's [illegible] GARDENING AND PRUNING IMPLEMENTS, [illegible] made Garden Engines and Syringes, Conservatory Garden Seats and Chairs.

Averuncators	Garden Syringes	Pick Axes
Axes	Grass Rut-cutters	[illegible]
Bagging Hooks	Scissors	[illegible]
Bills	Grass Hooks and [illegible]	.. Knives various
Borders, various patterns	Shares	.. Rules
Botanical Boxes	Screen and Riddles and Frames	.. Sickles, Hay,
Cases of Pruning Instruments	Shovels	Rakes in great variety
Chaff Engines	Hay Knives	Scythes
Chaff Knives	Hoes every pattern	Spades and Shovels
Daisy Rakes	Hydraulic Fire Engines, various	
Dibbles	Lawn and Hand Mowing Machines	
Dock Spuds	Mole Traps	Sickles
Draining Tools	Mowing Scythes and Sneaths	Spades and Shovels
Edging Irons and Shears	Nets for protecting Fruit	Spud Handles
Flower Scissors	Oxide, &c.	Turnip Knives
,, Stands in Wire and Iron	Pruning Knives and Reels	Transplanting Tools
Fumigators	Rakes	Trowels
Galvanized Metal	Reaping Hooks	Turnip Irons
Pocket Pruners	Scythe Stones	Weed Knives
Garden Chairs and Seats	Sieves	Watering Pots
,, Dogs	Sheep Hurdles	Wood Extract round Poles
,, Lamps	Sowing Machine	Wheelbarrows
,, Rollers	Spades	Wood Labels

G. and J. Deane are sole Agents for Lindley's Nursery Labels, samples of which, with the [illegible] post free [illegible] Deane and Co., London-bridge. [illegible] opening to the [illegible] Deane's Machine [illegible]

HOT WATER, WARMING, AND STEAM WORK, upon safe and unerring principles. Ranges, Jacks, and Machinery; Gentlemen's Kitchens and Public Establishments fitted complete. References of the first class.—HENRY FROST, Engineer, &c, 17, Rathbone-place, Oxford-street, London.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

THE CONICAL BOILERS, invented by JOHN ROGERS, Esq., are sold by JOHN SHEWEN, Ironmonger, Sevenoaks. They are in use at the gardens of Messrs. Loddiges, Hackney; S. Rucker, Jun., Esq., Wandsworth; Sir C. Lemon, Bart., M.P., Cornwall; the Prince's-park, Liverpool, and numerous other places.

Also, AN IMPROVED CORRUGATED BOILER, adapted for any kind of fuel. May be seen at the hothouses of Mrs. Lawrence, Ealing Park, and in several other gardens of note.

JOHN SHEWEN, Sevenoaks, Kent. Estimates furnished for heating all kinds of buildings.

PROTOXIDE PAINT FOR STUCCO FRONTS, for Iron, Brickwork, and Wood. Manufactured only by CHARLES FRANCIS and SONS, Cement Works, Nine Elms.

TODD'S PATENT METALLIC PROTOXIDE PAINT.—This Paint has been most severely tested for nearly four years, by Architects, Engineers, and Surveyors of the greatest eminence, and has been found, for cemented houses, iron, stone, brick-work, and every description of painting, both external and internal, to be greatly superior to any other pigment; its innocuous qualities and great durability render it peculiarly adapted for the painting of houses and large establishments during their occupancy. Orders to be addressed to Mr. B. TODD, Patentee, 23, Dean-street, Soho, London.

THE LONDON MANURE COMPANY beg to offer, on the best terms, Peruvian Guano, warranted genuine, delivered direct from the Importers' warehouses; Superphosphate of Lime, in any quantity; Sulphate of Ammonia, Nitrate of Soda, Sulphuric Acid, fine Bone Sawdust, Gypsum, Potter's Guano, Soda Ash, Petre, Agricultural and Fishery Salt, and every other artificial Manure.

The URATE of the LONDON MANURE COMPANY has now stood the test of seven years, with a largely increasing sale. It is recommended with the greatest confidence for Turnips, Mangold Wurzel, Carrots, and all root crops; also for Coleseed, Tares, Barley, &c. Unlike many other artificial Manures, its effects are not exhausted by the first crop; and when from any cause the crop of Turnips to which it has been used fails, its full fertilising properties remain for the next full crop. Testimonials and full particulars forwarded free. The LONDON MANURE COMPANY most earnestly request their friends to order the Urate direct from themselves, or their accredited Agents, so as to prevent any other article of a totally different manufacture being substituted. EDWARD PURSER, Sec.

No. 40, Bridge-street, Blackfriars.

☞ Sole Manufacturers of Mr. J. C. Nesbit's Chemical Manures.

PERUVIAN AND BOLIVIAN GUANO ON SALE,
By the only Importers,
ANTONY GIBBS and SONS, LONDON;
WM. JOSEPH MYERS and Co., LIVERPOOL;
And by their Agents,
GIBBS, BRIGHT, and Co., LIVERPOOL and BRISTOL;
COTESWORTH, POWELL, and PRYOR, LONDON.

To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

TURNIP SOWING.

MARK FOTHERGILL, 201A, Upper Thames-street, begs to offer the following MANURES for the Turnip Crop, viz.—

GUANO, PERUVIAN, direct from Import Warehouse.
SUPERPHOSPHATE OF LIME, manufactured from Bone only (superior to the cheap qualities made from fossils).
DRIED NIGHT SOIL.
BONE DUST AND HALF-INCH BONE.
SULPHURIC ACID.

Also Soda Ash, wireworm destroyer; pure Gypsum, or Mineral Sulphate of Lime (the rubbish offered cheap contains but little acid, the rest being carbonate of lime and water); Agricultural Salt, Nitrate of Soda, and all other Manures of known value. Prices current on application.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK AND TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their IMPROVED BRICK and TILE MACHINES, which are to be seen at work at Alperton, and at the Company's Office, 193A, Piccadilly, from 10 A.M. to 5 P.M. Mr. Robert Scrivener, who has been appointed Manager in the room of Mr. John Ainslie, will show the Machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, 193A, Piccadilly, London.

These Machines may also be seen at Mr. Slight's, Leithwalk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill, 135, Buchanan-street, Glasgow; Mr. Robert Charles, Mill-hill, Leeds; Messrs. PENNY and FINCH, Penkeridge, Staffordshire; Messrs. Drummond and Son, Dublin; and at Mr. John Connor's, Newtown Limavady, County Derry.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as building and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

PATENT FLEXIBLE INDIA-RUBBER PIPES and TUBING for RAILWAY COMPANIES, BREWERS, DISTILLERS, FIRE ENGINES, GAS COMPANIES, GARDENING and AGRICULTURAL PURPOSES, &c.

THE PATENT VULCANISED INDIA-RUBBER HOSE PIPES are made to stand Hot Liquor and Acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible), and as they require no application of oil or dressing, are particularly adapted for Fire-engines, Pumps, Gas, Beer-engines, Gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes from ¼ inch bore upwards, and of any length to order.

Vulcanised India-rubber Garden Hose, fitted with brass taps, copper branch, and roses complete, ready to be attached to Pumps, Water-butts, or Cisterns.—Sole Manufacturer, JAMES LYNE HANCOCK, Goswell Mews, Goswell-road, London.

N.B.—Vulcanised India-rubber Washers of all sizes for Joints of Hot-water and Steam Pipes, and Vulcanised Sheet Rubber, any thickness, for all kinds of Joints, and other purposes.

MARY WEDLAKE AND CO.'S HORSE AND STUBBLE and HAY-RAKE, of superior workmanship, 9l. 9s. Linseed Crusher, 11l. 11s.; small ones, 6l. 15s.; ditto, doing Beans, Linseed, and Oats, 10l. 10s. THRESHING MACHINES, doing upwards of 25 loads of Wheat straw per day, 60 guineas. MARY WEDLAKE and Co.'s CHAFF-CUTTING MACHINE, 100 to 200 bushels a day, price 7l. 7s. and 5l. 5s. Horse-hoe, Dressing Machine, Turnip Cutter, Turnip Drill, Stubble-rake, Oil-cake Breakers, Bean and Oat Crushers, Subsoil Plough, Double Field Roller, &c.—MARY WEDLAKE and Co., 118, Fenchurch-street, opposite Mark-lane.

REAPING SCYTHES.

DRUMMOND'S IMPROVED REAPING SCYTHES continue to give complete satisfaction, and may be had from the Subscribers, carriage free, to London, Liverpool, Hull, Newcastle, Belfast, Londonderry, Dublin, and Cork, at 11s. 6d. each, or 10s. 6d. each when three or more are taken.—N.B. Orders from unknown correspondents must be accompanied with a remittance.—WILLIAM DRUMMOND and SONS, Agricultural Museum; STIRLING, N.B., and 58, Dawson-street, Dublin.

⁂ Priced Lists of Agricultural Implements may be had free on application.

NOW READY.

SOYER'S EFFERVESCENT NECTAR.—The immense success obtained by SOYER'S SAUCE, lately brought out, has induced the inventor to produce a new beverage, prepared from choicest fruits, called SOYER'S NECTAR.

"Homer sang of Nectar for the Gods: SOYER has concocted a Nectar meet for gods and goddesses."—*Morning Chronicle.*

Manufactured only at Messrs. SOYER and Co.'s, 40, Rupert-street, Haymarket, London. Retail price, per dozen, 4s.; including bottles, 6s. Liberal allowance to the trade.

CHEAP AND DURABLE ROOFING.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

F. M'NEILL AND Co., of Lamb's-buildings, Bunhill-row, London, the Manufacturers and only Patentees of THE ASPHALTED FELT FOR ROOFING Houses, Farm Buildings, Shedding, Workshops, and for Garden purposes, to protect Plants from Frost.

At the Great National Agricultural Shows, it is this Felt which has been exhibited and obtained TWO SILVER MEDAL PRIZES, and is the Felt SOLELY patronized and adopted by
HER MAJESTY'S WOODS AND FORESTS,
HONOURABLE BOARD OF ORDNANCE,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE COMMISSIONERS OF CUSTOMS,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANIC GARDENS, REGENT'S PARK,
And on the Estates of the Dukes of Sutherland, Norfolk, Rutland, Newcastle, Northumberland, Buccleuch (at Richmond), the late Earl Spencer, and most of the Nobility and Gentry; and *at the Royal Agricultural Society's House, Hanover-square.*

It is half the price of any other description of Roofing, and effects a great saving of Timber in the construction of Roofs. Made to any length by 32 inches wide.

PRICE ONE PENNY PER SQUARE FOOT.

⁂ Samples, with Directions for its Use, and Testimonials of seven years' experience, with references to Noblemen, Gentlemen, Architects, and Builders, sent free to any part of the town or country, and orders by post executed.

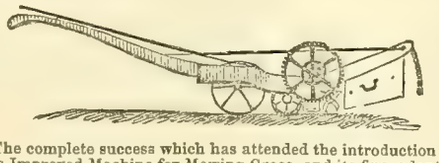
☞ The Public is cautioned that the only Works in London or Great Britain where the above Roofing is made, are
F. M'NEILL AND CO.'S
Patent Felt Manufactory, Lamb's-buildings, Bunhill-row, London, where roofs covered with the Felt may be seen.

The new Vice-Chancellor's Courts, at the entrance to Westminster Hall, were roofed with F. M'NEILL and Co.'s Felt about two years since, under the Surveyorship of Chas. Barry, Esq., R.A. Her Majesty's Commissioners of Woods and Forests are so satisfied with the result that they have ordered the Committee Rooms at the Houses of Parliament to be roofed with their Felt. Quantity altogether used, 24,000 feet.

Note.—Consumers sending direct to the Factory can be supplied in lengths best suited to their Roofs, so that they pay for no more than they require.

Every information afforded on the construction of Roofs, on any proposed particular application of the Felt.

SHANKS' IMPROVED GRASS CUTTING AND ROLLING MACHINES.



The complete success which has attended the introduction of this Improved Machine for Mowing Grass, and its fine adaptation for cutting the Grass of Lawns, has been fully proved by the numerous instances where it has been tried, and now in common use, particularly at Rossie Priory, Camperdown, and Kinblethmont, Forfarshire; Breadalbane, Perthshire; Clumber, and at many other noblemen and gentlemen's seats in England, as well as abroad. The Machines are made to cut breadths of 42, 30, or 20 inches, as required, the latter being adapted to hand-power. The Machine performs three different operations at one time, viz., Rolling, Mowing, and Collecting the Grass; and works with perfect ease, producing a beautiful smooth surface, and attended with great saving in abridging labour.

Orders may be addressed to Messrs. ALEXANDER SHANKS and SON, Machine-makers, Arbroath, N.B., by whom further particulars will be given.

Sold by Messrs. F. and J. DICKSON, Nurserymen, Chester; Messrs. J. and C. LEE, Nurserymen, Hammersmith; and Mr. GEORGE BARRY, Nurseryman, Castle-street, Liverpool.

BELFAST FLAX-DRESSING MACHINERY.—Persons wishing to put up Mills for Scutching or Dressing FLAX in the straw, can be supplied with the Improved Machinery, recommended by the Royal Flax Improvement Society of Ireland, on application to the Makers, MAC ADAM BROTHERS and Co., Engineers, Soho Foundry, Belfast.

AGRICULTURAL TRAINING COLLEGE, Hoddesdon, Herts.—THREE VACANT SCHOLARSHIPS on the FOUNDATION will be FILLED UP on Tuesday, August 1st, at this Institution.—Full particulars relative thereto, the necessary forms, the names of the noblemen and gentlemen whose presentations are vacant, may be had of the Head Master, either personally or by letter.

NOTICE OF REMOVAL.

THE ROYAL AGRICULTURAL COLLEGE OFFICE removed on the 24th of June, 1848, to No. 26, King William-street, Charing-cross.

PHILIP BOWES, Secretary.

ROYAL AGRICULTURAL COLLEGE, Cirencester
Patron—H. R. H. PRINCE ALBERT.
President of the Council—Right Hon. EARL BATHURST.
Vice-President—Right Hon. EARL DUCIE.
Principal—JOHN WILSON, F.R.S.E., F.G.S., &c.
Chaplain and First Master—Rev. G. M. TANDY, M.A.
Second Master—JOHN S. MORELAND, C.E.
RESIDENT PROFESSORS.
Agriculture—JOHN WILSON, F.R.S.E., &c.
Chemistry—JOHN BLYTH, M.D.
Botany and Geology—JAS. BUCKMAN, F.G.S.
Veterinary Practice—JOHN ROBINSON, M.R.C.V.S.
Mathematics and Natural Philosophy—Rev. G. M. TANDY, M.A.
Practical Surveying and Engineering—JOHN S. MORELAND, C.E.
OBJECTS.

The object of this Institution is to provide such a course of instruction as will be most useful to the practical farmer. The benefits to be derived by the agriculturists from a judicious application of scientific information are becoming more and more extensively acknowledged; while the means of obtaining that information, if, indeed, it can be obtained at all, without for the time sacrificing a due attention to the practical operations of husbandry, are so scattered and costly as to be within the reach of very few. The College course of instruction is conducted in such a manner that, while the student is well based in the principles of each science, its relations with agriculture are specially touched upon and explained, and their practical application shown, as far as possible, in the operations of the College farm. The theoretical and practical teaching go hand in hand, and the whole is combined with the advantages of collegiate discipline. By order of the Council,

PHILIP BOWES, Secretary.

London Office, 26, King William-street, Charing-cross.

AT THE ANNUAL GENERAL COURT OF THE ROYAL AGRICULTURAL COLLEGE, held on the 6th June, 1848, the Right Hon. Earl BATHURST, the President, in the chair, the Report of the Council for the past year was read, adopted, and ordered to be printed for circulation amongst the Shareholders.

The recommendation of the Council to raise the fee for In-students to Eighty pounds, and for Out-students to Forty pounds per annum, was adopted, and the Council were empowered to act thereon.

Mr. Pusey, M.P., and Mr. Fisher Hobbs, having retired from the Council, were replaced by Sir Robert Throckmorton and the Rev. Alexander Huxtable.

One-third of the Council being balloted out were re-elected.

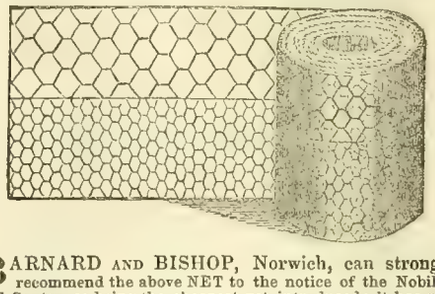
A vote of thanks was passed to the Hon. Mr. Bathurst for his valuable present of a Clock for the College Tower; and another to the President, Vice-President, Auditors, Treasurers, and Council, for their attention to the business of the Institution during the past year. PHILIP BOWES, Secretary.

London Office, 26, King William-street, Charing-cross.

CHEAP AND DURABLE ROOFING.—Houses of all descriptions can be roofed at less than one-half the ordinary cost, by using the
PATENT ASPHALTED ROOFING FELT,
Manufactured by
FRANCIS RITCHIE AND SONS, BELFAST,
Who also make INODOROUS FELT for lining damp walls under paper in place of lead. Samples, directions, and all necessary information sent free, on application to the Manufacturers, or any of the following Agents:—

Bristol—Tratman, Brothers.
Carlisle—Edward Jobling.
Hull—Thomas Flint.
Liverpool—Chapman, Bowman, and Co.
London—Hay, Anderson, and Sangster, Newington Butts
Manchester—James Hurst, 14, High-street.
Newcastle-on-Tyne—Richard Warham
Southampton—John Vaux
Whitehaven—Randleson and Forster.
Hurst and M'Mullen, Seedsmen, 6, Leadenhall-street, London.

IMPROVED DOUBLE-MESH WIRE GAME NET.



BARNARD AND BISHOP, Norwich, can strongly recommend the above NET to the notice of the Nobility and Gentry, as being the cheapest yet introduced: it has met with general approbation, and has been found most efficient in the preservation of young Trees, Gardens, &c., from the depredations of game. The extra strong 2-inch is the same strength as the stoutest article in the market. On inspection, it will be found better manufactured than anything else of the kind, and 20 per cent. cheaper. It is sent out in rolls of 50 yards, or any other length, at prices as under.

				per yard—s.	d.
Double Mesh Net 24 ins. wide,	1⅝ & 3¼-in. mesh,	strong		0	6½
...	...	extra strong		0	9
...	2 & 4 ...	strong		0	5½
...	...	extra strong		0	7½
Single Mesh ...	1⅝ ...	light		0	7
...	...	strong		0	9
...	...	extra strong		1	0
...	2 ...	light		0	6
...	...	strong		0	7½
...	...	extra strong		0	10

The prices quoted for double net are for equal proportions of each mesh, which may be varied if required, thus, three parts fine to one of coarse, or *vice versa*, at prices accordingly; and it can be made any mesh and width to 7 feet.

A finer description for Aviaries, Pheasantries, &c., sparrow proof, 3d. per square foot; or, if made in copper, at 5d. per square foot. The Iron Wire Net is twice dipped in anti-corrosive composition, and sent free to London or Hull.

Patterns forwarded per post, free of expence.

HORTICULTURAL SOCIETY OF LONDON.—EXHIBITIONS AT THE GARDEN.

Notice is hereby given, that those for the year 1849 are fixed for SATURDAY, May 5; SATURDAY, June 9; and WEDNESDAY, July 11.

The Gardeners' Chronicle.

SATURDAY, JULY 22, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

TUESDAY August 1—Horticultural ..... 3 P.M.
FRIDAY — 4—Botanical ..... 9 P.M.

WE formerly drew attention to the ARRACACHA, as a possible substitute for Potatoes, and drew a conclusion unfavourable to it. Since that time it has been re-introduced, and therefore we think it desirable to give the following views of an intelligent gardener, who has seen something of the nature of the plant.

The adaptation of the Potato for widely different climates, when in its former vigorous state, was a very remarkable fact; and fresh proofs, we hope, will again continue to be afforded by healthy plants. It has been cultivated from the equatorial table-lands to the verge of the polar regions; it produced thirty-fold, in 1846, at the manse of Loevaars, in the northern district of Iceland. It is scarcely less astonishing that whilst the Arracacha grows side by side with the Potato in South America, and there rivals, or even outrivals it as regards amount of alimentary produce, yet the cultivation of the Arracacha has hitherto proved almost a complete failure in Europe. Experience, and a better knowledge of its habits, may, however, greatly tend to obviate the difficulty. We can command temperature, regulate both it and moisture, and afford various soils; but we cannot condition the plants as on their native table-lands in regard to the density of the air. Contrasted with their climate, our comparatively low mountain districts are too cold; and near the level of the sea the pressure of the atmosphere is nearly one-third more than on the elevated situations where the Arracacha naturally grows; for example, at Bogota, at 9000 feet elevation, the atmospheric pressure will be upwards of 4lbs. less on the square inch than it would be anywhere near the level of the sea: and this being the case, evaporation from the surface of the leaves will be proportionably facilitated; for, according to Professor DANIELL, evaporation is inversely proportionate, *cæteris paribus*, to the elasticity of the atmosphere. Hence it may be computed that a plant evaporating 30 grains in a given time in the Andes of New Grenada, would evaporate little more than 20 grains in the climate of London. The Arracacha may, therefore, be expected to thrive best in an airy situation, provided it is not too cold. It has been ascertained that it will not bear the moist, warm, and, of necessity, somewhat confined air of a Vinery.

A memoir, by M. GOUDOT, entitled, '*Culture de l'Arracacha et possibilité de l'introduire en Europe;*' affords interesting information respecting this remarkable plant.

In planting the Arracacha, buds or shoots taken off with a heel from the crown of the root are employed. To obtain these the crown is cut off horizontally; and this fleshy circular base is then divided into numerous segments, each forming an entire base to a tuft of petioles. These detached pieces are planted very shallow, in moist soil, about 2 feet apart. Under favourable circumstances the leaves are developed in a few days; their growth is rapid, and in several weeks they completely cover the ground, which must previously be kept clear of weeds. The crop is taken up before the plants commence running to flower, and this is indicated by the external leaves acquiring a slight tinge of yellow. At this stage of growth the root, which is the special object of cultivation, presents an irregular fleshy mass, with numerous fusiform ramifications, furnished with fibres, from its lower part; these ramifications are the tenderest portions for food. In good soil, a root will weigh from 4½ to 6½ lbs. At Ibague, M. GOUDOT has known the produce to weigh 41,000 kilogrammes per hectare, or upwards of 16 tons per English acre.

The amount of nourishment which this root contains is probably less than that afforded by the Potato: for, by analysis, it was found that for equal weights, and for the same proportions of starch and albumen, the Arracacha contained a greater quantity of water.

The mode of propagation described by M. GOUDOT, *la bouture en talon*, buds or sprouts taken off with a heel, may not be so practicable in Europe, where of course winter intervenes between the taking up of the roots and the forming of a new plantation; and there may be some difficulty in preserving a mass of reproductive crowns till the time of planting in the ensuing season. It may, therefore, be necessary to winter some entire roots in a cave or cellar, from which the buds or sprouts may be detached at the moment of planting. In this manner Carrots and Beet root intended for seed are preserved; and it remains for experience to decide whether such mode of preservation may not prove suitable to the Arracacha.

M. GOUDOT attributes the bad success which has attended various attempts to cultivate this plant in Europe to a want of knowledge in regard to the method of propagation, which he has detailed as above; and which mainly consists in planting, not the entire root, but merely the buds or embryo shoots, detached from the crown with a little of the fleshy substance at their bases. He thinks it is labour in vain to attempt the production of seeds; for they are difficult to obtain, and are generally imperfect even in the native country of the plant.

It is necessary to observe that there is a great discrepancy between the temperature which M. GOUDOT seems to consider necessary for the growth of the Arracacha, and that which may be considered sufficient, by inference from other sources of information. M. GOUDOT mentions 71 as the mean temperature of Ibague. Mr. HARTWEG states, in the "Transactions of the Horticultural Society," that Bogota enjoys a mean temperature of 56°. The plateau of Bogota is said by geographers to have the climate of Britain, or even of Scotland, but without the extremes, the thermometer seldom falling below 40°, or rising above 70°. This would give a mean of 55°. On this plateau the Arracacha thrives well, as is stated by M. GOUDOT himself in the "*Revue Horticole.*" In the climate of London we have, from an average of 20 years, a mean temperature in May of 55°; June, 60°.8; July, 63°; August, 62°.3; September, 57°.4; the mean temperature for these five months being between 59° and 60° Fahrenheit. We may, therefore, conclude that we have sufficient heat in these months for the perfect growth of the Arracacha in the open air. It is even stated by M. GOUDOT that it will succeed under the same circumstances of soil and climate that are suitable for the Potato, and that he has seen fine plantations of it in the Andes in localities possessing a mean temperature of 57° to 71°. There may be difficulties as regards the extremes of temperature; but this must be determined by experience. In the meantime, attention should be paid to the mode of propagation, as above pointed out. We believe the great cause of failure has been owing to planting the entire root, which having only a biennial nature, of course soon died; whilst the buds at top, from not being taken off and put in a position to root and form a fresh mass, of necessity ultimately perished.—‖

WE continue the evidence as to the POTATO DISEASE, concerning which we state most reluctantly that there is not one symptom of improvement, but the contrary; for places to-day declared free are to-morrow reported to be suffering suddenly and rapidly. We have this week received from Mr. HOLLAND, a surgeon residing at Battel, in Sussex, the *green tubers, found on the stem*, in a state of thorough disease—a case we have not seen since 1846. All eyes are of course turned to Ireland, whose climate is so much like that of Cornwall and Devonshire that the formidable progress of disease in those counties is of the worst augury.

CORNWALL.—It is spreading rapidly, although it is only a fortnight since the first symptoms were observed in the garden. The haulm of the whole plot is now entirely destroyed. I have noticed its appearance in the main crop on the downs, but in no instance as yet have I met with a diseased root. It seems now perfectly hopeless to grow Potatoes as formerly; *W. B. Booth, Carclew.*

DEVON.—Disease almost universally attacking the crop, with an intensity little, if at all, inferior to that of 1846. In many places they are already putrid. Seedlings are the greatest sufferers; such, at least, is the case in my garden, where a considerable bed, raised under glass, has become, within the last fortnight, perfectly black and fetid; *S. R., Bideford.*

ISLE OF WIGHT.—The Potato disease made its appearance in my garden the 14th inst., its progress since that time *has been very rapid.* I understand the disease has shown itself to a great extent in the cottage gardens in this neighbourhood during the last 10 days; *Wm à Court Holmes, Westover, Newport, July* 17.

HANTS.—From this part (Andover-road), to Winchester, Southampton, and for many miles round, the Potato disease is spreading dreadfully. Should it continue as it has for the last 10 or 12 days, the greater part must perish, if not all. At present, Shilling's seedling Walnut-leaved Kidneys and the earliest Ducys are the worst. Sixteen miles the other way, betwixt Basingstoke and Kingsclear, they are quite as bad; *J. A., July* 17.

SUSSEX.—Disease has spread over the whole crop. The tubers not injured to any serious extent; *A. Stewart, Hindon House, near Arundel, July* 18. Spreading fast at Puttenham, near Guildford: equally virulent in neighbouring parishes; *S. W.*

KENT.—Potatoes in my land have been seized by the disease in its most virulent form, [illegible] *C. Darnell, Farnborough, July* 14. [illegible] mostly, more particularly on damp [illegible] gardens; *John May, Penn's Cave, July* 14.

SURREY.—This morning I discovered in my own garden the fatal blotch on the leaves of the [illegible] Ash-leaf Kidneys and Early [illegible] a quarter of a mile from my house I have seen a piece of Early Sharps in a market garden perfect [illegible] is said to have attacked many gardens, and [illegible] fields in the neighbourhood; *J. G. Hodgson, Croydon Vicarage, July* 14.

BERKS.—The plant is partially attacked with the disease; in some cases completely gone, so much so that they smell as you approach the [illegible] a small plant in appearance hearty. We had a sharp frost on the morning of the 1st inst.; *Amicus, Newbury, July* 18.

HERTS.—No appearance here; *W. Ingram, Hatfield, July* 13. Has now appeared decidedly in gardens; *Ib., July* 19.

BEDS.—The disease appears to be worst, if not quite, as common as it was two years ago. The progress within the last few days has been most rapid; *Thomas Bennett, Woburn, July* 17.

GLOUCESTERSHIRE.—Disease first observed in the rectory garden on June 26th; the tubers nearest the surface the worst. Of the three kinds planted, the Ash-leaved Kidney, China Orange, and Ashton Kidney, the first was planted in February, the two last in March, all in manured soil. Of the first about 1-10th is already lost; of the China Orange nearly the whole; and of the Ashton Kidney about 1-20th; but as the disease is fast spreading over the Ashton Kidney, the loss on this kind cannot be calculated. A crop of Ashton Kidney planted in April, in soil manured with burnt weeds, is at present very healthy. Since the 9th July, notwithstanding continuance of dry weather, the disease has appeared in the cottagers' and farmers' gardens. The field crops appear free as yet; *R. M. W., Symbridge, July* 17. The state of the crop very alarming. The accounts surely confirmed by persons of undoubted probity. Some state that nine-tenths, others that half of the crop is already gone, with very little chance of saving the remainder, except by immediate use; *J. S., Bristol, July* 20.

CAMBRIDGESHIRE.—I have this day seen the Potato disease in a bad form in a field near this town, and learn from Mr. Murray (our botanical garden curator) that it is in several other places in the neighbourhood. It has attacked the early Potatoes, and is several weeks earlier than in former years; *Charles C. Babington, St. John's College, Cambridge, July* 19.

WALES.—Within the last few days has made very rapid strides; the stems emit a strong odour; the tubers, however, with few exceptions, still remain sound. I have seen but two instances of late sorts being attacked; *F. Bridger, Aberglasni palace, near Carmarthen, July* 18. About Llandilo, but its progress is not so rapid as it was last year; *H. Brady, Dynevor Castle, July* 15. It has shown itself in this county in very many instances, and it certainly is much worse where the Potatoes were planted on undrained soil; *T. Baker, Newtown, Montgomeryshire, July* 19.

HEREFORD.—There is a very general complaint of disease in the cottage gardens in the low districts; haulm and young Potatoes have rotten already. This does not seem to affect the Potatoes sown in the fields, nor even in the gardens on the higher grounds. I see no appearance of disease in my own crop. The reports from the adjacent district of Wales (Radnorshire) are also favourable; *John Cheese, July* 15.

NOTTS.—Failures and disease in many places; great complaints: scarcely a sound Potato to a root. The "American Natives" have gone so bad that scarce a sound one can be found; *Farrant, Newark, July* 9.

LANCASHIRE.—Has appeared to a small extent in many places; about one-sixth diseased in some situations; *Editor of the Preston Guardian, July* 14. In 1846 the Potato disease commenced about the 15th of July in this important district, from whence the Manchester, Liverpool, and Bolton markets are extensively supplied. In 1847 it began ten days later, and with much less injury. This year, after the recent wet weather, a few Potatoes were affected by the black rot, which is occasioned by heavy rain, and but few were found with any appearance of the brown disease until the 14th inst., when many instances were reported. On the 15th the smell and the decaying stains indicated that many fields were infected; and now, on the 17th and 18th, the complaints are general; some affected to the serious extent of one-fourth or more of these got up for the markets; *E. Wren, Warrington, July* 19.

DURHAM.—As yet we have not the least appearance of disease: *James Rutson, Ryhope Cottage, July* 19.

YORKSHIRE.—Rotten Potatoes and dying haulm received from *Mr. H. Turner, Richmond, July* 15.

SCOTLAND.—Disease noticed here on the 11th inst. in a small garden plot of Golden Dwarf Earlies, where it spread rapidly for a few days, but seemed to decrease in virulence as the weather became warmer and drier. It has since appeared among the earlies in many cottage gardens, but hitherto its effects have been more apparent in the roots and young tubers than in the haulm: *William Gorrie, Preston-hall, Pathhead-ford, Midlothian, July* 19.

IRELAND.—A few symptoms here and there are all that had been communicated to the *Irish Farmers'*

Gazette, July 15.—We have read letters from *Wexford*, July 12, no appearance.—*Clonmel*, July 12. Only two cases.—*Londonderry*, July 12. No disease.—*Sligo*, July 12. Has appeared only at Markree, Clover-hill, and Hollywell; the reports much exaggerated. The places attacked only from 1 to 2 perches in extent.—*Kilkenny*, July 12. No disease.—*Skibbereen*, July 11. Partially in a mild form within the last week.—*Ennis*, July 12. No disease. New Potatoes sound.—*Armagh*, July 12. No disease.—*Dungannon*, July 12. Doubtful; various rumours; if present, slight and mild.—*Newry*, July 12. No disease.—*Downpatrick*, July 12. No disease.—*Belfast*, July 12. No disease.—*Youghal*, July 12. No disease.—*Fermoy*, July 12. Early Potatoes touched, but to a moderate extent.—*Enniscorthy*, July 13. Rumours: no evidence.—*Galway*, July 13. Rumours: some proved to be false: no evidence.—*Monaghan*, July 13. Two fields near Castle Blayney, reported by Mr. Bateson, agent to Lord Templeton: the owners of the fields said not to be alarmed.—*Dundalk*, July 13. In few instances: and limited.—*Coleraine*, July 12. No disease; the earlies in fine bloom, which the farmers regard as a good omen. A few tops reported to be tainted.—*Dublin*, July 15. Rumours: writer had seen nothing between this city and Belfast.—*Cork*, July 14. Some partial appearances in gardens.—*Tralee*, July 14. No disease.—*Kilrush*, July 14. No disease.—*Ballyshannon*, July 15. Disease has slightly appeared in several fields near Donegal, Ardara, and Killybegs.—*Strabane*, July 14. No disease.—*Banbridge*, July 15. No disease. These are the most favourable letters we have seen. The writers all speak of the great *luxuriance* of the crop, and of the healthiness and abundance of the grain. On the other hand we have before us letters, which are far less satisfactory. From *Bandon* we learn that the grounds of Lord Carbery and others have been attacked: the haulm sent us presented the true character of the disease. "For three nights a dark and heavy fog rested on the ground, until about 8 A.M.; on the third day it cleared up, when the disease appeared in an incipient state, but spread rapidly." About *Bantry*, or rather on the road to Castletown Berehaven, scarcely a field could be found, July 13, without signs of disease, and some gardens were completely blasted, "the stalks withered, and the Potatoes where formed gone. At the same time the stench was so great as to be quite oppressive." The disease is reported to the same extent in the Kenmare Union. "You can scarcely breathe in the neighbourhood of these tainted fields." It is also reported that fields near Glengariff, which on the 13th seemed free from disease, presented on the 16th (only three days later) "most alarming appearances." In Kilcatherine the crop is declared to be gone. In other places, previously reported safe, we find that alarming appearances are now beginning to manifest themselves. In fact, whole fields in the south have been suddenly attacked. "On the morning of the 13th," writes a correspondent at Kenmare, "to the astonishment of every one, the Potato fields that had on the preceding evening presented an appearance that was calculated to gladden the heart of the most indifferent, appeared blasted, withered, blackened, and, as it were, sprinkled with vitriol, and the whole country has, in consequence, been thrown into dismay and confusion." Fortunately other crops are universally reported to promise an abundance.

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

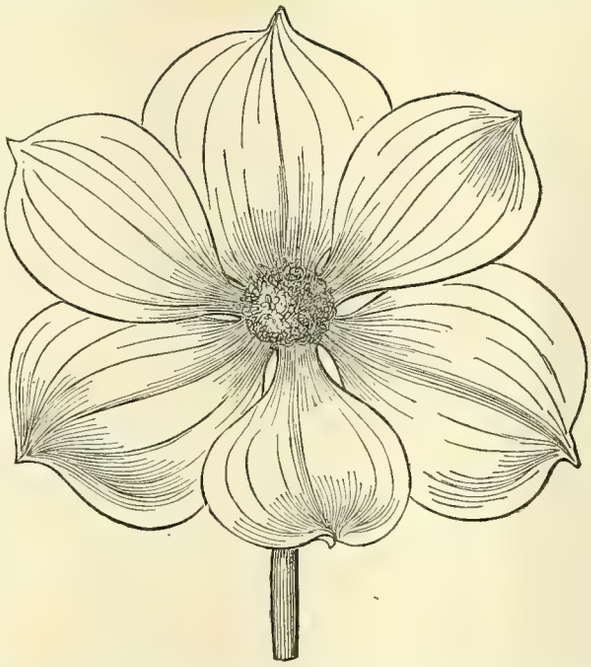
PROPAGATION OF PINKS, CARNATIONS, AND PICOTEES.—Although the finer varieties of these beautiful flowers require great care in their cultivation, and will often disappoint the amateur, their great beauty will yet insure the patience and skill necessary for their successful growth. I yesterday saw a handful of Carnations in a friend's hand, and wondered that efforts are not made to grow them in greater profusion. Many are disgusted with the losses which occur from bad management in their first attempts to get a collection, and give up the pursuit; but this is not wise. A season or two will make the grower more skilful and fortunate. Seeing these flowers advertised, an amateur orders a lot, and pays perhaps 2*l.* or 3*l.* for a dozen pairs. These come probably from a distance, not in pots, as they ought to do, but with their roots exposed, and before they can be placed in a safe position they have suffered much injury. A wet season then comes on, and the young plants, not being strongly rooted, rot in the ground. If they escape this catastrophe, they often throw up only a miserable flower, unworthy of notice; no *grass*, as the offsets are technically called, is produced; and sometimes the original plants will turn yellow and die. When, after all his trouble, the would-be grower finds his dozen pairs reduced to about half the number, he despairs of becoming an adept in the art of flowering these plants, and retreats, leaving the field to more fortunate, because more patient, rivals. Now, try another season at all events, and, without incurring fresh expense, propagate from the stronger varieties which yet survive; in this way you will advance more confidently, and at length overcome difficulties which arise from want of experience more than from any peculiarities inherent in the flowers.

Common Pinks and Carnations are increased easily by cuttings taken off at a hard, well-developed joint, and planted in a shady situation in the garden; if under a hand-glass, success is more sure. But we have known great quantities rooted without that aid, by being preserved for a few days from the sun, and kept moist. The soil should be sandy, and the cuttings fixed in it, so that it shall press firmly upon the cut portion. But this plan will not do for finer sorts of Carnations and Picotees, and the safer way is to propagate these by layering. So many directions have been given for the performance of this operation, that anything further on the subject may appear to be superfluous; but as amateurs are yearly rising up and commencing their apprenticeship, such information must be continually renewed. The principle of layering is to enable a cutting to take root without its connection with the parent plant being quite dissevered, on the plan in which inarching and similar operations are performed. A cutting often dies, because, from some cause inherent in itself, or external to it, its power of elaborating sap is not strong enough to enable it to form roots; and this power is increased and rendered certain in a layer, because it derives its juices from the parent plant. An incision is made upwards at a joint, to the extent of about half an inch, and a section of the stalk or stem is thus presented, similar to the portion inserted in the soil in the case of a cutting, only it is half the substance or thickness. This cut portion is then firmly inserted in fine soil, and fastened securely with a peg. The layer then forms roots from two sources; from its own vital mechanism, as in the case of a cutting, and from the assistance derived from the original plant, of which it still forms a part. When rooted the layer is cut off and potted, and henceforth its growth is self-sustained and independent.

Where a great number of young shoots are available for propagation, a very gentle heat should be created by means of a bed of leaves or cut Grass, on which a small frame should be placed. Sandy soil must then be put in, to the depth of 6 inches, and the cuttings, with all their leaves, firmly fixed as directed above. The glass being put on, the frame should be kept close for a week, and shaded for a day or two; and solar light being gradually admitted, the young plants will form roots more rapidly than in the open ground. Extremes of drought and moisture must be carefully avoided, since the one will rot the plants at the cutting, and the other will cause the soil to contract and leave the cutting bare. Failures must be expected at first, but soon as great a certainty will characterise these operations as most others. This is the proper time for pursuing either of the above methods; *H. B.*

BENTHAMIA FRAGIFERA.

IT is now a good many years since I first had the pleasure of bringing this fine shrub under your notice, and of sending you the sketch from which the figure in the "Botanical Register," fol. 1579, was made. At that time I only knew the plant from specimens furnished to me from the garden of J. H. Tremayne, Esq., at Heligan, in this county, where it was raised from East Indian seeds; but the opinion I then formed of it was such as led me to think it would be a valuable acquisition, should it prove sufficiently hardy to live in the open air in England. In this respect I am happy to say my anticipations have been fully realised, and of its value as an ornamental shrub you will yourself be enabled to judge from the specimens which I now forward. [Most beautiful branches of grey leaves, and huge cream-coloured flowers.]



You can scarcely imagine a more graceful and striking object at this season of the year, when every branch on trees 15 or 18 feet high, and nearly the same in diameter, is thickly studded from top to bottom with large cream-coloured flowers, somewhat resembling those of the old and well-known Clematis florida. In the latter part of autumn, again, it is even still more beautiful when loaded with its rich red, pendent, globular fruit, not unlike a Strawberry. The accompanying outline will give some idea of the size and form of the flower, or, rather, of the involucre, or leaf-like appendages which surround the mass of flowers in the centre, and which, in this instance, is far more conspicuous than the flowers themselves. It varies in the number of its parts; most frequently they are only four, but very often they are five, six, or more, according to the vigour of the twig on which they are produced.

For planting in a sheltered part of a shrubbery, where it can have plenty of room to show itself to advantage, or even singly on Grass, I do not know a more suitable plant. It accommodates itself to any common garden soil, but requires to be eight or ten years old before it comes into blossom.—*W. B. Booth, Carclew, Cornwall.* [Unfortunately the plant is too tender for our midland and northern counties.]

TOP DRESSINGS OR MULCHING.

FEW persons are fully aware of the immense importance of top-dressings. To regard them as merely warding off extreme drought is to take a very superficial view of the affair; their merits may, I think, be classed as follows: 1st. They may be made capable of transmitting a vast amount of food to a suffering tree in a very speedy way. 2d. They retain a steady permanency of moisture, in spite of adverse circumstances, without stagnation. 3d. They are the cause of a series of annual fibres, which are of much importance to tender trees. 4th. By means of such, continued systematically, trees may be planted in shallower soils than without them; this tends to the production of much better ripened wood. 5th. If a check is needed through rampant growth, or the total absence of fruit, the removal of the dressing in summer will supersede the necessity of root pruning.

With regard to the first point, I may observe, that it frequently becomes necessary during dry periods to apply water to trees in full bearing; indeed many a good crop is lost or stunted for want of a timely application of this needful element. Nevertheless, somewhat depends on the temperature of the water. Cold spring water, applied in considerable quantities to the naked soil, may do more harm than good. It is far better to make use of the mulching as a medium, and to water in a successive way.

To proceed with the second consideration. No person who has used top-dressings will doubt their influence in retaining a permanency of moisture, in defiance of long-continued hot weather. By this medium, a vast amount of nutritious moisture, which would be otherwise dissipated, is reserved for absorption by the upper series of fibrous roots.

In the third place, top-dressings, in almost all cases, excite to the production of abundance of surface fibres of a permanent character, produced in a regular annual series. These are most important organs in several respects, which I will attempt to show in the sequel. In the meantime, I would merely point to one particular circumstance of paramount importance; they tend, in no small degree, to prevent the formation of tap-roots, which are notorious as being inimical to the production of blossom buds.

As to the fourth consideration—the systematic application of top-dressings, as obviating the necessity for deep borders, which are but too apt to lead the roots to a depth beyond the agencies of the atmosphere, and to render the tree uncontrollable, I can only say that the question has been a growing one during the last seven years, and that owing to the free discussion of the points connected therewith much improvement has taken place, not only in Vine borders but in those for other fruits. It is a pretty well attested fact, that the shallower the root the earlier and more profound the ripening period. This idea may of course be carried too far, and trees may be driven from Scylla to Charybdis; but the great evil of the old system having been over-excitement, through deep and rich borders, it becomes a duty for awhile, I conceive, to point to an opposite course. By the systematic application of such, I merely mean that the application of an annual top-dressing, however slight, is anticipated by this system.

Our fifth point refers to the facility afforded by this mode of cultivation for checking undue luxuriance. This will seldom occur where top-dressings are resorted to in a systematic way. Still in the event of trees thus circumstanced becoming too gross in the young shoots, the mere removal of the top-dressing in early summer will go far towards taming the tree, unless it has formed some tap-roots of most inveterate character.

Having now disposed of the five main points, which form, as I conceive, the principal features in a system of top-dressing, as applied to somewhat shallower borders than were originally in use, I would now beg to offer a few remarks on the propriety of securing a permanency of moisture at the root to certain plants. Everybody must be aware that many plants of this habit cannot be successfully cultivated without securing a certain amount of moisture at the root, of a permanent character. The most prominent amongst these are the black Currant, the Raspberry, and, I may add, the Quince, amongst fruit bearing shrubs; and Celery and Lettuce amongst our culinary vegetables. It so happens that this latter question is interwoven in some degree with the top-dressing affair, at least under my mode of cultivation. Last year the black Currants in this part of the kingdom were

subjected to the most severe blight I ever remember; they were devoured by aphides; the leaves were almost entirely stripped from the trees, and the fruit were of course either cast to the ground or withered prematurely. Drought at a certain period was, I am persuaded, the cause of all this; for it ought to be generally known that the black Currant has a greater tendency to produce surface roots than any other fruit tree; this of course, renders it very susceptible of atmospheric changes, and points at once to a special mode of culture. However, I considered that there could not possibly be a crop in the next season. Having some alterations this spring which brought to hand a surplus of soil, I covered the surface of the black Currant roots 5 inches in thickness with this soil. We have had a very fine crop, and the soil is now filled with fibres. The black Currant should, I think, be planted in sunken trenches or panels at least 9 inches below the ground level; in fact, similar to Celery, and in that event would bear a top dressing of mere leaves or litter of any kind every year, applied immediately after a wet period in the spring. Raspberries are so fond of a permanency of moisture that they thrive to admiration in a bog under some trees, within a short distance of where I write. Indeed, our soil being sandy, I could not obtain full crops until I adopted an annual system of top dressings. In applying this my practice is to remove a couple of inches of the surface soil with a draw hoe in December; then to apply a couple of inches of compost, and finally a coating of soil, to prevent loss by desiccation. I never dig over the surface of these things, but use the spade full depth to within a reasonable distance, generally cutting a little off the extreme points of the roots annually; this encourages the surface roots, and has a tendency to check superfluous spray at the same time that steady growth is ensured, through the medium of the top dressings, and sudden vicissitudes of drought obviated. There is undoubtedly much waste of manure in many cases, extra quantities being often applied when perhaps mere permanency of moisture at certain periods is the desideratum. Of what use would any given amount of manure be to the black Currant or Celery crop, if the plant is to be subjected to a continual lack of moisture?—*Robert Errington, Oulton Park, July* 10.

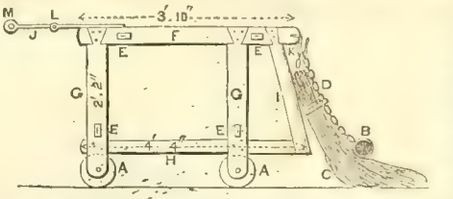
Home Correspondence.

Seeing not Believing.—I fear the testimonials which have been sent you, of young vipers having been seen to run down the throats of their parents, will not satisfy zoologists that this reptile possesses so marvellous an instinct. Pray call on your contributors to entrap their vipers, and to keep them alive with their young. If the fact they believe themselves to have witnessed should then be repeated in the presence of a naturalist, and under circumstances which can admit of no mistake, good service will have been done in removing a prejudice from the minds of scientific men. At present these notices may possibly be only serving to confirm a popular error, and not contributing to establish a strange truth. I have myself heard a frog croak as it was descending the throat of a common snake, and I have seen a snake release a frog from its jaws after it had partially disappeared, and the frog leaped away with only a slightly wounded skin. People have sometimes very innocently taken their oaths to utter impossibilities, and we must be very cautious in accepting evidence to so marvellous a fact as the one in question; *J. S. Henslow.*—With respect to the subject of young vipers taking refuge, in times of danger, within the bodies of their mothers, it has always appeared to me surprising that a fact so universally believed in localities where vipers are abundant should meet with so little attention from naturalists, who have either passed it over in total silence, as Professor Bell in his "British Reptiles," or have treated it with the ridicule due to a vulgar error, as some others. Of the fact itself I entertained no doubt whatever, having heard it asserted by too many credible eye-witnesses, who have had every opportunity of examining the phenomenon at their leisure, and therefore could not be mistaken or deceived. The letters of your correspondents have all, with one exception, I believe, gone to confirm this belief, and they are valuable, as adding to the number of observations on the subject. But I confess that I have been disappointed in not seeing any answer to the original inquiry from some scientific naturalist, who might be able to furnish any anatomical evidence which the structure of the viper may afford, either for or against the fact in question. It seems hardly probable that the young should be received into the stomach, and if they are not, is there any sac or receptacle provided, in which they can be accommodated with their temporary lodging? or is there anything peculiar in the formation of the stomach itself which fits it for the performance of a double office? I shall be glad if these questions should meet the eye of some of your readers who are competent to reply to them, and obtain for me and others, who, I have no doubt, are similarly interested, such information as the case may afford; *An Inquirer.*

Propagation of the Hollyhock.—Of late years the Hollyhock has assumed a prominent place in the flower garden, especially in the south of Scotland, and as this plant is very ornamental, both for the garden and the shrubbery, I send you the mode of propagating it which I have found to be very successful, and at the same time very simple. In the month of July, or beginning of August, take a stem of the sort you wish to increase, and having divided that into lengths of 2 inches each cut, including an eye or bud, slice the stem through the middle and pare the central pith entirely out, so as to prevent rotting, leaving about 3 inches of the leaf-stalk remaining at the bud, in the manner of fruit budding; having prepared a little sandy soil suitable for striking cuttings, these buds are to be inserted therein horizontally, about 1 inch below the surface, the leaf-stalk protruding as an index of position; a hand glass is then put over them, and in a few weeks they form nice little plants, like the current year's seedlings, and flower luxuriantly the following season, if properly treated; *J. B. Weir, Gatehouse, July* 14.

Propagation.—Your correspondent "S. R. F." asks "is it fair in a nurseryman to refuse to give one a hint as to the propagation of any particular plant?" I for one answer in the affirmative, basing my opinion upon the fact that as a piece of knowledge it is decidedly the property of the possessor, and to whom it is equivalent to a certain amount of money. For instance, a man embarks in the business of a nurseryman, the capital necessary to be invested consists of money, knowledge, and labour; and to part with any one of the three, at anything less than its current or marketable value, would be a deterioration of his investment. The artistic skill or knowledge a man possesses has been acquired at the cost of either money or time and application, and consequently it may be said to be his own property, and it would be as unreasonable to expect that he should dispose of it at any other rate than a fair valuation as it would be to expect him to give his money for nought. To put a case: suppose an individual bought the original and only plant of Allamanda Schottii, and that he paid 50 guineas for it, the only way in which he could effect a return for this outlay is to propagate it and sell the progeny, which he does at a guinea and a half per plant, and suppose that the whole of the purchasers in every instance fail in their attempt to propagate it, it might be justly asked, would it be "fair" to expect that the seller should disclose the particulars, as to how he proceeded in multiplying it? Certainly not. He bought the plant with all its faults, if it had any, and if he failed in his attempt to propagate it, would any one have come forward and refunded the money he paid for it; it would be as "fair" in him to ask for that as to ask for instructions as to how the plant was to be multiplied; *J. M., Lancashire, July* 17. [We apprehend that our former correspondent has been misunderstood; his complaint was that some common piece of information was withheld, not that a *secret* was not divulged. Moreover this is a very one-sided view of the case. We may perhaps present the other side.]

Garden Broom.—The accompanying is a sketch of a broom for roads and walks, which I have found to be



remarkably useful. A A, are two rollers, of wood, 6 or 8 inches in diameter and 30 inches long; B, end section of a batten of wood, the width of the broom, which may be from 3 to 6 or 8 feet, as required. This round log of wood is for keeping weight on the broom, in order to press it hard to the walk or road; it is suspended by two chains or cords at a suitable distance from the top of the broom. C, the broom, is made of Birch, or any such material, compressed between two strong boards by means of three screws, the screw-bolts being square at the clamp end, and one of the boards having three plates of iron, with square-cut holes, to prevent the screws from turning the bolts round in tightening the broom. D, a pair of small chains suspending the broom from a pair of hooks fixed into the after part of the frame-work, and may be lengthened, or contracted, as required, so that the broom may be sweeping at an angle of 40 or 45 degrees. Where the weeds are not too large, my plan is, in as dry a day as can be got, to go over with the Dutch hoe the walks or gravel to be cleaned, and to let the sun and air dry the weeds and gravel as long as possible; then I go over all the walks with the brush-roller, which grinds the roots of Grasses, &c. (which are still adhering to the soil and gravel), so that they vanish entirely under another few hours' exposure to sun and wind. Without being on the spot, no idea can be formed of the splendid finish the roller gives to a walk, one which the most skilful workman could never effect with the rake; at the same time one person will, with a good brush of some 5 or 6 feet in breadth (or larger, if required), go over as much ground in one hour as would, under ordinary circumstances, take 10 men to do in the same time. But to my description of the machine. E E E E are pairs of bars fixing both sides of the frames together; F, longitudinal part of the top of the frame; G G, upright part of frame, where the rollers are attached; H, a pair of bars, for keeping the lower part of the frame firm; I, a pair of slender bars attached to the upper and lower part of the frame, slanting from the second roller, their use being to keep the brush of the broom from the roller, and lined across with very thin boards. K, J is an iron rod fixed to the upper part of the frame, and in the middle of which, at L, is a joint, to enable the operator to raise or lower the handle, while drawing the machine. The end of the handle at M has a loop sufficiently large for a round pole to pass through, 20 or 30 inches long, for holding in the hands. In passing through doors or other narrow places the broom may be unhooked at one side and lifted on the top of the frame lengthways, so as to enable the machine to pass through. There may be two brooms, one for narrow walks, the other for roads and broad walks: one say 3 feet, and one 6 or 8 feet. A well-made broom will last the greater part of the season, but "a new broom always sweeps cleanest"; *Alex. Walker, Mayen House, Banffshire.*

Pine-apples.—The following are the weights of a collection of Queen Pine apples which were sent from here, and ought to have arrived in time for the Chiswick Show, but owing to the carelessness of the person connected with the mail coach, in sending them by packet from Newport, in place of by mail to Gloucester, they were delayed in Bristol. They were cut from plants two years old this month, and were grown in turf, brick-bats, and charcoal. They were liberally supplied with soot-water. Thirteen fruit weighed respectively:

6 lbs.	10 oz.	5 lbs.	4 oz.	4 lbs.	6 oz.
6 „	2 „	4 „	10 „	5 „	2 „
5 „	10 „	4 „	9 „	4 „	2 „
5 „	10 „	4 „	6 „	4 „	5 „
5 „	7 „				

R. P. Drummond, Gardener, Pontypool-park, July 17. [Mr. Drummond obtained the first prize for a handsome Queen, weighing 6 lbs. 12 oz., at the Regent's-park Show, on the 5th inst.]

Beehive Strawberry.—Influenced by a very flaming advertisement which appeared in your columns, I sent to Mr. Mathewson for some of his lately praised "Beehive" Strawberry plants, which he affirmed to be distinguished by a prodigal production of excellent fruit. They have been carefully attended to, and have fruited well. They are identical with the Grove end Scarlet or Roseberry, an old sort which I have grown for years. Now I wish to ask Mr. Mathewson how he can reconcile his conscience to charging 12*s.* or 15*s.* per 100 for Strawberry plants not worth 3*s.*? [Of course Mr. M. will return all the money. We have had enough of this *novelty* for the present.]

Copy of a Letter from Mr. Wm. Trotter, a Scotch Gardener, who emigrated to New Zealand, under the recommendation of the late Mr. Loudon.—"Oakoata River, Valley of the Hutt, near Wellington, New Zealand; Feb. 29, 1848. We are getting on well with our garden now; we have got about 400 fruit-trees planted out, besides Gooseberries and Currants, of which we have got an immense quantity. We gathered upwards of 150 quarts of Gooseberries for the Wellington market this season, which I think you will say was very well, considering the bush has only been down about three years. I have got the plan of Hampton Court labyrinth laid down in my ground; it is planted up with Apples and Pears, which I am training as espaliers, intending to run them into one another. I laid it out, and planted it in June, 1846. The oldest trees in it were buds three years ago, and now there are hanging in it 41 fine Apples. Some of the buds extend 10 feet already; so in the course of two years they will all meet into one another, and form a fine hedge all round the walks. I have got out about 40 varieties of the best Apples and 20 of Pears, from England; also some good varieties of Cherries, Plums, &c. You will, no doubt, be surprised at me getting my trees so quick, but here we can put in a cutting of a stock in September, and in the following February put a bud on it. We have a great many visitors this summer to see our place; Colonel Wakefield was over here a few days ago, and was very much pleased at our proceedings. You wished me to send you some information concerning the native wood, but with one exception of a handfull of native shrubs upon the bank of the river, which incloses three sides of our ground, there is nothing of native productions left, but a few stumps, which I hope to get out altogether. I have had very good success with my bees this season: from one old stool I have got nine fine swarms, and I hope to take up above 1 cwt. of honey this season from two hives. We took up last year about 50 lbs. of fine clear honey—the best that had been seen in New Zealand—which met with a ready market. I still superintend the Hon. Mr. Petre's garden, formerly Mr. Molesworth's. We had a fine crop of Grapes from the Vinery last year, and this year the crop promises to do better still: the Black Hamburgh is just beginning to bear. We have every reason to believe that, in the course of a few years, this will be one of the most fruitful countries under the sun. Every description of European fruit seems to flourish in it. My sons have taken 25 acres of splendid ground at the Taita, about 3 miles from my place, upon the side of the main road, with a right of purchase, where I intend to make a splendid garden as soon as they get the last down, and give me room to use my spade in it. The colony is going on very rapidly; *William Trotter.*"

Mildewed Grapes.—I have sent a small bunch of Grapes and a piece of the wood attached, to show in what state the Vines were by this disease, which is becoming virulent in this neighbourhood, so much so that some have lost all their Grapes and the wood for another year's crop. If you think that the disease has stopped (as I feel confident it has), an early intimation of such will be acceptable to many. When I first discovered it I mixed some flowers of sulphur in water and applied the mixture to the Vines with a syringe. Next day I examined them, and found that the sulphur had only adhered to the leaves, and that the bunches were quite clean. To make sure of it, I shut up the house when the sun was on it till I got the berries

covered with dew. I then applied my mixture by drenching it on each bunch separately through a piece of gauze. One house was so bad with mildew that when we thinned the berries the dust flew from them in the operation, but now the berries are as large again as they were at thinning time, and look like those sent. Some of the berries had begun to split, which I believe they would have all done if they had been left undisturbed another week. It is about a fortnight since they were sulphured. If the sulphur is left on a week, that is sufficiently long; I then wash it off with a powerful engine. The name of the Cattleya sent will much oblige; *John Kyle, Leyton.* [Cattleya crispa. The bunch sent is almost rid of the mildew.]

New Roses at Regent's Park Show.—Being a looker-on at the last Regent's Park Show, I must say, in answer to "Vindex," that Mr. Francis's 12 Roses were, at the least, an honest box of new and select flowers. Editors are not always the best judges of these matters, and if "Vindex" and Mr. Editor will just take the trouble to look at the Rule, they will find it does not say 12 new Roses only, but "12 new, first-rate, and very distinct varieties." Now, I think I shall not be very far from the truth if I say that there was not, in Mr. Francis's collection, one Rose that was not either new, or first-rate, or very distinct, and worthy of being recommended for cultivation. Was it so with his antagonist? Though there might be some sorts in his collection a little newer, is that a criterion of their being good and superior, and worthy of being cultivated? Was Comtesse Molé (Hybrid Bourbon) new? Look at his Vicomtesse de Cazes, a thin, flimsy, woolsy flower. Was it to be compared to Mr. Francis's Cloth of Gold? Will it ever be half so good? Has it ever been shown, potted or cut, in perfection yet? Take Mr. Francis' Géant de Battailes, a new splendid crimson Hybrid Perpetual; why, it was worth all Mr. Lane's put together, and was quite the attraction of the afternoon. Is the Rose public doomed to be gulled as the Dahlia public was, till every lady and gentleman is disgusted with adding any more to their collections? It is true, "Vindex" says many of Mr. Lane's Roses were of recent introduction, and others have not yet appeared in catalogues. I fear many of those shown are indeed doomed never to appear again as first-rate flowers or worthy of being recommended. Look, again, at the state of the two boxes; Mr. Francis' flowers were all first-rate, fresh as when they were cut, and sustained that character during the whole of one of the hottest afternoons that have fallen to the lot of the Regent's-park show days. Was it so with his antagonist's? were not his flowers for the most part loose, faded, dropped—so much so that they attracted little or no notice from passers-by? *Nemo Iidum impune Lacessit.* [If there is any meaning in English words it is clear that Mr. Francis' Roses were not such as the regulation required. Does this correspondent not know the difference between *and* and *or*? We shall next be assured that Lamarque is a yellow Rose, as the judges at Chiswick were required to believe].

Veronica salicifolia.—You state that the Veronica Lindleyana and V. salicifolia are identical, and not hardy. I will give you my reasons for venturing to differ from you. I send you two shoots, the one, No. 1, cut from a plant of V. salicifolia, which was out during last winter in a low situation in my garden; it is 5 feet high, and 4 feet in diameter, every way, and is covered from the ground with foliage such as you see; the shoot sent was from the top, to show that the frost did not affect even a leaf of it. The shoot, No. 2, is cut from a young plant of V. Lindleyana, which has been planted out about 10 weeks, and which I have tried in vain to keep out through the winter. Although our climate is comparatively mild, yet we had some smart frosts last winter, and finding the Veronica No. 1 bore it all without a leaf quailing, I think you will be induced to admit that this variety is somewhat hardy; and that fact, with the decided difference in its foliage, and its more close habit of growth, with flowers more lilac than No. 2, induces me to consider the two Veronicas to be quite distinct, the one being hardy and the other a greenhouse plant; *G. N. S.* [There may be a constitutional difference between these plants, but it is something invisible to us. The Oncidium was a fine variety of O. pubes. The rest of our answer has been lost by a messenger. See "Notices to Correspondents."]

Potatoes.—The following simple plan for preserving Potatoes which have been attacked by disease having been found successful, the trial of it is recommended. Let the stalks be pulled up (cutting does not answer the purpose), care being taken to disturb the roots as little as possible; the earth should then be trodden down firmly, and the Potatoes taken up about the end of September, and kept as in former years; *E. Sanford, Nymhead Court, July* 18. [What if no Potatoes are formed at the time of pulling up the stems?]

The Potato Disease is again amongst us; and now is not the time for discussing the question whence, but rather the what is to be done, in order, if it be possible, to mitigate the effects. Assuming the attack to be, primarily, on the organs of respiration (the leaves), I will, for my purpose, theorise slightly; thus: So long as leaves perform their functions, the circulation of sap goes on, and stems, &c., go on enlarging. Under the ordinary circumstances of our climate, the office of the leaf becomes gradually suspended, and, *pari passu*, the tuber in the Potato gets on ripening. This is the effect, whatever be the size or age of a tuber. The growth of the tuber is as the vigour of the leaf; the ripening is in the ratio of the decay of the leaf. Such is the case under ordinary circumstances, when the leaves and haulms have their functions gradually suspended, not suddenly (when the circulation is in full vigour), but by imperceptible degrees. Now, this disease does destroy the leaf, and rapidly so; therefore the circulation of the sap is suddenly and permanently stopped; the sap moving to the leaf becomes in the first place stagnant; and then, by gravity, sinks and returns to some extent into the tuber, where of course it is so much foreign matter itself in a state of decomposition, and capable of inducing decomposition in a tuber otherwise sound. Now if this view of the matter be correct, it is manifest that the mitigation we seek will be found in preventing the descent of this sap (sap unacted on in the leaf by atmospheric air) into the tuber; the remedy, *pro tanto*, consists in cutting away the haulms; and the closer to the ground the better. Whether this be theoretically true or not in practice it has answered admirably. Tubers so treated in July, and then well earthed, and left in their places till the following February, when they were taken up, were found perfectly sound and sweet. No time should be lost in taking this course with every haulm, upon which even a single leaf is affected. A quantity, however small, of the returning uncarbonised (?) sap being capable (by catalysis) of destroying the whole tuber—"A little leaven leaveneth the whole lump"; *W. Samuel, Swansea, July* 12. P.S. Plants are modified by changes in the air they breathe. A diseased leaf or haulm disengages gases which differ widely from common air. Query. Have we not here an inference involved of some significancy; and hence a practical rule of importance? [We cannot discuss this matter just now; all we can say is that Potatoes, if organised up to a certain point, will ripen in light warm ground, even although the leaves are removed; but they will not enlarge.]

Potato Disease.—C. B. C., of Norwood Hill, Surrey, forwards a sample of Ash-leaved Kidney Potatoes: they were sown in December in a new made soil, on an open and exposed situation, and although the haulm and tubers appear very good, yet the centre is diseased, and when the Potato is cooked it becomes quite black. The same Potato was sown in a different part of the garden in the early spring, and although it is at present very good, yet it has shown symptoms of the same decay. [We cannot find any appearance of the Potatoes sent being otherwise than sound.]

To Shopmen &c., in the Seed Trade.—The above are cautioned to beware of a man who has lately been in the employment of Mr. Waterer, of Knap-hill, and who has left that place in debt to several people. He has since begun to write letters, having the names of respectable parties appended, with the view of obtaining money from seedsmen or their shopmen; *J. May, 4, Great Russell-street, Covent Garden.*

Societies.

ROYAL CALEDONIAN HORTICULTURAL.—The Midsummer Exhibition took place at the Society's Garden, Edinburgh, on the 1st inst. Numerous premiums were awarded, which we shall now specify in detail. For very fine shrubby or suffruticose Exotics, a 1st premium was awarded to Mr. White, gr. to Mrs. Haig, for Leschenaultia formosa, Epacris pulchella, Aphelexis humilis, and Boronia crenulata; and a 2d to Mr. Sleigh, gr. to Lord Advocate Rutherford, for Cuphea platycentra, Gardenia florida, Cereus Mallisonii, and C. speciosissimus.—For Cape Heaths two premiums were awarded; the 1st to Mr. White, for Erica ventricosa superba, and E. prægnans major; and 2d to Mr. Stewart, gr. to Professor Dunbar, for E. vestita alba and intermedia.—The prizes offered for dark and for light-coloured Fuchsias were both gained by Mr. Ritchie, gr. to W. M. Innes, Esq.; dark varieties, Queen of Sheba and Nicholsii; light varieties, "One in the Ring," and Dr. Jephson.—For Tropical Orchids, a 1st premium was assigned to Mr. Thomson, gr. to Dr. Neill, for Oncidium pulvinatum and Dendrobium densiflorum; and a 2d to Mr. White, for Stanhopea oculata and Oncidium papilio.—For Calceolarias, the prize was awarded to Mr. Nicol, for Kinghorn's Masterpiece, Gaines' Louis Philippe, Wier's Zelinda, and Lee's Majestica.—For Stage Pelargoniums two awards were made; the 1st to Mr. Sleigh, for Garth's Eureka, Madonna, Negress, and Foster's Orion; and the 2d to Mr. Cameron, gr. to S. Hay, Esq., for King of Saxony, Rosamond, Gulielmo, and Othello. The prize for Fancy Pelargoniums was also awarded to Mr. Cameron; the kinds sent by him being La Belle Africaine and Jehu.—Two prizes were also awarded for well grown specimens of recently introduced tender Herbaceous Plants; the 1st to Mr. White, for Torenia asiatica, trained in a cylindrical form, 4 feet high and 5 feet in circumference; the 2d to Mr. Ritchie, for a fan-trained specimen of Tropæolum speciosum.—For the three finest specimens of Achimenes, the highest prize was assigned to Mr. Young, gr. to Mrs. H. N. Ferguson, for A. patens, A. grandiflora, and A. longiflora—the latter a very fine specimen, extending 12 feet in circumference. A second premium was awarded to Mr. Ritchie, for a collection containing the same varieties.—For the two finest flowered specimens of Gloxinia, a 1st award was made to Mr. Blair, gr., Largo House, for G. magniflora and Cartonii; and a second to Mr. White, for G. maxima and Fyfiana. Mr. White also gained the prize for the finest Statice, with S. puberula.—A prize offered by Messrs. J. Dickson and Sons (through the Society), for the best 24 Roses (Moss, Provins, French, Perpetual, China, and Bourbon, four of each sort), was voted to Mr. Sleigh, whose kinds were—*Moss:* Hooker's Blush, Mrs. Lane, Eclatante, and Celina. *Provins:* Madame L'Abey, Madame Huet, Comtesse Plater, and Devigne. *French:* Kean, Celestine, Surpasse-tout, and Julie d'Etanges. *Perpetual:* Duchess of Sutherland, Lady Alice Peel, Prince de Galle, and Dr. Margoline. *Hybrid China:* Chenedole, Comtesse Lacepede, Paul Perras, and Henri Barbet. *Bourbons:* Devoniensis, Paul Joseph, Elize Sauvage, and Souchet. For another excellent collection of Roses, an extra award was made by the Society to Mr. Thomson, gr. to Captain Falconar.—Honorary silver medals were on this occasion voted as follows: To Messrs. J. Dickson and Sons, for a magnificent display of named Roses, containing many of the finest kinds in cultivation; to Mr. Handasyde, for a brilliant display of named Roses, consisting of 132 sorts, very neatly arranged; and to Messrs. Dickson and Co. for a tastefully arranged tray of choice Pelargoniums, containing 55 varieties; also a tray filled with beautiful blooms of recently introduced Pansies. Honorary premiums were likewise made as follows:—To Messrs. P. Lawson and Son, for a meritorious collection of Roses and double Anemones; to Mr. Ferguson, for a large display of named Roses and Ranunculuses; to Mr. Downie, for a stand of rich Roses; to Mr. Carstairs, for a stand of beautiful Roses; to Mr. Stewart, for select Roses; to Mr. Kelly, for a tray of choice Roses; to Mr. Young, for a tray of Pelargoniums neatly arranged; to Mr. Anderson, gr. to J. Henderson, Esq., for well grown Fuchsias; and to I. Anderson, Esq., for a seedling Calceolaria raised by himself, named Dr. Neill. Mr. Anderson also received a Certificate of Merit for a seedling Lobelia, hybrid between L. compacta alba and L. ramosa, and for a hybrid Phlox, named odoratissima. On this occasion the Society's garden contributed many interesting specimens of every class, from rare hardy alpines to brilliant tender exotics. Several of the plants attracted particular notice, either on account of the peculiar mode of training, or the novelty of the mode of cultivation. Among the former, Euphorbia splendens was trained in a cylindrical shape, 4 feet high and 7 feet in circumference, and in full flower; and we learn that it is only after eight years careful training that this naturally uncouth-looking plant has been made to assume so elegant an appearance. A very beautiful plant of Oncidium divaricatum was also exhibited, growing in a wire basket, and having its long slender flower-stems trained in a pyramidal form. Several specimens of Gloxinia, Gesnera, and Achimenes were particularly attractive, some being grown in wire baskets filled with hypnum moss, while others were enveloped wholly in balls of moss. These specimens were all flowering richly, and presented a very striking and novel appearance when seen suspended in the air by means of fine copper wire. The various species of Achimenes seem admirably adapted for this mode of culture, the flower shoots protruding in all directions through the moss, forming large globular masses. We understand that, when done flowering, the flower-shoots are cut off, and the balls containing the roots are hung up in a dry part of the greenhouse. Next spring these balls are again enveloped with fresh hypnum moss, and excited by heat, the moss being kept moist by occasional syringing.

ROYAL SOUTH LONDON FLORICULTURAL, *July* 18.—The fourth show of the season took place in the Surrey Zoological Gardens on Tuesday last, under favourable circumstances, the day being fine and the company numerous. As nearly all the plants brought forward have been mentioned in our reports of Chiswick and other exhibitions, we shall not redescribe them, but will confine our remarks to the florists' flowers, which form the chief source of attraction here, and which were on this occasion produced in excellent condition.

For the best 12 CARNATIONS in the *Amateurs' Class*, the 1st prize was awarded to Mr. May, of Sonning, whose stand contained Prince Arthur, Mercutio, May's Caliban, Turner's William Penn, Marquis of Lansdowne, King Lear, May's Lorenzo, Shallow, Flora's Garland, Romeo, Beauty of Woodhouse, and Edmund; 2d prize, Mr. Newhall, of Woolwich, for Hale's Prince Albert, Puxley's Prince Albert, Flora's Garland, Jacques' Georgiana, Hodge's Bright Phœbus, May's Ariel, Brabbin's Squire Meynell, Simpson's Queen Victoria, Hepworth's Hamlet, Ely's Lord Milton, Appleby's Prince of Wales, and Norman's Duke of Wellington; 3d, Mr. Headley, for Ely's Lady Ely, Hugo Meynell, Appleby's Prince of Wales, Unknown, Ely's Prince of Wales, Wood's Wm. IV., Wakefield's Paul Pry, Headley's Royal Chancellor, Duke of Sutherland, Ely's Lord Milton, Holmes' Count Pauline, and Mrs. Alney; 4th, Mr. J. Reeves, for Flora's Garland, Roi du Capucins, Colcut's Brutus, Young's Double X, Tomlyn's Briseis, Park's Syren, Grenadier, Jacque's Georgiana, Sharp's Defiance, Iron's Conqueror, Pollard's First-rate, King Alfred; 5th, Mr. J. Edwards, Holloway. In the same class for *Nurserymen*, the 1st prize was awarded to Mr. Keynes, of Salisbury, for Mansley's Beauty of Woodhouse, Young's Double X, Ely's Duke of Bedford, Flora's Garland, Ely's King of Scarlets, Hale's Prince Albert, Hepworth's Hamlet, Ely's Lord Hardinge, Cyclops, Ely's Prince of Wales, and Easom's Admiral Curzon; 2d, Mr. Norman, of Woolwich, who showed Ely's Lord Hardinge, Headley's Royal Chancellor Hepworth's Antagonist, Williams' Earl of Errol, Ward's Sarah Payne, Hale's Prince Albert, Flora's Garland, Puxley's Prince Albert, Ely's

King of Scarlets, Ely's Lovely Ann, Cartwright's Rainbow, and Headley's Achilles; 3d, Mr. Turner, of Chalvey, for Hepworth's Hamlet, Brooks' Flora's Garland, Roi du Capucins, Barnard's Duke of Roxburgh, May's Ariel, Ely's Lord Hardinge, Puxley's Prince Royal, Mansley's Beauty of Woodhouse, Young's Seedling, Ely's Lord Morpeth, Wilson's Harriet, and Addenbrook's Lydia.

Picotees.—In the *Amateurs' Class* the 1st prize was awarded to Mr. Newhall, of Woolwich, whose stand contained the following varieties: Headley's Venus, Halliday's Delicata, Mrs. Barnard, Wildman's Isabella, Burroughes' Amy, Youell's Gem, Headley's King James, Edmonds' Jenny Lind, Cox's Regina, Burroughes' Fairy Queen, Giddens' Queen Victoria, and Sharp's L'Elegant; 2d, J. Pond, Esq., for Seedling, Mrs. Bevan, Cole's Mrs. Tendall, Seedling, Wain's Queen Victoria, Burroughes' Amy, Headley's Venus, Matthews' Enchantress, Edmonds' Jenny Lind, Seedling, Wildman's Isabella, and Mrs. Barnard; 3d, Mr. Perkins, who showed Willmer's Princess Royal, Dickson's Charles Stanford, Trahar's Rosalind, Dickson's Mrs. Trahar, Victoria Regina, Mrs. Barnard, Wildman's Isabella, Burroughes' Amy, Sharp's Duke of Wellington, Edmonds' Jenny Lind, Sharp's L'Elegant, and Willmer's Princess Royal; 4th, Mr. Sandilands. —In the *Nurserymen's Class* the 1st prize was awarded to Mr. Turner, of Chalvey, for Marris' Prince Albert, Burroughes' Amy, Green's Queen, Delicata, May's Juliet, Willmer's Princess Royal, Edmonds' Ernest, Headley's Venus, Wildman's Isabella, Mrs. Barnard, May's Portia, and Edmonds' Jenny Lind; 2d, Messrs. Norman, Woolwich, for Headley's Captivation, Seedling, Mrs. Barnard, Sharp's L'Elegant, Burroughes' Amy, Willmer's Princess Royal, Headley's Ariel, Edmonds' Jenny Lind, Headley's King James, Youell's Gem, Headley's Venus, and Regina.

A large collection of Pelargoniums (not for competition) were exhibited by Mr. Dobson, gr. to Mr. Beck, of Isleworth, comprising most of the varieties raised at Worton Cottage. They were in good condition, and contributed their due share to the gaiety of the exhibition.

There were several well grown collections of Fuchsias exhibited both by private growers and nurserymen The varieties were the same as we have noticed at former shows. The leading flowers among the light varieties comprised Dr. Jephson, Napoleon, Delicata, One in the Ring, and White Perfection; and among the dark sorts, Coralina, Smith's Eximia, Exoniensis, and Willmoreana were the most distinct. For these Fuchsias prizes were awarded—among private growers to Messrs. Shukford, Robinson, and Over; and among nurserymen to Messrs. Fowle and Jennings.

Some very good stands of Verbenas were shown. Mr. Smith, who generally takes the lead in this class, exhibited a stand with the following sorts:—La Reine, Vixen, Cyclops, Valentine de Savuse, Clotilde, Desirable, Defiance, Comte de Paris, Gem, Advancer, Magnet, Madame Dehu, Seedling, Captivation, Imperatrice, Josephine, Champion, White Perfection, Seedling, Vivid, La Coquette, Fire King, Duchess of Sutherland, Tricolor, and St. Margaret.

Prizes were offered in Class 1 (private growers), for Antirrhinums in pots, by Mr. J. Fowle; and by Mr. J. Chapman, to nurserymen and florists for the same. This produced a very good display of these flowers, and the prizes were awarded as follows: to Mr. Hock in Class 1, and to Mr. Fowle in the nurserymen's class. —Prizes were also offered for cut blooms of Hollyhocks. The 1st prize was awarded to Mr. A. Parsons, whose stand contained some very fine varieties, principally of light sorts; in Mr. Chater's collection the best flowers were among the richly coloured darks.—A tray of cut blooms of Pelargoniums, exhibited by Messrs. Bragg and Bright, were remarkable for richness of colour; and other exhibitions of cut flowers were also much admired, especially the Roses of Messrs. Paul and Francis.

Seedlings.—The seedlings were numerous among Picotees. Two Certificates were awarded, both for light-edged purple varieties, with large broad petals; first belonging to Mr. Sandilands; the other, named Witch, from the Rev. H. Matthews; the same to Mr. Wood, Huntingdon, for a crimson bizarre Carnation—a very promising flower; and a rose flake, from Mr. May, of Sonning, a variety of very fine qualities.—In Antirrhinums, two were selected from seedlings exhibited by Mr. Dobson, gr. to Mr. Beck, named Jane, large white flower with crimson stripe, and Lady of the Lake, a bright yellow. A variety named Brilliant from Mr. Ivery, a finely formed flower of a bright bronzy scarlet. A Certificate to Mr. Smith, of Hornsey, for a Verbena named Beauty of Hornsey, a clear light pink.

Country Shows.

[illegible]—This, the first meeting for the year, was held on [illegible]. The day proved fine, and the exhibition was [illegible] of the previous meetings of this Society, [illegible] established ten years. There was [illegible] greenhouse plants. [illegible] though as a whole rather [illegible] bited by Mr. Ansell, gr. to Mrs. [illegible] smaller one, by Mr. Lane, gr. to H. [illegible] lot contained a large [illegible] specio[illegible], a large compact [illegible] decussata, a fine Pentas carnea 2 feet high [illegible], loaded with blossoms, [illegible] circular trellis, two Statices [illegible] tetratheca [illegible], and a fine Aphel[illegible] drum splendens magnificently bloomed, Clematis [illegible] wire trellis, Amphicome [illegible], and [illegible] plants of Aphelexis [illegible] and [illegible] carpus Rexii. In Mr. Lane's collection [illegible] Cactus Jenkinsoni, Cuphea platycentra, and other plants. The 1st prize for Orchids was awarded to Mr. Ansell, for Oncidium flexuosum with [illegible], O. [illegible] Aerides [illegible] two plants of A. odoratum, Cattleya [illegible], Stanhopea [illegible] lata and tigrina, the latter with [illegible], and some others. First and 2d prizes for Pelargoniums were awarded to Mr. Ansell for two collections, one consisting of Zenobia, Constellation, Duke of Cornwall, Isabella, Rising Sun, Titus, Margaret, and Rosette; and the other of [illegible], Duchess of Leinster, Isabella, [illegible], Sir [illegible] Newton, and Diadem. Of Fuchsias Mr. Ansell exhibited two collections. The first contained Napoleon, Admiral, [illegible], Princess [illegible], and [illegible]; the second, of Duke of York, Napoleon, [illegible], Victoria, London Rival, and [illegible]tress. Mr. Ansell also obtained prizes for collections of [illegible], Calceolarias, Roses, Petunias, Antirrhinums, and Ferns. His Calceolarias consisted of Lady Constable, [illegible], Mrs. Milnes, Adonis, [illegible], Gipsy, and Mrs. [illegible]. Of Roses he exhibited Devoniensis, [illegible], Madame Laffay, Bourbon Queen, Elize Sauvage, Grand Bal, and [illegible]. The Petunias were not so good as his other plants; the varieties were Rosea elegans, alba, elegans, [illegible], and Lady Peel. Of Ferns he showed a superb specimen of Blechnum Braziliensis. Mrs. E. Stansted was awarded a prize for cut Roses. Mr. Robinson, gr. to W. R. [illegible], Esq., also, for a brace of Melons; and Messrs. Lane and [illegible]bers received prizes for a brace of Cucumbers. The Society has been formed chiefly for the encouragement of the [illegible] in the neighbourhood of [illegible], and the plants, cut flowers, fruits and vegetables exhibited by them were creditable, the Strawberries and Cherries being first-rate.

Slough Carnation and Picotee Show, July [illegible].—The flowers on this occasion were large and fine, it being the height of the blooming season about London. The seedlings also, as heretofore, were both numerous and good. The awards were, to Carnations, *Open Class*, 1st prize, 12 blooms, to Mr. Turner, Chalvey, for Strong's Duke of York, [illegible], [illegible]'s Brutus, May's Cardinal Wolsey, Turner's Wm. Penn, Count Pauline, May's Lorenzo, Beauty of Woodhouse, Holliday's [illegible]non Smith, Ely's King of Scarlets, [illegible]'s Admiral [illegible], and May's Ariel; 2d, Messrs. Norman, Woolwich, for Cartwright's Rainbow, Hepworth's Hamlet, Ely's [illegible] Purple, Count Pauline, Admiral Curzon, Norman's Duke of [illegible], Ely's Lord Hardinge, Flora's Garland, Headley's Achilles, May's Ariel, Earl of Errol, and Splendid; 3d, Mr. J. [illegible], Salisbury, for Hale's Prince Albert, Flora's Garland, [illegible], Harriet, Ariel, Duke of Bedford, Sarah Payne, Lady of the Lake, Beauty of Woodhouse, King of Scarlets, Splendid, and Victory. *Class for Private Growers*.—1st, Mr. May, of Sonning, for Ariel, Omnium Primus, May's Caliban, May's Prince Arthur, Turner's Wm. Penn, May's Lorenzo, Do. Cardinal Wolsey, Admiral Curzon, May's Hotspur, Lydia, May's [illegible], and Beauty of Woodhouse; 2d, Mr. Newhall, Woolwich, for Turner's Wm. Penn, Hale's Prince Albert, Ariel, Seary's Princess Royal, Flora's Garland, Duke of Bedford, Hepworth's Hamlet, Puxley's Princess Royal, Simpson's Queen Victoria, Beauty of Woodhouse, Appleby's Prince of Wales, and Ely's King of Scarlets; 3d, Mr. J. Edwards, Holloway, for Prince Albert, May's Orlando, Minerva, Hamlet, Flora's Garland, Duke of York, Ariel, Brilliant, Omnium Primus, Sarah Payne, Wm. Penn, and Sir H. Hardinge. Picotees: *Open Class*.—Equal 1st prizes to Mr C. Turner and Messrs Norman. Mr. Turner's stand contained the following flowers: Wildman's Isabella, Amy, Mrs. Bevan, May's Jessica, Mrs. Barnard, Green's Queen, Holliday's Countess of Spencer, Headley's Venus, Ely's Jenny Lind, Edmonds' Jenny Lind, Willmer's Princess Royal, and Cox's Regina; Messrs. Norman had Wildman's Isabella, May's Juliet, Lady Smith, Mrs. Bevan, Burroughes' Amy, Mrs. Barnard (extra fine), Wilmer's Princess Royal, Halliday's Delicata, Vespasian, Headley's King James, Matthews' Enchantress, and Wood's Queen; 2d, Mr. J. Keynes, for Isabella, Field Marshal, Amy, Mrs. Bevan, Portia, Rosalind, Jessica, Miss Fanny Irby, Mrs. Barnard, Duke of Newcastle, Edmonds' Jenny Lind, and Beauty. *Class for Private Growers*.—1st, Mr. May, for Isabella, Mrs. Bevan, Juliet, May's Jessica (extra fine), Mrs. Barnard, May's Sebastian, May's Phœbe, Venus, May's Miranda, Edmonds' Jenny Lind, and May's Portia; 2d, Mr. J. Edwards, for Lady Chesterfield, Jessica, L'Elegant, Mrs. Bevan, Rosalind, Emily, Yorkshire Hero, Mrs. Barnard, Willmer's Princess Royal, Nulli Secundus, Venus, and Miss Fanny Irby; 3d, Mr. Benson, Oxon, for Isabella, Prince Albert, Agitator, Costar's Caustic, Costar's Gamester, Costar's Sir W. Pottinger, Costar's Lady Pottinger, Wood's Princess Alice, Sir R. Peel, Nulli Secundus, Miss Fanny Irby, and Edmonds' Jenny Lind. Seedling Carnations.—The Premier prize, and 1st class Certificate, to Mr. May, Sonning, for "Romeo:" rose flake, of a light shade, and decidedly the best of its class: the petals are finely shaped, smooth, and glossy: the marking distinct and regular, the stripes running well through the petal; size large. Seedling Picotees.—The Premier prize, and 1st

[illegible]

Herb Culture, at [illegible]—[illegible]

[illegible] the plants stand about [illegible] other [illegible] way. [illegible] in the [illegible] covered.

[illegible] one of the [illegible] from the Lavender, a [illegible] with. It was [illegible] on each [illegible] four rows. [illegible] every year, [illegible] at the [illegible] are gathered [illegible], and the [illegible] to remain until [illegible], and [illegible] here. It is cultivated [illegible] between them. The plants are [illegible] of April, in rows one foot apart each way. The roots, running as they do [illegible] under the surface of the ground as the plants get [illegible] get care of soil, and, during dry summers, the plants are [illegible] and weak. In autumn, after the Mint is cut, the beds are covered about 4 inches deep with soil from the alleys; in this the young plants [illegible], and in spring are in good condition for [illegible] and planting in rows in fresh beds. Formerly the hoe used to be employed in forming the drills in which Mint is planted, but this is now effected by a machine which draws several drills at a time, very much facilitating the operation of planting; S.

Calendar of Operations.

(*For the ensuing Week.*)

Summer Management of Fruit Trees.—A systematic application of the principles of pruning should be continued to fruit trees during the summer months. The tendency to excessive luxuriance frequently exhibited by espalier trees renders the operation of disbudding, stopping, and shortening shoots

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NEW GARDEN PLANTS, PUBLISHED IN BOOKS.

N.B.—* = Very handsome. † = Second rate. ‡ = Third rate. ¶ = Unimportant.

Name.	Where Published.	Name of Country.	Quality.	Natural Order.	Colour of Flowers.	Time of Flowering.	When first flowered.	Where.
Citrus japonĭca .... † *The Kumquat.*	Journ. Hort. Soc., III., 239.	China	G. ♄	Citronworts	White	January	1848	Hort. Society.
Zauschnerĭa califorĭnca .... * *The Californian Zauschneria.*	Journ. Hort. Soc., III., 241.	California	H. ♃	Onagrads	Scarlet	Aug. Sept.	1847	Hort. Society.
Calceolarĭa cuneifōrmis............ † *Wedge-leaved Calceolaria.*	Journ. Hort. Soc., III., 242.	Bolivia	G. ♄	Figworts	Pale yellow	October	1847	Hort. Society.
Angelonĭa angustifolĭa .... * *Narrow-leaved Angelonia.*	Journ. Hort. Soc., III., 244.	Mexico	S. ♃	Figworts	Deep violet	June	1847	Hort. Society.
Acacĭa ixiophȳlla .... † *Sticky leaved Acacia.*	Journ. Hort. Soc., III., 244.	New Holland	G. ♄	Leguminous plants	Yellow	March	1848	Hort. Society.
Sericogrăphis Ghiesbreghtiāna ... † *Ghiesbreght's Sericographis.*	Journ. Hort. Soc., III., 245.	Mexico	G. ♄	Acanthads	Purplish red	December	1847	Hort. Society.

more particularly essential. The whole principle of pinching is merely this—in the first case, to pinch all young shoots not necessary for the framework of the tree; secondly, to stop those shoots which threaten to overgrow their neighbours, by which means a due equilibrium of the branches will be maintained; and, finally, having commenced a system of repression, to continue it in regard to lateral shoots which are developed by reason of this system of stopping. While, according to the general plan usually pursued, every encouragement is afforded to the powerful development of roots, by the application of soil, a necessary limitation of wood destroys the unity of force between the two. Root pruning is thus obviously suggested, and may in the proper season be practised with advantage. If attention has been paid to pinching the shoots according to previous directions, there will, at this moment, probably be found on the branches which have undergone the operation, a little tuft of three or four or even more lateral shoots. It is a good time now to look to these herds of young spray; in some cases the chief shoot may be shortened back to the last lateral, allowing it to become the leader; and if that should take a development stronger than is advisable, it must again be pinched. There is more cases of this kind offered by the Peach than any other fruit tree. The principle holds good for all of them. The practice above alluded to, if regularly pursued for several seasons, will yearly become of less trouble; the tree will become habituated to such treatment, and gradually acquire the desired habit.

CONSERVATORY AND GREENHOUSE.

Little can be added to previous recommendations. Verbenas, Fuchsias, Lobelias, and Pelargoniums introduced successively, will maintain the gaiety of the house. That the supply may be prolonged, the store pits should be kept well stocked with young plants. Great care in providing water to plants plunged out of doors should be given; an occasional shower moistens the surface, and the plant may appear sufficiently wet when in reality it is perishing for want.

FRUIT FORCING.

Vineries.—If the foliage of the early house has suffered, and it is considered that the wood yet requires perfecting, a slight extension may be allowed the laterals, under certain limitations. It must always be remembered that the ripening of the wood is a nice and most important operation, and should be practised with all care. Vines in pots will probably be in a condition fit for removal, to undergo the autumn of their early winter; water them sparingly. *Peach-houses.*—On the removal of the crop from the house, give the trees a liberal syringing and maintain the practice daily; allow abundance of air during fine bright weather, and keep the trees protected from depression of temperature, until the fall of the leaf fairly ensues. *Pines.*—At this season heat is both welcome and natural to succession plants; maintain the dung linings, and otherwise encourage the growth of the advancing stock. Give air freely, and calculate on supplies of water being frequently required.

KITCHEN GARDEN AND ORCHARD.

The sooner the early kinds of Potatoes are taken up the better; their removal from the direct influence of atmospheric action may diminish the effect of the disease, which seems to be spreading about the country, although in a less virulent form than heretofore. We possess few instances of it as yet, which we attribute in part to the total disuse of dung, to the employment instead of charred turf and wood-ashes, drilled in when the Potatoes were planted. The merits of the various winter Greens are too well known to need description. Savoys, Green-kale, and Brussels Sprouts should be encouraged as a resource in the event of scarcity. The sprouting and hardy Cape Broccolies are always valuable in a garden. *Orchard.*—Keep the Vines carefully tacked in, and the laterals constantly stopped; both bunch and stem will be benefited, by sharing abundantly the advantages of a free exposure. Let the free-growing shoots of Plums be regularly laid in, as they are apt to become awkward in training, if left too long. The sooner the ground is prepared for Strawberries the better; let it be well manured and trenched to the depth of 3 feet.

FLOWER GARDEN AND SHRUBBERIES.

The progress of all mass flowers must be attended with unfailing care. Fern pegs will be found efficient for pegging Verbenas. The Ivy-leaved Pelargonium, which forms an elegant and effective bed, must spread over the ground, and be supported. In the borders, the decay of herbaceous plants and annuals will still afford space for successional things. We have saved succulent creepers from the attacks of both snails and rabbits, by twining wool round their stems, and smearing gas-tar on the outer hairs. The same precaution may be used for Dahlias. Mow and roll lawns weekly. Continue to bud Roses, to pipe and lay Pinks, and propagate Heartsease.

FLORISTS' FLOWERS.

Carnations and Picotees.—We have many complaints of run flowers this season, but from the statements of the various parties who are the greatest sufferers, it appears that highly stimulating compost has led to this most natural consequence. All strongly marked flowers, such as scarlet and crimson bizarres, are most apt to start their colours when there is too large a proportion of manure in the soil, or when they are watered with liquid manure at too early a period of their growth. Picotees may be grown with much greater safety in rich compost than the above-mentioned classes. In preparing the soil for the next year's potting, it will be advisable to have that intended for highly-coloured scarlet, and rose and purple flakes, and bizarres of a less forcing character than that in which those of paler colour and Picotees are grown. Proceed with layerings. It requires some little practice to ascertain when the shoots are in a fit state. As a safe criterion, the amateur may begin with the longest and strongest. Pipings are struck in the same manner as Pinks, on a gentle hotbed: they generally make nice stiff plants, and will stand the winter best. *Pinks.*—Those planted out on the store beds will only require attention as far as regards keeping clean. If, unfortunately, wireworms should make an attack on them, it will be advisable to place pieces of Potato between the rows immediately below the surface of the soil, and in the vicinity of those where the last were destroyed. If these are carefully examined every morning, these sad depredators will soon be destroyed. *Dahlias.*—Thin out the branches of those varieties which usually flower weak, and remove all buds which evidence malformation; tie the lateral branches to the side sticks, going over the stock frequently. A small amount of attention now will often save a great amount of damage.

COTTAGERS' GARDENS.

It is necessary to urge the speedy introduction of Cabbage, Savoys, Green and other Kale, Brussels Sprouts, Spinach, and Cape Broccolies, if not already planted. The anticipation of a partial failure of the Potato should be met with such precautions. Continue to collect all sorts of rubbish for the manure-heap, vegetable matter that will not decompose will readily burn; and a good store of wood-ashes will be found of the utmost use. Follow up the destruction of weeds industriously. Stop Peas and Beans.

State of the weather near London, for the week ending July 20, 1848, as observed at the Horticultural Garden, Chiswick.

July.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 14	12	30.310	30.198	87	60	73.5	E.	.04
Satur.. 15	13	30.260	30.225	71	41	56.0	N.E.	.00
Sun. .. 16	○	30.296	30.230	78	49	63.5	N.E.	.00
Mon... 17	15	30.171	30.122	76	47	61.5	W.	.00
Tues... 18	16	30.088	29.913	80	51	65.5	W.	.00
Wed... 19	17	29.776	29.489	74	59	66.5	S.W.	.00
Thurs. 20	18	29.512	29.299	72	44	58.0	S.W.	.07
Average ...		30.006	29.938	76.8	50.1	63.5		0.11

July 14—Very fine; thunder, lightning, and rain at night.
— 15—Light clouds and fine; clear and cold at night.
— 16—Exceedingly fine throughout; clear.
— 17—Fine; lightly overcast; very fine; cloudy at night.
— 18—Clear and fine; very fine; clear.
— 19—Overcast; cloudy; clear at night. [calm.
— 20—Cloudy and rather boisterous; thunder in afternoon; clear and
Mean temperature of the week, ½ deg. above the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending July 29, 1848.

July.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 23	71.9	52.7	62.3	8	0.40 in.	1	3	3	—	1	4	5	5
Mon. 24	73.0	52.5	62.7	5	1.03	—	7	3	1	2	4	2	2
Tues. 25	74.4	51.5	63.0	5	0.22	2	5	2	—	1	4	7	1
Wed. 26	73.8	52.3	63.0	8	0.70	2	1	3	2	2	6	4	2
Thurs.27	75.3	51.7	63.5	6	0.56	1	3	3	1	3	5	4	3
Fri 28	77.5	53.5	65.5	10	0.32	1	1	2	2	1	7	5	3
Satur. 29	75.0	51.4	63.3	10	0.31	1	1	4	2	2	6	4	3

The highest temperature during the above period occurred on the 25th 1844 —therm. 92 deg.; and the lowest on the 29th, 1839—therm. 42 deg.

Notices to Correspondents.

**** If any of our correspondents should find their inquiries this week unanswered, we must beg them to repeat them; for a packet of MSS. has unfortunately been lost on its way to the printing-office.*

To our Correspondents—May we beg it to be understood that we cannot answer inquiries privately through the post. We are ready to give any reasonable information in our power through our columns; but we cannot consent to the labour of writing letters.

Back Numbers: One shilling will be given for No. 20, 1847.—2*s.* will be given for No. 2, 1841.

Carrots: *T B.* Early Horns may be sown at any time; they come to hand very quickly; but they have the fault of yielding a small produce.

Insects: *Y M.* Your insect is the caterpillar of the wood leopard moth (see *Gard. Chron.* 1846, p. 236), which is often very destructive to young fruit trees. It may be expelled by smoke of tobacco blown into its burrows. *W.—S S.* Your Rose-leaves are eaten by the larvæ of a small saw-fly; you will find a remedy in last week's *Gard. Chron.* (p. 472, col. c.) *W.—S R F.* Ditto. An article on this subject will shortly appear in our pages. *W.—R W.* Your hams are attacked by the larvæ of the bacon beetle (Dermestes lardarius), which can only be eradicated by great attention and the removal of all heaps of bones or skins, in which they harbour. They turn to an elongate oval beetle, of a black colour, with a grey band across the back dotted with black. *W.—J P D.* The fly is one of the largest British species of saw-flies, and is named Trichiosoma lucorum; its caterpillar is green and shagreened, feeds on Whitethorn hedges, and forms a hard brown oval cocoon. We shall be happy to answer any other questions on this subject. *W.—R R.* Your fly is one of the large sand-wasps (Ammophila sabulosa; see *Gard. Chron.*, 1844, p. 731, for its history), which buries caterpillars for the food of its progeny. The caterpillar which it was dragging along was a large geometridan nearly twice its own length. *W.*

Melons: *H B.* Your Bromham Hall Melon is one of the very best we have ever tasted. The seed shall be returned to you as soon as it is dry.

Mesembryanthemums: *Devonian.* 12 good distinct varieties: rubro-cinctum, multiflorum, pulchellum, polyphyllum, spectabile, aurantium, glaucum, coccineum, pyropæum or tricolor, splendens, speciosum, and mutabile. ¶

Names of Plants: *Ignota.* Viscaria oculata. Do not prune your Cacti unless they become too large: and then let it be done when they are not growing. The Primula denticulata flowers and grows freely in peat, in the open air, in a north border. It looks very much better if kept in a cold greenhouse, exposed to currents of air at all seasons. The leaf you have sent does not, however, belong to Primula denticulata, but to, we think, P. Stuartii, a much rarer and a more delicate plant. Shift Orange trees just before you are about to start them into growth.—*J G.* Rosa multiflora alba, of Mr. Fortune's China mission. ¶ — *T B.* Cicer arietinum — the Chick Pea — *Zeta.* Apparently Hieracium aurantiacum.—*Philalbes*: Claytonia perfoliata.—*J C X*: Your experiment is worth repeating. It will perhaps end in your ascertaining that Festuca loliacea is itself nothing more than a two-glumed variety of Lolium perenne. That is what we anticipate. We know that the former seldom seeds.—*S N.* The large one is Rosa rapa, a double variety of R. lucida; the other is R. nitida, apparently. The other to which you allude may be the double Rosa cinnamomea.—*Geo. Norman.* The figure is too much flattered. Aristolochia labiosa.—*X Y Z.* 1, Holcus mollis; 2, Juncus bufonius; 3, Polygonum hydropiper; 4, Bromus arvensis.—*A B.* Convolvulus Soldanella.—*A Lady.* It is an Orobanche or Broomrape; the specimen is so much shrivelled that the species can hardly be determined.— *Ch Ch.* Very genuine dry rot. You may kill it with a solution of corrosive sublimate, only take care that you do not poison yourself.—*S Yates.* Cattleya Harrisoniæ.—*Sub.* We cannot undertake to name plants not in flower.

Pelargoniums: *A Lady.* We have examined your list, and recommend you the following sorts, any of which your nurseryman can supply:—Foster's Matilda, Miller's Mount Etna, Beck's Rosamond, Hebe's Lip, Cavalier, and Honora; Catleugh's Pearl, Lyne's Duke of Cornwall and Forget-me-not, Foster's Sir Robert Peel, Gaines' Duchess of Leinster, and Beck's Centurion.*

Potatoes: *Estc.* Thanks for the correction. We are sorry to see how much the haulm and tubers of your Parker's Kidney are diseased.

Roses: *C M H.* Your Rose, which you state in a cold part of Lancashire grows most luxuriantly, covering a wall upwards of 30 feet wide, and 12 or 14 feet high, is Jaune Desprez. We are not aware that it is more difficult to propagate than other Roses.‡—*H D.* Rosa Manetti is said to be a seedling raised somewhere in the south of France; it is a strong and vigorous grower, resembling a hybrid musk with a semi-double rosy pink, or light rosy purple coloured flower.‡—*W N.* Copious lists of Roses are to be found in Mr. Paul's "Rose Garden."‡

Royal Irish Horticultural Society: *Hort Hib.* Many thanks. We shall return to the subject.

Salvias: *A D.* A white Salvia patens is a novelty: but not an improvement. It was the brilliant blue, so rare a colour, that gave the original its value. Your seedling is certainly white, in the strictest sense.

Strawberries: *A B.* The London growers do not like "Alice Maud," which they say is worthless. It is, however, reported to bear well about Bath.‡

Tiles: *Wat Tyler.* We believe they may be had of Copeland and Garrett. If not, it will be useless to inquire for them.

Vines: *T W L.* Really your Vines ail nothing more than exuberant health.

Misc: *S.* What a dullard "G" must be. All plants are vegetables. Does he think that the word vegetable is confined to Cabbages and other esculents?—*Devonian.* Taxodium pinnatum is the Mexican form of T. distichum, and has been frequently mistaken by travellers for the Taxodium distichum of the United States, and from which it differs only in the leaves being subdeciduous when protected in winter. It is not quite hardy, even in an ordinary winter; and severe winters kill it when fully exposed. It requires a damp situation when planted in the open ground. The Strelitzia reginæ is not strictly an aquatic or bog plant, although at a certain season the plant may be treated as such with advantage. It requires plenty of moisture and heat during the growing season, and should be kept nearly dry when in a state of rest.¶—*W G.* Your flowers were so much dried up, that we could not tell what they were.*

SEEDLING FLOWERS.

Calceolarias: *W H.* Your seedlings are very handsome, and peculiar in colour. No. 4, white with purple markings, and 36, light buff with deep maroon spots, are very attractive flowers. 23 and 42 are both fine, but more common. 43 too bruised, the colours could not be distinguished correctly.*—*J J.* Your seedling (cherry maroon) is pretty in colour, but rather defective in form; the variety with a yellow ground is very poor.*—*W B.* No. 1., the dark variety, is good in form and colour. No. 2 is also pretty in colour, good in outline, but too flat in front.*

Fancy Pelargoniums: *J J.* No. 2 is a neat and pretty flower; it will depend much upon its freedom in flowering whether it proves a desirable variety. No. 1 is too much like No. 2 in colour, but not so good.*

Fuchsias: *R H.* Your seedlings are not equal to those at present in general cultivation; the colours are not sufficiently distinct, and they are very inferior to the best sorts seen at exhibitions. Your best specimen is No. 12, the corolla being stout and bright in colour. No. 1 is also a showy flower; the rest want distinctness, and many of them have coarse tubes and sepals.*—*G S M.* Your specimen of F. corymbiflora is not so good as many we have seen; the tube and sepals are rather coarse, and the corolla is too much hidden; the foliage is smaller than usual, which is an advantage, and the flowers are bright: much depends upon the habit of the plant and in its freedom in flowering.*—*S C W.* Your seedling is no improvement upon the varieties already out.*—*A R.* Your specimen, though large, is no improvement upon the cultivated sorts; it wants contrast in the colours.*—*G S M.* Your seedling resembles many already raised from F. corymbiflora in habit, and there seems to be little difference in the flower from that of F. corymbiflora. ¶

Gloxinia: *A B C.* We could form no satisfactory opinion of your flowers, they were too much bruised on their journey.*

Pansies: *R H C.* Your seedling is a stout and well-formed flower. The eye is too weak in colour, and the lines run through to the broad margin; the ground colour of the flower, also, is not well defined.*

Pelargoniums: *G R.* The seedling named "Corbett's Ball of Fire" is a brilliant orange scarlet flower, with a small, rich, feathery spot in the top petals. The flower is too small for showing, but is attractive in colour.*—*J D.* General form good, lower petals broad, short, and well rounded, nearly white in the centre; top petals deep maroon, rosy on the edge; lower petals rosy crimson: a good flower, fine in colour.—*J J.* White centre, maroon top petals, with rosy margin, lower petals rosy pink, with dark veins; a clear and bright flower, but poor in form, the lower petals being too narrow.*

Petunias: *Amicus.* Your seedling is but a common variety, and too deeply indented by the divisions of the corolla.*—*J J.* Bright crimson purple; a good and handsome variety.*—*M H.* Your specimens are very pretty varieties, strongly varied and differing in colour. No. 6, with lilac veins, has also a stripe of light lilac running up the centre of each division of the corolla, giving it a star-like appearance. No. 2, with deep purple veins, is a handsome flower: they are four distinct and good varieties.*—*J F.* No. 2 is your best variety, the veining being strong; it contrasts well with the ground colour, and makes it attractive. No. 1, a clear bright crimson, is a very good flower; 3 is deficient in colour.*—*J T.* Petunias should not be packed up in dry cotton-wool, unless the flower is previously placed in tissue paper, the flower being of a gummy nature; it is impossible to release it from the cotton wool, so as to allow it to expand again in water. Your specimen was quite dried up; the flower is, probably, one of the parents of the variety the sport was upon.*—*A Z.* Your flower was so much decayed we could not tell the colours.*

Scarlet Geraniums: *J J.* The flower of your seedling is large and brilliant in colour; if the habit be good it will rank with the best we have.*

Erratum: In our report of the Chiswick Exhibition, p. 475, we omitted to give the weight of Mr. Busby's bunch of flame-coloured Tokay Grapes, which should have been placed second—it weighed 2 lbs. 12½ oz.

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those numerous correspondents, the insertion of whose interesting contributions is still delayed.

TO BE LET ON LEASE, ARABLE FARMS, within 4 miles of Harwich, in the county of Essex.

1. THE POND FARM, in the parish of Dover-court, consisting of 91 acres of Arable Land of the best quality, with a good and substantial Farm-house and all necessary Farm Buildings. To be entered upon next Michaelmas.

2. THE VALE-HOUSE FARM, in the parish of Ramsey, consisting of 87 acres of Land of excellent quality, with a good Farm house and all necessary Farm Buildings. To be entered upon next Michaelmas.

3. THE CLAY-ISLAND FARM, in the parish of Ramsey, consisting of 188 acres of Arable and Pasture Land of excellent quality, some of it being alluvial and capable of great improvement. To be entered upon next Michaelmas.

Lease of 7, 14, 21 years, on a corn rent, may be granted under certain conditions.—To view these Farms, apply to Mr. MALEY, at Michaelstow Hall, in the parish of Ramsey; and for the Conditions on which Leases will be granted, and for the terms of occupation, apply to Mr. JOHN MORTON, Whitfield, Berkley, Gloucestershire.

The Agricultural Gazette.

SATURDAY, JULY 22, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

TUESDAY,	July	25	—Agricultural Society of England.
TUESDAY	—	25	Meeting of the Irish Agricultural Improvement Society at Kilkenny.
WEDNESDAY	—	26	
THURSDAY	—	27	
WEDNESDAY	Aug.	2	Meeting of the Highland Society at Edinburgh.
THURSDAY	—	3	
FRIDAY	—	4	

FARMERS' CLUBS.—July 28: STRADBROKE.—August 5: Newcastle, Durham, Melrose.

It may be well before the period of another harvest, so far to resume our articles on AGRICULTURAL MECHANICS as to describe the machines to be employed in threshing it out.

The present most common form of the THRESHING MACHINE was invented by Mr. ANDREW MEIKLE, of East Lothian, about the year 1785. But before speaking of the construction of this machine, it may be well to trace the various steps of the process which terminated in its invention. The want of an implement which should rapidly and efficiently separate the corn from the straw was much felt in Scotland after the impulse given to agricultural improvement by the establishment of the Highland Agricultural Society. The slowness of the operation of the flail was then so generally complained of, that when at length a good threshing machine was constructed, it obtained universal adoption in a very short time.

In the trials made at intervals by mechanics and others, which preceded the construction of this machine, several principles, differing much from one another, were successively tried as the basis on which to build. Some founded all their efforts on the supposition that the action of the flail was that which would eventually be found the most effectual, and on their failure others adopted the process of rubbing the ears as the process to be effected by their machine: this also failed. It was not the injury which the flail did to the grain, nor yet the imperfect manner in which the corn was by it separated from the straw, but it was the extreme slowness of the operation that was complained of, and it was, therefore, natural that in the first attempt to construct a threshing machine, regard should have been had, more to increase the speed than to alter the nature of its work. In the machine constructed by MENZIES, of Edinburgh, in 1732, a series of flails were attached to an axis, by the revolution of which a rapid succession of blows were made on a floor on which corn was spread out to be threshed. This machine was soon abandoned. The flails broke and were not found to answer their intended purpose.

The next machine, invented by Mr. STIRLING, of Dunblane, Perthshire, did not, however, abandon the principle on which this had acted, but the mode in which the blows were given was an improvement. The corn to be threshed was, as before, spread out on a floor to receive the blows. On this floor a series of springs rested. These springs were about 10 feet long, and fixed firmly at one end. They were at the other end successively raised by machinery attached to a water-wheel and allowed to fall, and thus a series of blows was produced. There was, however, no way of removing the straw and the grain, and a confusion thus ensued, which led to the abandonment of the machine. Shortly after this the same ingenious inventor, stimulated by the ridicule by which his first failure had been assailed, constructed another threshing machine on a different principle. He was here so successful, that it is said he threshed 40 bushels of Oats within the hour by it. It consisted of a vertical spindle, to which a considerable velocity was given, and to which four cross arms were attached, having plates of iron fixed to them at their extremities. These plates of iron were placed across the arms, parallel to the spindle, and thus, during the revolution of the spindle, while the arms had a horizontal motion, the beaters on their extremities moved in the circumference of a cylinder, of which the vertical spindle was the axis. The whole apparatus being enclosed in a cylindrical box, corn in the straw was introduced at the top, and, after being separated by the action of the beaters, both were thrown on a wide riddle or sieve, to which an irregular motion was given by a cam-wheel, or tappet, on the spindle. The corn and chaff dropped through, and were thus separated from the straw. This machine was completed in the year 1753.

About 20 years after this, Messrs. ADDERTON and SMART, respectively of Alnwick and Wark, in Northumberland, attempted, unknown to each other, to construct a threshing machine in which the principle of rubbing out the corn was involved, that of beating the corn not having, up to that time, been successful. This machine consisted of a fluted drum or cylinder, around which, at intervals, were a series of fluted rollers, kept close pressed to the circumference of the drum by springs. The corn being passed through these, was rubbed out of the straw. It was, however, injured by the process, and frequently bruised, and the machine was, therefore, laid aside.

In 1776, Mr. ANDREW MEIKLE, of East Lothian, turned his attention to the subject. His first effort was an improvement on the first machine of MENZIES. His flails were made pointed, and he thus tried to avoid the frequent breakage to which they were very liable under the old method. In this, however, he failed; the expense of keeping the machine in repair more than overbalancing any merit it might otherwise possess. His next attempt was to improve the Northumberland machine, but the bruising of the corn, which was inseparable from its action, soon convinced him that a good threshing machine could not be constructed on its plan. He, therefore, abandoned it, but shortly afterwards constructed a model on an entirely different principle, which answered the purpose so well that machines constructed from it soon became general. The first of them was made for Mr. STEIN, of Kilbogie, near Alloa, and the excellence of its performance spread the fame of the invention over Scotland in a very short time. As the most general form of the threshing machine, as at present used, differs but little from the original, as invented by Mr. MEIKLE, it may be as well to describe its present, without reference to its original form.

We must, however, in the first place mention that several threshing machines have been constructed since MEIKLE's time, on principles differing entirely from those on which his invention is founded. One of them, by Mr. LISTER, to whose work on "The History of Machinery applicable to Agriculture," and to several of the reports of county surveys of 1813, we are chiefly indebted for the foregoing remarks. Mr. LISTER's machine was somewhat on the principle of the Northumberland machine, but differed from it in this: he found that two dull edges in crushing an ear of corn would not bruise the grain, but in consequence of the convexity of the seed they would cause it to fly off, and thus separate it from the straw; and, therefore, instead of having a fluted cylinder, and applying the principle of rubbing the ears of corn, he had a cylinder whose surface consisted of a chequer work of edges, between which hollow spaces were left; and in passing corn between this and a concave, held down to it by springs, he found that the grain was forced from the ears, and being received into the hollow chequers, was delivered uninjured, without any chance of being bruised. This machine, worked by one horse and attended by two men, was capable of threshing from four to seven quarters a day. It was, however, altogether eclipsed by the superior excellence of that of ANDREW MEIKLE, which we shall proceed to describe as it is now constructed.

MEIKLE's threshing machine consists of a cylinder or drum, on which a series of beaters are fixed. These beaters are of wood, their section is rectangular, and they are placed on the circumference of the drum parallel to its axis. When, therefore, the cylinder is set in motion, it is evident that anything brought close to it will receive a rapid succession of blows from these projecting beaters; and a slight consideration of this process will show that the principle on which it acts is very similar to that on which the efficacy of the common flail depends. This drum or cylinder is covered by a concave, which is brought as near to the edge of the beaters as is consistent with a sufficiently large space between them for the passage of the corn. Before the cylinder is a horizontal board, which is terminated by two cast-iron rollers parallel to the cylinder, of the same length with it, and as close to it as is the concave. On this board the corn is spread out, and the rollers, which gradually revolve in towards one another, draw it through, and subject it to the action of the beaters. The lower roller is fixed in the sockets in which it runs; the upper one is allowed to rest on the straw between them, and has space to rise or fall according to the bulk of what is passing through. Both of these rollers also are fluted, and this, with the weight of the upper one, tends to hold the straw while it is being threshed. The straw, as it is delivered from the feeding board, passes over the drum, between it and the concave, and is thrown with the grain which has been threshed out of it, on the shaker, by which the two are separated from one another.

With regard to the most general dimensions of this machine, the cylinder varies from 3 to 6 feet in length, and is about 3 feet in diameter. The beaters are of course of the same length as the cylinder, and stand from 3 to 6 inches out from its surface. Their section being rectangular, the beating surface is necessarily radial, i. e., were it produced it would pass through the axis. The feeding board also is directed towards the axis—it also is radial. It is horizontal, and on the same level with the axis. The consequence of this is that the corn, as it is passed through the rollers, receives blows exactly at right angles to its position.

The English threshing machine modelled upon that of MEIKLE, or altered from it, differs somewhat from this; the principle of its action indeed is the same, but there are points in its construction in which it differs from the Scotch machine. In the English threshing machine, the drum is generally shorter and less in diameter, and goes at double the velocity of the Scotch machine, making from 400 to 800 revolutions in a minute. The corn, too, is generally dropped vertically on it without the intervention of feeding rollers, and around the cylinder a wire grating concentric with it is placed, through which a great portion of the corn is driven by the centrifugal force induced by the velocity of its revolutions. The portion of the corn, accordingly, which remains mingled with the straw is more easily separated from it. There is generally no shaker; the straw is removed from the machine by the hand, and the corn shaken out of it by the hand.

In the Scotch machine the corn and the straw, being perfectly mingled together, require, it is evident, a complete shaking to separate them. This, from the construction of the shaker in common use in Scotland, they do not get; indeed in many cases it has been asserted that more is lost in this way than is saved by the substitution of the machine for the flail. The shaker consists of two sparred cylindrical frames, to which rakes are attached. These cylinders move in different directions, and the straw is accordingly carried under one and over the other. It is by the first carried over a screen or harp, through which the corn falls, and by the other it is lifted and thrown out, the corn dropping from it into the same hopper, which is below the first. These rakes, it is evident, do not possess that irregularity of motion which alone would entitle them to be called shakers, and much corn is thrown out with the straw.

This description of the cylinder and shaker refers merely to the essential parts of the machine. There are besides them, in a complete machine, many other parts. Thus most machines are furnished with winnowers attached to them, by which the chaff is blown off and the corn delivered partly cleaned, and from the first riddle of the winnowing machine there are frequently elevators which lift whatever will not pass through, and carry it up to the feeding board, so to undergo another threshing.

These then may be called the original, and they are still the most common forms of the threshing machines. Others have been invented since, and are in limited use, and we shall refer to them upon another occasion.

IRISH EXPERIMENTAL FARMS.

"SPADE" has again called attention to what I believe the only means by which Ireland can be brought into a state of prosperity (*Agricultural Gazette*, pp. 401 and 412, 1848). As advocating spade culture for these 20 or 30 years in Ireland, I must rejoice in finding a coadjutor so liberal as "Spade;" and if he can originate any movement in support of it in England, I am sure he but too happy to promote it in Ireland. I am not only convinced of its practicability and its suitableness to the end proposed, but so perfectly satisfied of its paying, that I will engage if, as an experiment, 1000*l.* or more is raised, to superintend a farm on hand-labour principles, and return to the subscribers eight per cent per annum after the first year.

We do not require in Ireland to employ 30 men on 200 acres of land, all we want is to find employment for one man on every 12 acres, and this would leave no spare labour for bringing in our waste lands: for we have about 14,000,000 acres of arable and meadow land, exclusive of our unreclaimed tracts, and we have not 1,200,000 agricultural labourers and small farmers labouring their land with their own hands.

With a capital of 1000*l.* I could give constant employment to at least 20 able-bodied men, and to such members of their families as are capable of labour, at wages that will enable them to live comfortably; I believe after the first year it would enable me to give employment to many more.

I think this experiment would be found to prove that much hand labour may be used on a farm, that labourers may receive wages so remunerative as to enable them

to eat enough of good plain food, clothe themselves decently, and be sufficiently supplied with warm bedding, (none of which they now have) while rents might be raised and the landlord regularly receive his own, and yet the farmer make much more by his land than he now does; and that a system may be introduced which at the same time that it doubled the produce would not leave a hand idle in the length and breadth of the land that was willing and able to work.

There is a problem that I am desirous of working out: Can an Irishman be made an honest workman on his own soil? I believe he can, and I feel, to make him so, I shall only have to establish our old Saxon rule of "Live and let live," which at present enters very little into Celtic practice; we want to show the value of labour in Ireland, we want to bring out her manual capital and her money capital, greater than it is thought to be, for perhaps in no country in the world is labour less appreciated, is employment more grudgingly afforded; we have so long robbed the labourer, we have so forgotten that he is worthy of his hire, that at length he has very rarely proved so. The great ruling principle has been to pay him as little as possible, and he, in return, has been equally as well disposed to do as little as he could for it. When I first left the sword for the spade I was admonished by some of the stronger farmers in the neighbourhood where I set up my sheelin not to raise the price of labour, then and there rating from 6*d*. to 8*d*. per day. This search after the minimum of the *quid pro quo* has been so successful that a feeling has come to prevail that a man is robbed by labour, and that the more he can do without it the better—the general cry out is that the labour of tillage will ruin any man—the labour of land is therefore slurred over and the produce is proportionally deficient in everything but weeds, which as they are not of high marketable value prove the correctness of general observation. We must correct this before we can become a gem of the ocean or a jewel in the imperial crown, before we can raise ourselves from our wretchedly all-pervading poverty.

I know that it will be sad uphill work to make the Irish labourer a careful and diligent workman, but I think it may be effected by simply making it worth his while. A certain degree of firmness, to show that you will not be humbugged—for he will make many attempts to find the soft side of you—to laugh, and let him see you do so, at his blarney, but to give him full credit for gratitude, and to receive kindly though cautiously every expression of it; to give him fully to understand that his work must be done as you wish, and that it will be the quality not the apparent quantity of his performance that you will regard; to insist on the whole of his time, and the time of every member of his family capable of labour, being wholly at your disposal; and to let him feel assured that he and they shall receive such remuneration as will enable them to live with far greater comfort than they can under any other circumstances. My plan would be to let him undergo an ordeal of a year or so as a temporary labourer, and when I found his industrial habits established, to place him as a permanent labourer on the farm, giving him at a moderate rent a cottage and a rood of land. In employing his wife I would not take her from her necessary household duties, nor in employing his children would I deprive them of book learning or hours of play. In seeking to ameliorate the condition of their parents I would not deny the young appetite for enjoyment, I would have their buoyant laughter ring loud and strong, free as the air through which it rises to Heaven.

An opinion commonly prevails that although a small farm (5 or 6 acres) may be tilled with the spade, what is called a large one, that is in Ireland some 50 or 60 acres, cannot; surely if one family can cultivate 5 or 6 acres, 10 families may 50 or 60. It is true some horses in the larger farms may be required to draw out manure and bring home crops, at least to and from the headlands, drawing turf and lime, and taking produce to market, &c.; but it is deplorable to see the innumerable half starved and half worked little wretches of horses that are kept in Ireland, and frequently by persons not holding more than 10 or 12 acres of land, and ridiculous to see their beggarly riders mounting them on frequent occasions when they had better use their own legs. There are however many cases in which a pair of horses may be used advantageously on a farm, and no love of system ought to prevent the judicious use of them. In the smaller description of farms, however, a couple of cows, house fed, would do all that is required from horses, and it would be no more than a beneficial exercise for them.

I believe our Poor-law would have worked better, and I am sure an immensity of distress would have been avoided, had it exempted from poor's rate every 12 acres that gave full employment and support to a family; this would have tended very much to encourage the employment of the people, and would have placed the saddle on the right horse—the support of the unemployed on the land that afforded no employment; *J. M. Goodiff, Granard, June* 20.

ON REARING YOUNG STOCK.

[The following report of the discussion last week on this subject, before the Council of the English Agricultural Society, is abridged from the *Yorkshire Gazette*.]

H. S. Thompson, Esq., of Kirby Hall, said he would not have undertaken to introduce this discussion had he not been informed that many gentleman who, although both able and willing to take part in the present discussion, disliked to make the commencement. He would divide his observations into the summer and winter treatment of calves. With respect to the summer treatment, his system was chiefly applicable to those farms which contained a certain quantity of good grazing land. In those cases the farmer would be anxious to devote the inferior land to lean stock; and as lean stock was dear and of inferior quality, there was a greater inducement to breed stock of a much better description. The system he had found to answer best was to purchase at the beginning of summer a number of young heifers, from a year and a half to a year and three-quarters old; to put them to the bull in June or July; to turn them on inferior land in the summer, and to the straw-yard in winter, but keeping them on the Grass land in the day time. He always allowed his cows to suckle their calves. He always found it best to turn them with their calves on the same description of land in the summer, and in about the end of October to wean the Calves and sell the mother, or to tie her up for fencing. Thus he had a calf at six months old at a very reasonable price. He knew it was generally considered extravagant to allow calves to suck their mothers, but the question had been complicated, by farmers calculating the profit they would have made if they had milked the cows and manufactured the milk into butter or cheese. If estimated in that way the matter became complicated, because the farmers had to deduct the expense of milking and churning, of taking to market, &c. He estimated the cost in this way: the land he was speaking of should not be rented higher than 1*l*. per acre; and 1½ acre would be sufficient to carry a heifer of 1½ year old for the first summer. The cost of maintaining her for the first summer would be 30*s*.; in winter there would be 1*l*. for the cost of straw in addition. The second year with a calf the cow would require 2 acres of Grass, which would be 2*l*. for the second summer. The expense therefore would be 30*s*. for the first summer, and 2*l* for the second summer; but as he would now have to sell a cow which would be worth 2*l*. more than when the calf was born, that would reduce the expense to 2*l*. 10*s*. If gentlemen had not Grass land they would give what milk they could spare, and make up with Linseed porridge, which, however, was not equal to milk. With regard to the winter keep, it was of consequence to provide a sheltered yard for the young stock, and not to allow them to mix with the elder ones. The way that he had found to answer was to provide an open yard with a shed facing the south or south-east, and divided with rosts and rails, so that each division of the yard afforded access to the sheds behind, in which there was a feeding trough and a passage, along which a man could go and feed the calves in all the pens without having to open a single gate. By this means they would also be enabled to enclose the calves, so as to prevent the strong from robbing the weak. The fodder he gave to the calves in winter was Turnips—3 stones per day on the average through the winter, but increasing the quantity as the weather got colder. Calculating the keep of the calves at 3 stones per day, and the Turnips at the quantity per acre, they would consume during the three months of winter nearly 16 tons. He found Mangold Wurzel the best, and half an acre to three roods of land would keep the calf for three months. He gave oilcake, which, at 3*l*. per ton, would be 20*s*. ahead during the winter. The great advantage of this way of keeping were, that the calf never lost its calf layer, and it carried on the second year they would be able to sell their stock whenever they pleased; and if it suited them to keep them beyond two or three years, no stock could pay them better. As this was a much higher rate of keeping than was usual, they would expect him to prove that it was a profitable mode of investing capital. In proof that it was the best way of doing so, he would repeat what he had done on that system. The first trial he made was in 1841, and the first hint he received on the subject was from Sir Tatton Sykes. He had some heifers for this purpose, the young stock being 3½ years old. This stock would pay well. He had made no deduction for the improved quality of the manure, which ought, however, to be taken into the account. He had heard prepared Linseed recommended for calves; it had been advocated by Mr. Marshall, and he (Mr. Thompson) also recommended it. He had used it for horses and young cattle. It was much better for them, although he was aware it was somewhat of an extravagant system of farming. The time was gone by for a large stock to be reared on small capital. The plan was to keep young stock well from the day they were calved.—Sir Tatton Sykes, Bart., said he agreed with everything Mr. Thompson said, from end to end. The plan that gentleman had recommended was the best that any man ever adopted.—Mr. Turner, of Devonshire, said, as he had been a successful breeder of Devonshire cattle, he felt bound to give to the Society all the knowledge he possessed. It was the custom in Devonshire to let the calf suck the cow, assuming the calf was dropped in the winter months; for it was very dangerous to drop a calf in the summer months of the year. From the time of the birth to ten days old it was allowed to suck a good deal of milk. At the end of 10 days they took it from the cow, and gave it 6 pints of new milk twice a day. This was continued two or three weeks, according to the strength of the calf; at the end of that time they withdrew a portion of the new milk, and gave the animal some skim milk; in addition to this they gave it Oatmeal, Hay, and Turnips, taking care that it should be kept perfectly clean, with a free circulation of air, and well littered up. Two or three weeks after this the calf eats meat with avidity; the new milk is withdrawn, and skim milk given. It was continued five or six weeks longer, and then the calf fed heartily on cut meat and Oatmeal, after which it lives well on cut meat. It was kept in during the winter months, and then on the first sunshiny season they gave the calf the free use of his limbs. They then turned him into a good pasture, and was shifted from one to another as convenient; for he held as an essential point, that it was necessary for every young animal, during the first year of its existence, to be fed on different kinds of food. The case of calves and lambs was similar in this respect with young children and every other animal. (Laughter.) His own calves were carried on in this way, being taken in at the latter end of October or the beginning of November. The yard was kept clean and well littered, and the animal had a little hay, and chopped straw and Turnips. In the winter months the animal might have Mangold Wurzel. Thus it was kept during the winter months; and when spring arrived, they turned it into the first good pasture they could, and all trouble was then at an end. That was the doctrine he had pursued with his calves. He believed there was nothing new in the system: he had, however, found it to answer his purpose, and he had never found a dear animal to follow. He held it to be most essentially necessary that the animals should not be forced. If they forced their calves in a manner that some of our stock were treated, perhaps the very next that came under their notice they found very unprofitable. He would only repeat what he had before stated, that, if he could offer any observation which would tend to produce a beneficial result, not only to the agriculturists of England, but to the Royal Agricultural Society, he should readily, on all occasions when practicable, do so. (Applause.)—The Hon. Mr. Pelham observed that the discussion was between Mr. Thompson and Mr. Turner as to feeding calves from a pail or suckling them. He would simply say for himself, that he went something between the two, inasmuch as he quite went with both gentlemen as to high keeping them; but he believed it would be found, instead of the common practice of putting their animals for the first fortnight on skim milk, which the chemists told them was not by any means a judicious plan, to be advisable to get a substitute for new milk. His system was a simple, and not an expensive one. After the first fortnight he took off the new milk, he took ½ lb. of Linseed, ½ lb. of Bean-meal, by way of restoring the casein to the new milk, and added ½ lb. of molasses. He found this not an expensive plan; and, without stating whether Mr. Thompson was right with respect to suckling calves or not, he merely meant to say he found this a satisfactory, and he believed it was not an extravagant plan.—Mr. Barrett, of Biggleswade, next rose and said: Having been requested by some members of the Coutil to be prepared to make a statement of his mode of raising calf, in order that he might avoid inaccuracy in his statement, he had reduced what he had to say to writing; and, if they would allow him to refer to the paper in his hand, he would state as concisely as possible his mode of rearing calves, and his treatment of cows and young stock, which, he might say, has been somewhat successful, as he had not lost a calf "from scouring" during the last three years. In summer, in hot weather, for two or three days before calving, the cows are kept in a cool hovel during the heat of the day, not bled or physicked, even in high condition; and he seldom found it necessary to administer physic after calving; but, if he perceived any inflammatory symptoms, he gave 1½ lb. of Glauber salts, half a pint of Linseed-oil, and one drachm of ginger, in a quarter three pints of warm water, but did not bleed unless the inflammation was acute. He left the calf with the cow for five days, and then removed it to the calf-pens, which are constructed so as to be very cool in summer, and sufficiently warm in winter. He preferred pens, thinking that when young calves are tied up, it irritates them and produces scouring. When taken from the cow he gave 3 quarts of new milk morning and evening for four weeks; at three weeks old a very small quantity of crushed Linseed and chaff; at a month he added "sweat" skim-milk, 2 quarts, reducing the new to 2 quarts, and increasing the quantity of Linseed, chaff, and adding fine pollard; at six or seven weeks old, he added skim milk, and then ½ pint crushed Linseed, and more chaff and pollard. The skim milk he continued as long as there was any to spare from the younger calves. He found it useless to give a very liberal allowance of new milk to a calf after six weeks old; he thrives better by using sweet skim milk, and he accounts for it in the following manner: The new milk satisfies his appetite, and he does not consume a sufficient quantity of Linseed and chaff for his age. If a calf scoured, which it seldom did, he gave the following: 1 oz. of salts in ½ pint of warm beer, stopping their milk at morning feeding time, and reducing the quantity the next three times of feeding; and should the attack be more severe, and not give way to this treatment, he boiled the milk for a few days. Should the scouring be attended with much pain, indicated by the calf groaning and looking back at its flanks, he gives 1 oz. of Linseed oil, and takes away a small quantity of blood, according to the age of the calf, say from 4 oz. to 8 oz. from a week to eight weeks. His cows calve at all periods of the year, but he considers September the best month for aged cows, both for the dairy front and the calves, which became strong, to turn out the following spring. Heifers should calve in April, as the Grass in May forces their milk and lays the foundation for their becoming good milkers. He never turned out any calves to Grass that are calved after March, until the following spring. His herd consists of from 25 to 30 cows. He was aware that some people might find this mode of bringing-up expensive the first six weeks; but taking into consideration the condition and the health of the calf, and the very little labour attending this plan, he was inclined to think there is not much gained by the various cookeries that are sometimes resorted to. He attributed the success he had had to the new milk system. He objected to the system of cooking for young calves, but after the first year it might be the best made in which they would fatten cattle, and bring them to market.—Mr. Shaw (Northampton) said that the attention which the meeting had paid to the observations of tenant farmers induced him to offer a few observations on the topic under discussion. He differed both with Mr. Turner and Mr. Thompson, and thought that a good calf could never come wrong. Much, however, in regard to feeding, was whether they were to be reared upon the produce of ploughed land, or whether they were to be reared upon Grass. If they wished their calves to go upon ploughed lands, the quicker they go from their mother the better. He was himself a dairy farmer, and sold a good deal of milk. He never suckled more than eight weeks, and did not after that give more than a quart a day; but he gave them oil-cake or cut hay, to induce them to eat. By these means he got them to eat at three weeks old. He found that by giving them linseed to eat for a certain period—not for long, as he considered linseed to be a bad thing when too long continued—that a change for Oat-cake was the best thing. He repudiated the notion that beef should be fed on Grass, and thought his system had proved far preferable, when conjoined with stall feeding. He had an excellent proof of this in his own experience. At the present moment he had an animal two years and eight months old which weighed 108 stone (8lbs to the stone). This was done by cutting all its food, and giving it first Oat-flour, and Beans as it grew older. If he were to follow the practice recommended, and turn them out to Grass, he would lose by his calves; and that led to the question of whether they should stall-feed their cows or turn them out to Grass. It led also to the question whether they should suit the land to the cattle or the cattle to the land. There was great favour now shown to the Norfolk system, which was held up as a pattern; and he could remember when the Herefordshire men brought them their cattle to feed; but now they sent them to London ready fattened for the market. He did not deny that they might with profit turn them out to Grass, provided they gave them Oatmeal and Linseed, and Beans when they were able to take them; but he preferred stall-feeding nevertheless. He was a midland counties man, and as such he thought it right to declare that he had found it extremely difficult to follow out the early maturity system profitably, when combined with Grass-feeding.—Mr. Mechi held it as a principle that they could never improve Nature, and therefore it was their duty to follow her as closely as possible. They all knew that when they reared a child they gave it food assimilating in its nature to its mother's food as near as possible; and the same laws applied to the young of the lower animals as to the young of man. They should give food which would insure the growth of bone, fat, and muscle. He saw an attempt to follow this principle in the food recommended by preceding speakers who had been enlightening them. Some gave Oatmeal or nitrogen; others, Linseed or carbon; and they ought also to give Oat-cake for the phosphates. Depend upon it, as his friend from the Agricultural College would tell them, they must not rely on any one meal; but they must so contrive their food that they may give the phosphates, the nitrogen, and the carbon. Whatever they found necessary to give to grow a good strong man, they would require to be given, in order to rear a strong, healthy, and valuable calf. He would not stop to discuss the relative merits of the scheme propounded; but he must say a word about the poor Grass land that had been spoken of. They must not hear of poor Grass land, either for feeding the animals or the farmer. He maintained, practically maintained, that poor Grass land was the curse of the tenant, the landlord, and the country at large.

ORNAMENTAL POULTRY.

The Teal and its Kind.

These pretty but provoking little birds, the smallest of our ducks, are to be seen in almost every collection of water-fowl where there are means of complete inclosure. Their movements are brisk and lively. The winter plumage of the male is well contrasted, and cannot be closely inspected without admiration; the female, like most other ducks, is what is called extremely neat; but there is little in their manner or disposition to afford much interest in observing them. In this re-

spect the contrast is great between them and the intelligent wigeon; for they are silly, unattachable things, squatting on the ground for supposed concealment under the very eye of the visitor, with the same foolish attempt at cunning which would make an ostrich hide its head behind a tree or in a tuft of Grass, thinking thereby to conceal its whole body. On a large expanse of water they are too small to be of any visible use or ornament, except in the shape of mere dots. Their escape, moreover, cannot be prevented by mere pinioning alone; they will crawl along drains, wriggle their little bodies through any accidental hole, and must be confined where they are wanted to remain by upright iron railing, a fence of reeds set perpendicularly, or something of the kind, carefully fixed. Wire netting will not do, particularly if it be intended to associate the Carolina duck, or other similar birds with them, for the reason mentioned when speaking of the wigeon, namely, that these latter certainly will climb over it as easily as a lamplighter runs up his ladder. The railing should also be made rat proof, according to the very ingenious pattern which may be seen at the gardens of the London Zoological Society. Thus protected and restrained they will thrive and breed in a very limited compass. The merest thread of running water will be sufficient to supply a miniature pond for them, which, with the addition of tasteful breeding-boxes, low shrubs, a little rock-work, a few shells, some water plants, and half-a-dozen gold fish, would serve to make an elegant toy in a lady's flower-garden. Part at least of the bank of the pond should slope gently into the water, to serve as a landing place, and to afford an easy exit and entrance to the teal and their young. The bottom should be partly gravel or sand, partly small shingle, and partly mud. Very pleasing designs for these inclosures, of tried practical utility, are to be seen in the various receptacles for water-fowl in and about London. The little isolated nesting-places, fixed on a stake in the middle of the pond at a level with its surface, are safe from most vermin except rats and stoats (which will readily take the water in search of a dinner), and seem to please the birds and to make them comfortably at home. The style of the fittings admits of endless variation according to the taste of the owner. In such a home they will breed freely; but the little ones, as soon as their wings are long enough, will be off, like a swarm of flies, and never be seen more; so that a person may rear them year after year without being at all the better for them, unless a timely check is placed upon their flight by the keeper's amputating knife. It is a pity not to secure all home-hatched birds, as they may perhaps turn out somewhat less intractable than their parents; and the loss of them as a dainty morsel is something; no duck can compare with them in flavour, and their price in the market is always high in reference to their size and weight.

Mr. Yarrell says, "in confinement they require grain," which, with the vessel containing it, should be submerged about an inch under water; the corn will thus be steeped and macerated, and at the same time secured from thievish mice and sparrows.

Soft food, such as Barley-meal mixed with water, sopped bread, &c., suits them better. When they have young, a little fine pollard or coarse flour scattered on the surface of the water and suffered to spread itself, will be found a convenient and natural mode of feeding them. They will skim it off with their little bills, and suck it down with great delight. The smaller sorts of grain, such as millet and canary seed, make a suitable though expensive variation of their diet. A few small fry and minute fish, as minnows, loaches, and sticklebacks introduced into their pond, would afford them the amusement of catching them, and would not come amiss when caught. If there is not mud enough in the edges of their pond to afford them a supply of minute insects and larvæ, some finely-chopped meat or small earthworms may occasionally be thrown down to them. I have found a loaf of Barley-bread a very convenient thing to have in hand for feeding various birds. It may either be given dry in small lumps, or soaked in water, and is nutritious in either state.

Exactly the same domicile and management will suit many other congeneric birds—the summer teal, the Carolina duck, and the curious and pretty Mandarin duck, which looks very like a piece of animated china ware. Of this last there are none now (May, 1848) in the country. But as it is more than possible that the *Gardeners' Chronicle* may circulate as far as the Celestial Empire, we will warn those who purchase these and similar curiosities to send to their friends at home, against a trick that is now and then played by unprincipled native dealers. The females of the whole teal family are so much alike in size, colour, and markings, that it requires the eye of an experienced naturalist to identify the different species; and, whether to save trouble, or to prevent us from increasing the stock, the Chinese are said to couple dissimilar birds and sell them as pairs, with little fear of the cheat being discovered.

That most lovely creature, the wood, Carolina, or summer duck, Anas sponsa, must also, for the present, be subjected to the same discipline with the teal. From all that I have seen or heard, on good authority, the hope of their living with us on the same terms as the common duck must be regarded as visionary. The specimens which are supplied to wealthy purchasers are furnished by importation, not breeding. Numbers die on the voyage from America or soon after; and, in short, the clearest view of this class of ornamental poultry will be obtained by considering them as aquatic cage birds, and by treating them as such.

The opening paragraph of Audubon's account of the wood-duck is one of the most beautiful pictures of bird life that ever was written. The reader could not fail to be delighted by it. Let him by all means buy the "Ornithological Biography," or hire it; for I cannot rob any preceding author by stealing his "beauties," and lacking the valuables he has acquired by his talent and industry. The form and colouring of this bird are both charming in the extreme, and its size renders it a species much adapted to these small inclosures; but the high price they fetch at the dealers is alone sufficient to indicate some insuperable difficulty in rearing them here, or elsewhere, in any country from which they could be easily imported. If their affinity to the teal family affords a correct clue, they are foolish, unimpressible, unattachable, and quite incapable of complete domestication, in spite of Audubon's hope to the contrary. Experience does not allow us to encourage any such hope. Those he had obtained young "grew up apace, when I pinioned them all" (a precaution which does not show much confidence in their domesticability), "and they subsequently bred in my grounds in boxes which I had placed conveniently over the water;" and so, as we have seen, will teal, and be off, never to return, the moment their wings are long and strong enough to carry them. "I feel well assured that, with a few years of care, the wood duck might be perfectly domesticated, when it could not fail to be as valuable as it is beautiful." True, as to the latter half of the sentence; for in America, where alone ordinary folks can afford to eat them, the flesh is said to be excellent—first-rate, indeed. "But," it is added, "the young birds which I raised never failed to make directly for the Ohio, whenever they escaped from the grounds, although they had never been there before," a trait quite enough to mark their flighty character, without another single circumstance being added. In Dr. Buckland's valuable "Reliquiæ Diluvianæ," this bird is by a misprint called Anas *sponsor* instead of *sponsa*; but the difference is surely great between a bride and a godfather; *D.*

LOSSES AND DEFECTS OF TURNIP SEED.

Few Turnip-seed growers are aware what injury they sustain by the depredations of birds during the ripening season. I have endeavoured to calculate it at various times, in order to ascertain what quantity of land it required to be under crop to pay for the constant attendance of a watcher. By actual measurement of land, and the weighing of the seed from different plots, I found 951 lbs. of seed per acre had been destroyed by birds on the unprotected, as compared with the other; even where this loss occurred, it received occasional attendance. This loss, at 1*s.* per lb. (the regular price of Swede seed), is after the rate of 47*l.* 11*s.* per acre for watching, consequently a very small patch of ground under this crop will pay for that care during the whole of the ripening season.

There is a usual custom of nearly all Turnip-seed growers I wish them if possible to discontinue—I allude to the damage unintentionally done to seed by cutting too soon; a great part of it is thus rendered nearly void of kernel and almost valueless both for sale (if by weight) and sowing. Examine one of the pods of these early cuttings, and consider how many of the seeds it contains will remain after a proper winnowing—a thing so seldom practised by Turnip-seed growers to the necessary force of blast required; let them also remember that the deterioration of the whole of what is saleable is considerable. The venders of such seed may argue that it pays them and growers, therefore change of system is needless; but might not more care in prolonging the ripening season previous to cutting do better for growers and confer a greater benefit upon their customers, for the better the article the greater the return for its production, and in every respect more advantageous to the purchaser. An individual a few days ago visiting these premises observed, that the birds required "watching off" (the watcher being absent) a plot growing seed, and signified that it was ready to cut, though only beginning to change colour, or rather still green; he said they cut acres rarely any riper, for it ripened with them in the straw, and thus they avoided the expense of attendance necessary for its standing for ripening naturally. Now, is or is not this a procedure which will gradually induce a constitutional disease of this root before many repetions of such methods of raising seed for general crops are witnessed. Remember the Potato failures. Care is perhaps as requisite about the Turnip as the Potato. Are we not, by the use of improperly ripened seed, accelerating a dangerous constitutional state of that root as may by and bye be designated Turnip failure; nay, if I mistake not, it is partly begun, and displays itself in dubious yet not undetermined results, denoting the approach of a general decay. For some years we have experienced bad or "short keeping" as compared with the keeping properties of former years, but yet not sufficiently recorded to awaken either suspicion or give an alarm. I really believe Turnip seed ought to be as well cultivated, and as gradually and highly ripened as possible. Let any one examine minutely, too, early-cut Turnip seed. Have one half that sable-like hue denoting a healthy condition? Are one-third arrived at a matured size, or do they exhibit a wrinkled skin and such a withered state (if not doctored) that they cannot be expected to impart to new plants those properties necessary for the reproduction of seed, &c.?

Turnip seed generally [illegible] as never to inquire by what means it was [illegible] before coming, [illegible] if it only grew [illegible] and be correctly named, [illegible] would crowd by a Turnip [illegible] of the early stages of [illegible] many rotten or pernicious seeds to [illegible] After [illegible], there is [illegible] in preparing [illegible] become the seed "crop" [illegible] of such [illegible] of course [illegible] Turnip [illegible] How many of us can [illegible] between good seed and such as [illegible] I do not deny but frequently [illegible] have been raised by extraordinary application of manure, even from inferior seed; but [illegible] able in nutritive [illegible] and vigorousness of the crop [illegible] been raised from [illegible] and contending in [illegible] to plant that quantity which [illegible] to become receptacles of large [illegible] weak or [illegible] as to [illegible] are most [illegible] capable as to reject hurtful [illegible], and [illegible] principles from the soil and [illegible] to promote the increase of sound [illegible] for an accumulation of which the Turnip is [illegible], already spread over an extensive [illegible], and any suggestion tending to [illegible] ought to be received with [illegible]. Have not the experiments and [illegible] gentleman discovered that the [illegible] Turnip, and of similar cultivation, possess unequal degrees of nutrition? but might not an extension of these investigations have proved that the seed of the two plots analysed was of as dissimilar a character as the results of the investigation?

I fear too many of the evils that are attaching themselves to and marring in a serious proportion the anticipated returns of the agriculturist are originated by our careless methods of procedure and violation of the laws of Nature. Many a nice stock of feeding animals and "going on right" have, a few weeks or even days, just before being marketed (if at the end of the Turnip feeding season), receded in condition, and why? I do not allude so much to staff, but to any system of feeding as to the quality of the food; Turnips being so speedily deteriorated by age. Why is this, the hasty and how to be repaired? The [illegible] and remarks, if fully replied to, might [illegible] to the notice of those who are capable of leading or directing public attention to the subject. At all events nothing could reasonably [illegible] but to result in more minute observations still of importance the more we advance to the perfection of which we believe the numerous productions of nature to be susceptible. A neighbour of mine this year has unfortunately purchased bad (perhaps roasted) seed, the few plants appearing are barely sufficient for hoe the ground. I have mentioned him in future to trade with a seedsman of established respectability, or rather resolve to produce his own; or if want of time rendered that impracticable, to select some careful cottager having a piece of ground, such a one (if he delights in gardening) would [illegible] provide him the quantity required, and if he fixed the price, say 1*s.* per lb., and supplied him with bulbs at no charge, be he labourer, cordwainer, tailor, blacksmith, or weaver, there would be an almost certainty of his stipulated 10, 20, 40, or 100 lbs. of good seed being ready when required, were all agriculturists to employ individuals to raise the seed in this manner. I believe the merits of the change would preclude the sale of many pounds of "machine manufactured" seed laid by in store for coming out next season; yes, there now exists spared seed in some hands hoarded up for next season, and wonderful to relate, it can be first produced and sold as Swede, then as yellow, and lastly as white, and in every case be true to variety (trickery, Mr. Agriculturist); yes, there is more fraud practised upon the farmer than upon almost any other class; but depend upon it I for one intend to draw the curtain which has hidden things too long from the public, and by-and-bye may communicate the names of some individuals and firms very shortly, except they discontinue their hitherto unperceived roguery; they little suspect it and though they proceed, like Guy Faux, with dark lantern in hand, detection is as certain as their continuing of the deceptive system. The list of the names of such will most probably contain the addresses of various large dealers and self-styled merchants in nearly all the market towns in England as well as the metropolis. Now for a word on the sly; the information collected is from those who have been or are employed on the very premises, be they journeymen, apprentices, or others. Aye, the insidious grocer, in many articles half poisoning many of the inhabitants of country villages; the humbug wonder-relating manure dealer [illegible] from 5*l.* to 10*l.* per ton for what?—why he knows the measured demureness of the self denominated chemists and druggists, and others, not omitting the silken like dealer in flour, &c.; indeed that part of the provision-serving community deserve to be as rigidly and carefully sifted as ever the articles in which they trade were, or heaven knows where or when the injuries they secretly commit upon a great part of society will cease. Only think of meal and flour being [illegible] with what—why, [illegible], digestible by neither man nor beast: and with other articles I could report, and may report hereafter, well may our unhealthy part of the population be so eager after Morrison's pills, poor creatures, well one week

and ill the next, just as the diet upon which they subsist is combined or free from destructive elements. And then comes the manufacturer of sulphuric acid. I have had communicated more scheming here for the time it has been a profession than many are aware of; this gentleman by-and-bye may be honoured in your columns with a seat of no mean dignity; surely he deserves to be placed on the left if not on the right of any prince of clubs. To conclude, I beg to remark to brother cultivators that I observe the best crops of Turnips in my neighbourhood are almost all from seed produced in it; and if they produce their own, in selecting the bulbs they must reject such as have more roots than one, or their seed may tend to affect the crop by what some term "fingers and toes." In my neighbour's case, above related, by time, inquiry, or accident, we have discovered that his respected old seedsman who has served him for years having this year more orders than his home-grown would supply, ordered some of a seed-merchant, and my friend believes that he received part of this stock. I advise all, never buy seed where there is a coffee roasting machine, nor such as is not particularly well ripened; the former may scarcely give sufficient plants for a crop, the latter may place your fields under a number of puny stand still ones almost immovable even by guano, &c.—*Clap-trap.*

Home Correspondence.

Mangold Wurzel.—As many have failed this season in obtaining a good plant, or even in the prospect of a crop, I think I may communicate my method, as I was very late in putting them in, viz., 14th May, which is very late, but owing to such a wet March, our work of all kinds was somewhat behind, though I must say we are not to be ranked with "afternoon farmers," far from it. My plant was this—drills at 27 inches, well manured with farm-yard dung, the drills were rolled and holes 9 inches apart made with a dibble, into these a mixture of coal ashes and guano, 1 cwt. to the acre was sown, and 5lbs. of yellow Mangold Wurzel to the same quantity of land. An eminent Berkshire agriculturist, a descendant of the celebrated Jethro Tull, advised me to sow thick; some tyros in farming said in so doing there was neither cause nor effect; eminent names I withhold, as I may be illiberally charged with prejudice, which is not in my nature. But for their instruction I say thick sowing nurses the plants, that is the cause, and produces a vigorous plant: the effect is early maturity, and as a consequence finer plants, and a heavier bulk. But there is amongst these men more prejudice than sense. As observation and long practice have not been their lot, we will excuse these youngsters. Then I was told Huxtable and his chemical friends said guano was not a proper manure for this root. I did not want it for the root, I had for this farm-yard manure. The guano was for the young plant, to hasten its growth, and supply it with nourishment, till its root fed upon the other. The consequence is I have a finer and more regular plant than all these reasoners; *X. Y. Z., Hants.*

Men Celebrated for Farming.—A correspondent of yours speaks of the valuable writings on drilling, &c, by a Mr. Close. This was the Rev. Mr. Close, of Hordle House, in Hampshire; he was an excellent farmer, and contributed valuable papers to the Annals published by the Bath and West of England Agricultural Society. W. Falconer, Esq., M.D., F.R.S., was another writer of some able articles to the same society. He is now dead also, but their writings survive them. The late Mr. Robinson, of Lady Kirk, Roxburghshire, was another who carried on large experiments, the large yards and offices are still to be seen over-run with weeds, and neglected; the name is extinct. Mr. Curwen, of Skouse, was another celebrated agriculturist. In those days none of these found imitators, farming was regarded in those dark and bigoted times with doubt and distrust. Then came Coke of Norfolk—a name well known; Lord Spencer, famed as a breeder; and now, in these days, Mechi, Davis, and Lawes, this last a writer of some of the most scientific and practical memoirs on raising crops of corn and roots. Huxtable and Sir Richard Simeon, in the Isle of Wight, contest the palm for stall and shed feeding; and the Rev. Mr. Osborne labours for the improvement of the condition of the labourers, a holy task, and one to whom the country is indebted for his public writings and private philanthropy. Such men are ornaments to this great country; *X. Y. Z., Hants.*

Poultry.—If the Lancashire men were to establish poultry shows in Manchester, and were to obtain the assistance of judges who are learned in the points of fancy poultry, I make no doubt that they would soon prove that they possess one of the most valuable and handsomest breeds of poultry that are to be met with in England. That the hens are generally more handsome than the cock birds cannot be denied, nevertheless, some of the latter (according to my taste) are beautiful birds, and if shows were established, no doubt the number of such specimens would be increased. I would feel greatly obliged if some of your Lancashire readers would say what they call the Bolton greys, for I am not quite certain that they are called by that name there. I hope this hint may induce the Lancashire men to bestir themselves, for it is to be regretted that we should continue to import from Holland and Hamburgh, if we can obtain finer and handsomer fowls at home; *B.*

Increase of Pig Population.—The following table will show the rapid increase of th pig. Supposing the first litter to be when it is 12 m nths old, and that it has a litter every six months; and that it has an average of six pigs every litter. The ws to be kept in a breeding state till 3 years old, nd then fatted off. Average 4 cwt. when killed, and all the hogs to be fatted off by the time they are 12 months old, and average 2 cwt. when killed.

Date of Increase and Sale.	Breeding Sows.	Increase of Stock. For Breeding.	Increase of Stock. For Fatting.	Stock Sold. 1 yr. old Hogs, 2 cwt. ea.	Stock Sold. 3 yrs. old Sows, 4 cwt. ea.	Weight of Fat Bacon in cwts
End of	1	3	3			
1801	1	3	3			
	4	12	12	3	..	6
1802	7	21	21	3		
Old sow deducted	1	..	..	..	1	10
	6					
	18	54	54	12	..	24
1803	39	117	117	21		42
Old sows deducted	3	..	..	..	3	120
	36					
1804	90	270	270	54		
Old sows deducted	3	..	..	..	3	246
	87					
	204	612	612	117		
Old sows deducted	12	..	..	..	12	588
	192					
1805	462	1386	1386	270		
Old sows deducted	21	..	..	..	21	1308
	441					
	1053	3159	3159	612		
Old sows deducted	54	..	..	..	54	2988
	999					
1806	2385	7155	7155	1386		
Old sows deducted	117	..	..	..	117	6786
	2268					
	5247	16281	16281	3159		
Old sows deducted	270	..	..	..	270	15390
	5157					
1807	12,312	36936	36936	7155		
		66009	66009	12792	480	27508

At the end of 1807 then there would be of breeding Pigs	612	2½ years old.
	1386	2 years old.
	3159	1½ year old.
	7155	1 year old.
	16281	½ year old.
	36936	sucking pigs.
	65509	
	53217	
	118746	in all, besides the sale of 27508 cwts. of bacon; and beside—16281 hogs, ½ year old, and 36236 sucking hogs.

The Condition of the Potato.—I was sorry to see an article in the *Times* about a week since, by my neighbour Mr. Hewitt Davis, on the above subject; the same, or a very similar paper, was published in the *Agricultural Gazette* of July 8. An agriculturist so eminent is a tremendous authority, still he is not infallible; and though I feel that I cannot compete with one whose sphere of observation is so extensive, yet, as the champion of the Potato, who through evil report and good report made stout fight in its cause throughout the entire season of 1847, and always successfully, as the event proved, I can by no means retire now from the field, when appearances in every respect are ten times more in its favour. Residing in one of the highest cultivated districts around the metropolis, I perceive that the Potato is planted in vast abundance everywhere; the fields, the market gardens, the cottagers' smaller pieces, even the railroad banks, and till now, weedy waste places all exhibit the Potato, and chiefly the Shaws. Yet, not one diseased plant have I observed. Ash-leaved Kidneys are said to be here and there affected, and, from the evidence I meet with, some credence must be attached to the reports. But our gardeners have nearly relinquished the culture of this fine plant, because it does not remunerate; however, my own, which are now digged continually, are perfect and improve daily. One noble plant near me of the earliest Shaws of above six acres, comprises, I verily believe, more bulk than could have been found within a square mile of ground in 1847; it has been sold by contract, and the Potatoes daily sent to market are of first-rate quality. There is however one practical fact, the truth of which cannot be impugned; a very extensive union which I know well, enters into contract for all its provisions, every item of which is of the finest. About three weeks since, the terms tendered for new Potatoes, in quantity, was 7*l.* 7*s.* per ton, a very great reduction; about ten days passed over, and then 5*l.* or 5*l.* 5*s.* became the required price; in the course of the present week, the tender proposed was 3*l.* Nothing but bulk of yield could operate a fall so astonishing. As with Potatoes, so I verily believe will it be found with corn and root crops. As a disinterested observer, one whose sole aim it is to look abroad and report simple truth to the best of his judgment, I assert that, take it for all in all, a more beautiful and cheering promise the heart ought not to desire. We know the selfish malice of some who call themselves reporters; on the other hand, visitations may occur to arrest and deteriorate the crops; but at this time, under the influence of the existing most glorious weather, all nature announces hope; *John Towers, Member of the Royal Agricultural Society of England, Croydon.*

The Potato Disease.—I am very far from wishing to create unnecessary alarm, at the same time, I feel that early calling attention to a coming want may do much to get it timely met; I am therefore induced to speak again of the Potato disease, of which I have fears, and from my agricultural pursuits I should be qualified to form an opinion. Since my letter of the 4th inst. I have further carefully examined numerous crops of Potatoes, and in various situations, and have found them, almost without exception, more or less affected at the roots, and the decay extending upwards to the stems and leaves, and occasionally to the young Potatoes. In many instances, from the haulm continuing green, the owners were ignorant of their having the disease, until I pointed out that the roots were withering, and explained that the leaves must suffer when the checked supply of moisture from the roots shall be felt; but this the late rains have hitherto prevented. The virulence appears to me greater than either in 1846 or 1847, and, although the haulm, from the continuous rains, has hitherto generally maintained a vigorous growth, so as to appear healthy, an examination of the roots will often destroy the hopes that have been formed of a crop; and a few days hot sun may probably tell very injuriously, for in many instances the roots, that alone can support the growth, are nearly destroyed. Many of your readers know me to be an agriculturist of experience, and farming a large extent of land, I may also add that I hold no corn to be benefited by an immediate rise, whilst I should be a considerable gainer in the sale of my present growth of grain by an advance in the winter, and I am well aware that in writing this, I am doing all I can to keep down prices at the time when I shall have my corn for sale. An early understanding of the prospect of the Potato and grain crop is of much consequence, both to induce an extended cultivation of winter vegetables and an early transmission of grain supplies from abroad; I may therefore be excused for my desire to call attention at this early period to the possible failure of one, and short growth of the other. Many persons look for evidence of the disease in the appearance of the fresh taken up young Potatoes, but it is only to be found there in very bad cases. The Potato may appear sound at first taking up, and yet in the course of a few days become unsound. No deficiency or badness of quality at table was felt in 1846 or 1847 until after Christmas, and then scarcely 1 bushel in 10 of those stored away were found sound. The most serious effect of the disease is the consequent early decay of the Potato; *Hewitt Davis, 3, Frederick's-place, Old Jewry, London, July 17.*

Salt v. Wireworm.—A correspondent in the *Gazette*, signing "Hantoniensis," requests information on the quantity of salt requisite per acre for the prevention or cure of wireworm. I beg to inform "Hantoniensis," (a foreigner no doubt), that I sowed on 2 acres of land greatly infested with wireworm 1 ton of salt (viz., 20 bushels per acre), I also marked off a small piece upon which not a particle of salt fell; the salted part is a beautiful piece of corn, that not salted is not one-fourth of a plant, and I now regret that instead of sowing 1 ton on 2 acres, that I did not sow a ton per acre (for even the best part is rather thin at places); had I doubled the quantity I believe it would have been just the thing, although my neighbours thought me a fool for putting on as much as I did, and all felt quite satisfied that there was not the least doubt but that the salt would exterminate the wireworm and the Wheat also; *H. K. Hemsted, Market-gardener, Ridgwell, near Halsted, Essex.* P.S. Should "Hantoniensis" be passing through Ridgwell, and will condescend to call on me, I shall be most happy to show him the piece of Wheat, and to partake of a glass of my home-brewed afterwards; *H. K. H.*

Swedes in Dumfriesshire.—Your Galloway correspondent asks with what manure my Swedes were grown, which rotted in February—with farm-yard dung, 20 tons per acre; those of my friend, which kept till the end of May, were manured with rather less dung, and 1½ cwt. guano per acre. I generally have a good crop of Swedes, but they never keep so long as the Yellow Bullock; this year the Swedes rotted earlier than usual, and so it was with those of almost all my neighbours, few of whom ever use anything but farm-yard manure. Probably the soil has more to do with the keeping qualities of the Turnip than the manure; here we have a light soil, on a porous subsoil, over the clay slate; lower down the valley (where the Swedes keep well) the soil is much more clayey, and incumbent on the red sandstone formation; *J. L., Dumfriesshire.*

Experiments with Manures.—Passing on Monday last up the Vale of Pewsey, my attention was arrested by a painted board set up in a field by the roadside, on which was painted "liquid guano;" I then discovered it was intended to show the state of some Swede Turnips which had been drilled in the field, and the plant certainly appeared fresh and strong, the extent was four ridges; the next four were noted by a similar board to have been drilled without any manure; the next four, and the plants on which certainly surpassed the first in a very marked manner, by the dark green foliage, and from being much higher and stronger, were marked as having been drilled by Chandler's liquid manure drill; the last four ridges were drilled, like the second, without manure at all, and were hardly visible.

I should say that those drilled by Chandler's drill required the hoe to be set amongst them at once. The field belongs to Mr. W. P. Hayward of Wilsford, and it struck me that the method adopted by Mr. Hayward, to show the public the advantage of the drill, was a most excellent one; *Samuel Lavington, Devizes.*

Scotch Farming.—A native of Scotland living in the south of England having been on a visit to East Lothian and Berwickshire recently, and, from being much interested in agricultural pursuits, I was highly delighted with the general aspect of the country, and the extreme health and vigour which vegetation seemed to luxuriate in; trees, hedges, and fields, seemed vieing with each other to make the most of the summer's growth; in the latter especially, those of grain crops were generally even and presenting to the eye a green of the darkest hue; hay and pasture appeared good everywhere, Turnip sowing was nearly completed, Swedes looking generally healthy, although I heard some complaints in East Lothian of the fly having been busy in some spots. The object of this communication is to inquire of any correspondents in either of the above counties the reason for not sowing Wheat in the autumn upon lea ground, which is so successfully practised in the south; the small quantity sown attracted my attention, and upon enquiry, the very wet spring was said to be the reason; it appears that the greater portion of Wheat sown in these two counties is sown in spring, after Turnips, fallow only being practised on heavy clayey land, and I believe constitutes the greater portion of autumn sown Wheat; this appears curious, as the autumn sown in this neighbourhood is generally found to be best, and possessing at the same time the advantage of climate. I understood the usual plan is to sow Oats upon lea in both counties; *Amicus, July* 15.

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

MEETING AT YORK.

Professor Simonds' Lecture.—The subject of this lecture (calving and lambing) is one of such importance that we are by no means satisfied, without endeavouring to give an idea, however faint, of its main features. But in this attempt we feel so completely at fault, without the aid of the excellent diagrams by which it was so ably illustrated, that we can do little more than advert briefly and generally to such points as may possibly be understood without the illustrations in question; and particularly a few of the diseases and mishaps incident to cattle and sheep at calving and lambing time. It was but too often the case that the greatest exertions of the farmer and breeder were frustrated by untoward circumstances at breeding time; and that the finest and most valuable stock were often lost by a difficult or unnatural parturition. How very often was this the case with flockmasters! Not a year passes but losses occur, sometimes to an enormous extent, among breeding flocks. An ewe produces a lamb; all seems for awhile to be going on right, but at the end of a certain time the pains return, and all the symptoms of a second labour are exhibited. This arises mainly from an inversion of the uterus, the remedy for which is twofold—mechanical, by hands, so adjusted along the back and around the body of the animal as to press equally, but not too tightly, on the parts with which they come in contact, and next gentle stimulants, such as warm ale and a little ginger, preparation of ammonia, or the ergot or spur of Rye. It was a curious fact that the latter was only efficacious to cattle in cases of labour. A cow should have from ½ to 4 drachms of it; and these remedies should be repeated so long as the animal may be thought in jeopardy. After these stimulants the Professor advised the use of sedatives; and to this end, nothing was better than the tincture of opium. He strongly reprobated the system of bleeding, or in any way reducing the strength of the animal, as almost certain to destroy it. In protracted labour it was essential to prevent the *straining*, to which but too many ewes had fallen victims. He had known divers cases of inverted uterus, many of which had been successfully *reinverted*, by carefully putting back by the hand. Be the case what it might, one thing he was very anxious to impress upon all as of the utmost importance—never to be in too great a hurry to effect the delivery of a fœtus. The labour might be protracted and painful. Do not be over anxious to do anything more than assist Nature. Great mischief had sometimes arisen from injudicious haste on such occasions: and again and again, therefore, he would enjoin on all breeders the necessity of caution and patience at this important crisis.

We earnestly wish the Professor may be induced to publish this most interesting and important address, with the coloured illustrations. Without these it is nothing. With them almost every conceivable case of "false presentation," as it is called, is brought under the eye of the practical breeder, as well as the method of overcoming the difficulties therein detailed.

Farmers' Clubs.

Darlington: *Effect of Top-dressing.*—Mr. Emmerson said:

Last year I had some Wheat which looked very poor in the spring, and thinking that a top-dressing might be of service to it, I, consequently, applied about 3 cwt. of the best Peruvian guano per acre to a part of it, and left the remaining part without any application whatever. The part which was topdressed with guano, rapidly improved, whilst the undressed part remained poor; and at harvest the guanoed part turned out a very superior crop, in comparison to the other, and although I did not test by weight or measure the improvement in quantity or quality resulting from this top-dressing, yet it was quite evident that it answered the purpose intended, in producing me a superior and remunerating crop, the straw being considerably stronger, healthier, and much more bulky, whilst there must have been at least 6 or 7 bushels per acre more corn, and which in consequence of the straw being more healthy and much stronger, was a better sample than that growing on the part which was left without any top-dressing. I have likewise applied the same kind of top dressing to Grass land immediately after the hay was taken off with the most satisfactory results, the fog having improved and grew rapidly. Its effect is also somewhat different from a dressing of ordinary farm manure, because when farm manure is applied to the fog or after Grass, the cattle cannot eat the fog so close, but when top-dressed with guano, the stock are remarkably fond of the Grass, and it can be eaten as bare as you like. I may also mention that last year I used Peruvian guano for part of my Potato crop; in preparing the land, and perhaps a month before planting, I worked about two loads of lime per acre into the land, and in planting the Potatoes I applied about 1 cwt. per acre of Peruvian guano in lieu of farm manure; and in this case also it answered very well and produced a healthy crop, and the Wheat sown after the Potatoes is now looking well. This, of course, was not a top-dressing, and I merely name it to show that if Peruvian guano be genuine and good, that it is really valuable as a manure in an ordinary seasons, and on the majority of soils, and when disappointment has arisen in its use, I apprehend it frequently arises from the season that follows being too dry.—Mr. Braithwaite said: In a field of Clover and seeds for meadow, I applied on one part guano at the rate of 3 cwt. per acre; on another part dissolved bones, 3 cwt. per acre; and on another part, gypsum, 3 cwt. per acre. The part top-dressed with guano was much the best; in fact it was a remarkably heavy crop. The dissolved bones was next, but the part dressed with gypsum, owing to a heavy rain coming immediately after its application, and to its caustic quality, it burnt up the young Clover so much that it turned brown, which seriously injured its growth. The top-dressing with guano cost me 3*s.* per acre; with dissolved bones, 1*l.* 6*d.* per acre; and with gypsum about 7*s.* per acre. Yet, although the guano cost me most, the extra produce was more than equal to the extra cost, and therefore I consider that it paid me best. I have likewise tried guano as a top-dressing for Wheat, having applied it to every alternate ridge in a six acre field, leaving the other ridges without any top-dressing at all, and in this case also, the guanoed part was very superior to the part which was left undressed, much more, I believe, than the cost of the application. Mr. Thos. Pixon said: Amongst other experiments I may name a series of a very interesting nature, made by Mr. Maclean, at Braidwood, on the estate of Penicuik, in which he seems to have taken great pains to come at correct results. Mr. Maclean applied 26 different descriptions of top-dressing, the whole of which, with one single exception, appear to have been remunerative, whilst some of them left a very large profit indeed; they were not, however, applied to the crop on account of sickness or ailing, but with a view to improve it by this mode of manuring, and to try what kind of substances answered best as a top-dressing in that locality. The substances that were used in those experiments were, 1st, sand and soot; 2d, peat ashes and soot; 3d, clay ashes and soot; 4th, carbon; 5th, guano; 6th, subsoil and soot; 7th, compost and soot; 8th, soil and soot; 9th, gypsum; 10th, saltpetre; 11th, nitrate of soda; 12th, ashes and rape dust; 13th, ashes and gypsum; 14th, ashes and guano; 15th, ammoniacal liquor; 16th, sulphate of magnesia; 17th, soot; 18th, muriate of ammonia; 19th, salt; 20th, subsoil and urine; 21st, urine; 22d, moss and urine; 23d, carbon animalised; 24th, night-soil and diluted urine; 25th, rape dust; and 26th, sulphate of ammonia. In the part top-dressed with 4 bushels of soot alone, the crop was not so good as where 2 bushels of soot were applied, mixed along with the other materials named. On the part dressed with guano, at the rate of 4 cwt. per acre, at a cost of 3*l.* 18*s.* 7*d.*, after deducting which it left a profit of 4*l.* 7*s.* 7*d.* over the part that was left without any top-dressing at all. Saltpetre, 170 lbs. per acre, cost 2*l.* and left 5*l.* 8*s.* profit. Nitrate of soda, 170 lbs., cost 1*l.* 1*s.*; profit, 4*l.* 12*s.* 10*d.* Common salt, 440 lbs., cost 12*s.*; profit 5*l.* 8*s.* 4*d.* Those five last-mentioned substances left the greatest profit per acre of any of the 26. The parts dressed with soot, mixed with other materials, yielded on an average a profit of between 2*l.* and 3*l.* per acre. These profits seem very large, after the expenses have been deducted, the reason of which is that Mr. Maclean has valued the hay at 7*d.* per stone. This does not, however, detract from the value of the experiments, as they have under any circumstances yielded a good profit. I may also name Mr. Hannam's prize essay, "On the comparative effect of Special Manures," as being a most important and valuable document, he having very carefully experimented in top-dressing Wheat, Barley, Oats, Peas, Grass, &c., the results of which he has very clearly shown. Both Mr. Maclean and Mr. Hannam's experiments are published in the "Transactions of the Highland and Agricultural Society of Scotland."

Reading: *Liquid Manure—its Properties, and best Mode of Application.*

Mr. J. J. Wheble gave some scientific details respecting the quantity of nitrogen contained in different substances, and also of the fertilising constituents contained in the urine of different animals, stating that the urine of the horse contained about 12 per cent. of nitrogen; that of the cow, 8 per cent.; pig, 2 per cent.; in that of the hare, 26 per cent., which was the richest of any animal. These valuable constituents in the manure, if not arrested by some means, by being allowed to run off, were entirely lost to the farmer. Mr. Wheble then briefly noticed the manner in which the liquid manure was now most generally applied to the land, namely, by the horse and cart, and stated that on the estate of Lord Falkland, in Scotland, some land had been improved in value from 15*s.* to 50*s.* per acre, by the adoption of the late improvements in agriculture. He exhibited three sorts of hose for the distribution of liquid manure over the land, of the respective prices of 1*s.* 6*d.* per yard, 2*s.* 6*d.* per yard, and 1*s.* 7*d.* per foot.—Mr. Dickson, of Colby-park Farm, then rose and said: As Mr. Wheble had very ably demonstrated to the meeting the value of liquid manure, he would endeavour to give them the results of his practical application of it; but, before doing so, perhaps he might be allowed to preface the statement with a few general remarks. They were all well aware that the value of manure depended entirely upon the quality and the kind of food given to animals; and that if they fed highly, the excrement would be more valuable, whether liquid or solid. Having made some few preliminary remarks, he should next endeavour to show to the meeting the best modes hitherto adopted with respect to the collecting and applying liquid manure. The system introduced by Mr. Warnes, of Norfolk, of box-feeding, was one mode. To construct the boxes of a temporary nature, the common Larch Fir with hurdles for the sides were used, and these boxes were properly littered with straw, and the animals are then placed in them, and the excrement allowed to accumulate to the depth of 2 or 3 feet. Under this plan all the liquid is absorbed by the litter, and, therefore, nothing is lost, for no ammonia was allowed to escape, in consequence of fermentation being arrested. Another principal feature in Mr. Warnes' system was that of using scalded linseed for food for his cattle; this he also grows on his land; and it had been stated that if the Flax-growing system was extensively adopted, all the poor-rates of England would be saved. The next plan of making manure was by a perfect system of stallage for the animals, in which they must be kept tied up. At the risk of his being thought tedious he would describe the plan of his own cow-stalls. The stalls are 4 feet in width, into which the animal is placed, and they are ranged side by side down the building. At the back of these stalls are proper receptacles for the straw and solid matter. The liquid manure is then conveyed from the centre to a tank in the yard, 6 feet deep, and 12 feet square. The solid excrements of animals pass into the centre drain at the bottom. The mode he adopted was to have a small barrel of a cart on which was placed a small barrel, from which it was scattered over the land. He applied [illegible] to the manure to various crops last year, to a turnip crop, and to Wheat. But the great object to the cart system was that it could easily be made available to the corn crop at the last stage of its growth, and it remained for a few days to show some results. It was [illegible] to apply the liquid manure as they continued to grow. The [illegible] by a force pump, with hose and pipes. He [illegible] that plan, and from the Manchester Manure Company. Mr. Dickson then read some [illegible] during the present. He would now state the result to which he had arrived in applying liquid manure to the young crop during the last two years. He had applied it to nearly all the crops he had in cultivation, to the Italian Rye-grass, Clover, and Corn crops. He applied 1000 gallons per acre to [illegible] acres, over the best and Grass that would be two tons per acre of dry crop up; but for Italian Rye-grass it was [illegible] last year he had grown [illegible] and it was [illegible] very heavy, and it was to cut in April and [illegible] grass was two and a half tons. It was [illegible] and it kept that number of sheep [illegible] and a day, with [illegible] of land. After the [illegible] he began cutting the crop the first week [illegible] produce of these two acres he fed [illegible] cake per day, from the first week [illegible] to September. As the crop was cut, [illegible] followed the cattle at the rate of [illegible] and he [illegible] keeping the above number of cows, [illegible] hours upon the Grass. In dry [illegible] allowed to run to seed, and I [illegible] but to cut seed, which at the market [illegible] would amount to 15*s.* per acre. The system [illegible] third crop, and from the last crop he [illegible] bushels of seed from the portion that [illegible] The land was then ploughed and sown with Wheat. The first best result was with the cabbage crop, to which [illegible] was applied as soon as they were [illegible] to each plant. And he had [illegible] at all, but continued growing at once. [illegible] Carrots, but not with such good results [illegible] Wurzel it was very beneficial. Last year [illegible] were transplanted with Mangold Wurzel, and which [illegible] of roots.

Miscellaneous.

On Rearing Cattle, with a view to Early Maturity.—[At the request of correspondents we republish Mr. Wilson's paper, which appeared in this Journal four years ago.]

The production of beef, at the quickest and cheapest rate, being the object in view, the first requisite is to have animals possessing qualities suitable for this purpose. Accordingly, they should be good milkers—able to keep at least 2 to 3 calves each—of a kind known to have a tendency to fatten readily, and to come early to maturity, and of a nature likely to produce a vigorous well-grown steer. In these points, they must be good short-horns; and having regard to them, their milking properties than is usually the property of bulls. And here it may be well to [illegible] highly inexpedient for the beef-grower—the farmer who [illegible] largely on his regular cast of his cattle—to attempt breeding his own bull. It is only a few individuals in any district who have the taste and skill to [illegible] this difficult department of the business, not to mention the large capital which must necessarily be invested in it, the precariousness of the return, the greater liability to casualties of such choice animals, and the additional expense of their housing and management. On Tweedside, the breeding of bulls is entrusted to a limited number of persons, chiefly Northumbrians, who, by devoting their whole attention to this department, and attending to it year to year, to furnish a class of bulls which have strongly improved the general breed of the district. The ordinary [illegible] at this moment comprising the character of this valuable breed of cattle in several districts of Scotland into which they have been more recently introduced. Many even on this point by experience, the farmer of the better purchases from some breeder of established reputation a good year'ling bull, which he uses for two or three seasons, and then replaces by another in like manner. This bull serves his own cows and those of his hinds, and some of the neighbouring villagers; and thus, though his own stock be limited to six or eight cows, he can select from the progeny of his own bull as many calves as he requires to make up his lot, and has them more uniform in colour and quality than could otherwise be the case. As the male parent, among sheep and cattle, is known to exert by far the greatest influence in giving character to the progeny, and increasingly so in proportion to the purity of his breeding, it is evidently much for the advantage of the beef-grower to spare no reasonable trouble and expense in obtaining a bull of thorough purity, and then to select his calves with the most scrupulous attention. From overlooking all this, how often may lots of cattle be seen, on the best of land, too, which can only be fattened at an enormous expense of food and time, and after all, are so coarse in quality as to realise an inferior price per stone. Occasionally a few beasts of the right sort will be seen in such lots, which, by going ahead of their fellows to the extent of 4*l.* or 5*l.* a-piece of actual market value, show what might have been done by greater skill or attention on the part of the owner. It is very desirable to have all the cows calve betwixt 1st February and 1st April. If earlier, they will get almost dry ere the Grass comes, and calves later than this will scarcely be fit for sale with the rest of the lot. When a calf is dropt, it is immediately removed from its dam, rubbed dry, with a coarse cloth or wisp of straw, this being what the cow would do for it with her tongue, if allowed, and then placed in a crib in the calf-house among dry straw, when it receives a portion of its own mother's first milk, which, being of a purgative quality, is just what is needed by every young animal. For a fortnight, new milk is the only food suitable for it, and of this it should receive a liberal allowance three or four times a-day, but means should now be used to train it to eat linseed-cake and sliced Swedish Turnip; and the readiest way of doing so is to put a bit of cake into its mouth immediately after getting its milk, as it will then suck greedily at anything it can get hold of. By repeating this a few times, and placing a few pieces in its trough, it will usually take to this food freely, and, whenever this is the case, it should have as much as it can eat, that its allowance of milk may be diminished, to meet the necessities of the younger calves which are coming in succession. This is of the greater importance that it is always most desirable to avoid putting anything with their milk by way of helping the quantity. When a substitute must be resorted to, oatmeal porridge mixed with the new milk is perhaps the best. Soup has of late years been much used for this purpose: but an eminent English veterinary surgeon has recently expressed a very decided opinion that its use impairs the digestive powers of the animal and predisposes to disease. The sour whey, invariably found in a cow-house, where porridge, or any kind of meal is mixed with the milk, is proof sufficient that indigestion is the consequence. An egg put into each calf's allowance of new milk by stirring with the hand, is a good help, and never does harm: but, with this exception, it is best to give the milk warm and unadulterated, however small the

quantity, and, along with this, dry farinaceous food, Turnips, and hay, *ad libitum*. If more liquid is needed, a pail with water may be put within their reach, as this does not produce the bad effects of mixed milk. Indeed, in this, it is best to keep as closely as possible to the natural arrangement according to which the calf takes it suck—at first frequently, and then at longer intervals, as it becomes able to eat of the same food as its dam. The diet of the cows at this season is a matter of some consequence. Swedish Turnips yield the richest milk, but it is too scanty, and calves fed on it are liable to inflammatory attacks. Globe Turnips should, therefore, form their principal food during the spring months. Care must also be taken that they do not get too low in condition in the autumn and winter, and for this end it is well to put them dry at least three months before calving. Some may think this long; but, on a breeding farm, milk is of little value at this season. The cows, when dry, are kept at less expense, and, by this period of rest, their constitution is invigorated, greater justice done to the fœtus, now rapidly advancing to maturity, and so much more milk obtained after calving, when it is really valuable. When the calves are from four to six weeks old, they are removed from their separate cribs to a house where several can be accommodated together, and have room to frisk about. So soon as the feeding-yards are cleared of the fat cattle, the calves are put into the most sheltered one, where they have still more room, and are gradually prepared for being turned to Grass; and when this is done they are still brought in at night for some time. At six weeks old, the mid-day allowance of milk is discontinued, and at about 14 weeks they are weaned altogether. When this is done, their allowance of Linseed cake is increased; and, as they have been trained to its use, they readily eat enough to improve in condition at this crisis, instead of having their growth checked, and acquiring the large belly and unthrifty appearance which used to be considered an unavoidable consequence of weaning. The cake is continued until they have so evidently taken with the Grass as to be able to dispense with it. They are not allowed to lie out very late in autumn, but, as the nights begin to lengthen and get chilly, are brought in during the night, and receive a foddering of Tares or Clover foggage. When put on Turnips, the daily allowance of cake (say 1 lb. each) is resumed, and continued steadily through the winter and spring, until they are again turned to Grass. This not merely promotes their growth and feeding, but (so far as the experience of five or six years can determine the point) seems a specific against black-leg, which was often so fatal as altogether to deter many farmers from breeding. It may be well to state here distinctly the particular purpose for which cake is given at the different stages of their growth. At first, the object is to accustom them to a wholesome and nutritious diet, which will supplement the milk obtained from any given number of cows, so as to admit of a greater number of calves being reared, and, at the same time, have greater justice done them than could otherwise be practicable. At weaning-time, again, it is given to help the young animal over the transition from milk to Grass alone, without check to growth or loss of condition. During the following winter, however, the special object of its use is to prevent black-leg, as, but for this, Turnips *ad libitum* would be sufficient. When put to Grass as year-olds, they decidedly thrive better on sown Grass of the first year than on old pasture, differing in this respect from cattle whose growth is matured. They are laid on Turnips again as early in the autumn as these are ready; and it is a good practice to sow a few acres of Globes to be ready for this express purpose. It does well to give the Turnips upon the Grass for 10 or 14 days before putting them finally into the feeding-yards; and then, if they can be kept dry and warm, and receive daily as many good Turnips as they can possibly eat (Globe till Christmas and Swedish afterwards), they will grow at a rate which will afford their owner daily pleasure in watching their progress, and reach a weight by the 1st of May which, if markets are favourable, will reward him well for all his pains. The leading features of this system are, uniform good keeping and progressive improvement; in other words, to get them fat as soon after birth as possible, and keep them so till they reach maturity. The details given above are a description of the expedients generally adopted by the breeders of this district for securing these objects.—*John Wilson, Edington Mains, Berwickshire: in the Transactions of the Highland Society.*

*Boussingault on Steeped Fodder as Food for Cattle.**—Some are in the habit of steeping dry fodder intended for feeding cattle; in their opinion, hay and Clover, when so treated, have imparted to them more decided nourishing qualities. Fifty-five pounds avoirdupois, of dried Clover, after being steeped twelve hours in water, are found to weigh 220 lbs. We observe that by this treatment, dry fodder is in a manner made to resemble that which is green. The following experiments were made in connexion with this subject. Four heifers aged from 17 to 19 months were separated into lots, one of these, No. 1, was fed with hay and dried Clover; lot No. 2 received the same fodder previously steeped for 12 hours in water. Each lot received in the proportion of three kilogrammes† of hay for a hundred kilogrammes of living weight. The experiment was conducted during 14 days, with the following result:—

Initial weight.	After 14 days.	Total gain.	Gain per day.	Fodder consumed.
Lot No. 1 (fed on steeped fodder) 772 kil.....	745 kil.	23 kil.	1.64 kil.	231 kil.
Lot No. 2 (fed on dry fodder) 772 kil.....	792 kil.	20 kil.	1.48 kil.	312 kil.

This experiment was repeated, with this difference, that the moist fodder was consumed by the cattle which had previously received dry fodder. The result obtained did not differ sensibly from that already given. Lot No. 1, which had received the dry fodder, gained in 14 days 23 kilogrammes; lot No. 2, fed with steeped fodder gained 22 kilogrammes. The slight difference in favour of the steeped fodder will not compensate for the trouble of the operation. In the course of his researches, M. Opperman observed that the animals consumed the steeped fodder more rapidly than the dry. One lot ate the steeped fodder in 45 minutes, while the other required an hour to finish the dry. A greater rapidity of feeding may be of advantage in some cases: for instance, in fattening, where it is of importance to consume as much as possible. There can be no doubt, also, that steeped fodder is an advantage to very young cattle, when after weaning they pass to vegetable food. In a word, dry hay, after having absorbed two or three times its weight of water, ought to possess the advantages attributed to green fodder; which, if not more nourishing than the hay which it yields, is at least eaten with great avidity. If an animal, by receiving at discretion green food, gradually reaps more advantage, the same may perhaps be the effect of steeped fodder, given under like conditions of quantity. Being desirous to know the influence produced on lactation by steeped hay, I engaged M. Opperman to observe the quantity of milk yielded by two cows, alike in every respect. They were fed with 3 kilogrammes of dry fodder for every 100 kilogrammes of living weight—to the one it was given in a dry state, the other was fed with it steeped. After 15 days, there could not be perceived any difference between them in regard to the quantity of milk.—*G. D., in Scottish Farmer.*

* Translated from the "Annales de Chimie," February 1847.

† A kilogramme is equal to 2·2 lbs. avoirdupois.

Calendar of Operations.

JULY.

BERWICKSHIRE MERSE FARM, *July* 7.—Since our last report we have been employed preparing land, sowing Turnips, andel eaning the Potatoes and Swedes between the drills with the Turnip grubber; the workers have been employed cleaning the land, spreading dung, sowing guano, and thinning Swedes.—*July* 14.—We have now finished sowing Turnips, and have had two men going with the Turnip grubber, small ploughs, &c.; the workers have been employed hoeing Potatoes and thinning Turnips; we have finished the Swedes, and have two men deepening ditches, laying in tiles, and filling them up; one man employed driving the tiles and the bottoms, one at the coals, two mending fences, cutting thistles, &c.; *J. B.*

DORSET FARM, *July* 19.—For the past fortnight we have been horse-hoeing Mangold Wurzel and Swedes, ploughing for and sowing Turnips, hand-hoeing Mangold Wurzel and Swedes, topping Beans, mending fences, making a new road, providing thatch for the hay, and as the weather has been very fine for the most part, we have been very busy at hay-making. We have yet a good deal to mow, as it was not laid up till the 1st of May, and then it was top-dressed with nitrate of soda, which I have no doubt has benefited it greatly. We top-dressed three acres of Wheat—one with guano, one with superphosphate of lime, and one with nitrate of soda, and the last certainly shows the best appearance, but for some weeks after the top-dressing we had very dry weather, which I believe acted against the guano, otherwise I have no doubt it would have been best; but so far as present appearance goes, the nitrate stands first, guano second, and superphosphate third; *G. G.*

EAST LOTHIAN FARM, *July* 15.—We have been employed during the week much the same as the preceding; that is, in the singling of Turnips, now completed except head ridges, and with double-moulded plough earthing up Potatoes. Also cutting and making hay, likewise threshing remainder of our Wheat, and carting the same to market, and lambs to Edinburgh market. Crops in general are looking well; *L.*

NORTH ESSEX FARM, *July* 15.—Hay-making has been our chief occupation during the past week; and the fine weather has enabled us to push on the operations with such rapidity that in the course of a day or two we hope to have the whole safely stacked. The crop, as regards both quality and quantity, is one of the finest we ever had. We have now nearly finished Turnip sowing, under very favourable circumstances; our Swedes are looking extremely well, having suffered but little from the fly; we give them all the requisite attention with the hand and horse-hoe. If the weather continues fine we shall probably commence harvest in about 12 or 14 days; our crops are somewhat variable: Wheat and Barley good; Oats, Peas, and Beans, not altogether so promising; Hops very luxuriant. To-day, for the first time this season, we have witnessed decided symptoms of the Potato disease in one of our fields; the extent, however, to which the disease at present exists is small, and we are inclined to hope that the present hot weather may arrest its progress; *T. B.*

NORTH LINCOLNSHIRE FARM, *July* 10.—Since our last the weather has been very wet, which has retarded Turnip sowing. We have still 14 acres to sow. The Swedes are now growing well, and promise fair for a good crop. We commenced thinning on the 4th inst. The yellow and white we have sown have been manured with 15 yards of farm-yard manure and 5 qrs. of ashes from below the cattle. A few rows we have sown without ashes that we may note the difference. We had three fair days last week, and managed to get our Clover well into stack on the last of the three. The manner of managing our Clover is not commonly followed here. As soon as the top of the swathe is dry, we have it tied up in small sheaves, quite loose, and set up each one by itself, and there they stand till ready to stack. The cost is from 5*s.* to 8*s.* per acre, according to the crop. By this plan the Clover leaves are all retained. In reply to your Galloway correspondent, I have to state, first, that we can see no reason for throwing the manure out of the account; certainly it is of some value, and no one can object to 3*s.* per yard for well-made manure. The 1300 yards of manure were certainly made, and by the 60 head of cattle, and we might with as much reason strike 1*l.*, 2*l.*, or 3*l.* per head, as suited our convenience, from the price of his cattle, as he throw away the manure. Had we not made the manure, we must have bought artificial manure of some kind, and perhaps your correspondent will inform us how to dispose of our straw to more advantage. It is a very simple method of getting over a difficulty to throw it overboard; but "facts are stubborn chiels that winna ding." The cattle had straw *ad libitum*, as much indeed as they could wallow in; but though, while having abundance of straw they had it, so we are inclined to think that cattle may be kept clean with as small a quantity of litter in boxes as in stalls; and there is certainly no comparison between the quality of the one and the other, nor is there the trouble, as your correspondent supposes, of pumping up the liquid manure; all we do is, put from 6 to 9 inches of ashes in the bottom of the boxes before the cattle are put in, which receive any liquid from the manure; we have this year over 300 quarters of these ashes. In the second place, your correspondent says we were fortunate in the time of getting out of our cattle; of this we are aware, and thankful for it; but he, as well as we, must take chance of the market in beef as well as corn. Your correspondent might, we think, have taken some notice of the statement we made, that had we had 60 short-horns instead of only 20, and the remainder Galloways, our profits would have been at least 120*l.* more than shown, as our short-horns cost 3*l.* per head less than the Galloways, and were sold at the same price with the same keep; this might, at least, have been noticed. In reply to "W. G. P.'s" queries in Saturday's Paper, boxes for 60 head of cattle would cost about 500*l.*, out of which you may turn two lots of cattle per annum, and have the use of the boxes for your horses in summer; the straw could not be sold in the neighbourhood at all, and, except for the use it was put to, is valueless. While maintaining the correctness of our calculations in regard to the past winter, we are no advocates for extremes, and would neither ourselves rush headlong into feeding, nor advise others to do so, but would strongly advise the conversion of stalls into boxes, which some in this neighbourhood are doing. If your Galloway correspondent will pay us a visit next winter (you can tell him where), we will be glad to see him, and hope to be able to show him our boxes filled with thriving animals; *S. R. S.*

SOUTH DEVON FARM, *July* 17.—We have during the past week been favoured with exceedingly fine weather, which has enabled us to put aside all our land hay in very good order; the share was heavy, and the powers of our hay-turner (an implement every farmer should have in his possession) were fully tested. We have also been sowing some common Turnips; those first sown are brairding very well and regular. Horse-hoeing our Carrots and Cabbages. There is now no longer any doubt as to the Potato disease in this neighbourhood; it is becoming very general, and whole fields are become infected with it. I have now been through some in a very bad state, the smell quite enough to drive one out of the field. We fortunately withstood the eagerness displayed for Potato culture, and substituted Mangold Wurzel in its place; *T. M.*

STIRLINGSHIRE CARSE FARM, *July* 8.—This week we have been engaged ploughing summer fallow, stacking hay, which we have finished, and it is about an average crop; we have also been occupied in singling Turnips, which are making but little progress. The weather towards the end of the week has been rather wet and stormy, which is not so favourable for crops and pastures; *J. A.*——*July* 15.—We have been employed this week wholly at out-door labour. We have been engaged in singling and hoeing Turnips. We have had a week of very fine weather, both dry and warm, which has tended greatly to forward the crops; and, should it continue, the Wheat and Oat crops, particularly, will be early; *W. F.*

SUSSEX FARM, *July* 17.—The weather for the last week has been beautiful for the hay-making. On Saturday morning we had a great deal of thunder and lightning in this neighbourhood; some cattle killed and several houses damaged by the lightning. We have lifted a great deal of hay in first-rate order; should this week continue fine, we shall nearly finish hay-making, which is an abundant crop. I find the hay-making machine a most useful implement. The Wheat crop will very soon be ready for reaping. Several farmers in this neighbourhood have cut part of their Peas. Mangold Wurzel, Swedes, and Turnips, have all the appearance of being a good crop; our first-sown Swedes, that looked so remarkably well, are nearly half destroyed with various sorts of vermin. Our Potatoes look well, and no signs of blight at present; but it has made its appearance in the cottagers' gardens, but as yet to no great extent; *J. B.*

Notices to Correspondents.

CAPILLARY ATTRACTION: *Sunborn insect.* It is that by which water is induced to rise within a tube (inserted in it) to a height dependent on the fineness of the bore. It is that by which, similarly, water rises in a lump of sugar, through the tubular passage or pores existing in its substance. And it is that by which, in like manner, water will rise through the subsoil and soil of land which is wet below. Its form depends on the smallness of the tube through which it induces the water to rise. It is thus greatest in a soil whose particles are fine—in a clay soil in fact. And it is dependent solely on this fact—not on any other, except in so far as it may affect the mechanical texture of the soil. The soil is best when it exists in medium intensity—when the land is in fact neither too stiff nor to free.

CHURNS: *S A B.* Robinson, of Lisburn, Ireland; or Attwood, of Lewes, Sussex.

CROPS: *E B D.* Thanks; your report shall appear with others next week.

FLOWER OF WHEAT: *Agricola.* When once the "blossom" appears on the outside of the ear it is of no further use. It will be found to be an empty bag. The pollen which it contained has already escaped.

HIGHLAND SOCIETY: *Dandie Dinmont.* The 2d, 3d, and 4th of August.

MANURES: *Ignoramus.* The statement was that those crops were raised from that manure. But the season was admirably adapted also that year, and you cannot expect to obtain a similar experience under every sort of circumstance. The composition of the manure and account of the sheds you will find in the "English Agricultural Society's Journal," vol. vi., p. 242 and p. 355.

POND MUD: *M P.* Dig it out, and let it drain nearly dry; then turn it over and break it down, and in the process mix in with it 1 cwt. of superphosphate of lime, 2 cwt. of gypsum, 1 cwt. of guano, and 2 cwt. of salt, for each of the acres on which you intend to apply it.

SUCCESSION CROPS: *A F.* We do not understand the question. The ordinary "stolen" crops, as they are called, are Vetches between a grain crop and Turnips; stubble Turnips between a grain and a green crop; Italian Rye-grass do. do.; transplanted Rape, &c., of which good crops may be had after winter Beans, before a spring-sown grain crop. The success of all these is entirely dependent on the autumn weather.

SURREY FOWLS: *J T L*, if resident in or near London, will find Surrey Fowls by looking in at any of the principal dealers, or in Leadenhall Market. If he has to write from a distance, he cannot do better than give an order to Messrs. Baker, 3, Half-Moon-passage, Gracechurch-street, stating that he was assured of being supplied by them with the genuine variety. In any case, if he desires true and first-rate specimens to originate his stock, he must expect to pay a price which in the country would be considered high. *D.*

TRENCHING LAND: *G. Palmer.* An arable field of strong brick earth, without stones, may be dug 18 inches deep at two spits for 6*d.* per perch of 5½ yards square, and able-bodied men will earn 3*d.* an hour at it. Let two work in concert—the one a man who shall earn 3½*d.*, while the other, a lad, shall earn 2½*d.* Let the latter do the lower spit while the former does the upper, and let them clear successive widths of two feet at a time; the man digging the lower spit of the first trench a little in advance of the lad, who is throwing on the top of his finished work the top spit of No. 2.

WATER-PIPES: *L E S.* We should imagine glass pipes to be excellent for the purpose. Perhaps some correspondent will say whether and where they have been used in this way.

ERRATUM: By mistake the Earl of Egremont's name was published in our last number as the new President of the English Agricultural Society. It should have been the Earl of Chichester.

Markets.

SMITHFIELD, MONDAY, July 17.

The supply of Beasts is good for the time of year; trade is steady at about Friday's prices. The number of Sheep and Lambs is not large, yet it is quite equal to the demand. Buyers do not purchase readily; however, prices can scarcely be quoted lower. Calves are not so plentiful; they are sold freely at rather more money. From Holland there are about 200 Beasts, 1620 Sheep, and 124 Calves; and 200 Beasts from Scotland.

Per stone of 8 lbs.—s	d	s	d	Per stone of 8 lbs.—s	d	s	d
Best Scots, Herefords, &c. 4	0	to 4	2	Best Long Wools	....		
Best Short Horns 3	8	— 4	0	Ditto Shorn 4	6	— 4	8
Second quality Beasts .. 2	10	— 3	4	Ewes and second quality	....		
Calves 3	8	— 4	8	Ditto Shorn.. 3	8	— 4	4
Best Downs & Half-breds	....			Lambs..... 4	8	— 5	6
Ditto Shorn 5	0	— 5	2	Pigs 4	0	— 4	8

Beasts—3296. Sheep and Lambs—24,560. Calves—271. Pigs—290.

FRIDAY, July 21.

We have again a good supply of Beasts; the demand, however, has considerably increased, consequently there is an advance on Monday's quotations of fully 2*d.* per 8 lbs. There is about an average number of Sheep and Lambs. Trade is rather better, although no quotable advance in price is observable. The supply of Calves has considerably fallen off; they are readily disposed of at fully 2*d.* per 8 lbs. dearer. From Holland we have 200 Beasts, 1190 Sheep, and 154 Calves; from Scotland, 200 Beasts; and 121 Milch Cows from the home counties.

Per stone of 8 lbs.—s	d	s	d	Per stone of 8 lbs.—s	d	s	d
Best Scots, Herefords, &c. 4	2	to 4	4	Best Long Wools.....	....		
Best Short Horns 3	10	— 4	2	Ditto Shorn 4	6	— 4	8
Second quality Beasts .. 3	0	— 3	6	Ewes and second quality	....		
Calves 4	0	— 4	10	Ditto Shorn 3	10	— 4	4
Best Downs & Half-breds	....			Lambs..... 4	8	— 5	6
Ditto Shorn 5	0	— 5	2	Pigs 4	0	— 5	0

Beasts—1031. Sheep and Lambs—12,300. Calves—175. Pigs—270.

HOPS, FRIDAY, July 21.

Messrs. PATTENDEN and SMITH report that they cannot vary their last week's quotations. The market is very dull, and duty is estimated from 2,000*l.* to 220,000*l.*

Mid. & East Kents, p. cwt.	50s to 80s	Yearling Kents, p. cwt...	40s to 60s
Weald of Kents	45 — 60	Yearling Sussex	40 — 60
Sussex	42 — 52	Old Hops	20 — 35
Farnhams	80 — 100		

COVENT GARDEN, July 22.

The market is well supplied with Vegetables and most Kinds of Fruit. English Pine-apples are plentiful, some foreign ones have also arrived during the week in tolerably good condition; Grapes in average, 2s. apiece. Hothouse Grapes, Peaches, and Nectarines are abundant. Melons are sufficient for the demand. Cherries are not so plentiful. Jamaica Limes are offered at 6s. to 8s. per half sieve. Gooseberries are cheaper. Apricots begin to make their appearance. Strawberries are now over. Kent are sufficient for the demand. Oranges are abundant. Lemons moderately plentiful. Among Vegetables, Carrots and Turnips are abundant and cheap. Cauliflowers, &c., suffice not for the demand. Asparagus, &c., Potatoes are equal to the demand. Potatoes are plentiful, but of inferior quality. Peas are abundant. Lettuces and other salading are offered at cheap demand. Mushrooms are a little dearer. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Fuchsias, Carnations, Myrtles and Lother Roses.

FRUITS.

Pine Apple, per lb., 4s to 6s	Oranges, per doz., 9d to 2s
Grapes, hothouse, per lb. 3s to 5s	— per 100, 4s to 12s
Peaches, per doz., 4s to 14s	— bitter, per 100, 8s to 16s
Nectarines, per doz., 6s to 15s	Lemons, per doz., 1s to 2s
Melons, each, 4s to 8s	— per 100, 6s to 12s
Strawberries, per pottle, 6d to 1s	Almonds, per peck, 5s
Plums, per punnet, 1s 6d to 2s 6d	— sweet, per lb., 2s to 3s
Cherries, per lb., 4d to 5s	Walnuts, per bushel, 12s to 18s
Apples, dessert, per bush., 4s to 7s	Nuts, Barcelona, per bush., 20s to 22s
— Kitchen, p. bush., 4s to 6s	— Filberts, per 100 lbs., 14s to 20s
Currants, per half sieve, 2s to 3s	— Cob, per 100 lbs., 25s to 30s
Gooseberries, p. half sieve, 1s 6d to 2s 6d	— Brazil, per bushel, 12s to 16s
Raspberries, per punnet, 6d to 9d	Chestnuts, per peck, 3s to 6s

VEGETABLES.

Asparagus, per bundle, 1s to 4s	Onions, pickling, per half sieve, 2s to 3s
Cabbages, per doz., 6d to 1s	Shallots, per bunch, 3d to 4d
Cauliflowers, per doz., 1s to 4s	Garlic, per lb., 3d to 1s
Sorrel, per half sieve, 6d to 9d	Radishes, per doz. bunch, 6d to 1s
Potatoes, per ton, 100s	— Turnip, do., 9d to 1s
— per cwt., 3s 6d to 6s	Artichokes, per doz., 1s to 2s 6d
— per bush., 1s 6d to 3s	Vegetable Marrow, per doz., 6d to 1s
Turnips, p. bunch., 1d to 3d	Lettuce, Cab., per score, 1d to 1s
Red Beet, per doz., 6d to 1s	— Cos, do., 6d to 1s
Horse Radish, per bundle, 1s to 6s	Mushrooms, per pottle, 2s to 4s
French Beans, per half sieve, 2s to 3s	Small Salads, per punnet, 2d to 3d
Cucumbers, each, 2d to 8d	Fennel, per bunch, 2d to 3d
Leeks, per bunch, 1d to 2d	Savory, per bunch, 3d to 4d
Celery, per bundle, 1s to 1s 6d	Thyme, per bunch, 3d to 4d
Carrots, per bunch, 6d to 6d	Watercress, p. 12 small bun., 6d to 9d
Spinach, per sieve, 2s to 3s	Parsley, per half sieve, 6d to 9d
Peas, per sieve, 2s to 4s	— Roots, per bundle, 4s to 6d
Beans, per bushel, 2s to 2s 6d	Mint, green, per bunch, 2d to 3d
Onions, per bunch, 3d to 6d	Marjoram, per bunch, 6d to 9d
— Spanish, per doz., 1s to 4s	

HAY.—Per Load of 36 Trusses.

SMITHFIELD, July 20.

Prime Mead. Hay	72s to 80s	New Hay	60s to 72s	Straw	27s to 30s
Interior ditto	65 70	Clover	85 90		
Rowen	65 —	New Clover	70 80	J. COOPER.	

CUMBERLAND MARKET, July 20.

Prime Mead. Hay	75s to 80s	Old Clover	95s to 100s	Straw	28s to 32s
Inferior	50 60	Inferior	70 80		
New Hay	50 65	New Clover	— —	JOSHUA BAKER.	

MARK LANE, Monday, July 17.

Messrs. KINGSFORD and LAY report that there was a good supply of Wheat from Essex, and large from Kent this morning, and although a decline of 2s. per qr. was submitted to, the stands were not cleared at a late hour. Holders of foreign were not disposed to accept a similar reduction, and business was consequently languid; where sales were made, a decline of fully 1s. per qr. on the prices of last week was taken. Fine Barley maintains our quotations, but light and inferior qualities are quite unsaleable.—Peas and English Beans remain nominally the same, but Egyptian sell at are more inquired after, and 6d. to 1s per qr. dearer.—We observe no alteration in the value of fine Oats, but inferior sorts are very difficult of disposal, even at a reduction in price.

BRITISH PER IMPERIAL QUARTER.	s	s		s	s
Wheat, Essex, Kent, and Suffolk	50	58	Red	49	46
Norfolk, Lincolnshire, and Yorkshire	42	46	White	41	50
Barley, Malting and distilling, 27s to 29s	Chevalier	30	Grinding	24	27
Oats, Lincolnshire and Yorkshire	Polonos	21	Feed	20	24
Northumberland and Scotch	Feed	20	Potato	22	25
Irish	Feed	19	21	Potato	22	24
Malt, pale, ship		—	—		
Hertford and Essex		—	—		
Rye		37	39		
Beans, Mazagan, old and new	27s to 31s	Tick	30	35	Harrow	32	35
Pigeon, Heligoland	34	35	Winds	—	—	Longpod	—	—
Peas, White	33	36	Maple	33	34	Grey	30	32

FRIDAY, July 21.

The arrivals of English and foreign Wheat during the week have been good, those of Barley and Oats from abroad large. Wheat brings the full prices of Monday, and at the close met an improved demand on the spot, as also for arrival.—Barley was rather more inquired after at a slight reduction in price.—Beans and Peas are unaltered in value.—Oats meet a moderate sale at former rates.—Maize must be written 2s. to 3s. per qr. dearer for floating cargoes near home.—Flour remains unaltered.

[Since our circular of the 13th inst. fine weather and increased supplies of English Wheat at most of the country markets have caused a decline in prices of 1s. to 2s. per qr. to be pretty general. To day and during the night there has been much wind, with showers of rain. The accounts we receive of the Wheat crop are upon the whole less favourable this week than last, and there still exists with many practical observers an inclination to import, which has not been checked by the late fine weather. Flour remains nominally unaltered, but our quotations are difficult to realise. Spring Corn of all descriptions is very valuable and sold, although, like Wheat, it is generally improved in places, no one crop promises to be a large one; nevertheless, with the exception of Egyptian Beans afloat, which have rallied 1s. per qr., the supplies are rather in excess of the immediate demand, and prices declining in consequence. Indian Corn has been in good request, and Grain afloat is full 3d. to 4d. per qr., cost, freight, and insurance. The Potato disease, which was represented at the close of last and the beginning of the present week to be rapidly spreading, appears in many districts to have been checked by the fineness of the weather; many growers, however, fancy wet would be destructive, and, apprehensive under any circumstances of their keeping, are rapidly forcing them for sale, which may in some degree affect the value of grain, particularly spring corn. On the Scotch markets prices have been fully maintained. The Baltic markets, by the last advices, remain firm. Prices of Wheat at Dantzic, 36s. to 42s. 6d.; red qualities in the lower parts, 30s. to 40s.; Barley, 16s. to 21s. per 72 lbs.; Beans, 24s. per qr., cost, freight, and insurance. Peas, 24s. to 25s.; Indian Corn, 25s. to 26s. per qr. In Odessa no alteration has occurred. In New York, on the 3d, Genessee Wheat was held at 10s. to 10s., and Ohio red and mixed, 42s. to 44s per 480 lbs. Oats, 15s. 9d. to 16s. Indian Corn, 19s. 7d. to 21s. per qr. of 480 lbs.]

ARRIVALS IN THE PORT OF LONDON THIS WEEK.

	Wheat. Qrs.	Barley. Qrs.	Oats. Qrs.	Flour.
English	6340	20	350	2100 sacks.
Irish	—	—	900	
Foreign	10410	19020	41740	— barrels.

IMPERIAL AVERAGES.	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
June 10	47s 8d	31s 7d	23s 9d	28s 0d	38s 4d	37s 0d
— 17	46 10	30 10	20 8	31 7	37 3	38 0
— 24	46 11	31 2	20 9	29 4	36 11	38 4
July 1	48 2	30 5	20 11	30 2	36 8	38 2
— 8	48 10	30 1	20 8	31 0	36 8	38 3
— 15	49 1	29 0	20 9	31 0	36 6	37 3
Aggregate Average	47 11	30 6	20 9	30 2	37 2	37 8
Duties on Foreign Grain	10 0	2 6	2 6	2 6	2 6	2 6

ARRIVALS IN THE PORT OF LONDON LAST WEEK.

Flour, 12088 sks 56 lbs	Wheat. Qrs.	Barley. Qrs.	Malt. Qrs.	Oats. Qrs.	Rye. Qrs.	Beans. Qrs.	Peas Qrs.
English	5576	200	4572	156	—	50	32
Irish	—	—	45	1557	—	—	—
Foreign	4602	7085	—	18122	—	117	600

Fluctuations in the last six weeks' Corn Averages.

Price.	June 10.	June 17.	June 24.	July 1.	July 8.	July 15.
49s 1d	...	...	...	...	...	...
48 10	...	...	...	...	...	...
48 2	...	...	...	...	...	...
47 8	...	...	...	...	...	...
46 11	...	...	...	...	...	...
46 10	...	...	...	...	...	...

SEEDS, July 17.

Canary per qr.	70s to 78s	Linseed-cakes, Foreign, p. ton	7l to 8l	
Caraway per cwt.	34	36	Mustard, White, p. bush	7s 0d to 8s 0d
Clover, Red, English	35	44	Superfine p. bush	— —
— Foreign	35	40	Brown, per bushel	— —
White, English	38	44	Rapeseed, Eng., per last	22l 12l
— Foreign	38	42	Rape-cakes per ton	5l 5s
Coriander	16	20	Sainfoin	— —
Hempseed	40	44	Tares, Eng., winter, p. bush	5s 0d 7s 0d
Linseed	36	40	Foreign, per bush	4s 6d 6s 0d
— Baltic	32	36	Trefoil	17s 0d 23s
— Cakes, Eng., p. 1000	11l 15s to 12l		Turnip—too variable for quotation.	

Sales by Auction.

NOTICE.

IMPORTANT SALE OF ORCHIDEÆ FROM COSTA RICA.

MR J. C. STEVENS begs to announce for sale by Auction, at his Great Room, 38, King-street, Covent-garden, on Tuesday, 25th July and following day, at 12 o'clock precisely, a very fine Collection of ORCHIDEÆ just received from Mr. Warscewicz, and made by him throughout the greater part of the State of Costa Rica, and altogether unequalled by any Collection received from the rich district of Central America. Amongst them are many new species of Epidendrum, Cattleya, Lycaste, Oncidium, Cœlogyne, Maxillaria, &c., and 3 or 4 which it is expected will prove quite new genera, also two fine specimens of a new genus of Tacsonia. Now on view, and Catalogues may be had.

Small Freehold Farm, and Parcels of Land, in lots, near Guildford, Surrey.

MESSRS. DAVIS AND VIGERS are directed to SELL by AUCTION, at the Mart, on Thursday, August 3, in Seven Lots, SIX small FREEHOLD FARMS, varying from 15 to 60 acres, of very useful and improvable land, with extensive common rights, each having good residence, homesteads, and requisite farm buildings, also four enclosures of arable. The whole situate in the parishes of Worplesdon and Ash, three miles from Guildford, and eight from Farnham, having railway communication with the metropolis, and which is about to be extended direct to all parts of the south and west of England. The whole are let to respectable tenants, and offer good securities for small investments, or as attractive occupations to retire on. The soil is naturally favourable, and aided by draining may be made most fertile. The residences afford comfortable family accommodation, and are pleasantly situate aside open greens, in main place connection with good roads, leading to the superior market towns of Guildford and Farnham.—Particulars and conditions of sale may be had at the White Hart, Guildford; the Lion and Lamb, Farnham; of Mr. Henry Marshall, Godalming, Surrey; at the Mart, London; and at the auctioneers' offices, 3, Frederick's-place, Old Jewry, London.

IMPORTANT SALE OF PURE SOUTHDOWN RAMS AND EWES, AND HEREFORDSHIRE BULLS, COWS, &c.

MR. DRAKE begs to inform his Friends and the Public that his SALE of SOUTHDOWN SHEEP and HEREFORD CATTLE will take place on Wednesday, the 2d of August next, including the Prize Ram at the Royal English Agricultural Society at York. The Herefords are descended from the stock of the late John Price, Esq., and have taken Prizes at the Royal and other Agricultural Societies.

The Stations of Dean and Dunbridge, on the South-Western Railway, are about three miles distant from the place of sale. —Manor Farm, East Tytherley, Stockbridge, Hants, July 22.

NURSERY ESTABLISHMENT AND SEED-BUSINESS.

TO BE DISPOSED OF, by PRIVATE CONTRACT, an Extensive and Old Established NURSERY AND SEED BUSINESS, which has been conducted in the present establishment upwards of 60 years. It presents the greatest advantages for extending the trade, being situate in one of the most improving Towns in the Midland Counties.

THE STOCK is rich in new Evergreens and all the modern requirements of the trade, and embraces opportunities which seldom present themselves for concentrating a first-rate trade in both departments, as the very best facilities exist for the transit of goods to all parts of the three kingdoms.

Lease of the Lands and immediate possession may be had.—Apply (real name and address), Messrs. CAPES and STEWART, 1, Field-court, Gray's-inn; Messrs. MINIER and Co., 69 Strand; Messrs. WRENCH and Co., London-bridge.

TO BE LET ON LEASE, from Michaelmas next, a FARM, containing 116 Acres of Arable, Grass, and Wood Lands, with commodious homestead, situate in the parish of Lingfield, Surrey, within 3 miles of the market town of East Grinstead. Enquire of Mr. GEO. TROTTER, Bailiff at Felcourt, Lingfield, who can be highly recommended by the Advertiser as an intelligent Scotchman, well acquainted with modern improved farming, perfectly trustworthy, and capable of taking entire charge of any nobleman or gentleman's estate.

MERRIOTT, NEAR CREWKERNE, SOMERSETSHIRE.

TO BE LET, and entered on immediately, on most advantageous terms, an Old Established and Well Stocked NURSERY, containing, by estimation, Ten Acres (more or less), situated in the above parish; together with an excellent Hothouse thereon, filled with choice Vines in full bearing, and valuable plants; adjoining which is a comfortable Cottage, with convenient Cart-house, Packing Sheds, Seed Room, &c.

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		£	£ s. d.		£ s. d.
21	1806	500	415 10 2	83·10 per cent.	915 10 2
521	1807	900	982 12 1	109.17 ,,	1882 12 1
1174	1810	1200	1160 5 6	96.68 ,,	2360 5 6
1395	1811	1600	1328 8 6	83.02 ,,	2928 8 6
3286	1820	2000	1906 13 5	95.33 ,,	3906 13 5
3392	1820	5000	3558 17 8	71.17 ,,	8558 17 8
4356	1822	3000	2541 3 6	84.7 ,,	5541 3 6

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THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 31.—1848.] SATURDAY, JULY 29. [Price 6d.

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HANDSWORTH AND LOZELLS FLORAL AND HORTICULTURAL SOCIETY.

THE THIRD EXHIBITION this season will be held on Tuesday next, in the beautiful Park in front of Perry Hall, the seat of the Hon. F. Gough, who has kindly lent the Grounds for the occasion, By permission of Col. the Hon. J. Y. Scarlett and the Officers of the 5th Dragoon Guards, the splendid Band of the Regiment will attend. Admission to Non-subscribers, 1s. Gates open from 1 until 7 o'clock. Visitors to enter at the principal Lodge, near the Perry Barr Station. Two Trains stop to set down Passengers at Perry Barr Station in the course of the afternoon. The station is within five minutes' walk of the place of exhibition.

Charles James Perry, Hon. Sec.

Hamstead-road, near Birmingham, July 29.

ZOOLOGICAL GARDENS, REGENT'S-PARK.—

Visitors are admitted WITHOUT ORDERS on MONDAY, in every week, at SIXPENCE EACH; on the following days at ONE SHILLING EACH. Children at Sixpence. The Band of the First Life Guards will perform every Saturday at 4 o'clock; admission One Shilling.

The new entrance in the Broad Walk is now open.

TURNIP SEEDS.—Quick growing Stubble Turnip,

for sowing in July and August.

Dale's Hybrid .. .. 1s. 6d. per lb.

Orders addressed to John Rivers, Seedsman, Sawbridgeworth, Herts. Carriage paid to London.

UNRIVALLED PELARGONIUMS.

J. WHOMES, Nurseryman, &c., Windsor, has the honour to inform the lovers of the Geranium that the following superb varieties, raised by G. W. Hoyle, Esq., and by J. W., will be ready, fine plants, to send out [illegible] week in October:

Hoyle's Sparkler	£1	1	0	Hoyle's President	£1	1	0
,, Rolla	1	1	0	,, Abd-el-Kader	1	1	0
,, Terpsichore	1	1	0	,, Belle of the Village	1	1	0
,, Flamingo	0	15	0	,, Superlative	0	15	0
,, Prometheus	0	15	0	,, Julius	0	7	6
Whomes' Windsor Castle	1	1	0	Whomes' Queen Victoria	1	1	0
,, Cupid	1	1	0	,, Princess Helena	0	10	6
,, Miss Beren	1	1	0	,, Plutarch	0	10	6

THE UNRIVALLED FLOWER "CRUSADER" will be sent out provided a certain number of orders are obtained before the first week in October, at 42s. each, with the usual allowance (1 in 3) to the trade. The most strict attention to orders in rotation. The above for cash only.

"CRUSADER."—Lower petals a beautiful glowing peach, with light centre; top petals fine black blotch and black lines, with rich orange ground running to a narrow margin of violet; full size, perfectly round flower, and free bloomer. It was exhibited at Chiswick, June, 1847, and received a Certificate of Merit; and also received a Medal at the Royal Botanic as a two-year old.

A Descriptive Catalogue of the above, with a lengthened list of many other good sorts, may be had in a week's time from the present, on application to J. Whomes, Pelargonium Nursery, Windsor.—July 29.

ANEMONE SEED,

saved from the finest selected sorts, is now being sent out by Youell and Co. per post, free, at 2s. 6d. and 5s. per packet, sufficient to sow a bed of 12 and 24 yards; if sown during the present and following month, a fine bloom will be insured during the autumn and winter months.

CAMELLIAS.

Comprising the newest and finest varieties in cultivation, well set with flower buds, 30s. to 42s. per dozen.

Great Yarmouth Nursery, July 29.

ONE HUNDRED AND TEN THOUSAND LAURELS FOR ONE HUNDRED POUNDS.

D. FERGUSON, Contracting Planter, Landscape Gardener, &c., Aylesbury, Bucks, respectfully informs the Nobility, Gentry, Railway Companies, &c., that he has a large quantity of large Evergreen and Deciduous Shrubs and Trees, Standard Roses, &c. Also would be happy to contract to supply them with rooted Laurel, in the autumn of 1849, at 10l. per 10,000; delivered free, at Wolverton, and add 1000 for every 10 ordered; samples of which will be sent upon application.

THE "BLACK PRINCE" STRAWBERRY.—

The above is very early, medium size, fine flavour, and most prolific, having exhibited several plants with 240 fruit on each; fine plants will be ready to send out August 14th, at 1l. per 100, 50 for 11s., 25 for 6s., package included. Also a book of 20 years' experience in the forcing and general management of the Strawberry, Potato, Cucumber, Melon, and Lisianthus Russellianus, with a drawing of the Strawberry and the lisianthus, price only 1s., or by post, 1s. 2d. Sold by the Author, James Cuthill, Camberwell London.

A Post-office order on Camberwell.

PLANTS OF CABBAGE, SAVOY, KALE, BROCCOLI, AND CELERY.

In consequence of the disease now so rapidly spreading in the Potato crop, no time should be lost in filling all vacant pieces of ground with vegetables suitable for the ensuing winter and spring.

JOHN CATTELL, Seed and Nurseryman, Westerham, Kent, begs respectfully to inform the public that fine plants of his superior true sorts of the above will be forwarded to order on receipt of postage stamps, or post office order, at the undermentioned prices, package included.

All the varieties of Early Cabbages, Savoys, and Kales (including Brussels Sprouts), 1s. 6d. per 1000.

Also, all the varieties of Autumn and Spring Broccoli and Celery, Red and White, 6s. per 1000. 6d. per 1000 less when no Mat or Package is required.)

Packages of 1000 and upwards delivered free of carriage to the Edenbridge Station, South Eastern Railway.

ORANGE TREES, &c.

D. FERGUSON respectfully informs the Nobility and Gentry that there are for sale at Stowe, near Buckingham, some good ORANGE TREES, CAMELLIAS, beautiful Standard SWEET BAYS in tubs, &c. Parties having tickets to view the house can see them by applying to the person that shows the grounds.—For particulars, apply to D. F., Stowe, or at Aylesbury, Bucks.

ORANGES AND CAMELLIAS.—For Sale, within

five miles of the Great Western and eight of the South Western Railway, on the borders of Berks and Hants, FOUR LARGE ORANGE TREES, from 10 to 12 feet high, in tubs nearly new, and from 25 to 30 LARGE CAMELLIAS.—Apply to T. T. T., post-office, Reading, with real name and address.

ROBERT DONALD, Jun.,

of the Goldworth Nursery, Woking, near Ripley, Surrey, begs to acquaint the very numerous friends and supporters of the late Firm of DONALD and SON that he has taken to the entire Stock, and as it will be his utmost endeavour to produce such an article as to ensure sale, he trusts all those who dealt with the Firm will deal with him, and those who have not dealt will give him one trial, at the same time assuring them that every attention shall be paid to their orders. His Stock consists of every variety of Fruit, Forest, and Hardy Ornamental Trees and Shrubs; they are this season unusually well grown, and give promise of being extremely fine.

The name of DONALD and SON will be continued.

N.B. All accounts due to or owing by the late Firm that are prior to the 29th day of September last are requested to be handed in and settled. For dissolution of Partnership, see *Gazette* of Tuesday, July 11, 1848.

THE GENUINE HARE RABBIT,

THE LARGEST BREED KNOWN, WEIGHING WHEN AT MATURITY FROM 14 to 18 POUNDS.

The Proprietor of the above, having discontinued John Brett as his Agent for the sale of the above, respectfully requests that all communications in future will be addressed to William Archer, North Entrance, Great Yarmouth, which will meet with prompt attention.

Price, 3 to 4 months, 15s. per pair; 2 months, 10s.

Great Yarmouth, July 29.

A GENTLEMAN AND HIS WIFE,

having for their object the pleasures of an early and regular COUNTRY LIFE, with the advantages of fair general Shooting and Fly Fishing, wish to meet with a gentleman, also married (either a Clergyman living upon his benefice, or a Gentleman extensively engaged in farming pursuits), who would be willing to accommodate them in his house for the sum of 250l. a year; Wine extra. Any part of Ireland would be objected to. The most especial references given primarily, and a meeting afterwards before anything is decided upon.—Address paid letters to L. M. N. R., care of J. Lawrie, Esq., Army Agent, 10, Charles-street, St. James's-square, London.

Any eligible offer will be replied to.

CRYPTOMERIA JAPONICA SEEDLINGS.

MESSRS. STANDISH and NOBLE, Nurserymen, Bagshot, have the honour to inform the Nobility, Gentry, and the Public, that they have succeeded in obtaining a quantity of SEED of the above truly magnificent Tree from the north of China, and are now able to send out SEEDLING Plants at the undermentioned low scale of prices.

It was first sent home by Mr. Fortune to the Horticultural Society, in 1844, and has now proved to be perfectly hardy in this country, having stood out in many exposed situations during the severe winter of 1846 and 1847. It is a tree of rapid growth, and some very fine specimens may now be seen in the gardens of the Horticultural Society nearly 10 feet in height, and very graceful in form.

"*I met here (Shanghae), for the first time, with the beautiful Cryptomeria japonica, a species of Pine not unlike the Araucarias of Australia and Brazil. When growing luxuriantly it is highly ornamental, rising from the ground as straight as a Larch, and sending out numerous side branches almost horizontally from the main stem, which again droop towards the ground in a graceful and* WEEPING *manner. The wood of the tree has a kind of twisted grain, possessing great strength and durability, and is highly valued by the Chinese.*"—Fortune's Wanderings in China.

We need scarcely inform the lovers of hardy evergreens that Seedlings of this species are of much more value than cuttings. The latter never make handsome plants, and grow much slower. Our Seedling Plants, which we are now sending out, if properly managed, will be more than 2 feet high by next spring, the proper time to plant them out in the open ground.

Messrs. Standish and Noble can now supply nice healthy plants, in 60-size pots, at the following low price, viz., 3s. 6d. per plant, 36s. per doz., or 12l. 10s. per hundred. A liberal allowance to the Trade from the above prices.

N.B.—The above is for cash only.

ARNOLD'S "VIRGIN QUEEN" PANSY.

This is the best WHITE *in cultivation. It has fully proved this season, nine pennies plants having produced 250 expanded blossoms at one time, only one of which was imperfect.*

We can recommend it with the most confidence as we did Lyne's "Duke of Cornwall" and "Lord [illegible]," and we are sure that it will give the greatest satisfaction to purchasers of it. It is [illegible] described by the raiser in the annexed Circular [illegible] W. E. R. *The petals are of the purest white, of a fine velvety texture, and broad; the upper petals [illegible] a narrow margin of violet, the whole forming a perfect flower, broad when under petals, the upper petals [illegible] The habit of the plant is excellent, and the blooms are thrown well above the foliage.*

Price 1l. 10s. each, or three for 5l. to the Trade.

P.S.—We are so [illegible] with the excellence of the above, and so certain are we that it will give the greatest satisfaction, we will agree to give the amount in Plants selected from our current Catalogue, should it not prove to be equal to what we have stated.—W. E. R. and Co.

The following set of 5 Geraniums (sent out by us last autumn) for 10s.:

	each—s. d.		each—s. d.
2 Lyne's Jenny Lind	1 6	5 Lyne's Mercury	1 6
3 ,, Star of the West	1 0	6 Foley's Black Prince	3 0
4 ,, Lady Eliza [illegible]	1 0		

The following set of 5 Geraniums (sent out by Mr. Miller, of Ramsgate, last autumn) for 10s.:

	each—s. d.		each—s. d.
7 Miller's Scarlet Defiance	7 6	11 Miller's Advocate	7 6
8 ,, Rosa Mundi	7 6	12 ,, [illegible]	7 6
9 ,, Queen of Kent	7 6	13 ,, [illegible]	7 6
10 ,, Distinctus	7 6	14 ,, [illegible]	7 6

The whole set of 14 as above, including Arnold's Virgin Queen, for 2l. 2s., or exclusive of Virgin [illegible]

First orders will receive the first selection, and will be sent out in October next.

William E. Rendle and Co., Plymouth.

P.S.—Our New Plant Catalogue is just ready, and can be obtained, gratis, on application.

CINERARIA "NEWINGTON BEAUTY."

A. KENDALL having been more than usually successful in the preparation of the above-named superb variety, he is now ready to send it out [illegible] per pair, for cash, instead of 1os. 6d., as originally advertised. Orders will be attended to [illegible] Stoke Newington, July 29, 1848.

SEEDLING PINKS.

JAMES HILLYER begs to inform Amateurs and Nurserymen that he will have for sale, early in August, strong plants of [illegible] PINKS, [illegible] which [illegible] have been shown at the various Metropolitan Shows, and gained universal approbation, see the "Florist" of July. Price, prepaid, 7s. 6d. per pair.—James Hillyer, Colebrook-street, Winchester.

CHOICE FLOWER SEEDS, for Present and Autumn Sowing, free by post, with useful instructions.

Greenhouse Perennials. per packet.—s. d.		Hardy Perennials. per packet.—s. d.	
Amphicome arguta	1 0	Anemone, fine mixed	[illegible]
Calceolaria, from choice vars.	1 0	Antirrhinum compact, [illegible]	[illegible]
Calempelis scabra	0 4	Aquilegia, finest mixed	0 6
Chænostoma polyantha	0 6	Aquilegia glandulosa	0 6
Chorozema macrophylla	1 0	,, fine mixed	0 6
,, spectabilis	1 0	Auricula, from choice vars.	1 0
,, rotundifolia	1 0	Dianthus Garnierana	1 0
Cineraria, from choice vars.	1 0	,, fine mixed vars.	0 6
Cobœa scandens	0 6	Dianthus heddewigii	0 6
Colutea frutescens	0 6	Geum Wigani	0 6
Commelina cœlestis	0 4	Gladiolus, from fine vars.	1 0
,, alba, new	1 0	Hollyhock, finest mixed	1 0
Cuphea platycentra	1 0	,, extra choice	1 0
Dahlia, from choice vars.	0 6	Hollyhock, finest mixed	0 6
Dolichos lignosus	0 6	,, vars. separate	0 6
Fuchsia, from choice	1 0	,, do.	0 6
Gaulardia, 3 vars. mixed	0 6	Iris, splendid mixed	0 6
Geranium, saved from new and choice flowers	2 6	Mimulus, fine mixed	0 6
,, smaller packets	1 0	Pentstemon barbatum	1 0
,, from 12 scarlet vars.	1 0	Lychnis flos cuculi vars.	0 6
Hibiscus manihot	0 6	Pentstemon, fine mixed	0 6
Humea elegans	0 6	Papaver, fine mixed	0 6
Hydrolea spinosa	1 0	Phlox Drummondi, fine	0 6
Kennedya rubricata	0 6	Pyrethrum, from choice vars.	0 6
,, rubicunda	0 6	Ranunculus, from choice vars.	2 6
Lobelia erinus grandiflora	0 6	Silene Schafta, new	1 0
Maurandia Barclayana, new pink	0 6	Statice Wilmsii, from 2l. vars.	0 6
Mimulus Regina, new	1 0		
Manettia suaveolens	1 0		
Petunia, extra choice vars.	1 0		
Primula sinensis, mixed	0 6		
Verbena, from new and choice	2 6		
,, smaller packets	1 0		

Tender Annuals.	
Brachycome, 3 vars., each	0 6
Calandrinia pulchella	0 6
Clarkia quadrivulnera	0 6
Convolvulus tricolor, two vars.	0 6
Phlox Drummondi, fine	0 6
Portulacca, 2 vars., each	0 6
Thunbergias, 4 vars., each	0 6

The following of our own selection.

20 vars. choice Greenhouse Perennials	10 6
12 do. select do.	7 0
20 do. fine hardy Biennials and Perennials	5 0
20 do. hardy Annuals, for autumn sowing	4 0

The best stocks for present sowing of Onion, Cabbage, Cauliflower, Lettuce, Endive, Turnip, &c. The finest lawn Grasses. Catalogues of Seeds for 1848 may still be had. Remittances are requested from unknown correspondents. Post office orders payable to Bass and Brown, or to Stephen Brown, or postage stamps received in payment for small amounts.

Bass and Brown, Seed and Horticultural Establishment, Sudbury, Suffolk.

TO SEEDSMEN, NURSERYMEN, AND OTHERS.

JOHN BETHAM (Member of the Royal South London Floricultural Society), CUSTOM HOUSE, SHIPPING, AND GENERAL FORWARDING AGENT. Consignments of Plants, Seeds, and FLOWER ROOTS forwarded to all parts of the Globe, with strict attention and despatch.

Cox and Hammond's Quays, Lower Thames-street, London.

SEEDS.—CORNER OF HALF-MOON-STREET.

THOMAS GIBBS AND CO.,

(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND," Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

Priced Lists of Agricultural Seeds are always ready, and may be had on application.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

STRONG HORTICULTURAL SHEET

GLASS FOR CONSERVATORIES,

GREENHOUSES, PITS, FRAMES, &c.

HETLEY AND CO., supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2½*d.* to 3*d.* per square foot, for the usual sizes required, many thousand feet of which are kept packed for immediate delivery at their Crown, Sheet, Patent Plate, Stained, and Ornamental Window Glass Warehouse, 35, Soho-square, London.

GLASS.

APSLEY PELLATT AND CO. (late PELLATT and GREEN), Falcon Glass Works, Holland-street, Blackfriars, have always on hand, Bee Glasses, 1*s.* 6*d.* per lb.; Cucumber Glasses, 1*s.*6*d.* per lb.; Milk Pans, 18 in., white glass, 5*s.* 6*d.* each; Propagating Glasses, white, 1*s.* per lb., do. green, 10*d.*, do. Condensing, 2*d.* per lb. extra; Asparagus Tubes, 18*s.* to 21*s.* per gross; Grape Shades, 1*s.* 6*d.* to 2*s.* each; Fish-bowls, from 1*s.* 6*d.* each; Wasp and Fly-traps, 40*s.* per gross, or 3*s.* 6*d.* per dozen. By the use of these traps fruit may be preserved from (otherwise certain) destruction.

PATENT ROUGH PLATE GLASS SLATES.—

Size.	⅜ in. thick. s. d.	½ in. thick. s. d.	⅝ in. thick. s. d.	¾ in. thick. s. d.	
Duchess ..... 24 by 12	1 7	3 2	3 10	4 6	}
Small Imperials . 20 by 14	1 7	3 0	3 8	4 4	}
Small Duchess .. 22 by 12	1 6	2 11	3 6	4 2	}
Countess ..... 20 by 10	1 2	2 8	2 9	3 2	} each.
Viscountess .... 18 by 10	1 1	2 0	2 5	2 10	}
Large Ladies .... 16 by 10	1 0	1 9	2 1	2 5	}
Ladies ..... 16 by 8	0 11	1 7	1 11	2 3	}
Doubles ..... 13 by 7	0 8	1 0	1 3	1 5	}

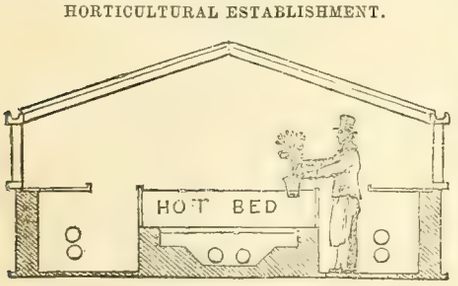
TILES.

⅜ inch thick.... 0*s.* 11*d.* each. | ⅝ inch thick ..: 1*s.* 7*d.* each.
¾ " .... 1 3 " | ⅞ " .... 2 0 "

And every description of Glass, at JAMES PHILLIPS and Co.'s, 116, Bishopsgate-street Without.

BAKER'S PHEASANTRY, Beaufort-street, King's-road, Chelsea, by special appointment to her Majesty and H.R.H. Prince Albert.—ORNAMENTAL WATER FOWL, consisting of black and white swans, Egyptian, Canada, China, bernacle, brent, and laughing geese, sheildrakes, pintail, widgeon, summer and winter teal, gadwall, Labrador, shovellers, gold-eyed and dun divers, Carolina ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking fowls; white Japan, pied, and common pea-fowl, and pure China pigs; and at 3, Half-moon-passage, Gracechurch-street.

HORTICULTURAL ESTABLISHMENT.



J. WEEKS AND CO., KING'S-ROAD, CHELSEA, HORTICULTURAL BUILDERS AND HOT-WATER APPARATUS MANUFACTURERS, have the honour to inform the Nobility and Gentry that they have of late years made great improvements in Horticultural Building and Heating by Hot Water; and for the purpose of showing those improvements, they have erected in the King's-road, Chelsea, an extensive ornamental Nursery, which contains upwards of 15,000 feet of Glass, consisting of Hothouses, Greenhouses, Conservatories, Pits, &c. &c., in great variety; the whole of which is heated by Hot Water in various forms. This has also enabled them to grow at very reduced prices a most extensive collection of Stove and Greenhouse Plants.

THE SEED DEPARTMENT at this Establishment is conducted with the greatest care and attention. Samples of every variety are proved before sent out.

PLANS, ESTIMATES, AND CATALOGUES upon application.

SASH LINE FOR HOTHOUSES AND GREENHOUSES.

R. S. NEWALL AND CO.'S PATENT IMPROVED COPPER-WIRE CORD is now extensively used for Window Sash Line, Hothouses, Lightning Conductors, Picture Cord, Clock Cord, &c., &c., and is found to be cheaper, much more durable, quite as flexible, and one-sixth part the bulk of common Hempen Lines. The Wire Cord may be had wholesale, and specimens seen, at the Office of the Patentees, 163, Fenchurch-street, W. T. ALLEN, Agent; or retail, of G. and J. DEANE, 46, King William-street; E. PARES, 140, Fleet-street; J. JONES, 62, Charing-cross; and GIBBONS and Co., 345, Oxford-street.

CONSERVATORY FOR SALE, the property of Messrs. JAMES HARTLEY and Co., of Sunderland. This is a very elegant building, constructed on the same plan as the one erected by Messrs. H. and Co. in Chiswick Gardens. Price 100 guineas. For further particulars apply at 43, Upper Thames-street, where may be seen a plan of the building. Dr. LINDLEY, who is intimately acquainted with the capabilities of the greenhouse in Chiswick Gardens, has kindly offered to answer inquiries thereon.

PERUVIAN AND BOLIVIAN GUANO ON SALE,

By THE ONLY IMPORTERS,

ANTONY GIBBS AND SONS, LONDON;

WM. JOSEPH MYERS AND CO., LIVERPOOL;

And by their Agents,

GIBBS, BRIGHT, AND Co., LIVERPOOL and BRISTOL;

COTESWORTH, POWELL, AND PRYOR, LONDON.

To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

THE LONDON MANURE COMPANY beg to offer, on the best terms, Peruvian Guano, warranted genuine, delivered direct from the Importers' warehouses; Superphosphate of Lime, in any quantity; Sulphate of Ammonia, Nitrate of Soda, Sulphuric Acid, fine Bone Sawdust, Gypsum, Potter's Guano, Soda Ash, Petre, Agricultural and Fishery Salt, and every other artificial Manure.

The URATE of the LONDON MANURE COMPANY has now stood the test of seven years, with a largely increasing sale. It is recommended with the greatest confidence for Turnips, Mangold Wurzel, Carrots, and all root crops; also for Coleseed, Tares, Barley, &c. Unlike many other artificial Manures, its effects are not exhausted by the first crop; and when from any cause the crop of Turnips to which it has been used fails, its full fertilising properties remain for the next full crop. Testimonials and full particulars forwarded free. The LONDON MANURE COMPANY most earnestly request their friends to order the Urate direct from themselves, or their accredited Agents, so as to prevent any other article of a totally different manufacture being substituted. EDWARD PURSER, Sec.

No. 40, Bridge-street, Blackfriars.

☞ Sole Manufacturers of Mr. J. C. Nesbit's Chemical Manures.

TURNIP SOWING.

MARK FOTHERGILL, 201A, Upper Thames-street, begs to offer the following MANURES for the Turnip Crop, viz.—

GUANO, PERUVIAN, direct from Import Warehouse.

SUPERPHOSPHATE OF LIME, manufactured from Bone only (superior to the cheap qualities made from fossils).

DRIED NIGHT SOIL.

BONE DUST AND HALF-INCH BONE.

SULPHURIC ACID.

Also Soda Ash, wireworm destroyer; pure Gypsum, or Mineral Sulphate of Lime (the rubbish offered cheap contains but little acid, the rest being carbonate of lime and water); Agricultural Salt, Nitrate of Soda, and all other Manures of known value. Prices current on application.

HOTHOUSES, & HEATING BY HOT WATER, BEST MATERIALS AND WORKMANSHIP. AT SMITH'S, GLEBE-PLACE, KING'S ROAD, CHELSEA, LONDON. ESTABLISHED TEN YEARS.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

WIRE-WORK, HOT-WATER APPARATUS, GREENHOUSES, &c.

ST. THOMAS BAKER, MANOR-HOUSE, MANOR-PLACE, KING'S-ROAD, CHELSEA, Manufacturer of INVISIBLE WIRE FENCE, to resist Grazing Stock, and rendered Rabbit-proof. WIRE-WORK in Trainers, Arches for Walks, Bordering, Flower Stands, Pheasantries, &c. HORTICULTURAL BUILDINGS, Green and Hothouses, Conservatories, &c. The same heated by HOT-WATER APPARATUS on improved and economical principles.

Parties waited on in Town and Country, and Drawings and Estimates free. Work for the Trade as usual.

Ward's Cases, or Domestic Greenhouses.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as building and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

MESSRS. NESBIT'S CHEMICAL AND AGRICULTURAL SCHOOL, 38, Kennington-lane, London.—A sound practical knowledge of Analytical and Agricultural Chemistry, Geology, Surveying, Levelling, Railway Engineering, &c., may be obtained in Messrs. NESBIT'S Academy, in addition to a good modern education.

Mr. NESBIT'S works on Arithmetic, Mensuration, Gauging, Land Surveying, English Parsing, &c., are published by LONGMAN and Co., and may be had of all Booksellers.

The terms of the School can be had on application either personally or by letter.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK AND TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their IMPROVED BRICK and TILE MACHINES, which are to be seen at work at Alperton, and at the Company's Office, 193A, Piccadilly, from 10 A.M. to 5 P.M. Mr. Robert Scrivener, who has been appointed Manager in the room of Mr. John Ainslie, will show the Machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, 193A, Piccadilly, London.

These Machines may also be seen at Mr. Slight's, Leithwalk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill, 135, Buchanan-street, Glasgow; Mr. Robert Charles, Mill-hill, Leeds; Messrs. Peany and Finch, Penkeridge, Staffordshire; Messrs. Drummond and Son, Dublin; and at Mr. John Connor's, Newtown Limavady, County Derry.

BELFAST FLAX-DRESSING MACHINERY.—Persons wishing to put up Mills for Scutching or Dressing FLAX in the straw, can be supplied with the Improved Machinery, recommended by the Royal Flax Improvement Society of Ireland, on application to the Makers, MAC ADAM BROTHERS and Co., Engineers, Soho Foundry, Belfast.

TO FARMERS, GARDENERS, FLORISTS, AND ALL PERSONS CONNECTED WITH AGRICULTURE AND HORTICULTURE IN GENERAL.

PATENT CARBONISED ANIMAL MANURE, in Powder, for which Her Majesty's Royal Letters Patent have been granted.—This Inodorous Animal Manure, or Carbonic Compound, requires only to be tried to be appreciated. By the Patent Process employed in its preparation, unlike any other kind of fertiliser extant, all obnoxious properties, and everything possessing an injurious tendency to vegetable life, are removed, the ammonia is fixed, the emission of sulphuretted hydrogen and other subtle gases is prevented, and its fertilising powers increased to an astonishing degree. From its concentrated state, it can be conveyed with the utmost facility to the most remote parts of the Kingdom and Colonies, and but a small proportion is required to produce the desired effects in the enrichment of soil.

As this manure does not possess the burning properties of Guano, it is infinitely preferable for all horticultural pursuits, and the improvement it creates upon plants and flowers is truly wonderful.

Sold, by appointment, wholesale for agricultural purposes, in canvas bags, at the under-mentioned prices; and retailed for small kitchen and other gardens, potted plants, flowers, &c., in tin canisters, at 1*s.*; double-sized ditto, 1*s.* 9*d.*; and treble ditto, 2*s.* 6*d.* each, by H. COLES, Seedsman and Florist, No. 32, Cranbourne-street, Leicester-square, London, where samples of the manure may be seen, its efficacy corroborated by a demonstration of practical results upon grain, &c., and testimonials produced from many who have given it a fair trial.

N.B.—No other sized canisters than the above are used, and only such are GENUINE as have affixed upon the Wrapper of each, a stamp with the Royal Arms, and signature of H. COLE.

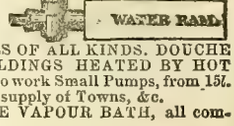
RATE OF WHOLESALE PRICES.

When a whole ton is taken at one time	£8	0	0
Half ton	5	0	0
Five cwt.	3	0	0
One cwt.	1	0	0
Half cwt.	0	15	0
Quarter cwt.	0	10	0

Agents for the city, Messrs. Deane, Dray, and Deane, Agricultural Implement Depôt, No. 3, Arthur-street, London-bridge.

H. COLES also keeps at his Establishment, situated as above, a constant supply, both Wholesale and Retail, of all kinds of Agricultural and Horticultural Seeds, Plants, Dutch and other Bulbs, &c., of which a Catalogue may be had; and will feel greatly obliged by being favoured with the commands of those who may at any time have occasion for such. He also executes, punctually and promptly, orders for all sorts of Implements of Husbandry, and everything connected with the branches of Farming and Gardening.

THE IMPROVED HYDRAULIC RAM, fixed by FREEMAN ROE, Fountain Maker, 70, Strand, London, can be worked by a small stream of half-an-inch, where a fall of two feet can be obtained. The same RAM, without the aid of a Tank or Cistern, arranged to throw a Jet of Water constituting a Fountain with the head of water beneath.



ENGINES FOR DEEP WELLS OF ALL KINDS. DOUCHE AND OTHER BATHS. BUILDINGS HEATED BY HOT WATER. WATER WHEELS to work Small Pumps, from 15*l.* Estimates given for the supply of Towns, &c.

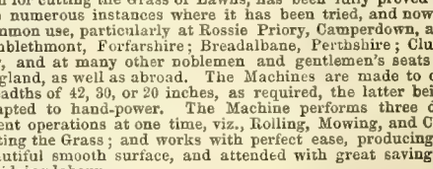
A newly invented PORTABLE VAPOUR BATH, all complete for 4*l.*

HYDRAULIC ENGINES.

J. LEGG begs to return thanks to his patrons and friends, and also to inform them that he continues to erect his improved Hydraulic Engines, Water Ram, &c., suitable for all situations where a fall can be obtained, also Engines for Deep Wells. J. L. also begs to inform his friends that he has made several improvements on his Hydraulic Machines, and flatters himself that he is able to compete with any parties of the present day in the construction of the above machines.

Apply to JOHN LEGG, Cheltenham.

SHANKS' IMPROVED GRASS CUTTING AND ROLLING MACHINES.



The complete success which has attended the introduction of this Improved Machine for Mowing Grass, and its fine adaptation for cutting the Grass of Lawns, has been fully proved by the numerous instances where it has been tried, and now in common use, particularly at Rossie Priory, Camperdown, and Kinblethmont, Forfarshire; Breadalbane, Perthshire; Clumber, and at many other noblemen and gentlemen's seats in England, as well as abroad. The Machines are made to cut breadths of 42, 30, or 20 inches, as required, the latter being adapted to hand-power. The Machine performs three different operations at one time, viz., Rolling, Mowing, and Collecting the Grass; and works with perfect ease, producing a beautiful smooth surface, and attended with great saving in abridging labour.

Orders may be addressed to Messrs. ALEXANDER SHANKS and SON, Machine-makers, Arbroath, N.B., by whom further particulars will be given.

Sold by Messrs. F. and J. DICKSON, Nurserymen, Chester; Messrs. J. and C. LEE, Nurserymen, Hammersmith; and Mr. GEORGE BARRY, Nurseryman, Castle-street, Liverpool.

PATENT FLEXIBLE INDIA-RUBBER PIPES and TUBING for RAILWAY COMPANIES, BREWERS, DISTILLERS, FIRE ENGINES, GAS COMPANIES, GARDENING and AGRICULTURAL PURPOSES, &c.

THE PATENT VULCANISED INDIA-RUBBER HOSE PIPES are made to stand Hot Liquor and Acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible), and as they require no application of oil or dressing, are particularly adapted for Fire-engines, Pumps, Gas, Beer-engines, Gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes from ¼ inch bore upwards, and of any length to order.

Vulcanised India-rubber Garden Hose, fitted with brass taps, copper branch, and roses complete, ready to be attached to Pumps, Water-butts, or Cisterns.—Sole Manufacturer, JAMES LYNE HANCOCK, Goswell Mews, Goswell-road, London.

N.B.—Vulcanised India-rubber Washers of all sizes for Joints of Hot-water and Steam Pipes, and Vulcanised Sheet Rubber, any thickness, for all kinds of Joints, and other purposes.

RARE OPPORTUNITY for those who wish to possess SUCCULENTS, FERNS, and ORCHIDACEÆ.

WILLIAM MASTERS, Exotic Nursery, Canterbury, having grown large collections of these curious and interesting plants for the past 12 years, and the specimens having increased beyond the limits assigned, he has determined to reduce, by offering them for sale, in lots varying in value from 1*l.* to 5*l.* and 10*l.* each. Want of space making it necessary to reduce their numbers, the selections will be liberally made, at the prices above named.

The plants may be seen and selected at the Nursery; or, upon application, W. M. will be happy to write their names and descriptions.—July 29.

The Gardeners' Chronicle.

SATURDAY, JULY 29, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

TUESDAY,	August 1	Horticultural	3 P.M.
FRIDAY,	— 4	Botanical	8 P.M.
MONDAY,	— 7	Entomological	8 P.M.
THURSDAY,	— 10	Royal Botanic (Anniversary)	1 P.M.

THE perseverance of those who speculate upon the CAUSE OF THE POTATO BLIGHT would be admirable if it led to anything. Never before was seen a collection of notions like that which the last three years have produced; from Professor LIEBIG down to Mr. SMEE, we have a host of writers the mere record of whose arguments would fill volumes. The hypotheses of these gentlemen are so harmless that they may be safely left to contradict each other: but when others, calling themselves practical men, venture to hazard assertions which lead to pernicious consequences, it becomes necessary to interfere.

For this reason, we feel obliged to make some observations upon the advice given by a "practical" man, signing himself "G. C. B.," who, in the *Norwich Mercury*, urges growers to "try *manures* and dressings to correct the evil, *to stimulate vegetation*, as the most rational and commonsense mode of procedure." It would be difficult to point out any other advice so certain to lead to the final destruction of the Potato crop; for this, at least, has been ascertained from the enormous mass of evidence now accumulated, that whatever tends to render the Potato luxuriant predisposes it to disease, and that in general the mischief is in proportion to the degree of luxuriance. We have long since pointed this out as appearing probable, and experience, as it accumulates, entirely confirms the fact—for it is a fact, and one of the highest importance.

It matters nothing how the luxuriance is produced; the consequence is the same. It may be wet, and heat; it may be inherent richness in the soil; it may be stimulating manures—that is to say, such as are highly azotised; it may be each, or all combined: provided the luxuriance is induced, the result is the same. Nobody can be ignorant that on wet soils the Potato suffers most from this singular visitation; in such places it rushes into exuberant growth, becomes brittle, and unnaturally susceptible of any noxious influence. If such places are also warm, the evil is much augmented: witness the low damp grounds in inclosed places. If the soil is deep and rich, although not specially manured, luxuriance is the consequence, and hence the greater damage experienced in gardens than in open fields. If strong manure, such as is frequently produced by cottagers from their pigs, &c., is employed, the loss of crop becomes inevitable, as is shown by the disastrous consequences of growing Potatoes in well-managed allotments. The notorious liability of plants forced in garden frames to take the disease is another illustration of the fact that luxuriant growth is most dangerous.

If we look to the districts first and most ravaged by the disease, we find them to be those which are dampest and mildest; Devonshire, Cornwall, the west of England in low ground, and south Ireland, are melancholy examples of the fact that disease is the close attendant upon luxuriant growth. Those who saw the sad spectacle of the Irish fields in 1845, and those of Lancashire in 1846, well know how magnificent was the appearance of the Potato fields, when the disease destroyed them. In low meadow land deeply trenched and unmanured, the luxuriant Potatoes were a total loss; in such cases the freshness and openness of the land acted like the strongest manure. In short, let any one read the returns of this calamity as they appear in the newspapers, and he will see that the great luxuriance of the crop is continually referred to as having preceded the blight.

On the other hand, it is in poor land, cold places, and dry situations, or dry seasons when, be the temperature what it may, the elements of luxuriance are withheld, that in general least injury has been sustained. In 1845, the poor bog-land of Ireland was generally exempt from disease; so it has been with the hungry soil of the Calf of Man, and the dry sandy or chalky districts of England in the open fields, especially where they faced the north. In sloping fields, again, the luxuriant crop at the bottom has perished, while the feebler plants towards the top have escaped. What endless cases were named in 1846 of Potatoes under trees having escaped, while in the open ground around them they were tainted: here the trees carried off the moisture of the soil and stopped exuberance. In 1847, the excessive dryness of the season effected universally what, in other seasons, was only brought about by local causes, and the crop was saved.

It will be seen from these remarks that we, to a certain extent, agree with the Rev. CALEB WHITEFOORD in his views respecting the Potato (see page 481). The difference between us is mainly this, that he ascribes its virulence to mere wetness, while we refer it to luxuriance, whether induced by wet or any other cause whatsoever. It cannot in fact be aggravated by mere wetness, for the north of Europe is as wet as Cornwall, and there the crops have suffered little. If we are right the disease has been unable to make progress in these northern countries (Norway, for example) notwithstanding the wetness of the climate, because the temperature is too low to bring about luxuriant growth. Mr. PROSSER, of King's Norton, near Birmingham, has given us a new and striking instance of the effect of planting Potatoes where vigorous vegetation is impossible.

"I remember," he writes, "having heard that some Potatoes planted on *the top of a railway bank, close to a Thorn hedge*, were not subject to the disease, while my own planted in a garden and in several fields in the same neighbourhood, were diseased, as well as the Potatoes of the district. I this morning made enquiry of the man to whom the Potatoes belong, and he informed me *that he has grown Potatoes in the same place for eight years, and that he has never had any diseased*, but in his garden, on the other side of the hedge, they have been and are now diseased to a slight extent. The Potatoes are grown in one row on both sides of the railway on the Bristol and Birmingham line at King's Norton; the banks are about 12 to 15 feet high, with the usual slope, and as the railway divides my premises I mean to watch the plants for my own satisfaction, but I have no reason to doubt the veracity of the grower, who is employed by the railway company to attend to a pair of gates at a crossing of the railroad."

Such facts as these appear then to justify the opinion that the best preservative against the Potato disease is to plant it where it cannot grow exuberantly; we do not mean in land merely poor, but poor and dry, or dry at all events. Sandy springy land, in low places, however poor it might be, would be as treacherous a soil as rich garden ground. We do not, however, mean to say that there is no disease where Potatoes are unable to grow vigorously; attention has not as yet been drawn to the point sufficiently to warrant the assertion; on the contrary, much evidence is wanted, and *we trust to our intelligent and active correspondents all over the kingdom for facts connected with it.* All that we feel justified in at this time urging upon the country is, the undoubted truth that luxuriant growth is by all means to be avoided; and we therefore protest, with all our power, against such dangerous counsel as that of Mr. "G. C. B.," above referred to.

Now is the very time to observe facts belonging to this sad question; and if it should turn out that we are right in believing that Potatoes of moderate vigour are comparatively safe, we shall then have some chance of contending successfully with this dreadful scourge. The confirmation of our suggestion would involve a great change in the system of cultivation, but there will be time enough to consider what the change should be if we can but get at this fact. One result would probably be that the grower would have to content himself with smaller crops—a small matter if they were but sound.

We need hardly add that these observations are not offered as throwing any light upon the cause of the Potato disease. As to that we are as much in the dark as ever.

THE ALLOTMENT system is one which has always been viewed with favour in these columns. We believe it, when wisely and honestly conducted, to be among the best aids to a labouring man; for it affords him the opportunity of adding to his income by mere labour, whenever himself or his family are out of work or have leisure. It supplies him with the strongest motives to spend his time at home, because he can spend it profitably, by gradually acquiring little comforts without other outlay than his labour, which costs nothing.

But it is only as an aid that the allotment system produces advantageous results. If a man relies upon it for his entire or even principal support, it becomes a curse alike to the allottee, his parish, and his country, and degrades him to the wretched state of an Irish cotter. All experience points to this most important fact; and experience shows that the moment a poor man begins not to pay, becomes the occupant of [illegible] of land, he loses his position [illegible] and is converted into a hopeless pauper. Half or a quarter of an acre of land [illegible] on, and conduces greatly to [illegible] drags him down into misery. [illegible] the face of the most ample experience, [illegible] has been set on foot, which is to [illegible] of people upon small holdings varying [illegible] and four acres, and these poor people are to be elected from a body [illegible] previous habits for the heavy toil of [illegible] labour, as well as [illegible] and in addition, are to be [illegible]. The advantage which *this* Company [illegible] to its member are as follows: [illegible] or 2*l.* 12*s.*, entitles him [illegible] land, and an advance of [illegible] three shares, or 3*l.* 12*s.*, to [illegible] unknown and distant [illegible] land, and 22*l.* 10*s.*; the [illegible] or 5*l.* 4*s.*, to a house, four acres of land, [illegible]. The annual rent-charge which will be [illegible] by the Company on its allotted tenants for the [illegible] benefits is regulated by a principle which [illegible] in every case, prevent its becoming a burden to those who will have to bear it. The Company affords great facilities to its members to become freeholders [illegible] buildings and allotments, as the interest charged on the capital expended in the completion of an allotment is redeemable by a process of which every industrious and provident member may avail himself. The Company presents to the public other admirable features in the circumstances that it invests the allottees with the elective franchise, and that it causes the original amount subscribed by each member to revert to him, together with a proportionate share of any profits that may accrue from the transactions of the Company where the whole of the members are located." (52.)[1] That the scheme is to be worked out by a capital of [illegible], or some further sum, composed of shares of the value of 25*s.* each; by a bank of deposit paying 4½ per cent. upon all sums in its hands; and by the machinery of Directors, Trustees, Auditors, Treasurer, Secretary, and all the paraphernalia of a public Company.

When the world hears of a scheme like this, so entirely opposed to all experience, the first question necessarily is, who is the projector, and who the people associated in a plan which tempts the poor to invest their money in what all believe to be a hopeless project for extracting something out of nothing; or, if you will, of much out of little. The sum which is to be confided to this Company is very large, it offers great inducements to unprincipled men to misapply it, and the whole proceeding wears the appearance of a gigantic and cruel fraud, unless the managers can be shown to be placed above all doubt as to motives, by wealth, intelligence, and high character.

We find, however, that its promoters are not altogether above suspicion. Foremost is Mr. FEARGUS O'CONNOR, by birth an Irishman, by profession a barrister, *by trade a land-jobber* and anarchist, by accident a Member of the present House of Commons, and in the last character one of a Committee appointed to inquire into the feasibility and honesty of this Land Scheme. That Committee has published, with the sanction of Mr. FEARGUS O'CONNOR, certain reports, which have furnished us with the remainder of our information.

The Trustees of the vast sum actually accumulated by the persuasion of this person and of his peripatetic lecturers, specially instructed to explain to poor ignorant people the prodigious advantage of trusting their money to Mr. FEARGUS O'CONNOR, while "perambulating the country with [illegible] &c." (269), are, in the first place, Mr. THOMAS SLINGSBY DUNCOMBE, M.P., concerning whom we shall only say that those who know him best would be least disposed to make him trustee of any property of their own: secondly, Mr. ERNEST JONES, an insolvent barrister, now lying in one of her Majesty's jails (1520): and thirdly, one JOHN SEWELL, *Esquire*, otherwise described as an appraiser and broker, residing in New Kent-road, Southwark (1520).

The Auditors, perhaps the most important of all the machinery, are Mr. WILLIAM CUFFEY, called in London Mr. Washerwoman CUFFEY, and one JAMES KNIGHT, about whom we can learn nothing: but who, we believe, was an accomplice of Mr. FEARGUS O'CONNOR in getting up "the monster," or, as most people called it, "the

[1] All numbers thus enclosed within brackets refer to answers given in the reports of the Parliamentary Committee of which Mr. FEARGUS O'CONNOR is a member.

monstrous" petition of pretended Chartists to the House of Commons in April last.

Thus we find that the large capital collected by the persuasion of Mr. FEARGUS O'CONNOR's perambulating touters, was to have been placed under the entire control of himself, a pair of broken down gentlemen, and some unknown individuals who were absolutely under his control. We must, however, do Mr. O'CONNOR the justice to say that he soon threw off the trammels of these associates: that for a long time past his coadjutors have been very properly treated as men of straw, and reduced to what shopkeepers call "dummies;" empty lumber employed to make a show with.

These worthy gentlemen being thus dismissed, or practically nullified, Mr. FEARGUS O'CONNOR adds to his other trades that of banker. He starts a Savings' Bank, and allows 4½ per cent. interest to the depositors, which his servant THOMAS PRICE says is greater by 10*s.* per cent. than can be obtained by any means possessed by a banker, except the *extraordinary* means possessed by Mr. O'CONNOR (2195). The accounts of this bank are stated not *to have been kept regularly* at first (2028), and to have been abandoned in *a very great hurry* (2079) by Mr. KNIGHT, a gentleman recommended by the London Joint Stock Bank; the deposits amounted on the 23d June to 16,000*l.*, placed in the bank upon the faith of Mr. O'CONNOR's character (2159), and upon no other security (2012). The CAPITAL OF THE BANK IS Mr. O'CONNOR'S CHARACTER (2175). In this bank is a "redemption fund," from which nothing can be drawn except by "permission" of Mr. O'CONNOR! (2046).

That Mr. O'CONNOR has practically dismissed all his band of directors, trustees, &c., and has created himself sole director and trustee is apparent by all sums of money being paid to his account, by all estates being conveyed to him (382), and by every possible act which can give a legal ownership being done in his name, or for him, or by him. Mr. PRICE, his bank manager, knows nothing about his Land Company (2060), except that it (viz., Mr. O'CONNOR) has borrowed 6391*l.* of the bank (2068), but he knows that Mr. O'CONNOR is the proprietor of the bank (2070). Mr. P. M'GRATH, the "financial secretary" says that 89,805*l.* 12*s.* 2*d.* should be in hand (669), but he does not know what has been done with it (674), only that he has not got it (675); he hands it over to Mr. O'CONNOR's agent (681), he does not know what is spent (690), and no check is kept upon the treasurer (691), nor is he bound to render any account (690)! He knows that the rule of the Society, that the treasurer shall deposit all sums above 250*l.* in the bank of the Company in the joint names of himself and the trustees, *has not been complied with* (725); he admits that the accounts are not true accounts (772), and that he has advanced money for political purposes by Mr. O'CONNOR's order (786). He states that there are no minute-books of the proceedings of the Company (1089); that all proceedings between April, 1845, and December, 1847, *were carried on verbally* (1429), and that he does not know the name of the bank in which the money of the Company is deposited, nor where it is! (1424).

From this and other evidence, it is clear that the National Land Company is Mr. FEARGUS O'CONNOR, that the Land and Labour Bank is also Mr. FEARGUS O'CONNOR, and that this person has become legally the absolute owner of all the money entrusted to these fictitious concerns by the 60,000 or 70,000 poor people who put their trust in them.

How he proposes to justify their confidence, and what probability there is of their expectations being realised, we must consider on another occasion. For the present we shall only observe that a man who, like Mr. FEARGUS O'CONNOR, practises mental reservation in his oaths, swearing allegiance to the Sovereign of this empire, and then restricting the application of the oath to the Queen of England, not of Ireland,* is not exactly the person whom we should recommend our friends to take as their banker and agent. He may mean well, but we would rather not trust him.

WE wish we could say one word expressive of an opinion that the danger of a new POTATO-ROT had been exaggerated. It is quite the reverse, as the following from among our fresh returns too plainly show:

THE CONTINENT.—I returned on Thursday from the Continent, and I am sorry to say that though the disease has not in many places attained any great degree of forwardness, it is too plainly perceptible throughout the whole of Belgium and Rhenish Prussia. So ignorant or careless, however, do people appear on the subject, that at Antwerp I was assured it had not shown itself in a single instance, notwithstanding which I found it fully developed in at least a dozen patches during an evening walk round the ramparts only! A friend whom I met on the Rhine, returning from the Mediterranean *via* Trieste, told me he had observed it in the valley of the Danube below Vienna; and I fear, from the information I received in other quarters, that it is universal throughout Germany. The cereal crops are looking well, and promise an abundant harvest. The roots generally are not nearly so forward as they were at this period of last year, and I think at present not looking so well. Purchases of Rice have already been made for Holland and Belgium.

CORNWALL.—Is spreading rapidly, with much the same appearance which it showed in 1845. Some fields are absolutely stinking already, and there are but few places in which it has not yet made its unwelcome appearance. Up to some 10 or 14 days since the Potatoes were looking most luxuriantly; but now whole breadths are scorched up and rotting; *Cerniwaidd, July* 22.

DEVONSHIRE.—All in this neighbourhood are more or less affected; in some fields patches a few yards square are completely decayed in their leaves and upper portions of their stems, while the surrounding parts present a green and healthy appearance; but I can perceive blotches on the latest and healthiest-looking crops. The crop is generally good, and I have not found a single tuber affected, even when the haulm is completely decayed. I do not think the disease presents the virulent appearance it did in 1846; *R. B. L., Newton.* It has become general. The early crops are almost universally died off, and the tubers decaying in most plots. The later crops are diseased, and likely to follow the early ones; but to them the Potato is too small to be of value. The blight in this district appears as extensive and fatal as in 1846; *Plymouth, July* 26. Our Potatoes are going every where; but the early sorts were never finer; *A Devonian.*

SOMERSET.—Potatoes look worse every day. Not one field now is sound; *West Somerset, July* 22. I have taken up a quarter of an acre of the Early Kidneys, and have only found one black spot in the quantity of half a bag of 60 lbs.; they are very mealy and good: and I have also taken up a quarter of an acre of the Early Rounds. The leaves of both sorts were partially blackened; *Sealey-bridge, South Petherton, July* 24. The Potato disease is making most rapid strides in this valley, attacking certain favourite soils, where the plant is grown on a large scale, and which has escaped in former years; and almost every grower round this town has lost half his crops. The late Potatoes in every instance I have seen are marked with the fatal spot, and some are gone; *Samuel Pitman, Taunton, July* 24. I am sorry to say it has spread more or less over whole fields. In my own field, where the streaks appeared, more than half the Potatoes are unfit for use, but of those subsequently attacked not more than one-third are injured, though immediately contiguous. These were all planted the third week of March. In the same field, some of the same sort (Early Prolifics) were planted in the beginning of November, and though the haulm is nearly destroyed, the Potatoes, with few exceptions, are perfectly good. This is my third year of autumn planting, and a third confirmation of the great advantage of it, both in the quantity and quality of the produce. I have a considerable quantity of seedling Potatoes raised this spring from seed imported from Chili in a most hopeless state; *George Rous, Laverton, Beckington, July* 24. I have made a point of seeking information on the state of the Potato crop, and regret to find from the testimony of agriculturists and others within a circle of 20 miles of this place, which embraces parts of Somerset, Devon, and Dorset, but one universal opinion, that the Potato is gone. Some of my informants, however, express a hope that the late crop will escape; *Chard, July* 24. Very general in this neighbourhood; *Nymhead-court, July* 27.

HANTS.—It is making rapid strides. My Lancashire Kidneys, which were looking well, are now affected. If it continues I shall have none to store away. It is worse now than it ever was since the commencement at this place; *J. A., Andover-road.* The Potatoes about here are becoming more affected. A week since a field at the back of our house had a few injured spots, now all the haulm, excepting the headlands, has gone. Round Chichester many pieces have failed. At Portsmouth one field is digging good Potatoes not in the least affected; in the adjoining field all the haulm has gone. At Winchester some spots are affected; *Bedhampton, July* 21. The whole of our Potato crop is affected. The late planted will be a total loss; the early will be about half a crop. Our Potato fields exhibit a most melancholy appearance; *G. Hunt & Co., Southampton, July* 20. Has appeared in a more aggravated form than in any of the past seasons. Lime, the remedy; *Josiah Neave, Fordingbridge, July* 21.

SUSSEX.—Making fearful and rapid progress all around this neighbourhood, and, in my opinion, in a short period the desolation will be general. In some gardens and fields the haulm is entirely rotten, and not a leaf is visible; the odour, too, which is emitted, is most offensive; *W. W., Chichester, July* 27.

OXFORD.—Sad complaints; has occurred in a very decided manner at Oddington, 8 miles north, and at Radley, 6 miles south. The haulm is completely withered with brown spots on the leaves and stems, and a marked putrid smell; *M. S. D., Oxford.* In gardens nearly all rotten. Some were taken up when the tops were attacked, and before the disease had appeared to have reached the tubers, but they have decayed faster than those left in the ground. In my own garden, the sets (Walnut-leaved Kidneys) were prepared according to Mr. Cuthill's directions, and the crop is quite sound, which may be attributed, I suppose, to its having nearly come to maturity before the rot appeared. In the fields, spots were seen here and there on the leaves three weeks ago; of these nearly every leaf is now black and dead. The spotted leaves are daily being discovered in fresh places, and the most luxuriant in appearance fare the worst; *L. Stephenson, Souldern, July* 25.

DORSET.—Disease is general and violent; it continues to increase rapidly and steadily. Grounds first attacked are now emitting a powerful stench from the decaying leaves and stems. I have no doubt the destruction will be as complete here as in 1846. If any escape it will be those planted as a first crop, on newly broken up heath land. I hear great complaints of the state of the tubers in the cottage gardens, such as "not 1 in 10 fit for use." (The stems and Potatoes accompanying this were exactly in the common 1845 state); *J. Trimmer, Wareham, July* 26.—Has shown itself to a considerable extent round me; *Charles Porcher, Clyffe, July* 25.

SURREY.—In this parish, and the surrounding ones of Hascomb, Chidingfold, Elstead, Puttenham, Shalford, Wonersh, and Bramley, the Potato disease appeared as early as the 1st of July in old garden ground and low damp situations; and up to this time has been gradually extending over the whole crop generally, but with nothing like its usual virulence; *H. Bowers, Busbridge, Godalming, July* 25.

HERTS.—All affected hereabouts; *W. Peek, Watford, July* 25.

MIDDLESEX.— A parishioner reports that around Wycombe the disease is making sure but extensive progress. The vicar of Heston told me, on Saturday last, that on a farm in that parish there was a crop of Potatoes which was in splendid condition before the late thunder-storm, but that since that the disease had made its appearance, and that the other day, in taking up the Potatoes, 24 out of 36 were found to be diseased. To come nearer home: only a short time since a farmer in this parish (Ealing) refused 25*l.* per acre for his Potatoes, he asked 30*l.* At the time that I am writing he would be but too happy if any person would give him 15*l.* per acre; *F. E. Thompson, Brentford, July* 25.

BEDS.—Has extended generally over an extent of some miles round this town, which contains some hundred acres of Potatoes, on every variety of soil. There appears to be no Potatoes which have escaped. We have seen eight diseased tubers dug up from one root, and many cases where the Potatoes are so affected that a short time must very much increase the evil; *Robert Vallantine, Leighton Buzzard, July* 26.

NORTHAMPTON.—In my second earlies I have found one-fourth diseased. Nothing could look more promising a fortnight ago. After that time the haulm begun to be blotched, and in a few days from that time the foliage became quite black, as though there had been a sharp November frost upon them. I have inspected my late Potatoes, and they are all beginning to show the same malady. In the parish disease has begun to make its appearance; among the cottagers it has already made sad havoc; *George Archer, Finedon-hall, July* 25. Since the beginning of this month the disease has attacked patches in gardens and fields, and there is every appearance of its spreading rapidly. In some places the tops are quite dead, and the tubers partially affected; and this is the case a month or six weeks earlier than in preceding years; *W. G. Weedon, July* 27.

NORFOLK.—This district seems likely to suffer. Many large patches in fields and gardens are already infected, especially on moist lands. An acre in a field of my own are blackening and rotting off fast. The tubers are half grown, but not yet diseased. The evil is too general to be disputed; *R. Pigott, Stoke, July* 24. Almost universal; even more virulent and rapid than in 1846. Till the last 10 days we were entirely free; now all are attacked. The Ash-leaf Kidneys taken up remain sound. We shall lose at least a third; *E. T., Loddon Hundred, July* 25. Worse and worse; it matters not what soil, situation, age, or culture; *J. Wighton, Cossey.*

SUFFOLK.—All around progressing very rapidly. In many gardens entirely spoiled, especially in confined and low localities; *S. and J. Dillistone, Sturmer, Clare, July* 24.

WALES.—Our neighbourhood has hitherto been free, but I hear that in some places, in the south of this county, it has appeared, but not to a serious extent; *John Fenton, Glynamel, Fishguard, July* 18. Has progressed with railroad speed since this day week; the tubers of all the early varieties are affected; *F. Bridger, Abergwili Palace, near Carmarthen, July* 25.

SCOTLAND.—Too early to judge. See the returns in the *Agricultural Gazette.*

IRELAND.—We find the following statement in the *Irish Farmer's Gazette,* July 22:—"The excitement consequent on the safety of the Potato crop is decidedly becoming more intense every day. Indications of the disease of 1845 and 1846 have been on the increase, and diseased samples of Potato haulm have been weekly forwarded to us through the post, and otherwise, from almost every part of the country during the last four or five weeks; and parties of the highest integrity have called at our office, and stated to us their conviction that the disease has made its appearance. While the fine dry weather lasted it was not on the increase, but since the change from dry to wet, it has made its appearance in places heretofore free, and is progessing

* See Debates in the House of Commons, July 23, as reported in the *Times,* July 24.

rapidly in those places where it before appeared, and in which it seemed stayed." Our own intelligence leaves no doubt that disease exists to a serious extent in many parts of the south of the island. Some indeed say that they hope the disease is stayed, the old expectation; we cannot encourage them in their opinion, but must seriously advise them, if they hope for the best, to prepare for the worst. In *Castletown, Berehaven*, the crops are gone, July 29. *Limerick.*—All the fields are more or less diseased; 30 or 40 loads of Potatoes at market, July 18, all more or less diseased. Stalks getting black, at the same date, in the west of *Clare*. Near *Skibbereen*, of 210 Potatoes raised in the presence of our correspondent, 56 were diseased. Another report is that the crops are improving. About *Kenmare* disease has made great havoc; in *Tuorist* several fields blackened: nevertheless very good Potatoes are selling, July 22, for 7*d.* per 21 lbs. To the west of *Bantry* the entire country is burnt up; it is quite difficult in some localities to find a sound Potato. The stems from them have proved to be in the worst stage of gangrene. Extensive mischief already done, suddenly, in the island of *Valentia*, and in the Unions of *Ennis* and *Kilrush*. No disease about *Inistiogue*, July 23. The *Tipperary* reports, July 20, speak of diseased tubers and bad smells as being prevalent; but no decided general blight is named. About *Dublin* it is progressing rapidly, July 22. At *Mallow* the crop is said to be injured. About *Omagh* blackened stalks and bad smell: but no authenticated case of diseased tubers. At *Baudon* they imagine it to be stayed. Lord Oranmore has also sent advice from *Mayo* that the blighted stalks are pushing again, and that on the 26th the crops were certainly not worse than on the 19th. We do not quote other reports, because they are dated too early to give satisfactory evidence. There is no news from the north, where the season is perhaps not advanced enough to produce the evil. We can only say that, in our opinion, the matter is becoming daily more serious.

The last advices are as follows:—July 18, *Limerick:* Poor people digging; half diseased: appearance very sudden.——July 20, *Fermoy:* Much anxiety: a field belonging to the Fermoy Union blighted in one night. *Kilrush:* Extensive failure; bog-land safe at present. *Skibbereen:* Has not increased, and is very partial. —— July 22, *Ballinrobe:* Spreading extensively. *Joyce's Country:* Tubers and stalks diseased. *Galway:* Has appeared; spread over a whole field; not advanced further. Progressing fast elsewhere. *Boyle:* Incipient. *Rockingham:* In that union early crop gone. *Belmullet:* Appearances everywhere; some fields quite black. *Ballina:* Healthy, with a few exceptions; much alarm. *Granard:* Has appeared partially.——July 23, *Castlebar:* Has appeared slightly, but generally. *Kenmare:* Seems spreading through the Gort Union. Broke 12 or 14 taken from a field; all diseased.

In addition to these we have many returns, anonymous, or with illegible signatures, or without post town named, which we forbear to quote.

We observe that some gentlemen are comforting themselves unwisely with the hope that such statements as these are exaggerations at the least. We answer for none but ourselves: but for ourselves and correspondents we do answer.

FORCING STRAWBERRIES.

The time has now arrived when every gardener who forces Strawberries will have commenced potting the runners, in order to make good plants of them for early excitement. Perhaps a few observations on their culture in pots, by one who has had ample experience, may not be out of place. I would have it understood, however, that I do not regard the system I advocate as anything new; but I am convinced that the plan is everything which a good and successful plan ought to be, if care is taken to carry it out well.

The soil I have seen used, and that too attended with the very best results, was brown fibrous loam, which had been taken from a pasturage. The top spit only was taken off to the depth of about 3 or 4 inches. It was used immediately afterwards in as green a state as possible. When used in this state it was said to contain more of the constituents of plants, more alimentary matter, and other organic substances most desirable to produce a healthy, vigorous action of root. It was used in most cases chopped up rough, almost as large as we could get it into the pots. Decomposed horse-dung was used at the rate of one barrow load to two of loam. If the soil was too stiff, it was corrected by the addition of sand or sandy earth, or lime rubbish or bruised charcoal. The plan of potting the runners into 3-inch pots is undoubtedly the best. If potted otherwise at the first onset, in 6-inch or larger-sized pots, the soil becomes deteriorated, exhausted, and deprived of its organisable matter, through the constant application of water.

In choosing the runners for potting, we always selected them from plants which had been forced, experience having revealed to us the fact that those runners which were taken from plants which had been forced came into bearing sooner, and not only that—their fruit was larger. As soon as the runners have filled the 3-inch pots with roots, they are separated from the parent plant, and potted into the sized pots in which it is intended they are to remain, in 6-inch, 8-inch, or 9-inch, as the case may be. They are then placed on ashes in beds, with alleys for convenience in watering, and taking off runners. Mr. Turnbull, who forced 2000 plants annually at Blenheim, used to pot a quantity in 9-inch pots; they did admirably, three in a pot. Potting into 9-inch pots possesses many advantages over the old plan—such as a saving of room, &c. —and they do not get dry so soon as smaller pots; consequently the roots are preserved.

I recollect Mr. Turnbull sent some plants, well fruited and staked out, to the dessert table as they were grown. Those who witnessed the plan of potting into 9-inch pots were unanimous in approving of it most highly, both for productiveness and good economy. During the growing season the plants are inclined to make runners, which should be closely watched, and, as soon as they make their appearance, cut or pinched off. It is a good plan to go over the stock every three days. As regards watering, great care is requisite on the part of the cultivator never to allow the plants to flag for want of water; water should be supplied copiously in hot weather; I have known the time when we were obliged to water two or three times a day during hot weather, otherwise the plants must have suffered from drought, hence they become unhealthy and unproductive. It was customary to water with deer or sheep dung diluted in pond water twice a week. The first 500 plants were potted the first week in July, if it were possible to get them, in order to get fine plants fit to introduce into the forcing pit the first week in December.

Before introducing the plants into the forcing-pit a bed of fermenting material was put in, composed of half spent dung or leaves from the linings or otherwise. This was to excite the roots gradually into a growing state, which both strengthens the root and accelerates the growth of the plant. When the temperature of the bed had sunk to a moderate heat, the pots were put in and half plunged. In October, before the frost came, those plants that we did not intend to force early were stowed away in spare frames or pits, plunged to the rims in old tan, or ashes, or soil, till required for excitement. Some were stacked in ridges running from north to south, in ashes; on the top of the ridge was placed boards, to prevent wet getting to the roots and pots. In very severe weather dry litter was thrown over the ridge, thus preventing any serious injury to the roots by the action of frost or the impulse of sharp winds. Those plants that we began to force had no more water than was necessary, till we could perceive the buds had begun to expand, or in cases where the plants were very dry. Every forcing gardener knows how important it is to be sparing of water to Strawberries early forced in pots. Much care is requisite on the part of the cultivator to keep the soil sweet; for if it happen to sour through over much moisture, the result is a failure. We began with a temperature of 48° night heat, allow-12° or 14° of maximum heat during day. Special care was taken not to fire higher for a few weeks. As the plants progressed in growth, the temperature was gradually raised according to the stage of their growth. When the trusses made their appearance they were removed to another division; here great attention was paid to the aëration, admitting air at every opportunity till set. The atmosphere of the house must be kept as dry as possible while the plants are setting. It is a good plan to use camel-hair pencils for fertilising the plants. This should be done in the middle of the day. I have seen them fertilised by using a pair of bellows, which answer the purpose very well.

When it is discovered that the fruit is set, the plants are benefited by a rest in a low temperature for five or six days. When I say a low temperature I do not mean lower than that in which they have been while the fruit was setting. A temperature of 60° night heat, with a rise of 10° or 12° during day, will be found adequate to the welfare of the fruit. They swell very little in this heat, consequently they have time to complete themselves, which they, of course, could not do, if placed in a high temperature, to swell them off (as some people imagine) quickly. If placed in a high temperature immediately they are set, it is many chances to one if they perfect a single fruit. They are one-sided generally. In all cases success depends on patience, perseverance, a good deal of sound judgment, and a great deal of carrying and moving to and from of pots. To have Strawberries ripe the latter end of February, the gardener must be in attendance early and late; *Robert Cox, Exotic Nursery, King's-road, Chelsea.*

ROYAL HORTICULTURAL SOCIETY OF IRELAND.

I am instructed by the Council to inform you, that in consequence of the letter lately published in the *Gardeners' Chronicle* (of 15th inst.), from W. T. Hamilton, Esq., they desire me to forward the inclosed copy of his "Amendment," alluded to in said letter, that it may also appear; and, further, they desire me to request you will be so good as give the names of the parties who have been writing against the Society, otherwise they will take no further notice thereof. By order,

78, Grafton-street, Dublin. N. Niven, Assist. Sec.

[Copy.] W. T. Hamilton, Esq.

"Amendment" on the Statement subsequently adopted by the Council of the Royal Horticultural Society of Ireland.

Resolved: That as the remarks contained in the *Gardeners' Chronicle* of the 24th of June, respecting the Horticultural Society, are obviously founded upon erroneous information, and as such remarks, if not explained, might create a very injurious impression against the Society, the following statement of the facts as to each of the charges brought against the Council be communicated to the Editor, with a request that he will give them publicity, observing that the Council abstain from any expression of opinion as to the merits or demerits of any of the established rules of the Society; their present object being merely to show that in carrying out these rules they have not acted in the improper manner attributed to them.

1. That it has ever been the wish of the Council to secure an impartial adjudication; but that much difficulty has arisen from the small number of persons competent to act as judges, who are not either members of the Council or exhibitors in some of the classes, and that the judges are never selected from the competitors for the classes in which they compete. That latterly, practical gardeners have been associated along with members of the Council, and that in no case have the Judges been appointed in any case in which it was known, or thought probable that they would be [illegible] as the Council would consider the appointment in such case to be void, to say the least of it.

2. That it is not true that at the last spring show the prize was awarded by one of the judges to himself, though it would appear to be the case from the [illegible] that the publication was not accurately entered and published. The facts were these—Previous to the spring show, Mr. Paul, a member of the Council, was appointed one of the judges in a particular section, without the Council being aware, [illegible] upon the occasion that he was to be [illegible] three classes contained in that section. Upon the morning subsequently investigated, it appeared that Mr. Paul had sent it wholly to the judges to decide in the [illegible] he had become an exhibitor, and confined himself to the other two classes in which he was not an exhibitor. The [illegible] however, any question, his claim to the prize was undisputed.

3. That there is no rule which excludes gentlemen from the annual dinner, this being, as it is [illegible] members of the Society. That the Council [illegible] whatever to gardeners being present if they please, and that on the last occasion, in [illegible], two gardeners were present.

4. That it is not true that the [illegible] the eyes of the Council only, as it has been [illegible] public view as the flowers. But that [illegible] it has been exhibited in different rooms, and with [illegible] labours, the misconception has probably arisen in this way.

5. That it has for many years been the rule of the Society to award the prizes to the employer and not to the gardener. But that in the majority of cases, as [illegible] are by the latter, the prizes have been paid to the gardeners.

6. That the practice, down to the last year, was to state in the published lists, the name of the gardener in connexion with that of his employer, and that it was only omitted in the publication of last year because, from the defective manner in which the books were kept by the late Assistant Secretary, who made no entry of the gardeners' names in the [illegible] from which the names could be taken; the Council of the year, and the list were necessarily published [illegible] the defective state of the books. But that at present the name of the gardener is recorded for publication along with that of his employer.

7. That the Council have never repudiated the claims of any person to whom prizes were awarded. But that, on the contrary, so fully do they admit their obligation to pay all prizes not already paid, that when it was discovered at the close of last year, upon the [illegible] of the late assistant secretary, that many persons had not received their prizes, although the amount had been [illegible] advanced in the usual course of annual payments, [illegible] immediately called in, and other claims [illegible] advertisement in the newspapers. Those claims have been [illegible], according as they have been presented, and [illegible] greater delay than was necessary for a [illegible] in each case, where the irregularity with which the [illegible] were kept by the late assistant secretary [illegible] of a double claim being advanced, and the [illegible] still under investigation does not much exceed [illegible]. That so far from the financial state of the Society [illegible], it was never in a more prosperous condition, as is evident from the fact that the Council has been able, after retaining a sufficient sum to meet all current engagements, to invest a considerable sum in the public funds.

[We publish this document in order to oblige the Irish Society, but we fail to make out what light they imagine it to throw upon their proceedings; especially as its adoption was negatived by a majority of 5 to 4 in the Council. We are requested to state who our informants are; be it known, then, that they are included among the most respectable and influential horticulturists in Ireland. Let us hope that this information will be satisfactory to the Council.]

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

Dahlias.—These fine ornaments of large gardens are now beginning to flower, and require some attention, to ensure good blooms and a healthy growth. Some cultivators prune extensively, so as to have only one leading stem, and but few laterals, until the plant has attained a good height. That only one shoot should be trained in the early management of the Dahlia is doubtless the best treatment, but to what extent laterals should be suppressed is an affair of taste, which the amateur must regulate for himself. The plan recommended in the Calendar of the *Chronicle* is the best for making the most of a Dahlia, and displaying its luxuriance to greatest advantage; that is, to tie up the laterals to smaller stakes arranged symmetrically around the central one. Let the stocks and the tying material both be trustworthy, for the Dahlia has to stand very rough weather when it is in the finest state of bloom, and its being prostrated by the wind is a misfortune to be averted by all means. The plants should be looked over every day, that tying may be attended to before an ungainly growth takes place.

Dahlias will not bloom well unless a degree of moisture is kept up at the root: and to us attention to this is indispensable. Many fine flowers are stunted in their growth, and deformed in their bloom, because the soil is too dry. Constant watering being attended with trouble, and also being undesirable, because it washes the best properties of the compost beyond the range of the roots, it is strongly recommended to mulch the surface to about 9 inches all round the plant. I last week put the mowings of the lawn to this use, laying on a thick stratum of Grass round each Dahlia. Previous to this being done the soil must be thoroughly soaked, and one such watering will last for a week, although without the mulching one dry day would render the operation again necessary. Having arranged my Grass coverings in good order, I was much pleased with the plan, and thought it improved the appearance of the Dahlias; but this satisfaction did not last long, for the next morning I found every little heap scattered in all directions by the claws and beaks of birds, who appear to have left all other pursuits, in order to revel in my handyworks. I found therefore that one labour led on to another, and I collected the Grass again with a rake, and fenced each mulching with brushwood laid over it, and fastened into the soil.

This must be done, or neatness is at an end, and it must be done effectually too; for I find wherever there is a gap in my inclosures, the birds trespass and drag out the Grass. I expect they find insects sheltered in my mulchings, and that this is the cause of their pertinacious efforts to undo my works.

These mulchings should be kept moist, and this can be done by sprinkling a little water daily from the rose of a watering-pot. This is necessary to keep the soil beneath equally wet, and also to prevent earwigs and other insects from lodging in the Grass. Earwigs and woodlice hate a wet situation, and are always found in the driest places; hence, the wet state of the Grass will prevent their stopping among it. Earwigs are the worst enemies of Dahlias, feeding on the young and undeveloped petals of the flowers, as every amateur knows to his abundant vexation. Perhaps the best trap is a small flower-pot at the top of the stake, for these insects seem to have a strong propensity to ascend as high as they can for a lodging. This *attic* taste may be turned to good account by the gardener, and the pots will be found occupied every morning by the enemies he is in search of. As the movement of the pot arouses them and makes them fall, and thus escape, I put a piece of brown paper in each pot, crumpled up, so as to retain its place when the pot is removed. In searching for them a board should be carried with you, or else when you unfold the paper they will get away, if this is done on the walk or the lawn. A lady not liking such a mode of killing as treading with the foot, may be allowed the more refined method of taking with her a china vessel, with water, into which the paper parcels may discharge their cargo. I killed many thousands last year in this way. In my neighbourhood earwigs are more than usually abundant, rendering watchfulness highly necessary. A little diluted cow-dung may be applied once a fortnight, and all decaying flowers should be cut off. These contain earwigs, which must not be allowed to run away; *H. B.*

Home Correspondence.

Carnations.—I will thank you to say to what causes the running of the Carnation is attributable, other than freshness and excess of manure (supposing stable dung the kind used). In 1845 a number of Carnations and Picotees bloomed fairly with me in the open ground, except Yeomanson's Triumphant, crimson bizarre, which was very much run and ill-shaped. In 1846 the layers from this flower did not blow; they were grown in pots. In 1847 layers from these again were grown in pots, in compost of loam and leaf-mould, equal parts, with the addition of a half part stable dung, and a little sand and gypsum. They bloomed extremely well, both in shape and colour, while many others, grown in the same compost, and treated like them, ran. This year my Carnations are growing in the open ground, in what had been a border containing principally herbaceous plants; this was trenched in the last autumn (just before the layers were planted in it), 2 feet deep, and a little fresh soil, and a very little old manure added. It was top-dressed with an inch of very old horse manure this spring, and occasionally watered with very weak manure water, as recommended in page 35 of the "Gardeners' Almanac." The aspect is south; the flower-garden is a perfectly horizontal bit of table land on the side of a hill, and extremely warm. The plants were unprotected from rain, sun, or frost the entire year. Now, the layers taken from the plants of Yeomanson's Triumphant that bloomed so well last year, are this year all run (10 plants), as well as a number of other Carnations, and this in the very slightly manured bed that I have just described. The garden is well drained. Would you say at the same time what the best compost is for potting Carnations and Picotees in for blooming, making a difference, if such is necessary, between that for varieties apt to run, and that for others; *Dianthus.* [It is evident from our correspondent's own showing that his plants have been too highly manured. The compost of 1847 was much nearer the mark. We do not recommend liquid manure applied at an early stage of the growth. It is best given when the colour can be ascertained to be correct by raising the point of the pod. We think that the bed which was trenched 2 feet deep, and fresh soil and old manure added at planting time, and then top-dressed in spring with an inch deep of old horse manure — the plants being watered with liquid manure—would be too rich; and we fear our correspondent, in following the advice of the almanack he refers to, has been misled. A most excellent compost for Carnations and Picotees is 2 parts rotten turfy loam, 2 parts leaf-mould, 1 part rotten horse-dung, 1 part sharp river sand; mixed and well incorporated at least 12 months previous to using.]

Vipers.—Many years since I was in company with Sir Everard Home, when the circumstance of the young of the Viper taking refuge in the stomach of the parent was mentioned as an undoubted fact. On Sir Everard being asked for his opinion, he said it was a point which he had taken much pains to investigate, and inquired of the gentleman who asserted it, whether he had himself ever witnessed the phenomenon. On his replying that he had not, but that he had been told it on the authority of one who had, Sir E. Home remarked, "That is always the case; I find abundance of persons who know other persons who have seen it, but, with all my pains, I have never been able to light on an unexceptionable eye-witness of the fact;" and he concluded by expressing his disbelief of it; *W. E. H., Wilts.*

—In reply to the article headed "seeing not believing," I would say, What are our eyes for but to see with? and when we do see what are we to do but believe? If one sees a viper laying on the ground with its young near, and on approach finds the old one or mother to open her mouth and the young to enter, and if you see the old one cut in two with a spade whilst the young are inside, are you to walk away and say they are not there, when you have seen them to enter and afterwards to come out of the parent? The question as to whether they did or had been seen to enter was fairly asked, and, I consider, fairly answered, by others as well as by myself; and if we are taught not to believe what we see, I fear we shall not receive much instruction or information.—*Thos. Neal, Denmark-road, Camberwell.*

Potato Disease.—The epidemic in the Potato decidedly shows itself in this neighbourhood; a field of the rector's of this parish is very much affected—so much so as to be distinctly discerned without going into it; many of the stems blackened from top to bottom. A two-acre field of a man of the name of Lynch has scarcely an unblotched stem in it, and I am confident will be black throughout in a week or 10 days; these I have seen. I am told that Mr. Daly's Potatoes are much diseased. The Protestant clergyman's Potatoes of the adjoining parish of Abbeylara, I am informed, have been for some time much affected: and the son of a gentleman (Mr. Burris), of the same parish, told me yesterday, that not only did the stems show disease, but that the tubers of the early ones were much tainted. A Mr. Reilly, of the parish of Columb-hill, told me 10 days ago that his stems appeared affected in a distinct patch, and in isolated stems through the field. A man of the same parish, of the name of Matthews, tells me that similar appearances prevail in his neighbourhood. These are localities in all directions round the town of Granard. I have not seen a field or a patch of Potatoes in which a blotched stem might not be found, and which, in 1845 and 1846, would have been sufficient indication of total destruction of stem in a week or 10 days throughout the field. The two or three instances above of thorough prevalence of the epidemic in a field are the only ones I know of; in all other cases of its appearance they are only of a few isolated stems. Should the disease develope itself as rapidly as it did in 1845 and 1846, from present appearances I should think our loss would about equal that of 1845; in no case will it have the totality of 1846. But I am of opinion, for reasons I will presently give, that it will not be so quickly extended; and under the present appearances I calculate that we shall at least harvest three-fourths of our crop; and as the crop is everywhere luxuriant, as the breadth of Potatoes is very large, generally asserted to exceed that of ordinary years (though I question this, for we have no conacred Potatoes, at least very few), and as our consumption will not any way approach that of former years, for we have but few swine, we may reasonably expect there will be no shortness of supply. Our grain crops also are very good, and where there is a diminished tillage of Potatoes the deficiency is generally supplied by Oats. The worst case of disease I have seen is that of Lynch's, and from the advanced state of his Potatoes he has at least a half crop at the present moment, and they will continue to increase in size probably for a week or 10 days. I took up two of the tubers, and they were quite sound. In the Potatoes coming to market there is no sign of taint, and they are of very good size; more than half the size they could attain to. I will now give my reasons for my belief that the disease will not so rapidly extend itself as it did in 1845 and 1846. In my own Potatoes, in rather a close garden, I found a few stems blotched about 8 or 10 days ago; in those vears, in that period of time I should have had an increase of tenfold at least. I scarcely find any increase, I cannot indeed be sure of any; it certainly is not doubled, and does not exceed one in a hundred stems. In a neighbour's garden I saw, a week ago, two or three blotched stems, and I see no increase in it of disease, and I do not hear any complaints, or find much alarm of its increase among the country people. Last year I knew of but one instance of disease previous to the general digging out, when I am quite sure the disease generally prevailed. I saw no stems but were blotched; they all had rather the appearance of disease than of regular ripening, yet there were not a great many tainted Potatoes to be met with, and they kept well all along even to the present moment. This solitary instance of early diseased stems I met with in a Potato field of about 6 acres, belonging to Mr. Burns, of this town. A small height of perhaps 8 or 10 perches was much affected rather early in the season, I think about this time of the year, and there were some isolated stems affected in various parts of the field, yet the disease did not spread through the field, nor extend to the tubers, which remained good with him, and which he is yet using. I see it is still recommended by some persons as a remedy to pull up the stalks. It is a sure way of preventing future growth of the tuber, but I have a decided opinion that it will not prevent the disease of it, for the diseased juices of the plant must have pervaded the whole of it, tuber and all, before we discover the disease in the blotches of the stem. I have sometimes found the tuber much affected when the stem showed but little disease; and few of the tubers affected when the stem was quite blackened; and every one has observed sound and unsound tubers under diseased stems. In the first appearance of what I believe to have been a form of the late and present disease in 1832, the sets perished from disease without any indication of it in the shoots they produced, and which shoots, by proper care, produced a crop of sound Potatoes. I think we are yet much in the dark as to the progress of the disease between the plant and the tuber, and that we may be mistaken about the connection or communication of the disease between them; *J. M. Goodiff, Granard, July* 25.

Bristol Carnation Show.—May I request your sentiments on the following statement. At the Bristol Horticultural Exhibition on July 25th, two silver cups were presented for competition, one for Carnations and the other for Picotees; both were awarded to a competitor of Bristol, and immediately after the award the exhibitors were of opinion that the flowers he showed contained more petals than belonged to them, and that very unfair means had been resorted to; a detainer was then put on the cups by one of the exhibitors, and an appeal was made to the committee to have the flowers examined (but without success), as the owner resolutely declared he would rather give up the cups than have one of his flowers examined by any one; and this the committee acquiesced in without further remonstrance, and most unjustly allowed him to retain the prizes. Ought not the committee to examine flowers under such charges, otherwise what chance is there of fair showing or competitorship? *A Lover of Justice.*

Dorking: its Scenery and Timber.—I send you a few notes on the gardening characteristics of this neighbourhood. Walk with me this morning to "the nower" of a hill-top not a mile from the town, the property of Charles Barclay, Esq., to whom the public are indebted for a sheltering seat on the highest point of the hill. Here, and all the way in your ascent, the views distant and near are most beautiful. Dorking, nestled amid the trees in the valley, is just as much seen as a sketcher could desire, its beautiful church and spire rising out of the groves that surround it. The view is panoramic to the north; the chalk downs comprising the well known beauties of Box-hill. The hills insulated in the valley under which Dorking stands, most properly called the "Glory," are indeed gloriously adorned with all manner of trees, amongst which the Spanish Chestnut is conspicuous. Such young and such ancient Chestnuts I never beheld elsewhere. In Betchworth-park, the property of H. T. Hope, Esq., I measured 25 old trees. The dimensions are as follows:

Circumference, 1 yard from the ground.

No.	Feet.	Inches.	No.	Feet.	Inches.
1	15	4	14	20	10
2	9	8	15	14	9
3	16	2	16	15	9
4	9	8	17	15	9
5	11	2	18	14	11
6	17	3	19	18	7
7	18	0	20	19	6
8	14	7	21	17	0
9	16	2	22	15	9
10	17	9	23	14	5
11	12	8	24	17	3
12	13	8	25	18	8
13	13	8			

Planted 14 yards apart. One of the tallest cast a shadow 56 yards in length on a level at 4.30 P.M., on the 10th July. Some of your correspondents can estimate the height by these data.

Some of them are venerable ruins, others towering to the height of nearly 80 feet. I doubt if all England can match them, and I trust they are the property of a gentleman who will watch over them as heir-looms, sacred from the axe, and who will also, I venture to suggest, choose some locality for planting more of these beautiful trees, to delight future generations when these fathers of the forest have at last yielded to time and tempest. The river Mole runs and delves in the valley beneath, and I cannot but attribute to the nourishment of its waters and the healthy green-sand soil on which the trees grow their extraordinary size, although higher up the hill, far from the river, the Chestnuts are growing on the green-sand vigorously, in 40 years' growth attaining 50 to 60 feet in height; their trunks straight as an arrow, and (thanks to the railway now making between this place and Dover and Reading, which has thinned the wood for sleepers) these trees have now room to spread, and under Mr. Hope's fostering hand may, by-and-bye, be visited as "the wood of Chestnuts." I allude to this particularly, because in calling that gentleman's particular attention to this wood, in which the Larch and Scotch Firs and Oaks are also growing, suggesting the removal, in due time, of such as will injure the Chestnuts, not one of which should ever be whipped by its neighbour. Pardon this digression. Your readers, who, like myself, love trees and arboriculture, were entitled to a digression "on the Chestnuts of Betchworth-park." I will now return to "the nower," where the view to the east and south expands over the great vale, forming the Tilgate-forest district, where a sea of Oaks enriches the landscape, bounded by the South-downs; whilst to the south-west rises Leith-hill to the height of 900 feet above the level of the sea; its flanks adorned with hanging woods, descending gradually to the rich domain of Charles Barclay, Esq., who is a spirited agriculturist, and is trying his skill on the strong clays of the district, which creep up at the base of the sands of Leith-hill. The panoramic view terminates to the north, in the chalk downs and Beech-groves of Mr. Dennison, M.P. for Surrey. Most imperfectly have I described this scenery; nothing but a view of it can convey an adequate idea of one of the most beautiful districts of England. Ye dwellers in the north of England, who can boast of the grandeur of your lakes and mountains, but who can seldom match the beauties of this southern clime, I congratulate you that the gates of this paradise are soon to be opened to you, when the railways from Birmingham to Oxford and Reading, and from Reading to Dover through Dorking, are completed; then you can enjoy the soft breezes and fertility of this delightful neighbourhood; *John C. Brown, Cirencester.*

Gelsemium sempervirens.—I am induced to make enquiry respecting an old plant, which former writers have mentioned in terms of the highest praise—I mean Gelsemium sempervirens: in an old number of the "Gardeners' Magazine," a writer on the trees and shrubs of America speaks of it in raptures, and says "the senses alone can appreciate its riches." Has it ever had a fair chance of success afforded it in any conservatory, the shelter of which I conclude it would require? I would try it in mine, if likely to be worth the trouble of planting, as a good yellow climber would be a desideratum. Is any one successful with Bignonia Tweediana? Mine is a large plant, but has only borne three flowers this summer; they were very pretty, a bright golden yellow colour? *A Devonian.* [It is a very handsome plant when wild, and deserves the attention of modern gardeners.]

Sowing Carnation Seed.—I notice that in most of the books and pamphlets now published for the instruction of amateurs, &c. in gardening, Carnation seed is directed to be sown about the middle of April, in the open air, and planted out about the end of June, as soon as they can be handled. Now I find, from experience, that if we sow the seed in shallow saucers about the end of March, and place them in a slight hot-bed till the plants are in the full seed leaf, we are enabled to transplant them into their first beds about the middle of April, and they thereby become very fine plants much sooner than by the former method. My own seedlings have now mostly 10 or 12 leaves upon them, and will be put into fresh beds about the beginning of next month, on some cool day. There is this advantage in early sowing; the seeds germinate in less than, or at least in a week (while those in the open air are about 6 weeks germinating, with a pretty good chance, if the season is wet, of rotting); they are fine plants, well rooted by winter, and therefore not so liable to be injured by frost. I

give them straw litter in very severe weather, and they seldom disappoint the grower by some of them refusing to bloom the next year. Heartsease seedlings treated in the same way (of this year) are now blooming. It may depend upon the season or it may not, but I think that all weather would do equally well at that time if the plants were cared for.—*N. C., Croydon, June 16.*

Transplanting Evergreens.—The following extract from Downing's book may be interesting to some of your readers:—"Another mode of transplanting large Evergreens, which is very successfully practised among us, is that of removing them with frozen balls of earth in mid-winter. The trees to be removed are selected, the situations chosen, and the holes dug, while the ground is yet open in autumn. When the ground is somewhat frozen, the operator proceeds to dig a trench around the tree at some distance, gradually undermining it, and leaving all the principal mass of roots embodied in the ball of earth. The whole ball is then left to freeze thoroughly (generally till snow covers the ground), when a large *sled*, drawn by oxen, is brought as near as possible, the ball of the earth containing the tree rolled upon it, and the whole is easily transported to the hole previously prepared, where it is placed in the proper position; and as soon as the weather becomes mild, the earth is properly filled in around the ball. A tree, either evergreen or deciduous, may be transplanted in this way, so as scarcely to show at the return of growth any ill effects from its change of location."—*Hortulanus.* [This is the best of all the modes of removing *Trees*, but it is difficult and costly, on account of the weight to be dealt with.]

Scorching Effects of Sheet Glass.—As we strongly recommend British sheet glass to be used in preference to crown glass for conservatories and forcing-houses, we think we are called upon again to notice the late remarks on this subject. We admit that a few squares in a hundred may have small raised surfaces, which act as lenses, and so scorch; but this is easily avoided by the glazier using such squares for other parts of the building, or, if already glazed, by roughing such surfaces with a little fine sand and water. This slight trouble cannot, we think, be put in comparison with the breakage always occurring where crown glass is used, leaving out of the question the chance of a visit from such a hail-storm as occurred on Friday, the 14th inst.; *James Hetley & Co., 35, Soho-square, London.* [That sheet glass does scorch there is no room to doubt. Why, and why it cannot be prevented, we shall soon explain.]

Veronica salicifolia.—Veronica Lindleyana is stated to be less hardy, and consequently not identical with V. salicifolia. Both are equally hardy here. I send you shoots of both plants, which have been equally exposed in the open ground last winter, during which we had some sudden and severe frosts. Neither plant was in the slightest degree affected by the vicissitudes of temperature. You will observe that Lindleyana is more forward in flowering than the other, which I attribute to the fact of the latter being in a somewhat richer soil. I also forward a shoot of V. speciosa, which appears to be equally hardy here (in the grounds of G. K. Ward, Esq.), having been exposed to the severity of last winter without injury; *A Subscriber, Northwood Park, West Cowes.*

Rose Insects.—Your correspondent of Haileybury, p. 472, will find that a solution of soft soap will kill most insects in the garden, and it will destroy the flea, louse, and tick; as also the bug, I believe. The bug, *par excellence*, I mean, of London, &c.; *A. Z.*

Tradesmen's Prices.—Why do not tradesmen and others advertise their prices with their wares? Others do with their books, plants, flowers, &c.; but it is too much the practice of many to withhold their prices. If I want a "Protean Jet," or a "Cutting and Rolling Grass Machine," or a "Patent Seed Depositor," I look in vain for prices in the advertisements; "*cum plurimis aliis.*" You might give such advertisers the counsel you give to gardeners advertising; let us have your cost, charge, value, or wages; *Verbum Sat.* [It is the affair of advertisers. If they do not give prices, of course they do not expect customers.]

Potato Disease.—Having seen in most of the Papers an account of the Potatoes of a Rev. — Randall, having been most suddenly and disastrously diseased, so much so as to become all inedible, I wrote to the rev. gentleman asking for some of the leaves for examination, &c. My reply was a very kind note, of which the following is a copy:—

"Sir,—I read the account of my own (supposed) loss in the newspapers with considerable astonishment, and am quite unable to conjecture who could have furnished such a report. The whole truth of the matter is this. Some indications of disease had appeared in a small plot of early Potatoes in my garden, in consequence of which it was thought advisable to take up the Potatoes immediately. They are almost all fit for use, and are now in course of daily consumption. I have sent this account to the *Times*, and as you take an interest in the subject and will probably be in communication with others who do, I shall be glad if you will mention what I have said. I remain, &c., JAMES RANDALL, *Binfield.*"

I forward you this, as I am convinced that many greatly exaggerated reports get circulated even through your columns, and this will serve to show the public that all the accounts are not to be trusted so implicitly as they are, and rather to seek for facts; *Thomas C. Richardson, Manchester-square, July 25.* [We can only answer for ourselves: and we defy any one to show that our reports are at all exaggerated.]

Faquett's "Magnificent" Pelargonium.—In reply to your query, p. 476, as to whether my seedling Pelargonium "Magnificent" expands well, I beg to assure you that it does, and that at no stage does it ever reflex. From what I can judge it promises to be a good trusser. I hope to show it next year at the Chiswick and Botanic meetings, where its merits will be fairly tested; *Wm. Faquett, Major E. I. C. S.*

The Aphis is the great plague of my life, but I think I have matched him now by washing my plants with moderately weak brown sugar and water, and I strongly recommend it for a fair trial; *John Experience.* [Are you joking, or dreaming?]

New Roses at Regent's-park Show.—Your correspondent says there was no Rose in Mr. Francis's collection that was not either new or first-rate. Now the former they certainly were not, for we are growing some thousand plants of each of nine of the sorts shown, the prices being only 1*s.* 6*d.* per plant. Your correspondent asks, was Comtesse Molé (Hybrid Bourbon) new? I answer, yes; it appeared in the catalogues in 1845 for the first time, and was good enough to exhibit in a stand of 12 single blooms. He further says, "Look at the Vicomtesse de Cazes, a thin, flimsy, woolly flower. Was it to be compared with Mr. Francis's Cloth of Gold? Will it be ever half so good? Has it ever been shown, potted or cut, in perfection yet?" To these questions I answer, that Vicomtesse de Cazes is one of the best yellow Roses for a greenhouse we yet possess. I have exhibited one plant three times this season, and twice cut the blooms for 12 new Roses from the same. Where the Cloth of Gold will yield one bloom this will yield 20, in a general way, but, if both are confined in pots, 50. The Cloth of Gold blooms in question were not expanded, and they were bad specimens of this generally-acknowledged beautiful Rose. With regard to Mr. Francis's Geant des Batailles, the blooms he exhibited were not good; it has bloomed with us much finer, although we did not happen to have it in flower on that day. Can your correspondent point out any Rose in our collection so bad a Rose as Mr. Francis's Coupe de Cynthie; Leveson Gower was the only variety each of us respectively exhibited, and ours was decidedly the best, Mr. Francis not having one perfect flower amongst his lot. It is stated that many of our new flowers are doomed never to appear again, not being worthy to be recommended; should this perchance be the case, it will fall to the lot of the above Leveson Gower, and no other. Your correspondent says, "Is the Rose public doomed to be gulled as the Dahlia public was?" To this I can reply in the affirmative, if old Roses are to be palmed upon it for new varieties. Why did not Mr. Francis have Hybrid Perpetual Queen in his stand; it is of more recent date than most of the sorts he showed, and able to beat every one of them any day during the season, even the Géant des Batailles so highly praised; *John E. Lane, the Nurseries, Great Berkhamstead.*

Societies.

BOTANICAL SOCIETY OF LONDON, *July 7.*—The President in the chair. The following donations were announced: Proceedings of the Linnean Society of London, from November 6, 1838, to March 7, 1848, presented by that Society; Vols. 1, 2, and 3, of Transactions of the Zoological Society of London, presented by that Society; Proceedings of the American Philosophical Society, presented by that Society; a parcel of specimens from St. Mary's, Azores, presented by Thomas Carew Hunt, Esq., Her Majesty's consul at St. Michael's; among the specimens are eight species not before ascertained to grow in the Azores, but all found also in South Europe. British plants had been received from Mr. W. H. Purchas.—Dr. Semple, F.G.S., of Torrington-square, and J. Moore, Esq., Surgeon, of Leicester, were elected members. Mr. Thos. Sansom, presented a specimen of Schistostega pennata, H. and T., collected by him in a cave by the side of the mountain-road, from Capel Cerrig to Llanrwst, in May last.

Garden Memoranda.

Mr. Conway's Nursery, Earl's-court, Old Brompton.—This is one of the gayest little nurseries in the neighbourhood of London. Mr. Conway has long been known as a successful raiser of scarlet Pelargoniums, and these, together with Verbenas and the little yellow Calceolaria called viscosissima, planted on the level ground and on mounds, keep up a blaze of gay colours throughout the summer, which has an effect truly charming. Besides viscosissima, which produces multitudes of small yellow flowers from May till they are cut off by the frosts of autumn, Mr. Conway had a group of Calceolaria Kayii, a good comparatively new bedding out variety whose flowers are larger than those of viscosissima, but do not stand rough weather quite so well, being more liable to fall off. Among Scarlet Pelargoniums some of Mr. Conway's seedlings promise to be good, but none of them have yet been sufficiently proved. A dwarf variety, raised by Mr. Mitchell, of Brighton, and called Tom Thumb's Master, was planted out in a bed with others, with a view of proving its merits; but the weather having been unfavourable to bedded out plants this season, nothing decided can be stated respecting either it or the others. A seedling called "Symmetry" appeared to possess a fine compact dwarf habit. Of Verbenas Mr. Conway has many new and good varieties; Barker's St. Margaret's is a beautiful sort, rosy vermilion in colour, with a tinge of violet round a light eye. It is strong in habit and a good trusser. Another called Champion much resembled it, but is smaller. Marchioness of Ailsa is a good delicate pink; Desirable proves to be the same as Purpurea perfecta; Lady of the Lake, a bright rosy pink with a good habit, appeared to be a free flowerer; and Conway's Emperor of Scarlets and Barker's Emperor are both good; Mitchell's Wonder is a deep rosy pink, with a good habit, and Smith's Delight, a blush variety, is very much scented. Of scarlets, decidedly the best yet out is Robinson's Defiance, a most superb variety, already too well known to need describing; Defiance is known as a good blue-coloured Rose. Of French Verbenas, we remarked a large, purplish one here and there, called Jessica, which promises to be an acquisition. Against a wall Mr. Conway had plants of the common Hedera, together with Veitchianum and another French sort called Triomphe de Liege; these were planted out with a view of testing their comparative merits.

Miscellaneous.

Remarks on the Migrations of Aphides.—In the following notice I have endeavoured [illegible] some of the species of Aphis that migrate at regular periods from one kind of plant to another, or whose food has been partly altered by the cultivation of plants. Aphis [illegible] migrates from the Pear to the Teasel; A. dirinodes from the Rose to Grasses and flags; and the introduction and growth of corn have afforded a permanent harvest, and have consequently modified the habits; and the cultivation of various species of Rose brought into this country has also increased its food, and that of A. Rosæ and of the three following species: A. nitroda migrates from the Rose to the Cornsalad, and the change of food is probably not aboriginal, but owes part to the cultivation of the latter plant. A. tetrarhoda and A. brassicæ appear to live only on the Rose genus. A. Avenæ has its first habitation on Grasses, and the cultivation of corn has furnished it with a new and abundant source of food. A. Cepæ migrates from the Willow to umbelliferous plants, and in this case both the winter residence and the summer pasture of the species are aboriginal. The food of A. Urticaria is confined to [illegible] the Nettle and the Bramble, and both these plants are also original sources. A. Humuli are permanently and aboriginally on the Sloe, and the Hop grounds now provide it with a plentiful provision in the summer. Its presence on the Hop is dependent on the proximity of the Sloe to the Hop-grounds, and the egg-stations should be inspected, and the extent of the Sloes in the vicinity and their distance from the Hops ascertained, and the length of the flight of the Aphis should also be observed, in order that the Hop and the Sloe may in time be kept sufficiently remote from each other to confine the Aphis to the latter plant, and thus to prevent its injuring the Hop. A. Ulmariæ dwells on the Broom, and the Meadow-sweet is its summer food, and the cultivation of sweet Peas, Peas, Beans, Clover, Tares, Vetches, Saintfoin, &c., has added greatly to its means of existence. A. Lactucæ is very [illegible] on the Sow-thistle and some allied plants, and its economy is modified by the presence of the Lettuce and the Black Currant in gardens, to both which plants it is very partial. A. Brassicæ feeds especially on the Sea-kale in a wild state, and also on the wild Mustard, and the introduction of the Cabbage from the South of Europe has added to its food in this country. A. Pruni has settled on the Plum since that tree was brought into Europe, and it has received the name of A. Arundinis from its feeding on the Reed, which is its earliest habitation. A. Mali and A. Sorbi dwell on the Whitethorn as well as on the Apple, the Service, the Medlar, and the Mountain Ash. A. Persicæ is so named from its having fixed itself on the Peach since that tree was planted in Europe; but its other name, A. Prunicola, denotes its primitive habitation and food. A. Juglandis and A. Juglandicola have accompanied or followed the Walnut in its successive cultivation westward from Persia, which is its native country, and that of the Peach and of the Apricot. A. Abietina has probably come into England with the Spruce Fir, and a few other species that feed on the Fir-tribe may have also been brought over from the continent. A. Rubi abounds on the Bramble and on the Raspberry, and during the summer is also common on Geum urbanum, the common Avens, and on a species of Epilobium or Willow-herb. A. Dianthi (otherwise named A. vulgaris and A. Rapæ and A. vastator) feeds on a very great variety of greenhouse plants. The Furze seems to be the principal winter-quarters of A. Rumicis, and I observed that it swarmed profusely and laid its eggs on that plant in the autumn of 1845, and the following year was remarkable on account of the devastations of this Aphis in the Bean-fields; it feeds also on the Laburnum, the Poppy, and the Dock, and on very many other plants. It was unusually abundant on the Laburnum last year, and great numbers of humble-bees came to feed on its honey. The lady-bird (Coccinella 7-punctata) was also extremely common with this Aphis, and it promises to be equally so this year, for great numbers have already appeared during March and April.—*Francis Walker, F.L.S., in the Annals of Natural History.*

Advancement of road making, &c. in New Zealand.—The road to Porirua, is now open for wheeled carriages of every description. The want of funds, we believe, has led to a contraction of the breadth originally designed: and in some places it reminds one of a celebrated classical bridge, "where two wheel-barrows tremble when they meet:" but, notwithstanding, it will prove an invaluable boon to the community. The other road manufacturers, towards Waikanae and Wairarapa, are, we understand, pushing on their respective "navvies" as actively as possible. This is the season in which the natives are occupied to the greatest extent in their own agriculture.

labours; but such is there desire to secure their 2*s.* a day, that, when they procure leave of absence for three weeks or so to plant their Potatoes, they are very often back to their work in less than a fortnight. To keep a horse from straying, says the proverb, bind him fast by the teeth. To keep the natives quiet, and make them useful, bind them fast to their work by the strings of their purse. The crops in some places seemed to be lacking moisture, but since the late refreshing rains, their appearance has very much improved. The cattle appear to have suffered nothing. The "bush," our great common pasture, had absorbed much moisture from the winter rains. The importing and breeding of stock is an employment that, for a long time to come, is likely to prove one both profitable to those engaged in it and beneficial to the colony at large. It is being prosecuted with laudable energy and activity. The gardens, both in town and country, look well. Flowers are rich, fresh, and fragrant; culinary vegetables are luxuriant, and fruits promise much and pledge fair. The bees, in every age and country exemplars of wise well-governed communities, are both making honey while the sun shines and pushing on emigration and colonisation with an order, energy, rapidity, and success, that might well put both the British Government and the New Zealand Company completely to the blush! *From the New Zealand Journal, of July* 1, 1848.

Sale of Orchids.—A large collection of Orchids, collected by Mr. Warsewicz, in the State of Costa Rica, was sold by Mr. Stevens on Tuesday and Wednesday last. What sort of prices they fetched our readers will be able to learn from the following account: Oncidium, like macranthum, 1*l.* 10*s.*; other Oncids from 1*l.* to 2*l.* each; Stanhopeas, from 1*l.* to 1*l.* 5*s.* each; Lycastes, fine plants, from 1*l.* to 1*l.* 4*s.* each; new plant, like a Mormodes, 1*l.* 2*s.*; Cattleya, 3*l.* 3*s.*; Lælia, 2*l.* 10*s.*; new plant, unknown, 1*l.* 5*s.*; Cyrtochilums, from 2*l.* 6*s.* to 1*l.* 1*s.* each; Epidendrum, supposed to be vitellinum grandiflorum, 1*l.* 11*s.*; Odontoglossum, 1*l.* 2*s.*; Trichopilia, with rose-coloured flowers, 1*l.* 4*s.*; Sobralia (new), 1*l.* 6*s.*; plants of a supposed new genus, from 1*l.* 2*s.* to 1*l.* 11*s.* Other lots, of which there were in all 340, fetched from 1*l.* to 2*l.* each.

Calendar of Operations.

(For the ensuing Week.)

LET adequate precautions be used to protect the tender greenhouse plants, placed temporarily out of doors, from the effects of the frequently recurring storms of wind and rain; screens may be advantageously employed; all stakes and supports should be proved, and the pots closely examined, lest the plants suffer from defective drainage or the presence of worms. The young reserve stock for filling blanks in the stove should be sedulously encouraged by progressive potting, and a warm equable temperature. Gesnera zebrina, Plumbago rosea, and Torenia asiatica, will amply repay attention bestowed on their culture; decayed Beech leaves, with a mixture of sharp sand, forms a compost peculiarly suitable to the first-named plant. Cut down Pelargoniums, pot off cuttings directly the roots are formed, repot those plants previously headed down as soon as they begin to break; propagate by cuttings. Shift and sow Cinerarias and Calceolarias; sow Mignonette for winter use. The stock of pot Roses should be looked over, useless wood and decayed blossoms removed, and the plants shifted; fibrous loam, night-soil, and burnt earth may be used effectually. Camellias which have matured their flower-buds may receive additional assistance either by soil or manure-water, as circumstances allow. *Orchid House.*—Fire heat will be necessary while the weather retains its present character, 75° should be managed during the day. Examine all baskets occasionally, particularly after a period of dry bright weather, that an assurance of its due humidity may be obtained.

FRUIT FORCING.

Vineries.—As soon as the complete removal of the Grapes is effected, that attention which has hitherto been directed to their due perfection should now be transferred to that important agency the foliage; every care that will conduce to the maturity of the leaves should be afforded; a copious syringing will clear off the dust which frequently accumulates on the leaves, a free circulation of air during fine bright weather must be enjoined, but full exposure until the leaf action has ceased is not advisable; fire heat will be necessary in dull weather in successional houses, particularly when the fruit is colouring—a better ventilation may be thus secured; beware of humidity in houses where the crop is ripe. *Peach-house.*—The complete eradication of that pest the red spider should be attempted as soon as the clearance of the crop will permit some license with the syringe; lay in shoots and stop laterals. The ripening of the wood is the next object to be secured, for that purpose keep the house as yet comparatively warm, and should the trees show evidence of exhaustion, give them a good supply of manure-water. Let abundance of air be given in fine weather. *Melons.*—Where dung linings are employed they must be kept in action to produce that amount of heat so essential to advancing Melons, which the weather at present scarcely affords. The large Cantaloupes and other thick-skinned Melons should receive on every occasion exposure to the influence of sunny weather. Liquid manure applied occasionally will be found beneficial.

FLOWER GARDEN AND SHRUBBERIES.

The effects of the weather will be cruelly experienced in the flower-garden if prompt and effective precautions be not employed to guard against its action. Staking, tying, &c., should assiduously be followed up. Dahlias, Hollyhocks, Pelargoniums, Petunias, Calceolarias, may be especially indicated as susceptible of injury from wind and rain. Rose budding should be actively proceeded with; manure water may be usefully employed to the Hybrid Perpetuals. Mow and roll lawns, trim edgings; clear off weeds and decaying plants from borders, which still may be replaced.

KITCHEN GARDEN AND ORCHARD.

A store of plants kept from the stock of winter Greens, Broccolies, &c., should still be held in reserve to make up deficiencies arising from the depredations of insects, or otherwise. Cape Broccoli in some land is apt to start prematurely; should that be the case, and no plants remain to replace the vacancies, employ for the purpose Walcheren Broccoli. A piece of Cauliflower may now be planted out from the last sowing; select a warm situation. Continue to get out Celery and Endive, and see that the first is kept moist. Sow Spinach and Turnips; protect late Kidney Beans by earthing them up. In digging the Potato crop let the clearance be complete. Allow none to remain to rot on the land: the disease is still spreading with us. *Orchard.*—Follow up the system of stopping and shortening, as recommended last week. *Peas.*—Shoots may now be headed back to three or four eyes. In regulating shoots, remember it is important that each should enjoy a due exposure to the influence of the sun. Stop and thin Raspberry suckers, and make new plantations of Strawberries. Remove suckers from the old plants as soon as they are fairly rooted, and place them ready for shifting in a protected situation.

COTTAGERS' GARDENS.

As (at least) the partial loss of the Potato crop may be anticipated, recourse should be had at once to those means that may help to mitigate the infliction. Savoys, Green Kale, and Cabbage plants may yet be planted with every chance of success. A good breadth of Turnips might be sown, and a few rows of winter Spinach would prove remunerative. We recommend a few ridges of Celery most particularly; its value as an ingredient in soup alone should recommend it. In regard to the Potato crop, if the haulm is seriously blighted, the sooner the Potatoes are lifted from the ground the better always, provided that they are matured, or nearly so.

State of the weather near London, for the week ending July 27, 1848, as observed at the Horticultural Garden, Chiswick.

July.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 21	21	29.758	29.677	71	51	61.0	S.W.	.21
Satur.. 22	22	29.836	29.812	73	65	69.0	S.W.	.00
Sun. .. 23	(	29.854	29.819	76	53	64.5	S.W.	.38
Mon... 24	24	29.903	29.863	73	51	62.0	S.W.	.08
Tues... 25	25	29.794	29.753	68	53	60.5	S.W.	.11
Wed... 26	26	29.720	29.695	67	51	59.0	S.W.	.08
Thurs. 27	27	29.950	29.823	70	53	61.5	S.W.	.01
Average...		29.831	29.771	71.1	53.8	62.5		0.77

July 21—Clear; cloudy, the clouds in strata; rain at night.
— 22—Clear; cloudy; partially overcast.
— 23—Cloudy and fine; constant rain at night.
— 24—Cloudy and fine; rain at night.
— 25—Rain; overcast.
— 26—Overcast; boisterous with rain; densely overcast. [cast.
— 27—Partially overcast; cloudy; showers, with sun at intervals; over-

Mean temperature of the week, equal to the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending Aug. 5, 1848.

July. and Aug.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 30	73.5	50.8	62.2	12	0.88 in.	3	2	3	1	1	5	6	1
Mon. 31	74.3	50.2	62.2	8	0.66	3	2	3	2	3	5	5	2
Tues. 1	74.0	50.8	62.4	9	1.23	1	2	4	2	3	5	5	—
Wed. 2	74.4	50.2	62.3	11	0.65	1	3	2	—	4	4	3	2
Thurs. 3	72.1	51.5	61.8	12	1.03	3	2	1	1	2	8	4	1
Fri 4	75.4	53.0	64.2	12	0.85	1	1	1	3	3	8	4	1
Satur. 5	74.4	53.2	63.8	11	0.43	—	2	3	1	3	7	3	3

The highest temperature during the above period occurred on the 1st 1846—therm. 92 deg.; and the lowest on the 1st, 1842—therm. 43 deg.

Notices to Correspondents.

*** *What a world of trouble those save us who, in asking questions, are so obliging as to write them on one side only of their paper!*

TO OUR CORRESPONDENTS—May we beg it to be understood that we cannot answer inquiries privately through the post. We are ready to give any reasonable information in our power through our columns; but we cannot consent to the labour of writing letters.

APPRENTICE FEES: *Blueskin.* Have patience. You shall see our opinion one of these days, and we hope you will like it. We wait for intelligence from different quarters.

BACK NUMBERS: 1*s.* will be given for No. 24, 1847.

BEES: *R W.* Your hives are too close together; the bees mixed while clustering outside, in order to allow more room for attendance on the broods, and also to prevent their dwelling becoming too hot. Their delay and pranks of swarming arose from an accident to the queen, or from her successors not being in a proper state to admit of her leaving the stock. A bit of comb might have enticed the bees to work in the bell-glass before they meditated swarming, but not afterwards. You may take away some honey, but be careful not to disturb the brood combs, and sparing if your pasturage be bad. *W.*

BOTANY: *An Old Subscriber.* An Ellis microscope may be had for 3*l.* or 4*l.* It cannot be used as a camera lucida unless considerable alteration is made in its adjustments. The best vasculum is a Mackintosh bag, which closes like a carpet bag. There is no better press for dried specimens than the bed in which you lie; the plants being placed between the mattrass and ticking. Apply to Mr. Ross, Optician, Featherstone-buildings, Holborn, for further information.

BUILDING: *J R.* You must consult an architect: we have no means of assisting you.

COLLECTORS: *L P.* Mr. Hartweg is not in the employment of the Horticultural Society now.

DISEASES: *A Novice.* Melons cannot be grown with little water, and a bottom heat of from 95° to 100°, without bringing them to the same pass as your's. They are dying of heat and drought. Reduce your bottom heat to 75°, and water the plants, without touching the leaves or fruit.

EXHIBITIONS: *Pacem amat* has taken a wrong name. He is troublesome and quarrelsome, and must send his grievances elsewhere.

FRUITS: *Eboracensis.* Independent of forced fruits, the supply for the dessert is more difficult to obtain about the last week of July and first fortnight of August than it is before and after that period; and more especially in the locality which your signature indicates than in the southern parts of the kingdom. Gooseberries and Currants may be retarded by matting up. The Alpine Strawberry may be managed so as to produce from June till frost comes. You may have the White Juneating, Early Red Margaret, and Early Harvest Apples; the Muscat Robert and Citron des Carmes Pears, and the Late Duke Cherry. But a small Grape-house would best obviate the difficulty. Plums will not do well matted up. You can grow the Ickworth Imperatrice, and it will keep on the shelves.‖

GEOMETRICAL BEDS: *J T H.* The best book is an old work called "James's Gardening." It is a 4to, and may be occasionally picked up. We are thinking of re-publishing the essence of it.

GOLD FISH: *An Enquirer.* Fresh pond water; cannot you introduce some kind of water plant into the vessel in which they are kept? They are probably out of health for want of something to rub themselves against.

HELIOTROPES: *G F* asks if any of our correspondents find it usual to discover seedling Heliotropes coming up in the open air, in a large bed of Heliotropes which were put in the ground in May; he never observed any in his garden before.

ICEHOUSE: *Sandgate.* We see no objection to your plan, provided you adapt to the place an S drain, through which air cannot pass, in consequence of the bend being always full of water.

INSECTS: *E W.* The ears of Wheat were infested, but in a very slight degree, with the thrips and orange grubs of the Wheat midge. *W.*—*F M G.* See *Gardeners' Chronicle,* July 15, p. 472. An article on the subject is in the printer's hands. *W.*—*R W.* Find out the nest of the ants, and pour boiling water, or, better still, spirits of turpentine into it; also watch for the time when the winged ones swarm, and scald them to death, to prevent fresh broods. *W.*—*T B.* The larvæ on the Pear tree, in clusters, are those of Lyda sylvatica, a rare spècies of Saw-fly. *W.*—*G S.* Watch the leaf-cutter bees to their nests in some adjoining rotten paling, and there destroy them and their young. We know no plan of preventing them from biting the petals. *W.*—*E T.* The grubs are those of one of the smaller species of Daddy-long-legs, which are very difficult to destroy without repeatedly disturbing the earth and looking for the grubs. The best plan is to employ children to catch the perfect Daddy-long-legs at so much per dozen or score. *W.*

MELONS: *W D M.* In the absence of any good means of judging, we may suggest that your Melons are too dry at the roots.—*J T.* The Beechwood is not so liable to burst as some others; you have possibly allowed the plant to suffer from drought when the fruit was swelling, and then given it a good watering. That would cause the fruit to burst. ‡

NAMES OF PLANTS: *S N.* Clinopodium vulgare, Gnaphalium uliginosum, Torilis infesta, Linum angustifolium. We know nothing about your Poppy, which seems to be a monster.—*A Z.* We retain our opinion about the Salvia; the Lobelia is no improvement.—*J B W.* Lychnis coronaria.—*J A.* Tristania macrophylla.—*Edinburgensis.* Apparently Masdevallia floribunda rather than M. cuprea; the leaves are too obovate for the latter.—*G N S.* Oncidium pubes, a handsome variety, and one of the forms of Lycaste aromatica.—*J M B.* It is not in the power of any man to name such miserable bits. —*Jas. Backhouse.* The Gentian is not determinable by such a fragment: it looks like a morsel of Gentiana asclepiadea.

NEW ZEALAND: *J H M.* Quien sabe? We cannot tell. The only way is to try the experiment.

PARSNIPS: *J H.* They are attacked by a Botrytis very like that of the Potato disease.

PEAS: *J B W.* The Torwoodlee is a promising *looking* sort, with nine in a pod.

POTATOES: *An Old Sub.* Surely you cannot doubt that it is of the first importance to a country that correct information should be conveyed of the state of crops, and of the prospects for a coming winter; especially of so precarious a crop as the Potato. It is upon that principle that we act. As to frost—it is not capable of producing the symptoms that belong to the Potato disease; it is very capable of destroying the plant: but that is a different matter. If you are in a district exempt from this scourge you are very fortunate. Ripe Gooseberry wine is said to be worthless: we never tasted it; but it might be made by following the rules to be observed with red or black Currant wine.

PRIM. DENTICULATA: *B R.* What you did with them we cannot imagine, unless you gave them too much warmth. They are as hardy as a Primrose, and require the same treatment; only they are best kept in pots in a frame or cold greenhouse.

ROSES: *Hibernia.* The white leaves are attacked by common mildew. The spots are not mildew, nor do we know what causes them; they are, as you say, very like the spots connected with the Potato disease. We do not know what *causes* mildew.

STRAWBERRIES: *W. Laing.* Your seedling, No. 1, has borne the carriage well, and is a variety which may be considered worthy of cultivation. It bears considerable resemblance to the Methven Scarlet. We do not think that No. 2 will be esteemed.‖

MISC: *Eros.* We will endeavour to dispose of the volumes, and hand the amount received (with your permission) to the Gardeners' Benevolent Institution.—*A Constant Subscriber.* Be not alarmed. Many men, many minds, you know.—*A M.* Cut flowers are best conveyed by rail or otherwise to distant parts of the kingdom in a tin case between sheets of brown paper.—*P T O.* Sow your Indian seeds in pots as soon as possible, and place them in a cold pit or frame. The best soil to sow the Pinus in is sandy loam; for the other seeds a light mixture of loam and sandy peat, in equal parts. When sown the soil should be nearly dry, and no water should be given to the seed pots for a week or 10 days after sowing (unless the seeds begin to vegetate before that time), and afterwards but sparingly at first, for nothing is so detrimental to seeds when first sown, and particularly if the seeds are old or damaged by the journey, than too much moisture when first sown. The Hibiscus speciosus, although tolerably hardy, is best treated as a stove sub-aquatic herbaceous plant, during the growing season, in the following way. About the beginning of March repot the plants in a mixture of sandy loam and peat, to which should be added a small portion of well-decomposed cow-dung, and place them in a close damp pit, where there is a little heat to start them, and as the plant produces several young shoots from the base, select a few of the strongest and remove all the others when quite young; afterwards water freely, and keep the plant in rather a moist pit, placed in a saucer of water during the summer or growing season. It will then flower freely during the autumn, and, when done blooming, withhold moisture, first from the atmosphere of the pit, and afterwards gradually from the roots, until the soil in the pots becomes quite dry; the pots may then be stored away in a dry cellar or similar place until the following March, when they will be ready for starting again. The best season for propagating the climbing Roses you mention is about the beginning of August, taking cuttings from the smaller or more delicate shoots of the present season's growth, and placing them in very light sandy soil, in pots, rather thickly; afterwards water freely, to settle the soil round the cuttings, and then place the pots in a close frame, which is kept moist and well shaded; they will strike in a month if properly attended to, and by no means allow them once to want for water, if so you are likely to fail.¶

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those numerous correspondents, the insertion of whose interesting contributions is still delayed.

ROYAL AGRICULTURAL COLLEGE,
CIRENCESTER.

The SUMMER SESSION will commence on Saturday the 12th August, 1848. All new students are required to attend for examination on the preceding day. Those who purpose entering as Students for the ensuing Session, are requested to apply (either by letter or personally), to the Principal (John Wilson, Esq., at the College), Cirencester, Gloucestershire, for the necessary Admission Papers, without delay.

PHILIP BOWEN, Secretary.

London Office, 26, King William-st., Charing-cross, July 29.

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The Agricultural Gazette.

SATURDAY, JULY 29, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

TUESDAY,	Aug.	1—Agricultural Society of England.
WEDNESDAY,	—	2
THURSDAY,	—	3 Meeting of the Highland Society at Edinburgh.
FRIDAY,	—	4
TUESDAY,	—	3—Agricultural Imp. Society of Ireland.
TUESDAY,	—	8—Agricultural Society of England.
THURSDAY,	—	10—Agricultural Imp. Society of Ireland.

FARMERS' CLUBS.—August 5: Newcastle, Durham, Melrose.—August 7: Clayton.—August 11: St. Austell, Wakefield.—August 12: E. Kent, Reading.

We beg the attention of our readers to the PRODUCE RETURNS tabulated in this Number of our Paper. We have to thank our correspondents who have obligingly so promptly attended to our applications to them on this subject. It will be found that they very generally indicate a full average produce of Wheat, a various yield of Barley, a comparatively poor crop of Oats and of Beans, a very bad crop of Peas, good promise of a Turnip crop, and a heavy crop of hay of variable quality. They indicate also a stock of Wheat on hand considerably beyond the average of past years at this season. The returns regarding the Potato crop are given in the succeeding page. On the whole, we think there was at the date of these returns every reason for thankful anticipation regarding the ensuing harvest. Much of its result, however, still hangs, no doubt, on the weather.

THERE are two distinct principles involved in the action of the more common kinds of THRESHING MACHINES. And they are very easily illustrated. The one is similar to that on which the corn flies from its place on the plant when a handful of ears is held by the straw in one hand, while beaten with the broad side of a rule with the other. This is imitated in the Scotch machine, where the broad radial beaters give similar blows to the corn drawn in by the feed rollers from the feed board: the straw here as there receives a succession of strokes in a direction at right angles to its position. Now if another handful of corn be taken, and with the *narrow* edge of the rule a series of blows or rather scutches be dealt upon it, in a direction not as before right across that in which the straw is held, but almost parallel with it, the rule being directed from the root to the ears, the second principle alluded to will be illustrated, and the rapid and easy manner in which the corn will fly from the straw will at once point out the superiority of the plan.

The method in which the application of this principle in the case of power threshing machines has been effected is beautifully simple. The feeding board, it has been said, is generally radial; it points to the axis of the cylinder; the beating surface of the beaters is also radial; and in this manner the corn receives a blow, as in the first experiment, with the handful of corn, in a direction right across that of its position. In order that it may receive a series of scutchings, as in the second experiment, it is only necessary to alter the position of the feeding board, making it tangential to the drum, instead of radial, and to alter the form of the beaters, giving them an edge instead of a surface; and this is effected by causing them to lean forward in the direction of their motion, making their section rhomboidal or triangular, instead of rectangular. It is evident that apart from the better performance of such an arrangement of feeding board and beaters, and apart from the more perfect manner in which it may, and we believe does, separate the corn from the straw, there is another important advantage connected with it. It is evident that the blows given in the manner of the second experiment do not require so great an exertion of force, as blows given in that of the first. When the corn comes from the rollers in the common machine it is bent up at right angles, and this requires a considerable exertion of force producing no other effect than that of bruising the straw. In the machine now being described the straw is bent no more than is necessary that it may conform to the curvature of the cylinder, and it is delivered from the shaker much less injured. The circumstance, however, of its requiring less force to thresh a given quantity of corn under the new than in the old plan, is fully proved by the fact that, in an instance of it at present before us, the drum is driven by a 2 inch strap. Hitherto, in all threshing machines, it has been driven by wheel and pinion. The drum is made to revolve about a thousand times in a minute, and there are six beaters on it, so that the number of blows or scutches that the straw receives is 100 per second. Again the great velocity of the drum, and the efficiency of a few blows in doing that which under the old plan required a number, renders feeding rollers, to hold the straw while being threshed, unnecessary; and the sheaves are accordingly merely spread out on a feeding board and pulled into the drum by its own action. The drum so constructed is, as in many of the English machines, enclosed around one-third of its circumference by a screen or open cast-iron concave. This screen consists of four or five arched pieces of grating, about 3 inches across, which jointed together, form a portion of a cylinder. It is made of bars having a square section, placed so that every one shall present an edge to the passage of straw under it. The advantages of the fluted cover, common in many of the Scotch threshing machines, and of the grating common in the English machines, are thus united.

This screen is supported on iron bolts, so that when at rest it shall be about ¼ of an inch from the edge of the scutcher. Around these bolts springs are coiled which are attached to the grating at one end, and made fast to the end of the bolt at the other. These springs yield, when the passage of too much straw at a time puts a pressure on them. The straw is thus threshed against this cylindrical harp or screen through which the most of the corn is at once driven, but in case, as will frequently happen, any of the grain should remain amongst it, the whole of it falls from the drum as it passes through upon the shaker.

We have been somewhat particular in describing this machine—on the model of which many have been constructed through the country—because it involves a principle entirely different from that of the common Scotch machine, and as we believe superior to it, though we must confess that a mode of applying it effectually, and so that its performance shall equal that of the Scotch machines, has yet to be invented.

YORK AGRICULTURAL MEETING.

Now that this great event has "come off" with all the success which its warmest supporters and promoters could have anticipated, or indeed wished for, a calm retrospect of its leading features, and a few brief remarks on its probable results, may not be unacceptable. The general excellence of the Show, whether of implements or cattle, is universally admitted. The "great fact" is established, as a reference to the many able and copious reports of its proceedings will sufficiently attest. And to what are we to look as the cause or causes of the superiority of this over former meetings?

Passing by the local advantages of York, and the facilities of ingress and egress afforded by the numerous railroads, of which it is in a manner the centre, connecting it with the remotest points of the empire, it will have been seen that on no former occasion was a meeting of this kind distinguished by so large an amount of rank and talent:

> "And the Prince of all the land
> Led them on!"

And when princes and nobles unite with tenant-farmers and practical men in the application of skill, science, and energy to the various branches of agriculture, what but success can be the result? Well did Prince Albert observe, and the observation struck a chord that vibrated in the hearts of all who heard it, "Science and mechanical improvements have changed the mere practice of cultivating the soil, in these days, into an industrial pursuit, requiring capital, machinery, skill, and perseverance in the struggle of competition. (Cheers.) We must consider this a great progress, as it demands higher energies and higher intelligence. (Cheers.) Conscious of these changes, we agriculturists of England (tremendous cheering) collect in these meetings, the meetings of the Royal Agricultural Society of England, in order to communicate to each other the result of our various experience, and the progress that some may have made in the application of science, in the improvement of machinery, or in the breeding and rearing of cattle." (Cheers.)

When the Prince adopts and utters such sentiments as these, the farmer and the peasant know well how to appreciate them. Not less worthy of notice, as illustrating the importance of these meetings, not to ourselves only, but to nations too often regarded as our enemies, yea, our natural enemies. [What a perversion of common sense!] Not less excellent in its way was the address of M. Van de Weyer, the Belgian Ambassador. "I hope, gentlemen," he said, "that we shall soon have international meetings (applause), and that all the nations of Europe shall be for once convinced that it is much more advantageous for them, and for the progress of civilisation, to compete in cattle than in battle (loud cheers), and that, in showing to one another our fields, we shall be proud to exhibit, not the number of men that can be killed and slain upon them, but the number of bushels of Wheat that can be raised upon them." (Continued cheering.) The Chevalier Bunsen (the Prussian Minister) echoed these generous sentiments. "We wish to be second to none in our love for peace, for it is only in peace that our industry can flourish." * * * "I feel sure that so long as this happy union exists between all the classes engaged in agriculture, between the landlord and the tenant and the yeoman,—so long as that exists, and success to the yeoman, so long will you be a free and happy nation, and I am sure it will be so long as you feel thankful for it being so." (Loud cheers.) Nor must the noble and eloquent encomium of the beneficial influence of English agriculture by Mr. Everett, the American Minister be overlooked on this occasion. What can exhibit in a more strong and beautiful manner the advantages of an interchange of national skill and practical science than such heart-stirring appeals as the following: "I congratulate myself, and congratulate you, that we live in an age when nations exult in the prosperity of one another. (Great cheering.) I rejoice that we live in an age when, of all the trees that are planted in the green field, the hardiest tree of every land invokes the choicest blessings of Providence on the tree of peace (cheers), prays that its root may strike to the very centre of the earth, and that it may be so firmly rooted that its boughs may bow easily in the breeze of the stormiest revolutions." (Long and reiterated cheers.) So much for the beneficial effects at home and abroad of these gigantic yet truly social gatherings.

But, independent of the presence and influence of these, and a host beside, of what may well be termed the nobility of this our age and country, the show must have been splendid and attractive from its own intrinsic merits. Of stock, the quality had never been exceeded, and the numbers but once (at Derby), and that only by half a dozen. Compare the first exhibition (Oxford) on this head with the last (York). The former could boast but 249 head of stock of every description, the latter 724. In implements, still greater has been the progress of improvement; the Oxford Show (only nine years ago) consisting but of 23 entries, the York, 156! Our own, and other papers, have so fully described the objects and operation of many of these, that it is only necessary to take a brief parting glance at a few of the leading inventions of the day. The application of steam power, as has elsewhere been observed, is vastly on the increase for barn and other home purposes. Nor will it stop here. Of the thousands, for instance, who inspected Mr. Paul's model for draining and subsoiling clay land, and which was by far the most ingenious and effective new implement on the ground, how many were there, who, in their "mind's eye" contemplated a small portable steam-engine as a more satisfactory motive power than the three or four horses at present employed by him for the purpose! Very effectively, we admit; the only wonder being, that with no greater force so much can be accomplished.

And this brings us to the last division of our subject, the probable future results of this noble Society. Again recurring to Mr. Paul's invention, and knowing what it has actually performed on a soil remarkable for its obstinacy, tenacity, and general difficulty of management, by any of the common methods of what is called heavy-land farming, no after illustration of what may be expected from the munificence of this Society can be adduced, than the fact of its having been the medium by which, from the prince to the peasant, a machine was first introduced to the British public, calculated, above all others, to effect a complete revolution in the cultivation, nay, the very texture and quality of clay soils. Who shall say what effects may not be expected from a machine by which, at one operation, a perfect and complete drain may be formed of any depth proportioned to its motive power, followed, as it is intended to be, by another machine on the same principle, to tear up and amalgamate the upper and under soil!

But we might extend these remarks to any length; and tile-making machines, drills of every description, waggons, carts, dibbling machines, and a host of other inventions, new or improved, might each and all be adduced in illustration of the benefits accruing from the Royal Agricultural Society of England. These and numerous other ingenious devices, connected directly or indirectly with rural life, we must forbear adverting to. We have time and space but for a very brief allusion to one of them, the Gutta percha exhibition. The articles made from this substance are so numerous, and apparently of such opposite qualities and purposes, that the reader would be puzzled beyond measure at the bare enumeration of them. What will he think of the same material furnishing whips, drinking cups, harness, cricket balls, medallions, ink-stands, bell-pulls, bands for machinery, shoe soles, fruit dishes, and fifty other articles!

It is said that on one of the days of the meeting, the number of strangers visiting York amounted to 27,500! So much for railroads!

AGRICULTURAL EDUCATION.

IT is a remarkable and a very well known fact that in every age of the world, the art and practice of cultivating the earth has been reckoned a degrading and servile employment, and unworthy the attention of the upper classes in society, though they live upon the fruits of the occupation. Even in the present enlightened age it is still often reckoned a lowly occupation, and only to be practised by minds that are almost as dull as the materials which they break in pieces. An opinion very generally prevails that no educa-

tion beyond common schooling, or the bare capability of reading and writing, is required for the practice of agriculture. This opinion is the fatal obstacle of the present day. Now we ourselves entertain the opinion that the practice of agriculture requires the same liberal education as law, theology, and medicine, and that the same means applied to its development would place the results on the same scale of eminence. It is very true that a mind that is wholly uneducated is capable of performing operations in any art; but that is only the exertion of matter upon matter, and is wholly wanting in the refinement that is produced by the application of mental emanations. The most valuable improvements in agriculture have proceeded from persons in employments wholly alien from it, but who brought enlightened minds to look at its wants, and to suggest the remedies. In such minds there are constant coruscations and scintillations arising from the attrition of the different elements of knowledge that are poured into the intellectual furnace, where, by the action of fusion and amalgamation, a clear current is produced, which in its course over grosser materials, burnishes every particle with a brighter polish, and gilds every idea with the dress of improved utility. The mind that is unprovided with any education, or only initiated in some one servile track, becomes a mole-eyed plodder in the world's mud, whose clay-born sympathies are chained to the earth, and never rise beyond a drowsy aerial flight, and the capability of despising and depressing the aspirations of others. True genius, or the natural power of making efforts, is a property of mind that is granted to very few, and the place must be supplied by the stores of artificial knowledge that are poured into the "sensorium," where the attrition and the mingling will produce emanations that are secondary in quality, but often of greater utility than the too visionary flights of nascent genius. A mind stored with a varied compass of knowledge is seldom baffled by circumstances: but "s'oriente dans les positions les plus variées:" as a French writer very neatly express it—he rouses his energies in proportion to the varied relations and difficulties of the situation, and draws from the storehouse of reflection, the means of surmounting and removing them. On the other hand, an ignorant mind is stunned and stupified by every shock of adversity, and jostled by the least touch of resistance.

It has been well observed, that the minds of youth are like bottles with narrow mouths, which can receive small quantities at one time, and be filled gradually, and that if much be attempted to be introduced at one time, a large part will pass by, and be lost. This very obvious truth shows the necessity of education being begun in early life, and continued upwards to manhood by constant and gentle administrations. An early beginning, and the gradual storing of the mind with the rudiments of the necessary branches of knowledge, enable the youthful "alumnus," to reap the advantage of the higher branches of learning to which he may be introduced, and to crown the junior labourer with the stamp of the most refined utility. Without the ability to make this comprehensive grasp, the superior eminences are wholly lost: and it is from them that the useful applications are found to flow.—*J. D.*

REPORTS OF THE POTATO CROP.

FROM OUR OWN CORRESPONDENTS.

COUNTY.	CROP.	NAME AND ADDRESS.
SCOTLAND.		
FORFAR	Disease beginning.	R. COLVILLE, *Cairnton.*
	Plant not strong, but healthy.	C. PLAYFAIR, *Errol.*
FIFE	No disease, but crop not promising.	D. TENNANT, *St. Andrew's.*
	Looks hard and stinted.	J. BARCLAY, *Craill.*
	No disease, but not growthy.	J. B. FERNIE, *Leven.*
	Not luxuriant, no disease.	— LEWIS, *Kirkaldy.*
STIRLING	Appearances are good.	W. DRUMMOND and SONS.
EAST LOTHIAN ...	Generally healthy.	A. HOWDON, *Preston Kirk.*
	Some cases slightly diseased.	J. BRUCE, *Preston Kirk.*
	Generally looking well; no disease.	G. HOPE, *Doilton.*
MIDLOTHIAN ...	Generally spindly in the stem. I have not seen any disease.	J. FINNIE, *Swanston.*
WESTLOTHIAN ...	No disease apparent, but the underground stem has rusty markings.	
LANARK	Very fine; the reports of disease want confirmation.	D. GAIRDNER, *Hamilton.*
SELKIRK	Good.	P. BRODIE, *Clarilaw.*
	Good apparently.	W. HASTIE, *Galashiels.*
	Not so luxuriant as last year; no disease.	JAMES SCOTT, *Newstead Mill, Melrose.*
ROXBURGH ...	Very luxuriant; no disease.	J. GRIEVE, *Hawick.*
AYR	Luxuriant and sound.	T. DYKES, *Kilmarnock.*
	Very fine; some reports of disease.	J. TENNANT, *Shields.*
	A double extent of healthy crop.	A. RALSTON, *Maybole.*
BERWICK	Look well, and healthy.	J. WILSON, *Edington Mains.*
	Good; no disease as yet.	A. LOGAN, *Greenlaw.*
	Promise an average crop; healthy.	J. THOMPSON, *St. Boswell's.*
	No disease in this district.	R. HUNTER, *Coldstream.*
DUMFRIES	Look well.	T. LITTLE, *Langholm.*
WIGTON	Look well; reports of disease.	A. H. M'LEAN, *Stranraer.*
	Very good at present, and though it should be a failure, the country could meet it much better than it did two years ago, as crops of all kinds here are one-third better than they were in 1846.	J. CAIRD, *Wigtown.*
WALES.		
NORTH	Good.	J. WILLIAMS, *Conway.*
	Few planted; but very much diseased.	E. H. GRIFFITH, *Vale of Clwyd*
	Pressing to market for fear of disease, which has generally appeared.	H. R. SANDBACH, *Abergele.*
	Good; a few diseased tubers in garden.	J. GIRDWOOD, *Chirk.*
SOUTH	Very well indeed. I have *heard* of instances of disease.	R. CARROW, *Pembroke.*
	Haulm and tubers attacked; disease daily spreading.	T. W. LAWFORD, *Llandilo.*
	The old disease has again made its appearance; there is much, however, still free.	W. EDMONDS, *Swansea.*
	In a great many cases badly diseased.	H. W. WALLBRIDGE, *Abergavenny*
ENGLAND.		
NORTHUMBERLAND	Promising.	J. GREY, *Dilston.*
	Well, and apparently free from disease.	W. GLOVER, *Newcastle.*
	Full but not luxuriant plant; no disease.	G. DARLING, *Wooler.*
	No symptoms or appearance of disease.	T. COLBECK, *Newcastle.*
	Looking well; no disease.	W. PILLANS, *Alnwick.*
	Promising.	— *Berwick by Wooler.*
DURHAM	Very good, generally.	W. WETHERELL, *Durham.*
	Promise a good crop, no disease.	R. CLARKE, *Ganford.*
	Good breadth planted. Have come various.	J. CROFTON, *Durham.*
	Good upon Potato soils.	T. DIXON, *Darlington.*
CUMBERLAND ...	There are some complaints of disease.	S. RIGG, *Wigton.*
WESTMORELAND ...	Generally good. Know of 2 cases of disease.	W. KEY, *Kirkby Lonsdale,*
	Promising.	J. CROSBY, *Kirby Thore.*
	Very good.	D. H., *Kendal.*
	Healthy.	A Traveller.
	Apparently good.	J. HOLM, *Milnthorp.*
	Good.	— *Lyth, Kendal.*
YORKSHIRE ...	Very promising.	T. TURNER, *Bedale.*
	Very promising; no disease in the fields.	H. J. TURNER, *Richmond.*
	Large breadth, looking well, little disease.	M. M. MILBURN, *Thirsk.*
	Looking healthy.	P. STEVENSON, *Thirsk.*
	Well above ground; but in many cases diseased below.	J. OUTHWAITE, *Cattenwick.*
	Good.	J. PRIESTMAN, *Pickering.*
	Very good, and above an average extent.	H. BRIGGS, *Wakefield.*
LANCASTER ...	Large extent; disease apparent in places.	— DAWSON, *Lancaster.*
CHESHIRE	Never more luxuriant. Disease in tubers in some parts, but looking healthy above.	R. OWEN, *Nantwich.*
LINCOLNSHIRE ...	Diseased, but not so badly as last year.	T. AITKEN, *Deeping Fen.*
	Never looked better, but again diseased.	W. MARTIN, *Horncastle.*
	Very well.	T. P. DODS, *Laceby.*
	Look well above, but very badly diseased.	G. GILLIAT, *Horncastle.*
	Looking well.	R. WESTLAND, *Boston.*
	Looking all you could wish; disease, however, *has* appeared.	J. CLARKE, *Long Sutton.*
	Very prosperous looking, but there is some talk of the disease.	W. WINGATE, *Hareby.*
NOTTINGHAMSHIRE	Generally looking well; small appearance of disease reported.	R. HODGKINSON, *East Retford.*
	Present appearance favourable; no disease.	W. J. PICHIN, *Ollerton.*
	Late sorts very good at present; early sorts complained of.	E. J. LOWE, *Lenton.*
SHROPSHIRE ...	Look well, disease beginning in some places.	S. POWELL, *Shiffnal,*
	Disease appearing in many places.	W. MINOR, *Market Drayton.*
	Disease appeared, but more confined to early crops.	C. A. A. LLOYD, *Oswestry.*
LEICESTERSHIRE ...	Very good at present.	T. SPENCER, *Knossington.*
RUTLAND	Look well; but disease has again appeared.	W. FANCOURT, *Empingham.*
	Very luxuriant, but not free from disease.	S. CHEETHAM, *Oakham.*
NORTHAMPTON ...	I hear of crops being partially affected, but mine and my neighbours' are healthy.	C. HILLYARD, *Thorpelands.*
	Promising, great extent, reports of disease.	W. SHAW, *Far Cotton.*
	Disease spreading fast.	W. GREY, *Courteen Hall.*
DERBYSHIRE ...	Never looked better; indications of disease.	S. WARD, *Repton.*

COUNTY.	CROP.	NAME AND ADDRESS.
ENGLAND.		
HEREFORDSHIRE ..	No appearance or complaint of disease.	J. CHEESE, *Castle Weir.*
	Haulm good.	J. MATTHEWS, *Blakemore.*
	Disease appearing.	E. BROWNE, *Ludlow.*
	Partially diseased; not so bad as last year.	T. BROWNE, *Bromyard.*
	Disease has appeared in some places, and in several instances the crop is destroyed.	— *Ross.*
WARWICKSHIRE ...	Looking healthy; no disease generally.	J. TOWNSEND, *Rugby.*
	Fair crop; a little diseased.	T. BUNBURY, *Kenilworth.*
	Very luxuriant in the stem, lately heard of the disease.	L. PEARMAN, *Coventry.*
WORCESTERSHIRE .	Much diseased in the haulm.	J. TINLEY, *Martley.*
	Very good; some talk of disease.	J. NORR, *Stourbridge.*
	Very good; disease appearing.	F. WOODWARD, *Pershore.*
	Generally a good crop; reports of disease.	R. SMITH, *Droitwich.*
CAMBRIDGESHIRE .	Better than last two years; a little disease.	R. BEART, *Godmanchester.*
	Diseased.	J. CLOVER, *Newmarket.*
HUNTINGDONSHIRE	Apparently good; some complaints.	— BOWYER, *Buckden.*
	Partially diseased, but much less so than previous years.	P. PURVES, *Kimbolton.*
	Very promising; disease appearing.	— *Leighton.*
NORFOLK	Extent great. Healthy, except a few spots.	T. L. TAYLOR, *Harleston.*
	Well at present.	W. CUBITT, *North Walsham.*
	Diseased in some places.	J. POOLEY, *Brandon.*
	I have seen only one *decided* case of disease.	R. B. HARVEY, *Harleston.*
	Reports of disease.	H. W. WINFIELD, *Stokeferry.*
	Very much diseased.	R. WARD, *Acle.*
SUFFOLK	Generally looking well.	J. COOPER, *Southwold.*
	Diseased.	E. S. GOWING, *Eye.*
	Partially diseased.	W. D. FREEMAN, *Framlingham.*
	Evident symptoms of disease.	W. GREEN, *Debenham.*
	Disease making rapid progress.	W. GRIMSWADE, *Hadleigh.*
GLOUCESTERSHIRE.	Look well, but still young	R. BEMAN, *Stow.*
	Very recently blighted, and rapidly rotting	J. HUNT, *Almondsbury.*
	Blighted	W. NIBLETT, *Iron Acton.*
	Disease fast appearing	E. W. and S. RICH, *Didmarton.*
	Generally diseased	E. BURNELL, *Banham.*
	Plenty of top; some partly diseased	T. KEARSEY, *Tarlton.*
	The last week shows disease	J. F. PEACEY, *Cheltenham.*
OXFORDSHIRE ...	Luxuriant till lately; disease progressing	S. COLLIER, *Witney.*
MONMOUTH ...	Promise well, but slightly diseased	G. R. G. RELPH, *Cefn-ila, Usk.*
	Early Potatoes much diseased; late ones attacked	A. PURCHAS, *Monmouth.*
BUCKINGHAMSH. ...	Bulky, but showing the disease.	ALEX. FRASER, *Claydon.*
HERTFORDSHIRE ...	Disease appearing in places.	J. B. LAWES, *St. Alban's.*
	Luxuriant; great extent; disease appearing considerably	S. SANDARS, *Hemel Hempstead.*
	Great extent; disease fast appearing	— *Harpendon.*
	Disease has appeared	J. HOUSE, *Wheathampstead.*
BEDFORDSHIRE ...	Promising; no disease as yet	T. BENNETT, *Woburn.*
	Looking well generally; the murrain has slightly appeared	R. VALENTINE, *Leighton Buzzard.*
ESSEX	Good	E. J. COOK, *Colchester.*
	Good	C. HALL, *Romford.*
	Looking well; early sorts are diseased	*Secretaries to Dunmow Ag. Soc.*
	Good (disease just appearing)	F. FAIRBANK, *Little Hedingham.*
	Beginning to show the effect of disease; general complaint	F. S., *Braintree.*
WILTS	Partially blighted; disease appears to increase	— *near Devizes.*
	Diseased; spreading fast	T. ARKELL, *Penhill.*
	At present good	B. BAILEY, *Calne.*
	Looking well; gone off in few cases	G. BROWN, *Avebury.*
BERKSHIRE ...	Disease appearing; more alarm than mischief	E. W. MOORE, *Farringdon.*
	Great complaint	B. BROOKS, *Pusey.*
KENT	Middling; not free from disease	T. RIGDON, *Hythe.*
	Good, with few exceptions	J. SMEED, *Thanet.*
	Disease making great progress	R. MATSON, *Wingham.*
SURREY	Very good in appearance, but the "blight" is visible in places	J. M. P., *Farnham.*
SOMERSET	Bad	J. EASTMENT, *Wincanton.*
	A good crop, but in some cases as bad as in 1846	M. PAUL, *Castle Cary.*
SUSSEX	Very good, except in places diseased	E. VIZARD, *Cuckfield.*
	Healthy and strong, but blighted lately	E. WYATT, *Chidham.*
	Complaints	C. P. VALENTINE, *Lewes*
	Very much diseased, probably as bad as in 1846	J. MORTON, *Stonington*
	Blighted, but not to any great extent	P. BROTHERSTON, *Robertsbridge.*
CORNWALL... ...	Abundant and good, but diseased in places	W. SIMMONDS, *Gwennap.*
	Luxuriant; disease partial	J. PETERS, *Stratton.*
	Partially diseased	J. ROBERTS, *St. Austell.*
	Healthy so far as I have seen; disease heard of	— *Truro.*
	Looked well hitherto; disease appearing	J. MICHELL, *Frock.*
	Injured by disease	H. HILL, *Gerrin.*
DEVON	Large breadth; disease appeared lately	G. LANGDON, *Barnstaple.*
	Again diseased, but with fine weather may yield as last year.	G. FOWLER, *Princeton.*
DORSET	More evidently attacked with disease than last year, and earlier.	J. FURMEDGE, *Beaminster.*
	Looked well till 10 days ago, now miserably diseased	L. LUCKHAM, *Broadway.*
	Early sorts injured, and late ones attacked	— *Blandford.*
HANTS	Much blighted in places	— *Basingstoke.*
	Disease appeared earlier than last year	J. D. NICHOLSON, *Beaulieu.*
	Nearly all diseased bad; very like 1845	J. EAMES, *Beaulieu.*
	Plenty of haulm, but diseased recently	W. K., *Havant.*
	Almost universally diseased	W. C. SPOONER, *Southampton.*
	Diseased, and going fast	C. DARLING, *Lyndhurst.*
	Decidedly and generally very badly diseased	J. TWYNAM, *Stockbridge.*
	All affected with disease	J. W. CLARKE, *Romsey.*
	Blighting rapidly	— *Aireton, Isle of Wight.*

PRESENT APPEARANCE OF THE CROPS,

AS REPORTED BY OUR OWN CORRESPONDENTS.

COUNTY.	WHEAT.	BARLEY.	OATS.	BEANS.	PEAS.	TURNIPS.	HAY.	[illegible] WHEAT.	BARLEY.	OATS.	NAME AND ADDRESS.
SCOTLAND.											
FORFARSHIRE ...	Thin, under aver.	Under average	Above average	Very promising	....	Looking well	Very thin	Full [illegible]	Very little	Average	[illegible]
PERTHSHIRE ..	Average	Under average	Full average	Average	Average	Promising	Average	[illegible]	[illegible]	[illegible]	[illegible]
FIFE	Under average	Under average	Above average	Under average	Under average	Backward	Below average	[illegible] in hand	All [illegible]	Very few	[illegible]
	Light crop	Promising	Bulky crop	Deficient	....	Promising	Light crop	But little	[illegible]	[illegible]	[illegible]
	Light in straw, but average	Average	Average	Promising	.....	Improving	Light crop	Usual quantity	[illegible]	[illegible]	[illegible]
	Looking well	Very good	Thick, small eared.	Looking well	....	Average	Fair crop	Usual quantity	None	Much [illegible]	[illegible]
STIRLING ...	Splendid crop	Very fine	Above average	Average	Average	Under average	Above average	Under average	[illegible]	Average	[illegible]
EAST LOTHIAN...	Under average	Average	Full average	Under average	.....	Promising	Light crop	Less than usual	Under average	[illegible]	[illegible]
	Not bulky	Scarcely aver.	Full average	Short in straw	.....	Rather late	Average	Small stock	Small stock	Small [illegible]	[illegible]
	Winter Wheat aver Spring Wheat below aver.	A fair crop	Very good	Short in straw	.....	Late, but progressing	Light crop	Small	Small	Small	[illegible]
MIDLOTHIAN ...	Average	Average	Good	Not good	....	Many complaints	Average crop	Usual quantity	None	Few	[illegible]
WEST LOTHIAN	Average	Average	Above average	Promising	Fair crop	Fair crop	Below average	Usual quantity	None	Less than usual	[illegible]
LANARK... ...	Average	....	Good	Average	Average	Not good	Above average	Very little	None	Very few	[illegible]
SELKIRK ...	Below average	Average	Average	Good	Good	Average	Light	But little	Very little	Very few	[illegible]
	Light	Average	Average	Good	Good	Average	But little	Scarcely any	Little	Few	[illegible]
ROXBURGH ..	Average	Average	Below average	Good	Good	Promising	Light	....	....	....	[illegible]
	Average crop	Average	Light in the straw	Full average	Below average	Full crop	Below average	But little	Short	Few	[illegible]
	Under average	Average	Average	.....	.....	Promising	Average	Very little	Very little	Hardly any	[illegible]
AYRSHIRE ...	Full average	Average	½ over average	Average	.....	Deficient	Average	Exhausted	Light	Light	[illegible]
	Promising	.....	Very bulky	Thin	.....	Much injured	Heavy	Small	None	Little	[illegible]
	Under average	Good	Very fair	Average	.....	Appear fair	Fine	Little	None	Few	[illegible]
WIGTON... ...	Fair average	Average	Full average	Very few	Very few	Thin	A good crop	Small stock	None	Few	[illegible]
	Average	Above average	Average	Average	.....	Good	Good	As usual	None	Average	[illegible]
DUMFRIES ...	Very little grown	Good	Very good	.....	.....	Backward, but well	As usual	Little	Little	Few	[illegible]
BERWICK ...	Favourable	Below average	Average	Late crop	Deficient crop	Generally good	Light crop	Small	Little	Few	[illegible]
	Average	Average	Above average	Below average	About average	Looking well	Average crop	Very little	None	Few	[illegible]
	Average	Average	Above average	Average	About average	Injured by the fly	Good	Very little	Below average	Few	[illegible]
	Very promising	Good	Very good	Good	.....	Growing rapidly	Light crop	An average crop	Very little	Scarcely any	[illegible]
WALES ...	Partially blighted	Backward generally	Fair crop	Short	Failure	Average	Fair crop	Very little	None	None	[illegible]
	Under average	Variable	Variable	.....	.....	Extensive and promising	Late	Usual quantity	Little	None	[illegible]
	Thin and short in the ear.	Promising	Promising	Good deal blighted	Blighted in places	Flourishing	Below average	Good deal	Scarcely any	More than usual	[illegible]
	Above average	Above average	Above average	Very good	Promising	Looking well	Very heavy	But little	But little	None	[illegible]
	Under average	Average	Good	.....	Average	Good	Good crop	Very little	Very little	But few	[illegible]
	Thin on the ground	Thin	Average	....	Good	Average	Light	Small	None	None	[illegible]
	Average	Average	Rather inferior	.....	.....	Unpromising	Generally good	Little	Not much	Few	[illegible]
	Good	Good	Good	Good	Good	Good	Good	As usual	As usual	As usual	[illegible]
NORTHUMBERLAND.	Promising well	Looking well, but thin in places	Good	Promising	Thin	Promising	Average	Not much	Very little	Few	[illegible]
	Fair on good land	About an average	Light	Poor	Healthy	Heavy crop	Average	Very little	Very little	As usual	[illegible]
	Upon strong lands thin, on others good	Very good	Suffered from wet	Short but healthy	Poor	Healthy	Under 1 ton per acre	Very small	....	Very few	[illegible]
	A fair crop	Looking well	Average	Good	Bad	Light	Great crop	Little	Small	Few	[illegible]
	Healthy	Well	Well	Very fair	Bad	Middling	Average	Small	Very small	Small	[illegible]
	Average	Good	Full	Few grown	Good	Doing well	Average	A fair quantity	None	Few	[illegible]
DURHAM ...	Average	Not heavy	Below average	Many failures	Fair crop	Promising	Good	Average	Very little	Usual quantity	[illegible]
	Below average	Average	Nearly average	Under average	One-third of a crop	Bad	Inferior	Little	Very little	None	[illegible]
	Under average	Good in general	Above average	About average	Indifferent	Good generally	Good	Short	But little	Few	[illegible]
	Thin and light	Good	Good	Bad	Very bad	Good	Very good	A light stock	Small quantity	Few	[illegible]
CUMBERLAND ...	Early sown good, late sown inferior	Very good	Excellent	Good	Good	Looking well	Superior	As usual	Average	Average	[illegible]
WESTMORELAND	Average	Bulky	Full crop	.....	.....	Growing fast	Good	Less than usual	Average quantity	Fair quantity	[illegible]
	Looking well	Good	Good	Looking well	.....	Looking well	Generally good	.....	.....	.....	[illegible]
	Good	Tolerably good	Good	None grown	None	Good	Abundant	Very little	Middling	Trifling	[illegible]
CHESHIRE ...	Partially blighted	Unpromising	Unpromising	Very few grown	Almost a failure	Hurt by the fly	Abundant	Good quantity	None	Not many	[illegible]
LANCASHIRE ...	Very good	.....	Good	Good	.....	Regular	Abundant	Average	....	Average	[illegible]
YORKSHIRE ...	Fair crop	Good	A fair crop	Good	.....	Late	Good	Little	Little	Few	[illegible]
	Healthy.	Good	Good	Good	Few grown	Late	Fair crop	Below average	Very little	Few	[illegible]
	Good	Good	Good	.....	Good	Fair	Good	More than usual	Little	More than usual	[illegible]
	Below average	Below average	About average	Under average	Failures	Small crop	A fair crop	As usual	Very little	Full average	[illegible]
	Healthy	Good crop	Light crop	Indifferent	Scarcely any	Healthy	Tolerable	Average	Scarcely any	Few	[illegible]
	Full crop	Very good	Heavy	Bad	Moderate	Promising	Good crop	A good deal	Little	Average	[illegible]
	Average	Hardly an average	Generally good	Bad	Average	Inferior	Under average	As usual	Average quantity	Few	[illegible]
	⅓ less than usual	Average	Under average	Very bad	Very few	Backward	Average	As usual	Usual quantity	Few	[illegible]
LINCOLNSHIRE ...	Good	Light	Good	.....	As usual	Full crop	Abundant	.....	As usual	.....	[illegible]
	Average	Short in the straw	Bad	Bad	Looking well	A good crop	Very light	Little	None	None	[illegible]
	¼ under average	Under average	Under average	.....	Poor crop	Looking well	Good crop	Very little	Scarcely any	Very little	[illegible]
	Light on the Wold	Average	Average	Miserable	.....	Fair prospect	Clover light, hay good	Over average	None	Horse corn	[illegible]
	Fair crop	.....	Below average	Middling	.....	Good	Bad	[illegible] on hand	....	Average	[illegible]
	Good average	.....	Good	Till now indifferent	Bad	Capital	First-rate	Above average	Very little	As usual	[illegible]
	Very promising	Rather light	Light	.....	.....	Remarkably well	Rather light	A good deal	None	None	[illegible]
NOTTINGHAMSHIRE.	Very variable	Promising	.....	Improved	Failing	Promise well	Fair crop	Below average	None	Small	[illegible]
	Full average	Above average	Average	Average	Average	Extremely good	Below average	Small	Scarcely any	Short	[illegible]
	Under average	A full average	Heavy	.....	.....	Very well	Abundant	.....	.....	.....	[illegible]

PRESENT APPEARANCE OF THE CROPS—*continued.*

COUNTY.	WHEAT.	BARLEY.	OATS.	BEANS.	PEAS.	TURNIPS.	HAY.	STOCKS AT PRESENT HELD OF WHEAT.	STOCKS AT PRESENT HELD OF BARLEY.	STOCKS AT PRESENT HELD OF OATS.	NAME AND ADDRESS.
ENGLAND.											
SALOP	Average	Average	Thin	Good	Thin	Good	Thin	Good deal	None	None	S. POWELL, Shiffnal.
	Below average	Very light	Very poor	Very poor	Middling	Well	Good	Much less	Scarcely any	Very few	W. MINOR, Market Drayton.
	Very promising	As Wheat	As Wheat	.....	Promising	Very good	Abundant	Usual	None	.....	C. A. A. LLOYD, Oswestry.
LEICESTER ...	Very good	Under average	Light	Improved	.....	Very good	Very light	As usual	Little	Little	T. SPENCER, Knossington.
RUTLAND ...	Full average	Short of average	Very good	Bad	Very bad	Plentiful	Plentiful	Above average	Scarcely any	Average	W. FANCOURT, Empingham.
	Average	Generally good	Generally good	Deficient	.....	Promising	Abundant	Considerable	Small	As usual	S. CHEETHAM, Oakham.
NORTHAMPTON...	Not an average	Generally light	Not average	Not a full crop	Promise well	Good prospects	Full produce	Above average	Very little	Very little	C. HILLYARD, Thorpelands.
	1 or 2 qrs. per acre less than last yr.	Probably an average crop	.....	Winter Beans best, spring crop poor	Very bad	Promise well	Average	Full average	Not much	Not much	W. SHAW, Far Colton
	Average	Average	Indifferent	Not good	Failure	Very fair	Good crop	Average	Very little	Very little	W. GREY, Northampton.
DERBYSHIRE ...	Very promising	Looking well	Very good	Good	Good	Promising	Plentiful	Average	Very little	Scarce	S. WARD, Repton.
HEREFORD ...	Average	Excellent	Excellent	Good	Good	Very promising	Very good	Very little	Very little	Very little	J. CHEESE, Castle Weir.
	Good, excepting the wet clays	Good	.....	.....	Blighted	Fair	Good	Average	Scarce	Scarce	J. MATHEWS, Blakemore.
	Not average	About average	Average	.....	Average	Promising	Full average	⅓ the crop	None	Few	E. BROWN, Ludlow.
	Not average	Very good	Good	Variable	Very bad	Promising	Good	Very short	Little	Few	T. BROWN, Bromyard.
	Not an average	Average	.....	Very good	Deficient	Promising	Generallygood	Full average	None	None	——, Ross.
WARWICKSHIRE.	Fair average	Average	Rather light	Healthy	Failing	Healthy, late	Moderate	Pretty good	Scarce	Moderate	J. TOWNSEND, Rugby.
	Good	Promising	Tolerable	Average	Good	Very good	Fair	Average	Little	Few	J. BUNBURY, Kenilworth.
	Average	Average	Near average	Under average	Average	Very good	Fair	Average	Under average	Under average	L. PEARMAN, Coventry.
WORCESTERSH. .	Average on good soils	Looking well	Under average	Variable	Failure	"Unkind"	Good	Less	None	None	J. TINLEY, Martley.
	Average	Very good	Average	.....	Very good	Promising	Heavy	Over average	Very little	None	J. NORE, Stourbridge.
	Not an average	Hardly aver.	Good	Variable	Generally bad	Promising	Good average	As usual	None	Very few	F. WOODWARD, Pershore.
	Under average	Promising	Good	Winter Beans good; spring Beans bad	Bad	Promising	Not full crop	Average	Very little	Very few	R. SMITH, Droitwich.
CAMBRIDGESH....	Average straw, short ear	Below average	Below average	Good average	Good average	.....	Good	Over average	Very little	Average	R. BEART, Godmanchester.
	Full average	Average	Under average	Bad	Under average	Variable	Average	Over average	Average	Average	J. CLOVER, Newmarket.
HUNTINGDONSH.	Average	Average	Deficient	Variable	Some bad	Good	Rather light	Large	None	None	—BOWYER, Beckden.
	Thin	Variable	Generallygood	Promising	Very bad	Very good	Not heavy	Nearly gone	Threshed	Gone	P. PERVES, Kimbolton.
	Good average	Promising	Generally bad	Good average	Various	Good	Light	None	None	None	——, Leighton.
NORFOLK... ...	Under average	Variable	.....	Under average	Small extent	Injured	Fair	Above average	None	None	T. L. TAYLOR, Harleston.
	Doubtful	Average	Below average	Very good	Fair	Good on the coast	Good	Above average	.....	Few	W. CUBITT, N. Walsham.
	Fair	Moderate	Bad	Bad	Middling	.....	Fair	Average	Scarce	Few	T. POOLEY, Brandon.
	Barely average	Below average	.....	Good	Injured	Deficient	Average	Above average	Trifling	Scarce	R. B. HARVEY, Harleston.
	Fair	Not average	Half a crop	Short	Deficient	Good	Fair	Average	None	None	H. W. WINFIELD, Stokeferry.
	Average	Average	Variable	Average	Partial	Various	Good	An average	Scarce	Short	R. WARD, Ash.
SUFFOLK... ...	Rather under average	Below average	Looking bad	Promising	Below average	Promising	Full average	Large	Scarce	None to sell	J. COOPER, Southwold.
	Average	Improved	.....	Promising	.....	Various	Good	One-eighth	.....	.....	E. S. GOWING, Eye.
	Average	Average	Good	Under average	Bad	Good	Average	Much over average	None	None	W. D. FREEMAN, Framlingham.
	1-6th to 1-8th below average	Variable: below average	.....	Full average	Average	Promising	About average	Over average	None	Nominal	C. LENNY, Halesworth.
	Thin, below average	Variable	Very bad	Badly podded	Average	Good	Short average	Over average	None	None	W. GREEN, Debenham.
	Very fair	Not promising	.....	Good	Variable	Good; late	Pretty good	Over average	Very little	None	W. GRIMSWADE, Hadleigh.
GLO'STERSHIRE .	Quarter below last year	Good but uneven	Average	Winter Beans good, spring bad	Bad	Promising	Short	Average	Very little	Very little	R. BEMAN, Stow.
	Thin	Poor	Poor	Blighted	Middling	Good	Good	Little	Nearly sold	Scarce	J. HUNT, Almondsbury.
	Well	Well	Well	Bad	Average	Good	Plenty	Over average	Very little	Hardly any	W. NIBLETT, Iron Acton
	Good	Good	Middling	.....	Good	Good	Fair, crop injured	Large	None	Large	E. W. RICH, Didmarton
	Average	Average	Average	Large crop	Under average	Promising	Abundant	Quarter of last year's crop	Small	Small	F. PEACEY, Winchcombe
	Full average	Variable	Average	Badly podded	Variable	Promising	Variable	Over average	Very little	Very little	T. KEARSEY, Tarlton
	Thin	Bad	Promising	Variable	Good	Good	Good	Less	.....	.....	W. BURNELL, Hanham
OXFORDSHIRE ...	Under average	Deficient	Barely average	Average	Deficient	Promising	Average	Over average	Very little	Very limited	S. COLLIER, Witney
MONMOUTH ...	Scarcely average	Third below average	Below average	.....	.....	Fair	Full average	Small	None	None	G. R. G. RELPH, Usk
	Variable; below average	Fair average	Pretty good	.....	Failure	Very good	Light	Large	None	Small	A. PURCHAS, Monmouthshire
BUCKS	Under average	Under average	Under average	Bad	.....	Good	Full	⅓ last year's crop	Small	One-fifth	A. FRASER, Claydon
HERTS	Inferior	Indifferent	Fair crop	Average	Bad	Very good	Light	.....	.....	.....	J. B. LAWES, Rothamstead.
	Good	Average	Average	Doubtful	Doubtful	Good	Short crop	Average	Short	Short	JAMES SANDARS, Hemel Hempstead.
	Under average	Uneven	Good	.....	Nearly a failure	Excellent	Short crop	As usual	.....	Small	
	Average	Good	.....	.....	.....	Looking well	Light	Not much	.....	Very few	JOHN HOUSE, Grove.
BEDFORDSHIRE .	Average crop	Promising	Bad	Good	Average	Looking well	Generallygood	Small	Not much	Few	T. BENNETT, Woburn
	Not equal to last year	Various	Looking well	Average	Inferior	Various	Average	Moderate	.....	.....	R. VALLENTINE, Leighton Buzzard.
ESSEX	Tolerably good	Light	Light	Good	Unusually good	Capital plants	Heavy crop	Very small	.....	Few	E. J. COOK, Thorpe le Soken, Colchester.
	⅓ under average	Short	Half a crop	Half a crop	Average	Backward	Good	⅓ more than usual	.....	.....	C. HALL, Romford.
	Average	Average	Average	Short	Average	Short crop	Various	Usual	Above average	Not many	F. S., Braintree.
	Average	Below average	.....	Under average	Partial	Promising	Short	Over average	Very little	.....	Sec. of Dunmow Agricultural Soc.
WILTS	Average	Good	Good	Winter Beans good	Not average	Good, late	Good	Over average	Little	.....	——, Devizes
	Various; under average	Not a full crop	Not good	Winter Beans good	Blighty	Very good	Over average	Over average	Very little	Average	T. ARKELL, Penhill
	Not so good as last year	Good	Good	Winter, good; Spring, aver.	Not good	Promising	Good	Over average	None	.....	B. BAILEY, Calne
	Full average	Not a full crop	Average	Short, but good	Promising	Very well	Generallygood	Over average	Very little	As usual	G. BROWN, Avebury
BERKSHIRE ...	Below average	Uncommon	Inferior	Not average	Not good	Good	Late, good	.....	.....	.....	E. W. MOORE, Colesshill
	Quite average	Very good	Very good	Very good	Under average	Very good	Average	Over average	Very little	Very few	B. BROOKS, Pusey
KENT	Not average; 3 qrs. per acre	Under aver.; 3½ qrs. per acre	Average; 3 qrs. per acre	Under aver.; 2 qrs. per acre	Under aver.; 2 qrs. per acre	Not thriving	Very good	Unusual	Short	Large	T. RIGDON, Hythe
	Very good	Good	Middling	Good	Various	Pretty good	Fair	Large	None	Considerable	J. SMEED, Thanet
	Not average	Two-thirds of a crop	Very bad	Various	Not average	Deficient	Heavy	Good	None	Little	R. MATSON, Wingham
SURREY ...	Good	Average	Under average	Good	Bad	Various	Heavy	Over average	Scarce	Few	J. M. P., Farnham
SOMERSET ...	Average	Good	Average	Very bad	Bad	Good	Good	Little less than last year	None	Few	J. EASTMENT, Wincanton
	Average	Good	Average	Bad	Average	Good	Great	Under average	Scarce	Average	M. PAUL, Castle Cary
DORSET	Quantity small, quality bad	Average	Good	Not good	Not good	Promising	Good in quantity	Moderate	Very little	Moderate	J. FURMEDGE. Beaminster
	Under average	Under average	Abundant	Luxuriant	Good	Very good	Average	More than usual	Very little	Few	J. LUCKHAM, Broadway
	Nearly average	Above average	Fair	Injured by fly	Looking well	Heavy	More than usual	Above average	Very little	Very little	——, Whitcombe
HANTS	Deficient in the ear.	Weak	Good	Average	Blighted	Good	Light	Average	Very little	Average	——, Hatch Warren

PRESENT APPEARANCE OF THE CROPS—*continued.*

COUNTY.	WHEAT.	BARLEY.	OATS.	BEANS.	PEAS.	TURNIPS.	HAY.	STOCK AT PRESENT HELD OF WHEAT.	STOCK AT PRESENT HELD OF BARLEY.	STOCK AT PRESENT HELD OF OATS.	NAME AND ADDRESS.
ENGLAND.											
Hants	Unfavourable	Under average	Above average	Under average	Very bad	Injured by slugs	Good crop	As usual	None	Small	J. B. [illegible], Basingstoke.
	One-fourth below average	One-third below average	Average	Bad	Bad	Average	Average	..	..	..	J. Baker, South [illegible]
	Not good	Not good	Good	Average	Light	Good	Light	More than usual	None	None	W. Knight, Havant
	Average	Middling	Very good	Good	None	Good	Below average	Below average	None	One-third of last year's crop	C. Darling, Lymington
	Under average	Backward	Average	Under average	Under average	Backward	Average	Very little	None	Scarcely any	J. J. Farmer, [illegible]
	Average	Good	Partial crop	Blighted	Partial crop	Good	Bad	Average	Very little	Few	J. S. Clarke, [illegible]
	Under average	Average	Average	Average	Under average	Favourable	Under average	Average	Under average	Under average	A. C. Wynne, [illegible] Chandler
Isle of Wight..	Under average	Fair	Average	Fair	Middling	Well	Injured	Average	Short	Short	—, Alvston
Sussex	Below Average	Good	Below average	Bad	Bad	Good	Average	Little	Little	Little	E. Vizard, Cuckfield
	Good	Good	Good	Looking well	Blighted	Well	Average	More than last year	Small	Small	E. Gratt, Chichester.
	⅓ below last year	Promising	Well	Average	Average	Favourable	Damaged	More than usual	..	As usual	C. P. Valentine, Lewes.
	¼ below average	Below average	Average	¼ below average	Half a crop	Promising	Abundant	As usual	Not much	Little	J. Morton, [illegible]ton.
	Scarcely average	Not average	Good	Deficient	Average	Good appearance	Abundant	Moderate	Short	Moderate	[illegible] Rogation.
Cornwall ...	Very promising	Excellent	Good	Capital	.....	Inferior	About 3 ton per acre	.....	..	..	W. [illegible], Cardinham, Cornwall.
	Under average	Good	Good	Indifferent	Bad	Promising	Good	Very little	None	Very little	J. D. [illegible]
	Average	Average	Good crop	.....	.....	Indifferent	Good	Little	None	None	J. R. [illegible], [illegible]ton.
	Thin	Bad	Good	.....	.....	Growing	Short	Little	Little	Few	—, Truro.
	Average	Looking fine	Looking well	.....	.....	Injured by the fly	Average	Average	Scarcely any	None	Jno. Mitchell, Tregonse.
	Thin	Good	Healthy	.....	.....	Injured by the fly	Good produce	Small quantity	Small stock	Very little	H. Hall, Tregear.
Devon	Under average	Fair	Heavy	Bad	Blighted	Fair	Well	Above average	Small	Small	G. Langdon, Ashford.
	20 per cent. below average	Average	Average	.....	Failure	Average	Good	Thrice the usual quantity	None	.. ..	S. Cornish, Kingsbridge.
	Below average	Below average	Average	.....	Failure	Promise good	Pretty fair	As usual	Small	Small	G. W. Fowler, Dartmoor.

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A SPECIAL COUNCIL was held at the De Grey Rooms, York, on Monday, the 10th July; present, the Earl of YARBOROUGH, President, in the Chair; Duke of Richmond; Earl of Lonsdale; Hon. R. H. Clive, M.P.; Sir John Johnstone, Bt., M.P.; Mr. Raymond Barker; Mr. John Booth; Mr. H. Brandreth; Colonel Challoner; Mr. Bell Crompton; Mr. Henley, M.P.; Mr. Fisher Hobbs; Mr. Hudson, M.P.; Mr. Stansfield, M.P.; Mr. C. Hampden Turner; and Mr. George Turner.

The Council took into their consideration the various points of business brought before them in connexion with the details of the York meeting.

A SPECIAL COUNCIL was held at the Guildhall, York, on Friday, the 14th of July; present, the Earl of YARBOROUGH, in the Chair; Hon. Capt. Dudley Pelham, R.N.; Sir M. W. Ridley, Bt.; Sir John Johnstone, Bt., M.P.; Mr. Barnett; Mr. Booth; Colonel Challoner; Mr. Kinder; Mr. Shelley; Mr. Shaw (London); and Mr. Thompson.

The business of the Council was confined: to the reception from Mr. Mauleverer of a complaint respecting his inability to obtain wine at the Council dinner; to ordering the payment of various sums of money in discharge of local claims; to the rate of payment to labourers in the show-yard; to the re-engagement of Mr. Manning as contractor of works at the Norwich meeting; to the conveyance to the Commissioners of Metropolitan Police in London, the perfect approbation of the Council with the conduct of Inspector Otway and the men under his control; and to a vote of thanks to Mr. Foster, secretary to the York Local Committee, for the zealous discharge of his duties of that office.

A WEEKLY COUNCIL was held at the Society's House, in Hanover-square, London, on Tuesday last, the 25th of July; present, Colonel CHALLONER, in the chair; Earl of Lonsdale; Sir J. J. Tyrell, Bart. M.P.; Mr. J. Baines, Mr. Raymond Barker, Mr. Fisher Hobbs, Mr. Kinder, Mr. G. W. Maddison, Mr. Milward, Mr. C. E. Overman, Prof. Sewell, Prof. Simonds, Mr. T. R. Tweed, and Mr. Jonas Webb.

The following new members were elected:

Clonbrock, Lord, Clonbrock, Ahascragh, Ireland
Rokeby, Lord, Hazlewood, King's-Langley, Herts.
Davie, Sir H. Ferguson, Bart., Creedy, Crediton, Devon
Dyke, Sir Percival Hart, Bart., Lullington Castle, Kent
Barnett, Henry, Glympton-park, Woodstock, Oxon
Smythe, John Walter, Acton-Burnell, Salop
Foster, John, Lingodell, Tickhill, Yorkshire
Crompton, Joshua Samuel, Sion-hill, Thirsk, Yorkshire
Watson, James, Castle Meadow, Norwich
Copeman, Robert, jun., Hemsby, Great Yarmouth
Darley, Charles Albert, Stamford-bridge, York
Ward, David, Wexford, Suffolk
Murrell, William, Intwood, Norwich
Roddam, John Joseph, Newtown, Stanhope, Durham
Danson, Joseph, Six-shaw-street, Liverpool
Denison, Edmund, Doncaster.

The names of 19 candidates for election at the next meeting were then read.

DISEASES AMONG SHEEP.—Mr. LEYLAND WOODS, of Chilgrove, near Chichester, addressed a letter to the Council on the subject of a disorder which had made its appearance among his sheep. About eight days ago it was observed that many of his sheep were sore and breaking out, chiefly round the lips and nose, the soreness, however, seeming to extend also to the gums. The eruptions had a disagreeable odour proceeding from them, and prevented the sheep from taking their food with ease. The lambs were affected as well as the sheep, but appeared to bear the attacks better. The stronger sheep suffered more severely than the weakly ones. The lips of the animals were so considerably swollen as to render them disfigured and unsightly. The complaint was not general in that part of the country, but the sheep of some of Mr. Woods' neighbours had also been attacked. He had, however, seen none in the market so affected, although some thousands of sheep were taken thither once a fortnight. His own sheep had never been off his farm; nor did droves or strange sheep pass by. The complaint made its appearance at once, a great number being attacked in the course of a couple of days.—Mr. MILWARD informed the Council that five or six years ago a flock of his Leicester sheep in Nottinghamshire were attacked by a similar distemper, of which many of them died; but the skins of the animals, on removal from the body, were not found to be affected.—Sir JOHN TYRELL concurred with Mr. Milward in regarding the complaint in Mr. Woods' sheep, as totally distinct from the fearful disease which had now made its appearance under the symptoms of the small-pox.—Professor SEWELL regarded it as the old epidemic in a more severe form.

Sir JOHN TYRELL then reported to the Council the prevalence of the small-pox among sheep in Essex, Hertfordshire and Wiltshire, although he believed that the Sussex Down flocks were at present free. He had heard of the disease three-quarters of a year ago, and lately of its occurrence in Rochford and Dengey Hundreds in Essex, but had now experienced two cases among his own sheep. The first case occurred in a flock consisting of 92 fat ewes (with their lambs) fed on oil-cake, which were taken ill on the previous Wednesday, and had salts administered to them. The other case was that of a 4-year old wether, which occurred the previous morning, when the animal was immediately killed. The disease in both those cases was distinctly evident on the neck and belly of the sheep, the outer skin being affected in those parts with dark red blotches. Those skins having been rejected by the fellmonger, had been submitted by Sir John Tyrell to the inspection of Sir Benjamin Brodie, the eminent surgeon, as well as to that of Mr. Tomkins of the National Vaccine Institution. He believed there had been a controversy among the first medical men regarding the best mode of treating small-pox, but that now it was generally agreed that the specific virus being a poison, the system required sustaining in its powers, and not exhausting by bleeding and physic. He had been recommended to adopt the plan of vaccination, introducing the vaccine lymph, agreeably with Mr. Tomkins's suggestion, behind the ear of the sheep, so that the animal might not be able to disturb the pustules by mechanical friction. Although Sir John Tyrell's sheep were near a road, and might have taken the disease by direct communication, he knew of cases, particularly of that of the Hon. Mr. Petre, where the sheep had been long kept in an isolated state.—Mr. FISHER HOBBS was very glad that Sir John Tyrell had attended the Council that day, and brought under the notice of the members the very important and serious question of the small-pox among sheep, introduced into this country by foreign importation of animals suffering from that fearful malady. He was afraid that the disease in question would prove one of the most awful scourges to the farmers of this country, many of whom had, on his own personal knowledge, already suffered the most ruinous losses in their flocks in consequence of the small-pox. The infected animals having entered the port of London, from the Continent, had been the means of extending the malady in every direction in which they had been distributed; and, as it was natural to suppose, the eastern counties of England had been the first to receive the fatal infection. So much alarmed, indeed, had the graziers in the neighbourhood of Colchester become, in consequence of the losses which had occurred in that part of Essex, that many of those whose pastures lay adjoining the public roads or lanes had fenced in the entrances to their fields by a barrier formed of a hurdle with Goree or other bushes interposed between it and the gate, for the purpose of obstructing all communication whatever between their own flocks and those of strangers. Three-quarters of a year ago, Captain Stanley Carr, an honorary member of the Society, residing near Lübeck, on being made acquainted, through public as well as private channels of communication, with the fact of the introduction into England (by importations of sheep from Hamburgh) of the malady under consideration, and with the ravages of which, in Germany, he was so well aware, immediately addressed a notice of warning to the English farmers through the columns of the *Mark-lane Express*, and briefly stated the course adopted on the Continent on the appearance of the disease in any locality. Immediately afterwards, he addressed a more detailed letter to the Council, on the causes, symptoms, prevention, and cure of the disease. That letter was at once not only made known to the members, in the Journal of the Society (viii., 489), but published at a cheap rate in the form of a pamphlet for general distribution among the farmers of the country; and Mr. Hobbs, thinking that importations might occur, had himself taken the earliest opportunity of recommending its insertion in the *Essex Standard* for the information of the farmers in the eastern part of that county; a step which, unfortunately, proved to be most requisite, for within one week from that time, a cargo of diseased sheep arrived in London from the Continent, and were sold in Smithfield market. Mr. Hobbs then quoted numerous cases of the disease in that part of the country; and particularly referred to the case of Mr. Baker, of Birch Hall, near Kirby, who having purchased about 100 sheep in Colchester market, and put them along with the rest of his flock, soon found symptoms of small-pox become visible among the purchased sheep, of which some died on the spot, while the remainder, without loss of time, were returned upon the hands of the salesman from whom he had obtained them, not however without having left behind them that taint of disease, which so much affected Mr. Baker's own sheep, that within 10 days from the date of purchase he was under the necessity of destroying no less than 50 head of them: also to the case of Mr. Page, who resided near Bury St. Edmunds, and had incurred a loss of more than 500*l.* from the small-pox among his sheep; and to that of Mr. Muskett, of Norfolk, who, from the same cause, and in a period of about 10 days, had lost upwards of 12 score of his flock; while smaller farmers, who had been deprived of nearly one-half of their sheep, were almost ruined by the ravages of the disease. On the other hand, Mr. Hobbs had reason to believe that the dealers made a secret of the disease for the purpose of getting rid of their sheep, with the intention of making no new purchases; he having met with only a single individual in Colchester market who would acknowledge in his own case any occurrence of the disease, although during the last month he believed that no less than 500 sheep, more or less diseased, had been slaughtered, and sent from the eastern counties to the public markets of the metropolis. Mr. Hobbs having then alluded to the power which corporate bodies possessed of fining individuals who brought diseased animals to markets within their jurisdiction, expressed his regret, that, under the control of

the Board of Trade, the Government had not made it imperative on all corporate bodies in towns where the disease had appeared, to take the same precautions in the appointment of inspectors, and the inflicting of fines on their representation, as had already been done in so public-spirited a manner by the mayor and corporation of Norwich. He was sorry to find that other corporate towns within the eastern counties, had evinced so much apathy on the subject as not to take the same precautionary measures. Mr. Fisher Hobbs concluded his observations by regretting the absence of Professor Simonds, whose most excellent, cheap, and timely work on the subject of the small-pox in sheep, furnished as it was with a most interesting history of the origin and progress of the disease, and illustrated by plates accurately drawn and coloured after nature, and a detailed statement of the most important cases which had occurred of the disease, ought in his opinion at the present moment to be in the hands of every individual in the kingdom interested in the subject of the sheep itself, or in the economical and sanitary questions connected with its sale in the public markets.—Mr. Kinder bore testimony to the prevalence of the disease in Hertfordshire; one individual in that county having during the previous week suffered a loss of 200*l.* on account of its ravages.—Sir John Tyrell could also confirm the accuracy of Mr. Fisher Hobbs's statement in reference to the county of Essex.—Professor Simonds having at that moment entered the room, the Chairman enquired of him, Whether the symptoms of small-pox in the sheep were so distinct and marked in their character as to prevent the possibility of its being confounded with any other disorder of that animal? to which enquiry, Professor Simonds replied that no mistake could be possibly made on the subject in consequence of the peculiar and marked symptoms of the disease, the only other disorder of any consequence affecting the skin of the sheep being the ordinary "scab," which was of a local chronic character, and only slightly affected the constitution, while in the case of the small-pox very great constitutional derangement ensued on the appearance of the eruption.—Mr. Fisher Hobbs took that opportunity of asking Professor Simonds his opinion respecting the quality of the flesh of sheep dying of small-pox as human food; to which Professor Simonds replied, that he regarded such diseased carcases as furnishing the most prejudicial food that could possibly be given to any individuals; and so much so, that if at any time on board-ship a single sheep gave symptoms of the disease, the whole cargo of that animal on board ought at once to be slaughtered.—The Chairman thought that the parties who received the tolls at public fairs ought to be held responsible for the admission of sheep suspected of being diseased.—Professor Simonds then favoured the Council with the following statement connected with the symptoms of the disease, and the best means of preventing its extension.

The disease had long been known in Germany, Italy and France, and in Paris it had never been entirely extinct; but from the knowledge of its character and experience in the modes of its treatment, especially by inoculation of the lambs when six or eight months old with the true pock-matter of the sheep in its mildest form, the loss generally did not amount to more than 5 per cent., often not one, or even one-quarter per cent., while in this country, where the disease had already become prevalent in certain counties, and in other localities where the disease was left unopposed in the progress of its ravages, the loss by death amounted to no less than 50 per cent. of the animals attacked by it. The disease, he described, as not epizootic, or conveyed through the atmosphere, but as infectious as well as contagious, having however a limit to the sphere of its activity. He regretted to state that this disease, from interested motives, had by certain parties been kept a secret from the public, for unless the difficulty, in his opinion, be met openly and boldly, and it be indiscriminately ascertained who has, and who has not, the disease among his flocks, the evil would go on accumulating, and the whole country would become one mass of disease. He remarked, in reference to the first indications of the disease, that there were not in this, as in many others, any premonitory symptoms; but that the constitutional and local appearances developed themselves simultaneously. The small-pox in the sheep was analogous to the same disease in the human subject. The poison, after having entered the system, either by contagion or infection, lay dormant for a period varying from 10 to 16 days, when an eruption made its appearance on the skin of the animal, in those parts of the body more particularly where there was the least wool, as in the inner part of the thighs and arms; without, however, being long confined to those parts, but soon extending to other parts of the body. This eruption is found on examination to consist of hard knotty bodies, much inflamed, and of a florid red colour; some of them separate from the rest, while others are accumulated in clusters. It was only when the eruption made its appearance that the animal gave any symptoms of ill health. On the eruption, however, taking place, the sheep separated itself from the flock, drooped the head, hung down the ears, and altogether presented a most peculiar and dejected appearance; the feet and ears being cold, while the rest of the body was feverish; the eye-lids became inflamed and swollen, with discharge of tears from the eyes, and mucus from the nostrils. The animal refused its food, and the symptoms went on increasing in severity for three or four days, until the eruption changed its character and assumed a white appearance, arising from the cuticle being raised from the nodules by effusion of the fluid beneath it; at this stage of the disease the animal at once seemed slightly relieved. The white raised cuticle, however, in the course of a few days, put on a brown hue, and became converted in its substance into a scab or crust, which ultimately fell off, leaving an ulcer more or less deep in the flesh, and occasioning those pitted marks so well known as resulting in the human subject from a late and severe attack of small-pox. The danger to the animal suffering under this disease is dependent on the amount of the eruption present, and also upon the irregularity with which it passes through its various stages; and he agreed with those who recommended a stimulating and nutritive plan of treatment. Prof. Simonds had no confidence in vaccination (with vaccine lymph) for this disease in the sheep, nor did he believe it could be depended upon as a preventive, however it might be hereafter proved to be of use in mitigating its virulence. He had himself vaccinated sheep, and subsequently inoculated them; in the course of time the inoculation took effect, and the small-pox appeared and passed through its regular stages. He considered inoculation to be the best means of diminishing the virulent character of the disease: and that this plan might be had recourse to even when the disease had shown itself in the flock; especial care being taken to procure lymph from the mildest cases, and to introduce it with the least possible incision, which ought not to penetrate deeply through the skin, but be introduced underneath it, with not more than two slight punctures, behind the ear, as had been suggested, or inside the thigh of the animal. He stated that great care was requisite in effecting this operation, otherwise, if deep punctures were made, a deep sloughing and ulcers would invariably ensue. He recommended, as another preventive, that the unhealthy sheep should be separated from the healthy ones; and also, that a daily examination should be made of the animals presumed to be healthy, in order that an instant removal might be made of any showing the slightest symptoms of disease. With regard to the skins of sheep dying of small-pox, he earnestly recommended their being destroyed by fire or deep burial in the ground; for it had been ascertained that the virus retained its fatal powers long after the death of the animal, and might again become the origin of fresh contagion.—Sir John Tyrell and Mr. Milward thought that the most serious difficulty in the case of the present disease was the fact of the simultaneous development, to which Prof. Simonds had alluded, of the external local symptoms with the constitutional derangement of the animal; as sheep newly purchased might be tainted with the disease for nearly a fortnight before the owner would be aware of their diseased condition: but that, although the authorities of towns, under such circumstances, could not be able to exclude such sheep from their markets, they thought them, on the other hand, only more strongly bound, for the public safety, to take measures for at once rejecting animals in which disease had actually developed itself.—The Council expressed to Prof. Simonds their acknowledgments of the favour he had done them by his attendance on that occasion, and the valuable information he had communicated on the important subject of their discussion that day.

MISCELLANEOUS COMMUNICATIONS.—Sir JOHN W. LUBBOCK, Bart., of High Elms, near Farnborough, Kent, transmitted to the Council a statement of the experiments in which he was engaged on the trial of different artificial manures and their mixtures, on plots of ground of a quarter of an acre each; and, as his residence was only 15 miles distant from London, he invited the attendance of any of the members of the Society who would favour him with their visit of inspection. On the motion of Mr. Fisher Hobbs, the best thanks of the Council were voted to Sir John Lubbock for this communication and invitation; with a request that he would make a farther report to the Council of any results he might obtain from the interesting series of experiments in which he was engaged.—Mr. C. H. Crewe, of The Hayes, near Derby, favoured the Council with experiments on the thin-sowing of Wheat and Oats upon his farm this year.—Mr. Paul, of Rougham, Norfolk, expressed his willingness to deliver a Lecture on Agricultural Chemistry before the members of the Society.

PRESENTS.—The Earl of YARBOROUGH presented Mr. Sidney's work on the Railways and Agriculture of North Lincolnshire; the Hon. East India Court of Directors, the Meteorological Observations made at Madras, 1841—5; Mr. Fisher Hobbs, the cheap Broad-sheet Edition of the Agriculturist's Calender from Tusser's Points of Good Husbandry; Mr. Chadwick, the first and second reports of the Metropolitan Sanitary Commission; Mr. Charnock, his paper on Land Drainage, read before the Wakefield Farmers' Club; and Mr. G. Darby, M.P., a Markby Draining Spade:—for which, and other presents made to the Society, the Council ordered their best thanks.

NOTICES AND SUGGESTIONS.—Notices of motion, and suggestions for future consideration, in reference to the details of the Norwich meeting, were received from the Duke of Richmond, Lord Portman, Colonel Challoner, Mr. Raymond Barker, and Mr. Milward, and an entry of them ordered for reference at subsequent meetings of the Council and General Norwich Committee.

The Council then adjourned to Tuesday next, the 1st of August.

Calendar of Operations.

JULY.

BERWICKSHIRE MERSE FARM, *July* 21.—Since last report we have been employed ploughing Turnips, earthing up Potatoes, and ploughing fallow land for Wheat. The workers have been employed thinning Turnips and hoeing the Swedes the second time; one man mending fences, cutting Thistles, &c; *J. B.*

EAST LOTHIAN FARM, *July* 22. — With rather unsettled weather, having had several heavy showers of rain during the week, we have been employed weeding Turnips and Potatoes; likewise working at meadow hay when weather allowed; also cutting down weeds along sides of fences and roads; *L.*

SOMERSETSHIRE FARM, *July* 24.—We have been engaged for this last week in horse-hoeing and thinning Swedes, re-hoeing Swedes and Mangold Wurzel. Ploughing and working ground, after Veitches, for Rape; hauling stones for building a shed, and cleaning rickyard. The Wheat is getting ready fast for the harvest. I think that, if fine weather, we shall be reaping in the course of 10 days; *R. C.*

WEST SOMERSET FARM, *July* 20.—We have at last completed our hay harvest; it is all much injured by the weather, particularly the Clover and Saintfoin. We are in hopes of a large crop of Mangold and Turnips, which continue to bear a most promising appearance, and will be found very useful to be used with the damaged hay next winter. Our teams are now employed in carting out manure on the Vetch land, and ploughing in the same: we shall finish the last sowing of Turnips this week. We find the method of mixing equal proportions of rotten dung and ashes, then adding the artificial manures, and drilling them with the Turnip seed at the rate of five cart-loads per acre, answers well, as nothing can exceed the growth of the plant thus managed on very poor land. We use one of Hornsby's drills, which places down the manure in a most regular manner. Our Wheat harvest will commence in about three weeks, and the winter Beans will be ready to cut next week: the land will be then immediately ploughed, and when reduced to fine tilth, sown to Mustard, with 2 cwt. of guano per acre, which, whether fed or ploughed in, we find an excellent preparation for Wheat on our heavy lands. Nothing could exceed the luxuriance of the Potato crop in this neighbourhood, but with very few exceptions, they are now diseased, which appears much more virulent than it was last season; a whole field that may show no symptoms of disease, in three days are struck and wither away; *H. E.*

Notices to Correspondents.

A FARM: *W H N*: Suppose you have suitable weather, you may have on your light soil six or eight men ranged at equal intervals in the wake of a plough, and with forks turning all the Couch to the top in each furrow-slice as it is turned over, and it may then be burned. The ploughing will cost 8*s.* per acre, the eight men 16*s.* per acre, and the after mowing say 6*s.* per acre—in all 30*s.* And it may be found necessary to repeat the operation, with, however, half the number of men, as there will be less Couch. You may grow Wheat after the land has been cleared; and if you top dress it in spring you may reckon upon a good crop. 94 acres of arable and 43 of good pasture land will probably need a capital of 1500*l.*; that is supposing your *rent* to be 270*l.* Land so good will yield produce enough to keep a large stock.

BLIGHT IN WHEAT: *S R.* Your experience is similar to ours: we have acres of Wheat prematurely dead. The matter is quite beyond our explanation.

CHICKEN HATCHING: *R G S.* Your letter is an advertisement, and would have been chargeable with duty. It has been forwarded to the writer of the paragraph you refer to.

DISSOLVED BONES: *Sub.* Full explanation of methods was given at p. 141, this year. Muriatic acid is preferable, as muriate of lime is more soluble than sulphate.

GAPES: *R R* will find the remedy for gapes in the No. for April 8th, 1848, and July 18, 1846. It is often occasioned by drinking dirty puddle water.

GEESE: *W G.* Possibly the disorder complained of is occasioned by eating some obnoxious sort of Grass. Is there any stagnant water near?

GRASS-SEEDS: *Fermanagh.* For peaty soils liable to inundation Lawson recommends the following per acre. Agrostis stolonifera, 4 lbs.; Festuca loliacea, 3 lbs.; Glyceria aquatica, 2 lbs.; G. fluitans, 6 lbs.; Phleum pratense, 2 lbs.; Poa trivialis, 4 lbs.; Lotus major, 1 lb. In all, 22 lbs.

GRASS LAND; *H W.* We do not see of what use rolling would be at this season on clay land.

POULTRY: *E N N.* We wish to oblige; but an entire page of the *Gazette* would not suffice to answer all your questions properly. On the subject of twinning in birds, a very curious point in natural history, you are referred to a forthcoming enlarged republication of the articles on "Ornamental Poultry," from the *Agricultural Gazette*. The large Surrey fowls you see mentioned in the poultry lists of Leadenhall Market at 12*s.* per couple, are a particular breed, nearly allied to the Dorkings; had they been capons, they would probably have been advertised as such. These latter, however, are much out of fashion now, and not often brought to market. When they are, it is usual to sell them singly, I believe, and not in couples. The best mode of fatting young poultry depends entirely upon the taste of the consumer. Some prefer fowls fatted like pheasants, with an abundant supply of grain and insects, without any confinement whatever. Those who like them to be shut up for a time will find excellent directions in "Farming for Ladies," p. 160; *D.*

TOP-DRESSING FOR GRASS-LANDS: *Const. Reader.* Bones dissolved in muriatic acid will be a good top-dressing for Grass-lands. Boiled will be more easily dissolved than raw bones. They must be put in a vessel, wetted till they will take up no more water, and then have the acid poured over them.

WOOLLEN RAGS: *W.* Will any one who has used them give us the details of his experience from the time of purchase till their effect on the crop was ascertained.

ERRATUM: At p. 497, col. *b*, line 28, for "pointed," read "jointed."

Markets.

SMITHFIELD, MONDAY, July 24.

We have a large supply of Beasts. The demand is considerable for the best qualities; these not being very plentiful they do not suffer much reduction; second rate are lower, and many remain unsold. The number of Sheep is much larger, we are not, however, overdone with the best qualities. Buyers are plentiful at Friday's quotations. There is a large supply of Calves, especially of foreign. Middling are fully 4d. per 8 lbs. lower, and choice ones about 2d. From Holland and Germany there are about 500 Beasts, 2780 Sheep, and 343 Calves; from Scotland, 400 Beasts; from Norfolk, 800; and from Leicestershire and Lincolnshire, 1550.

Per stone of 8 lbs.—	s	d	s	d	Per stone of 8 lbs.—	s	d	s	d
Best Scots, Herefords, &c.	4	0	to 4	2	Best Long Wools	....		....	
Best Short Horns	3	10	— 4	0	Ditto Shorn	4	6	— 4	8
Second quality Beasts	2	8	— 3	4	Ewes and second quality	....		....	
Calves	3	4	— 4	6	Ditto Shorn	3	10	— 4	4
Best Downs & Half-breds	....				Lambs	4	4	— 5	4
Ditto Shorn	5	0	— 5	2	Pigs	4	4	— 5	0

Beasts—3688. Sheep and Lambs—28,990. Calves—500. Pigs—280.

FRIDAY, July 28.

The supply of Beasts is large and the demand small. Trade is very slow, at a reduction of 2d. per 8 lbs. on all kinds, and many remain unsold. The number of Sheep is considerable, and quality pretty good; trade is dull, and they must be quoted 2d. per 8 lbs. lower. All are sold. Lambs come to market in very poor condition; they are sold at late rates. There is again a large number of Calves; trade is exceedingly slow, at lower rates, making from 3*s.* 4*d.* to 4*s.* 4*d.* From Holland we have 193 Beasts, 1260 Sheep, and 348 Calves; from Spain, 45 Beasts; from Scotland, 300; and 150 Milch Cows from the home counties.

Per stone of 8 lbs.—	s	d	s	d	Per stone of 8 lbs.—	s	d	s	d
Best Scots, Herefords, &c.	3	10	to 4	0	Best Long Wools	....		....	
Best Short Horns	3	8	— 3	10	Ditto Shorn	4	4	— 4	6
Second quality Beasts	2	8	— 3	2	Ewes and second quality	....		....	
Calves	3	4	— 4	4	Ditto Shorn	3	6	— 4	0
Best Downs & Half-breds	....				Lambs	4	4	— 5	4
Ditto Shorn	4	10	— 5	0	Pigs	4	0	— 5	0

Beasts—1140. Sheep and Lambs—12,000. Calves—679. Pigs—295.

HOPS, FRIDAY, July 28.

Messrs. PATTENDEN and SMITH report that there is a better demand for Hops, with but very few on offer. Duty, 190,000*l.* to 200,000*l.*

Mid. & East Kents, p. cwt.	60s	to	80s	Yearling Kents, p. cwt.	38s	to 45s
Weald of Kents	45	—	55	Yearling Sussex	38	— 44
Sussex	42	—	52	Old Hops	20	— 25.
Farnhams	80	—	120			

COVENT GARDEN, July 29.

The market is well supplied with Vegetables and most kinds of Fruit. English Pine-apples are plentiful; foreign ones abundant, at from 1s. to 4s. each. Hothouse Grapes, Peaches, and Nectarines are abundant. Melons are sufficient for the demand. Cherries are not so plentiful. Plums are offered at from 6s. to 8s. per half sieve. [illegible] Apricots begin to make their appearance. Strawberries are [illegible]. Nuts are sufficient for the demand. Oranges are abundant; Lemons moderately plentiful. Among Vegetables, Carrots and Turnips are abundant and [illegible] Cauliflowers &c., sufficient for the demand. Asparagus is [illegible]. French Beans very plentiful. Potatoes the same, but [illegible]. Peas are abundant. Lettuces and other salading are sufficient for the demand. Mushrooms are a little dearer. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Fuchsias, Carnations, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 4s to 6s	Oranges, per doz., 1s to 2s 6d
Grapes, hothouse, per lb, 3s to 5s	— per 100, [illegible] to 20s
Peaches, per doz., [illegible] to 15s	— bitter, per 100, [illegible] to 16s
Nectarines, per doz., 6s to 15s	Lemons, per doz., 1s to 2s
Melons, each, 3s to 6s	— per 100, [illegible] to 21s
Strawberries, per pottle, 6d to 1s	Almonds, per peck, 6s
Plums, per punnet, 1s 6d to 2s 6d	— sweet, per lb., 2s to 3s
Apricots, per doz., 2s to 4s	Walnuts, per bush., [illegible] to 20s
Cherries, per lb., 6d to 3s	Nuts, Barcelona, per bush., [illegible] to 22s
Apples, dessert, per bush., 4s to 7s	— Filberts, per 100 lbs., [illegible] to 20s
— kitchen, p. bush., 4s to 6s	— Cob, per 100 lbs., [illegible] to [illegible]
Currants, per half sieve, 2s to 3s	— Brazil, per bush., [illegible] to 16s
Gooseberries, p. hf sieve, 1s 6d to 2s 6d	Chestnuts, per peck, 3s to 6s
Raspberries, per punnet, 6d to 9d	

VEGETABLES.

Asparagus, per bundle, 1s to 4s	Onions, pickling, per half sieve, 2s to 3s
Cabbages, per doz., 6d to 1s	Shallots, per bunch, 3d to 4d
Cauliflowers, per doz., 1s to 4s	Garlic, per lb., 8d to 1s
Sorrel, per half sieve, 6d to 9d	Radishes, per doz. hands, 6d to 1s
Potatoes, per ton, 60s to 100s	— Turnip, do., 9d to 1s
— per cwt., 3s 6d to 6s	Artichokes, per doz., 1s to 2s 6d
— per bush., 1s 6d to 3s	Vegetable Marrow, per doz., 6d to 1s
Turnips, p. bunch., 4d to 8d	Lettuce, Cab., per score, [illegible]d to 1s
Red Beet, per doz., 6d to 1s	— Cos, do., 6d to 1s
Horse Radish, per bundle, 1s to 6s	Mushrooms, per pottle, 2s to 4s
French Beans, per half sieve, 2s to 3s	Small Salads, per punnet, 2d to 3d
Cucumbers, each, 2d to 8d	Fennel, per bunch, 2d to 3d
Leeks, per bunch, 1d to 2d	Savory, per bunch, 3d to 4d
Celery, per bundle, 4s to 1s 6d	Thyme, per bunch, 3d to 4d
Carrots, per bunch, 3d to 6d	Watercress, p. 12 small bun., 6d to 9d
Spinach, per sieve, 2s to 3s	Parsley, per half sieve, 6d to 9d
Peas, per sieve, 2s to 4s	— Roots, per bundle, 1s to 1s 6d
Beans, per bushel, 2s to 2s 6d	Mint, green, per bunch, 3d to 4d
Onions, per bunch, 3d to 6d	Marjoram, per bunch, 6d to 9d
— Spanish, per doz., 1s to 4s	

HAY.—Per Load of 36 Trusses.

Smithfield, July 27.

Prime Mead. Hay	70s to 80s	New Hay	.. 60s to 72s		Straw	.. 27s to 32s
Inferior ditto	.. 60	66	Clover	.. 88	10[illegible]		
Rowen	.. 58	65	New Clover	.. 70	90		

Trade heavy for meadow Hay. Good old Clover in demand.—J. Cooper.

Cumberland Market, July 27.

Prime Mead. Hay	70s to 76s		Old Clover	95s to 100s		Straw	.. 28s to 32s
Inferior ..	.. 60	65	Inferior	.. 70	88		
New Hay	.. 50	65	New Clover ..	—	—	Joshua Baker.	

Whitechapel, July 27.

Fine Old Hay	.. 70s to 76s		Old Clover	.. 95s to 100s		Straw	.. 26s to 30s
Inferior Hay	.. 50	60	Inferior	.. 50	75		
New Hay..	.. —	—	New Clover	.. —	—		

MARK LANE, Monday, July 24.

Messrs. Kingsford and Lay report that there was a good supply of English Wheat from the near counties this morning, which was quickly disposed of at an advance of fully 3s. per qr. on our quotations of this day se'nnight. Of foreign, the quantity exposed for sale is small, and being generally held for higher prices, sales were limited. On the business done, 2s. per qr. advance was established. Wheat, f. o. b., is scarce, and inquired after; Polish Odessa has been sold at 40s. per qr., including freight and insurance.—English Barley supports its former value, and foreign is 6d. to 1s. per qr. dearer.—Beans and Peas must be noted 1s. per qr. higher.—Oats are more in request, but unsaleable at any advance.—Indian Corn is held at 40s. per qr. afloat, which stops business.—The value of Flour is fully maintained.

BRITISH PER IMPERIAL QUARTER.	s	s		s	s
Wheat, Essex, Kent, and Suffolk .... White	53	56	Red......	43	50
Norfolk, Lincolnshire, and Yorkshire	46	[illegible]	White ..	47	53
Barley, Malting and distilling, 27s to 29s Chevalier	30	32	Grinding	24	27
Oats, Lincolnshire and Yorkshire.......... Polands	21	24	Feed	20	23
Northumberland and Scotch .... Feed	20	22	Potato ..	22	25
Irish .... Feed	19	21	Potato ..	22	24
Malt, pale, ship..................	—	—			
Hertford and Essex	—	—			
Rye..................................	27	30			
Beans, Mazagan, old and new .. 27s to 32s.... Tick..	30	34	Harrow..	32	35
Pigeon, Heligoland ...... 34 36 .... Winds	—	—	Longpod	—	—
Peas, White.................. 33 36 .... Maple	35	36	Grey	33	34

Friday, July 28.

The arrivals of Grain and Flour, both English and foreign, since Monday, have been small, and the weather yesterday and to-day proving fine, our market this morning was thinly attended, and sales of Wheat consequently less extensive than on Wednesday. That day's prices, however, viz., an advance of 2s. to 3s. per qr. for English, 1s. per qr. upon free foreign, and 2s. to 3s. per qr. upon bonded and f. o. b. parcels, have been fully supported, and in some instances slightly exceeded.—Grinding Barley meets a good inquiry, and is the turn dearer.—Beans and Peas have rather an upward tendency.—Oats are a slow sale at a trifle over Monday's rates.

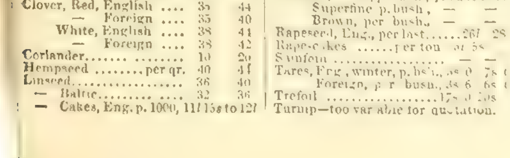
[The weather became very wet and stormy on the evening of the 23d, and has continued so generally throughout the country until last night, since which little rain has fallen here, although the atmosphere is still cloudy and threatening. The crops have been a good deal laid, and the fears of a wet harvest have induced considerable purchases of Wheat, and enabled holders of bonded and f. o. b. samples to realise an advance of fully 3s. per qr. upon the prices obtainable on Monday. English found buyers at 2s. per qr. more money; and in some of the country and Scotch markets prices have risen 3s. to 4s. per qr. The duty will probably decline to 6s., but is generally expected to recede to 4s., the minimum. Free Barrel Flour being scarce is held on higher terms, but the millers have not altered the top price of town made. Maize is said to have realised 40s. per qr., which appears an extravagant price compared with the value of spring corn. The advance in Wheat and Maize has slightly affected spring corn, and all descriptions excepting Oats must be written 1s. per qr. higher. The following are reports made between the 22d and the 24th inst., the result of the personal observation of respectable parties in the principal towns of Ireland, respecting the Potato crops. Dublin—the disease is on the increase. Waterford—only visible in the early kind, and unimportant. Clonmel—not at all alarming. Cork—spreading, but not of the same virulence as in 1846. Youghal—it exists, but it is too early to judge accurately; the bulk at present is good. Tralee—nothing to cause any alarm. Kilrush—serious. Limerick—it partially exists, but accounts are greatly exaggerated. Galway, Clare, Belfast, Londonderry, Sligo, Ballina, and Westport—the crop is represented as good and very promising. From Scotland our letters of yesterday represent the accounts as exaggerated; we believe the same applies in a great measure to England, although there are many places where doubtless the evil is great. Dantzic letters of the 21st inform us that the arrival of long expected supplies had induced business, and about 15000 qrs. of Wheat had been sold, chiefly of the best qualities, at 42s. to 44s. per qr., f. o. b.; about 5000 of the inferior remained undisposed of, being held at 36s. to 38s. 6d. In the lower ports little Wheat is left. This could only be purchased at exorbitant prices. In Holland prices have advanced 1s. to 2s. per qr. The Odessa market remains as previously quoted.]

ARRIVALS IN THE PORT OF LONDON THIS WEEK.

	Wheat. Qrs.	Barley. Qrs.	Oats. Qrs.	Flour.
English..............	3560	40	2580	2250 sacks.
Irish	—	—	5030	
Foreign..............	3770	2400	1280	— barrels.

Imperial Averages.	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas
June 17	46s 10d	30 10d	20s 8d	31s 7d	37s 5d	38s 0d
— 24	46 11	31 2	20 9	29 4	36 11	38 4
July 1	48 2	30 5	20 10	30 2	36 8	38 2
— 8	48 10	30 1	20 8	31 0	36 8	37 4
— 15	49 1	29 0	20 9	31 0	36 6	37 3
— 22	48 11	30 2	20 3	28 3	35 11	35 3
Aggregate Average	48 2	30 3	20 8	30 3	36 9	37 7
Duties on Foreign Grain	9 0	2 6	2 6	2 6	2 6	2 6

Fluctuations in the last six weeks' Corn Averages.



SEEDS, July 24.

Canary .... per qr. 70s to 78s		Linseed cakes, Foreign, p. ton, 7l to 9l
Caraway .... per cwt. 27 28		Mustard, White, p. bush., 7s 0d to 9s 0d
Clover, Red, English 35 44		Superfine p. bush., — —
— Foreign 35 40		Brown, per bush., — —
White, English 38 41		Rapeseed, Eng., per last...... 26l 28
— Foreign 38 42		Rape-cakes ...... per ton [illegible]
Coriander................ 10 20		Sainfoin .... — —
Hempseed .... per qr. 40 41		Tares, Eng., winter, p. bush., [illegible]
Linseed.................. 36 40		Foreign, per bush., 3s 6 6s [illegible]
— Baltic.............. 32 36		Trefoil .... 17s [illegible]
— Cakes, Eng. p. 1000, 11l 15s to 12l		Turnip—too variable for quotation.

SPLENDID SALE OF THE WOODHALL COLLECTION OF EXOTICS, FINE PLANTS, AND HOUSES containing the same. There will be sold by Auction, within the Gardens of Woodhall, in the parish of Bothwell, and county of Lanark, lying 10 miles east of Glasgow, and near to the Holytown station of the Caledonian Railway Company, on Thursday, the 10th day of August next, commencing at 11 o'clock forenoon, the whole of that extensive and valuable collection of HOTHOUSE, GREENHOUSE, and FINE PLANTS, consisting of numerous rare and valuable plants, amongst which are very many fine specimens of Camellias, with a variety of Pelargoniums (Geraniums), Indian Azaleas, and other miscellaneous Greenhouse Plants and Shrubs. After which will be sold the whole range of Glass, which is very extensive. The collection is well known, and in the best state of health, and may be viewed any day prior to the sale, by applying at Woodhall Gardens. Further information [illegible], and particulars given, on application to Mr. W[illegible], Thankerton, Holytown. Woodhall, July 29.

MERRIOTT, NEAR CREWKERNE, SOMERSETSHIRE.

TO BE LET, and entered on immediately, on most advantageous terms, an Old Established and Well Stocked NURSERY, containing, by estimation, Ten Acres (more or less), situated in the above parish; together with an excellent Hothouse thereon, filled with choice Vines in full bearing, and valuable plants; adjoining which is a comfortable Cottage, with convenient Cart-house, Packing Sheds, Seed Room, &c.

Merriott is situated within a short distance of the populous towns of Ilminster, Ilchester, Yeovil, Crewkerne, Chard, Taunton, &c., to which latter place conveyances pass to and fro daily, in connection with the railways to all parts of England.

To view the above, application may be made to Mr. Andrews, at the Cottage on the Nursery; and further particulars and terms of letting may be known on application to Mr. Whitley, Solicitor, Wrington, near Bristol, Somerset.—Wrington, July 29.

TO BE LET ON LEASE, from Michaelmas next, a FARM, containing 116 Acres of Arable, Grass, and Wood Lands, with commodious homestead, situate in the parish of Lingfield, Surrey, within 3 miles of the market town of East Grinstead. Enquire of Mr. Geo. Trotter, Bailiff at Felcourt, Lingfield, who can be highly recommended by the Advertiser as an intelligent Scotchman, well acquainted with modern improved farming, perfectly trustworthy, and capable of taking entire charge of any nobleman or gentleman's estate.

MARKET GARDEN TO LET.

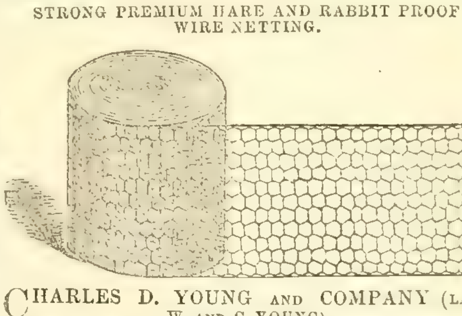
TO BE LET, either at Michaelmas next or with immediate possession, a MARKET GARDEN in excellent condition, at Chertsey, Surrey, within a quarter of a mile of the Station, consisting of two acres of Garden walled all round with cross wall, Vinery, Melon Pits, extensive Piggery, Store Shed; with or without a Dwelling-house. Rent with Dwelling-house, 45l.; without, 35l.—For further particulars, apply to Mr. C. Witton, West Surrey Bank, Chertsey.

REAPING SCYTHES.

DRUMMOND'S IMPROVED REAPING SCYTHES continue to give complete satisfaction, and may be had from the Subscribers, carriage free, to London, Liverpool, Hull, Newcastle, Belfast, Londonderry, Dublin, and Cork, at 11s. 6d. each, or 10s. 6d. each when three or more are taken.—N.B. Orders from unknown correspondents must be accompanied with a remittance.—William Drummond and Sons, Agricultural Museum; Stirling, N.B., and 58, Dawson-street, Dublin.

⁂ Priced Lists of Agricultural Implements may be had free on application.

STRONG PREMIUM HARE AND RABBIT PROOF WIRE NETTING.



CHARLES D. YOUNG and COMPANY (late W. and C. Young), MANUFACTURERS OF IRON AND WIRE WORK, &c., Castle-buildings, Derby-square, Liverpool; 128, High-street, Edinburgh; and 32, St. Enoch-square, Glasgow, Beg respectfully to call the attention of Landed Proprietors and others to their strong Wire-Net Fence, for excluding Hares and Rabbits from Gardens, young Plantations, Nurseries, &c.

This Net was exhibited at the Show of the Highland and Agricultural Society of Scotland, held lately at Inverness, where its Efficiency, Great Strength, and Exceeding Cheapness attracted general attention, and had awarded from the Judges the Society's Silver Medals, with high commendations.

The immense damage done by Hares and Rabbits in Gardens and Young Plantations, is often so great, that in the course of a year or two it will amount to more than the entire cost of protecting them with this Net. It is so durable, that when Plantations are sufficiently advanced to be independent of its protection, it can be removed to other exposed situations with the greatest facility, by any labourer. As a Fence against Hares and Rabbits, it is of itself quite sufficient, having only to be unrolled and attached, with small wire sent for that purpose, to wooden stakes driven into the ground, about every six or seven feet apart. It is, besides, peculiarly adapted for rendering Hedges, Paling, or other existing Fences, *completely impervious* to such vermin: and by being cut up into small pieces of three or more feet, as required, it forms a most efficient guard, at little expense, for individual Plants and Shrubs.

Prices.—18 ins. high, 9*d.*; 24 ins., 1*s.*; 30 ins., 1*s.* 3*d.*; and 36 ins., 1*s.* 6*d.* per lineal yard.

Or a web of 100 yards, 18 ins. wide, will cost	... £3	15	0
Do. of 100 yards, 24 ins. wide ...	... 5	0	0
Do. of 100 yards, 30 ins. wide ...	... 6	5	0
Do. of 100 yards, 36 ins. wide ...	... 7	10	0

If more or less than a web is required, it would be charged at the same rate per yard.

This Netting is also admirably adapted for Pheasantries and Poultry-yards, and is charged at the same rate. As carriage has, in many instances, been an obstacle to parties at a distance requiring this Net, C. D. Y. and Co. have made arrangements by which they will undertake to deliver it at any of the principal ports of Scotland, England, and Ireland, for One Halfpenny per lineal yard.

C. D. Young and Co. cannot give a better idea of the great strength of their Premium Wire Netting than by stating that the weight of one yard of their 24-inch at 1s. is equal to [illegible] yards of another article in the market, the same width, at [illegible] per yard. Samples for inspection sent free of expense.

C. D. Young & Co. manufacture every description of IRON and WIRE WORK required for this and foreign countries.

Workmen sent to all parts of Scotland, England, and Ireland.

A CLEAR COMPLEXION.

GODFREY'S EXTRACT OF ELDER FLOWERS [illegible]

H. WALKER'S NEEDLES [illegible] of the [illegible] Crochets, [illegible] Gresham-street [illegible]

BENHAM'S [illegible] CLOSE[illegible] [illegible] ensuring a [illegible] beverage. [illegible]

[illegible] for the [illegible]

Patent [illegible] CLEANER [illegible] price 78s. [illegible] the [illegible] work [illegible] are now [illegible] street, Cavendish-square.

HEAL AND SON'S BEDDING MANUFACTORY.

The peculiar feature of their [illegible] confined exclusively to the Manufacture of [illegible], and consequently they are enabled to [illegible] greatest variety [illegible]

HEAL AND SON'S LIST OF BEDDING,

Containing a full description of [illegible] and Prices, sent free by Post, on application to their Factory, [illegible] opposite the Chapel, Tottenham-court-road.

ROYAL PAPIER MACHÉ AND JAPAN WORKS.

JENNENS and BETTRIDGE, Manufacturers to Her Majesty, Prince Albert, [illegible] Halkin-street West, Belgrave-square, [illegible] mingham. At these Works are [illegible] Papier Maché Trays, Tables, Chairs, Cabinets, [illegible] &c.

Jennens and Bettridge's [illegible] the Establishments at [illegible] and Retail Houses in the United Kingdom, [illegible] correspondents in every important city [illegible]

N.B. All goods marked with Jennens and Bettridge's names are warranted.

Strangers of respectability visiting [illegible] may inspect these works and obtain introductions to the other establishments of interest.

Now ready, to be had of all [illegible],

SUMMERLY'S ART-MANUFACTURES, by Bell, Creswick, Dyce, Horsley, Maclise, Mulready, Redgrave, Townsend, Westmacott, &c.

	£.	s.	d.		£.	s.	d.
Stratford Shakespere Statuette	[illegible]	[illegible]	[illegible]	Bronze Inkstand and silver, ...	[illegible]	6	0
Prayer (Boy) Statuette	1	4	0	[illegible] various prices.			
Belief (girl) Statuette	1	4	0	Water Vases and Jugs [illegible]			
Carved wood brackets, various prices.				Fish [illegible]	10	10	0
Earthenware Salt-cellar	0	2	[illegible]	The "[illegible]" Paper Cutter	2	5	0
Gilt Decanters, each..	3	[illegible]	[illegible]	Wine Tray, paper [illegible]	2	[illegible]	0
Gilt Wine Glasses, each	0	6	0	[illegible]	[illegible]	[illegible]	[illegible]
Soda-water Glasses, various prices.				[illegible] Teapot	[illegible]	[illegible]	[illegible]
Shaving Pot	0	4	[illegible]	Teapot [illegible]	[illegible]	[illegible]	[illegible]
Brush Dish	0	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Una and the Lion (Parian)	3	3	0	[illegible]	[illegible]	10	0
Dorothea (Bronze and) Parian	2	2	[illegible]	Tea [illegible], various prices.			
Neptune Salt-cellar (Silver and Parian	1	7	0	Bread-bread [illegible] ..	1	1	0
Kissing Children (Parian)	[illegible]	9	[illegible]	New Bread Platter, various prices.			
Bride's Inkstand (Parian)	1	1[illegible]	6	Terra Cotta Brackets, each	[illegible]	6	0

The Art-Manufactures Circular, with 24 pictures, sent on receipt of 3 postage stamps, from Cundall's, 12, Old Bond-st.

HAIR RESTORED.—Further confirmation of the unfailing virtues of OLDRIDGE'S BALM of COLUMBIA. The wonderful efficacy of this [illegible] in restoring the hair to its pristine beauty, and the certainty with which its conservative agency operates in preserving it, has received, as might be expected, the most [illegible] testimonials from the grateful thousands who have [illegible]

To Messrs. C. and A. Oldridge.

[illegible]-street, [illegible], May, 1848.

"Gentlemen.—I [illegible] of your valuable BALM of COLUMBIA, to state the [illegible] effected by it. Towards the latter end of [illegible] year I found my hair falling off, especially when [illegible] and recollection of the benefits [illegible] used it a few years back, I was induced to try your BALM, and am happy to attest that, after using [illegible] I [illegible] served a great change [illegible] restoration and strengthening [illegible]"

C. and A. Oldridge's Balm [illegible] prevents the Hair from turning grey, [illegible] causes it to curl beautifully, [illegible] stops it from falling off. Price [illegible] per bottle. No other prices are genuine.

OLDRIDGE'S BALM, 1, WELLINGTON-STREET, the second house from the Strand.

DO YOU SUFFER TOOTH-ACHE? If so, use FRANKS'S ENAMEL for [illegible] Decayed Spots and rendering [illegible]. Price One Shilling. Twenty [illegible]. Sold by all Chemists, or sent [illegible] by return of post, by sending 1s. and a stamp to J. Willis, [illegible], London.

CAPTAIN CHIOSSO (assisted by his Son), PROFESSOR OF FENCING AND GYMNASTICS at the University College, London, and author of a treatise on Physical Education, respectfully begs to announce that he has removed to 21, Gower-street, [illegible], where he continues to treat cases of SPINAL DEFORMITY, CONTRACTION OF THE CHEST, DEBILITY, &c. &c. His system, for its simplicity and efficacy, is peculiarly adapted to the youth of both sexes, as well as adults. As it can be productive of no strain to the muscles, [illegible] it is on this account that it is recommended by the highest authorities of the Medical Profession.

Captain C. may be consulted on Tuesdays and Thursdays, between the hours of Two and Three.

NEW LIFE TABLES.

THE ALLIANCE LIFE AND FIRE ASSURANCE COMPANY, BARTHOLOMEW-LANE, LONDON.

Capital, Five Million Pounds sterling. Established 1824.

SECURITY.—The large invested Capital, and the personal responsibility of upwards of One Thousand Shareholders.

The Board, with a view of giving increased facilities to the Public in the transaction of Life Business, have directed the construction of various Tables in addition to those they had previously in use.

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3. ,, subject to a LIMITED Number of Annual Payments.
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No entrance fees are charged. The Assured may proceed to any part of Europe without extra Premium. The Lives of Naval and Military Officers, not in actual service, are taken at the usual rates. A Commission to Solicitors and Agents bringing business is paid.

Detailed Prospectuses, with Tables of Rates and full particulars, will, on application, be forwarded by post, or may be obtained at the Head Office, 1, Bartholomew-lane, London; at the Office of the Company, 95, George-street, Edinburgh; and at their various agencies in England, Scotland, and Ireland.

*** Loans on the Deposit of unencumbered Policies of the Company are made, up to their value, without legal expense to the borrower.

FIRE ASSURANCES, at home and abroad, effected on the usual terms. A. HAMILTON, Secretary.

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THE BRITISH MUTUAL LIFE ASSURANCE SOCIETY entertains proposals of any description involving the contingency of human life.

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G. Godwin, Esq., F.R.S., F.S.A.	Lieutenant-Colonel Montresor.
Hon. William Gore.	George Alfred Walker, Esq.

The public are invited to examine for themselves the advantages gained for assurers by the plan on which policies are granted by this office. Apply to

CHARLES JAMES THICKE, Secretary.

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LIFE ASSURANCE.

THE *attention of parties contemplating Life Assurance* is requested to the advantages to be secured by effecting policies with the SCOTTISH UNION INSURANCE CORPORATION.

A printed statement of the large additions made to the policies at the two last periodical investigations may be had gratis at the offices. London Offices, 37, Cornhill.

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PROVIDENT LIFE OFFICE, 50, Regent-street, and 2, Royal Exchange-buildings, London.

Established 1806. Invested Capital, 1,230,000*l.*

Annual income, 140,000*l.* Bonuses declared, 743,000*l.*

Claims paid since the establishment of the Office, 1,675,000*l.*

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Policies issued by this Office are purchased at their full value; or Loans may be obtained upon them after they have been in existence for five years.

If a party neglect to pay for the renewal of his Policy, he may repair the omission any time within 12 months, upon proof of good health.

The profits (subject to a trifling deduction) are divided among the insured. The plan upon which they are divided gives to each party insured a share proportionate to the amount of the Premiums he has contributed.

In addition to the above advantages, the Directors have determined to adopt the principle of allotting a prospective Bonus to Policies lapsing between the Septennial Periods of Division, in order that all the Policy-holders may participate equally in the Profits of the Society.

The following Table shows the amount of Bonuses added to Policies existing at the present time.

Policy No.	Date of Policy.	Sum insured.	Bonuses added.	Increase on original Insurance.	Total Sum payable, to which future Bonuses will be added.
		£	£ s. d.		£ s. d.
21	1806	500	415 10 2	83·10 per cent.	915 10 2
521	1807	900	982 12 1	109.17 ,,	1882 12 1
1174	1810	1200	1160 5 6	96.68 ,,	2360 5 6
1395	1811	1600	1328 8 6	83.02 ,,	2928 8 6
3288	1820	2000	1906 13 5	95.33 ,,	3906 13 5
3392	1820	5000	3558 17 8	71.17 ,,	8558 17 8
4356	1822	3000	2541 3 6	84.7 ,,	5541 3 6

Prospectuses and full particulars may be obtained upon application to the Agents of the Office in all the principal towns of the United Kingdom; and the head Office, No. 50, Regent-st

THE IRISH AMELIORATION SOCIETY.—(To be Incorporated by Royal Charter.)—Capital, 500,000*l.*, in 10*l.* Shares. The LORD DE MAULEY, Chairman.

Major-General M'LEOD (late Chief Engineer, Bengal), Chairman of Committee of Works.

For the permanent and profitable employment of the people, and the improvement of their social condition, offering at the same time important advantages in a sanitary, agricultural, and commercial point of view.

Full particulars of the plans and objects of the Society, with the names of Directors, Officers, &c., may be had at the Offices, 2, Waterloo-place, Pall-mall, and 6, King William-street, City.

Applications for Shares to be made to the Secretary, and Contributions to the Benevolent Trust Fund to be paid to the Bankers, Messrs. Herries, Farquhar, and Co.; and Messrs. Smith, Payne, and Smith. JAMES BLAKE, Sec.

THE FLORIST.

This day is published Part VIII.,

CONTAINING TWO COLOURED ENGRAVINGS AND WOODCUTS.

Nos. 2, 3, and 4 of this Work are reprinting, and will be ready on the 30th instant.

London: CHAPMAN and HALL, 186, Strand.

In small 8vo. price 3*s.* 6*d.* cloth,

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THE PRACTICAL GARDENER AND MODERN HORTICULTURIST; in One Volume, 988 pages, closely printed, with upwards of 300 illustrative Woodcuts, containing the present improved scientific mode of managing the Kitchen, Fruit, and Flower Gardens, the Greenhouse, Hothouse, Conservatory, &c.

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"The labour and experience of a life devoted to the science of Horticulture we now present to the public."—*Vide Author's Preface.*

With an Appendix, describing a new and economical method of producing uniform Bottom Heat from Hot Water Tanks upon the most simple plan, with explanatory Diagrams, and Reference to Buildings now in successful operation.

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London: LONGMAN, BROWN, GREEN, and LONGMANS.

On the 31st will be published No. 20 of

THE MIDLAND FLORIST AND SUBURBAN HORTICULTURIST; containing 36 pages of information on FLORISTS' FLOWERS, HORTICULTURE, &c. Price only THREEPENCE.

*** A few copies of the first Volume may still be had.

London: SIMPKIN and MARSHALL, and all Booksellers.

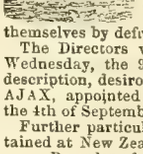
NEW ZEALAND COMPANY, OTAGO.—The Court of Directors of the New Zealand Company hereby give notice, that a Further Ballot for priority of choice of Land in the Settlement of OTAGO, will take place at New Zealand House on Thursday the 17th of August next, at One o'Clock precisely, when Purchasers or their Agents are requested to attend.

The full sum of 120*l.* 10*s.* 0*d.* for each Property, consisting of 60¾ acres, must be paid, either to the Commercial Bank of Scotland, in Scotland, or to Messrs. Smith, Payne and Smiths, Bankers in London, on the New Zealand Company's account, on or before Saturday, the 12th of August.

Further particulars may be obtained at New Zealand House, London; and at the Offices of the Otago Association, No. 27, South Hanover Street, Edinburgh, and No. 3, West Nile Street, Glasgow.

By order of the Court, THOMAS CUDBERT HARINGTON.

New Zealand House, 9, Broad Street Buildings, London, 30th June, 1848.



NEW ZEALAND COMPANY—EMIGRATION.—The Court of Directors of the New Zealand Company are prepared to assist in Emigrating to their Settlements in New Zealand, Agricultural Mechanics, Farm Labourers, and Domestic Servants of good character, who will assist themselves by defraying a portion of the cost of their passage.

The Directors will receive Applications accordingly, until Wednesday, the 9th of August, from persons of the above description, desirous of proceeding on these terms by the Ship AJAX, appointed to sail from the London Docks on Monday, the 4th of September next.

Further particulars and Forms of Application may be obtained at New Zealand House.

By order of the Court, THOMAS CUDBERT HARINGTON.

New Zealand House, 9, Broad Street Buildings, London, 24th July, 1848.

THE GROWTH AND PRESERVATION OF THE HAIR. ROWLANDS' MACASSAR OIL insinuates its balsamic properties into the pores of the head, nourishes the Hair in its embryo state, accelerates its growth, cleanses it from Scurf and Dandriff, sustains it in maturity, and continues its possession of healthy vigour, silky softness, and luxurious redundancy, to the latest period of human life. In the growth of WHISKERS, EYEBROWS, and MUSTACHIOS, it is also unfailing in its stimulative operation. For Children it is especially recommended, as forming the basis of a beautiful head of hair, and rendering the use of the fine-comb unnecessary. A small pamphlet accompanies each bottle of ROWLANDS' MACASSAR Oil, wherein important hints and advice will be found on the Culture of the Hair of Infancy, and on its preservation and beauty through the several stages of human life. Price 3*s.* 6*d.*—7*s.*—Family bottles (equal to four small), 10*s.* 6*d.*; and double that size, 21*s.* per bottle. Each bottle of the genuine article has the words, "ROWLANDS' MACASSAR OIL," engraved in two lines on the Wrapper; and on the back of the Wrapper nearly 1500 times, containing 20,028 letters.—Sold by them at 20, Hatton-garden, London, and by all Chemists and Perfumers.

EMIGRATION AND COLONIZATION.—IMMIGRATION being much required in AUSTRALIA, NEW ZEALAND, &c., and as the supposed expense of an OUTFIT often prevents individuals emigrating, S. W. SILVER & Co., CLOTHIERS, OUTFITTERS, and CONTRACTORS (having a large interest to maintain in those Colonies), have been advised to make known that they can supply a comfortable Outfit (including Bedding) for Male or Female Emigrants, from 4*l.* (net) upwards, or less (2*l.*, if needful); and for Children in proportion, at No. 4, Bishopsgate-street Within, (opposite the London Tavern), where Lists will be given on application.

S. W. S. & Co., being the makers of nearly every article in all the Outfits they supply, and as one of their objects is to promote Emigration, they neither receive from Agents, or pay the too usual commission to any person introducing Passengers to be fitted out, so that the Passage and Outfit may be procured at the least possible expense; but they will, on application, advise Passengers how to obtain the most economic passage to the Colonies. They have a Representative in every Australian Colony, to whom they ship Clothing monthly; thus they would forward small parcels free of expense.

Naval and Military Officers, Midshipmen, Cadets, Civilians, Ladies, &c., are outfitted as heretofore, at the Cabin-Passenger Outfitting Warehouse, Nos. 66 and 67, Cornhill (the Emigration Outfitting being exclusively at No. 4, Bishopsgate-street Within), London, and each branch at St. George's Crescent, Liverpool.

EDWARD BECK proposes to send out the following varieties, selected from his Seedling PELARGONIUMS of 1847. They have all appeared in his collections at the Exhibitions of the Horticultural and Royal Botanic Societies, where they have obtained the six Gold Medals. Terms as before: pre-payment only; the first remittances to secure the first selection. Post Office Orders are requested upon Brentford.

STORY'S MONT BLANC, Nos. 1 and 2.—These are two white flowers with pink blotches. In No. 1 it is small, but decided; in No. 2 it is larger and more feathered. The former is an uncertain bloomer; the latter very constant, and will make a first-rate show variety. The two are sent out at 1*l.* 11*s.* 6*d.*; the proceeds to be handed over to the "Florist."

BECK'S DELICATISSIMA.—"A flower of good form and substance; the centre of the flower is white, with bright pink under petals; the top petals a deep maroon, with a narrow margin of rose." Free bloomer and good habit; 1*l.* 1*s.*

EMILIA.—This flower has been much admired for the beauty of its top petals, being a very deep dark rich maroon with slight margin of rose on the edge. The lower petals inferior, similar to Desdemona, which it resembles in habit of plant and bloom; 1*l.* 1*s.*

PRINCESS.—A flower quite novel in colour; free bloomer, and very constant; upper petals a crimson purple blotch, shading off to the margin; lower petals rosy purple; good habit; 1*l.* 1*s.*

REFULGENT.—A smallish flower of very fine form, which it retains throughout the blooming season; ground-colour rose, mixed with scarlet, which gives it great richness, particularly in the upper petals, which have a dark blotch shading off gradually to the margin; good habit; not a very free bloomer; 1*l.* 1*s.*

STAR.—A perfect mule; and being a profuse bloomer and very striking, will make a first-rate show plant, retaining its form to the last; upper petals clouded crimson maroon; lower ones a rich rose, with white eye formed by a spash of darker colour on its edge; good habit; 1*l.* 1*s.*

SYMMETRY.—This is not so good in shape as its name would imply, but is very smooth; a refined flower in quality, with dark velvety crimson spot on a rose-coloured ground; free bloomer, and constant; 1*l.* 1*s.*

SUNDOWN.—A good-sized flower, free bloomer, and constant; its colour a mixture of orange and cinnamon, with dark clouded blotch; its fault is want of smoothness in the upper petals; 1*l.* 1*s.*

HARLEQUIN.—This singularity is figured in No. VII. of "The Florist," and will be admired or despised according to purchasers' tastes; there will not be more than a dozen to twenty plants; 15*s.*

The above will be delivered in October next, well established in 4-inch pots, package and carriage to London included in the price.—Usual allowance to the Trade when three plants of any sort are taken.

VARIETIES FOR 1847.

Centurion	£0 15 0	Gustavus	£0 15 0
Cruenta	0 15 0	Honora	0 10 6
Cavalier	0 15 0	Rosamund	0 15 0
Cassandra	0 10 6	Blanche	0 7 6
Gulielma	0 15 0	Grandiflora	0 7 6

The Set 5*l.* 5*s.* package &c. included.

*** A descriptive list of the varieties may be had on prepaid application, enclosing one postage stamp.—Worton Cottage, Isleworth.

THE FOLLOWING WORKS ARE CONSTANTLY ON SALE AT THE GARDENERS' CHRONICLE OFFICE, 5, UPPER WELLINGTON STREET, STRAND, LONDON.

Just Published, price 1*s.* 6*d.*, free by post 1*s.* 10*d.*

LABELS FOR THE HERBARIUM, CONSISTING OF THE NAMES OF THE

Classes, Alliances, Orders, and Sub-Orders OF PROFESSOR LINDLEY'S VEGETABLE KINGDOM,

So printed, in large type, that they can be cut out and pasted into THE HERBARIUM.

Now ready, price 4*s.* 6*d.*

SECOND EDITION, REVISED AND ENLARGED.

RURAL CHEMISTRY: AN ELEMENTARY INTRODUCTION TO THE STUDY OF THE SCIENCE IN ITS RELATION TO AGRICULTURE.

By EDWARD SOLLY, F.R.S., F.L.S., F.G.S., HON. MEMB. ROY. AGR. SOC. ENG.,

Professor of Chemistry to the Horticultural Society of London, Lecturer on Chemistry in the Hon. E. I. Co.'s Military Seminary at Addiscombe, &c. &c.

*** At the request of numerous Subscribers, the price of the TREE ROSE is reduced from 4*s.* 6*d.* to 3*s.* 6*d.* (post free.)

THE TREE ROSE.—Practical Instructions for its Formation and Culture. Illustrated by 200 Woodcuts. Reprinted from the GARDENERS' CHRONICLE, with additions.

Now ready, price 2*d.* each.

THE SPEECHES AT THE AGRICULTURAL MEETING AT DRAYTON. Reprinted from the "Agricultural Gazette" for general distribution, at 2*d.* each. May be ordered of all booksellers, and single copies will be sent free by post on three postage stamps being forwarded to JAMES MATTHEWS, 5, Upper Wellington-street, Covent-garden, London.

Price 3*d.*, or 5*s.* for 25 copies for distribution amongst Cottage Tenantry, (delivered anywhere in London, on a Post-office order being sent to the Publisher, JAMES MATTHEWS, at the Office of the *Gardeners' Chronicle*, and made payable at the Post-office, 180, Strand, London.)

THE COTTAGERS' CALENDAR OF GARDEN OPERATIONS.

By JOSEPH PAXTON, Gardener to His Grace the Duke of Devonshire, &c. &c.

Reprinted from the *Gardeners' Chronicle*. Above 42,000 have already been sold. Illustrated with several woodcuts.

London: J. MATTHEWS, 5, Upper Wellington-street, Strand.

A CURE OF RHEUMATISM BY HOLLOWAY'S PILLS, certified by Mr. JAMES ROCHFORD, of Port Philip, who states that his wife, Mrs. Lydia Rochford, was affected with Rheumatism in the head for 15 months, and although attended by the best medical practitioners she could obtain no relief; it also affected the palate of her mouth to that degree that she could not articulate her words properly; she was advised to try HOLLOWAY'S Pills, and by their efficacy she has been restored to her usual state of health. This wonderful cure is now made public for the sake of suffering humanity. HOLLOWAY'S Pills are equally efficacious in the severest cases of Gout.—Sold by all Druggists; and at Professor HOLLOWAY'S Establishment, 244, Strand, London.

Printed by WILLIAM BRADBURY, of No. 6, York-place, Stoke Newington, and FREDERICK MULLETT EVANS, of No. 7, Church-row, Stoke Newington, both in the county of Middlesex, Printers, at their office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the Office, No. 5, Charles-street, in the parish of St. Paul's, Covent Garden, in the said county, where all Advertisements and Communica-

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 32.—1848.] SATURDAY, AUGUST 5. [PRICE 6d.

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ROSHERVILLE GARDENS. — The SECOND GRAND FLORICULTURAL EXHIBITION will take place on these grounds on Tuesday, the 15th August, 1848, open to all exhibitors free of entrance. Under the patronage of the Right Honourable the EARL OF DARNLEY. Prizes will be awarded for the following productions (arranged in classes for the accommodation of large and small growers), viz., for collections of Miscellaneous Plants, Heaths, Fuchsias, Dahlias, Cut Roses, and Flowers, Fruits, &c. &c. Tickets 1s. each, and List of Prizes, with particulars, may be had of BOYES THORNTON, Esq., Monument Chambers, 15, Fish-street-hill, London; of Mr. M'NALLY, Superintendent, Rosherville; at the Rosherville, Clifton, and Falcon Hotels, Gravesend; the Sun Hotel, Chatham; the White Hart Hotel, Bromley; and of Mr. NEVILLE, Ebenezer House, Peckham.

August 5. BOYES THORNTON, Secretary.

ONE HUNDRED AND TEN THOUSAND LAURELS FOR ONE HUNDRED POUNDS.

D. FERGUSON, Contracting Planter, Landscape Gardener, &c., Aylesbury, Bucks, respectfully informs the Nobility, Gentry, Railway Companies, &c., that he has a large quantity of large Evergreen and Deciduous Shrubs and Trees, Standard Roses, &c. Also would be happy to contract to supply them with rooted Laurel, in the autumn of 1849, at 10l. per 10,000; delivered free, at Wolverton, and add 1000 for every 10 ordered; samples of which will be sent upon application.

THE "BLACK PRINCE" STRAWBERRY.—The above is very early, medium size, fine flavour, and most prolific, having exhibited several plants with 200 fruit on each; fine plants will be ready to send out August 14th, at 7s. per 100, 5s for 11s., 25 for 6s., package included. Also a book of 20 years' experience in the forcing and general management of the Strawberry, Potato, Cucumber, Melon, and Lisianthus Russellianus, with a drawing of the Strawberry and the Lisianthus, price only 1s, or by post, 1s. 2d. Sold by the author, JAMES CUTHILL, Camberwell London.

A Post-office order on Camberwell.

ROBERT DONALD, JUN., of the Goldworth Nursery, Woking, near Ripley, Surrey, begs to acquaint the very numerous friends and supporters of the late Firm of DONALD AND SON that he has taken to the entire Stock, and as it will be his utmost endeavour to produce such an article as to ensure sale, he trusts all those who dealt with the Firm will deal with him, and those who have not dealt will give him one trial, at the same time assuring them that every attention shall be paid to their orders. His Stock consists of every variety of Fruit, Forest, and Hardy Ornamental Trees and Shrubs; they are this season unusually well grown, and give promise of being extremely fine.

The name of DONALD AND SON will be continued.

N.B. All accounts due to or owing by the late Firm that are prior to the 29th day of September last are requested to be handed in and settled. For dissolution of Partnership, see Gazette of Tuesday, July 11, 1848.

UNRIVALLED PELARGONIUMS.

T. WHOMES, NURSERYMAN, &c., Windsor, has the honour to inform the lovers of the Geranium that the following superb varieties, raised by G. W. Hoyle, Esq., and by T. W., will be ready, fine plants, to send out the first week in October:

Hoyle's Sparkler	£1	1	0	Hoyle's President	£1 1 0
,, Rolla	1	1	0	,, Abd-el-Kader	1 1 0
,, Terpsichore	1	1	0	,, Belle of the Village	1 1 0
,, Flamingo	0	15	0	,, Superlative	0 15 0
,, Prometheus	0	15	0	,, Julius	0 7 6
Whomes' Windsor Castle	1	1	0	Whomes' Queen Victoria	1 1 0
,, Cupid	1	1	0	,, Princess Helena	0 10 6
,, Miss Beren	1	1	0	,, Plutarch	0 10 6

THE UNRIVALLED FLOWER "CRUSADER" will be sent out provided a certain number of orders are obtained before the first week in October, at 42s. each, with the usual allowance (1 in 3) to the trade. The most strict attention to orders in rotation. The above for cash only.

"CRUSADER."—Lower petals a beautiful glowing peach, with light centre; top petals fine black blotch and black lines, with rich orange ground running to a narrow margin of violet; full size, perfectly round flower, and free bloomer. It was exhibited at Chiswick, June, 1847, and received a Certificate of Merit; and also received a Medal at the Royal Botanic as a two-year old.

A Descriptive Catalogue of the above, with a lengthened list of many other good sorts, may be had in a week's time from the present, on application to J. WHOMES, Pelargonium Nursery, Windsor.—August 5.

ZOOLOGICAL GARDENS, REGENT'S-PARK.—Visitors are admitted WITHOUT ORDERS on MONDAY, in every week, at SIXPENCE EACH; on the following days at ONE SHILLING EACH. Chiefly at Sixpence. The Band of the First Life Guards will perform every Saturday at 4 o'clock; admission One Shilling.

The new entrance in the Broad Walk is now open.

EXOTIC NURSERY, KING'S ROAD, CHELSEA.

MESSRS. KNIGHT AND PERRY have the honour to notify to the Nobility and Gentry, their friends and patrons, that they purpose, during the present month, to send out that interesting novelty,

THE PLUMBAGO LARPENTÆ,

which, from its dwarf compact habit of growth, the beauty of its foliage, the extraordinary profusion in which it blooms, and the extreme beauty of its clear Gentian blue flowers, has attracted attention and admiration beyond any plant of recent introduction. There can be no doubt of its being PERFECTLY HARDY, as in Shanghae (where it was found growing out of the city walls), the thermometer in winter descends as low as 19° F. below the freezing point. In utility as a bedding plant it will rank with scarlet Verbenas, with which it will contrast admirably. Very many of the plants, all of which are strong and well established, will be in flower when sent out.

The original plant, which has just commenced blooming, will shortly have many thousand flowers upon it, and thus afford those who will do Messrs. K. and P. the honour to inspect it, a proof of its great fitness for an EXHIBITION PLANT, and for adorning the Conservatory as well as the Flower-garden, during the autumnal months. By varying the temperature in which it is grown it will probably be found to flower at nearly all seasons of the year.

For so important a plant it will be sent out at a very low charge; and to facilitate its extensive diffusion, the annexed scale of prices, so arranged as to reduce the cost considerably, when several are taken, has been decided upon. The strongest plants will be sent out according to the priority of the order.

If 12 or more plants are taken	.. ..	£1 1 0	each.
8 or under 12 do.	do.	1 5 0	,,
6 or under 8 do.	do.	1 11 6	,,
4 or under 6 do.	do.	1 15 0	,,
2 or under 4 do.	do.	2 2 0	,,
1 plant is taken	.. .. ..	2 5 0	,,

Messrs. K. & P. are now also prepared to send out good plants of the DILYTRA SPECTABILIS, a new Hardy Plant from the North of China, and which Mr. Fortune described as one of the most beautiful things he met with in his travels. It has flowered at the Exotic Nursery, and fully justified the flattering account he gave of it. It will prove a very valuable addition for the decoration of the Conservatory and Drawing-room in the winter months, as with very slight heat it may be induced to flower profusely as early as February.—August 5.

SUPERB DOUBLE HOLLYHOCKS.

WILLIAM CHATER begs to announce that he has for sale a few plants of BARON'S unrivalled collection of HOLLYHOCKS, with some choice Seedlings of his own. The plants are now in bloom, and purchasers desirous of seeing them may do so on application any day excepting Sundays.

Price, 20 best varieties, 5l.; also good double do., 3os. per 100. The plants will be ready in October. A remittance from unknown correspondents is indispensable.

Saffron Walden Nursery, August 5

CAMELLIAS, AZALEAS, &c.

A. VAN GEERT, NURSERYMAN, Ghent, Belgium, begs to offer to Amateurs and the trade,

100 best, different varieties of CAMELLIAS, good plants, and well-shaped flowers	...	£5	0 0
200 Ditto ditto	... ...	10	0 0
100 Camellias, well set with flower buds, mixed, of running sorts	... ...	8	0 0
100 Ditto ditto, larger plants	... ...	10	0 0
25 best different varieties of Chinese Azaleas	...	1	1 0
25 Ditto ditto flowering plants	...	1	10 0
Phlox Rodigasi, new, very fine	... ...	0	3 6
Aralia Catalpæfolia, fine new plant	...	2	2 0

A. VAN GEERT'S General Catalogue of plants may be obtained on application.

A new monthly publication of the best and newest Camellias commenced on January 1, 1848, consisting of four well-finished coloured flowers, with text, price 25s. per year.

MESSRS. J. AND H. BROWN will forward the following desirable plants to any part of the Kingdom or the Continent Orders taken for all the New Plants as Figured in the various Floricultural Works.

	s.	d.
12 Tea-scented Roses, superior sorts, one of each for ...	9	0
Devoniensis and Yellow Noisette Rose, per dozen ...	9	0
12 Bourbon Roses, choice sorts, in pots, suitable for planting in a bed	10	6
La Reine, very large Rose, 1s. 6d. each, or, per dozen	12	0
Yellow and White Banksian Roses, per dozen ...	9	0
New and choice Chrysanthemums, per dozen	6	0
Fine Perennial Phloxes, Belgian varieties, per dozen	8	0
The newest and most approved Verbenas, Fuchsias, and Cinerarias, can be sent by post, per dozen	4	0
12 Achimenes, best varieties	6	0
50 Choice Greenhouse plants, one of a sort, for	45	0
Camellias, the newest and best varieties, well set with flower buds, per dozen ... ... 30s. to	40	0
Azaleas Indica, including the newest and best sorts, per dozen	30	0
Geraniums, 12 superb varieties for	15	0
Ditto, 6 best fancy varieties	10	0

Hoya campanulata	10s.	0d.	Rubus nobilis	3s.	6d.
Gardenia Fortunii	10	6	Æchmea fulgens	10	6
,, Lucida	7	6	Yellow Rhododendrons	10	6
,, Devoniana	10	6	Luculia Pinciana	7	6
Passiflora amabilis	5	0	Spiræa expansa	3	6
Clematis glandulosa	5	0	Strophanthus Stanleyana	7	6
,, tubulosa	3	6	Siphocamphylus nitida	3	6
,, odorati-sima	3	6	Cryptomeria japonica	5	6
,, anemoniflora	3	6			
Daphne Fortunii	10	6			

20 papers of Choice Flower Seeds for present sowing, 5s. post free. Choice Geranium, Cineraria, Primulas, and Calceolaria seeds, 1s. per packet.

Albion Nursery, Stoke Newington, London, Aug. 5.

MYATT'S NEW FERTILISED H[illegible], Patronised by His Royal Highness [illegible] on the 23d of June with fruit of the variety [illegible]. MYATT to Buckingham Palace, and [illegible] lowing gratifying testimonial was [illegible] Highness:

"Sir,—I have received the command of [illegible] Prince Albert to return you the Royal [illegible] the excellent strawberry [illegible] send. Your fruit, [illegible] Majesty's table. H. Royal [illegible] forward to [illegible] Its Royal Highness [illegible] fruit of so excellent a quality.

"I am, Sir, your obedient servant, C. A. Bland."

Messrs. J. MYATT have [illegible] following varieties, at the annexed [illegible] Hawthorn, 25s. per 100; [illegible] Monmouth, 7s. 6d.; Queen, 7s. 6d.; [illegible] Comte de Paris, 25s.; Black Prince, [illegible] 10s. 6d.; Aberdeen Beehive, [illegible]

The usual Trade allowance.

Post-office Orders must be made payable to JOHN MYATT, Deptford. Manor Farm, Deptford, August 5.

CRYPTOMERIA JAPONICA SEEDLINGS.

MESSRS. STANDISH AND NOBLE, [illegible] Bagshot, have the honour to [illegible] and the Public, that they have [illegible] tity of SEED of the above truly magnificent [illegible] north of China, and are now able to [illegible] Plants at the undermentioned low rate of prices.

It was first sent home by Mr. Fortune to the Horticultural Society, in 1843, and has now proved to be [illegible] this country, having stood out in many [illegible] during the severe winter of 1846 and 1847. [illegible] gr wth, and some very fine specimens may be seen in the [illegible] gardens of the Horticultural Society, nearly [illegible] and very graceful in form.

"*I met here (Shanghae), for the first time, with the beautiful Cryptomeria japonica, a species of Pine not unlike the Araucarias of Australia and Brazil. When growing luxuriantly it is highly ornamental, rising from the ground as straight as a lance, and throwing out numerous side branches almost horizontally from the main stem, which again drop towards the ground in a graceful and* WEEPING *manner. The wood of the tree has a kind of twisted grain, possessing great strength and durability, and is highly valued by the Chinese.*"—FORTUNE'S WANDERINGS IN CHINA.

We need scarcely inform the lovers of hardy evergreens that SEEDLINGS of this species are of much more rapid growth than Cedars. The latter never make handsome plants, and grow much slower. Our Seedling Plants, which we are now sending out, if properly managed, will be more than 2 feet high by next spring, the proper time to plant them out in the open ground.

Messrs. STANDISH and NOBLE can now supply [illegible] plants, in 60-size pots, at the following [illegible] per plant, 36s. per doz., or 5l. per [illegible]. A liberal allowance to the Trade from the above prices.

N.B.—The above is for [illegible]

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford street, respectfully announces that he has a very large assortment of the above articles in various colours, at [illegible] reduction. Every description of useful [illegible] GARTHENWARE at the lowest possible [illegible] for cash.—250, Oxford-street, near Hyde-park.

SEEDS.—CORNER OF HALF-MOON-STREET.

THOMAS GIBBS AND Co.

(By Official Appointment the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND,"

Beg to remind the Members of the Society, and Agriculturists in General, that their only Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

Priced Lists of Agricultural Seeds are always ready, and may be had on application.

BAKER'S PHEASANTRY, Beaufort street, King's-road, Chelsea, by special appointment to her Majesty and H.R.H. Prince Albert.—ORNAMENTAL WATER FOWL, consisting of black and white swans, Egyptian, Canada, Cape, bernacle, brent, and laughing geese, shell [illegible] widgeon, summer and winter teal, [illegible] shovellers, gold-eyed and dun divers. Carolina [illegible] domesticated and pinioned; also [illegible] Many, Poland, Surrey, and Dorking fowls; white Cayuga and common peafowl, and rare China pigs; also a [illegible] moon-passage, Gracechurch-street.

E. AND W. H. JACKSON beg to call the attention of Gentlemen and the Trade to the reduced prices of their PATENT PLATE GLASS, which, for its superior qualities and cheapness, is now superseding all inferior glass in dwelling houses.

BRITISH MANUFACTURED SHEET GLASS for CONSERVATORIES, POLISHED AND ROUGH PLATE CROWN COLOURED, AND ORNAMENTAL GLASS of every description.

Tariffs of prices and every information can be had, by applying at their Warehouse, 15, Oxford-street.

SASH LINE FOR HOTHOUSES AND GREENHOUSES.

D. S. NEWALL AND CO.'S PATENT IMPROVED COPPER-WIRE CORD is now extensively used for Window Sash Line, Hothouses, Lightning Conductors, Picture Cord, Catch Cord, &c. &c., and is found to be cheaper, much more durable, quite as flexible, and one-third part the bulk of common Hempen Lines. The Wire Cord may be had wholesale, and specimens seen, at the Office of the Patentees, 168, Fenchurch-street. W. T. ALLEN, Agent; or retail, of G. and J. DEANE, 43, King William-street; E. PARKS, 14, Fleet-street; J. JONES, 42, Charing-cross; and GIBBONS and Co., 345, Oxford-street.

DEANE'S WARRANTED GARDEN TOOLS.—Horticulturists, and all interested in Gardening pursuits, are invited to examine G. and J. DEANE'S extensive Stock of GARDENING AND PRUNING IMPLEMENTS, best London made Garden Engines and Syringes, Coalbrookdale Garden Seats and Chairs.

Averuncators	Garden Scrapers	Pick Axes
Axes	Grape Gatherers and Scissors	Potato Forks
Bagging Hooks	Gravel Rakes and Sieves	Pruning Bills
Bills	Greenhouse Doors and Frames	,, Knives, various
Borders, various patterns	Hammers	,, Saws
Botanical Boxes	Hand-glass Frames	,, Scissors
Cases of Pruning Instruments	Hay Knives	,, Shears [riety.
Chaff Engines	Hoes of every pattern	Rakes in great va-
Chaff Knives	Horticultural Hammers and Hatchets	Reaping Hooks
Daisy Rakes	Hotbed Handles	Scythes
Dibbles	Ladies' Set of Tools	Scythe Stones
Dock Spuds	Labels, various patterns, in zinc, porcelain, &c.	Shears, various
Draining Tools	Lines and Reels	Sickles
Edging Irons and Shears	Marking Ink	Sickle Saws
Flower Scissors	Mattocks	Spades and Shovels
,, Stands in Wires and Iron	Monographs	Spuds
Fumigators	Metallic Wire	Switch Hooks
Galvanic Bordersand Plant Protectors	Milton Hatchets	Thistle Hooks
Garden Chairs and Seats	Mole Traps	Transplanting Tools
,, Loops	Mowing Machine	Trowels
,, Rollers		Turfing Irons
		Wall Nails
		Watering Pots
		Weed Extractorsand Hooks
		Wheelbarrows
		Youths' Set of Tools

G. and J. DEANE are sole Agents for LINGHAM'S PERMANENT LABELS, samples of which, with the Illustrated List of Horticultural Tools, can be sent, post paid, to any part of the United Kingdom.—DEANE'S Horticultural Tool Warehouse, opening to the Monument, 46, King William-st., London-bridge.

GLASS.

APSLEY PELLATT AND CO. (late PELLATT and GREEN), Falcon Glass Works, Holland-street, Blackfriars, have always on hand, Bee Glasses, 1s. 6d. per lb.; Cucumber Glasses, 1s. 6d. per lb.; Milk Pans, 18 in., white glass, 5s. 6d. each; Propagating Glasses, white, 1s. per lb., do. green, 10d., do. Condensing, 2d. per lb. extra; Asparagus Tubes, 18s. to 21s. per gross; Grape Shades, 1s. 6d. to 2s. each; Fish-bowls, from 1s. 6d. each; Wasp and Fly-traps, 40s. per gross, or 3s. 6d. per dozen. By the use of these traps fruit may be preserved from (otherwise certain) destruction.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND Co., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS FOR CONSERVATORIES.

CUT TO SIZE UP TO 40 INCHES LONG.			SMALL SQUARES of SHEET.	
16 oz. to the foot	3½d.	per foot.	4 by 3 and 4½ by 3½..1½d.	per ft.
21 ,,	5	,,	5 ,, 3 ,, 5½ ,, 3½..2	,,
26 ,,	7½	,,	6 ,, 4 ,, 6½ ,, 4½..2½	,,
32 ,,	10	,,	7 ,, 5 ,, 7½ ,, 5½..2½	,,
			8 ,, 6 ,, 8½ ,, 6½..2¾	,,
			Not above 10 ,, 8 ..3	,,

GLASS MILK PANS, PROPAGATING GLASSES, AND BEE GLASSES. GLASS TILES AND SLATES.

CREAM POTS, from 3 to 24 quarts, at 6d. per quart.

CUCUMBER GLASSES, from 12 to 26 inches long, 1d. p. inch.

LACTOMETERS for trying the quality of Milk, 4 tubes 7s. 6d., 6 tubes 10s; Peach Glasses 10d. each; Fish Globes from 1s. 6d. each; Wasp and Fly Traps 3s 6d. per dozen; Plate and Window Glass; Lamp Shades and Chimneys; and every article in the trade.

SASHES AND FRAMES MADE AND GLAZED.

GLASS FOR CONSERVATORIES, GREENHOUSES, PIT FRAMES, &c.

HETLEY AND CO. are supplying the above article, packed in boxes containing 100 square feet each, of BRITISH Manufacture, at the following reduced prices for cash. A reduction on 1000 feet.

Sizes. Inches.			Inches.			Per foot.	Per 100 feet.
From 6 by 4	to		8 by 6	at		2½d. is £1	0 10
8 ,, 6	,,		10 ,, 8	,,		2¾d. ,, 1	2 11
10 ,, 8	,,		14 ,, 10	,,		3d. ,, 1	5 0
14 ,, 10	,,		20 ,, 12	,,		3½d. ,, 1	7 1
20 ,, 12	,,		40 ,, 14	,,		3½d. ,, 1	9 2
21 oz. from 3d. to 5½d., per square foot, according to size.							
26 oz. ,, 3½d.		7½d.	,,		,,		
32 oz. ,, 4d.		9½d.	,,		,,		

GLASS TILES AND SLATES made to pattern any thickness.

PROPAGATING, FLOWER, FRUIT, AND VEGETABLE GLASSES of every size and description.

BEE HIVE GLASSES from 4 to 12 in. diameter.

GLASS MILK PANS, from 12 to 26 in. diameter.

GLASS SHADES, as ornamental to, and for the preservation of every description of goods susceptible of injury by exposure. Prices, since the removal of the Excise duty, reduced one-half. List of Prices forwarded on application to JAMES HETLEY and Co., Glass Shade, Sheet, Crown, and Patent Plate Glass Warehouse, 35, Soho-square, London.

PARTNERSHIP.—There is an advantageous opening in an extensive and well known Nursery and Seed Establishment of long standing for an active and enterprising PARTNER, who can take part in the management.—For particulars, apply by letter, addressed A. B., care of Messrs. W. and J. Noble, 152, Fleet-street, London.

CLARK'S METALLIC HOTHOUSE WORKS, 55, Lionel-street, Birmingham.—Proprietor, Mr. THOMAS CLARK; Manager, Mr. JOHN JONES.

Mr. CLARK presents his grateful thanks to the Nobility and Gentry for their liberal patronage of the above Establishment, during a period of thirty years, and begs to state that the repeal of the duty on Glass enables him to offer his METALLIC HOTHOUSES at a greatly reduced price. These Houses are glazed with British Sheet Glass, in panes of from 24 to 30 inches in length, and of such thickness as to preclude all danger of accidental breakage, whilst that which arises from the action of frost is effectually prevented by the peculiar mode of glazing adopted. As a sample of his Metallic Hothouses, in which all the most recent improvements are happily combined, Mr. CLARK refers to the magnificent range erected by him in the new Royal Gardens at Windsor, admitted by competent judges to be the most complete of its kind in the world.

THE CONICAL BOILERS, invented by JOHN ROGERS, Esq., are sold by JOHN SHEWEN, Ironmonger, Sevenoaks. They are in use at the gardens of Messrs. Loddiges, Hackney; S. Rucker, Jun., Esq., Wandsworth; Sir C. Lemon, Bart., M.P., Cornwall; the Prince's-park, Liverpool, and numerous other places.

Also, AN IMPROVED CORRUGATED BOILER, adapted for any kind of fuel. May be seen at the hothouses of Mrs. Lawrence, Ealing Park, and in several other gardens of note.

JOHN SHEWEN, Sevenoaks, Kent. Estimates furnished for heating all kinds of buildings.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

PERUVIAN AND BOLIVIAN GUANO ON SALE,
By THE ONLY IMPORTERS,
ANTONY GIBBS AND SONS, LONDON;
WM. JOSEPH MYERS AND Co., LIVERPOOL;
And by their Agents,
GIBBS, BRIGHT, AND Co., LIVERPOOL and BRISTOL;
COTESWORTH, POWELL, AND FRYOR, LONDON.

To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

THE LONDON MANURE COMPANY beg to offer, on the best terms, Peruvian Guano, warranted genuine, delivered direct from the Importers' warehouses; Superphosphate of Lime, in any quantity; Sulphate of Ammonia, Nitrate of Soda, Sulphuric Acid, fine Bone Sawdust, Gypsum, Potter's Guano, Soda Ash, Petre, Agricultural and Fishery Salt, and every other artificial Manure.

The URATE of the LONDON MANURE COMPANY has now stood the test of seven years, with a largely increasing sale. It is recommended with the greatest confidence for Turnips, Mangold Wurzel, Carrots, and all root crops; also for Coleseed, Tares, Barley, &c. Unlike many other artificial Manures, its effects are not exhausted by the first crop; and when from any cause the crop of Turnips to which it has been used fails, its full fertilising properties remain for the next full crop. Testimonials and full particulars forwarded free. The LONDON MANURE COMPANY most earnestly request their friends to order the Urate direct from themselves, or their accredited Agents, so as to prevent any other article of a totally different manufacture being substituted. EDWARD PURSER, Sec.

No. 40, Bridge-street, Blackfriars.

☞ Sole Manufacturers of Mr. J. C. Nesbit's Chemical Manures.

TO FARMERS, GARDENERS, FLORISTS, AND ALL PERSONS CONNECTED WITH AGRICULTURE AND HORTICULTURE IN GENERAL.

PATENT CARBONISED ANIMAL MANURE, in Powder, for which Her Majesty's Royal Letters Patent have been granted.—This Inodorous Animal Manure, or Carbonic Compound, requires only to be tried to be appreciated. By the Patent Process employed in its preparation, unlike any other kind of fertiliser extant, all obnoxious properties, and everything possessing an injurious tendency to vegetable life are removed, the ammonia is fixed, the emission of sulphuretted hydrogen and other subtle gases is prevented, and its fertilising powers increased to an astonishing degree. From its concentrated state, it can be conveyed with the utmost facility to the most remote parts of the Kingdom and Colonies, and but a small proportion is required to produce the desired effects in the enrichment of soil.

As this manure does not possess the burning properties of Guano, it is infinitely preferable for all horticultural pursuits, and the improvement it creates upon plants and flowers is truly wonderful.

Sold, by appointment, wholesale for agricultural purposes, in canvas bags, at the under-mentioned prices; and retailed for small kitchen and other gardens, potted plants, flowers, &c., in tin canisters, at 1s.; double-sized ditto, 1s. 9d.; and treble ditto, 2s. 6d. each, by H. COLES, Seedsman and Florist, No. 32, Cranbourne-street, Leicester-square, London, where samples of the manure may be seen, its efficacy corroborated by a demonstration of practical results upon grain, &c., and testimonials produced from many who have given it a fair trial.

N.B.—No other sized canisters than the above are used, and only such are GENUINE as have affixed upon the Wrapper of each, a stamp with the Royal Arms, and signature of H. COLE.

RATE OF WHOLESALE PRICES.

When a whole ton is taken at one time ...	£8	0	0
Half ton	5	0	0
Five cwt.	3	0	0
One cwt.	1	0	0
Half cwt.	0	15	0
Quarter cwt.	0	10	0

Agents for the city, Messrs. Deane, Dray, and Deane, Agricultural Implement Depôt, No. 3, Arthur-street, London-bridge.

H. COLES also keeps at his Establishment, situated as above, a constant supply, both Wholesale and Retail, of all kinds of Agricultural and Horticultural Seeds, Plants, Dutch and other Bulbs, &c., of which a Catalogue may be had; and will feel greatly obliged by being favoured with the commands of those who may at any time have occasion for such. He also executes, punctually and promptly, orders for all sorts of Implements of Husbandry, and everything connected with the branches of Farming and Gardening.

TURNIP SOWING.

MARK FOTHERGILL, 201A, Upper Thames-street, begs to offer the following MANURES for the Turnip Crop, viz.:

GUANO, PERUVIAN, direct from Import Warehouse.
SUPERPHOSPHATE OF LIME, manufactured from Bone only (superior to the cheap qualities made from fossils).
DRIED NIGHT SOIL.
BONE DUST AND HALF-INCH BONE.
SULPHURIC ACID.

Also Soda Ash, wireworm destroyer; pure Gypsum, or Mineral Sulphate of Lime (the rubbish offered cheap contains but little acid, the rest being carbonate of lime and water); Agricultural Salt, Nitrate of Soda, and all other Manures of known value. Prices current on application.

MARY WEDLAKE AND CO.'S HORSE AND STUBBLE and HAY-RAKE, of superior workmanship, 9l. 9s. Linseed Crusher, 11l. 11s.; small ones, 6l. 15s.; ditto, doing Beans, Linseed, and Oats, 10l. 10s. THRESHING MACHINES, doing upwards of 25 loads of Wheat straw per day, 60 guineas. MARY WEDLAKE and Co.'s CHAFF-CUTTING MACHINE, 100 to 200 bushels a day, price 7l. 7s. and 5l. 5s. Horse-hoe, Dressing Machine, Turnip Cutter, Turnip Drill, Stubble-rake, Oil-cake Breakers, Bean and Oat Crushers, Subsoil Plough, Double Field Roller, &c.—MARY WEDLAKE and Co., 118, Fenchurch-street, opposite Mark-lane.

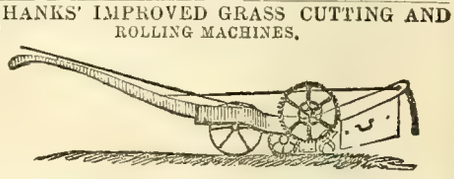
PATENT FLEXIBLE INDIA-RUBBER PIPES and TUBING for RAILWAY COMPANIES, BREWERS, DISTILLERS, FIRE ENGINES, GAS COMPANIES, GARDENING and AGRICULTURAL PURPOSES, &c.

THE PATENT VULCANISED INDIA-RUBBER HOSE PIPES are made to stand Hot Liquor and Acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible), and as they require no application of oil or dressing, are particularly adapted for Fire-engines, Pumps, Gas, Beer-engines, Gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes from ¼ inch bore upwards, and of any length to order.

Vulcanised India-rubber Garden Hose, fitted with brass taps, copper branch, and roses complete, ready to be attached to Pumps, Water-butts, or Cisterns.—Sole Manufacturer, JAMES LYNE HANCOCK, Goswell Mews, Goswell-road, London.

N.B.—Vulcanised India-rubber Washers of all sizes for Joints of Hot-water and Steam Pipes, and Vulcanised Sheet Rubber, any thickness, for all kinds of Joints, and other purposes.

SHANKS' IMPROVED GRASS CUTTING AND ROLLING MACHINES.



The complete success which has attended the introduction of this Improved Machine for Mowing Grass, and its fine adaptation for cutting the Grass of Lawns, has been fully proved by the numerous instances where it has been tried, and now in common use, particularly at Rossie Priory, Camperdown, and Kinblethmont, Forfarshire; Breadalbane, Perthshire; Clumber, and at many other noblemen and gentlemen's seats in England, as well as abroad. The Machines are made to cut breadths of 42, 30, or 20 inches, as required, the latter being adapted to hand-power. The Machine performs three different operations at one time, viz., Rolling, Mowing, and Collecting the Grass; and works with perfect ease, producing a beautiful smooth surface, and attended with great saving in abridging labour.

Orders may be addressed to Messrs. ALEXANDER SHANKS and SON, Machine-makers, Arbroath, N.B., by whom further particulars will be given.

Sold by Messrs. F. and J. DICKSON, Nurserymen, Chester; Messrs. J. and C. LEE, Nurserymen, Hammersmith; and Mr. GEORGE BARRY, Nurseryman, Castle-street, Liverpool.

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

The SUMMER SESSION will commence on Saturday the 12th August, 1848. All new students are required to attend for examination on the preceding day. Those who purpose entering as Students for the ensuing Session, are requested to apply (either by letter or personally), to the Principal (John Wilson, Esq., at the College), Cirencester, Gloucestershire, for the necessary Admission Papers, without delay.

PHILIP BOWES, Secretary.

London Office, 26, King William-st., Charing-cross, Aug. 5.

BELFAST FLAX-DRESSING MACHINERY.—Persons wishing to put up Mills for Scutching or Dressing FLAX in the straw, can be supplied with the Improved Machinery, recommended by the Royal Flax Improvement Society of Ireland, on application to the Makers, MAC ADAM BROTHERS and Co., Engineers, Soho Foundry, Belfast.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK AND TILE MACHINE COMPANY (James Smith, Esq., of Beanston, Chairman) invite attention to their IMPROVED BRICK and TILE MACHINES, which are to be seen at work at Alperton, and at the Company's Office, 193A, Piccadilly, from 10 A.M. to 5 P.M. Mr. Robert Scrivener, who has been appointed Manager in the room of Mr. John Ainslie, will show the Machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, 193A, Piccadilly, London.

These Machines may also be seen at Mr. Slight's, Leithwalk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill, 135, Buchanan-street, Glasgow; Mr. Robert Charles, Mill-hill, Leeds; Messrs. PENNY and FINCH, Penkeridge, Staffordshire; Messrs. Drummond and Son, Dublin; and at Mr. John Connor's, Newtown Limavady, County Derry.

CHEAP AND DURABLE ROOFING.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

F. M'NEILL AND Co., of Lamb's-buildings, Bunhill-row, London, the Manufacturers and only Patentees of THE ASPHALTED FELT FOR ROOFING Houses, Farm Buildings, Shedding, Workshops, and for Garden purposes, to protect Plants from Frost.

At the Great National Agricultural Shows, it is this Felt which has been exhibited and obtained TWO SILVER MEDAL PRIZES, and is the Felt SOLELY patronized and adopted by

HER MAJESTY'S WOODS AND FORESTS,
HONOURABLE BOARD OF ORDNANCE,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE COMMISSIONERS OF CUSTOMS,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANIC GARDENS, REGENT'S PARK,

And on the Estates of the Dukes of Sutherland, Norfolk, Rutland, Newcastle, Northumberland, Buccleuch (at Richmond), the late Earl Spencer, and most of the Nobility and Gentry; and *at the Royal Agricultural Society's House, Hanover-square.*

It is half the price of any other description of Roofing, and effects a great saving of Timber in the construction of Roofs. Made to any length by 32 inches wide.

PRICE ONE PENNY PER SQUARE FOOT.

*** Samples, with Directions for its Use, and Testimonials of seven years' experience, with references to Noblemen, Gentlemen, Architects, and Builders, sent free to any part of the town or country, and orders by post executed.

☞ The Public is cautioned that the only Works in London or Great Britain where the above Roofing is made, are F. M'NEILL AND CO.'S

Patent Felt Manufactory, Lamb's-buildings, Bunhill-row, London, where roofs covered with the Felt may be seen.

The new Vice-Chancellor's Courts, at the entrance to Westminster Hall, were roofed with F. M'NEILL and Co.'s Felt about two years since, under the Surveyorship of Chas. Barry, Esq., R.A. Her Majesty's Commissioners of Woods and Forests are so satisfied with the result that they have ordered the Committee Rooms at the Houses of Parliament to be roofed with their Felt. Quantity altogether used, 24,000 feet.

Note.—Consumers sending direct to the Factory can be supplied in lengths best suited to their Roofs, so that they pay for no more than they require.

Every information afforded on the construction of Roofs, on any proposed particular application of the Felt.

ORANGE TREES, &c.

D. FERGUSON respectfully informs the Nobility and Gentry that there are for sale at Stowe, near Buckingham, some good ORANGE TREES, CAMELLIAS, beautiful Standard SWEET BAYS in tubs, &c. Parties having tickets to view the house can see them by applying to the person that shows the grounds. For particulars, apply to D. F., Stowe, or at Aylesbury, Bucks.

The Gardeners' Chronicle.

SATURDAY, AUGUST 5, 1848.

MEETINGS FOR THE FOLLOWING WEEK.

MONDAY, August 7 Entomological ..... 8 P.M.
THURSDAY, — Royal Botanic (Anniversary) 1 P.M.

WITHIN the last few years a MILDEW FUNGUS has been committing unexampled ravages in our VINERIES. In the form of a white powder it seizes upon the leaves, thence spreads to the young Grapes, and in the course of a few weeks so overruns the plants as to give them the appearance of having been powdered with lime or flour. During the present year it has been worse than ever, and we have been repeatedly consulted as to the mode of arresting its progress. Some Vineries at Clapham, belonging to Mr. ALLNUTT, have been thus attacked. Others have been spoken of near Margate; and in the *Kentish Gazette* it is stated that, of 19 within the space of four miles, 13 have been attacked and lost their crops. The neighbourhood of Leyton has been visited in the same manner, and at Isleworth. Mr. WILMOT'S Vines have been mildewed to such an extent that in 12 houses he has not a single bunch sound; his loss is estimated, for this year alone, at 600 lbs. weight. We hear, too, that the magnificent Vines at Bishop's Stortford are in the same condition. The out-door Grapes with Mr. WILMOT are also extensively attacked.

One effect of this disease is to cause the Grapes, even when quite young, to burst; a circumstance evidently owing to the mildew stopping the growth of the skin, which in consequence becomes unable to distend as the juice accumulates beneath it. We have now before us Grapes that have burst in all states, from the size of Peas to three-quarters ripeness. The smell emitted by plants thus attacked is of the same musty nature as invariably accompanies dry-rot.

Like all the mildew plants, we know nothing of the origin of this, of the causes which bring it, or of the circumstances which drive it away. Beneath the microscope it appears like a delicate web of white glassy threads, here and there collected into tufts, and producing myriads of little oval bodies resembling minute eggs, whence its botanical name of *Oidium*, or *Egg Mildew*. By these eggs it is propagated with wonderful rapidity.

The best mode of arresting its progress is a problem yet to be solved. Various methods have been proposed, among which washing with fresh lime water, a clear solution of soft soap, saltpetre water, and sulphur have been occasionally found useful. But they are out of favour with gardeners in consequence of the apparent uncertainty of their action; and we have not ventured to recommend, in the absence of positive information, appliances which the opinion of "practical" men seems opposed to, and which do not rest upon, certain theory. We must, however, now state that Mr. KYLE, of Leyton, a very intelligent gardener, has succeeded in arresting the progress, and greatly diminishing the injury of the egg mildew, by the application of sulphur.

His mode of proceeding, described at page 493 of this volume, consists in mixing flowers of sulphur in water, and applying the fluid with a syringe: and also in dusting the berries with this substance while they are wet with dew. By this means he has effectually removed the most serious part of the evil. We cannot indeed say that the mildew has been destroyed: on the contrary traces of it were still apparent enough in the samples which we received from Mr. KYLE, but the skin of the berries was clean and growing, there was no sign of bursting, and it was probable that a perseverance in his mode of using sulphur would end in removing the mildew altogether.

This is a very important fact: and one to which we can bear personal testimony. How then has it happened that the application of sulphur has failed in other hands, and at other times? We have no means of answering that question; and can, therefore, only recommend those who have this mildew to contend with, to do exactly as Mr. KYLE did. When we know the *rationale* of the practice we may perhaps find a better method; and we would especially invite our experimental and speculative readers to consider this question well. How does the sulphur act? When we know that we shall be on the traces of the truth.

The egg mildew, like all such visitations, advances with wonderful rapidity; it gives you no breathing time: to dawdle, dream, and wonder, *more quorundam*, is destruction. It is only by being on the alert, and ready to attack it in earnest at the very instant of its appearance, that great loss can be avoided. The true course is to nip the evil in the bud—to stop the mischief when there is not much to stop. The leaves of the Vines become pecky, flabby, and unhealthy; this is the first symptom. Sulphur them directly, or, if you do not want them, remove and *burn* them. A trace of mealiness or mealiness appears; sulphur again; you will do no harm, or if you do, the injury will be nothing, compared to the consequences of letting this mildew come to a head. If a gardener can but destroy it in the beginning, his trouble will be nothing; if it makes much progress, it is almost as easy to turn a torrent. It is true that this demands incessant watchfulness: that a man shall not sleep at his post; that his Vines shall be examined daily and minutely. But what then? The life of a gardener is inevitably one of care and watchfulness; to be always on the alert is his duty, his glory, his reward. Others may pass their lives in Dreamland, but he cannot; he must act as if he were always at the outposts, in presence of an enemy. Thus such plagues as the egg mildew may be stayed; they are like an Irish insurrection—contemptible when "squelched" at the beginning, dangerous when neglected.

The extraordinary frequency of such attacks as these, and the many kinds of plants which are now seriously affected every year—as men believe, beyond all former experience—must force attention to the cause of their appearance. For unless that can be ascertained all remedies must be empirical. We should be glad of communications upon this truly national question. Among other points which deserve attention, we may mention two: firstly, *is it true that mildews are more common and more destructive than formerly*; and secondly, if so, *is there any connection between their progress and that of high cultivation?*

HAVING shown with what tools Mr. FEARGUS O'CONNOR proposed to work his ALLOTMENT system, let us next look to the means he employs.

In the first place a man is to pay him 1*l.* 6*s.* each for two, three, or four shares in his scheme, which shares represent tickets in a lottery, the holders of the shares being entitled to draw for the chances of obtaining allotments when Mr. FEARGUS O'CONNOR has provided any.

Of such shares there are to be from 100,000 to 180,000. (The actual number of holders is in one place declared to be 70,000 (1446); in another 60,000 (1059); and in a third place it is taken to be 33,333 (1503): we shall assume the last to be the true number.)

When some allotments are ready for occupation, all qualified shareholders are to have a chance of getting one by means of the lottery. In the last lottery there were 15,000 four-acre men, 8000 two-acre men, and from 3000 to 4000 three-acre men; in all say 26,500, and there were 102 or 103 prizes (1559-60), so that on this occasion there were 26,397 blanks and 103 prizes. And Mr. PHILLIP MAC GRATH, described (586) as "director, financial secretary, and everything" in this concern, states that the original capital of 130,000*l.* is just enough for 536 allotments (1505) out of 33,333 ticket holders. The remaining 32,797, he coolly adds, are to be fed upon the hope that "the reproductive machinery of the company" (1507) through the "banking department," will in time supply 8,083,252*l.*; which trifling sum is all that is required to locate the whole of the ticket holders (1508). In another place it comes out that the year's profit upon this wonder-working banking department has "apparently" amounted already to the magnificent sum of 156*l.* 11*s.* 6*d.* (2169), so that it now has only to accumulate 8,083,075*l.* 8*s.* 6*d.* in order to satisfy its claimants.

It appears from a paper laid before the Parliamentary Committee by Mr. O'CONNOR, that he has spent 95,632*l.* 10*s.* in setting up his first 250 prize-holders. We leave it to the men who are anxiously waiting for their chances in this land lottery to calculate how soon they are likely to get anything, seeing that there is at least 32,797 of them, and that when another 90,000*l.* has been provided, the number of hopeless expectants must still be 32,500.

However, some of the 33,000 ticket-holders or shareholders have gained allotments—250—at a cost to the Company of nearly all its paid-up capital. These men are placed in possession of cottages and pieces of land, which may become their own whenever they can pay off all the money expended by the Company in buying, improving, and building on the allotments, and in finding a capital of 7*l.* 10*s.* an acre to work it with; in the meanwhile paying as rent 5 per cent. interest upon the outlay. (Parl. Rep., I., p. 55.) We do not find any exact statement of what the outlay is: in fact, Mr. O'CONNOR does not appear to know himself (4869); but as Mr. O'CONNOR charges 16*l.* each for his cottages, and the cost of his land at 7*l.* an acre, the whole encumbrance [illegible] at 24*l.* for a two-acre allotment, or 12*l.* per year, or 6*l.* per acre rent.

Upon these terms the tenant is to support his family, pay his rent, and [illegible] (2504). Can this be done? Incredible as it may seem, such is the fact, or rather the claim of the promoters. Mr. O'CONNOR produces two witnesses. [illegible] DAVIS, a weaver (2795), *believes the average rental of land in England employed in cultivation is more than 3l.*; knows a man [illegible] rent for an acre of garden ground (2804), and assures the Committee that although "sometimes one or two of the men have got a little more to drink than they ought to have had," [illegible] DAVIS, never saw Mr. FEARGUS O'CONNOR "in the situation" (2801). JOHN SELLETT, [illegible] living at Keighley, near Skipton (4080), formerly a grocer and draper at [illegible] 2 years of his own land (4029), a [illegible] the one 12 the other 10 years [illegible] to publish a book [illegible]. He received last year 75*l.* [illegible] with "milk, bread, and Potatoes and [illegible]" (4891); he gets between 10 and 15 tons of Potatoes an acre (3902), keeps 18 [illegible] Beans between his Potatoes (4122), &c. The return last year of 74*l.* was [illegible] very favourable year (4129); does not know what an average would be (4130), has never [illegible] (4132). His land was pasture, "good [illegible] a mixed soil" (4037). Perhaps some [illegible] near Saxmundham will favour us with a report upon Mr. SELLETT'S holding.

The true value of statements like this, upon which Mr. O'CONNOR founds his expectations of converting England into another Arcadia, we shall examine hereafter. In the meantime we must remark in the first place that [illegible] to possess all the value assigned to them the allottees may have no legal title to their [illegible], by saving and successful industry, they have redeemed it, unless Mr. O'CONNOR should be able to convey it to them, which is a mere contingency. It may be that Mr. O'CONNOR deserves all the blind confidence which the allottees are able to place in him (625); but he may die, and what then? In the next place he himself stands in constant peril of losing such right as he may possess in the property, for in consequence of the [illegible] obtained by the allottees, by way of [illegible], every adventurer is liable to the penalty of 50*l.* (3088), and *in case of an information being laid by the owner of the land and other proper parties for the recovery of the said forfeiture* (3088). That is the law of the land, which regards the projectors of lotteries as [illegible], such schemes as public nuisances, and punishes [illegible] accordingly. And the law is right: [illegible] can be a greater scandal than that such a scheme as that which we have thus described, upon evidence which Mr. O'CONNOR cannot rebut, should be permitted to exist in a country where the law professes to guard the weak against the strong, the simple-minded against the cunning? It is undeniable that the 250 allottees, whatever be their fate, are placed on their holdings at the expense of 32,000 victims, who cannot have a reasonable chance of gaining anything: they cannot even have their money paid them back, for it is expended.

The whole scheme is very like a device for obtaining money under false pretences. Mr. FEARGUS O'CONNOR cannot hope to persuade that part of the world which has its eyes open that he really believes in the possibility of all the poor people to whom he has sold his lottery tickets ever getting anything in return for their money. He cannot pretend that his devices will ever realize *sixty-five per cent. per annum compound interest*, which is what is required in order to effect what he professes, as was shown a few weeks since in a very able leader in the *Daily News*. He cannot, unless he is insane, imagine these things; and we must therefore persist in describing the scheme as having the appearance of a gigantic and cruel fraud. Is it possible to entertain a different opinion? We do not say that Mr. FEARGUS O'CONNOR intends it to be so: we know nothing of his intentions: we can only deal with acts and their inevitable results. One of his tenants at Herringsgate, described as a respectable and apparently a very industrious man, said to Mr. REVANS, "*I don't believe a word that Mr. O'CONNOR says.*" (4th Parl. Report, page 32. We say so too: not meaning that he is guilty of deliberate falsehood—we have no right to say that; but meaning that either from entire ignorance of facts, or from a wild and uncontrollable imagination, he is led to make statements which are mere delusions, and a belief in which can only end in the loss of all

the money which these 32,000 simple people have trusted to his management.

[Since the above was in type we find that the last report of the Committee, recommending this concern to be wound up, has been presented to Parliament.]

The opinion is becoming common that the Potato Disease is not making progress in England. Correspondents in Hampshire, North Wales, Herts, Norfolk, Berks, and Somerset, express this belief, founding it upon the small amount of damage which in many places the tubers have sustained. We hope they are right; it is impossible to say what may or may not be true of so mysterious a calamity, and therefore we can only say that our own experience is unfavourable to the opinion; on the contrary, we see it making progress, and we fear that the unripe tubers, although sound at present, may become tainted a little later. The general symptoms are those of 1845 and 1846, and not at all those of 1847; and the weather does not reassure us. As to the late crop, so generally described as being safe, we must observe that its time has not yet arrived; and that, while we are writing, a report has reached us that about Roby, in Lancashire, the late crop is fast following the early. This statement has been accompanied by Potatoes diseased exactly as in 1845. In the meanwhile, we see no object in continuing the reports upon the English crops.

From Ireland our chief returns come down to the 24th of July. In the southern districts the crop seems to be what it was; in one place the failure is called partial, in another extensive, in a third (Kilkenny) decided; in one place stopped, in another (Inistiogue) progressing; some of the Society of Friends think the crop in the south in a more satisfactory state; in Bland's Country (Ballybeg) the failure is very considerable. In Skibbereen the plants affected with blight were (July 24) reported to be recovering, which agrees with Lord Oranmore's observations in Mayo. The new Potatoes over all the southern district are, upon the whole, described as being sound and cheap.

To the northward the disease is appearing here and there. In Meath it has become more general though not serious (July 23). In Dublin county, south, it is called partial and unimportant; in Athlone reports are not so cheering (July 22); supposed to be extending in Headford (Tuam, July 22); has appeared in most fields near Castlerea (July 23); unequivocally appeared here and there near Ballinrobe, but not by any means extensively (July 22); ditto, Swineford (July 22); very few instances, crop excellent, Westport (July 22); crop thought safe in the west of Galway (Clifden, July 22); nothing of any importance in Roscommon (July 22.) The crops in Antrim, Londonderry, and Down, not far enough advanced for an opinion (July 23), but some reports afloat; about Rathmullan, on the shore of Lough Swilly, a few cases, but of no importance (July 24); early Potatoes of unusual excellence.

Against all this we have to set the very alarming letter from Granard, dated August 2, which appears in another column, and which, considering the sound judgment of Mr. Goodiff, must, we fear, be taken as a just description of the state of things in his neighbourhood, which is in the county of Longford.

When the Potatoes are blighted, the Irish growers seem to think it best to let them alone; and we agree with them. If the stalks are really dead, it is as well to remove them, as some advise; but we never could discover any advantage in it. To do so can, however, do no harm; and a man may, perhaps, diminish his apprehensions by the practice. At all events, if any Potatoes are formed, they are best in the ground, where, if they do not grow, they may ripen. If they have the tendency to rot, they will do so in spite of any known precautions. In the earth they will be cooler than in any other place, and that is a great point to gain. Moreover, if the earth is trampled down till it becomes hard, they are guarded from the access of air.

We continue to receive various letters, reports, and speculations, printed and written, respecting the cause of this disease; and we thank the writers for their communications. We cannot, however, at present spare room to notice them further than to say that Mr. Cooke, of Darlington, ascribes it to ammonia (an old notion, by the way), and others to electrical agency, and consequently are again recommending poles and wires, and all the electrical contrivances, of which we had thought that sensible people had had quite enough already.

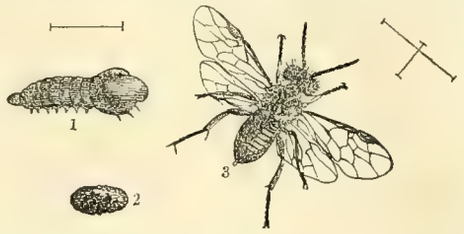
ENTOMOLOGY.

The Saw-flies of the Pear and Rose-leaves.

In no branch of natural history is the minute and careful examination of specific characters, as well as precision in the investigation of the economy of species, more requisite than in entomology, and it is on this account especially that it is worthy of engaging the attention of the young, as a means of attaining habits of precision and observation, which cannot fail, in after life, of being highly serviceable.

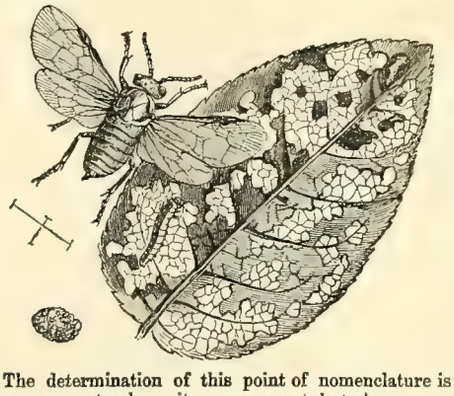
Selandria is a genus of saw-flies distinguished by having nine joints in the antennæ, and by having two radial and four cubital cells in the fore-wings, the second cell receiving the first recurrent vein, and the third cell receiving the second. There are about 40 British species, a considerable number of which are of small size and black colour, with smoky wings, bearing so strong a general resemblance that they would be regarded at first sight as forming but one species, and yet they are not only sufficiently distinct in their perfect state, but their habits in their preparatory stages are also dissimilar, at least in such as have been observed.

One of these black species was first described by Reaumur (Mémoires, vol. 5, tab. xii., figs. 1—6) as feeding in the larva state upon the leaves of Pear-trees, as well as upon the Plum, Cherry, and also upon the Oak. Reaumur's description of the larva accords exactly with the slimy grub of the Pear-leaves which is occasionally so injurious in this country, the history of which will be found in the *Gardeners' Chronicle* for 1842, p. 692, where the name of Tenthredo Cerasi is applied to it. As we have this day (20th July) obtained the perfect fly of this species in a living state, from larvæ sent to us last autumn by several of our correspondents (as acknowledged in the answers to inquiries at the time), we are in a situation to decide upon its want of identity with the true Tenthredo Cerasi of Linnæus; our insect (as represented in our former volume, which we here reproduce), being



black with black legs, except that the four fore tibiæ and tarsi are pitchy-brown; whereas Linnæus says that his T. Cerasi has all its legs pale clay-coloured, and a yellow scutellum, and (what is of more interest) that it rolls up the leaves of the Cherry, in order to undergo its transformations. Now these characters will not agree with the saw-fly produced from the slimy grub of the Pear and Cherry, the latter descending into the earth to undergo its transformations. Linnæus indeed incorrectly referred Reaumur's figure above mentioned to his T. Cerasi, and this has led to part of the confusion which exists in the names of these insects.

The German naturalists (Klug and Hartig) have applied to this species the name of T. æthiops, given by Fabricius to an English insect described from Sir J. Banks' collection, entirely of a black colour except the four anterior tibiæ, which are pale (pallidis). Trusting in the accuracy of these authors, we also gave the name and description of T. æthiops to the fly of the slimy grub of the Pear, in an article published in the 13th volume of the "Gardeners' Magazine" (giving the period of the last changes of one of these slimy larvæ found on the Whitethorn from Dahlbom's Clavis); but having now reared the insect from these slimy Pear larvæ, we are convinced that this insect is not the T. æthiops of Fabricius, and that it is the Selandria atra of Stephens.



The determination of this point of nomenclature is necessary, not only on its own account, but also as connected with another insect, which is still more troublesome than the slimy grub of the Pear and Cherry.

During the present and past seasons we have received a great number of inquiries respecting the cause of the blight, as it has been generally termed, to which the leaves of many kinds of garden Roses have been subject, and having investigated its history, we append it to the preceding remarks, as it is caused by the real Tenthredo (or Selandria) æthiops.

It is especially in the month of June, when the Rose trees need all their energy for the development of fine blossoms, that many of the leaves turn pale brown, looking as though they had been scorched. On examining them more closely with a lens, we however find that the upper cuticle of the leaf is entirely or partially eaten away, the lower surface of the leaf being always left entire. We have seen trees in Oxfordshire this season with every leaf thus eaten, and as they suffered in the same manner last year, we apprehend they will be much injured in their growth, independent of the annoyance caused by their blighted appearance, and by the flowers being either worthless or entirely abortive. At this period the real cause of the mischief is overlooked (indeed, we believe no previous author has recorded the history of this obnoxious insect) from its near resemblance in colour to the leaves upon which it feeds. The enemy itself is a cylindrical, pale, yellowish green larva or caterpillar, nearly half an inch long, with a darker line down the middle of the back, an orange-coloured head with a small black spot on each side; the segments following the head having several very minute conical points (two larger than the rest) immediately behind the head, but these are so small that they are only to be seen through a lens. Each of the three segments behind the head is furnished with a pair of short legs, and there are seven pairs of prolegs (the last of which is smaller than the rest), and another pair at the extremity of the body, making 22 feet in the whole. When these larvæ have changed their skins several times, and arrived at their full size, they descend into the earth, where they form little hollow, oval cells of earth, highly polished on the inside, in which they pass the following winter, and wherein also they change first to pupæ, and then, in the spring, to perfect insects belonging to the family of the saw-flies and genus Selandria. They are in this state about one-sixth of an inch long, of a glossy black colour, with the wings stained black; the legs pale buff, with all the thighs black except at the tips, and with the hind tibiæ dusky in the middle. This description agrees with T. æthiops. They lay their eggs upon the Roses, and the larvæ are hatched about the end of May.

We are unable to suggest any plan for the destruction of the fly in the perfect state, but the larvæ may be destroyed by repeatedly syringing the leaves with the mixture described in the communication upon Rose insects in the *Gardeners' Chronicle* of July 15, p. 472; *J. O. W.*

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

Propagation of Pelargoniums.—The old plants of these flowers which have been so gay in the window lately, have now for the most part shed their bloom, and must be submitted to the treatment best adapted to the propagation of young plants, and to render themselves handsome another year. The first thing required is to cut them down to within a few inches of the pot, the operation to be regulated, of course, by the size to which the amateur desires to grow them. Each cut must be made just above a bud or eye, such bud inclining within or without or laterally, according to the position it is wished the future shoot should assume. Great attention must be paid to this rule, for if a plant is merely cut down without reference to the position of its buds an irregular and cross growth is sure to follow. The portions thus cut off must then be looked over, and as many selected as it is thought desirable to preserve. The cuttings should be about 4 or 5 inches long, the part to be inserted being of this year's wood, in a firm ripened state, but as young as possible, so long as you can observe that condition. Cut them off exactly below or through a joint, and they will then be ready for planting, every leaf being retained above the part to be inserted.

If the stock of cuttings is but small, each may be placed at once in the pot it is to occupy; but if a large number is required, six or more may be put into one pot, to be planted out when rooted. At this season, any time in August, cuttings of Pelargoniums will strike readily in the open ground, if shaded for a few days at first and not allowed to suffer drought. But as this is the time when a general propagation should be commenced for next year, the amateur is recommended to make a gentle hot-bed, and to plant his cuttings either in the soil of the bed, or to place his cutting-pots in it. If the surface of the plants are kept at about 15 inches from the glass at first, little or no shading will be needed. Plenty of air must be given after the first day or two and the soil kept moderately moist. By these means a stock of fine bushy plants will be got ready for next spring, and will be found more elegant, and better bloomers than the old ones. In potting, use a light turfy soil with a mixture of leaf mould and sand, and take care to have a good draining secured with crocks at the bottom of each plant.

After the old plants are cut down, let them stand until new shoots are made, when they must be taken out of their pots and all the soil shaken from them. The roots must then be reduced in size, bearing some proportion to the size of the head they are to carry. Re-pot, and treat in every way like fresh-struck cuttings, until a vigorous growth in the spring renders more pot-room necessary. Plants more than two years old are not worth preserving. Some kinds of Pelargoniums grow very fast, and it will be necessary to shorten the shoots by nipping off the top. This will lead to the production of laterals, and secure a more compact habit. Scarlet Pelargoniums must be propagated now by those who intend to use them plentifully in their gardens next year. This may be done gradually, by removing a young shoot here and there from the plants in the flower beds. The cuttings may have the same treatment as just described, except that less moisture must be allowed, as this succulent species soon rots from much wet; *H. B.*

Home Correspondence

Dublin Horticultural Society.—Having been absent from the last meeting of the Dublin Horticultural

Society, I cannot understand with what object they sent to, you for publication in the *Chronicle* of the 29th, the statement prepared by me. It was very well known to the Council, that its preparation was undertaken at one meeting, at the instance of several members, upon the understanding which then existed as to what were the true facts, and that it was merely proposed at the next meeting, as a draft to be altered, as might be agreed on after discussion, as was done to a considerable extent in the case of the one finally adopted. It is therefore quite useless as conveying any final opinion. It was only at and after the last meeting referred to that I first learned that many of the facts anticipated were not as favourable to the Council as I had been led to think that they were. For instance, I subsequently found that though there was no express rule of the Society to exclude gardeners from the annual dinner, there were circumstances which justified the general impression that such a rule did exist; the refusal of permission to a particular individual some years ago, which I ascertained from himself, having caused all applications of the kind to be suspended till last autumn, when the privilege was practically renewed at the instance of one of the Council. Again, I subsequently learned that on several occasions the fruit had been partitioned off from the public, in the manner since described in the *Chronicle*. And finally, it was only when the statement came to be discussed, that it transpired that the adjudication of the Lord Lieutenant's prize had not been made even by the colleagues of the competitor, but by a different set of judges not contemplated by the Council—so ambiguous and irregular was the whole transaction. In these three particulars the facts did not turn out as had been anticipated; and the statement is therefore so far at variance with the exact circumstances. In other particulars I believe that all parties concerned are entitled to such defence as it may contain I do not mention these matters as being in themselves worth further discussion, but because, without this explanation, a comparison of the two documents, which the Council seems to invite, would be quite useless. But any one, who will be at the trouble of a comparison, will at once see that the one prepared by me did not—because it could not—give a satisfactory explanation respecting some of the chief matters at issue between the Council and the public. It merely offered an explanation of the matters as to which the Council were unanimous, and which involved, to some extent, personal considerations, without implying any defence of matters of regulation, as to which opinion was divided. I could see nothing like a defence for the practice of allowing judges to be present whilst the plants were being arranged for adjudication, or of allowing the members of the Council, who were exhibitors, to remain during the adjudication, whilst all other persons were excluded—the rule of the Society being that "no person whatever" should be present. Above all I could see no defence for the practice of awarding the prize to the employer and not to the gardener, even though in all cases the name of the latter should appear, and in most cases he should reap the pecuniary advantage. I felt that the true principle was, that the substantial acknowledgment of merit should be both direct and certain, and not conveyed through the indirect and uncertain medium of the employer. It is only under the former condition that I can understand a prize being acceptable to an individual actuated by those feelings of moral emulation which it is desirable to appreciate and encourage. Independent of this, I cannot think that the special subscriptions of the Lord Lieutenant, Mr. Sidney Herbert, and others, are entrusted to the Council to be awarded, even in the first instance, to themselves and persons in their class of society. The amount would be insignificant for such a purpose, but munificent if applied directly, as in similar societies, to the reward of the working class, by whose labour horticulture is advanced, and whose encouragement and consequent improvement is, or ought to be, the ultimate object of such a society; *W. T. Hamilton.*

Carnations and Liquid Manure.—In last week's Paper you make a comment as if you understood that your correspondent "Dianthus" had applied liquid manure according to directions given in the "Gardeners' Almanack." This is not the case, for in the passage he refers to there is merely a recipe given for making liquid manure, furnished by Mr. Errington, which recipe is unexceptionable, and is as follows: "One of the simplest modes of making a liquid manure, which would seem to combine most of the properties requisite for plants in general, is to keep a couple of tanks or tubs for the purpose—the one to succeed the other, as after a fresh brewing the water is turbid for a time. Four ounces to a gallon of good Peruvian guano, well dissolved in tepid water, is then put into the tub No. 1, filling it nearly full. Soot, at the rate of nearly 1 gallon to 20 of the whole of the liquid, is then put in, and the whole well stirred. When it has settled 24 hours, it must be well skimmed, and the skimming repeated at the end of a few hours more, as the soot produces much scum. In two or three days it will be fit for use. Tub No. 2 must now be prepared in a similar manner, in order to have time to settle, and thus the matter may proceed—one tub in use, and the other clarifying. Now this is far too powerful to use in an ordinary way, at least with choice plants; and the best way to apply it is to take a canful, when the watering is proceeding, and colour each canful of clean water with the mixture. A quart to 3 gallons of water will be amply sufficient. 'Little and often' is the maxim, and it ought to be borne in mind that it is only during the growing season, or whilst the root is in an active state, that it can be applied with success. Another essential maxim is, never apply it in a turbid state. It will, if applied thus, assuredly defeat the end in view, by choking up the air passages in the soil, and excluding the renewing and invigorating effects of the atmosphere; for the absence of which no preparation can at all compensate." It will be seen that no directions are here given for applying liquid manure to the Carnation at all, much less in the mode adopted by "Dianthus," who will find that his Carnations will not run if he grows them in a less fertile soil, well drained, and applies weak liquid manure so soon as the pods begin to open; *The Editor of the "Gardeners' Almanack."*

Vipers.—That the viper offers its throat as a place of refuge for its young in time of danger I for one have no doubt. Some years ago I was going from Ashtead (where I then resided), to Fair-Mile, near Esher, and had on my way to pass through a Fir plantation belonging to the Claremont domain. On coming to an opening near the woodman's cottage, where a burning hot sun had penetrated the foliage and sent its rays full on to the well trodden footpath, I observed a large adder stretched at full length on the path, and eight or nine young ones, about the length of a person's little finger, lying around her. I had a stick in my hand and raised it, my first impulse being to kill the old one, but to my great astonishment, the moment I raised the stick the old adder opened her mouth, and the whole of the young ones went down her throat, when she immediately glided into some dry Grass close to the path, where I struck, and I suppose disjointed her vertebræ, for she was powerless; I then hooked her on to the path, and cut her in two by blows with my stick, when some of the young ones came out alive, some of which I killed, and some got away alive. I may add that I was within two yards of the reptile when it received its young in its mouth, and that she remained stationary and seemed fearless until she had given what I believe to be the natural protection to her young. The above fact was seen also, though from a greater distance, by a young lady whom I was escorting to Fair-Mile, and also by the woodman's wife, who expressed her gratitude to me for destroying the adder; for, said she, "We are so swarming with them that I dare not let the children out to play," and which I shall corroborate by saying that I believe there are more adders and snakes about Claremont, Esher, Oxshot, &c., than any other part of Great Britain; *John Page*, 50, *Chapman-street, Manchester, Aug.* 1.

Beech-trees and Lightning.—Having frequently heard that the Beech tree was never struck with lightning, I felt dubious about the fact. On the 2d October, 1845 (as near as I can recollect), all doubts on this subject were satisfactorily set at rest, at least to my satisfaction; for during a severe thunder-storm, which occurred at a certain place in Northumberland, in the afternoon of that day, the lightning struck a Beech-tree, descended down the trunk, and ploughed up the soil to a distance of 20 yards from the base of the tree. The Beech-tree, therefore, has no more claim than other trees to be considered a non-conductor of electricity; *Lector.*

Brugmansia sanguinea.—A tolerable specimen of this plant, which had formerly been grown in a tub, and trained in the style of an Orange tree to a stem some 4 feet in height, and to which distance it had frequently been cut down, as a means alike of keeping the head within a limited space, and of its producing a better quality of flowers and foliage than was likely to have been developed without this aid, some five or six years since was transferred to the open border of the conservatory, where it has remained until the early part of last June, when it was carefully taken up, and planted in an open space on the lawn. It is now an object of much interest and attraction, not only from its being perfectly dissimilar to all other specimen plants in its immediate vicinity, but on account of its dimensions, which are somewhat considerable, being 12 feet in height, and the circumference of the stem, at some distance above the ground, upwards of a foot; and also from the circumstance of its being now profusely covered with its large orange-coloured, trumpet-shaped flowers. A succession of the latter being likely to be kept up until the appearance of frosts, would suggest its removal to the conservatory for the purpose of hybernation, the great altitude, however, of this situation usually extends the flowering season of such plants into November; *James Duncan, Basing-park, August* 1.

Potatoes.—My late Potatoes, which were set early, have already begun to hang their wings, and, with the view of proving whether the leaf be really the seat of the disease, I have this day selected three diseased stalks, and, after preparing them as cuttings, have placed them under glass in the hope of striking them. Will you and others have the kindness to do the same? *R. T., near Garstang, Lancashire, July* 31. [Let us try this experiment.]

Strawberries for Forcing.—Your correspondent is in error when he writes, on the 29th July, that now is the time for commencing the potting of runners for forcing in the ensuing year. The operation ought to have been accomplished by the end of the first week in June. Any one who has not got his plants well established in their fruiting-pots at least a month since, will not be successful next year; for, although he may have some fruit, it will be insignificant, small, and of little value; *Charles Whitbread, Marden Ash.*—— I differ from Mr. Cox's statement that potting the runners in 3-inch pots is, undoubtedly, the best plan. It may be as good a plan as any, but it requires much labour. Experience teaches me, that as fine strawberries, and as large a quantity, can be produced by potting the runners at the first outset into 2-inch pots, in which they remain, as can be produced by potting first into 3-inch pots and then shifting; and this great saving of labour is no mean consideration where 2000 or 3000 pots are required for forcing. Runners potted into 3-inch pots will soon fill the pots with roots; and as they are then to be shifted into the pots in which they are to remain, I think the soil would suffer very little deterioration in so short a period, if they were at first potted into the pots in which they are to remain. What little it did suffer might easily be made up by the application of artificial manures (soot water will be found to be an excellent application); and thus a great saving of labour would be effected, and as good a crop ensured. This is not intended to detract in the least from the merits of Mr. C.'s remarks. On the contrary, I can bear testimony to their general value. I merely wish to advocate a system which many consider to be wrong, but which I consider to be of great value to the extensive strawberry forcer; *J. L. M., Tolmers, Hatfield, Herts.* [So do we.]

Melons.—I shall be obliged if your correspondents would give some account of how their Melons have ripened this season. I have had large and very fine crops of the Beechwood and Cabool; but many of the Melons, and those the largest, have rotted off; not at the stalk, as is generally the case, but commencing with a small spot on one side, which increases until it gets quite through the fruit; *Chas. Whitbread, Marden Ash.*

Tacsonia pinnatistipula.—This beautiful plant was introduced from Peru in 1826. As a handsome conservatory and summer climber for the flower garden it is deserving of universal cultivation; it grows rapidly and flowers freely. For flower-garden decoration the plants should be grown in pots at least a year before they are required for planting out of doors, as by this means they become strong, and being well established there is greater certainty of an abundant production of blossoms in the open air. It does best on a conservative wall; but if that is wanting, a site possessing a south aspect, somewhat screened on the north-east, should be selected; the main branches should be trained over arches or along trellis work, the lateral shoots on which the flowers are produced being induced to hang in graceful festoonings. Plant in turfy loam, peat, leaf-mould, and sand in about equal proportions, taking care that thorough drainage is secured. Give liquid manure waterings during the parching heat, as well as the showery growing periods of summer, and this beautiful climber will grow and bloom luxuriantly throughout the summer and autumnal months. There is a very fine specimen of this Tacsonia in the Camellia-house at Chatsworth. This house is span-roofed; one plant is planted against the back wall in a border 1 foot wide, 3 feet deep, and extending the length of the house. The plant is composed of eight principal stems, the largest of which is only 3¼ inches in circumference, and yet it clothes 322 superficial feet of back wall, besides extending 288 lineal feet of rafter, the intervals hanging from the latter from 1 foot to 6 feet. On the 6th ult., I counted 480 flowers upon this plant. Under liberal culture this climber is disposed, like other Passionflowers, to run too much to wood; to obviate this, frequent pruning and thinning of the lateral growths is indispensable; and being liable to attacks of red spider in dry weather, frequent syringings are also necessary out of doors as well as in the conservatory; *George Taylor, Chatsworth.*

Pillar Roses.—I am aware that you do not furnish the names of dealers, but will you allow me to ask in the hope of an answer, through your advertising columns, where those who object to the unsightly stem of the Tree Rose can obtain Pillar Roses, either budded underground on the Dog Rose, or when the species is very vigorous on the natural stem. Though such Roses are to be found in all good private gardens, I have not found any nurseryman near London who grows them in this, which is by far the most elegant form, the reason being I suppose that they require more time and more space; *A Templar.*

Gelsemium sempervirens—nitidum of Pursh (see p. 510).—I have not seen this grown well in England, and have seldom seen it in flower. Surely it ought to succeed in Devonshire. In its native country it is truly a splendid climbing plant when cultivated: the foliage is a beautiful polished green, and when in blossom the flowers are abundant, of a brilliant yellow, and very fragrant. In Richmond, Virginia, I saw two splendid specimens; they were each twined round three posts about 7 feet high, placed in a triangular form. I found plenty growing naturally in the Chickahominy swamp, a few miles from Richmond: they generally twine round small trees and bushes. In the neighbourhood of Richmond I saw several specimens of Viscum. Mistletoe, growing on the Oak; *T. B., Langton, Staffordshire.*

The Potato Murrain in this vicinity (Winchester) is not worse than it was last year, except in a few instances, and in these instances the sets were planted very late in the spring, and in low-lying, wet, ill-drained soil. The cry is raised, and the fear is spreading that the Potato crop is rotting; but the cry and the fear, so far as I can ascertain from facts, are not justified. The moment the haulm looks black and decaying the conclusion is jumped to that the murrain has seized the tubers; but this is a totally erroneous assumption. I have examined the crops all round this city, and have

had the tubers forked up extensively where the haulm of the Potatoes was looking the worst, and can vouch for the truth that in many instances there were no diseased tubers, and in other instances they did not amount to one tuber in twenty. In low-lying, late-planted crops I find from one-fourth to one-third of the tubers bad. The most important consideration is what should be done with the tubers of those plants of which the haulm has become black, and I can say from experience that the best of all modes is to take them up at once, and not to allow them, afterwards, to remain exposed to the air for an hour longer than can be avoided; but, after separating the tainted tubers, to store the sound ones in layers alternating with earth, so that no fermentation or drying can occur, and covering the whole heap over about a foot deep with earth, but not a particle of straw, to exclude the admission of too much air, too much moisture, and any vicissitudes of temperature. I did this last year, and my Potatoes continued sound until the last Potato was eaten in the May of this year. I will here only add further that my autumn-planted crop, and those planted early in spring from sets preserved through the winter with earth in alternate layers, have very few affected tubers; and I am confirmed in my opinion that such cultivation is restoring the constitution of the Potato impaired by centuries of unnatural treatment; *G. W. Johnson.*

Large Conservatory Kew.—Allow me to suggest, before any serious accident takes place, that it is very desirable to rough the edges of the iron steps of the spiral staircase in the great conservatory at Kew; at present they are so polished and smooth, and the soles of the visitors' shoes or boots so polished by walking over the close cut turf, that it is quite dangerous to ascend the stairs without care; *J. O. W.*

Microscopic Examination of a Diseased Potato Plant.—At the present time I should think nothing will be more interesting than a communication which may be presumed to throw some light on the cause of the disease in the Potato, which has again so generally made its appearance. Having during the last two years examined microscopically the diseased tubers of the Potato, and never having been able to discover the cause of the ruptured cells, nor ever having read anything on the subject which appeared satisfactory to me, I was anxious to examine the plants themselves above ground. Such opportunity has been afforded me this year, as I have passed daily through a Potato field, and watched the growth of the plants with the greatest attention. About the middle of July I first noticed a few blackish patches on the upper surface of the leaves, and which in a very few days were much extended over the plants. On examining them, I found on the under side of the leaves a whitish appearance surrounding the dark patches, and which, from subsequent examination, I found invariably preceded the decay of the leaf. On a microscopic examination with a good acromatic glass, under a power of 350 linear, I discovered the whitish appearance on the under side of the leaf to be a Cryptogamic plant or fungus, composed of a net-work of white fibres, throwing up branches, on the tops of which are minute egg shaped capsules filled with numerous spores, all capable of the reproduction of the fungus when they meet with a situation adapted to its growth. To give some idea of the minuteness of these capsules, filled with spores, I measured some of them and found them $\frac{1}{1000}$ of an inch long, by $\frac{1}{1600}$ broad, consequently 1600 millions would only occupy one cubic inch, and every capsule is filled with probably hundreds of spores, all capable of spreading the disease. The fungus, after destroying the part of the leaf on which it vegetates, appears to pass along the veins on the underside of the leaf to the midrib, and thence down the stalks, and I think there can be but little doubt that the minute spores pass with the descending sap into the tuber, and destroy the cells by vegetating in them. Should my idea be correct, the plan which has been recommended of pulling up the haulm and burning it appears to me the only way to prevent the disease descending to the Potatoes, or spreading the contagion, but it should be done immediately on the first appearance of the diseased leaves, otherwise it will be of little use, as the spores will have descended with the sap to the Potatoes. Various causes have been assigned for the disease, such as the manures used, aphides, &c. The part of the field (the West Marlands, Southampton) in which I first noticed the disease, has not been broken up for seven years, to my knowledge, and no manure was used, and with regard to aphides being the cause of the disease, I can only say that on large patches of the plants I have examined in a diseased state I have not seen a single aphis, although I have searched for them; had they infested the plants they would have left their cast skins behind them, as is invariably the case with plants infested with them. In some parts of the same field I found a few. I can therefore safely say the cause of disease in the field I have examined was neither manure nor aphis vastator; *R. Tovey*, 19, *Blechynden Terrace, Southampton, July* 31. [Has our correspondent never read the full and excellent observations by the Rev. M. J. Berkeley, in the "Journal" of the Horticultural Society?]

Potato Disease.—Since my last of the 25th ult., the Potato disease has made a very sudden and rapid progress in this neighbourhood, and spread a very general alarm; the apprehension now is that the whole crop will be lost, and there are too good grounds for this apprehension. In the years 1845 and 1846, the disease did not extend itself with more rapidity than it has done within the last few days. Potato ground in which, on the 29th of last month, but one stem in a hundred could be set down as decidedly diseased, on the 1st of this scarcely showed an undiseased stem—not blotched, but withered and dried up. Fields which were supposed safe last week have now a withered appearance rather than blotched stems, and the tubers are found tainted, and some of them very far into the Potato. It is at present impossible to calculate what may be the extent of the loss, as much will depend on the tubers, which may be sound when the stems are withered and dried up, retaining their soundness. It must amount to that of 1845 and will be more severely felt. We have certainly a large breadth of Oats, but the people have not the resources they had in 1845; they had then a great number of swine, which fed on the diseased Potatoes, and, on afterwards being sold, enabled the people to purchase food; they had also a great deal of poultry, the sale of which likewise assisted to supply them with food. Now with a heavy and accumulating charge of poor's rate, and with nothing but their grain, and with generally arrears of rent due and other debts, which would require far more than their grain crops to discharge, the loss of this crop will annihilate all means of existence in millions of people; and without the most strenuous and united exertions of all classes, aided and stimulated by the Government of the country in producing the earliest substitutes for our loss, and in finding productive employment for the people, the state of the country, after the Potatoes are consumed, will be most frightful. For my part I have no hopes for the country; suffering humanity, which has now endured in Ireland two years of half starvation, must sink under this access of wretchedness and hopelessness; and it may look with gratitude on any dispensation of Providence which shall sweep it at once into the grave. Past experience of inadequate measures, of miserable inability to meet the greatness of our late exigencies, leaves no hope of finding master minds capable of carrying us through the future ones, which must, unless such shall arise, continually increase till all are involved in one common ruin. Perhaps the immediate general adoption of Lord Clarendon's plan of agricultural instructors in every parish in Ireland, with such pecuniary aid as would enable the peasantry to follow their instructions, would be the readiest means of our regeneration, but in the interim, before food can thus be provided, either such portion of our own produce must be retained, or foreign food supplied to support the people. The most immediate auxiliary article of food that we can procure is Cabbage, and as the period of sowing the seed for next year's supply is passing by there ought to be no delay in sowing large quantities (especially the earlier kinds) of seed by those who can afford it, to be, as plants, hereafter supplied to the people either gratis or at a very low price. Between 20 and 30 tons of early Cabbage may be produced on an acre of land, and the ground cleared in time for a crop of Turnips, or a crop of late Cabbage, may succeed, and if it is thought proper, one of Potatoes may be risked; *J. M. Goodiff, Granard, Aug.* 2.

Foreign Correspondence.

Disease in Carrots.—I wish to draw your attention to a fact in the vegetable republic that is curious, and not at all agreeable. Some extensive beds of Carrots, in my vegetable garden, were in such a flourishing state, and so beautifully verdant, that every body who visited the garden remarked them. About a week ago, the weather being sultry and dry (we have had a fair supply of rain here), they began to droop, have never since increased in size, and the inclosed is a fair specimen of what these once verdant plants are, or will all be in a few days. I once observed to you that I was quite inclined to the opinion that the Potato disease was of atmospheric origin, and the minute attention I have paid of late to these awkward visitations has convinced me that insects, fungi, &c., have nothing to do with them. If the cholera which attacks the animal kingdom is owing to a vitiated state of the atmosphere, plants that are exposed to the same malignant influence may be expected to suffer, as we see they do suffer; for we all know that both animals and plants depend upon the natural equilibrium of that mineral body which some think it has a claim to be considered. It is said that, in places where the cholera was rife, the magnetic power was singularly affected, and that the electro-magnetic wires refused to work. Now, this is a serious matter, and deserves the attention of chemists and physiologists. What a visitation it would be if Turnips were to perish as my Carrots have done! What would become of the present system of farming if Turnips would no longer grow? Adieu to mutton chops! Men are so ingenious now-a-days that I hope to live to see the atmosphere set right in localities where it is out of order. People might be made to suck out of a bag of oxygen, and plants guarded against the destruction that menaces them; *F., Normandy, July* 31. [These Carrot leaves are totally dead, without a sign of any cause. We have seen no such English case.]

Disease in Tropæolum speciosum.—The blooming of this beautiful plant has been suddenly stopped by the withering of its stems; and upon examining its roots, the horizontal underground runners are found to be attacked in the same way as Potatoes, at the ends where the buds grow. If this goes on, many persons must lose their whole stock of this charming species. The Potatoes here are sound; *L. Van Houtte, Ghent.*

Paris, August 1, 1848.—*The Potato Crop.*—Up to this time the disease has made but very little progress in France, indeed it is hardly perceived at all on any of the high sandy or rocky soils. The early crops have taken up clean and well, but I understand something below the average weight, the quality is, however, universally allowed to be excellent. The late crops look beautiful; during the last two or three weeks we have had thunder-storms and warm rains, which have given a most luxurious appearance to all kinds of vegetation. As far as my own observation goes, as well as from what I can learn, the disease has only yet appeared in low or damp situations, but even there it is very partial and so slight as to give but little anxiety respecting the general crop. I have lately been through very many departments, and can, therefore, speak to these facts. In the neigbourhood of Paris it is almost unknown. I have not seen half a dozen tainted stems, and even there the roots were sound. You may walk through all the markets of Paris and not find a diseased Potato; you will see them scabby and speckled, but that is caused by the ravages of that pest to France, the Vers blanc (cockchafer grub). In the Seine and Oise they are generally sound; here and there I understand there are a few bad places, but I have not seen them. The same may be said of the Seine and Marne; the soil is here stronger, and the crops look even better than round Paris. In the Loiret and Touraine there is no complaint, except in some of the flat low lands near the river Loire; at Blois, Orleans, and Tours, the summer crops are brought to market in great plenty and good condition; further west they are said to be excellent and a good average crop. In Calvados the disease has appeared in some few places, but very slightly compared with former seasons, the breadth planted is greater than ordinary, and no alarm whatever is expressed at present about the general crop; passing into Picardie, you find them in the same satisfactory condition. The only places in this Circle that I have seen any appearance of blight is among the wet marshy grounds abounding in the valley of the Somme, and even there it appears almost entirely confined to the early crop. Towards the north it has appeared in several places among the cold heavy lands, but still there is no apprehension of any great damage at present; there can be no doubt whatever that the plantation has this season been upon a larger scale than any former year. Hitherto the loss has been so inconsiderable as scarcely worth naming; but this will be the trying month. It was at the end of July and beginning of August that the greatest ravages were made in France in a former year, and for anything we know the same extraordinary variations of atmosphere may again occur. In a few days I shall be passing through many of the eastern departments, and will let you know in what state they are there. The cultivation of the Potato is every year upon the increase in France, it is used in an infinity of ways, and every part turned to some account; the quantity consumed as a culinary vegetable is now but a very small portion, as compared with that used in the distilleries, breweries, starch factories, or feeding cattle; it will be, therefore, difficult to make the people of this country believe that any other root can be found to supply its place, even were the disease to destroy one-half the produce. The crops of grain are entirely got in round Paris, they are fine in quality, but in places light. Fruit is very partial; in some districts great abundance, in others scarcely any, occasioned by the severe frosts and blights in the early part of May. The crop of Haricot Beans is enormous; go where you will, it is the same. During the many years that I have resided in France I never saw anything to equal it. What can be the reason that the people of England will not use it as we do here? It is wholesome, nutritious, and very nice; and in France it is a favourite dish with all classes.

Societies.

Horticultural, *Aug.* 1.—J. J. Blandy, Esq., in the chair. Sir C. Morgan, Bart.; the Rev. H. Glossop; T. Baring, Esq., M.P.; W. Strachan, E. L. Betts, and W. Price, Esqs., were elected Fellows. Of subjects of exhibition, Messrs. Rollisson, of Tooting, sent a tubful of Miltonia spectabilis, loaded with blossoms regularly diffused over a circle 3 feet in diameter. This specimen presented a magnificent appearance, and showed that to produce the best effect, this fine species, whose flowers remain long in beauty, must be grown *en masse*. A Silver Knightian Medal was awarded it. The same nurserymen also sent a beautiful specimen of Scutellaria Ventenatii, covered with spikes of rich crimson blossoms. Of Orchids, a small collection was produced by Mr. Dobson, gr. to Mr. Beck, of Isleworth. They consisted of the spotted variety of Oncidium luridum, a nice Galeandra Baueri, Cattleya crispa, Broughtonia sanguinea, and a variety of Oncidium Papilio. Mr. M'Ewen, gr. to Col. Wyndham, of Petworth, showed a small plant of Allamanda cathartica; Mr. Turner, of Chalvey, the Heliotrope called Triomphe de Liége; and Messrs. Veitch, a Java Ixora, and a poor specimen of the beautiful Disa grandiflora, a terrestrial Orchid found on the table mountain behind Cape Town, and with the beauty of the large crimson flowers of which few of the epiphytal kinds can vie. Its native beauty has, however, never been fully brought out in this country, the treatment required to produce it being as yet imperfectly understood. From a greenhouse on the leads of his seed warehouse at London Bridge, Mr. Wrench sent flowering specimens, clean and healthy, of Fuchsias serratifolia and Alice Maude,

as the only correct practice, and yet on land such as I have named, what is the result? A complete failure, as compared with broadcast seeding! This I have proved to my heart's content, and have moreover convincing evidence at this day on my farm of the superiority of the one over the two modes. Talk of thin seeding on such soils! No greater delusion ever entered the mind of man. Where 2 bushels of seed are sown in October, on strong clay lands, how often do we find that the Wheat is too thick on the ground in the following summer? About once in 20 years. No; drilling and thin seeding may succeed best on the richest description of soils, which will be afterwards treated with garden-like management; but, on all secondary and inferior soils, a certain loss is the result of this practice. In manuring strong clay soils (of which only I write at present), a common error to be constantly observed from this time to the end of September, is the exposure of farm-yard manure in small heaps for days and weeks together to the drying effects of sun and wind. If there be any truth in chemistry (and who doubts it?) this is, indeed, wretched management. But I meant rather at present to condemn the practice of reducing fold-yard dung from its fresh or only half-rotted condition to a more advanced state of decomposition, such as may be suitable to Turnip cultivation, previous to its application to bare fallow. From repeated experiments I have proved that long unfermented dung will produce, on secondary soils, largely-increased results to an opposite practice. So much has been written on drainage that one hardly expects, now-a-days, to meet with anything new. It is, nevertheless, a fact, that the theory and practice of the art yet remain in many instances to be reconciled. The 4 and 5 feet deep, and 30 feet apart system on strong clays has been found out to be moonshine, attended with vast expense and small results. On the clays of Kent and Essex (at Tiptree for instance) that system may answer, but on the strong, stony, blue clays of Northumberland it will not. Mr. Parkes and Mr. Mechi would, I dare say, ridicule the notion of draining at 30 inches in depth and 18 feet apart, and yet from such drainage the most satisfactory results have been obtained. An examination, too, of these drains, after a lapse of four years, proves to me that their safety can be entirely relied upon. Let me add, that on precisely similar soils, where drains have been executed at the respective depths of $2\frac{1}{2}$ and 3 feet, no perceptible difference whatever has been noticed in the two succeeding crops. If no additional advantage, then why incur additional expence in their formation? An erroneous opinion prevails as to laying strong clay land quite flat after drainage. ("Not a crease," says Mr. Parkes.) A too close adherence to this advice has cost me scores of pounds, but has quite convinced me at last that the ridge, with a decided inclination to the furrow (the best line of drain) is far preferable. These may be thought shallow notions on the subject touched upon, but they are nevertheless the carefully noted results of experience; *Veritas.*

Names of Poultry.—Every one interested in Poultry, either for amusement or profit, and it is clear that the collective number of such persons is very great, must be desirous of seeing a precise and settled system of names established, as the first step to any certain advancement of our knowledge of the subject. The nomenclature of the different varieties of fowls is at present so confused that your correspondents may discuss the merits of breeds with the very best intentions, and end only in cross purposes and misunderstandings, in consequence of their either speaking of the same thing under different names, or of different things under the same name. Unfortunately there is no book extant, in the English language at least, of much service to help them out of the difficulty, but rather likely to increase the existing perplexity. I am now endeavouring, as the writer of the papers on "Ornamental Poultry," to bring about a little arrangement of the varieties, and shall be very thankful for assistance from those who will trouble themselves to give correct and authenticated information. In the meanwhile I may state that the London poultry-dealers are unanimous in calling all fowls with top-knots "Polish," or "Poland," a classification which is at least simple and convenient. For instance, the bird figured by Richardson as "the spangled Hamburgh hen," would in London be called a Polish hen. Of the Polish there is the gold-spangled, the silver-spangled, the black with a white top-knot, the duns, and probably others. Some of these have "muffs" or "beards," appendages which are not pleasing to every beholder. The beard also occasionally occurs amongst Dorkings. The gold and silver-spangled Hamburghs are both a combed breed; the comb of the former is very plump and double, particularly in the male birds. The Hamburghs appear to be identical with the Dutch every-day-layer. "B.'s" name of "Bolton bays" is new to me, but the variety thereby indicated is perhaps the same as the Golden Hamburgh. The Bolton greys, called also "Creole," also "Coral," can hardly be distinct from the silver spangled Hamburgh, if the coloured print in "Moubray on Poultry," 8th edition, is at all to be depended upon. The pheasant breed is totally distinct from any of the above-mentioned, and is, to state it once for all in these columns, no more a mule between the pheasant and the domestic hen than the camelopard is a mule between the leopard and the camel. The dealers are not to be blamed in the matter; those who profess to be respectable tradesmen will find it against their interest knowingly to attach wrong names to specimens; and we ought surely to give every man the credit of being influenced by the higher principle of common honesty, till the contrary is proved against him. The leading dealers all over the kingdom would probably be as glad as anybody of a settled rata [illegible] of names; and [illegible] that are established in London ought to have the preference over provincial ones, unless they are contrary to fact and to natural history, and [illegible] the collection and comparison of synonyms [illegible]. A friendly interchange of specimens, between [illegible] residing at a distance from each other, would [illegible] many doubts. Is there any [illegible] top-knots? What are the [illegible] "B." will obligingly favour me with his address, if he is at all disposed to aid in the [illegible] of fowls; *E. S. Dixon, Cranleigh [illegible], Norfolk.*

Salt.—I am afraid many of the writers on the advantages derivable by the application of salt to new hay in the stack, have had too little experience [illegible] credited, and I imagine they would [illegible] more service were they as anxious to [illegible] as successes; indeed I think it would be well if every one acquainted us as freely with their [illegible] as they put forth their sweets to be [illegible] for; ought not every considerate gentleman before he expatiates upon or extols either his own or other new systems, to wait till a series of the losses or gains thereof are better authenticated than they commonly are? Not long ago I salted all our Clover and old land hay, being induced to do so by reading the numerous recommendations of the practice, &c. I now beg simply to state (to such as it may concern), that I was astonished for some months what it could be that made our milch cows do so badly. The return from the dairy was very deficient, indeed its proceeds were not much above a moiety of what the same animals, then composing the dairy stock, have made since my discontinuing to salt the hay in the stack. Undoubtedly much credit is or may be due to its application in particular cases, but probably more experiments will be necessary before we can reconcile ourselves to admit it as a general practice, or believe all the tales put forth by such sanguine, indirect money squanderers. I will mention a loss that accompanied the use of salt on these premises where the animals had it placed before them to lick, in order to caution farm servants. An unthinking lad (an hired servant to whom a little more education would have been very useful, if of the right sort), having in his hand some salt, threw it into the mouth, and perhaps the nostrils too, of a cow far gone in calf; it made her cough or sneeze several minutes, and early next morning she quitted a very fine live calf, which of course died in a few hours after its birth; *A Dunghill Salter.*

Butter-making.—The letter of your correspondent Mr. Caird, on Mr. Lawes' paper on Turnip culture in Devonshire, induces me to say a word on the same side in behalf of the butter-eating part of the community, whose interests and those of the farmers are sadly opposed on this subject. For it is, I think, an unquestionable fact that, wherever Turnip culture flourishes, there it is impossible to get any butter or cream that those who know what good butter and cream are would pronounce deserving of that epithet. In fact they are both, in Turnip countries, detestable; and, to us butter-buyers in other counties, the Devonshire pastures are thought of with many regrets, especially in winter, when every pound we buy seems worse than its predecessor. Now, Turnips in their proper place are doubtless good food, but it is rather hard in these improving days that one should have them in one's tea and bread and butter, spoiling one's breakfast every morning. I have no faith in any of the remedies suggested for taking away the taste, such as saltpetre, chloride of lime, &c.; they all fail, or leave another taste as bad as the Turnips. All modern improvements in agriculture have, or ought to have, for their object, to increase the quantity and improve the quality of human food; but in the case of Turnip culture, however much the quantity may be increased, the quality of butter and cream is changed from a capital article of food to a positively detestable one; and I really think the unfortunate public will soon lose all satisfaction in that most agreeable meal, breakfast, unless every man can afford to keep his own cows and feed them on other food. I do not know whether you will admit such heretical opinions into your journal, but I wish Mr. Mechi, Mr. Davis, Mr. Huxtable, and other great improvers, would add to the number of their good deeds by finding out how to make good milk and butter compatible with good farming, which at present they certainly are not; *T. J. P., Windermere.*

The Egyptian Egg Oven.—Besides the account of the above system given by Sir Gardner Wilkinson, referred to in your Paper of the 1st July last, there is one, among many others, rather more explicit to be found in the "Library of Entertaining Knowledge," published by Charles Knight and Co., in 1833, on "The Domestic Habits of Birds," page 134. The principle of these ovens, however, is simply this, that they consist of chambers one above the other, either in long or short ranges, but never more than two divisions high. The upper one invariably contains the heat, and in the middle of the floor of it there is a hole, through which the warmth descends and acts upon the top of the eggs, which are placed on a mat on the floor of the lower chamber. It will never do to place the fire or heat in the lower apartment or division, and the eggs in the one above, for that would violate the law of Nature, and agitate the liquid of the egg in the wrong direction. It must always be a descending heat, and that of the proper temperature, namely 106° and not 96°, as stated by [illegible]

[illegible]

rain and wind [illegible] a ready upon the Potato; the cholera [illegible] from the north-east [illegible] in Ireland and [illegible] at [illegible] scourges are [illegible] in prayer, public as well as private. [illegible] can still the storm, calm the [illegible] passions, stay the plague, and work good out of evil; *C[illegible].*

Can the Beaten Down Corn be Raised Again?—Whenever this uncongenial weather is brought to an end, it will leave much of the heavy eared Wheat beaten down to the ground, and it is a question of great interest whether there are any means to set it up again to the drying action of the air with the heat of the sun, instead of leaving it to ripen milky, or grow mouldy, as it lies close on the ground. In repeated considerations of this subject, various methods have occurred to the writer, of which the simplest and least costly is here suggested to the revision, improvement, or trial of your corn growing readers. If the stalks are brought upright, and a little bunch (say 9 or 10 inches round on the ground) brought together at mid-height, and bound round there pretty tight, they will cross one another at the band, and the ears will spread off at top corresponding to the slant of the stalks below (something in the form of an old-fashioned hour glass). In this form they will support one another, and could hardly be overset without tearing up the roots. The straw, of course, would suffer, as it could hardly dry about the band, but the grain would have every advantage of air and sun for ripening. If this meets the farmer's approval so far, the next point is how to effect it. In our part of the country, the corn is generally laid by S.W. winds, and consequently lies toward the N.E., and will thus lie to the right hand of a person entering from S.E. This may be a child, who shall raise up and gather at the middle height a reaper's handful, as much as the reaper clutches for one cut of the sickle. A woman should follow close to bind the bunch as the child holds it, for which she might use two or three of the straws, on the S.W. (windward) side, without pulling them up, that they may act as stays as well as bands (or, in case of need, she might carry a ball of packthread cut into fit lengths, but the straw appears preferable). If there is nothing impracticable in this, the main question is the cost. A row of such bunches would take the breadth of two furrows at least, and if a woman and a child could with practice get on at one-fourth the quickness of ploughing, then two parties, taking in four furrows, could get over as much ground as a plough, say well on to an acre a day; or if four, six, eight, or ten such parties are required, it will be only so many shillings an acre; *J. Pri[illegible].*

Comfrey as Cattle Food.—A gentleman in this neighbourhood has kept his cow in the house upon this plant (Symphytum officinale) cut green; it was transplanted

from the seed bed into a small plot, not more than a very few perches, and cut repeatedly; he found it excellent for increasing the quantity of milk, as his cow, a small Alderney, produced 11 lbs. of butter weekly. He speaks of its value in very high terms. If any of your correspondents has, or hereafter shall, cultivate this plant as cattle food, I shall be obliged if he will kindly communicate the result; *Lusor*.

ABSTRACT OF GOVERNMENT RETURNS DURING JULY 1848,

REGARDING THE CROPS IN IRELAND. ARRANGED ACCORDING TO LATITUDE.

PLACE.	Date. July.	POTATOES.	WHEAT.	BARLEY.	OATS.	AUTHORITY.
COLERAINE ..	12	Healthy	.....	.....	.. ...	Bank of Ireland
LONDONDERRY ...	12	Slight symptoms of disease	.....	.....	.....	Ditto
STRABANE ...	14	Exceedingly good	Fair	.....	Very good	Ditto
BELFAST ...	10	Favourable reports	Light	.....	Abundant	Ditto
	12	Not a symptom of disease	Thin	.....	Short	Ditto
	13	Nothing more promising	Thin	Good crop	Over average	Ditto
DONEGAL ...		.....	.....	.....	.....	.....
BALLYSHANNON.	14	Doubtful	.....	.....	.....	John D'Arcey
	15	But few complaints	Not good	.....	Very good	Bank of Ireland
DUNGANNON ...	12	Disease partially appeared, but of doubtful character	Over average	Abundant	Good	Ditto
DOWNPATRICK ...	12	No appearance of disease	Under average	Good	Good	Ditto
ENNISKILLEN ...	10	Luxuriant	.....	.....	.....	Ditto
ARMAGH ...	12	No symptoms of disease	.....	.....	.....	Ditto
BANBRIDGE ..	15	No disease	Average	Good	Abundant	Ditto
		Unaffected	Thin	.....	Promising	Ditto
SLIGO	12	Instances of disease: mere patches	Good	.....	Good	Ditto
MONAGHAN ...	10	Large extent: looking well	.....	.....	.....	Ditto
NEWRY	12	Quite healthy	.....	.....	.....	Ditto
BALLINA	10	Very promising	.....	.....	.....	Ditto
DUNDALK ...	13	Disease in few cases	.....	.....	.....	Ditto
DROGHEDA ...	10	Untainted	Thin	.....	.....	Ditto
GALWAY	13	Only rumours of disease	.....	.....	.....	Ditto
DUBLIN	15	No disease visible	Thin	Good	Over average	Ditto
TUAM	10	Many fields attacked	.....	.....	.....	James Boyle
ENNIS	12	Healthy and promising	Deficient	Good	Good	Bank of Ireland
KILKENNY ..	12	No reason yet for fear	Good	Good	Good	Ditto
LIMERICK ...		Disease rife	.....	.....	.....	Mr. Hancock
	11	Large extent: healthy	Thin and light	.....	Large crop	Bank of Ireland
KILRUSH	9	Disease apparent	.....	.....	.....	R. Mann
	14	As yet uninjured	.....	.....	.....	Bank of Ireland
ENNISCORTHY ...	13	No disease visible	Good	Good	Good	Ditto
WEXFORD ..	12	Particularly cheering	.....	...	.....	Ditto
CLONMEL ...	12	No reason for fear	Has suffered	Good	Good	Ditto
TRALEE	14	Healthy and promising	Luxuriant	Good	Good	Ditto
WATERFORD ...	11	No disease: luxuriant	Thin	.....	.....	Ditto
CORK	17	Partially blighted	.....	.....	.....	Father Mathew
	14	Large extent: disease trifling	Thin	Average	Average	Bank of Ireland
FERMOY	12	Early sorts touched	.....	.....	.....	Ditto
KENMORE ...	11	Disease sudden and bad	.....	.....	.....	Dr. O'Sullivan
	15	Very virulent disease	.....	.....	... ..	Captain Ommaney
YOUGHAL	12	Perfectly sound	Thin	Promising	Excellent	Bank of Ireland
BANDON	13	Disease appeared at Ross Carberry	.....	.....	.....	R. O. Newneham
BANTRY UNION...	13, 14, and 16	Disease very bad: spreading	.....	.....	.....	John D'Arcey
	19	A failure in the crop	.....	.....	.....	Captain Gordon
SKIBBEREEN ...	11	Luxuriant, but patches of disease	Thin	Good	Good	Bank of Ireland

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A Monthly Council was held at the Society's House, in Hanover square, on Tuesday last, the 1st of August. The following Members of Council and Governors were present: The Earl of Chichester, President, in the chair; Hon. Capt. Dudley Pelham, R.N.; Sir John V. B. Johnstone, Bart., M.P.; Mr. Raymond Barker, Mr. Blanshard, Mr. Bramston, M.P.; Mr. Burke, Col. Challoner, Mr. Childers, M.P.; Mr. Druce, Mr. Grantham, Mr. Hamond, Mr. Harvey, Mr. Fisher Hobbs, Mr. Hudson (Castleacre), Mr. Kinder, Mr. Lawes, Mr. Milward, Mr. Pusey, M.P.; Prof. Sewell, Mr. Shaw (Northampton), Mr. Shelley, Mr. Thompson, Mr. Thomas Turner, and Mr. Jonas Webb.

The following new members were elected:

Sheffield, Earl of, Sheffield Park, Uckfield, Sussex
Wilkinson, Thomas A., Dring Houses, York
Lee, George, Frampton, Dorchester, Dorset
Fielden, Samuel, Centre Vale, Todmorden, Lancashire
Maugham, John, Dudley, Worcestershire
Tigar, Peacock, Grove House, Beverley, Yorkshire
Akroyd, Edward, Denton Park, Otley, Yorkshire
Ray, John, South Green, East Dereham, Norfolk
Cook, Sir William B., Bart., Wheatley Hall, Yorkshire
Davy, John, Owersby, Market-Rasen, Lincolnshire
Clough, John, Bootham, York
Brown, Joseph Lyne, Beaumont Cote, Barton-on-Humber
Sykes, Sir Tatton, Bart., Sledmere, Malton, Yorkshire
Lett, Joseph, Rushock, Kidderminster, Worcestershire
Dixon, John William, Beasby, North Thoresby, Lincolnshire
Haigh, George, Erdington, Birmingham
Murrell, Gibbs Howes, Intwood, Norwich
Prentice, Manning, High Easter, Chelmsford
Martin, William, Scamblesley, Horncastle, Lincolnshire.

The names of 16 candidates for election at the next meeting were then read.

Finances.—Mr. Raymond Barker, chairman of the Finance Committee, presented to the Council the report of the committee on the accounts of the Society for the month just ended, made up to the previous day; as well as their statements of the funded property of the Society, and the payments and liabilities on current account, during the past quarter. It appeared from this report that the current cash balance in the hands of the Society's bankers in London on the last day of July was 1201*l*., and that in the hands of the Society's local bankers at York, 1178*l*.; the gross balance amounting to 2379*l*. (of which the following sums belonged to special heads for investment, namely, arrears of subscription, 135*l*.; and life-compositions, 501*l*.), while, on the other hand, it also appeared that the following were the claims, at that date, on the funds of the Society, amounting to 3845*l*., namely:

Prizes awarded at the York meeting ...	£1710	0	0
Judges and consulting engineer, do.	384	0	0
Contract for works (balance), do.	738	0	0
Lectures (in London and at York)	68	0	0
Pavilion dinner at the York meeting	540	0	0
Force-resister and indicator, do..	38	0	0
Advertisements (balance), do.	84	0	0
Printing, tickets, stamps, and badges, do. ...	91	0	0
Salaries of secretary, clerks, and porter ...	177	0	0
Miscellaneous items...	15	0	0
	£3845	0	0

the difference between the cash in hand and the claims at that time upon the Society being 1466*l*. To meet this deficiency three courses had presented themselves to the Committee:

1. To address a letter to each member in arrear of subscription, and await the receipt of a supply of funds in the ordinary course.

2. To realise the amount by sale of a part of the invested capital of the Society at present standing in the names of the Trustees of the Society.

3. To apply to Messrs. Drummond, the Bankers of the Society, and request them to place the sum of 1500*l*. to the credit of the Society at their usual rate of interest, for a period of three months.

This last course was unanimously adopted by the Council on the recommendation of the Finance Committee.

Mr. Barker then proceeded to explain how this dilemma had occurred in the funds of the Society after so successful a Country Meeting as that just held at York. He stated that it had entirely arisen from the fact that nearly one-half of the members of the Society had omitted to pay their subscriptions for the current year, and that the following was the state of the arrears generally at the present date remaining unpaid to the funds of the Society, while all the expenditure had to be made on the foundation that such anticipated income would in all good faith be forthcoming at the respective dates of becoming due:

Arrears of Subscriptions owing for the years	1843 to 1847...	£1545	
Ditto	ditto	1844 to 1847...	976
Ditto	ditto	1845 to 1847...	672
Ditto	ditto	1846 to 1847...	366
Ditto	for the year 1847		516
Ditto	for the year 1848		3938
		£8013	

The Council, he thought, would be fully aware that so large a debt due to the Society as this amount of arrears, unpaid by no less than 56 of their governors and 3658 of their members, would effectually tend to embarrass the affairs of the Society so long as such an obstacle was allowed to exist; and he trusted that this public announcement of the circumstance would have the effect of calling the attention of the parties in arrear to the circumstance, and of impressing upon them the serious inconvenience arising from the omission.—The Report of the Finance Committee was then unanimously adopted.

Mr. Shelley gave notice of the following motion for the next Monthly Council, to be held on the 7th of November, namely: "That in future no Journal of the Society be sent to a member who has not paid his subscription for the current year; and that a list of members of the Society who are six months in arrear of subscription be put up in the Council Room, in Hanover-square; and that notice in writing be sent to each member whose name may appear on the list, giving him intimation thereof."

Prize Essays.—Mr. Pusey, M.P., chairman of the Journal Committee, reported the mottoes of two Essays to which the judges had awarded the respective prizes offered by the Society. The sealed motto-papers, containing the names of the successful competitors, were handed to the President, who opened them in the presence of the Council, when the following result was obtained:

1. The prize of 20*l*., for the best Report on the use of Lime as a Manure, awarded to Thomas L. Colbeck, of East Denton, near Newcastle-upon-Tyne.

2. The prize of 50*l*., for the best Report on the Pleuro-Pneumonia amongst Cattle, awarded to George Waters, jun. (member of the Royal College of Veterinary Surgeons), of St. Andrew's-hill, Cambridge.

York Meeting.—A special recommendation was received from Messrs. Clyburn and Parsson, the engineering judges at the York Meeting, that a Silver Medal should be given to Mr. Richard Robinson, of Belfast, for his machinery and apparatus for Steeping, Breaking, and Scutching Flax, exhibited at the Society's recent Country Meeting. This recommendation was unanimously received and confirmed by the Council.

Mr. Hudson, M.P., in acknowledging, as Chairman, the vote of thanks passed to the Local Committee at York, expressed the satisfaction it would give him to do all in his power to facilitate the operations of the Society at their Norwich Meeting next year.—Letters connected with the business of the York Meeting were also received from Mr. Bates, Mr. Milburn, Mr. Eddison, Mr. Swinford, Mr. Tyson, Mr. Thomas, and Mr. Braithwaite.

Norwich Meeting.—The Council, on the motion of Mr. Thompson, agreed to the following schedule of Implement Prizes for the Norwich meeting in 1849.

Heavy-land plough ...	£5	Harvest cart	£10
Light-land plough... ...	5	Waggon	10
Plough for general purposes	5	Drain-tile machine ...	20
Paring plough	5	Draining tools	3
Subsoil pulveriser... ...	5	Heavy harrow	5
Drill for general purposes	15	Light harrow	5
Corn drill	10	Norwegian harrow ...	5
Turnip drill (on the flat)...	10	Scarifier	10
Turnip drill (on the ridge)	10	Cultivator, or grubber ...	10
Drop drill (seed and manure)	10	Horse hoe (on the flat) ...	10
Manure distributor (broadcast; 2 to 20 bushels per acre)	5	Horse hoe (on the ridge)	5
Portable steam-engine ...	50	Horse rake	5
Second best do. do. ...	25	Horse seed-dibbler ...	10
Portable threshing machine	25	Hand dibbler	3
Corn-dressing machine ...	10	Barrow hand-drill (to work with cups) ...	3
Meal-grinding mill ...	10	Liquid manure distributor	5
Linseed and corn crusher	5	Hay-making machine ...	5
Chaff-cutter	10	Gorse bruiser	5
Turnip-cutter	5	Steaming apparatus ...	5
Cake breaker	5	Silver Medals for miscellaneous awards and essential improvements, estimated at	26
One-horse cart	10	Total	£400

The Council also agreed to the suggestion of Mr. Thompson, that when an implement which shall have previously gained a prize in money, shall again be regarded by the judges at any Country Meeting as the best implement in its class, it shall receive the Silver Medal (instead of money); and that, should such implement, under those circumstances, have twice gained the Silver Medal, it shall be entitled, on carrying off the prize the fourth time, to the Gold Medal of the Society, as the highest mark of distinction; a regulation, however, which Mr. Thompson would not have applied to steam-engines.

Mr. Thompson gave notice, that he should move, at the Monthly Council in November, the following resolutions:

1. That the implements in future be brought into the show-yard one day earlier, namely, on the Wednesday instead of the Thursday in the week preceding that of the meeting; in order that the stewards and judges may be enabled to make their arrangements for exhibition and trial with greater completeness.

2. That the Hon. Captain Dudley Pelham, R.N., be requested to accept the office of Steward of the Implement-yard, in the place of Mr. Shelley, who retires by rotation.

Mr. Shaw, of Northampton, also gave notice that he should move at the same date, that in future each Judge of Implements shall be appointed for two consecutive years, instead of a single year, as heretofore.

The discussions attendant on this arrangement of the Implement Prizes for the Norwich Meeting led to interesting communications of practical experience among the members present, and to a prolonged sitting.

Potato Disease. — Lord Portman favoured the Council with the following statement in reference to his Potato crop in Dorsetshire:

"*Bryanston, July* 31, 1848.

"On the 1st of July my gardener observed the Potatoes looking rather fading, and day by day found the symptoms of disease increasing. I desired him to dig those which were most affected on the 19th and 20th; we found that one-half were too bad for the pigs to eat, and the other half sound. The hot rain set in and stopped our work. The rain ceased on the 27th, and we resumed the digging on the 28th; we then found nine-tenths rotten, and so offensive to the smell that I directed them to be buried. The remaining one-tenth were sound, and I have placed them on dry soil in long shallow heaps, and have carefully dusted them with quicklime, and covered them slightly, hoping to preserve them for food. I have heretofore tried *all* the experiments suggested, and have found all to be useless, except the plan which I have now adopted, because it alone has heretofore invariably succeeded. The disease is very bad all around me. The cottagers who planted late in the spring have quite lost their seed and labour, as the haulm is dead and the tubers not larger than marbles; but those planted in January, early in

February, and in the autumn, are more valuable, because, though now entirely checked, they have attained an edible size, if they happen to be fit to eat, and may be stored with lime for future use. The crop is very large and fine, and would, but for this visitation of Providence, have given a great supply of tubers. Here we are filling the plots cleared of Potatoes with Turnips and Cabbages. (Signed) PORTMAN"

The Council expressed to Lord Portman their best thanks for the favour of this communication.

MISCELLANEOUS COMMUNICATIONS.—Mr. HAMOND gave notice of his intention of calling the attention of the Council at their November Monthly Meeting, to the subject of local district prizes, in connection with the Country Meetings of the Society.—Mr. JONAS communicated some observations on the value of a drop-drill in reducing, by its economical agency, the cost price of a Turnip crop, an object already effected to so great an extent by the application of bones dissolved in sulphuric acid. Such a drill, however, he conceived, ought to be a complete and perfect drop-drill, dropping both manure and seed, but not both at once: first the manure, then earth, and then the seed.—The Rev. T. J. Powell, of Cantrell, offered suggestions for the more regular payment of subscriptions.

The Council then adjourned, over the autumn recess, to Tuesday, the 7th of November.

HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND.

THE MEETING AT EDINBURGH: *Aug.* 1.—This being the last annual meeting of this Society (its meetings henceforth are to be held triennially), a more than usual interest has been attached to it, and although there has been comparatively but a small attendance to-day, it is expected that to-morrow a greater crowd will be assembled than has appeared at any former show. Edinburgh is now the terminal point of numerous railway lines, and as the fares are all to be lowered during the show, there is every prospect of a large meeting, more especially as the weather has become very fine. The show commenced to-day, in a field on the Dean Farm, a few hundred yards to the north-west of the Dean Bridge. The implements and dairy produce were judged to-day, and the live stock are to be judged to-morrow forenoon, after which the awards of the judges will be made public.

With regard to the show of implements, it must be confessed that it has been exceedingly meagre in point of number and variety compared with the exhibition of the Royal Agricultural Society of England lately held at York; but it must also be confessed, at the same time, that in point of excellency of workmanship, simplicity of construction, and special adaptation to the principal purposes of agriculture, it will stand a very favourable comparison with any exhibition in the United Kingdom. Scotch farmers seem to require a smaller variety of implements than their southern neighbours—ploughs, harrows, a few varieties of grubbers, not generally in high repute, and one-horse turnup carts, seem to comprise the whole apparatus by which the high cultivation of the Scottish soil is accomplished.

The broadcast principle of sowing grain so generally practised in Scotland, and the disfavour in which drilling and dibbling corn-machines are held, have operated as checks to the ingenuity of the implement makers in the construction of such machines and other supplementary implements, such as corn-hoes; yet probably this conservatism in regard to a long sanctioned practice, and the adherence to a limited number of implements in cultivating the soil, have called forth a greater amount of perseverance in order to make these implements perfect in form, and working than otherwise would have been the case. The impression left on the mind of a practical man, after a careful examination of the show-yard at Edinburgh, must undoubtedly be one of satisfaction. The whole of the implements for working the soil were so strongly and simply constructed, that there could be little hesitation in believing that they were capable of effecting the objects for which they were intended, and this being what the practical farmer wants, and is willing to pay for, it need not be wondered that Scotch implement makers are more anxious to render perfect that which is old than in discovering what is new.

The total amount of entries of implements, including a large variety of small articles not specially or intimately connected with common farm work, was only 310, comprising only some 26 pages of not very closely printed letter press. When it is remembered that at the York show the catalogue of implements extended to fully 200 pages! the disparity in point of number will be the more evident. Perfect as are the generality of agricultural implements that are made in Scotland, there is undoubtedly considerable room for a greater variety, to meet the intensive system of farming now being introduced. Probably we should err in recommending the general use of the drill in sowing corn, but doubtless there are many counties in which it might be introduced with decided advantage, both as a saving of seed and a more perfect method of cleaning the land, by the subsequent use of the hand or horse-hoe. At this early period of the show, when, as yet, the prizes have not been awarded, the task of criticising the implements must necessarily be the more difficult; yet it has this advantage, of being less directed to particular objects, less biassed in favour of implements upon which the judges have stamped the mark of their approbation. The number of implement exhibitors amounted in all to 92, of which 76 were Scotch, 13 from England, and 3 from Ireland, among whom was the indefatigable Richard Robinson, from Belfast, late of Lisburn. Following the order of the catalogue, for the sake of arrangement as well as impartiality, we find, in section 1st, five winnowing machines: one from England, made and exhibited by Crosskill, elegantly finished, simple in construction, and improved in the action of the blower and arrangement of the sieves:—price 8*l.* 18*s.* 6*d.*; one made and exhibited by Robert Law, Glasgow—price 5*l.* 10*s.*; one made and exhibited by William Ralston, Malletsheugle, Mearns, Renfrewshire—price 11*l.* 10*s.*; and two from Ireland, made and exhibited by John Wightman, Ballymighall; one for cleaning grain and Beans; and the other for dressing Flax-seed in addition to grain. The whole of these implements were well adapted for the purpose of winnowing grain and preparing it for market; but probably the most perfect one of the lot was that exhibited by William Ralston. The feeding-board, for carrying the grain into the hopper, consisted of a horizontal board closed in on three sides and open to the hopper, having a quick parallel and horizontal motion, by which the grain, however rough, is carried quickly forward, and delivered equally into the rollers, which allow it to fall through and receive the blast of the fans. The partially cleaned grain is detained in a riddle, having a circular motion (similar to that communicated by the hand), until the good and light grains are completely separated. The rollers in the hopper are driven by a gutta percha cord, and the riddle by a leather strap. The whole of the cranks and working parts are neatly closed in from the dust, and altogether the maker of this implement has succeeded in making a very efficient instrument for dressing corn. It is calculated to dress very perfectly 36 bushels per hour.

Of *Corn Bruisers* and *Crushers* there were only seven exhibited, all of which were from England, with the exception of one made by David Craig, Stewenton, Ayr. Richmond and Chandler's corn bruisers are very efficient machines for the purpose; one especially, which can crack a Bean or grind Linseed equally well, merely by shifting the cylinders, which are obliquely grooved and case-hardened. All the machines in the two sections comprising corn bruisers and crushers were well made, and did their work admirably, but it is doubtful if they will be much required in Scotland, as the bruising of grain is generally done very cheaply at the Oatmeal mills, which are common in every parish.

Hay Tedder and Horse Rakes.—Of these only one tedder, belonging to Mary Wedlake, was catalogued, but which either was not exhibited, or escaped our observation. The horse hay rakes were exhibited by James Kirkwood, Tranent, and Mary Wedlake, of London, respectively. The Scotch one cost 7*l.* 7*s.*, and the English one 9*l.* 9*s.*

Of *Grain Drills* there were only four exhibited for the premium. One by Garrett and Son, which, excellent as it is in performing its work, will have difficulty in obtaining favour in Scotland, as it is both dear and complicated. The other three corn drills were exhibited by Scotch makers, and were much cheaper and more simply constructed, but it is doubtful if they will act with equal efficiency in the field to Garrett's. Among the patented articles exhibited, and which were catalogued separately, there was a corn drill made by John Geddes, Carsen-bridge, Dumfries, which possessed fully as much of the element of efficiency, combined with simplicity, as any implement of the kind in the yard. The delivery of the seed is regulated by a brass slide which alternately covers and uncovers a series of holes through which the seed passes. The lessening or enlarging of these orifices diminishes or increases the quantity of seed sown from 1 bushel up to 8 bushels per acre. The coulters are 9 inches apart, and make ruts in the ground by their own weight, which is probably the most objectionable part of the machine, as in soft land they might go too deep, while in hard land they would be too shallow. This machine is coming into favour in the south of Scotland, and will probably, either in its present or some more improved form, ere long, supersede the very imperfect broadcast system. The price of this machine is from 12*l.* to 14*l.*

Of Broadcast Sowing Machines only two were entered for the premium; one belonging to Robert Law, of Shettleston, and the other to Alexander Young, Monifieth, Dundee; the former costing 8*l.* 8*s.*, and the latter 12*l.* These machines are adapted either for sowing corn or Grass-seeds, and take in a breadth of 18 feet at once. For sowing Grass-seeds they are admirably adapted, as the operation is much more perfectly done by them than by the hand, especially in windy weather.

Ribbing Machines for Corn.—These seem to be transition links from the plough to the drilling machine. There were only three exhibited, and all of them made three ribs or narrow shallow drills at a time. The one exhibited by Archibald France was constructed with three small double-moulded plough-boards bolted to a frame, consisting of the centre beam of the plough attached to the handles, through which two parallel iron cross-heads are morticed. These heads carry two smaller beams, parallel to the centre one, which shift out and in at pleasure. One plough-board is fixed to the centre beam, a little in advance of the other two, which are fixed in the side beams. The second ribbing machine which appears in the catalogue was exhibited by Thomas Inglis Slack, Peebles-shire, and has also three double mould-boards affixed to a frame, which contracts and expands by a parallel motion, according as the drills are required narrow or wide. The third ribbing machine, exhibited by George Lyon, Corstorphine, is similar to the first, but differs in having single mould-boards placed obliquely on the frame, the one being a little in advance of the other. All of these machines prepare the ground for broadcast sowing, and as the greater proportion of the seed falls into the bottom of the drills, it is easily covered by the harrows, and when above ground appears in regular rows. The method, it will be seen, is but a clumsy way of sowing corn when compared with the drill or dibble, which forms the ruts and deposits the seed simultaneously.

Turnip-sowing Machines.—Of these there were eight exhibited, all of which were excellent, both as regards workmanship and construction. They were all very simple and so similar in many respects as not to require a separate notice. The front wheels were in every instance made of cast iron, broad bar in form, and working freely and independently on an axle-tree circularly and transversely, so as to keep the machine always on the top of the drills, and easy to vary the required width of drill. Most of these machines had very light rollers behind, but one or two of them had none but the front one, and in every case where there were hind rollers they were so attached as to be easily removed at pleasure. There seems to be a general opinion in Scotland that hind rollers are unnecessary to Turnip-sowing machines, and that it is better to have the seed merely covered with the small quantity of earth that falls from the coulters, or when there is to have it covered up and pressed hard together by a roller. The seed boxes were also somewhat different from each other. The most approved form seems to be that where the seed is delivered equally, whether the pans be full or nearly empty. The common tin circular pans, with holes in the periphery for allowing the seed to pass out, are objectionable, on the ground that both when too full and too empty, they sow too thin with intermediate degrees of thickness and thinner according as the quantity in the pans diminishes. The most approved construction appears to be a hopper from which the seed is delivered either by a brass slide or by brushes. In either case the same quantity of seed is delivered whether the hopper be full or nearly empty. Another improvement in Turnip-sowing machines is the substitution of sharp rimmed cast-iron wheels instead of coulters, to make the ruts for the seed. When long dung is put in drills for Turnips, the coulters are very apt to tear it out, but when wheels are employed it is pressed in. The exhibition of Turnip-sowing machines was amongst the best in the yard, and one of more than ordinary interest to the Scotch farmer who, if he pride himself in any department of his art, is always particularly proud when he succeeds in raising a good crop of Turnips.

Iron Ploughs.—Of these there were 22 exhibitors of the common single mould-board plough, and seven of the double or drill plough. The whole of these implements were well made, and, although differing somewhat in form, there were few but would make excellent work on a "lea rig." Mr. James Wilkie exhibited a very highly finished common swing plough, and alongside of it another plough, which probably attracted more attention than any other implement in the yard, being the first iron plough supposed to have been made in Scotland. It is upwards of 50 years old, and was made by William Allen, Bankslap, parish of Rothwell, Lanarkshire. As may be supposed, Mr. Wilkie's modern and highly polished plough did not suffer by comparison with this corroded relict of antiquity; the one looked like the embodied spirit of the age, the other like the ghost of ancient agriculture.

A variety of excellent harrows were exhibited, also grubbers considerable numbers. Many Scotch farmers dislike grubbers, on the ground that they are bad substitutes for the plough, and it is a common saying among them, "Show me a farmer that uses a grubber, and I will show you a foul farm." Undoubtedly there is truth in the statement, when grubbers are made to do their own work and that of ploughs also. A great variety of drill grubbers and horse hoes were exhibited. Mr. Garrett's horse hoe for corn attracted much attention, and deservedly so. Gray and Sons, of Uddingston, exhibited a number of very useful implements of husbandry, among which were several strong, serviceable, two-horse grubbers for cleaning green crops.

A considerable number of implements and machines must remain unnoticed for the present, in consequence of want of time and space to give them in full detail, and in terms adequate to their deserts.

Dairy Produce.—There were no fewer than 150 exhibitors of dairy produce, 52 of butter cured during the current year, 74 of fresh or unsalted butter, 23 of cheese made from sweet or full-milk in 1847, 15 of skimmed milk cheese, and 1 of extra cheese. The exhibitor of the extra cheese was Mr. George Townshend, Sapcotfields, Hinckley, Leicester, and it was pronounced by the judges to be the best in the yard.

A committee meeting was held at 2 o'clock, his Grace the Duke of Buccleugh in the chair. The meeting was occupied in selecting judges for the live stock, of which the entries are very numerous. Mr. Maxwell, the Secretary of the Society, stated the order in which the business of the show was to be conducted, and from the nature of the arrangements, there is every reason to conclude that no confusion will arise from the great crowds expected to pour in from the country by the different railways on Thursday, as there are six gates of ingress and two of egress.

The great dinner takes place on Thursday evening.

and on Friday a meeting of the directors and members is to be held, in order to take into consideration the proposed new scheme of agricultural education, and also the establishment of an agricultural chemistry department in connection with the Highland and Agricultural Society. Any remarks on these points would at present be premature, and we wait for the result of the meeting.

IRISH AGRICULTURAL IMPROVEMENT.—The great annual meeting of this Society took place last week at Kilkenny. It had the advantages of propitious weather, excellent competition, and, notwithstanding the excited state of the country, crowded attendance. We hope to be able, in our next Number, to give a summary of its proceedings, condensed from the columns of our contemporary the *Dublin Farmers' Gazette*.

Calendar of Operations.

JULY.

BEDFORDSHIRE FARM, *July* 25.—Hay-making was finished on the 15th inst., and was never secured in better quality on the whole. Turnip hoeing has engaged almost all the hands since, and a number of horses. From 4*s.* to 5*s.* an acre has been given for singling out. We have horse-hoed both the Turnips on the ridges and on the flat; three ploughs without turn-furrows subsoiled between the rows, and three horse-hoes followed, shortly afterwards, to cut the weeds, &c. The moving of the soil to the depth of a common furrow does the Turnips much good, and is accomplished with one good horse at a small expense; from 3 to 4 acres is an ordinary day's work. The Turnip rows on the flat are 2 feet apart, and not 3 feet, as stated by a misprint in the "Calendar" for May. We commenced pulling Winter Beans to-day; they are a very good crop. The Wheat is almost ready for cutting. What we have seen cut falls very light. From 8*s.* to 10*s.* an acre is being given in this quarter for reaping or bagging low. The usual day wage is 3*s.* The late thunder-storms have done no material damage to the corn crops; the pastures and Turnips have been benefited by the rains. The Potatoes are apparently worse with the complaint than three years ago. If the result proves as bad as present appearances indicate, many growers will be severe losers. We know market gardeners who have given very high rents for land, which, for seed and cultivation, has cost much more; the loss of a crop to these will be great. A far greater extent of Potatoes was planted hereabouts last year than was ever before known. On a farm near us of less than 300 acres, 26 acres of Potatoes are planted, and these are attacked by the complaint. We did not consider it safe to grow many Potatoes the past two seasons, and have but seven out of nearly 700 acres; *R. N.*

EAST LOTHIAN FARM, *July* 29.—Work upon the farm during the week has been weeding and grubber-ploughing late sown Turnips, also with double moulded plough betwixt the drills, finishing early sown Swedes, which nearly cover the ground, though rather later than usual; likewise carting hay and putting the same into stack. With occasional showers, crops are growing vigorously; *L.*

GALLOWAY FARM, *July* 24.—Last week the thinning of Turnips was completed. An accurate account was kept of the expense of hand-hoeing 35 imperial acres of Swedes, and it amounted exactly to 4*s.* 8*d.* per acre, including superintendence. The Rye-grass hay was all stacked on the 17th inst. We are now ridging up the fallow. Women drawing straw for thatch, and men making ropes in readiness for harvest. Your North Lincolnshire correspondent returns to the profits of his cattle feeding; but as farther discussion would not throw more light on the matter, and be of interest only to the parties concerned, I must decline again entering upon it. He is right to stick to the short-horns, as he can make so little by the Galloways; *J. R.*

MID LOTHIAN, *July* 27.—During the past month the weather has been extremely variable, alternating between great heat, cooling breezes, and rain; the consequences are, that a most rapid growth of every plant has taken place, and the whole country is covered with a luxuriant and bulky crop, even the Turnip, which had a backward appearance, is now full of health and vigour, the thinning process, as well as the final weeding, being nearly completed in all the early districts. The Potato is still in high health, and promises abundance; and in no instance, so far as as our home produce is concerned, have we been able to detect a single case of disease, either in the field or market. It is true there are some bad tubers exposed for sale in Edinburgh, but these cases are confined to the produce of the Continent, and so far as we are able to detect their faults, we are induced to think that premature lifting is the main cause, and that heating and bruising on the passage are the auxiliaries in their destruction. Wheat, Oats, Barley, and Beans, are rapidly filling, and in some cases the earlier Wheats and Barleys are assuming the yellow tint of approaching harvest; and we feel confident, that with dry, warm weather, the great bulk of our Wheat districts will be harvested in August, and that the produce will, both in quantity and quality, be equal to the best of years. The hay harvest is completed, and is of fine quality, but the price is miserably low, being 30*s.* per ton. The pastures are continuing most abundant, and both cattle and sheep are coming to market in high condition.

SOUTH DEVON FARM, *July* 31.—Since our last report the weather has been very unsettled, and we have been principally engaged in hoeing Swede Turnips, Carrots, and Mangold Wurzel; also finished sowing our common Turnips, which are at present brairded very regular, and looking healthy, although I fear the constant showers of rain will tend to check their growth. There is a great complaint in this immediate neighbourhood with regard to the Mangold Wurzel, large portions having been completely destroyed by a species of worm, even after the plant attains the size of about 6 inches circumference. We have, however, as yet been so fortunate as to escape the destructive insect. The corn fields are altering very much, and with a little fine weather the harvest would soon commence; *T. M.*

SOUTH WIGTONSHIRE FARM, *July* 17.—About the 25th ult. we finished sowing Swede Turnips and other descriptions. On the 4th inst. our hay crop was got up in capital order, safe in ricks, and apparently beyond the average of last year's, which we found to yield from 150 to 175 stone of 28 lbs. per acre, Scotch. Our Potatoes being previously drill-harrowed and hand-hoed, have been earthed up for the last time, and up to the date of this report exhibit a most luxuriant foliage, and no symptoms of disease are traceable. Rumours are fully current in the district that the early Potatoes in the garden are very seriously affected with the malady of 1845 and 1846; but in so far as our observation has extended, we believe the crop upon the whole safe, and the disease, if any, to be very partial in amount, and limited in extent. Our Bean crop has much improved since last report, and will, if safely harvested, yield a fair return; that portion of the crop which would admit of the process has been earthed up, preceded by the drill-grubber and hand-hoe. We have a very serious objection to the broadcast system, for although the Turnips are not inferior in appearance to those in drills, the great encouragement afforded by them for the growth of weeds, and the obvious deterioration from the evil for the succeeding crop is very manifest. Our Carrot crop has been hand weeded and thinned to the distance of 5 inches apart. The weather being showery about 10 days ago, advantage was taken of it to sow 12 bushels of soot per acre on the braird, and this has been followed by satisfactory results; we have found this, of all our crops, the most expensive; the cultivation being wholly performed by the hand, a very great outlay is necessarily incurred. Our cereal crops are earing out well, very promising, and much superior to those of last year. The season upon the whole has been extremely favourable for the growth of these crops, and those especially which succeeded the Turnip crop of 1847 have made rapid progress of late. Our horses are still receiving Italian Rye-grass in the stalls. Occasionally drill harrowing among the Turnips as a preparation for hand-hoeing, which is proceeded with as rapidly as the crop will admit of. Our pigs (54) are now fed on the fibrous refuge which remained from our manufacture of Potato starch in 1845 and 1846; on this they continue in excellent order, receiving at intervals betwixt their meals plenty of Vetches, being the second cut of this invaluable crop. We may take the liberty to notice the immense advantage we have received from this crop in the feeding of pigs alone, and would strongly recommend them to the adoption of those who have not yet given their attention to the matter in question. The other portions of our stock are in good health, and our pastures continue abundant; *D. M.*

SOUTH HAMPSHIRE FARM, *July* 22.—The weather since our last report has been highly favourable for agricultural operations in general, having had 10 days of clear sunshine, with high temperature, which has pushed forward the young Turnip plants with the greatest rapidity, and has also enabled us to save the latter portion of our pasture hay in the best possible condition. Our horses have had no hindrance in field work during the past fortnight; they have been chiefly employed in preparing the land for common Turnips, where Vetches have been fed off by sheep. Several days they have been carting hay, also two days drilling Swedes, having now finished for this season, the last piece being drilled on the 19th. This, of course, will be considered late for sowing Swedes; but it must be taken into account, from the effect of liberal manuring, a very valuable crop may be produced for the purpose of feeding late in the spring, and also for the production of a crop of seed, as from late sowing we do not find them so liable to decay. Our odd horses have been engaged in horse-hoeing Swedes and Carrots, and carting in various ways, such as fetching Beans and oilcake for the sheep, also green food for the cattle. Our summer Vetches being now in excellent condition for soiling, we give them to pigs, cows, and horses; our horses always receive their green food in the stables, as we are greatly opposed to the practice of turning them out either in the fields or in open yards; we find that working farm-horses, from being turned out, are subject to more accidents, and also casualties, in regard to their health and well doing, besides the great loss of manure consequent upon being out of the stable. Our labourers have been employed in winnowing Wheat, trimming hedges, hoeing Carrots and Swedes, which work we find they do best when they have a boy or girl to follow the hoe, and single out the plants; indeed, some of the hoers find ample employment for two or three boys, after passing along the rows quickly, and cutting the plants out into bunches. The men have also been busily engaged threshing Swede seed, the produce of 2 acres, being a good crop, and we reckon of a superior kind of Skirving's sort of Swede, as we have for several years past taken great care in the selection of the best roots, saving those only of the best shape and colour, and also the most hardy and nutritious. Our women have been employed hay-making, couching, weeding quicks, hoeing, and singling Carrots, and pulling weeds from the Potatoes, which crop is in this neighbourhood very much blighted, similar to that from which the Potato crop suffered so severely in 1846; indeed, we think the effect will be worse than in that season, because the blight is come earlier; *J. B.*

SUSSEX FARM, *July* 31.—The weather is still showery, but we have had good fortune in getting all our hay up in good order; the teams for the most part of the week will be engaged in carting fuel to burn lime, carting coals to house, stones to roads, horse-hoeing Turnips, and drawing trees; men hoeing Turnips, and cutting and cleaning hedges; women hoeing Turnips. Next week we shall commence the harvest; *J. B.*

Notices to Correspondents.

COTTAGE STOVES: Will any one kindly give us his experience of the best form, and where it is to be obtained. A portable and cheap stove also is wanted: some such thing was advertised lately as proper for pic-nic parties.

EDUCATION: *E H.* You could learn farming in two years, and afterwards farm to an extent limited by your capital, at about 10*l.* per acre.

FISH: *A Farmer* asks if any one of our correspondents can inform him what weight per acre, per annum, of the best kinds or fish, may be produced from well managed ponds, all circumstances being ordinarily favourable. His object in making the enquiry is to enable him to compare the produce of human food per acre, of land and water; this may probably have been done by many, but he has never seen any account of such a comparison.

POWER THRESHING MACHINES: *J Laycock.* The principle of the second described is inferior to that of the first, but it has not yet been effectually (however ingeniously it may have been) applied. The first kind has hitherto done the most though not the best work—and as yet we should prefer it. The use of the strap instead of gearing is (other things being equal) evidence of the less power required: but whether it be or not, the fact is as we have stated it that the tangential feeding of the drum gives it less to do than the radial. This has been proved by direct experiment. We hope correspondents will give us their experience on both sides of the question.

PROVIDENT HABITS OF LABOURERS: *T B.* As harvest occupation is commencing, wages will be good, and now is an excellent opportunity for the distribution, by those who interest themselves in the welfare of our rural population, of the tract "On the Advantages of Savings' Banks and Friendly Societies," which may be procured of the publisher, J. Hatton, Reading. It is supplied in a cheap form, to give it a wide circulation among those for whose benefit it is intended.

RAPE: *Spade Farmer.* You should transplant both Rape and Cabbage, and, digging your Potatoes in October, you will then have something worth more than to be dug in. If you want a green manure, sow 4 or 5 lbs. of Mustard seed broadcast, and rake it in; you may dig that in in two months' time.

SAVINGS BANKS AND FRIENDLY SOCIETIES: Will "M.," who writes for the little tract "On the Advantages of Savings Banks and Friendly Societies," published for distribution, kindly communicate with our correspondent, *J. Hatton, Reading.*

SHORT-HORNS: *T M.* Stow Fair, in North Gloucestershire, generally has a fair show of short-horns, but probably you had better go farther north still.

SPRING PARK FARM: *One at a distance.* Your questions have been forwarded.

VINEGAR: *J.L.* Can any of our readers favour us with an approved recipe for making vinegar?

Markets.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Aug. 3.

Prime Mead. Hay	68s to 75s	New Hay	55s to 70s	Straw	26s to 32s
Interior ditto	50 65	Clover	90 105		
Rowen	60 65	New Clover	70 90		

Trade very heavy. J. COOPER.

HOPS, FRIDAY, Aug. 4.

MESSRS. PATTENDEN and SMITH report that the accounts this morning from Mid Kent speak of an increase of mould. The duty is estimated from 195,000*l.* to 200,000*l.* Market quiet.

Mid. & East Kents, p. cwt.	60s to 80s	Yearling Kents, p. cwt.	38s to 44s
Weald of Kents	47 — 56	Yearling Sussex	28 — 42
Sussex	46 — 54	Old Hops	20 — 35
Farnhams	80 — 120		

COVENT GARDEN, Aug. 5.

The market is well supplied with Vegetables and most kinds of Fruit. English Pine-apples are plentiful, and foreign ones are abundant, at from 1*s.* to 4*s* each. Hothouse Grapes, Peaches, and Nectarines are plentiful. Melons are sufficient for the demand. Cherries are not so plentiful. Plums are offered at from 6*s.* to 8*s.* per half sieve. Gooseberries and Currants are cheaper. Apricots may be obtained at last week's prices. Strawberries are all but over. Nuts are sufficient for the demand. Oranges are abundant. Lemons moderately plentiful. Among Vegetables, Carrots and Turnips are abundant and good; Cauliflowers, &c., sufficient for the demand. Asparagus is scarce. French Beans very plentiful. Potatoes the same, but disease is. Peas are abundant. Lettuces and other salading are sufficient for the demand. Mushrooms are a little scarcer. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Fuchsias, Carnations, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 4*s* to 6*s*	Oranges, per doz., 1*s* to 2*s* 6*d*
Grapes, Hothouse, per lb. 3*s* to 5*s*	— per 100, 8*s* to 20*s*
Peaches, per doz., 1*s* to 15*s*	— bitter, per 100, 8*s* to 16*s*
Nectarines, per doz., 6*s* to 15*s*	Lemons, per doz., 1*s* to 2*s*
Melons, each, 3*s* to 6*s*	— per 100, 8*s* to 20*s*
Strawberries, per pottle, 6*d* to 1*s*	Almonds, per peck, 6*s*
Plums, per punnet, 1*s* 6*d* to 2*s* 6*d*	— sweet, per lb., 2*s* to 3*s*
Apricots, per doz., 2*s* to 4*s*	Walnuts, per bush., 12*s* to 20*s*
Cherries, per lb., 1*d* to 3*s*	Nuts, Barcelona, per bush., 20*s* to 22*s*
Apples, dessert, per bush., 4*s* to 7*s*	— Filberts, per 100 lbs., 14*s* to 20*s*
— kitchen, p. bush., 3*s* to 5*s*	— Cob, per 100 lbs., 25*s* to 30*s*
Currants, per half sieve, 2*s* to 3*s*	— Brazil, per bush., 12*s* to 16*s*
Gooseberries, p. h. sieve, 1*s* 6*d* to 2*s* 6*d*	Chestnuts, per peck, 3*s* to 6*s*
Raspberries, per punnet, 6*d* to 9*d*	

VEGETABLES.

Asparagus, per bundle, 1*s* to 4*s*	Onions, pickling, per half sieve, 2*s* to 3*s*
Cabbages, per doz., 6*d* to 1*s*	Shallots, per bunch, 3*d* to 4*d*
Cauliflowers, per doz., 1*s* to 4*s*	Garlic, per lb., 8*d* to 1*s*
Sorrel, per half sieve, 6*d* to 9*d*	Radishes, per doz. bands, 6*d* to 1*s*
Potatoes, per ton, 60*s* to 100*s*	— Turnip, do., 9*d* to 1*s*
— per cwt., 3*s* 6*d* to 6*s*	Artichokes, per doz., 1*s* to 2*s* 6*d*
— per bush., 1*s* 6*d* to 3*s*	Vegetable Marrow, per doz., 6*d* to 1*s*
Turnips, p. bunch., 3*d* to 8*d*	Lettuce, Cab., per score, 4*d* to 1*s*
Red Beet, per doz., 6*d* to 1*s*	— Cos, do., 6*d* to 1*s*
Horse Radish, per bundle, 1*s* to 6*s*	Mushrooms, per pottle, 2*s* to 4*s*
French Beans, per half sieve, 2*s* to 3*s*	Small Salads per punnet, 2*d* to 3*d*
Cucumbers, each, 2*d* to 8*d*	Fennel, per bunch, 2*d* to 3*d*
Leeks, per bunch, 1*d* to 2*d*	Savory, per bunch, 3*d* to 4*d*
Celery, per bundle, 1*s* to 1*s* 6*d*	Thyme, per bunch, 3*d* to 4*d*
Carrots, per bunch, 2*d* to 6*d*	Watercress, p. 12 small bun., 6*d* to 9*d*
Spinach, per sieve, 2*s* to 3*s*	Parsley, per half sieve, 6*d* to 9*d*
Peas, per sieve, 2*s* to 4*s*	— Roots, per bundle, 1*s* to 1*s* 6*d*
Beans, per bushel, 2*s* to 2*s* 6*d*	Mint, green, per bunch, 2*d* to 4*d*
Onions, per bunch, 3*d* to 6*d*	Marjoram, per bunch, 3*d* to 6*d*
— Spanish, per doz., 1*s* to 4*s*	

SMITHFIELD, Monday, July 31.

The supply of Beasts is not quite so large—adequate, however, to the demand. Some of the choicest qualities are readily sold at fully late prices, and in a few instances at a small advance; but middling kinds met with a dull sale at about late rates. We are well supplied with Sheep, and, in consequence of the depressed state of the dead markets, trade is worse for them. Big Sheep are with difficulty disposed of at a reduction of 2*d.* per 8 lbs. A little more inquiry for Lambs, but prices no higher. Calves sell slowly at 2*d.* per 8lbs. reduction. From Holland and Germany there are 737 Beasts, 4080 Sheep, and 263 Calves; from Scotland, 600 Beasts; from Leicestershire and Northamptonshire, 1100; and from Lincolnshire and Cambridgeshire, 600.

Per stone of 8 lbs.	s	d	s	d	Per stone of 8 lbs.	s	d	s	d
Best Scots, Herefords, &c.	3	10	to 4	2	Best Long Wools	....			
Best Short Horns	3	8	— 4	0	Ditto Short	4	4	— 4	6
Second quality Beasts	2	8	— 3	4	Ewes and second quality	....			
Calves	3	4	— 4	6	Ditto Short	3	4	— 4	0
Best Downs & Half-breds	....				Lambs	4	4	— 5	4
Ditto Short	4	8	— 5	0	Pigs	4	4	— 5	0

Beasts—3667. Sheep and Lambs—28,830. Calves—396. Pigs—255.

FRIDAY, Aug. 4.

We have a fair supply of Beasts to-day; trade is, however, more cheerful at Monday's quotations, owing to the improved state of the dead markets. There is about an average number of Sheep and Lambs; the demand has increased, but very little advance in price is observable; indeed Monday's tabular statement fairly represents the average of business done to-day, although a few choice things may have made a trifle more. Calves must be quoted 2*d.* per 8 lbs. lower, owing to the very large supply. From Holland we have 201 Beasts, 1580 Sheep, and 406 Calves; 54 Beasts from Portugal, 8 from Spain, 15 from France, and 300 from Scotland; and 142 Milch Cows.

Best Scots, Herefords, &c.	3	10	to 4	2	Best Long Wools	....			
Best Short Horns	3	8	— 4	0	Ditto Short	4	4	— 4	6
Second quality Beasts	2	8	— 3	4	Ewes and second quality	....			
Calves	3	4	— 4	0	Ditto Short	3	4	— 4	0
Best Downs & Half-breds	....				Lambs	4	4	— 5	4
Ditto Short	4	8	— 5	0	Pigs	4	4	— 5	0

Beasts—1141. Sheep and Lambs—11,570. Calves—719. Pigs—300.

MARK LANE, Monday, July 31.

MESSRS. KINGSFORD and LAY report that the supply of English Wheat by land carriage samples from the neighbouring counties this morning was unusually large for the season; part of the Essex was taken off early at 1*s.* per qr. advance on the prices of this day se'nnight, but a large portion of the Kentish remained unsold, although offered at that day's quotations. Foreign free, bonded, and floating, was held rather over last Monday's rates, but very little business resulted in either—Barley, Beans, and Peas are unaltered in value.—The Oat trade is slow, and our quotations are barely sustained, excepting for the finest parcels.—The top price of Flour remains unaltered.

BRITISH PER IMPERIAL QUARTER.	s	s		s	s
Wheat, Essex, Kent, and Suffolk	White	53	56	Red	43 50
	Norfolk, Lincolnshire, and Yorkshire	46	51	White	47 53
Barley, Malting and distilling, 27*s* to 29*s*	Chevalier	30	32	Grinding	24 27
Oats, Lincolnshire and Yorkshire	Polands	22	25	Feed	20 23
	Northumberland and Scotch	Feed	21	23	Potato 22 25
	Irish	Feed	19	22	Potato 22 24
Malt, pale, ship		—	—		
	Hertford and Essex	—	—		
Rye		27	30		
Beans, Mazagan, old and new	27*s* to 30*s*	Tick	30	32	Harrow 32 34
	Pigeon, Heligoland	34	35	Winds	— —
Peas, White	33	38	Maple	35	36 Grey 33 34

FRIDAY, Aug. 3.

The arrivals of English Wheat during the week have been good, and moderate of foreign; those of other grain small. This morning's market was fairly attended, and although a limited business only was transacted, Monday's prices were maintained for English Wheat, and more disposition shown to purchase bonded and floating cargoes at rates which on that day were unobtainable.—Barley is inquired after at our quotations.—Beans and Peas are unaltered in value.—The show of Oats being small, dealers refrain from buying, and the trade is consequently dull.—We observe no alteration in either Maize or flour.

[The weather since this day se'nnight has continued unsettled, and the whole country has been visited more or less with heavy showers, which in the early districts must interrupt and retard the harvest, the accounts of which, where cutting has commenced, vary as usual; none represent the crop as large, and we are inclined to believe that the yield of Wheat in the south of England will be below an average. In the country markets held during the week an advance of 1*s.* to 2*s.* has been generally established. The demand here for foreign Wheat, 1*s.* per qr. less last week, and offers are made rather below what they were attainable at last week, viz., Dantzic 61—62lbs., at 46*s.* to 50*s.*; Rostock, 62—63lbs., at 48*s.* to 49*s.*; Lower Baltic, 46*s.* to 48*s.*; Belgian and French, 61—62lbs., at 45*s.* to 49*s.*; Polish Odessa, 41*s.* to 44*s.*; all f. o. b. including freight and insurance. The top price of town-made Flour remains unaltered. Barrel is held for a slight advance. Stettin is offered at 22*s.* per barrel f. o. b. Indian Corn has been less inquired for, and purchases afloat could have been made at 1*s.* to 2*s.* per qr. decline. Barley, Beans, and Oats show a tendency to advance in country markets, and are about 1*s.* per qr. dearer. The accounts received this morning from Scotland, Ireland, and some parts of England, speak less favourably of the Potato crop than last week, and the disease is represented as decidedly spreading. Odessa letters advise a sale of about 45,000 qrs. of Wheat during the week, at 23*s.* to 27*s.* per qr., in consequence of news from Marseilles and England. Fine quality was held at 28*s.* 6*d.* per qr., f. o. b., and 28*s.* 9*d.* per ton, paid for freight to the U. K. Ships continued exceedingly scarce. In Dantzic the sales of the week amounted to 20,000 qrs., at 1*s.* advance, in the face of considerable supplies, which were also expected to be good the following week. In the lower Baltic the stocks of Wheat are quite insignificant. American letters represent the harvest of that country as very abundant. In New York, on the 15th, heavy arrivals had compelled holders to accept reduced rates. Western Canal Flour was purchaseable at 22*s.* to 23*s.* 2*d.*; Genessee at 24*s.* 8*d.* per barrel, f. o. b.; Indian Corn Meal realised 11*s.* 4*d.* to 11*s.* 10*d.* per barrel. Wheat, Genesee, continued scarce, and brought 4*s.* 8*d.* per 480 lbs.; good Ohio qualities, 38*s.* to 40*s.*; Indian Corn, 21*s.* 6*d.* per 450 lbs., all f. o. b.; freight, 1*s.* 6*d.* per barrel to Liverpool. New Orleans, 7th ult.—Bread stuffs were in good demand for England; flour was quoted at 18*s.* 6*d.* to 21*s.* per barrel; Maize, 1*s.* 6*d.* to 1*s.* 8*d.* per 56 lbs.; freights, 8*d.* per bushel, and 3*s.* per barrel.]

IMPERIAL AVERAGES.	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
June 24	46s 11d	31s 2d	20s 9d	29s 4d	36s 11d	38s 4d
July 1	42 2	30 5	20 10	30 2	38 2	38 2
— 8	43 10	30 1	20 8	31 0	36 8	37 4
— 15	49 1	29 0	20 9	31 0	36 6	37 3
— 22	48 11	30 2	20 3	28 3	35 11	36 3
— 29	47 11	29 5	20 7	30 2	35 9	36 1
Aggregate Average	48 4	30 1	20 8	30 0	36 5	37 3
Duties on Foreign Grain	9 0	2 6	2 6	2 6	2 6	2 6

Fluctuations in the last six weeks' Corn Averages.

PRICE.	June 24.	July 1.	July 8.	July 15.	July 22.	July 29.
49s 1d	...	...	...	...	...	...
48 11	...	...	...	...	...	...
48 10	...	...	...	...	...	...
48 2	...	...	...	...	...	...
47 11	...	...	...	...	...	...
46 11	—	...	...	...	...	...

SPLENDID SALE OF THE WOODHALL COLLECTION OF EXOTICS, PINE PLANTS, AND HOUSES containing the same.—There will be sold by Auction, within the Gardens of Woodhall, in the parish of Bothwell, and county of Lanark, lying 10 miles east of Glasgow, and near to the Holytown Station of the Caledonian Railway Company, on Thursday, the 10th day of August next, commencing at 11 o'clock forenoon, the whole of that extensive and celebrated collection of HOTHOUSE, GREENHOUSE, AND PINE PLANTS, consisting of numerous rare and valuable species, among which are very many fine specimens of Camellias, with a variety of Pelargoniums (Geraniums), Indian Azaleas, and other miscellaneous Greenhouse Plants and Shrubs. After which will be sold the whole range of Glass, which is very extensive. The collection is well known, and in the best state of health, and may be viewed any day prior to the sale, by applying at Woodhall Gardens. Further information learned, and particulars given, on application to Mr. WEBSTER, Thunkerton, Holytown. Woodhall, August 5.

MERRIOTT, NEAR CREWKERNE, SOMERSETSHIRE.

TO BE LET, and entered on immediately, on most advantageous terms, an Old Established and Well Stocked NURSERY, containing, by estimation, Ten Acres (more or less), situated in the above parish; together with an excellent Hothouse thereon, filled with choice Vines in full bearing, and valuable plants; adjoining which is a comfortable Cottage, with convenient Cart-house, Packing Sheds, Seed Room, &c.

Merriott is situated within a short distance of the populous towns of Ilminster, Ilchester, Yeovil, Crewkerne, Chard, Taunton, &c., to which latter place conveyances pass to and fro daily, in connection with the railways to all parts of England.

To view the above, application may be made to Mr. ANDREWS, at the Cottage on the Nursery; and further particulars and terms of letting may be known on application to Mr. WHITTLEY, Solicitor, Wrington, near Bristol, Somerset.—Wrington, Aug. 5.

TO BE LET ON LEASE, from Michaelmas next, a FARM, containing 116 Acres of Arable, Grass, and Wood Lands, with commodious homestead, situate in the parish of Lingfield, Surrey, within 3 miles of the market town of East Grinstead. Enquire of Mr. GEO. TROTTER, Bailiff at Felcourt, Lingfield, who can be highly recommended by the Advertiser as an intelligent Scotchman, well acquainted with modern improved farming, perfectly trustworthy, and capable of taking entire charge of any nobleman or gentleman's estate.

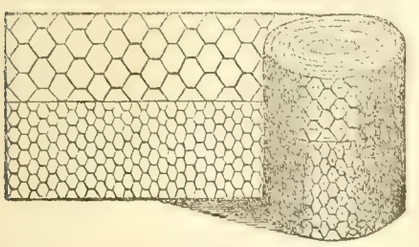
TO NURSERYMEN, SEEDSMEN, AND THE TRADE IN GENERAL.

TO BE DISPOSED OF, on Very Advantageous Terms, and entered upon immediately, ONE OF THE LARGEST HORTICULTURAL ESTABLISHMENTS in the Kingdom, with an increasing Nursery and Seed Business attached. To one or two enterprising young men this offers an opportunity which seldom occurs. Every facility will be given to any respectable persons wishing to engage in the above. For particulars enquire of Mr. M. J. WEBBER, Fruiterer, Covent-garden Market, London.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as building and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

IMPROVED DOUBLE-MESH WIRE GAME NET.



BARNARD AND BISHOP, Norwich, can strongly recommend the above NET to the notice of the Nobility and Gentry, as being the cheapest yet introduced: it has met with general approbation, and has been found most efficient in the preservation of young Trees, Gardens, &c., from the depredations of game. The extra strong 2-inch is the same strength as the stoutest article in the market. On inspection, it will be found better manufactured than anything else of the kind, and 20 per cent. cheaper. It is sent out in rolls of 50 yards, or any other length, at prices as under.

			per yard—*s.*	*d.*
Double Mesh Net 24 ins. wide,	1⅝ & 3¼-in. mesh,	strong	0	6½
... ...	... ...	extra strong	0	9
... ...	2 & 4 ...	strong	0	5½
... ...	... ...	extra strong	0	7½
Single Mesh	1⅝ ...	light	0	7
... ...	... ...	strong	0	9
... ...	... ...	extra strong	1	0
... ...	2 ...	light	0	6
... ...	... ...	strong	0	7½
... ...	... ...	extra strong	0	10

The prices quoted for double net are for equal proportions of each mesh, which may be varied if required, thus, three parts fine to one of coarse, or *vice versa*, at prices accordingly; and it can be made any mesh and width to 7 feet.

A finer description for Aviaries, Pheasantries, &c., sparrow proof, 3*d.* per square foot; or, if made in copper, at 5*d.* per square foot. The Iron Wire Net is twice dipped in anti-corrosive composition, and sent free to London or Hull.

Patterns forwarded per post, free of expence.

TODD'S PATENT METALLIC PROTOXIDE PAINT.—This Paint has been most severely tested for nearly four years, by Architects, Engineers, and Surveyors of the greatest eminence, and has been found, for cemented houses, iron, stone, brick-work, and every description of painting, both external and internal, to be greatly superior to any other pigment; its innocuous qualities and great durability render it peculiarly adapted for the painting of houses and large establishments during their occupancy. Orders to be addressed to Mr. B. TODD, Patentee, 23, Dean-street, Soho, London.

DO YOU SUFFER TOOTH-ACHE? if so, use BRANDE'S ENAMEL for filling the Decayed Spots and rendering defective teeth sound and painless. Price One Shilling. Twenty Testimonials accompany each box. Sold by all Chemists, or sent free by return of post, by sending 1*s.* and a stamp to J. WILLIS, 4, Bell's-buildings, Salisbury-sq., London.

H. WALKER'S NEEDLES (by authority), the "Queen's Own," have large eyes, easily threaded, even by the blind, improved points, temper, and finish. The labels are correct likenesses of the Queen and Prince Albert, in relief, on coloured grounds. Sent free by post by any respectable dealer, on receipt of 13 stamps for every 1*s.* value. H. WALKER'S Needles for the Million are about half the price of the "Queen's Own." H. W. Manufactures improved Crotchets, Fish-hooks, Hooks and Eyes, Steel Pens, &c.—Gresham-street West, New Post-office, London.

PRESENTS for WEDDINGS, BIRTHDAYS, AND ALL FESTIVALS.

ART MANUFACTURES will aim to produce in each article superior utility, which is not to be sacrificed to ornament: to select pure forms: to decorate each article with appropriate detail relating to its use, and to obtain these details directly as possible from Nature. These principles are by no means put forward as forming an universal rule; but it is thought they may be adhered to advantageously in most Articles of Use, and may possibly contain the germs of a style which England of the nineteenth century may call its own. Several of our best Artists have already expressed their willingness to assist in this object, among them may be named—

John Bell, Sculptor; T. Creswick, A.R.A.; W. Dyce, R.A.; J. R. Herbert, R.A.; J. C. Horsley; S. Joseph, Sculptor; D. Maclise, R.A.; W. Mulready, R. A.; R. Redgrave, A. R. A.; H. J. Townsend; Sir R. Westmacott, R. A.; John Absolon, &c. &c.; and executed by the first English Manufacturers.

THOSE NOW READY ARE PRICED.

A New Wine Tray in papier maché, especially for decanters and glasses; designed by R. Redgrave, A.R.A., with Decanters and Glasses *en suite*; the Tray executed by Jennens and Bettridge. Price of the Tray, 50*s.* and upwards.

"Salt and Fresh Water Fishers." **A Fish-Knife and Fork.** In Silver. By J. Bell. 10 and 11 guineas.

"Vintagers." **A series of Decanter Stoppers.** Designed by J. C. Horsley. In Silver and Electro-plated.

A Bride's Inkstand, in Parian, with Tazza. Modelled by J. Bell, 1*l.* 13*s.*, without lizards, and upwards. The Inkstand will also be published separately in Bronze 6*l.* 6*s.*, and Silver.

Kissing Children, surmounting a Paper Weight, 9*s.*, and a Loving Cup, 1*l.*

Boy and Dolphin, as a Seal or Paper-knife Handle, with a gilt blade ornamented with the flax, in a case, 2*l.* 5*s.*

A Beer-Jug in Parian: emblematical of the Gathering, Storing, and Employment of the Hop. Designed by H. J. Townsend, price 18*s.*; or with extra Figures, 30*s.*

*** The Gold Medal of the Society of Arts was awarded to Messrs. Minton and Co., the Manufacturers, for the Union of Superior Art and Manufacture which this Jug displays.

The Infant Neptune. Modelled by H. J. Townsend, 27*s.* in Parian. The same in Silver, 25 guineas.

Water-Jugs, in Glass. Designed by R. Redgrave, A.R.A., price 1*l.* 5*s.* and upwards; also Goblets to match, price 10*s.* each. The Vase on a smaller scale is executed in Parian and Porcelain.

The "Bitten Tongue." **A Mustard-Pot,** in Parian. Modelled by John Bell, price 9*s.* The figure will also be applied to a Silver and Plated Metal Mustard-pot.

A Pair of Carved Wood Brackets; price 5*l.* 5*s.* and upwards.

Dorothea, a Statuette, in Parian. Modelled by John Bell, 2*l.* 2*s.*; also in Bronze.

Purity, or Una and the Lion, a Statuette, Modelled by J. Bell; a companion to Danecker's Ariadne, or "Voluptuousness," 3*l.* 3*s.*

Waterloo Bust of the Duke of Wellington. Modelled by S. Joseph. Price 1*l.* 10*s.*

The Milk-Jug which received the Prize awarded by the Society of Arts in 1846, designed by Felix Summerly; executed in Porcelain and Glass, 8*s.* and upwards: also in Silver by Hunt and Roskill, 156, New Bond-street, 9*l.* 10*s.*

"Heroes, bearded and beardless." **A Shaving Mug,** price 4*s.* and upwards, with Brush and Brush-dish *en suite*, 1*s.* each. Designed by R. Redgrave, A.R.A.

"Bubbles bursting." **A Champagne and Soda-Water Glass.** Ornamented by H. J. Townsend. At various prices.

A Wine Glass and Finger Glass. Designed in enamelled colours, by R. Redgrave, A.R.A. At various prices.

A Cake Dish in Glass. Designed and Ornamented with gilt Enamel, by John Absolon.

Terra Cotta Trusses, 3*l.* each.

A Set of Dessert Knives and Forks, executed by Rodgers and Sons.

"The Camellia" **Tea-pot,** executed by Dixon, after a design by R. Redgrave, A.R.A., in Silver, 20 guineas; plated, 40*s.*; and Britannia metal, 16*s.*

"Prayer and Belief." **Two Statuettes of Children,** in Parian. Modelled by J. Bell, each 24*s.*

A Brown Earthenware Jug. Ornamented with bas-reliefs emblematical of travelling, by H. J. Townsend.

A Salad Fork and Spoon, in Wood and Ivory, with Ruby Glass Bowl. Modelled by J. Bell.

"The Hayfield," after the Picture by W. Mulready, R.A., exhibited at the Royal Academy in 1847. Painted on a Porcelain Vase.

A Grate, with Chimney-piece, Hearth, and Fire-irons *en suite;* exhibiting a new combination of metal and pottery. The Grate and Fender after the patent of Mr. J. Sylvester.

The Shakespeare Clock-case, in Metal and Porcelain. Modelled by John Bell.

"Guardian Angels." **A Christening Cup** in Silver. By R. Redgrave, A.R.A.

A Lady's Work-box, in Buhl.

A Wall Paper, especially for hanging gold frames upon, by R. Redgrave, A.R.A.

Candlesticks, in Silver and Plated Metal.

A Bread Platter in Wood, at various prices, and Bread Knife to Match. Price 12*s.* and upwards.

"The Distressed Mother," a Statuette, by Sir R. Westmacott, R.A.

A Dish for the Drawing-room, to receive Visiting Cards. Designed in Colours, by D. Maclise, R.A.

An Arm-chair in Wood Carving.

London: CUNDALL'S, 12, Old Bond-street.
The Art Manufactures Circular, with 24 pictures, sent on the receipt of three postage stamps.

AGRICULTURAL TABLE [illegible]

STRACHAN'S NEW LIST OF AGRICULTURAL [illegible]

PARR'S LIFE PILLS [illegible]

METCALFE AND CO.'S NEW PATTERN TOOTH-BRUSH and SMYRNA SPONGE.—[illegible] has the important advantage of [illegible] divisions of the teeth, and [illegible] ordinary manner, and is [illegible] loose.—1*s.* An improved [illegible] part of the action time, and [illegible] Penetrating [illegible] sian bristles, [illegible] Brushes which [illegible] ner. The genuine Smyrna [illegible] properties of absorption, [illegible] direct imitations, [illegible] profits and destructive [illegible] genuine Smyrna Sponge. Only at [illegible] tablishment, 130 B, Oxford-st. [illegible]

CAUTION.—Beware of the words, "[illegible]" assumed by some houses.

BENHAM'S ICE CLOSETS, for keeping Provisions perfectly cool during the [illegible] as well as cooling [illegible] ensuring a [illegible] of cold water [illegible] of that beverage. Price 2 guineas.

BENHAM'S CHEAP PASTRIES will [illegible] for the table in a minute. [illegible]

Patent KITE CLEANING [illegible] price 7*s.* Three machines [illegible] the knives, and then [illegible] work in less time, [illegible] are now adopted at [illegible] street, Cavendish-square.

CAPTAIN CHESSON [illegible] PROFESSOR OF FENCING AND [illegible] at the UNIVERSITY COLLEGE, LONDON, and [illegible] Physical Education, begs [illegible] that he has Removed to 21, Gower-street, [illegible] where he continues to treat cases of SPINAL [illegible] CONTRACTION OF THE CHEST, [illegible] &c. His system, for its simplicity and [illegible] to the youth of both sexes, as [illegible] productive of no strain to the [illegible] on this account that it is recommended by the [illegible] of the Medical Profession.

Captain C. may be consulted on Tuesdays and Thursdays, between the hours of Two and Three.

FOR THE PUBLIC GOOD.

DR. ROBERTS'S CELEBRATED OINTMENT, called the POOR MAN'S FRIEND, is confidently recommended to the public as an unfailing remedy for wounds of every description; a certain cure for Chronical Sore Legs, if of 20 years' standing; Cuts, Burns, Scalds, Bruises, Coal-beams, Scorbutic Eruptions, and Pimples in the Face, Sore and Inflamed Eyes, Sore Heads, Sore Breasts, Piles, Fistula, Cancerous Humours, and is a specific for all the following Eruptions that sometimes [illegible] How [illegible] 1*s.* 1½*d.* and 2*s.* 9*d.* each. Also the PILULÆ ANTIPSORIPHULÆ, confirmed by more than a [illegible] without exception, one of the best Alterative Medicines ever compounded for purifying the blood, and assisting Nature in all her operations; hence it is useful in Scrofula, Scorbutic Complaints, Glandular Swellings, Inflammation of the neck, &c. They are effectual in [illegible] and form a mild and superior Family Aperient that may be taken at all times without confinement or change of diet. Sold in boxes at 1*s.* 1½*d.*, 2*s.* 9*d.*, and 11*s.* each.

To Messrs. BEACH and BARNICOTT, Successors and Executers to the late Dr. ROBERTS.

Gentlemen.—About 17 years ago I had the misfortune of knocking my leg while following some timber, which broke the skin, and my scratching [illegible] I applied many remedies, to no purpose: it continued getting worse. I became an out-patient of Taunton and West Somerset Hospital, in which I continued three months, and I went an out-patient to the Bridgewater Infirmary: but it continued to get worse. At length I was advised by my friends to get the Poor Man's Friend, which he said would cure me: I continued the application, and after using three pots of the Ointment, and two boxes of the Pills, I am happy to inform you that I am now perfectly cured, and have been so for 11 months, after suffering for 17 years. Knowing the misery of a bad leg, I send you this for the benefit of those suffering in the manner.

I remain, your obedient servant,

Taunton, Nov. 17, 1847. SIMON STONE MITCHELL.

Sold Wholesale by the Proprietors, BEACH and BARNICOTT, at their Dispensary, Bridport; by the London Houses; Retail by all respectable Medicine Vendors in the United Kingdom.

OBSERVE.—No Medicines sold under the above names can possibly be genuine unless "BEACH and BARNICOTT, late Dr. ROBERTS, Bridport," is engraved and printed on the stamp affixed to each package.

PROVIDENT LIFE OFFICE, 50, Regent-street, and 2, Royal Exchange-buildings, London.
Established 1806. Invested Capital, 1,230,000*l.*
Annual income, 140,000*l.* Bonuses declared, 743,000*l.*
Claims paid since the establishment of the Office, 1,678,000*l.*

President.—The Right Honourable Earl Grey.

Directors.

The Hon. Arthur Kinnaird, *Chairman.*
The Rev. James Sherman, *Deputy Chairman.*

Henry B. Alexander, Esq.	William Ostler, Esq.
Henry Blencowe Churchill, Esq.	George Round, Esq.
George Dacre, Esq.	James Sedgwick, Esq.
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Physician—John Maclean, M.D., F.S.S., 29, Upper Montague-street, Montague-square.

The Rates of Premium are those adopted by the principal Life Offices, the rate without bonus is lower than that of most other Offices.

The Bonuses are added to the Policies, or applied to the reduction of the Premiums.

Policies issued by this Office are purchased at their full value; or Loans may be obtained upon them after they have been in existence for five years.

If a party neglect to pay for the renewal of his Policy, he may repair the omission any time within 12 months, upon proof of good health.

The profits (subject to a trifling deduction) are divided among the insured. The plan upon which they are divided gives to each party insured a share proportionate to the amount of the Premiums he has contributed.

In addition to the above advantages, the Directors have determined to adopt the principle of allotting a prospective Bonus to Policies lapsing between the Septennial Periods of Division, in order that all the Policy-holders may participate equally in the Profits of the Society.

The following Table shows the amount of Bonuses added to Policies existing at the present time.

Policy No.	Date of Policy.	Sum insured.	Bonuses added.	Increase on original Insurance.	Total Sum payable, to which future Bonuses will be added.
		£	£ s. d.		£ s. d.
21	1806	500	415 10 2	83·10 per cent.	915 10 2
521	1807	900	982 12 1	109.17 ,,	1882 12 1
1174	1810	1200	1160 5 6	96.68 ,,	2360 5 6
1395	1811	1600	1328 8 6	83.02 ,,	2928 8 6
3285	1820	2000	1906 13 5	95.33 ,,	3906 13 5
3392	1820	5000	3558 17 8	71.17 ,,	8558 17 8
4356	1822	3000	2541 3 6	84.7 ,,	5541 3 6

Prospectuses and full particulars may be obtained upon application to the Agents of the Office in all the principal towns of the United Kingdom; and the head Office, No. 50, Regent-st.

NEW LIFE TABLES.

THE ALLIANCE LIFE and FIRE ASSURANCE COMPANY, BARTHOLOMEW-LANE, LONDON.
Capital, Five Million Pounds sterling. Established 1824.

SECURITY.—The large invested Capital, and the personal responsibility of upwards of One Thousand Shareholders.

The Board, with a view of giving increased facilities to the Public in the transaction of Life Business, have directed the construction of various Tables in addition to those they had previously in use.

1. NON-PARTICIPATING, on Reduced Rates of Premium.
2. Tables on INCREASING and DECREASING Scales.
3. ,, subject to a LIMITED Number of Annual Payments.
4. ,, for ENDOWMENT ASSURANCES.

No entrance fees are charged. The Assured may proceed to any part of Europe without extra Premium. The Lives of Naval and Military Officers, not in actual service, are taken at the usual rates. A Commission to Solicitors and Agents bringing business is paid.

Detailed Prospectuses, with Tables of Rates and full particulars, will, on application, be forwarded by post, or may be obtained at the Head Office, 1, Bartholomew-lane, London; at the Office of the Company, 95, George-street, Edinburgh; and at their various agencies in England, Scotland, and Ireland.

*** Loans on the Deposit of unencumbered Policies of the Company are made, up to their value, without legal expense to the borrower.

FIRE ASSURANCES, at home and abroad, effected on the usual terms. A. Hamilton, Secretary.

THIRD SEPTENNIAL BONUS.

CROWN LIFE ASSURANCE COMPANY,
33, New Bridge-street, Blackfriars, London.

Directors.

George H. Hooper, Esq., Chairman.
Sir John Kibeland, Deputy-Chairman.

John Chapman, Esq.	Jameson Hunter, Esq.
Charles Chippindale, Esq.	Colonel Moody, R.E.
James Colquhoun, Esq., LL.D.	John Nelson, Esq.
B. D. Colvin, Esq.	Oct. Ommanney, Esq.
Rear-Admiral Dundas, C.B., M.P.	Alexander Stewart, Esq.
Thomas Harrison, Esq.	William Whitmore, Esq.
Auditors.—J. H. Forbes, Esq.	William Wilson, Esq.
James Mitchell, Esq.	George Hankey, Esq.

Physician.—Sir C. F. Forbes, M.D., K.C.H., 23, Argyll-street.
Surgeon.—Samuel Solly, Esq., F.R.S., 1, St. Helen's-place.
Standing Counsel.—Charles Ellis, Esq.
Solicitors.—Messrs. Hale, Boys, and Austen.
Bankers.—Bank of England. *Actuary.*—J. M. Rainbow, Esq.

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3. The Assurance or Premium Fund is not subject to any charge for Interest to Proprietors.
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5. Parties (including Officers of the Army, Navy, East India Company, and Merchant Service), may be assured to reside in or proceed to all parts of the world, at premiums calculated on real data.
6. Claims to be paid within three months.
7. The assured may dispose of their policies to the Company.
8. No charge but for policy stamps.

The Prospectus, Tables of Rates, &c., to be had at the office in London, or of the Company's Agents.

T. G. Conyers, Secretary.

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THE *attention of parties contemplating Life Assurance* is requested to the advantages to be secured by effecting policies with the SCOTTISH UNION INSURANCE CORPORATION.

A printed statement of the large additions made to the policies at the two last periodical investigations may be had gratis at the offices. London Offices, 37, Cornhill.

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Benj. Henderson, Resident Secretary in London.

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14 years old, and upwards	45	25	20	15
7 years old, and under 14	27	15	12	9
1 year old, and under 7	18	10	8	6
Under 1 year old	0	0	0	0

The Company will appoint an experienced Surgeon, and provide Medicines, Medical Comforts, and an ample Dietary for each Class of Passengers.

For Freight, Passage, or further information, apply at New Zealand House; or to Mr. Joseph Stayner, Broker, 110, Fenchurch-street, London.

By order of the Court, Thomas Cuddert Harington.
New Zealand House, 9, Broad Street Buildings,
London, 17th July, 1848.

SHEFFIELD PLATE, of the richest Quality.—A. B. SAVORY & SONS beg respectfully to inform the Public that they continue to supply the SHEFFIELD PLATED ARTICLES, with Silver Mountings and Edges, of the same old rich quality of Silver Plating which has secured their house so large a share of the public patronage during a period of 90 years. The show-rooms contain a splendid variety. A Pamphlet is published, with Engravings of Silver Plated Table Dish-covers, Venison-dishes, Corner-dishes, Waiters, Cruet-frames, Table Candlesticks, Candelabra, &c.; and will be sent, free of expense, in answer to a paid letter.—A. B. Savory & Sons, Manufacturing Silversmiths, 14, Cornhill, London, opposite the Bank of England.

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SCORBUTIC HUMOURS CURED BY HOLLOWAY'S OINTMENT AND PILLS.—Extract of a letter from Mr. George F. Williams, of Blackrock, near Cork, dated June 14, 1848. "To Professor Holloway. Sir,—I beg to state for your satisfaction, and for the information of the afflicted, the wonderful effects your ointment and pills have had upon me. I have suffered severely from Scorbutic Humours, and for the last seven years my eyes have been dreadfully sore, during that period I tried almost every remedy, without obtaining the least relief, at last I was prevailed upon to use your invaluable medicines, which I did, and I am delighted to say that I am perfectly cured by them." Sold by all druggists, and at Professor Holloway's establishment, 244, Strand, London.

Printed by William Bradbury, of No. 6, York-place, Stoke Newington, and Frederick Mullett Evans, of No. 7, Church-row, Stoke Newington, both in the county of Middlesex, Printers, at their office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the Office, No. 5, Charles street, in the parish of St. Paul's, Covent Garden, in the said county, where all Advertisements and Communications are to be addressed to the Editor.—Saturday, August 5, 1848

J Wrider Esq
Faenor Park
Welshpool.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 33.—1848.] SATURDAY, AUGUST 12. [Price 6d.

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NORFOLK AND NORWICH HORTICULTURAL SOCIETY.—THE ANNUAL DAHLIA SHOW and General Exhibition, will be held at Norwich, on Tuesday 12th September (being Musical Festival week). Extra prizes of 5*l*., 3*l*., and 2*l*., are offered for best 24 dissimilar blooms, open to Amateurs being members, and to Nurserymen in all England, who shall, on or before the 6th September, signify their intention of exhibiting. Seedlings, if really worthy, to receive Certificate of merit.

Chas. S. Gilman, Hon. Sec., Bethel-street, Norwich, Aug. 10.

GREAT WEST OF ENGLAND DAHLIA EXHIBITION, at Wilton Gardens, near Salisbury, will be held the 24th of August, open to all England.—Further particulars may be had on application to John Keynes, Hon. Sec., Salisbury.

ROSHERVILLE GARDENS. — The SECOND GRAND FLORICULTURAL EXHIBITION will take place on these grounds on Tuesday next, the 15th August, 1848, open to all exhibitors free of entrance. Under the patronage of the Right Honourable the Earl of Darnley. Prizes will be awarded for the following productions (arranged in classes for the accommodation of large and small growers), viz., for collections of Miscellaneous Plants, Heaths, Fuchsias Dahlias, Cut Roses, and Flowers, Fruits, &c. &c. Tickets and List of Prizes, with particulars, may be had of Boyes Thornton, Esq., Monument Chambers, 15, Fish-street-hill, London; of Mr. M'Nally, Superintendent, Rosherville; at the Rosherville, Clifton, and Falcon Hotels, Gravesend; the Sun Hotel, Chatham; the White Hart Hotel, Bromley; and of Mr. Nevills, Ebenezer House, Peckham.

The charge for entrance to the Gardens on this day will be One Shilling each person.

August 12. Boyes Thornton, Secretary.

ZOOLOGICAL GARDENS, REGENT'S-PARK.—Visitors are admitted WITHOUT ORDERS on MONDAY, in every week, at SIXPENCE EACH; on the following days at ONE SHILLING EACH. Children at Sixpence. The Band of the First Life Guards will perform every Saturday at 4 o'clock; admission One Shilling.

The new entrance in the Broad Walk is now open.

BECK'S SEEDLING PELARGONIUMS.—A Descriptive Catalogue of the above may be had on application, prepaid, and enclosing one Postage Stamp.

Worton Cottage, Isleworth.

DICKINSON'S ITALIAN RYE GRASS SEED is grown by him this year in much larger quantities. The price is reduced from 10*s.* to 7*s.* per bushel.—No 7, Curzon-street, May-fair, London.

AURICULAS.

H. GROOM, Clapham Rise, near London, by Appointment Florist to her Majesty the Queen and to his Majesty the King of Saxony, begs to offer the following AURICULAS, any 12 of which may be had for 20*s.* ready money, package included: Bureh's Archagathus, Cleopatra, and Violet; Chelcott's Brilliant, Galiel's Lord Nelson, Galloway's Glory of Oldham, Oliver's Lovely Ann, Page's Duchess of Oldenberg, Smith's Britannia, Thorncroft's Invincible, Watts' George Canning, Wood's Lord Lascelles, Martin's Mayfield (self), Queen of the Alps (self), and Wrigley Northern Hero.

H. G. begs to say that his varieties of LILIUM LANCIFOLIUM are coming into flower.

FIRST-RATE NEW VERBENAS AND FUCHSIAS.

GEORGE SMITH begs to submit the following list of splendid VERBENAS, which contains every novelty of the season, both of English and French varieties, at 12*s.* per dozen, or 24 for 21*s.* A Catalogue containing the descriptions can be had on the receipt of a postage stamp:.

Verbenas: Smith's Captivation, Madonna, Gem, Desirable, Excelsa superba, Miss Sarah, Vixen, Fairy, Conqueror, Paragon, Vivid, Rainbow, Zabdi; West's Arabella, Rubra, Multiflora, Delicata, Fire King; Bell's Edmondiana, Vulcan superba, Lychnis, Belliana, Jenny Lind, Martiniana, Queen Victoria, Duke of Norfolk; Robinson's Defiance; Barker's St. Margaret; Ivery's Emperor of China. French varieties: Annica, Anacreon, Baron Delessert, Cardinal, Clotilde, Duc de Alençon, Duc de Cazes, Duchesse de Cazes, Harlequin, La Coquette, La Villageoise, Madame Chereau, Madame Dehu, Madame Passy, Madame Rattier, Multicolor, Pirta, Rose Cheri, Souvenir, Vampa, Voltaire, and Valentine de Saveuse.

Fuchsias: Kendall's Beauty supreme, Crimson King, Dreadnought, Spanish Infanta, Mont Blanc; Salter's Elalie, Pius IX., Rosea Quintal; Turville's Beauty of Chelmsford, Fountain; Smith's Esteem, Dr. Smith, Ne plus ultra; Maxle's Enchantress, Scarletina, Reflexa; Rome's Ophelia; Tiley's Jenny Lind, and Schoffield's Albando, at 21*s.* per dozen. A new Heliotrope, "Triomphe de Liege," 1*s.* 6*d.* each.

The above can be immediately forwarded, either by post or hamper, on the receipt of a Post-office order, payable at Islington. Purchasers leaving the selection to G. S. will have the most approved varieties forwarded.

Islington Nursery, Hornsey-road, Islington, August 12.

STRAWBERRIES.

YOUELL AND CO. can now supply strong Runners of the following fine and desirable SORTS, warranted true to name: Myatt's Prolific, 1*l.* per 100; Downton, 7*s.* 6*d.*; Globe, 7*s.* 6*d.*; La Lucrative, 5*s.*; Keen's Seedling, 5*s.*; Bicton Pine, 10*s.* 6*d.*; Royal Pine (fine), 7*s.* 6*d.*; Queen, 5*s.* 6*d.*; Large Scarlet, 5*s.*; Black Prince, 5*s.*; Prince Alfred, 5*s.* 6*d.*; Swainston's Pine, 5*s.* 6*d.*; Myatt's Pine, 5*s.*; Goul, or Sir G. Mackenzie's late Scarlet, 5*s.*; Myatt's Prolific, 7*s.* 6*d.*; Matthan Seedling (fine and very early), 10*s.*; with many other fine sorts.

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Y. and Co. are now supplying fine healthy plants of the newest and choicest varieties, well set with flower-buds, at 30*s.* to 42*s.* per dozen.

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Price, 3 to 4 months, 15*s.* per pair; 2 months, 10*s.*

This peculiar and extraordinary breed are of beautiful symmetry, greatly resembling the "Hare" in colour, &c., with long erect ears; they are as prolific as the common tame Rabbit, and require only the treatment of such, and can be forwarded with safety to any part of the United Kingdom.

"Norfolk Turkeys" of the purest breed can be supplied.

Post-office Orders to be made payable to William Archer, Great Yarmouth.

TURNIP SEED.—The Subscriber has on sale a large quantity of Turnip Seed, comprising White Globe, Purple-topped, Yellow Bullock, Purple-topped Swedish, and Dale's Hybrid. As it was grown under his own inspection, he can warrant the whole to be perfectly pure and true to name. Price very moderate.

Archibald Stuart, Kelso, Roxburgh-shire, August 12.

SUPERB DOUBLE HOLLYHOCKS.

WILLIAM CHATER begs to announce that he has for sale a few plants of Baron's unrivalled collection of HOLLYHOCKS, with some choice Seedlings of his own. The plants are now in bloom, and purchasers desirous of seeing them may do so on application any day excepting Sundays.

Price, 20 best varieties, 5*l.*; also good double do., 30*s.* per 100. The plants will be ready in October. A remittance from unknown correspondents is indispensable.

Saffron Walden Nursery, August 12.

ARNOLD'S "VIRGIN QUEEN" GERANIUM.—*This is the best* WHITE *in cultivation. It has been fully proved this season, nine specimen plants having produced* 350 *expanded blossoms at one time, only one of which was imperfect.*

We can recommend it with the same confidence as we did Lyne's "Duke of Cornwall" and "Forget-me-not," and we are certain that it will give the greatest satisfaction to all who purchase it. It is thus described by Dr Lindley, in the *Gardeners' Chronicle*:—"*W. E. R. The flower sent is a well formed flower, broad white under petals, the upper petals plain colour with a narrow margin of white: this is a good flower of its colour.*" The habit of the plant is excellent, and the blooms are thrown well above the foliage.

Price 1*l.* 10*s.* each, or three for 3*l.* to the Trade.

P S.—We are so satisfied with the excellence of the above, and so certain are we that it will give the greatest satisfaction, we will agree to give the amount in Plants selected from our current Catalogue, should it not prove to be equal to what we have stated.—W. E. R. and Co.

The following set of 5 Geraniums (sent out by us last autumn) for 40*s.*:

	each—*s.*	*d.*		each—*s.*	*d.*
2 Lyne's Jenny Lind	15	0	5 Lyne's Mercury	10	6
3 ,, Star of the West	10	6	6 Folley's Black Prince	5	0
4 ,, Lady Ebrington	10	6			

The following set of 8 Geraniums (sent out by Mr. Miller, of Ramsgate, last autumn) for 40*s.*:

	each—*s.*	*d.*		each—*s.*	*d.*
7 Miller's Scarlet Defiance	7	6	11 Miller's Admiration	7	6
8 ,, Rosa Mundi	7	6	12 ,, Vulgaris	7	6
9 ,, Queen of Kent	7	6	13 ,, Flora's Flag	7	6
10 ,, Distinctus	7	6	14 ,, Conspicuabunda	7	6

The whole set of 14 *as above, including Arnold's Virgin Queen, for* 3*l.* 4*s., or exclusive of Virgin Queen, for* 3*l.* 10*s.*

First orders will receive the first selection, and will be sent out in October next.

William E. Rendle and Co., Plymouth.

P.S.—Our New Plant Catalogue is just ready, and can be obtained, gratis, on application.

CHOICE FLOWER [illegible] FOR [illegible]

Autumn Sowing, free by [illegible].

Greenhouse Plants, choice	per packet	s.	d.	Hardy Perennials, &c.	per packet	s.	d.
[illegible]				[illegible]			
Antirrhinum, fine choice varieties		1	0	[illegible]			
Calceolaria, fine choice varieties		1	0	[illegible]			
Campanula [illegible]		0	6	[illegible]			
Cineraria [illegible]		1	0	[illegible]			
,, superbissima		1	0	[illegible]			
,, [illegible]		1	0	[illegible]			
Cineraria, from choice varieties		1	0	[illegible]		1	0
Cuphea [illegible]		0	6	[illegible]		0	6
Cuphea platycentra		1	0	[illegible]		1	0
,, ,, alba, new		1	0	Gladiolus, from fine vars.		0	6
Cuphea platycentra		1	0	[illegible]		1	0
Dahlia, from choice vars.		0	6	[illegible]		0	6
Diosma [illegible]		0	6	,, vars. separate		0	6
Fuchsia, [illegible]		1	0	[illegible]		0	6
Gardenia [illegible], mixed		0	6	[illegible]		0	6
Geranium, scarlet from new and choice flowered		2	6	[illegible]		1	0
,, [illegible]		1	0	[illegible]			
,, [illegible]		1	0	[illegible]			
Hedge [illegible]		1	0	[illegible]			
[illegible]		1	0	[illegible]			
[illegible]		1	0	[illegible]			
Kalosanthes [illegible]		0	6	[illegible]			
,, [illegible]		1	0	[illegible]			
Lobelia [illegible]		0	6	[illegible]			
Maurandia barclayana		0	4	vars.		0	6
,, new		1	0				
Mimulus Regina, new		1	0	Tender Annuals.			
Marcowitzia superbissima		1	0	Brachycome, 3 vars., each		0	6
Petunia, extra choice vars.		1	0	[illegible]			
Primula sinensis, mixed		1	0	[illegible]			
Verbena, from new and choice		2	6	[illegible]			
,, small packets		1	0	[illegible]			

The following of our own selection.

20 vars. choice Greenhouse Perpetuals	..	..	10 6
12 do. select do.	..	..	7 6
20 do. fine hardy Biennials and Perennials	..	..	5 0
20 do. hardy Annuals, for autumn sowing	..	..	4 0

The best stocks for present sowing of Onion, Cabbage, Cauliflower, Lettuce, Endive, Turnip, &c. The finest sorts of Grasses. [illegible] of Seeds for lists may still be had. Remittances [illegible] Post-office orders payable to [illegible] Brown, or [illegible] for small amounts.

Bass and Brown, Seed and Horticultural Establishment, Sudbury, Suffolk.

PURE WHITE SALVIA PATENS.

WM. WOOD AND SON have much pleasure in offering this desirable plant to their friends and the public, feeling assured that it will [illegible] forming a striking but at the same time [illegible] to the bright blue of the original [illegible] variety was originated from seed and [illegible] in October last; it is the same in habit, [illegible] the now universally known Salvia patens, with the [illegible] of the whole plant being of a better [illegible] in size to that species under the highest [illegible] PUREST SNOWY WHITE, with a small [illegible] lower lip of each flower.

It will be admitted by all who are acquainted with the present system of flower gardening that there is a great [illegible] pure white flowers of an ornamental character, adapted for grouping, to make up which requisite the introduction of this charming novelty will be hailed with the greatest pleasure; its merits are, however, not confined to grouping, as for the more attractive when grown in pots or planted in mixed borders.

W. W. & S. have set apart out of the above under the name of SALVIA PATENS ALBA, a quantity of strong plants, at 1*s.* 6*d.* per plant, with the usual allowance to the Trade, of one additional plant for every dozen taken. They have also a good stock of the following [illegible] plants, which may be had now or with the above, viz.:

	s.	*d.*		*s.*	*d.*
Acalyphas floribunda	0	6	Gardenia Fortunei	1	0
,, elegans	0	6	,, Stanleyana	0	6
,, venusta	0	6	,, White Ivi	0	6
Allamanda grandiflora	0	6	Gloxinia [illegible]	0	6
,, Schottii	0	6	,, [illegible]	0	6
Poronia polymorpha	0	6	,, [illegible]	0	6
Clerodendron macrophyllum	1	0	Ixora odorata	1	0
,, sinuatum	0	6	Pimelea decussata	0	6
,, volubile	0	6	Plumbago capensis	0	6
Echites roseo-campestris	0	6	Rondeletia jasminoides	0	6
,, spectabilis	1	0	[illegible]	0	6
,, splendens	0	6	Sphenogyne speciosa	0	6
Eriostemon scabrum	0	6	Tremandra pubescens	0	6
Erythrina fulgurissima	0	6			

N.B. An extra Plant will be presented with each order to compensate for carriage. A remittance or reference required from all unknown correspondents; post-office orders to be made payable at Uckfield.

Woodlands Nursery, Maresfield, Uckfield, Sussex.

SEEDS.—CORNER OF HALF-MOON-STREET.

THOMAS GIBBS AND CO.,

(By Official Appointment the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND.")

Beg to remind the Members of the Society, and Agriculturists in general, that their long Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last forty Years.

Priced Lists of Agricultural Seeds are always ready, and may be had on application.

ABERDEEN BEEHIVE STRAWBERRY. — There is still in the trade a Strawberry under the name of the "Aberdeen Beehive," which was exhibited while in fruit during the last two months at Cunnigar Hill Nurseries, Aberdeen; and at the same time, in the local papers, challenged the United Kingdom to produce its equal, which caused a general excitement throughout Scotland. Many thousands have visited the grounds for the purpose of examining the wonderful and far-famed "Beehive," of Cunnigar Hill, among whom were many competent judges from England, France, and other parts of the Continent, who at once pronounced them superior to anything they had before witnessed as a crop of Strawberries, and from their beautiful colour and luscious flavour, they have been pronounced "No. 1" in the market; and I am proud to state that the "Beehive," notwithstanding the general failure of other sorts, stood as a monument of admiration (as it were), laughing to scorn the unwarranted and false assertions of those sceptics who, without ceremony, seized it as a victim, to bury it with disgrace. I am also proud to inform my friends, the readers of the *Gardeners' Chronicle*, that the demand, daily increasing from all parts, seems to be the result of the "Beehive" question; and being prepared with an extensive stock of well-rooted plants, has induced me to offer them from the Nursery bed at 10*s.* per 100, or 1*s.* 6*d.* per dozen. Established in pots for exportation or forcing at 4*s.* per dozen. Directions for culture will be sent with each order. —JAMES MATHEWSON, Nurseryman, Cunnigar Hill, Aberdeen.

POTATO DISEASE. — DWARF RED STONE TURNIP.— In consequence of the rapid spread of the Potato disease, the subscriber begs most earnestly to recommend the above Turnip to the notice of the public, as a kind that may be sown until the middle of September, with a certainty of producing a greater weight of food than any other plant in cultivation. 1oz. packets, free by post, 1*s.* each.

PARAGON CABBAGE.—This kind is allowed by every gardener who has grown it to be the best Early Cabbage in cultivation for the supply of a gentleman's table. It is rather larger than the "Matchless," and superior to it in every respect. Packets, post free, 1*s.* each.

HARDY ANNUALS FOR AUTUMNAL SOWING, and the spring decoration of the Flower Garden. A collection of 10 of the most suitable kinds, 2*s.* 6*d.*; 25 varieties, 6*s.*, post free.

PELARGONIUM, GEM OF THE SCARLETS (or Brooklands Scarlet).—In answer to numerous enquiries, the proprietor begs to state that it will be sent out, with other novelties, in March, 1849, and the first orders will have the first selection. Price 5*s.*, for cash only, with one over in every 10 taken by the trade.

Post-office orders upon Greenwich, payable to WILLIAM PORT AYRES, Horticultural Grounds, Brooklands, Blackheath-park, Kent.—August 12.

UNRIVALLED PELARGONIUMS.

J. WHOMES, NURSERYMAN, &c., Windsor, has the honour to inform the lovers of the Geranium that the following superb varieties, raised by G. W. Hoyle, Esq., and by J. W., will be ready, fine plants, to send out the first week in October:

Hoyle's Sparkler	£1	1	0	Hoyle's President	£1	1	0
,, Rolla	1	1	0	,, Abd-el-Kader	1	1	0
,, Terpsichore	1	1	0	,, Belle of the Village	1	1	0
,, Flamingo	0	15	0	,, Superlative	0	15	0
,, Prometheus	0	15	0	,, Julius	0	7	6
Whomes' Windsor Castle	1	1	0	Whomes' Queen Victoria	1	1	0
,, Cupid	1	1	0	,, Princess Helena	0	10	6
,, Miss Beren	1	1	0	,, Plutarch	0	10	6

THE UNRIVALLED FLOWER "CRUSADER" will be sent out provided a certain number of orders are obtained before the first week in October, at 42*s.* each, with the usual allowance (1 in 3) to the trade. The most strict attention to orders in rotation. The above for cash only.

"CRUSADER."—Lower petals a beautiful glowing peach, with light centre; top petals fine black blotch and black lines, with rich orange ground running to a narrow margin of violet; full size, perfectly round flower, and free bloomer. It was exhibited at Chiswick, June, 1847, and received a Certificate of Merit; and also received a Medal at the Royal Botanic as a two-year old.

A Descriptive Catalogue of the above, with a lengthened list of many other good sorts, may be had in a week's time from the present, on application to J. WHOMES, Pelargonium Nursery, Windsor.—August 12.

CRYPTOMERIA JAPONICA SEEDLINGS.

MESSRS. STANDISH AND NOBLE, NURSERYMEN, Bagshot, have the honour to inform the Nobility, Gentry, and the Public, that they have succeeded in obtaining a quantity of SEED of the above truly magnificent Tree from the north of China, and are now able to send out SEEDLING Plants at the undermentioned low scale of prices.

It was first sent home by Mr. Fortune to the Horticultural Society, in 1844, and has now proved to be perfectly hardy in this country, having stood out in many exposed situations during the severe winter of 1846 and 1847. It is a tree of rapid growth, and some very fine specimens may now be seen in the gardens of the Horticultural Society nearly 10 feet in height, and very graceful in form.

"I met here (Shanghae), for the first time, with the beautiful Cryptomeria japonica, a species of Pine not unlike the Araucarias of Australia and Brazil. When growing luxuriantly it is highly ornamental, rising from the ground as straight as a Larch, and sending out numerous side branches almost horizontally from the main stem, which again droop towards the ground in a graceful and WEEPING *manner. The wood of the tree has a kind of twisted grain, possessing great strength and durability, and is highly valued by the Chinese."*— FORTUNE'S WANDERINGS IN CHINA.

We need scarcely inform the lovers of hardy evergreens that SEEDLINGS of this species are of much more value than cuttings. The latter never make handsome plants, and grow much slower. Our Seedling Plants, which we are now sending out, if properly managed, will be more than 2 feet high by next spring, the proper time to plant them out in the open ground.

MESSRS. STANDISH and NOBLE can now supply nice healthy plants, in 60-size pots, at the following low price, viz., 3*s.* 6*d.* per plant, 36*s.* per doz., or 12*l.* 10*s.* per hundred. A liberal allowance to the Trade from the above prices.

N.B.—The above is for cash only.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

STRONG HORTICULTURAL SHEET GLASS FOR CONSERVATORIES, GREENHOUSES, PITS, FRAMES, &c.

HETLEY AND CO., supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2½*d.* to 3*d.* per square foot, for the usual sizes required, many thousand feet of which are kept packed for immediate delivery at their Crown, Sheet, Patent Plate, Stained, and Ornamental Window Glass Warehouse, 35, Soho-square, London.

EXOTIC NURSERY, KING'S ROAD, CHELSEA.

MESSRS. KNIGHT AND PERRY have the honour to notify to the Nobility and Gentry, their friends and patrons, that they purpose, during the present month, to send out that interesting novelty,

THE PLUMBAGO LARPENTÆ,

which, from its dwarf compact habit of growth, the beauty of its foliage, the extraordinary profusion in which it blooms, and the extreme beauty of its clear Gentian blue flowers, has attracted attention and admiration beyond any plant of recent introduction. There can be no doubt of its being PERFECTLY HARDY, as in Shanghae (where it was found growing out of the city wall), the thermometer in winter descends as low as 19° F. below the freezing point. In utility as a bedding plant it will rank with scarlet Verbenas, with which it will contrast admirably. Very many of the plants, all of which are strong and well established, will be in flower when sent out.

The original plant, which has just commenced blooming, will shortly have many thousand flowers upon it, and thus afford those who will do Messrs. K. and P. the honour to inspect it, a proof of its great fitness for an EXHIBITION PLANT, and for adorning the Conservatory as well as the Flower-garden, during the autumnal months. By varying the temperature in which it is grown it will probably be found to flower at nearly all seasons of the year.

For so important a plant it will be sent out at a very low charge; and to facilitate its extensive diffusion, the annexed scale of prices, so arranged as to reduce the cost considerably, when several are taken, has been decided upon. The strongest plants will be sent out according to the priority of the order.

If 12 or more plants are taken	..	..	£1	1	0 each.
8 or under 12 do.	do.	..	1	5	0 ,,
6 or under 8 do.	do.	..	1	11	6 ,,
4 or under 6 do.	do.	..	1	15	0 ,,
2 or under 4 do.	do.	..	2	2	0 ,,
1 plant is taken	..	..	2	5	0 ,,

Messrs. K. & P. are now also prepared to send out good plants of the DIELYTRA SPECTABILIS, a new Hardy Plant from the North of China, and which Mr. Fortune described as one of the most beautiful things he met with in his travels. It has flowered at the Exotic Nursery, and fully justified the flattering account he gave of it. It will prove a very valuable addition for the decoration of the Conservatory and Drawing-room in the winter months, as with very slight heat it may be induced to flower profusely as early as February.—August 12.

IMPROVED FLOWER STICKS.—These Flower Sticks are of a circular form, thereby avoiding angles and sharp edges, which are liable to cut and injure the plants. They may be had stained brown or green to suit the various plants.—To be had of all respectable Nurserymen and Seedsmen, and dealers in Garden Implements. Manufactured and sold Wholesale, at H. MORRELL'S, 149, Fleet-street, London.

N.B. Samples to be seen at the Office of this Paper.

GLASS.

APSLEY PELLATT AND CO. (late PELLATT and GREEN), Falcon Glass Works, Holland-street, Blackfriars, have always on hand, Bee Glasses, 1*s.* 6*d.* per lb.; Cucumber Glasses, 1*s.*6*d.* per lb.; Milk Pans, 18 in., white glass, 5*s.* 6*d.* each; Propagating Glasses, white, 1*s.* per lb., do. green, 10*d.*, do. Condensing, 2*d.* per lb. extra; Asparagus Tubes, 18*s.* to 21*s.* per gross; Grape Shades, 1*s.* 6*d.* to 2*s.* each; Fish-bowls, from 1*s.* 6*d.* each; Wasp and Fly-traps, 40*s.* per gross, or 3*s.* 6*d.* per dozen. By the use of these traps fruit may be preserved from (otherwise certain) destruction.

E. AND W. H. JACKSON beg to call the attention of Gentlemen and the Trade to the reduced prices of their PATENT PLATE GLASS, which, from its superior qualities and cheapness, is now superseding all inferior glass in dwelling houses.

BRITISH MANUFACTURED SHEET GLASS for CONSERVATORIES, POLISHED AND ROUGH PLATE, CROWN, COLOURED, AND ORNAMENTAL GLASS at the lowest terms.

Tariffs of prices and every information can be had, by applying at their Warehouse, 315, Oxford-street.

PATENT ROUGH PLATE GLASS FOR CONSERVATORIES. About one-eighth of an inch thick, and nearly 30 oz. to the foot.

JAMES PHILLIPS AND CO., 116, Bishopsgate-street Without, beg to call the attention of the Nobility, Gentry, and others, to the above description of GLASS, which has been manufactured specially for the glazing of Conservatories, as it effectually prevents the Plants being scorched in the manner complained of when Sheet Glass is used.

In crates, of the sizes as manufactured, averaging one-eighth of an inch thick, and about 30 oz. to the foot	...	...	...	6*d.* per foot.
In squares, 8 by 6 and under	...	...	...	4*d.* ,,
Above 8 by 6 and not exceeding 12 by 10	...	...	...	5*d.* ,,
,, 12 by 10 ,, 2 feet	...	...	...	6*d.* ,,
,, 2 feet	...	...	...	7*d.* ,,
Quarries	...	...	...	6*d.*

GLASS MILK PANS, PROPAGATING GLASSES, AND BEE GLASSES. GLASS TILES AND SLATES.

CREAM POTS, from 3 to 24 quarts, at 6*d.* per quart.

CUCUMBER GLASSES, from 12 to 26 inches long, 1*d.* p. inch.

LACTOMETERS for trying the quality of Milk, 4 tubes 7*s.* 6*d.*, 6 tubes 10*s.*; Peach Glasses, 10*d.* each; Fish Globes from 1*s* 6*d.* each; Wasp and Fly Traps 3*s.* 6*d.* per dozen; Plate and Window Glass; Lamp Shades and Chimneys; and every article in the trade. DOUBLE CROWN GLASS cut to order.

HORTICULTURAL ESTABLISHMENT, AND GARDENERS' REGISTER OFFICE.

J. WEEKS AND CO., KING'S-ROAD, CHELSEA, HORTICULTURAL BUILDERS AND HOT-WATER APPARATUS MANUFACTURERS, have the honour to inform the Nobility and Gentry that they have of late years made great improvements in Horticultural Building and Heating by Hot Water; and for the purpose of showing those improvements, they have erected in the King's-road, Chelsea, an extensive ornamental Nursery, which contains upwards of 15,000 feet of Glass, consisting of Hothouses, Greenhouses, Conservatories, Pits, &c. &c., in great variety; the whole of which is heated by Hot Water in various forms. This has also enabled them to grow at very reduced prices a most extensive collection of Stove and Greenhouse Plants.

THE SEED DEPARTMENT at this Establishment is conducted with the greatest care and attention. Samples of every variety are proved before sent out.

PLANS, ESTIMATES, AND CATALOGUES upon application.

PERUVIAN AND BOLIVIAN GUANO ON SALE,

By THE ONLY IMPORTERS,
ANTONY GIBBS AND SONS, LONDON;
WM. JOSEPH MYERS AND CO., LIVERPOOL;
And by their Agents,
GIBBS, BRIGHT, AND CO., LIVERPOOL and BRISTOL;
COTESWORTH, POWELL, AND PRYOR, LONDON.

To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

THE LONDON MANURE COMPANY beg to offer, on the best terms, Peruvian Guano, warranted genuine, delivered direct from the Importers' warehouses; Superphosphate of Lime, in any quantity; Sulphate of Ammonia, Nitrate of Soda, Sulphuric Acid, fine Bone Sawdust, Gypsum, Potter's Guano, Soda Ash, Petre, Agricultural and Fishery Salt, and every other artificial Manure.

The URATE of the LONDON MANURE COMPANY has now stood the test of seven years, with a largely increasing sale. It is recommended with the greatest confidence for Turnips, Mangold Wurzel, Carrots, and all root crops; also for Coleseed, Tares, Barley, &c. Unlike many other artificial Manures, its effects are not exhausted by the first crop; and when from any cause the crop of Turnips to which it has been used fails, its full fertilising properties remain for the next full crop. Testimonials and full particulars forwarded free. The LONDON MANURE COMPANY most earnestly request their friends to order the Urate direct from themselves, or their accredited Agents, so as to prevent any other article of a totally different manufacture being substituted. EDWARD PURSER, Sec.

No. 40, Bridge-street, Blackfriars.

☞ Sole Manufacturers of Mr. J. C. Nesbit's Chemical Manures.

TURNIP SOWING.

MARK FOTHERGILL, 201*a*, Upper Thames-street, begs to offer the following MANURES for the Turnip Crop, viz.:

GUANO, PERUVIAN, direct from Import Warehouse.
SUPERPHOSPHATE OF LIME, manufactured from Bone only (superior to the cheap qualities made from fossils).
DRIED NIGHT SOIL.
BONE DUST AND HALF-INCH BONE.
SULPHURIC ACID.

Also Soda Ash, wireworm destroyer; pure Gypsum, or Mineral Sulphate of Lime (the rubbish offered cheap contains but little acid, the rest being carbonate of lime and water); Agricultural Salt, Nitrate of Soda, and all other Manures of known value. Prices current on application.

TO FARMERS, GARDENERS, FLORISTS, AND ALL PERSONS CONNECTED WITH AGRICULTURE AND HORTICULTURE IN GENERAL.

PATENT CARBONISED ANIMAL MANURE, in Powder, for which Her Majesty's Royal Letters Patent have been granted.—This Inodorous Animal Manure, or Carbonic Compound, requires only to be tried to be appreciated. By the Patent Process employed in its preparation, unlike any other kind of fertiliser extant, all obnoxious properties, and everything possessing an injurious tendency to vegetable life are removed, the ammonia is fixed, the emission of sulphuretted hydrogen and other subtle gases is prevented, and its fertilising powers increased to an astonishing degree. From its concentrated state, it can be conveyed with the utmost facility to the most remote parts of the Kingdom and Colonies, and but a small proportion is required to produce the desired effects in the enrichment of soil.

As this manure does not possess the burning properties of Guano, it is infinitely preferable for all horticultural pursuits, and the improvement it creates upon plants and flowers is truly wonderful.

Sold, by appointment, wholesale for agricultural purposes, in canvas bags, at the under-mentioned prices; and retailed for small kitchen and other gardens, potted plants, flowers, &c., in tin canisters, at 1*s.*; double-sized ditto, 1*s.* 9*d.*; and treble ditto, 2*s.* 6*d.* each, by H. COLES, Seedsman and Florist, No. 32, Cranbourne-street, Leicester-square, London, where samples of the manure may be seen, its efficacy corroborated by a demonstration of practical results upon grain, &c., and testimonials produced from many who have given it a fair trial.

N.B.—No other sized canisters than the above are used, and only such are GENUINE as have affixed upon the Wrapper of each, a stamp with the Royal Arms, and signature of H. COLE.

RATE OF WHOLESALE PRICES.

When a whole ton is taken at one time	...£8	0	0
Half ton	5	0	0
Five cwt.	3	0	0
One cwt.	1	0	0
Half cwt.	0	15	0
Quarter cwt.	0	10	0

Agents for the city, Messrs. Deane, Dray, and Deane, Agricultural Implement Depôt, No. 3, Arthur-street, London-bridge.

H. COLES also keeps at his Establishment, situated as above, a constant supply, both Wholesale and Retail, of all kinds of Agricultural and Horticultural Seeds, Plants, Dutch and other Bulbs, &c., of which a Catalogue may be had; and will feel greatly obliged by being favoured with the commands of those who may at any time have occasion for such. He also executes, punctually and promptly, orders for all sorts of Implements of Husbandry, and everything connected with the branches of Farming and Gardening.

MESSRS. NESBIT'S CHEMICAL AND AGRICULTURAL SCHOOL, 38, Kennington-lane, London.—A sound practical knowledge of Analytical and Agricultural Chemistry, Geology, Surveying, Levelling, Railway Engineering, &c., may be obtained in Messrs. NESBIT'S Academy, in addition to a good modern education.

Mr. NESBIT'S works on Arithmetic, Mensuration, Gauging, Land Surveying, English Parsing, &c., are published by LONGMAN and Co., and may be had of all Booksellers.

The terms of the School can be had on application either personally or by letter.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

MYATT'S NEW FERTILISED HAUTBOIS. Patronised by His Royal Highness Prince Albert.—On the 23d of June some fruit of this variety were sent by Messrs. Myatt to Buckingham Palace, and on the same day the following gratifying testimonial was received from His Royal Highness:

"Sir,—I have received the commands of His Royal Highness Prince Albert to return you His Royal Highness's thanks for the excellent Strawberries which you were good enough to send. None finer, or of better flavour, have appeared at Her Majesty's table. His Royal Highness has commanded me to forward to you the accompanying Silver Medal, as a token of His Royal Highness's appreciation of your skill in growing fruit of so excellent a quality.

"I am, Sir, your obedient Servant, C. B. Phipps."

Messrs. J. Myatt have now strong Runners of this and the following varieties, at the annexed prices: Myatt's Fertilised Hautbois, 25s. per 100; Eleanor, 21s.; Globe, 7s. 6d.; Mammoth, 7s. 6d.; Queen, 3s. 6d.; Pelvebin's Princess Royal and Comte de Paris, 25s.; Black Prince, 20s.; La Lingeoise, 10s. 6d.; Aberdeen Beehive, 10s. 6d.; and Hooper's Seedling, 5s.

The usual Trade allowance.

Post-office Orders made payable to Joseph Myatt, Deptford.

Manor Farm, Deptford, August 12.

The Gardeners' Chronicle.

SATURDAY, AUGUST 12, 1848.

No question, except the Potato disease, occupies just now so much attention as that of Sheet Glass, and its fitness for Horticultural purposes. Our columns have contained letters from various persons conveying the most opposite evidence, one class of writers maintaining that sheet glass burns the leaves of their plants, and others as positively asserting that no such effect is produced within their experience. In some cases the word scorching is substituted for burning.

That appearances resembling what would be produced by a burning lens do occur in houses glazed with sheet glass, is known to all who have ever had the management of such structures; but it did not necessarily follow that the appearances in question were owing to any action of the glass itself; and still more open to objection was the opinion that the burning was caused by some ingredient employed in the preparation of the glass. It was conceivable that a general scorching might be caused in the latter instance, but not that mere local injuries should thus be effected. Those persons who referred the burning to some direct local influence of the glass itself, assumed that blisters or specks in the panes were at the bottom of the mischief; but when they were called upon to point out such specks and blisters they could never find them; or if they could the burnt leaves were always so far out of focus that the blisters could evidently have no connection with them.

We have of course resisted this kind of argument. It was absurd to say that there is something in sheet glass which burns leaves, and not in crown glass; for they are both made of the very same ingredients, and crown glass will also burn like sheet glass. We have also had such personal experience of sheet glass houses as satisfied us that the supposed explanations of the cause of burning were worthless, even if the burning were traceable to the glass, which there was great reason to doubt. In consequence, however, of Mr. Mitchell (p. 381) having measured the temperature of the luminous spaces formed by his sheet glass roof, and found the heat of such spaces adequate to produce the effect assigned to them, and in consequence of our having lately witnessed the most incontestable burning produced on leaves beneath sheet-glass, we have made further inquiries, and having considered the subject more carefully, we are bound to declare that sheet glass not only does burn leaves, but that it must do so, and that the manufacturer is unable to prevent it. It burns, however, in different degrees, according to its quality, some samples producing effects of little practical importance, while others are seriously injurious to the plants which they act upon.

We are now able to state in what way this happens. It arises from the peculiar mode in which sheet glass is manufactured. When sheet glass is made, the first operation is to form a cylinder, which is afterwards slit on one side, and spread into a flat sheet. Now if we assume a cylinder of 26 oz. glass, to have its sides ⅛ of an inch thick, *the inner circumference will be ⅛ of an inch less than the outer.* But when the cylinder is spread into a flat sheet, the two surfaces become of equal width, the glass adjusting itself by the expansion of the inner or smaller surface, and by the contraction of the outer or larger surface. In this operation are formed what the manufacturers call "cockles," producing that uneven puckered appearance which is the peculiar characteristic of sheet glass; of these cockles some are circular and form lenses of considerable power. This is shown by the accompanying representation of the appearance of a piece of sheet-glass, *picked as free from cockle as possible,* and ground on a perfectly true plate of iron. The shaded parts represent hollows in the glass, the white parts show cavities which have been ground away. At the places marked A, were lenses capable of all the mischief assigned to them, and others will be easily made out.

If such is the fact with the best sheet glass that can be selected, the reader may form his own conclusions as to the condition of common or inferior samples. The convexities in question are not visible in the glass when seen against the light, but are discoverable by looking at it sideway when a bright sun strikes it obliquely. It is, nevertheless, impracticable to pick it over so as to exclude the panes in which very powerful lenses exist; it is, therefore, evident that great risk must attend its use. The reason why in some places it burns, and in others does not, now also becomes evident; all depends upon whether leaves come within the foci of the lenses, or whether such lenses exist in the squares. Some squares have lenses, others have not.

Such being the facts respecting sheet glass, it still remains a question what glass it may be most advantageous to employ. Formerly crown was employed exclusively; but, under the protection of the Excise it was so bad and thin as to be quite unfit for garden purposes, even in the absence of hailstorms. It has, however, the advantage of being made in a manner which prevents the formation of lenses, except accidentally, and it may be manufactured equal to sheet glass in strength, and far superior in appearance. We learn from the manufacturers that it can be supplied in squares 9 inches wide, and from 20 to 22 inches long, which is quite large enough for all useful purposes; and this, of the finest quality, flattened, and 12 oz. to the foot, may be bought at from 3½*d.* to 4*d.* a foot. It is, however, too thin for roofs; or we should say for any gardening purposes. Crown glass may, however, be much heavier. We have now before us a sample of 18 oz. flattened crown glass, manufactured by Messrs. Hartley (of Sunderland, and 43, Upper Thames-street, London), a beautiful clear strong article, far stronger than 16 oz. sheet, which may be had at from 4½*d.* to 5½*d.* a foot; glass of this kind must entirely supersede sheet glass in gardens where great clearness is required.

But we incline to the belief that no glass has ever been made which is so well adapted for hothouse roofs as the "patent rough plate" manufactured by Mr. Hartley. This glass is prepared by rolling, which destroys transparency without diminishing translucency: it is slightly rough on the surface, which has the important effect of dispersing the sun's rays instead of concentrating them. The roughness, however, renders it disagreeable to the eye; and would make it objectionable for the purposes of vinery roofs. It renders a grape appear as in the dark, and we do not expect that it will intercept the maximum amount of light to water, we believe, rather, that best plate through it as freely, though not so directly, as through transparent glass. The mere fact of its rendering a vinery dark is the worst of a gardener's objections, and we only give the "patent rough plate" a good word on our eye. The glass weighs 26 oz. to the foot at present, and may be had at from 6*d.* to 7*d.* a foot. Those who are building greenhouses now will do well to procure it for their roofs, even for very early forcing-houses; for such purposes we are not quite satisfied of its fitness, but we have an experiment with it in progress, which will test the question fully.

Our anticipations are in rapid progress towards realization. The Potato Disease is certainly becoming more and more formidable, but it is by no means clear that 1848 will be a worse year than 1845. It is to be remembered that in 1845 we had scarcely heard of it at the period by which, in the present season, so much mischief has already occurred. According to some we are alarmists; others imagine us to have interested motives; and both are right. It is our duty to alarm the public when we have good ground for knowing that cause for alarm exists; and we are interested in taking care that our columns should be the medium for the most accurate information. Forewarned is forearmed; and in such an important question as that of food we are never forewarned an hour too soon.

The blight is spreading, and with steady speed. Growers are still comforting themselves with the fact that the Potatoes themselves are sound, although their stems and leaves are taking them. But will they remain so? In order to assist in the solution of that problem, we produce the following statement. In the garden of the Horticultural Society all was flattering to the careless observer long after the blight had become common. At last it appeared there also, and it has gone on spreading from variety to variety, till every kind presents some appearance of its presence, though in some places very little. The Potatoes have been examined with the following result.

	Loss.
Jersey Blues; last attacked	None.
Cormack's Kidney; third attacked ...	1 in 10
Cruickshank's Seedling; second attacked	4 in 20, or ⅕.
Burgess's Prolific; first attacked	12 in 20, or ⅗.

So that although those which have only just come under the visitation are apparently sound, the loss among those attacked only a fortnight since is already a third. Can we suppose that this is contrary to the general fact? Would that we could think so.

We have heard of cases of 8 bushels bad in 11; and of other instances of excessive loss: as at Slindon, near Arundel, where, out of 12 bushels of Ash-leaved Kidneys and others, apparently quite sound when stowed away, 10 bushels were in three weeks found to be completely spoiled, and were thrown away. On the other hand we know that crops have been carried to market with not one diseased Potato in a hundred. No doubt extreme cases will continue to occur; whether of loss or failure can only be decided by time; all we can say is that appearances are extremely unsatisfactory. It is evident now, as formerly, that those Potatoes only can be considered safe which have attained a certain degree of maturity.

What progress the evil has made in Prussia, Hanover, Holland, Belgium, and North France, in all which countries the disease has appeared, we have not as yet been informed. In Hanover, on the 27th of July, the blight was extensive; but the tubers unaffected. It broke out at Ghent on Monday, July 31, after a violent storm, and torrents of rain, from the south-west. By Wednesday the leaves and stems were black and as "brittle as glass;" but no Botrytis was visible, nor were the Potatoes themselves touched. In Jersey, Mr. Childers states (Aug 3) that about one-tenth is diseased; the crop planted in March is more free from taint than that of April; the crop below the average.

We have not a word of consolation from the south or middle of England. In *Lincolnshire* about one-eighth is supposed to be affected, and the late kinds are expected to be a very bad crop (T. Atkins); one-fifth to one-seventh of the early sorts diseased, some of the second planting going fast, the late planted looking well (John Clarke). In *Kent* the account is deplorable; especially about Feet's-cray. In *Sussex*, about Cuckfield, the Potatoes are much injured; the later planted in rapid progress of decay: the only exception being in the Potatoes planted in October (Edward Vizard). From *Surrey*, *Northampton*, *Oxford*, and *Hants*, the reports are of the same character. In *Herts*, near Barnet, Watford, Richmansworth, Chenies, Hemel Hempstead, and all the surrounding

districts, blight has made extraordinary progress. Our correspondent from Chipperfield strongly recommends that the haulm be pulled up, and the Potatoes left in the ground till October. He assures us that a neighbour who adopted the plan in former seasons did not lose more than 1 bushel in 60. In *Suffolk*, near Bury St. Edmund's, although extensive, it is by no means universal, nor so severe as in 1846. We have printed elsewhere Dr. Eagle's letter on the subject. In *Cheshire*, disease is extending, and is increasing the number of tainted Potatoes. Mr. Owen, of Baddeley, near Nantwich, finds that "each day the effects are more manifest and extending."

In Wales much havoc is described as having been committed upon both early and late sorts near Wrexham. Near Abergavenny, Mr. Walbridge finds two-thirds of the early Potatoes diseased more or less, but not without an exception. Late Potatoes were unaffected July 31, and promised an average crop.

In these returns the correctness of our opinion that luxuriance is much connected with the disease is very generally, though not always, admitted. We shall return to that point hereafter.

Scotland is no longer exempt. Blight is extending fast at Newhall, near Penicuick, in the co. of Edinburgh, according to Mr. Cribbes, but the tubers are not affected. It has also appeared in the garden of Ravelstone House, 10 miles from Edinburgh; otherwise there are no serious complaints, but we grieve to announce its undoubted appearance in the Shetlands. Mr. Frazer, itinerating relief officer, who is an experienced and skilful Roxburghshire agriculturist, in a letter dated the 28th inst., reports that "the Potato rot has commenced in several places in Dunropness, more particularly in the glebe, where a space of 10 or 12 yards square is completely blackened; the shaws are quite black and brittle, breaking as if they were burned clay. I observed it also in Lunnasting, and from what I hear of the symptoms I fear it is manifesting itself in Yell and Delting."

And now for Ireland, of whose state the following brief extracts will give some idea. *Cork:* One writer says alarm is subsiding, and he attributes the reports to interested motives! (Aug. 2.) A belief exists in the south that the leaves only are affected, and that warm weather will restore them (Aug. 5). Said not to be on the increase near Skibbereen; blight general near Schull and Kilcor, and earlies tainted; nevertheless, if the disease does not increase, will be a fair crop (Aug. 3). Change for the worse near Bantry; more complaints of rotten Potatoes, new shoots thrown out in the late gardens are again attacked and cut down (July 29). Not an instance of the Potato being affected (Macroom, July 30). Much danger; much blight; little injury to the root (Fermoy, July 29). Potatoes getting black; disease making rapid progress (Skibbereen, Aug. 5).—*Kerry:* Not so much ground for alarm as was feared; Potatoes large and fine, with very few tainted; fields are recovering near Kenmare (July 25). Certainly more healthy and promising than eight days ago; the field *first attacked is the worst*; at least seven-eighths of the Potatoes, of nearly full size, are there diseased (July 26). Alarm subsiding (July 30). Fields in much the same state as in 1846; tubers as yet sound (Cahirciveen, July 29). Similar statements from Dingle (July 28). No change for the worse; disease no-where to a ruinous extent (Listowel, July 29).—*Waterford:* No disease, or very little; crop very considerable (Clonmel, July 29). Crop very fine; disease trifling, not worth mentioning (Lismore, July 29). *Limerick:* Thus far there may not be any serious loss between Limerick and Ennistymon; does not present the same appearance of disease as the early crop about Limerick (July 29). —*Tipperary:* Partially attacked; the earlies only have as yet suffered (Nenagh, July 29). Blight in many instances—local; root not attacked (Cashel, July 28).—*Wexford:* Has appeared; is local; confined to fields approaching maturity (Newross, July 29).—*Clare:* Fears diminishing; blackening of leaves not extended; plants recovering (Ennis, July 29). Blight in many places, but not aggravated; general condition promising; Potatoes from diseased fields more watery than usual (Scariff, July 29). Some fields free, others destroyed; the blight progressing steadily; some fields which looked best 10 days ago are now hopelessly blighted (Kilkee, July 29). Failure at present only partial, but an uneasy feeling; many digging and bringing to market (Kilrush, July 29).—*Queen's County:* General appearance very promising. Partial failures; a little disease (Roscrea, July 29).—*Galway:* State of the crop about Clifden deplorable; blight has appeared to a most alarming extent in almost every part of Connamara (July 25). Has been wonderfully rapid; smell peculiarly offensive. Potatoes of early growth so far not much damaged; as the disease is progressing hourly, there is no hope of the late sorts (July 29); tubers are attacked (Aug. 1.) Other letters from the same district entirely confirm the statement. One writer describes the Potatoes as no larger than Plums, watery, and having made no progress since the blight seized them. "Those," he adds, "who discountenanced the sowing Potatoes were right." This is from the Ballindoon district. Disease progresses; apparent recoveries again blighted; in one place a good crop quite gone (Tuam, July 29). Has spread considerably; a few tubers of moderate size brought in from a blighted field "became a putrid mass in a few days" (Galway, July 29). Injured to some extent; accounts conflicting; general appearance most favourable; many small growers say that their Potatoes are spotted (Gort, no date). Much blight; disease in the tubers as yet rare (Ballinasloe, July 29).—*Dublin:* Marks of disease; tubers everywhere sound (July 30). No substantial proof of the disease of 1846 (July 31).—*Meath:* Much disease; Potatoes spotted; on the increase (Kells, July 30). Has increased; some Potatoes as bad as in 1846; if the weather does not improve, it is to be feared that in some places the crop will be entirely lost (Oldcastle, July 29). Disease no doubt very general; tubers sound (Dunshaughlin, July 29).—*Longford:* Crop has not yet suffered; disease in few places, and the general appearance promising (Longford, July 29). Partial in some places; in one field near Granard general, the stems and leaves all blackened, tubers with a black streak (Granard, July 29).—*Roscommon:* Report on the whole unfavourable; more general in Boyle than near Carrick-on-Shannon. Where the blight is most extensive not more than one tuber in 200 affected (Boyle, July 29). Disease makes no progress; crop not materially injured (Roscommon, July 29).—*Mayo:* Crop promises well; some symptoms of disease (Swineford, July 29). Accounts very discouraging; as yet the root is not affected (Westport, July 29). Spreading; in some instances Potatoes diseased (Belmullet, July 29). General appearance promising; some recovery witnessed; some disease; alarm not well grounded; peculiarly severe in richest and most highly cultivated soil (Ballina, July 29).—*Cavan:* Has broken out in several places, and is progressing (Cavan, July 29).—*Sligo:* Not by any means general (July 29). Little disease up to Donegal; partial round Sligo, and reported to be making progress towards the cold region of Killibegs (Aug. 5).—*Leitrim:* Is extending in gardens. Most healthy and flourishing (Manor-hamilton, July 29). Shrivelling and blackening apparent in many places; tubers slightly or not at all affected (Mohill, July 29).—*Down:* In the mountainous land has appeared; much alarm; a total failure anticipated; bad on boggy land (Newcastle, July 20). Weather mild; accounts very cheering (Newcastle, July 29).—*Tyrone:* Has reappeared; instances at present rare; early and late both affected (Cookstown, July 29).—*Donegal:* Every appearance of an abundant crop. Blight has made its appearance in many places in a mild form; but the tubers sound (Glenties, July 29). Little or nothing at present; tubers barely formed (Rathmullan, July 29). Advancing here and there (Donegal, no date). Very partial, generally in exposed places: early crops look well; no complaints: "I do not like the look of the late crop;" yellow and weak (Donegal, July 29).—*Londonderry:* Thousands of acres not blighted; does not spread where it exists; 10 times the usual quantity planted, and a month earlier (Kilrea, July 27).

CAPE HEATHS.—No. XII.

The great desideratum in horticulture, the solicitude alike of those whose means are the most ample, as well as of those whose appliances are of the most limited description, is to procure succession. To enable lovers of Heaths who possess perhaps nothing more roomy than a three-light pit to winter them in to enjoy their beautiful blossoms the greater part of the year, I will subjoin a short list of what will, I imagine, prove a desirable little collection to a person so situated. If they are preserved in good health he will be gratified by the possession of a Heath in bloom at least eight months out of the twelve. To enable him to procure this, he should possess the following:

Glandulosa	Pyramidalis vernalis
Verticillata nova	Vernix
Costata	Mirabilis
Propendens	Aristata major
Willmorei	Bowieana
Ovata	Gemmifera
Campanulata	Cavendishii
Bergiana	Ventricosa superba
Infundibuliformis	Cerinthoides superba
Retorta	Hendersonii

These are not named as being wholly superior to others which might be selected to answer the same purpose, but they will form a succession, and the varieties are all good. In flowers, as in everything else, tastes vary, and no standard for its guidance, in matters like the present, will ever be fixed upon. In the foregoing list I would especially recommend E. infundibuliformis as an ornamental Heath of the first class.

As this will close the present series of papers on Cape Heaths, I shall, without apology, recapitulate a few particulars commented on in former papers, introducing a few observations not then alluded to perhaps. In potting, a little leaf-mould is an excellent addition to the soil, however full of vegetable *debris* it may be. When such is mixed with soil, it does not in one season entirely decompose, thereby rendering the ball of earth friable, and the mass of roots more easily disentangled when repotting takes place. When soil, in which fine-rooted plants are potted, is composed of too great a portion of insoluble and indecomposible matter, it acquires during a season a degree of solidity at once prejudicial to the free access of atmospheric influences and to the proper performance of the operation of repotting, often a critical period in the life of a Heath. If possible, never allow one to become pot-bound. In repotting a plant in such a condition, the most skilful and careful operator cannot calculate on the result with certainty. As to watering, be very particular; use soft water if possible; if such cannot be procured, that which has been subjected to solar and atmospheric influence is a good substitute. I should have observed before that it, from any circumstance, cuttings are deferred till too late in the season to ensure their rooting if you can keep them in a cool place during the winter in a healthy green state, the application of a gentle bottom heat in February will insure the production of roots to many of them.

Before concluding, I must beg to offer a word or two of advice to those lady gardeners who exhibit the laudable *penchant* of having their plants placed in living rooms, the better to enjoy their beauty. To many plants such treatment for a week or two is no disadvantage, to others very little damage is the result; but not so with the Heath. Never allow a Heath to stay in the atmosphere of a sitting-room more than 24 hours at any one time, and even that period should not be of frequent occurrence to the same plant. There is no plant suffers so much, in so short a time, as does a Heath, if subjected to deficient light and air. Etiolation is the first symptom; this induces a weakliness of constitution consequent on a retarded respiration, the whole system of the plant becomes enervated, and its foliage either drops off where it is, or the plant becomes a dry stick on exposure to the full action of its natural situation. How many plants have fallen victims to such treatment! I have seen plants brought from such situations completely dead, when their fair owners have had no suspicion of such being the case. The Heath in dying parts with its natural colours so slowly that often an unpractised eye will not detect it in the partial light of a room. Another cause which hastens their death is this, water is withheld. The fair admirer will tell her gardener when a plant is placed in her room, that as it is an especial favourite, he need not trouble himself to look at it, as she is fond of attending to plants, and will supply its wants. Alas! poor plant. The multifarious engagements in balls, parties, crochet, and tambour, with the thousand unmentionable female occupations, leave but a sorry quantum of attention for the poor Heath. Therefore, ladies, if you must enjoy your plants in-doors, keep them there but a short time together, and, as a precautionary measure, be sure to allow your gardeners the full charge of their welfare.

But to conclude, whoever would excel in Heath cultivation, must calculate on many disappointments to their fondest hopes. It is not in the nature of human operations to meet invariably success. Difficulties not previously calculated on, results which in theory seemed inevitable, losses which the greatest amount of attention and forethought cannot evade, will meet you oftener, much oftener than is agreeable. Patient attention, and a persevering assiduity, however much adverse circumstances may combine, will bring you an ample reward. A Heath, of all plants, is the most susceptible of neglect. If you pot a Pelargonium or a Fuchsia, and stick it on a stage, and water it to-day, neglect it to-morrow, the day after you will probably recollect it, and find it in the last stage of drought. If you give it a little attention, it will revive and endure the same treatment to-morrow, and withal gratify you with its blossoms. But with Heaths an hour's neglect is fatal. You must turn lover to the letter, and be attentive, assiduous, and constant. These three combined in the pursuit of any one object must in the very nature of things carry much success in their train.

In the preceding articles I have endeavoured to point out what I consider a tolerably successful mode of treatment for a general collection of Heaths. I am far from imposing my opinions, but, on the contrary, shall be happy to learn from abler and more successful growers, through the same medium. I have not undertaken the task from a conviction of superiority, but from the fact that writers are, with few exceptions, silent on the matter, from what cause I cannot conjecture. With the hope that some able cultivator will offer his experience, I conclude, indulging the laudable hope that I have not laboured in vain; *G.*

BEES.

In reference to page 453, I send you a copy of the subject relating to bees, which is transcribed from an old work, intituled "A New Orchard and Garden, with the Country Housewife's Garden, &c.; as also the Husbandry of Bees, with their several uses and annoyances all being the experience of 48 years' labour, and now the second time corrected and much enlarged. By William Lawson." Black letter; 1623. The first edition appears to have been written in 1597. See page 1263 in Loudon's "Encyclopædia of Gardening."

Lawson commences the subject of bees at page 56 in his "Orchard" thus: "I could highly commend your orchard, if, either through it, or hard by it, there should run a pleasant river with silver streams; you might sit in your mount and angle a speckled trout, or slightly eel, or some other fish: or moats whereon you might row with a boat and fish with nets." And then he continues: "Stores of bees in a dry and warm bee-house comely made of Fir boards, to sing, and sit, and feed upon your flowers and sprouts, make a pleasant noise and sight. For cleanly and innocent bees, of all other things, love and become, and thrive in an orchard."

If they thrive, as they must needs, if your gardener be skilful and love them—for they love their friend and hate none but their enemies—they will, besides the pleasure, yield great profit, to pay him his wages. Yea the increase of 20 stocks or stools, with other fees, will keep your orchard. You need not doubt their sting, for they hurt not whom they know, and they know their keeper and acquaintance. If you like not to come amongst them, you need not doubt them; for, but near their store, and in their own defence, they will pi

fight, and in that case only (and who can blame them?) they are manly, and fight desperately. Some, as the hon. lady at Hacknes, used to make seats for them in the stone wall of their orchard or garden, which is good, but wood is better. (Many persons suppose that those recesses often found at the present day in monastic garden walls were originally intended for bee-hives.)

The Husbandry of Bees is thus contained in Chapter X. of the "Housewife's Garden," page 17, by the said W. Lawson: "There remaineth one necessary thing to be prescribed, which in my opinion makes as much for ornament, as either flowers, &c., and I am sure as commodious as any of, or all the rest, which is—bees, well ordered; and I will not account her and of my good housewives that wanteth either bees or skilfulness about them; and though I know some have written well and truly, and others more plentifully upon this theme, yet somewhat have I learned by experience (being a bee master myself) which hitherto I cannot find put in writing, for which I think our housewives will count themselves beholding unto me.

The first thing that a gardener about bees must be careful for is a house, not stakes and stones abroad, *sub dio*; for stakes rot and reel, rain and weather eat your hives and covers, and cold, most of all is hurtful for your bees. Therefore you must have a house made along a sure dry wall in your garden, near or in your orchard; for bees love flowers and woods with all their hearts. (At this part is represented in the original a shed forming two sides of a square, divided into six compartments, each containing three conical or sugarloaf-shaped beehives, and thus described): "This is the form—a frame standing on posts with a floor; if you would have it hold more hives, two floors, boarded, laid on bearers and back posts, covered over with boards slatewise. Let the floors be without holes or clefts, lest in casting time the bees lie out and loiter. And though your hives stand within a hand's breadth of one another, yet will bees know their own home. In this frame may your bees stand dry and warm, especially if you make doors, like doors of windows, to shroud them in winter as in a house, provided you leave the hive's mouths open. I myself have devised such a house, and I find that it keeps and strengthens my bees much, and my hives will last six to one."

M. Markam commends hives of wood; I discommend them not; but straw hives are in use with us, and I think with all the world, which I commend for nimbleness, closeness, warmness, and dryness. (The word nimbleness here apparently implies lightness). Bees have no external motions of daubing, or such like. Sometimes occasions shall be offered to lift and turn hives, as shall appear hereafter. One light, entire hive of straw in that case is better than one that is daubed, weighty, and cumbersome. I wish every hive for a keeping swarm to hold three pecks at least in measure; for too little hives procure bees, in casting time, either to lie out and loiter, or else to cast before they be ripe and strong, and so make weak swarms and untimely; whereas if they have room sufficient they ripen timely; and casting seasonably, are strong, and fit for labour presently. Neither should the hive be too great, for they loiter and waste meat and time. Your bees delight in wood for feeding, especially for casting, therefore want not an orchard.

A May swarm is worth a mare's foal. If they want wood they be in danger of flying away. Any time before Midsummer is good for casting; and timely, before July, is not evil. I much like M. Markam's opinion for hiving a swarm in combs of a dead or forsaken hive, so they be fresh and cleanly. To think that a swarm of your own, or others, will of itself come into such a hive is a meer conceit—*experto crede Roberto*. This smearing with honey is to no purpose, for the other bees will eat it up. If your swarm knit in the top of a tree, if the wind beat them not to fall down, let the stool or ladder (described in the "Orchard") do you service.

The less your spelks (cross sticks) are, the less is the waste of your honey, and the more easily will they draw, when you take your bees. Four spelks athwart, and one top spelk are sufficient. The bees will fasten their combs to the hive. A little honey is good, but if you want, Fennel will serve to rub your hive withal. The hive being dressed and ready spelked and rubbed, and a hole made for their passage—I use no hole in the hive, but a piece of wood "heeled," to save the hive and keep out mice—shake in your bees, or the most of them, for all commonly you cannot get; the remainder will follow. Many use smoke, nettles, &c., which I utterly dislike, for bees love not to be molested. Ringing in time of casting is a mere fancy. Violent handling is simply evil, because bees, of all other creatures, love cleanliness and peace, therefore handle them leisurely and quietly; and their keeper, whom they know, may do with them what he will, without hurt. Being hived, at night bring them to their seat. Set your hives, all of one year, together.

Signs of breeding, if they be strong: 1. They will avoid dead young bees and drones; 2. They will sweat in the morning till it run from them—always when they be strong.

Signs of casting: 1. They will fly drones, by reason of heat; 2. The young swarm will once or twice in some fair season come forth, mustering, as though they would cast, to prove themselves, and then go in again; 3. The night before they cast, if you lay your ear to the hive's mouth, you shall hear two or three, but especially one above the rest, cry Up, up, up, or tout, tout, tout, like a trumpet sounding the alarm to battle. Much descanting there is of and about the master bee, and their degrees, order, and government; but the truth in this point is rather imagined than demonstrated. There are some conjectures of it, viz., we see in the combs divers greater houses than the rest, and we hear commonly the night before they cast, sometimes one bee, sometimes two or more bees give a loud and several sound from the rest, and sometimes bees of greater bodies than the common sort; but what of all this? I lean not on conjectures, but love to set down that I know to be true, and leave these things to them that divine. Keep none weak, for it is hazard, oftentimes with loss. Feeding will not help them; for being weak, they cannot come down to meat, or if they come down they die, because bees weak cannot abide cold. If none of these, yet will the other bees, being strong, smell the honey, and come and spoil and kill them. Some help is in casting time, to put two weak swarms together; or as M. Markam well saith: "Let them not cast late, by raising them with wood or stone, but with imps, say I." An imp is three or four wreaths, wrought as the hive, the same compass, to raise the hive withall: but by experience in trial, I have found out a better way, by clustering, for late or weak swarms, hitherto not found out of any that I know. That is this: after casting time (if I have any stock proud, and hindered from timely casting with former winter's poverty, or evil weather in casting time), with two handles or crooks fitted for the purpose. I turn up that stock so pestered with bees, and set it on the crown, upon which, so turned with the mouth upward, I place another empty hive, well-drest and spelked, into which, without any labour, the swarm that would not depart and cast will presently ascend; because the old bees have this quality, as all other breeding creatures have, to expel their young when they have brought them up. There will the swarm build as kindly as if they had of themselves been cast; but be sure you lay betwixt the hives some straight and cleanly stick or sticks, or rather a board with holes, to keep them asunder; otherwise they will join their works together so fast that they cannot be parted. If you so keep them asunder, at Michaeltide, if you like the weight of your swarm (for the goodness of swarms is tried by weight), so catched, you may set it by for a stock to keep. Take heed, in any case, the combs be not broken; for then the other bees will smell the honey and spoil them. This have I tried to be very profitable for the saving of bees. (The instrument for turning the hives is here represented by a woodcut in the original, and bears some resemblance to the iron hooks or handles by which men move large hop-bags when they draw them in or turn them in their warehouses.) Two men, with two of these fastened to the hive, will easily turn it up."

Bees gather not till July; for then they be discharged of their young, or else they are become strong to labour; and now the sap in flowers is strong and proud, by reason of time and force of sun. And now also, in the north, and not before, the herbs of greatest vigour put forth their flowers; as Beans, Fennel, Burrage, Rape, &c. The most seasonable weather for them is heat and drought, because the new bee can neither abide cold or wet; and showers, which they well foresee, do interrupt their labours, unless they fall in the night, and so they further them.

After casting time, you shall benefit your stocks much, if you help them to kill their drones, which, by all probability and judgment, are an idle kind of bees, and wasteful. Some say they breed, and have seen young drones in taking their honey, which, I know, is true. But I am of opinion that there are also bees which have lost their stings, and so, being deficient, become idle and great. There is great use of them: "*Deus et Natura nihil fecit frustra*:" "For God in all Nature hath made nothing in vain." They heat the bees and cause them to cast the sooner. They never come forth but when they be overheated. They never come home laden. After casting time, and when the bees want meat, you shall see the labouring bees fasten on them, two, three, or four at once, as if they were thieves to be led to the gallows; and killing them, they cast out and draw them far from home, as hateful enemies. Our housewife, if she be the keeper of her own bees, as she need to be, may with her bare hand, in the heat of the day, safely destroy them in the hive's mouth. Some use, towards night, in a hot day, to set before the mouth of the hive a thin board, with little holes, in at which the lesser bees may enter, but not the drones, so that you may kill them at your pleasure.

Snails spoil bees by night, like thieves; they come so quietly, and are so fast, that the bees fear them not. Look early and late, especially in a rainy or dewy evening or morning. Mice are no less hurtful, and the rather to hives of straw; and therefore coverings of straw draw them. They will get in either at the mouth, or "sheer" themselves a hole. The remedy is, good cats, rat's bane, and watching. The cleanly bee hateth smoke as poison; therefore let your bees stand nearer the garden than your brewhouse or kitchen. Swallows and sparrows, they say, are enemies to bees: but I see it not.

More hives perish by winter's cold than by all other hurts; for the bee is tender and nice, and only lives in warm weather, and dies in cold; and therefore let my housewife be persuaded that a warm dry house before described is the chiefest help she can make her bees against this and many more mischiefs. Many use against cold in winter to stop up their hive close, and some set them in houses, persuading themselves that thereby they relieve their bees. First, tossing and moving is hurtful; secondly, in houses, going, knocking, and making is noisome; thirdly, too much heat in a house is unnatural for them; but, lastly and especially, bees cannot abide to be stopped close up. For at every warm season of the sun they revive, and bring, eat; and eating, must needs renew herself, but this the cleanly bee will not do. Therefore impound not your bee, so profitable and so free a creature.

Let none stand above three years, else the combs will be black and hoary; your honey will be thin and unchearly; and if any case after three years, it is such as have swarms, and old bees kept altogether, which is great loss. Smoking with rags, rosin, or brimstone many use; some use drowning in a tub of cold water, and the water wen brewed will be good betimes. Draw out your spelks now and by with a pair of pincers, lest the wood grow soft and warp, and so will not be drawn, then must you cut your hive.

Let no fire come near your honey, for fire softeneth the wax and drosseth, and makes them run with honey. Heat softeneth wax enough, and hasteneth honey for sale. Break your combs small, when the dead empty combs are parted from the laden combs, into a sieve, horse over a great bowl or vessel, with two staves, and so let it run two or three days. The sooner you turn it up the better it will be. Run your warm honey by itself, and that shall be your best. The older your hives are, the worse is your honey. Honey vessels are of clay; but after wood, be satisfied with honey, for it will leak at first, for honey is marvellous searching. I use it rather because it will not break so soon with rats, frosts, or otherwise, and greater vessels of clay will hardly last. When you use your honey, take off with a spoon the skin which it hath put up. And it is worth the regard, that bees thrive well, a you have but 40 acres, shall yield you more commodity clearly than 140 acres of good ground. And thus much may suffice to make good housewives love and have good gardens and bees. Finis. *Deo laus*; *Apiarius*.

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

THE POTATO CROP.—After allowing Hope to tell a flattering tale for some weeks, respecting the safety of the Potato crop, and the probably partial character of the bad rumours respecting it, I am compelled to be an eye-witness of the ravages of the disease in my own grounds, to an extent quite equal to, if not beyond, that of any former years. The plague-spot appeared first in a piece of Pink-eyed Kidneys, which one day was the picture of healthfulness, and the next began to exhibit signs of decay. The first intimation I had was a disgusting odour; this was accompanied by blotches of dark brown on the leaves, and in two days the whole mass of foliage was destroyed. I immediately had the crop taken up, and, for the season, the tubers were very far advanced to perfection; they had attained their full size, and only showed their want of maturity by the tenderness of the skin. From former experience with this variety, I believe that immediate digging up is the only way to prevent the Potatoes decaying; for one year when I left them in the ground until September, there was positively nothing to dig. I have also found that Potatoes not quite ripe will nevertheless keep very well. These Pink-eyes were very much spotted, and many of them will be unfit for use.

As I knew this variety was peculiarly susceptible of the attacks of the distemper, I hoped that other kinds would make up by their success for the failure of these. Another plot of the same sort, but less exposed to the air, went about a fortnight after the others. Then a piece of a later Kidney than the Ash-leaved was taken up, and the tubers were found partially infected. The crop was large, and the finest Potatoes were the greatest sufferers. The foliage of this kind had exhibited no signs of infection, having turned yellow in the ordinary way. This renders the spotted character of the roots more extraordinary, as it has generally been found that when the leaves and stems were safe the tubers were sound. The soil in both the above cases was very rich, although no manure had been used in planting: but the preceding crop was Broccoli, on which much dung had been bestowed.

My expectations now rested on my Ash-leaved Kidneys, of which I have a large space planted, having put in about 8 bushels of small seed. Some planted in October and November were used six weeks back, and were quite sound. Indeed I entertained no apprehensions of any of these being attacked, having found they escaped entirely in former years. My surprise and vexation were consequently great on discovering that a large plot taken up yesterday was very bad indeed. Almost every tuber was bad, and they are only available for cooking by being used at once, and having the infected portion cut out. The soil in which these were grown was highly manured and to this I attribute the virulence of the disease. How the others will turn out I cannot yet tell, but hope, as the soil is poorer, the crop will be more healthy. Should any other phenomena worthy of record be developed, I will communicate them.

The advice I give to amateurs is to take up their Potatoes as soon as the foliage exhibits symptoms of sickness, and even when this is not the case, to err on the side of being too soon than too late. Should early removal be productive of decay, even then there will be the compensation of a crop of Turnips, which will do well if sown now: *H. B.*

Home Correspondence.

Potato Disease.—As you ask for facts, I beg to state that, though the disease has made its appearance in this

neighbourhood very extensively, it is not, at present, by any means universal, and its virulence is undoubtedly much abated, in comparison with 1846. Potatoes of very good quality were consequently abundant in our market to-day at very reasonable prices. At the same time, I cannot avoid adding my testimony to the efficacy of pulling off the stems as soon as the disease has made its appearance. I recommended this course of proceeding in 1846, and am glad to find that its adoption is now becoming very general. I do not mean to say that it will turn a diseased Potato into a sound one, but I have no hesitation in saying that, if adopted before the disease has travelled down beyond the stem, this process will prevent its reaching the tubers, and that, if it should even have reached some of them, it will prevent its extension to the rest. Having adopted this course as a practical result of having satisfied myself (before I was aware of Mr. Berkeley's opinion upon the subject), that the disease is caused by what has been called the Botrytis infestans, you will, I trust, allow me to add, that the additional observations of two years, with the constant aid of the microscope, have fully confirmed my original opinion, and I think it as clearly demonstrable as that the mildew is caused by the Puccinia graminis, which since the admirable drawings by Bauer in the "Annals of Botany," no one, I think, has ventured to dispute. Be this, however, as it may, the extraordinary motion of the Botrytis, which is easily visible under very moderate powers of the microscope, and which I believe I first noticed, is I believe unexampled, at least in any individual of the very extensive heterogeneous mass which is classed under the name of fungi. This motion is best observed in fresh and vigorous specimens, and to obtain them in perfection, I find it the best course to place the blotched leaves, stems, berries, or tubers in a tin box, kept moist and closed from the air. In 12 hours a plentiful crop will be produced; and such is its tenacity of life, that the last specimen I had under the microscope, preserved its motion for 48 hours, until I was obliged to remove it, wanting the microscope for other purposes. Such indeed is its anomalous nature that I cannot class it below a zoophyte, however much I may differ from high authorities on the subject; *F. K. Eagle, F.L.S., Bury St. Edmund's, Aug.* 9.

The Potato Disease.—I send for your inspection a specimen from a plant of Datura Stramonium, which appears to be suffering from an affection similar to the Potato disease; *Thos. Moore, Botanic Garden, Chelsea, Aug.* 9. [In this case the half ripe fruit was rotting, but we are not satisfied that its condition was analogous to that of the Potato.]

Mulberry Trees.—I am induced to ask your opinion about a Mulberry tree which has for many years disappointed my expectations of a crop. The Mulberry in question was taken from a large tree which stood in the centre of a walled garden, and as the fruit invariably fell off before it was ripe, I was advised to put a cutting of it on a south wall. This was done more than 20 years ago, and the tree now occupies a space of 32 feet by 14 feet high. It is generally covered with fruit. It has been pruned in a variety of ways, but it still continues to drop the fruit after it has attained its full size and has become nearly ripe. The roots were once cut within 2 feet of the tree without effect, and unless some of your readers can give me some direction likely to have a good effect, I have determined to cut it down and give the space on the wall to Peach or Apricot trees; *H. E. M. O.* [Will some correspondent favour us with his opinion on this case?]

Kew Palm-house.—Your correspondent, "J. O. W." (p. 526), complains of the slipperiness of the iron steps of the spiral staircase in the new Palm-house, "the edges of which are so polished and smooth, and the soles of the visitors' shoes or boots so polished by walking over the close-cut turf, that it is quite dangerous to ascend the steps without care." The writer of this reply, who is himself very familiar with the staircase in question, and has witnessed the ascent and descent of thousands of persons, never experienced any inconvenience, and never heard a complaint from a single individual: and he would take the liberty of suggesting that "J. O. W.," in future, should make less use of the close-cut turf, and more of the noble gravel-walks which are made for the convenience of the numerous visitors. By so doing, there would be less injury done to the lawns, and, according to "J. O. W.'s" own showing, there would be less risk of serious accident happening to himself—provided his own steps are steady in other respects. Be it observed, the whole flat surface of the stairs is properly roughed. Supposing the danger on the staircase to be a reality, would it not be in better taste, and as likely to command the attention of the director, if "J. O. W." had sent a friendly communication to the garden, instead of blazing such a matter abroad through the pages of a public journal? Truly, if the various opinions of individuals were taken on the subject of the alterations at the Royal Gardens, and if those opinions were regarded as the truth, poor Kew would not have a leg to stand upon; *W.*

Seeing not Believing.—

Old Man.—'Tis said they eat each other.
Rosse.—They did so; to the amazement of mine eyes
That look'd upon it. Macbeth, *Act* ii., *Scene* 4.

I trust the two or three of your correspondents who assure you they have actually seen young vipers enter the mouth of their parents will not suppose I have the slightest intention of doubting their veracity, if I repeat my wish that they would catch their vipers, in order that the fact may be witnessed under circumstances which shall place it beyond the possibility of cavil. I entertain so great a respect for science, that I continue still to be sceptical about a fact which I have heard eminent zoologists declare to be so extremely improbable that it was next to impossibility it should be true. Even persons well accustomed to observe natural phenomena have frequently been mistaken in cases where it seemed hardly possible they could have been; and the testimony of those who are not in the habit of observing must be received with extreme caution when their observations are militating against any of the firmest conclusions at which science had previously arrived. Is it possible that vipers, when disturbed in parturition, will devour their young, as I have known a sow, a rabbit, and a dormouse do? Is parturition a slow process with vipers, so that the portion of the young first delivered might crawl for shelter towards the parent, in case of alarm, whilst the rest of the brood, being found within her, would favour the idea that they had run down her throat? Did any one ever see the young return out of the mouth of an unmutilated viper after she had swallowed, or was supposed to have swallowed, them? May not the circumstances under which the presumed fact has been observed have misled the imagination? I never stumbled upon a viper without feeling a slight degree of excitement in my desire to catch or kill it, which would very possibly have disqualified me for asserting over positively as to how a set of young ones had scrambled out of sight, if there had happened to have been any present. Any highly improbable account of a natural phenomenon always recalls to my mind the last page of Gerard's "Herbail." That laborious enquirer winds up his folio of 1392 pages with a marvellous account of the Goose-tree, of which he has favoured us with a woodcut representing its branches bearing barnacles, and some of which, having fallen into the sea, are seen swimming about as barnacle goslings. And all this is not from mere hearsay. Gerard puts his trust in his own personal observations, and writes thus: "What our eyes have seen and hands have touched we shall declare," &c. &c. So strange is the effect of ocular delusion, that the clearest evidence, in contradiction, will not persuade the deluded to abandon their opinions. Take the following occurrence, which is not many weeks old, in illustration of of two supposed burglars; one, A., was convicted on the testimony of a person who states that she tore off a mask from his face in a scuffle at midnight, immediately called him by his name, and swore most positively at his trial to his person. This A. was sentenced to 10 years' transportation in consequence; whilst another man, B., received a sentence for seven years. Now B., previously to being taken had declared he knew that A. was not engaged in the burglary; he declared, as soon as the trial was over, that A. had not been his companion; and at length he confessed that it was C. and not A. who had assisted him. Even C. himself has since admitted to A.'s friends his own guilt. After much investigation it appears that not a single circumstance has been detected in corroboration of the prosecutrix's oath, whilst much has been ascertained in confirmation of B.'s confession and C.'s admission. A. has consequently been released after three months at the Millbank Penitentiary, and I have not a doubt that he is innocent. Still the woman whose oath convicted him persists that she could not have been mistaken, and she will probably carry that conviction to her grave. Some persons are inclined to believe her unsupported oath, rather than admit the testimony which has fully satisfied others she is under a delusion. When I was writing the former notice you inserted from me, this case of the pseudo-burglar was occupying my attention, and inclined me to give my notice the heading of "Seeing not Believing," which I did not intend should express more than a wish to inculcate caution, where observations appeared to be in direct contradiction to some of the firmest convictions of scientific zoologists. If we were to trust our sight alone we should still be believing the sun to be in motion and the earth at rest. Though it is impossible to deny that young vipers are small enough to go down throats which are sufficiently large to swallow mice and frogs, yet it is not absolutely impossible that there may be more than one pair of eyes in every county in England capable of being deceived into believing that they have seen what in reality they did not see. I shall be hard to be convinced until I find professed zoologists have become satisfied of the fact in question. If their science is proved to have been at fault here, it will have happened under circumstances which may well excuse the excess of their scepticism. Strange things do occur, and oftentimes now are so strange for awhile as newly discovered and wholly unsuspected truths; *J. S. Henslow, Hitcham.*

Rhus cotinus—This remarkable plant, introduced from the south of Europe in 1656, and occasionally to be met with in shrubbery borders, forms perhaps one of the most superb deciduous lawn shrubs that can well be imagined. It should be planted on a gentle swell of the ground, so as at once to give it a more elegant appearance and bring it more on a level with the eye; the situation should also be sheltered, inasmuch as the branches are somewhat fragile; a little training too is essential, so as to insure an equal distribution of the large panicles of reddish-purple green inflorescence with which the plants at this season are so profusely covered. The foliage is of the most charming and distinct character, on lengthened footstalks, rotund and entire, and of a beautiful pale, bluish-green colour; *James Duncan.*

Strawberry Forcing.—With regard to Mr. Whitbread's remarks on my article about Strawberries, I beg to observe that I did not write on the 29th July; neither did I state the time I wrote as being the best for beginning to prepare plants for forcing. If he will refer to the article, he will at once see that he has misunderstood me. I wrote the article on the 20th July, and I then supposed gardeners had commenced previously, and hoped my remarks might be of use to some of them. As to the time of commencing operations, I beg to say that I consider it of the greatest importance to get the runners as early as possible—so much so, that I consider no trouble too much to secure that object, and would recommend every care to be taken of the plants previously forced, before being planted out, as well as afterwards, in order that the runners might be encouraged to grow as quickly as possible. At the same time, I can say that good plants, and good fruit, too, can be obtained from plants potted into their fruiting-pots up to the end of July; still I do not recommend that the operation be delayed so long if it can be avoided: and, of so much importance do I consider both growing and ripening the plants, that I venture to remark that, unless they are well up in the crowns, the pots well filled with roots, and the plants altogether well grown, they would not be to my satisfaction. Your correspondent, "J. L.," states that as fine Strawberries, and as large a quantity, can be produced by potting the runners, at the first outset, into 8-inch pots, in which they are to remain, as can be produced by potting first into 3 inch pots, and then shifting. Now, so far as quantity is concerned, I agree with him; but as to quality, my experience compels me to differ from him. I have never been able to get fruit of equal size from plants grown on his plan as I have from the one I have ventured to recommend. I therefore gave the plan which, I feel confident, is the best, so far as my practice goes; *Robert Cox.*

Holly Disease.—We have a number of very fine old Hollies in the park behind the mansion house here, from 20 to 40 feet high, and which were all in apparent good health up to February last, at which time I observed a few of them show symptoms of unhealthiness in the leaves and young shoots. In the month of April the leaves appeared shrivelled and dried, as if they had been scorched by a severe heat, and the bark upon the young shoots was in like manner affected. This appearance did not extend over the whole of each plant, but partially. In one case all the branches upon one side of the tree died down to the bole, which yet remains in a healthy state, and the branches upon the opposite side of the same tree remain healthy also. In another case the whole tree has died down to the earth, where it is again setting up new shoots of rather a weakly nature. In a few other cases partial branches of the trees are affected; some of these have died into the bole, and others have only died as far back as the wood of 1843, and in some instances not so far. The situation upon which these plants are growing is about 10 miles inland from the sea, and about 600 feet above its level. Some of the plants affected are growing upon a mossy soil of 2 feet deep, resting upon a subsoil of gravelly till; and others which are affected are growing upon a good deep sandy loam; and I may state that the tree which has died down to the earth, is situated upon the mossy soil. A part of the plants affected produced an extraordinary crop of berries in the autumn of last year; others had a moderate crop. I would feel obliged if any of your readers would say if they have ever experienced the like unhealthiness in Holly trees of the size stated, and if they could say what could be the cause of the unhealthiness, the ground being perfectly dry upon which they are; *James Brown, Forester, Arniston.*

Flower Sticks and Whalebone Pegs.—As no garden can be beautiful without neatness, I was much pleased to see advertised lately, garden sticks, of different sizes, painted, for tying up and supporting plants. These have long been desiderata for amateurs, and by contributing to the neatness, will add greatly to the beauty of our gardens. I have splendid beds of Phlox Drummondi, Verbenas, and Petunias. They grow so luxuriantly that they require some attention to keep them properly pegged down. I was wishing that the same advertisement that offered to supply the garden sticks, had likewise offered to supply pegs for this description of plants, when it occurred to me to try narrow strips of thin whalebone, and I find them to answer delightfully. They are scarcely visible, and will probably last several seasons. There is no trouble in cutting them into 4-inch lengths with a pair of scissors, and bending them in half; and by having a number always ready, we can insure the neatness and beauty of our flower beds. I greatly prefer them to anything I have tried before, and shall be much pleased if they should be generally approved; *An Amateur, August* 8.

The Cuckoo.—Is it a common occurrence to see the Wagtail feeding the young Cuckoo? While writing, I see two young Cuckoos, for which the common Wagtails are busily catching insects and feeding them (on the lawn in front of the house); it is curious to see with what agility they catch flies, &c., and fly to feed those birds so much larger than themselves; *A. S., Slindon-house, near Arundel.*

Vinegar.—The following recipe has been used with success in my family for several months: ½ lb. moist sugar, ½ lb. treacle, 1 gallon of water (milk warm), 2 spoonfuls of yeast. Lay at the top of the mixture some Vinegar Plant, tie the jar close down, and set it in the corner of the kitchen, and it will be ready for use in a month. The Vinegar Plant is a sort of incrustation formed in beer barrels, as also in the process of making vinegar; *T. W. T., Cheshire.*

Vipers: Theory versus *Fact.*—Your correspondent, "Seeing not Believing," is no doubt what is commonly called a "scientific man," but I cannot agree with him that this is so entirely a matter of science. I find that a neighbour of mine, Mr. Joseph Ellsild Daniell, saw several little vipers go into the mouth and run down the throat of an old one; that he killed the old one and cut it open, and took out the young ones alive. In one respect this might be a stronger case than mine; Mr. Daniell saw the young ones actually go down the throat of the old one; now I only saw them go into such a place, that they must have got into the body of the old one by some means or other; but I cannot state as a fact how they got in, whether by the mouth, or, perhaps, by more scientific means, through the pores of the skin; but I saw them come out of the mouth, and therefore jumped to the conclusion that I thought most probable—that they went in the same way; but if your correspondent will show that there are other means by which they could, by probability, have got in, I shall feel obliged to him. Mr. J. C. Daniell is, however, a scientific man, and a man of general knowledge; his science is not confined to one particular matter, for I hold that such men are frequently enthusiasts, sometimes monomaniacs, and seldom to be relied on. Mr. Daniell is the owner of nearly 30 patents for inventions in this and other countries, and his name was associated with Mr. Arkwright's by Lord Brougham (in bringing forward his bill in the House of Lords for the Protection of Science, 5 & 6 Will. IV. cap. 83) who spoke of Mr. Arkwright's and one of Mr. Daniell's patents as two of the most valuable inventions in England, and which were lost by means which his Lordship successfully sought to remedy. Now although I give Mr. Daniell's statement, I lay very little stress upon it on account of his being a man of science; it is the fact that I look to. I remember having heard one of our best judges say, "scientific witnesses are nine times out of ten advocates. Show me a fact; one fact is worth a hundred theories." Upon a reference of a cause some years ago, when the effect of a dam against flowing water was the subject, I heard a very eminent Government engineer swear to the opinion that water would not pen beyond its level; and at first I thought he was right; but I was shown a fact that satisfied me I was wrong; and the arbitrator (a barrister of long standing) said to him, "If the case you support depends upon that, I shall award against it. I thought upon theory, as you do; but I am the owner of three mills, where I have frequently noticed the effect of flowing water, and I know that in times of flood it will pen beyond its level." Again, in a patent case, tried not many years ago, upwards of 20 scientific witnesses were examined, 10 or 12 of whom swore as to the effect of one theory, and a like number directly the contrary, and the judge commenced his summing up to the jury in these words: "Gentlemen, this is a lamentable day for science;" *William Stone, Winsley, near Bradford, Wilts.*—The following fact, which I witnessed some years ago, fully corroborates the account given by Mrs. Page, of Manchester, relative to this subject: I was shooting in a stubble field near Wimborne, in Dorsetshire, and had directed my servant to go back to a rising ground for the purpose of marking. When he was at the distance of 50 or 60 yards, he suddenly called to me, and I saw him using with extraordinary vigour a large hedge stake, with which he was provided. I proceeded to the spot, and found that he had killed a very large viper. He told me that "when first he came upon her there were three young ones playing about her head; that he had nearly trod upon them, but as soon as they were alarmed they all ran into the mother's mouth." I knew this was a prevalent opinion among the common people in that part of the country, but I had myself no faith in it. I questioned him about it, and he was very positive "he had seen them all run into her mouth." I asked if he was sure they had not run out again? "Yes, he was quite sure they were in her still." I desired him to cut her open and let me see them. As a precautionary measure (of his own accord) he first cut off her head, and then ripped up her body, and there unquestionably were three young ones, such as Mrs. Page describes, about the length of a man's little finger. One of them had been cut in two by this very inartificial process of dissection, but the other two, though much injured and crippled by the blows inflicted on the mother, were both alive; *Constant Reader.*

Viper Broth.—It belonged to the sagacity of our ancestors to discover the medicinal virtues of viper broth. The remedy though long disused will, by our increasing familiarity with the reptile, come again into fashion, and the weekly supplies of the *Chronicle* never failing, you will, I hope, in future devote them all to the medicinal stew-pan, and send the broth well spiced to the next contributor of vipers; *B. Boston.* [Do you attach no importance to the settling a very curious and disputed point?]

*Mr. F. O'Connor's "Land Savings' Bank" Scheme.**—The exposure of this fallacious scheme in your columns, if productive of no other good, will, I trust, serve the object of opening the eyes of the deluded, and also deter the unwary from entrapping themselves by joining it. So praiseworthy an endeavour will I am sure be seconded by your numerous readers and correspondents. The ostensible object of this newly projected scheme is the "advancing the political, the social, and the domestic condition of the working classes." In a pamphlet which I have before me, "brought forward not merely as a feeler, but as the commencement of practical operations" in relation to this scheme, appears the following paragraph: "According to the Government returns, there are nearly a million of depositors in the various savings' banks, the amount of whose deposits are little less than 30 millions of pounds. Admitting that some of these depositors are not, strictly speaking, of the working classes, sufficient remains to show the enormous power which the working classes do possess. The whole of this money is lent to Government to carry on wars, and to support a system in which the welfare of the working classes is the last thing thought of." Here the writer has evidently left his own common sense behind, else he would have known that instead of this money being lent for "bloody sword and gun-fighting," it is lent, and lent of necessity too, to the Commissioners for the Reduction of the National Debt; so that, most sage of speculators! instead of aiding in promoting wars and bloodshed, the investments of savings' banks are for the purpose of reducing the debt which wars alone first brought into existence, and which wars alone have brought to its present state. Besides, in the event of a war the whole sum may be withdrawn from the hands of the Commissioners at the rate of 10,000*l.* per day for each bank; so that our speculating friend has made rather a wrong calculation in this respect; and he and all others of his friends who may have become depositors in savings' banks, so far from aiding and abetting war, have in fact the power, according to his own fallacious statement, of crippling Government in the very outset. I would just ask how the system of savings' banks can be called by any reasonable person part of a "system in which the welfare of the working classes is the last thing thought of?" (I quote from the "Commonweal," No. 1, page 2.) Why, the very object of the first foundation of savings' banks was the amelioration of the state of the poor; for them and them alone were they founded; and more than this, the benefits of them (and many benefits there are) are sought by every means to be exclusively attached to the working classes. The very fact that people of rank above the original depositors have endeavoured to become sharers in the benefits of these banks, is evident proof they deemed this investment, both as to its mode and produce, superior to any other. The poor then have been favoured by the system complained of, as our earth builder may know by consulting the clergyman or other influential person of any parish in which such an institution has been organised. Wherever the influence of savings' banks has spread there have order, sobriety, diligence, and economy become the characteristics of the population. But [illegible] of the "Commonweal" has any more [illegible] savings' banks and their working than he has of the [illegible] of the poorer classes, and of the springs by which [illegible] moved. I should be sorry for him to be deprived of the pleasure of handling the money of the [illegible] (your real "Commonweal" philanthropists always [illegible] by "down with the dust"); but I for one should [illegible] sorry to allow the honest and industrious [illegible] to be cheated of his hard-earned savings by every [illegible] scheme that may be led on by hope of gain, or [illegible] unprincipled politic-mongers, to delude him by [illegible] founded on erroneous principles, under [illegible] guidance." Your readers have already seen [illegible] the Land Savings' Bank [illegible] but in its own person, viz., Mr. F. O'Connor. Now [illegible] scheme ought at least to be consistent with himself, however he may contradict everything and everybody besides, I would call our Utopian friend's attention to the following [illegible] tion: "The security in the Land [illegible] is not inferior to that in the old savings' bank." [illegible] is security in the old savings' bank? We were told before that all the poor people's money was liable to be expended in powder and shot. He himself allows there is security in the one case, and at all events there cannot be any certainty of security in the other; he must have [illegible] putting the two things in comparison, and have waited for the completion of his air-built man [illegible] before he ventured on ill founded and contradictory statements against a fabric which time alone strengthens, and experience only tends to [illegible]. But it seems that "it is an after mistake in the public to imagine that in those which go by the name of 'the savings' banks,' the depositors individually have Government security, or perfect security for the amount of their investments." [illegible] "spoke of the common-wheal" [illegible] wrong, inasmuch as the whole statement from first to last is a falsehood—a plain, palpable falsehood, tending only to further mislead the misguided followers. I will, in order to avoid prolixity, merely direct the reader's attention to the following quotation from 9 Geo. IV., c. 92, sec. 11: "And be it further enacted, that the several sums of money belonging to any savings' bank, which the trustees of such savings' bank respectively are authorised to invest under this act, or under any rules or regulations of any such savings' bank, shall be paid into and invested in the Bank of England, or the Bank of Ireland, as the case may require, in the names of the Commissioners for the reduction of the national debt, according to the provisions of this act, [illegible] trustees to make investments in the names of the said Commissioners; and no such sum or sums shall be paid or laid out by the trustees of any savings' bank in any other manner, or upon any other security whatever, except such sum or sums as from time to time shall necessarily remain in the hands of the treasurer of [illegible] to answer the exigencies thereof." I will now leave your readers to decide as to the preference between the ordinary savings' bank and Mr. O'Connor's Land Savings' Bank; *H.*

* Vide *Gardeners' Chronicle*, p. 507.

Societies.

Entomological, *Aug. 7.*—Captain F. Parry, F.L.S., V.P., in the chair. A memoir was presented by Signor Passerini on the advantages to be derived by agriculturists from the study of entomology. A new Part of the "Transactions," with some beautifully coloured plates, was on the table. Mr. Ingpen exhibited a remarkable cocoon of a silkworm which was quite flat, measuring 5 inches by 4 in extent; it seemed, in fact, as though the insect, instead of forming a cylinder of silk, had spun the thread in large, flat circles. He also exhibited some fossil wings of insects, from Gloucestershire, some of which clearly exhibited the differently coloured spots with which they were ornamented whilst alive.—Mr. Bowring exhibited a collection of insects from Hong Kong, many of which were new and highly interesting, including three new species of Paussidæ which had been found in ants' nests, and had been heard to crepitate like the Bombardier beetle; some singular parasites, of very anomalous structure, found upon the bodies of the Chinese Fulgora; also a new species of Cremastocheilidæ found in ants' nests.—Dr. Schaum, recently returned from an entomological tour in North America, exhibited portions of his very extensive and valuable collection, by far the largest which has hitherto come to Europe from the new world. Amongst other novelties were a new species of Æga, a remarkable genus of Clivinidæ, with dilated tarsi, and seven species of Cremastocheilus, two of which had been taken in ants' nests. Also specimens of the remarkable Glyptus sculptilis, found at the foot of white ants' nests, in Guinea, by Mr. Savage.—Mr. Douglas exhibited specimens, illustrating the natural history of Spelenota fœnella, a small British moth, and Mr. Stephens a mass of leaves and twigs picked up on the banks of the Severn, containing myriads of the rare Atherix Ibis.—Mr. Bond contributed an extract from a local newspaper, attributing the Potato disease to the Scarabæus major (probably the writer intended the common cockchafer), settling upon the plants, and there divesting itself of the lice with which it is said to have abounded!!

Country Shows.

Newark Floral and Horticultural Show.—The third show for the season was held on the 25th ult. The display of both flowers and fruit was magnificent, and the attendance numerous. The prizes were awarded as follows. [illegible]—Best five Carnations of different varieties, one in each class, Mr. Hole, (gr., Mr. Hirst); best six Picotees of different varieties, one in each class, Mr. Hole; best scarlet bizarre, Mr. Hodgkinson, Smith's Duke of Wellington; best crimson bizarre, Mr. Hodgkinson, Wakefield's Paul Pry; best scarlet flake, Mr. Hole, Wilmer's New Middlesex; best purple flake, Mr. Hole, Ely's John Wright; best rose flake, Mr. Hodgkinson; best heavy edged red Picotee, Mr. Hole, Gidding's Sir Robert Peel; best light edged ditto, Mr. Hodgkinson, Brunsdon's Masterpiece; best heavy edged purple Picotee, Mr. Hodgkinson, Burroughes's Lady Douro; best light edged ditto, Mr. [illegible] [illegible]; best heavy edged rose Picotee, Mr. Hodgkinson; best light edged ditto, Mr. Hodgkinson, Croucher's [illegible]; best yellow Picotee, Mr. Hole, Martin's Queen Victoria. Best collection of plants in pots, Mr. Fox; best single specimen [illegible] Mr. Thorpe, for a Fuchsia. [illegible] was exhibited by the Duke of Newcastle, which were, however, shown too late for a prize. Best dish of Grapes, Dr. Beevor; best Melon, Dr. Beevor; the heaviest 10 Gooseberries, Mr. Tarver [illegible]

[illegible] prizes were [illegible]

Reviews.

Emigration, with Advice to Emigrants, especially those with Small Capital. By Captain [illegible], R.N. Pp. 21. [illegible]

The pamphlet [illegible]

[illegible]

The next point in [illegible] tain M. adventurers [illegible] the choice of unsuitable emigrants. "[illegible] scheme of emigration, the mother country [illegible] readily sends out her worst than her best; and the helplessness that [illegible] ground at home is [illegible] to gain it at the antipodes." And we think very well of the remedy that he proposes for this:—"I strongly recommend that a classification of emigrants be introduced before they set out; and that the advantages extended to them should [illegible] every [illegible] correspond with it. Thus, really useful and valuable colonists (as good stock-men, shepherds, rough carpenters, and blacksmiths) might [illegible] and have their whole passage paid for them. [illegible] agricultural labourers, if approved [illegible] might constitute a second [illegible] eighths. Other labourers, [illegible] and who have satisfactorily served [illegible] a practical farmer or [illegible] the use of implements, might constitute [illegible] eighths paid; and so on. The [illegible] would, I think, be very great. It would [illegible] labourers on the [illegible] necessary for emigrants. It would make them [illegible] these, even at some sacrifice [illegible] would prepare them for the [illegible] and would thus save them much after [illegible] Gradually it would [illegible] the standard [illegible] In each case it would give the [illegible] a fair pennyworth for its penny. If the [illegible] were still sent [illegible] it would be chiefly at their own expense, or that of their friends; and the system being much fairer, and in individual cases [illegible] as the present one, it would be much more [illegible] and strictly maintained. It is scarcely possible at present peremptorily to reject a poor man who is earnestly desirous to emigrate. It may not even be just to him to do so, for our judgment of him may be deceived, or he may have friends in the colony who will make up to him his defects; but it would be easy to say, peremptorily, to which class in a well-defined series, on due examination, we consider any individual to belong, and what the amount of public

assistance, as belonging to that class, he can alone obtain. If he wants more, he must get it elsewhere, from his own resources, or from the pockets of those (individuals or parishes) who desire to remove him. And remonstrance against this would be too plainly dishonest to be ever strongly pressed."

Captain M.'s next most important suggestion is the following. He says of it himself that he fears it may appear harsh; "yet am I certain," he adds, "that it would work most beneficially, at once, as regards emigrants themselves, the colonies that absorb them, and the general cause of prospective emigration. I would not allow any who have come out at the public expense, or any of their immediate descendants, to hold land or maintain any action in which property in land is concerned, until the whole or a large fixed portion of the money thus advanced for them is repaid. (I would prefer obtaining this repayment by maintaining a disability, rather than by making it a ground of direct action; it would be thus more willingly rendered, and could not lead in any case to the infliction of serious personal hardship.) And the advantages of this plan seem to me to be the following: It would create a permanent and much more beneficially-acting emigration fund than the sale of crown lands, which, besides its injurious tendency as sending away capital, must, in the nature of things, rapidly decrease in value as each colony becomes settled. It would keep those who have derived assistance from this fund in the position for which it meant them, till they have honestly acquired a right to leave it. It would keep them in it also till they have acquired the means and qualities necessary to make a change from it really advantageous to them. It would give all an early impulse to save and accumulate, affording them thus an early protection against those temptations to sluggishness and sottishness which abound in loosely constituted societies, and are especially trying to those who have but recently passed from penury to abundance, and from the rigour of a severe to the seductions of a fine climate. In fact, a general principle seems involved here, applicable to many similar cases; and though it might at first impose some trouble, or create some heart-burnings, or be subject to some occasional evasion, these results of it would be chiefly felt at the beginning, and would disappear as the apparatus connected with it was improved; while the benefit, on the contrary, would become more and more apparent every day."

It will be obvious, then, from these extracts, that this pamphlet occupies much new ground on the important subject to which it relates; and, without implicitly subscribing to all its positions, we yet strongly recommend it to consideration. Towards the conclusion, its author contends against what is usually called "systematic colonisation," and argues that our object should be to "systematise emigration" instead, that is to say to endeavour to send out good individuals, whether master settlers or labourers, without attempting to form them into communities after any home pattern. He considers that by going out completely unfettered, emigrants will much more readily accommodate themselves to the precise want felt where they arrive, and will thus become much sooner and more easily prosperous than when they are bound to others by some pre-existing tie; beside which when new emigrants come out unfettered the older settlers will in many cases yield their places in the settled districts to them, while they themselves, the more experienced, will proceed to new land. And there is great plausibility in these representations. On the other hand much advantage may frequently arise from combination, which on entering entirely new ground, may, in some cases, be even indispensable. Intending emigrants should not, therefore, pin their faith implicitly to either side of the argument; but weighing both alternatives, should select each that course of conduct which best suits his individual case.

Calendar of Operations.

(For the ensuing Week.)

CONSERVATORY AND GREENHOUSE.

Should the weather continue unsettled, it will be an advantage to many delicate plants to give them an early introduction into the conservatory. It is better always to anticipate an evil by precaution than to supinely await its arrival. The continued humidity and gloom of the weather may well originate apprehension for tender, when even hardy plants are suffering. The gaiety of the show house should not be allowed to decline while the common resources of Fuchsias, Verbenas, Achimenes, and Scarlet Pelargoniums are in hand. The delicious fragrance of Lilium tuberosum should always be secured at this season for the conservatory. Let adequate provision be made for a prolonged supply of small flowering things, such as Primulas, Phlox Drummondi, Cinerarias, &c., and on no account neglect the Chinese Chrysanthemums, which are most valuable for decorative purposes.

FRUIT FORCING.

Vineries.—An undue extension of young spray in the early house should be checked, particularly if it interferes with the earlier foliage, which now should wear the yellow tint of autumn; until the maturity of the wood is secured, complete exposure is not advisable. In houses with fruit, to ensure a rapid circulation of air (which becomes often necessary to carry off the damp engendered by so much gloomy weather), employ gentle fires. Do not permit atmospheric depressions to affect materially late advancing crops; the ripening process should never be checked, however desirable very late Grapes may be. *Fig-house.*—The main crop is now approaching maturity; atmospheric humidity, moderate heat, and water are essentially required to ensure success. *Strawberries.*—Continue to shift for forcing; we may with confidence recommend the Princess Royal for very early forcing, it comes in a fortnight before Keens' Seedling. The British Queen is also most valuable to succeed the two first-named kinds.

FLOWER GARDEN AND SHRUBBERIES.

This year's beauty should assist to suggest next year's improvement in the distribution of the masses in the flower garden. Attention should be given to effect, duration of bloom, habit, and colour of the different plants, and another arrangement planned for a future season. The propagation of Scarlet Pelargoniums, Verbenas (for stock plants), and Calceolarias, should commence. China Roses should be put in, and budded stocks examined, bandages removed, and failures replaced. Mark the best Hollyhocks for seed. We are glad to see that this magnificent flower is likely to meet with the attention its beauty well entitles it to. Attend to the routine of staking, pegging, and the general security of fragile plants.

KITCHEN GARDEN AND ORCHARD.

The clearance of all crops as soon as they are exhausted, and the destruction of weeds, conduce not only to improve the appearance of a garden, but are actually, with reference to the soil, a work of economical importance. Allow of no delay in sowing several beds of Prickly Spinach, and for a sustained supply of salading sow Endive, Lettuce, and Radishes. It is a good time to sow, for spring use, Deptford Onion, Cabbage, and Cauliflower. In regard to prescribed periods of sowing, it is advisable to study both the soil and locality of a garden, that its advantages and inconveniences may be understood; there are localities where it is necessary to deviate considerably from ordinary practice, to meet their peculiarities. Continue to prick out Endive and Lettuce, and make provision for the increased demand that usually ensues from the deficiency of the Potato crop, by planting abundance of Coleworts, the residue of the stock of Brussels Sprouts, Green Kale, and Savoys may be usefully employed to fill up vacancies. Turnip sowing must not be neglected. Earth up Celery. Gather herbs for drying. Lay Onion tops, to produce maturation. *Orchard.*—The preservation of wall fruit from birds and insects should occupy attention. The Bean-stalk earwig traps should be frequently examined. Worsted or other small mesh netting may be employed with advantage to protect Greengage or other Plums, the scarcity of which fruit this season invites such precautions. Look carefully over Peach and Nectarine trees, and remove nails that proximate to the swelling fruit. In stopping and arranging the wood, let only as much as can *conveniently* be laid in be allowed to remain, and that *convenience* qualified by due considerations for the perfection of the fruit and the proper ripening of the wood, which only the influences of sun and air can accomplish. It is also an error in another respect to retain a large amount of wood, to be removed inevitably in the winter pruning; an undue excitement and extension is given to the roots, which, with a superabundant supply of sap, induce in the spring the growth of rank and unmanageable wood. Pear shoots which have been left, or only partially shortened, should now be pruned back to three or four eyes. Proceed with Strawberry planting. Remove runners from established plants to relieve and strengthen them.

FLORISTS' FLOWERS.

We are now rapidly advancing in the Dahlia season, and the amateurs' attention must be specially directed to this splendid autumnal flower. As seedlings advance for blooming, it will be advisable to disbud, so as to get the blossoms as fine as possible for exhibition, recollecting that the weakest plants usually produce the best flowers. Many contrivances are in use for protection against sun, wind, rain, and vermin, which all at certain periods act detrimentally. After all the endeavours to entrap earwigs in the immediate locality of the plants, still, as these pestiferous insects "fly," their visits can never be effectually guarded against, unless the blooms are bagged. We use those made of very fine point net lace; this allows the flower all the air possible, and at the same time effectually excludes the insect before alluded to. Haythorn's hexagon netting will be found a good thing for the purpose, though perhaps it should be of his smallest mesh. It must cover the flower, and be fastened round the stalk, the bloom must then be protected by a cap with a spring at the back, which adjusts it at any given height, as figured in the *Chronicle* of 1847. The continued rain has precluded the necessity of watering, but it will be advisable to mulch the surface of the soil with very rotten manure, and to pay strict attention to the lateral shoots of the plants being properly secured. Prick out seedling Auriculas and Polyanthuses, the latter also may be parted, and will get well established before winter. Continue the attention, &c., advised in last week's Calendar.

State of the weather near London, for the week ending Aug. 10, 1848, as observed at the Horticultural Garden, Chiswick.

August.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. ... 4	5	29.671	29.652	73	48	60.5	S.W.	.05
Satur.. 5	6	29.532	29.429	71	50	60.5	S.W.	.11
Sun. .. 6	7	29.775	29.639	72	46	59.0	S.W.	.12
Mon... 7	D	29.972	29.923	73	40	56.5	S.W.	.00
Tues... 8	9	29.896	29.763	68	45	56.5	S.	.13
Wed... 9	10	29.851	29.803	69	40	54.5	S.W.	.23
Thurs. 10	11	30.022	29.952	74	43	58.5	S.W.	.15
Average ...		29.817	29.736	71.4	44.5	58.0		0.79

August 4—Clear, with heavy dew: cloudy and fine.
— 5—Densely clouded; heavy shower; partially overcast; heavy shower, with wind.
— 6—Fine; cloudy; showery; heavy shower 8 to 9, P.M.
— 7—Fine: very fine: clear at night.
— 8—Very fine; rain commenced 11½ A.M.
— 9—Clear; fine till 12½; hail storm at 2, P.M., with thunder and lightning; some of the hail stones 9-16ths of an inch in diameter, nearly an inch in circumference. [afternoon.
— 10—Clear and fine; thunder and lightning, with heavy showers in
Mean temperature of the week, 5½ deg. below the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending Aug. 19, 1848.

August.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 13	72.9	50.3	61.6	9	1.14 in.			2	1	2	3	9	2	3
Mon. 14	72.6	50.1	62.8	7	0.67			4	5	1	2	5	4	1
Tues. 15	73.2	50.9	62.0	9	0.61		1	3	3	1	3	4	2	5
Wed. 16	74.3	52.7	63.5	7	0.38			1	2	1	3	6	7	3
Thurs. 17	73.6	52.4	63.0	12	0.54		2	1	1	1	3	5	7	2
Fri. 18	74.0	50.7	62.3	11	0.33		1	3	3	1	3	4	4	1
Satur. 19	74.0	51.0	62.1	11	0.42			2	2	1	1	6	7	3

The highest temperature during the above period occurred on the 18th 1842—therm. 92 deg.; and the lowest on the 13th, 1839—therm. 32 deg.

Notices to Correspondents.

To our Correspondents—May we beg it to be understood that *we cannot answer inquiries privately through the post.* We are ready to give any reasonable information in our power through our columns; but we cannot consent to the labour of writing letters.

Aberdeen Beehive Strawberry: If Mr. Mathewson wishes to have the paragraph in praise of this Strawberry inserted, it must be as an advertisement. We cannot be a party to saying one word in its favour.

Books: *H L.* Loudon's "Self Instruction for Young Gardeners."‡—*H and H.* There is no such thing as a catalogue of seeds and plants produced in Australia, forming a guide to a gardener in sowing seeds and rearing plants from that country.—*Fylde.* We do not know Mr. Levingston's work on the growth of the Gooseberry.‡

Botany: *Miss E.* The "Glossary" is illustrated with woodcuts; the derivations of words are not given. A carpel is there defined to be "one of the rolled up leaves of which the pistil is composed, whether they are combined or distinct." The centre of a Ranunculus is a pistil, composed of many carpels. The "Glossary" is indispensable to a student.

Correspondents: *G.* Many thanks; but you misapprehend the matter. If you saw the questions, and knew from whom they came, you would not object to the replies. We have not always gentlemen to deal with, but very different persons. We think you will agree with us that a stone cannot be cut with a razor.

Gardeners: *T.* We regret to have no such person whom we can recommend. You will probably be able to procure him from one of your neighbouring nurserymen.

Grapes: *A B.* Your Grapes shrivel because they are starved. They are starved because the roots do not act properly. The roots do not act properly because something is the matter with the border—what that is we must leave you to discover.

Insects: *D S.* The ears of Wheat are attacked by the larvæ of the widely distributed Wheat fly, *Chlorops*, sp.? which we shall endeavour to rear. An article upon this subject will shortly appear in the *Gardeners' Chronicle. W.*—*D L.* The insect sent with the eggs is the female of the common vapourer moth, the male of which is brown, and very active on the wing, flying by day. The female is heavy and wingless. *W.*

Lawns: *Ignoramus.* Lime acts by encouraging the growth of the best kinds of Grasses, which then extinguish the inferior sorts. It especially encourages Clover and such plants. If a lawn is infested with coarse weeds of any kind, lime cannot remove them; they must be destroyed by hand.

Melons: We have to thank several correspondents for information concerning the state of their crop of this fruit: but what our correspondent wishes for is some account of instances of failure like his own. Success is the usual fact, failure the reverse.

Names of Plants: *Louisa.* Melianthus major; the Verbena was entirely withered.—*J Ellis.* Cirrhæa viridipurpurea.—*V H.* Many thanks; all safe. 731, Stanhopea aurata, a variety of St. graveolens; 1244, Lycaste cruenta.—*Hatfield.* White variety of Escallonia rubra.—*H F E.* Lycopus europæus.—*W B J.* Salicornia annua. It may be pickled, but we know of no *real* value belonging to it.—*T M S.* Catalpa syringifolia.—*T K.* Dendrobium Cambridgeanum.—*C D.* A very singular and handsome variety of Stanhopea Devoniensis.—*R E.* Stanhopea Wardii, true.

Polmaise: *R Griffin.* We are sorry to see persons whom we would wish to think well of, having recourse to misrepresentations. We never gave such advice as that writer falsely says we gave.—*Mr L T.* We presume that the excessive heat only extends to a short distance. You may remedy it by making an air cavity, by means of flat tiles, resting on pieces of themselves laid upon the slate bottom. Call on Mr. Kendall, of Stoke Newington.

Potatoes: *W W.* We have not found the practice of pulling up the haulm advantageous, but others have, and in so many instances that the experiment is worth repeating. We are again trying it, with the addition of rolling the ground as hard as possible.—The diseases are quite different. Both leaves are attacked by parasites; the Bean by Uredo Fabæ, the Cabbage by Depazea frondicola. Thanks for your valuable information.

Soil: *Devon.* Such land as you describe will be much improved by lime, and the peat will be a good mixture. Eighteen inches are deep enough for flowers.

Water: *J B.* Your water is covered in summer with scum because it is nearly stagnant; make the levels of the infall and outfall different and you will keep it in motion; there is no other remedy.

Misc.: *R R R.* Anemone japonica is a hardy plant.‡—*Old Sub.* Your Vine leaf is affected by the Soot Mildew (Torula Fumago). Sulphur is the best application. You have kept your house too close.‡—*J F.* Keep your Pines rather dry and warm for a short time. That will possibly have the effect of starting them into fruit. As to your other question, we doubt whether any one will be willing to do what you require.‡—*R H.* Double Eschscholtzias are not uncommon.‡—*Amateur.* You have treated your Cinerarias too kindly. Over luxuriant growth is incompatible with a fine display of bloom.‡—*S B.* The pamphlet you name is value for its price. First grow Fuchsia serratifolia well; then starve it, and it will bloom with you. Sowerby's "English Botany" is classed on the Natural System.‡—*L M, Hants.* You cannot do better than puddle your pond with clay. Let it be at least 2 feet in thickness.‡—*H Batt.* We are not aware that any means exist of destroying fairy rings. You cannot get rid of Horseradish by any other means than trenching; unless you will persevere in destroying the leaves as fast as they are formed.

SEEDLING FLOWERS.

Fuchsias: *Cavanensis.* The box you sent your seedling in was not sufficiently strong to protect the flower from being pressed quite flat; it does not, however, appear to possess any qualities to make it an improvement upon the sorts in cultivation.*—*D D.* Your seedling is a showy flower, but coarse, and not surpassing the varieties generally cultivated.*

Pentstemon: *H S.* Neither of your seedlings are equal to the cultivated sorts; they want size and brightness of colour.*

Petunia: *A P, Brechin.* Your seedling is a curiosity only; it is coarse in texture, and not attractive either in form or colour.*

ROYAL AGRICULTURAL COLLEGE, CIRENCESTER.

The SUMMER SESSION will commence on Saturday the 12th August, 1848. All new students are required to attend for examination on the preceding day. Those who purpose entering as Students for the ensuing Session, are requested to apply (either by letter or personally), to the Principal John Wilson, Esq., at the College, Cirencester, Gloucestershire, for the necessary Admission Papers, without delay.

PHILIP BOWES, Secretary.

London Office, 26, King William-st., Charing-cross, Aug. 1st.

TO BE LET ON LEASE, ARABLE FARMS within 3 miles of Harwich, in the county of Essex.

1. THE BRIDGE-FOOT FARM, in the parish of Ramsey, consisting of 113 acres of excellent land in a high state of cultivation, with a good Farm-house and all necessary farm buildings, to be entered upon next Michaelmas.

2. THE RAY-ISLAND FARM, in the parish of Ramsey, consisting of 188 acres of Arable and Pasture Land of excellent quality, some of it being alluvial and capable of great improvement. To be entered upon next Michaelmas.

Leases of 7, 14, or 21 years, on a corn rent, may be granted under certain conditions.—To view these Farms, apply to Mr. MALEAS, at Michaelstow Hall, in the parish of Ramsey; and for the Conditions on which Leases will be granted, and for the terms of occupation, apply to Mr. JOHN MORTON, Whitfield, Berkeley, Gloucestershire.

HOTHOUSES, & HEATING BY HOT WATER. BEST MATERIALS AND WORKMANSHIP. AT SMITH'S, GLEBE-PLACE, KING'S ROAD, CHELSEA, LONDON. ESTABLISHED TEN YEARS.

The Agricultural Gazette.

SATURDAY, AUGUST 12, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

FARMERS' CLUBS.—August 12: E. Kent, Reading.—Aug. 14: Great Oakley.—Aug. 18: Wadebridge.—Aug. 23: Stranraer.—Aug. 26: Hereford.

It has been thought highly desirable to obtain information respecting a number of farms distributed over the various soils both of England and Scotland, in order to illustrate many points of great agricultural importance—more particularly the influence respectively of soil, climate, labour, and the relationship between landlord and tenant, upon the amount and character of the produce of the land. With the view of aiding in the collection of evidence on these and other points, and furnishing one of a series of REPORTS which may hereafter be compared and contrasted with each other, the following account has been drawn up.

The farm of which it is proposed to give a short outline is one of about 400 acres, arable and pasture, in the county of Lincoln, well situated with regard to the labouring population, and within convenient distance of a seaport, for the delivery of corn, Potatoes, &c., and return of manures. The chief part of the fat sheep and cattle are sent up to Smithfield, there being no large meat market at hand. It is situated in a dead level district, and the drainage is effected by various natural and artificial ditches and drains, which convey the water for a few miles, and discharge it into the sea at low water, through sluices in an embankment, which are closed when the tide is up. In winter there is frequently but a bad fall for the water, owing to the "sanding-up" of the drains by the deposit of silt from salt water, which is admitted into them at times during the summer. This has been found to be a necessary habit, both to serve as a fence and division between fields and farms, and to supply the district with hard water—the *soak*, as it is termed, oozing through the porous subsoil into ponds and wells, and so furnishing water for people and cattle. The soil is an alluvial loam, deep, friable, and of good quality. The proportions of clay and silt composing this soil vary in different parts of the farm, causing some fields to be light and silty, and others comparatively heavy and retentive. The subsoil is in some places a light porous silt, and in others there is a stratum of brown clay from 1 to 7 feet, or, in occasional spots, 8 feet thick, lying between the surface-mould and the silt; but in every part silt forms the bottom soil, and is generally found very near to the surface of the land. This silt, having been deposited by the tides, presents, as it were, a *laminated* structure—the coatings of slime left to dry at each successive tide lying one upon another in plates about the thickness of a shilling, and these are waved and streaked by ripple-marks left by the water when this earth, centuries ago, was only a sand-bank on the shore. Through this soft and porous earth, the water from the surface easily percolates; and when a hole is dug for a few feet downward, the *soak*, or subterraneous water, which seems to run freely throughout every part of the district, oozes like a spring from the wet silt; and it prevents the land from being parched in summer; the moisture, which is the *soak*, supplies very good hard water to the wells, though evaporated at the surface by the sun, being supplied again from the subsoil by capillary attraction. Nearer to the sea it is saltish. It preserves pretty nearly the same level over a large extent of country, rising closer to the surface during rainy weather, or (in those parts near the coast, and on this farm) during the high tides, and also in a dry season, whenever the water is raised in the drains by the admission of sea-water. This open and porous nature of the silt very much facilitates the discharge of superfluous water by means of under-drains; and the expence of draining is comparatively light, in consequence of its being unnecessary to make the drains very near together. The chief drawback to the success of under-draining here is the want of fall for the water: the drains cannot be laid deeper than 2½ feet from the surface (in many parts of the farm not so much), partly owing to the loose and sandy nature of the subsoil, which renders them liable to be choked, and even then the water in the ditches frequently rises in winter considerably above the level of the pipes.

The farm consists of about 270 acres of arable, and the remainder of permanent pasture land. On the arable land about 32 acres have been under-drained with pipe-tiles (some portion of it with tiles and slate soles), and about 128 acres with thorns. On the pasture land about 34 acres have been drained with pipes, and about 40 acres with Grass wedge or sod drains; the remaining portion to be completed next winter. They have all proved very efficient methods, having been of great use and advantage in keeping the surface free from wet during the winter, and thus preserving in a healthy state large portions of cropping on the low places and hollows, which used formerly to be in a very wet state after heavy rains, and rendering the soil less liable to be baked hard in summer, and more friable and easy to work, than it had before been. The drains have been laid from 20 to 26 and 30 inches in depth, and at intervals seldom nearer than 20 yards; but the benefit of this apparently incomplete sort of draining has been amply satisfactory, and certainly nothing has ever been done to this farm more calculated to improve the soil, or more profitable and promising to the cultivator. Of late years the land has been wonderfully improved and enriched by the use of large quantities of artificial food in the preparation of the fold-yard manure, and by the employment of British guano, &c., for the production of green crops, and, indeed, the whole farm has become not only enhanced in value, but also totally changed in its aspect; for in almost every field wide old hollows and straggling salt-water creeks have been ploughed in or filled up by earth carting, and, with other low places, formerly half drowned during the winter, and their crops spoiled, are now dry and bearing good crops of corn, &c.; wide and winding ditches, that wasted too much ground, have been narrowed and straightened, and, in common with all estates in the neighbourhood, good Quick hedges fence the pastures in place of dykes, whilst numerous plantations of Ash, Fir, and other trees have grown up at the corners of fields, and around the farmstead. It is by means of such improvements that the Lincolnshire marshes, not many years ago nearly destitute of wood, always sodden with wet, clouded over with fog, and infested with agues, have been delivered from their bleakness, and become as freed from fogs and epidemics as the neighbouring uplands. Respecting the pasture and meadow land little need be said. It is not first-rate grazing ground, the herbage not being rich enough in quality to fatten large cattle, and the stock, owing to its peculiar laxative nature, are liable frequently to scour. Subsoil drainage will, in time, however, correct this injurious property. Sheep thrive and fatten on it, the best pastures carrying from five to eight sheep per acre during the summer months. About 12 acres only are laid in at spring for hay, about 2½ tons per acre of which are annually mown. The sheep grazed are nearly all bred upon the farm, and in the early spring the hoggets are for a time folded on the field intended for meadow, and fed with sliced Turnips, having also a limited daily allowance of Linseed oilcake. By this means the Turnip land is set at liberty for sowing with spring corn. The usual courses of cropping adopted are: 1, Turnips; 2, Oats; 3, Wheat; 4, Beans or Peas; 5, Wheat; followed by 1, Coleseed (Rape); 2, Wheat; 3, Clover; 4, Wheat; and, if the land is clean, 5, Beans, manured, and 6, Wheat. The root crops are almost all cut and consumed on the land, average produce about 20 to 35 tons per acre. A few acres of Mangold Wurzel are grown, and removed and pitted for consumption in the farm-yard, or for carting on to the Grass land for the ewes in spring. About one-half of the arable land is sown for Wheat every year; red Wheats are principally grown, yielding on an average about 4½ quarters per acre, of good weight and quality. Oats yield heavy crops, about 10½ quarters per acre, and are generally all consumed either as corn or as cut chaff. Good crops both of Beans and Peas are produced, averaging 4½ quarters per acre. The Clover is usually mown, yielding from 2 to 3 tons per acre of good fodder; occasionally, however, Ryegrass and other seeds are sown for grazing and after [illegible] with sheep until the month of July, the land [illegible] up, well worked, and sown with Coleseed [illegible] with great advantage. The [illegible] broken sometimes, by bad [illegible] and seeds after it. On some [illegible] which have only been [illegible] alternate crops of Potatoes and Wheat [illegible], the Potatoes formerly yielding 12 tons and more per acre, but since the [illegible] above one third of that amount. Of course a large quantity of good manure must be applied to the land, in order to obtain [illegible] white crops, and in such [illegible]. To supply the beasts in the yards during the winter, together with the sheep and lambs, about one load of muck per week is required for [illegible]. £200 to £300 are also spent annually in the purchase of [illegible] bones, bone-dust, [illegible] and in the manufacture of compost manures for the [illegible]. The farm maintains [illegible] horses, [illegible] the hours of labour being from 7 o'clock [illegible] rest between 12 and 1 o'clock in summer, and from half-past 7 to half-past 4 o'clock in winter, without resting at noon. There are [illegible] day-labourers, winter and summer, besides [illegible] boys. In the weeding season [illegible] and children are also employed, for many weeks together; and in harvest many [illegible] are always required. Besides these there are a yearly hired head man of horses, [illegible] two youths, a middle-man or servant who lives in the house, and a shepherd. The head man and shepherd each have a cottage upon the farm. The usual rate of wages is 12s. per week for men, 6s. for women, 3s. for children, and 4s. or 5s. for the larger boys who can drive a team. The head man has 15s. weekly, and the shepherd 14s. The average rental of the district may be stated at [illegible] per acre.

We give the above as an instance of a report calculated to throw great light upon the agriculture of a district; we have received, thanks to the kindness of friends and correspondents, 10 or 12 such reports from farms in various parts of England and Scotland, and their comparison will undoubtedly be most instructive to the agricultural student. We hope shortly to present such a comparison to our readers in full detail. There can be no doubt, however, that it would be more satisfactory and trustworthy if the number of cases compared were greater: and we publish the above in the hope that it may induce others to furnish the means of extending the basis on which alone our conclusions can be raised.

If they think the objects aimed at worth illustration, perhaps some may be disposed to communicate the information for which we venture to ask regarding their own farm. The name of the farm need not be published, and we do not think that the particulars published regarding it would serve to indicate its locality. They will of course accede or demur to this proposal as they think proper. In any case, however, we hope, admitting the usefulness of its aim to be considerable excuse for what would otherwise certainly be a bold and unwarrantable request.

The points on which information appears to be desirable are:—1. The extent of the farm: 2. Its position in reference to [illegible] population and markets; 3. The character of the soil; 4. The extent respectively of arable and permanently pasture land which it contains; 5. The frequency and average amount of the hay crops removed; 6. The rotation adopted on the arable land; with the average produce per acre of the different crops; and their respective destination—[illegible] or for consumption on the land; 7. The quantity of manures purchased annually; 8. The quantity of animal and the quantity of manual labour employed, with the wages prevalent in the neighbourhood; 9. The rental per acre.

We think all must agree that information on these points regarding 20 or 30 farms well distributed over the country, would probably be most useful, and we shall be exceedingly glad if our readers approve of this attempt to obtain it; if.

We must correct a passage in our last week's remarks on threshing machines, which gives an erroneous idea of the structure and action of what is called THE PEG DRUM MILL. The straw taken in by the spikes on the cylinder is not dashed between others fixed in the cover. The cover resembles those of ordinary machines, except in being at a greater distance from the "drum." The only difference between the peg drum and common mill consists in the substitution of spikes for the common beaters. The corn gets threshed in this way as much as by flails: only of course more rapidly. It may probably involve a less exertion of force, but also, we should imagine, an inferior excellence of work.

THE CONDITION OF THE POTATO CROP.

FROM OUR OWN CORRESPONDENTS.

COUNTY.	AS REPORTED JULY 20th.	DATE.	SUBSEQUENT REPORT.	NAME AND ADDRESS.
SCOTLAND.		Aug.		
Forfar	Disease beginning	4	Disease not increasing	R. Colville, *Cairnton*
Fife	Not luxuriant: no disease	5	Little or no change since last report	G. Lewis, *Kirkaldy*
Inverness-shire .	.....	5	Promise well. Flower profusely. The disease has been noticed at Dingwall, Ross-shire: this is the only case I know	J. Mackenzie, *Eilean-ach*
West Lothian ..	No disease apparent	7	Apparently healthy, above ground	— *Ratho*
East Lothian ...	Some cases slightly diseased	3	Favourable, though much of the haulm of early sorts is prematurely ripening	J. Bruce, *Waughton*
Dumfriesshire ..	Look well	7	Disease showing itself in fields and gardens	J. Little, *Langholm*
Lanark	Very fine	..	Present appearance good	D. Gairdner, *Hamilton*
Selkirk	Good	5	Very good in this neighbourhood	W. Hastie, *Galashiels*
Ayr	Very fine: some reports	4	Luxuriant and fine: but disease appearing a little	J. Tennant, *Shields.*
	Luxuriant & sound	...	Promises well: taint limited	T. Dykes, *Kilmarnock*
	Double extent of fine crop	5	Disease manifest in almost every field. Its spread and virulence more like 1846 than 1847	A. Ralston, *Maybole*
Berwick	Good; no disease yet	...	Remarkably good; no disease here	A. Logan, *Greenlaw*
Wigton	Very good at present	...	.....	J. Caird, *Wigtown*
			Very good: but partially diseased	D. Mackie, *Whithorn*
WALES.				
	Good	3	Present appearance good	T. Williams, *Conway*
	Few planted; but much diseased	...	Disease much complained of but extent not known	E. H. Griffith, *Vale of Clwyd*
	Very well indeed	4	Haulm going very fast, not many diseased tubers found	R. Carrow, *Haverfordwest*
	Old disease again appeared	5	Tubers in rapid decay, appearances as bad as 1846	W. Edmonds, *Swansea*
	Good: a few diseased in gardens	6	Symptoms spreading, and appearance in cases *very bad*. Diseased tubers at almost every stem	J. Girdwood, *Chirk*
ENGLAND.				
Northumberland	Full but not luxuriant: no disease	...	Disease apparent, but slight and not extending	G. Darling, *Woolerton*
	Good	5	Perfectly healthy here	W. Glover, *Newcastle*
	Promising	4	Very promising	— *Alnwick*
Durham	Good bdth.: various		No disease	T. Crofton, *Durham*
Cumberland ..	Complaints of disease	4	Very superior	S. Rigg, *Wigton*
Westmoreland ..	Generally good	5	Disease again appeared generally in gardens, and partially in fields	W. Key, *Kirkby Lonsdale*
				[Thorne
	Promising	4	Healthy as yet in the *fields*	J. Crosby, *Kirby*
	Very good	4	Generally looking well, but symptoms appearing	D. H., *Kendal*
	Healthy	3	Well	A Traveller
Yorkshire ..	Very promising	3	Promise an abundant crop; no disease in the *fields*	H. J. Turner, *Richmond*
	Large breadth, looking well	4	Disease hardly worth notice	M. Milburn, *Thirsk*
	Looking healthy	5	I have not seen a diseased tuber this year; the early haulm dying prematurely	P. Stevenson, *Raiston, Thirsk*
	Good	3	On the whole, excellent. Some disease in early kind	J. Priestman, *Pickering*
	Well above ground	7	Still healthy: but patches diseased in *gardens*	L. P. Outhwaite, *Cattewick*
Lancashire ..	Disease apparent in places	4	Appears to increase	E. Dawson, *Lancaster*
			Does not appear to progress as in former years	C. Evans, *Wigan*
Cheshire	Disease in some places	3	Early sorts seriously affected and symptoms now appearing in the later kinds	R. Owen, *Nantwich*
			Early & second early kinds blighted, and leaves of later sorts spotting	W. Palin, *Chester*
Lincolnshire ..	Diseased, but not so badly as last year	4	Garden crops of early kinds very much diseased	T. Aitken, *Deeping Fen*
	Never looked better, but again diseased	5	A good yield, but early sorts diseased	W. Martin, *Horncastle*
	Look well above, but badly diseased	3	Those which look well above are ½ to ⅔ bad in digging	G. Gilliat, *Horncastle*
	Looking all you could wish	4	Early planted are much diseased	I. Clarke, *Long Sutton*
	Very prosperous looking	...	Disease spreading; crop looking very indifferent	W. Wingate, Jun., *Hardy*
Nottinghamshire	Late sorts good; early complained of	3	Exceedingly bad; as bad if not worse than at this season in 1845	E. J. Lowe, *Lenton*
	Present appearance favourable	7	Variable; tops going in some places; tubers diseased, early sorts wholly affected	W. J. Pickin, *Ollerton*
Shropshire ..	Disease appearing in many places	4	First and second sorts more or less diseased; in many places all rotten	W. Minor, *Market Drayton*
	Disease appeared	4	Making daily progress	[westry
Staffordshire ..	.....	3	Very good; some diseased	C. A. A. Lloyd, *Os*
			Early sorts much diseased: late sorts not much affected	G. White, *Alstonfield*
Leicestershire ..	Very good at present		... ..	Thomas Darling, *Beau Desert*
				T. Spencer, *Knossington*
		3	Good crop; disease appearing in most places	J. Buckley, *Loughborough*
Rutland	Look well; disease appearing	3	Generally looking well, but disease has attacked them considerably	W. Fancourt, *Empingham*
	Very luxuriant, but not free from disease	3	Disease spreading with the greatest rapidity in the most luxuriant places	S. Cheetham, *Oakham*
Derbyshire ...	Symptoms of disease	...	Early sorts much affected	S. Ward, *Derby*
			Strong and promising, excepting early sorts	Joseph Cockins, *Chesterfield*
Herefordshire ..	No appearance of disease	3	Disease slowly but gradually extending	J. Cheese, *Castle Weir*
		3	Early sorts greatly affected	T. Kinnersly, *Leo-*
	Disease has appeared in places	3	Disease progressing rapidly; often rotten and offensive	— *Ross.*
Worcestershire .	Much diseased in the haulm	4	Decidedly worse since my last report	J. Tinley, *Martley*
	Some talk of disease	4	Early sorts all diseased, and daily getting worse	J. Nork, *Stourbridge*
	Very good; disease appearing	4	Abundant crop, but all diseased, worse in the allotments than in 1846	F. Woodward, *Pershore*

COUNTY.	AS REPORTED JULY 20th.	DATE.	SUBSEQUENT REPORT.	NAME AND ADDRESS.
ENGLAND.		Aug.		
Worcestershire .	Reports of disease	5	Disease extending in all directions	R. Smith, *Droitwich*
Huntingdonshire	Some complaints	3	Various; reports have been exaggerated	T. Bowyer, *Buckden*
	Partially diseased	3	Early sorts much diseased	[ton P. Purves, *Kimbol-*
	Disease appearing	5	All more or less diseased	— *Leighton*
Norfolk	Healthy, except a few spots	5	Increasing, and threatening greater damage than in 1846 or 1847	T. L. Taylor, *Harleston*
	Very well at present	4	Disease on the advance	[Walsham W. Cubitt, *North*
	I have seen only one *decided* disease case	3	Early sorts attacked; disease rapidly spreading	R. B. Harvey, *Harleston*
	Very much diseased	3	As bad as any of the past three years	R. Ward, *Acle*
Suffolk	Diseased	5	Diseased, and anything but promising	E. S. Gowing, *Eye*
	Partially diseased	5	Disease appearing in many places	W. D. Freeman, *Framlingham*
	Evident symptoms of disease	5	Disease increasing	W. Green, *Debenham*
Monmouth ...	Promise well, but slightly diseased	2	Disease rapidly increased	G. R. G. Relph, *Cefnila, Usk*
		3	Two-thirds of the early Potatoes diseased; late ones not yet attacked	H. W. Walbridge, *Abergavenny*
	Early sorts diseased; late ones attacked	5	Early Potatoes ¾ rotten; late ones ⅓ ditto	A. Purchas, *Pilstone*
Gloucestershire.	Look well	3	Diseased as bad as during the first year	R. Beman, *Stow*
	Recently blighted, & rapidly rotting	2	Haulm generally decaying, but disease in tubers not much progressing	T. Hunt, *Almondsbury*
	Blighted	2	Early sorts gone, and disease appearing in late ones	W. Niblett, *Iron Acton*
	Generally diseased	4	Haulm generally decaying	E. Burnell, *Hanham*
	Disease apparent	2	Early sorts yield well; haulm destroyed, tubers ¾ sound	J. F. Peacey, *Winchcombe*
	Plenty of top: some diseased	8	Early ones bad and getting worse; late ones going	J. Kearsey, *Tarleton*
Oxfordshire ...	Disease progressing	3	Disease spreading fast, except on high and dry lands	S. Collier, *Witney*
		2	Daily becoming more diseased; yielding abundantly	S. Druce, jun., *Eynsham*
Buckinghamshire	Bulky, but showing the disease	3	Disease rapidly spreading, at least over the haulm	A. Fraser, *Claydon*
Hertfordshire ...	Luxuriant; disease appearing	4	Likely to be as bad as 1846	S. Sandars, *Hemel Hempstead.*
	Disease appearing	9	Going rapidly, even where good a few days ago	J. House, *Wheathamstead*
Bedfordshire ...	Disease suddenly appeared	...	Leaves destroyed considerably, and *early* sorts much diseased	T. Bennett, *Woburn*
	Murrain has slightly appeared	5	Stem and leaves generally diseased, and tubers of the early sorts much affected	R. Valentine, *Leighton Buzzard*
Essex	Good	3	Haulm diseased, but tubers rarely so	E. J. Cook, *Thorpe-le-Soken, Colchester*
	Early sorts diseased	...	Bad	*Dunmow Ag. Soc.*
	Disease just appearing	5	Never worse	F. Fairbank, *Sible Hedingham*
	Disease appearing	...	Early sorts all affected in the haulm, slightly in tubers	F. S., *Braintree*
		5	Disease has more or less affected the whole crop	G. Wilkins, *Manningtree*
Wilts	Disease spreading fast	3	Haulm almost universally diseased, tubers not so bad	T. Arkell, *Penhill*
	At present good	2	Disease not spreading as it did two years ago	B. Bailey, *Calne*
	Gone off in few cases	4	Various; if ¾ are saved we shall be well off	G. Brown, *Avebury*
Berkshire ...	Disease appearing	1	Various; in some cases very bad	E. W. Moore, *Farringdon*
	Great complaint	7	Very much diseased	B. Brooks, *Wantage*
Surrey	Blight visible	2	Blight progresses most rapidly, prospects far worse than in 1846	J. M. Paine, *Farnham*
Kent	Not free from disease	3	The worst crop we have ever seen yet; rotting so fast that the fields smell	T. Rigdon, *Hythe*
	Good, with few exceptions	4	All more or less attacked	J. Smeed, *Bromsden*
	Disease progressing	3	Making extraordinary rapid progress	R. Matson, *Wingham*
Sussex	Looking well, except in places	...	Early sorts much injured	E. Vizard, *Cuckfield*
	Complaints	5	Threatening to be as bad as in 1846	C. P. Valentine, *Lewes*
	Not much blighted	3	Blight rapidly extending	T. Brotherstone
	Blighted lately	3	Scarcely a piece but what is bad	E. Wyatt, *Endsworth*
Hants	Much blighted in places	4	Very much blighted	— *Basingstoke*
	Diseased	2	Diseased earlier than in any previous year, and haulm going fast	C. Darling, *Lyndhurst*
	Badly diseased	3	Stationary at present, but half of those first attacked are destroyed	J. Twynam, *Stockbridge*
	Like 1845	3	Worse than I ever saw them	J. Eames, *Beaulieu*
	Diseased earlier than last year	3	Worse than any previous year	D. Nicholson, *Beaulieu*
	Almost universally diseased	...	All affected	W. C. Spooner, *Southampton*
	Blighting rapidly	3	As bad as first year	— *Aireton, I. of Wight*
Dorset	More evidently attacked than in 1847	2	They look now as if it were October	J. Furmidge, *Beaminster*
	Now miserably diseased	...	More fatal and destructive than any former occasion. I have observed the crop over 25 miles by 50	L. Luckham, *Broadway*
				[hall
Devon	Again diseased	...	Deplorably bad	G. Fowler, *Princes-*
	... ...	...	Early sorts gone; late ones looking bad	S. Cornish, *Kingsbridge*
Cornwall... ...	Disease appearing	5	Disease rapidly progressing	J. Michell, *Frock*
		2	Generally but not universally affected	— *Trelissick*
		2	An abundant crop; diseased everywhere	F. Karkeek, *Truro*
	Partially diseased	...	Early sorts good crop, but decaying fast	J. Roberts, *St. Austell*
	Abundant and good, diseased in places	7	Prospects very gloomy	W. Simmonds, *Gwennap*

Home Correspondence

Rival Threshing Machines.—I did not intend calling your attention to the following remarks, but owing to the numerous applications I have received from gentlemen residing in Scotland and several parts of England, wishing to know why the prize was awarded to Mr. Garrett for his bolting threshing machine, at the late meeting held at York, when they were given to understand mine was in every way superior to his; I deem it advisable to state in proof of this, through the medium of your widely circulated Paper, the result of the trials held there; they are as follows. Mr. Garrett's 4-horse power bolting threshing machine was first tried, which threshed 50 sheaves of Wheat in about 4½ minutes, leaving the corn much broken; my bolting threshing machine was next tried, which threshed 50 sheaves of Wheat in about 2½ minutes; the judges, then, could not agree as to the time the machine threshed the 50 sheaves in, and ordered my men to thresh 50 sheaves more, which we accomplished in 2¼ minutes, leaving the straw quite clean, perfectly straight, and not a

broken corn to be found. The above was witnessed by a large number of implement makers, who were present at the show, and will confirm my statement. I shall now leave the discerning public to decide which implement is most useful to the farmer and worthy their patronage; *William Cambridge, Market Lavington, Wilts, Aug.* 1. [The public require a statement on the other side before it can form an opinion.]

Potato Disease.—I have this year given attention to the Potato crop from an early period; I have examined the plant in every stage of its growth, and in different situations, within a radius of 100 miles round London, and for the last six weeks have seen strong grounds for forming the opinion that the disease would prove more general and more severe, within the district named, than either in 1846 or 1847. I saw that at a very early period of the growth of the young plant, and whilst the haulm above-ground was looking green and flourishing, that the roots beneath were gradually withering upwards. I have seen, as these roots perish, the haulm above becomes affected, the young new Potatoes continuing sound, until the premature decay of the haulm interferes with their further progress. That what I have observed may be understood by those not acquainted with the growth of the Potato, I must explain that after the set or seed Potato is planted, each of its eyes sends up a shoot to the surface, and in the underground progress of these shoots roots are thrown out like branches, and upon these the young Potatoes are borne. The shoot, whilst healthy, presents underground a clear, colourless, opaque appearance, but as soon as it is affected by the disease turns to a withering brown, and gradually spreads upwards to the surface. I have clearly seen that the first affection is in immediate contact with the old set, and that the disease spreads upwards, that the haulm is not affected till some time after, and that the young Potato becomes diseased only in the third stage—that is, when both root and haulm have failed. From this I conclude that whatever may have been the first cause of the disease, it is now clearly propagated from the old set, and, like the smut in Wheat, it seems to have become a heir loom disease, arising neither from atmospheric causes, peculiar seasons, nor particular soils, although, like all diseases, it may be aggravated by unhealthy interference with its growth. It is an extraordinary fact that although I have examined many hundred plots, and frequently been called to view what were supposed to be fine healthy pieces, I have not yet met with a single instance of entire exemption from the disease. I must confess that I feel there are grounds greater for alarm than were presented in 1846 at this season. I fancy the corn crops are inferior, the stock of foreign grain *nil* as compared with the immense stock then here,* and I am told that, owing to the reluctance to enter into any speculative purchases, we shall have very short supplies from abroad. Your readers will say this, after all, is only the opinion of an individual, but I would assure them although it is so, still it comes from one who is farming largely, and who is carried, by his profession as a land-surveyor and agent, over wide districts, and with uncommon opportunities for examination, and learning the opinions of practical men; and so general do I find my expressed opinions the opinions of farmers and gardeners, that I am very much surprised, recalling the alarm of 1846, that the public have not participated in what I believe the feeling very general in the country, namely, that our prospects are not equal to what they were either in 1846 or 1847. Still I would not be an alarmist in the sense this term is usually applied. I would wish to have attention early called to a want of supply that I see every reason to expect, lest alarm coming late should lead to undue advances in prices, and speculative struggles for supplies that in the end are ever attended with much mischief; *Hewitt Davis, 3, Frederick's-place, Old Jewry, London, August* 5.

Spring park Farm.—In reply to the inquiries of "One at a Distance," I readily inform him that my crops are good; on the whole, better than I have commonly had them, and yet they are produced from a thinner seeding than I have hitherto used. My Wheat is grown from little more than 2½ pecks per acre, and after Beans or Peas, and where no manure has been applied for five years; and my Oats and Barley from less than 5 pecks per acre. Were I to say what returns I have, I probably should scarcely be believed by farmers who are accustomed to think three times the seed necessary; I therefore refer your correspondent for this information to the opinions of any of your readers who may have seen the crops; for any one's testimony in favour of my system will be better than my own, provided it be based on inspection, and not on hearsay or the accounts of others, and provided it comes with the informant's name and address. I have now for 10 years been calling attention to the injury and waste of corn from too thickly sowing, and all the time have invited farmers to judge for themselves by testing the theory with the returns that I have annually obtained. I have had reason to be satisfied with my practice, and have therefore wished others to follow it, and for this reason have shown my farm as an example; but I am now entering on my last year's tenancy of Spring-park, and shall naturally farm to get the largest returns at least expense, and without looking further than the current year; I am therefore ceasing to adhere strictly to a system that, in its rotation, the cultivation provides for the crops to follow, as well as the present, and therefore I shall no longer hold out the same inducements to farmers to visit me, but wherever my new farm may be, I shall be equally ready to have it inspected. Those who wish to know the principles on which I have been farming I beg to refer to my work, "Farming Essays," which may be had of any London bookseller. In reply to the other questions put to me, I inform your correspondent that my root crops, on the whole, last year turned out well. Some of my Mangold Wurzel I have still left; it continues sound, and my pigs get fat on it with no other food. My Kohl Rabi proved a very heavy crop and deserving of all the encomiums I have given it. My French sheep I found necessary to put in yards in the winter; most of them got fat on little else than Kohl Rabi, and, on an average, paid me for their food 10 per cent. on their cost in nine months—a return I did not near realise from my English sheep. The foreigners were at first troublesome, as they were with difficulty kept within hurdles, and they also required attention from the shepherd. Whilst I was able, I was glad to kill of them for my own table; for, although used to Welch and the finer descriptions of mutton, I never ate any other I liked so well; *Hewitt Davis, 3, Frederick's-place, Old Jewry, London, August* 5.

* The stock of foreign grain in Britain, 27th June, 1846, was 1,850,000 quarters, whereas it is not now a tithe of this quantity. The imports in the six months afterwards were 2,750,000, and by no possibility can we this year get here in this period a fourth of this supply.

Sheep Disease.—Having read, at p. 517 in your Paper of July 29, the report of the discussion at the weekly Council of the Royal Agricultural Society, respecting the disease in sheep and the symptoms, I venture to trouble you with a few remarks for such of your readers as prefer prevention to cure. Last summer, about the first week in July, all kinds of stock, cattle, sheep, and pigs, were attacked with fever, which showed itself in the mouth and feet. My neighbours suffered from it most severely, and in Dorsetshire, where so much of the farmer's profits arise from dairy stock, the loss from death or from the deterioration of the survivors was very great. Now for the remedy: 2 lbs. Epsom salts, 2 oz. powdered ginger, 4 gallons thin oatmeal gruel, for 31 sheep. The shepherd administered this at half a pint a sheep, and three days afterwards a second dose. Very few of my flock suffered from the disease. My cattle and pig yard adjoins that occupied by my dairyman: his cows and pigs suffered severely. He thought "Gentry's stuff never did no good to he," and "he never knowed no use of being wiser than other people." Unconvinced by his reasoning, I administered to my pigs and fatting stock proportionate doses, and am happy to say that none were attacked, with the exception of one beast, whose ailing and want of appetite was the signal for the doctor. The beasts were drenched with ½ lb. salts, 1 oz. ginger, and gruel *quantum suff.* The dose for the pigs was mixed in their moist food homœopathically, *i. e.*, in small quantities, at a meal; *T. P. B. M.*

Diseases amongst Sheep.—In your notice (p. 517) of the weekly meeting of the Council of the Royal Agricultural Society, mention is made of a disorder amongst the sheep of Mr. L. Woods, affecting the lips and nose. Many years ago my sheep were affected with a very similar ailment; but I very soon got rid of it, by anointing the part with a mixture of honey and subborate of soda, applied with a feather; two or three dressings generally effected a cure in a few days. As the application is perfectly harmless, perhaps Mr. Woods, or others whose sheep may be similarly affected, may think it worthy of a trial. *A Hint*: Last year a friend having a small corner in a field unoccupied, mixed (by way of experiment) sulphuric acid, sp. g. 1.75, with about 17 times its bulk of water, with which he watered the surface, from a watering pot, at the rate of about 700 lbs. of acid per acre. The worms, slugs, &c., soon came to the surface and died. About a week afterwards he planted the plot with Swede Turnips, which grew away most luxuriantly, and promised a great crop; but being situated adjoining a public highway, were nearly all stolen, so that the actual produce could not be ascertained. Query: would not a similar application be likely to destroy the wireworm and slugs, if applied previously to Wheat sowing, and also act as a manure? It may not be amiss to caution agriculturists, to be careful from what manufacturers they procure their sulphuric acid, as there is much now made from arsenious copper ores, which contains arsenic, and is of course injurious to vegetation; it will therefore be prudent to procure acid from makers who use only sulphur in their manufactory. They will also find acid at sp. g. 1.75 cheaper in proportion to its strength than that at 1.85; *Lusor.*

Management of a Small Farm, &c.—I beg to solicit your kind advice and assistance under the following peculiar circumstances; and any practical hints from your experienced readers will be most gratefully received and acknowledged. I am a retired captain of infantry, with 10 children, and nothing to depend on but the purchase-money of my company, so am forced to turn myself to industry in some shape; and my knowledge as well as my inclination alone leads me to the safe pursuits of a rural life, not exactly as a plough-holding farmer, but as a cow-keeper, miller, apiarian, and horticulturist on a small but strictly business-like scale. Having been quartered in the Channel Islands more than once, I am acquainted with the peculiar breed of cow called Alderney, their treatment, &c.; and I am only divided whether my choice should fall on that species, or the wonderful little creature called the Kerry, which I particularly noticed while quartered in that romantic county of unhappy Ireland; you may purchase three Kerrys for the price of one Alderney (in the islands). Now my first question is, which variety would you recommend for a butter dairy? I purpose adopting the house or stall system of feeding [illegible], as soon as my Lucerne and other artificial Grass can be ready; [illegible] I must make shift, always remembering that "economy is the life of the army." In order to have a constant [illegible] supply of bran and pollards on the cheapest terms, I think of purchasing a small French stone mill [illegible], of Birmingham, is the best maker, [illegible] and dress some 3 or 4 bushels of Wheat per [illegible]; the surplus flour, after home use, must find a ready [illegible]; and I shall have [illegible] and pigs to consume [illegible]. I shall confine my tillage to cattle food, viz., Potatoes, Carrots, Mangold Wurzel, [illegible] and Turnips, [illegible]. I [illegible] three cows would be sufficient, [illegible] bees, I feel satisfied, are [illegible] more profitable than is generally supposed. [illegible] can pay better, as far as they go; [illegible] and I [illegible] the returns should [illegible] having [illegible] of [illegible], I have [illegible] formed what [illegible] with eggs [illegible] price, and [illegible] of the best and most profitable poultry management in the East and West Indies, &c., I [illegible] about [illegible], to be kept in separate [illegible] of about a dozen each; the [illegible] steadily [illegible] portion of animal food, from [illegible] per [illegible]. [illegible] of my plan; I have [illegible] and calculated with [illegible] precision, [illegible]. [illegible] I have so many to provide for, and [illegible] habits, [illegible] of a gentleman, I [illegible] the most of everything [illegible] [illegible] the market price of the day, [illegible] [illegible] in short, I [illegible] where he might [illegible] the right way to work. [illegible] and close [illegible]. [illegible] much [illegible] ones. Everything I shall [illegible] retail, at [illegible] cream, flour, pork, new laid eggs, [illegible] poultry, and [illegible]. [illegible] all strictly pure and [illegible] a highly [illegible] become known. Now, sir, the first point in which I require good advice is in the selection of my stock. Assuming that [illegible] Kerry cows may be bought in their mountains for [illegible] and one Alderney in the islands for the same, which should I prefer? Which is to be preferred, the Essex, the Berkshire, or the [illegible] sow, for supplying small [illegible] pork and roasters? What breeds of fowls common in England lay most steadily? What district of England would be best for a farm not exceeding [illegible] acres, and for which I shall (when my questions are solved), advertise in the *Gardeners' Chronicle and Agricultural Gazette*, as it must be read most extensively in such localities as would best suit my views, viz., where garden culture prevails. If any of your readers could give practical hints as to the best millwright for such small mill as I require, I shall be very thankful: one to be worked by a [illegible] horse power engine would be about the mark, which could also be made to work the churn, cut roots, chaff, &c. &c. Your insertion of this letter, and some comment on it by any of your readers, will be esteemed a great favour. I beg to enclose my card, not of course to be paraded in print, but as evidence of my "good faith"; *S.* [We know of no comparison between Kerrys and Alderneys. As compared with the Ayrshire, the former, in the case of one private experiment, yielded one-fifth less milk each per diem, which milk, however, yielded one-eighth more butter per gallon.]

The Cost of New Inventions.—It is the case with most enthusiastic admirers of a new or improved invention, that they overlook certain important features connected with the profitable prosecution of the business; 12*l.* or 15*l.* is a great deal to give for 100 Strawberry plants worth 5*s.*, and 40 guineas is a good deal to give for a machine to hatch out 100 eggs once every three weeks throughout the year. To repay that amount, [illegible] chickens would need to be sold at a profit of [illegible] each, besides the other items connected with rearing them. It ought to be a matter settled beyond a doubt, that poultry can be reared throughout the winter by chicken mothers at [illegible] guineas each. But the fact is, whatever may be done hereafter, to my certain knowledge, Mr. Cantelo did not rear a single chicken all last winter from the end of Nov. to the month of March. I have no wish to depreciate an invention of great ingenuity, but having been a close observer, and the means, by my writings, I believe, of giving some publicity to it, I consider it due to all to make known these facts. Those who have purchased the incubators and chicken

mothers will have an ample opportunity next winter of testing the merits of them, and I hope some parties will favour us with the results of their experience. No one can have a more sincere desire than I have to see every individual fairly rewarded for his labour, but I deem it unjust to keep back any part of the truth, or to allow without notice one person to reap the reward of the labours of others, and appropriate them as his own. There are many plans of chicken mothers much better and cheaper than Cantelo's, and which were well known before his name ever appeared in print. I learnt lately that a gentleman in Sussex had spent more than 1000*l.* in fitting up a complete set of apparatus, to produce 200 fowls a day, but that, finding hundreds of the chickens dying every night, and many other unforeseen difficulties, he threw the business up, and would now let the premises all complete for a small rent, but the patentee and chicken incubator will not permit it to be used under a premium of more than 1000*l.* What a joint stock company will do with the business time will prove. I would like to see the invention properly tested, and wish all parties great success in carrying out the benevolent project of producing poultry for the million; *W. M. F., August* 1.

House-Feeding Sheep.—The following are the results of an experiment in house-feeding 20 cross-bred Leicester and Cheviot hogs last winter. There is nothing peculiar, I dare say, in it; and perhaps it proves nothing, except that we farmers of the north country cannot boast of our profits in the fattening department like some of our more fortunate brethren of the south.

20 hogs in 20 weeks consumed—			
25 bush. Oats, at 2*s.* 8*d.*	£3	4	8
4½ ditto Beans, at 6*s.*	1	7	0
3 stones Linseed, at 2*s.*	0	6	0
1400 lbs. hay, at ¼*d.* per lb.	1	9	2
*18 tons yellow Turnips, at 5*s.* per ton	4	10	0
	£10	16	10
Add value of hogs when put up in Nov., 18*s.* each	18	0	0
	28	16	10
By hogs sold in April, at 32*s.* 6*d.* each	32	10	0
Profit	£3	13	2

Attendance and litter considered equal in value to the dung.

The average live weight of 10 of the best, when housed, was 83⅜ lbs.; and when sold, after 20 weeks' feeding, they averaged no more than 104⅜ lbs.; so that the gain was only a fraction more than 1 lb. per week. These were weighed every four weeks.

1st weighing, average gain, 4 lbs. 3-10ths—when fed with Turnips only.†
2d „ „ 2 lbs. 8-10ths—began to shed their teeth.
3d „ „ 5 lbs. 4-10ths—had Oats, Beans, and Linseed, along with Turnips.
4th „ „ 5 lbs. 2-10ths—ditto, ditto, ditto.
5th „ „ 4 lbs. 2-10ths—ditto, ditto, ditto;

Turnips began not to be good, and several of the hogs suffered from foot-rot.

Each sheep for the 1st four weeks ate daily 17½ lbs. of Turnips.
„ „ 2d „ „ 15 lbs. „
„ „ 3d „ „ 13⅜ lbs. „
„ „ 4th „ „ 12 lbs. „
„ „ 5th „ „ 12 lbs. „

Cost of feeding each sheep for 20 weeks, 10*s.* 10*d.*
Profit per head, clear of expenses, 3*s.* 7½*d.*

J. Little, near Langholme, Dumfriesshire, July 22. [A number of sheep we sold by weight the spring before last weighed, on the average, at the butcher's, 11½ twentieths of their live weight.]

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

Mr. Pusey, M.P., Chairman of the Journal Committee has reported a further adjudication by the judges in the department of Prize Essays; namely:

The Prize of 20*l.* for the best Account of the Management of Hops, to Samuel Ruiley, of West Yaldham, near Wrotham, Kent.

Royal Agricultural Society of Ireland.—This Society held its great annual show of cattle, implements, and farm produce, at the ancient and beautiful city of Kilkenny, on July 26 and the following days. The yard was opened at about 1 o'clock to the public on the above day, the judges having then made their award on the horses, cattle, sheep, and pigs. Amongst the horned stock were to be found very many first-class animals. Mr. Douglas's Gipsy King got the first prize against the Hon. A. F. Nugent's young bull Bamboo, which could not be surpassed in symmetry. This was the animal that got the first prize in his class, and that of the best in any class, at the Royal Dublin Society's exhibition in April last; he only got the second premium here. We are under the impression that the judges ought to state the points that decided them in their award, as it will tend much to the information of the public in their endeavour to breed first-class animals; and, although the challenge cup was awarded to Mr. Todd's short-horned heifer Judith, it puzzled the judges so much in giving their award that we understand it took them about three hours to decide between Mr. Todd's Judith, Mr. Carter's Adelaide, and Mr. Turner's Primrose. The horses exhibited were but few, indeed; but of these few the prize animals were really very excellent. The sheep did not come quite up in merit to those at the Royal Dublin Society in April last; and Mr. Douglas, of East Lothian, carried off the prize for the best shearling ram. There was a fair show of pigs. The fowls were very good. In the butter department there were 35 entries for the English or London market, which were awarded the Society's prizes; and 50 entries for the foreign market, which were all rejected for want of merit. After breakfast, in the Tholsel, this morning, the chairman, Lord Clancarty, introduced a discussion on the theory and practical application of the manures most within the farmer's reach; and Professor Sullivan, Sir Robert Kane, and others, stated the theory of the subject. Amongst the practical men who spoke on the subjects above considered, was a Mr. Bradley, who described a practice which he had adopted, of spreading his farm-yard manure on the stubbles in autumn or early in winter, and said a given amount of dung, thus applied, would produce better effects than a similar amount would if allowed to become decomposed.

July 27.—The dinner took place this evening in a pavilion erected at the terminus of the Waterford and Kilkenny railway, his Grace the Duke of Leinster in the chair.—Lord Clancarty, in acknowledging the toast, "the Royal Agricultural Improvement Society of Ireland," said: Its rules were of such a nature as to open it as a neutral ground for every Irishman, be his principles or peculiar opinions what they might, to unite in endeavouring to raise the agricultural condition of Ireland, and enable the inhabitants of this country to enjoy the plenty which the proper cultivation of her soil would place within their reach. There was scarcely anybody who did not consider himself, more or less, to be a patriot in some manner or other. There was not an Irishman who did not love and wish well to his country, however each might differ as to the best mode of promoting her interests; but, though entertaining the most happy sentiments towards their country, they had a great diversity of views as to the best mode of carrying their sentiments into effect. He had, however, never met with any one who could venture to gainsay the proposition he now made, that the condition of the farming classes was, in point of fact, the true gauge of the prosperity of Ireland. All the country had therefore an interest in improving the condition of the Irish farmer, for in proportion as he prospered so would the others depending upon him; if he were poor and untarify, the owner of the soil could never be in a good position, and both classes were likely to be brought down to a state of bankruptcy. But if the farmer be in a thriving condition—if he be prosperous—if he turn the soil to a proper account—both those to whom he pays rent and to whom he pays wages will participate in his prosperity; the owner of the soil would feel himself secure in his income, and relieved from the pressure of poor-rate, while the labourer would feel the benefit of increased wages, and greater certainty of receiving them; and he would be enabled to enjoy that which he was at present in a great degree excluded from—much of the comforts of civilised life. These would show that the objects of the Society embraced the advantage of all classes. To promote the general welfare of all, the Society was formed; and if they should succeed in establishing a sound and beneficial system of agriculture, commercial and manufacturing prosperity would assuredly follow in its train. They had forwarded agricultural instruction through the medium of treatises suitable for the circumstances and the times in which the farmers of Ireland were placed, and these publications had been most successful. They had also their Transactions published, first in separate volumes, but now in a quarterly journal of agriculture. Though last not least, they had sent, acting on the suggestion and with the liberal and cordial co-operation of Lord Clarendon, agricultural instructors into the remotest parts of Ireland. With reference to the course his Excellency adopted, it was with the utmost pleasure he found the toast which was given, of the Lord Lieutenant and prosperity to Ireland, so cordially responded to by that assembly. In the course he had taken, he not only forwarded the agricultural improvement, but he had set an example, which it was to be hoped all future Lord Lieuteuants would follow, of leading and stimulating the Agricultural Society. The system of practical instruction had been carried out with great benefit, and he should do his colleagues in the Council the justice to say, that they deserved the utmost credit for the care and attention which they paid to the selection of these practical instructors; and he firmly hoped the success of their operations would fully justify the labour and attention which had been given to that department. In reference to that subject he might mention that he had seen in the press some reflections on the Society for withdrawing these practical instructors. Now, the Society had no disposition to withdraw any means of instruction they could afford to the farmers of Ireland; but it should be remembered that those persons could not act gratuitously; and unless the country gentlemen came forward with funds, it would be impossible to continue sending practical instructors among the tenantry. Most happy would the Council of the Society be to do so; but in most of the localities they visited it might not be amiss to observe, that as far as the localities were concerned, their services were entirely gratuitous. Not a halfpenny had been received from the proprietors in most of those districts which the Lord Lieutenant was most desirous should have the benefit of instruction in improved agriculture, and where he trusted the foundation had been laid of great, lasting, and permanent improvement. —Mr. Stevenson returned thanks for the judges. The gentleman who proposed their healths had made some allusion to the forms of Scotch leases. He was, unfortunately, not quite right in his statement, for those leases contained many antiquated clauses which were barriers to modern and improved husbandry. The true basis of leases was a fair commercial contract. All other considerations in granting a lease would ultimately prove prejudicial to the landlord and tenant. A question was advocated in East Lothian, as to the necessity of having tenant-right established by law; but the best method was, that the landlord should be willing to pay the out-going tenant for every permanent improvement, and that the in-coming tenant should be perfectly aware of the obligation of an out-going tenant, if he deteriorated the soil to pay for that deterioration; while, upon the other hand, if he improved the land permanently he would be entitled to something for having done so. Since he came to Dublin he had heard most prejudicial doctrines broached concerning tenant-right. In his opinion the persons who propounded such doctrines were no friends to the movement; they were, in fact, the bitterest enemies the tenant ever had. The landlord had as decided a right over his soil as the tenant had over the capital in his pocket, and no law should be permitted to interfere with those mutual rights. It was essential that the question should be satisfactorily adjusted. Mr. Pusey had withdrawn his bill upon the subject, but the agitation of it would go on amongst the tenants till something was done. Allusion had been made to the tenants of Scotland, but the prosperity of that country was not so much ascribable to them as to the labouring population, for there was scarcely an intelligent hind or ploughman in Scotland who was not as well able to cultivate the land as his master. The universal intelligence and education of the lower classes was one of the causes of the increase of the property of Scotland, and he was sorry to see their claims and merits were too much overlooked.—Mr. Fergusson, in returning thanks as a successful candidate, said: He had won to-day the premium for two-year olds in the short-horned class, with his bull, Safety, and the week before last he exhibited the same animal in York for the honour of old Ireland. He did not belong to the much abused class of Irish landlords; he was simply a landholder; he paid rent, and was thankful he had it to pay. He was an Englishman, but an Irish settler of 20 years' standing, and he concluded, notwithstanding, that Irish landlords should not be abused. English people knew very little about Irish landlords, or anything else Irish. The prosperity of Ireland was very peculiarly circumstanced, but there were no better fellows than the landlords. (Hear, hear, and laughter.) A proof of the fact was afforded by what he heard to-night with regard to the establishment of the Highland and English Societies. The English Society had not been two years established when Peter Purcell saw its capabilities, and suggested the Irish body, and now Ireland felt the benefit of that Society through every province.

LIST OF PRIZES.

Judges of Stock.—Messrs. Hunt, Stephenson, and O'Brien.

Short-horned Bulls.

Sect. 1.—For the best bull, calved after the 1st of January, 1845, and previous to the 1st of January, 1846, 30*l.* and Medal, to William Todd, Elphinston Tower, Tranent, for short-horned bull, "Andrew," 3 years old; 2d, 10*l.*, to the Lord Bishop of Kilmore, Cavan, for "Tariff," 4 years and 8 months old.

Sect. 2.—For the best bull, calved in the year 1846, 20*l.*, to Wm. David Fergusson, Rosebank, Rathfarnham, for short-horned bull, "Safety," 2 years old; this bull was also the second best in the yard; 2d, 5*l.*, to the Bishop of Kilmore, Cavan, for "Blue Bonnet," 2 years and 2 months old.

Sect. 3.—For the best bull calved after the 1st of Jan., 1847, 10*l.*, to J. Douglas, Athelstanford, Newmains, Haddington, for short-horned yearling bull, "Gipsy King;" 2d, 5*l.*, to Hon. A. F. Nugent, Pallas, Tynagh, for "Bamboo."

Sect. 4.—For the best cow in calf, or that has had a calf in the year 1848, 15*l.*, to Wm. Henry Carter, Castlemartyn, Kilcullen, for short-horned cow, "Adelaide," 6 years old; 2d, 5*l.*, to B. Willan, Mitchelstown, Finglas, for "Roseberry," 4 years old.

Sect. 5.—For the best heifer in calf or in milk, calved in the year 1845, 10*l.* and a Challenge Cup, to W. Todd, Elphinston Tower, Tranent, for short-horned heifer, "Judith," 3 years and 4 months old; 2d, 5*l.*, to J. Douglas, Athelstanford, Newmains, Haddington, for "Fair Ellen."

Sect. 6.—For the best heifer in calf or in milk, calved in the year 1846, 10*l.*, to John J. Turner, Newtown-villa, Kilcullen, for short-horned heifer, "Primrose;" 2d, 5*l.*, to Edmund Mulcahy, Ballymackee, Clonmel, for "Young Modesty."

Sect. 7.—For the best heifer, calved after the 1st of Jan., 1847, 10*l.*, to Hon. A. F. Nugent, Pallas, Tynagh, for short-horned yearling heifer, "Myrtle;" 2d, 5*l.*, to Wm. Garnett, Dunover House, Moynalty, for "Easter."

Devons.

Sect. 1.—For the best bull, calved after the 1st of Jan., 1843, 10*l.*, to the Earl of Charlemont, Marino, Clontarf, for Devon bull "Shamrock."

Sect. 2.—For the best cow in calf, or that had a calf in 1848, 5*l.*, to the Earl of Charlemont, Marino, Clontarf, for "Beauty."

Ayrshires.

Sect. 2.—For the best cow in calf, or that has had a calf in the year 1848, 5*l.*, to William Hayden, Kilkenny, for Ayrshire cow, 6 years old.

Sect. 3.—For the best heifer, in calf or in milk, calved after the 1st Jan., 1846, 5*l.*, to Lord Dufferin and Claneboy, Ballyleidy, Hollywood, for Ayrshire heifer, 2 years and 2 months old.

West Highland (or any other Mountain Breed.)

Sect. 1.—For the best bull calved after the 1st of Jan., 1842, 5*l.*, to W. Owen, Blesinton, for West Highland Bull "Donald."

Sect. 2.—For the best cow in calf, or that has had a calf in the year 1848, 3*l.*, to the Earl of Charlemont, Marino, Clontarf, for "Kate Kearney."

Sect. 3.—For the best lot of two heifers, 3*l.*, to Wm. Owen, Blesinton, for two Kerry heifers, "Kate Kearney" and "Nora Creina," 3 years old.

Fat Stock.

Sect. 2.—For the best fat cow, 5*l.*, to James Wylie, Woodhall, Stoneyford, for a fat Kerry cow.

Horses.

Judges.—Messrs. Walsh, T. Talbot, and Douglas, E. Lothian.

Sect. 1. For the best cart stallion over 3 years old, and foaled since the 1st of Jan., 1841, 30*l.*, to Sylvester Rait, Rathmoyle, Edenderry, for Clydesdale cart stallion "Lanark," 4 years old; 2d, 10*l.*, to Chamberlain Lewis Baker, for Snugborough, Athy, for draught stallion, foaled July, 1843.

Sect. 2.—For the best cart stallion, foaled since the 1st Jan., 1845, 20*l.*, to Sir John C. Carden, the Priory, Templemore, for

* 18 tons are the average produce of an acre hereabouts, and as from 4*l.* to 5*l.* is considered very fair pay for one acre of Turnips when fed off with sheep, I have valued the Turnips at this rate, viz., 5*s.* per ton.

† The gain at this time being little over 1 lb. per week, it follows that nearly 109 lbs. of Turnips were required to add 1 lb. of live weight.

Clydesdale horse, "Rob Roy;" 2d, 5*l*., to Thomas Sherrard, Kilbogget, Cabinteely, for "Shark."

Sect. 3.—For the best thorough-bred stallion, the Medal, to William Quin, Loughlohler Castle, Caher.

Sect. 4.—For the best cart mare in foal, or with a foal at her foot, or having reared a foal in the year 1847, 10*l*., to Sylvester Rait, Rathmoyle, Edenderry, for "Bell," Clydesdale breed; 2d, 5*l*., to Robert Cassidy, Monasterevan.

Sect. 5.—For the best cart gelding or filly, not exceeding three years old, 5*l*., to Benjamin Willan, Jinchebstown, Dunglas, for "Daisy."

SHEEP.

Judges.—Messrs. BRODIE, STAUNTON, and TEMPLETON.

LEICESTERS.

Sect. 1.—For the best shearling ram, the Medal and 10*l*., to James Douglas, East Lothian; 2d, 5*l*., to the same.

Sect. 2.—For the best two-shear ram, 10*l*., to James Douglas, East Lothian.

Sect. 3.—For the best ram of any other age, 5*l*., to Caleb Going, Traverston, Nenagh.

Sect. 5.—For the best pen of five ewe lambs, 3*l*., to William Owen, Blesinton.

ANY OTHER LONG-WOOLLED SHEEP.

Sect. 1.—For the best two-shear ram, 8*l*., to Samuel White, Ballybrophy, Borris-in-Ossory.

Sect. 2.—For the best ram of any other age, 1*l*., to Thomas Sherrard, Marlay, Duleer.

SOUTH DOWNS.

Sect. 1.—For the best shearling ram, 8*l*., to W. Owen, Blesinton.

Sect. 2.—For the best ram of any other age, 1*l*., to the Right Hon. W. F. Tighe, Woodstock, Innistiogue.

Sect. 3.—For the best pen of five shearling ewes, 3*l*., to W. Owen, Blesinton.

SWINE.

Judges.—Messrs. BRODIE, STAUNTON, and TEMPLETON.

Sect. 1.—For the best boar of the large breed, 5*l*., to H. Stanley M'Clintock, Newberry, Kilcullen, for Berkshire boar; 2d, for the second best boar of the large breed, 3*l*., to Colonel George Bryan, Jenkinstown, Kilkenny, for a Berkshire boar.

Sect. 2.—For the best boar of the small breed, 5*l*., to R. G. Campion, Bushy-park, Rathcormack—white English boar; 2d, 3*l*., to Richard W. Reynell, Killynon, Killucan—improved Essex boar.

Sect. 3.—For the best breeding sow of the large breed, 4*l*., to H. Stanley M'Clintock, Newberry, Kilcullen—Berkshire sow; 2d, 2*l*., to W. Owen, Blesinton—pure Berkshire sow.

Sect. 4.—For the best breeding sow of the small breed, 4*l*., to Michael Cahill, Balyconra, Ballyragget—a Berkshire sow; 2d, 2*l*. to W. Owen, Blesinton—Lane house sow.

Sect. 5.—For the best lot of three pigs, of the same litter, not more than nine months old, 3*l*., to Henry M'Creery, Newpark, Kilkenny—improved Berkshire; 2d, 2*l*., to H. Stanley M'Clintock, Newberry, Kilcullen—three Berkshire pigs.

EXTRA STOCK.—BULLS.

To Stephen Wilson, Ballitore, for short-horned bull calf, "Reward," 2*l*.

To H. Semple, Dunmore, Kilkenny, for a short-horned bull calf, 1*l*.

To Peter B. Mosse, Rutland-house, Carlow, for short-horned bull calf "Albert," 10*s*.

COWS AND HEIFERS.

Francis Baggot, Kilballygorman, Ardfinan, for two calves, "Lilly" and "Pigeon," 1*l*.

HORSES.

Peter B. Mosse, Rutland-house, Barlow, for Clydesdale draft stallion, "Ploughboy," highly commended, 1*l*.

Lieut.-Col. Brough, Belfast, for Arabian horse "Schimel" highly commended, 1*l*. [In the judges' opinion, a most perfect animal.]

SHEEP.

William Todd, Elphinston Tower, Tranent, for Cheviot ram, commended, 2*l*. Ditto, for Cheviot ram, commended, 2*l*. Ditto, for black-faced ram, commended, 2*l*. Ditto, for pen of five Leicester ewes, highly commended, 5*l*.

POULTRY.

Judges.—Messrs. TODD, T. TALBOT, and DOUGLAS.

Fowls.—For the best cock and hen, or two pullets, 2*l*., to Patrick Byrne, Stormanstown, Glasnevin; 2d, 1*l*., to Bryan Byrne, Stormanstown, Glasnevin. *Ducks.*—For the best drake and two ducks, 2*l*., Master G. Brennan, Eden-hall, Ballyragget; 2d, 1*l*., to Charles Byrne, Portobello. Mr. J. J. Nolan, Bachelor's Walk, Dublin, for lot of poultry, highly commended, prize of 5*l*., and the Medal. Mrs. E. A. Farquharson, Portobello Barracks, Dublin, for pair of Aylesbury ducks, 10*s*.; Spanish fowl, 5*s*.; grey Dorking, 5*s*.; Cochin China cock and two hens, 10*s*. John Valentine, James's-street, Dublin, for pair of Aylesbury ducks, 10*s*.; pair of Malays, 1*l*.

DAIRY PRODUCE.

Butter.—To the owners of dairies who shall make and produce the best quality of butter for the London and foreign markets, made on their own farms during the season of 1848, not being less than one firkin of 70 lbs. weight, on the following terms: *For the English or London Market.*—1st prize 5*l*., to R. Hyland, Castle Blunden, Kilkenny; 2d, 3*l*., to John Switzer, Farrenmary, Johnstown; 3d, 2*l*., to W. C. Whitefield, Waterford. *For the Foreign Market.*—No merit.—For the best of all the prize butter exhibited at the show, the Medal, to Richard Hyland, Castle-Blunden, Kilkenny.

IMPLEMENTS OF HUSBANDRY.

In this department the greatest possible emulation has been displayed by the different exhibitors in the durable structure and high finish of the several articles brought forward, and which, if any one thing above another could, must show the great importance of giving these periodical shows every possible encouragement and support.

Judges of Implements.—Messrs. SCOTT, TEMPLETON, and MOSS.

Messrs. W. and J. Ritchie, Ardee, were awarded 8*l* 10*s*. for three several articles, and 5*l*. and the Medal for the best general assortment.

Messrs. Richmond and Chandler, Salford, Manchester, were awarded 9*l*. for three separate articles, and the Medal for the best collection.

W. Crosskill, Iron-works, Beverley, got a prize of 1*l*. for his clod crusher.

James Cavanagh, Ballingarry, Shinrone, received a prize of 4*l*. for six implements.

R. Robinson, Belfast, a large steaming apparatus, prize 1*l*.; three Rowan registered churns, prize 2*l*.; and a Norwegian harrow, 1*l*.

R. Gray and Sons, Uddingstone by Glasgow, were awarded 4*l*. for three several implements, and 5*l*. and the medal for best workmanship. One of the prizes, No. 10, a parallel lever subsoil pulveriser, prize 1*l*., was highly commended.

Thomas Biggs, sheep-dipping apparatus; Medal.

Robert Quinna, Newtoss, an iron plough, prize 1*l*.

Philip J. Newton, Dunleckney, Bagnalstown, for the best lot of draining tiles; the Medal.

David Allen, Moneymore, received 1*l*. for a plough.

Wm. Macan, Lower Baggot-street, Dublin, for a model of patent window fittings, a Medal.

Richard Garrett, Leiston Works, Saxmundham, Suffolk, a corn and drilling machine, prize 2*l*.; a hay-rake, 2*l*.

George Cox, 128, Holborn-hill, London, a beam-level, invented by W. H. Webster, Esq., manufactured by exhibitor; a Medal.

M. Colclough, Clomantа, Freshford, a two-drill Turnip-sowing machine; prize 1*l*. 10*s*.

H. Clayton, Upper Park-place, Dorset-square, London, for a drain-tile and pipe-making machine, prize 8*l*.

Michael Hayden, Tinlley, got a prize of 2*l*. for a wrought-iron single mould board plough, capable of being converted into a double mould board plough.

FOR THE BEST AND RICH COLLECTION OF [illegible], [illegible], [illegible].

Judges.—Messrs. T. [illegible], [illegible], and [illegible].

John M'Arthur, Land-surveyor, [illegible], the silver Medal for his collection of the roots of agricultural plants in various stages of growth.

Richard Fennessy and Sons, High-street, [illegible], the medal for the best collection of [illegible].

J. Higgins and Sons, [illegible], the silver Medal for the best [illegible] and roots.

[*Abridged from Dublin Farmers' Gazette.*]

HIGHLAND AND AGRICULTURAL SOCIETY.

MEETING AT EDINBURGH, [illegible] 2d, 3d, and 4th.

AWARD OF PREMIUMS.

CATTLE.—SHORT-HORNED BREED.

For the best bull of any age, [illegible], to Wm. and [illegible] Parker, Yanwath Hall, Penrith, Cumberland; 2d, 20*l*., to [illegible] Stewart, of Southwick, Dumfries-shire; 3d, Silver Medal, to Wm. Tod, Elphinstone Tower, Tranent, Haddington.—The Silver Medal to P. W. Sandl[illegible], as the breeder of the best bull.

For the best bull, calved after 1st Jan., 1847, [illegible], to Thomas Chrisp, Hawkhill, Alnwick, Northumberland.

For the best cow of any age, [illegible], to John [illegible] Topper, Newham Grange, Stockton-on-Tees, county Durham; 2d, [illegible], to James Douglas, Athelstaneford, Haddington; 3d, Silver Medal, to Wm. Tod, Elphinstone Tower.

For the best pair of heifers, calved after 1st Jan., 1847, 10*l*., to Nicol Milne, of Faldonside, Roxburghshire; 2d, 5*l*., to W. T. Carruthers, of Dormont, Dumfries-shire; 3d, Silver Medal, to Thomas Simson, of Blainslie, Lauder.

For the best pair of oxen, calved after 1st Jan., 1845, 10*l*., to Robert Dudgeon, of Humbie, Kirkliston; 2d, 5*l*., to W. F. Lindsay Carnegie, of Boysack, Arbroath; 3d, Silver Medal, to the same.

AYRSHIRE BREED.

For the best bull of any age, 20*l*., to Robert Paton, Clober-hill, Partick, Glasgow; 2d, 10*l*. to Robert Morton, Cartside, Bushie, Glasgow; 3d, Silver Medal, to Archibald M'Kerrow, Auchinsterry, Kilsyth.—The Silver Medal to Robert Paton, Clober-hill, as the breeder of the best bull.

For the best bull, calved after the 1st Jan., 1847, 10*l*., to Wm. Orr, Mains of Houston, Renfrew.

For the best cow of any age, 10*l*., to A. W. Buttery, Monkland Iron-works, Airdrie; 2d, 5*l*., to John Aitkin, Braehead, Kirkintilloch; 3d, Silver Medal to Alex. Purdie, Mill Lands, Lanark.

For the best pair of heifers calved after 1st Jan., 1846, 10*l*., to Andrew M'Gregor, Ditton, Kilmarnock; 2d, 5*l*., John Anderson, Smithston, Cumbernauld; 3d, Silver Medal, to Andrew M'Gregor, Ditton.

GALLOWAY BREED.

For the best bull of any age, 20*l*., to Walter Carruthers, Kirkhill, Moffat; 2d, 15*l*., to W. R. Ramsay, of Barnton, the Hatton, Stirling; 3d, Silver Medal, to Wm. Sproat, Borness, Kirkcudbright.—The Silver Medal to Mr. Graham, Rigfoot, as the breeder of the best bull.

For the best cow of any age, 10*l*., to John Palmer, Hallflatt, Scaleby, Carlisle; 2d, 5*l*., to James Gillespie, Annan Bank, Moffat; 3d, Silver Medal, to Alex. Craig, Craigton, Golspie.

For the best pair of heifers, calved after the 1st Jan., 1846, 10*l*., to Walter M'Culloch, Kirkeaugh, Gatehouse; 2d, 5*l*., to Wm. Sproat, Borness, Kirkcudbright; 3d, Silver Medal, to Alex. Craig, Craigton, Golspie.

For the best pair of oxen, calved after 1st Jan., 1845, 10*l*., to Robert Dudgeon, Humbie, Kirkliston; 2d, 5*l*., W. R. Ramsay, of Barnton, the Hatton, Stirlingshire; 3d, Silver Medal, to Robert Dudgeon, Humbie, Kirkliston.

POLLED ANGUS AND ABERDEENSHIRE BREEDS.

For the best bull of any age, 20*l*., to Hugh Watson, Keillor, Coupar-Angus; 2d, 15*l*., to Wm. M'Combie, Tillyfour, Alford, Aberdeen; 3d, the Silver Medal, to Wm. Fullerton, Mains of Ardovie, Brechin.—The Silver Medal to Hugh Watson, Keillor, as the breeder of the best bull.

For the best cow of any age, 10*l*., to Wm. M'Combie, Tillyfour, Alford, Aberdeen; 2d, 5*l*., to Hugh Watson, Keillor, Coupar-Angus; 3d, Silver Medal, to the same.

For the best pair of heifers, calved after 1st Jan., 1846, 10*l*., to Wm. M'Combie, Tillyfour.

For the best pair of oxen, calved after 1st Jan., 1845, 10*l*., to Wm. M'Combie, Tillyfour.

HIGHLAND BREED.

For the best bull of any age, 20*l*., to Duncan M'Naughton, Cashlie, Fortingal, Perthshire; 2d, 15*l*., to Wm. Grant Ruthven, Tomintoul, Banffshire; 3d, Silver Medal to Alex. Cameron, Invercomerie, Kinloch-Rannoch, Perthshire.—The Silver Medal to Donald MacDonald, Craigruie, Perthshire, as the breeder of the best bull.

For the best cow of any age, 10*l*., to Wm. Grant Ruthven, Tomintoul, Banffshire; 2d, 5*l*., to his Grace the Duke of Sutherland, Dunrobin; 3d, Silver Medal, to Wm. Grant Ruthven, Tomintoul, Banffshire.

For the best lot of four heifers, calved after 1st Jan., 1846, 10*l*., to his Grace the Duke of Sutherland, Dunrobin; 2d, 5*l*., to Daniel Gilchrist, of Ospisdale, Sutherlandshire.

For the best pair of oxen, calved after 1st Jan., 1844, 10*l*., to George Knowles, Hesher, Aberdeen; 2d, 5*l*., to Daniel Gilchrist, of Ospisdale, Sutherlandshire; 3d, Silver Medal, to Allan Pollock, yr., of Faside, Broomhouse, Glasgow.

For the best pair of oxen, calved after 1st Jan., 1845, 10*l*., to his Grace the Duke of Sutherland, Dunrobin; 2d, 5*l*., to Daniel Gilchrist, of Ospisdale, Sutherlandshire; 3d, Silver Medal, to his Grace the Duke of Richmond, Gordon Castle.

FIFESHIRE BREED.

For the best bull of any age, 15*l*., to Andrew Aitken, Carnbee, Anstruther, Fife.—The Silver Medal to Andrew Aitken, Carnbee, as the breeder of the best bull.

For the best cow of any age, 10*l*., to George Fortune, Barnsmuir, Crail.

DRAUGHT HORSES.

For the best stallion, [illegible], to Samuel Clark, Manswrie, Kilbarchan, Renfrew; 2d, 20*l*., to John Carr, Baranary, Renfrewshire; 3d, Silver Medal, to George Townsend, Sale-de-fields, Hinckley, Leicestershire.—The Silver Medal to David Ure, Meikle Finn, Stirlingshire, as the breeder of the best stallion.

For the best mare for breeding, 15*l*., to Robert Findlay, Springhill, Baillieston, Glasgow; 2d, 10*l*., to Archibald M'Kerrow, Auchinsterry, Kilsyth; 3d, Silver Medal, to Alexander Buttery, Monkland Iron-Works, Airdrie.

For the best entire colt, not exceeding 2 years old, 15*l*., to Gabriel Dunlop, Peacockbank, Stewarton, Ayr; 2d, [illegible], to James Douglas, Athelstaneford, Haddington; 3d, Silver Medal, to Henry Peat, Fulford, Roslin.

For the best filly, 10*l*., to Allan Pollok, yr., of Faside, Broomhouse, Glasgow; 2d, 5*l*., to Thomas Jackson, Stanelymuir, Paisley; 3d, Silver Medal, to John Wilson, yr., of Arden, Airdrie.

SHEEP.—LEICESTER BREED.

For the best tup, not exceeding [illegible] months old, [illegible], to Thomas Cockburn, Sisterpath, Dunse; 2d, [illegible], to Ashley H. Wilson, The Abbey, Wigton, Cumberland; 3d, Silver Medal, to William Smith, New Learmonth, Coldstream.

For the best shearling tup, [illegible], to William Smith, New Learmonth; 2d, 5*l*., to Thomas Cockburn, Sisterpath; 3d, Silver Medal, to Robert Anderson, Meikle Pinkerton, Dunbar.

For the best pen of five ewes, [illegible], to A. H. Wilson, The Abbey, Wigton, Cumberland; 2d, 4*l*., to David Wallace, Balgrummo, Leven; 3d, Silver Medal, to Lord Kinnaird, Rossie Priory, Perthshire.

[illegible]

[illegible], to Daniel Gilchrist, of Ospisdale, [illegible] Milne, of Faldonside, [illegible]; Silver Medal, to [illegible] Muir, Haddington Mains, [illegible].

POULTRY.

For the best couple of turkeys, [illegible], to Lady [illegible], [illegible]-House; 2d, Silver Medal, to Mrs. Currer, Comiston, Edinburgh.

For the best couple of fowls, [illegible] or speckled Dorking breed, 2*l*., to his Grace the Duke of [illegible]; [illegible] Medal, to the same.

For the best couple of fowls, spangled Hamburgh, or old Scotch breed, 2*l*., to Alexander [illegible], West Calder; 2d, Silver Medal, to Alex. [illegible].

For the best couple of fowls, Malay breed, [illegible], to Mrs. Henderson, Laverock Bank, near Edinburgh; 2d, Silver Medal, to the same.

For the best couple of ducks, [illegible], to Mrs. Currer, Comiston; 2d, Silver Medal, to A. [illegible].

For the best couple of geese, [illegible], to his Grace the Duke of Buccleuch; 2d, Silver Medal, to [illegible] M'Callum, [illegible].

DAIRY PRODUCE.

Butter.—For the best sample [illegible] of butter, cured in 1848, [illegible], to James Marshall, [illegible]; 2d, [illegible], to James Young, [illegible]; 3d, Silver Medal, to David [illegible]. For the best sample of fresh butter, [illegible], to Alexander Maxwell, [illegible], to Mrs. Trotter, of [illegible]; Silver Medal, to John Brown, [illegible].

Cheese.—For the best [illegible] of cheese, [illegible] full milk, in 1848, [illegible], Kirkcudbright; 2d, [illegible], to Thomas A[illegible], Carstairs, Lanark; 3d, Silver Medal, to [illegible], Lanark. For the best [illegible] milk, in 1848, [illegible], to Thomas Hamilton, [illegible]; 2d, [illegible], to William [illegible]; Silver Medal, to Thomas Elder, [illegible].

IMPLEMENTS.

Dressing-fan or winnower for grain, [illegible], William Ralston, Muirtshough Mearns, Renfrew. [illegible], Richmond and Chandler, Salford, Manchester. Bruising apparatus for Oats, Beans, &c., [illegible], Richmond and Chandler. Horse-rake for hay or stubble, [illegible], James Kirkwood, Tranent, Haddington. Grain-drill seed [illegible], William and James Hunter, Samuelston, Haddington. [illegible], Richard Garrett and Son, Leiston Works, Saxmundham, Suffolk. Turnip-drill seed [illegible], to James Kirkwood, Tranent. [illegible] for grain and grass-seeds, [illegible], Robert Law, Shotts[illegible], Glasgow. [illegible] machine for preparing [illegible], Thomas Inglis, [illegible], Peebles[illegible]. [illegible] best surface work [illegible] of given dimensions, [illegible], James [illegible], Glasgow; 2d, Gray and [illegible] Works, [illegible], Corstorphine, Edinburgh. [illegible] and Sons, [illegible], Hugh Cowan, Corstorphine. [illegible] grain crops. [illegible], Richard Garrett and Son, [illegible]. One-horse [illegible] and Sons, Uddingston. Two-horse [illegible], Hugh Cowan, Corstorphine. [illegible], Edinburgh. Turnip-cutter for [illegible]-Angus. Turnip-cutter for [illegible], Tranent. [illegible], Young, [illegible], Ayr. [illegible] clay, for removing [illegible], and for bringing it to [illegible] of drain-pipes. [illegible] with [illegible] the weight of cattle and sheep, as well as all [illegible]. Liquid manure [illegible] cart, [illegible] Law, [illegible]. Improvement in the threshing-machine, [illegible], David Craig, Stewarton, Ayr. [illegible] Improvement in the common farm-cart, [illegible], Robert Law, Shotts[illegible]. [illegible] Medals to R. Buchanan, [illegible], Glasgow, and R. Gray and Sons, Uddingston. Farm-harness, [illegible], David Scott, Glasgow; 2d Medal, Wallace and Hunter, Kelso, for a

cart-saddle. Useful invention or improvement on any implement or machine applicable to, or now used for farm purposes, not included in the above list, 3*l*., John Cunningham, Edinburgh; and 2*l*., James Kirkwood, Tranent; Medal to R. Gray and Sons, Uddingston. The judges recommend that a premium of 5*l*. be given to John Gillet, Brailes, Shipton-on-Stour, Warwickshire, for his chaff-cutter, which was too late for entry.

Calendar of Operations.

AUGUST.

BERWICKSHIRE MERSE FARM, *Aug.* 4.—Since last report we have finished ploughing the fallow land, and are unable to reduce it to get it cleaned for want of rain; the men have been ploughing Turnips, collecting manure, and thinning Turnips; the workers have been employed for the week thinning, one man cutting wood, making stakes, and scouring a ditch; *J. B.*

DORSET FARM, *August* 1.—For the past two weeks we have been making hay when the weather admitted of it, which was seldom enough, and we have been able to carry but little, and that very much spoiled. The weather has been stormy, and at present very much so. We have been horse and hand-hoeing Swedes and Mangold Wurzel, which owing to the wet weather costs a good deal of labour, but these crops look very well. We are still sowing Turnips, and intend to sow a good many on the Wheat stubbles, should the weather be favourable. We have transplanted a good many Mangold Wurzel, but I fear there is not much advantage in this, as they do not look anything like those sown, while the labour cost a good deal. The rest of our work has been driving dung upon Italian Rye stubbles, and ploughing them for Turnips; and driving from a line of new road and filling up some useless water-courses in the meadows. We have this year broken up nearly 30 acres of old pasture, and sown it with Swedes and Turnips, which look to be a very fair crop. There cannot be a doubt but the Potatoes are in a worse state than they have ever yet been in this part of the country, not a single spot is to be seen free from the evil. Wheat harvest is now begun in this neighbourhood, and by next week will be very general; it is a good deal laid, and the straw in many cases is very rusty, but upon the whole the grain appears very sound; *G. S.*

EAST LOTHIAN FARM, *Aug.* 5.—We have had a week of excellent weather for the crops now approaching maturity. Little to do upon the farm at this season. We have been employed in carting and putting into stack remainder of our hay crop, likewise grubber ploughing the late sown Turnips; this important crop is now growing vigorously. Potatoes in the field generally look healthy, though in the cottagers' gardens one or two tubers have been noticed infected with the disease so prevalent in previous seasons; *L.*

GALLOWAY FARM, *Aug.* 7.—We commenced Wheat harvest on 3d inst., and are now engaged with it; the crop appears a good average. We have three drill ploughs going lightly through the Turnip drills; this completes the culture of the crop, which, from present appearance, will not equal last year's. The Potato disease is now decided in its appearance, but makes as yet slow progress. It appears to be contagious; beginning in an isolated spot, it spreads from that spot all round. In one instance where it commenced at the end of the drills, it soon included in its circle the headridge drills contiguous, and these drills having been planted eight or ten days later, were not so far advanced as the rest of the field; *R.*

NORTH ESSEX FARM, *Aug.* 7.—Since we finished Turnip sowing on the 21st ult., our chief employment has been hoeing Carrots, Mangold Wurzel, Swedes, and Thousand-headed Cabbages; also ploughing Clover land intended for Wheat. We commence harvest operations on the 2d inst.; all our hands are now employed in cutting Wheat, the whole of which is quite ready for the sickle; the crop we consider an average one in quantity, but the quality not particularly fine. Since our last report the Potato disease has made great progress, and there can now be no doubt that the crop will be greatly affected by it. The recent showers have caused a decided improvement in the appearance of the late sown Oats, which now promise a good average crop. Turnips, Mangold Wurzel, and Carrots are also going on extremely well; *T. B.*

PEMBROKESHIRE FARM, *August* 1.—Since last report we have finished carting remainder of seed hay and meadow hay to stack, in fair condition. We have likewise put the drill-plough through the Potatoes a second time, which still look strong and healthy. Men and horses have been employed in ploughing, after Vetches, intended for Wheat, three horses in each plough; the furrow is 8 inches, by 12 broad, which, after being harrowed, will get a dressing of lime, to be ploughed in slightly for the seed furrow. Two men and horses have been putting horse-hoes through the Turnips, which, owing to the moist state of the weather, have grown amazingly. A gang of 20 women, with one man leading them on, have been thinning out with hoes, 10 inches from plant to plant, the drills are 27 inches wide. Men and horses are now going over them a second time, followed by women with hoes, cutting down all weeds, and any superfluous Turnips. Harvest is now close upon us, our Wheat will be ready in 8 or 10 days; there are some small fields of Wheat and early sown Barley in this neighbourhood ready for cutting. We have now taken our lambs from the ewes, to enable them to get into good condition before going to the ram; *J. H.*

SOUTH DEVON FARM, *Aug.* 7.—Our work during the past week has been horse-hoeing Mangold Wurzel, Carrots, and Swedish Turnips; also hand-hoeing the two last, and singling them out in the rows about 12 inches apart. One man cleaning and hoeing Thorn fences. Threshing and otherwise preparing Wheat for the market, and delivering the same. The harvest has now become very general; we expect to commence with our Wheat in a day or two; *T. W.*

SOUTH HAMPSHIRE FARM, *Aug.* 5.—The weather still continues of an unfavourable character for farm work in general, but particularly for the harvest, we having commenced cutting Wheat on the 31st July. But little progress has been made, as we do not consider it good policy to cut Wheat unless it is dry enough to tie up into sheaves, which we can only do at intervals between the showers in a season like the present; our plan is to set up eight sheaves together, and we have found in past seasons, that the Wheat in this way being only partially exposed, takes less damage than before it is cut, or when cut and left on the ground, as in the former case, the Wheat loses its colour and strength, and in exposed situations is often beaten out by the wind; in the latter case, when laying on the ground it will sprout very quickly. Our horses have been employed only a few days upon the land (since our last report) by ploughing, harrowing, and drilling Turnips, after a crop of Tritolium, but we have still a portion of our land after Tares fed off, and intended for a crop of Turnips, laying in a bad state, being prevented by the heavy rains from getting it in order for drilling. The horses, when not employed upon the land, have been working at the threshing machine, and also carting manure from the stables and cow stalls, to be spread and mixed with other manure in the farm-yard. An odd horse is kept constantly at work, by carting hurdles for the sheep, carting away the Grass and hedge trimmings from the sides of fields, also the accumulated straw, &c., from the rick-yards, and the sea-weeds found on the marsh land into the farm-yard. Our labourers have been employed by trimming hedges, mowing the rough Grass in the cow pastures, attending the threshing machine; at intervals of dry weather they have been hoeing Turnips and cutting Wheat, which crop we find various, some sorts having been beaten down by the late heavy rains, and much blighted, others having received but little injury; the sorts of Wheat we have grown this year are the Chidham White, Hopetoun White, old Scotch White, old fashioned white straw, and Morton's red straw white Wheat; all these kinds are more or less laid by the weather and weight of the crop, and have received some damage, except Morton's red straw, which, from the stiffness of the straw, seems to withstand the effects of bad weather much better than any other sort with which we are acquainted. We intend to carefully preserve all we have of this Wheat (the produce of 7 acres) for seed, as we find since its introduction into this neighbourhood its great advantages have been duly appreciated by all who have seen it, and is already much in request for seed during the ensuing season, and we have no hesitation in saying that it will be found the best kind of Wheat that can be sown upon all good soils, or land in a high state of cultivation. We also beg to say we first purchased this Wheat of a miller of great experience, who recommended it as possessing excellent mealing qualities. Our shepherds continue to feed their sheep upon a change of summer Tares and white Clover, also with Beans and oilcake twice a day, but never recollect a time when sheep have done so badly, and laid on so little fat, as during the past season. Our women have been employed in couching, hay-making, weeding Carrots, weeding Quicks, trimming hedges, and attending at the threshing machine; *J. B.*

Notices to Correspondents.

ADDRESS: *S* should forward his own. We cannot publish the addresses of private gentlemen, without their liberty.

A PIG: *Old Subscriber.* The only useful part of the treatment was the bleeding and the sulphur, neither of which probably was sufficiently active or copious. As for stuffing the poor brute's ears with the herb Tansey, it was worse than useless, though if the pig had recovered some magical effect would no doubt have been ascribed to it. It is a pity that the pig doctor was not served in a similar manner. The rational treatment would have been active bleeding and purging. The vein inside the arm can often be got at, and the purge might consist of 2 or 3 ounces of the sulphate of magnesia dissolved in water, or half a pint of Linseed oil. *W.C.S.*

BOOKS: *E T W.* We have found the works of the Christian Knowledge Society admirably adapted for Village Schools.

CABBAGES, &c.: *Mona's Isle.* York sown now, York sown in March; Drumhead sown now, Drumhead sown in April, will yield a succession of ripe produce. Winter Beans may be sown through October and November. The fly-wheel does not increase the *power* of the steam-engine, it only increases the regularity of its motion, notwithstanding irregular work. You should correspond with Mr. Cyburn, Uley, Gloucestershire.

CHICCORY: *W P L.* It should stand at intervals of 6 inches between the plants. Perhaps some who have had experience will say what are the relative merits of Comfrey and Chiccory as forage crops, and whether either be worth growing for that purpose on land too strong and shallow for Lucerne. The common barrel churn, used in Gloucestershire, is as good as any for large quantities of butter. (Stratton, of Bristol.)

EARLY FIELD PEA: *J B H.* Early Grey Warwick, sown in February; the Winter Field Pea, sown in October; and the Early Charlton will any of them ripen in July.

FARM BUILDINGS: *R S.* Can any one oblige our correspondent with the sight of a good scheme, in actual operation, for the preservation of manure. The addresses of some farm-steadings, good in this respect, are much desired.

FISH, &c.: *Attleboro'.* See an article in last week's Home Correspondence. Solution in sulphuric acid is the cheapest way of converting the phosphate into the superphosphate of lime. If this "Stow Crag" contain much matter besides this phosphate soluble in sulphuric acid, then there is waste in the process, but we do not know its composition.

HANDMILL: *R E.* Apply to Dean and Co., Birmingham.

KOHL RABI: *A Subscriber.* Sow thinly in March, in a seed bed in rows 12 inches apart, and transplant in May and June, in rows 28 inches apart, and at intervals about as great as those in rows. They will keep through the winter, and may be given to all kinds of stock.—*A Cottager.* It would probably run worse next year. We should prefer seed from biennial rather than annual plants.

LIQUID MANURE: *Constant reader.* When the distance is great and the liquid dilute, fixed tubing and distribution pipes will be a cheaper means of conveying and spreading it than by water carts.

MANGOLD WURZEL: *S C.* Stir the land between the rows with horse-hoe and plough, and never mind whether the earth be left against the bulb or not. We always remove it, but simply because in hoeing the weeds away we cannot help doing so.

NAMES OF BOOKS: *R E.* A pamphlet, by Mr. Laurence, of Cirencester, "Practical Directions on the Cultivation, &c., of Cottage Gardens;" Cirencester. This might answer your purpose. We know of no work on spade husbandry for small farms, excepting one by Mr. Yule, noticed at page 289. Instructions for the construction of a brick Arnott stove are given at page 51 of our vol. for 1846.

RATS: *A.* You must poison them, or kill them with ferrets.

SITUATION: *A Z.* Your statement, substantiated by your present employer, will be your best recommendation. We cannot assist except in cases where we have personal acquaintance.

TRANSMUTATION OF CORN: *Agricola.* The address was given with the paragraph; you should apply to the party. We have no *extra*-ordinary means of procuring the information.

YORK CATALOGUE: *R Warham.* You must apply to a bookseller, or to the secretary of the Society.

Errata: *Crop Returns.* In Mr. Martin's report (No. 31), from Horncastle, Lincolnshire, the Pea crop should have been stated as "nearly worthless." In Mr. Moore's report (No. 31), from Farringdon, Berkshire, the Barley crop should have been stated as "uneven;" Turnips as "promising well, but late;" and Potatoes as "not yet much injured, but greatly feared for."

Markets.

HOPS, FRIDAY, Aug. 11.

MESSRS. PATTENDEN and SMITH report that the accounts from Mid and East Kent state that the mould is doing great injury, and much on the increase, the late cold nights and frosty mornings are also much against the crop generally, and the duty has declined to 140,000*l*. Market very firm.

Mid. & East Kents, p. cwt.	60s to 80s	Yearling Kents, p. cwt. ..	38s to 44s
Weald of Kents	47 — 56	Yearling Sussex	35 — 42
Sussex	46 — 54	Old Hops	20 — 35
Farnhams	80 — 100		

SMITHFIELD, MONDAY, Aug. 7.

Although the number of Beasts is larger, there is a considerable falling off in weight. A great many are coming to market in very middling condition; they have evidently done badly at grass; consequently the best descriptions fully maintain Friday's quotations; indeed, nearly 4*d*. has been obtained for selling qualities. The supply of Sheep and Lambs is hardly so large as on Monday last. Trade is more cheerful, and the best qualities are making rather more money. Owing to the non arrival of some Dutch boats the supply of Calves is much shorter; prices have consequently advanced about 4*d*. per 8 lbs. From Holland and Germany there are about 427 Beasts, 3130 Sheep, and 94 Calves; from Leicestershire and Northamptonshire, 1100; and from Lincolnshire, 500.

Per stone of 8 lbs.—s	d	s	d	Per stone of 8 lbs.—s	d	s	d
Best Scots, Herefords, &c. 4	0	to 4	2	Best Long Wools		....	
Best Short Horns 3	10	— 4	0	Ditto Shorn 4		— 4	8
Second quality Beasts .. 2	10	— 3	6	Ewes and second quality		....	
Calves 3	8	— 4	8	Ditto Shorn 3	8	— 4	4
Best Downs & Half-breds		....		Lambs 4	8	— 5	6
Ditto Shorn 4	10	— 5	2	Pigs 4	0	— 5	0

Beasts—3659. Sheep and Lambs—28,990. Calves—236. Pigs—280.

FRIDAY, Aug. 11.

We have a moderate supply of Beasts. Trade is slow, and Monday's quotations are not exceeded. The number of Sheep and Lambs is large; trade is heavy, at a reduction of 2*d*. per 8 lbs. Calves are not so plentiful, but the demand is small, and scarcely anything reaches 4s. 8*d*. From Holland we have 101 Beasts, 740 Sheep, and 243 Calves; 240 Beasts from Scotland; 28 from France; and 113 Milch Cows from the home counties.

Best Scots, Herefords, &c. 4	0	to 4	2	Best Long Wools		....	
Best Short Horns 3	10	— 4	0	Ditto Shorn 4		— 4	6
Second quality Beasts .. 2	10	— 3	6	Ewes and second quality		....	
Calves 3	8	— 4	8	Ditto Shorn 3	6	— 4	2
Best Downs & Half-breds		....		Lambs 4	4	— 5	4
Ditto Shorn 4	8	— 5	0	Pigs 4	0	— 5	0

Beasts—1013. Sheep and Lambs—12,200. Calves—383. Pigs—310.

COVENT GARDEN, Aug. 12.

The market is well supplied with Vegetables and most kinds of Fruit English Pine-apples are plentiful, and foreign ones are abundant, at from 1s. to 4s each. Hothouse Grapes, Peaches, and Nectarines are plentiful. Melons are sufficient for the demand. Cherries, except Morellos, are over. Plums are offered at from 6s. to 8s. per ball sieve. Currants are dearer. Apricots may be obtained at last week's prices. Nuts are sufficient for the demand. Oranges are abundant: Lemons moderately plentiful. Among Vegetables, Carrots and Turnips are abundant and good; Cauliflowers, &c., sufficient for the demand. Asparagus is all but over. French Beans very plentiful. Potatoes the same, but diseased. Peas are a little dearer. Lettuces and other salading are sufficient for the demand. Mushrooms are plentiful. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Fuchsias, Carnations, Moss, and other Roses.

FRUITS.

Pine Apple, per lb., 4s to 6s
Grapes, hothouse, per lb. 1s 6d to 4s
Peaches, per doz., 8s to 15s
Nectarines, per doz., 6s to 15s
Melons, each, 2s to 8s
Plums, per punnet, 1s 6d to 2s 6d
Apricots, per doz., 2s to 4s
Cherries, per lb., 6d to 3s
Apples, dessert, per bush., 4s to 7s
— kitchen, p. bush., 3s to 3s
Currants, per half sieve, 4s to 6s
Raspberries, per punnet, 6d to 9d
Oranges, per doz., 1s to 2s 6d
Oranges, per 100, 8s to 20s
— bitter, per 100, 8s to 16s
Lemons, per doz., 1s to 2s
— per 10, 8s to 20s
Almonds, per peck, 6s
— sweet, per lb., 2s to 3s
Walnuts, per bush., 12s to 20s
Nuts, Barcelona, per bush., 20s to 22s
— Filberts, per 100 lbs., 14s to 20s
— Cob, per 100 lbs., 25s to 30s
— Brazil, per bush., 12s to 16s
Chestnuts, per peck, 3s to 6s

VEGETABLES.

Cabbages, per doz., 6d to 1s
Cauliflowers, per doz., 1s to 4s
Sorrel, per half sieve, 6d to 9d
Potatoes, per ton, 60s to 100s
— per cwt., 3s 6d to 6s
— per bush., 1s 6d to 3s
Turnips, p. bunch., 4d to 6d
Red Beet, per doz., 6d to 1s
Horse Radish, per bundle, 1s to 6s
French Beans, per half sieve, 1s to 2s
Cucumbers, each, 2d to 8d
Leeks, per bunch, 1d to 2d
Celery, per bundle, 1s to 1s 6d
Carrots, per bunch, 3d to 6d
Spinach, per sieve, 1s to 2s
Peas, per sieve, 3s to 5s
Beans, per bushel, 2s to 2s 6d
Marjoram, per bunch, 6d to 9d
Onions, per bunch, 3d to 6d
— Spanish, per doz., 1s to 4s
Onions, pickling, per half sieve, 2s to 3s
Tomatoes, per punnet, 1s to 1s 6d
Shallots, per bunch, 3d to 4d
Garlic, per lb., 8d to 1s
Radishes, per doz. bands, 6d to 1s
— Turnip, do., 9d to 1s
Artichokes, per doz., 1s 6d to 3s
Vegetable Marrow, per doz, 6d to 1s
Lettuce, Cab., per score, 4d to 1s
— Cos, do., 9d to 1s 3d
Mushrooms, per pottle, 1s to 1s 6d
— per bushel, 4s to 6s
Small Salads, per punnet, 2d to 3d
Fennel, per bunch, 2d to 3d
Savory, per bunch, 3d to 4d
Thyme, per bunch, 3d to 4d
Watercress, p. 12 small bun., 6d to 9d
Parsley, per half sieve, 6d to 9d
— Roots, per bundle, 1s to 1s 6d
Mint, green, per bunch, 2d to 4d

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Aug. 10.

Prime Mead. Hay	70s to 75s	New Hay	.. 50s to 63s	Straw	.. 25s to 30s
Inferior ditto ..	50 65	Clover ..	.. 90 105		
Rowen	58 63	New Clover	.. 65 88		

Trade continues very heavy. J. COOPER.

CUMBERLAND MARKET, Aug. 10.

Prime Mead. Hay	72s to 76s	Old Clover .	90s to 95s	Straw	.. 28s to 32s
Inferior	50 63	Inferior ..	75 86		
New Hay	50 63	New Clover ..	50 70		

JOSHUA BAKER.

WHITECHAPEL, Aug. 10.

Fine Old Hay ..	70s to 75s	Old Clover ..	95s to 105s	Straw	.. 26s to 30s
Inferior Hay ..	— —	Inferior ..	— —		
New Hay.. ..	50 65	New Clover ..	60 80		

MARK LANE, MONDAY, Aug. 7.

MESSRS. KINGSFORD and LAY report that the supply of Wheat from Essex this morning was moderate, that from Kent large; a part of the former was disposed of at the opening of the market at our quotations, but the trade afterwards became dull, and some quantity remained unsold where holders were not inclined to accept less money. We observe no alteration in the value of foreign, for which there was little inquiry.—Barley and Beans are unaltered in value.—We advance our quotations for new White Peas 2s. per qr., and other sorts are fully as dear.—The price of Flour remains the same.

BRITISH PER IMPERIAL QUARTER.	s	s		s	s
Wheat, Essex, Kent, and Suffolk .....White	53	56	Red.....	43	50
Norfolk, Lincolnshire, and Yorkshire	46	50	White ..	47	53
Barley, Malting and distilling, 27s to 29s Chevalier	30	32	Grinding ..	24	27
Oats, Lincolnshire and Yorkshire .....Potatoe	22	25	Feed	20	23
Northumberland and Scotch .....Feed	21	23	Potato ..	22	25
Irish .....Feed	19	22	Potato ..	22	24
Malt, pale, ship.....	—	—			
Hertford and Essex	—	—			
Rye.....	27	30			
Beans, Mazagan, old and new ..27s to 30s....	Tick..	30	32	Harrow..	32	34
Pigeon, Heligoland 34	35	....	Winds ..	—	—
Peas, White.....	33	40	....	Maple	35	37	Grey	33	35

ARRIVALS IN THE PORT OF LONDON LAST WEEK.

Flour, 10532 sks — bls	Wheat. Qrs.	Barley. Qrs.	Malt. Qrs.	Oats. Qrs.	Rye. Qrs.	Beans. Qrs.	Peas Qrs.
English.....	7764	541	5104	2279	—	219	236
Irish	—	—	44	395	—	—	—
Foreign.....	14232	1531	—	17093	—	855	286

FRIDAY, Aug. 11.

The supply of foreign Wheat during the week has been good, that of other grain moderate. English Wheat must be noted 1s. per qr. dearer than on Monday, but in free foreign and bonded the sale has been hardly a transaction. Polish Odessa afloat is scarce and in request, particularly for Ireland, and a fine cargo has been sold as high as 44s. per qr.—Barley is in fair demand, and the turn dearer.—Beans and Peas support our quotations.—Oats sell slowly at Monday's rates.—In Flour there is nothing doing.

[Since the 4th ult. the weather has continued unsettled, with constant showers of heavy rain, retarding harvest operations, and we anticipate much of the new Wheat will in consequence come to hand in bad condition. The accounts of the probable yield continue to speak unfavourably of it, particularly in Ireland. In the north and Scotland, the anticipations are more favourable. The Potato disease is reported to be making progress both in this country and Ireland. The markets of the interior which have been held during the week were chiefly inanimate, and in some instances even a slight reduction in the price of Wheat had been submitted to. Nevertheless, English and floating cargoes of foreign met an improved demand here yesterday, at an advance of 1s. per qr. upon the rates of Monday. Free foreign and much of the Baltic Wheat, f. o. b., being held proportionably high, was neglected. Odessa cargoes afloat brought 44s. and Hamburgh and Belgian red 62lbs. 46s., cost and freight. The value of Flour has not varied. Maize is without inquiry. Dantzic letters of the 4th represent the stock now on sale as small; about 10,000 qrs. had been sold during the week, at prices varying from 38s. to 47s., and notwithstanding the dull accounts from this side, higher prices were paid on that day than previously. The quality of the new Wheat was reported to be very fine. In the lower Baltic ports, the little still on hand was held at 42s. to 45s., and the quality of the new was expected to be very variable, having suffered from blight and mildew. In Belgium, the demand for England, and anticipated blockade of the principal Baltic ports, Elbe, and Weser, had enhanced prices about 2s. per qr. In Leghorn, on the 31st, prices declined 1s. to 1s. 6d. per qr., the demand for the interior having fallen off; prices were, however, still too high to admit of exporting to this country. Odessa letters of the 28th inform us, that the purchases made during the week, principally by Greek and Italian houses, amount to 65,000 qrs., at prices varying from 23s. to 30s. 6d. per qr., f. o. b. About two-thirds were destined for exportation, and one-third taken on speculation. Owing to the want of vessels, orders limited as high as 33s. to 39s. per qr., including freight, remained unexecuted. By the latest American accounts, Flour in New York had undergone a further decline of 6d. to 1s. per barrel.]

IMPERIAL AVERAGES.	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
July 1	48s 2d	30s 5d	20s 10d	30s 2d	36s 8d	38s 2d
— 8	48 10	30 1	20 8	31 0	36 8	37 4
— 15	49 1	29 0	20 9	31 0	36 6	37 3
— 22	48 11	30 2	20 3	28 3	35 11	36 3
— 29	47 11	29 5	20 7	30 2	35 9	36 1
Aug. 5	49 5	29 11	21 0	29 4	35 3	34 8
Aggregate Average	48 9	29 10	20 8	30 0	36 2	36 8
Duties on Foreign Grain	9 0	3 0	2 6	3 0	3 0	3 0

ARRIVALS IN THE PORT OF LONDON THIS WEEK.

	Wheat. Qrs.	Barley. Qrs.	Oats. Qrs.	Flour.
English.....	4740	—	1810	2330 sacks.
Irish	—	—	180	
Foreign.....	12130	5910	11383	— barrels.

Fluctuations in the last six weeks' Corn Averages.

PRICE.	July 1.	July 8.	July 15.	July 22.	July 29.	Aug. 5.
49s 5d	...	...	...	...	...	...
49 1	...	...	...	...	...	...
48 11	...	...	...	...	...	...
48 10	...	...	...	...	...	...
48 2	—	...	...	...	...	...
47 11	...	...	...	...	...	...

SEEDS, Aug. 7.

Canary .....per qr.	70s to 78s	Linseed-cakes, Foreign, p.ton, 7*l* to 9*l*	
Caraway .....per cwt.	27 29	Mustard, White, p. bush., 7s 0d to 9s 0d	
Clover, Red, English	35 44	Superfine, p. bush.,	— —
— Foreign	35 40	— Brown, per bush.,	— —
White, English	38 44	Rapeseed, Eng., per last.....	26*l* 28*l*
— Foreign	38 42	Rape-cakes .....per ton	6*l* 5s
Coriander.....	19 20	Samsion	— —
Hempseed .....per qr.	40 44	Tares, Eng., winter, p. bsh., 5s 0	7s 0
Linseed.....	36 40	Foreign, per bush., 3s 0	4s 0
— Baltic.....	33 36	Trefoil	17s 0 20s
— Cakes, Eng. p. 1000, 11*l* 15s to 12*l*		Turnip—too variable for quotation.	

MERRIOTT, NEAR CREWKERNE, SOMERSETSHIRE.

TO BE LET, and entered on immediately, on most advantageous terms, an Old Established and Well-Stocked NURSERY, containing, by estimation, Ten Acres (more or less), situated in the above parish; together with an excellent Hothouse thereon, filled with choice Vines in full bearing, and valuable plants; adjoining which is a comfortable Cottage, with convenient Cart-house, Packing Sheds, Seed Room, &c.

Merriott is situated within a short distance of the populous towns of Ilminster, Ilchester, Yeovil, Crewkerne, Chard, Taunton, &c., to which latter place conveyances pass to and fro daily, in connection with the railways to all parts of England.

To view the above, application may be made to Mr. ANDREWS, at the Cottage on the Nursery; and further particulars and terms of letting may be known on application to Mr. WHITTEY, Solicitor, Wrington, near Bristol, Somerset. Wrington, Aug. 12

TO BE LET ON LEASE, from Michaelmas next, a FARM, containing 116 Acres of Arable, Grass, and Wood Lands, with commodious homestead, situate in the parish of Lingfield, Surrey, within 3 miles of the market town of East Grinstead. Enquire of Mr. GEO. TROTTER, Bailiff at Felcourt, Lingfield, who can be highly recommended by the Advertiser as an intelligent Scotchman, well acquainted with modern improved farming, perfectly trustworthy, and capable of taking entire charge of any nobleman or gentleman's estate.

TO NURSERYMEN, SEEDSMEN, AND THE TRADE IN GENERAL.

TO BE DISPOSED OF, on Very Advantageous Terms, and entered upon immediately, ONE OF THE LARGEST HORTICULTURAL ESTABLISHMENTS in the Kingdom, with an increasing Nursery and Seed Business attached. To one or two enterprising young men this offers an opportunity which seldom occurs. Every facility will be given to any respectable persons wishing to engage in the above. A Partner with sufficient capital, and competent to undertake the entire management, would not be objected to. For particulars enquire of Mr. M. J. WEBBER, Fruiterer, Covent-garden Market, and Messrs. W. and J. NORLY, Seedsmen, Fleet-street, London.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK AND TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their IMPROVED BRICK and TILE MACHINES, which are to be seen at work at Alperton, and at the Company's Office, 193A, Piccadilly, from 10 A.M. to 5 P.M. Mr. Robert Scrivener, who has been appointed Manager in the room of Mr. John Ainslie, will show the Machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, 193A, Piccadilly, London.

These Machines may also be seen at Mr. Slight's, Leithwalk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill, 135, Buchanan-street, Glasgow; Mr. Robert Charles, Mill-hill, Leeds; Messrs. Penny and Finch, Penkeridge, Staffordshire; Messrs. Drummond and Son, Dublin; and at Mr. John Connor's, Newtown Limavady, County Derry.

CHEAP AND DURABLE ROOFING.—Houses of all descriptions can be roofed at less than one-half the ordinary cost, by using the PATENT ASPHALTED ROOFING FELT, Manufactured by FRANCIS RITCHIE AND SONS, BELFAST,

Who also make INODOROUS FELT for lining damp walls under paper in place of lead. Samples, directions, and all necessary information sent free, on application to the Manufacturers, or any of the following Agents:—

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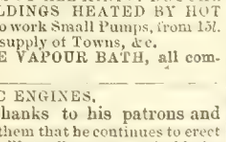
PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as building and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

THE IMPROVED HYDRAULIC RAM, fixed by FREEMAN ROE, Fountain Maker, 70, Strand, London, can be worked by a small stream of half-an-inch, where a fall of two feet can be obtained. The same RAM, without the aid of a Tank or Cistern, arranged to throw a Jet of Water constituting a Fountain with the head of water beneath.



ENGINES FOR DEEP WELLS OF ALL KINDS. DOUCHE AND OTHER BATHS. BUILDINGS HEATED BY HOT WATER. WATER WHEELS to work Small Pumps, from 15l. Estimates given for the supply of Towns, &c.

A newly invented PORTABLE VAPOUR BATH, all complete for 4l.

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J. LEGG begs to return thanks to his patrons and friends, and also to inform them that he continues to erect his improved Hydraulic Engines, Water Ram, &c., suitable for all situations where a fall can be obtained, also Engines for Deep Wells. J. L. also begs to inform his friends that he has made several improvements on his Hydraulic Machines, and flatters himself that he is able to compete with any parties of the present day in the construction of the above machines.

Apply to JOHN LEGG, Cheltenham.

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THE PATENT VULCANISED INDIA-RUBBER HOSE PIPES are made to stand Hot Liquor and Acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible), and as they require no application of oil or dressing, are particularly adapted for Fire-engines, Pumps, Gas, Beer-engines, Gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes from ¼ inch bore upwards, and of any length to order.

Vulcanised India-rubber Garden Hose, fitted with brass taps, copper branch, and roses complete, ready to be attached to Pumps, Water-butts, or Cisterns.—Sole Manufacturer, JAMES LYNE HANCOCK, Goswell Mews, Goswell-road, London.

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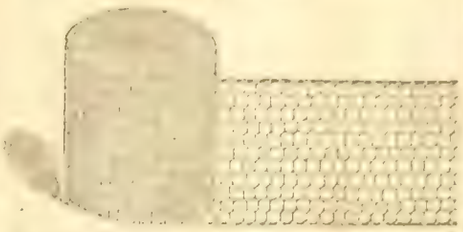
STRONG PREMIUM HARE AND RABBIT PROOF WIRE NETTING.



CHARLES D. YOUNG AND COMPANY (LATE W. AND C. YOUNG), MANUFACTURERS OF IRON AND WIRE WORK, &c. CASTLE-BUILDINGS, DUBLIN; 69, HIGH-STREET, EDINBURGH; and 52, ST. ENOCH-SQUARE, GLASGOW, beg respectfully to call the attention of Landed Proprietors and others to their strong Wire Net Fence, for keeping Hares and Rabbits from Gardens, young Plantations, Corn-fields, &c.

This Net was exhibited at the Show of the Highland and Agricultural Society of Scotland, held lately at Inverness, where its Efficiency, Great Strength, and Low Charge attracted general attention, and it was awarded from the Judges the Society's Silver Medal, with high commendation.

The immense damage done by Hares and Rabbits in Gardens and Young Plantations, is often so great, that in the course of a year or two it will amount to more than the entire cost of protecting them with this Net. It is so durable, that when Plantations are sufficiently advanced to be independent of its protection, it can be removed to other exposed situations with the greatest facility, by any labourer. As a Fence against Hares and Rabbits, it is of itself quite sufficient, having only to be unrolled and attached, with small wire sent for that purpose, to wooden stakes driven into the ground, about every six or seven feet apart. It is, besides, peculiarly adapted for rendering Hedges, Paling, or other existing Fences, *completely impervious* to such vermin: and by being cut up into small pieces of three or more feet, as required, it forms a most efficient guard, at little expense, for individual Plants and Shrubs.

PRICES.—18 ins. high, 9d.; 24 ins., 1s.; 30 ins., 1s. 3d.; and 36 ins., 1s. 6d. per lineal yard.

Or a web of 100 yards, 18 ins. wide, will cost	...	£3 15	0
Do. of 100 yards, 24 ins. wide	...	5 0	0
Do. of 100 yards, 30 ins. wide	...	6 5	0
Do. of 100 yards, 36 ins. wide	...	7 10	0

If more or less than a web is required, it would be charged at the same rate per yard.

This Netting is also admirably adapted for Pheasantries and Poultry-yards, and is charged at the same rate. As carriage has, in many instances, been an obstacle to parties at a distance requiring this Net, C. D. Y. and Co. have made arrangements by which they will undertake to deliver it at any of the principal ports of Scotland, England, and Ireland, for One Halfpenny per lineal yard.

C. D. YOUNG and Co. cannot give a better idea of the great strength of their Premium Wire Netting than by stating that the weight of one yard of their 24-inch at 1s. is equal to 24 yards of another article in the market "the same width, at 1d. per yard. Samples for inspection sent free of expense.

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Workmen sent to all parts of Scotland, England, and Ireland.

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ST. THOMAS BAKER, MANOR-HOUSE, MANOR PLACE, KING'S-ROAD, CHELSEA, Manufacturer of INVISIBLE WIRE FENCE, to resist Grazing Stock, and rendered Rabbit-proof. WIRE-WORK in Trainers, Arches for Walks, Bordering, Flower Stands, Pheasantries, &c. HORTICULTURAL BUILDINGS, Green and Hothouses, Conservatories, &c. The same heated by HOT-WATER APPARATUS on improved and economical principles.

Parties waited on in Town and Country, and Drawings and Estimates free. Work for the Trade as usual.

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HAIR RESTORED.—Further confirmation of the unfailing virtues of OLDRIDGE'S BALM of COLUMBIA. The wonderful efficacy of this inestimable compound in restoring the hair to its pristine beauty, and the certainty with which its conservative agency operates in preserving it, has received, as might be expected, the most flattering testimonials from the grateful thousands who have experienced its effects.

To Messrs. C. and A. OLDRIDGE.

Beresford-street, Camberwell, May, 1848.

"GENTLEMEN.—I consider it due to the merits of your valuable BALM of COLUMBIA, to state the facts of a restoration effected by it. Towards the latter end of last year I found my hair falling off, especially when combed; after consultation and recollection of the benefits derived by Mrs. Drury, who used it a few years back, I was induced to try your BALM, and am happy to attest that, after using only two small bottles, I observed a great change, and the third fully completed the restoration and strengthening of my Hair. Yours, &c., T. PRUEY."

C. and A. OLDRIDGE'S BALM causes Eyebrows to grow, prevents the Hair from turning grey, and the first application causes it to curl beautifully, frees it from scurf, and stops it from falling off. Price 3s. 6d., 6s., and 11s. per bottle; no other prices are genuine.

OLDRIDGE'S BALM, 1, WELLINGTON-STREET, the second house from the Strand.

THE GROWTH AND PRESERVATION OF THE HAIR.

ROWLANDS' MACASSAR OIL insinuates its balsamic properties into the pores of the head, nourishes the Hair in its embryo state, accelerates its growth, cleanses it from Scurf and Dandruff, sustains it in maturity, and continues its possession of healthy vigour, silky softness, and luxurious redundancy, to the latest period of human life. In the growth of WHISKERS, EYEBROWS, and MUSTACHIOS, it is also unfailing in its stimulative operation. For Children it is especially recommended, as forming the basis of a beautiful head of hair, and rendering the use of the fine-comb unnecessary. A small pamphlet accompanies each bottle of ROWLANDS' MACASSAR OIL, wherein important hints and advice will be found on the Culture of the Hair of Infancy, and on its preservation and beauty through the several stages of human life. Price 3s. 6d.—7s. Family bottles (equal to four small), 10s. 6d.; and double that size, 21s. per bottle. Each bottle of the genuine article has the words, "ROWLANDS' MACASSAR OIL," engraved in two lines on the Wrapper, and on the back of the Wrapper nearly 1700 times, containing 20,025 letters.—Sold by them at 20, Hatton-garden, London, and by all Chemists and Perfumers.

DO YOU SUFFER TOOTHACHE? [illegible]

HEAD AND [illegible]

EMIGRATION AND COLONIZATION.—IMMI- [illegible]

LORD'S OF LEICESTER.

LEICESTER CEMETERY.—COMPETITION.—TO ARCHITECTS AND ARTISTS.

The Committee appointed by the Town Council of the Borough of Leicester to [illegible] and to carry into effect the Act passed in the 11th Year of the Reign of Her Majesty, intituled "An Act for enabling the Mayor, Aldermen, and Burgesses of the Borough of Leicester to establish a general Cemetery for the Interment of the Dead," and for other purposes relating thereto," with the powers and provisions of the said Act, and the Clauses and Provisions of the Act for Consolidating the Provisions of the Acts for Regulating the Interments in Towns, and for other purposes connected therewith, and to the Regulations of the Secretary of State, on the [illegible]

A Premium of One Hundred Guineas is offered for the Design of the Architect or Artist whose Design for the Cemetery shall be approved by the Committee to be most [illegible] and to whom the Committee shall entrust the superintendence of the execution of the Works. And in case the Premium to emerge into a Commission of Five per Cent. on the Expenditure upon the Cemetery.—The Committee do not [illegible] any other Design which may be sent in [illegible] approval, [illegible] of which they may [illegible] than Twenty Guineas, [illegible] Premium shall be [illegible]

All Designs [illegible] Letters, [illegible] Signs, but with a Motto or Letter [illegible] as a Signature, [illegible] the Site, with such other [illegible] be had at any time after the [illegible] to SAMUEL STONE, Esq., Town Clerk, [illegible] Plans are to be forwarded on or before the [illegible] next.

Now ready, to be had of all first-class Dealers,

SUMMERLY'S ART-MANUFACTURES, by Bell, Creswick, Dyce, Horsley, Maclise, Mulready, Redgrave, Townsend, Westmacott, &c.

	£. s. d.		£. s. d.
Stratford Shakespeare Statuette	2 5 0	Bronze Inkstand and Statuette	1 5 0
Prayer (boy) Statuette	1 4 0	[illegible]	[illegible]
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Carved wood Brackets, various prices.		Water Vases and Jugs [illegible]	[illegible]
Earthenware Salt-cellar	0 3 6	[illegible]	10 10 0
Gilt Decanters, each	3 3 0	Tazza "Flax" Paper Cutter	2 5 0
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Una and the Lion (Parian)	3 3 0	[illegible]	[illegible]
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Kissing Children (Parian)	0 9 0	Newspaper Knife	1 1 0
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CAPTAIN CHIOSSO assisted by his Son, PROFESSOR OF FENCING AND GYMNASTICS at the UNIVERSITY COLLEGE, LONDON, and author of a treatise on Physical Education, respectfully begs to announce that he has removed to 21, GOWER-STREET, Bedford-square, where he continues to treat cases of SPINAL DEFORMITY, CONTRACTION OF THE CHEST, DEBILITY, &c. &c. His system, for its simplicity and efficacy, is peculiarly adapted to the youth of both sexes, as well as adults. As it can be productive of no strain to the muscles, or inconvenience, it is on this account that it is recommended by the highest authorities of the Medical Profession.

Captain C. may be consulted on Tuesdays and Thursdays, between the hours of Two and Three.

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*** Loans on the Deposit of unencumbered Policies of the Company are made, up to their value, without legal expense to the borrower.

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The profits (subject to a trifling deduction) are divided among the insured. The plan upon which they are divided gives to each party insured a share proportionate to the amount of the Premiums he has contributed.

In addition to the above advantages, the Directors have determined to adopt the principle of allotting a prospective Bonus to Policies lapsing between the Septennial Periods of Division, in order that all the Policy-holders may participate equally in the Profits of the Society.

The following Table shows the amount of Bonuses added to Policies existing at the present time.

Policy No.	Date of Policy.	Sum insured.	Bonuses added.			Increase on original Insurance.	Total Sum payable, to which future Bonuses will be added.		
		£	£	s.	d.		£	s.	d.
21	1806	500	415	10	2	83·10 per cent.	915	10	2
521	1807	900	982	12	1	109.17 ,,	1882	12	1
1174	1810	1200	1160	5	6	96.68 ,,	2360	5	6
1395	1811	1600	1328	8	6	83.02 ,,	2928	8	6
3288	1820	2000	1906	13	5	95.33 ,,	3906	13	5
3392	1820	5000	3558	17	8	71.17 ,,	8558	17	8
4356	1822	3000	2541	3	6	84.7 ,,	5541	3	6

Prospectuses and full particulars may be obtained upon application to the Agents of the Office in all the principal towns of the United Kingdom; and the head Office, No. 50, Regent-st.

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Printed by WILLIAM BRADBURY, of No. 6, York-place, Stoke Newington, and FREDERICK MULLETT EVANS, of No. 7, Church-row, Stoke Newington, both in the county of Middlesex, Printers, at their office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the Office, No. 5, Charles-street, in the parish of St. Paul's, Covent Garden, in the said county, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY, AUGUST 12, 1848

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 34.—1848.] SATURDAY, AUGUST 19. [PRICE 6*d*.

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BIRMINGHAM BOTANICAL AND HORTICULTURAL SOCIETY.—The last Exhibition this season will be held at the Garden on THURSDAY, the 24th of AUGUST. Subjects for exhibition must be at the Garden before 9 o'clock on the day of exhibition.—G. B. KNOWLES, F.L.S., Hon. Sec., Edgbaston, August 19.

GREAT WEST OF ENGLAND DAHLIA EXHIBITION, at Wilton Gardens, near Salisbury, will be held the 24th of August, open to all England.—Full particulars may be had on application to JOHN KEYNES, Hon. Sec., Salisbury.

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BASS AND BROWN beg to refer to a select List of the above advertised in the *Gardeners' Chronicle* of July 29 and Aug. 12, comprising, amongst others, the following:

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Cineraria, from choice	1 0	Do., 30 vars.	5 0
Geranium	2 6	Do., 20 vars.	3 6
Do., smaller packets	1 6	Petunia, extra choice	1 0
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Fuchsia, from best vars.	1 0	Verbena, 2*s.* 6*d.*; smaller	1 0
20 vars. choice Greenhouse Perennials, 10*s.* 6*d.*; 12 do.			7 6
20 do. Hardy Biennials and Perennials			5 0
20 do. Hardy Annuals, for autumn sowing			4 0

Descriptive Catalogues for 1848 may still be had. Remittances are requested from unknown correspondents. Post-office orders payable to BASS and BROWN. Postage stamps received for small amounts.

Seed and Horticultural Establishment, Sudbury, Suffolk.

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Taunton Nurseries, August 19.

S. AND J. DILLISTONE, Nurseries, Sturmer, near Haverhill, Suffolk, beg to offer seed saved from their splendid collection of ANTIRRHINUMS, in packets .. 2*s.* 6*d.*

SWEET-WILLIAMS, all from Double Flowers, and from every shade of colour 1 0

HOLLYHOCKS, extra fine, all double 1 6

,, ,, Plants of ditto, now ready, per 100 10 0

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CHINESE AZALEAS, in 40 varieties, strong plants, 18*s.*, 24*s.*, and 30*s.* per dozen.

CHRYSANTHEMUMS, including Salter's last year's new varieties, 9*s.* per dozen. Standard, Nonpareil, Messenger, Nymph, and Ne Plus Ultra, all new this year, 2*s.* 6*d.* each.

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Lord John Russell	Lady Lacon	Laura
Queen of Sheba	Master Conrad	Purity
	St. Margaret	Queen of Yellows

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Aberdeen Beehive (true), 7*s.* 6*d.* per 100. Princess Royal and Comte de Paris, 20*s.* per 100.

Horticultural Establishment, Bracondale, Norwich.

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Post-office orders upon Greenwich, payable to WILLIAM PORT AYRES, Horticultural Grounds, Brooklands, Blackheath-park, Kent.—August 19.

FOSTER'S CHOICE PELARGONIUMS.

WILLIAM BRAGG, FLORIST, &c., Star Nursery, Slough, Bucks, takes this opportunity of informing the Nobility, Gentry, and Floriculturists in general, that he has been kindly favoured by EDMOND FOSTER, of Manor House, Clewer, Windsor, with the Entire Stock of his splendid NEW SEEDLINGS, which W. B. intends sending out in September next at moderate Prices and good Plants. W. B. trusts that any recommendation from himself would be superfluous, as these justly celebrated Seedlings are so highly popular.

Victory	31*s.* 6*d*	Phyllis	15*s.* 0*d*
Ondine	21 0	Sylvia	10 6
Lamartine	21 0	Minna	10 6
Lalla Rookh	15 0	Armida Superb	10 6
Norah	15 0	King Hudson	7 6
Alonza	15 0	Jenny Lind	7 6

And all the old kinds, and other growers' varieties, at moderate prices. The usual allowance to the Trade.

References required from unknown correspondents, or prepayments. Further particulars will be given in Catalogues, which will be shortly ready.—Star Nursery, August 19.

MYATT'S NEW FERTILISED HAUTBOIS, Patronised by His Royal Highness Prince Albert.—On the 23d of June some fruit of this variety were sent by Messrs. MYATT to Buckingham Palace, and on the same day the following gratifying testimonial was received from His Royal Highness:

"Sir,—I have received the commands of His Royal Highness Prince Albert to return you His Royal Highness's thanks for the excellent Strawberries which you were good enough to send. None finer, or of better flavour, have appeared at Her Majesty's table. His Royal Highness has commanded me to forward to you the accompanying Silver Medal, as a token of His Royal Highness's appreciation of your skill in growing fruit of so excellent a quality.

"I am, Sir, your obedient Servant, C. B. PHIPPS."

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The usual Trade allowance.

Post-office Orders made payable to JOSEPH MYATT, Deptford. Manor Farm, Deptford, August 19.

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WM. WOOD AND SON have much pleasure in offering this desirable plant to their friends and the public, feeling assured that it will prove a very great acquisition. As a pure white bedding plant it will stand unrivalled, forming a striking but at the same time most pleasing contrast to the bright blue of the original species. This beautiful variety was originated from seed, and flowered for the first time in October last; it is the same in foliage, habit, and growth as the now universally known Salvia patens, with the exception of the whole plant being of a lighter hue; the flowers are equal in size to that species under the highest cultivation, and of the PUREST SNOWY WHITE, with a small spot of light blue on the lower lip of each flower.

It will be admitted by all who are acquainted with the present system of flower gardening that there is a great scarcity of pure white flowers of an ornamental character, adapted for grouping, to make up which deficiency the introduction of this charming novelty will be hailed with the greater pleasure; its merits are, however, not confined to grouping, as it proves very attractive when grown in pots or planted out in mixed borders.

W. W. & S. purpose sending out the above under the name of SALVIA PATENS ALBA, about the middle of September, at 10*s.* 6*d.* per plant, with the usual discount to the Trade, and one additional plant for every three ordered. They have also a good stock of the following highly desirable plants, which may be had now or with the above, viz.:

	s. d.		*s. d.*
Achimenes floribunda elegans	3 6	Gardenia Fortunii	10 6
,, venusta	3 6	,, Stanleyana	5 0
Allamanda grandiflora, 3*s.* 6*d.* to 5*s.*		,, Whitfieldii	5 0
,, Schottii, 10*s.* 6*d.* to 15*s.*		Gloxinia alba intus rubra	3 6
Boronia polygæfolia	5 0	,, candidissima	3 6
Clerodendron macrophyllum	10 6	,, Teichlerii	7 6
,, sinuatum	3 6	Ixora odorata	21 0
,, volubile	3 6	Pharbitis ostrina	3 6
Echites rosea campestris	7 6	Pleroma elegans	3 6
,, spectabilis	10 6	Rhynchospermum jasminoides, true	5 0
,, splendens	5 0	Siphocampylus nitidus	3 6
Eriostemon scabrum	5 0	Tromsdorfia speciosa	5 0
Erythrina fulgentissima	7 6	Tweedia pubescens	5 0

*** Additional Plants will be presented with each order to compensate for carriage. A remittance or reference required from all unknown correspondents; post-office orders to be made payable at Uckfield.

Woodlands Nursery, Maresfield, Uckfield, Sussex.

PINES.—A quantity of healthy plants, in pots of [illegible] now in bloom, to be sold very cheap. Apply to J. [illegible], Gardener, Beaumont Lodge, near [illegible].

RARE [illegible] PER DOZEN.

ROBERT HALL begs to advise the arrival of [illegible] Annual Importations of the [illegible] CISSUS, the most fragrant of [illegible] now will bloom at Chiswick, [illegible] house, 63, South Audley-street, [illegible] facing the Chapel? Payment may be made [illegible].

GERANIUMS.—The Lovers of GERANIUMS [illegible] now a rare opportunity [illegible] little money. HENRY WALTON, [illegible] Burnley, Lancashire, begs to offer [illegible] rate GERANIUMS, [illegible] Beck. The following are [illegible]

Miller's Scarlet Defiance [illegible] Miller's Admiration ..
,, Rosa Mundi .. ,, Venus ..
,, Queen of Kent .. ,, Cedo Nulla ..
,, Distinction .. ,, Prince Hay ..

Miller's superb Set of [illegible] the Geranium Society, 21*s.* 6*d.*, viz., Fire King, [illegible] 3*s.* 6*d.* each, Beauty Supreme, [illegible] 2*s.* 6*d.* The following [illegible] autumn by W. B. [illegible]

Lyne's Jenny Lind .. Lyne's Lady Emmeline ..
,, Star of the West ..

Or the whole List for 21*s.*, [illegible] free by post at their affixed [illegible] may be had at equally low rates [illegible] application. H. W.'s Catalogue contains [illegible] of former years raised by Beck, Lyne, Lee, Miller, Foster, Gaines, and others; [illegible] or H. W.'s selection of 12 for 10*s.* 6*d.* Advice [illegible] paid and made payable at Burnley; cash [illegible] the best selection. Orders will be executed [illegible]

ABERDEEN BEEHIVE STRAWBERRY.—There is still in the trade a strawberry [illegible] of the "Aberdeen Beehive," which [illegible] fruit during the last two seasons at [illegible] Aberdeen; and at the same time [illegible] the United Kingdom to produce [illegible] general excitement that [illegible] have visited the grounds [illegible] derful and far-famed "Beehive" [illegible] whom were many competent judges [illegible] and other parts of the Continent, who at once [illegible] superior to anything they had before witnessed as a Strawberrie, and [illegible] their commendations [illegible] flavour, they have been pronounced "No. 1" in [illegible] and I am prepared to state that the "Beehive" [illegible] the general failure of [illegible] admiration as it were, lauding to scorn the strawberry [illegible] false assertions of those scoffers who, [illegible] seized [illegible] them, to [illegible] to inform my friends, and [illegible] that the demand daily increases [illegible] the result of the "Beehive" [illegible] an extensive stock of well-[illegible] offer them from the Nursery [illegible] per dozen. Established in [illegible] per dozen. Directions [illegible]

—JAMES MATTHEWSON, Nurseryman, [illegible]

FIRST-RATE NEW VERBENAS AND FUCHSIAS.

GEORGE SMITH begs to announce that he has [illegible] of splendid VERBENAS, [illegible] the season, both of [illegible] dozen, or 24 for 20*s.* A [illegible] can be had on the receipt of a [illegible]

VERBENAS: Smith's Optimum, [illegible] Excelsa superba, Miss Sarah, [illegible] gon, Vivid, Rainbow, Zaida, [illegible] flora, Delicata, Fire King, [illegible] perba, Lycanus, Lucilana, Jenny [illegible] Victoria, Duke of Norfolk, [illegible] Margaret; Ivery's Emperor of China, [illegible] nica, Amacreon, Baron Delessert, Cardinal, [illegible] Alencon, Duc de Cazes, Duchesse de Cazes, [illegible] Coquette, La Vilageoise, Madame [illegible] Madame Passy, Madame Rattier, [illegible] Cheri, Souvenir, Vampa, Victoire, and Velvet.

FUCHSIAS: Kendall's Beauty supreme, Crimea, [illegible] nought, Spanish Infanta, [illegible] IX., Rosea Quintal; Turville's [illegible] tain; Smith's Esteem, [illegible] Enchantress, Souvenir, [illegible] Jenny Lind, and Schofield's All [illegible] Heliotrope, "Triomphe de Liege." [illegible]

The above can be immediately [illegible] hamper, on the receipt of a Post-[illegible] ton. Purchasers leaving the selection [illegible] most approved varieties forwarded.

Islington Nursery, Hornsey-road, [illegible] August [illegible]

SEEDS.—CORNER OF HALF-MOON-STREET.

THOMAS GIBBS AND CO.

(By Official Appointment to the SECRETARY to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND.")

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HETLEY AND CO., supply 16-oz. Sheet Glass of British Manufacture, at prices varying from [illegible] per square foot, for the several sizes required, many thousand feet of which are kept packed for immediate delivery at their Crown, Sheet, Patent Plate, Stained and Ornamental Glass Warehouse, 28, Soho-square, London.

CRYPTOMERIA JAPONICA SEEDLINGS.

MESSRS. STANDISH AND NOBLE, Nurserymen, Bagshot, have the honour to inform the Nobility, Gentry, and the Public, that they have succeeded in obtaining a quantity of SEED of the above truly magnificent Tree from the north of China, and are now able to send out SEEDLING Plants at the undermentioned low scale of prices.

It was first sent home by Mr. Fortune to the Horticultural Society, in 1844, and has now proved to be perfectly hardy in this country, having stood out in many exposed situations during the severe winter of 1846 and 1847. It is a tree of rapid growth, and some very fine specimens may now be seen in the gardens of the Horticultural Society nearly 10 feet in height, and very graceful in form.

"*I met here* (*Shanghae*), *for the first time, with the beautiful Cryptomeria japonica, a species of Pine not unlike the Araucarias of Australia and Brazil. When growing luxuriantly it is highly ornamental, rising from the ground as straight as a Larch, and sending out numerous side branches almost horizontally from the main stem, which again droop towards the ground in a graceful and* WEEPING *manner. The wood of the tree has a kind of twisted grain, possessing great strength and durability, and is highly valued by the Chinese.*"—FORTUNE'S WANDERINGS IN CHINA.

We need scarcely inform the lovers of hardy evergreens that SEEDLINGS of this species are of much more value than cuttings. The latter never make handsome plants, and grow much slower. Our Seedling Plants, which we are now sending out, if properly managed, will be more than 2 feet high by next spring, the proper time to plant them out in the open ground.

Messrs. STANDISH and NOBLE can now supply nice healthy plants, in 60-size pots, at the following low price, viz., 3*s.* 6*d.* per plant, 36*s.* per doz., or 12*l.* 10*s.* per hundred. A liberal allowance to the Trade from the above prices.

N.B.—The above is for cash only.

GLASS.

APSLEY PELLATT AND CO. (late PELLATT and GREEN), Falcon Glass Works, Holland-street, Blackfriars, have always on hand, Bee Glasses, 1*s.* 6*d.* per lb.; Cucumber Glasses, 1*s.* 6*d.* per lb.; Milk Pans, 18 in., white glass, 5*s.* 6*d.* each; Propagating Glasses, white, 1*s.* per lb., do. green, 10*d.*, do. Condensing, 2*d.* per lb. extra; Asparagus Tubes, 18*s.* to 21*s.* per gross; Grape Shades, 1*s.* 6*d.* to 2*s.* each; Fish-bowls, from 1*s.* 6*d.* each; Wasp and Fly-traps, 40*s.* per gross, or 3*s.* 6*d.* per dozen. By the use of these traps fruit may be preserved from (otherwise certain) destruction.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND CO., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS FOR CONSERVATORIES.

CUT TO SIZE UP TO 40 INCHES LONG.		SMALL SQUARES of SHEET.	
		4 by 3 and 4½ by 3½	1½*d.* per ft.
16 oz. to the foot	3½*d.* per foot.	5 „ 3 „ 5½ „ 3¾	2 „
21 „	5 „	6 „ 4 „ 6½ „ 4¼	2¼ „
26 „	7½ „	7 „ 5 „ 7½ „ 5½	2¾ „
32 „	10 „	8 „ 6 „ 8½ „ 6½	2½ „
		Not above 10 „ 8	3 „

GLASS MILK PANS, PROPAGATING GLASSES, AND BEE GLASSES. GLASS TILES AND SLATES.

CREAM POTS, from 3 to 24 quarts, at 6*d.* per quart.

CUCUMBER GLASSES, from 12 to 26 inches long, 1*d.* p. inch.

LACTOMETERS for trying the quality of Milk, 4 tubes 7*s.* 6*d.*, 6 tubes 10*s.*; Peach Glasses 10*d.* each; Fish Globes from 1*s.* 6*d.* each; Wasp and Fly Traps 3*s.* 6*d.* per dozen; Plate and Window Glass; Lamp Shades and Chimneys; and every article in the trade.

SASHES AND FRAMES MADE AND GLAZED.

E. AND W. H. JACKSON beg to call the attention of Gentlemen and the Trade to the reduced prices of their PATENT PLATE GLASS, which, from its superior qualities and cheapness, is now superseding all inferior glass in dwelling houses.

BRITISH MANUFACTURED SHEET GLASS for CONSERVATORIES, POLISHED AND ROUGH PLATE, CROWN, COLOURED, AND ORNAMENTAL GLASS at the lowest terms.

Tariffs of prices and every information can be had, by applying at their Warehouse, 315, Oxford-street.

SASH LINE FOR HOTHOUSES AND GREENHOUSES.

R. S. NEWALL AND CO.'S PATENT IMPROVED COPPER-WIRE CORD is now extensively used for Window Sash Line, Hothouses, Lightning Conductors, Picture Cord, Clock Cord, &c., &c., and is found to be cheaper, much more durable, quite as flexible, and one-sixth part the bulk of common Hempen Lines. The Wire Cord may be had wholesale, and specimens seen, at the Office of the Patentees, 163, Fenchurch-street, W. T. ALLEN, Agent; or retail, of G. and J. DEANE, 46, King William-street; E. PARKS, 140, Fleet-street; J. JONES, 62, Charing-cross; and GIBBONS and Co., 345, Oxford-street.

GLASS FOR HORTICULTURAL PURPOSES.

HARTLEY'S PATENT ROUGH PLATE, AND PATENT DOUBLE CROWN GLASS, is admitted by practical men to be the greatest improvement yet discovered in the manufacture of Glass for the above uses, and the extraordinary low prices must ensure a very extensive sale. Sold strictly at the Manufacturer's prices by W. PATTEN and Co., Window Glass, Lead, and Colour Merchants, 20, Old Fish-street, London, Sole Manufacturers of the Improved Ordnance Anti-Corrosion and Mineral Paint for all kinds of Outhouses, Park Fencing, &c.

BAKER'S PHEASANTRY, Beaufort-street, King's-road, Chelsea, by special appointment to her Majesty and H.R.H. Prince Albert.—ORNAMENTAL WATER FOWL, consisting of black and white swans, Egyptian, Canada, China, bernacle, brent, and laughing geese, sheldrakes, pintail, widgeon, summer and winter teal, gadwall, Labrador, shovellers, gold-eyed and dun divers, Carolina ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking fowls; white Japan, pied, and common pea-fowl, and pure China pigs; and at 3, Half-moon-passage, Gracechurch-street.

VINAIGRE DE BORDEAUX.

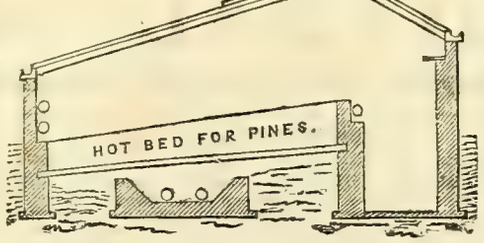
WINE VINEGAR, well matured, is the strongest, finest, and purest of all; for pickling and every domestic use, it is preferable to all other. Sold throughout the Kingdom, by Chemists, Grocers, and Wine Merchants, whose names may be learnt from the Importers, W. and S. KENT and Sons, Upton-upon-Severn. London Stores, 3, Queen-street-place, Cheapside; W. S. Rumsey, Agent.

IMPROVED FLOWER STICKS.—These Flower Sticks are of a circular form, thereby avoiding angles and sharp edges, which are liable to cut and injure the plants. They may be had stained brown or green to suit the various plants.—To be had of all respectable Nurserymen and Seedsmen, and dealers in Garden Implements. Manufactured and sold Wholesale, at H. MORRELL'S, 149, Fleet-street, London.

N.B. Samples to be seen at the Office of this Paper.

HARTLEY'S PATENT ROUGH PLATE GLASS, for Horticultural purposes, averaging 26 oz. to the foot, is supplied by every respectable Glass Merchant and Glazier in the Kingdom. See *Gardeners' Chronicle*, August 12.

HORTICULTURAL ESTABLISHMENT, AND GARDENERS' REGISTER OFFICE.



J. WEEKS AND CO., KING'S-ROAD, CHELSEA, HORTICULTURAL BUILDERS AND HOT-WATER APPARATUS MANUFACTURERS, have the honour to inform the Nobility and Gentry that they have of late years made great improvements in Horticultural Building and Heating by Hot Water; and for the purpose of showing those improvements, they have erected in the King's-road, Chelsea, an extensive ornamental Nursery, which contains upwards of 15,000 feet of Glass, consisting of Hothouses, Greenhouses, Conservatories, Pits, &c. &c., in great variety; the whole of which is heated by Hot Water in various forms. This has also enabled them to grow at very reduced prices a most extensive collection of Stove and Greenhouse Plants.

THE SEED DEPARTMENT at this Establishment is conducted with the greatest care and attention. Samples of every variety are proved before sent out.

PLANS, ESTIMATES, AND CATALOGUES upon application.

SUPERIOR WHEAT MANURE.

C. M. WESTMACOTT'S CONCENTRATED NIGHT-SOIL.—C. M. W. has great pleasure in presenting to his friends and agriculturists generally the opinion of that celebrated Analytical Chemist, DR. ANDREW URE, M.D., F.R.S., of his prepared Night-Soil, which he has received from that Gentleman, attached to the Analytical Report of the same:

(Copy).—This is an excellent Concentrated (Night-Soil) Manure of the best fertilising quality.—(Signed) ANDREW URE, M.D., F.R.S, Analytical Chemist, 24, Bloomsbury-square, London, July 21, 1848.

The above is warranted to be delivered pure; it may also be had prepared, especially for Wheat, with those valuable substances added which are required by that plant in greater quantities than the Night-Soil possesses, thus making it a most perfect Wheat Manure.

The price for cash is 6*l.* per ton, packed and delivered, to any Wharf or Station in London, and the quantity requisite for a full dressing of Wheat is from 4 to 5 cwt. per acre.—Address, Brunswick Wharf, Agar Town, St. Pancras, London.

THE LONDON MANURE COMPANY beg to offer, on the best terms, Peruvian Guano, warranted genuine, delivered direct from the Importers' warehouses; Superphosphate of Lime, in any quantity; Sulphate of Ammonia, Nitrate of Soda, Sulphuric Acid, fine Bone Sawdust, Gypsum, Potter's Guano, Soda Ash, Petre, Agricultural and Fishery Salt, and every other artificial Manure.

The URATE of the LONDON MANURE COMPANY has now stood the test of seven years, with a largely increasing sale. It is recommended with the greatest confidence for Turnips, Mangold Wurzel, Carrots, and all root crops; also for Coleseed, Tares, Barley, &c. Unlike many other artificial Manures, its effects are not exhausted by the first crop; and when from any cause the crop of Turnips to which it has been used fails, its full fertilising properties remain for the next full crop. Testimonials and full particulars forwarded free. The LONDON MANURE COMPANY most earnestly request their friends to order the Urate direct from themselves, or their accredited Agents, so as to prevent any other article of a totally different manufacture being substituted. EDWARD PURSER, Sec.

No. 40, Bridge-street, Blackfriars.

☞ Sole Manufacturers of Mr. J. C. Nesbit's Chemical Manures.

TO FARMERS, GARDENERS, FLORISTS, AND ALL PERSONS CONNECTED WITH AGRICULTURE AND HORTICULTURE IN GENERAL.

PATENT CARBONISED ANIMAL MANURE, in Powder, for which Her Majesty's Royal Letters Patent have been granted.—This Inodorous Animal Manure, or Carbonic Compound, requires only to be tried to be appreciated. By the Patent Process employed in its preparation, unlike any other kind of fertiliser extant, all obnoxious properties, and everything possessing an injurious tendency to vegetable life are removed, the ammonia is fixed, the emission of sulphuretted hydrogen and other subtle gases is prevented, and its fertilising powers increased to an astonishing degree. From its concentrated state, it can be conveyed with the utmost facility to the most remote parts of the Kingdom and Colonies, and but a small proportion is required to produce the desired effects in the enrichment of soil.

As this manure does not possess the burning properties of Guano, it is infinitely preferable for all horticultural pursuits, and the improvement it creates upon plants and flowers is truly wonderful.

Sold, by appointment, wholesale for agricultural purposes, in canvas bags, at the under-mentioned prices; and retailed for small kitchen and other gardens, potted plants, flowers, &c., in tin canisters, at 1*s.*; double-sized ditto, 1*s.* 9*d.*; and treble ditto, 2*s.* 6*d.* each, by H. COLES, Seedsman and Florist, No. 32, Cranbourne-street, Leicester-square, London, where samples of the manure may be seen, its efficacy corroborated by a demonstration of practical results upon grain, &c., and testimonials produced from many who have given it a fair trial.

N.B.—No other sized canisters than the above are used, and only such are GENUINE as have affixed upon the Wrapper of each, a stamp with the Royal Arms, and signature of H. COLE.

RATE OF WHOLESALE PRICES.

When a whole ton is taken at one time	£8	0	0
Half ton	5	0	0
Five cwt.	3	0	0
One cwt.	1	0	0
Half cwt.	0	15	0
Quarter cwt.	0	10	0

Agents for the city, Messrs. Deane, Dray, and Deane, Agricultural Implement Depôt, No. 3, Arthur-street, London-bridge.

H. COLES also keeps at his Establishment, situated as above, a constant supply, both Wholesale and Retail, of all kinds of Agricultural and Horticultural Seeds, Plants, Dutch and other Bulbs, &c., of which a Catalogue may be had; and will feel greatly obliged by being favoured with the commands of those who may at any time have occasion for such. He also executes, punctually and promptly, orders for all sorts of Implements of Husbandry, and everything connected with the branches of Farming and Gardening.

PERUVIAN AND BOLIVIAN GUANO ON SALE,

By THE ONLY IMPORTERS,
ANTONY GIBBS AND SONS, LONDON;
WM. JOSEPH MYERS AND Co., LIVERPOOL;
And by their Agents,
GIBBS, BRIGHT, AND Co., LIVERPOOL and BRISTOL;
COTESWORTH, POWELL, AND PRYOR, LONDON.

To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

TURNIP SOWING.

MARK FOTHERGILL, 201A, Upper Thames-street, begs to offer the following MANURES for the Turnip Crop, viz.:

GUANO, PERUVIAN, direct from Import Warehouse.
SUPERPHOSPHATE OF LIME, manufactured from Bone only (superior to the cheap qualities made from fossils).
DRIED NIGHT SOIL.
BONE DUST AND HALF-INCH BONE.
SULPHURIC ACID.

Also Soda Ash, wireworm destroyer; pure Gypsum, or Mineral Sulphate of Lime (the rubbish offered cheap contains but little acid, the rest being carbonate of lime and water); Agricultural Salt, Nitrate of Soda, and all other Manures of known value. Prices current on application.

THE CONICAL BOILERS, invented by JOHN ROGERS, Esq., are sold by JOHN SHEWEN, Ironmonger, Sevenoaks. They are in use at the gardens of Messrs. Loddiges, Hackney; S. Rucker, Jun., Esq., Wandsworth; Sir C. Lemon, Bart., M.P., Cornwall; the Prince's-park, Liverpool, and numerous other places.

Also, AN IMPROVED CORRUGATED BOILER, adapted for any kind of fuel. May be seen at the hothouses of Mrs. Lawrence, Ealing Park, and in several other gardens of note.

JOHN SHEWEN, Sevenoaks, Kent. Estimates furnished for heating all kinds of buildings.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK AND TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their IMPROVED BRICK and TILE MACHINES, which are to be seen at work at Alperton, and at the Company's Office, 193A, Piccadilly, from 10 A.M. to 5 P.M. Mr. Robert Scrivener, who has been appointed Manager in the room of Mr. John Ainslie, will show the Machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, 193A, Piccadilly, London.

These Machines may also be seen at Mr. Slight's, Leith-walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill, 135, Buchanan-street, Glasgow; Mr. Robert Charles, Mill-hill, Leeds; Messrs. Peaky and Finch, Penkeridge, Staffordshire; Messrs. Drummond and Son, Dublin; and at Mr. John Connor's, Newtown Limavady, County Derry.

CHEAP AND DURABLE ROOFING.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

F. M'NEILL AND Co., of Lamb's-buildings, Bunhill-row, London, the Manufacturers and only Patentees of THE ASPHALTED FELT FOR ROOFING Houses, Farm Buildings, Shedding, Workshops, and for Garden purposes, to protect Plants from Frost.

At the Great National Agricultural Shows, it is this Felt which has been exhibited and obtained TWO SILVER MEDAL PRIZES, and is the Felt SOLELY patronized and adopted by

HER MAJESTY'S WOODS AND FORESTS,
HONOURABLE BOARD OF ORDNANCE,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE COMMISSIONERS OF CUSTOMS,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANIC GARDENS, REGENT'S PARK,

And on the Estates of the Dukes of Sutherland, Norfolk, Rutland, Newcastle, Northumberland, Buccleuch (at Richmond), the late Earl Spencer, and most of the Nobility and Gentry; and *at the Royal Agricultural Society's House, Hanover-square.*

It is half the price of any other description of Roofing, and effects a great saving of Timber in the construction of Roofs. Made to any length by 32 inches wide.

PRICE ONE PENNY PER SQUARE FOOT.

*** Samples, with Directions for its Use, and Testimonials of seven years' experience, with references to Noblemen, Gentlemen, Architects, and Builders, sent free to any part of the town or country, and orders by post executed.

☞ The Public is cautioned that the only Works in London or Great Britain where the above Roofing is made, are

F. M'NEILL AND CO.'S

Patent Felt Manufactory, Lamb's-buildings, Bunhill-row, London, where roofs covered with the Felt may be seen.

The new Vice-Chancellor's Courts, at the entrance to Westminster Hall, were roofed with F. M'NEILL and Co.'s Felt about two years since, under the Surveyorship of Chas. Barry, Esq., R.A. Her Majesty's Commissioners of Woods and Forests are so satisfied with the result that they have ordered the Committee Rooms at the Houses of Parliament to be roofed with their Felt. Quantity altogether used, 24,000 feet.

Note.—Consumers sending direct to the Factory can be supplied in lengths best suited to their Roofs, so that they pay for no more than they require.

Every information afforded on the construction of Roofs, on any proposed particular application of the Felt.

BECK'S SEEDLING PELARGONIUMS.—A Descriptive Catalogue of the above may be had on application, prepaid, and enclosing one Postage Stamp.
Worton Cottage, Isleworth.

DICKINSON'S ITALIAN RYE GRASS SEED is grown by him this year in much larger quantities. The price is reduced from 10s. to 7s. per bushel. No 7, Curzon-street, May-fair, London.

The Gardeners' Chronicle.
SATURDAY, AUGUST 19, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.
FRIDAY, September 1—Botanical ..... 3 P.M.
COUNTRY SHOWS.—Thursday, August 24: Great West of England Dahlia—Wednesday and Thursday, August 30 and 31: Durham Botanical and Horticultural.

DR. LINDLEY will be much obliged to the contributors to the JOURNAL OF THE HORTICULTURAL SOCIETY if they will now favour him with their communications with as little delay as possible.

ALTHOUGH the examination that we have lately made of SHEET GLASS has led us to discover unsuspected faults inherent in its manufacture, which very seriously diminish its fitness for horticultural purposes, we are not at all surprised to find that our correspondents continue to maintain that it is in all respects a perfect material. We long thought so too: we examined sheet glass houses again and again without finding any proof that the burnt appearances occasionally associated with them, as with roofs of crown glass, were really caused by the glass; and we should be the last to blame those who continue to hold an opinion which we have only abandoned after a long search for the truth.

The conflicting testimony on this subject, and we may add the very opposite facts which are now notorious, lead to the conclusion, firstly, that sheet glass is of variable quality; and secondly, that some differences in the result of its use may be owing to the angle at which the roof is pitched, or to the distance of the plants from the glass. If, for instance, the roof forms such an angle that the sun can strike it perpendicularly near the middle of the day at the season when leaves are young and tender, an effect may be produced by the rays of light, however imperfectly concentrated by the irregular lenses, which effect would not be produced by the same glass placed at another angle of elevation; or plants may be entirely out of the focus of the lenses. Hence it will follow that in one case its use will be condemned, while in another it may be found satisfactory.

What we have been anxious to explain is, that, from the way in which it is made, sheet glass must necessarily present numerous concavities and convexities, some of which, or many, as the case may be, have the power of concentrating the rays of light enough to burn the leaves of plants. The process of splitting and flattening cylinders whose exterior circumference is ¾ of an inch greater than the inner must cause such irregularities to occur, with whatever degree of care the flattening is conducted. If sheet glass were simply irregular or wavy, or uneven, its thickness being uniform, this concentration would not take place; but its thickness is so variable, from the effects of "cockling" that it may be compared to a layer of meniscus lenses or spectacle glasses, fused together; and these, from their large size and the small difference between the diameter of their inner and outer curves, will have long foci. It is said indeed that the effect of burning is observed far beyond the focus of any possible lens in the glass; but this is a mistake, as will be readily seen by watching the luminous spots formed on leaves beneath sheet glass in a bright sun.

The effect of patent rough plate will be to diffuse light instead of concentrating it, and for this reason it seems likely to prove most useful to gardeners. Its price will not be any consideration, for we have reason to believe that if a sufficient demand for it should arise, it will be made as cheap as sheet glass of the same weight.* In a few months we shall be able to report the result of the experiment we have in progress.

We are criticised for not having found out sooner the bad quality of sheet glass; we are also reproached with publishing the fact now that we know that it exists. So be it; we are not among those who are ashamed to acknowledge their errors, or who seek to evade their consequences. The life of man is but a series of discoveries, and we can plead no immunity from the common lot of all. We must, however, say that this matter would have long since been settled, if those who possessed houses in which burning was observed had described the facts with the precision of Mr. MITCHELL, instead of dealing in vague and, to those who had no such houses, unintelligible allegations. Thus, for instance, Lord LAS BOWER'S very intelligent gardener, Mr. SPENCER, at Bowood, whose testimony against sheet glass was among the first that was published (see p. 558 of 1847), destroyed the value of his communication by connecting it with a discussion upon the quality of glass of different colours and Mr. HUNT'S ingenious speculations. Had any one taken the same course as was taken by Mr. MITCHELL, measuring the difference in temperature between the luminous spaces which formed upon his leaves, and the ordinary temperature of the house, he would have conferred a great service upon gardening. But the mere allegation that sheet glass burns plants only served to produce a host of testimony to the contrary, the truth of which we knew from our own observation, and thus delayed the settlement of the question; more especially when the alleged mischief was assigned *to the materials of which the glass was composed* instead of *the form it was made to assume*. We are surprized to see that one of our correspondents is even now unable to perceive this distinction.

* We should state that this article can be had of every glazier in England. Messrs. HARTLEY are the patentees and manufacturers.

AMONG the symptoms of DISEASE which this year belong to the POTATO is one of which we have formerly seen much fewer examples. When the Potatoes are taken out of the ground they appear as if studded with heaps of mouldiness, of the same clear white glittering aspect as is observed on the leaves attacked by Botrytis. Moderately magnified the heaps resemble masses of starch-grains protruded through the skin, which is split into irregular stars in order to make way for them. But if submitted to the microscope these heaps are found to consist of oblong cells, cohering very loosely, and presenting their natural brilliant whiteness; they have not a trace of starch, but rapidly become brown under the action of iodine, whence it is to be inferred that they are lined with some azotised matter. Exposed to light and air the cells slowly acquire the cinnamon colour proper to the tissue of Potatoes when affected by the prevalent disease. When washed they fall out, leaving small pits behind, of the size of those formed by the scab, or Tubercinia scabies.

We are not at present prepared to speculate upon the cause of these singular appearances, but as they are, we believe, unknown to the Potato in a healthy state they deserve to be recorded; for their production will have to be accounted for whenever a rational theory of the *first* cause of the Potato disease shall be proposed. So also must the other fact, just adverted to, that all Potatoes having a tendency to rot under the influence of this malady rapidly become cinnamon coloured when exposed to air.

IN enquiring into the climate best suited to the CULTIVATION OF COTTON, we must remember that we have to pay attention not only to the air, but also to the vapour, which may be considered in some respects as forming two distinct atmospheres; the one uniform in quantity and in the proportion of its ingredients, but ever varying in temperature; while the vapour varies not only in this respect, but in the quantity in which it is present, and also in its point of deposition, when alone it becomes perceptible as moisture. Cotton is cultivated in so great a variety of countries, that we cannot but expect it to be capable of flourishing in considerable diversities of climate. Thus the rich alluvial lands of the Mississipi differ not only in soil, but also in temperature and dryness, from the sandy fields of Georgia. In dryness both must differ from the uniformity of moisture which prevails in the islands where Sea Island Cotton is produced. Some grows naturally in the hot parts of Mexico, and much is cultivated in the moist parts of Guiana and of Brazil. HUMBOLDT has seen it at 9000 feet of elevation in the Equinoctial Andes, and at 5500 feet in Mexico. But here different species may perhaps be included, as we know that the species yielding Pernambuco Cotton is cultivated in many parts of South America. In the Old World we find Cotton growing in the interior both of Africa and of India, where there must be considerable dryness of climate. It is cultivated successfully in Egypt, and also of late near Port Natal, but in the former only by the aid of irrigation. It is produced in various islands of the Indian Ocean, in many parts of China, in almost every part of the [illegible]. From these it reaches [illegible] Asia Minor, and from [illegible] into the [illegible] of S. Italy, on the Levant in many [illegible] on the Black Sea, [illegible] coasts of Greece.

Within these limits, extending from the Equator to 40° of latitude, we know that [illegible] able diversities of climate; but the [illegible] perature of many of these [illegible] so much as might be expected from the [illegible] The temperature of the [illegible] modified by the greater [illegible] that of the interior of continents, [illegible] increased by the greater [illegible] depended on the comparative [illegible] of [illegible] The cause tend to [illegible] from the more free radiation which takes place at night in a cloudless atmosphere. It [illegible] remarked that [illegible] and [illegible] have their [illegible] from 0° to 34° of latitude, while [illegible] temperature is from 62° [illegible] is successfully cultivated in the [illegible] where, with a mean summer heat of [illegible] that of winter is not less than 50°.

In taking, however, a general survey of the localities where Cotton is chiefly cultivated, we cannot but observe that many of them are maritime, and others in the vicinity of the sea. This is certainly the case with the districts where the best Cottons are produced, and the largest returns per acre obtained. It has frequently been noted that the beneficial effects of such localities are chiefly due to the presence of salt in the soil, or to its being carried up in the spray, which is transported by winds into the interior. Dr. URE has long since remarked that the chemical analysis of Cotton-wood throws considerable light on the predilection of the Cotton plant for the neighbourhood of the sea, as this supplies plentifully the saline substance requisite to the perfect development and maturation of its woolly fruit, and that it enables us to infer that the compost or manure best suited for Cotton plantations should contain nitrogenised matter, with alkaline, calcareous, and magnesian bases, and that the presence of magnesia deserves notice, as it indicates marine food. But with respect to the absence of soda salts from the ashes of Cotton he observes, "Here, as in many other examples, the vegetative powers of the roots seem to eliminate potash from the stone detritus of the soil, which replaces the soda in the sea salts. For otherwise we should have found salts with a basis of soda, instead of potash salts in the ashes of the Cotton." KOSTER, in his "Travels in Brazil," states, on the contrary, that "the districts which are universally allowed to be the best adapted for the growth of Cotton are far removed from the sea-coast, arid, and oftentimes very scantily supplied with water. Also, that the opinion is very general that the Cotton plant will not thrive in the neighbourhood of the coast, and also that plantations were yearly receding further into the interior, the soil preferred being a deep red earth, which becomes extremely hard after a long interval without rain." Something must, no doubt, be owing to the species which is cultivated, and something to the climate of the plantation being more or less moist. Thus SPIX and MARTIUS, in their "Travels," state that "the Cotton tree cultivated at Rio (G. barbadense, L., sometimes, but more rarely, the G. herbaceum, L.), thrives very well, but is said not to furnish such durable materials as that in the higher and drier districts of Minos Novos."

Vicinity to the sea has, however, other peculiarities besides the facility of affording saline ingredients to the soil or to the atmosphere. It participates to a certain degree in the peculiarities of an insular climate; that is, in greater uniformity of temperature than is found in places farther in the interior, and in a greater freedom of circulation of air from the usually alternating land and sea breezes. There is also greater equability of moisture, for air passing over the surface of the sea necessarily takes up a large proportion of water. This it does not immediately deposit on the coast, unless this is backed by hills, because it usually becomes a little warmed by the heated land, and is thus capable of taking up a little more moisture. But as it does reach the coast in a comparatively moist state, it necessarily rather checks than favours excessive evaporation, and thus does not force the foliage exposed to its influence to give up an undue quantity of moisture. This, however, is necessarily the case whenever a dry current of air passes over the surface of leaves. To the influence of moisture thereby we must ascribe the luxuriant vegetation of some sea coasts, as, for instance, that of the south of Devonshire, and of many islands and coasts. With respect to Cotton, Dr. RYAN has observed that so few meteorological registers give

the dryness and moisture of a climate, as well as its temperature, that he was unable to draw any just conclusions, but that "an insular climate, though comparatively moist, may be useful from the equability of temperature, the freedom of atmospheric circulation which promotes evaporation, as much as from mere vicinity to the sea."

We shall pursue this subject, and endeavour to obtain the requisite data by examining the climate of the best Cotton countries, and also from the results of the experiments which have been made for its cultivation elsewhere.

The universal rot among Potatoes in the south and west of England renders special reports needless. Matters are becoming worse every day, as might have been anticipated; and the question now is, not whose are to perish, but whose are to be saved? Scotland and the north of England appear, upon the whole, to remain exempt: but there are exceptions, as about Kendal.

We rise from the perusal of a pile of Irish Reports, dated as late as August 11, with the perfect conviction that in all the south of Ireland the injury done to the Potatoes is at least as great as in 1845, and probably equal to that of 1846. The fact is beyond a doubt; as is even admitted by those who have been hoping against all experience that this hideous pestilence would be stayed. It is useless to fill space with even an abridgment of the statements before us. The following extracts from letters written by persons having every possible means of information, unhappily place the question beyond the necessity of further inquiry.

I do not believe there will be a sound Potato in this county by the 1st of January; *Tipperary*, Aug. 9.—I have abstained until now from communicating to you the hitherto conflicting statements of my correspondents, or the result of my own close observation of its condition in this part of Ireland, but within the last few days the disease has unhappily become so decidedly manifest in all parts of this and the adjoining counties that I no longer hesitate to do so. Fields which promised the most extraordinary abundance a fortnight since, are this day quite blackened and withered; not only is the leaf and stalk diseased but the roots are rapidly decaying. It appears to me that the disease has decidedly assumed the same type as in the year 1845, or, as the people call it, "the year of the black Potatoes." Without presuming to anticipate what may be the result, or to what period of the year the crop may be reckoned on as food for the population, I shall state the facts as they appear to me. This year the breadth of land under the crop has been unprecedentedly large, and the bulk of the sowing from six weeks to two months earlier than usual, and the tillage and treatment of the crop the best ever known. The weather has also been most favourable, all which circumstances have resulted in a crop the most promising I have ever seen up to the middle of July, when slight appearance of a blight became manifest, steadily increasing until this day, when indeed the prospect is most formidable. The crop, although fully a month more matured than usual at this date, is by no means sufficiently so for keeping, nor is it nearly so ripe as the crop of 1845 when attacked; in this latter year, as you will remember, it was available until about Christmas; *Cork*, Aug. 9.—I receive daily, and weekly, letters on the subject, and I regret to state that the last letter always contains a more gloomy statement than the former; *Dublin*, Aug. 11.—The disease is both general and fatal; and I fear that comparatively but a very small proportion of the crop will ever come to maturity. Within the last 10 days the blight has been fearfully rapid in its progress, and, with but very few exceptions, the Potato-fields are now all laid prostrate; the leaves withered or withering fast; the stalks, which should be still green and healthy, deprived of foliage and blighted black. The sickening effluvium of 1846 is now becoming perceptible in almost every field. The tuber is more or less diseased in every locality, and there is full reason to apprehend that the blight will still continue to extend. All parties are now digging out their Potatoes and hurrying them to market, and no doubt this will be the case for some time to come. Potatoes will be cheap enough for the next two or perhaps three months; but after that it will be seen what quantity of them may prove sound, and these no doubt will be carefully concealed and stored up both for seed and for use; *Limerick*, Aug. 9.—Disease appears to be becoming worse every day; I think that, if disease continues, one-half of the crop will be lost; there will be no Potatoes under the stalks planted in May. Disease appears to be the same as that of 1846, and has set in about the same time; the late Potato crop appears to be worst, because the growth of the plant is checked before the Potato has come to maturity. Despair has seized upon the people in consequence of the appearance of the Potato blight, and they regret (those who had means) that they did not go to America; they dread going near the Potato fields, and one industrious poor man said that he had not driven his cow to the pasture for a week, as he would have been obliged to pass his Potato field, and that it would break his heart to look at the state of the field. Persons have sold the only cow they had, to purchase Potato seed, and the crop has now every appearance of being lost; they are in utter despair. There are a great number of persons who have no crop at all, and some only a few Turnips. The people, who have diseased Potatoes, talk of digging them up as soon as possible; they are in great alarm, and say that, if the Potato fails, they will not be able to pay their rent, and will consequently be ejected from their holdings, which will be let in larger farms. There will not be the same quantity of Turnips as in last year, although double the quantity of land has been sown with them; they are choked with weeds, and sown broadcast in many instances. The Oat crop is doing well, Barley and Rye also; the latter is the best crop, but there is not much sown. There is a little Wheat, but only in one town-land; it is doing well; *Castlebar*, Aug. 6.—And thus run the letters from numerous places south of the Liffy and along the west coast as high as Sligo. Fields green yesterday are blackening to-day, and crops pronounced safe a week since, even although the stems were blighted, are now rapidly rotting.

Hitherto, as was to be expected, the north of Ireland, like Scotland, has presented little cause for alarm; but accounts are becoming worse, even from the most northern counties. Take *Donegal*: in our last we gave the substance of reports up to July 29; they presented nothing that could be regarded important, except as symptomatic of what was coming. The accounts now reaching to August 5 run thus: "Disease very much on the increase; many fields, lately free from any symptoms, are now much affected. A small farmer has about 2 acres completely gone. I saw 2 stone of them the other day when there was not more than a third fit for use;" *Glenties*.—The crop continues to maintain, upon the whole, a promising appearance; in some places, however, there are unmistakeable symptoms of the presence of the disease, and the most that can be reasonably hoped now is, that the bulk of the crop may not be attacked by it. Farmers, and owners of the Potato crop generally, are rapidly losing confidence as to its ultimately proving sound, and are therefore rushing the earlier kinds of the root, as soon as matured, into the market; *Rathmullen*, Aug. 5.—The state of the Potato crop last week is not satisfactory. About Donegal many fields presented evident marks of disease, in some cases the appearance was evident over the whole field, but in most cases only partial; between Cliffonay and Sligo almost every field presented more or less of the features of the disease, and some were very bad, especially as I approached Sligo, in the rich heavy soils and in close and sheltered fields; the smell also from some of the fields was very offensive and heavy; between Manor-hamilton, and within a mile or two of Sligo, in the mountain district, there was much less appearance of the disease, but on my return from Sligo to Donegal to-day, I regret to say that some of the fields I noticed as only slightly diseased on last Tuesday, presented a much worse appearance to-day; I am, however, happy to say that of the Potatoes I have seen dug in the fields, even where the stalks presented a bad appearance, scarcely any of the Potatoes showed any marks of disease, the earlier kinds being well formed and healthy looking; and the Potatoes I saw brought to market, both here and at Sligo, were remarkably good; *Donegal*, Aug. 5.—They write from *Lisburn* (August 8) that the blight is rapidly extending in *Antrim* and adjacent counties; at the date of the letter was estimated to have affected visibly one-tenth of the crop. In *Derry* matters were better (Coleraine, Aug. 5), there being little more than reports, which were however on the increase; the weather had been dark and showery. In *Tyrone*, disease was spreading rapidly near Strabane (Aug. 8), since the beginning of the week. And in *Down*, the disease among the Potatoes appeared to be increasing. The stalks in some localities, and more particularly between Carrickmacross and Clones, were withering fast, but the Potato itself was reported sound. The Potatoes that were planted early in the season, and those that were sown in bottom land, are those that are mostly affected; *Rostrevor*, August 7.—From Gort, in *Galway*, about July 29, the reports were pretty favourable, but recent returns show that on the 6th Aug. a general failure of the crop was anticipated, the fields were black, but at that time it had not generally destroyed the Potato; on the 10th, however, matters were much worse, and opinions were entertained that it would be desirable to consume what Potatoes were sound while they remained so, "for the blight was extending." So also in *Leitrim*: near Manor-hamilton the crop was reported (July 29) to be most healthy and flourishing; but on the 5th Aug. disease had "made its appearance very generally, and in some cases with fearful effect."

And so it is all through Ireland, where not a shadow of doubt now remains that Government will have again to deal with a winter of hideous destitution. And so it will continue until an effectual stop is put to the general cultivation of the Potato instead of sound, wholesome food, which can be depended upon with reasonable confidence.

LATE DUKE CHERRY.

Synonyme—Anglaise Tardive.

The French synonyme of this variety seems to indicate an English origin. Such may have been the case; but I am not aware of any trees of the kind being in existence in this country at the period of its introduction in 1823, when it was obtained by the Horticultural Society from M. Vilmorin, of Paris, under the name of *Anglaise Tardive*. *Cerise Anglaise* is a term applied by the French to our May Duke, as well as to other varieties of which it forms the type, as is likewise that of *Cerise de Hollande*, occasionally. Wherever it may have originated, it is certain that the Late Duke is an extraordinary bearer; and from its ripening so late, it deserves to be generally known.

The fruit is large, roundish, with a wide cavity at the insertion of the footstalk, which is from 1½ to 2 inches in length. Skin, rich shining red. Flesh, amber-coloured, soft, juicy, rich when well ripened, not so sweet as that of the May Duke, but very refreshing at the usually hot period of the season in which it ripens, namely in the month of August; stone roundish ovate, compressed. The fruit is produced in clusters along the branches, which are of vigorous growth, spreading more than those of the May Duke, and the shoots and leaves are of a paler green. The leaves are oval, tapering to the point. The flowers resemble those of the May Duke, but open later.

This variety is to be recommended for its most abundant bearing, large, handsome fruit, and late ripening. It should be planted in soil that is warm, free, and not too deep. The fruit, grown against a wall, might be preserved in good condition for dessert throughout September.‖

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

On Preparing for next Year's Flower Garden.—In treating of the best mode of adorning the garden in the summer months, we have often impressed upon the amateur the necessity of getting his stock of plants ready the year before. Unless this is done you must either beg in the spring, to the probable annoyance of your friends, or incur considerable expense at the nursery. Between these two difficulties, the fear of begging and the fear of spending, your garden is likely to come short, and the most provident and satisfactory mode is to lay up a store for yourself. A friend of mine has a garden which always looks gay in summer, yet he never troubles himself about the preservation of a single thing. He goes every year to a gardening friend, and thus supplies his own lack of forethought. If people knew what a bore they are considered when they ask industrious parties to supply the defects of their own management, they would rather make an effort on their own behalf than thus lay their burdens upon others. Now is the time to begin the course of independence, which if followed up will give you plants enough and to spare next spring.

First, let your attention be given to those plants which may be propagated in the open ground, which form a more numerous class than is generally imagined. If you have rather a shady border of fine sandy soil, you may strike in it Pansies, Pelargoniums, Scarlet ditto, Verbenas, Fuchsias, and Roses, with many others. I found the other day some slips of Fuchsias, inserted in a basket of sand to form a bouquet in a sitting-room, had formed a callus, and would soon have projected roots. In cottage windows also, you may see the common practice successfully pursued of putting a slip of anything into the pot of the parent plant. Horticulture admits of the most delicate and scientific manipulations, but it also yields its treasures in some degree to the humblest management. Only a few principles require to be remembered to ensure success. The slip should be of well-ripened wood of the present year, taken off at a joint, as most plants emit roots only there; it must be firmly fixed in the soil, that the cut part may be in close contact with it; and a moderate degree of moisture and shade must be provided, until the cutting is established. There will be failures in this method, more or less according to circumstances, but as slips are plentiful in a well supplied garden, this is of no importance. Put in a good stock at once, and when the cuttings are rooted pot them off two or three in a small pot, to be kept during the winter. Three young scarlet Pelargoniums or Verbenas will do well in a small 60 pot; that is one about 4 inches deep and 3 inches in diameter.

Many things may be easily propagated by suckers—that is, young shoots springing from the stem under ground, and having a portion of root attached; these may be removed and potted at once. Verbenas emit roots at every joint when allowed to trail upon the ground; these rooted portions may be taken up, and when potted will make fine plants. By looking round the garden in time much may be done in this way, and a stock secured without labour or skill. But if the amateur desires to do the business more quickly, and also to propagate other kinds of plants, requiring artificial heat, he must have recourse to a frame, as directed on former occasions. A very gentle heat, generated by leaves, is quite sufficient, and the cuttings may be put thickly into pots, and plunged in the soil of the bed. A common two-light frame will be sufficient for many hundreds of plants. A calculation should be made as to the number required for bedding out next year, and about double the quantity needed may be propagated. During the winter, if greenhouses and proper pits are not possessed, many will necessarily be lost, and a reserve should be allowed to cover such mischances. The best mode of preserving the collections secured, during the winter months, has been treated of in other places, and will be alluded to again at the right season. If you wish to be an independent man next year, do not lose a week. The seasonal heat is daily becoming less, and shorter days allow the solar light less influence. Begin at once, and

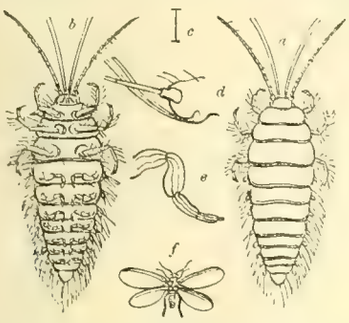
a day will be found amply sufficient to commit to the vegetative power of Nature all that a large garden can require ; *H. B.*

ENTOMOLOGY.

The Spongilla Insect.

Although the times are gone by when writers on natural history gravely asserted that barnacles were embryo geese, or that the hair worm was only a hair out of a horse's tail quickened into life by falling into water, and which by-and-bye would turn into a young eel, we fear there are still many persons so little acquainted with the leading characters of the primary divisions of natural history as not to be aware that a whale is a mammalian, that a bat is not a bird, or that a crayfish is not a fish. Although, however, the principal distinctions of the great groups of nature are satisfactorily enough laid down as regards the greatest proportion of living objects, yet are there to be met with occasionally some productions which baffle the skill even of the most profound naturalists to determine the great groups to which they belong. Of this fact two striking instances occurred at the last meeting of the British Association, where some very interesting discussions took place as to the *family* of the *class* of birds to which the dodo belongs ; and secondly as to the *class* of the sub-kingdom of Vertebratæ to which the lepidosiren belongs, Dr. Melville considering it to be a reptile, whilst Prof. Owen regarded it as a fish. But there are even some objects of natural history respecting which naturalists are still at variance, whether they belong to the animal or vegetable *kingdom*. Such are many of the productions which have been thence termed zoophytes (animal-plants), but which Ehrenberg calls plant-animals (phytozoa), and such are the various species of sponge, including the fresh-water sponge, Spongilla fluviatilis, found in various rivers, and which we believe is to be met with in the Thames just above Kew Bridge.

The currents of water discharged from the substance of the mass of these productions have long formed the subject of inquiry as to their cause, and it is admitted that "this continual influx and efflux of the surrounding fluid is produced by an agency not yet discovered, as no contraction of the walls of the canals, or other cause to which the movement may be referred, has ever been detected ; we are assured, however, that it is from the currents thus continually permeating every portion of its substance that the general mass is nourished."*



a recent author, John Hogg, Esq., F.L.S., whose observations upon these objects have been published in a late volume of the "Linnean Society's Transactions," discovered, however, in the fresh-water species some minute insects of a similar colour to the sponge itself, whose bodies are furnished with a number of small cilia, which are constantly kept in motion, and doubtless produce a strong current in the water. These insects were submitted to me for examination, and proved to be almost as anomalous in their structure as the sponge itself. They are about one-sixth of an inch long, of an elongate-oval form, divided into 13 segments of nearly equal length, without any dorsal appendages, the head furnished with two long, slender, thread-like antennæ, and the mouth consisting of two pairs of long setæ, nearly equal in length to the antennæ ; each of the three following segments is furnished beneath with a pair of moderately long articulated legs, whilst the remaining segments are armed at the sides with fleshy setigerous appendages, each (except the last two segments) having also on its ventral surface a pair of articulated filaments or gills, very similar in structure to the gills of the larvæ of the May-fly, Sialis lutaria. Figure *a* represents the insect magnified and seen from above, figure *b* the insect seen from beneath, figure *c* its natural length, figure *d* the head seen sideways, with the base of the antennæ and mouth filaments, and figure *e* one of the ventral gills.

Having examined this insect, I submitted a paper containing a description of it to the Entomological Society (which has since been published in the Transactions), in which (from the imperfect knowledge to be gained from a few small specimens in spirits) I was induced (from its various peculiarities, especially those of its aquatic habits, gills for breathing, and free, elongated, thread-like mouth organs, analogous to those of Thysanura when exserted) to hesitate in determining not merely whether the insect was in the larva or perfect state, but also as to the order to which it should be referred. A careful examination of the internal organisation of this insect has subsequently been made by Grube, published in Erichson's "Archiv. fur Naturgeschichte ;" and Dr. Erichson himself has suggested that this insect may be the larva of Hemerobius fuscatus of Fabricius—a curious species (see our fig *f*), which has been separated generically from Hemerobius by Dr. Burmeister, under the name of Sisyra, and which is, I believe, generally found in the neighbourhood of water. Being already acquainted with several forms of the larvæ of Hemerobiidæ (see our last Entomological article), there were certainly no analogical grounds for assuming such to be the case ; but a still more extended series of observations, on the comparative anatomy of this insect with the larvæ of Hemerobius, and of the perfect common Hemerobius and H. fuscatus itself, made by A. H. Haliday, Esq., and communicated to the Entomological Society at one of the recent meetings, seem to leave no doubt (so far at least as can be affirmed until the transformations of the species shall have been actually traced) that the insect of the spongilla is the larva of Sisyra fuscata ; *J. O. W.*

* T. Rymer Jones, "General Outline of the Animal Kingdom," page 15.

Home Correspondence.

The Potato Disease.—A few days since we received from Mr. Thomas Moore, curator of the Physic Garden, Chelsea, some specimens of the common Stramonium, supposed to have been attacked by the Potato disease. Although this did not appear to us to be exactly the case, yet we thought it desirable to communicate the specimens to the Rev. M. J. Berkeley, whose reply we subjoin : "You are quite right about the Stramonium. The case is not at all like that of Potato murrain. The spots on the leaves are of two kinds, either dead spots caused probably by the action of the sun, when the leaves were quite tender, such as occur very frequently, especially where plants have been forced, and the tissues are consequently loose and infirm ; or they are due to the burrowing larva of some fly. The capsules indeed are decayed, but there is not the slightest trace of fungus in the cells, nor indeed on the whole plant, though somewhat decomposed when it arrived. The Tomatoes last year were affected most evidently with the Potato disease, of which they exhibited all the characters, and were infested with the Botrytis. I have also seen the disease on a species of Anthocercis, from the Dublin garden. In both cases the fungus was clearly not a secondary formation, nor do I believe it ever to be so. Cause and effect seem so clearly combined, that notwithstanding some points difficult of explanation, I have no more doubt that the malady is caused by the fungus than I have that many of the cereal diseases are produced by fungi. A few weeks ago a correspondent subscribing himself 'Antifungus,' denied the growth of fungi on previously healthy bodies, and asserted that such a notion had never been broached till the appearance of the Potato disease. Such, however, is not the fact. To mention one only among many instances, long before 1845 the Muscardine was known to arise from the attack of a Botrytis, and the commission which has lately made its report in France has completely confirmed the observations of those who first investigated the subject. A few spores of the Botrytis Bassiana, simply dusted over a healthy silkworm, invariably produces the disease without any inoculation. A very slight observation of plants affected with parasitic fungi, will correct such preconceptions. Every gardener must have observed certain leaves of his Anemones taller and more fleshy and rigid than the others. After a few weeks every leaf will be found infested with a beautiful Æcidium. The same phenomena may also be observed in various species of Euphorbia, where the shoots, from their first infancy, show that the seeds of disease are within them. A very remarkable instance of the change produced by parasitic fungi occurred this year. A field in my neighbourhood was full of Uredo Hypodytes. So greatly was the plant on which it grew changed, that for a long time I could not determine the species which was attacked. The flowering stems instead of bearing panicles as usual, produced merely alternate leaves, giving them the pinnated aspect of some foreign Grass. Above each leaf the stem was infected with the Uredo. In this case the habit of the plant was completely altered by the fungus, and it was only after diligent search that it was discovered that the diseased matrix was Bromus erectus. The attack of the fungus is evidently the cause of the malformation, and if it be objected that this is a mere assertion, I have only to appeal to the well known fact, that we have simply to dust a few spores of burnt fungus on clean grains of Wheat, to produce diseased plants. If it be borne in mind that two distinct diseases are often present in Potatoes at the same time, which the Germans have distinguished by the names of wet and dry rot, many difficulties will vanish. The one is characterised by the presence of the genus Fusisporium, the other by that of Botrytis infestans ; *M. J. Berkeley.*"

Strawberry Forcing.—Assertions, however confidently enunciated, should be received with caution. Any one acquainted with the practice of horticulture must be aware that it is sometimes necessary to modify general rules, to meet the peculiar circumstances presented by a particular locality. In carrying out certain operations no one in the north would think of adhering scrupulously to a period prescribed by an authority of the southern side of this country. The notion by this time is surely exploded that would make a rigid adherence to a prescribed date the only rule of success ; although Mr. Whitbread, of Marden Ash, who says in effect that if "Strawberries for forcing are not potted by the first week in June, little probability exists of obtaining a crop of fine fruit," would make me think the contrary. I trust he will excuse me for saying that I think he has ventured too far in assertion, at least if he pretends to advance a rule for general application. As one exceptional case, and one that contradicts directly his opinion, I have to offer the following. At this place about 1200 plants were forced last year, principally Keens' Seedlings, not more than 10 per cent. failed of the whole quantity. We gathered early in March, and the fruit was large, fine in flavour, and abundant the whole season. Yet these very plants were not shifted into 6 inch pots until the middle of August. I do not wish it to be understood that I recommend this instance of successful practice for general adoption. I state it to show how much latitude there exists in regard to gardening operations ; *W., Hatfield, Herts, August* 10.

Saving the Potato Crop.—It has surprised me that it does not appear to have occurred to those who cultivate the Potato to act upon the fact that the disease does not appear till the season is well advanced, and till the growth of the tubers has almost ceased. The early variety I have long been in the habit of cultivating for my table has withstood the disease perfectly, and this season the crop has been excellent. This variety ripens early, and I attribute its safety to the crop being taken up as soon as the leaves begin to colour. At this date (Aug. 9) my crop is housed for the winter. Having heard that the disease or symptoms of it had been observed at no great distance, I thought fit to take up my seedlings which, in more favourable circumstances, I could have wished to have left in the ground till I could have compared their times of ripening. They were selected in their second year, on account of certain qualities which I think a Potato should possess, from a large number. I have taken up about 40 varieties, and every one has attained what I believe to be its natural size, and they are quite large enough. Had I allowed them to remain in the ground till October, or till their leaves and stems had withered, I do not believe the crop would have been in any degree heavier. Though I cannot affirm it from experience, it seems probable that after the blossoms appear, the tubers cease to advance. Now, if farmers would take up their Potatoes the instant they heard the disease reported to be anywhere, or as soon as the tubers attained a sufficient size, the crop might be entirely saved. My early Potato that has never been affected, though it is ripe so early, keeps long before it begins to sprout ; and its quality is so good that I propose to try it as a field crop for winter and spring consumption ; indeed, there seems no doubt about it answering the purpose, and, surely it is of great importance to the farmer to have his field cleared in time to prepare it for Wheat. I may add that there is no advantage in having large Potatoes. They are often rotten and open in the heart, and there is much waste in cooking them. It is singular how powerful prejudice is found when it resists change, however plainly beneficial. I have known farmers who, when any improvement was proposed, consider trying an experiment a great favour to the proposer. No substitute has yet been accepted for the Potato, and no pains taken to induce the people to fix on some other vegetable ; *G. S. Mackenzie, Bart.*

Mulberry Trees.—Near where I write is a very fine Mulberry tree, the stem at 2 feet from the ground is 3½ ft. in circumference, the branches forming a shapely head of 35 ft. in circumference ; height 20 ft., age about 50 years. This tree has dropped its fruit prematurely for the last 8 or 10 years, and previously, for a great number of years, it produced thoroughly ripe fruit. The tree was planted in prepared good loamy soil, and was annually soaked during the summer with bullock's blood slightly diluted. The roots have now extended beyond the prepared into the natural soil, that being stiff, cold clay, upon chalk ; the tree is not so vigorous as formerly ; and this state of things is considered one if not the principal cause of the premature dropping of the fruit ; *J. H., Aug.* 15.—The Mulberry tree I have in my garden, on a south wall, is, if possible, too luxuriant, and in a good season, for so northern a county, bears and ripens fine fruit, but not abundantly. It is almost 50 feet long, and still growing longer every year ; but the wall is too low—not more than 11 feet high ; therefore it is trained and pruned as a Pear tree—single long branches, and spurred. The branches are five courses of bricks apart, and the centre of the tree bears hardly any fruit ; and I had determined to throw the tree away. A friend of mine desired I would try bullock's blood to the root ; and accordingly I had two or three buckets of blood put to the roots, nearly 2 feet deep, and it has wonderfully invigorated its growth. I think it is worth trying to your correspondent's tree, as he has a good wall : but much depends on an equally good border. Respecting the right method of pruning, I fear I am wrong ; and had my wall been of a proper height, I would have adopted the mode which is employed at Holkham, the Earl of Leicester's, as described in one of the volumes of the Horticultural Society's Transactions. It would be a great pity to throw away the Mulberry in question, after so many years' growth, without trying every means to render it valuable ; *Francis Darby, Coalbrook Dale, Shropshire.* [By no means throw it away. The roots are wrong no doubt ; the dropping of fruit is caused by want of vigour.]—If "M. C. M. O." lays turf round his tree to the extent of the spreading of the branches, he will have no premature falling off of the fruit ; *John Whitehead, Bampit, Aug.* 16.

Pine-apples.—I am told that some gentleman grew Pines in the open air, and introduced to their roots a pipe from the boiler of his steam-engine. Can you give any directions for the adoption of this plan ? and

will the plants stand the winter in this open manner? *J. J. C., Norwich, Aug.* 15. [We are not acquainted with any such case; there is no doubt some mistake.]

Loasa tricolor.—We feel it our duty to inform the public of the ill effects often produced (under our notice) by the touch of the beautiful little annual Loasa tricolor, the sting of which is often attended with alarming consequences, and we recommend the label "Touch me not" to be conspicuously placed on all plantations of the same. Pustules of a serious nature are immediately produced on the hands, legs, &c., coming in contact with it; *Hardy and Son, Maldon.*

Sheet Glass.—As regards sheet glass burning leaves there can be no question in the matter. Orange trees, &c., have large white spots, from the size of half a crown to a sixpence in different parts of a house which is roofed with sheet-glass. Instead of using the roughed glass you recommend, might not a very slight wash of very thin paint be used on the glass, or even paste, which would to a very slight degree destroy the transparency, and prevent the effect of the sun peeping through the unequal surface and doing the mischief; and I do not think any light would be lost, though, as in the case of slightly ground glass, it would diffuse it. And this might in winter be washed off. It is an object to devise some remedy for those who already have used sheet-glass in large quantities; *Dodman.* [The objection to a wash of thin paste is, that it gradually wears away and becomes unsightly. It is effectual as long as it lasts.]

Hornets.—On what do hornets feed? Are they carnivorous? Do they, as is supposed, eat the honey of the bees? I have had, for some years, a nest on the roof of my house which I have never been able to destroy; but though they are in the neighbourhood of my bee-house, I have never seen them enter the hives; *Dodman.*

The Viper Question.—I am glad to see subjects like that which has lately been discussed in your journal occupying a place there. A general knowledge of natural science must ultimately effect that which all its votaries so much desire, *i. e.*, dispel the singular and too often absurd delusions which are familiarly known as "popular errors." It is a difficult matter to doubt evidence which appears so conclusive as that which has been adduced in favour of the popular belief that the young of the adder take refuge when alarmed in the stomachs of their mother. Pennant and Goldsmith both believed the fact, though they fail to bring forward their own ocular proof in its favour. The question, however, having been now raised, and I think with propriety doubted by zoologists, there cannot be the slightest difficulty in deciding the question in any case that may hereafter occur. If the young are found in the stomach of the parent, the question is settled, they must have passed down the throat, as surmised; if on the contrary they are found in the uterus or womb, then it is equally certain they did not pass down the throat, but that they were extruded from the ova previously to their birth *per vias naturales.* Now let me request that observers in districts where the viper abounds will set this matter at rest at once, and they will confer a benefit upon natural science. Till then I must remain among the sceptical. I can fully bear testimony to the remarks of Professor Henslow upon the difficulty of removing popular delusions. A gentleman of education and a member of a learned profession, called upon me a few weeks ago to decide for him a disputed point, which had arisen the previous evening between himself and eight or ten farmers in his parish. He stated that the farmers unanimously denied that Thistles grew from seed; and that they waxed quite warm and angry in support of their opinion, offering to risk bets of 5*l.* upon the disputed point! Now here is an example of a "popular error." These men, some of them yeomen, believed, and will believe, in spite of all argument or disputation, that their own practical observation gave to them the fact that Thistles do not grow from seed, but are propagated to the detriment of their farming operations in some mysterious mode which their "practical observations" failed further to illustrate. And yet how absurd is all this—so absurd, indeed, that were I not to put my name to this communication, and pledge myself to its truth, the majority of your readers would doubt the possibility of such a question being raised at all; *C. R. Bree, Stowmarket.* [We ourselves referred to this popular error at p. 715 of the vol. for 1847.]

Seeing not Believing.—As Prof. Henslow still disbelieves that young vipers or adders run into the mouth of the old ones, I send you the following testimony on the subject. It is indeed true that my informants and myself are alike "unscientific," but as the above-named reptiles are very common with us, we are not in the least "excited" by seeing, hearing, or killing them, and our powers of observation, therefore (such as they are), are not in the least impaired. I can assure you and Mr. Henslow that I am quite aware of the value of accuracy and of the extreme difficulty of securing it. Nevertheless I am willing to vouch for the truth of the following facts, knowing as I do the persons, the places, and the whole of the circumstances. One day in August, last year, I killed a very large, old adder, and being rather curious to see what was in the stomach, I called my gardener to open it. The operation was no sooner began than 10 fine young ones ran quickly out of the mouth. The spot was quite bare and open, so that I could see distinctly the mouth of the old and the exit of one after the other of the young ones (the old one being held up by the tail), and without any difficulty killed them. I measured several, and found them from 5 to 7 inches long, perfectly formed, active, and well coloured. "M. A. M." was carrying her father his dinner through a Grass field, she heard a loud, hissing noise, looked down, and saw a large old adder, and in a few moments six or seven young ones appeared and ran into the old one's mouth, which was apparently kept open for the purpose; she did not kill the old one. "P. V." heard a loud hissing, stronger than a snake's, looked down, and saw a large old "hen adder" almost under his feet, he killed her, cut her open, and found six fine young ones 6 or 7 inches long inside. "T. B." saw a large old adder on a bare sunny spot on the side of a bank. She made a loud hissing noise stronger than a snake, and presently he saw six fine young ones run into her open mouth; he waited till he thought them all in, then killed her, cut her open, and took the same number out and killed them. "G. B." (no relation of the last) was at work with his father, saw an old adder on a bare sunny spot, heard a hissing, and saw several young ones run into her mouth, killed her, cut her open, took out the young ones, and strung them like eels on a stick, and carried them home to Corfe Castle, where he then lived. Prof. Henslow may, and perhaps will say, that he cannot believe such statements because they are made by unlearned persons; but they need not therefore be unobservant. And concerning the actions and habits of animals which they have heard of and seen, and known from their childhood, they may surely be competent to testify of; and I feel convinced if Prof. Henslow would take the trouble to visit this quiet and out-of-the-way corner of the island, and would himself converse with the above and other witnesses I should have pleasure to bring before him, he would soon be satisfied that young vipers (or adders) do certainly run down the mouths of the old ones at their pleasure. Did Prof. Henslow ever hear that the young of the large sea eel take refuge in the old one's mouth also? *T. H. Calcraft, Kempstone, Corfe Castle, Dorset.* [It is quite evident from these and other statements for which we have no room, that great numbers of people have seen what they believed to be the entrance of young vipers into the old one's mouth. It is useless to prolong the subject. The course now to follow is to keep a viper in confinement and watch her movements at leisure. Prof. Henslow or Mr. Bree would, we doubt not, willingly do so, if they were furnished with vipers in a fitting condition.]

Flower Pegs.—Without in the least disparaging whalebone pegs, I would suggest the employment of ladies' hair pins for pegging down Verbenas, &c. They answer very well, both as regards neatness and saving of time; *H. G. A.*

Potato Disease: The Old Welch Gentleman's mode of keeping his Potatoes.—Deponent when a youth knew the above old gentleman; he had a peculiar fancy for having his Potatoes dug fresh every day out of the ground for his own dinner. He had them planted in rows 2 feet apart in the usual way; when the young Potatoes were fit for digging, he had every other row dug up for use. Therefore the rows left stood 4 feet apart. Previous to frost he had the mould turned right and left on the Potatoes, thus securing them from the frost, and when the weather was likely to be severe, he would cover over with straw (Fern is best) such space as he thought would be wanted, in order to render the digging of them easier. Deponent believes that, if persons having ground to spare would adopt the same plan they will preserve their Potatoes in a wholesome state for use; for it is well known that anything having a tendency to decomposition, when exposed to the air soon perishes, whereas if left in the ground it keeps perfect; *A Welchman, August* 5. [Very true, but the majority of people cannot allow their land to lie idle.]

A Word on Shanking.—At the commencement of the season I have, for years past, covered the Vine borders with long litter, which I removed about the middle or end of June, by degrees, as the weather got warm. I have been subject to the Grapes turning brown, withering, and drying up, which is what I understand by shanking. This year, as usual, in the beginning of July, the same occurred. By chance I read "Roberts on the Vine," and directly covered the Vine borders again with stable litter, and have not had another instance since I did so; *A. K.*

Autumn Planting, with regard to the Potato Disease.—Having observed that Potatoes left in the ground after digging the general crop in autumn have proved perfectly sound and free from decay (although in the midst of those planted in the spring, and past hope), I wish to know the result of those who prefer autumn for planting this valuable root; also if desirable to plant the early Ash-leaved at that period. My crop of the Ash-top has been stored free from disease, which I attribute to facilitating the growth on the floor of the greenhouse and planting early in March; *N. S. H., Bury St. Edmund's.*

Cutting the Haulm off Potatoes.—I see that you are pulling up the Potato haulm and rolling the Potatoes, I prefer cutting off the haulm; it sufficiently cuts off the connection between top and tuber, and I think the Potato ripens better on the fibre than when totally disconnected; I have tried both ways. The rolling system I think is good. I have some Kidneys planted in lands between rows of Gooseberry trees. The women in gathering the berries have made several tracks across the Potatoes with their feet quite solid, and there the Potatoes are quite sound, while the others are very badly diseased; *R. Kilott.*

Remedies for the Potato Disease.—The fact that disease, to a rather alarming extent, has made its appearance in the Potato crop, induces me to address a few words of advice to those who are in danger of being once more deprived of this valuable, and hitherto profitable esculent. It is never too late to make use of the means recommended by me for the prevention of the disease;* but there is yet time for the adoption of some of those measures which, although insufficient to cure the disease, after it has attacked the tuber, have, nevertheless, in numerous instances, prevented its further progress. Last year I advised, under similar circumstances, the employment of chalk and sulphuric acid; but I do not urge this point now, although I found the plan successful, on account of the trouble and expense. In cases, however, in which the land has been previously chalked, or in districts in which chalk abounds, to a greater or less extent in the soil, the employment of a sufficient quantity of dilute acid to neutralise the lime, and thus cause an evolution of carbonic acid gas, might be adopted with great and certain advantage. In situations, also, where stubble exists in sufficient quantity, or when the crop is small, a fire may be made to windward of the affected plants, to allow of the smoke being brought into direct contact with the leaves or haulm for some hours. This plan has been found successful in those cases in which the disease commences in the haulm, and no doubt can exist of its efficacy; but the operation will have to be repeated several times, or until the progress of the disease appears to be arrested. As, however, for the reasons before given, these plans will not and cannot be generally accepted, we must then resort to other measures, and which I have before proposed, as adjuncts, for the cure of the disease after its manifestation. The *modus operandi* or *rationale* of these measures I have endeavoured to explain in my work, to which I must refer those who are anxious for information on this point. The adoption of the one or the other, however, must depend upon the fact of whether the disease commences in the haulm, the under-ground stem, or the root—the root proper—distinctions which it is necessary always to bear in mind. If the former be the case, it will be sufficient to cut off the whole of the haulm, close to the ground, and then to sprinkle some quicklime over the cut surfaces, leaving the tubers in the ground until the usual period of digging them up. At the same time, the ground between the rows should be turned with a fork, and the operation be repeated several times. As the latter plan, even alone, has been found beneficial, the expense ought not to prevent its adoption. If, however, the under-ground stems has become brown or gangrenous, a fact which can be ascertained by digging up a few roots in different parts of the field—the best plan will be to pull up the stems, instead of cutting them down. This can be easily accomplished by placing the feet close to each side of the haulm, and then seizing it with both hands to pull it up, the weight of the body keeping down the Potatoes, and stripping them from the stem. Again, if it should be found on examination that the tuber itself is affected, the only resource is, either to dig up the whole crop, if sufficiently advanced towards maturity, or otherwise to raise each plant separately with a fork, so as to loosen the attachment of the roots to the soil. This plan is, of course, only applicable to those cases in which the disease spreads from below upwards, instead of from above downwards, the more usual mode. If otherwise, it will be necessary to remove the haulm instead of raising the roots. We must be certain, however, that such is the fact, for, as I have endeavoured to point out in another place, the disease may not only commence in the underground stem, the haulm, or the root, but simultaneously in all three parts of the plant. In the latter case it would be necessary to remove the haulm and to loosen the root at the same time, and as all the sources destined for the supply of nourishment would thus be cut off, no increase of the tuber could take place. No good could arise, therefore, from leaving them in the ground under these circumstances, unless it be to preserve them from the contact of the external air until required for use, a most necessary caution, for there can be no doubt that exposure to the atmosphere hastens the decay and putrefaction of the tubers, when attacked with the disease. Such are the measures which, as it appears to me, are the most desirable to be adopted at the present moment, and I have not hesitated to recommend them, because proof has already been given, both in your own and other journals, of the efficacy of all and each of them, at particular times and under particular circumstances. The cause of their failure in other instances would ascribe to the want of attention to the circumstances now detailed, for their efficacy must depend, if the above arguments hold good, on the selection of the appropriate remedy, for that particular crop, or the farm, or type of the disease in that particular season, country, or locality. With these remarks I shall now conclude, by merely expressing a hope that such of your readers as may be induced to adopt any of the above plans, will make the result of the trial public as it is only by the publication of facts, and the accumulation of evidence, that we can arrive at the truth, or be able to ascertain whether we have it in our power to prevent the ravages of this disease in future, for there can be no doubt that it will return again and again, like the epidemics in the animal creation; *J. Parkin, London, August* 12.

Storing Potatoes.—I find from past experience that the best plan is to leave the Potatoes undisturbed in the ground until the usual time of lifting in the autumn. Particular care should then be taken to select all that are sound, to be placed by themselves; those that are not so to be dusted over with quick-lime which prevents the disease from increasing; these when used first will be found to be good eating, when the consumed parts are carefully cut off before cooking. Cottagers or others who require the ground for immediate cropping had better place them in a corner of the garden very thin again, and cover them over with about 6 inches of soil; there is less means of their injuring others in this way than when placed in larger heaps. I am of opinion that the injury to the root is not so bad as in 1845 and 1846, and if treated as here recommended, by making use of unsound ones first, I should consider that there will be the parts of a crop generally; *Dido, Aug.* 9.

Potato Disease.—Have you any information on the method of prevention, said to have succeeded in Germany, by cutting off a few inches of the green tops of the haulms before the disease appears? In the gardens of which I have the care the disease has been rife, but in different degrees; in some beds the tubers were nearly all sound, in others nearly all diseased; on an average about one-third is lost, but the crop was abundant where the land was good and well dunged. I am sorry to say that I have this day discovered a fine bed of Parsnips to be seized with a disease precisely similar, in its present state, to the early symptoms of the Potato; *E. Garrett, Castle Ca... Aug.* 14. In July, as soon as I discovered the symptoms of the blight on an early bed of Ash-leaves, I limed the bed over. On digging, only one unsound tuber was to be found. [The German plan has not been found to answer.]

Potatoes: Hint in Favour of Shallow Autumn Planting.—In autumn I spread a number of Potatoes at the edge of a Strawberry bed, to green ready for planting. When I collected them again, I left several small ones, which appeared quite worthless, lying on the surface of the ground, and thought no more of them. In the spring I perceived several Potato plants springing up among my Strawberries. I let them remain till last week when I took them up; all produced fine Potatoes growing close to the surface; and one of them had one tuber weighing 1 lb., two weighing ½ lb. each, and several small ones, which is a greater produce than I have had from the same stock, set in the spring, and at the usual depth. I intend trying the experiment this year upon a larger number of Potatoes, leaving them on the surface, with a few leaves scattered over them to form a protection equal to that they may have derived from the Strawberry plants; *A. N., Bungay, Aug.* 15.

The Potato Disease is certainly much more formidable than it has hitherto been. The first growers already find tubers diseased to a great extent, and I have never seen in my own ground anything like the mischief which at present exists. This I am the more surprised at, from the precautions I took to avoid any disease; and the experiments I have made convince me that the murrain must be caused by atmospheric agency, and not by high cultivation, to which many people naturally ascribe it. Indeed, experience seems of no value for it has not led to any satisfactory explanation of the cause of this visitation, or to any beneficial results. Last summer my autumn planted beds of Potatoes were the healthiest

* The Prevention and Treatment of Disease in the Potato and other Crops.

finest, this season they are the worst; although, until about the 20th of July, they looked well, and the haulm stood up strong, which I attributed to the plants being topped when about 8 inches high, as directed by one of your foreign correspondents, but it is certain that process will not prevent the disease, for the beds so treated are dead to the ground, the haulm being shrivelled, brown, and decomposing, so much so as to slip through the hand in any attempt to pull up the stalks; the tubers are spotted to a great extent, a few being quite rotten, although the old sets remain sound, as they always do apparently when autumn planted. Having an idea that Potatoes had been over manured, I spread no dung where the sets were planted, merely spreading some barrowsful of a muckheap, composed of old and dry garden and house refuse, viz., leaves and weeds well decomposed with nightwash. The autumn planted sets were whole Potatoes, and a variety called Fox's Seedling, something of the nature of the Regent apparently. The good ones boil floury, but the waste from bad ones will be to a larger amount than I ever before witnessed. No Potatoes had been planted on these beds for the last four years, as I am very careful in cropping my ground; *J. C., Hayes.*

Potato blight.—On my way to London from Dartmouth, it struck me as very remarkable that in the Potato fields, where the stalk was in full blossom, there was not a single appearance of blight, while in the neighbouring fields, or even in the same field where the haulm had turned yellow, and bore Apple seeds, it was more or less blighted. Upon this fact I have come to a conclusion which, if founded in truth, cannot be too extensively known. It is this, that the stalk acts as the lungs of the Potato tuber, and is necessary for its evolution, until the stalk has ceased to blossom and to furnish the Apple seed; that after that period it becomes "deciduous" and contributes no qualities to the Potato, which then begins to depend upon its radicles and resources in the earth, deriving nothing from the atmosphere. I conclude, therefore, that while the stalk is in blossom it has the power of resisting the pestilential malaria, but the moment it becomes "deciduous" it is then a conductor of the miasma. Therefore carefully to pull up all such stalks, by placing your feet at the sides, lacerating the radicles as little as possible, and leaving the Potatoes *in statu quo* banked up in their mother earth, would be a prophylactic measure. There is no question but that the only plan to preserve tainted Potatoes is to leave them with their radicles banked up in the ground after removing the stalk; if the stalk can resist contagion whilst it is deriving support from the tuber, there is no danger to be apprehended, but it should be removed the moment it is liable to become a conductor to the atmospheric poison. I trust the people will for the future give up placing any confidence in ventilation, lime, or dry earth, for the only safety lies in removing the stalks and banking up the earth well to secure the Potatoes from the air and frost; except in hard winters the latter seldom penetrates deeper than six or eight inches below the surface; *W. Herbert Saunders, Union Club.*

Societies.

Botanical Society of London, *August* 4.—The Treasurer in the chair. Several donations were announced. The Rev. R. H. Webb, W. Godley, Esq., and F. A. Gace, Esq., were elected Members. Mr. H. Watson presented specimens of Jordan's Filago canescens, from Claygate, and Filago lutescens, from Fairmile, both in Surrey. These plants are two forms of the Linnean Filago germanica; the former is the commoner British form, the latter of the two (F. lutescens) probably answering to Rev. G. E. Smith's F. apiculata, although some part of Mr. Smith's description of this plant seems more applicable to F. Jussiæi of Jordan. A plant scarcely distinguishable from F. Jussiæi has been lately found near Walden, in Essex, by Mr. G. S. Gibson. Other specimens of Filago were also exhibited from Mr. G. S. Gibson, sent by that botanist as examples of F. Jussiæi and F. apiculata. Mr. Gibson's specimen of the latter, gathered at Thetford, appears quite identical with Mr. Watson's specimens of F. lutescens, and Mr. Watson intimates that the form considered by Mr. Gibson to be F. Jussiæi (Coss. and Germ.), occurs in several places about Esher and Thames Ditton, intermingled with the more usual form of F. germanica, which latter is the F. canescens of Jordan. Mr. Gibson also exhibited specimens of Apera interrupta, found by Rev. H. W. Newbould near Thetford, and of Orobanche Pieridis, found by the same gentleman at Comberton, near Cambridge. Mr. S. P. Woodward communicated a paper, being "Notes on the Flora of Gloucestershire."

Reviews.

The Treasury of Natural History; or a Popular Dictionary of Animated Nature. By J. Maunder. 8vo. Longmans. Pp. 812, and 900 woodcuts.

This is indeed a Treasury for the young, and for those who have no access to costly books on Zoology and its kindred subjects. It forms a beautifully printed volume in small 8vo, and in the order of a Dictionary gives a good scientific yet popular description of all the more important animals, birds, reptiles, insects, &c, which the common reader is likely to seek for information about. The woodcuts are excellent; well selected by Mr. Adam White of the British Museum, and capitally cut by Branston's people. The article Caterpillar which we subjoin will give an example of the manner in which the various subjects are treated:

Caterpillar.—The name given to the larvæ of lepidopterous insects; of which we have spoken at some length in the article Butterfly, and to which the following from "Brande's Dictionary of Science" (art. *Lepidoptera*), may be added. "They have 6 squamous or hooked feet, which correspond to the legs of the perfect insect, and from 4 to 10 additional membranous ones, or *prolegs*; the two last of which are situated at the posterior extremity of the body. Those caterpillars which have but 10 or 12 in all, have been called, from their mode of progression, *Geometræ*. Several of these geometers, when at rest, remain fixed to the branches of plants by the hind feet alone, whence, in the form, colour, and directions of their body, they resemble a twig. The body of these larvæ is generally elongated, almost cylindrical, soft, variously coloured; sometimes naked, and sometimes covered with hairs, tubercles, and spines. It is composed of 12 segments or annuli, exclusive of the head, with 9 stigmata on each side. Their head is invested with a corneous or squamous dermis, and presents on each side 6 shining granules, which appear to be ocelli: and it is furnished with two very short and conical antennæ and a mouth composed of strong mandibles; two maxillæ, a labium, and four small palpi. Most caterpillars feed on the leaves of plants; some gnaw their flowers, roots, buds, and seeds; others attack the ligneous or hardest parts of trees, softening it by means of a fluid which they disgorge. Certain species attack our woollens and furs, thereby doing us much injury; even our leather, bacon, wax, and lard are not spared by them. Several confine themselves exclusively to a single article of diet; others are less delicate, and devour all sorts of organized matter. Some of them form societies, and frequently live under a silken tent, spun by them in common, which even shelters them in winter. Several construct sheaths for themselves, either fixed or portable; others make their abode in the parenchyma of leaves, where they form galleries. The greater number are diurnal; the others never issue forth but at night.

"There are perhaps no insects which are so commonly and so universally destructive as caterpillars; they are inferior only to locusts in voracity, and equal or exceed them in their powers of increase, and in general are far more widely spread over vegetation. As each female butterfly or moth usually lays from 200 to 500 eggs, 1000 different kinds of butterflies and moths will produce, on an average, 300,000 caterpillars; if one half of this number, when arrived at maturity, are females, they will give 45 millions of caterpillars in the second, and 6750 millions in the third generation! These data suffice to show that the actual number of these insects, existing at any one time, must be far beyond the limits of calculation."

Garden Memoranda.

Horticultural Society's Garden, Turnham-Green.—In the Orchid house here is in flower a most beautiful Miltonia named M. Karwinskii, a Mexican species, having a flower spike nearly 4 feet long—noble in appearance, resembling more a Cyrtochilum than a Miltonia. The flowers are quite $2\frac{1}{2}$ inches in diameter; the sepals and petals are blotched with brown on a clear yellow ground, and the lip is large and showy, half violet and half white. This new addition to the beautiful genus Miltonia must be ranked among its finest species, and is certainly a great acquisition. A fine plant of the true Cattleya intermedia was also in flower, together with various other Orchids, all of which appeared in the best of health under the comparatively cool and dry treatment to which Mr. Gordon has successfully subjected them. On the back wall was a plant of the trailing Achimenes cupreata, whose variegated foliage and bright scarlet flowers, if they could only be produced in sufficient quantity, would render it very suitable for the rockwork of hothouses.

The greenhouse next this house was gay with Japan Lilies, among which was Knight's Macranthum; Hydrangeas; the beautiful blue Lobelia ramosa, which sown late makes a fine display about this season; Fuchsias, and other plants. Amongst novelties, it contained Mr. Backhouse's Cape bulb Tritonia aurea, whose tall spike of large orange flowers is very conspicuous, on account of their colour; they also possess the excellent property of remaining long in beauty. Here was likewise Anemone japonica and various hybrids, the result of a cross between A. japonica and the old white Indian A. vitifolia. The experiment of crossing these species was undertaken with the view of infusing the fine colour of japonica into the clean, finely-expanded cup of vitifolia, an object [illegible] October.

[illegible]

Of other novelties [illegible] Echeveria [illegible] species, with a [illegible], a white flowered [illegible] with violet; the flowers are [illegible]. We also remarked a [illegible], a shrubby [illegible]. Of Teas the garden possesses three kinds, the green, black, and Assam. The latter resembles more the green Tea than the black, but has much larger leaves. Some of the Assam Tea leaves measured [illegible] inches in length, and about $3\frac{1}{2}$ in width. It likes a warmer climate than the common Tea.

In the large conservatory Buddleya Lindleyana was in flower, as well as on the conservative wall, to which it proves an acquisition; and in this house were also huge specimens of that most valuable autumn flowering shrub, Cestrum aurantiacum, loaded with bunches of waxy, tubular, orange blossoms; the Japan Hydrangea (H. japonica) was also in flower here and in the open border, where it forms a compact bush, richly ornamented with spreading heads of pink and white flowers; Hedychium Gardnerianum had commenced to throw up its large spikes of sweet scented yellow blossoms; and on a shelf, in a pot, the old fashioned but really handsome Melaleuca fulgens was brilliantly ornamented with numerous scarlet, bottle-brush like flowers. Of climbers in flower may be mentioned Tecoma jasminoides, Canavalia bonariensis, Mandevilla suaveolens, and Tacsonia mollissima. The specimens of Tea Roses planted out in the bed, and which can only be well flowered under glass, still continue to yield in quantity their fragrant blossoms, and Fuchsias and other plants keep the house still gay. The huge Brugmansia sanguinea—hard pruned in and clean washed—is at present

NEW GARDEN PLANTS, PUBLISHED IN BOOKS.

N.B.—* = Very handsome. † = Second rate. ‡ = Third rate. ¶ = Unimportant.

Name.	Where Published.	Name of Country.	Quality.	Natural Order.	Colour of Flowers.	Time of Flowering.	When first Flowered.	Where.
Pæonĭa Moutan, atropurpurĕa...... * *The Purple Moutan.*	Journ. Hort. Soc., III., 236.	China	H. ♄	Crowfoots	Dark purple	May	1848	Hort. Society.
Pæonĭa Moutan, salmonĕa .... * *The Salmon Moutan.*	Journ. Hort. Soc., III., 236.	China	H. ♄	Crowfoots	Salmon color	May	1848	Hort. Society.
Pæonĭa Moutan, parviflōra .... * *The Smaller Moutan.*	Journ. Hort. Soc., III., 236.	China	H. ♄	Crowfoots	Pale rose	May	1848	Hort. Society.
Pæonĭa Moutan, globōsa .... * *The Globe White Moutan.*	Journ. Hort. Soc., III., 236.	China	H. ♄	Crowfoots	White	May	1848	Hort. Society.
Pæonĭa Moutan, lilacīna .... * *The Lilac Moutan.*	Journ. Hort. Soc., III., 236.	China	H. ♄	Crowfoots	Lilac	May	1848	Hort. Society.
Lonicĕra angustifolĭa.................. ‡ *Narrow-leaved Fly Honeysuckle.*	Journ. Hort. Soc., III., 238.	Nepal	H. ♄	Caprifoils	Pale yellow	April	1848	Hort. Society.

leafless. It will probably be in flower again in January, and will continue so to July.

The crop of fruit in the garden this year is not general, owing to the series of frosty nights which occurred during the blossoming season. There are good crops on some Pear-trees on walls, more especially on the Duchesse d'Angoulême, Easter Beurré, and Beurré Rance, which, owing to the system of summer pruning pursued by Mr. Thompson, have been induced to bear even close on the upright stem. The pruning in question consists in going over the trees at intervals, gradually shortening the fore-right shoots along the upper half of the tree several days before those on the lower part are touched. In this way less disturbance is occasioned to the movements of the sap. The young Peach-trees on the orchard wall are progressing. Some, moved after they had been two years planted, have grown better than those not so treated.

In the kitchen-garden we observed a dwarf red-fruited garden Bean, which had been received from M. Vilmorin, of Paris. It proves to be an abundant bearer, and does not exceed a foot in height. The pods are about 3 inches in length, round, and generally well filled; the Beans are nearly the size of the Long-pod. Being very dwarf, it might be grown 12 or 15 ins. apart.

The Potatoes here have suffered from the prevailing disease; some to the extent of one-third, others one-seventh. The blue-flowered native Potato of Mexico, only two years from that country, and the golden Potato of Peru are both diseased, as was also the case last year. The stems and leaves of the varieties are gradually withering and turning black.

Cambridge Botanic Garden.— Our readers will be glad to learn that the new garden here progresses favourably under the praiseworthy exertions of Mr. Murray. He has planted the new ground with as complete a set of trees and shrubs capable of bearing our climate as can well be procured. He has removed from the old ground specimens of all the herbaceous plants which were growing there, and he has further circulated printed lists of such hardy herbaceous plants as he has not yet procured, with a request that those who may be able and willing to supply any of them, would return the list marked for the purpose of enabling him to make a selection from one or other accordingly. As the time for removing hardy perennials is near at hand, he is very desirous of receiving these return lists, of which as yet we learn only a very few have been sent him; and we are sure, when we mention the trouble and interest Mr. Murray is taking in getting together as perfect a collection of hardy plants as the case may admit, we have only thus to make his desires known to have them attended to.

Calendar of Operations.

(*For the ensuing Week.*)

CONSERVATORY AND GREENHOUSE.

The continuance of unfavourable weather will render a further introduction of tender plants advisable. Those allowed to remain should be carefully examined, and the assurance obtained that they are receiving no injury from defects of drainage or the presence of worms. The appearance of mildew on any of the outstanding plants should be immediately followed by an application of sulphur. Camellias may be grafted; the operation may be performed with the greatest success by pursuing the method the French call "*graffe en placage*," which is merely inserting that portion of wood that includes a bud and leaf cut longitudinally, into a corresponding cleft in the stock. The grafted subjects should be plunged in bottom heat, and kept covered for at least a month. The tender Rhododendrons may be increased in the same manner. Pelargoniums which have been cut down, and have commenced to grow, may be shaken out of their pots and repotted into others of smaller size. Give attention to the Chinese Primulas, and sow Mignonette for blossoming late in the season. Shift Chrysanthemums, and regularly attend to stopping and watering; a little manure-water will be found useful. Prick out and pot seedling Cinerarias for early blooming.

FRUIT FORCING.

Vineries.—The later houses must be guarded against the effects of the damp weather which has and yet continues to prevail to such an extent. The precaution of employing fire is necessary both for the protection of the fruit and the preservation of the foliage from the attacks of mildew. On the appearance of this last pest sulphur should be at once applied. *Pines.*—Forward the starts of the present moment that the early and most important growth of the fruit may be assisted by powerful solar influence. Shift young plants and pot suckers, which may be removed from plants encumbered with them. *Melons.*—As the favourable production of Melons is dependent a good deal on solar heat, so much gloomy weather will diminish the chances of obtaining fine flavoured fruit; the frequent necessity of restricting the admission of air by keeping the plants close will cause a rapid growth of laterals, which must be regularly stopped, and a proper distribution of the shoots carried out. A small amount of bottom heat will be an undoubted advantage; the general temperature of the pits must be maintained. *Cucumbers* intended for late bearing should now be encouraged. The linings will demand frequent attention, that an assured amount of heat may be obtained. Collect and prepare material for the formation of Mushroom beds.

FLOWER GARDEN AND SHRUBBERIES.

The propagation of stock for next year's decoration must be actively proceeded with. So much wet weather will increase the amount of active business in every way in this department, the rapid and succulent growth of many things will demand prompt attention in tying, laying, and other regulations necessary as well to preserve the fair propriety of the garden as the safety of the plants. The propagation of herbaceous plants, if the stock is deficient in any respect, should be attended to; the division of the old plants, in many instances, will be the preferable mode. Pentstemons after blooming may be headed back, the smaller shoots will then flower. Evergreens intended for autumn removal should now be prepared for the purpose; a trench should be dug round the tree nearly to the depth of the lowest roots; the advantages attending on early preparation of this kind are manifest.

KITCHEN GARDEN AND ORCHARD.

The destruction of weeds should always be considered an obligation due to the crops as well as soil, the efficient performance of which is weakened by delay. The wet weather which has prevailed lately will probably cause a very general activity amongst annual weeds; corresponding exertions should attend their arrival. The Endive beds should now be fully prepared for planting. The raised beds in an open quarter will be suitable for the main supply, which should now be got out. We like to make a successional planting on a warm border, where protection may be afforded, and also at a later period to get out another batch of plants for removal into unoccupied frames. The rapid growth of Turnips will compel the use of the hoe frequently. Celery must be regularly earthed up as it progresses in size. Continue to sow Radishes, and let an adequate sowing of Bath Cos and Cabbage Lettuce for spring use be made. Broccolies will be benefited by being earthed up a little. Thin the shoots of Tomatoes, particularly where they shade the fruit, and keep the main stems tacked to the wall. *Orchard.*—The weather encourages a constant growth of wood on wall trees; it will thus be necessary to attend to them frequently, as well with the view of giving the fruit a full exposure, as of laying in or stopping the superfluous shoots.

State of the weather near London, for the week ending Aug. 17, 1848, as observed at the Horticultural Garden, Chiswick.

August.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 11	12	30.054	29.994	70	52	61.0	S.W.	.19
Satur.. 12	13	30.018	29.963	73	54	63.5	N.	.00
Sun. .. 13	14	29.990	29.951	66	53	59.5	N.	.21
Mon... 14	○	29.872	29.711	60	53	56.5	E.	.68
Tues... 15	16	29.896	29.846	68	55	61.5	N.E.	.00
Wed... 16	17	29.896	29.759	70	51	60.5	E.	.12
Thurs. 17	18	29.956	29.881	65	44	54.5	S.W.	.02
Average...		29.954	29.872	67.4	51.7	59.5		1.22

Aug. 11—Fine; overcast; rain at night.
— 12—Overcast; cloudy; partially overcast.
— 13—Overcast and mild; rain.
— 14—Hazy, cold and drizzly; constant heavy rain.
— 15—Overcast; densely clouded; overcast.
— 16—Foggy; overcast; rain in the evening; clear.
— 17—Hazy and damp; overcast; cloudy; fine; rain at night.
Mean temperature of the week, 3 deg. below the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending Aug. 26, 1848.

August.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 20	73.0	52.2	62.6	8	0.33 in.	1	1	1	—	5	3	2	2
Mon. 21	72.3	52.0	62.1	8	0.62	2	2	—	1	4	5	6	2
Tues. 22	70.7	51.8	62.2	10	0.58	1	2	1	—	4	6	7	1
Wed. 23	70.4	48.1	59.2	12	0.95	1	2	—	—	3	5	9	2
Thurs.24	71.6	48.4	60.0	9	0.33	1	3	—	—	4	4	5	3
Fri 25	71.4	51.7	61.5	6	0.32	2	2	1	1	5	5	4	2
Satur. 26	71.0	48.6	59.8	6	0.51	—	2	2	—	3	5	5	3

The highest temperature during the above period occurred on the 20th 1826, and 21st, 1835—therm. 88 deg.; and the lowest on the 20th, 1839—therm. 37 deg.

Notices to Correspondents.

Achimenes: *J Whitmore.* The censors were wrong. The best way of growing Achimenes is in shallow pans; if one man grows them in pots, and another in pans, the latter ought to win doubly, if his plants are as good as the others. First, because of the quality of the specimens; secondly, because of the manner of cultivation.

Bees: *B L.* You may take away about 10 or 12 lbs. of honey from each of your hives, but as to exact quantity be not guided solely by their weight; that of pollen and brood should be taken into account. The sooner the operation is done now the better, in order to give the bees a little chance of repairing, if not of replacing the damage, which must in some measure be greater with a common hive than with one on the depriving system. The safest, and perhaps the only practical way to obtain honey from a common hive without destroying the bees, is to admit a little smoke amongst them, to turn up the hive, and with a long knife quickly cut out a comb or two from each side, which in general contain most honey, and can be best spared, the inside combs being occupied with the brood. The operation should have been effected in the early part of the season, so that the bees might have had time to replenish their dwelling before winter. This plan is similar to that of the Greek or bar-hive, from which the combs are more readily extracted at top, and with less disturbance to the bees. *W.*

Books: *V H.* Many thanks: all safe; but do not in future send by post. The English Post-office does not understand the *sous-bandes* system, and the charges are excessive. Your little Indian plant is nursing, in the hope that it may recover. It was almost killed in the journey.

Dudaim: *W B H.* Thanks; we have it growing. It flowers abundantly grown in light earth among some stones, facing the south, and covered close with a bell-glass all the winter. Its leaves and flowers come very early and then perish, the plant being dormant in the autumn. We see, however, that the incessant rains have brought it into leaf again. It is the well known Mandrake. If you wish it we will take charge of one of your plants.

Glass: *Brownskin.* We do not as yet know what the effect of the green glass roof at Kew has been upon the plants exposed to it; but we shall report in time. The plants have only been lately introduced.—*Grange.* We could not venture to give a decided opinion upon the rough plate till some experiments, which cannot be concluded on this side the month of March, shall have been tried. They are in progress. We incline, however, to the belief that it will answer perfectly. Certainly no shade would be necessary in summer. It may be had of all glaziers. If you doubt, and cannot wait, you can take the double-crown we have already described. Why not get a few squares of rough plate and form your own opinion?

Grafting: *Sub.* Saddle grafting will succeed with young shoots in many cases.‖

Grapes: *Hort. Suff.* The Sweetwater does not generally set well on old Vines, a few large berries may be seen in a bunch composed chiefly of small stoneless productions. Its setting may be assisted with the Hamburgh.‖

Heating: *An Old Subscriber.* We have no knowledge of the merits of Walker's stove. Perhaps some disinterested correspondent will inform us.—*Enquirer.* No doubt you may gain your object by placing the stove in the cellar, and adapting to it a couple of vertical flues opening into your hall, of which one shall be connected with a casing surrounding the stove, and the other be carried down from the coldest part of the hall to the floor of the cellar so as to feed the fire. The point to observe will be to keep the descending flue so far away from the stove as not to have its temperature sensibly elevated by it, and yet to be connected with the ash-pit.—*An Old Subscriber.* We must beg you to enquire of Mr. Smith of Leamington, or Mr. Seward of Lancaster, or Mr. Hazard of Bristol.

Insects: *J and W F.* The natural history of the wireworm is so well known that you must be under a mistake. Please to send the specimen with its supposed young. *W.*—*A Sub.* The Larch Firs are attacked by the larvæ of a species of saw-fly (Lophyrus sp.,) which we will endeavour to rear. Please to send some more chrysalids uninjured. In Germany, where they abound, the foresters recommend that the dry foliage and moss at the foot of the trees, containing the pupæ, should be removed and destroyed, or that the surface of the ground round the trees be covered with sand to the depth of a foot and a half, through which the perfect insect cannot emerge. *W.*

Names of Fruits: *A L.* 1, Borovitsky; 2, Oslin; 3, Windsor Pear; 4, Summer Stibbert; 5, Nectarine Plum; 7, Summer Golden Pippin.‖—*W T, Ripley.* The Apples are yet too green.‖

Names of Plants: *A L.* 1, the pink Veronica maritima; 2, Escallonia rubra; 3, Ageratum cœlestinum; 4, double purple Clematis Viticella; 5, Catalpa syringifolia; 6, Calycanthus floridus.—*V P T.* 2, the Caterpillar, or Scorpiurus vermiculatus; 1, some Genista: species not determinable, without flowers; they are yellow.—*T T L.* Nidularia campanulata; the common nest-fungus, a most curious production. The whole interior of the lenticular bodies is filled with sparkling microscopic seeds, intermixed with cobweb threads.—*J N E.* Your question about the Oak was answered at p. 528.—*Dundee.* It looks like a bit of Hydrangea quercifolia.—*Cantium.* It looks like a Mikania, but cannot be determined without its flowers.—*T Davis.* Cattleya granulosa; a pretty variety.—*J A.* Monachanthus roseo-albus. We believe a mere variety of Catasetum discolor.—*R Rilott.* It looks like Aristolochia Sipho.—*Edin.* Peperomia umbilicata.

Packing Fruit: *C C.* Formerly Grapes were packed closely in bran, &c.; but by this mode they were rendered unfit for exhibition. They are now sent hundreds of miles without any packing amongst the berries. They should be laid on the thickness of four sheets of cotton wadding, and tied down by the shoulders by means of soft thick cotton threads or tape, previously made fast to the bottom of the box. Let the layer of Grapes be composed of bunches placed closely together, and as nearly of equal thickness as possible. Put no paper over them. Let thin boards be fitted to rest securely over the Grapes, and as closely as may be without actually touching them. Pad the upper side of these boards with cotton, on which secure another layer of Grapes; and thus proceed till the box is filled. After reaching their destination in the highlands, the Grapes should be suspended in a dry airy place. The Tokay, presumed to be the White Muscat of Alexandria, and the Syrian, will keep the longest.‖

Paint: *W M V.* We make it a rule never to recommend dealers.‡

Pruning: *Sub.* The action of roots and that of leaves are reciprocal. If you diminish the quantity of foliage you will proportionately lessen the increase of roots. If 100 represent the quantity of roots made by a tree with all its foliage, then 50 will represent the quantity of roots formed by a tree similar to the other in every respect, excepting in having the production of foliage repressed, by whatever means, to the extent of one-half. You will therefore perceive that by summer pruning both roots and tops are equally reduced, and that what may be termed the balance of power between these is still maintained. On the contrary, if you prune only in winter, the roots are in consequence but little affected, their increase for the season having been completed in the previous summer; and in the following season the whole amount of force exerted by the full complement of roots is brought to bear on a top limited by winter pruning, and this force is evinced by over luxuriance, which some remedy by root pruning. With regard to young spray springing from the ends of previously shortened shoots, it may be cut back to two eyes in all cases.‖

Red Spider: *R S M.* A complete answer to your question is in preparation, and will be published soon.‡

Strawberries: *E W.* Turner's Pine is a late sort and a good bearer; but this is all that can be said of it. The Elton is also late and better. You may have second crops of the Roseberry and Keens' Seedling by preventing their flowering in the early part of the season; but the Alpines are most to be depended on for late crops.‖

Vine Borders: *A B.* It is probable, under the circumstances, that your Grapes are too dry at the roots. They may be injured by excess or deficiency of food, just as we are. The lead does no harm. If the Grape is, as we believe, the Chasselas Musqué, it usually sets very well; if it is really a Muscat, you are no doubt aware that it only participates in the failing proper to its race.

Misc: *J P.* The packages have not come to hand. You must apply to the agent who supplies you with the Paper respecting a change of address.—*J Scale.* Caustic potash will soften hard putty; but not well. The same may be effected by drawing a hot iron along it; and it has been stated that if sashes are placed in hot dung for a week, and then hammered, the putty will leave the bars quite clean. Water of the temperature of 140° will kill scale, and will not kill your Abutilon. It may kill the leaves, but they will grow again. Apply it with a syringe or a sponge.‡—*W S.* Hydrangea cuttings may be struck in winter in heat; but they should consist of well ripened wood, or they will be apt to damp off.‡—*T K.* To intercept the view at once, we know of no better plan than to plant Beech trees or Hornbeam, 6 feet high. But if you can wait, then plant a Quick hedge, mixed with Privet. Till this gets up, you might, perhaps, raise a temporary screen of Sweet Peas.‡—*Gardener.* The Sierra Leone Sarcocephalus esculentus never fruited in this country, and is long since lost.—*W C K.* Keep your Geraniums in-doors. If you do not grow them too luxuriantly, they will bloom with you in winter. The main point is to get your wood well ripened, and to do that you should keep the plants somewhat dry.‡—*M H S.* A turf pit, covered with straw-thatched hurdles, to be removed in fine, and kept close in frosty weather, might be made to form an effectual shelter in winter for Myrtles, Fuchsias, Oleanders, &c. It might be placed in some part of the grounds or kitchen garden where its homely appearance would not offend the eye.‡—*G T.* Your Balsams ought to bloom this season. Give them plenty of light and air.—*A B C.* We believe that Frijoles are a kind of Kidney Bean; but after a long search we have failed in discovering the name in books. Coulteria horrida is a thorny greenhouse shrub.—*W D.* Thanks: the Fuchsia is very subject to derangement of the floral organs. A case something like yours has been figured at p. 388 of our volume for 1845.‡

SEEDLING FLOWERS.

Gloxinias: *T C.* Your specimens are pretty varieties, but they do not possess any novelty in colour or marking. No. 1 is a good stout well formed flower.*

BELFAST FLAX-DRESSING MACHINERY.—Persons wishing to put up Mills for Scutching or Dressing FLAX in the straw, can be supplied with the Improved Machinery, recommended by the Royal Flax Improvement Society of Ireland, on application to the Makers, MAC ADAM BROTHERS and Co., Engineers, Soho Foundry, Belfast.

The Agricultural Gazette.

SATURDAY, AUGUST 19, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.
Farmers' Clubs.—Aug. 25: Stranraer.—Aug. 26: Hereford.—Sept. 2: Newcastle, Durham.

CORRESPONDENTS have often asked us for the means of detecting the FRAUDS of MANURE DEALERS, and in answer they have generally hitherto received the recommendation to avoid all risk by dealing only with men of established character. That there are such dealers to be met with no one will doubt, unless, indeed, it be the writer in a past Number of this Paper, who, at page 500, signs himself "Claptrap." This gentleman, however, professing—we do not say *possessing*—an acquaintance with his subject almost too deep to be innocent, has dealt out his charges too coarsely for sympathy, and much too recklessly for belief. The "insidious grocer," "the bombastic wonder-relating manure dealer," "the self-denominated chemist and druggist," "the silken-like dealer in flour," and "the sulphuric acid manufacturers," have all been grossly calumniated by Mr. "Claptrap." Rogues are pretty evenly distributed through society, and are not to be found more abundantly among tradesmen and dealers than among agriculturists themselves. They should be exposed wherever they are met with; but this is to be done by reference to particular cases, not by random tirades against whole classes.

When character, being unknown, is an insufficient security to an intending purchaser, the next best plan is for him to retain a sample of the purchase, selected and sealed up in the dealer's presence, for analysis, in case the result of its use be unsatisfactory. And it would greatly facilitate the good effect of such means as this, were our Agricultural Chemistry Associations more generally patronised than they are. Guanos and artificial manures have been more largely used in Scotland than in England, but less roguery has occurred in the former—the fear of detection having deterred it: the Agricultural Chemistry Association of Scotland was thus the safeguard of the Scottish farmer, as that of England would be here, were it more generally known and appreciated.

But it is generally desired to possess some simple methods of determining the presence of impurities without reference to the chemist. The following will, perhaps, be among the most useful. One of the most common impurities in manures is water. The quantity of it present will be ascertained by drying a known weight of the manure, at a temperature below that of boiling water, and reweighing to ascertain the loss.

Earthy matters, such as chalk and gypsum, are used to adulterate guano and bone-dust. The former will effervesce with an acid, which neither guano nor bone-dust should do: the latter is present if an aqueous solution of the manure should be rendered turbid both by oxalate of ammonia and by chloride of barium. Gypsum itself may be adulterated, which can only be detected by a quantitative examination thus: every grain of dry gypsum will, if its solution be mixed with a solution of chloride of barium, throw down three grains of the insoluble sulphate of baryta. A less quantity than this indicates the admixture of impurity, probably slaked lime. Common salt may often occur as an impurity in manures, especially in other salts, as the nitrates of potash and soda. Its presence is indicated by the dense curdy precipitate which will follow the addition of a few drops of nitrate of silver in solution to a watery solution of the manure. If present in sufficient quantity it will crepitate or sparkle on the hot coals, which the pure nitrate will only cause to burn the more rapidly.

Again, ammoniacal salts are liable to adulteration; but the detection is easy—in the case of water, by the loss of weight consequent on drying at a low temperature, and in the case of all earthy matter by the residuum after exposing the manure to a red heat, which as it will drive off all ammoniacal matter, should leave nothing in the case of ammoniacal manures.

Notwithstanding the possibility of these hints being useful, we greatly prefer, in an effort to drive this roguery out of the manure market, having recourse to the assistance of the professional chemist. He alone is able to meet the skill which a knowledge of his science enables the "manure compounders" to exercise. To escape the injury which they threaten is quite another matter. This is easily effected by refusing to deal with all cheap salesmen without character.

LAND DRAINAGE REPORTS.

No. XVI.—TYR ARLLWYDD FARM, [58 a. 3 r. 39 p.] LOUGHOR, near SWANSEA.

Soil.—Light mould, stony, in some parts peaty, containing a great deal of the protosulphate of iron, or the sulphate of the protoxide of iron, with which is saturated also the *Subsoil*, clay and gravel, with large boulders in some places; the gravel cemented by the protosulphate of iron into an extremely hard band, requiring the pickaxe; springs abundant. Drained by the West of England and South Wales Draining Company not by contract. Travelling expenses of men and implements were paid for. Average wages of navigators in this neighbourhood last winter, from 2*s.* 6*d* to 3*s.* 6*d.* per day; day labourers 2*s.* to 2*s.* 6*d.* and 3*s.* Drained 35 acres. Number of rods, 2636; average depth, 4 ft. 3 in.; distance apart, 33 ft.; average price per rod, 11½*d.*

Cost of cutting and filling the drains		£123	12 2½
Cost of cutting ditches and outfalls		16	17 3
Cost of day-work and overmen		68	9 9½
No. of tiles used—cylindrical pipes of 1½ in., 2 in., and 3 in., 51,850.			
Average price per 1000		1	10 9
Cost of pipes		52	2 6
Cost of sea freight and land haulage		18	11 2
Commission on 35 acres		35	0 0
Survey fee and travelling expenses		7	8 0
Grubbing and clearing 4 acres, and pulling down old fences		43	12 9

ABSTRACT.

Commission on 35 acres				35	0 0
Wages paid				255	2 0
Pipes used	52	2	6		
Freight and haulage	18	11	2	79	13 8
Survey fee and travelling expenses				7	8 0
Fee for making out Government form				1	1 0
Or about 10*l.* 11*s.* per acre.				£369	4 8

Commenced January, 1847, but in consequence of the want of pipes not finished until June. The whole is now thoroughly dry, and the pipes all running perfectly clear. The rent was 59*l.* per annum, now increased to 70*l.*, but in its former state was not worth more at the outside than 50*l.* per annum, and the consequence was the rent was never paid. A new tenant with capital has now taken it on a lease of 21 years; *Iltid Thomas, Hill House, Swansea.*

P.S. I applied for money under the Government loan, but as yet have received none of it. I suppose the expenses of obtaining the loan will amount to some 9*s.* per acre more, as there are two journeys of a Government surveyor down here to be paid for, as also expenses of advertisement, &c. My object in applying for the money was to see how the plan would answer for small landed proprietors farming their own land, of which we have many in our neighbourhood. Land sells for full 30 years' purchase, with no peculiar advantages; where any building sites exist, much higher. Agricultural land is worth 30 years.

No. XVII.—MARTLEY, WORCESTERSHIRE.—I have never farmed less than 200 acres, and for the last 20 years I have farmed nearly 600 acres, the greatest part of which I have attempted to drain—attempted, I say, because it is not done effectually. I laid the principal drains up the flattest parts of the fields, 2 feet deep, and the cross drains into them the same depth, which I now consider of very little use. In 1844 I drained a 4-acre field, the flattest part being up the centre of the field. I laid the principal drain up the centre of the field, from the bottom to the top, the natural fall of the land, 3 feet deep, in order to have a good fall for the cross drains at 2 feet. As the spring advanced I observed the land on each side the principal drain dry much sooner than the land adjoining the cross drains, which has much changed my opinion for deeper draining, in parallel lines, the natural fall of the land, the depth to depend on the distance the drains are from each other. In the autumn of 1846 I drained an 8-acre field, with 1½-inch pipes, the drains parallel, 24 feet from each other, and 3 feet deep, the natural fall of the land, with an air-drain at each end, which appears to answer very well. The land worked much milder and better in the spring than it was used to do, and the crop is looking well upon it, which is Wheat. The greatest part of the land which I occupy is clay; and my opinion is in favour of deep draining: as what good can a drain 2 feet deep do, until the land is saturated with wet? After a dry season we know that all qualities of soil become healthy, and will admit of any quantity of wet, say 4 or 5 feet deep. Supposing there was a drain laid at that depth, would it ever be otherwise? I think not. I have not entered into the expenses of draining, as that depends on the quality of the soil, the depth they are cut, and the distance from each other. What I have done the last season cost me about 5*l.* per acre, my landlord finding the pipes; *Joseph Tinley, Alders, July 12, 1847.*

No. XVIII.—RICHMOND, YORKSHIRE.—*Date of Operations.*—From 1837 to 1847.

Extent Drained.—Several hundred acres.

Nature of Soil, &c.—Various; but chiefly different varieties of clay resting upon limestone. The land is full of stones and very difficult to cut, much of it had to be hacked. Part of the land drained was arable and part of it old pasture. In the first years of the above period a good deal of the drains were laid with stones. The drains were cut 28 inches deep and 21 feet asunder. Two flat stones were set in a triangular form at the bottom of the drain, and it was then filled with stones, previously broken, to about 2½ inches in diameter to within 10 inches of the surface. During the last few years all the drains have been laid with tiles. The drains were cut 3 feet deep, and varied from 18 to 21 feet asunder, but with some few exceptions 21 feet is the distance aimed at. The tiles have feet both inside and out, and in fact come so nearly together in the inside, a mere slit being left open, that they may fairly be called a tile and sole in one piece. The drains in all cases are up and down the slope.

Cost.—The stone drains were very expensive, and, without charging anything for the stones, save the cost of getting, cost about 8*l.* per acre. The quantity of carriage they caused on the land in a wet season was very injurious. The cost of the tile drains varies considerably, in consequence of the greater or less difficulty found in cutting. Some of the drains cost only 5*d.* per rod of 21 feet for cutting, while in other fields the men could not earn 2*s.* 6*d.* per day at 1*s.* per rod. The following may be taken as an average expense, and is the actual cost per acre of one field:

Cutting 102 rods drains, ... ft. per rod		£1	5 9
Laying in Tiles and filling ... the first 9 inches of clay, at 2*d.* per rod		17	0
1750 tiles at 2*s.* per 1000 at the kiln		1	15 6
Carriage, at 1*s.* per 1000		17	1
Cost per acre ...		£4	17 6

A marked improvement has followed all our draining operations, and the tenant willingly pays 5 per cent. on the sums expended on their different farms; *H. J. Turner, Agent to the Earl of Zetland.*

No. XIX.—HAFODUNOS, ABERGELE.—In compliance with the desire expressed in late numbers of your *Gazette*, I send you an account of my drainage. It has been going on for eight years, but I will confine my account to the "model farm," commenced in May, 1844, because the work has been better done, and the account much more accurately kept. It is 196 acres, formerly let for 110*l.* a year. It consists of deep sheltered dingles and rocky hills, great variety of soil, some deep and heavy, some very thin with a good deal of poor clay, some black peat; the subsoil is the blue ash or clay slate; the average height is 800 to 900 feet above the sea.

The first field was drained in 1844, finished 16th August; drains 21 feet apart, 30 inches deep, filled with 12 inches of broken stones; main drain 10 feet from the fence, 3 feet deep, 14 inches wide, built with a culvert; some springs which appeared the next year were cut out by an additional drain. Total cost, 39*l.* 19*s.*; extent, 6 acres. This field had yielded a crop of Oats in 1842 and lain fallow till it was drained; it was very dirty, overgrown with weeds; it was ploughed and harrowed twice in the autumn, subsoiled in Dec., had 60 hobbets [What are these?] of lime in Feb., 1845, sown with Swedes between 23d and 28th May, and yielded 24¼ tons per acre; manure, 10 cubic yards of good farm yard and 3 cwt. Peruvian guano per acre. In 1846 it was sown with spring Wheat on 1½ acre, and Oats on 4¼ acres, with Grass seeds. The Wheat yielded 6 qrs., the Oats 126 imperial bushels; it now looks like a very good permanent pasture.

The second field is 5 a. 2 r. 34 p.; finished draining 9th October, 1844; drains the same size and distance as the last. In 1846 additional intermediate drains were put in; a part found not dry, and some more in 1847, in another part, where springs appeared. Total cost, 35*l.* 6*s.* 7*d.* This field consisted of a small piece of good herbage, a patch of Gorse, and the rest producing nothing but poor mossy Grass and Rushes. It was sown with Oats in April, 1845, yielded 232 imperial bushels; subsoil ploughed in the following winter and prepared for Swedes, with 14 loads of farm-yard manure, and 3 cwt. Peruvian guano per acre; liquid manure from the tank was poured on the guano in the drills before it was covered in. The Swedes were sown from the 18th to 23d May, came well away and looked promising till the middle of August, when they became mildewed, and in November when stored about the 7th part were rotten; the sound were 20 tons per acre. They were stored in the field in rows, six drills in a row, covered with soil, and kept well till the end of February, when half were carted off for cattle, the other half eaten on the field by sheep. It is now sown down with Grass seeds and spring Wheat. The above two fields are united.

No. 2 is 19 a. 3 r. 33 p., drained as the above, finished Feb. 25, 1845, and cost 91*l.* 16*s.* 6*d.*; some part of it, perhaps 7 to 8 acres, not drained. In 1847, after draining, Oats, 576 imperial bushels; subsoiled the following winter; manured for Swedes, as the above, yielded 26 tons per acre. They were sown from the 23 to the 6th June, and had very few rotten ones; they were stored as above, but all carted home, and the field is now preparing for sowing down with Oats and Grasses.

No 3: 23 a. 2 r. 3 p., of which 9 acres are drained the same distance as before, but in place of soils Gorse was used for covering the stones. Cost 62*l.* 17*s.* Finished, April 1845. Four acres of it were sown with Swedes from the 19th to 21st May, with 4½ cwt. Peruvian guano and ashes of weeds collected in the field and burnt. No other manure: an excellent crop, estimated 24 tons per acre. The remainder yellow Turnips, sown from the 4th to 10 June with 3 cwt. African guano mixed with double the quantity of ashes: crop, 22 tons per acre. In 1846, Oats yielded 728 bushels, and now looks a most beautiful pasture. This field is nearly 1000 feet above the sea.

No. 4: 16 a. 3 r. 17 p., of which 9 acres drained, about 5 at 18 feet apart, the rest 21 feet apart, and at this time we began to put only 9 inches instead of 12 inches deep of stones. Total cost, 70*l.* 18*s.* 6*d.* Oats in 1845 yielded only 368 bushels. The wet part of it used to be covered with Rushes, and there was not

time to work it properly before sowing. It was subsoiled in spring 1846, prepared for yellow Turnip, sown from 16th to 29th June with 6 cubic yards of manure, and 3 cwt. Peruvian guano; a good crop, upwards of 20 tons per acre; two-thirds eaten off with sheep. It is now sown with Oats and permanent Grasses.

No. 5: 13 a. 3 r. 23 p. all drained, finished 8th July, 1845; all at 16 feet apart except 1 acre at 18 feet, and 2 at 21 feet. Total cost, 99*l.* 8*s.* 11*d.*; before being drained, grew nothing but short sown Grass and Rushes. Was in Oats in 1846; yielded 400 bushels, was subsoiled in winter, and is now preparing for Turnips.

No. 6 is 11 a. 2 r. 10 p., all drained on 15th August, 1845, at 16 feet apart. Cost 89*l.* 2*s.* 9*d.* It is similar in every respect to the preceding, and in the same situation; but it only yielded, after draining, 290 bushels of Oats. Now preparing for Turnips.

No. 7 is 14 a.; part of this field, say 6 acres, had been drained by a former tenant. The rest is at 16 feet apart, and cost 62*l.* 14*s.* 3*d.*; it is now sown with Oats after being well ploughed.

No. 8 is 12 a. 1 r. 10 p., of which the greater part had been drained, by a former tenant, at 24 feet apart, about 2 acres 3 roods have been drained last winter at 16 feet apart, at a cost of 18*l.* 19*s.* 6*d.*, and it is sown with Oats.

The stones were found very near to all of these fields. The old fences were mounds of earth averaging 5 yards wide, sometimes with a crest of brushwood; these have been all levelled and replaced by Quick hedges planted on the flat. The principal stock is Cheviot sheep, besides which we fed in stalls last winter 17 bullocks. It would appear that we have drained about 77 acres on this farm at a cost of 581*l.*, or 7*l.* 10*s.* 10*d.* per acre; *Henry R. Sandbach.*

STATE OF THE POTATO CROP, AUGUST 12, 1848.

FROM OUR OWN CORRESPONDENTS.

COUNTY.	THE POTATO DISEASE.	NAME AND ADDRESS.
SCOTLAND.		
Inverness ..	Has not appeared	J. Mackenzie, M.D., *Eilenach*
Perth	Has appeared in early sorts, and also in some of the late	C. Playfair, *Inchmichael*
Forfar	Occurs in every field, but is not extending rapidly	R. Colville, *Chance Inn*
Fife	Has not appeared in late sorts	L. B. Fernie, *Leow*
	Not general	J. Barclay, *Crail*
	Has not appeared	D. Tennant, *St. Andrew's*
East Lothian ..	Excites little fear here	A. Howden, *Preston-kirk*
Mid Lothian ..	Has appeared, and extends	J. Finnie, *Swanston*
West Lothian ..	Is not seen in the fields	J. Melvin, *Retho*
Roxburgh ..	Occurs in rare cases	J. Thomson, *St. Boswell's*
	Only in spots	J. Brodie, *Hawick*
	Has not appeared	P. Brodie, *Selkirk*
	Has not appeared	W. Hastie, *Galashiels*
Ayr	Not worse than last year	Alex. Ralston, *Maybole*
	Progressing rapidly	A. H. M'Lean, *Stranraer*
Wigton	Everywhere diseased: not so rapid as 1846	J. Caird, *Baldoon*
	Almost as bad as 1846	D. Mackie, *Whithorn*
Dumfries ..	Becoming very general	J. Little, *Langholm*
Berwick	Has not appeared	Alex. Logan, *Greenlaw*
	Has appeared in only one case, which is now a fortnight old	J. Wilson, *Aytown*
WALES.	Has slightly appeared	J. Williams, *Conway*
	Partial, but progressing	W. Scion, *Abergele*
	Now more general in the late sorts	E. W. Griffith, *Denbigh*
	Now universal: 50 per cent. of the early sorts destroyed	J. Girdwood, *Chirk*
	Has extended considerably	R. Carrow, *Haverfordwest*
	Universal	W. Edmonds, *Swansea*
ENGLAND.		
Northumberland	Heard of in gardens, but not seen in fields	J. Grey, *Dilston*
	Hardly to be seen	W. Pillans, *Alnwick*
	Has not yet appeared in fields	T. S. Colbeck, *E. Denton*
	Has not appeared	W. Glover, *Newcastle*
Durham	Has not appeared in fields	T. Dixon, *Darlington*
Westmoreland ..	Almost universal in the *leaf*	D. H., *Kendal*
	Lately appeared in *later* sorts	W. Turner, *Lyth*
	Prevalent everywhere	W. Key, *Kirby Lonsdale*
	Very slight	J. Crosby, *Kirby Thore*
Yorkshire ..	Occurs only in early sorts, but is increasing	P. Stevenson, *Raindon, Thirsk*
	Has attacked but few plants	M. M. Milburn, *Thirsk*
	Not appeared in winter sorts	J. Priestman, *Pickering*
	Not appeared in *fields*	— *Eddo*
	Not appeared in *fields*	H. J. Turner, *Richmond*
Lancashire ..	Progressing, but not so bad as past years	E. Evans, *Wigan*
	Very bad in early, but hardly visible in late sorts	E. Dawson, *Lancaster*
Cheshire	Very bad in early sorts	R. Owen, *Nantwich*
	Rapidly increasing, and very bad	W. Palin, *Chester*
Lincolnshire ...	Increasing in early sorts	G. Gilliat, *Horncastle*
	Universal among late sorts; worse than last year	T. Aitken, *Deeping Fen*
	Daily getting worse	W. Martin, *Horncastle*
	Early: tops gone, tubers 2-5ths bad	J. Clarke, *Long sutton*
	Later sorts: *slowly* decaying	
Nottinghamshire	Progressing	E. J. Lowe, *Lenton*
	Rapidly increasing	R. Hodgkinson, *E. Retford*
	Rapidly spreading	W. J. Pickin, *Ollerton*
Staffordshire ...	Rapidly getting worse	J. Williams, *Alstonfield*
Huntingdonshire	Gradually spreading	R. Beart, *Godmanchester*
Salop	Extending rapidly	W. Minor, *Market Drayton*
	Becoming worse daily	C. A. A. Lloyd, *Oswestry*
Leicestershire ..	Rapidly extending	T. Spencer, *Knossington*
	Has killed the earlies, but not yet touched the late	J. Buckley, *Loughborough*
Rutland	Spreading very rapidly; probably the worst year	W. Fancourt, *Empingham*
	Wide-spread and virulent	S. Cheetham, *Oakham*
Northamptonsh..	Progressing	W. Grey, *Northampton*

COUNTY.	THE POTATO DISEASE.	NAME AND ADDRESS.
ENGLAND.		
Northamptonsh..	As bad as 1846	C. Hillyard, *Northampton*
	Universal, and getting worse	W. Shaw, *Far Cotton*
Derbyshire ...	Making rapid progress	S. Ward, *Repton*
	Has much injured early sorts, and is now injuring the later ones	J. Cocking, *Chesterfield*
Herefordshire ..	Worse than any past year	J. Browne, *Bromyard*
	Gradually extending	J. Cheese, *Castle Weir*
	Now extending to the late crop	J. Matthews, *Blakemore*
	Two-thirds of early tubers rotten	T. Kinnersly, *Leominster*
	Two-thirds affected	— *Ross*
Warwickshire ...	Three parts diseased, and daily getting worse	J. Townsend, *Rugby*
	Daily extending	L. Pearman, *Coventry*
	Generally as bad as 1845	J. Barbury, *Kenilworth*
Worcestershire .	Progressing	R. Smith, *Droitwich*
	Very bad, and getting worse	J. Nock, *Stourbridge*
	Rots the gathered Potatoes	J. Turley, *Martley*
	Is now increasing where it had partially subsided	F. Woodward, *Pershore*
Cambridgeshire .	Increases	J. Clover, *Newmarket*
Norfolk	More prevalent than 1847	W. Cubitt, *North Walsham*
	Appears to spread	R. Harvey, *Harleston*
	Very bad	B., *Roughan*
	Gradually increasing	F. L. Taylor, *Harleston*
Suffolk	Continues to grow	B. S. Gowing, *Eye*
	Does not increase in the tubers	W. Green, *Debenham*
	Now a good deal on the increase	J. G. Cooper, *Wangford*
	Decidedly spreading	W. Freeman, *Framlingham*
Monmouth ...	Has killed two-thirds of the earlies, and now attacks the late	G. R. G. Relph, *Usk*
	Increasing	H. W. Waldridge, *Abergavenny*
	Progresses: all haulm is dead	A. Purchas, *Monmouth* [county
Gloucestershire.	Progressing rapidly	E. Burnell, *Banham*
	Has destroyed two-thirds of the whole crop	J. Hunt, *Almondsbury*
	Worse than any past year	W. Niblett, *Iron Acton*
Oxfordshire ...	Its virulence is unabated	S. Collier, *Witney*
Hertfordshire ...	Gradually progresses	R. Sibley, *St. Alban's*
	Getting worse	J. House, *St. Alban's*
Bedfordshire ...	Progressing in late sorts	T. Bennett, *Woburn*
Essex	Has not yet injured many *tubers*	C. Hall, *Havering*
	Universal	F. Fairbank, *Sible Hedingham*
Wilts	Increasing	G. Brown, *Avebury*
	Very bad	R. Bailey, *Calne*
Berkshire ...	Universal	B. Brooks, *Wantage*
	Has killed the haulm but has not yet much injured the tubers: progressing	E. W. Moore, *Colehill*
Surrey	Continues in full intensity: rotten crops	J. M. Paine, *Farnham*
Kent	Fast killing the crop	T. Rigdon, *Hythe*
Sussex	Continues to spread	C. P. Valentine, *Lewes*
	Progresses rapidly	J. Morton, *Storrington*
	Rotting fast	J. Brotherstone, *Hurst Green*
	As bad as 1846	E. Vizard, *Cuckfield*
Hants	Never worse	W. Knight, *Havant*
	Progressing universally	J. W. Clarke, *Romsey*
	Daily getting worse	— *Basingstoke*
	As last week	W. C. Spooner, *Southampton*
	Suddenly increased; and worse than ever	J. Twynam, *Stockbridge*
	Fast rotting	J. Eames, *Beaulieu*
	Much worse	J. D. Nicholson, *Beaulieu*
Somerset ..	Threatening worse than 1847	J. W. Eastment, *Wincanton*
	Much worse than last year	M. Paull, *Castle Cary*
Dorset	Late sorts quite destroyed	W. Bartlett, *Blandford*
	Universally fatal	J. Fermedge, *Beaminster*
Devon	Late sorts deplorably bad	G. W. Fowler, *Dartmoor*
Cornwall... ...	Has increased greatly	J. Michell, *Truro*
	Rapidly progressing	E. H. Hill, *Tregoney*
	Universal and injurious	W. F. Karkeek, *Truro*
	Bad on late Potatoes	W. Simmonds, *Gwennap*
Jersey	Early sorts free from disease	Committee of Agri. Society
	The *late* blues and white *degenera* partially or badly diseased	*Jersey Times*, Aug. 4

DISEASES OF POULTRY.

(*Continued from p. 408.*)

The advice, "keep no roosters," as intimated in the American extract, p. 845, 1847, was to others as well as myself quite an enigma. Your correspondents, "Chanticleer" and "D," having expressed their astonishment at the recommendation so opposed to received opinion, induced me to give it another scrutiny, and, by an inductive analysis, I have found it to accord with physiological principles. My former comments thereon in No. 15, April 8th, page 243, were founded on a misconception of the author's meaning,—"to banish Chanticleer" during the winter season only,—somewhat in imitation of the wild state. But such is not the meaning. The eight propositions are no doubt the results of practical experience; but being rather jumbled together confuse the sense. By adding to the first recommendation what the author has omitted, and taken for granted as being known to every one, and by a new arrangement of his propositions, the new reading will make the whole intelligible. Thus, "keep no roosters," *because hens will lay eggs (unfecundated) without them*, &c. &c. No doubt if these recommendations be followed as a system, the results would be favourable, so far as the production of eggs for the table is concerned, as eggs for sitting could be procured from a neighbour. But the old system — a "rooster" for six or eight hens, or a dozen, as the French housewives say—is more consistent with the law of Nature and our habits of joyful feeling when we listen to the "clarion notes of chanticleer, who proclaims the dawn."

A very old practice, which should not be despised, although not essentially necessary, and followed by the generality of poultry-keepers, is to leave, for what is called a nest egg, the last egg laid, until a fresh one takes its place. But a small piece of chalk, the size and shape of a pigeon's egg, I think preferable.

The Influence of Light or Electricity.—This being well known, the effects of the rays of light of the moon on incubation can be equally well substantiated. The advice therefore met with in old books, "to sit a hen in the increase of the moon before the full, in preference to when she is in the decrease after the full," should not be disregarded, much less ridiculed, being perfectly in accord with the laws of Nature, and accounted for on true philosophical principles. Aristotle, Columella, Pliny, Aldrovandus, Hesiod, and Virgil, all mention the influence of the moon in various ways; in other words, the action of light upon the growth of plants and animals. Both sleep or rest during the prevalence of darkness, awake or become active as the light increases. Various flowers open or close their petals, erect or droop their leaves in various shades of light or darkness. The leaves of the Oxalis droop at night, and become extended again during the day. The flowers of the Crocus close in the dark, but if a lighted candle be brought into a room where they are growing in pots, the light will cause the blooms to expand while it remains—the like occurs if the light of the moon be made to shine upon them. The agriculturist, gardener, woodman, butcher, are all admonished to observe "the increase or decrease of the moon." Old Olivier de Serres tells us, that the best wine is made from Grapes which happen to be ripe and gathered "when the moon is on the descent." The gardener is advised to prune, the woodman to bark and fell his timber at the proper phase of the moon, the butcher to beware of the effects of the direct rays of the moon in tainting his beef in a few seconds, unless covered or shaded with some sort of linen, or as on ship-board with canvas whilst hanging in "the tops," or at the stern posts in open air. Fish, too, will become putrescent in an incredibly short space of time, if exposed to the rays of the moon, and when putrescent become one mass of phosphorescent light, which I have known to illumine a cellar, not at all unlike the light of the moon, nor less in intensity, very much, too, like the phosphorescence of the sea in the wake of a sailing ship; all phenomena worth attention. The influence of the moon on incubation is pointed out in many old books. The season is said to commence "in the increase of the moon in February, and to continue till October." But I conceive it to be finished at or soon after the longest day in June, all chickens hatched before or near that day having full time to acquire size and strength during the remaining summer months before the arrival of cold weather and dark days. Chickens hatched after the longest day, I think require too much care and trouble in the rearing of them. "The best time therefore for sitting a hen," says an old book, "that the chickens may be large, and most kindly, is in February, in the increase of the moon, that she may disclose the chickens in the increase of the next new moon, being in March, for one brood of this month is worth three of any other." The effects of electricity in a sudden thunder-storm, which is known to acidify in a few seconds the new beer in the cellar, will sometimes addle a whole batch of eggs, or produce premature hatching. These known facts account for the "charm," or, rather, recommenda-

tion to "place a long rusty nail into the ground under the nest," which, if tested by philosophical principles, serves very probably to attract the electric current from the nest, and is, therefore, no charm at all, but a natural effect. Mr. Tod, in the last "Lancet," 27th May, has furnished the scientific enquirer with an "additional" beautiful paper on "Hatching," in which he invites the curious, and those who have the requisite space, to assist by making some experiments, sitting hens' eggs on other substances than straw. I am fearful, however, that any substances calculated to generate too high a degree of heat would addle the eggs, or if any chicks were produced they would be found dead and glued to the shells. Mr. Tod recommends "that 16 hens should be set, four nests covered with sheep's wool, four with cotton wool, four with raw silk, four with tow; then place in each nest 10 eggs, all of one breed and age, and slightly cover them with a portion of the material in which they lie; then place 16 clucking hens, all of one breed, on the several nests, and notice the results. Again, try the same experiments with the same materials dyed in different colours."

Possibly some of the readers of this Journal will be willing to aid in these interesting inquiries, and favour your pages with the results; *D. S. E.*

(*To be continued.*)

Home Correspondence

The Potato Disease.—Mr. Hewitt Davis, in his interesting communication upon this subject, states: "I have clearly seen that the first affection is in immediate contact with the old set, and that the disease spreads upwards." My own observation is entirely opposed to this opinion. I am quite confident that in my own garden it is not correct. Were it otherwise, I should have lost all my crops of Potatoes by the spreading of the disease along the roots from the old set to the new tubers; and yet on the contrary I have always saved my crop by removing the haulm directly the disease appears in the tops, which it has always done with me on the uppermost branches. Last year my winter stock was good for very little, as they were not half grown when the tops were cut off, but they were not diseased in a greater proportion than one in fifty. This year they were fully grown before they were touched by disease, but I removed the tops the moment I saw it, and herein is the great cause of disappointment to those who wait until the disease has spread to the root before they take off the tops. As Mr. Eagle has justly observed, it is absurd to suppose that this operation will make diseased Potatoes sound, or even that it will stop the progress of disease which has already reached and is spreading among the tubers, but I am convinced that it will stop the malady in most cases (perhaps not in all) if adopted sufficiently early. The first black spot ought to condemn every top. Experience points out that in a week or ten days the tops will be entirely useless, and that in that week a fatal disease will have reached, and will destroy the crop. I have taken up about five sacks of Early Shaws, Ash-leaved Kidney, Early Frame, and Thurston's Conqueror, and although the tops were diseased I have not had a dozen tubers affected therewith; *C. R. Bree, Stowmarket.*

Substitute for Potatoes.—Now that a failure in the crop of Potatoes is ascertained, the extent of which becomes every day more seriously developed, at the same time that there is great question of the probable average yield of the grain crops, I think prudence should suggest to the heads of families, and more particularly to those in the country, the occasion there is to provide themselves with some cheap resource in place of Potatoes, not only for their own use, but also as a means to provide in some degree at little cost for the wants of the neighbouring poor, that may be occasioned by a short supply of this farinaceous vegetable. We should take into consideration that the loss of the Potato not only deprives them of their cheapest food, and robs millions of the provision they have made for the winter and spring, but it at the same time enhances the price of bread, and all their next resources. It fortunately happens that at this moment this country possesses four or five times an ordinary store of an article which appears to me of all others the best suited for the purposes I have pointed out. I allude to Rice, which at this time is to be bought in bags of 1½ cwt. each, at a cost of only about 1¾*d.* a pound. Now a pound of Rice, plain boiled, with an ounce of sugar, affords a wholesome and palatable meal to a family of four or five. What a store will a bag or two, at a cost of 24*s.* or 25*s.* each, provide a family against any contingency! What a cheap means for giving a meal to a hungry family is here supplied! At the cost of 2*d.* may the appetite of a family be appeased for a day. For my own purposes I have already made this provision, and I do not know how it has happened, but until I had this supply, Rice rarely appeared at my table, and I was not aware how useful it is, and in how many ways it admits of being sent to table; but since I have had this stock—which, by-the-bye, although intended for the winter, has already been greatly shrunk, and must be replenished—I find Rice daily called for; my children are all fond of it, we partake of it plain boiled, with sugar, or mixed with preserves or with milk, baked or boiled, or as a vegetable in curry, or in soup, and in every way is it agreeable, and takes the place of Potatoes and flour. Should the progress of the Potato disease on the Continent lead to any alarm there, the first demand will be on this country for the bountiful supply of Rice we have in store; but I sincerely hope, previous to any such call for it comes, which would greatly enhance its price, the heads of families will have weighed what I have urged in favour of providing a store, and most of what is now here may have found its way into the keeping of private families; *Hewitt Davis, 3, Frederick's-place, Old Jewry, London, August 12.*

Butter.—You may inform "T. J. P.," of Windermere, that he may grow Turnips for his cows without any fear for his breakfast comforts, if for cream. The milk in a can with a closed lid should be placed in a boiler of hot-water, and when sufficiently scalded poured into a mug, and occasionally stirred till quite cold. Then let it stand to throw up cream. For butter let the cream or milk stay in the boiler till the taste of Turnips is gone. Do not let it form a skin when in the mug, and churn it when sour; *Ellen Jackson, Beech hill.*

Thin Sown Crops at Weir.—Will you kindly say in your *Gazette*, that my Wheat crop is again this year very beautiful indeed; the 5 quarts and 8 quarts an acre are magnificent, and the 12 quarts is likewise very good, but the two former are decidedly the best, and of those two the 5 quarts is the best. The straw of the whole is beautifully clear, the sample very fine, and I do not in the least fear but the general average will be 6 quarters an acre. The readers of your *Gazette* will also remember, that this is the third crop of Wheat in succession on the same land. Two of my neighbours also, who have followed my plans, have splendid crops; and one of them farms nearly 1000 acres. Let the antiquated thick-seeders equal this if they can, and to stop all cavilling the produce per acre in each case shall be published, or sent rather for publication to the *Agricultural Gazette*; *George Wilkins, Weir.*

Surface of Hills.—When your correspondent "An Essex Man," July 17, revived the old schoolboy problem on this subject, I thought no one would have taken the trouble to show its fallacy as respects the growth of plants; and I was rather surprised that you, Mr. Editor, whose opinion ought to be of weight with your readers, have thought proper to support the same view; which though geometrically correct is practically wrong: therefore, with Elihu the son of Barachel the Buzite, "I also will show mine opinion." That more houses cannot be built on the hill-side than on the plain, or that it would not require a greater number of pales to fence the hill than would be necessary to fence the plain, admits of no controversy; but will the same hold good with Grass and other crops? Grass covers the whole surface of the hill like a carpet; but to cover the base of "Essex Man's" hill would require only four-fifths of the same carpet; and as Grass, and most other agricultural vegetables extend their roots in search of food, principally near the surface, it is evident that the greater that surface the greater facility they will have of acquiring that food; not to mention the greater advantage the hill possesses of sun, air, and dew; and the cereal crops never stand so thickly upon the land, but that there is always plenty of room for a very much larger number of plants on either hill or plain than are ever found there: and I believe they are much less liable to be laid on hill-sides than on the plains. Then with respect to green crops, as Turnips, Mangold Wurzel, and the like, it is clear that if the rows be made across the slope that there will be five rows on the hill, for every four on the plain; or rather that the rows which on the base of the triangle would be at 28 inches distance, will on the hypothenuse be at 35 inches apart; thus giving one-fifth more room for aëration and cultivation. I think the "Essex Man" is quite in error in supposing his hill farmer pays rent for one-fifth more land than he occupies, since the case is just the reverse; for I believe it is the practice of surveyors to lay down the level surface of the land on their plans ("Essex Man's" base line), otherwise they could not bring their lines to correspond; it would be like placing the breakfast cloth over urn, teapot, cups and saucers and all, instead of the plain surface of the table, and then wondering why it would not lie smoothly; and as surveyors calculate the acreage of estates from their plans when laid down, and not from the measures taken in the field, it is evident that "Essex Man" will pay the same rent for his 5 acres of hill as he would have to pay for 4 acres on the plain: he must, therefore, look to some other cause for the difference in the profits of farming; *Lusor.* [There is certainly a greater surface of air available as a source of food in the one case than in the other, and there is an advantage in that. Procumbent plants also will probably yield more accurately in proportion to the *surface* they cover. But we still retain our opinion of the matter as regards erect plants, such as the cereal Grasses, and as regards Wheat for instance. We believe that while the cost of cultivation is determined by the actual surface of the field, the amount of produce, other things being equal, is determined by the ground plan only of that surface.]

Fish as Manure.—Having noticed in the *Agricultural Gazette* of the 12th February certain remarks of Mr. Grey, of Dilston, at the annual meeting of the farmers' club at Hexham, and amongst those remarks that it was extremely fortunate for them, both individually and in a national point of view, that they had the opportunity of supplying what was deficient in their own manure, by the addition of manures from other countries, viz., they might apply guano in situations where it would be attended with expence and labour to cart farm-yard manure. They had been told that the sources of guano in Ichabo and other places would fail. Now admitting those sources to fail, I beg leave to inform all those persons interested in the culture of the soil that the ocean by which Great Britain is surrounded never will fail, and from that element animal matter may be obtained which, by a [illegible] process, may be converted into a [illegible] to answer all the purposes of guano, and at [illegible], thereby adding to the [illegible] of those [illegible] employed as [illegible], and [illegible] such employment. Having turned my attention to this subject three years since, I [illegible], a valuable manure by an admixture of [illegible] and [illegible] to the ton. From the [illegible] the town is now [illegible] by that matter being [illegible] in the [illegible] or [illegible] to the neighbouring farms, in lieu of its being thrown into the sea as formerly. I also converted [illegible] taken from the market by a similar process; but the operations were on a small scale and could not be carried on in the town, and [illegible]. The [illegible] was dried into a powder, [illegible] and drilled for the Turnip crop, [illegible] the [illegible] expectation of the farmers. [illegible] any fixed rate, [illegible] and those who purchased [illegible] of my operations. [illegible] might be collected from the coasts [illegible] England, [illegible] taken from the sea during the [illegible] of Sheringham in this county, [illegible] 5*s.* to 6*s.* per ton, [illegible] and is rendered [illegible] of vegetable matter; *Thomas Castle, Market Lynn, Norfolk.*

Pheasant Poultry.—If your correspondent who wrote lately on the origin of [illegible] are called pheasant fowls [illegible] gamekeeper, [illegible], I think, [illegible] opinions. It is well known that [illegible] frequently visit the [illegible] of the poultry-yards [illegible] pheasants [illegible] limited experience I know of instances in which very good varieties of [illegible] have been [illegible] this means. In the [illegible] of last year I saw a large flock of poultry in a farm-yard [illegible] of Lord Hatherton's, [illegible] and the [illegible] and the domestic fowl [illegible]. The progeny and originally [illegible] the "Staffordshire [illegible]" [illegible] to the pheasant [illegible]. In the [illegible] I refer, the male birds [illegible] resemblance to the pheasant and in [illegible] that I have noticed, the plumage was [illegible] similar to that in the cock pheasant; *H.*

Garden Kohl Rabi.—A correspondent "D.," who little deserves that any of his [illegible] by at least the [illegible] readers of the *Gazette*, not having [illegible] Kohl Rabi may [illegible], I beg to say that [illegible] cattle or field Kohl Rabi, there is a smaller more delicate kind for the table, and a very pretty [illegible] smooth beautiful [illegible] upon the dark soil—one of the prettiest [illegible] in the vegetable garden. Having only been presented with some of the seed, sent by a lady from Germany, this spring, I cannot furnish "D." with information on the [illegible] of producing a crop in May, but from the rapidity with which [illegible] is developed I have no doubt if he had [illegible] in his autumnal sowing he would have had a good crop of Kohl Rabi early in June. But many of your gardening readers must know this very well, and perhaps some of them will tell us before the season is past. Your Windermere correspondent, whose paragraph was written after having his breakfast spoiled by Turnipy butter, may perhaps derive some consolation by cultivating, and getting his neighbours on the banks of the beautiful lake to cultivate, the Kohl Rabi for the milch cows. Cumberland is a "droppy" land, and it is surprising that this and other green crops are not more cultivated than they are there. The field Kohl Rabi is a magnificent vegetable, especially when one of the multitudinous showers of the mountains has sprinkled all its ample graceful leaves with gems, or when a dewy morning or evening has [illegible] as if with frost work, its embossed masses of foliage. When the farmer knows that even on the cold slopes of Troutbeck he might have 20 tons to the acre, now that portable manures are so accessible to him; and when "T. J. P." hears, as those who have tried it say, that the Kohl Rabi, like the Mangold, not only keeps well in the spring, but does not spoil the butter, one may hope that it will soon be waving on the banks of Windermere, and that thus may be accomplished the consummation of good farming and good butter for which the soul of your correspondent yearns. Or why not plant a few acres of Gorse? Nothing gives finer milk and butter in winter: there is no place better adapted for producing it than many of the hill slopes of Cumberland, and nowhere can it be more cheaply converted than there by the water power supplied on every side by the mountain streams; *Vetus Cumbriensis.*

Transmutation of Oats.—The notice of this extraordinary fact has caused many smiles of incredulity, but from the respectability of the reference I have no doubt of its truth. Nature, however, is so full of wonders that the wisest amongst us will find it difficult to give any explanation of it. One of your correspondents last year gave you a very particular account of something of the same kind in the change of his Long Red Beet in seeding from that sort to the Red and Yellow Globe, to which I have seen no attempted explanation.

I should not have troubled you with any observations on this subject, but that I wish with your permission to lay before your readers, under the head of Pathology, the following facts: Five months since I sent a sow "from home," and at the end of 16 weeks naturally expected a trip of pigs, and as her milk was come, we shut her up, and looked daily for her family—a fortnight elapsed and no pigs! Farmers, shepherds, and butchers looked at her, and were of different opinions whether she would pig or not. At the expiration of three weeks over her time she went "from home" again, and her milk left her. She was too much a matter of curiosity for it to be supposed she ever had any and destroyed them. The irregularity of this case has brought forth the following parallel circumstances: I am informed when a bitch has been to heat, her milk will come at the time she would have had pups. On my pointing out to my shepherd the good condition of a barren ewe, he said he was sure she would have had a lamb, as on turning her up she was full of milk. Similar to this my blacksmith informs he knew of a mare whose milk came every spring after she had once a colt, and on the third year a colt was put to her which she nursed with the greatest fondness. These several cases bear on the same point, and in some measure reconcile me to the profitless freak of my deceitful sow; *A. Z.*

On Rearing of Calves.—On looking over the various discussions during the York meeting, one cannot help being surprised at the variety of methods seemingly in practice in the rearing of calves, as evinced by the fact that each speaker in the discussion on that subject had a method of his own which he thought the better one. Can anything more forcibly show the propriety, nay the necessity, of eliciting the opinions of numbers, than the existence of this diversity—on a subject, too, so vitally interesting, in an economic sense, to the farmer. The practice of the north does not appear to have been even alluded to, that is, of taking the calf away the moment it is dropped, and rearing it entirely by hand. I was, therefore glad to see (page 501) that you had republished the paper by Mr. Wilson, as I think his system the true economic one; and as the calves reared under that method throve and grew quite as well as those to whom their dams are, as I call it, sacrificed, I can but wonder that it is not universal. I do not see that climate or soil can make any difference in the subject. I believe that by the natural system, as it may be called, injury is inflicted upon both cow and calf, for the day of separation must come, and when it does the bellowings of the one and the lowings of the other sufficiently testify the violence done to the domestic affections; and under such circumstances it is inevitable that there should be a falling off; the calf is checked—a great detriment—and the cow falls off very materially in the milk pail. On the other hand, neither cow nor calf are aware of the connexion existing between them; no violence is done to either; the one takes its food from the hand quietly and greedily, and the other yields its treasure to the hand accustomed to it with gratitude for the relief afforded; *E. S.*

Irish Experimental Farming.—One point has been gained in obtaining the offer of a gentleman to superintend an experimental farm on a small scale, and who at the same time speaks so confidently of the advantages to our sister country, by the introduction of spade husbandry. Surely a few English and Irish gentlemen will be found anxious to subscribe 1000*l.* amongst them to be employed in fairly trying the system, which, if found to answer (and I have no doubt of success, if it is judiciously carried out) will be the means of regenerating Ireland. All that is wanting is remunerative labour, bringing in its train better clothing and feeding, contentment and respectability, based on the surest foundation; the certainty of an improved condition by individual exertion, and receiving "a fair day's wages for a fair day's work," and plenty of it. Such a plan would be worth all the coercion bills that ever were invented! Had 4,000,000*l.* of the money sent to Ireland during the late fearful famine been expended in establishing experimental farms on waste lands, there would now be little distress and less agitation. That chance of making the Emerald Isle a new country has passed, and let us hope, under God's blessing, there may never again be a necessity for throwing away so much hard corn to keep the population alive, without having anything useful to show for it. To guard against so dreadful a visitation, we must not be idle and leave the agriculture of Ireland behind England. My duties in days of yore required my presence in our sister country for a long period, and I had many opportunities of studying the character of the people; and I have always been of opinion that the materials to work upon are good; but the peculiarities of Paddy must, to a certain extent, be humoured, and once, by kind treatment, mixed with firmness, gain his attachment and he may be moulded to anything. You may lead where you cannot drive. I, for one, will never believe an Irishman is not as capable of becoming an industrious subject as an Englishman, provided he has the same cheering prospect held out to him of being able to keep himself and family above want by hard toil and regular conduct. Nobody can say he does not make a fine soldier. If a peasant is quiet and amenable to military discipline, the same stuff may be made into an honest labourer. I feel quite satisfied that the pacification of Ireland depends upon a constant supply of profitable employment. I trust gentlemen on both sides of the Channel will respond to my urgent request, that they will, through the *Gardeners' Chronicle*, express their willingness to assist our Irish brethren, by setting on foot, under Mr. Goodiff, of Granard, what may prove an example of the utmost importance to thousands yet unborn. It is worth some effort to save the country from anarchy and confusion. My ten pounds are ready as soon as a subscription list is opened by men who ought to head the list. "Might not the arm of diligence make the tangled wilderness a garden?" *Spade.*

Dale's Hybrid.—This Turnip has invariably been a favourite in Scotland, as its feeding properties are highly valuable and much appreciated there; but in the south, owing to a warmer climate, with less humidity in the months of August and September, and a want of experience in its growth and management, it has become rather unpopular of late. In consequence of sowing it in the month of June and the early part of July, in nine seasons in ten it becomes blighted to a most serious extent, even should the months of August and September be tolerably moist; this is supposed to be caused by a grub, but in numberless cases, with the aid of a strong glass, I have not been able to detect anything of the kind. The plants appear to die off in a manner simultaneous about the latter end of August, in many cases to an immense extent, having the appearance as if a poisonous fluid had been poured over nine-tenths of the plants. This disease appears not to have its origin either in the soil or the kind of manure used, but is simply the effect of drought; 9 or 10 successive hot days are sufficient when the plant has arrived at a certain stage of its growth, and this, I may say, is much too often in the midland and southern counties of England. I have generally observed it preferred by the Turnip fly to any other kind, owing, I suppose, to its superior sweetness, if sown early. But, if sown the first week in the month of August, the case is quite different, not only with the depredations of the fly (which, at this season, has in a great measure ceased its ravages), but as the showers of rain, which at this time prevail, hasten its growth; the quickness of its growth renders it (upon tolerably manured lands) ample time to arrive at a considerable weight per acre, even if sown thus late. I have often recommended this kind of Turnip to be sown in the month of August, with complete success, upon Tare and early Pea stubbles; and, in several cases, upon inferior clays, which have yielded a good crop. I have been repeatedly assured by several flock-masters, that they much prefer the young yellow Turnip, weight for weight, to the first-grown and old Swede; and, in one case, a friend of mine has since repeatedly assured me that, in the spring of 1846, he for the first time fed his tegs with them and Clover-chaff, instead of the usual allowance of cake which they had, along with his Swede, the previous years, and they did quite as well; in this instance they were drawn and covered in upon the land. I have succeeded with this kind for these last three seasons, by sowing them upon stubble after having been scarified so late as the 10th of September; in this case, if they are mixed with Tares, they make a much superior spring feed to Tares alone, for sheep and lambs, both for quality and quantity, as Tares, thus early, are unsafe in many seasons; and the Turnip has this advantage over the Cole-seed, in being hardier in its early growth, as in the frost they remain green if sown thick with Tares and winter Barley. In fact, there is nothing to be compared to this mixture for early feed, as the Italian Rye-grass is not so convertible for succeeding spring crops, as the farmer has the option with this kind of layers whether he sows them, after the sheep-fold, with white corn or root crops; *John Rivers, Sawbridgeworth.*

East Lothian Farming.—"Amicus," has been recently visiting East Lothian and Berwickshire, and wishes to know why Wheat is not sown in the autumn on lea in these counties. I beg to inform him, that in the above mentioned counties, landlords grant leases of 19 and 21 years' duration, as security for money laid out on their estates by their tenants; and as a security that the tenant should not deteriorate the condition or state of the landlord's property, he is generally bound by his lease to observe a certain routine of croppage; if the tenant departs from this routine, he is liable to a fine or damages. The routine or course of croppage most in vogue in East Lothian and Berwickshire, is the 5-shift course; 1st year, Turnips or plain fallow; 2d, Wheat or Barley sown with Clover and Rye-grass; 3d, Clover Hay; 4th, Pasture; and 5th, Oats. "Amicus" will remember that these two counties are in the "Land o' Cakes," where oatmeal is the principal food of the rural population, constituting the morning and evening meals, and which meal, or the Oats the meal is manufactured from, the farmer gives to his yearly married men servants, instead of money, at the rate of 60 bushels of Oats, or 100 stones of oatmeal per married hind per annum. Thus "Amicus" will see the reasons why Oats are sown on lea. Wheat is considered to be a more scourging crop on land than Oats, but according to chemical analysis the Oat crop extracts more organic and inorganic matter per acre than the Wheat; see Prof. Johnston's Lectures, page 928, wherein is stated that an acre of Oats produces more starch, sugar, gluten, fat and saline matter, than an acre of Wheat; also, see page 303 of the same work, wherein is stated that the ash or inorganic matter of the Oat is also more than the Wheat. How to reconcile these practical prevalent ideas with these scientific ones, we wot not. "Amicus" writes "the greater proportion of the Berwickshire and East Lothian Wheat is spring sown;" not so, we would withdraw the words "the greater," and substitute "a great." There has I believe been more spring Wheat sown there this year than is generally the case, because the Turnips were such an abundant crop that the farmers could not get them consumed early. A friend of mine who farms largely, wrote to me, that many would be glad to let sheep come and eat their Turnips on their land for nothing. If "Amicus" wishes for more information, he will find everything explained in Low's "Practical Agriculture" or Stephen's "Book of the Farm"; *A Berwickshire-educated Agriculturist.*

Poultry.—I have read with interest the articles on poultry in recent numbers of the *Gazette*, and I am anxious that your numerous intelligent correspondents in various parts of the country should supply additional information on an interesting and which should be a profitable branch of rural economy. What I think the great majority of poultry keepers are anxious in the first instance to discover is, the best variety of layers, as the production of eggs is in most cases the great consideration. This can only be ascertained by actual experiment, and if three or four of your correspondents would kindly state the results of their experience with different varieties (mentioning from what part of the country they write), much valuable knowledge would no doubt be placed before your readers. Poultry keeping is too much neglected in this country, except in a few districts, and generally speaking, no efforts are made to introduce new varieties; and the consequence is that what should be profitable is decidedly unprofitable, and entails a very serious waste of food. I would advise all who are beginning to keep poultry, to use the utmost care in selecting a really good variety. As far as my experience goes, the "pheasant" breed are the best layers, when well-bred fowls can be obtained, which, however, is seldom the case. In some parts of Cumberland, I understand, there is a very favourite and valuable breed of the pheasant kind, which produces a great quantity of eggs during the year. The "Bolton Greys," so highly spoken of in some works on poultry, I find to be small, and their eggs are consequently diminutive—a serious objection. These fowls are otherwise very beautiful, and seem well adapted for the more northern counties. I hope the suggestion I have ventured to make, with reference to the collection of facts, will be adopted by your correspondents, as I am satisfied that to a vast number of your readers the subject is one of great interest; *W.*

Woollen Rags.—Having used these for a number of years as a manure, I will give a few details of my experience. This year I had a fair crop of early Potatoes from part woollen rags and part stable litter. For hay Grass I have nothing that will produce so good a crop as woollen rags, spread upon the land in January, and raked off in April. I can always depend upon having good crops for three years after, especially upon damp meadow land. A neighbour of mine top-dressed an acre of Oats with woollen rags, the consequence was they were unkind, from 5 to 6 feet high, quite green, and full of sap, and never got properly ripe. These observations are the result of 20 years' experience, as I have been in the habit of using them extensively, being the refuse of the rags used in my paper works; *Robert Slack, Hayfield, Derbyshire.* [What do you pay for such rags; and in what condition do you use them? will you oblige us by saying.]

Hay Barns.—The prejudice that "Eboracensis" speaks of against such buildings need not be feared; they are extensively used in the north of England, having the cattle tied underneath, which not only very considerably economises labour, but also saves a great waste occasioned by stacking. As a proof that we have found hay to "sweat" in such buildings, we need only state that we erected one in 1847, capable of holding 44 head of cattle, with sufficient room above for their hay, on the roof of which we placed two ventilators to allow the steam to escape, instead of condensing, to the detriment both of the building and hay. We found it necessary to take this precaution from the injurious effects produced upon a building, erected about 11 years ago, and are happy to add they have had the desired effect; *I. and J. Gaitskell, Hall Santon, near Whitehaven.*

Cirencester: Wheat.—I began cutting Wheat this morning, which was drilled on the 27th of September, with 1 bushel of seed to the acre, after Peas without manure. Soil, light stone brash; aspect, S. E. *Salt.*—I sowed 4 cwt. of salt to the acre, in March 1847, on three different prices of Wheat, taking an acre out of the middle of each piece, and never could see the least difference in those parts that were salted and those that were not. Neither is there any difference in the present crops. Aspect 1st N. E., 2d S., 3d S. W.; soil, light stone brash. The Potatoes are going off very fast in this neighbourhood; *Joseph Cook Stratton.*

Harvest.—In accordance with Mr. Hewitt Davis's admirable suggestions for collecting information of the crops throughout the kingdom, in the *Agricultural Gazette*, of the 8th inst., I beg to send you the following report of them in the Tintren district, county Wexford. From my own inspection, and as far as the opinion of others enable me to judge, the Wheat crop here is much lighter, and will fall considerably short of last year's produce; Oats, generally bad, and will not bear the hand in many places; Barley, indifferent and short; Beans bad, and Peas as a general crop looking better than any other; and, should it please God to blight the Potato, this year would be by very far the most disastrous affliction in point of food the country has yet experienced. But thank God that esculent never looked better at this season, and I believe never was so. So far as my observation goes, and I am constantly moving through this district, I have neither seen any Potatoes affected or heard any farmer say that his were touched

with the blight as yet; and all are in raptures with the appearance and evidence of their abundance. I am using mine since the 1st of the month; they are the Pink-eyes, large in size, full in flavour, and perfectly dry and abundant in the ground, presenting three characteristics which I hail as good evidence of returned perfection, notwithstanding the blight may still be partially apparent; they are of full flavour, being perfectly dry and free from anything like the transparent and watery state all blighted tubers exhibit; and blossoming stronger, more evenly and better than since it commenced. There appears to me to be conclusive evidence of improved condition and constitution, and also being free from disease, now, 14th July, when those dug this time last year were full of it and had the tops laid prostrate by it; and I trust this year's experience will prove my conclusions are not unfounded; *Adam Loftus Syme, Fethard, Co. Wexford.*

The Dorset Breed of Sheep.—As an instance of the prolific nature of this breed of sheep, I may mention that we have an aged ewe which in 1847 dropped twin lambs, which she reared; they are both expected to drop lambs in the course of next month. On the 2d January this year the same ewe lambed, on 4th May the lamb was taken from her, and on the 4th inst. she gave birth to another very fine lamb, that is six months precisely between the lambs; this is surely a very remarkable case. If this prolific quality could be generally relied upon, what a profitable breed for rearing lamb for the market! These are the only Dorsets we have, the rest of the flock being Downs, the ram also of the same breed, and allowed to run with the flock for the sake of having lamb at various seasons for table; *E. S.*

Foreign Correspondence.

BONN, *July* 7.—I took leave to address you last week from this place, partly to show how your ideas of working oxen and even cows are justified by practice in this country, partly also, to show the advantages possessed by those countries on which small holdings are more common over those countries, as England, in which comparatively they are unknown. I find by your *Gazette* of the 1st inst., since come to hand, that a French writer of acknowledged ability advocates the cause of small farms, and that you acknowledge the force of his arguments; whilst you point to Ireland on one side as showing practically the disadvantages of the system, and to Norfolk and Lincoln on the other as proofs of the advantages of the opposite plan. Now I think a correct examination of the condition of Ireland, and a more sound course of reflection on the causes of that condition, will hardly lead to the deliberate condemnation of small holdings. The small farms of the north under Mr. Blacker afford evidences of their benefit, whilst the "conacre" Potato patches of the south and western portions of Ireland only show how desperately a poor and starving people (driven by centuries of Government in opposition to their wishes and interests) will cling to the smallest spot of land, as their only resource and reliance against positive famine. The immense and highly cultivated farms of Norfolk and England show what may be done by the free exercise of capital, talent, and energy, districts where there is much to contend with; but, in referring to Norfolk, your readers will not forget that one of the farms of that county, with whose owner's name they are most familiar, contains only 52 acres, whilst it rears stock and employs labour that a few years ago might have been deemed adequate to a farm of 200 or 300 acres. It is a question whether the large farms throughout England, Norfolk and Lincoln included, might not now be advantageously divided; whether, allowing space for the enterprize and capital of those numerous candidates for farms, at almost any rent, as they fall in, would not conduce equally to the weal of the country and advantage of the owner and tenant. In France, Belgium, and many parts of Germany, the abolition of primogeniture has caused a great subdivision of land; it is an error however to imagine, as is repeatedly declared, that land is so minutely divided in France; I have often had farms of 200, 300, or 400 acres offered to me, and any one who will take the trouble to cross over to any town in France, on the coast, and read the different "*affiches*" at the doors of the Notaires may easily satisfy himself on that point. In the immediate neighbourhood from which I write, land evidently is greatly divided, but I think the advantages of the system are shown in various ways; rents are fully as high as in the most favoured districts of England, every member of numerous families is actively employed in one way or another on the land; cutting Grass, Clover, Vetches, &c. &c., for the cows, and carrying it home, is the occupation of females of all ages. One wonders how it can pay, but then go into the market any day of the week, and see it, from 8 till 12, crowded with people, vegetables, and fruit to an overflow; contrast this with the meagre supplies found in the towns of England, with its large farms and thousands of acres, mortgaged to the utmost, the nominal property of an individual. What a delightful occupation is yours! engaged in the pursuits of agriculture, devoting part of your time to collecting and disseminating the knowledge which falls under your observation, the study of nature is ever before you; this study must in itself teach you from whence the urgent desire to possess land springs; it must also teach you that the inevitable increase of our population, with that inherent desire planted in the mind of every man, must and will, sooner or later, force on that subdivision of land which circumstances have produced here and elsewhere. What are the allotments one hears of and sees? Tributes to the natural justice of the desire, timidly and evasively conceded. Are they beneficial to the occupants? Then they are so many proofs of the injustice of the laws which confine the possession of land to comparatively few individuals. The lesson afforded by Mr. O'Connor's success, with all its uncertainties, in his "land scheme," shows how strong in the desire to possess land; and whilst I look at the "allotments" I always call in question the faithfulness of our landed proprietors, as "good stewards" and as "philanthropists," "poor men's friends," and whatever other name they chance to assume; who, themselves possessing in their large estates the power of influencing the happiness and welfare of numerous bodies of their fellow creatures, rarely consult that happiness or comfort by stimulating their exertions, or exercising their economy by providing them with cottages and 1, 2, 3, or 4 acres of land, to which, at a certain period of life, they may aspire as a reward for long and continuous rectitude, as if that gap in a man's life between toiling at another man's bidding, for the minimum of wages, and his eternal rest is only to be filled up in a union workhouse, the *summum bonum* of the agricultural labourer's hopes in this world. I see Kohl Rabi in the market here. Those who desire to see the advantages of railroads fairly developed in their effects on agriculture should visit the line between Ostend and this town, and see an early train arrive with its fourth-class carriage, similar to our third, crowded with peasantry and their baskets of fruit, vegetables, eggs, &c. &c. The sordid apprehension of low fares which prevails in our railway management is very detrimental to the small cottager in England. The weather has now, after a good deal of wind and rain, set in fine and hot; whether the crops which had been lain will rise again under its influence will be shortly seen. In walking about the markets I see the most beautiful Potatoes, and no appearance of disease; *A Tourist.*

Reviews.

Gamonia; or the Art of Preserving Game, and an Improved Method of Making Plantations and Covers, explained and illustrated. By Lawrence Rawstorne, Esq. Rudolph Ackermann, 191, Regent-street. 1837.

We have to acknowledge the receipt of this volume, which, though published more than 10 years ago, has only now been sent to us, in order, we presume, to elicit an opinion of its merits. Its subject is more likely to be appreciated by the editors of a sporting review than by those of an agricultural journal; and, certainly, we prefer taking the opportunity afforded us of condemning the object of the work to detailing the method by which the author recommends its attainment.

The object is, "a great head of game," in order to the enjoyment of battues. And in the remarks on covers and on the arrangement and connection of plantations, with a view to the retention of birds, there is a good deal of information—new 10 years ago—of use to the planter as well as to the gamekeeper even now. For the rest, this work has been published in a style which, so far as the printer and binder are concerned, appears to have aimed at its circulation among wealthy readers—landowners and others of the same class as its author—lovers of battues. But the "illustrations" accompanying it, surely, cannot recommend it to this class of readers; the volume is full of what are for the most part gaudy pictures, throwing no light on the text that we can gather, either from the perusal of adjoining pages or from the designations which bad taste and very poor wit have conferred upon many of them.

We do not believe this work—we refer to its advocacy of battues—to be capable now of generally attracting the approbation of landowning readers. We cannot believe that the attempt to recommend a great head of game has been very successful—that the *candid* advocate of battues, who can see no fault in them but that of encouraging, among sportsmen, a spirit of self-glorification on the one side and of jealousy on the other, has carried many readers along with him—or that the game-preserving landowner who recommends a civil demeanour towards tenants merely because of the mischief they may do "in a thousand ways," if they please, has had many admirers. The following passage will explain our meaning: "There is no saying what mischief a spiteful tenant may do by putting his foot into a nest, or otherwise doing harm in a thousand ways. If a farmer even is inclined to be peevish it is better rather to put up with it than retort upon him. Every allowance should be made him for perhaps a just cause of complaint. His fences may have been broken down, his gates left open, and cattle may have injured his crops. His corn may have been devoured by rabbits, his Beans by pheasants. Let it be considered what pains have been taken to raise a fine crop (and when it has been hard work, too, to scrape together a rent) what provocation there often is for serious dissatisfaction and garrulous remonstrance."

Our readers will probably agree with us in thinking that the remonstrances of a farmer whose property is destroyed in the manner here described may be set down to other score than peevish garrulity; and that the allowances to which his just claims extend are other than those which the landlord here expresses himself ready to make *for an exhibition of temper.*

We have not read another work which thoughtlessly recommends more systematic injury to the tenant farmer than the present. Mr. Rawstorne's connected plantations, his objections to *masses* of wood, his recommendation to spread them in comparatively narrow lines over a property, are good; first as enabling the more successful maintenance of a great head of game, that is, as enabling the more perfect destruction of farm produce. And if it be urged that it is competent for the landowner to lay out his estate, and *stock* it as best pleases him, then our remark applies to himself as much as to his tenant; for the advice he takes from "Gamonia" will injure the rental of the property, just in proportion as it damages that of those who cultivate it.

Mr. Rawstorne has since the period of this publication made other adventures in the field of authorship with far more useful influence, we are sure, on his readers. His pamphlet on the agriculture of Leicestershire, calling attention to its more important points, was reviewed some time ago in this journal; and we shall shortly have to call attention to another volume from his pen, lately published, entitled the "New Husbandry." These are performances far more in the spirit of the age, for whatever merit may in some minds have attached to "Gamonia" 10 years ago, assuredly but little praise will greet it in these utilitarian times.

Miscellaneous.

Visit to Mr. Mechi's Farm, Tiptree. On Thursday, the 20th ult., a party of about 70 practical agriculturists, from various parts of the kingdom, assembled at Tiptree Hall farm to examine the crops, &c., and system of management. The whole of the land was under crop excepting four acres from which a crop of winter Barley had just been harvested. Great praise was bestowed on the roots, the Grasses and the Beans. The white Peas, although estimated at four quarters per acre, were not considered clean enough. The wheats (about 42 acres) were approved of generally, except where taken after Beans without manure, which they ought to have had, the portion on the old bog or swamp, sown with five pecks per acre, was very heavy, and estimated at from six to seven quarters per acre; the difference between the land and that sown was hardly perceptible. Some allowances were made for Wheat being taken every other year, and for the wet spring and wire-worm. The whole crop of Wheat was estimated to average about 32 bushels per acre. The general management of the stock and manure was entirely approved of, particularly the cutting up of green food for sheep on boards and carts in boxes, giving it with Linseed Barley-meal &c. The breed and condition of the pigs (about 150 in number) were much praised. The application of steam power to grinding, pumping, threshing dressing, crushing, chaff-cutting, and sawing, attracted attention and approbation. After devoting several hours to the foregoing examination the company sat down to a luncheon in the long straw gallery. Mr Mechi presided, supported by Professor Way; Mr. Robert Baker, of Wrotte, occupied the vice-chair, having Dr. Gilbert on his left. Mrs. Mechi and a few female friends devoted their personal attention to the comfort of their visitors. After loyal healths of Her Majesty, of Prince Albert, and the rest of the Royal family, were proposed and drunk with unmistakable applause.—Mr. Mechi then rose and said how much he felt gratified at seeing under his roof so large an assemblage of men distinguished for their talent in practical agriculture. His object in assembling these annual gatherings was not to gratify his personal vanity, but to stimulate the great and important national question of agricultural improvement; to show whether the investment of capital in agricultural improvement was profitable or not. He appealed to the company present to say whether the crops they had seen that day could be otherwise than profitable. It was evident he could farm at less expense, and with a more beneficial return, than where the land was encumbered with huge fences, trees, small and badly shaped fields; than where the liquid manure was wasted, waggons used and bad accommodation for stock. He suffered nearly from the established customs of ploughing five times for a Turnip crop: all his roots were grown on a single ploughing and Crosskilling the manure being taken direct from the animal, without being washed, drawn and mangled. He considered there was a great deal too much cultivation before the seed was put in, and a great neglect of the after cultivation. The hoe and hand hoe should be continually at work the growing roots until there was no room for them. There was too much disturbance of the top soil and too little of the subsoil, which, when once brought up, would show its good effects for many years. He knew of a field, or corner of which, from a cottage garden for more than 70 years, but yet that portion always grew a superior crop, and most likely would for many years to come. Although much improvement was taking place in agriculture, it was a trifle compared with the general bad farming of the kingdom. It was obvious that there was not capital enough employed in agriculture—it was not sufficiently concentrated. It was important that we should attract towards agriculture the surplus capital of trade, manufactures, and commerce, and that the sons of persons so employed should attain the practical and scientific knowledge of farming. He concluded by proposing "the health of Mr. William Hutley," who furnished a fine example of the practical and liberal expenditure in agriculture.—Mr. Hutley, in returning thanks, assured Mr. Mechi for allowing weeds to grow in his Peas. Apron-string farmers were not wanted in agriculture: there was plenty of capital amongst farmers, but the rents were so high that they would not venture to take land. He advocated the employment of abundance of labour, and paying the men fairly for a day's work.—The Chairman proposed "the health of Professor Way and Dr. Gilbert," expressing the obligation he felt to those gentlemen for their scientific researches applicable to an increased profit in agriculture.—Those gentlemen returned thanks modestly observing that it was only by the practical aid of farmers themselves that their theories could be fully developed and applied for the benefit of mankind. The Chairman next proposed "the health of the Vice-Chairman," observing jocosely in allusion to the shortening of the tables that they were approximating in their views of agriculture.—Mr. Baker, who was received with cordial applause, said that although his friend Mechi and himself appeared to differ, there really was not much difference of opinion between them. Mr. Mechi rode his hobby so very hard, that unless they pulled him up a little he would leave them behind altogether. He, for one, felt very much indebted to Mr. Mechi for his exertions in the cause of agriculture. Farmers might have protested against trees for ever, and yet not been attended to. But a city gentleman's remarks and censures had been duly received by the landed interest, and caused the removal of a vast number of unprofitable hedges and trees. Whilst he admired science he protested against the impression that farmers were not already scientific. Look at the geological deductions applied to the improvement of soils. The admixture of chalk and heavy clays, or lime, of marls to light lands, and so on. He had himself effected considerable improvements in his farm by throwing down fences, enlarging fields, &c.—Dr. Henry Dixon made a long and humorous speech, in which he touched upon Mr. Mechi's ardent temperament, his "pencil-case" drain tiles, deep drainage, hospitality, &c., which terminated in a long and animated discussion on deep and shallow drainage, and on the effects produced by the draining on Mr. Hutley's farm done at Mr. Mechi's cost. At 6 o'clock the meeting broke up, the general impression being that much practical good had resulted from the interchange of facts and ideas.—*Essex Standard.*

Agricultural Statistics of Ireland.—The following is a Parliamentary return of the extent of land in Ireland under various crops, and of the estimated produce for the year 1847. The particulars were collected by the county constabulary, and it forms, we believe, the first return of the kind ever laid before the legislature :

Extent of Land under crops, 1847.	Leinster.	Munster	Ulster.	Connaught.	Total.
Wheat ...acres	277,147	317,567	88,206	60,951	743,871
Oats .....do.	564,710	884,179	957,317	294,663	2,200,870
Barley .....do.	98,555	106,116	41,718	37,198	283,587
Bere .....do.	23,899	11,315	11,049	2,855	49,068
Rye.....do.	3,411	2,086	4,456	2,482	12,415
Beans.....do.	7,866	1,779	13,755	334	23,768
Potatoes ...do.	68,141	99,572	87,180	29,417	284,116
Turnips.....do.	109,857	114,833	107,291	38,393	370,344
M. Wurzel...do.	5,698	5,306	1,894	868	13,766
Other green crops .....do.	22,035	11,363	20,260	5,854	59,512
Flax .....do.	1,644	1,156	53,701	1,811	48,312
Meadow and Clover.....do.	451,339	315,848	268,119	108,610	1,138,946
Quantity of Produce, 1847.					
Wheat .....qrs.	1,139,458	1,199,259	357,736	231,280	2,926,733
Oats ..... do.	3,069,076	2,011,281	4,945,092	1,496,158	11,521,106
Barley .....do.	495,091	800,074	194,422	189,442	1,379,029
Bere .....do.	136,956	61,000	69,414	15,646	274,016
Rye.....do.	18,512	9,564	22,525	12,493	63,094
Beans.....do	28,333	6,139	48,853	1,131	84,456
Potatoes brls.	4,019,995	4,455,674	5,141,126	1,768,764	16,385,562
Turnips ...tons	1,660,890	1,772,859	1,768,973	557,804	5,760,616
M. Wurzel...do.	107,942	91,792	33,421	14,114	247,269
Other green crops..... do.	285,092	182,396	239,254	72,328	729,064
Flax .....do.	493	347	16,110	543	17,493
Hay.....do.	862,482	632,125	489,737	205,973	2,190,317
Area in st. acres	4,876,211	6,064,579	5,475,485	4,392,043	20,808,271
Poor-law valuation .....£	4,624,542	3,777,103	3,320,133	1,465,643	13,187,421
Population in 1841	1,973,731	2,396,161	2,386,373	1,418,859	8,175,124

Calendar of Operations.

AUGUST.

BERWICKSHIRE MERSE FARM, *Aug.* 11.—Since our last report we have been employed in harrowing and rolling the fallow land to make it ready for gathering the weeds out of it, ploughing Turnips, and threshing Wheat for the market. One pair at the coals. The workers have been employed at threshing, drawing the straw for thatch-thinning, and hoeing Turnips. One man cutting wood, making stakes, putting up paling ; *J. B.*

DORSET FARM, *Aug.* 15.—For the past two weeks we have still been hoeing our root crops, and ploughing a piece of old pasture, on which we are sowing Rape, to be fed off before we put in Wheat. Harvest operations are going on very slowly, the weather being still unfavourable, and there is still a good deal of hay out, which will not be worth much. In some cases the corn is beginning to break in stook, and some of it that is not cut is sprouting in ear. We have been drawing bricks to water-works in meadows, some of which are undergoing alterations. We are taking up our Potatoes, as they are not likely to get better, and we have them about half rotten, or only partly fit for pigs, and the crop promised at one time to be good. We have been cutting Wheat, and have now begun the Barley ; we have all our corn tied and put in stook as soon as cut ; *G. S.*

EAST SUFFOLK FARM, *Aug.* 12.—The weather during the last two weeks has been of the same character as during the past spring and summer—very stormy and tempestuous. Harvest work has therefore been at times very much interrupted and retarded, although no material injury has been done to the crops beyond the straw being discoloured. The employ of the workmen has been of a variable description for harvest time. During the past fortnight men have been employed in mowing and binding Wheat, carting and stacking ditto. The whole is cut and about three-fourths carted and stacked. Barley will not be fit to cut for another week. Filling and carting manure from yards, turning manure, ploughing, harrowing, scarifying, &c. ; *A. G. W.*

GALLOWAY FARM, *Aug.* 14.—Finished cutting the autumn-sown Wheat on the 12th inst. With fine dry clear weather, we are now busy carting it, and shall continue to do so if the weather suits till it is all in. Commenced cutting Oats to-day. Reapers' wages 2*s.* a day without meat ; *J. R.* [Will our other correspondents be kind enough to state the wages in *their* neighbourhoods also ?]

MID LOTHIAN, *August* 15.—The weather continues highly favourable for the rapid maturing of the grain crops, which we are happy to state are in every respect most satisfactory, for not only are the general crops above an average in point of bulk, but the quality of the whole, we feel assured, has very seldom been equalled. The Oat and Barley crops are heavy and well plenished, the plump grains and fine skin of both evidencing their high malting and mealing properties. The Wheat, although thinner on the ground than we at one period expected, will yield a full average crop throughout the three Lothians. We make this statement advisedly, having had ample opportunities during last week for a full examination of these districts. The Potato still exhibits health and vigour, and as the lifting of the crop for present use is in progress, and as the much talked-of disease is not to be discovered either in the field or market, we feel still more confidence in our former ideas, that at least the crops in our Wheat districts are in no great danger of annihilation—the crops turns out good and the quality is excellent. The Turnip is healthy and vigorous, and rapidly making up for the slowness of its early growth, and we have full hope that that most valuable root will equal in productiveness the produce of former years. The pastures are still very productive, and although the verdant green we lately noticed has given way to the warm and dry weather we are now favoured with, still there is a superabundance of fattening herbage for their numerous flocks and herds. The important operations of harvest have now commenced in earnest, and many of our neighbours have large bands of reapers at work. Partial fields and patches of Wheat and Barley were cut last week, but now the process is more general, and by next Monday the harvest of the Lothian Wheat districts will be general, and, before the end of this month, we believe all the heavy part of the work will be completed. Field labourers are abundant and wages moderate.

NORTH NORFOLK, *Aug.* 15.—The last three days have been very stormy, with heavy rains ; two-thirds of the Wheat is still abroad, and what has been carted is unfit for present use. The crop of Wheat is under an average ; quality good. Barley below an average, the sample not fine ; little or none is yet cut. The Potatoes are very bad, the disease much increased the last week, in the gardens. On first observing the haulm affected, we had it pulled up, but the Potatoes are equally bad as when the tops were left ; *J. S.*

SOUTH DEVON FARM, *Aug.* 14.—We commenced cutting our Wheat on the 8th inst., and the crop, considering the unfavourable season which we have experienced, is a very fine one. Our price per acre for cutting is 7*s.* (this includes the cutting, binding, and setting up), and 6 quarts of cider. We also commenced on our Oats on the 12th inst., with every prospect of a very heavy share, but the straw is not quite so long as last year. The weather since last report has been very unfavourable for the harvest and other farming operations, from the heavy showers of rain which have fallen. Our green crops are growing well, but would derive great benefit from a little constant sunshine. When not engaged in the harvest field we have been busy hoeing our common Turnips ; *T. M.*

SUSSEX FARM, *Aug.* 14.—The weather at present is very unfavourable for the harvest operations. We commenced to mow Peas on the 7th, and finished on the 12th ; the crop is good. We also commenced to reap Wheat on the 11th, but the weather prevents us at present from getting on with it. We shall begin to cut Oats about the middle of this week, if the weather allows. The teams will be engaged in scarifying and ploughing Tare land intended for Wheat, horse-hoeing Turnips, carting fuel to burn lime, driving tiles, and drawing trees to saw-mill. Men mostly engaged with the harvest, but when too wet, repairing roads, cutting and cleaning hedges, and turning lime and mould. Women hoeing Turnips ; *J. B.*

Notices to Correspondents.

BEANS : *A S.* They are not a green crop. They are generally specified in agreements as a pulse crop. They are a fallow crop, and are generally allowed a place in rotations corresponding to that of green crops.

BUTTER MAKING : Would Mr. Beck be so good as to detail his method for publication in the *Gazette* ?

CHICKEN HATCHING : *W M F* will no doubt proceed with his revelations respecting the Cantelonian hydro-incubator, and the "philanthropic" plans of its inventor, and thus to make the only *amende honorable* to the readers of and contributors to the *Gazette*, who must be mortified to see the influence of this journal thus employed. No number of advertisements in the name of the inventor would have led the public so far astray as these articles. "A Constant Reader" suggests that the poultry-rearing readers of the *Gazette* furnish reports of their success or failure (by the common method of course) during the present year, specifying the month in which the clutches were hatched, and mentioning the nature of the locality and arrangements, where convenient. By way of setting an example, he confesses, during the months of July and August, to have only *reared* 14 chickens out of 55 eggs ; many of which, however, were rare and brought from a distance. Instead of "18," as asserted by the Cantelonian system, he believes only four or five hatchings could be reared profitably in the year. "To my certain knowledge," says "W. M. F." (August 1st, 1848), "Mr. Cantelo did not rear a single chicken all last winter, from the end of November to the month of March." "On this bitter cold day" (the 25th January, 1848), says the same contributor, "W. M. F." in an article dated next day (January 26th), "there we saw young broods nestling their little half-fledged backs up against the warm pipes, and hiding themselves behind the flaps of baize. There was a fine brood of ducks some weeks old, fat and thriving, and hundreds and hundreds of cocks and hens, &c." All these "little half-fledged backs," therefore, were soon cold in death, if "none were reared," but why was not the fact stated in the articles of the same contributor in the *Gazette* of March 11th and July 1st, signed "W. J. Cantelo," for "W. M. F." says he wrote these articles so signed ? Therein it is stated, "I can produce 18 broods a year, &c.," and he goes on calculating his profits on these "18 broods"—"75 chickens out of 100 eggs," "thousands at a batch" (!) Our correspondent thinks that all the surviving geese which might be hatched in December or July out of a 1500*l.* 56-tray incubator, would hiss out the Scottish slogan "Send back the money."

FARM BUILDINGS : *R S* may correspond with the Rev. J. G. Cooke, Temer Rectory, Hadleigh, Suffolk.

GUINEA FOWL : *E D W* will find their treatment fully discussed at page 627, vol. 1847.

HEIFERS ; *R P.* It is a bad practice for the calf to remain constantly with the cow. As regards your question, six weeks is a common period, but this varies much. *W. C. S.*

LIME : *Query* may use it to his Wheat crop if, in other respects, its application is desirable. The guano, superphosphate, &c., used six months ago will in no manner be affected by it.

MR. SWETE'S PIGGERIES : *Mr. Fisher* was informed (July 1) that the references were published in the number "next" to that in which the plans appeared.

OATS : *Juba.* They appear to be killed by rust and mildew, to which the late sowing, a bad season since, and the imperfect vitality consequent on them, has made them easy victims.

ON SOILING COWS : *D. Mackie.* The obvious advantage is the saving of food. The act of depasturing cattle has been with some justice called a barbarism. There is a good chapter on Stall-feeding in "Hillyard's Practical Farming and Grazing."

POULTRY : *Inquisitor.* It is very difficult to answer questions about Poultry, unless it is stated whether they are kept in towns and restricted runs, or at large in the country. In the former case their maladies are of protean variety. The combs of fowls often turn dark and livid when they are moulting, or when hens have been exhausted by long continued incubation or excessive laying ; the remedy for this is generous diet. As the combs of your fowls do not appear to be sore or to discharge, the malady is probably not serious. New Wheat rapidly improves fowls that are out of condition. The cow cannot be a very bad one. As to keeping her—in private families it is often the case with cows as with servants, the oftener you change them the worse you are suited. *D.*

TANE : *Hill-side.* Your roofs, equal in surface to 1676 feet, may cover a surface of 1200 square feet, and if the rain in your part be 30 inches per annum, a tank for a year's supply must hold 3000 cubic ft. (or between 18,000 and 19,000 galls.). To do this it must be 6 ft. deep and 500 square feet in surface, *i. e.*, either 25 feet long and 20 feet wide, or, if circular, about 25 feet in diameter. But probably you do not wish to retain a year's fall of water. In that case you must make one so as to hold 100 cubic feet for every inch of rain that falls.

WAGES : *F B H.* About 18*s.* per week should procure you the services of a competent man and his wife. Try the *Mark Lane Express*, or *Bell's Weekly Messenger* as well.

WHEAT : *Fermoy.* The delay was unavoidable ; the sample did reach our hands till too late for last week.

WHITE MUSTARD : *An old Sub.* Sow a peck per acre broadcast now on land in fine tilth. It will be ready for folding over in eight or ten weeks. It will no doubt be better to sow at different periods, so that it may come in succession for the sheep.

WILL ACCESS TO SALT INJURE A MILCH COW ? *M.* Certainly not. *W. C. S.*

Markets.

HOPS, FRIDAY, Aug. 18.

MESSRS. PATTENDEN and SMITH report that the mould continues to increase in Mid and East Kent. Duty is thought by many to be overrated at 150,000*l.*

Mid. & East Kents, p. cwt.	60s to 80s	Yearling Kents, p. cwt. ..	33s to 44s
Weald of Kents	47 — 56	Yearling Sussex	35 — 42
Sussex	46 — 84	Old Hops	20 — 35
Farnhams	80 — 100		

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Aug. 17.

Prime Mead. Hay	70s to 75s	New Hay ..	45s to 65s	Straw ..	25s to 30s
Inferior ditto ..	60 65	Clover	85 100		
Rowen	50 55	New Clover ..	70 90		
		A very bad trade.		J. COOPER.	

CUMBERLAND MARKET, Aug. 17.

Prime Mead. Hay	70s to 76s	Old Clover ..	92s to 96s	Straw ..	28s to 32s
Inferior	50 63	Inferior ..	75 86		
New Hay ..	50 65	New Clover ..	50 78	JOSHUA BAKER.	

WHITECHAPEL, Aug. 17.

Fine Old Hay ..	70s to 73s	Old Clover ..	95s to 105s	Straw ..	24s to 28s
Inferior Hay ..	— —	Inferior	— —		
New Hay.. ..	50 63	New Clover ..	60 80		

COVENT GARDEN, Aug. 19.

The market is well supplied with Vegetables and most kinds of Fruit. English Pine-apples are plentiful ; foreign ones are less abundant. Hothouse Grapes, Peaches, and Nectarines are plentiful. Melons are sufficient for the demand. Cherries, except Morellos, are over. Plums are offered at from 6*s.* to 9*s.* per half sieve. Large importations of Plums and Pears have arrived from the Continent during the week. Currants are dearer. Apricots may be obtained at last week's prices. Nuts are sufficient for the demand. Oranges are abundant : Lemons moderately plentiful. Among Vegetables, Carrots and Turnips are abundant and good ; Cauliflowers, &c., sufficient for the demand. Asparagus is all but over. French Beans very plentiful. Potatoes the same, but diseased. Peas are a little dearer. Lettuces and other salading are sufficient for the demand. Mushrooms are plentiful. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Fuchsias, Carnations, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 4*s.* to 6*s*
Grapes, hothouse, per lb. 1*s* 6*d* to 4*s*
Peaches, per doz., 6*s* to 15*s*
Nectarines, per doz., 6*s* to 15*s*
Melons, each, 2*s* to 5*s*
Plums, per punnet, 1*s* 6*d* to 2*s* 6*d*
Apricots, per doz., 2*s* to 4*s*
Cherries, per lb., 6*d* to 3*s*
Apples, dessert, per bush., 4*s* to 7*s*
— kitchen, p. bush., 3*s* to 5*s*
Currants, per half sieve, 4*s* to 6*s*
Raspberries, per punnet, 6*d* to 9*d*
Oranges, per doz., 1*s* to 2*s* 6*d*
Oranges, per 100, 8*s* to 20*s*
— bitter, per 100, 8*s* to 16*s*
Lemons, per doz., 1*s* to 2*s*
— per 100, 3*s* to 20*s*
Almonds, per peck, 6*s*
— sweet, per lb., 2*s* to 3*s*
Walnuts, per bush., 12*s* to 20*s*
Nuts, Barcelona, per bush., 20*s* to 22*s*
— Filberts, per 100 lbs., 14*s* to 20*s*
— Cob, per 100 lbs., 25*s* to 30*s*
— Brazil, per bush., 12*s* to 16*s*
Chestnuts, per peck, 3*s* to 6*s*

VEGETABLES.

Cabbages, per doz., 6*d* to 1*s*
Cauliflowers, per doz., 1*s* to 4*s*
Sorrel, per half sieve, 6*d* to 9*d*
Potatoes, per ton, 60*s* to 100*s*
— per cwt., 3*s* 6*d* to 6*s*
— per bush., 1*s* 6*d* to 3*s*
Turnips, p. bunch., 4*d* to 6*d*
Red Beet, per doz., 6*d* to 1*s*
Horse Radish, per bundle, 1*s* to 6*s*
French Beans, per half sieve, 1*s* to 2*s*
Cucumbers, each, 2*d* to 8*d*
Leeks, per bunch, 1*d* to 2*d*
Celery, per bundle, 1*s* to 1*s* 6*d*
Carrots, per bunch, 3*d* to 6*d*
Spinach, per sieve, 1*s* to 2*s*
Peas, per sieve, 3*s* to 5*s*
Beans, per bushel, 2*s* to 2*s* 6*d*
Marjoram, per bunch, 6*d* to 9*d*
Onions, per bunch, 3*d* to 6*d*
— Spanish, per doz., 1*s* to 4*s*
Onions, pickling, per half sieve, 2*s* to 3*s*
Tomatoes, per punnet, 1*s* to 1*s* 6*d*
Shallots, per bunch, 3*d* to 4*d*
Garlic, per lb., 3*d* to 1*s*
Radishes, per doz. bands, 6*d* to 1*s*
— Turnip, do., 9*d* to 1*s*
Artichokes, per doz., 1*s* 6*d* to 3*s*
Vegetable Marrow, per doz , 6*d* to 1*s*
Lettuce, Cab., per score, 4*d* to 1*s*
— Cos, do., 9*d* to 1*s* 3*d*
Mushrooms, per pottle, 1*s* to 1*s* 6*d*
— per bushel, 4*s* to 6*s*
Small Salads, per punnet, 2*d* to 3*d*
Fennel, per bunch, 2*d* to 3*d*
Savory, per bunch, 3*d* to 4*d*
Thyme, per bunch, 3*d* to 4*d*
Watercress, p. 12 small bun., 6*d* to 9*d*
Parsley, per half sieve, 6*d* to 9*d*
— Roots, per bundle, 1*s* to 1*s* 6*d*
Mint, green, per bunch, 2*d* to 4*d*

SMITHFIELD, MONDAY, Aug. 14.

We are but scantily supplied with good Beasts ; they are consequently rather dearer. The very wet day causes a dull trade for middling qualities, but almost everything is sold at fair rates. We have a pretty good supply of Sheep and Lambs ; for the latter there is scarcely any demand, and are worth no more per lb. than Sheep. Calves are lower, owing to a large foreign supply. From Holland and Germany there are 463 Beasts, 2480 Sheep, and 132 Calves ; from Scotland, 200 Beasts.

Per stone of 8 lbs.—	s	d	s	d
Best Scots, Herefords, &c.	4	0 to 4	4	
Best Short Horns	3	10 — 4	2	
Second quality Beasts ..	3	0 — 3	6	
Calves	3	4 — 4	4	
Best Downs & Half-breds	....			
Ditto Short	4	8 — 5	0	

Per stone of 8 lbs.—	s	d	s	d
Best Long Wools	....			
Ditto Short	4	4 — 4	6	
Ewes and second quality	....			
Ditto Short..	3	6 — 4	2	
Lambs.....	4	4 — 5	0	
Pigs	4	0 — 5	0	

Beasts—3196. Sheep and Lambs—26,740. Calves—333. Pigs—290.

FRIDAY, Aug. 18.

The supply of Beasts to-day is large and the demand limited, except for the very choicest descriptions ; nor do these sell so readily as on Monday last. The average of business done must be quoted 2*d.* per 8 lbs. lower, although some of the most selling Scots, &c, have reached 4*s.* 4*d.* The number of Sheep is smaller than of late—quite adequate, however, to the demand, trade being exceedingly dull ; prices are about the same as on Monday last for best qualities, but rather lower for ewes and second rates, and a clearance is with difficulty effected. Lamb is unsaleable at late rates. There is again a large supply of foreign Calves, which causes a slow trade, at a reduction of about 2*d.* per 8 lbs. From Holland and Germany we have 153 Beasts, 1090 Sheep, and 303 Calves ; from Spain, 92 Beasts, from France 43, from Scotland 200 ; and about 120 Milch Cows from the home counties.

Best Scots, Herefords, &c.	4	0 to 4	2	Best Long Wools.....	....
Best Short Horns	3	8 — 4	0	Ditto Short	4 4 — 4 6
Second quality Beasts ..	2	10 — 3	4	Ewes and second quality	....
Calves	3	4 — 4	2	Ditto Short	3 4 — 4 0
Best Downs & Half-breds	....			Lambs.....	4 4 — 5 0
Ditto Short	4	8 — 5	0	Pigs	4 0 — 5 0

Beasts—1136. Sheep and Lambs—10,100. Calves—547. Pigs—300.

MARK LANE, MONDAY, Aug. 14.

MESSRS. KINGSFORD and LAY report that there was a moderate supply of English Wheat fresh up for this morning's market, of which about 600 qrs. were new, quality variable. The weather having been very wet since yesterday afternoon, factors commenced by asking an advance of 4*s.* to 5*s.* per qr., but no progress could be made with sales until one of the stands had been cleared at fully 3*s.* per qr. over last week's rates to hold over, when the remainder was taken by the millers on about the same terms. Foreign, free, bonded, and floating, is held 2*s* per qr. higher, and where sales were made this advance was established, but the trade was limited and devoid of animation.—Barley must be noted 1*s.* per qr. dearer ; as also Beans.—Our quotations for English Peas are fully maintained. We raise those of foreign 2*s.* per qr., but a fair sale at fully last Monday's prices.—The top price of Flour is advanced to 50*s.* per sack.—Rye meal finds buyers at 7*l.* per ton.

BRITISH PER IMPERIAL QUARTER.	*s*	*s*		*s*	*s*
Wheat, Essex, Kent, and Suffolk .....White	55	58	Red.....	46	53
Norfolk, Lincolnshire, and Yorkshire	48	53	White ..	50	56
Barley, Malting and distilling, 27*s* to 30*s* Chevalier	30	34	Grinding	24	27
Oats, Lincolnshire and Yorkshire.....Polands	22	25	Feed	20	23
Northumberland and Scotch .....Feed	21	23	Potato ..	22	25
Irish .....Feed	19	22	Potato ..	22	24
Malt, pale, ship.....	—	—			
Hertford and Essex	—	—			
Rye.....	27	30			
Beans, Mazagan, old and new ..27*s* to 30*s*....Tick..	30	33	Harrow..	32	35
Pigeon, Heligoland 34	36	....Winds —		Longpod	— —
Peas, White.....33	40	....Maple	35	37	Grey	33	35

FRIDAY, Aug. 18.

We have been moderately supplied with English Corn during the week, but the arrivals from abroad are large. There was a good attendance at market this morning, and Monday's prices were fully supported for English Wheat. Bonded and floating cargoes were inquired after for Ireland and the west of England, and in some instances brought a slight advance.—Barley is a free sale at our quotations.—Beans are unaltered in value.—Peas the turn dearer. —Oats are held for an advance, which is with difficulty obtained.—Indian Corn finds buyers at 35*s.* to 37*s.* per qr. afloat.

[Harvest since this day se'nnight has been greatly protracted throughout the south of England and Ireland by rainy weather, from which the crops are reported to have suffered considerably ; in the north and east it has been dry, but cold, gloomy, and ungenial for their maturing ; prices in the country markets have in consequence, and also owing to the state of the Potatoes, which no longer leaves a doubt that the loss in this very material description of food promises to prove serious, advanced 2*s.* to 4*s.* per qr. upon Wheat, whilst spring corn has also an upward tendency ; accounts have reached us that Barley and Beans in some places are similarly affected as the Potatoes. Dantzic letters of the 11th inform us that considerable purchases of Wheat had been made there during the week, but that business for a time was likely to be soon suspended for want of stocks and supplies ; 48*s*, f. o. b, had been paid for fine Wheat, and the new crop was spoken of as being very fine. Odessa, 3*d* August—The sales of the week have been about 58,000 qrs., chiefly for export, and prices had reached 32*s.*, f. o. b. In Holland and Belgium no change of moment had occurred. New York prices on the 1st inst. were maintained for Flour, and the stock did not exceed 30,000 barrels. On Wednesday a considerable business was transacted, particularly in foreign Wheat, f. o. b., and floating cargoes, and would have been more extensive had the sellers not been exorbitant in their demands.]

IMPERIAL AVERAGES.	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
July 8	48s 10d	30s 1d	20s 8d	31s 0d	36s 8d	37s 4d
— 15	49 1	29 0	20 9	31 0	36 6	37 3
— 22	49 11	30 2	20 3	33 3	35 11	36 3
— 29	49 11	29 5	20 7	30 2	35 9	36 1
Aug. 5	48 5	29 11	21 0	29 4	35 3	34 8
— 12	50 11	30 1	21 8	29 7	36 0	35 2
Aggregate Average	49 2	29 9	20 10	29 11	36 0	36 1
Duties on Foreign Grain	8 0	3 0	2 6	3 0	3 0	3 0

Fluctuations in the last six weeks' Corn Averages.

Price.	July 8.	July 15.	July 22.	July 29.	Aug. 5.	Aug. 12.
50s 11*d*	...	...	...	...	...	...
49 5	...	...	...	...	...	...
49 1	...	...	...	...	...	...
48 11	...	...	...	...	...	...
48 10	...	...	...	...	...	...
47 11	...	...	...	...	...	...

SEEDS, Aug. 14.

Canary.....per qr.	70s to 78s	Linseed-cakes, Foreign, p. ton, 7*l* to 9*l*	
Caraway .....per cwt.	27 29	Mustard, White, p. bush., 7*s* 0*d* to 9*s* 0*d*	
Clover, Red, English	35 44	Superfine, p. bush.,	— —
— Foreign	35 40	Brown, per bush.,	— —
White, English	38 44	Rapeseed, Eng., per last.....26*l*	28*l*
— Foreign	38 42	Rape-cakes .....per ton	4*l* 15*s* —
Coriander.....	10 20	Sainfoin	— —
Hempseed .....per qr.	40 44	Tares, Eng., winter, p. bsh., 5*s* 0	7*s* 0
Linseed.....	36 40	Foreign, per bush., 3*s* 0	4*s* 0
— Baltic.....	32 36	Trefoil 17*s* 0	20*s*
— Cakes, Eng. p. 1000, 11*l* 15*s* to 12*l*		Turnip—too variable for quotation.	

Sales by Auction.

ORCHIDS FROM MEXICO.

MR. J. C. STEVENS will sell by Auction, at his Great Room, 38, King-street, Covent-garden, on Thursday next, 24th August, at 12 for 1 o'clock, a small importation of ORCHIDS just received from Mexico, in good condition, and comprising many varieties of Oncidium, Epidendrum, Acropera, Stanhopea, Lælias, &c.; also an extensive Herbarium, and several parcels of dried plants from various localities.—May be viewed on Wednesday and morning of sale, and Catalogues had.

EXTENSIVE SALE OF CHOICE SHRUBS, FRUIT TREES, FOREST TREES, &c

AT THE UNION ROAD NURSERY, PLYMOUTH.

MESSRS. SKARDON AND SON beg to inform the Nobility, Gentry, and the Nursery Trade that they are commissioned to offer for unreserved sale, the undermentioned portions of the Stock of Messrs. WILLIAM E. RENDLE and Co., occupying nearly 2 acres of ground, required to be cleared for the Works of the SOUTH DEVON RAILWAY, for sale whereof A PUBLIC AUCTION will be held on the ground, forming part of the Union Nursery, on Tuesday, Sept. 12, and following days, commencing at 12 o'clock each day.

The present is a rare and valuable opportunity that seldom occurs to purchasers of Nursery Stock. The whole is in excellent health and condition, and will be sold without reserve. A sufficient time, to be specified at the sale, will be allowed for the removal of the Lots. The Valuable Stock comprises about the following quantities. 2000 fine Evergreen Oaks, in pots. 1000 fine Araucarias and Cedrus Deodaras, in pots. 1000 other choice sorts of Coniferæ, in pots. 5000 Common Laurels, in fine condition. 600 Large handsome Portugal Laurels. 300 Pinus Austriaca, in pots. 6,000 other choice and valuable Shrubs, most of which are in pots, comprising Arbutus, Laurestinus, Cypress, Arbor-vitæ, Cedars, Berberis aquifolia, Phillyreas, Pyracantha, Thorns, Alaternus, Euonymus, Althæa frutex, Junipers, Irish and English Yews, Aucuba japonica, variegated Hollies, Bays, &c. &c. 100 large handsome Cedars of Lebanon, in pots. 1000 finest named Roses. 1,000 yards of the finest Box-edging. 2000 of the choicest kinds of Apples, Pears, Plums, and Cherries, including Dwarfs and Standards. 500 of the choicest kinds of Peaches and Nectarines, including Dwarfs and Standards. 1200 choicest named Gooseberries and Currants. 3000 fine Fastolff and other Raspberries. 20,000 fine transplanted Thorns. 10,000 fine Cornish and other Elms. 20 to 30,000 of other Forest Trees, comprising English and Turkey Oaks, Horse Chestnuts, Evergreen Privet, Birch, and Green Hollies. 20,000 roots of Sea Kale and Asparagus. With various other Shrubs, Fruit Trees, and Forest Trees, usually comprised in a Nurseryman's Stock.

The Stock can be seen on application at the Nursery, at any time before the Sale. Catalogues will be ready in a few days, and will be forwarded on application to Messrs. SKARDON and SON, Auctioneers, Plymouth; or Messrs. WILLIAM E. RENDLE and Co., Union-road, Plymouth.

*** The business of the Establishment will be carried on as usual.

NURSERY STOCK AND BUSINESS FOR SALE AT NORWICH.

THE NURSERY STOCK and good-will of the Business which belonged to the late Mr. JAMES GRIGOR, Nurseryman, Newmarket-road, Norwich, is for sale by private contract. The Stock consists of an assortment of very fine seedling and transplanted Forest Trees, Shrubs, Fruit Trees, and other hardy plants. In the event of no suitable offer being made, the plants will be disposed of by Public Auction, and afterwards advertised, meantime tenders or offers for the whole stock will be received by HENRY FRANCIS, Esq., Norfolk Registry, Surrey-street, Norwich, to whom any application may be made for further particulars, as also to Mr. J. CAVILL, 7, Gray's-inn-place, Holborn, London.

TO BE LET ON LEASE, AN ARABLE FARM, within 4 miles of Harwich, in the county of Essex.

THE RAY-ISLAND FARM, in the parish of Ramsey, consisting of 188 acres of Arable and Pasture Land of excellent quality, some of it being alluvial and capable of great improvement. To be entered upon next Michaelmas.

Leases of 7, 14, or 21 years, on a corn rent, may be granted under certain conditions.—To view the Farm, apply to Mr. MALPAS, at Michaelstow Hall, in the parish of Ramsey; and for the Conditions on which Leases will be granted, and for the terms of occupation, apply to Mr. JOHN MORTON, Whitfield, Berkeley, Gloucestershire.

TO BE LET ON LEASE, from Michaelmas next, a FARM, containing 116 Acres of Arable, Grass, and Wood Lands, with commodious homestead, situate in the parish of Lingfield, Surrey, within 3 miles of the market town of East Grinstead. Enquire of Mr. GEO. TROTTER, Bailiff at Felcourt, Lingfield, who can be highly recommended by the Advertiser as an intelligent Scotchman, well acquainted with modern improved farming, perfectly trustworthy, and capable of taking entire charge of any nobleman or gentleman's estate.

TO NURSERYMEN AND OTHERS.

TO BE LET OR SOLD, a very flourishing NURSERY and SEED BUSINESS, situate within three miles of the City, and a like distance from the Parks and West-end. The Ground consists of about Two Acres, well stocked with thriving Evergreen and Fruit-trees, compact Dwelling-house and Seed-shop, Forcing and other houses, upwards of 4000 feet of Glass, good Pits and Frames, packing and potting sheds, with stabling and cart sheds, and all requisite facilities for the business. It would require 1000*l.* or thereabouts to come in.—For Terms and Cards to view, apply at 17, Bloomsbury-street, Bedford-square, London.

TO NURSERYMEN AND OTHERS.

TO BE LET, upon such terms as may be agreed upon, about 14 acres of rich and highly cultivated ARABLE LAND, situate within half a mile of the University and City of Oxford, and adjoining one of the most frequented and delightful walks in its environs, together with the extensive Buildings thereon. The soil is in every respect adapted for the cultivation of Nursery Stock, and the Buildings easily converted to such as would be required by Nurserymen, for which business there is now a good opening in this locality. Also, if desired, a small respectable Dwelling-House with Front Shop, situate in one of the principal streets of Oxford.—To treat for the same, and for further particulars, apply to Mr. R. PIKE, Auctioneer and Estate Agent, 2, St. Aldate-street, Oxford.

MERRIOTT, NEAR CREWKERNE, SOMERSETSHIRE.

TO BE LET, and entered on immediately, on most advantageous terms, an Old Established and Well Stocked NURSERY, containing, by estimation, Ten Acres (more or less), situated in the above parish; together with an excellent Hothouse thereon, filled with choice Vines in full bearing, and valuable plants; adjoining which is a comfortable Cottage, with convenient Cart-house, Packing Sheds, Seed Room, &c.

Merriott is situated within a short distance of the populous towns of Ilminster, Ilchester, Yeovil, Crewkerne, Chard, Taunton, &c., to which latter place conveyances pass to and fro daily, in connection with the railways to all parts of England.

To view the above, application may be made to Mr. ANDREWS, at the Cottage on the Nursery; and further particulars and terms of letting may be known on application to Mr. WHITLEY, Solicitor, Wrington, near Bristol, Somerset.—Wrington, Aug. 19

PATENT FLEXIBLE INDIA-RUBBER PIPES and TUBING for RAILWAY COMPANIES, BREWERS, DISTILLERS, FIRE ENGINES, GAS COMPANIES, GARDENERS and AGRICULTURAL PURPOSES, &c.

THE PATENT VULCANISED INDIA-RUBBER HOSE PIPES are made to stand Hot Liquor and Acids without injury. do not become hard or stiff in any temperature (but are always perfectly flexible), and as they require no application of oil or dressing, are particularly adapted for Fire-engines, Pumps, Gas, Beer engines, Gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes from ¼ inch bore upwards, and of any length to order.

Vulcanised India-rubber Garden Hose, fitted with brass taps, copper branch, and rose complete, ready to be attached to Pumps, Water-butts, or Cisterns.—Sole Manufacturer, JAMES LYNE HANCOCK, Goswell Mews, Goswell road, London.

N.B.—Vulcanised India-rubber Washers of all sizes for Joints of Hot-water and Steam Pipes, and Vulcanised Sheet Rubber, any thickness, for all kinds of Joints, and other purposes.

MARY WEDLAKE AND CO.'S HORSE AND STUBBLE and HAY-RAKE, of superior workmanship, 9*l.* 9*s.* Linseed Crusher, 11*l.* 11*s.*; small ones, 6*l.* 15*s.*; ditto, doing Beans, Linseed, and Oats, 10*l.* 10*s.* THRESHING MACHINES, doing upwards of 25 loads of Wheat straw per day, 65 guineas. MARY WEDLAKE and Co.'s CHAFF-CUTTING MACHINE, 100 to 200 bushels a day, price 7*l.* 7*s.* and 5*l.* 5*s.* Horse-hoe, Dressing Machine, Turnip Cutter, Turnip Drill, Stubble-rake, Oil-cake Breakers, Bean and Oat Crushers, Subsoil Plough, Double Field Roller, &c.—MARY WEDLAKE and Co., 118, Fenchurch-street, opposite Mark lane.

PARIAN CEMENT used as a Stucco, cannot easily be distinguished from statuary or Parian marble. It is fit for all the purposes of that beautiful material, and does not crack, warp, or efflorescence in any degree. The fine quality will incorporate with the most delicate colours; it is adopted to encaustic work, fresco, imitation of marble, and the most elaborate embellishment. So perfect are its setting or recrystallising properties, that the coarse quality when applied to newly built or damp walls, may be immediately polished, painted, or papered, and rooms rendered habitable before the materials ordinarily used would begin to dry. Manufactured by CHARLES FRANCIS and SONS, Roman Cement Works, Nine Elms, London.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as building and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

PURE LEICESTER RAMS.—Mr. WRIGHT (late of Bunney), having given up his entire flock of pure Leicester Sheep to his Sons, CHARLES AND SAMUEL WRIGHT, they beg to inform their friends and breeders of Sheep that they intend showing their Rams for letting on Wednesday the 6th day of September, when they will be glad to see those gentlemen who will favour them with their company.—Great Gouerby, near Grantham.

LONG SUTTON RAM SHOW.

MR. JOHN CLARKE has the pleasure to inform his Friends that his next Annual Letting will take place as usual on the second Wednesday, the 13th of September. The Sheep will be Let by Auction by Mr. H. SANDERS, of Ramsey, Hunts. They will be penned at 11 o'clock. A cold Collation will be on the table at 1 o'clock. Letting to commence at 3 o'clock, all punctually.—Long Sutton, August 19.

METCALFE AND CO'S NEW PATTERN TOOTH-BRUSH and SMYRNA SPONGES.—The Tooth-Brush has the important advantage of searching thoroughly into the divisions of the teeth, and cleaning them in the most extraordinary manner, and is famous for the hairs not coming loose—1*s.* An improved Clothes Brush, that cleans in a third part of the usual time, and incapable of injuring the finest nap. Penetrating Hair-brushes, with the durable unbleached Russian bristles, which do not soften like common hair. Flesh Brushes of improved graduated and powerful friction. Velvet Brushes which act in the most surprising and successful manner. The genuine Smyrna Sponge, with its preserved valuable properties of absorption, vitality, and durability, by means of direct importations, dispensing with all intermediate parties' profits and destructive bleaching, and securing the luxury of a genuine Smyrna Sponge. Only at METCALFE & Co.'s Sole Establishment, 130 B., Oxford-street, one door from Holles-street.

CAUTION.—Beware of the words, "From Metcalfe's," adopted by some houses.

ONLY TO BE KNOWN TO BE VALUED.

DR. ROBERTS'S CELEBRATED OINTMENT, called the POOR MAN'S FRIEND, is confidently recommended to the public as an unfailing remedy for wounds of every description; a certain cure for Ulcerated Sore Legs, if of 20 years' standing; Cuts, Burns, Scalds, Bruises, Chilblains, Scorbutic Eruptions, and Pimples in the Face, Sore and Inflamed Eyes, Sore Heads, Sore Breasts, Piles, Fistula, Cancerous Humours, and is a specific for those afflicting Eruptions that sometimes follow Vaccination. Sold in pots at 1*s.* 1½*d.* and 2*s.* 9*d.* each. Also, his PILULÆ ANTI-SCROPHULÆ, confirmed by more than 40 years' experience, to be, without exception, one of the best Alterative Medicines ever compounded for purifying the blood, and assisting Nature in all her operations; hence it is useful in Scrofula, Scorbutic Complaints, Glandular Swellings, particularly those of the neck, &c. They are efficacious also in Rheumatism, and form a mild and superior Family Aperient, that may be taken at all times without confinement or change of diet. Sold in boxes at 1*s.* 1½*d.*, 2*s.* 9*d.*, 4*s.* 6*d.*, 11*s.*, and 22*s.* each.

To Messrs. BEACH and BARNICOTT, Successors and Executers to the late Dr. ROBERTS.

Gentlemen,—About 17 years ago I had the misfortune of knocking my leg while felling some timber, which broke the skin, and my scratching brought it to a wound. I applied many remedies, to no purpose; it continued to get worse. I became an out-patient of Taunton and West Somerset Hospital, in which I continued three months, and I went as out-patient to the Bridgewater Infirmary; but it continued to get worse. At length I was advised, by my uncle, to get the Poor Man's Friend, which he said would cure me; I continued the application, and after using three pots of the Ointment, and two boxes of the Pills, I am happy to inform you that I am now perfectly cured, and have been so for 12 months, after suffering for 17 years. Knowing the misery of a bad leg, I send you this for the benefit of those suffering in like manner.

I remain, your obedient servant.

Taunton, Nov. 17, 1837. SIMON STONE MITCHELL.

Sold Wholesale by the Proprietors, BEACH and BARNICOTT, at their Dispensary, Bridport; by the London Houses; Retail by all respectable Medicine Vendors in the United Kingdom.

OBSERVE.—No Medicines sold under the above names can possibly be genuine unless "BEACH and BARNICOTT, late Dr. ROBERTS, Bridport," is engraved and printed on the stamp affixed to each package.

BOROUGH OF LEICESTER.

LEICESTER CEMETERY.—COMPETITION.—TO ARCHITECTS AND ARTISTS.

The Committee appointed by the Town Council of the Borough of Leicester to take the necessary steps for the formation and establishment of a Public Cemetery, in pursuance of an Act passed in the 11th Year, entitled "An Act for enabling the Mayor, Aldermen, and Burgesses of the Borough of Leicester to establish a general Cemetery for the Interment of the Dead, and for the Regulation of Burials within the said Borough and Liberties for the Purposes of the said Act," and to carry out the same, with the necessary Roads, Walks, Fences, Buildings, Chapels, and Entrance Lodges, and for the Preparation of the Ground, on the Land lately purchased for that purpose,

A Premium of One Hundred Guineas is offered to the Architect or Artist whose Design shall be approved by the Committee to be most eligible in the Execution of the Works, and to superintend the execution of the works. But if no Design shall, in the Premium be thought quite eligible, the Committee reserve to themselves the option of awarding the Premium to any other of the Designs which may be sent in for their approval, for any of which they shall not be required to pay more than Twenty Guineas, and the Premium for which the Premium shall be awarded are to become the property of the Town.

All Designs to be sent in under a Motto to be inscribed by a sealed Letter, by which the Author may be known, with his Designs, but which Letter will not be opened unless the Design is approved by the Council. A Ground Plan of the Site, with such other Information as may be required, may be had at any time after the 7th of August inst., on application to SAMUEL STOCKS, Esq., Town Clerk, Leicester, at which all Plans are to be forwarded on or before the 1st of January next.

EMIGRATION AND COLONIZATION.—IMMIGRATION being much required in AUSTRALIA, NEW ZEALAND, &c., and as the supplied outfits of an UNFIT often prevents Individuals emigrating, S. W. SILVER & Co., CLOTHIERS, OUTFITTERS, and CONTRACTORS, having a large interest to maintain in those Colonies, have been advised to make known that they can supply a complete Outfit (including Bedding) for Male or Female Emigrants, from 4*l.* (net) upwards, or less (if needful), and for Children in proportion, at No. 4, Bishopsgate-street Within, opposite the London Tavern, where Lists will be given on application.

S. W. S. & Co., being the makers of nearly every article in all the Outfits they supply, and as one of their objects is to promote Emigration, they neither receive from Agents, or pay the usual commission to any person introducing Passengers to be fitted out, so that the Passage and Outfit may be procured at the least possible expense; but they will, on application, advise Passengers how to obtain the most economic passage to the Colonies. They have a Representative in every Australian Colony, to whom they ship Clothing monthly; thus they would forward small parcels free of expense.

Naval and Military Officers, Midshipmen, Cadets, Civilians, Ladies, &c., are outfitted as heretofore, at the Cabin Passenger Outfitting Warehouse, Nos. 6 and 7, Cornhill (the Corner Outfitting being exclusively at No. 4, Bishopsgate-street Within), London, and each branch at St. George's Crescent, Liverpool.

DO YOU SUFFER TOOTH-ACHE? if so, use BRANDE'S ENAMEL for filling the Decayed Spots and rendering defective teeth sound and painless. Price One Shilling. Twenty Testimonials accompany each box. Sold by all Chemists, or sent free by return of post, by enclosing 1*s.* and a stamp to J. WILLIS, 4, Bell's-buildings, Salisbury-sq., London.

PARR'S LIFE PILLS are acknowledged to be the best Medicine in the world.—This Medicine has been before the British public only a few years, and perhaps in the annals of the world was never seen a more equal to their progress; the virtues of this Medicine were at once acknowledged wherever tried, and recommendations poured in for publication; hundreds had soon to acknowledge that PARR'S LIFE PILLS had saved them and were dear to their purse. The startling facts that were continually brought before the public at once removed any prejudice which some may have had, the continual good which resulted from their use spread their fame far and wide, at this moment there is scarcely a country on the face of the globe which has not heard of their benefits, and have sought for supplies whatever might be the cost of transmission. The United States Canada, India, and even China, have had immense quantities shipped to their respective countries, with the same result as in England—universal good.

The sale of PARR'S LIFE PILLS amounts to upwards of 1,000 boxes weekly, more than all other patent medicine put together. This simple fact needs no further comment; it tells plainly that the Pills of Old Parr are the best medicine in the world.

BEWARE OF SPURIOUS IMITATIONS.—None are genuine unless the words "PARR'S LIFE PILLS" are in White Letters on a Red Ground, on the Government stamp, pasted round each box; also, the fac-simile of the signature of the proprietors, "T. ROBERTS and Co., Crane-court, Fleet-street, London," on the Directions.

Sold in boxes at 1*s.* 1½*d.*, 2*s.* 9*d.*, and family packets at 11*s.* each, by all respectable medicine vendors throughout the world. Full directions are given with each box.

LOANS TO FARMERS AND OTHERS.

MONEY TO LEND, to any amount, at interest varying from 4½ per cent. for long or short periods, in large or small sums not less than 100*l.*, to be secured upon Freehold, Copyhold, and long Leasehold Property, upon Life Interests, Reversions, Annuities, Money in the Funds under Wills or Marriage Settlements, upon FARMING STOCK and GOOD PERSONAL SECURITY, &c. All applications held strictly confidential, and full particulars are required to be given, addressed, prepaid, in the first instance by letter only, to ALPHA, Mr. WENDOUS's, 101, Quadrant, Regent-street, London.

BEAUTIFUL TEETH.

ROWLANDS' ODONTO, OR PEARL DENTIFRICE.—A white powder, compounded of the choicest and most recherché ingredients of the Oriental Herbal, of inestimable value in preserving and beautifying the Teeth, strengthening the Gums, and in giving sweetness and perfume to the Breath. It extirpates all tartarious adhesions to the Teeth, and ensures a pearl-like whiteness to the enamelled surface. Its Anti-Septic and Anti-Scorbutic Properties exercise a highly beneficial and salutary influence: they arrest the further progress of decay of the Teeth, induce a healthy action of the Gums, and cause them to assume the brightness and colour indicative of perfect soundness; while, by communing their adhesion to the Teeth, they give unlimited enjoyment and fresh zest to appetite, by perpetuating effective and complete mastication. The Proprietors of this Dentifrice pledge themselves that its efficacy in preserving and embellishing the Teeth far surpasses anything of the kind ever yet offered to the public, and has, in consequence, obtained its selection by Her Majesty the Queen, the Court and Royal Family of Great Britain, and the Sovereigns and Nobility throughout Europe.—Price 2*s.* 9*d.* per box.

CAUTION.—To protect the Public from Fraud, the Hon. Commissioners have directed the Proprietors' Name and Address, thus—"A. ROWLAND & SON, 20, HATTON-GARDEN," to be engraved on the Government Stamp, which is affixed on each box.—Sold by the Proprietors and by Chemists and Perfumers.

VICTORIA LIFE ASSURANCE COMPANY, 18, KING WILLIAM STREET, CITY.

Residence in many of the Colonies allowed, *without additional charge*, and the premium required for the *East or West Indies*, and other extra risks, is more than usually moderate.

On Policies taken out for the whole term of life, *one-third* of the Annual Premiums may remain unpaid *till death*; thus parties are enabled to effect an assurance, say for 1200*l.*, by the payment of Premium on 800*l.* only.

The *half credit system* for five years is also adopted.

Four fifths, or 80 *per cent.* of the entire profits are appropriated to assurers entitled to share therein.

The *Bonus* at the last division averaged 23 *per cent.* on the amount of Premiums paid.

Advances continued to be made to assurers on assignable property or income, and also on the guarantee of most undoubted personal securities.

WILLIAM RATRAY, Actuary and Secretary.

NEW LIFE TABLES.

THE ALLIANCE LIFE AND FIRE ASSURANCE COMPANY, BARTHOLOMEW-LANE, LONDON.

Capital, Five Million Pounds sterling. Established 1824.

SECURITY.—The large invested Capital, and the personal responsibility of upwards of One Thousand Shareholders.

The Board, with a view of giving increased facilities to the Public in the transaction of Life Business, have directed the construction of various Tables in addition to those they had previously in use.

1. NON-PARTICIPATING, on Reduced Rates of Premium.
2. Tables on INCREASING and DECREASING Scales.
3. ,, subject to a LIMITED Number of Annual Payments.
4. ,, for ENDOWMENT ASSURANCES.

No entrance fees are charged. The Assured may proceed to any part of Europe without extra Premium. The Lives of Naval and Military Officers, not in actual service, are taken at the usual rates. A Commission to Solicitors and Agents bringing business is paid.

Detailed Prospectuses, with Tables of Rates and full particulars, will, on application, be forwarded by post, or may be obtained at the Head Office, 1, Bartholomew-lane, London; at the Office of the Company, 95, George-street, Edinburgh; and at their various agencies in England, Scotland, and Ireland.

*** Loans on the Deposit of unencumbered Policies of the Company are made, up to their value, without legal expense to the borrower.

FIRE ASSURANCES, at home and abroad, effected on the usual terms. A. HAMILTON, Secretary.

ALBION INSURANCE OFFICE, 15TH AUGUST, 1848.

A GENERAL COURT OF PROPRIETORS of the ALBION INSURANCE COMPANY will be held, at the Company's House, in New Bridge-street, Blackfriars, on WEDNESDAY, the 30th inst., at 12 o'clock at noon precisely, for the election of three Auditors for the current year, in conformity with the Deed of Settlement. EDWIN CHARLTON, Secretary.

ALBION LIFE INSURANCE COMPANY, NEW BRIDGE STREET, LONDON. INSTITUTED IN 1805.

Matthew Harrison, Esq., *Chairman*,
John Hampden Gledstanes, Esq., *Deputy Chairman*.

Thomas Starling Benson, Esq.	Samuel Henry Teush Hecker, Esq.
James Whatman Bosanquet, Esq.	David Riddall Roper, Esq.
Frederick Burmester, Esq.	Charles Russell, Esq.
John Coningham, Esq.	Kennard Smith, Esq.
Fred. Dawes Danvers, Esq.	Edward Stewart, Esq.

Secretary, Edwin Charlton, Esq.
Actuary, John Le Cappellain, Esq.

ADVANTAGES:

TRIENNIAL DIVISION OF PROFITS.
FOUR-FIFTHS OF THE PROFITS RETURNED.
BONUS PAYABLE IN CASH, OR APPLIED IN AUGMENTATION OF THE SUM INSURED, OR IN REDUCTION OF THE ANNUAL PREMIUM.
FOREIGN RESIDENCE WITHOUT EXTRA PREMIUM.
CLAIMS PAID IN 30 DAYS.

PROVIDENT LIFE OFFICE, 50, Regent-street, and 2, Royal Exchange-buildings, London.

Established 1806. Invested Capital, 1,230,000*l.*
Annual income, 140,000*l.* Bonuses declared, 743,000*l.*
Claims paid since the establishment of the Office, 1,678,000*l.*

President.—THE RIGHT HONOURABLE EARL GREY.

Directors.

The Hon. ARTHUR KINNAIRD, *Chairman*.
The Rev. JAMES SHERMAN, *Deputy Chairman*.

Henry R. Alexander, Esq.	William Ostler, Esq.
Henry Blencowe Churchill, Esq.	George Round, Esq.
George Dacre, Esq.	James Sedgwick, Esq.
Alexander Henderson, M.D.	Frederick Squire, Esq.
William Judd, Esq.	William Henry Stone, Esq.
Sir Richard D. King, Bart.	Capt. W. John Williams.

JOHN A. BEAUMONT, Managing Director.
Physician—JOHN MACLEAN, M.D., F.S.S., 29, Upper Montague-street, Montague-square.

The Rates of Premium are those adopted by the principal Life Offices, the rate without bonus is lower than that of most other Offices.

The Bonuses are added to the Policies, or applied to the reduction of the Premiums.

Policies issued by this Office are purchased at their full value; or Loans may be obtained upon them after they have been in existence for five years.

If a party neglect to pay for the renewal of his Policy, he may repair the omission any time within 12 months, upon proof of good health.

The profits (subject to a trifling deduction) are divided among the insured. The plan upon which they are divided gives to each party insured a share proportionate to the amount of the Premiums he has contributed.

In addition to the above advantages, the Directors have determined to adopt the principle of allotting a prospective Bonus to Policies lapsing between the Septennial Periods of Division, in order that all the Policy-holders may participate equally in the Profits of the Society.

The following Table shows the amount of Bonuses added to Policies existing at the present time.

Policy No.	Date of Policy.	Sum insured.	Bonuses added.		Total Sum payable, to which future Bonuses will be added.
		£	£ s. d.		£ s. d.
21	1806	500	415 10 2	83·10 per cent.	915 10 2
521	1807	900	982 12 1	109.17 ,,	1882 12 1
1174	1810	1200	1160 5 6	96.68 ,,	2360 5 6
1897	1811	1600	1328 8 6	83.02 ,,	2928 8 6
3286	1820	2000	1906 13 5	95.33 ,,	3906 13 5
3392	1820	5000	3558 17 8	71.17 ,,	8558 17 8
4356	1822	3000	2541 3 6	84.7 ,,	5541 3 6

Prospectuses and full particulars may be obtained upon application to the Agents of the Office in all the principal towns of the United Kingdom; and the head Office, No. 50, Regent-st.

HIGHLAND AND AGRICULTURAL SOCIETY.—The following RESOLUTIONS were adopted at a Public Meeting of the Members, held at Edinburgh on the 4th of August, the DUKE of MONTROSE, President of the Society, in the Chair:—

Moved by the DUKE of BUCCLEUCH, and seconded by Mr. FINNIE, Swanston—

1st. That this Meeting, being impressed with the great importance of Chemistry, in its applications to Agriculture, approve of the proposed establishment of a Chemical Department, under the cognizance of the Society; and call on the Agriculturists of Scotland to extend to the Directors that support and co-operation which are necessary to give effect to the object in view.

Moved by the EARL of HADDINGTON, and seconded by Mr. CAMPBELL, of Craigie—

2d. That Committees of the Society's Members be appointed for the different Counties, with power to add to their number, and to subdivide themselves into Committees for smaller Districts, for the purpose of receiving and reporting contributions in aid of the fund for the Chemical Department; and that the Meeting hope that the Secretaries of the local Agricultural Associations throughout the country will co-operate with the Society as Honorary Secretaries of the Committees, or otherwise, within their respective districts.

Moved by Sir JOHN STUART FORBES, Bart., seconded by Mr. COLQUHOUN, of Killermont—

3d. That the thanks of this Society be given to the Office-bearers and other Members of the Agricultural Chemistry Association for having first brought this subject prominently before the agricultural community of Scotland, and for their exertions in subsequently prosecuting it.

On the motion of Lord ELIBANK, seconded by Sir ROBERT HOUSTOUN, the thanks of the Meeting were given to the Duke of MONTROSE, for his conduct in the chair.

JN. HALL MAXWELL, Secretary.

SOCIETY FOR ENCOURAGEMENT OF ARTS AND MANUFACTURES, JOHN-STREET, ADELPHI.

The NEW PRIZE LIST has just been issued, and may be had on application to the Secretary. In that list are comprised the following subjects:

1. A Gold Medal, offered by H.R.H. the Prince Albert, for the best account of any New and Improved Machinery or Processes employed in the Cultivation or Preparation of Sugar in the British Colonies, designed to economise labour and increase production.

2. A Gold Medal, offered by H.R.H. the Prince Albert, for the best Cement for Uniting Glass.

3. Prize of 50 Guineas, offered by T. Twining, jun., Esq., for the best Series of Experimental Researches on and Specimens of the Application of Slag or other allied Products to New Purposes.

4. A Gold Medal, or 25*l.*, for the best Working Model of an original Design for a Silver Goblet, suitable to be awarded as a prize, value 100*l.*, in conformity with the bequest of the late Dr. George Swiney.

5. A Gold Medal for the most elegant Design for a Vase in red Earthenware, to be ornamented with designs taken from English history or literature, in the manner of Etruscan vases.

6. Gold and Silver Medals for the best and second-best Specimens of Chasing of the Human Figure in Silver.

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9. A Gold Medal for the Discovery of a new Substance capable of receiving the Calotype Image.

10. The Acton Gold Medallion, value 20*l.*, for the Plan of a Roof, composed of wood and iron.

Full explanations of terms, and other information, will be found in the printed prize list.

The Annual Exhibition of Select Specimens of British Manufacture, for 1849, will take place in March. Manufacturers are requested to have their specimens forwarded to the Society's house on or before the first Monday or Tuesday in February.

JOHNSON AND SHAW'S FARMERS' ALMANAC.—The Number for 1849 will be ready for delivery on the 1st of November. Early corrections and suggestions for its Improvement are earnestly requested. All Advertisements for its Advertising Sheets must be delivered to the Publisher by the 1st of September.—JAMES RIDGWAY, Piccadilly, London.

This day is published, 8vo,

THE JOURNAL OF THE ROYAL AGRICULTURAL SOCIETY. Vol. IX., Part 1.

CONTENTS:

I. The Management of Grass Land. By ROBERT SMITH.
II. The Anatomy, Physiology, and Pathology of the Digestive Organs of the Ox and Sheep. By. J. B. SIMONDS.
III. On Breaking up inferior Pasture Land. By F. WOODWARD.
IV. Phosphoric Strata of the Chalk Formation. By J. M. PAINE and J. WAY.
V. Farming of the East Riding of Yorkshire. By GEORGE LEGARD.
VI. Analyses of the Ashes of Plants. By J. WAY and GEORGE OGSTON.
VII. The Natural History and Economy of various Insects affecting Carrots and Parsnips. By J. CURTIS, F.L.S.
VIII. On Temporary Tile-Kilns. By TH. LAW HODGES, M.R.
IX. The Present State of Agriculture in its Relations to Chemistry and Geology. By Prof. JOHNSTON.
X. Experiment on Australian Barley. By R. W. BAKER, Esq.
XI. On the Failure of Deep Draining on certain strong Clay Subsoils. By W. B. WEBSTER.

APPENDIX, LIST OF OFFICERS, &c.

London: JOHN MURRAY, Albemarle-street.

PRACTICAL WORKS FOR EMIGRANTS.—

I.

SOUTH AUSTRALIA—Its Resources and its Advantages to Emigrants. By G. B. WILKINSON. Post 8vo. 10*s.* 6*d.*

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WEST INDIES—Journal of a Residence among the Negroes. By M. G. LEWIS. Post 8vo. 2*s.* 6*d.*

VI.

UPPER CANADA—Statistical Sketches for the use of Emigrants. By a BACKWOODSMAN. 12mo. 1*s.* 6*d.*

VII.

CANADA—Memoirs of a Missionary's Life in the North American Colonies. By Rev. J. ABBOTT. Post 8vo. 2*s.* 6*d.*

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SPLENDID NEW SEEDLING STRAWBERRY.

ROBERT THOM, MARKET GARDENER, Cornhill, has much pleasure in respectfully informing his friends and the public, that he has succeeded in raising a new and very distinct STRAWBERRY. The plant is a very free grower, and most prolific bearer. The fruit is nearly the size of Myatt's Seedling—generally of the most perfect cone form—deep scarlet colour, pink flesh, and of a very high flavour, participating largely of the aromatic taste of the old Roseberry. He has submitted the plants and fruit to the inspection of a number of competent practical judges, who are prepared to corroborate the above description, and among whom he has much pleasure in referring to—

Mr. THOMAS MILNE, Nurseryman, Sunnyside; Mr. THOMAS DARLING, Gardener, Woodhill; Messrs. SMITH and CARDNO, Seedsmen, Aberdeen; Mr. ALEXANDER, of Dickson and Sons, Edinburgh.

"THOM'S SEEDLING STRAWBERRY.—At the show of the Hortus Club, on Wednesday week, there was presented for exhibition a basket of seedling Strawberries, grown by Mr. Thom, at Cornhill-gardens. They are a pretty looking variety, of good size, and well shaped, and reported to be a remarkably good bearer. Their flavour is delicate and fine, and they are suitable for preserving. The Seedling, we understand, has been highly approved by eminent practical judges."—*Aberdeen Paper.*

As R. T. has only a limited stock of Plants to dispose of, early orders are requested, which will be executed in rotation, in August and September, at 1*l.* 1*s.* per 100, and smaller orders in proportion. The usual discount allowed to the trade.

Agents.— Messrs. SMITH and CARDNO, Aberdeen; Messrs. DICKSON and SONS, Inverleith Nursery, Edinburgh. Orders also addressed to R. THOM, Cornhill, Aberdeen, will be punctually attended to.—Cornhill-gardens, Aberdeen, Aug. 19.

THE POTATO DISEASE; its Prevention and Treatment. By JOHN PARKIN, M.D. Price 2*s.* 6*d.*

"An elaborate, scientific, and practical memoir on the subject."—*Scottish Farmer.*

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Governor Grey.

W. WOOD, 39, Tavistock-st., Covent-garden, and all Booksellers.

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THE EMIGRANT'S GUIDE TO NEW ZEALAND: comprising every requisite information for intending Emigrants, relative to the Southern Settlements of New Zealand.

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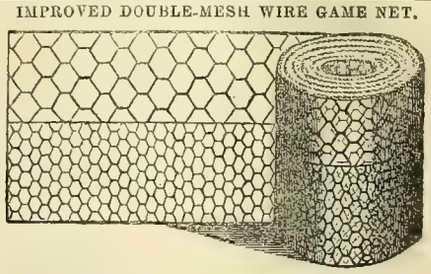

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Single Mesh	...	1⅝	...	light	0	7
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Printed by WILLIAM BRADBURY, of No. 6, York-place, Stoke Newington, and FREDERICK MULLETT EVANS, of No. 7, Church-row, Stoke Newington, both in the county of Middlesex, Printers, at their office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the Office, No. 5, Charles-street, in the parish of St. Paul's, Covent Garden, in the said county, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY, AUGUST 19, 1848

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 35.—1848.] SATURDAY, AUGUST 26. [PRICE 6d.

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GRAND DAHLIA AND FLORICULTURAL FETE.—OPEN TO ALL ENGLAND.

ROYAL SOUTH LONDON FLORICULTURAL SOCIETY. Under the Patronage of Her Most Gracious Majesty the QUEEN, the Fifth and last Exhibition this season will be held at the ROYAL SURREY ZOOLOGICAL GARDENS, on WEDNESDAY, 13th September, when Prizes will be awarded for the following Collections, viz.: For Miscellaneous and Specimen Plants, Dahlias, Fuchsias, Roses, Verbenas, Cut Flowers, Fruit, and Honey. Mr. J. G. WAITE, of High Holboru, offers an extra Prize of Ten Pounds, to Nurserymen and Florists, for the best Six Dahlias, let out at any time by the exhibitor. In addition to the above, 21 extra Prizes for Dahlias will be given by the "Dahlia Prize Improvement Fund," for stands of 12 and 24 Dahlias, for 6 and 12 Fancy Dahlias, and 6 New Dahlias, let out in 1848. For Seedling Dahlias of 1847 and 1848, Certificates of Merit will be awarded, at the discretion of the Censors. Exhibitors of Dahlias must provide their own stands, as specified in the Schedule of Prizes, which may be had of JOHN TAYLOR NEVILLE, Secretary.

Ebenezer House, Peckham, Aug. 26.

BECK'S SEEDLING PELARGONIUMS.—A Descriptive Catalogue of the above may be had on application, prepaid, and enclosing one Postage Stamp.

Worton Cottage, Isleworth.

ZOOLOGICAL GARDENS, REGENT'S-PARK.—Visitors are admitted WITHOUT ORDERS on MONDAY, in every week, at SIXPENCE EACH; on the following days at ONE SHILLING EACH. Children at Sixpence. A new Entrance has been opened in the Broad Walk.

EXHIBITION OF LILIUM LANCIFOLIUM, OR THE BEAUTIFUL JAPANESE LILY.

HGROOM, Clapham Rise, near London, by appointment FLORIST TO HER MAJESTY THE QUEEN, and to HIS MAJESTY THE KING OF SAXONY, begs to inform the Nobility, Gentry, and Amateurs, that his extensive assortment of this most beautiful LILY is in flower, and may be viewed every day, Sundays excepted. Admittance gratis.

N. GAINES begs to inform Amateurs and Nurserymen that he has strong young plants of the New American CAMELLIAS, "WILDERII" and "Mrs. ABBY WILDER" ready for sale. He will also have a fine stock of his new fancy PELARGONIUMS and others, and a large stock of CALCEOLARIAS to send out this season.

Nursery, Surrey-lane, Battersea, Aug. 26.

NARCISSUS, 3s. PER DOZEN.

ROBERT HALL begs to advise the arrival of his Annual Importation of the True Double Roman NARCISSUS, the most fragrant of all the Narcissus, and if planted now will bloom at Christmas, at his Foreign Import Warehouse, 63, South Audley-street, Grosvenor-square, London, facing the chapel. Payments may be made in postage stamps.

LAURELS AND ROSES.

D. FERGUSON, CONTRACTING PLANTER, LANDSCAPE GARDENER, &c., respectfully informs the nobility, gentry, and Railway Companies, that he can supply them with small Laurels at 1*l.* per 1000, adding 1000 to every ten ordered. Delivered free at Wolverton and Oxford, or at any of the London Railway Stations, at 8*d.* per cwt. He has about 100,000 left that he can supply this autumn, and he can, if called for, supply 50,000,000 in the autumn of 1849. Fine transplanted Berberis aquifolia, at 1*l.* to 30*s.* per 1000. A large quantity of large Evergreen and Deciduous shrubs and trees, exceedingly suitable for new places, giving at once effect and shelter, a thing desirable to proprietors in this uncertain life.

A large quantity of Standard and other ROSES, many of which are worked upon tall Standards for planting among American shrubs, &c. Also some of the tall growing sorts trained 5 or 6 feet above their stems, making a splendid show when planted amongst Evergreens, showing the magnificent pillar of Roses without the unsightly stems being seen. Autumn, I have found by experience, the best season for planting, and I advise my patrons to lose no time in preparing, more particularly where earth is to be removed.

In answer to inquries, my charges are 2*l.* 2*s.* per day, with board and second class travelling expenses; but where I supply shrubs, &c., to the amount of 100*l.*, I only charge my expenses. I shall be happy to exchange Roses for fruit tree stocks to the number of 150 or 200,000.

D. FERGUSON, Aylesbury Nurseries, Aug. 26.

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The following collection of CONIFERS is offered by YOUELL and Co., in very healthy plants in pots, for 5*l.* package included and carriage paid to London or Hull.

Pinus Ayacahuite	Picea pinsapo
,, Llaveana	,, religiosa
,, australis	,, Webbiana
,, excelsa	,, pindrow
,, Montezuma	Cedrus Deodara, 3 fine plants
,, insignis	Araucaria imbricata, 3 ditto
,, Gerardiana	Cedrus Libani
,, cembra	Cupressus torulosa
Abies Khutrow (true)	,, Uhdeana
,, orientalis	Juniperus Bedfordiana
,, clanbrazilliana	Taxodium sempervirens
Picea cephalonica	

Or the following, including the above, for 10*l.*

Pinus Lambertiana	Picea nobilis
,, cembroides	Cryptomeria japonica, strong
Abies Douglasii	Juniperus excelsa
,, horizontalis	,, Chinensis
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	Thuja pendula
Picea Nordmanniana, 5 years, very strong and extremely rare	With six fine plants of Cedrus Deodara, and six of Araucaria imbricata

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Y. and Co. are now supplying fine healthy plants of the newest and choicest varieties, well set with flower-buds, at 30*s.* to 42*s.* per dozen.

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Owing to the rapid steam communication now established between Yarmouth and Holland, YOUELL and Co. have been induced to import a very extensive collection of the Finest HYACINTHS for glasses and forcing, which have arrived in the best possible condition, the roots being very large and sound. They are enabled to offer the handsomer kinds by name, at 6*s.*, 9*s.*, and 12*s.* per dozen; catalogues of which may be had on application.

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The finest first class show varieties, including the best of the new varieties of 1847 and 1848, 10*s.* to 18*s.* per dozen.

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YOUELL AND CO. can now supply strong Runners of the following fine and desirable STRAWBERRIES, warranted true to name:—Myatt's Eleanor, 21*s.* per 100; Mammoth, 6*d.*; Globe 7*s.* 6*d.*; La Leigeoise, 5*s.*; Aberdeen Beehive, 10*s.* 6*d.*; Royal Pine (fine), 7*s.* 6*d.*; Queen, 3*s.* 6*d.*; Eliza, 3*s.* 6*d.*; Elton Pine, 3*s.* 6*d.*; Black Roseberry, 5*s.*; Princess Alice, 3*s.* 6*d.*; Swainston's Pine, 3*s.* 6*d.*; Myatt's Pine, 5*s.*; Coul, or Sir G. Mackenzie's late Scarlet, 5*s.*; Myatt's Prolific, 7*s.* 6*d.*; Martham Seedling (fine and very early), 10*s.*; with many other fine sorts.

ANEMONE SEED,

Saved from the finest selected sorts, is now being sent out per post, free, at 2*s.* 6*d.* and 5*s.* per packet, sufficient to sow a bed of 12 and 24 yards; if sown now, a fine bloom will be insured during the winter and spring months.—Great Yarmouth Nursery.

S. AND J. DILLISTONE, Nurseries, Sturmer, near Haverhill, Suffolk, beg to offer seed saved from their splendid collection of ANTIRRHINUMS, in packets .. 2*s.* 6*d.*

SWEET-WILLIAMS, all from Double Flowers, and from every shade of colour 1 0

HOLLYHOCKS, extra fine, all double 1 6

,, ,, Plants of ditto, now ready, per 100 10 0

ROSES—Climbing, Bourbon, China, Noisette, Tea, and Hybrid Perpetual, strong plants in pots, extra fine, per dozen, ... 6*s.*, 9*s.*, and 12 0

STRAWBERRY (Aberdeen Beehive) per 100 ... 5 0

Carriage paid to London.

STRAWBERRIES.

R. S. YATES can supply strong plants of all the sorts known to be worthy of cultivation; also several new sorts improved, all at moderate prices.

R. S. YATES has also a quantity of ABERDEEN BEEHIVE STRAWBERRY Plants (warranted true as received direct from Mr. Mathewson), that he will supply (gratis) to any one who thinks it worth while to make the application.

St. Ann's-square, Manchester, Aug. 26.

THE ALOE.—Some very fine specimens of the above plant are to be disposed of, and may be seen at No. 2, Grote's-buildings, Blackheath.

LANDSCAPE GARDENING AND GENERAL IMPROVEMENT.

MR. JAMES FRAZER, LANDSCAPE GARDENER and DESIGNER OF RURAL IMPROVEMENTS, respectfully informs his friends and the public that his address in future will be 147, Strand, London, as well as 17, Lower Dorset-street, Dublin.

FINE DOUBLE HOLLYHOCKS.

ROBERT COOPER, Sion Nursery, Croydon, has some fine Double HOLLYHOCKS now in bloom. Purchasers can select their own plants, which will be marked and sent in the autumn.

Named Double Hollyhocks ..... per dozen—9*s.* 0*d.*

Mixed ditto ditto 5 0

Mixed Seedling, not having bloomed 2 6

LATE DUKE CHERRY.—This variety having been described in the *Chronicle* of the 19th inst., page 556, Messrs. LANE and SON beg to inform their friends that they have some splendid strong Dwarf Trained Trees, also of all the other most valuable Cherries.—Nurseries, Great Berkhamstead.

JOHN HENCHMAN begs to inform his friends that he has a few packets of his choice CALCEOLARIA SEED, saved from a few varieties selected from above 2000 plants, for sale, at 5*s.* each. Plants raised now will bloom freely in May, June, and during the season. Instructions for cultivation given if desired.—Edmonton Nursery, near London, Aug. 26.

BEAUTIFUL CRIMSON CLEARIA "AMABILIS."

R. ATLEE is now sending out the above and other beautiful variety, at 1*s.* 6*d.* per [illegible]. It received a first class Certificate at the [illegible] April 18th, and the same at the April meeting of the London Horticultural Society [illegible].

Also, good plants of [illegible], Myosotis Dianthus, Alonsoa [illegible], Gardenia Stanleyana, &c. [illegible]. Clapham.—Clapham-road Nursery, [illegible] Aug. 26.

HOLLYHOCK SEED.—Having had applications from different growers of the [illegible] of Seed from my best varieties, I wish to observe that I have not nor do I intend making [illegible] as my best sorts are, first, to prevent [illegible] not to be depended upon to come [illegible] double varieties will sometimes [illegible] different colour; secondly, I have very [illegible] from the best flowers, some seeding very [illegible] producing none. I beg to offer Seed at [illegible] of 12 colours, for borders, mixed, 2*s.* per packet, separate, 1*s.* per packet.

20 plants of the best varieties, 7*s.*; 3 dozen as per list 6*l.*

Good double varieties for bedders, or [illegible]

A remittance from unknown correspondents indispensable.

WM. CHATER, [illegible]

NEW SEEDLING CAMELLIA.—The Subscribers offer to the notice of the Trade a STOCK of this splendid variety, which they have [illegible] to flower and flowering for the last two seasons. The [illegible] and beautifully formed, and the flower is large and [illegible] a pure velvety crimson, striped with [illegible] large size of a deep glossy green. A correct [illegible] engravings have just been executed by [illegible], Artist, for "Paxton's Magazine," a copy of which will be sent on the receipt of 12 postage stamps.

GLOXINIA FYFIANA.—This variety, [illegible], the Subscribers sent out in April, 1847, has now proved itself deserving of all that was said in its praise. Plants at 2*s.* 6*d.* to 5*s.* each, or 24*s.* per doz. to.

ABERDEEN "BEEHIVE" STRAWBERRY, warranted genuine from Cunningar-hill Stock. From the [illegible] growth of this variety, the Subscribers cannot add one word in its favour. Plants at 3*s.* 6*d.* per 100, or 5*s.* per [illegible].

DRYSDALE and Co., Nurserymen, Gardeners, Aug. 26.

ARNOLD'S "VIRGIN QUEEN" GERANIUM.—*This is the best* WHITE *in cultivation. It has been fully proved this season, nine specimen plants having produced* 350 *expanded blossoms at one time, only one of which was imperfect.*

We can recommend it with the same confidence as we did Lyne's "Duke of Cornwall" and "Perfection," and we are certain that it will give the greatest satisfaction to all who purchase it. It is thus described by Dr. LINDLEY, in the *Gardeners' Chronicle*:—"W. E. R. [illegible] flower, broad white under petals, the upper petals [illegible] a narrow margin of white. The habit of the plant is excellent, and the blooms are thrown well above the foliage.

Price 1*l.* 10*s.* each, or three for 4*l.* to the Trade.

P.S.—We are so satisfied with the excellence of the above, and so certain are we that it will give [illegible] satisfaction, we will agree to give the amount in Plants named from our current Catalogue, should it not prove to be equal to what we have stated.—W. E. R. and Co.

The following set of 5 Geraniums (sent out by us last autumn) for 40*s.*:

	each—*s.*	*d.*		each—*s.*	*d.*
2 Lyne's Jenny Lind	15	0	5 Lyne's Mercury	10	6
3 ,, Star of the West	10	6	6 Foley's Black Prince	5	0
4 ,, Lady Ebrington	10	6			

The following set of 8 Geraniums (sent out by Mr. Miller, of Ramsgate, last autumn) for 40*s.*:

	each—*s.*	*d.*		each—*s.*	*d.*
7 Miller's Scarlet Defiance	7	6	11 Miller's Admiration	7	6
8 ,, Rosa Mundi	7	6	12 ,, Vulgius	7	6
9 ,, Queen of Kent	7	6	13 ,, Flower of the Day	7	6
10 ,, Distinctus	7	6	14 ,, Conspicuundis	7	6

The whole set of 14 *as above, including Arnold's Virgin Queen, for* 4*l.* 4*s.*, *or exclusive of Virgin Queen, for* 3*l.* 10*s.*

First orders will receive the first selection, and will be sent out in October next.

WILLIAM E. RENDLE and Co. Plymouth.

P.S.—Our New Plant Catalogue is just ready and can be obtained gratis, on application.

GERANIUMS.—The Lovers of GERANIUMS have now a rare opportunity to improve their [illegible] at little money. HENRY WALTON, Edward Mansion, near Burnley, Lancashire, begs to offer the following new and first-rate GERANIUMS, sent out last autumn by MILLER, LYNE, and BECK. The following set of 5 for 21*s.*:

Miller's Scarlet Defiance 5*s.* 6*d.*		Miller's Admiration .. 5*s.* 6*d.*	
,, Rosa Mundi ..	5 6	.. Vulgius.. ..	5 6
,, Queen of Kent..	5 6	.. Conspicuundis ..	5 6
,, Distinctus ..	5 6	.. Flower of the Day ..	5 6

Miller's second set of 6 for 10*s.*; or the two sets together for 2*l.* 2*s.* 6*d.*, viz., Fireblaze, Garland, Eclipse, Telegraph, for 3*s.* 6*d.* each; Beauty Surpass, 1*s.* 6*d.*; Purpurea Mutifera, 2*s.* 6*d.* The following four first-rate Geraniums sent out last autumn by W. E. Rendle and Co., for 2*l.* 2*s.*:

Lyne's Jenny Lind ..	5 6	Lyne's Lady Ebrington	7*s.* 6*d*
,, Star of the West	7 6	Foley's Black Prince..	5 6

Or the whole 10 for 2*l.* 10*s.* 6*d.*; any single one may be had free by post at their affixed prices. Also Beck's set of 5 may be had at equally low rates; a list of which may be had on application. H. W.'s Catalogue contains all the first favourites of former years raised by Beck, Lyne, Rigby, Miller, Gaines, Foster, Gaines, and others; purchaser's selection of 12 for 1*l.*, or H. W.'s selection of 12 for 12*s.* 6*d.* All orders must be prepaid and made payable at Burnley; early remittances will have the best selection. Orders will be executed in October next.

CAMELLIAS, CHINESE AZALEAS, CHRYSANTHEMUMS, PANSIES, CEDRUS DEODAR, STRAWBERRIES, &c.

JOHN BELL is now sending out the following in good heal hy plants.

CAMELLIAS, in 40 varieties, well set with flower buds, 30s., 42s., and 63s. per dozen.

CHINESE AZALEAS, in 40 varieties, strong plants, 18s., 24s., and 36s. per dozen.

CHRYSANTHEMUMS, including Salter's last year's new varieties, 18s. per dozen. Standard, Non pareil, Messenger, Nymph, and Ne Plus Ultra, all new this year, 2s. 6d. each.

PANSIES.—The following 20 new and choice Pansies for 30s.

Aurora	Yellow Climax	Ne Plus Ultra
Beauty of Bracondale	Arethusa	Pearly of Ormsby
Favourite	Duke of Norfolk	Duchess of Norfolk
La Polka	Lady Lacon	Jenny Lind
Lord John Russell	Master Conrad	Laura
Queen of Sheba	Sir Margaret	Purity
	CEDRUS DEODAR.	Queen of Yellows

J. B. having a very extensive stock of the above ornamental tree, can supply strong 2-year old plants at 12s. per doz; 3-year ditto, 15s. per doz.; 4-year ditto, 24s. per doz. A large collection of other rare Conifers at equally reasonable prices.

Meltham's Seedling STRAWBERRY, finer than Keens' Seedlings, and much earlier, 7s. 6d. per 100.

Aberdeen Beehive (true), 7s. 6d. per 100. Princess Royal and Comte de Paris, 20s. per 100.

Horticultural Establishment, Dracondale, Norwich.

ABERDEEN BEEHIVE STRAWBERRY.—There is still in the trade a Strawberry under the name of the "Aberdeen Beehive," which was exhibited while in fruit during the last two months at Cunnigar Hill Nurseries, Aberdeen; and at the same time, in the local papers, challenged the United Kingdom to produce its equal, which caused a general excitement throughout Scotland. Many thousands have visited the grounds for the purpose of examining the wonderful and far-famed "Beehive," of Cunnigar Hill, among whom were many competent judges from England, France, and other parts of the Continent, who at once pronounced them superior to anything they had before witnessed as a crop of Strawberries, and from their beautiful colour and luscious flavour, they have been pronounced "No. 1" in the market; and I am proud to state that the "Beehive," notwithstanding the general failure of other sorts, stood as a monument of admiration (as it were), laughing to scorn the unwarranted and false assertions of those sceptics who, without ceremony, seized it as a victim, to bury it with disgrace. I am also proud to inform my friends, the readers of the *Gardeners' Chronicle*, that the demand, daily increasing from all parts, seems to be the result of the "Beehive" question; and being prepared with an extensive stock of well-rooted plants, has induced me to offer them from the Nursery bed at 12s. per 100, or 1s. 6d. per dozen. Established in pots for exportation or forcing at 4s. per dozen. Directions for culture will be sent with each order. —JAMES MATHERSON, Nurseryman, Cunnigar Hill, Aberdeen.

CAMELLIAS, AZALEAS, ROSES, &c

MESSRS. J. AND H. BROWN will forward the following desirable plants to any part of the Kingdom or the Continent.

	s.	d.
12 Tea-scented Roses, superior sorts, one of each for ...	9	0
Devoniensis and Yellow Noisette Rose, per dozen ...	9	0
12 Bourbon Roses, choice sorts, in pots, suitable for planting in a bed	10	6
La Reine, very large Rose, 1s. 6d. each, or, per dozen	12	0
Yellow and White Banksian Roses, per dozen ...	9	0
New and choice Chrysanthemums, per dozen	6	0
Fine Perennial Phloxes, Belgian varieties, per dozen	8	0
The newest and most approved Verbenas, Fuchsias, and Cinerarias, can be sent by post, per dozen	4	0
50 Choice Greenhouse plants, one of a sort, for	45	0
Camellias, the newest and best varieties, well set with flower buds, per dozen ... ... 30s. to	40	0
Azaleas Indica, including the newest and best sorts, per dozen ... ... 25s. to	30	0
Geraniums, 12 superb varieties for	15	0
Ditto, 6 best fancy varieties	10	0

Gardenia Fortunii	10s.	Daphne Fortunii	10s. 6d.
,, Lucida ...	7 6	Rubus nobilis	3 6
,, Devoniana	10 6	Æchmea fulgens	10 6
Passiflora amabilis ...	5 6	Yellow Rhododendrons	10 6
Clematis glandulosa...	5 0	Luculia Pinciana	7 6
,, tubulosa ...	3 6	Spiræa expansa ...	3 6
,, odoratissima ...	3 6	Siphocamphylus nitida	3 6
,, anemoniflora ...	3 6	Cryptomeria japonica	5 6

20 papers of Choice Flower Seeds for present sowing, 5s. post free. Choice Geranium, Cineraria, Primula, and Calceolaria seeds, 1s. per packet. List of Dutch Bulbs, &c.

Princess Royal and Comte de Paris Strawberry, 20s. per 100. Queen, Alice Maude, Prince Albert, and Eliza ditto, 3s. 6d. per 100. Improved Alpine, 7s. 6d.; Black Prince, 20s.; La Leigeoise, 10s. 6d. per 100.

Albion Nursery, Stoke Newington, London, Aug. 26.

PURE WHITE SALVIA PATENS.

WM. WOOD AND SON have much pleasure in offering this desirable plant to their friends and the public, feeling assured that it will prove a very great acquisition. As a pure white bedding plant it will stand unrivalled, forming a striking but at the same time most pleasing contrast to the bright blue of the original species. This beautiful variety was originated from seed, and flowered for the first time in October last; it is the same in foliage, habit, and growth as the now universally known Salvia patens, with the exception of the whole plant being of a lighter hue; the flowers are equal in size to that species under the highest cultivation, and of the PUREST SNOWY WHITE, with a small spot of light blue on the lower lip of each flower.

It will be admitted by all who are acquainted with the present system of flower gardening that there is a great scarcity of pure white flowers of an ornamental character, adapted for grouping, to make up which deficiency the introduction of this charming novelty will be hailed with the greater pleasure; its merits are, however, not confined to grouping, as it proves very attractive when grown in pots or planted out in mixed borders.

W. W. & S. purpose sending out the above under the name of SALVIA PATENS ALBA, about the middle of September, at 10s. 6d. per plant, with the usual discount to the Trade, and one additional plant for every three ordered. They have also a good stock of the following highly desirable plants, which may be had now or with the above, viz.:

	s.	d.		s.	d.
Achimenes floribunda			Gardenia Fortunii ...	10	6
elegans	3	6	,, Stanleyana ...	5	0
,, venusta ...	3	6	,, Whitfieldii ...	5	0
Allamanda grandiflora, 3s. 6d. to	5s.		Gloxinia alba intus rubra	3	6
,, Schottii, 10s. 6d. to	15s.		,, candidissima...	3	6
Boronia polygæfolia ...	5	0	,, Teichlerii ...	7	6
Clerodendron macrophyllum	10	6	Ixora odorata	21	0
,, sinuatum ...	3	0	Pharbitis ostrina ...	3	6
,, volutile ...	3	6	Pleroma elegans ...	3	6
Echites rosea campestris	7	6	Rhynchospermum jasminoides, true ...	5	0
,, spectabilis ...	10	6	Siphocampylus nitidus.	3	6
,, splendens ...	5	0	Tromsdorfia speciosa ...	5	0
Eriostemon scabrum ...	5	0	Tweedia pubescens ...	5	0
Erythrina fulgentissima	7	6			

*** Additional Plants will be presented with each order to compensate for carriage. A remittance or reference required from all unknown correspondents; post-office orders to be made payable at Uckfield.

Woodlands Nursery, Maresfield, Uckfield, Sussex.

CRYPTOMERIA JAPONICA SEEDLINGS.

MESSRS. STANDISH AND NOBLE, NURSERYMEN, Bagshot, have the honour to inform the Nobility, Gentry, and the Public, that they have succeeded in obtaining a quantity of SEED of the above truly magnificent Tree from the north of China, and are now able to send out SEEDLING Plants at the undermentioned low scale of prices.

It was first sent home by Mr. Fortune to the Horticultural Society, in 1844, and has now proved to be perfectly hardy in this country, having stood out in many exposed situations during the severe winter of 1846 and 1847. It is a tree of rapid growth, and some very fine specimens may now be seen in the gardens of the Horticultural Society nearly 10 feet in height, and very graceful in form.

"I met here (Shanghae), for the first time, with the beautiful Cryptomeria japonica, a species of Pine not unlike the Araucarias of Australia and Brazil. When growing luxuriantly it is highly ornamental, rising from the ground as straight as a Larch, and sending out numerous side branches almost horizontally from the main stem, which again droop towards the ground in a graceful and WEEPING *manner. The wood of the tree has a kind of twisted grain, possessing great strength and durability, and is highly valued by the Chinese."*—FORTUNE'S WANDERINGS IN CHINA.

We need scarcely inform the lovers of hardy evergreens that SEEDLINGS of this species are of much more value than cuttings. The latter never make handsome plants, and grow much slower. Our Seedling Plants, which we are now sending out, if properly managed, will be more than 2 feet high by next spring, the proper time to plant them out in the open ground.

MESSRS. STANDISH and NOBLE can now supply nice healthy plants, in 60-size pots, at the following low price, viz., 5s. 6d. per plant, 26s. per doz., or 12s. 10s. per hundred. A liberal allowance to the Trade from the above prices.

N.B.—The above is for cash only.

MYATT'S NEW FERTILISED HAUTBOIS,

Patronized by His Royal Highness Prince Albert.

Messrs. J. MYATT have now strong Runners of this and the following varieties, at the annexed prices: Myatt's Fertilised Hautbois, 25s. per 100; Eleanor, 21s.; Globe, 7s. 6d.; Mammoth, 7s. 6d.; Queen, 3s. 6d.; Pelvelain's Princess Royal and Comte de Paris, 20s.; Black Prince, 20s.; La Leigeoise, 10s. 6d.; Aberdeen Beehive, 5s.; and Hooper's Seedling, 5s.

The usual Trade allowance.

Post-office Orders made payable to JOSEPH MYATT, Deptford. Manor Farm, Deptford, August 26.

NEW STRAWBERRY.—"THE AIGBURTH SEEDLING."—This excellent Strawberry was raised by Mr. JOSEPH HUTCHINSON, gardener to Henry Harrison, Esq., Aigburth; in general character it resembles the Elton Pine, with superior flavour. The great objection to many lately introduced Strawberries is their tender character; this does not apply to the "Aigburth Seedling;" it is perfectly hardy and a free bearer. Some fruit was sent to the London Horticultural Society, and the following favourable notice has been received: "A large ovate fruit, with a separable core; the flavour is very good; it is allied to the Coul late Scarlet."—R. THOMPSON.

The following testimonial has also been received: "I have examined the Aigburth Seedling Strawberry, and consider it an excellent variety, resembling the British Queen in flavour; and, from its hardiness, will stand the winter in many situations better than that variety."—JOHN SELKIRK, gardener to W. J. Myers, Esq., Aigburth.

JAMES TYNAN, Seedsman, 120, Park-road, Liverpool, can supply well-rooted Plants, at 25s. per 100.

POTATO DISEASE.—DWARF RED STONE TURNIP.—In consequence of the rapid spread of the Potato disease, the subscriber begs most earnestly to recommend the above Turnip to the notice of the public, as a kind that may be sown until the middle of September, with a certainty of producing a greater weight of food than any other plant in cultivation. 1 oz. packets, free by post, 1s. each.

PARAGON CABBAGE.—This kind is allowed by every gardener who has grown it to be the best Early Cabbage in cultivation for the supply of a gentleman's table. It is rather larger than the "Matchless," and superior to it in every respect. Packets, post free, 1s. each.

HARDY ANNUALS FOR AUTUMNAL SOWING, and the spring decoration of the Flower Garden. A collection of 10 of the most suitable kinds, 2s. 6d.; 25 varieties, 6s., post free.

PELARGONIUM, GEM OF THE SCARLETS (or Brooklands Scarlet).—In answer to numerous enquiries, the proprietor begs to state that it will be sent out, with other novelties, in March, 1849, and the first orders will have the first selection. Price 5s., for cash only, with one over in every two taken by the trade.

Post-office orders upon Greenwich, payable to WILLIAM PORT AYRES, Horticultural Grounds, Brooklands, Blackheath-park, Kent.—August 26.

SPLENDID NEW SEEDLING STRAWBERRY.

ROBERT THOM, MARKET GARDENER, Cornhill, Aberdeen, has much pleasure in informing his friends and the public, that he has succeeded in raising a new and very distinct STRAWBERRY. The plant is a very free grower, and most prolific bearer. The fruit is nearly the size of Myatt's Seedling—generally of the most perfect cone form—deep scarlet colour, pink flesh, and of a very high flavour, participating largely of the aromatic taste of the old Roseberry. He has submitted the plants and fruit to the inspection of a number of competent practical judges, who are prepared to corroborate the above description, and among whom he has much pleasure in referring to—

Mr. THOMAS MILNE, Nurseryman, Sunnyside; Mr. THOMAS DARLING, Gardener, Woodhill; Messrs. SMITH and CARDNO, Seedsmen, Aberdeen; Mr. ALEXANDER, of Dickson and Sons, Edinburgh.

"THOM'S SEEDLING STRAWBERRY.—We must not omit noticing a basket of seedling Strawberries, which, though an informality, was not entered for competition. They were raised by Mr. Robert Thom, gardener, Cornhill, and, judging from the quality of the specimens, are well deserving the attention of the growers of this delicious fruit. The colour is rich, and the flavour very fine."—*Aberdeen Horticultural Society.*

As R. T. has only a limited stock of Plants to dispose of, early orders are requested, which will be executed in rotation, in August and September, at 1l. 1s. per 100, and smaller orders in proportion. The usual discount allowed to the trade.

Agents.—Messrs. HURST and M'MULLEN, Seedsmen, Leadenhall-street, London; Messrs. SMITH and CARDNO, Aberdeen; Messrs. DICKSON and SONS, Inverleith Nursery, Edinburgh; Mr. GEORGE CHIVAS, Seedsman, 108, Eastgate-street, Chester. Orders also addressed to R. THOM, Cornhill, Aberdeen, will be punctually attended to.—Cornhill-gardens, Aberdeen, Aug. 26.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

TULIPS.—An Amateur who is obliged to discontinue the cultivation of the above-named flowers, from want of sufficient space, is desirous of parting with the whole of his STOCK, at 1s. 6d. per bulb. This is an opportunity that will not often present itself, as the majority of them are quoted in the growers' lists of last year at from 5s. to 15s. each. They are all warranted true to name, and are in first-rate condition. A list will be forwarded on application to A. B., Post-office, Tavistock.—N.B. A reference (in case of purchase) will be given and required.

SEEDS.—CORNER OF HALF-MOON-STREET,

THOMAS GIBBS AND CO.,

(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND," Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

Priced Lists of Agricultural Seeds are always ready, and may be had on application.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND CO., 116, Bishopsgate-street Without, beg to submit their prices of HARTLEY'S PATENT ROUGH PLATE GLASS, which has been manufactured especially for the glazing of Conservatories, as it effectually prevents the Plants being scorched in the manner complained of when Sheet Glass is used.

In crates, of the sizes as manufactured, averaging one-eighth of an inch thick, and about 30 oz. to the foot	6d. per foot.
In squares, 8 by 6 and under	4d. ,,
Above 8 by 6 and not exceeding 12 by 10	5d. ,,
,, 12 by 10 ,, 2 feet	6d. ,,
,, 2 feet	7d. ,,
Quarries	6d. ,,

GLASS MILK PANS, PROPAGATING GLASSES, AND BEE GLASSES. GLASS TILES AND SLATES.

CREAM POTS, from 3 to 24 quarts, at 6d. per quart.

CUCUMBER GLASSES, from 12 to 26 inches long, 1d. p. inch.

LACTOMETERS for trying the quality of Milk, 4 tubes 7s. 6d., 6 tubes 10s.; Peach Glasses, 10d. each; Fish Globes from 1s. 6d. each; Wasp and Fly Traps 3s. 6d. per dozen; Plate and Window Glass; Lamp Shades and Chimneys; and every article in the trade. DOUBLE CROWN GLASS cut to order.

STRONG HORTICULTURAL SHEET

GLASS FOR CONSERVATORIES,

GREENHOUSES, PITS, FRAMES, &c.

HETLEY AND CO., supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2½d. to 3d. per square foot, for the usual sizes required, many thousand feet of which are kept packed for immediate delivery at their Crown, Sheet, Patent Plate, Stained, and Ornamental Window Glass Warehouse, 35, Soho-square, London.

GLASS.

APSLEY PELLATT AND CO. (late PELLATT and GREEN), Falcon Glass Works, Holland-street, Blackfriars, have always on hand, Bee Glasses, 1s. 6d. per lb.; Cucumber Glasses, 1s. 6d. per lb.; Milk Pans, 18 in., white glass, 5s. 6d. each; Propagating Glasses, white, 1s. per lb., do. green, 10d., do. Condensing, 2d. per lb. extra; Asparagus Tubes, 18s. to 21s. per gross; Grape Shades, 1s. 6d. to 2s. each; Fish-bowls, from 1s. 6d. each; Wasp and Fly-traps, 40s. per gross, or 3s. 6d. per dozen. By the use of these traps fruit may be preserved from (otherwise certain) destruction.

E. AND W. H. JACKSON beg to call the attention of Gentlemen and the Trade to the reduced prices of their PATENT PLATE GLASS, which, from its superior qualities and cheapness, is now superseding all inferior glass in dwelling houses.

BRITISH MANUFACTURED SHEET GLASS for CONSERVATORIES, POLISHED AND ROUGH PLATE, CROWN, COLOURED, AND ORNAMENTAL GLASS at the lowest terms.

Tariffs of prices and every information can be had, by applying at their Warehouse, 315, Oxford-street.

GLASS FOR HORTICULTURAL PURPOSES.

HARTLEY'S PATENT ROUGH PLATE, AND PATENT DOUBLE CROWN GLASS, is admitted by practical men to be the greatest improvement yet discovered in the manufacture of Glass for the above uses, and the extraordinarily low prices must ensure a very extensive sale. Sold strictly at the Manufacturer's prices by W. PATTEN and Co., Window Glass, Lead, and Colour Merchants, 20, Old Fish-street, London, Sole Manufacturers of the Improved Ordnance Anti-Corrosion and Mineral Paint for all kinds of Outhouses, Park Fencing, &c.

BAKER'S PHEASANTRY, Beaufort-street, King's-road, Chelsea, by special appointment to her Majesty and H.R.H. Prince Albert, — ORNAMENTAL WATER FOWL, consisting of black and white swans, Egyptian, Canada, China, bernacle, brent, and laughing geese, sheildrakes, pintail, widgeon, summer and winter teal, gadwall, Labrador, shovellers, gold-eyed and dun divers, Carolina ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking fowls; white Japan, pied, and common pea-fowl, and pure China pigs; and at 3, Half-moon-passage, Gracechurch-street.

SASH LINE FOR HOTHOUSES AND GREENHOUSES.

R. S. NEWALL AND CO.'S PATENT IMPROVED COPPER-WIRE CORD is now extensively used for Window Sash Line, Hothouses, Lightning Conductors, Picture Cord, Clock Cord, &c., &c., and is found to be cheaper, much more durable, quite as flexible, and one-sixth part the bulk of common Hempen Lines. The Wire Cord may be had wholesale, and specimens seen, at the Office of the Patentees, 163, Fenchurch-street, W. T. ALLEN, Agent; or retail, of G. and J. DEANE, 46, King William-street; E. PARES, 140, Fleet-street; J. JONES, 62, Charing-cross; and GIBBONS and Co., 345, Oxford-street.

IMPROVED FLOWER STICKS.—These Flower Sticks are of a circular form, thereby avoiding angles and sharp edges, which are liable to cut and injure the plants. They may be had stained brown or green to suit the various plants.—To be had of all respectable Nurserymen and Seedsmen, and dealers in Garden Implements. Manufactured and sold Wholesale, at H. MORRELL'S, 149, Fleet-street, London.

N.B. Samples to be seen at the Office of this Paper.

PERUVIAN AND BOLIVIAN GUANO ON SALE,

By THE ONLY IMPORTERS,

ANTONY GIBBS AND SONS, LONDON;

WM. JOSEPH MYERS AND CO., LIVERPOOL;

And by their Agents,

GIBBS, BRIGHT, AND CO., LIVERPOOL and BRISTOL;

COTESWORTH, POWELL, AND PRYOR, LONDON.

To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

CHOICE FLOWER SEEDS, for PRESENT and AUTUMN SOWING, free by post, with useful instructions.

BASS AND BROWN beg to refer to a select List of the above advertised in the *Gardeners' Chronicle* of July 29 and Aug. 12, comprising, amongst others, the following:

Per packet.—s. d.		Per packet.—s. d.	
Auricula, from choice ..	1 0	Heartsease, extra choice	1 0
Calceolaria, from choice .	1 0	Hollyhock, choice mixed	0 6
Cineraria, from choice ..	1 0	Do., 50 vars.	5 0
Geranium	2 6	Do., 20 vars.	3 6
Do., smaller packets ..	1 6	Petunia, extra choice ..	1 0
Gladiolus, from fine vars.	0 6	Ranunculus, extra choice	2 6
Fuchsia, from best vars.	1 0	Verbena, 2s. 6d.; smaller	1 6
20 vars. choice Greenhouse Perennials, 10s. 6d.		12 do.. .	7 6
20 do.	Hardy Biennials and Perennials ..	..	5 0
20 do.	Hardy Annuals, for autumn sowing	..	4 0

Descriptive Catalogues for 1848 may still be had. Remittances are requested from unknown correspondents. Post-office orders payable to BASS and BROWN. Postage stamps received for small amounts.

Seed and Horticultural Establishment, Sudbury, Suffolk.

The Gardeners' Chronicle.

SATURDAY, AUGUST 26, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS

FRIDAY,	September	1—Botanical	½ P.M.
MONDAY,	—	4—Entomological	7 P.M.
TUESDAY,	—	5—Horticultural	1 P.M.

COUNTRY SHOWS.—Wednesday and Thursday, August 30 and 31: Durham Botanical and Horticultural.—Wednesday, Sept. 6: Manchester Horticultural.—Thursday, Sept. 7: Teddington Horticultural, Leamington Spa Horticultural.

THE state of the POTATO CROP is the reverse of improved since last week. On the contrary, all intelligence shows, without an exception, that it is daily making sensible progress. The best that can be said is that in some cases the Potatoes do not rot so fast as was expected, and that, when the crop has arrived at a particular state of maturity, the Potatoes dig up "wonderfully well" (Sligo, Aug. 16). It is also alleged that the crop is here and there "double what it was last year." If this were generally the fact, there would be some small consolation; but we doubt whether abundance is not more limited than our correspondents suppose. In Jersey the disease is worse than it was a week ago, and the following letter from a correspondent just returned from a tour on the Continent is not favourable to the foreign crop:

"In Switzerland, about Thun, Chamouni, and the higher districts, the Potato crops were only beginning to show symptoms of disease, at the end of July. Between Lausanne and Berne the crops looked still more unhealthy. In the great plain of the Rhine, from Basle to Frankfort, the diseased appearance of the Potato was very evident. In Belgium, from Cologne to Ostend, the crops looked wretched, scarcely one plot in 10 having a green leaf on them. Many Bean crops appeared to be blighted. The corn crops were nearly all cleared off in Belgium and the plain of the Rhine."

Scotland is now beginning to feel the infliction. Mr. Bruce, of Waughton, in East Lothian, writes that disease has shown itself with great virulence in many gardens within the last few days, and that the Beans are assuming the blighted appearance of 1846 (Aug. 22); Sir GEORGE MACKENZIE, Bart., speaks of its having broken out near Edinburgh; and Mr. CRIBBES, of Penicuik, who is an advocate of pulling up the haulm, having formerly found the advantage of doing so, says that the tubers are now going. Sir JOHN RICHARDSON also writes from Perthshire that the disease is there, although not in a serious degree.

As the north country crops are those only to which any great interest attaches, we shall in future confine to them our reports upon the progress of the evil. In the meanwhile we give our readers the benefit of a new idea which has just reached us from Mr. CHEETHAM, of Oakham, in Rutlandshire, where the disease is making "fearful havoc." "I find," he says, "the more intelligent peasants recommend washing them well in cold water when first taken up, and afterwards spreading them out to dry, and storing them in an outhouse with layers of dry straw between each layer of Potatoes. Might not a chemical solution (in other respects harmless) be used to render the operation of washing more effectual?"

The important question of whether the untainted Potatoes will keep apparently receives its answer in the negative. Our correspondents write that even their Ash-leaved Kidneys, which were to the eye safe when taken up, are rotting fast; which is just what we have anticipated. Of this we are convinced, that if they will keep at all it will be by being left in the ground. We also say pull up the haulm, because so many people report favourably of the practice, though we have failed to discover the advantage of it in our own practice.

THE House of Commons' Committee having declared that Mr. FEARGUS O'CONNOR'S LAND LOTTERY "will not fulfil the expectations held out by the directors to the shareholders," or, as they might have said, "by the lottery-office keeper to the ticket-holders," we may leave that question where it is. We should have thought, however, that so barefaced an imposition might have been exposed without the aid of a Parliamentary inquiry. But although absurdities like that of Mr. O'CONNOR carry their own condemnation with them, it, nevertheless, seems desirable to inquire whether the plan of small allotment could answer, even if the lucky ticket-holders were put in possession of the land they look for.

A holder of a cottage and 2 acres of land, under this scheme, was to pay about 3*l.* 15*s.* per acre on an average, according to Mr. PEVANS (4th Report, p. 16*). He was also to have the power of purchasing the estate for the sum of about 210*l.* Till this was done the rental of 10*l.* 7*s.* 6*d.* was a fixed charge. The 2 acres were to enable the occupant to pay this, maintain his family, and lay by money to purchase the freehold eventually. According to Mr. O'CONNOR, nothing is easier; his tenants were to grow 15 tons of Potatoes an acre, and to sell them at 6*d.* a stone, or 4*l.* a ton; they were to have 200 stones of Wheat an acre, or 5 quarters, to fetch 15*l.*; they were to keep cows, and sell the milk of each at 1½*d.* a quart, each cow yielding 8 quarts daily, and this was to furnish 14*l.* 5*s.* per cow; bacon pigs were to be fattened, and sold at 5*l.* each; Flax, fruit, and vegetables were to realise (for 2 acres) 11*l.* 13*s.* 4*d.*, and so on. This was to be done upon a plan explained in the *Dublin Farmers' Gazette*; the family was to live in comfort upon pork, bacon, Potatoes, bread, ducks, fruit, vegetables, eggs, and honey, and to save annually 14*l.* 13*s.* 4*d.* an acre, or 29*l.* 16*s.* 8*d.* on the 2 acres; and to gain this, only 157 days were to be employed in labour—all which is supported by figures and calculations, duly set forth in the place above quoted.

Mr. O'CONNOR'S calculations are made upon a 3-acre allotment. We shall reduce it to a 2-acre holding. He sets down expenses thus:

	£	s.	d.
Rent, rates, and taxes	9	0	0
Best hay for cows, from Dec. to March	5	6	8
Clothing for man, wife, and three children	15	0	0
Fuel, soap, and candles	8	0	0
Repairing implements	0	13	4
Pigs in May	4	0	0
	£12	0	0

But he did not appear himself to know what the charge upon the tenants for rent, rates, and taxes was likely to be; for we find that the rent alone will be at least 10*l.* 9*s.* 4*d.* We must, therefore, add, for a palpable error, in rent, rates, and taxes, at least 2*l.*, which will make the assumed annual cost of a 2-acre holding, 44*l.*

How far the cotters are likely to pay this sum, live, and lay by their redemption money, we may leave our readers to judge for themselves. Of course, here, as in all Irish agricultural calculations, Potatoes are a great element of success. In the first place, an acre of land is to yield 15 tons; a preposterous quantity for such cultivators, and such land as Mr. O'CONNOR'S allottees are favoured with, ever to produce—a preposterous quantity for any land and any cultivators to produce as an average. Yet this is the foundation of the whole course of husbandry proposed. These 15 tons are to be disposed of thus: for cows 2, for family 1½, for pigs 8, for sale 3½ = 15. In practice it will be found that the pigs will eat all that the acre of land can produce, and that nothing will be left for cows, family, and market. This is upon the supposition that a fair crop of Potatoes will be had; but what if they rot as they have done for the last three years out of four?—It must be confessed that the whole scheme is tainted with gambling from the beginning; the allottees are taught to gamble for their chances, to gamble for their locations, and to gamble for the crops, just as Mr. O'CONNOR has been gambling against law and Parliament for the chance of a lucky throw which would relieve him from the penalties he has incurred, and give him the opportunity of keeping his word to the ear of the poor men whose money he has wasted.

Then the cows, two of which are to be kept upon Potatoes and two roods and half of ground, which are to yield 8 quarts of milk each per diem all the year round, and whose milk is to be sold for 1½*d.* per quart. Upon this point we content ourselves with quoting the opinion of Mr. REVANS (4th Rep. p. 30.)

"It must be an acre of excellent pasture to keep a cow during the six summer months, and during the six winter months a cow will consume, in hay and roots, the produce of more than another acre, if she is to yield an abundance of milk. And the milking condition of the cows contemplated on the allotments must be very excellent, as they are to yield two gallons each during every one of the 365 days of the year. Now, as most cows are dry two months, and many during three months before calving, a cow, to give 2 gallons a day throughout the year, must average 10 quarts during the period she does give milk; the more correct, then, in quantity, the average of the cows [illegible], in which the most remarkable [illegible] cash, are reported and [illegible] food — [illegible] grass. [illegible] each cow must be quite [illegible] cannot be expected, [illegible] from cows [illegible] at [illegible] the value of the calf, [illegible] for the cost of the manure."

But we should like to know who [illegible] mill, if it can be procured [illegible] and in what manner [illegible] Mr. O'Connor. What [illegible] market, [illegible] [illegible] to be 1½*d.* per [illegible] sufficient [illegible] demand, at [illegible] [illegible] better or cheaper. What [illegible] [illegible] it likely to be [illegible] "A [illegible] at Rochdale, says Mr. Revans, 'could not find the [illegible] allotment [illegible]." (4th Rep. p. 30.) [illegible] given to the [illegible] Mr. O'Connor's calculations.

What is [illegible] to give [illegible] to be [illegible] an acre, if [illegible] [illegible]; and to [illegible] Mr. Pusey, or [illegible], has found by actual experiment that [illegible] county would not produce [illegible] more than 12 bushels [illegible] than Mr. O'Connor's average.

As for the minor matter in Mr. O'Connor's scheme, they may be passed by, since the whole foundation of his speculation [illegible] to be a dream. He can be allowed to [illegible] as well as to the dealer in [illegible] introduced him to a paradise of gold, from which he was only removed by the [illegible] when in an extacy at the imaginary [illegible] of his dream he kicked his basket over. Mr. O'Connor's argument is this. *If* you get 15 tons an acre of Potatoes, and 48 bushels of Wheat; *if* your cows yield 8 quarts of milk a day; *if* you can sell it for 1½*d.* a quart; *if* your pigs [illegible] 5*l.* each; *if* you can get 14*l.* for a quarter of an acre of Flax; and *if* in addition [illegible] you can realize a few others that I [illegible] incidentally, why, then, you may live and be happy, and lay by 30*l.* or 40*l.* a year. It is a curious fact that, upon these wild propositions, Mr. O'CONNOR'S system of pauper agriculture is founded.

Sir ROBERT KANE, in his admirable pamphlet on Ireland, has well distinguished between "that exceptional great crop success which does very well for newspaper paragraphs, but cannot be taken at all as the basis of sound financial calculations," and average cultivation with [illegible] success. It may be true that some individual of great energy and skill, assisted by accidental or local circumstances, may have obtained such quantities, prices, and results as would enable him to live and expend 44*l.* a year upon a 2-acre holding; but such cases are entirely exceptional, and cannot be taken as a guide to what is likely to happen under ordinary circumstances. To delude ignorant people by holding up such exceptions as the general rule is to practise upon them a cruel deception. For ourselves, we would rather believe the old shepherd at Minster Lovell, who was satisfied that "no man could get a living off such land by his spade, though he had not to pay rent," than all the adventurers who ever set up lotteries.

The allotment system has now, however, attracted so much notice that it requires to be considered upon its own grounds, without reference to land schemes, or to Messrs. A. B. and C. It is essentially a gardening question, and one which we should be glad to have discussed by men of experience who have no personal interests to serve. We by no means insist that our own opinion upon a very difficult question should be taken to be worth more than that of any other man with the same means of judgment; and in order that the matter may be fairly argued, we freely throw our columns open to it upon one condition, viz., that all statements shall be supported by figures, and that the enquiry shall be conducted without reference to political or poor-law considerations. The question being whether a man can, on the average, live and support his family upon two English acres of land or thereabouts (meaning as many as 4 acres), and what rent he can afford to pay, a cottage not being included. We exclude the cottage, because its value varies too much to render it a safe element in any calculation.

IT must now be allowed that no doubt remains in the south of England, as to the general presence of the POTATO DISEASE, which we believe is fully

* This sum may be taken as the rental, although, from the confused account of Mr. M'GRATH and others, it has appeared to be higher.

as virulent as in 1845; and it is not surprising that the public should assign to the same evil influence which destroys their Potatoes the decaying appearances observable on other plants. We receive from various quarters leaves and branches in a state of ill health, with some of the symptoms of the Potato disease, such as blackish rotting spots, brown gangrene, and general sudden decay; if it often happens that these appearances, when carefully examined, do not present the true indications, yet the facts are extremely puzzling in others. An example of this, in the Stramonium, where several different morbid affections existed, was noticed by Mr. Berkeley in our last Number, a second is the consequence of the attack of the Egg Mildew*; a third has become familiar among Cucumbers, and a very frequent one is connected with the Bean rust (Uredo Fabæ) which seems to have been excessively common and destructive in some places this year. Of the latter, we have before us a curious and instructive example from Mr. Whiting, gardener to H. T. Hope, Esq., of the Deepdene, near Dorking. The leaves are green and healthy at the upper end, excepting so far as the pimples of rust give them the look of being otherwise, but more than the lower half, together with the stalks, is black, soft, and rotten. In the interior of the black part is abundance of spawn (Mycelium) probably belonging to the Uredo. According to Mr. Whiting, "Three different sowings are affected in the same way. On the first the leaves are quite black and dead; the second (now in bearing) will soon be as bad; and the youngest plants of all appear to have just caught the complaint. They are all growing on the same quarter, and near some Potatoes, of which the tops are quite killed. Many of the Onions in this neighbourhood have their tops killed, but not by the same disease."

This case opens the question of how the disease is caused. If it is assumed to be caused by some morbid affection, upon which the mildew fungi are contingent, then in that case the disease of the Beans and Potatoes may be looked upon as identical. If it is assumed to be caused directly by the mildew, then we must admit that the kind of injury which vegetation is thus sustaining is caused by the spawn of various fungal plants, and not by any species exclusively; that the mischief results from the action of spawn, and that it is immaterial whether it proceeds from an Uredo, an Oidium, a Botrytis, or any other such parasite; a circumstance by no means unlikely to occur, when we remember that dry rot is caused by the spawn of various fungal plants of a higher order, and not by any one in particular. Upon the latter supposition, then, the Bean disease and that of the Potato may be regarded as identical, and so will all the forms of mischief that have assailed Vines and some other crops. How is this point to be settled? It would be highly interesting to do so, if possible; and it would seem to be easy: but here lies the difficulty—a soft decay of the tissue occurs in the Potato and Bean, and being associated with mildew plants, is ascribed to their action; but a similar disease occurs in the Stramonium, in which no trace of the spawn of these parasites can be found by the acutest and most experienced observer. This would lead to the inference that the soft decay is merely associated with fungal plants in some cases, and is by no means caused by them: which is the view that we have taken of the subject.

We must not let pass without a record the fact that the Vineries at Malgwyn Castle continue to produce crops of extraordinarily heavy Grapes. This place is near Pembroke, is the residence of A. Lewis Gower, Esq., and the gardener is Mr. Hutchinson. His method of making his Vine-borders has been described at p. 651 of our volume for 1847. At that time we mentioned the unusual size of his Black Hamburgh Grapes, one of the bunches received from him having weighed 5 lbs. avoirdupoise. We have now to state that three other bunches, lately received from Mr. Gower, weighed respectively 3 lbs. 8 oz., 3 lbs. 9 oz., and 4 lbs. 2 oz., after a long land journey, in which they had necessarily lost part of their weight. We must add that they were beautifully grown, perfectly coloured, and in flavour all that the most fastidious person could desire.

We would particularly draw attention to the highly important fact that these admirable productions are obtained by very simple and natural means; as will be seen upon turning to the place above referred to.

* This was fully described and figured by Mr. Berkeley in our volume for 1847, p. 779, under the name of *Oidium Tuckeri*; and we observe that there also the advantages of sulphur had been pointed out, a circumstance to which we had not adverted.

BRITISH ASSOCIATION
FOR THE ADVANCEMENT OF SCIENCE.

The eighteenth annual meeting of this body was held this year at Swansea, being the first time that it has visited the Principality. Although the anticipated opening of the South Wales Railway had not taken place, the meeting was by no means the smallest or least important of this perambulating Association. There were in fact in Swansea a great many attractions for all sections of philosophers. The chemist and engineer could not fail to be interested in the great copper and iron works, and the mining industry of the place. Few districts present a more interesting sphere for the labours of the geologist than that of South Wales. Whilst the sea and the coast in their Fauna and Flora afford many objects of interest to both the zoologist and botanist. As a proof of this we may refer to the "Fauna and Flora of Swansea," by that veteran in natural history, Mr. Dillwyn, who took the occasion of the Association visiting Wales to publish and distribute this work amongst its members. The number of members, though not so great as last year at Oxford, was amply sufficient to give both variety and interest to the sittings of the various sections. We have as usual taken care to furnish ourselves with accurate reports of all the proceedings likely to interest the readers of the *Gardeners' Chronicle*.

At the meeting of the chemical section, on Thursday, the 10th of August, Mr. R. Hunt furnished the report of the progress of a committee for the investigation of the action of carbonic acid on the growth of plants allied to those of the coal formation. The experiments conducted by the committee have been undertaken with a view to ascertain if it be possible to grow plants in an atmosphere more highly charged with carbonic acid than is natural at the present day, in order to throw light on the question of the existence of large quantities of carbonic acid in the atmosphere during the existence of the coal forests. Two sets of experiments are being conducted, one by Dr. Daubeny, at Oxford, the other by Mr. Hunt, in London. In the conduct of these experiments, Ferns are the plants employed. One set of them is grown in a case with carbonic acid, whilst another set is grown in common air. Mr. Hunt stated that he had obtained no further general result than that the plants by being gradually inured to the agency of the carbonic acid, can be made to bear a greater quantity than when a large per centage is given them at once.

Dr. Daubeny, at a subsequent period, and also in the natural history section, explained the nature of the apparatus employed, which he considered imperfect, on account of the great amount of leakage. He suggested an apparatus in which iron saucers with grooves filled with mercury for the insertion of the edges of a bell-glass should be employed. He had found no difference in the action of the carbonic acid on the phænerogamous plants and Ferns. Twenty per cent. of carbonic acid in the atmosphere killed plants, but they bore 10 per cent. very well.

In the discussions which followed the reading of these communications it was suggested, in the first place, that these experiments should be extended to animals, and in the next place that the action of other gases as well as carbonic acid on plants should be tried. Dr. Lankester referred to the action of carbonic acid on plants through the medium of its dissolving power, introducing inorganic constituents which otherwise could not enter the plant into its tissues. He also referred to the favourable influence of sulphuretted hydrogen in small quantities on vegetation. Dr. Carpenter thought it highly probable that the way in which the various forms of coral animals were enabled to deposit such enormous quantities of carbonate of lime was through its being first dissolved up by carbonic acid. The mountain limestone was deposited by the coral animals at the same time that the great vegetation of the coal period occurred.

(To be continued.)

ON THE TREATMENT OF MEN AND PLANTS.
By Martin Doyle.

A train of thought has been just passing through my mind regarding some of the analogies subsisting between the higher orders of animals and vegetables. Both require, air, aliment, freedom of space, and culture. Where these are deficient, both classes suffer in health and vitality, and lose their reproductive powers, or produce but a feeble and degenerate progeny.

In our great cities and towns there are multitudes of human creatures more densely cooped together than our domestic animals generally are, in close unventilated chambers; to whom no breeze brings health, no gale wafts the perfumes of the garden, or of the flower-clad heath. If children, born amidst such impurities, grow up to be "young men and maidens," they are not disposed, under such circumstances, to "praise the name of the Lord in the dance, to sing praises with the timbrel and the harp;" "to serve the Lord with gladness." No; they are "full of heaviness." In numberless instances we see our fellow-beings, brought by "man's inhumanity to man," or his indifference to the condition of his distressed brethren, through depression of spirits, sickness, and disease, the natural consequences of want and misery—to untimely death. The philanthropical principle is not extinct among us; but unfortunately the number of human beings who have need to be changed from their loathsome and life-destroying condition vastly exceeds the number of individuals who are both able and willing to place them in better circumstances.

When we contrast the expensive outlay and untiring industry with which so many men usefully pursue their tastes and occupation in the wide departments of husbandry and gardening, and the perfection to which cattle, in the most comprehensive sense of the term, and plants, have been advanced by the art and energy of man, with the neglected and degraded state of so large a proportion of our people, we are led to ask ourselves, Is there no remedy for this state of things? Can no treatment be devised by which the moral and physical improvement of man may be promoted also? As civilisation increases, the extremes between the higher and lower classes become more distant; the wealth (or rather its indications) and luxury at one end of the social series, and unmitigated vice and misery at the other, become more distinctly marked by their contrasting positions; while some classes of men are rising higher and higher in the scale of enjoyments and comforts, others are sinking deeper and deeper in the abysses of darkness and desolation. And if it be cheering to contemplate those who are in the ascending series, advancing by degrees, through industry and talents well exercised, to stations of increasing comforts and happiness and refinements of habits and sentiments, it is afflicting to view those who are in the descending direction, those who are approaching the lowest point or actually on the dark line of misery! with vice and ignorance on the same parallel. Is there no mode of treatment by which the lowest in the social scale might have the power of rising too, might receive the impulse which would send them in the upward direction?

What fine specimens of live stock are produced at our cattle shows—from the noble and intelligent horse at the top, to the grovelling hog, nay, to the poultry of the cottager, at the bottom of the list—by the skill and assiduity of the agriculturist! And in the vegetable world what has there not been done towards perfecting every variety of useful plant or developing the beauties of those that are merely ornamental! But while we are lost in admiration of the size and symmetry and high condition of beasts that are reared for the shambles, and at the wondrous excellence of the fruits, the culinary vegetables, and the flowers of our Covent-garden markets, and are delighted at the accuracy of arrangement with which everything relating to market management in such places is conducted, we see crowds of our fellow creatures in hovels huddled together promiscuously as to sexes, and without any due classification, in confinement, which is contrary to the nature of man, and without the feeding which our domestic animals receive in their cribs. We see multitudes of human beings either toiling at some unhealthful and irksome occupation in the little room which serves for a whole family by day and by night, and scarcely earning the means of procuring a scanty measure of food and clothing, or roaming about in search of work, "asking leave to toil," or pale and emaciated, and prematurely old, with a sickly half-starved progeny, or, what is a worse state still to society, prowling about in search of prey, or cadaverous from intemperance, induced by the very abjectness of their condition. I shall venture to introduce here a very powerful passage bearing directly on this dark and fearful subject. It is a truth-telling, a speaking picture, by one who knows mankind well, and seems to have entered into every abode of human misery that our cities enfold in their fearful and noisome labyrinths.

"Hear," says Mr. Dickens, "the magistrate or judge admonish the unnatural outcasts of society; unnatural in brutal habits, unnatural in want of decency, unnatural in losing and confounding all distinctions between good and evil; unnatural in ignorance, in vice, in recklessness, in contumacy, in mind, in looks, in everything. Follow the good clergyman or doctor, who with his life imperilled at every breath he draws, goes down into their dens, lying within the echo of our carriage wheels and daily tread upon the pavement stones. Look round upon the world of odious sights—millions of immortal creatures have no other world on earth—at the slightest mention of which humanity revolts, and daily delicacy living in the next street stops her ears and lisps, 'I don't believe it.' Breathe the polluted air, foul with every impurity that is poisonous to health and life, and have every sense conferred upon our race for its delight and happiness offended, sickened, and disgusted, and made a channel by which misery and death alone can enter. Vainly attempt to think of any simple plant or flower, or wholesome weed that, set in this fœtid bed, could have its natural growth or put its little leaves forth to the sun as God designed it." What does the gardener or nurseryman do with the seedlings he raises? He pricks them out, or transplants them; he does not leave them huddled together and striving for the mastery in their seedling bed; he gives them air, fresh soil, and space. Judging from analogy, the transplanting of boys and girls, with an equality in the sexes, from our crowded nurseries, would be a judicious operation, and both beneficial to the parent spot, by relieving it of redundant growth, and to the distant colonial soil, where the prolific tendencies of our species would cause the earth to be replenished and subdued. Experience has proved that in the vegetable world young and pliant plants bear transplanting best. A full grown tree may be transplanted, it is true, but with very doubtful success, and only with much labour and cost and care; the old inflexible roots will not always fix themselves anew; their powers fail, they cannot easily accommodate themselves to their new circumstances, and though the tree may live, for some years more, it will not become luxuriant in foliage and shoots, will be soon rivalled and exceeded in size and vigour

and value by the young trees which had been transplanted by its side at an early age; these quickly take root and flourish, because they are moved at a period of their growth when they can adapt their habits to the fresh soil and new climate.

We wait—in the case of our fellow men—until time has hardened in all kinds of iniquities those men and women whom the State exiles, and rendered them inflexible in what is wrong, unyielding to what is right. And we transport criminals, whether old or young, at three or four times the cost at which the same individuals might—if taken, let us suppose, from the ragged schools—have been transplanted before they had become so many plague spots at home, and completed a course of polluting infamy, at every succeeding stage of which they had occasioned trouble, shame, and much expense to their country.

In a statistic point of view, the expenses of buildings and maintenance of asylums, penitentiaries, and prisons, for youthful delinquents, whose number is fearfully increasing in the general aggregate of crime and destitution, would be diminished if the ragged school system of transplanting (among other modes of colonisation on an extensive scale), so forcibly urged by Lord Ashley in Parliament on the 6th of last June, were to come into operation. The suggestion of putting forth select specimens (after testing their fitness for removal) of young plants of the human species seems, to my judgment, unobjectionable. The ragged-school children, like the Ragged Jack tribe (Riga Kale is the more dignified designation), once put into fresh ground, and properly treated, will, when watered by the dews of Heaven, take root and produce an hundred-fold; while tough old plants will yield comparatively but a poor return. The transplanting system might be made to supersede the transporting system. A supply of the "Ragged Jacks" would be far cheaper in the outset, and more reproductive in the end, to some of our colonies, where labour is so much wanted, than adults in years, and veterans in crime, can possibly be anywhere, even in a strictly penal settlement; and wherever there is a demand for convict labour, from the pressure of circumstances, is it not clear that, if the prisoners from Pentonville find ready demand for their services by colonists, the *élite* of the young people of the ragged schools, *et hoc genus omne*, would have a decided preference in the colonial labour market? Such has often been the utter destitution of boys in London, that some of them have been known to enter one of the iron rollers in St. James's Park as a sleeping berth by night. Though it would be as absurd to infer from their use of an agricultural implement as a resting place, that these boys had any predilection for the general operations of husbandry, as it would be to argue that a man was altogether of a domestic turn of mind, because he might like to sit upon one of the ridge tiles of his house; it is at least to be concluded that boys habituated to sleep soundly in an open iron cage, would be good hardy subjects for transplanting to any clime.

I like Lord Ashley's plan from its philanthropical character, and from its utilitarian aspect also. There is a tide of emigration ready to burst forth; and there are fair spots, South Australia for instance, where the flowing waters would irrigate a large surface and cause a luxuriant vegetation: each healthy plant fixed there, would, like a blade of Wheat, tiller abundantly, and every offset would be required for continued transplantation. I like Lord Ashley's plan, because it purposes to send to those of our Australian colonies which are untainted by convict labour, though greatly needing labourers, healthful plants.

What cultivator would sow weeds in his land? Who would introduce Docks and Thistles? And yet unless labourers be taken from the Docks, the colonist has as yet no adequate means of cultivating his land. He must confine himself to sheep farming. And even in that department, from want of shepherds to clip the fleeces properly, it has been estimated that a loss of 40,000*l.* has been sustained by the want of good clippers in Australia within a short period.

Would it not then be a public good to supply, on a large scale, our colonists with the labour which is now so disproportionately, so extravagantly dear? and would it not be a blessed thing to be instrumental to the present and eternal good of so many thousands of our outcast children; to give them occasion to say with the Psalmist "The Lord is my shepherd, I shall not want; he maketh me to lie down in green pastures; he leadeth me beside the still waters."

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

Reserve Bed for Window Plants.—To persons who are not in possession of a greenhouse, it is a most important matter to be able to keep a stock of healthy flowering plants to decorate the window of a sitting-room. The general lover of flowers will not be satisfied with having a well stocked garden; he must also have some pets to employ him in wet weather, and during the months when, out of doors, plants are not in bloom. He will also feel that flowers adorn his dwelling more than the choicest works of art, and to secure them in succession will be willing to incur some expence and trouble. Much has been written on the proper treatment of plants in rooms, and their successful management demands some skill and much attention. But without a greenhouse to rear them in, how is a variety to be obtained at all seasons? This question we propose to answer as far at least as the summer months are concerned. We hinted at the matter some months back, but are now better prepared, from actual experiment, to recommend a reserve bed for window plants in pots. The plan about to be described has been found so advantageous that we think many will be pleased to have it in detail, that they may adopt it themselves.

When a Rose tree or a Fuchsia has shed its bloom in the window, it is generally removed to the garden, and there takes its chance among many other things; receiving water sometimes and being scorched up at others. This at least has been the fate of my own stock, and in but few cases have plants thus treated flowered well a second time. To provide against the danger of humble things being forgotten, and to secure a further bloom from plants of a perpetual flowering character, such as Roses, Fuchsias, and Scarlet Pelargoniums, I have appropriated a piece of ground as a reserve bed. It has a southern aspect, so as to secure for the plants all the sun possible, and is protected from the north winds by a low wall. The soil of the bed is very light, being composed principally of leaf mould and rotten dung; this is of no importance to the plants, as they are not to receive any benefit from the surrounding earth, except an equal and regular supply of moisture, but a light soil is more convenient to handle in the frequent removals which will be necessary; it also adheres less to the feet and the pots in wet weather.

When a plant appears to have done blooming, I cut off all decayed flowers, and also reduce the branches a little, cutting down a Rose for instance to a plump bud. I then examine the roots, and if they have become cramped I loosen them carefully, shake out a little of the exhausted soil, and repot in fresh compost. Having received a good watering, the plants are then buried up to the rim in the reserve bed, allowing at least a foot distance from other plants to each of them every way. If they are then covered with the mowings of the Grass plot about an inch deep, they will require no watering, unless the weather should be more than usually dry. Every week they must be looked over, for the purpose of weeding, tying up where required, clearing from green fly, &c. When bloom appears take them up and remove them to the window, putting in their places other pots treated as directed above. As roots are apt to protrude through the bottom of the pots, it will be well to turn the plants round occasionally. If this is not done, and the roots lay hold of the subsoil, they must be broken off at removal, and the plants may flag in consequence.

I believe I have had this summer double the number of plants in bloom by the adoption of these simple means. My reserve bed is now occupied by pots which will be ready to bring in at a time when flowers become scarce. I shall protect them when there is any danger of frost, and by careful watching some will do well out of doors till November. It is too late for the method to be tried now to any great extent; but Roses and Fuchsias thus treated will have time to form fresh shoots and flower-buds before the cold weather comes on.

N.B. My Potatoes, which were taken up some time ago, exhibit undoubted signs of decay. We use the spotted ones first, cutting out the sound portion and mashing them. These are quite as good as the perfectly sound ones, when thus used. It is tiresome work for the cook, above a peck of Ash-leaved Kidneys being used at a meal. But the cut off portions do well for the pigs. We took up more Ash-leaved last week and found many bad ones. A row planted under some Apple-trees, where there had been no manure for some years, was perfectly sound. This is decisive as to the injurious nature of rich soil. What splendid Potatoes some hungry, uncultivated commons would produce! *H. B.*

Home Correspondence.

Popular Errors (*Viper, Slow-worm, Berberry*).—I shall be most willing to receive "*enceintes* vipers," as you have suggested, provided those who send them will be careful to notify the contents of the parcel. If any one should again be an eye-witness of the point in dispute, and yet unwilling to catch his viper, perhaps he may contrive to cut off her head without any internal mutilation or rupture being produced from blows. The cut extremity may then be tied up, and the body put into spirits. Thanking your correspondent for his frank invitation to visit his excellent viper quarters, I must resist the temptation, as I feel contented with his own report of the popular confidences of his neighbourhood. If he were to favour me with a visit in Suffolk, he would find a popular notion, generally prevalent, that slow-worms are poisonous, even more poisonous than vipers. In this case science is amply qualified for declaring this notion to be more than improbable; and the only wonder is that people who have such abundant opportunity for testing the fact should not yet have recognised the absurdity of their opinion. Whilst dismissing this subject, as you suggest, let me refer such of your correspondents as are not acquainted with Mr. Bell's excellent work on British reptiles, to his account of the manner in which the toad shifts its skin. Having accomplished this object, the economical reptile then rolls up his cast-off clothes into a ball and swallows it at a single gulp! Let me now invite those who are inclined to investigate the grounds upon which any of the many popular notions adverse to the present state of scientific knowledge may have originated, to take up another subject which it is perhaps more strictly within the limits of a botanical journal to discuss than the economy of reptiles. Mr. Bree has told us that some of the farmers of his neighbourhood were angry at the denial of one of their favourite theories (and none have such strange theories as merely practical men), "that Thistles do not grow from seed." Now, I have been pretty sharply rebuked for doubting another very generally received opinion among them, 'that a Berberry bush in a hedge will cause a Wheat field to be mildewed.' Without over positively denying that a Berberry bush may sometimes produce a deleterious influence on the corn in its immediate neighbourhood, for I have seen other shrubs and trees producing injurious effects of this description, I am very sceptical about a Berberry bush producing any such peculiar influence as to require its careful extermination from our hedges. I will transcribe a sentence from a paper I published in the 'Journal of the Royal Agricultural Society' seven years ago. After suggesting experiments for testing the fact I remark, "If the results of these experiments should tell to the prejudice of the Berberry, I would willingly travel many miles to be convinced, by personal inspection, that this pretty and botanically interesting shrub had really caused the evil imputed to it." Here we have another "popular notion," which is at least as widely spread, and as strictly in opposition to our present scientific ideas as the viper wonder. If true science is to advance, she must dictate the terms on which she will consent to admit the sufficiency of the evidence by which she is to be assisted. Where a popular error is to be refuted, it must be done by a clear and open-to-all exposition of the fallacy upon which it has been founded. Let us keep our eyes open and our minds unprejudged, and then whenever a fitting occasion for testing our respective opinions may present itself, I dare say we may soon contrive to settle such disputed questions as those we have been discussing. P.S. I notice two typographical errors in my communication at p. 542, middle column, a sentence is wrongly punctuated, viz., line 11, for "in illustration of, &c.," read "in illustration. Of two supposed burglars, one A., &c." Last line but one, for "now" read "none": *J. S. Henslow, Hitcham.*

Botrytis infestans.—Mr. Murray has sent me a plant of Solanum laciniatum which had grown in the open border at Cambridge, and whose leaves were in a state of decay resembling the Potato disease. I find them attacked with Botrytis infestans, assuming the appearance figured by Mr. Berkeley in the Journal of the Horticultural Society, vol. i., pl. 3, fig. 14. Mr. Murray adds that another plant of the same species has been completely destroyed. Although the stalks and leaves of the Potatoes in this village have been as much destroyed as in former years by the disease, the tubers themselves do not as yet appear to be so badly infected. The reverse seems to be the case at Cambridge, where the disease is reported to be worse than it ever has been before in that neighbourhood; *J. S. Henslow, Aug.* 21.

Allotments.—Seeing that on all occasions you advocate the allotment system as a means whereby the poor man is benefited, perhaps a short account of Sir Edmund Filmer's allotments will not be uninteresting. His allotments are in three different parts of the parish, in all 60 allotments of a quarter of an acre each, the rent of one division is 7*s.*, the other two are 5*s.* 6*d.* each; the rent is paid once a year, when each man receives a receipt for the same in the shape of a good dinner and 2 quarts of ale. Prizes are given in each division of allotments for those in the best order, the prizes are equal for each lot; it stirs up emulation amongst them, and is the means of making their gardens more profitable. A horticultural show is held, open to the allotment tenantry and cottagers of East Sutton and neighbourhood; here they all compete on equal terms, the prizes are given in all kinds of ironmongery, cooking utensils, and tools; this is an admirable plan of giving prizes, because it enables them to get some good useful articles they otherwise would not buy, and it gives them more satisfaction, as is seen by the delight and thankfulness they show on receiving them from their kind patron and benefactor. Their show this year, which was last Wednesday, was far superior to the one last year; the prizes were very liberally given: 51 prizes were distributed amongst them, and some of them got some very useful and handsome presents; their prizes varied from 1*s.* 6*d.* up to 13*s.* each; *M. T.*

Exotic Aquatic Plants.—At a late meeting held in the study of the Exotic Nursery, Chelsea, Mr. J. A. Watson read a paper on the culture of exotic aquatic plants. He introduced the subject by a few observations on the beauty and fragrance of some of our tropical aquatics, and the necessity of bottom heat to flower them in perfection. This latter he considered the mainspring of success. For its accomplishment, a large slate cistern, with a coil of hot-water pipes passing right through it is the best. These pipes should have a valve at each end, by which the flow of water can be stopped at pleasure, and by these means the temperature of the water can be regulated to a nicety. Solar light, he said, was of the utmost importance. Most of the plants that he was about to mention were, in their native habitats, exposed to the unobstructed rays of an almost vertical sun, consequently we ought never to shade them, except in cases when we wanted to prolong their flowering. Mr. Watson then read a long account of the genus Papyrus, the most interesting and beautiful species of which, he said, was P. antiquorum. This celebrated plant is that which yielded the paper of the ancients. Mr. W. had found that it grew stronger when treated as a sub-aquatic than when immerged. The soil he had seen it grow best in was good strong loam. The temperature that suits it best is from 80° to 95° in summer, and from 70° to 75° in winter. Treated as above, he had seen it throw up stems 14 feet high, and believed it seldom grew stronger on the banks of the Nile. Similar treatment answered admirably for P. laxiflorus, and

P. odoratus. Mr. W. next adverted to Nelumbium speciosum and album, the principal ornaments of the lakes of India and China. They were once common in Egypt, and were supposed to be the sacred Bean of Pythagoras, but are not to be found in that country now. The seeds and tender underground stems are edible; the former are eaten green, or dried, in which state they resemble nuts. The latter are either boiled and used as vegetables, or sliced and eaten as fruit, being white, juicy, and of a sweetish taste. In China whole lakes of it are cultivated for this purpose. The Chinese reckon it the king of all their flowers, and grow it for ornament in large earthenware vessels, which also contain gold fish. To flower N. speciosum and album in this country, two grand requisites are necessary—a bottom-heat of at least 85°, and plenty of solar light. The seeds ought to be sown in the month of February in loam, one in a 6-inch pot, and about an inch deep in the soil; this done, place them in water at a temperature of 85°, and as soon as they vegetate, expose them to all the light possible. As soon as they have made a few leaves, 4 or 5 inches in diameter, shift them into 11-inch pots, which will be large enough for the first year. Many gardeners find a difficulty in keeping Nelumbiums through the winter; this Mr. W. attributed to a low temperature, about 75° was what he had found best. The practice of keeping them dry during winter, is (to say the least of it) unnatural, for they are never found in any of the lakes of India or China that are liable to be dried up in the hot season, which shows plainly that the Nelumbium is not amphibious. N. luteum requires similar treatment in every respect, except temperature. If kept hotter than 75° in summer it will not flower. Exotic Water Lilies were next brought under notice. Nymphæa Lotus, rubra, cærulea, cyanea, and versicolor, are natives of Egypt, the East and the West Indies. To grow them, and bloom them in perfection, they require a bottom-heat of from 80° to 85° in summer, and about 70° in winter. The seed ought to be sown in February, in loam reduced to the state of mud, and the pot immerged in the water to within half an inch of the brim; if immerged overhead, the seed will be liable to be washed away. As soon as the seedlings have made four or five leaves, pot them into small 3-inch pots, and when they have filled these with roots, repot them into any sized pot that is most convenient; the larger the pot the firmer the flowers, but they often bloom nicely in small pots. Mr. W. said he had found it a good practice to wash all the old mud from the roots of Nymphæas every March, and repot them in fresh loam. N. odorata, N. odorata nana, and N. odorata maxima, do not require so strong a heat as the above species by 10°. N. pygmæa flowers well in a greenhouse, consequently it is a very good plant for amateurs. It was stated that the Limnocharis Humboldtii and L. Plumierii ought to have a place in every collection, on account of their beauty and easy culture. They require to be divided and potted in spring, in strong loam. In summer they will flower well in a greenhouse, but not in such perfection as when kept in a stove. Mr. Watson next gave some account of Vallisnerias, which he said were of little use for ornament, but worthy of being kept in collections, on account of their curiosity. V. spiralis grows in the ditches of the south of Europe, and does well in a greenhouse. V. octandra, V. alternifolia, and V. verticillata, are natives of the lakes of India, and require a stove heat. Pistia stratiotes he had seen grown in different ways, in peat and loam, loam, silver sand, cow-dung, and mud; the last named were the best, but no better than those which float about without any soil. Changing the water about aquatic plants daily was stated to be of the greatest importance to their health, and care must be taken to have the fresh water about the same temperature as the water drawn off; *James Charles, Secretary.*

A Word on Polmaise.—I most strongly recommend any one who is thinking of putting up a Polmaise apparatus, not only to see one already in use, but to ascertain that it answers. With the assistance of an intelligent builder, and the plans and directions in the *Gardeners' Chronicle*, I put one up, and found it a failure. To be effective, the body of the stove must be in the body of the house; I have no doubt a small one will then answer, but it is very ugly, and takes up much room. It was through endeavouring to avoid this I failed. In your Number for August 12, you have given a better direction on the subject than any you have heretofore given, viz., "See Mr. Kendall, of Stoke Newington." Had you given that advice a year ago, I should have escaped much trouble and expense. Any one calling on Mr. Kendall will, I am sure, receive what I, a perfect stranger, received from him, the most polite attention and full information on any subject connected with his profession he may be consulted on. He will also see a very fine show of plants, and, if my memory fail not, he may also see, in a house glazed with common glass, very many scorched Vine leaves, though not so many as in the two establishments I mention elsewhere; *A. K.*

Bean Culture.—I have pursued the following plan of growing garden Beans this year with great success. They were set in rows 26 inches apart, and as much as 12 inches in the row from seed to seed. The plants were kept down to 2 feet in height or less by topping, and all the tillerings removed. Thus treated they got abundance of light and air, and the produce was very large—ten rows of 30 feet long, giving 4½ bushels of pods. One plant or stem yielded 26 pods; many others from 15 to 20. In four rows out of the 10 the plants were allowed to retain their side branches and to grow higher, but these did not produce so well as the others, otherwise I should have had 5 bushels from my plot of ground. Besides the large produce thus obtained, another advantage was gained, that of early maturity. I may add also that I have an excellent crop of Parsnips on the same ground, which were sown at the same time with and between the rows of the Beans, and which, now that the latter are cleared away, are looking quite as well as others sown by themselves in rows 18 inches apart; *Rev. T. M. Taylor, Knutsford, Cheshire.*

The Wagtail and Cuckoo.— During the spring of 1846, a pair of wagtails had built their nest in a Pear tree on a west wall. No particular notice was taken of them until it was found their own eggs had been replaced by two of larger size. Incubation went on as before, and two young cuckoos were found to be inhabitants of the nest. These the wagtails fed most industriously, and when almost fledged, they were put into a cage; the wagtails continued to feed them as usual until August, when they had become well feathered strong birds, when they eventually forced their way out of the cage; however they were often seen near the place of their birth during the following three weeks, in company with the wagtails. In the spring of 1847 I noticed a pair of wagtails frequently in and about the greenhouse, at the end of which was the Pear tree before mentioned. A very singular spot had been fixed on for their nest. A seed pan had occasion to be placed on two bricks laid edgewise; under this pan was their nest, so contrived that the drainage of the pan should fall at the side of their nest. Here five young wagtails were reared, and the parents had become so accustomed to my presence, and at seeing the ordinary work of the greenhouse going on, that they used merely to look on with apparent interest while the water from the plants was dripping all around them, and I within arm's length; their young family continued in safety in this singular place until they were able to take care of themselves, and were frequently seen walking on the greenhouse lights during the summer. It is remarkable that, during the middle of one of the hot days at the end of May, I observed a full-grown cuckoo fly into the Pear-tree which had been the birth-place of two the previous year; I imagined that the bird came there rather exhausted and on account of the shade the tree afforded, as it allowed me to take it in my hand, which I did, and kept in a cage for several weeks; at last a person went to see the captive, and not having secured the door, the bird escaped. During the spring of the present year, on account of alterations, the wagtails could not build their nest in either of the former places; but in one of the pigeon-holes of a Cucumber pit my old friends again reared five young wagtails in this anything but retired place, and as near as possible to where they had been the two former years; they have been near the greenhouse this year less than previously, but are generally on the lawn very near, which I attribute to the wet season, as previously they were regular visitors at the cistern used for watering the greenhouse; *J. H., August* 15.

Cultivation of the Strawberry.—Few will deny that the Strawberry, when cultivated in drills, should be mulched between the rows with Grass, straw, or something that will prevent the fruit from being soiled; it is perhaps, however, not generally known that such materials, although they may answer the desired end, deteriorate the flavour of the fruit, and are attended with other inconveniences. If Grass be used, you introduce snails, slugs, and weeds, which cost many a tedious hour's labour to eradicate. Resolve for ever therefore not to employ Grass for the above purpose. I this season used straw, but I have found that the flavour of the fruit is impaired where anything excludes the sun's rays from the soil. I was not aware of this till lately I observed that thrushes and jays like the rows round the quarters as edgings (and which were not strawed) best, my curiosity led me to taste their fruit, and although of the same variety (Rose) as those strawed, the taste was so superior to that of the latter as to bear no comparison; I intend, therefore, to give the following plan a trial. I will get a quantity of deal laths (such as are used for drain soles in this country) of the breadth of 4 or 5 inches, and of any length suitable, and fix two or three small bars or pieces of wood sharpened at the end across each lath, so as to stick out past one edge of the board 3 or 4 inches, to fix into the ground along the side of the drill or bed, slanting from the fruit a little at the top, so as to give room for the fruit and foliage to rest on the side of it; this can be effected at little expense, and may easily be removed to and from the ground, which will be exposed to the sun and air between the beds or rows. I have often observed that too much manure is hurtful to the quality of the Strawberry, often producing little else than a mass of foliage, and that where the soil is thin, or the roots in contact with rock or stones, the quality and quantity is far superior. But this is at variance with the "practical" directions to "manure with good rotted dung, trenching 2 to 3 feet deep." When fruit is plentiful, and the foliage is very abundant, the fruit is apt to damp off and rot for want of a due circulation of air, even although the weather be comparatively dry. Any hints relative to the successful cultivation of this useful fruit will be thankfully received; *Alex. Walker, Gardener, Mayen, Banffshire.*

The Potato Crop (see p. 557).—Since I wrote to you the disease has broken out in a field close by me. The farmer to whom it belongs was in my garden looking at the Potatoes I was taking up, and where not a vestige of disease was to be seen; and I advised him strongly to set out about raising his own crop without delay, as there was not a doubt of the near approach of the disease. He said he could not see anything like it on his farm, but would think about taking them up. He sent me a message this morning that the disease had attacked his field, and that he was busy taking up the crop. Here, then, we have a case in which a fortnight's delay has cost the farmer dear. He intends to dispose of his Potatoes at a low price as fast as he can. Though my Potatoes are perfectly sound at present, the disease may possibly break out among the tubers. But if atmospheric influence be concerned, the chances are in their favour. You shall be informed of their state in due time. In 1846 I sowed some seeds, and last year I selected about 50 that were all fine sorts. This year I replanted them, to ascertain which yielded the best crops, and I have set aside above a dozen sorts all exceedingly good bearers, and some of them of remarkably fine quality, as proved by tasting them. I am at a loss what to do with them all, for two or three kinds are quite sufficient, and I do not like to throw away so many fine sorts. The soil in which they grew is a sandy loam, deep and dry. Unfortunately soil makes great changes on the quality, and even shape, of the Potato; so that one that is superior with me will be bad, probably, in a heavy soil. A Kidney which I still cultivate, when planted in a dark fine soil, became positively bad. The same Potato planted in Colonel Le Couteur's Garden at Jersey, altered its shape from Kidney to round; *G. S. Mackenzie, Bart.*

Mulberry Trees.—Two large Mulberry trees here are loaded with fruit nearly every year. They are never pruned, for in my opinion the Mulberry tree should never be pruned. Pruning causes luxuriant growth, and deprives the fruit of nourishment. The trees in question, I have no doubt, have been planted upwards of 120 years. They are so large that we have to chain the large branches to each other for protection against strong winds. Is "H. E. M. O.'s" tree not too deeply planted, and in a bad subsoil? If he will spare it a few years longer, and not experiment on it, it will probably reward him with fruit. Our trees form an ornament to our mansion. We gathered a peck of fruit from them last year, and we have an average crop of fine fruit this year; *James Roberts, Gardener, Hatfield Hall, Wakefield, Yorkshire.* [Quite right. Let the Mulberry alone.]

Hornets.—The food of these insects is similar to that of wasps; nothing comes amiss to them, from the hard Crab Apple to the soft Apricot. They pilfer honey from that placed before hives for bee food; but I never knew them to enter hives for the purpose of robbing, like wasps, with whom they ever wage deadly war. When a hornet is engaged in procuring materials for its nest on a rotten post, woe betide the wasp that may cross its path; it is instantly cut in twain by the strong mandibles of his more powerful neighbour. I am not certain whether or not hornets destroy insects and wasps for food, as the latter do moths and flies. Most probably they do until they can get fruit. They certainly unbark young healthy shoots of trees, those of the Ash especially; but I could never discern whether they were after juice to mix up with their paper materials for their nests, or the rind or inner bark as food. I have known them unbark branches of the thickness of a man's arm, and such may have given rise to the expression in Norfolk, "trees are wasp eaten." If one stands close to a strong hornets' nest, he may observe the insects entering with clear drops of tasteless fluid in their mouths, which may be nourishment for their brood; they continue to do so early and late, even after the time wasps cease to be about. Although stronger armed than any of its species, this insect does not make wanton use of its strength, nor does it strike unless in defence of its nest, or otherwise provoked; I have even had them during confinement eat rotten fruit from my hand; and, however dangerous and annoying hornets may be, in general they prefer woods to gardens, and I believe in some localities are never seen, while the wasp finds its way everywhere. Bee-keepers are sometimes alarmed at hornets taking possession of tenantless hives, but, as only a solitary queen begins a nest, they are easily destroyed; I have sometimes allowed them to go on a while without observing them to be any annoyance to the apiary. These formidable insects are far more sluggish in their habits than their troublesome brethren the wasps. They do not defend their nests with such waspish spirit; but, like wasps, it is only those that issue from the nest that attack one, and not those returning laden. As regards wasps, this curious fact did not escape the notice of the late Mr. Knight; *J. Wighton.*

—I adopted the following plan of taking a hornets' nest in a roof, a few weeks ago, most successfully: I melted some stone sulphur in a flower-pot, which was fastened on to a long stick. Late in the evening a little melted sulphur was added, and the whole set light to and raised under the spot by a ladder and long stick. The sulphur does not burn with much flame, and therefore it was placed close up under the roof without fear of fire or any damage to the house. The stick was fastened under the pot through the hole, but an old iron pot is safer, as the earthenware pot is liable to break with the heat. The following morning my man took the nest, and destroyed all the young in the grub state; *G. H.*

Strawberry Forcing.—I cannot allow Mr. Cox's re-

marks to pass without again stating that Strawberries treated according to the plan I advocate, will be found to produce fruit equal in quality, as well as in quantity, to those treated according to Mr. C.'s plan. I have seen a great quantity of Strawberries forced, and treated according to both plans, and I always found the one quite as good as the other. I might even venture to say that those potted at first into 8 inch pots were the best, if indeed there was any difference, for this reason—they never received the slightest check, from the time they were potted to the time they fruited. The Strawberries belonging to Mr. Knox, at Romford, in 1845-6 and 7 were a proof of the correctness of my argument. They were the admiration of all who saw them, and many of the growers around London pronounced them to be unequalled, as a whole, by any they had previously seen. I did not see them in previous years, but I believe they always bore the same character; and they were always grown on the system I advocate. I mention this instance in particular, merely because it is in the neighbourhood of London, and the truth of my statement can be easily ascertained; *J. L. M., Tolmers.*

Corroborated Glass.—I have noticed your appropriate observations upon sheet glass for hothouse roofs, in reference to the scorching effect of the sun's rays, and your recommendation as a remedy, viz., patent rough plate, which I have no doubt will answer well, and I hope to hear of this transparent roofing being put practically to the test upon a large scale. No remarks were, however, made in reference to the prevention of drip, one of the evils so injurious to Pine and Grape culture, whether arising from rain-water oozing through the laps, or from condensation upon the interior of flat glass. Is it not possible that condensed vapour, collecting into globules of water upon the flat glass, might form lenses by means of which the leaves would become scorched by the concentrated rays of the sun? The more irregular the surface may be, the more are these globules liable to be formed by the water of condensation. To obviate the drip and scorching I have tried an experiment, which I believe remedies the latter and entirely prevents the former. My plan is to cover a greenhouse or Grapery with a series of panes of glass, of an arched form, which, if weighing 20 oz. to the foot, resist hail-storm as effectively as nearly double that weight of flat glass; it may be termed patent corroborated glass. I will describe its mode of manufacture: A cylindrical French shade is blown, and when each end is cut off it is technically termed a "muff;" but instead of its having only one slit cut through it from end to end for opening and subsequently flatting it, is separated into three pieces by two other slits at equal distances and parallel to the first slit, producing from one "muff," 7 inches diameter and 20 inches long, three continuous arches of that width and length. A roof glazed with arched or corroborated glass will have a very ornamental effect, somewhat resembling corrugation, and the rain will always keep it clean and transparent. These side-by-side glass arches are puttied into wood or metal frames, nearly in the same manner as flat glass, but the construction of the frame is essentially different. The "muffs" should be blown a little taper, to allow of the arched panes lapping over each other. The frame must be angular, like a wood gutter, which being inside the glass roof will be protected from the weather. Upon the apex of this angle frame, into which the arches are puttied, a small additional gutter is made (out of the same frame); the latter conveys the condensed water into a channel within the bottom, running at right angles with the sash frames into a cistern, which may be used for syringing. Thick flat glass for roofs not only refracts the rays of the sun passing through it at right angles or transversely, and in the proportion of its superior polish, substance, and flatness; it is capable of reflecting out the rays of the sun impinging upon it in an oblique direction, and thus losing a proportion of heat of the morning and evening sun, when its influence is most needed within the house. The arched glass of moderate uniform thickness being periscopic has no tendency to burn nor to reject the sun's rays at any angle of impingement. The arches being pointed southward, and the sun travelling from east to west as it rises to altitude and again descends behind the horizon, its rays will at all times of the day be refracted through the glass arches nearly at right angles. Of course this supposes the whole roof to be fixed on a suitable slope. Mr. Hartley, of Sunderland, whose cast glass you have properly recommended, made me a small quantity of corroborated glass, the cost of which is about the same as flatted sheet glass; with part of it I have glazed a small frame, and my gardener has used it advantageously for striking all sorts of cuttings, preparatory to my introducing it for a Grapery, when I will make you a report of the results upon a larger scale. Hitherto I have experienced difficulty in getting the "muffs" of an uniform diameter, which I have no doubt the glass blowers by practice will soon overcome; *Apsley Pellatt, Staines, Middlesex, Aug.* 11.

Cryptomeria japonica.—At the Milford Nursery, near Godalming, there is now in flower a noble specimen of this valuable Chinese Cedar. It appears likely to seed freely, and Mr. Young is in hopes thereby to add plentifully to his stock. The stems of the larger plants, a few feet from the ground, are changing in colour to a fine russet brown, which, added to the fine green of the younger wood, and elegant habit, renders it the queen of hardy ornamental trees; *H. Bowers, Busbridge, Aug.* 23.

Diseased Turnips.—I send you specimens of white Turnip sown in a field in the neighbourhood of Halstead, Essex. At present half the crop is affected. The leaves of the plants diseased present a darker colour than those in health, and when I saw them on the 17th, were drooping to the earth, as though they wanted moisture. The labourers say they never saw a field so affected before; *C. W. L., Halleigh, Suffolk, Aug.* [These Turnips one would say had been checked in the midst of early luxuriant growth. They are ill-grown, stunted specimens, not thicker than the handle of a whip in some places, and bulging out into knots or lumps as large as a hen's egg. We can find no trace of their being affected by any cause inherent in themselves: no insects, no mildew, no diseased structure—and, therefore, the history of the attack must be looked for in the field itself.]

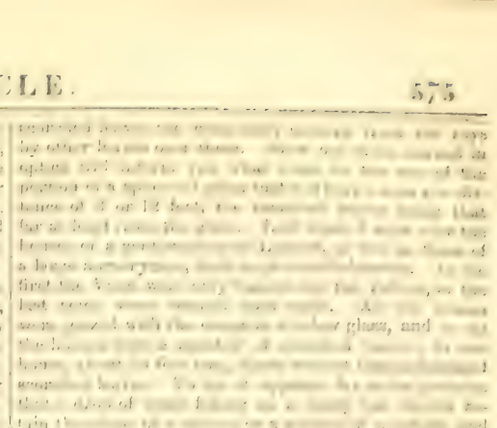
Potato Disease: Burning the Haulm.—Although the attacks of the Potato disease in the fields are as yet only partial in Scotland, still when we recollect that it was not seen here in 1845 until the end of August, and as there are evident premonitory symptoms of its existence, and fully developed cases in the gardens, we must look for our share of it when the later crops are further advanced. It appears to attack the crops just in proportion to their progress towards maturity, and in my garden I have had it with forced and early Potatoes although not virulent, since the month of May. On several occasions I have found the attempt to arrest its progress by cutting or drawing the haulm has been attended with beneficial results, thereby proving that the removal of the action of the atmosphere, through the leaves and stems, has a good effect; but of course no great, if any, increase of the tuber can be expected after this operation. Acting, however, on the same principle, I have just tried another experiment, which I do not think has been as yet attempted, viz., to cover up the haulm with earth, thereby preventing any portion of the plant from coming in contact with the atmosphere. I do not know what may be the result, but it is worth while trying the experiment on a small scale, either with plants at present sound or where the first indications of disease are observed. The haulm may rot, but I think it is possible that the plant may make a vigorous effort to throw the points of the stems to the surface, and by thus preserving its vitality, the tubers may continue to swell; *John S. Richardson, Pitfour Castle, Perthshire, Aug.* 22. [This is Mr. Meyer's plan, which we have under trial.]

Flower Pegs.—Surely "H. G. A." will find the old-fashioned Fern hooks preferable to whalebone or ladies' hair-pins for pegging down plants; *H. Curtis and Co., Mooreud.*——Whalebone possibly makes good pegs, but can it be easily procured? A good and cheap substitute for a peg will be found in the common Russian mat. Cut it up in lengths of 7 or 8 inches, tear them in small strips, and tie them in a bundle, or throw them into a small basket; then proceed by taking a strip, giving it a twist, then over the shoot with it, give the two ends a twist together, and push them into the soil with the point of the finger, or a short blunt-pointed stick. "H. G. A." cannot be in earnest when he recommends ladies' hair pins for general use in the flower garden; *A. Burnett.*——I would advise your fair readers to reserve their hair pins and whalebone for their legitimate purposes, and peg or tie their flowers down in the manner first suggested by Mr. Beaton, in your pages, with strips of bast; nothing is so neat, so cheap, or so effectual; *N. W. G.*

Remedy for Scorching by Glass.—"Dodman" will find starch ground with boiled Linseed oil much more effectual and lasting than thin paste to prevent the burning of sheet glass; it should not be painted, but stippled on with a brush; *H. Curtis and Co., Mooreud.*

Scorching effects of British Sheet Glass.—I have formerly stated that this glass, instead of being a *desideratum*, will prove a bane. I have a range of Vineries containing something like 4000 feet of the above glass, and I am so perfectly satisfied of the injury caused by it, that could it be removed by magic, I would gladly hail as a substitute the commonest green glass, which was discarded years ago, and would think myself most fortunate in the change. I speak of glass 21 oz. and upwards, which is the weight used here; but 16 oz. glass will, and has been proved, to scorch very badly. In a future paper I shall have something to advance relative to the angle of the roof of houses and the quantity of air required to subdue its injurious effects, and what I have done to render the roof opaque; *James Roberts, Raby Castle, Aug.* 21.

A Word about Scorching.—In your Number for July 29, in answer to Messrs. Hedley, you assert that sheet glass does scorch; why, and why it cannot be prevented you will soon explain. I believe you to be wrong and Messrs. Hedley to be right, and these are my reasons: My house is 41 feet long by 16 wide: I have no upright front lights, but the glass on the front rafters is 19 feet 6 inches long—not from Messrs. Hedley, but from the Broadmead works at Bristol—21 oz. to the foot, British sheet, set edge to edge without any lap, and without sliding sashes. The Vines are trained on wires, 1 foot from the glass, not up the rafters only, but all over the slope of the house. There are also Vines on the back wall, and a row of Vines down the centre. On minutely examining I find there are five leaves on the front Vines scorched, but two of them are below the glass altogether. There are about a dozen leaves scorched on the back wall, and not quite so many on the central row; but several of the



A. K.

Vi[illegible]

Potato D[isease].—

[illegible]

Miscellaneous.

Pine Disease.—The Mobile Register says, that the disease which is destroying the Pine forests of the Carolinas, has made its appearance in Baldwin county.

It exhibits some singular phenomena. Occasionally it proceeds in a straight line, destroying not only the full grown trees, but the small shoots just springing up. Then again it goes into circles, leaving trees in the intermediate spaces sound and vigorous. The trees die just as though they had been girdled. The leaves wither and fall off, and the trunk soon runs to decay. Our informant does not attribute the cause of this strange distemper to worms. The only worms seen about it is the common one peculiar to the Pine tree. His impression is that the cause is entirely an atmospheric one, and that no remedy can be found for it. Vegetable, like animal life, appears to be the subject of epidemics, and doubtless this disease is of that nature. In all probability it will sweep through the entire Pine region of the United States.

Calendar of Operations.

(For the ensuing Week.)

CONSERVATORY AND GREENHOUSE.

Those plants which have been retained within the house have very probably been rendered somewhat delicate by such protection, and should be secured from any considerable depressions of temperature, while at the same time they should be allowed to enjoy the full advantage of favourable weather. Plants of Brugmansia, whose period of blossoming has passed, may be closely pruned. The boisterous weather and cold foggy nights will suggest the advisability of removing tender plants from its influence; as soon as they are introduced into the house, the state of their roots should at once be looked to. The injury inflicted by insects should always be held in mind, and their timely destruction effected; a rigid search at this season is advisable. *Stove.*—Cleanliness should be scrupulously attended to within this department. The surface soil of large specimens should be stirred, and weeds and moss removed. The paths of the house ought also to be kept clean and sweet, by the application of water pretty often, and liberally applied.

FRUIT FORCING.

Peaches.—The red spider should be constantly assailed as it appears; on vigorous trees it may be repressed with a few applications of sulphur, but in the case of a sickly tree its eradication is more difficult; trees suffering from dryness are more liable than others. If the scale happens to be in the house it had better be well looked after and washed off with soap and water, otherwise it will spread entirely through the range. *Vineries.*—Treatment to facilitate the perfect (not premature) ripening of the leaves, and consequently the wood in early houses, from which the fruit is removed, must be practised. Employ gentle fires in the late houses whenever the external temperature is below 50°; the ripening process can only be effectually accomplished by a temperature superior to the degree indicated. Vines for early work, in pots, should now be exposed to an artificial winter in the coldest position that can be found, and restricted in regard to water. Strawberries for forcing, while in growth, may receive a little manure water occasionally; let the pots be kept free from worms and runners constantly stopped.

KITCHEN GARDEN AND ORCHARD.

The various crops of hardy legumes ought by this time to be fully established, and the general appropriation of the garden ground completed; precautions for ensuring a continued supply of salads should be immediately taken. Lettuces for spring use should be sown about this time, and also a bed or two of late winter Spinach. No further delay should be allowed in sowing for a main crop of Cabbages. Lay Onion tops; in cases where the crop is affected with mildew, ripen the bulbs as soon as possible, and select for early use the worst instances. Attend to the earthing of Celery, and when the attacks of slugs are apprehended, dust in lime about the plants before closing the earth around them. Collect herbs for drying, and on no account allow vegetable seeds to remain exposed after maturity on the parent plant. The extreme humidity of the weather has in many instances operated unfavourably on wall fruit. Apricots, particularly, have suffered. Rotten fruit should not be allowed to remain on the trees, or the branches in contact with the affected fruit will infallibly be injured, if not destroyed. Wasps are unusually numerous this year, a premium on their nests will assist to thin them; bottles and hand-glasses should be employed about the trees and regularly baited. If the trained Pear and Apple trees which have been stopped are examined, many laterals will be discovered which should at once be stopped back to one leaf. Spread short Grass or other soft litter beneath Peach and Pear trees, to receive chance falling fruit.

FLOWER GARDEN AND SHRUBBERIES.

The late heavy rains and boisterous winds have caused considerable derangement amongst the flowers. Immediate attention should be given, and all deficiencies from such injuries at once replaced. The propagation of mass flowers should be continued, and the general precautions for securing another season's display constantly held in mind. Pans will be found most generally useful for storing cuttings. Collect and dry annual seeds. Sweeping, mowing, and rolling should at this period be scrupulously attended to. On coarse lawns the final cutting of Grass for the season may be made. A thorough cleansing of walks from weeds is at this moment highly advisable. Evergreen cuttings may be put in, and preparation made for the removal of large shrubs by digging round the roots.

FLORISTS' FLOWERS.

Most florists have now looked over their stock of Tulips, and have decided on what they have to spare; and purchasers, also, are on the look-out for additions to their beds. It often happens that bargains may be made at this season most advantageously, and we would press on those who are starting in the fancy at once to place themselves in the hands of some respectable grower, stating the amount required, and leaving it to their honour to supply the best strains, &c. &c. Beds of splendid flowers may be thus obtained at a comparatively cheaper rate, than if purchased singly. Offsets should most certainly be got into the ground in the early part of next month; therefore, if the bed for their reception is not prepared, let it be done forthwith. *Carnations and Picotees.*—Attention must be paid to the layers. It sometimes happens (and we have seen several stocks which have suffered severely this season) that the wireworms (young ones, almost as thin as hairs) have insidiously introduced themselves into the pith of the layers, to their certain destruction: when one is destroyed, it is advisable to lift the pegs which hold down the others, and closely examine them; if at the section of the stem a bran-like appearance is visible, the enemy is not far off, and it must be carefully sought and destroyed; otherwise the loss of the whole of the layers in the pot will be the consequence. *Pinks.*—Of these we have numerous varieties coming out this season; in fact, there is a rapid progress making in this interesting flower. Jenny Lind appears to be a favourite name among florists; for we have no less than three or four Pinks, a Tulip, and several Carnations and Picotees, seedlings, commemorating her. New varieties had better be purchased now, and old ones planted out. *Dahlias.*—The late heavy storms of wind which have occurred during the past week have made sad devastation where these flowers have not been properly staked. Attend to tying the side branches out; this is requisite. Remove all malformed flowers, &c. &c.

State of the weather near London, for the week ending Aug. 24, 1848, as observed at the Horticultural Garden, Chiswick.

August.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 18	19	30.016	29.884	75	54	64.5	S.	.00
Satur.. 19	20	29.841	29.718	69	42	55.5	S.W.	.06
Sun. .. 20	21	29.960	29.882	71	45	58.0	S.W.	.26
Mon.. .. 21	☾	29.718	29.478	69	51	60.0	S.W.	.17
Tues.. .. 22	23	29.643	29.577	65	44	54.5	S.W.	.06
Wed. .. 23	24	29.797	29.527	70	42	56.0	S.W.	.01
Thurs. 24	25	30.020	29.887	64	41	52.5	W.	.01
Average...		29.861	29.707	69.0	45.5	57.3		.62

Aug. 18—Overcast; very fine; cloudy.
— 19—Rain; overcast; fine, with light clouds.
— 20—Clear and fine; very fine; clear.
— 21—Heavy rain commenced 6, A.M.; rather boisterous; clear.
— 22—Overcast; heavy showers; windy; fine; clear; lightning.
— 23—Fine, with clouds; overcast; cold at night; lightning.
— 24—Fine; showery; fine; lightning in the evening.

Mean temperature of the week, 4½ deg. below the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending Sept. 2, 1848.

Aug. and Sept.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 27	73.0	49.6	61.3	6	0.40 in.	1	2	3	1	1	4	6	5
Mon. 28	71.8	51.2	61.5	10	0.20	—	5	3	—	3	1	7	2
Tues. 29	71.7	49.6	60.7	9	0.58	—	3	3	1	1	7	2	2
Wed. 30	71.9	50.2	61.0	5	0.92	—	4	2	—	3	4	6	3
Thurs.31	72.2	49.7	60.9	11	0.92	—	5	1	2	2	2	5	5
Fri 1	69.3	48.9	59.1	11	1.50	2	4	1	4	2	5	2	2
Satur. 2	70.7	48.5	59.6	8	0.23	4	5	1	1	2	3	6	—

The highest temperature during the above period occurred on the 1st Sept., 1841—therm. 84 deg.; and the lowest on the 1st, 1841—therm. 36 deg.

Notices to Correspondents.

To our Correspondents—May we beg it to be understood that *we cannot answer inquiries privately through the post.* We are ready to give any reasonable information in our power through our columns; but we cannot consent to the labour of writing letters.

Apprentice Fees: *G M.* This subject does not press, but it shall not be forgotten; quite the contrary. We have letters from "B. B. E." and others, containing useful information, but we must beg that it may be authenticated by their real names, given in confidence.

Books: *R W S.* "Neill's Fruit, Flower, and Kitchen Garden."‡

Cockroaches: *A B.* We reprint the following mode of destroying these pests from our volume of 1841, p. 262, because the gentleman who gave it informs us that by it he not only cleared his house of them then, but that he has found it to answer perfectly ever since. He says, "I tried all the usual remedies in vain, and at length determined to take the bull by the horns. I sunk into the hearth, rather on one side, that is to say at the end of the fender, a small washband basin. It was let into the stone like a coal-plate, and so placed as to be nearly in the middle of what had appeared to be a great thoroughfare of the cockroaches. The effect was surprising; without any bait they tumbled in by hundreds, and in a few weeks my kitchen, which had been literally covered every night within half an hour after the removal of the lights, was nearly free from them; a few stragglers were alone left. About three months since the basin was broken, and the creatures soon began to gain ground. It was replaced at the cost, I believe, of one shilling, about a fortnight since, and they are again rapidly on the decline. Although the basin has been used without a bait, I have little doubt that a small quantity of stale beer, or a touch of blacking, would greatly increase the effect." Your question respecting Polmaise can only be well answered on the spot. Why not construct your new pits exactly like the old ones?‡

Conservatories: *J A D.* We are sorry to find it necessary to decline recommending tradesmen; but every day's experience shows us more and more clearly that we ought not to do so.

Dublin Horticultural Societies: *W M.* We cannot use the information you have sent us unless you will favour us with your real name, in confidence. It will be evident to you that we cannot give publicity to so serious a charge, upon anonymous authority. We would also beg for more precise information, not necessarily for publication, but for our own guidance.

Dudaim: *N B H.* We do not think it ever fruited in this country. Our flowers did not set; they probably require to be fertilised artificially.

Gooseberries: *T W S.* Your seedling, a roundish, middle-sized, hairy red, is probably good; but we regret that, owing to the effects of carriage, we could form no opinion as regards flavour.‖—*Port Glasgow.* Your Black Prince, a middle-sized, hairy, dark red, like the preceding, merits approval, as far as appearance and the breed is concerned, but the flavour could not be ascertained.‖

Heating: *J A.* Apply to Mr. Lewis, of Stoke Newington. But cannot you get the information in Dublin? as, for instance, from Mr. Moore, of the Glasnevin Garden, an excellent adviser.

Insects: *O E C.* The specimens of the Dermanyssus on the ear of the rabbit were not so well preserved as the former, which are placed in good hands. *W.*—*A M.* Your caterpillar was a mass of putrefaction. There is a diversity of opinion about the Lasiocampæ, but we believe yours was the fox moth caterpillar. *W.*—*Sylvanus.* We do not know what insect has produced the small hollow galls on the Rose leaves. Can you send us some specimens with the twigs, so as not to be crushed in the post? *W.*—*W S.* The Hollyhocks are attacked by Haltica rufipes, which may be caught in numbers by shaking the leaves over a long linen bag, into which they will fall on the least disturbance, when they must be destroyed at once. *W.*

Land Scheme: *F Berks.* We can have no objection to the articles being reprinted by you, or others, if you desire to do so.

Names of Plants: *R E.* Odontoglossum Rossii.—*G Eyles.* Only a pale variety of Vanda Roxburghii.—*S E N.* Sedum dasyphyllum.‡—*Gravesend.* Solidago Virgaurea.—*G B.* Cattleya guttata.—*W L G.* Some Calandrinia, but impossible to say which from such a miserable specimen.—*A M.* 1, some Yam; 2, a Strobilanthes? Plants not in flower cannot be named.—*H A J S.* Apparently a bit of Sea Buckthorn, Hippophöe rhamnoides.—*E K.* A very handsome variety of Stanhopea tigrina, smashed to pieces.—*T Davis.* Varieties of Cattleya granulosa.

Ornamental Plants: *Cantium.* We doubt the fitness of your list for recommendation. Abelia floribunda is scarcely hardy, and there is no such plant as Spiræa sinensis.

Peas: *P.* To preserve green Peas for winter use they should be dried in a cool oven, and hung up in paper bags. Beans should be kept from the air in a strong pickle of salt and water.

Potatoes: *W H.* We advise everybody to leave their crop in the ground, if they can. It gives the Potato their best chance of surviving. It sometimes happens that the diseased portions rot out, and the live part remains sound. This has, however, usually, if not always, happened in the cold weather of winter. We continue to receive testimonials favourable to the practice of pulling up the straw and removing it. There is no difficulty in doing so if a man will place the stem between his feet, standing on the place where the Potatoes lie under-ground.—*R D.* Mr. Berkeley's very able article is published in the "Journal of the Horticultural Society," vol. i., part 1. You will have seen by our remarks of last week that the merits of rough plate glass are under trial. We have no change in our opinions of Polmaise, if you can get people to construct it properly; but the needless blunders which are made are not encouraging.—*Ignoramus.* Since you must lift your Potatoes, after separating the diseased ones for present use, pit the remainder under a north wall, or some place where they will be cold, mixing them completely with soil (nothing else) to keep out air as much as possible. To keep them cold and free from air are the main points to attend to.‡

Strawberries: *Anon.* The following will form a good selection of Strawberries, and they may be planted in the relative proportions indicated by the figures: Keens' Seedling, 20; British Queen, 12; Old Pine, 16; Downton, 8; Elton, 8; Myatt's Eliza, 4; American Scarlet, 4; Roseberry, 4; Coul Late Scarlet, 4; Prolific Hautbois, 8; Large Flat Hautbois, 4; Red Alpine, 8.‖

Wheat: *Wm Jones.* Whatever ails your Wheat, it is attacked too late to receive any injury. The grains are sound.

Misc: *G H.* We are not acquainted with the art of tanning, but you might learn enough for your purpose in five minutes in any tanner's yard. We have seen home made bast, and it is better than the Russian, but it cannot be obtained here so cheap, or in sufficient abundance. You may propagate your Roses either by cuttings under hand glasses, or by layers. They make the worst of hedges. Prune Laurel hedges in April.—*R K H.* "Clubbing" may be prevented by putting wood ashes in the holes in which you set the plants.‡—*R.* A wooden tank 3 feet broad and 9 inches deep ought to afford you sufficient bottom heat for Cucumbers, and three 3-inch pipes will do for surface heat, if the house is not large. If you can have openings in the front and back walls, closed by means of slides, so much the better.‡—*T L.* We are unable to say where the Bromham-hall Melon is to be had.‡—*J F.* For the best means of getting rid of scale, see our Answers to Correspondents of last week.‡—*X Y Z.* You have given your Lilies of the Valley too much heat. Force gently and you will succeed. They are not particular as to soil.‡—*W C K.* Your Anemones must not be disturbed now that they have commenced to grow again. The frost may kill the foliage; but there is no help for it, and you must help the roots by covering them up with sand, leaf-mould, or some such material.‡

SEEDLING FLOWERS.

Achimenes: *O M.* Your seedling is like many others raised from the same source; it is only worth saving if it has the early flowering habit of its parent, A. rosea. ¶

Antirrhinum: *D D.* Your seedling is a pretty flower, but not novel in colour; its dwarf growth and profuse habit of blooming will recommend it as desirable for the border or for bedding.*

Calceolarias: *W H M.* Your seedlings are pretty flowers, of good form and well marked. The dark flower is superior to the lighter one in form, but inferior to it in colour.*

Dahlias: *S N.* Your flower is rather small; its chief defect is in the eye, which, if it does not improve and expand, will be fatal to it as a show variety. It is a flower of good shape, novel in colour, and, but for the defect noticed, a desirable variety.*—*W D.* The colour of your seedling is very good, but it is too confused and irregular in the arrangement of the petals to be of any use.*—*W N.* Your seedling is a large, dark, and finely formed flower, well up in the centre, with good depth of petals; but the centre appears rather irregular; we should like to see another bloom.*

Fuchsias: *T S.* Your seedling was too dried up to pass an opinion upon.*—*W H C.* No. 1 is the better flower of the two; it is better in form, with a bright scarlet corolla. No. 2 is less attractive, and the sepals in both varieties do not appear to expand sufficiently.*—*G B.* Your seedling is bright and fine in colour, but rendered ineffective by the sepals not expanding more; the rich colour of the corolla is almost hidden.*

Fuchsia splendens: *W J W.* Your seedling forms a fine truss of flowers, but it does not possess sufficient novelty to recommend it for general cultivation.*

Hollyhock: *J C.* Both your varieties are well formed flowers, but dull in colour.*

Pansies: *J & W F.* In substance and general form, your seedling is very good; it is faulty in not having the ground colour uniform in the lower petals, the lip being much deeper than the side petals; and another fault, which is regarded as fatal to first-rate flowers, is, that the eye is not clear of the margin.*—*B B.* No. 19 is a very good flower, but it is surpassed by others in the same way; the ground colour is of a uniform yellow, but the eye is rather weak.*

Pelargoniums: *H B W.* Your seedling is not sufficiently well formed for a show variety, but from its white centre, strong colours, and being a profuse bloomer, it will make a good market variety.*—*A B.* Neither of your seedlings is equal to the flowers of the present day. No. 2 is small and poor in colour; No. 1 is better, but it fails in size and substance when compared with the show flowers of the present day.*

Verbenas: *R R.* No. 4 is the best flower among your seedlings, but none of them equal the same coloured flowers now in cultivation.*

TO BE LET ON LEASE, AN ARABLE FARM, within 4 miles of Harwich, in the county of Essex.

THE RAY-ISLAND FARM, in the parish of Ramsey, consisting of 188 acres of Arable and Pasture Land of excellent quality, some of it being alluvial and capable of great improvement. To be entered upon next Michaelmas.

Leases of 7, 14, or 21 years, on a corn rent, may be granted under certain conditions.—To view the Farms, apply to Mr. MALPAS, at Michaelstow Hall, in the parish of Ramsey; and for the Conditions on which Leases will be granted, and for the terms of occupation, apply to Mr. JOHN MORTON, Whitfield, Berkeley, Gloucestershire.

The Agricultural Gazette.

SATURDAY, AUGUST 26, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

FARMERS' CLUBS.—Aug. 26: Hereford.—Sept. 2: Newcastle, Durham.—Sept. 4: Clayton.—Sept. 6: South Devon: Totnes.—Sept. 7: Carlton-on-Trent.—Sept. 8: Debenham, St. Austell.—Sept. 9: East Kent.

THE Directors of the Highland and Agricultural Society of Scotland have resolved on taking two important steps, viz.: the formation of an agricultural chemistry department, and the reduction of the present annual exhibitions of live stock, implements, &c., to a triennial, instead of annual occurrence. These new arrangements indicate a disposition on the part of the Society to occupy somewhat higher ground; and while purely practical objects are neither to be neglected nor in any degree treated as of little importance, still the general tendency necessarily lies more in a scientific direction. The AGRICULTURAL CHEMISTRY ASSOCIATION OF SCOTLAND—virtually an independent body, although countenanced by the Highland Society—has now existed for nearly five years, and is in a few months to terminate its labours. This Association—probably the most useful that ever existed in connection with agriculture—was formed mainly by the exertions of private individuals, principally farmers, to whom no small meed of praise is due, but whose names we omit, because, were we to do otherwise, injustice might unwittingly be done to some where honour was intended to all. That this Association has done substantial service to the cause of agriculture in Scotland, all who have made themselves acquainted with its operations will readily admit, and the regret of many practical farmers must now be that they withheld their support from an institution which has assisted in raising agriculture so materially above the condition of a merely empirical art. The causes which have led to the discontinuance of the Agricultural Chemistry Association we do not investigate; it has fulfilled the whole term of engagement for which it bound itself; and certainly no blame in the matter, if any exist, can lie on those who, almost single-handed and unaided, boldly tried the experiment of establishing for five years an expensive institution, to supply the practical farmer with scientific information, and whose objects are now about to be vigorously carried out by the Highland Society itself. The exact amount of good already effected through the instrumentality of this Association it would be difficult to define, but we cannot look at the establishment of such an institution, in such a country, as the Chemico-Agricultural Society of Ulster, and other kindred societies, without being impressed with a deep sense of the advantages arising from good example; neither can we view the periodical publication of the proceedings of the Agricultural Chemistry Association without a firm conviction that the information thus spread abroad has had a powerful influence upon the minds of intelligent farmers, and through them upon others whose practice can only advance in the rear of successful experiment.

The Highland Society, in assuming the position of this Association, has taken upon itself a most onerous duty, but one which it is to be hoped the cordial support of the great body of the Scottish landlords and farmers will enable them to perform. The operations of the late Chemical Association were all along greatly impeded by a want of adequate funds, and it devolves on those whose interests are most at stake to remove this impediment from the path of its successor. At the meeting of Directors held in Edinburgh on the last day of the late Show, the Duke of BUCCLEUCH moved a resolution that funds for the support of the new chemical department be raised by subscriptions from local societies, which was seconded by Mr. FINNIE, of Swanston, a farmer, and one of the original founders of the first Agricultural Chemistry Association. The proposed plan is open to this objection, that members of local societies who are not members also of the parent society, will refuse to subscribe unless admitted to the same privileges in regard to obtaining cheap analyses as those who are members of that Society. Besides, there are many local societies which, properly speaking, have no membership, the bond of union among the farmers being simply the practice of taking up sweepstakes with each other. There is still another element in these societies unfavourable to the carrying out of the proposed plan, so as to make it successful, namely, the melancholy fact that the landlords of Scotland have of late years very much withdrawn their countenance and support from agricultural societies in their respective districts, and, consequently, subscriptions drawn from these sources would be contributed, not by those who are most able, and ultimately most benefited by the establishment of a chemical department, but by tenants of land, whose interest in the matter is only temporary. Could the Directors of the Highland Society not try the experiment of a lower annual subscription to entitle farmers to become members of the parent Society, and at the same time remove all difficulties out of the way of even the smallest farmer becoming a member? The landlords' subscription might either be raised or retained at its present rate, while the great influx of farmer subscribers would of itself considerably increase the funds of the Society.

We shall hereafter refer at greater length to the several steps which the Directors of the Highland Society, in accordance with the movement character of the times, have lately proposed to its members: but we cannot delay so far noticing their report on the connection of chemistry with agriculture as to assure those interested in the matter of its perfect liberality both of sentiment and plan. The Society is desirous of communicating with those who may be qualified to assume the position of its chemical officer. Gentlemen capable and desirous of assuming so responsible a situation, should immediately address themselves to Mr. MAXWELL, the Secretary. In describing the office he will have not only to define duties to the efficient discharge of which the highest degree of skill can alone be competent, but also to indicate opportunities of usefulness and distinction which we are persuaded that men of the highest reputation might well desire to possess.

With regard to the intermissions of the Society's exhibitions of stock and implements, it is matter of regret that the funds are not in a sufficiently flourishing state to admit of a simultaneous progression both in the scientific and practical departments. The interests of agriculture will suffer less, we believe, from *triennial* shows of live stock than they will from the less frequent opportunities afforded for the exhibition of agricultural implements; for this reason that farmers are now so fully alive to the advantages of rearing the best kinds of cattle, sheep, and horses, that for their own interests they will diligently prosecute improvement in these departments, whereas in the case of implement-makers the stimulus to new improvements and useful inventions is lessened, while at the same time farmers are deprived of such frequent opportunities of seeing collected together what must be considered as the best machines which the emulative ingenuity of the craftsman can produce. Were we to ask any number of farmers who recently attended the agricultural shows at York or Edinburgh, which they considered most useful in practice and most suggestive of instruction, we are persuaded a very large majority of them would at once assign the precedence to the implement department.

Great as are the improvements in live stock, and little encouragement as there is now given to the production of unnatural specimens of obesity, still the sight of an animal, however pure its breed or perfect its symmetry, suggests but a small amount of information compared with the examination of a machine, the different parts of which are all constructed with special reference to a particular end. In the one case the minor faculties of form, size, weight, &c., are addressed, whereas in the other the higher powers of invention, observation, and reflection are called into active exercise. We by no means underrate the importance of exhibitions of live stock, but merely view them of secondary importance when compared with those of agricultural machines. We know of no better means by which the disadvantages of lessening the stimulus to the improvement of agricultural machinery can be obviated than by the Society assigning a considerable space to the subject in the columns of its published Transactions, or by encouraging the exhibition of implements at the meetings of local societies.

The recent Show at Edinburgh, we have reason to know, both from personal observation and public report, has been the best, in a practical point of view, ever held under the auspices of the Society. In the live stock department obesity has given place to symmetry of form and purity of breed, and among the implements there is an evident tendency in the direction of strength of material—perhaps to a fault—simplicity of construction, and adaptation to the purposes of cultivation. *H.*

THE POTATO AND ITS DISEASE.

THE memorable attack, which committed ravages over the crops of Europe in 1845, is not in the memory of every one. It was renewed in 1846, but became so far ameliorated in the past year that the early and middle crops were yielded in most excellent condition; and even the late varieties, although symptoms of disease are partially and sorely manifest in them, are so good that there is every reason to believe, if care be taken to select entire Potatoes which have been preserved sound till March, without breaking a single eye, the future crops will be collected free from any vestige of disease whatever.

Without further preface, I come at once to the subject of this communication, which is made with a view to prove that the Potato had failed to a greater or less extent, particularly in our northern counties, in consequence of some malady termed the rot, for a period little short of 20 years; and this I shall render evident by referring to an article published by Mr. Baxter, of Lewes, in the year 1836, and by him copied from a Number of the "Irish Farmers' Magazine."

"*On the Cause of Failure of the Potato Crop. By Mr. Niven.*—In considering the subject of the failure of the Potato, amidst such a variety of conflicting opinions arising from the difficulties and mystery under which the matter appeared to be involved, I was led to institute a course of experiments, in order to ascertain what might be the most certain and safe method of culture under existing circumstances." The writer states a variety of conjectural causes which to him appeared to be unsatisfactory. He proceeds to say—"In the spring of 1834, I selected a piece of ground that had not been cultivated with the Potato at any former period, at least so far as I could ascertain. It was subdivided into nine different compartments, each containing 200 square yards. Finding the Pink-eye most generally subjected to failure, I selected that variety for the test of experiment. They were taken from a ship at the Dublin quays, direct from Scotland, and appeared to be of the best quality. For each of the subdivisions 2 cwt. of the seed Potatoes were prepared and planted with the same quantity and quality of manure throughout. The planting was done during the latter end of April—the weather being very dry, with hot sunshine, thermometer ranging between 50° to 55° Fahr. The soil a dry gravelly loam, the subsoil a limestone gravel.

"The following Table exhibits the arrangement of planting:—

Label.	Weight of Seed.	Description of the seed.	Distance Planted.
1	2 cwt.	The large whole Potato.	About 1 feet apart.
2	2 ,,	Ditto, all but the end eyes pieced out.	About 14 inches apart.
3	2 ,,	Ditto, cut across the bottom. cuts.	Ditto.
4	2 ,,	Ditto, cut lengthways.	Ditto.
5	2 ,,	Potatoes cut across the rose-end.	Ditto.
6	2 ,,	Potato cut into sets—the 1 from or rose sets.	About 9 inches apart.
7	2 ,,	Ditto—the second sets.	Ditto.
8	2 ,,	Ditto—the third sets.	Ditto.
9	2 ,,	The middle-sized whole Potato	About 12 inches apart.

"As it occurred to me that the failure might, to a considerable extent, arise from the circumstance of its being cut, I thought it advisable to plant the divisions, Nos. 1 and 9, with the Potato entire, judging that the comparison between them and the included divisions of the cut Potato, would prove the correctness of this opinion or not.

"It also appeared a matter of importance to ascertain fully whether the same weight of the Potato planted whole, would yield as much produce as the same weight cut into sets in the usual way on the same surface of ground."

Mr. Niven then proceeds, in two Tables, to exhibit the progress and yield of the nine divisions. These, for the sake of brevity, I shall condense into one.

Label.	Appearance above ground.	Proportion of Failure.	Whole Produce.		Quality.
			st.	st.	
1	Regular, strong, vigorous.	No Failure.	14	7	Tubers very large & coarse.
2	Very irregular.	Failure about one-third.	9	5½	Tubers very large, and of bad quality.
3	Ditto.	Ditto two-thirds.	6	6½	Tubers large; of bad quality.
4	Ditto.	Ditto one-third.	14	7	Ditto.
5	Irregular.	Ditto one-fifth.	14	7	Tubers not so large, and of good quality.
6	Irregular.	Ditto one-eighth.	13	1	Tubers large, and of bad quality.
7	Irregular.	Ditto one-half.	14	7	Tubers middle size, & of good quality.
8	Very irregular.	Ditto.	7	5	Tubers large, and of bad quality.
9	Regular and vigorous.	Scarcely a blank.	14	7	Tubers middle size, excellent quality.

"Viewing all these experiments together, as the plants broke ground, or came up, it was remarkable to observe the beauty and regularity of the divisions Nos. 1 and 9, and the rapidity with which they advanced in comparison with the others. By the end of September I was surprised to find the divisions of the whole Potato planting exhibiting symptoms of ripeness, by the change in the colour of the tops, while all the others were quite green, and some only in flower. This was the more

remarkable as the division No. 9 was the last planted by nearly 12 days; that and No. 1, however, had nearly the same appearance, and were ripe fully a fortnight before the others." In a note it is remarked concerning entire planting.—"It is not upon these experiments alone that I propose to draw my conclusions, but from a variety of information collected on the subject in Scotland, England, and Ireland."

"From these experiments it would appear—1st. That the failure of the Potato does neither seem to arise from disease in the tuber, nor from any cause connected with the soil—at least in the present instance—as the same soil exhibited under precisely the same treatment both success and failure. 2d. That if no failure occurred, the same weight of Potatoes cut into sets ought to yield a greater produce than if planted whole, as appears from Nos. 5 and 7. But in consequence of failure in the cut Potato, it appears safer to plant whole tubers, and to use those of middle size, as in No. 9."

I do not further follow the writer in his inferences as respects yield, but come to what he considers the cause of the malady which had about that period attracted so much attention. The questions then put are—"What are the causes of failure?" and "How is the failure to be guarded against?"

"I consider the remote cause of the late failures to arise chiefly from an atmospheric influence acting upon the cut or bruised Potato, producing an immediate change in the consistency of the pulp of that root, to the destruction of the principle of vegetation. In the immediate neighbourhood of Dublin, as well as in more distant parts of the country, it has been well authenticated that cases have frequently occurred where the same seed, cut at the same time, and planted on the same day, have proved great failures in one portion of the beds or drills, whilst the other portion has produced an excellent crop."

It will be needless to follow the writer in his reasonings upon probable causes, wherein he evidently leans to the theory of atmospheric electric agency producing an epidemic in tubers predisposed by unfair and debilitating treatment. He finally observes, "In cutting up the Potato into sets a considerable portion of the vessels must be destroyed; besides, a large portion of the interior of the tuber is exposed to the action of the atmosphere, the which being charged with any principle destructive of the power of vegetation in that root, may be productive of failure."

All this and much more may be admitted, but the great attack of 1845, marked by the black spotting of the leaves, followed by a rapid decomposition of their whole tissue, and by a marbling of the tuber, which terminated in gangrene, could not be identified with the failure alluded to by Mr. Niven and other writers at that time, which consisted in the decay and rotting of the sets in the ground, so that blanks occurred in the rows, the plants having failed to vegetate. There is no doubt that we treated our Potatoes very cruelly, and thus induced very extensive constitutional debility, bringing them into the condition of a starved and weakened animal, exposed to diseases of the most fatal character.

It is evident that the late attack has depended upon meteoric agency, aërial or terrene, affecting both herbage and tuber. Over this agency we have no control; but it is passing away, and therefore all that remains for the cultivator to do, is to unlearn his errors, to adopt a rational method of treatment during winter, to plant sound whole tubers of rather early varieties, abundantly, in carbonised soils, replete with potash and lime constituents—which wood-ash and old lime rubbish would furnish—and to avoid rich, fermenting, azotised substances, never more laying half fermented dung among, or in close contact with, the Potatoes. It is infinitely better to obtain a rather less bulky return of sound mealy Potatoes than to raise a great and heavy quantity of swollen, watery tubers, that are defective in meal, flavour, and every good quality whatsoever. My direct object has been to point out our errors, confirmed by habit, and which have certainly been productive of heavy and alarming losses; *J. Towers.*

CHICKEN HATCHING.

I am very glad to observe that having at length taken courage to express my doubts as to the claims of the hydro-incubator, and notwithstanding the enthusiastic approval of, apparently, three of your correspondents, besides the testimony of Mr. Cantelo himself, still to beg for further "information"—the result has been that the subject has had a good agitation, and that all the help which experience can afford us is now accessible to the readers of the *Agricultural Gazette*. I had gathered together some information for your columns while waiting for the "experience" of some others (the gentleman and his cousin spoken of by "W. M. F.," who went home enthusiastically resolved to pull down barns and rear ducks, &c.); but find the whole subject so well treated by "A. B.," as well as by "the three single gentlemen rolled into one," who wrote the various laudatory articles, and very near betrayed me into buying warm water at a very high price, that there is little more to be said on the subject. I would, however, remark that Knight's "Animated Nature" contains the briefest and best information (the mistake respecting the temperature, however, being there repeated) on the subject for the casual reader, and that a paragraph from Fortune's "Wanderings in China," which I forwarded you some weeks ago, gives a description of the tile-bottomed baskets, and the rude but effectual method by which this curious people have long been accustomed to hatch chickens. It is, perhaps, not worth while to repeat that M. Reaumur, as well as other scientific men, was well aware of the high temperature of the feathered tribes, and that however "W. M. F." may fancy the contrary, the patentee of the hydro-incubator could only, after the fashion described in Sir Walter's ballad, be said to be the discoverer, and be justified in advertising himself in the morning papers as the discoverer of the blood-heat of fowls.

"Donald Caird finds orra things
Whaur Allan Gilgor faud the tings*."

The egg frame and the chicken mother are originally Reaumur's, improved on by various persons, Mr. Cantelo among others. To slight and sneer at so great a benefactor of mankind as Reaumur, while taking advantage of his ideas and inventions, is what might have been passed over in the pamphlet of the inventor of the incubator, but can hardly be tolerated among the friends of the *Gazette*.

It may be mentioned, by the way, that Reaumur fixed on 104° because that was the heat indicated by a thermometer placed among the eggs under the hen. Some little heat would thus be lost by radiation, and it will be found, at least I have tried it in various cases, that the heat of a hen in the first two or three days of the hatching fever is often 110°, and that it falls afterwards to 106° or 107°. I have found a very good thermometer indicate in some young cockerels 108°, so that the precise degree of heat, which is made of such importance, is visionary, or at least variable; and as the "top contact and two temperatures" are not dreamed of by the Chinese or Egyptians any more than they were by M. Reaumur, or by the nun at the Priory of L'Enfant Jesus, they may very safely be disregarded by those who are disposed to try artificial hatching. M. Reaumur hatched chickens above a baker's oven, and the precise heat required may with very great facility be produced by merely partially closing the arched spaces that exist over most large bakers' ovens. It is about to be tried in a place of this kind favourably situated, if found to answer, for hatching many thousands of eggs. I recommend those who have such places at their disposal to try, but to be careful to consult some one who understands the business, for it is in the minutiæ that the causes of failure lie. Water, as in Polmaised houses must be provided, to guard against the possible failure by evaporation; perhaps the placing a caoutchouc sheet over the eggs might answer this purpose. Near the ovens of large bakers boarded apartments could easily be contrived, indeed often exist, possessing an atmosphere of a genial warmth, wherein any form of chicken mother, sheepskin, fur, warm water, or warm air pipes of metal, or better still, and more "like Nature," of properly prepared caoutchouc, could scarcely fail to answer the purpose. The caoutchouc cushions are very like the soft bare breast of the hen. I mention bakers especially, because the experiment can be tried there without expense; because the equable temperature is kept up; because, if top heat is found best, it might there, with a little ingenuity, be used; and because attendants are at hand in connection with the daily and nightly business of the ovens; but no doubt the heat of the waters at Bath, and of multitudes of furnaces and factories, could be economically applied to this purpose. There is no doubt that fowls can easily be fed in three months to from 2 lbs. to 2½ lbs. weight; I have had them this year, of a common breed, 2 lbs., 2 lbs. 2 oz., and one 2½ lbs., at 10 weeks old, and at 13 weeks these weights are quite common in well-fed fowls running about a country house. The calculations of the profits of the incubator are rather in the vein of Captain Bobadil, to be sure; but if you take 1500*l.* for an incubator (and use an oven instead) from the price of a few years' produce of fowls, or if the inventor will take a moderate view of the value of his invention, and sell his machines accordingly, there is no doubt many profitable establishments for rearing fowls might arise. Advantage, too, might be taken of the plan for rapidly disseminating good breeds of fowls over the country; for it will never be till the good breeds are cheap that they can become common. We must not, however, I fear, think of 18 hatchings in the year, as your correspondent repeats, after Mr. Cantelo, for two reasons; 1st, because although quite fresh eggs, and even stale ones of some breeds, are hatched in 20 days, yet every farmer's wife knows 22 days is not uncommon; and 2d, because there are months in the year when it would not be profitable to hatch the chickens at all.

"Between the sickle and the scythe,
What you rear will rarely thrive,"

says the old adage, one, of the truth of which I have had almost daily proof of late in the drooping and dying of some fine Spanish and pheasant breeds of fowls. In Egypt it has been found that for only three months in the year the system can be profitably worked, so that the warmth of the climate which "a Member of the Royal Agricultural Society," in reply to my queries, strangely adduces as a reason for the superiority of the heat of warm water over that of ovens, can have little to do with the matter. Some unknown baleful influence exists during the summer months. Farmers' wives say that chickens hatched about Christmas thrive as well as at any other time, if kept in the house, and from that time till hay harvest seems the most propitious time—it is Nature's time. However, experience can alone guide us in this and similar matters, and it is for that purpose that, and in common with many of your readers, are anxiously looking for plain facts, figures, and dates from some of the purchasers of the hydro-incubator. Meantime I venture to affirm that "18 broods" have never been reared in a year. I trust your clever correspondent with the numerous initials will not be offended at my freedom; his glowing praise of the invention as "W. M.," echoed by him as "M. A. C.," re-echoed by him as "W. M. F.," and strongly enforced and corroborated by him as Mr. Cantelo himself, very nearly beguiled me of 300*l.* or 400*l.*, and he will not therefore be surprised that his good-natured enthusiasm had raised the blood-heat a little. Confessing that I have been guilty of the same fault myself, though not in recommending expensive novelties, I think he will agree with me that there are inconveniences in using various signatures, and that we had better try to avoid it for the future. It is said that young girls have reared chickens from eggs wrapped in cotton placed within their dress (top contact), and that weavers sitting successionally at the loom, night and day, have also hatched, on the bottom heat or tank system, and without claiming the merit of a new discovery. I strongly suspect that if Mr. Cantelo were to examine the temperature of some of those who have been induced by your correspondent's Cerberian articles to purchase the machines, he would find them very well fitted for a small tray incubator, as they would willingly keep him in hot water; *Constant Reader.*

* Anglice, found the tongs—by the fireside.

LAND DRAINAGE REPORTS.

No. XX.—Stewart-hall Farm: *Carse of Stirling.*—That the question of land drainage is more than formerly exciting attention to the subject argues well for the future prosperity of agriculture. Draining ranks first as a permanent improvement of the soil, inasmuch as on its efficient operation almost all other operations depend for success. My experience, though not very extensive, has been sufficient to confirm my opinion as to the advantages of the following system, both as regards depth and distance asunder. The soil of the farm of Stewart-hall is a strong loam in the one-half of it; clay predominates in the other; sand and all high-coloured parts of it possess an earthy subsoil; but most of it consists of yellow and blue clay, mixed with about 20 per cent. of silica. To open the drains, we used a plough, taking out, with 14 horses, to the depth of 16 or 17 inches, followed by a spade, taking 11 inches, making the depth total in the furrow (in the which they were run parallel 16 feet asunder) to be, on an average, 28 inches, or from the elevation on the ridges to be about 2¾ feet below the level of the surface of the soil as a whole.

As to the expense of opening, it cannot easily be determined. The farm horses and ordinary farm servants doing the greater part of it, except what is done by the spade, which cost 6*d.* per rood of 36 yards. It is also as difficult to determine the extra amount of produce. Suffice it, however, to say that no improvement repays its outlay much quicker. I find the above method answers the end in view well, and is the system generally practised in the district, except in some instances, the plough takes out the whole, and recommends itself in two particulars, first, the soil being only wet from the rain that falls on it, and not subject to springs, the water finds its descent easier and its passage quicker into drains of that depth and distance, than into those either deeper or farther apart; and secondly, they are put in at less expense.

Wm. Murray, Esq., of Polmaise, who, I believe, had the honour of introducing wedge draining into this district, states, and I think correctly, that drains are of sufficient depth in clay soils, be they just so deep as neither to be injured nor interfered with by the deepest ploughing or subsoiling which the land may require.

My father has also furnished me with the details of his first experience in draining. He commenced operations in the spring of 1820 upon a small farm in the western district of Perthshire, which he then rented from the Earl of Moray. The soil was a stiff clay, part of it originally from under moss, with a blue subsoil; he cut them 3 feet deep in the furrow, 18 inches wide at the top, sloping to 3 at the bottom. They were filled with turf cut from a moss on the end of the farm; he drained 40 acres after this manner. The first he drained was 3 acres of fallow, sowed it with Wheat in autumn, and considered that the yield would be between 2½ and 3 bolls more per acre than where he left the furrow undrained, to test the experiment. Beans, Barley, and Oats, on an average of years, 1 quarter more. The following autumn he gained the first premium for the best field of Wheat offered by the Gargunnock Farmers' Club—a flourishing club at the time, and comprehending eight parishes—as also the premium offered by Lord Moray's factor through the same society, for the most improved farm from wedge draining. After some time, however, on examination, he found that the water, to a certain extent, ran off the surface along the furrows and into the drains at some holes; and immediately under plough depth, the soil had become so indurated that water could scarcely pass through it. Attributing this to the drains being too deep, not drawing the water fast enough through the soil, he drained the remainder of the farm at 2½ feet deep, thus enabling the end levels to be easier kept, and answered the purpose much better. The expense of opening at that time cost 2*s.* per rood, or 3*l.* per Scotch acre. The experiment at that time being new, a number gave it as their opinion that he was going to destroy the land by taking too much of the natural sap out of it; and in order to test this, he left (as above noticed) the furrows undrained for a few years, in which the difference of crop was most distinctly visible—the which, connected with the gaining of the above

premiums, went far to stop the opposition which was made at that period to the introduction of the improvement.

James Smith, Esq., of Deanston, being a member of the Gargunnock Farmers' Society, and also a most spirited gentleman, some time soon after this, applied the system most successfully to dryfield soil of a thin, poor, and wet nature, and so completely changing its character and adaptation, that it has acted as a complete stimulus to draining in the district ever since; *W. Forrester.*

No. XXI.—Anonymous.

Date of Operations.—1845-6.

Extent Drained.—100 acres.

Nature of Soil.—Clay deposit.

Mode of Draining.—The drains were put in 3 feet deep at the lower end, and 2½ feet at the upper, there being very little if any fall, so that an artificial fall was created; some were put 24¼ feet apart, and others 49½ feet; the common pipe tile was used, of three different sizes, 2 inch pipes at the lower end, 1½ inch in the middle, and 1 inch at the upper end.

The Cost was as follows:—The labour of digging and placing the tiles was 5*d.* per perch, and the tiles 24¼ feet apart, 2*l.* per acre, and those at 49½ feet, 1*l.* per acre.

The Result.—The meadows thus drained were much drier than those not drained last autumn, which allowed of the stock being kept out a month or six weeks later, and prevented the stock from poaching the land, which assisted the Grass very much the following spring.

No. XXII.—Tapenhall, Claines, near Worcester.

Date of Operations.—1843 to present time.

Extent Drained.—75 acres.

Nature of Soil.—Strong loam, in depth about 16 or 18 inches, on a bed of gravel and clay about 9 inches in thickness, resting on marl, with here and there a vein of sand.

Mode of Drainage.—The main drains are laid in one of the head furrows, when they are in the best position to secure a proper fall, and vary in depth from 30 inches to 7 feet, as the inclination of the land requires, and are composed of the common tile and sole; and the furrow drains, which are placed in the direct line of descent, are pipe tiles of about 1½ inches diameter, and 12 inches in length, and placed at depths varying from 30 inches to 3 feet, 5½ yards apart. The soil was replaced on the drains, in as nearly as possible the position in which it had been taken out; on about 3 acres of very stiff clay the subsoil was burnt and placed on the pipes to the depth of 8 inches.

The Cost of the operation was, on an average, 6*d.* per perch of 8 yards for labour, 23*s.* per 1000 for pipes and hauling, and including the additional cost of tiles and soles for the mains, or 5*l.* 10*s.* per acre.

The Result may be thus stated:—The land, which formerly was in ridges about 3½ yards in width, is now nearly level, and instead of being devoted almost exclusively to the cultivation of Wheat and Beans, or Tares, with the naked fallow once in every five or seven years, has, since drained, grown crops of Swedish Turnips, Carrots, and Mangold Wurzel, and any description of grain except Barley, equal to the best land in the neighbourhood; and when the application of lime or burnt earth has been carried out, I have no doubt the quality of that grain will be equally good; in addition to the increase in produce, which I should estimate at 20 to 25 per cent., the land is worked at much less expense. The water finds its way to the drains in about eight hours after heavy rain in ordinary weather; and when the ground was saturated before, in about 50 hours after rain has ceased, very little water proceeds from the drains. I am disposed to think this draining is perfectly efficient for the soil on which it has been done, though I am of opinion that, had they been placed 9 inches deeper and 7 yards apart, instead of 5½, they would have been equally so, and the cost would have been less. I beg to observe that the subsoil is particularly dry, and that this land only suffered from the strata of gravel and clay retaining the surface water in the winter months; *James Webb.*

No. XXIII.—Hetton by Wooler.—In reply to your queries as to my experience in draining, I have to give the following account of operations on the farm now in my occupation. State of land when entered by me: 50 a. The Grass lands good, but all growing Rushes in the furrows, and standing mid ridge deep after heavy rains; 200 a. Tillage land all wet; the clay parts obliged to be bare fallowed, the light parts rarely fit for working, from the quantity of water which they retained like a sponge; subsoil very various, from pure brown clay through all grades of coarse gravel, moor pan, to a few spots of running sand. When this occurred the bottoms of the drains were laid with rails of Larch Fir.

Materials Used.—The common tile and sole. The tile, 3 inches by 3½, manufactured on the farm by hand-moulds, cost per thousand, 22*s.*; cost of soles, 6*s.*; depth of drains, 2 ft. 6 in.; distance between drains on clay, 18 feet; on all other portions * 21 feet. Cost of cutting and laying tiles 3½*d.* per rod. The filling is done by plough.

Results.—All the farm now grows most excellent crops of Turnips, and, except on the clay, can be worked within 12 hours of the heaviest fall of rain; the Grass land has ceased to grow Rushes, and carries much more stock, the corn ripens from 10 days to a fortnight earlier than my neighbour's undrained land, and yields nearly one-third more than before drainage; *George Darling.*

* I am convinced the land would have been efficiently drained when gravel prevailed as a subsoil over clay, at twice the distance, and 1 foot deeper each drain.

Home Correspondence

The Kerry Breed of Cows.—Referring to the letter of your correspondent "S." in your Number of Aug. 12, I can give him a good account of the Kerry cows, as far as a short experience of the qualities of four of that breed, and the accounts I had previously heard of them, justifies me in offering an opinion. The yield of milk I consider to be quite equal in quality and quantity to that of an average Alderney, which sort I have kept, and the Kerry possesses several advantages over that breed. In the first place a Kerry is very much cheaper to buy; 2dly, it is much cheaper to keep, and with less risk, being much hardier in constitution and capable of thriving on rough and scanty pasturage; 3dly, the meat is very much better, as the carcase of an old Alderney is little more than skin and bone; 4thly, the calf, if by a bull of a larger breed, such as a short-horn, is equal in size to that of an Alderney. Having thus, as far as my experience goes, replied to one of the queries of your correspondent, I should be pleased to communicate with him privately, at the address which I send you, about a small farm which I believe may suit his purpose. The locality is healthy and pretty, both to seaward and landward, with good roads. A great demand exists for butter, poultry, fruit, vegetables, eggs, pork, &c., for victualling the large East and West Indian and American steam-ships, at a flourishing port near at hand, besides a large local demand at a particular season. The climate is suitable to the growth of all these articles, and of early lamb for the London market, which is very accessible by railway or by sea. I may add that for the sake of a good tenant the rent would be moderate (not exceeding 20*s.* per acre), and that arrangements could be made for erecting a house (if one were required on the spot), and improved farm buildings, at which water power would be applicable. Should your correspondent wish for further particulars you would kindly put him into communication with me at the address now inclosed; *T. T. C.* [Perhaps "S." will kindly give us his address, which we have mislaid.]

Artificial Incubation.—When public attention has once been directed to any given point, it may very fairly be anticipated that repeated discussion must ultimately lead to practical improvement. Your correspondence on the artificial hatching and rearing of poultry has lately been rather extensive. Still the writers of these articles, who express confidence as to the soundness of the theories and of the plans they advocate, are not able to back their recommendations by that only sure, unerring test—practice. The real desideratum is, evidently, to enable the producer not only to meet the present demand, but to place within the reach of those poorer classes to whom poultry is now "banned and barred, forbidden fare," a nutritious article of food, and on terms remunerative to himself. Our own climate so favourable, when compared with the extremes of heat and cold in other countries, to agricultural operations, presents in its frequent variations and great humidity certain natural obstacles to the rearing of poultry; and it was for the purpose of calling the attention of one of your correspondents to this very important point, that I addressed to you some weeks since a few short remarks. Artificial incubation, whether according to the plans of Reaumur, Cantelo, or the Egyptian oven, is in reality the least of these difficulties. To hatch chickens, at what may be termed an unnatural season, would, unless facilities for subsequent management are provided, be either to devote them to total and almost certain destruction, or make the few survivors but an unprofitable speculation. If I understand the question as it now stands, no one, not even Mr. Cantelo himself, has yet satisfactorily proved that these most undeniable difficulties can be practically obviated. Those who are acquainted with the average treatment of poultry in farm-houses will admit that no part of their economy requires more radical alteration. The hen-house, as a general rule, is a dark and dirty hole, a "compound of villanous smells," into which it requires some nerve to effect an entrance, and in which delays are especially dangerous. Pure air, ventilation, light, and cleanliness, are no less beneficial to the feathered tribe than to man, although it may be a question whether purely artificial means are not more likely to be adopted with success by those parties who could devote their whole time and attention to them; there can be no reason why defects in existing arrangements should not receive immediate attention. The sums even now paid for poultry are quite sufficient to stimulate exertion. In the prize list of the district agricultural society of which I am a member appears a premium for the best cock and pullet, on the principle, I presume, that poultry is no exception to the general rule, that the purest breed is the most profitable. At the annual meeting in 1847, Mr. Bailey, the well-known poulterer in Mount-street, detailed the very large sums paid annually by London salesmen. He stated that one salesman alone sold every year 100,000*l.* worth; that he had himself paid 81,000*l.* in the course of the last year, and that 15,000*l.* was received annually at Aylesbury for young ducklings; but to this last item he added the somewhat humiliating fact, "that, in Bucks, the wives are in the habit of driving the children from the hearth that the ducklings might get the benefit of the fire." This is surely buying even gold too dear; and if Mr. Cantelo can procure the [illegible] of the artificial chicken mother to [illegible] he [illegible] deserve the thanks of the [illegible] in Aylesbury. Mr. Bailey's [illegible] that the present [illegible] for poultry [illegible], and the [illegible] paid in London [illegible]; and these facts, [illegible] reason [illegible] on this subject in your columns, [illegible] that those who [illegible] directly or indirectly contribute to the better and cheaper supply of food to the industrious and poorer classes, deserve the thanks of our rapidly increasing population; *A Subscriber, and Member of the Royal Agricultural Society.* [illegible]

Poultry Keeping.—[illegible] poultry keeping [illegible] of the Gazette, August 12, [illegible] calculation [illegible] at the [illegible] one [illegible], 1847. In the first year [illegible] the [illegible]. The food was all bought at [illegible] the village. The [illegible] attended to; [illegible] young, and [illegible] the day time. [illegible] them [illegible] Potatoes, with [illegible]. If four years' experience of [illegible] any service to "S.," I shall be happy to give it.

[illegible]	£ s. d.	[illegible]	£ s. d.
10 pints [illegible]	[illegible]	[illegible]	
" Oats	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
Tail Wheat	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]		[illegible]
[illegible]	[illegible]	[illegible]	4 16 [illegible]
	[illegible]	[illegible]	[illegible]
[illegible]	£ s. d.	[illegible]	[illegible]
For 16 pints Groats	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
Barley-meal	[illegible]	[illegible]	[illegible]
Collecting eggs, &c.	[illegible]		
	[illegible]	[illegible]	[illegible]
		[illegible]	[illegible]

Richard [illegible], [illegible]. [We should be glad to publish the [illegible].]

[illegible].—[illegible] in a late Number of the [illegible] the danger [illegible] prepared from copper [illegible] in some [illegible] a preventative of the [illegible] it is a matter of [illegible] acid for the [illegible] can be made [illegible] at his own [illegible] either London or Liverpool [illegible]. I hope these remarks will [illegible] copper-mining [illegible]; *T. [illegible], L[illegible].*

Origin of the Potato Disease.—The present rapid progress of the Potato disease [illegible] may give opportunity of [illegible] causes. That the atmosphere has [illegible] is past doubt; but [illegible] our control, it is important to know [illegible] in the plant or soil, which may be more subject to our management and care. [illegible] so sudden, that on [illegible] I [illegible] a withered leaf on the Potato [illegible], and on the 24th they were almost all [illegible] as if scorched by fire, yet in every case I [illegible] the atmospheric blight has been preceded by [illegible] on the tap root (the stalks under ground) [illegible] the surface and the old sets, indicating that the plant was already ailing; and [illegible] many [illegible] been dug [illegible] the weather, showing that the disease had not the mastery of the constitution of the plant; yet when the weather became unfavourable, they gave way [illegible]. Now if your readers who have late Potatoes not yet affected, will examine their tap roots, [illegible] the progress of the blotches underground, and see how far the original cause appears to be there, and in what degree the atmospheric changes may [illegible] the health of the plant, [illegible] of giving us some judgment, whether the remedy is within our reach, if [illegible] help to point it out. [illegible] of infection in the case: [illegible] of those which are [illegible], will hardly escape eventually, though they may resist the first attack; *J. Pri[illegible].* P.S. I [illegible] blotches have been worst [illegible]; not only while the plant [illegible]: but even when thoroughly [illegible] as if the evil had come rather from below [illegible].

Small Farm.—I am so much interested in the enterprising spirit of your correspondent "S." for making the most of a few acres of land, that I cannot forbear offering him, through the pages of your Gazette, a few hints in reply to his queries: and, in the first place, I am most anxious to dissuade him from deciding hastily on the plan of grinding his own corn, as I fear he will find his expectations greatly disappoint him; the outlay on the building, erection of mill-stones,

dressing-machine, &c., and a four-horse engine (which it must be), to grind 3 to 4 bushels an hour properly, and with profit, will, with interest of money, fuel, and miller's attendance, &c., cause it to be anything but a remunerating speculation to a person not regularly brought up to the trade; and the offal he reckons upon is of course worth as much to sell as he would have to give for it at the neighbouring mills, and then I have no doubt we shall have all artificial food much cheaper, and more abundant than in preceding years. I have always cut all chaff for my stock by a horse cutting machine, which has effectually turned four trusses of hay into chaff (1 inch long) in 23 minutes; any clever millwright would erect the necessary tackle for doing this with any common wheel chaff-cutter. I can heartily enter into all his other plans, which hold out every prospect of success, but as regards the dairy, I am disposed to to give the preference to the Alderney cow, not that I can speak from any experience of the Kerries, but surely it is a matter of calculation, the cost and produce of keeping three for one; and what I presume he would wish to ascertain would be, the greatest quantity of butter obtainable from a given quantity of land. The breed of pigs he notices are all excellent, to which I would add the Neapolitan, or a cross between any of the four. I shall have much pleasure at any time in corresponding on the interesting subject of his letter; *R. G.*

Shed Feeding.—I have noticed Mr. Little's account of shed feeding sheep in your *Gazette* of the 12th ult., which certainly seems a most unsatisfactory affair. It strikes me he kept them much too long (20 weeks). When I first commenced the experiment I found the sheep do admirably for the first 8 or 10 weeks, after 12 become stationary, and thenceforward retrograde. The sheep is an animal that never does well in the same situation and feeding for long together. The conclusion I came to was that they should be in tolerably fair condition when put up, and then forced off to the butcher in 8 or 10 weeks, which induced me to designate the building employed for the purpose as a forcing-house; *G. R.*

Pleuro-pneumonia.—It unfortunately happens that this disease, which is more generally known by the name of the lungs illness, prevails to a considerable extent in this neighbourhood, and in numerous cases proves fatal to horned cattle; and as it appears up to this time there are many cattle keepers who have not found out any successful mode of treatment for this disease, on this account I am anxious to avail myself of a little space in your columns for the following remedy, which was communicated to me by Mr. Clarkson of East Cowton. Give to the beast attacked 4 oz. of spirits of nitre, neat, and repeat the dose in eight hours; then twelve hours after, give one gill of spirits of turpentine and one pint of linseed oil. Should the animal still continue ill, then give another dose of turpentine and oil. Keep the animal well covered up with rugs, to promote warmth. Mr. Clarkson has found this an unfailing remedy, and since adopting it in several cases, he has invariably effected a speedy cure. It is important, however, that the animals be attended to in the early stage of the disease; *Thomas Dixon, Land Agent, &c., Darlington.*

The Hydro-Incubator and Chicken Mother.—Notwithstanding the lectures, paragraphs, royal visits and approbation, articles in country papers, praises in farmers' clubs, and, above all, the strong commendatory essays under different signatures in the *Gazette*, I believe the doubts expressed by me in your Paper of June 17th are too well founded. The question, "How many chickens die at Chiswick (Mr. Cantelo's), if any?" has never been replied to; nor has any one of the persons who purchased incubators ever responded to the invitation to furnish us with their "experience." Yet many articles have appeared on the subject, and many incubators, according to the inventor, have been sold. My belief is that the chickens, except in a very few months of the year, have all or nearly all died, and that the purchasers are all sorry. The worst mischief that the exaggerated and dishonest recommendation of such schemes effects is not that a few hundreds or thousands of pounds may be lost by the unwary, but that the truth contained in the plans is cast aside on account of the error which accompanies it. The reason, I believe, that the artificial hatching of fowls has never been brought into practical and profitable operation, is that the system has from time to time been adopted by enthusiasts and dupes, who have, by a very usual process, passed into characters of a different kind. Who are members and directors of the hydro-incubator company? I trust, however, as your columns have now furnished all the scientific information to be had on the subject, and as we shall, no doubt, by-and-bye, hear of the failures of the chicken-mothers, and of the causes and seasons of the mortality, that renewed attempts, with more moderate expectations, will be made in the spring to rear fowls by artificial means. From the experience of Egypt and China, and from our own experience in England, it does not seem probable that more than two or three clutches in the spring, and perhaps one or two in the autumn, will ever be profitably reared. The advocates of the hydro-incubator assert the contrary; they are wrong, and they know they are wrong; *A very Constant Reader.*

Surplus Labour.—The population of England having increased so rapidly, it will be necessary to strike out some plan of employment for what is termed "surplus labour." The flourishing condition of the peasant has a most salutary effect upon trade; home consumption of manufactures exceeding that exported. If the kingdom in 1848 cannot support the population, what is to become of the country in 1858? The cry of our population may be answered by under-cultivation. If a more liberal system was practised, both with respect to wages and tillage, increased produce would compensate the farmer, and add to the comforts of the poor man. It is an error to imagine that because Wheat is low in in price the soil is not worth forcing, by expending upon it a greater amount of skill, capital, and manure. Grain will never again be so high as it has been, excepting in years of scarcity; therefore superior culture and a large yield must counterbalance the reduced value per quarter. In many rural districts the wages of the labourers do not exceed 8*s.* or 9*s.* per week during fine weather; wet days are deducted, thus reducing the average sum received per day, by an able bodied man, to a mere pittance, quite insufficient to support himself and those dependent upon him. And what follows? he must either go to the workhouse or beg, and allow his children to plunder firewood from the hedgerows and copses. I will ask any man of common sense if he supposes an honest labourer can exist and feed his family on 9*s.* per week, wet days being considered lost time. Can he bring up his children respectably? Can he pay his cottage rent punctually? Can he dress himself warmly and decently? Can he even obtain the commonest food, to enable him to drag his wearied limbs home after a day's toil? Can he even procure firing for cooking purposes alone? It is utterly impossible, unless he has other resources to draw upon. We must look upon ourselves as responsible beings, and answerable to a higher power for the welfare of our fellow creatures, and the upper and middle classes will have a fearful day of reckoning hereafter, if they have oppressed the poor by withholding just wages from them, or if they have neglected opportunities of making them better members of society; and it can hardly be said they are much benefited by cutting them down to the lowest farthing of wages. A man has a right to go into the best market to spend his money, and if labour is superabundant, he may be able to obtain hands at the lowest rate; but it may be doubted (where a fair return for capital is expected) whether he acts for his own profit in continuing a low scale of remuneration. In purchasing pigs, &c., we generally make our bargain according to the supply and demand; but having brought our animals home, we do not try on how small a quantity of food they can exist, we keep them in a growing state till the time for fatting; on the same principle we require the bones and sinews of our men, and to insure a vigorous state of health and active exertion, we must not starve our labourers, any more than we would our animals. Let a farmer who is accustomed to sit down to his meat and home-brewed, under a comfortable roof, with plenty of warm clothing and fire, ask himself how he should like to work 10 hours a day for 1*s.* 6*d.*, and that only doled out in fine weather. It is easy when eating a good dinner to legislate for those who are starving; however the truest way of judging others is by placing oneself in the same position; and no doubt many who are now masters can recollect the time when they were servants, and had to undergo hardships, though probably not to the extent of those experienced by the present race of labourers. Let this be as it may, most men who have used the spade and pickaxe know full well that any wages under 2*s.* a day, or 9*s.* per week, wet or dry, is about the lowest sum an agriculturist can live upon. I feel convinced an able-bodied man is well worth 12*s.* per week in all weathers; the extra 3*s* is soon made up in having a cheerful and willing servant instead of a discontented and dissatisfied one, who takes little interest in his occupation, provided he can earn his scanty allowance. If some decided steps are not taken to advance the condition of farm dependants, and to render them more respectable in their vocation, agriculture will, in the long run, suffer most materially. I have heard of wages for mowing Grass being, this year, as low as 2*s.* per acre, with cider, thus bringing summer even below winter, and freezing up the energies of the human subject in the dog days, and driving labour into the workhouse; for it must end in the rates supporting hundreds, if during summer they cannot save a trifle by extra labour to help them along in the winter; *Falcon.*

Woollen Rags.—I am happy to give you briefly some information relative to the use of woollen rags as a manure; but before I answer your correspondent's questions seriatim I would observe that all are not really woollen rags which are so called and sold as such. Of late years it has been the universal practice of rag collectors to pick out all the best pieces of woollen cloth, and these are sold to the manufacturers in the clothing districts to be re-made up; and, indeed, the worn woollen rags are likewise sold to them, and being ground up constitute what is now familiarly known as "devil's dust." Consequently what are now sold for agricultural purposes are not nearly so good as they used to be; a very large proportion now consists of cotton and other rubbish. I have been in the habit of using large quantities, something like 50 tons per annum, but I shall in future employ other substances, the analyses of which tell me that I can obtain the chief fertilising property of rags (viz. nitrogen) at a much cheaper rate. I will now reply to the questions:—1. The price in London now is from 2*l.* 10*s.* to 4*l.* per ton, according to quality; but it is almost impossible to procure purely woollen rags, because they are more valuable for other purposes. There is much roguery in the rag business, for besides the admixture of cotton, hemp, and silk, there is often a large per centage of dust and water. The highest in price are the cheapest. 2 and 3. They are chopped to pieces upon a wood block; and for Wheat the largest pieces ought not to be more than 2 inches square—in fact the smaller the better. This would cost about 1*s.* per cwt. For Hops we do not cut them so fine, and the cost is then 9*d.* per cwt. 4. Half a ton per acre is sufficient for Wheat; but I cannot recommend them for that crop. They are much better adapted for Hops and Turnips. Bone earth should be used in conjunction with them, when the land is deficient in phosphate of lime. Nitrogen, as I observed, is the valuable property in woollen rags, and at their present price and quality this can be obtained much cheaper from many other sources, as, for instance, Peruvian guano, sulphate of ammonia, the seal refuse (which I recommended to Mr. Huxtable, and which he alluded to at the Agricultural Chemical Association) decomposed in cobs, &c. &c. On Potatoes, this season, I dressed, alternating two rows with rags, at the rate of 10 cwt. per acre, costing when cut 50*s.*; then two rows with Peruvian guano, at the rate of 2 cwt. per acre, mixed with 1 cwt. gypsum, costing 23*s.* per acre. This alternation was pursued throughout the piece of five or six acres. Before the "blight" reduced all to a level, the guano and gypsum rows stood up so much above their "ragged" neighbours that they could be distinguished at a distance of a quarter of a mile. So also with Wheat, I would much prefer, even at the same cost, the guano &c. to rags; but when we see the cost is only half, of course there can be no hesitation. In short the price of rags is much too high, as compared to their correlative manures, thanks to the information which the chemists have revealed to us. I tried (under Mr. Lawes' recommendation) sulphate of ammonia, mixed with the fossil phosphate powder which I have dug, and the result has exceeded my most sanguine expectation. I tried it upon two pieces of Hops which were extremely weak in bine, and in fact, at the time of the application (July 1), looking wretchedly bad. I put on 2½ cwt. of the sulphate of ammonia, mixed with 6 or 7 cwt. of ground fossil marl; so great has been the improvement that, from the worst, they have now become my best pieces. On a 10-acre field of Barley, after a heavy crop of Swedes, all of which were carted off, and the field then dressed with 10 loads per acre of my refuse marl in the beginning of June, I put on ¾ cwt. of sulphate of ammonia, mixed with 3 cwt. of ground fossil marl. It is now the best field of Barley that I ever grew, though rather too too much straw. On a large field of Swedes, which was dressed with 100 bushels of bones, ashes, and urine per acre (one-fifth bones), mixed together and fermented, in addition to 2 cwt. of guano per acre; on this field I left out slips across the field, containing just an acre, and on these slips I put none of the above manure, but, instead, I sowed 1½ cwt. of sulphate of ammonia broadcast, and drilled with the seed a ton of phosphate marl per acre. Although the field generally was extravagantly dressed, yet these slips are quite equal, if not rather superior. I think these few facts tend to show that a combination of sulphate of ammonia and phosphate of lime is a valuable manure; *J. M. Paine.*

Transmutation of Corn Crops.—Notices occasionally appear in the *Agricultural Gazette* of the reputed transmutation of Wheat, Barley, and other Cereals, which, it is alleged, change into one another under certain circumstances; it is also believed by some parties that the same head of corn may contain several kinds of grain. The instances of this kind which had come under my own notice were all unsatisfactory, being recorded, as I considered, by incompetent observers; until last winter, when I was shown, by a gentleman of great sagacity and experience, an ear of Barley containing one Oat flower amongst the other grains; this specimen had been carefully preserved under a glass case for more than 20 years, and during that time had been seen by many persons. I confess when it was shown me I had such faith in its possessor that I only stared at it in amazement; but a friend who was present detected that although the Oat blossom was firmly fixed amongst the Barley-corns, it was an illegitimate connection, and that its stalk projected from the opposite side, where it looked like one of the awns. It is impossible to prove a negative if persons declare that they have converted Wheat into Barley, or Barley into Oats. We may disbelieve, but we can seldom disprove them. I think it therefore a duty to put on record any case in which the fallacy has been detected. This specimen, which had for nearly a quarter of a century propagated a blunder —a philosophical heresy— is now preserved in the museum of the Literary and Scientific Institution of Devizes; *S. P. W.*

On Mixing Salt with the Food of Cattle.—Having lately read a letter in the *Agricultural Gazette*, written by a gentleman signing himself "A Dunghill Salter," condemning the use of salt in the food of cattle, I am induced to suggest a few remarks on the subject. He complains that his milch cows gave but a very scanty supply of milk as long as they were fed with hay to which salt had been applied, an effect which might have naturally been expected, as salt has the effect of stopping the secretion of milk. For the same reason rock-salt should never be allowed to ewes with lambs, or for some time previously to yeaning. Its advantages, however, when mixed with the food of fatting cattle, are very great. It materially assists digestion, promotes the growth of flesh, and greatly conduces to keep the animal in a healthy state. I should also strongly recommend rock-salt to be placed within reach of wethers and ewes intended for the butcher. Your correspondent will probably admit that, when his cows were feeding

on the hay to which salt had been applied, their condition was improved ; *Bouvcolos*.

The Fertility of Ireland.—There is but one opinion among well-informed people that Ireland is capable of being cultivated to be one of the most fertile spots upon the globe. The chief hindrance to effecting that end is the ignorance and debasement of the peasantry ; the difficulty of obtaining a good title to the land, and undisturbed and safe possession to capitalists, who would freely embark in the improvement of it. Land is the primary source of all wealth, and the fullest and freest protection to the cultivators of it should be the first aim of every statesman, whether Whig or Tory, Conservative, or Radical. It is no use finding fault with bygone errors or neglect. The best plan is to propose, and if possible, carry out the measures most calculated to renovate the condition of the country. For that end I would propose that the law be speedily passed to give simple and easy titles to those who would buy and sell the land. Establish an agricultural sanitory commission to superintend and enforce a system of proper husbandry all over the country, to work in the same way that Lord Morpeth's bill for the Health of Towns. Let no man occupy an acre of land who does not properly cultivate it, and instead of 3 quarters of grain to the acre, 6 would soon be reaped. Any one unable or unwilling to obey the agricultural sanitory commissioners, to have his estate sold to those who will properly crop the ground, and keep it free from weeds, according to law, as is the case in Holland. Ships and provisions for six months should be afforded to emigrants. The education of the infants of the peasantry should be attended to, on an extensive scale, not so much book learning as the instruction which would qualify them to use tools and implements efficiently, and to become strong and healthy labourers. Introduce Lord Morpeth's Health of Towns Bill, the income and assessed taxes, and all other taxes, as well as privileges attached to England, without favour or abatement ; and make the land of Ireland pay for the armies of soldiers who are to protect the lives and properties of the cultivators of it. Britain has a deep interest in the administration of the affairs of Ireland. Our feelings and purses have been wrought upon to support the poor of it, who are living in want on one of the most fertile islands in the world. Let every parish throughout the kingdom call a meeting in vestry, to petition the Legislature, through our Home Secretary, to enact " An Agricultural Sanitory Law for Ireland ;" oblige the Irish to pay all their own expenses, and support their own population, without being longer a burden on the mother country. This plan can be no hardship to those who will look after their estates and cultivate them as they ought to be cultivated, and it would prove a mighty boon to millions of wretched creatures, who are the sport of a parcel of poor, agitating demagogues, who are not the people of Ireland, and ought never to be recognised as such ; but who speculate, in a scramble of confusion, to overthrow the constitution of the United Kingdom, and obtain by injustice what rightly belongs to others ; *W.M.*

Farmers' Clubs.

NEWCASTLE, *July* : *The importance and profitableness of Poultry.*—The secretary read this paper, by a farmer's wife, whose name he was not allowed to mention. The following are extracts :

I should like to see half the encouragement that is bestowed upon flowers bestowed upon poultry. We see at the horticultural shows 10*l.*, and gold medals, awarded to the producer of a flower, which merely gratifies the eyesight, while scarcely any is offered for poultry, which not only gratify the eyesight by the beauty of their plumage, but are useful as food, a luxury to our appetites, and profitable to the keeper. "If people," says M. Reaumur, "are affected with a kind of pleasure so transitory to the most enthusiastic florists, who procure it but for a few days by a world of care and toil continued through a whole year, if they are affected by the variety and fine combination of colours in their favourite flowers, the poultry yard, when well mansged, may be made to offer them endless pleasures of the same description." The cocks, even of the commonest breeds, when exposed to the play of the sun's rays, exhibit the brightest colours, and with the glossy brilliancy, beauty, and varied mixture, we are the more struck in proportion to our minute observation of them. The hen, on the other hand, if the breeds have been select, are even no less worthy of admiration ; some, for instance, have spots distributed with great regularity, and so brightly white as to look silvery—others are speckled with a fine golden colour—and the domestic fowls offer a multitude of colours, the shades of which would be found with difficulty, if they were sought for among the birds of the woods or waters. Poultry repay, as I shall afterwards show, for the keep, leave a large profit in the hands of the producer and dealer, and yet a sufficient supply for the consumption of our market is not raised throughout this country. The fact can only be accounted for by the prevalence of ignorance as to their profitableness, or why are we indebted to France, Holland, and Ireland, for more than half of the poultry and eggs we consume every day ? I have no doubt that many persons may regard this subject as too insignificant a branch of farming stock to deserve attention, or occupy the time of members of this Society. The contrary of this will be seen when I state that the value of the fowls consumed in London alone, amounts to 100,000*l.* annually. The value of fowls exported from Ireland in 1846 amounted to half a million of money. In 1847 it was estimated that the value of the eggs exported from the same country amounted to nearly a million sterling. In one year they exported nearly 50 000*l.* worth of feathers. Some years ago the number of eggs exported from Berwick to London was estimated at 80,000*l.* a year. The little market town of Selby, in Yorkshire, exports annually 5000*l.* of poultry and eggs. Macculloch, in speaking of eggs, tells us that "vast quantities are brought from the country to London and other great towns. Since the peace they have also been very largely imported from the continent. At this moment, indeed, the trade in eggs forms a considerable branch of our commerce with France, and affords constant employment for a number of small vessels." The following is an account of the quantity of foreign eggs entered for home consumption during the three years ending with 1842, and the produce of the duties on the same :—Quantities, 1840, 96,410,108 : 1841, 96,944,327 ; and 1842, 89,317,885. Duties :—1840, 34,450*l.* 8*s.* 0*d.* ; 1841, 35,524*l.* 8*s.* 9*d.* ; and 1842, 32,519*l.* 9*s.* 7*d.* France supplies, at an average, 80,000,000 of this immense importation, the rest being principally brought from Belgium. Now, supposing the eggs supplied by the former to cost, at an average, 4*d.* per dozen, it follows that the people of the metropolis and Brighton (for it is into these that they are almost all imported, pay the French about 111,111*l.* a year for eggs ; and supposing the freight, importers and retailers' profit, duty, &c., raises their price to the consumer to 10*d.* a dozen, their total cost will be 277,777*l.* There were during the last year, 44,750 eggs imported from the continent to Newcastle. It is estimated that, annually, there are about 40,000 chickens, worth 2,500*l.*, consumed in Newcastle, and 2,000,000 eggs, worth nearly 6666*l.* ; so that the people of Newcastle pay 9,500*l.* a year for eggs and chickens, independent of geese, ducks, and Turkeys. From the above-mentioned statement you will see the importance of poultry as a branch of commerce. I shall, as I am addressing "practical men," give you one or two "practical" statements respecting its profitableness as a branch of farm produce. On the farm from which I write, the poultry consists of 60 hens, principally of the Dorking breed (but I intend crossing them with the Cochin China,) 6 ducks, and we generally buy from 70 to 80 geese in the autumn. The produce sold in 1847 was as follows :

3100 Eggs, at 5*s.* 6*d.* per long hundred		£	2 11
208 Chickens, at 1*s.* 9*d.* each		18	4 0
Eggs and chickens consumed at home ..		4	15 0
60 Geese, at 5*s.* 6*d.* each		11	10 0
10 Ditto, consumed at home		2	15 0
20 Ducks, at 2*s.* 6*d.* each		2	10 0
Outlay.		47	16 11
Barley, milk, meal, and small corn	£6 4 1		
Woman's wages and market expenses	4 12 7		
70 Geese, at 2*s.* 6*d.*	8 15 0		
		19	11 8
Profit ..		£28	5 3

In 1845 we realised a profit of 28*l.* 5*s.* 7*d.* ; in 1846, 23*l.* We consider our profit small, in comparison with the number of fowls we keep, and we feel confident that if we had suitable houses and yards, we could realise a much greater profit than we do at present ; but, unfortunately, we have only the ordinary poultry-house, such as is seen in this district, and we cannot prevail upon our landlord to erect us such as we want, although we have offered him a per centage. I have received the following statements from a lady, to whom I tender my most cordial thanks for the assistance she has rendered me. She says, " We have about 50 hens of different kinds, none of the best, or our profits ought to be much larger ; also 10 ducks ; they are fed upon small corn, which is only suitable for poultry or pigs ; we do not breed any for sale, merely for our own use.

Amount received for eggs during the last year	£16	10	0
Cost of food, at 2*s.* per week	5	4	0
Profit ..	£11	6	0

" One Turkey hen ought to bring up, upon an average, 10 young ones at the first hatching, and 6 or 7 afterwards ; they are rather troublesome when young, and require a great deal of attention ; the early ones will sell for 5*s.* each, and the others for about 3*s.* 6*d.* each, being much smaller. We generally buy about 100 geese in September, which we sell in two months at the average price of 5*s.* each, the cost price being about 3*s.* each, which leaves a very good profit." Again, another lady says, " I should think we have about 40 hens. They are of no particular breed, just the common barn-door fowls. Some, I believe, are from the Duke of Northumberland's breed, they are grey and brown mottled, very large, and excellent layers. We have five or six ducks and two turkey hens, which are very dark, nearly black. They brought up, last spring, 24 young ones. We had only about 30 chickens last year, which has rather thrown us back. We bought in 37 geese at 3*s.* 6*d.* each, in the autumn, and sold them again in a very short time, at 5*s.* 9*d.*, 5*s.* 6*d.*, and 5*s.* 4*d.* each. We do not get the highest price for eggs, as we generally send them by the carrier to the market. The turkey eggs, in the latter part of the summer, we generally sell for 1*d.* each. Our proceeds were as follows.

From Eggs	£9	16	11
Chickens	1	4	10
Ducks	0	18	6
Turkeys	4	17	9
Geese	10	5	5
Outlay.	£27	3	5
30 Geese £6 9 6			
Oatmeal and woman's wages 3 0 0			
	9	9	6
Profit ..	£17	13	11

" The Profits are not so very small, but they would have been more had we succeeded better. I should say, for such a number as we have, the profits, upon an average, should be about 20*l.* or 22*l.* per annum." In " Baxter's Farmers' Library " there is a statement of what can be realised from poultry. The individual from whom this statement was obtained keeps only five fowls, which includes one cock. The expense of keeping, with produce of eggs, together with the profit for two separate years, were as follows.

1830.	£	*s.*	*d.*	1831.	£	*s.*	*d.*
¼ bushels of Barley ..	0	16	6	2½ bushels of Barley	0	11	0
2 ,, Sharps ..	0	5	1	9½ gallons of Sharps	0	3	6½
½ ,, Bran ..	0	0	5½	7 ,, Pollard	0	0	9
½ ,, Pollard ..	0	0	7	4 ,, Bran..	0	0	6
	1	2	7½		0	15	9½
Number of eggs, 710 at 1*d.* each ..	2	19	2	Number of eggs, 549 at 1*d.* each ..	2	9	6
Clear profit ..	1	16	6½	Clear profit ..	1	13	8½

Or nearly 8*s.* 9½*d.* in the year for each hen.

Mr. England, in the 4th volume of the "Prize Essays of the Highland Society," gives the following statement of the expense and profit derived from a Poultry establishment, consisting of five wards, each containing 24 hens and 1 cock.

Expense of building one ward	£9	10	0
Live stock, consisting of 1 cock and 24 hens, at 2*s.* 6*d.* a pair	3	2	6
	12	12	6
Total expense of 5 wards ..	63	2	6

The produce will be as follows, deducting the time of breeding and moulting, one hen will lay 144, or 12 dozen eggs, annually.

7½ dozen, at 6*d.* per dozen	£0	3	9
The remainder hatched, of which 3½ dozen produced chickens, which sold at 6*d.* per pair ..	0	9	9
1 dozen full-grown fowls, at 2*s.* 6*d.* per pair ..	1	10	0
	2	3	6
This sum multiplied by 24 ..	51	12	0
Again multiplied by 5 ..	258	0	0
Outlay.			
Henwife's house rent ..	£1	10	0
Milk, meal, and wages ..	12	10	0
Interest of 63*l.* 2*s.* 6*d.* ..	3	1	0
Amelioration and repairs ..	2	0	0
Grain for 5 wards, 15 qrs., at 24*s.*	18	0	0
	37	1	0
Total profit ..	£220	19	0

Cobbett, in his "Cottage Economy," says, "that six fowls, with proper care, might be made to cost, every week the price of one gallon of flour," which at the present price of flour, will amount to rather more than 5*l.* per week, or 260*l.* per year. I could have given you many other "facts" further proving the profitableness of poultry, but I think what I have brought forward sufficient to prove my case. I should, before concluding this part of my subject, remark on one error that has not been touched on. A farmer, who, for six years, rented a small farm, on which he had, by industry, increased his original capital, a sum large having been offered to him, which he took. Afterwards, when he came to look into his situation, he found that he had not sufficient capital to properly stock it, an error into which our "great men" too often fall ; he would, in all probability, have been compelled to give it up, had not his sister, who had kept her money carefully and made him a present of 200*l.*, the interest she had saved from the proceeds of her poultry. In order to accomplish any amelioration in the improvement of poultry so as to make the keeping of it profitable, it is essential that we have a superior breed, in place of the mixed and mongrel breeds which exist on our farms ; and, in the next place, we must have proper houses and yards for their accommodation, for which by the by, as there is a great talk that landlords should be paid a per centage for all permanent improvements, we should willingly pay a per centage on the cost of erecting proper poultry houses ; I therefore shall make a description such a poultry house as I would wish to see upon every farm. It should be placed in a warm and dry situation, sloping towards the south, with an aspect such as will receive the greatest possible daily average of sunshine ; it should be built of brick or stone, not wood, and divided into separate wards, so as to hold not more than 24 hens, with a separate yard for each hen, as without this precaution the cocks would frequently have three or four partners. The best kind of nests are made of wood. I object to wicker baskets, as they are calculated to let in cold air. Every poultry house should be provided with a sufficient quantity of small sand, or, if such cannot be procured, clean ashes are a good substitute ; pieces of chalk are also useful, for when fowls are kept deprived of sand or chalk, a considerable per centage of their eggs will be laid soft, i.e., destitute of a perfect shell. There ought to be attached to the house a well-drained yard, divided into as many portions as it contains wards, with water in each, inclosed by a wall or paling, but not a hedge, or the fowls will get far apart, and will be troublesome in laying their eggs in the hedge ; each portion should be flagged and covered for feeding the fowls on ; part covered with sand or fine gravel for them to wallow in, part laid with turf, that the fowls may find insects and earth-worms, and eat Grass when they feel inclined. In the erection of poultry houses, ventilation ought to be particularly attended to, as it is highly essential ; for where many are confined in aggregate and remain shut up for many hours, an excessive heat will be generated, and a bad effluvia from the manure will stagnate and create disorders which would never arise among poultry if free ventilation and cleanliness attended in the house. It would be needless to give a description of all the breeds of poultry ; I, therefore, shall very briefly refer to such as I consider best suited to the farmer. The *Dorking breed*, so called from a town in Surrey—*No fowls are equal to the* Dorking for the table, which are the true Normandy fowls of the gourmand. They are a plump-boned, white-fleshed fowl, feed rapidly, and grow to a large size when properly managed. It is quite a mistake to suppose that the characteristic of the Dorking is their having uniformly five toes ; the production of two toes instead of one is merely accidental, like that of two thumbs sometimes observed on the hand of an individual of the human race. The colours are variable, but white is the most prevalent, and many esteem a white colour to be essential to the genuineness of the breed. The *Malay* is a breed of a large size. This size, however, consists rather in limb than body ; and as it thus produces a quantity of offal rather than available flesh, it is not to be regarded as a good bird although the hen lays a very large egg, which is very rich ; in fact, two are equal to three of an ordinary fowl ; but, unfortunately, they are bad sitters. The colours of the feathers are black, or a very dark brown, streaked with yellow. The finest Malay cock that I have seen in this country was exhibited, and gained the first prize at the recent poultry show. It is said that a cross between the Malay and the common fowl produces a breed very superior to either of their progenitors. A cross has been tried between the Dorking and the Malay, but has not proved successful. The *Cochin China*, the prince of domesticated birds, is generally of a bright bay colour, darker above, with a black mark, of a horse-shoe shape, upon the breast ; wings borne tightly up ; bearing erect and lively ; whole form approaching to that of the bustard ; comb and wattles large and simple. The hens (some of them weighing from 8 to 10 lbs.) are famous layers, repeatedly laying two or three eggs per day. A well-known poultry fancier, in writing to a friend, strongly recommends a cross between this breed and the Dorking as being extremely profitable. The *Spanish* are majestic birds ; they are known by their jet black colour, large toothed comb, and wattles, white cheek or earpiece ; they are a very good breed for keeping, not only possessing flesh of the best and whitest quality, and acquiring it very rapidly, but they are also good layers. The *Common Dunghill Stock*.—Colours are various. It is of the middle size, and, as a well-known writer says, just as much out of place in the farm-yard as the cur dog would be in the kennel of a sportsman ; and I hope the time will soon arrive when its place will be occupied by birds calculated to prove profitable. As I am afraid that I have trespassed too long upon your time, I shall not attempt to give a description of such breeds as the bantams, game fowls, and shackbags, which are perfectly useless to the farmer. *Turkeys* are very difficult to rear ; in fact, I never could rear them to be profitable. But when any are kept, I certainly would recommend the black or Norfolk turkey : it is hardy and less difficult to rear ; it also attains a larger size at an earlier period than either the white or copper-coloured. *Geese* ought only to be reared by farmers in the neighbourhood of commons or such places as Prestwick Carr. Although some farmers rear them on good grazing land, having an absurd notion that they preserve the health of the cattle in the pastures in which they feed, which is altogether erroneous ; they are not, and require a great quantity of Grass near their haunts, and should therefore never be allowed upon good grazing or meadow land. The plan is to purchase them from the poor land farmer, after harvest, and feed them off on the stubbles. *Ducks*.—I would advise you to abandon all fancy breeds and adhere to the Aylesbury, or large English white duck ; or a cross between them and the Rouen or French duck, which make a very valuable breed.

Reviews.

On Land Drainage ; with some Remarks on Meteorological Influences, as connected therewith. By J. H. Charnock, M.R.A.S.E., Land Agent, &c. 2d Edition. Longman, Brown, Green, and Longmans.

Our readers have more than once had the advantage of Mr. Charnock's authorship on this subject in the columns of this Paper ; and in this pamphlet they will find the theory and practice of land drainage discussed with the same intelligence that characterised his less permanent performances. Mr. Charnock, while insisting that the practice of drainage must vary with the circumstances in which it has to be executed, argues for many exit channels for the water rather than the few far apart, which some believe a greater depth to

justify. We give the following passages in explanation of his opinion on this point :

"Very recently I have seen some strong land which has been drained at about 60 feet apart, and from 4 to 4½ feet deep, upon which the water has stood during the whole winter and spring without any beneficial effect whatever being produced by the drains. So wholly ineffectual, indeed, has this work proved, that one field, which could not be got ready for Wheat last autumn, was reserved for spring corn ; but, although drained, there never was an interval of sufficient duration from rain to allow of its being sown, and it now remains a bare summer fallow. I ask, then, what becomes of the theory of a 48 hours' action ? The practical truth is, this land yet requires to be thoroughly drained ; and this is now being done in some of the neighbouring fields, with drains 3 feet deep and from 20 to 24 feet apart, at a cost of about 4*l.* 40*s.* per acre. Let me, however, guard myself from being understood as disparaging deep drainage under suitable circumstances—it is the inappropriate application of it I would guard you against—the abuse, and not the use. I have had drainage inspections under my charge where the depths and distances were as various as from 6 to 7 feet deep, and 50 to 100 yards apart, to 3 feet deep and 18 feet apart ; all of which are perfectly effective on their respective subsoils, because suited to the characteristics of each.

"On the strong lands there is another reason, irrespective of the mere removal of the superfluous water, for more frequent drains being preferable ; and that is the more ready diffusion of atmospheric action to the soil, whereby its mechanical condition is so much improved. If we take a sectional view of the two masses of soil comprised between parallel drains of 18 feet and 36 feet apart, we shall at once perceive that not only will the superfluous water be sooner evacuated from the one than the other, but in the same ratio will the external air be sooner admitted, and more universally distributed throughout the entire area of the narrow than the broad gauge ; and hence the nearer approximation to that uniformity of tilth which renders the naturally dry lands, of which we have already spoken, so economically productive. I am aware that, on some of the porous substrata, the land does not, what farmers call, 'hold tillage' [retain manure] ; but there is no fear of clay subsoils ever being reduced, by artificial drainage, to such a state ; on the contrary, this very property of retention, which they possess, gives to the soil, when in proper order, a stamina for production in which lighter lands are deficient. From these considerations, therefore, we may fairly infer, that no arbitrary system of depth and distance can be applied ; but that effective drainage must be conducted as the circumstances of each particular case may require."

Miscellaneous.

Seeds and Thin Seeding.—An astounding fact on the foreground of all inquiries respecting the seeds sown by farmers, is that an enormous proportion of them is destroyed or never germinates. This proportion has been computed to amount to two-thirds of the entire quantity sown ; and therefore to involve the stupendous annual waste, throughout Great Britain and Ireland, of 4,666,666 quarters of Wheat, Barley, and Oats—a quantity equal to the support of one million of human beings. One portion of the loss of sown corn-seeds is easily traceable to birds ; and whatever amount of this is occasioned by the overharrowing of light soils, might be prevented. Another portion of the loss is traceable to the bursting and rotting effect of too much moisture ; and whatever amount of this is occasioned by the stagnation of rain water in furrows and hollows, ought to be ascribed to bad tillage or insufficient drainage. A third portion of the loss is traceable to the trampling of the horses, pressing the seeds beyond the action of the air, or making holes over them for stagnant water ; but this, in the present state of husbandry cannot be avoided. A fourth portion of the loss is traceable to the exclusion of air by adhesive clays, or undue exposure to frost or heat by sandy soils ; and this, as well as the greater evil of comparative infertility, might be cured by a little georgical improvement. A fifth portion of the loss is very probably caused by the depredations of the numerous insects which inhabit the soil ; yet, as the seed is not eaten by them, but damaged or destroyed in consequence of their peculiar habits of existence, this source of loss is a proper subject of investigation for entomologists. A sixth portion of the loss is, in some instances, very probably caused by noxious metallic salts existing in combination with the soil ; and this evil as well as other evils of greater magnitude, forms a decided reason for a careful chemical analysis of soils. A seventh portion of loss is possibly, though not certainly, traceable to high electric influence ; and this consideration, in spite of being merely theoretic, is strong enough to concur with reasons of greater weight for urging upon scientific agriculturists the study of electricity and of electric agency on soils and vegetation. An eighth portion of the loss is, in many instances, manifestly occasioned by the over-ripeness, the bad preservation, or the otherwise damaged vitality of the seeds ; and this—often a very abundant portion of loss—may easily be prevented by using only seed-corn, all the grains of which, when tested in the sample of one or two handfuls, will sink readily in water. A ninth portion of the loss—and this both a general and large portion—is caused by damage to the seed, or absolute destruction to its vitality, from the blows of the scutchers or the flail in threshing ; and this ought to be prevented by a slow, cautious, and quite partial threshing of the selected sheaves for seed-corn, leaving the remainder of them to be afterwards threshed in the usual manner for edible grain. A tenth portion of the loss, and the last we shall mention, is indiscriminate sowing, or the want of adaptation in the quantity of the seed to the powers of the soil.—*Rural Cyclopedia.*

Calendar of Operations.

AUGUST.

BERWICKSHIRE MERSE FARM, *Aug.* 18.—Since last report we have been employed ploughing, harrowing, and rolling land for Wheat, ploughing Turnips, delivering Wheat, and carrying coal. The workers have been employed hoeing Turnips, dressing Wheat, and gathering weeds on the fallow land ; one man putting up palings, &c.

LAMMERMUIR SHEEP FARM.—Since our last report the weather has been dry on the whole, though somewhat cold for the season of the year. A sufficiency of rain having fallen in the form of showers to keep every thing growing, the pastures are most luxuriant, and Heather being now in full flower, our hills have a very beautiful appearance. The Clover hay is all in ricks in good condition, and most of it would have been stacked but for the showers of last week. This crop is much heavier than we expected ; the cutting cost 2*s.* 3*d.* per imperial acre. We are now busy with the natural Grass hay, which is a very heavy crop ; the cutting of this cost about 4*s.* per acre. The Turnips were all thinned 10 days ago, and are now growing amazingly fast. The paring-plough and horse-hoe are kept at work, followed by the hand-hoes when we are not attending to the hay. The Cheviot lambs were all weaned on the 10th, and after having been sorted, a sufficient number of ewe lambs were retained to keep up the stock, while the smaller lambs have been sold for the purpose of breeding "half-breds," or crosses between the Cheviot ewe and Leicester tup. The top wedder lambs have been driven to market. The lambs are stronger and in better condition than they have been for a number of years. Prices are about 3*s.* below last year. Wool is miserably low—Cheviot being about 8½*d.*, and black-faced white 5½*d.* per lb. The ewes have been milked once or twice, to prevent the milk injuring their udders. The whole stock is very healthy and in excellent condition ; *A Lammermuir Farmer.*

NORTH ESSEX FARM, *Aug.* 21.—The weather during the past week has been anything but favourable for harvest work ; we have, however (by taking advantage of the intervals of fine weather, turning and unbinding sheaves where necessary) been enabled to secure about three-fourths of our Wheat crop in tolerable condition. When the weather has been too wet for harvest work we have been threshing Wheat, turning over dunghills, setting out late sown Turnips, &c. The greater part of our Barley is now fit for the scythe, but we dare not venture upon cutting it until the weather becomes more promising. The greater part of the Oats and Beans are also nearly ripe, for these crops also fine weather is wanted. The Potato crop is likely to prove a very poor one ; we have, however, some very tolerable Early Shaws, which were nearly matured before the disease made its appearance. The plan we usually adopt with our harvest men is to hire them for a month, regulating the wages by the price of flour. This year we are giving 18*s.* per week, with 3 bushels of malt and 3 lbs. of Hops. Hours of labour from 6 A.M. to 7 P.M. ; when carting corn, as late in the evening as required. We make the above agreement subject to the following condition, that when harvest operations are obliged to be suspended on account of wet weather, other work is found at common wages ; *T. B.*

NORTH LINCOLNSHIRE FARM, *Aug.* 21.—Harvest became general in this neighbourhood the week before last, and Wheat is now pretty generally cut and stooks a larger crop than we expected. The weather has been and is very unfavourable for harvest, there have been few days without rain, and yesterday it fell in torrents. There are a few Wheat stacks up. The Potatoes go apace, and in all directions.

Notices to Correspondents.

CHICKEN HATCHING : *W M F.* You do not suppose that we can publish a communication full of such passionate expressions, whatever the character of the man against whom they are directed. We cannot allow the *Agricultural Gazette* to back your private quarrel with Mr. Cantelo. All that our readers as yet know is, that an anonymous correspondent who once spoke as an eye-witness of the great merits of hydro-incubation, has suddenly taken to writing it down in a manner which, to say the least, involves himself in shame quite as much as it does Mr. Cantelo. The fact of the matter is, that so far as your correspondence has been concerned, the *Agricultural Gazette* may now be considered as barren of evidence on the subject, and nothing more. But, adopting the spirit of your later paragraphs, we add that we wish it could also be said, equally barren of mischief. To our readers we would say, have nothing to do with the Cantelonian system of hydro-incubation. Wait for the testimony of those who have themselves tried it.

PEAT LAND : *Tweed Filius.* We should agree with you in the policy of preferring Rape to a second crop of Oats—Rape followed by Oats laid down with Grass seeds. As to the application of lime, we would make a compost of 100 to 150 bushels of lime per acre with a lot of vegetable matter, mould, ditch scrapings, &c., in the autumn, and let it lie till early spring, and then apply it broadcast, either before Oat seed time or over the young Grass after Oats.

RICE : *R.* It is good food either for fatting or for growing fowls. It should be boiled, *not too much* ; if in skimmed milk or broth, all the better. It should, however, be mixed with chopped mutton suet, pollard, and Barley-meal. Given uncooked it might prove injurious, if they would eat it, from swelling in the craw. I have heard that a Rice diet has a tendency to cause blindness in fowls, but have no experience of the fact, whatever may be the result in India. *D.*

STILTON CHEESE : *W. M.* See page 214, 1845.

Markets.

SMITHFIELD, MONDAY, Aug. 21.

Although the supply of Beasts has rather increased from last Monday, the trade is more cheerful for the best qualities, and 4*s.* 6*d.* is realised in some instances. The number of Sheep and Lambs is smaller, and trade is decidedly better, although but little advance in price is obtained, owing to the very wet weather. We are again plentifully supplied with Calves ; trade is exceedingly heavy at still lower prices. From Holland and Germany we have about 300 Beasts, 2800 Sheep, and 283 Calves ; from Scotland, 200 Beasts ; Northampton and Leicester, 1700 ; and Lincolnshire, 300.

Per stone of 8lbs.—	s	d	s	d
Best Scots, Herefords, &c.	4	0	to 4	2
Best Short Horns	3	10	— 4	0
Second quality Beasts	3	0	— 3	6
Calves	3	0	— 4	0
Best Downs & Half-breds	....			
Ditto Shorn	4	8	— 5	0

Per stone of 8lbs.—	s	d	s	d
Best Long Wools	....			
Ditto Shorn	4	4	— 4	6
Ewes and second quality	....			
Ditto Shorn	3	6	— 4	2
Lambs	4	0	— 5	0
Pigs	4	0	— 5	0

Beasts—3520. Sheep and Lambs—24,900. Calves—345. Pigs—413.

FRIDAY, Aug. 25.

The supply of Beasts is rather shorter than last week, and there is a little improvement in the trade, especially for those of the best quality, which are readily sold, at advanced prices. The number of Sheep is also smaller ; and trade, though still heavy, is decidedly a little better, with a corresponding improvement in the prices, and there is no doubt of all being sold. The Lamb trade is still exceedingly heavy. The supply of foreign beasts and sheep is rather larger this week, but that of Calves smaller and trade better. From Holland and Germany there are 181 Beasts, 1490 Sheep, and 209 Calves ; about 60 Beasts from France, and 200 from Scotland ; and 109 Milch Cows from the home counties.

Best Scots, Herefords, &c.	4	0	to 4	4
Best Short Horns	3	8	— 4	2
Second quality Beasts	3	0	— 3	4
Calves	3	0	— 4	4
Best Downs & Half-breds	....			
Ditto Shorn	4	8	— 5	2

Best Long Wools	....			
Ditto Shorn	4	4	— 4	8
Ewes and second quality	....			
Ditto Shorn	3	6	— 4	2
Lambs	4	0	— 5	0
Pigs	4	2	— 4	6

Beasts—1186. Sheep and Lambs—8,350. Calves—163. Pigs—384.

COVENT GARDEN, Aug. 26.

The market is well supplied with Vegetables and most kinds of Fruit. English Pine-apples are plentiful ; foreign ones are less abundant. Hothouse Grapes, Apricots, Peaches, and Nectarines are plentiful. Melons are sufficient for the demand. Cherries, except Morellos, are over. Plums are offered at from 6*s.* to 8*s.* per half sieve. Currants are dearer. Nuts are sufficient for the demand. Oranges are abundant : Lemons moderately plentiful. Among Vegetables, Carrots and Turnips are abundant and good ; Cauliflowers, &c., sufficient for the demand. French Beans plentiful. Potatoes the same, but diseased. Peas are a little dearer. Lettuces and other salading are sufficient for the demand. Mushrooms are plentiful. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Fuchsias, Carnations, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 4*s.* to 6*s.*
Grapes, hothouse, per lb. 1*s.* 6*d.* to 4*s.*
Peaches, per doz., 1*s.* to 15*s.*
Nectarines, per doz. 6*s.* to 15*s.*
Melons, each, 2*s.* to 5*s.*
Plums, per punnet, 1*s.* 6*d.* to 2*s.* 6*d.*
Apricots, per doz., 2*s.* to 4*s.*
Cherries, per lb., 6*d.* to 3*s.*
Apples, dessert, per bush., 4*s.* to 7*s.*
— kitchen, p. bush., 3*s.* to 5*s.*
Currants, per half sieve, 4*s.* to 6*s.*
Raspberries, per punnet, 6*d.* to 9*d.*
Oranges, per doz., 1*s.* to 2*s.* 6*d.*
Oranges, per 100, 8*s.* to 20*s.*
— bitter, per 100, 8*s.* to 16*s.*
Lemons, per doz., 1*s.* to 2*s.*
— per 100, 5*s.* to 24*s.*
Almonds, per peck, 6*s.*
— sweet, per lb., 2*s.* to 3*s.*
Walnuts, per bush., 12*s.* to 24*s.*
Nuts, Barcelona, per bush., 20*s.* to 22*s.*
— Filberts, per 100 lbs., 14*s.* to 20*s.*
— kitchen, per 100 lbs., 25*s.* to 30*s.*
— Brazil, per bush., 12*s.* to 16*s.*
Chestnuts, per peck, 3*s.* to 6*s.*

VEGETABLES.

Cabbages, per doz., 6*d.* to 1*s.*
Cauliflowers, per doz., 1*s.* to 4*s.*
Sorrel, per half sieve, 1*d.* to 2*d.*
Potatoes, per bush. 1*s.* to 10*s.*
— per cwt., 3*s.* 6*d.* to 6*s.*
— per bush., 1*s.* 6*d.* to 3*s.*
Turnips, p. bunch, 4*d.* to 6*d.*
Red Beet, per doz., 6*d.* to 1*s.*
Horse Radish, per bundle, 1*s.* to 6*s.*
French Beans, per half sieve, 1*s.* to 2*s.*
Cucumbers, each, 2*d.* to 8*d.*
Leeks, per bunch, 1*d.* to 2*d.*
Celery, per bundle, 1*s.* to 1*s.* 6*d.*
Carrots, per bunch, 3*d.* to 6*d.*
Spinach, per sieve, 1*s.* to 2*s.*
Peas, per sieve, 3*s.* to 5*s.*
Beans, per bushel, 2*s.* to 2*s.* 6*d.*
Marjoram, per bunch, 6*d.* to 9*d.*
Onions, per bunch, 3*d.* to 6*d.*
— Spanish, per doz., 1*s.* to 4*s.*
Onions, pickling, per half sieve, 2*s.* to 3*s.*
Tomatoes, per punnet, 1*s.* to 1*s.* 6*d.*
Shallots, per bunch, 3*d.* to 4*d.*
Garlic, per lb., 2*d.* to 1*s.*
Radishes, per doz. bands, 6*d.* to 1*s.*
— Turnip, do., 9*d.* to 1*s.*
Art chokes, per doz., 1*s.* 6*d.* to 3*s.*
Vegetable Marrow, per doz., 6*d.* to 1*s.*
Lettuce, Cab., per score, 4*d.* to 1*s.*
— Cos, do., 9*d.* to 1*s.* 3*d.*
Mushrooms, per pottle, 1*s.* to 1*s.* 6*d.*
— per punnet, 1*s.* to 6*s.*
Small Salads per punnet, 2*d.* to 3*d.*
Fennel, per bunch, 2*d.* to 3*d.*
Savory, per bunch, 3*d.* to 4*d.*
Thyme, per bunch, 3*d.* to 4*d.*
Watercress, p. 12 small bun., 6*d.* to 9*d.*
Parsley, per half sieve, 6*d.* to 9*d.*
— Roots, per bundle, 1*s.* to 1*s.* 6*d.*
Mint, green, per bunch, 2*d.* to 4*d.*

HOPS, FRIDAY, Aug. 25.

Messrs. PATTENDEN and SMITH report that the wind, wet, and cold weather still retards the growth of the Hops. Duty, 175,000*l.*

Mid. & East Kents, p. cwt.	60*s* to 80*s*	Yearling Kents, p. cwt.	38*s* to 44*s*
Weald of Kents	47 — 56	Yearling Sussex	35 — 42
Sussex	45 — 54	Old Hops	20 — 35
Farnhams	80 — 100		

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Aug. 24.

Prime Mead. Hay	70*s* to 75*s*	New Hay	60*s* to 70*s*	Straw	26*s* to 30*s*
Inferior ditto	60 65	Clover	85 100		
Rowen	50 60	New Clover	70 90	J. COOPER.	

CUMBERLAND MARKET, Aug. 24.

Prime Mead. Hay	75*s* to 80*s*	Old Clover	88*s* to 90*s*	Straw	28*s* to 30*s*
Inferior	50 65	Inferior	75 84		
New Hay	50 68	New Clover	60 80	JOSHUA BAKER.	

WHITECHAPEL, Aug. 24.

Fine Old Hay	68*s* to 75*s*	Old Clover	95*s* to 105*s*	Straw	24*s* to 28*s*
Inferior Hay	— —	Inferior	— —		
New Hay	50 65	New Clover	63 84		

MARK LANE, Monday, Aug. 21.

Messrs. KINGSFORD and LAY report that the supply of English Wheat from the neighbouring counties this morning was moderate, consisting nearly half of the new crop, the quality very variable, and all in poor condition. The morning being very wet, factors succeeded in clearing their stands at an advance of 3*s.* per qr. upon the prices of this day se'nnight. Free foreign was not much inquired after, but must be noted 2*s.* per qr. dearer, and the same improvement was realised on bonded and floating cargoes.—Barley was in good demand, and 1*s.* to 2*s.* per qr. higher.—Beans and Peas of all sorts must be written 2*s.* per qr. dearer.—Oats met an improved sale at 1*s.* per qr. over the rates of last Monday.—The top price of Flour is raised to 53*s.* per sack.

BRITISH PER IMPERIAL QUARTER.	*s*	*s*		*s*	*s*
Wheat, Essex, Kent, and Suffolk ..... White	58	62	Red.....	50	55
Norfolk, Lincolnshire, and Yorkshire	0	55	White ..	52	58
Barley, Malting, and distilling, 30*s* to 32*s*	28	30	Grinding	28	30
Oats, Lincolnshire and Yorkshire..... Polands	22	25	Feed	20	23
Northumberland and Scotch ..... Feed	21	23	Potato ..	22	25
Irish ..... Feed	19	22	Potato ..	22	24
Malt, pale, ship.....	—	—			
Hertford and Essex	—	—			
Rye.....	27	30			
Beans, Mazagan, old and new ... 32*s* to 32*s*.... Tick..	32	35	Harrow..	34	37
Pigeon, Heligoland ..... 36 38 .... Ands	—	—	Longpod	—	—
Peas, White..... 38 44 .... Maple	36	40	Grey	34	38

FRIDAY, Aug. 25.

The arrivals of corn since Monday have been moderate. This morning's market was more thinly attended than Wednesday's, and the inquiry for Wheat less active. English and free foreign were held firmly at Monday's quotations ; bonded and floating cargoes 1*s.* to 2*s.* per qr. higher.—Barley commands an advance of 1*s.* per qr.—We observe no alteration in the value of Beans or Peas.—Oats meet a free sale at 1*s.* per qr. more money.

[Owing to the continuance of rainy weather, little progress has been made with the harvest during the last eight days, and the corn is suffering considerably from exposure in the fields, which will render a large quantity unfit for use for some months ; this, and the certain destruction of a large portion of the Potato crop, and strong probability that the apparently sound will not keep, has induced millers and dealers to increase their stocks, and given rise to some speculation. Prices of English and new foreign Wheat have risen in consequence, during that period, 3*s.* to 4*s.* per qr, and fully 4*s.* per qr. for bonded and floating cargoes. Dantzic and Konigsberg is held at 53*s* to 56*s.*, freight included ; and Rostock equally high ; lower Baltic, Hamburgh, and Dutch, 50*s.* to 54*s.*, and Polish Odessa 52*s* ; f. o. b., freight and insurance included. These last, owing to the facility of directing them to any port of the U. K., have been largely taken by the Irish buyers, and consequently command a high proportionate value. Spring corn has participated in the improvement. Barley, of which the quantity for malting has been reduced by the weather, has advanced 2*s.* to 3*s.*, Beans and Peas 2*s.*, and Oats 1*s.* to 2*s.* per qr. The top price of Flour has been raised to 53*s.* French for delivery on the wharves has realised 38*s.* 6*d.* per sack in bond ; of barrel there is very little on hand. Stettin is offering at 28*s.*, on board freight. Canadas in bond have been sold at 30*s.* to 31*s.*, and 32*s.* realised for new American partially sour. In Indian Corn a large business has been transacted for Ireland ; Ibraila and Galatz cargoes afloat have realised—the former 37*s.* and the latter 40*s.* afloat. Dantzic letters of the 18th represent the trade of the week as having been languid, and purchases of Wheat could be made at 41*s.* to 47*s.*, being a decline of 1*s.* to 2*s.* per qr. In Belgium, the exhaustion of the old stocks of Wheat, spread of the Potato disease, and consequent refusal of the farmers to dispose of their crop, had caused an advance of fully 1*l.* per qr. From Holland, accounts of the Potatoes are also worse, which, with the inquiry for exportation, had caused a rise from 3*s.* to 4*s.* per qr. for Wheat in Rotterdam, and 49*s.* 6*d.* had been refused on the 22d for a cargo of new Rhine, 63 lbs. The stocks in granary were exhausted.]

IMPERIAL AVERAGES.	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
July 15	49*s* 1*d*	29*s* 0*d*	20*s* 9*d*	31*s* 0*d*	36*s* 6*d*	37*s* 3*d*
— 22	43 11	30 2	20 3	28 3	35 11	36 3
— 29	47 11	29 5	20 7	30 2	35 9	36 1
Aug. 5	49 5	29 11	21 0	29 4	35 3	34 8
— 12	50 11	30 1	21 8	29 7	36 0	35 2
— 19	51 0	30 3	21 5	31 11	37 9	36 3
Aggregate Average	49 6	29 10	20 11	30 1	36 2	35 11
Duties on Foreign Grain	8 0	3 0	2 6	3 0	3 0	3 0

ARRIVALS IN THE PORT OF LONDON THIS WEEK.

	Wheat. Qrs.	Barley. Qrs.	Oats. Qrs.	Flour.
English.....	2780	330	390	1680 sacks.
Irish	—	—	—	—
Foreign.....	3910	220	10060	— barrels.

Fluctuations in the last six weeks' Corn Averages.

PRICE.	July 15.	July 22.	July 29.	Aug. 5.	Aug. 12.	Aug. 19.
51*s* 0*d*	...	...	...	...	...	...
50 11	...	...	...	...	...	...
49 5	...	...	...	...	...	...
49 1	...	...	...	...	...	...
48 11	...	...	...	...	...	...
47 11	...	...	...	...	...	...

SEEDS, Aug. 21.

Canary ..... per qr.	80*s*	to 90*s*	Linseed-cakes, Foreign, p. ton	7*l*	to 9*l*
Caraway ..... per cwt.	27	29	Mustard, White, p. bush., 8*s*	0*d*	to 11*s* 0*d*
Clover, Red, English	35	44	Superfine, p. bush.,	—	—
— Foreign	35	40	Brown, per bush.,	—	—
White, English	38	44	Rapeseed, Eng., per last.....	28*l*	30*l*
— Foreign	38	42	Rape-cakes ..... per ton	4*l*	15*s*
Coriander.....	13	20	Sanfoin	—	—
Flempseed ..... per qr.	40	44	Tares, Eng., winter, p. bsh.,	5*s* 0	7*s* 0
Linseed.....	36	40	Foreign, per bush.,	3*s* 0	4*s* 0
— Baltic.....	34	38	Trefoil	17*s* 0	20*s*
— Cakes, Eng. p. 1000,	11*l* 10*s*	to 13*l*	Turnip—too variable for quotation.		

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, BUILDERS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to submit to public competition by Auction, on the premises, Hilly Nursery, Tranquil Vale, Blackheath, early in September (in consequence of the ground being immediately required by the South Eastern Railway Company), a portion of the valuable NURSERY STOCK, consisting of fine evergreens and Trees in great varieties, Fruit and Forest Trees, Deciduous and Ornamental Trees, fine Fan Yews, Pines, American Plants, Standard and Dwarf Roses, Herbaceous Plants, &c. Also a collection of Greenhouse Plants, comprising choice Camellias, Azalea indica, Erica, &c.; together with a quantity of strong Lea Hurdles and a Tulip stage. May be viewed prior to the Sale. Catalogues (6d. each, returnable to purchasers) may be had on the premises; of the principal seedsmen; and of the Auctioneers, Amerden Nursery, Leytonstone.

MERRIOTT, NEAR CREWKERNE, SOMERSETSHIRE.

TO BE LET, and entered on immediately, on most advantageous terms, an Old Established and Well Stocked NURSERY, containing, by estimation, Ten Acres (more or less), situated in the above parish; together with an excellent Hothouse thereon, filled with choice Vines in full bearing, and valuable plants; adjoining which is a comfortable Cottage, with convenient Cart-house, Packing Sheds, Seed Room, &c.

Merriott is situated within a short distance of the populous towns of Ilminster, Ilchester, Yeovil, Crewkerne, Chard, Taunton, &c., to which latter place conveyances pass to and fro daily, in connection with the railways to all parts of England.

To view the above, application may be made to Mr. ANDREWS, at the Cottage on the Nursery; and further particulars and terms of letting may be known on application to Mr. WHITELEY, Solicitor, Wrington, near Bristol, Somerset.—Wrington, Aug. 26.

TO BE LET, A FARM in Warwickshire, consisting of 130 acres, about one-third being Meadow and Pasture. To be entered upon at Michaelmas next, and a Lease given if required. It is requested, to save trouble, that no one without adequate capital will apply.—Address, Messrs. ESDALL and JAMES, Land Agents, Henley in Arden, Warwickshire.

TO MARKET GARDENERS, NURSERYMEN, & FLORISTS.

TO BE LET, within a mile and a half of Hyde Park Corner, 16 acres of highly-cultivated MARKET GARDEN GROUND, with a moderate stock of bearing fruit trees, on the same; it is cropped with usual market garden crops, besides having a large stock of glass in use on the land.—For particulars, apply to Mr. ATWOOD, Land Agent and Valuer, Monthlake, Surrey. Immediate possession can be given.

FARM TO BE LET.

TO BE LET, from Michaelmas-day next, A FARM, situated in the Vale of the Avon, in Worcestershire, and contiguous to a Railway Station, consisting of 175 acres of land, of first-rate quality, with Excellent Farm-house and Buildings. A Lease of years will be granted, or an agreement to allow compensation for unexhausted improvements, and the course of cultivation will not be clogged with the usual restrictions. A tenant is sought for who will adopt the improved methods of agriculture. Reference as to moral and religious character will be required. A capital of not less than 2000*l.* will be necessary. —Apply to Mr. SHIPTON, Bookseller, Cheltenham.

EDGBASTON, BIRMINGHAM.

TO BE LET OR SOLD, with immediate possession, Well-arranged premises for carrying on the NURSERY and SEED BUSINESS, advantageously situated between the Bristol and Pershore roads, and in a most genteel neighbourhood. The Premises comprise a very excellent Dwelling-house, Seed Shop, and Show House, Hothouse, Greenhouses, Camellia House, and Propagating Houses; about 70 feet of Pits, and a good Potting and Packing House. The Business has been established about 10 years, and the ground is rather more than two acres, and contains a general Nursery Stock; has a good entrance from the Bristol road, within the turnpike, and a plentiful supply of water. The Dwelling-house, if not required, will be disposed of separately.—For further particulars, apply to CHARLES HALE JESSOP, Nursery Garden, Cheltenham.

TO NURSERYMEN AND CAPITALISTS.—AN advantageous opportunity is now offered to a person of moderate capital wishing to embark in a valuable NURSERY and SEED BUSINESS, in an important market town in North Wales, established for more than a century, and in excellent working condition, the result of much labour, care, and expenditure. The stock consists chiefly of Fruit and Forest Trees, Evergreens, Roses, &c. The ground upon which the Nursery Stock grows comprises more than 20 acres, and lies contiguous to a first-class station on the Chester and Holyhead Railway. Further particulars may be known, and satisfactory reasons given for disposing of the concern by applying to Messrs. T. and W. PRICHARD, Chester; or to WM. WILLIAMSON, Esq., Solicitor, Holywell.—August 26.

This Advertisement will not be repeated.

TO NURSERYMEN, SEEDSMEN, AND THE TRADE IN GENERAL.

TO BE DISPOSED OF, on Very Advantageous Terms, and entered upon immediately, ONE OF THE LARGEST HORTICULTURAL ESTABLISHMENTS in the Kingdom, with an increasing Nursery and Seed Business attached. To one or two enterprising young men this offers an opportunity which seldom occurs. Every facility will be given to any respectable person wishing to engage in the above. A Partner, with sufficient capital, and competent to undertake the entire management, would not be objected to. For particulars enquire of Mr. M. J. WEBBER, Fruiterer, Covent-garden Market, and Messrs. W. and J. NOBLE, Seedsmen, Fleet-street, London.

TURNIP SOWING.

MARK FOTHERGILL, 201A, Upper Thames-street, begs to offer the following MANURES for the Turnip Crop, viz.:

GUANO, PERUVIAN, direct from Import Warehouse.
SUPERPHOSPHATE OF LIME, manufactured from Bone only (superior to the cheap qualities made from fossils).
DRIED NIGHT SOIL.
BONE DUST AND HALF-INCH BONE.
SULPHURIC ACID.

Also Soda Ash, wireworm destroyer; pure Gypsum, or Mineral Sulphate of Lime (the rubbish offered cheap contains but little acid, the rest being carbonate of lime and water); Agricultural Salt, Nitrate of Soda, and all other Manures of known value. Prices current on application.

PARIAN CEMENT used as a Stucco, cannot easily be distinguished from statuary or Parian marble. It is fit for all the purposes of that beautiful material, and does not crack, warp, or efflouresce in any degree. The fine quality will incorporate with the most delicate colours: it is adapted to encaustic work, fresco, imitation of marble, and the most elaborate embellishment. So perfect are its setting or crystallising properties, that the coarse quality when applied to newly built or damp walls, may be immediately polished, painted, or papered, and rooms rendered habitable before the materials ordinarily used would begin to dry. Manufactured by CHARLES FRANCIS and SONS, Roman Cement Works, Nine Elms, London.

THE LONDON MANURE COMPANY beg to offer, on the best terms, Peruvian Guano, warranted genuine, delivered direct from the Importers' Warehouses: Superphosphate of Lime, in barrels of 2 cwt. each; Ammonia, Nitrate of Soda, Sulphuric Acid, Dried Night Soil, Gypsum, Potter's Guano, Bone Dust, Bones, Ashes, Rape Dust, Malt Dust, and every other artificial manure.

The CRATE of the LONDON MANURE COMPANY has now stood the test of seven years, and is universally recommended with the greatest confidence for Turnips, Mangold Wurzel, Carrots, and all root crops, Wheat, Oats, Barley, &c. Under many circumstances, and for many objects, it cannot be equalled by the most expensive manures, because the crop of Turnips to which it gives rise is not affected by the fall of rain; people therefore can depend upon it in dry seasons, and not put off sowing in the hope of rain. The LONDON MANURE COMPANY have reduced the price of the Crate, and can now supply it for 30s. each, delivered free to any railway station in England, under the Crate direct from the Manufactory, Stratford, Essex. Agents, who have to pay carriage, will be allowed a liberal commission. Crates, with full directions for use, can be had of the Secretary, at the Company's Offices, No. 20, Fenchurch-street, London, and of the sole Manufacturers, Messrs. [illegible] Stratford, Essex.

HOTHOUSES, & HEATING BY HOT WATER. BEST MATERIALS AND WORKMANSHIP. AT SMITH'S, GLEGG-PLACE, KING'S ROAD, CHELSEA, LONDON. ESTABLISHED TEN YEARS.

STEPHENSON AND CO., 61, Great Charles-street, London, and 17, New Park-street, Southwark, Engineers and Manufacturers of the Improved TUBULAR BOILER, CYLINDRICAL BOILERS, especially adapted for economically applying the Tank System to Conservatories, Hothouses, &c., by which atmospheric heat can be obtained to any required degree, without the use of pipes. S. and Co. have also to state that as the result of many years' friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, can easily repair or enlarge, but those who have not seen them in operation may be assured, as we can refer to the highest authority, they may be seen at most of the Nobility's seats and principal Nurseries throughout the Kingdom.

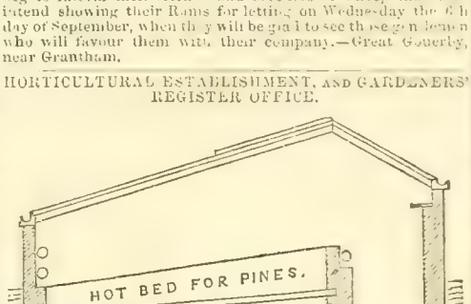
S. and Co. beg to inform the Trade that their Manufactory, 17, New Park-street, every description of the construction of Horticultural Buildings, as well as for health, can always be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Fleur de Lis, Iron Fences, Wire-work, &c.

BELFAST FLAX-DRESSING MACHINERY.—Persons wishing to put up Mills for Scutching or Dressing FLAX in the straw, can be supplied with the Improved Machinery, recommended by the Royal Flax Improvement Society of Ireland, on application to the Makers, MAC ADAM BROTHERS and Co., Engineers, Soho Foundry, Belfast.

PURE LEICESTER RAMS.—Mr. WRIGHT (late of Bunney) having given up his entire flock of pure Leicester Sheep to his Sons, CHARLES AND SAMUEL WRIGHT, they beg to inform their friends and breeders of Sheep that they intend showing their Rams for letting on Wednesday the 6th day of September, when they will be glad to see those gentlemen who will favour them with their company.—Great Gonerby, near Grantham.

HORTICULTURAL ESTABLISHMENT, AND GARDENERS' REGISTER OFFICE.



J. WEEKS AND CO., KING'S-ROAD, CHELSEA, HORTICULTURAL BUILDERS AND HOT-WATER APPARATUS MANUFACTURERS, have the honour to inform the Nobility and Gentry that they have of late years made great improvements in Horticultural Building and Heating by Hot Water; and for the purpose of showing those improvements, they have erected in the King's-road, Chelsea, an extensive ornamental Nursery, which contains upwards of 15,000 feet of Glass, consisting of Hothouses, Greenhouses, Conservatories, Pits, &c. &c., in great variety; the whole of which is heated by Hot Water in various forms. This has also enabled them to grow at very reduced prices a most extensive collection of Stove and Greenhouse Plants.

THE SEED DEPARTMENT at this Establishment is conducted with the greatest care and attention. Samples of every variety are proved before sent out.

PLANS, ESTIMATES, AND CATALOGUES upon application.

TO BRICK AND TILE MAKERS.

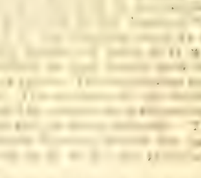
THE AINSLIE BRICK AND TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their IMPROVED BRICK and TILE MACHINES, which are to be seen at work at Alperton, and at the Company's Office, 193A, Piccadilly, from 10 A.M. to 5 P.M. Mr. Robert Scrivener, who has been appointed Manager in the room of Mr. John Ainslie, will show the Machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway. Also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, 193A, Piccadilly, London.

These Machines may also be seen at Mr. Slight's, Leithwalk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill, 155, Buchanan-street, Glasgow; Mr. Robert Charles, Mill-hill, Leeds; Messrs. Perry and Finch, Penkethidge, Staffordshire; Messrs. Drummond and Son, Dublin; and at Mr. John Connor's, Newtown Limavady, County Derry.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as cisterns, and lining of reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. E. WHITE and SONS, Millbank-street, Westminster.

THE NOBILITY, AGRICULTURISTS, and the PUBLIC in GENERAL are [illegible]



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MESSRS. NESBIT'S CHEMICAL AND AGRICULTURAL [illegible]

HYDRAULIC ENGINEER.

J. LEGG begs to return thanks to his patrons and friends [illegible] his improved hydraulic [illegible] for Deep Wells. J. L. has made several improvements in the application and [illegible] of the present system, and can now [illegible]

Applications [illegible]

PATENT [illegible] FOR RAILWAY COMPANIES, FIRE ENGINES, GAS [illegible] AND AGRICULTURAL PURPOSES.

THE PATENT VULCANISED INDIA-RUBBER HOSE PIPES [illegible] Hoses with suction pipe (but may be worked without), [illegible] for the purpose of [illegible] Fire-engines, Pumps, Gas [illegible] where a portable [illegible] is required. Vulcanised India-rubber [illegible] tape, copper thread, and [illegible] to Pumps, waterbarrels, [illegible] JAMES LYNE HANCOCK, 6, [illegible]

N.B.—Vulcanised India-rubber [illegible] of Hot-water [illegible] any [illegible]

WIRE-WORK, HOT-WATER APPARATUS, GREENHOUSES, &c.

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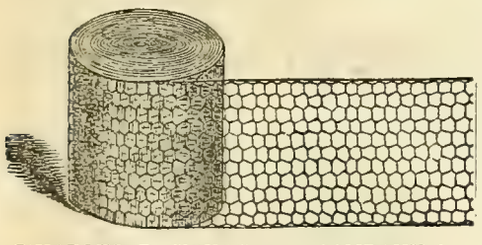

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IX. The Present State of Agriculture in its Relations to Chemistry and Geology. By Prof. Johnston.
X. Experiment on Australian Barley. By R. W. Baker, Esq.
XI. On the Failure of Deep Draining on certain strong Clay Subsoils. By W. B. Webster.

Appendix, List of Officers, &c.

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TO AGRICULTURISTS, &c.

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The bonus added to any policy may be converted into an equivalent reduction in the future annual premiums, at the option of the insurers.

The following Table exhibits the additions already declared up to the 31st December last, on the five oldest existing policies, effected in the year 1834, and on the five youngest policies entitled to participate in the surplus of 1847, viz., the five policies last opened in 1846.

Year in which effected.	Age at Admission.	Annual Premium.	Amount of Premiums paid without interest.	Sum assured	Total addition, 1847.	Total Payable in case of death before December 31, 1848.
		£ s. d.	£ s. d.	£	£ s. d.	£ s. d.
1834	29	24 0 0	336 0 0	1000	244 16 0	1244 16 0
,,	42	71 13 4	1003 6 8	2000	608 0 0	2608 0 0
,,	50	90 13 4	1269 6 8	2000	690 16 0	2690 16 0
,,	47	82 11 8	1156 3 4	2000	657 16 0	2657 16 0
,,	21	9 12 6	134 15 0	500	109 10 0	609 10 0
1846	28	11 13 9	23 7 6	500	16 16 0	516 16 0
,,	34	27 8 4	51 16 8	1000	36 2 0	1036 2 0
,,	27	2 6 9	4 13 6	100	3 6 0	103 6 0
,,	48	8 5 2	16 10 4	200	9 0 0	209 0 0
,,	55	28 0 0	56 0 0	500	27 5 0	527 5 0

The usual commission allowed.

By order of the Board, Peter Hardy, Actuary.

PROVIDENT LIFE OFFICE, 50, Regent-street, and 2, Royal Exchange-buildings, London.

Established 1806. Invested Capital, 1,230,000*l.*

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Policies issued by this Office are purchased at their full value; or Loans may be obtained upon them after they have been in existence for five years.

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The profits (subject to a trifling deduction) are divided among the insured. The plan upon which they are divided gives to each party insured a share proportionate to the amount of the Premiums he has contributed.

In addition to the above advantages, the Directors have determined to adopt the principle of allotting a prospective Bonus to Policies lapsing between the Septennial Periods of Division, in order that all the Policy-holders may participate equally in the Profits of the Society.

The following Table shows the amount of Bonuses added to Policies existing at the present time.

Policy No.	Date of Policy.	Sum insured.	Bonuses added.	Increase on original Insurance.	Total Sum payable, to which future Bonuses will be added.
		£	£ s. d.		£ s. d.
21	1806	500	415 10 2	83·10 per cent.	915 10 2
521	1807	900	982 12 1	109.17 ,,	1882 12 1
1174	1810	1200	1160 5 6	96.68 ,,	2360 5 6
1395	1811	1600	1328 8 6	83.02 ,,	2928 8 6
3286	1820	2000	1906 13 5	95.33 ,,	3906 13 5
3392	1820	5000	3558 17 8	71.17 ,,	8558 17 8
4356	1822	3000	2541 3 6	84.7 ,,	5541 3 6

Prospectuses and full particulars may be obtained upon application to the Agents of the Office in all the principal towns of the United Kingdom; and the head Office, No. 50, Regent-st.

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THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 36.—1848.] SATURDAY, SEPTEMBER 2. [Price 6d.

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GRAND DAHLIA AND FLORICULTURAL FETE.—OPEN TO ALL ENGLAND.

ROYAL SOUTH LONDON FLORICULTURAL SOCIETY. Under the Patronage of Her Most Gracious Majesty the Queen. The Fifth and last Exhibition this season will be held at the ROYAL SURREY ZOOLOGICAL GARDENS, on Wednesday, 13th September, when Prizes will be awarded for the following Collections, viz.: For Miscellaneous and Specimen Plants, Dahlias, Fuchsias, Roses, Verbenas, Cut Flowers, Fruit, and Honey. Mr. J. G. Waite, of High Holborn, offers an extra Prize of Ten Pounds, to Nurserymen and Florists, for the best Six Dahlias, let out at any time by the exhibitor. In addition to the above 24 extra Prizes for Dahlias will be given by the "Dahlia Prize Improvement Fund," for stands of 12 and 24 Dahlias, for 6 and 12 Fancy Dahlias, and 6 New Dahlias, let out in 1848. For Seedling Dahlias of 1847 and 1848, Certificates of Merit will be awarded, at the discretion of the Censors. Exhibitors of Dahlias must provide their own stands, as specified in the Schedule of Prizes, which may be had of John Taylor Neville, Secretary.
Ebenezer House, Peckham, Sept. 2.

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Under the Patronage of the Rt. Hon. the
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SIR CHAS. DOUGLAS, M.P. E. J. SHIRLEY, Esq., M.P.
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HENRY C. WISE, Esq. G. T. SMITH, Esq.
C. MUSGRAVE, Esq. C. WOODMASS, Esq. R. J. ATTY, Esq.
Committee.
Mr. A. S. FIELD, Mr. E. WOODHOUSE,
Mr. JOHN HADDON, Mr. G. SMITH,
Mr. R. WHITEHOUSE, Mr. O. WHITE.
THOMAS B. JEFFERY, Hon. Sec.
THE GRAND HORTICULTURAL SHOW
(Open to all England), will take place in
THE JEPHSON GARDENS,
On Thursday, September 7, 1847.
Admission:—1 to 3 o'clock, 2s. 6d. each; 3 to 6 o'clock, 1s. each; 6 to 7 o'clock, 6d. each; Children 6d. each.
N.B. Exhibitors will have free admission to the Gardens after 3 o'clock. A grand Military Band will perform during the day. In the event of its being a wet day, a large room will be provided for the Exhibition. Refreshments may be had on the Grounds.

BRIXTON FLORICULTURAL SOCIETY.—The Committee of the Brixton Floricultural Society beg to announce they intend holding their SECOND EXHIBITION OF DAHLIAS and other Flowers in the Archery Ground, opposite Mr. Ponsford's Nursery, Cole Harbour-road, Brixton, September 14, 1848.—For particulars of Show, enquire of Mr. Atlee, Clapham-road Nursery; Mr. Fowle, Holland-street, Brixton-road; Mr. Frackleton, Chemist, corner of Acre-lane; or of Mr. Ponsford, Loughborough-park Nursery, Cole Harbour-lane, Brixton.

PINE PLANTS.—About 60 Fruiting Plants of the Queen and other PINES, 70 Succession Do., for Sale at a reasonable Price, by applying to Jos. Saltmarsh, Nurseryman, Seedsman, and Florist, Chelmsford.

THE SLOUGH GRAND ANNUAL DAHLIA EXHIBITION will be held, by permission, in the Ornamental Grounds of Upton-park on the 22d September. Schedules can be obtained of Mr. E. Brown, Upton-park, Slough, and of Mr. Bragg, Slough.

POTATO DISEASE.—DWARF RED STONE TURNIP.—In consequence of the rapid spread of the Potato disease, the subscriber begs most earnestly to recommend the above Turnip to the notice of the public, as a kind that may be sown until the middle of September, with a certainty of producing a greater weight of food than any other plant in cultivation. 1 oz. packets, free by post, 1s. each.

PARAGON CABBAGE.—This kind is allowed by every gardener who has grown it to be the best Early Cabbage in cultivation for the supply of a gentleman's table. It is rather larger than the "Matchless," and superior to it in every respect. Packets, post free, 1s. each.

HARDY ANNUALS FOR AUTUMNAL SOWING, and the spring decoration of the Flower Garden. A collection of 10 of the most suitable kinds, 2s. 6d.; 25 varieties, 6s., post free.

PELARGONIUM, GEM OF THE SCARLETS (or Brooklands' Scarlet).—In answer to numerous enquiries, the proprietor begs to state that it will be sent out, with other novelties, in March, 1849, and the first orders will have the first selection. Price 5s., for cash only, with one over in every two taken by the trade.

Post-office orders upon Greenwich, payable to William Port Atree, Horticultural Grounds, Brooklands, Blackheath-park, Kent.—Sept. 2.

JOSEPH BAUMANN, Nurseryman, Ghent, Belgium, respectfully offers to the Nobility, Gentry, and the Trade in general, the following plants.

				£	s.	d.
100	CAMELLIAS, in 100 varieties, 1 foot high, without flower buds			5	0	0
100	Ditto	in 50 ditto	ditto	ditto...	4	10	0
100	Ditto	in 25 ditto	ditto	ditto..	4	0	0
100	Ditto	in 100 ditto	ditto	set with flower buds	6	0	0
100	Ditto	in 50 ditto	ditto	ditto...	5	10	0
100	Ditto	in 25 ditto	ditto	ditto...	5	0	0
100	Ditto	in 100 ditto	from 1 to 2 ft. high,	set with flower buds	8	0	0
100	Ditto	in 50 varieties	ditto	ditto...	7	10	0
100	Ditto	in 25 varieties	ditto	ditto...	7	0	0
100	Ditto	in 100 varieties,	from 2 to 3 ft. high,	set with flower buds	14	0	0
100	Ditto	in 50 varieties	ditto	ditto...	12	0	0
100	Ditto	in 25 varieties	ditto	ditto...	10	0	0

100 Camellia stocks, from 30s. to 40s.
All the newest and choicest varieties of Camellias may be had in the same nursery, with or without flower buds, as well as a fine collection of tall Palm-trees, &c. A Catalogue of a general stock of plants may be had on application.

ROBERT HALL, Florist, Alkrington, Middleton, near Manchester, Lancashire, begs to call the attention of Gentlemen, Amateurs, and Florists to his large and choice collection of AURICULAS, ALPINES, POLYANTHUSES, CARNATIONS, and PINKS. Catalogues of which may be had on application. R. H. begs to remind those gentlemen who have hitherto favoured him with their orders, that his Plants are this season in their usual fine, strong, and healthy condition.—Alkrington, September 2.

DUTCH BULBS AND OTHER FLOWERING ROOTS.

WILLIAM DENYER, Seedsman and Florist, 82, Gracechurch-street, (near the Spread Eagle,) London, has just received from Holland a large supply of Hyacinths, Narcissus, Tulips, Crocus, Anemones, &c., amongst which will be found several new and beautiful varieties. The same has arrived in fine condition, and upon reference to the list will be found very moderate in price. A descriptive and priced Catalogue may be had post-free on application.

NEW PINKS.

CHARLES TURNER will be prepared to execute orders, after the 10th September, for the following new varieties. YOUNG'S XX, purple lace, very smooth on the edges, good size, and constant; the above was raised by P. Young, Esq., of Twyford, near Winchester, a gentleman well known to the floricultural public. It received first-class Certificates at the following exhibitions in 1847: Royal South London, 1 bloom; Slough, do.; Bishopstoke, 3 do. 1848: Royal Botanic, June 14, 6 blooms; Wycombe, June 15, 4 blooms; Royal South London, June 20, 24 blooms; Slough, June 22, 24 blooms; Staines, June 23, 6 blooms; Bishopstoke, June 26, 12 blooms; and shown on stands on different occasions during the two seasons, all of which gained first prizes. It will be seen from the above that 80 blooms have been submitted for public competition and inspection, and its merits fully established. C. Turner would not have thought it necessary to say more upon the qualities of XX, had not an attempt been made by an individual in a weekly journal to depreciate the merits of the flower; but in justice to himself he begs to state he has the sanction of the following eminent judges and growers, who have had frequent opportunities of judging the qualities of XX, to state that they consider the flower first-rate and constant in every respect, viz., J. F. Wood, Nottingham (editor of the "Midland Florist"); Messrs. Norman, Woolwich; Newhall, do.; Ward, do.; Baker, do.; Marris, Leicester; Hollyoaks, do.; Smith, Oxford; Hastings, do.; Costar, Benson; Kirtland, Bletchington; Hall, Enfield; Hale, Hillingdon; Jewell, Foot's Cray; Heartstone, St. Mary's Cray; Meade, Lewisham; Holliday, Northampton; Wilmer, Sunbury; Henbrey, Croydon; Harrison, Richmond; Edwards, London; Neville, do.; Bushell, do.; Creed, do.; Harms, do.; Prockter, Bermondsey.
TURNER'S MR. EDWARDS, rose, fine (figured with XX in No. 9 of the "Florist"), 5s. per pair.
TURNER'S MORNING STAR, purple, fine large petal, 5s. per pair.
TURNER'S NONPAREIL, light rose, 3s. 6d. per pair.
MACLEAN'S NARBOROUGH BUCK, rich, dark, large, and finely formed, 5s. per pair.
C. Turner's Descriptive Catalogue of Pinks, Carnations, Picotees, Pansies, &c., will be ready in a few days, which may be had on prepaid application.—Chalvey, Slough, Sept. 2.

EXHIBITION OF LILIUM LANCIFOLIUM, OR THE BEAUTIFUL JAPANESE LILY.

H. GROOM, Clapham Rise, near London, by appointment Florist to His Majesty the King of Prussia, the Nobility, Gentry, and Amateurs, that he has commenced exhibiting his most beautiful LILY in flower, and will continue every day, Sundays excepted. Admittance 1s.
H. G. begs to say he can supply the ALBICANS, as advertised in this Paper of August 19th.

PINE PLANTS WANTED.—A Gardener wishes to meet with about 60 strong Fruiting Plants, any person or gardener having the above to dispose of may address A. B., at Mr. Elliott's, Last-street, Portman-square.

FIRST-CLASS GERANIUMS.

J. HINE having a very large stock of the best kinds in cultivation, informs the public that he intends to supply them this autumn at unusually low prices. Lists to be had on and after the 12th of this month. The stock is now out of bloom. Seedlings raised by Mr Miller, and retained for the first time last autumn (price 5s. each), to be continued this season for 1l. 5s., having a very fine stock of them, namely:

Scarlet Defiance	Adelaide
Rosa Mundi	Virginia
Queen of Kent	Conspicuous
Distinctus	Flower Fleur

Illustrated Engravings of which will be sent on receipt of 24 stamps. Other varieties from 1s. 6d. to 2l. 2s. per doz.
Providence Nursery, Ramsgate.

BECK'S SEEDLING GERANIUMS OF 1847.

THOMAS DAVIES and CO. beg to inform the admirers of the above named flower, that they can supply good strong plants the first week in October at the following prices:

Blanche ...	2s. 6d.	Grandiflora	2s. 6d.
Cavalier ...	5 0	Gloriana	5 0
Cassandra ...	3 6	Gratiana	5 0
Centurion ...	5 0	Hebona	3 6
Cruenta ...	5 0	Rosamond	5 0

The set of 10 for 2l. 2s., larger in order.
As the above are offered at very low prices, it is expected that orders will be accompanied with cash.—Waverlee Nursery, near Liverpool, September 2.

PATRONISED BY THE QUEEN AND PRINCE ALBERT.

JOSLING'S ST. ALBANS GRAPE.—R. Josling respectfully returns thanks to those Noblemen and Gentlemen that have purchased his ST. ALBAN'S VINE, and begs to inform them, and the Nobility, Gentry, and Amateurs, that he has propagated a sufficient number of Vines from the original Vine, by which His Majesty the Queen, the Nobility, Gentry, and Amateurs, and also by Nurserymen of Europe. And in addition to the original Vine, which he feels warranted in recommending to their notice, he has now more plants are taken, 6s. each; 3 or under 1, 7s. each; if 1 plant is taken, 10s. 6d. each.
Agents: Messrs. Hurst and Co., Leadenhall-street, London; Mr. F. Warner, Cornhill, London; Messrs. Law and Co., Carlton; Messrs. Lee and Co., Hammersmith; Messrs. Whitley and Osborn, Fulham; Messrs. Cutler and Co., Slough; Mr. W. Skirving, Liverpool; Messrs. Backhouse and Son, York; Messrs. Veitch and Son, Exeter; Mr. R. Muller, Newcastle-under-Lyne.
Good established plants will be sent out. The usual allowance to the Trade. A remittance from unknown correspondents will be expected.—Robert Josling, Seedsman, St. Alban's.

PURE WHITE SALVIA PATENS.

WM. WOOD and SON have much pleasure in offering this desirable plant to their friends and the public, feeling assured that it will prove a very great acquisition. As a pure white bedding plant it will stand unrivalled, forming a striking but at the same time most pleasing contrast to the bright blue of the original species. This beautiful variety was originated from seed, and flowered for the first time in October last; it is the same in habit, habit, and in every respect with the now universally known Salvia patens, with the exception of the whole plant being of a light green hue: the flowers are equal in size to that species under the highest cultivation, and of the purest snow white, with a small spot of light blue on the lower lip of each flower.
It will be admitted by all who are acquainted with the present system of flower gardening that there is a great scarcity of pure white flowers of an ornamental character, adapted for grouping, to make up which deficiency the introduction of this charming novelty will be hailed with the greater pleasure: its merits are, however, not confined to using as cut flowers, very attractive when grown in pots or planted out in mixed borders.
W. W. & S. purpose sending out the above under the name of SALVIA PATENS ALBA, on the middle of September, at 10s. 6d. per plant, with the usual allowance to the Trade, and one additional plant for every three ordered. They have also a good stock of the following highly desirable plants, which may be had now or with the above, viz.:

	s.	d.		s.	d.
Achimenes floribunda	3	6	Gardenia Fortunii	10	6
elegans	3	6	,, Stanleyana	5	0
,, venusta	3	6	,, Whitleii	5	0
Allamanda grandiflora, 3s. 6d. to	5	0	Gloxinia alba rubra	3	6
,, Schottii, 1s. 6d. to 2s.	3	6	,, campanulata	3	6
Bonapartea juncea	3	6	,, Teichlerii	7	6
Clerodendron macrophyllum	10	6	Ixora coccinea	21	0
,, sinuatum	3	6	Pharbitis nil	3	6
,, volubile	3	6	Plumbago elegans	3	6
Echites rosea campestris	7	6	Rhynchospermum jasminoides, true	5	0
,, spectabilis	10	6	Siphocampylus bicolor	3	6
,, splendens	5	0	Tremandra speciosa	5	0
Eriostemon scabrum	5	0	Tweedia pubescens	3	0
Erythrina fulgentissima	7	6			

Additional Plants will be presented with each order to compensate for carriage. A remittance or reference required from all unknown correspondents; post-office orders to be made payable at Uckfield.
Woodlands Nursery, Maresfield, Uckfield, Sussex.

STRAWBERRIES.

R. S. YATES can supply strong plants of all the sorts known to be worthy of cultivation; also several new sorts unproved, all at moderate prices.

R. S. YATES has also a quantity of ABERDEEN BEEHIVE STRAWBERRY Plants (warranted true as received direct from Mr. Mathewson), that he will supply (gratis) to any one who thinks it worth while to make the application.

St. Ann's-square, Manchester, Sept. 2.

ABERDEEN BEEHIVE STRAWBERRY. — There is still in the trade a Strawberry under the name of the "Aberdeen Beehive," which was exhibited while in fruit during the last two months at Cunnigar Hill Nurseries, Aberdeen; and at the same time, in the local papers, challenged the United Kingdom to produce its equal, which caused a general excitement throughout Scotland. Many thousands have visited the grounds for the purpose of examining the wonderful and far-famed "Beehive," of Cunnigar Hill, among whom were many competent judges from England, France, and other parts of the Continent, who at once pronounced them superior to anything they had before witnessed as a crop of Strawberries, and from their beautiful colour and luscious flavour, they have been pronounced "No. 1" in the market; and I am proud to state that the "Beehive," notwithstanding the general failure of other sorts, stood as a monument of admiration (as it were), laughing to scorn the unwarranted and false assertions of those sceptics who, without ceremony, seized it as a victim, to bury it with disgrace. I am also proud to inform my friends, the readers of the *Gardeners' Chronicle*, that the demand, daily increasing from all parts, seems to be the result of the "Beehive" question; and being prepared with an extensive stock of well-rooted plants, has induced me to offer them from the Nursery bed at 10*s.* per 100, or 1*s.* 6*d.* per dozen. Established in pots for exportation or forcing at 4*s.* per dozen. Directions for culture will be sent with each order. —JAMES MATHEWSON, Nurseryman, Cunnigar Hill, Aberdeen.

CRYPTOMERIA JAPONICA SEEDLINGS.

MESSRS. STANDISH AND NOBLE, NURSERYMEN, Bagshot, have the honour to inform the Nobility, Gentry, and the Public, that they have succeeded in obtaining a quantity of SEED of the above truly magnificent Tree from the north of China, and are now able to send out SEEDLING Plants at the undermentioned low scale of prices.

It was first sent home by Mr. Fortune to the Horticultural Society, in 1844, and has now proved to be perfectly hardy in this country, having stood out in many exposed situations during the severe winter of 1846 and 1847. It is a tree of rapid growth, and some very fine specimens may now be seen in the gardens of the Horticultural Society nearly 10 feet in height, and very graceful in form.

"*I met here (Shanghae), for the first time, with the beautiful Cryptomeria japonica, a species of Pine not unlike the Araucarias of Australia and Brazil. When growing luxuriantly it is highly ornamental, rising from the ground as straight as a Larch, and sending out numerous side branches almost horizontally from the main stem, which again droop towards the ground in a graceful and* WEEPING *manner. The wood of the tree has a kind of twisted grain, possessing great strength and durability, and is highly valued by the Chinese.*"—FORTUNE'S WANDERINGS IN CHINA.

We need scarcely inform the lovers of hardy evergreens that SEEDLINGS of this species are of much more value than cuttings. The latter never make handsome plants, and grow much slower. Our Seedling Plants, which we are now sending out, if properly managed, will be more than 2 feet high by next spring, the proper time to plant them out in the open ground.

Messrs. STANDISH and NOBLE can now supply nice healthy plants, in 60-size pots, at the following low price, viz., 3*s.* 6*d.* per plant, 36*s.* per doz., or 12*l.* 10*s.* per hundred. A liberal allowance to the Trade from the above prices.

N.B.—The above is for cash only.

SEEDS.—CORNER OF HALF-MOON-STREET, THOMAS GIBBS AND CO.,

(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND," Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

Priced Lists of Agricultural Seeds are always ready, and may be had on application.

GLASS.

APSLEY PELLATT AND CO. (late PELLATT and GREEN), Falcon Glass Works, Holland-street, Blackfriars, have always on hand, Bee Glasses, 1*s.* 6*d.* per lb.; Cucumber Glasses, 1*s.* 6*d.* per lb.; Milk Pans, 18 in., white glass, 5*s.* 6*d.* each; Propagating Glasses, white, 1*s.* per lb., do. green, 10*d.*, do. Condensing, 2*d.* per lb. extra; Asparagus Tubes, 18*s.* to 21*s.* per gross; Grape Shades, 1*s.* 6*d.* to 2*s.* each; Fish-bowls, from 1*s.* 6*d.* each; Wasp and Fly-traps, 40*s.* per gross, or 3*s.* 6*d.* per dozen. By the use of these traps fruit may be preserved from (otherwise certain) destruction.

GLASS FOR HORTICULTURAL PURPOSES.

HARTLEY'S PATENT ROUGH PLATE, AND PATENT DOUBLE CROWN GLASS, is admitted by practical men to be the greatest improvement yet discovered in the manufacture of Glass for the above uses, and the extraordinarily low prices must ensure a very extensive sale. Sold strictly at the Manufacturer's prices by W. PATTEN and Co., Window Glass, Lead, and Colour Merchants, 20, Old Fish-street, London, Sole Manufacturers of the Improved Ordnance Anti-Corrosion and Mineral Paint for all kinds of Outhouses, Park Fencing, &c.

GLASS FOR CONSERVATORIES, GREENHOUSES, PIT FRAMES, &c.

HETLEY AND CO. are supplying the above article, packed in boxes containing 100 square feet each, of BRITISH Manufacture, at the following reduced prices for cash. A reduction on 1000 feet.

Sizes. Inches.		Inches.		Per foot.	Per 100 feet.
From 6 by 4	to	8 by 6	at	2½*d.* is	£1 0 10
8 ,, 6	,,	10 ,, 8	,,	2⅔*d.* ,,	1 2 11
10 ,, 8	,,	14 ,, 10	,,	3*d.* ,,	1 5 0
14 ,, 10	,,	20 ,, 12	,,	3½*d.* ,,	1 7 1
20 ,, 12	,,	40 ,, 14	,,	3½*d.* ,,	1 9 2

21 oz. from 3*d.* to 5½*d.*, per square foot, according to size.
26 oz. ,, 3½*d.* 7½*d.* ,, ,, ,,
32 oz. ,, 4*d.* 9½*d.* ,, ,, ,,

GLASS TILES AND SLATES made to pattern any thickness.
PROPAGATING, FLOWER, FRUIT, AND VEGETABLE GLASSES of every size and description.
BEE HIVE GLASSES from 4 to 12 in. diameter.
GLASS MILK PANS, from 12 to 26 in. diameter.
GLASS SHADES, as ornamental to, and for the preservation of every description of goods susceptible of injury by exposure. Prices, since the removal of the Excise duty, reduced one-half. List of Prices forwarded on application to JAMES HETLEY and Co., Glass Shade, Sheet, Crown, and Patent Plate Glass Warehouse, 35, Soho-square, London.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND Co., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS FOR CONSERVATORIES.

CUT TO SIZE UP TO 40 INCHES LONG.				SMALL SQUARES of SHEET.	
16 oz. from 3*d.* to 3½*d.* per foot.				4 by 3 and 4½ by 3½..1½*d.* per ft.	
21 ,,	3½	5	,,	5 ,, 3 ,, 5½ ,, 3½..2	,,
				6 ,, 4 ,, 6½ ,, 4½..2½	,,
26 ,,	3½	7½	,,	7 ,, 5 ,, 7½ ,, 5½..2½	,,
				8 ,, 6 ,, 8½ ,, 6½..2¾	,,
32 ,,	4	9½	,,	Not above 10 ,, 8 ..3	,,

GLASS MILK PANS, PROPAGATING GLASSES, AND BEE GLASSES. GLASS TILES AND SLATES.

CREAM POTS, from 3 to 24 quarts, at 6*d.* per quart.

CUCUMBER GLASSES, from 12 to 26 inches long, 1*d.* p. inch.

LACTOMETERS for trying the quality of Milk, 4 tubes 7*s.* 6*d.*, 6 tubes, 10*s.*; Peach Glasses 10*d.* each; Fish Globes from 1*s.* 6*d.* each; Wasp and Fly Traps 3*s.* 6*d.* per dozen; Plate and Window Glass; Lamp Shades and Chimneys.

METAL HAND-FRAMES.

HARTLEY'S PATENT ROUGH PLATE, AND PATENT DOUBLE CROWN GLASS.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

BAKER'S PHEASANTRY, Beaufort-street, King's-road, Chelsea, by special appointment to her Majesty and H.R.H. Prince Albert. — ORNAMENTAL WATER FOWL, consisting of black and white swans, Egyptian, Canada, China, bernacle, brent, and laughing geese, sheldrakes, pintail, widgeon, summer and winter teal, gadwall, Labrador, shovellers, gold-eyed and dun divers, Carolina ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking fowls; white Japan, pied, and common pea-fowl, and pure China pigs; and at 3, Half-moon-passage, Gracechurch-street.

HORTICULTURAL ESTABLISHMENT, AND GARDENERS' REGISTER OFFICE.

J. WEEKS AND CO., KING'S-ROAD, CHELSEA, HORTICULTURAL BUILDERS AND HOT-WATER APPARATUS MANUFACTURERS, have the honour to inform the Nobility and Gentry that they have of late years made great improvements in Horticultural Building and Heating by Hot Water; and for the purpose of showing those improvements, they have erected in the King's-road, Chelsea, an extensive ornamental Nursery, which contains upwards of 15,000 feet of Glass, consisting of Hothouses, Greenhouses, Conservatories, Pits, &c. &c., in great variety; the whole of which is heated by Hot Water in various forms. This has also enabled them to grow at very reduced prices a most extensive collection of Stove and Greenhouse Plants.

THE SEED DEPARTMENT at this Establishment is conducted with the greatest care and attention. Samples of every variety are proved before sent out.

PLANS, ESTIMATES, AND CATALOGUES upon application.

SASH LINE FOR HOTHOUSES AND GREENHOUSES.

R. S. NEWALL AND CO.'S PATENT IMPROVED COPPER-WIRE CORD is now extensively used for Window Sash Line, Hothouses, Lightning Conductors, Picture Cord, Clock Cord, &c., &c., and is found to be cheaper, much more durable, quite as flexible, and one-sixth part the bulk of common Hempen Lines. The Wire Cord may be had wholesale, and specimens seen, at the Office of the Patentees, 163, Fenchurch-street, W. T. ALLEN, Agent; or retail, of G. and J. DEANE, 46, King William-street; E. PARES, 140, Fleet-street; J. JONES, 62, Charing-cross; and GIBBONS and Co., 345, Oxford-street.

E. AND W. H. JACKSON beg to call the attention of Gentlemen and the Trade to the reduced prices of their PATENT PLATE GLASS, which, from its superior qualities and cheapness, is now superseding all inferior glass in dwelling houses.

BRITISH MANUFACTURED SHEET GLASS for CONSERVATORIES, POLISHED AND ROUGH PLATE, CROWN, COLOURED, AND ORNAMENTAL GLASS at the lowest terms.

Tariffs of prices and every information can be had, by applying at their Warehouse, 315, Oxford-street.

IMPROVED FLOWER STICKS.—These Flower Sticks are of a circular form, thereby avoiding angles and sharp edges, which are liable to cut and injure the plants. They may be had stained brown or green to suit the various plants.—To be had of all respectable Nurserymen and Seedsmen, and dealers in Garden Implements. Manufactured and sold Wholesale, at H. MORRELL'S, 149, Fleet-street, London.

N.B. Samples to be seen at the Office of this Paper.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

CLARK'S METALLIC HOTHOUSE WORKS, 55, Lionel-street, Birmingham.—Proprietor, Mr. THOMAS CLARK; Manager, Mr. JOHN JONES.

Mr. CLARK presents his grateful thanks to the Nobility and Gentry for their liberal patronage of the above Establishment, during a period of thirty years, and begs to state that the repeal of the duty on Glass enables him to offer his METALLIC HOTHOUSES at a greatly reduced price. These Houses are glazed with British Sheet Glass, in panes of from 24 to 30 inches in length, and of such thickness as to preclude all danger of accidental breakage, whilst that which arises from the action of frost is effectually prevented by the peculiar mode of glazing adopted. As a sample of his Metallic Hothouses, in which all the most recent improvements are happily combined, Mr. CLARK refers to the magnificent range erected by him in the new Royal Gardens at Windsor, admitted by competent judges to be the most complete of its kind in the world.

PERUVIAN AND BOLIVIAN GUANO ON SALE,

By THE ONLY IMPORTERS,

ANTONY GIBBS AND SONS, LONDON;

WM. JOSEPH MYERS AND Co., LIVERPOOL;

And by their Agents,

GIBBS, BRIGHT, AND Co., LIVERPOOL and BRISTOL;

COTESWORTH, POWELL, AND PRYOR, LONDON.

To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

TO AGRICULTURISTS, GARDENERS, FLORISTS, &c.

ELLERMAN'S PATENT CONCENTRATED, DISINFECTED, and INODOROUS CARBONISED ANIMAL MANURE, in Powder, prepared only by C. F. ELLERMAN, Sole Licensee of Mr. E. BROWN, Patentee. The best manure for fertilising every description of land, and improving the growth, production, quality, and condition generally, of all sorts of agricultural and horticultural vegetation.

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Mr. H. COLES, Seedsman and Florist, No. 32, Cranbourne-street, Leicester-square; Messrs. DEANE, DRAY, and DEANE, Agricultural Implement Depôt, No. 46, King William-street, London-bridge; by whom, in order to afford an opportunity of practically testing, by means of sample, the superior efficacy of this new and incomparable Powder Manure, as well as to suit the convenience of Amateurs, and all those possessing merely

SMALL GARDENS, BEDS, OR PLANTS AND FLOWERS IN POTS,

It is also retailed for such purposes in neatly done up tin canisters, at 1*s.*; double-sized ditto, 1*s.* 9*d.*; and treble ditto, 2*s.* 6*d.* each; and likewise in compact wooden packages, containing 1 cwt., at 1*l.*; ½ cwt., 15*s.*; ¼ cwt., 10*s.*; and ⅛ cwt., 6*s.* 3*d.* each, packages included.

N.B.—This manure is so clean, and completely free of smell, that the most sensitive and fastidious lady or gentleman may use it for their Pleasure Garden, Greenhouse, or Drawing-room Plants, without experiencing therefrom the slightest annoyance.

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Patronised by His Royal Highness Prince Albert.
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The usual Trade allowance.
Post-office Orders made payable to Joseph Myatt, Deptford.
Manor Farm, Deptford, Sept. 2.

The Gardeners' Chronicle.
SATURDAY, SEPTEMBER 2, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

Monday, September 4—Entomological .....8 P.M.
Tuesday, — 5—Horticultural .....3 P.M.
Wednesday, — 13—Royal South London .....1 P.M.

Country Shows.—Wednesday, Sept. 6: Manchester Horticultural.—Thursday, Sept. 7: Tedding,ton Horticultural, Leamington Spa Horticultural.—Tuesday, Sept. 12: Midhurst Horticultural, Norfolk and Norwich Horticultural. Thursday, Sept. 14: Edinburgh North British Gardeners'.

As far as we can ascertain, the present position of the Scotch Potato Crop is sufficiently described in the following letters, for the first of which we have to thank Mr. Heriot Maitland, of Ramorine, near Kettle, in Fifeshire.

"The Potato disease has appeared here in an unmistakeable manner. I discovered my crop to be blotched on the leaves and stems three days ago, whilst a farmer in the neighbourhood informed me two days since that he had been offered 20*l.* an acre for his Potatoes some time ago, but that he had been examining them, and was convinced they were not now worth 5*s.* I may further mention that I was travelling in the west of Scotland last week, and that in Argyleshire I saw whole fields affected so badly, and giving forth such an offensive smell, that it was quite unpleasant passing to leeward of them."

"The Potato disease in Skye, parts of East Ross-shire, and West Ross-shire, is all but universal; infinitely more extensive and virulent than last year. The prospects for the Highlanders in 1849 are not so favourable as at this time last year they were for 1848. I think the grain crop scarce an average one. The harvest must be later by three weeks at least than last year; the weather is broken and unsettled. The earnings of industry brought from the low country cannot be depended on for 1849. The less employment and lower wages account for this. In 1848 the earnings gained in 1847 did much. The people are decidedly, however, in a less dependent state, less unable and more disposed to assist themselves. This concise information has been gained in a tour on the same days of August, 1848, that I obtained my information on similar days in August, 1847. I observed the Potato disease five weeks earlier this year than last. There was a frost very unusually severe on August 13, that has quite finished the Potatoes in many districts. The grain crop does not look near so well as at this time last year; *Ullapool, Aug.* 20."

As to Ireland, matters remain much where they were, that is to say, there is a gradual change from bad to worse. Scarcely a report reaches England which does not declare the disease to be appearing, progressing, doing vast damage, and so on; and the turn of the north has come, as we foresaw it would. They write thus from Newtown Limavady, in Derry.

"The whole Potato crop in the north now exhibits marks of disease; the stalks of the early crop are already withered and black. Whether the crop will be altogether lost may depend on accidental circumstances, but on the most favourable view, another winter of distress appears to be before us; *Aug.* 19."

And again from Rathmullen, in the north of Donegal.

"Since Saturday last there has been a rapid change for the worse. Blight and disease have during the past week increased to such an extent as to render it only too probable that not even one-half of the entire bulk of the crop will ultimately be available for human food. The disease which has hitherto been confined chiefly to the leaves and stems of the plant is now attacking the tubers. Wet and stormy weather is accelerating the progress of destruction in this staple esculent, and at the same time perilling the safety of the grain crops. Unless there is a favourable change in the weather very soon, I fear there will be a considerable deficiency both in the quantity and quality of every description of grain; *Aug.* 19."

We regret to add, although not strictly within our department, that the crop of corn, even of Oats, has suffered a good deal in Ireland, and that in many districts it must be far under an average. In others, however, it is described as good and heavy. Turnips, which were said to have suffered much in some places, are described in others as promising well. We subjoin in a note a few memoranda.*

Our foreign correspondence tells the tale of the French crop. Travellers just arrived from Belgium speak of the withered appearance of the Potato fields as being universal, and we can state that in Holland the complaints about the Dutch crop are become serious, especially as regards the winter sorts.

The only grain of comfort which we can pick out of the mass of information before us consists in the fact, which is spoken to by many highly intelligent witnesses, that the Potatoes themselves are frequently not diseased, or very little, where the stems are unusually blighted. This would be something if it were general, but we fear it is a partial fact, and that the late crop must be ruined in such places, even if the Potatoes should keep. The loss will, however, be to some extent compensated for by the quantity of land under Potato cultivation.

The Stanwick Nectarine gives us, for the first time, a clear idea of the excellence of those fruits of Syria which appear destined to throw out of cultivation most of the stone fruits which Europeans have so highly prized. We are accustomed to point to the Peaches of Paris and the White Nectarines of Jersey as examples of all that is most delicious in the class of fruits to which they belong, but they are tasteless and worthless when placed by the side of the Stanwick Nectarine. It is no exaggeration to say that this variety stands among Nectarines where the finest Green Gage stands among Plums.

The history of this admirable fruit is given in the "Journal of the Horticultural Society," by Mr. Thompson, who speaks of it thus:

"Fruit of this new and extraordinary production was received August 29, 1846, from the Right Hon. Lord Prudhoe, in whose garden at Stanwick Park it had ripened. His lordship obtained the variety from stones given him by Mr. Barker, formerly her Majesty's Vice-Consul at Aleppo, and now residing near Suedia, or Souadiah, in Syria, whose favourable climate is peculiarly suitable for the cultivation of Asiatic and European fruits. A year or two since Mr. Barker brought to this country, amongst other things, Peaches and Nectarines with sweet kernels. Such varieties were previously unknown in Europe, and were probably never heard of till their existence was announced by Mr. Barker.

"The Nectarine forming the subject of this notice is about the size of an Elruge, and like it in shape, except in being less heart-shaped at the base. Its skin is pale, like that of the White Nectarine, where shaded, with a violet tinge next the sun. The flesh is white, exceedingly tender, juicy, rich, and sugary, without the slightest trace of the flavour of prussic acid. The stone is middle-sized, ovate, with rather a prominent sharp edge, very rugged, and of a chocolate colour. The kernel is sweet, like a nut, possessing nothing of the Bitter Almond flavour.

"The fruit of the Peach and Nectarine, partaking so much as it does of the quality of the Bitter Almond, must have been very deleterious in its unimproved state. Mr. Knight, who himself succeeded in producing a melting Peach from an Almond, figured 'Hort. Trans.,' vol. iii., p. 1, states that the Tuberes of Pliny must have been swollen Almonds, or imperfect Peaches; and Duhamel has given an account of a fruit which accurately corresponds with this descripton, being sometimes produced by a variety of Almond tree in France. Mr. Knight adds:—

"'The bitterness, in this case, I conclude, can only arise from the presence of the prussic acid; and as this acid, without being extracted by distillation, operates very injuriously upon many constitutions, some explanation appears to be given of the cause why the Peach was reported to possess deleterious qualities when it first came from Persia into the Roman empire.'

"Stipantur calathi et pomis, quæ barbara Persis,
Miserat (ut fama est) patriis armata venenis."
Columella, lib. 10.

"The varieties of the Peach and Nectarine now generally cultivated retain but little of the injurious properties ascribed to the species by ancient authors; and, when well ripened, they can be generally eaten with impunity, notwithstanding the slight prussic acid flavour which pervades even their luscious sugary juice; but some constitutions are liable to be affected by this trace. It was, indeed, considered unlikely that amelioration would be carried much further. For at least a century little improvement has been effected, and in every variety the kernels have proved more or less bitter. But at last this is overcome; in the specimen above described the deleterious quality is entirely absent in the species has disappeared; and Mr. Barker himself informed me that he finds the sweet kernels may be eaten as a full meal, in quantities of any time of the day, and repeatedly, with perfect safety.

"To this we have to add, that [illegible] it scarcely gives the Stanwick Nectarine [illegible] a character as it deserves. In fact, at the time when the description was written, [illegible] imperfectly understood, the fruit [illegible] London having been changed in the interim. We have lately, however, been favoured by His Grace the Duke of Northumberland with a liberal supply, which arrived in the most perfect condition, and we can now appeal to various persons near London who had the opportunity of tasting it as witnesses to its unrivalled excellence. "The most delicious Nectarine I ever ate!" "The flavour is very delicious, and it is altogether most exquisite: I do not wonder at your speaking in such high terms of it." "It is a superb fruit." "Most delicious." Such is the language in which great judges of fruit, accustomed to the best that can be raised, have spoken of the specimens they tasted.

The public will naturally be anxious to know how and where to procure [illegible] For their information we have to state that the plants are exclusively in the possession of the Duke of Northumberland, and that His Grace has ordered them to be sold, either by public auction or private contract, as may appear most advisable, *for the benefit of an excellent, though ill-supported, charity*, the Gardeners' Benevolent Institution. Upon this subject we shall have some remarks to make hereafter.

In a Leading Article at p. 523. we stated that Mr. Kyle, of Leyton, had succeeded in arresting the progress, and greatly diminishing the injury, of the Egg Mildew in Grapes by the application of sulphur. This statement was made after a careful inspection of unripe Grapes, which he had produced.

Mr. Kyle has now favoured us with specimens of ripe fruit from the same Vines, in order to prove that sulphur, if applied immediately the mildew is observed to develope itself, will eventually destroy it, a fact of the greatest importance for gardeners to know. He says, "I send you two bunches, one very bad when the sulphur was applied, the other only partially affected, to show that the crop would have been saved had it been sulphured in time." And the bunches sent certainly appear to bear out this opinion. The one which was only partially affected by mildew has been completely cured. The berries have swelled to their proper size, and are well coloured, while the other bunch, which was badly mildewed when the sulphur was applied, is in a deplorable condition, the berries being variously swelled, mostly cracked, and many of them rotting.

Mr. Kyle states that nothing has been done to the Grapes since they were first sulphured, which was a week after the mildew had shown itself. Sulphur, if only *applied in time*, would appear therefore to be a certain remedy for mildew, notwithstanding the little faith gardeners place in it for that purpose; and it is one of easy application.

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

Our Duties to Gardeners.—In the *Chronicle* of last week appeared two admirable papers on the same subject; that of Martin Doyle, on the Treatment of Men and Plants, and that of "Falcon," on Surplus Labour. Both these writers nobly advocate the cause of the poor peasants and mechanics of our country, and suggest some remedies for the accumulating evils under which they now groan. The thing most required to ensure a melioration of the condition of the labouring classes is the kind sympathy of those above them, or a humane grappling by the rich of the difficult question "What is to become of the poor?" "Falcon's" inquiry, "If the kingdom in 1848 cannot support the population, what is to become of the country in 1850?" is one of a heart-stirring character, which every one should endeavour to answer. The question is one of vital importance to our children, and better than all other political speculations will be a scheme by which surplus labour can find a market, and obtain for itself "food to eat and raiment to put on."

This subject, as exhibited in the two papers abovementioned, has so excited my feelings, that I propose to omit any directions this week, and call the attention of the amateur to what he is able to do to alleviate the evil before us. I am not about to recommend that the man who loves flowers should devolve all his manipulations upon a servant; nor that the lady gardener should refrain henceforth from soiling her fingers. Labour is highly necessary for the higher and middle classes, and cannot be remitted with impunity; besides, the greatest pleasure derivable from flowers arises from actually cultivating them. My suggestion is, that every amateur should look round and see what

* *Sligo, Aug.* 20: Potato disease rapidly increasing, corn much injured.—*Skibbereen, Aug.* 19: Disease progressing rapidly. Grain has suffered materially, particularly Wheat.—*Swineford, Aug.* 19: Has now descended to the tubers; Potato, I fear, utterly lost.—*Carrick-on-Shannon, Aug.* 19: Quantity brought to market not yet large.—*Cashel, Aug.* 19: Gradually increasing; in many instances the root is affected, and bears exactly the same appearance that it did at this time in the year 1846.—*Kenmare, Aug.* 19: Disease in all places; accelerated by wet weather.—*Dingle, Aug.* 19: A large portion of the tubers still free.—*New Ross, Aug.* 19: Tubers daily showing more symptoms.—*Galway, Aug.* 19: Potatoes rotting in the ground very rapidly, and those sold in the market apparently sound are unfit for use in three or four days; the Wheat much injured; some meadows still unmown, and much cut Grass not carried.—*Ballina, Aug.* 18: Corn crops good, though late; much alarm for the Turnips.—*Ballinasloe, Aug.* 19: Disease increasing considerably; the grain crops, being light, are not so much injured as might have been expected.—*Kells, Aug.* 20: Scarce a field that has not the stalks black and mouldy. Difficult to get any fit for table. Wheats heavy in the head partially injured; Oats improved, and promise well; Barley a fair average crop; green crops look well, particularly Turnips.—*Macroom, Aug.* 19: I am satisfied that two-thirds of the Potato crop here may yet be saved; the disease still on the increase: Wheat bad; Oats and Barley good.—*Ballina, Aug.* 18: Potatoes of early planting, generally speaking, not much diseased: the late crop almost a complete failure.—*Bantry, Aug.* 19: The same truly unsatisfactory state; a large quantity sold in market at 4½d. per 28 lbs.—*Westport, Aug.* 19: A few fields still green; Oats and Barley look well, but the yield probably much below an average.—*Fermoy, Aug.* 19: Disease slowly but surely progressing; crops generally injured.

work he can find for a man to do. I do not mean that he should grow his own vegetables which he now buys at the market, for that would only be taking with one hand what is given with the other. But let him inquire whether his income will not allow him to indulge further in his favourite pursuit, and by the erection of a greenhouse, or an extension of garden ground, be able to keep a man. If this is too high a flight, perhaps he could employ a journeyman gardener one or two days in a week, in order to secure a higher degree of neatness on his domain. If 100,000 amateurs were, without entrenching on other departments of expenditure, to have one day's work done per week more than they now have, it would be the same thing as giving constant employment to near 17,000 men.

The complaint is often made of jobbing gardeners that they charge too high and do too little work, making so many "straight backs," &c. &c. There is indeed much room for this charge, for I have known some of my friends sadly fleeced by those they have employed. Then, again, it is said these perambulating gardeners purloin anything they fancy, or which their other employers want. A lady told me the other day that her gardener allowed no bulbs to remain in her ground long; or, as it is popularly said, "they went through to the other side." No doubt there are lazy and dishonest gardeners, as there are bad men of all trades, but the remedy for this lies in our own hands. Choose your own man, and let him work as you direct him. Portion out his labour, and see that it is done, and if he talks "professionally" and spurns to be limited by your orders, then get one who will be more amiable. The matter is easy enough if you are determined to make it so; for you may even have some lad to clean your paths, and dig your ground; and if you find he succeeds, recommend him to your friends, and make a man of him.

While on this topic I will relate my occasional practice in reference to beggars. It is customary to turn vagrants away as being all alike impostors, or to dole out to them a promiscuous charity which often does more harm than good. Now I do not see how a good man can devolve all his kindness for the houseless wanderer on the operation of Poor-laws, which must often neglect a worthy object in its gigantic operations. A little conversation and inquiry, which will leave you no poorer at the year's end, will often convince you that a worthy object is to be found among beggars. My plan is to have some rough work in an outlying yard, such as clearing wood or splitting roots, and, when an able-bodied man asks for a trifle to help him on his road, to let him earn it. Give him no more than you would an ordinary labourer, and if he is faint let him have half his pay in victuals. I have received a hearty blessing from a man who has thus earned 6*d.*, and wish the plan were more generally adopted; *H. B.*

BRITISH ASSOCIATION
FOR THE ADVANCEMENT OF SCIENCE,

(*Continued from page 572.*)

On common Salt as a Poison to Plants, by W. B. Randall.—The following notice is presented as being likely to afford a useful practical caution to those interested in the cultivation of plants. In the month of September last, three or four small plants in pots were shown to the writer, nearly or quite dead; and he was, at the same time, informed that their destruction was a complete mystery to the party to whom they belonged, and that Dr. Lindley had expressed his opinion, from the examination of a portion of one sent to him, that they were poisoned. Having searched in vain for any strong poison in the soil, and in the plants themselves, he inquired more minutely into the circumstances of the case, and found that these were only specimens of many hundreds of plants both in the open air and in greenhouses (but all in pots), which exhibited, in a greater or less degree, the same characteristics. The roots were completely rotten, so as to be easily crumbled between the fingers; the stems, even in young plants, assumed the appearance of old wood; the leaves became brown, first at the point, then round the edge, and afterwards all over; while the whole plant drooped and died. At least 2000 cuttings in various stages of progress, and 1000 strong healthy plants had been reduced to this condition, including different varieties of the Fir, Cedar, Geranium, Fuchsia, Rose, Jasmine, and Heath. The sight of this wholesale destruction, coupled with the fact that the whole were daily watered from one particular source, suggested the conclusion that the cause of the evil must reside in the water thus used; and this was accordingly examined. It yielded the following constituents, making in each imperial pint of 20 fluid ounces nearly 9½ grains of solid matter entirely saline, without any organic admixture:

Carbonate of lime	0·600
Sulphate of lime	0·462
Chloride of calcium...	0·200
Chloride of magnesium	1·252
Chloride of sodium	6·906
	9·420

The mould around the plants and an infusion of the dead stems and leaves also afforded abundant evidence of the presence of much chloride of sodium. Further inquiry showed that the well from which the water was procured had an accidental communication, by means of a drain, with the sea, and had thus become mixed with the salt water from that source, and had been used in this state for some weeks, probably from two to three months. From about that time the plants had been observed to droop; but it was not until nearly the whole of a valuable stock had been destroyed that any extraordinary cause of the evil was suspected. To place it beyond doubt that the water was really the cause of the mischief, 12 healthy Fuchsias were procured from a distance and divided into two parts; half being watered morning and evening with the water in question, and the others with rain water. In a week, the six plants which were watered from the well had turned brown, and ultimately died, while all the rest remained perfectly flourishing. Assuming, from these facts, that the common salt in this water was the chief cause of the results described, it is proved that water containing about seven grains of salt in each pint is, in its continued use, an effectual poison to the weaker forms of vegetation; or that when a soil is continually watered with a weak solution of salt, it gradually accumulates in it until the soil becomes sufficiently contaminated to be unfit to support vegetable life. In either case an interesting subject of inquiry is suggested—What is the weakest solution of salt which can produce in any measure this poisonous effect? or, in other words, at what degree of dilution does the danger cease? For salt is an important natural constituent of much spring water, quite independent of any infiltration from the sea, as in this instance. Thus: the water of the artesian well, Trafalgar-square, London, contains in each gallon about 20 grains; that at Combe and Delafield's brewery, 12.7; that at Wolverhampton railway station, 6; one lately sunk at Southampton, for supplying a private manufactory, 40. May it not be asked, whether the subject of the suitableness of waters in general for the various purposes to which they are applied—be it in manufactures or for steam-engines, domestic purposes or drinking—is not worthy of a greater share of scientific attention than it has hitherto commanded?

On the same day Captain Ibbettson read a paper in the geological section on the position of the chloritic marl or phosphate of lime bed in the Isle of Wight. This bed, which belongs to the upper green sand, and is likely to be of great agricultural importance, was first discovered by Mr. Paine. The upper green sand is found in great abundance in the Isle of Wight, which led Captain Ibbettson to look for this deposit. The phosphate bed is the uppermost portion of the green sand, immediately under the chalk marl, and is a grey marl full of green particles of silicate of iron and of quartzose sand. In its upper part the fossils occur in a bouldered state; but in the lower there is abundance of Ammonites (A. splendens and varians) and Scaphites in good condition, mixed with coprolitic masses rich in phosphate of lime. This bed occurs along the whole outcrop of the upper green sand, on the southern slope of the chalk range, which extends from Compton Bay to Culver Cliff, through the centre of the island, and occupies in some parishes a considerable breadth of surface; it also occurs in belts surrounding the masses of chalk at St. Katharine's Down and adjoining. Much of the intervening country consists of arid ferruginous sands, upon which the phosphate beds might be employed with great advantage.

In the section of Natural History, Dr. Lankester read the report of a committee, appointed for drawing up tables for the registration of periodic phenomena in plants and animals in connection with meteorological phenomena. Proofs of these proposed tables were exhibited, and consisted first of a set of columns for recording observations on the thermometer, barometer, hygrometer, winds, rain, clouds, and tides; and, secondly, a set of columns for registering the leafing, flowering, ripening of the fruit, and fall of the leaf in plants, and the arrival, departure, moulting, pairing, and deposition of eggs, or birth of young in animals. Suggestions for the improvement of these tables were solicited, and it was announced that in the course of the ensuing month copies of these tables would be ready for distribution to all who were desirous of uniting in the work of observation. We would commend this subject to the readers of the *Gardeners' Chronicle*. Many of them are placed in peculiarly favourable circumstances for making observations on the phenomena in question, and we shall be happy to transmit their names to the proper quarter, for the purpose of supplying copies of the proposed tables.

(*To be continued.*)

THICK AND THIN PLANTING OF FOREST TREES.

BEING anxious to give practical information, as far as lies in my power, on this subject, I beg of you to insert the following remarks, which point out the profits arising from plantations managed in the way I recommend in "The Forester."

In very high lying districts of the county I plant upon an imperial acre 4500 plants, which are generally of a small size, and cheap, making them stand at nearly 3 feet apart; and my reason for planting so closely upon high parts is, that from experience I have found that many of the plants go back, and that from various causes, and by making a little allowance at the offset, much trouble, arising from making up, is afterwards saved; and in a case of this nature I plant Larch Firs to the amount of about one-half of the whole, which come in to pay the proprietor well when thinned out at an early stage, leaving the Scotch Pines, or hard wood, if there be any, to stand till a later period, when they will be of more use.

Again, in situations of a moderate exposure, and having a moderately good soil, I plant 3500 young trees to the imperial acre, making them stand at nearly 3½ feet apart; and my reason for planting at this distance in such a situation is, that the plants being in a more moderate situation are not so liable to be destroyed by stress of weather, &c., while in their young state as those in the first instance; and in this case also I plant about one-half of the whole Larches; and if I find the soil at all adapted for the rearing of hard wood, I plant them at 10 feet apart, and afterwards make up with the Firs to the desired thickness.

Again, in glens or in hollow sheltered parts, or on level sheltered portions of a county, where there is a likelihood of the plants coming on quickly, I plant about 2800 young trees to the imperial acre, making them stand at about 4 feet apart; but in this case, if I have much game to contend with, I plant at 3½ feet apart, and that in order the more certainly to insure a crop, and to save that disagreeable business to a forester, after planting. And this is the more desirable, because, in the case of planting a few extra Larches to the acre, the crop is insured, and the proprietor is most amply paid in the course of a very few years by the profits arising from the sales of the young trees for poles at the first thinning; and I here candidly affirm that, although the number of plants stated above may by some be considered much for an acre of land, yet, under judicious and skilful management, instead of so many being hurtful to the whole as a plantation, it is the very reverse, and I have found it a great source of profit to the proprietor, and causing the whole to grow up quickly and healthily.

In illustration of the profits arising from a plantation upon a moderately exposed situation, and upon a moderately good soil, consisting of 500 Oaks and 3000 Firs to the imperial acre, I will give the following statement, which may be relied upon, and is taken from actual sales as made by me at different stages of thinning plantations:

STATEMENT.	£ s. d.	£ s. d.
At 10 years I thin out 500 Larches from the acre, which I generally sell at 1½*d.* each	3 2 6	
Deduct expenses of cutting.. ..	0 10 0	
		2 12 6
At 15 years, 500 Larches at 3*d.* each ..	6 5 0	
Deduct expenses of pruning, cutting, &c.	1 15 0	
		4 10 0
At 20 years, 700 Scotch Firs at 4*d.* each ..	11 13 4	
Deduct sundry expenses	2 15 6	
		8 17 10
At 25 years, 100 Larches at 1*s.* 4*d.* £6 13 4		
" 300 Scotch Firs at 8*d.* 10 0 0	—16 13 4	
Deduct sundry expenses	4 5 0	
		12 8 4
At 30 years, 100 Larches at 5*s.* £25 0 0		
" 150 Scotch Firs at 2*s.* 15 0 0	—40 0 0	
Deduct sundry expenses	7 4 6	—32 15 6
		£61 4 2

From the above statement it will be seen that an acre of plantation ground, managed in the way that I recommend, will, by the time the trees have arrived at 30 years of age, have paid the proprietor no less than 2*l.* for each year it has been under a crop of wood.

By looking over the statement it will be observed that at the end of 30 years from the time of planting, I have taken from an acre of plantation ground 1200 Larches and 1150 Scotch Pines, leaving growing on the ground at that period 500 hard wood, and, after making an allowance of 250 Firs for deaths that generally occur, I have left, at the end of 30 years, as many trees upon the acre of land as Mr. Young, of Perth (see p. 787, 1846), had planted at the first offset, and, I presume to say, in better health and of more value for an ultimate crop than his could be at the same age. And further, any proprietor who will plant 100 acres of his land, of the same nature as that from which I have taken the above statement, and manage it in the way that I advise, will, by the time that the trees are 30 years old, have derived from the 100 acres no less a sum than 6100*l.*, and, what is of far more importance, will have a full crop of growing trees left upon the ground; and upon the other hand, any proprietor who would plant the same land according to the system recommended by Mr. Young, would not, I presume to say, at the end of the same period, have received 1*l.*, without doing injury to the plantation; *James Brown, Arniston, Aug.* 25. [At the commencement of this article Mr. Brown made some remarks upon Mr. Young's not coming forward to answer the queries put by Mr. B. at p. 327. These remarks we have been obliged to omit, for Mr. Young did send us a reply, but of such length that we were compelled to refuse its insertion on account of the space it would have occupied. It was returned to Mr. Young, who has expressed his intention of publishing it elsewhere.]

Home Correspondence.

Production of Fungi.—The Rev. M. J. Berkeley, in his remarks on the common Stramonium, seems to question the fact, that fungi grow only on dead vegetable matter, though I see nothing in the instances he has adduced to overturn the opinion I expressed in a former paper. If we admit, with Mr. Berkeley, that the disease in the Muscadine was known to arise from the attack of a Botrytis, then there is an end of the matter; the whole subject is set at rest, and if we could only catch a fungus as we can catch an aphis, the Potato may bid defiance to all the chills and damps of this sublunary scene, and to all the winds of heaven. But I doubt much if even the instances brought forward by Mr. Berkeley support his views; on the contrary, I think the facts he has stated go far to overturn his own theory. Why, he even tells us that every gardener must have observed certain leaves of his Anemones taller and more fleshy and more rigid than the others, but does he add that previous to this appearance the Æcidium flourished there in its beauty? Certainly not. Mark his own words: "After a few weeks every

leaf will be found infested with a beautiful *Æcidium*." Surely the *Æcidium* which flourishes here cannot be the cause of the fleshy and rigid leaf which preceded it. Again, if we admit with Mr. Berkeley that the seeds of fungi are to be found in the various species of Euphorbia, and are shown by the shoots of that plant from their first infancy, then, again, there is an end of the question. But who ever saw the seeds there? It may, no doubt, be true that putrid matter, like the Botrytis Bassinia (when dusted on a creature like a silkworm), may irritate its soft and moist skin, and, by corrupting there, produce disease, just as filth may produce acari in the head of a child; but need I ask how frequently is it recommended in the *Chronicle*, in order to destroy slugs, worms, and caterpillars, to dust them over with some particular substances, and if the parts of these soft and moist creatures be examined as they decay after these applications, they will be found covered with a mouldiness which is, in fact, a fungus. A similar mouldiness may be observed on a gorged and dying leech lying in water. In support of the views expressed by me in a former paper, I may now perhaps be allowed to refer to the opinions of those who have devoted much of their attention to this subject; but not to extend this paper to too great a length, I shall only allude first to the celebrated Swedish author Mr. Fries, who states that fungi always grow on dead vegetable matter; and, secondly, to Professor Liebig, who says that fungi are developed only "when they meet with a medium fitted to afford them nourishment," which nourishment he afterwards states to be that which is "derived from putrefying bodies, or from the products of their putrefaction, which pass directly into this kind of plants, and obtain an organised form by the vital powers residing within them." Mr. Berkeley goes even so far as to say that by dusting a few spores of burnt fungus on clean grains of corn, that diseased plants may be produced. I have never seen this experiment tried, and being much inclined to believe that something must have been connected with this process which has been overlooked, I again referred to the work of the learned professor I have just quoted, and I there find it stated that "when fungi are exposed to the temperature of boiling water, their vitality and power of germinating become completely destroyed." Can the burning be less powerful than the boiling? The production of fungi is involved in much mystery. Mr. Carpenter states in the "Edinburgh New Philosophical Journal," that though "warranted by evidence in rejecting the supposition of spontaneous generation, as commonly understood, that is, the origination of organised beings by fortuitous combinations of inorganic matter," yet he thinks there is "evidence to render it a question worthy of consideration whether plants or animals of a low degree of organisation may not be developed by degenerations of the tissue of those more elevated in the scale;" *Antifungus, Elgin.*

Sulphur a Remedy for the Potato Disease.—I have just seen a friend from Waustead who applied sulphur to his Potatoes about a month ago, at which time the disease had been going on for 3 or 4 weeks, and now the tops are quite green and growing and the stems naked, while all around the piece has not a green leaf on them. If sulphur can be imported at a cheap rate, say 2*d.* a pound, the remedy would well repay the trouble of obtaining it. I should think a pound would sulphur about 4 square rods; *J. Kyle, Leyton.*

Flower Pegs.—My practice is to select a quantity of Willows in winter for pegs, then to boil and peel them and lay them past in a damp shed until they are wanted. I then cut them in lengths from 6 to 8 inches, and bend them in the centre as I use them. I use these for every purpose for which pegs are wanted, and I consider them superior to any other peg I have yet tried. By taking the Willows in bunches, I can make a dozen pegs at a cut, which saves time. Fern (Pteris aquilina) does very well, but it is not within the reach of every one; *J. Falconer, gardener, Munshes, Aug*, 26.

Tying Herbaceous Plants.—Instead of tying these up like sheaves of corn, have a hoop of small wire drawn through or fastened tightly to an upright stick placed in the ground. Then let the flower stalks be tied regularly round the hoop, having some loose ones in the centre to form a close head. Some staked in this way here look extremely well; *A Sub., Aug.* 26.

Potato Disease.—Of this year's crop, one lot, well manured and top-dressed with lime and salt raked in, produced abundantly. In this two-thirds were diseased, decidedly my worst lot. They were taken up on the 22d inst. The second lot, set at the same time with manure only, produced equally well, half being diseased. Of 15 rows, one yard of each row was top-dressed with nitrate of soda. These yards were diseased in the tops as much as the others, but the tubers were free, and the produce was more abundant. The third lot was set a fortnight later on ground where I had spread some rubbish to dry for burning. They were well manured, but owing to the wet weather this lot was never cleaned, they consequently were very full of rubbish. This was decidedly my best lot, both tubers and tops being little diseased, and the produce was very superior in every respect, being fully equal to those to which nitrate of soda was applied. All were taken up on the same day, the kind being Strawberry-top; *Subscriber, Mansfield.*

British Sheet Glass.—We have here three ranges of houses, each 140 feet in length, and they are glazed with British sheet glass of from 21 to 24 oz. to the foot. The Vines, Peaches, Cucumbers and Melons are trained 5 inches from the glass, the Peach trees have been planted 12 months on the 28th of last May, and this year they have made shoots 8 feet in length and have each produced from one to two dozen fruit; there has not been a scorched leaf in any of the houses. The Pines are quite close to the glass; we have cut Queens 15 months old from 4 to 5¼ lbs. in weight, and Enviles from 6 to 7 lbs.; we use no shade, on the contrary, we admit all the light and sun we can, and no plants can be in better condition. I am convinced, from experience, that the glass should not be blamed, for scorching will not take place where proper attention is paid to having free circulation; therefore it is the gardener who is to blame for the evil, and not the glass; *John Stewart, Gardener to G. Hudson, Esq., M.P., Newby Park, Yorkshire, Aug.* 28. [You do not understand the question; which is not whether sheet glass scorches, but whether it burns.]

Bedding Plants.—I think your correspondent's list, p. 575, might be improved upon. I cannot see how he manages to have a good display of Salvia fulgens in the month of May. Mine seldom flower at all before August, and but sparingly until the middle of September; patens flowers much earlier. Pelargoniums, too, also flower but sparingly with me; the scented varieties, as the old lemon scented, the Prince of Orange, Fair Helen, the nutmeg-scented, Fennel leaved, and various others, intermixed, make a very interesting bed, taking care to plant the most robust growing ones in the centre. Surely more suitable plants than Lantana crocea, Chironia Fricheri, Gazania uniflora, and Myoporum glabrum, might be found amongst the varieties of Petunias, Calceolarias, and Anagallis, whose mention your correspondent has entirely omitted. I regret that the old white Petunia is so seldom seen, or in fact any white one. The pencilled ones are fine bloomers, more especially Forget-me-Not, Attraction, Queen of May, and others; of Calceolarias, the best I have is viscosissima floribunda, which is, however, said to be surpassed by Kayii; another yellow called floribunda is good; a straw-coloured one of good habit is I think wanted, the old one being coarse. Of dark varieties, many of them are herbaceous, and being more tender are not so suitable for out-door show. Polyphemus is as good as any amongst the shrubby dark ones. From clouded kinds I have never yet obtained a good succession of bloom; they generally flower twice in the season, but in the intervening time their appearance is not inviting. There is no lack of blue Anagallis, but good ones of other colours are not so plentiful. Bicolor grandiflora is a good blush, and elegans is bronze. There is also a red one, but I do not admire it, so many other things surpassing it in point of colour. Mimulus conductor I do not know, but suppose it to be a variety of cardinalis, on which Coleii and Harrisonii are improvements, yet none of them please me as bedding plants. Of Fuchsias, are the dwarf globe varieties not better than Formosa elegans? The latter becomes often uneven, and the foliage is never so fine as Globosa Woodsii and G. splendens. A bed of fulgens is distinct, but the flowers are in a great measure hid among the foliage; for variety, however, it may be introduced. Then there is Cuphea platycentra, the double crimson Senecio, double white Feverfew (than which I know nothing better as a white), and Gaillardia Wells-iana. The latter, with Ageratum mexicanum and Pentstemon gentianoides, coccineum, and album, and the old Antirrhinum caryophylloides, which, when true, is better than many of the later kinds, are most suitable for large beds. There are various other plants whose merits might be discussed with benefit, but in giving lists of plants for bedding they should be divided into tall, medium, and dwarf; *S. N. V.*

Collectors of Plants, &c.—In Germany it was the custom for a party—say some 10 or 20 persons—to find some young, intelligent naturalist, of good character; and each party subscribing hs 20 or 30 dollars per annum, to send him out to make collections of seeds, plants, dried specimens, and geological and zoological collections, each party subscribing designating the branch he preferred, and on the specimens being sent home these were divided amongst the subscribers. Perhaps this was more suited to Germany than England, from that country having less communication with foreign countries, and having better educated naturalists, who would be content with a small reward, and who would travel at less cost than a person in England similarly educated; yet I cannot but think persons fond of natural history, especially as regards plants, might in this country adopt this plan; and if I find some of your correspondents likely to join, I should be glad to consider with them how such an object might be obtained. Java, Borneo, &c., would, notwithstanding what Lowe and others have done, be a good country to begin with; and Sir J. Brooke being at Labuan, there would be no difficulty in obtaining proper facilities for a collector; *Dolmar.*

Dipladenias.—Is there more than one sort of Dipladenia crassinoda grown about London? In this neighbourhood it is generally believed that there are two varieties in cultivation; one a pale blush or rose colour. All the plants of crassinoda which I have bloomed have been of the latter colour, but I have met with them at exhibitions so different in appearance that few would doubt of there being more than one variety. Has situation anything to do with the difference we see in crassinoda? for I am certain it is to that alone the striking contrast in the two accompanying flowers of D. splendens is to be attributed: the pale one was produced while the plant was in the stove, the other, after it was removed to the Heath-house, where the sashes remained three parts off day and night; *W. S.* [You are quite right. Such differences are the result of cultivation. When you placed your Dipladenia in the stove it suffered for want of air; as soon as it was allowed to breathe freely it recovered its good looks. Place yourself for a month in a stove, and then consult your looking-glass. There is only one D. crassinoda that we know of.]

Storing Potatoes.—I can corroborate the report of the good effect of washing Potatoes before they are stored away. My practice, ever since the disease made its first appearance, has been this. So soon as the roots are taken up, and before the dirt is dry on them, we fill a hamper or bushel basket half full, and immerse it in my kitchen garden tank, agitate it a little, and in a minute they are cleaned, using the basket as a cleanser. They are then laid out to dry on the stone pitching of my court-yard, and when dried are sorted into good, bad, and indifferent; the good are put away into the old storeplace (a cool corner it is, and always is), the indifferent are set out for the cook to make the best present use of, and the bad disposed of accordingly. I believe the interposition of straw to be unnecessary; [illegible]

Storing Potatoes, more especially during Frosts.—All Potatoes arrived at any tolerable degree of maturity should, where necessary, now be taken up, and after selecting those most cleaned, the remainder (if any) should be stored temporarily in small heaps not exceeding 5 bushels each, to be covered with the haulm and weeds. Straw will admit air and turn them green. Experience has taught us that in a month's time all the good ones will be apparent and may with certainty be selected for final storing, which ought to be in a cold and dry situation. The diseased Potatoes may be boiled or baked (the latter is by far the best plan); then by ramming them into casks without moisture, and salting each layer moderately, they will keep in a nutritive state for a twelvemonth or for several years. The cask, when full, should be headed up or covered with boiling fat. Our pigs have eaten them greedily, mixed with pollard or meal two years after they had been pickled. They may also be given to plough oxen, or horses in a raw state, taking care to give them at least once a day a dry meal. No bad results have as yet come under our notice from this practice. The latest Potatoes had better be left for the present; *Hardy and Son, Maldon, Aug.* [illegible]

Hollyhocks.—The observation "that the Hollyhock is a neglected flower" induced me to pay some attention to its cultivation. I have from time to time purchased those which have been advertised in your columns, besides many others highly recommended, and the majority have proved comparatively worthless. The seedlings lately submitted to your judgment were raised from seed I purchased of the late Mr. Barron, of Saffron Walden. Mr. Chaser, nurseryman of that place, purchased the stock of plants, and I saw his collection in bloom last week, and the sight amply repaid my journey. It has been mentioned that the Royal South London Floricultural Society was the best for the exhibition of this flower, and as many of your readers may be in the possession of superior varieties (especially in the north of England), I beg to suggest that I should be happy to subscribe my mite towards a fund to be placed in the hands of the above society, to be competed for in the end of July or the beginning of August, 1849. I think prizes ought to be offered for spikes of bloom as well as cut flowers; *R. B. Bircham, Hedenham Rosary, Norfolk.*

Veronica speciosa.—A strong plant turned out in the autumn, and trained to a south wall, has flowered freely and produced seed, without any protection, except some old tan about the stem in severe weather. Would it not be desirable, at this period, to try the experiment of acclimating some of our greenhouse or conservatory plants, before the weed becomes too succulent? *N. S. H., Bury St. Edmund's.*

Uses of the Mulberry.—It may be worth knowing that the Mulberry is not only good to eat but that it makes syrup, vinegar, and a good preserve; the latter is made after the manner of Currant preserve. I have made a strong wholesome wine from the Mulberry, which requires half as much more sugar as other British wines; *Charles Turner, South Lambeth, Aug.* 12.

A Word on Transplanting Vines.—Two years ago I applied to some nurserymen near London for some 3 or 4 years old Vines, and was told they would not transplant. In 1838, or beginning of 1839, I had a cutting from the Vine at Hampton-court given me, which I stuck in a corner, and kept until the winter of 1846, when I took it and put it in the Vinery. It showed fruit last year, and has a few bunches this year, and looks healthy, but would, I think, have been better if cut down, which I purpose. I [illegible] Vine of 20 or 30 years old [illegible] having seen in Paris [illegible] garden, where I [illegible] Vine, made several [illegible] to [illegible] Vinery. It [illegible] 4 feet long. I [illegible] planted in a Vinery last autumn, four 4 years old Vines from Dublin, and four 4 and 5 years old Vines from Paris; four of them have made strong and healthy wood this year, two have died, and two have made shoots, but only at the upper part. A friend of mine near Edinburgh informed me, that he had transplanted a very old Vine, having taken the roots up very carefully, without cutting the branches off, but being trained as usual, it in the second year bore a good crop of Grapes; *A. K.*

A Word on Grafting Vines.—Having two white

Vines, great bearers of indifferent quality, I have for 8 years endeavoured in vain to graft them with black Vines. I have followed the directions given in different scientific works, and writings on horticulture, and always failed. Last autumn, being in the neighbourhood, a friend took me to see the gardens of the Earl of Malmesbury at Heron-court, and being struck with the splendid appearance of the Vines in the new houses, I naturally conversed on the subject with the very intelligent and obliging gardener, Mr. Clark. Having told him of my failures in grafting, he replied, that he saw no reason why there should be greater difficulty, or why more pains should be taken in grafting Vines than in grafting Pears or Apples. Acting on his advice, in February last I put nine grafts, Black Hamburgh and St. Peter's, on the two white Vines; six of them have taken, five of which have made good strong shoots. Two of the three that failed were put on one year old stocks; *A. K.*

Lifting v. leaving Potatoes in the ground.—On examination of my Potatoes in the ground to-day, I find that the chief part of them is sadly diseased; and I consider that I have lost many more than I should otherwise have done, by leaving them in the ground after having pulled off the haulms. I believe it would have been a much better plan to have taken them up at once, and stored them in an outhouse, as I did in 1846, between layers of straw, when they kept pretty well; and one reason for this opinion is, that on looking at a row of a sort that was perfectly good and free from the complaint a few weeks ago (boiling floury), I now find the Potatoes in this row (which was left for the sake of an experiment), all more or less touched by the disease, although fine large Shaws; mine is a light, gravelly soil, thoroughly drained; *W. H., Beckenham.* [Don't you think your Potatoes might have rotted if you had taken them up?]

Scepticism of Naturalists.—Naturalists are very generally censured for the unbending scepticism with which they oppose any popular accounts of the habits of animals, especially if the facts upon which they are based are unsupported by analogy, or opposed to the well known laws of physiology. For this slowness of belief public opinion makes no allowance, being ever ready rather to ascribe it to mere obstinacy, or to an unwillingness to sanction the facts of ordinary observers, than to admit the necessity of every discovery, especially of a marvellous aspect in Nature, being tested by all known rigid modes of inquiry, before its admission into the code of established truths. Every one who is interested in gaining accurate information on the habits of animals, must feel himself much indebted to Prof. Henslow for expressing so boldly opinions which are maintained by the majority of naturalists respecting the popular notion of young vipers seeking refuge in the stomach of their dams in seasons of danger. Notwithstanding all that has been written in support of the fact in question, without impugning the veracity of any one observer, I confess myself still a confirmed sceptic, and beg to offer the following statements by way of apology. Being interested some time ago in this inquiry, and expressing on all occasions doubts as to the truth of the fact, I was promised, through the kindness of some friends, an opportunity of examining a viper captured immediately after having swallowed its young, no uncommon occurrence according to woodmen's accounts in districts where these reptiles are abundant. In the autumn of 1847 such a specimen was supplied me, and along with it a letter, written in a style of honest simplicity, by the party who was an eye-witness of, and a chief actor in the following incident. The writer states that she came suddenly upon an old and young viper, that the dam opened its mouth, into which the young one entered, and ran down its mother's throat; the old viper then began to make its escape, but was interrupted by a stone thrown by the witness; the stone struck the animal, and cut its body not far from the tail; by the aid of a second person the viper was presently captured, when it was found that the young one which had been swallowed was protruding through the wound. This interesting specimen was immediately bottled up in spirit, and forwarded to the parties through whose kindness it subsequently came into my possession. The following notes were taken. The old viper measured 22 inches from tip to tip, the wound was about 6 inches from the tip of tail, three young vipers had escaped, or rather had been drawn through the opening into the surrounding spirit, and a fourth was ready to follow. On carefully dissecting the abdomen upwards, I found that the wound opened into the lower part of the oviduct alone, the stomach and intestines being entire throughout their whole length. The oviduct contained, as it were, a chain of young vipers, each being curiously coiled up in a knot or ring, and invested with a very delicate membrane. Being unwilling to disarrange the parts, I calculated, as nearly as possible, the number of young in this state to be about seven or eight; these, without the four already drawn through the openings, so far distended the oviduct as to cause its upper portion to rest upon the lower part of the stomach; so that there can be no doubt but all the abdominal viscera were completely covered and heavily pressed upon by the membranous sac and its contents, before any injury was inflicted upon the dam. The three young vipers, which were clear of the oviduct, measured respectively $5\frac{3}{4}$, 6, and $6\frac{1}{2}$ inches; and it is worthy of remark, that they had all shreds of their investing membranes remaining on different parts of their bodies. The stomach and bowels of the parent were empty. Now the above anatomical facts are very conclusive evidence that the young viper in this instance had not taken refuge in its mother's stomach; and is it not probable that in many of the cases already stated, an accurate examination of the parts, where care was taken not to confound the stomach with the oviduct, a similar conclusion would have been arrived at? From the simple narrative of the letter, this observer undoubtedly believed she saw a young viper along its mother's side, and saw it also enter the mother's mouth; seeing, was with her, believing; and I put implicit confidence in the accuracy of her statement as respects her veracity. But the eye no doubt was in this, as in the case of many other observers, led captive by the imagination. In making inquiries about vipers among a class of people most likely to be conversant with their habits, three points have struck me as bearing materially upon the influence which mental impressions may have in fostering this popular error. A very large proportion, 19 out of 20 people, are well acquainted with the tradition that young vipers seek refuge in the mother's stomach when alarmed. On the contrary, a very small proportion have ever been witnesses of the fact; they generally know of some other person who has seen it. A still smaller proportion are acquainted with the real fact that vipers bring forth their offspring already formed and able to move, and throw themselves into attitudes of defence. To the question—How are vipers born? the reply almost invariably is this: All snakes lay eggs. And here I conceive rests the foundation of the error. Young vipers are found alive within the mother, and when she is killed and cut up, and "the little fry issue into the world with the true viper spirit about them," the natural inference is that they had retreated unobserved down the throat of their dam on the first appearance of danger. But putting aside these speculations, let us bear in mind the facts which gave rise to them; and then I think the naturalist will be excusable if he still regard the popular notion of vipers swallowing their young in the same light as he does the wonderful histories of swallows seeking a winter asylum in the mud of ponds, and cuckoos being transformed on the approach of winter into hawks; *T. Gough, Kendal.*

A last word on Vipers.—Now is the season for ascertaining whether or not the young of the viper seek refuge in case of alarm within the body of the mother, by voluntarily entering through her mouth. Therefore now, and until the middle of October, let your readers (and let them request their friends to do the like) destroy any viper which they may observe to admit its young, by blows not lower down than the neck; then let the neck of the dead viper be tied round with string, and the viper enclosed in a small box with soft moss and sent carriage paid to Professor Henslow, Cambridge; without doubt the Professor will publish the result of his anatomical researches. I should prefer the vipers being sent to Professor Henslow, but there cannot be any medical practitioner who is not capable of scientifically giving a decision on the fact in question, and if medical gentlemen would, in case of ascertaining the fact, write to the Editor of the *Chronicle*, I am sure he will on the first week in November be glad to set the matter at rest by publishing and announcing the number of communications he may have received, and whether the fact be or be not proved to his satisfaction; *J. C. X., Bermondsey, Aug.* 22.

Wet the cause of the Potato Disease.—Seeing an old man (who I find is a jobbing gardener) at work in his own ground, I asked him about the state of his Potato crop. He replied, "Very bad indeed, sir; all but one row, and they were covered by a row of Rhubarb leaves, and there was not a bad one in the whole row." "How do you account for that?" I enquire. "Well, sir, the Rhubarb leaves kept that row much drier than the others, and I believe it is the wet that rots the Potatoes;" *J. H. M., Cirencester, August* 28.

Potatoes.—Pray have any of your readers tried the plan of growing each Potato in a separate hillock? If they have, will they inform the public of the result, especially with reference to the rot. They should mention the distance of the roots and the other particulars of cultivation; *Sigma.*

Dr. Klotzsch's plan of Topping Potatoes. — Mr. Wainwright, of Rushton, Northamptonshire, has tried Dr. Klotsch's plan of topping the Potato crop, and gives the following as the result of his experiment. Row in which the leading shoots were nipped off—

Produce.	Sound.	Diseased.	Diseased when dug.	After being dug.
70 lbs.	14 lbs.	56 lbs.	14 lbs.	42 lbs.

Row in which the leading shoots were untouched—

Produce.	Sound.	Diseased.	Diseased when dug.	After being dug.
86 lbs.	23 lbs.	63 lbs.	11 lbs.	52 lbs.

Giving an excess of diseased tubers in the former instance in the proportion of 344 to 317. The produce however, in the former case, was of the finer quality. Notwithstanding great care has been taken to give the Potatoes as little manure as possible, the disease has been most pernicious. The result of two weighings gave 98 lbs. sound to 111 lbs. diseased, and 46 lbs. sound to 328 lbs. diseased. The diseased tubers, after a few days, became extremely offensive and utterly useless; *M. J. B.*

Culture of Tomatoes.—We treat the Love-apple or Tomato here as follows:—In the first week in March we sow in pots filled with rich sandy mould, and, placing them in a Melon or Cucumber frame, water them. As soon as the plants appear in their second leaf we pot them off in rich mould, three in a pot. When the roots have filled the pots we shift them into larger pots, removing the smallest plant, and leaving only the two strongest. We then place them in a Vinery or Peach-house and give them a good supply of water, sprinkling over head every morning. By the first week in May they will be ready to plant out between the wall-trees on either a south or east aspect. In planting, remove the soil to the depth of a foot, and fill the holes up with rotten dung; then turn the plants out of their pots, plant them, and cover the dung over with the soil, dishing the latter so as to make it hold water. Nail up the plants, and water them once a week. As soon as they show bloom, remove all the "water-shoots" or laterals, and stop the first joint above the flower, so as to set the first bloom. By stopping in this manner we get ripe fruit in the first week in July, and a regular supply throughout the season. This year we had them ripe in the last week in June. If frost sets in, cut off the green fruit and place it on a flue in a stove or Vinery, and it will ripen as well as on a wall; *Robert Draper, Newby Park, Thirsk.*

Calla æthiopica. — It is not generally known that this will stand at the bottom of our ponds in this country all the winter. The leaves will be cut off by the frost, but the roots will remain and grow more strongly every year. A well rooted plant in a pot placed in a shallow tank or basin will, if kept in a house, grow most luxuriantly and flower during the winter. It forms a charming object; *Cantium.* [It dies in water with us during winter, covered about 4 feet deep.]

Cottage Stoves.—After various trials I have to state that one (to be had of Mr. M'George, 80, Berwick-street) has been found the most convenient and economical. It has a small oven by the side of it which enables a poor woman to leave her dinner for two or three hours to cook itself; and even Potatoes, with a little dripping and seasoning, done in this way, make an excellent dish; *A Subscriber.*

Leycesteria formosa.—This charming shrub having attained the height of 6 feet, flowering and fruiting abundantly, may be increased with facility by cuttings; some of the strong shoots I used for marking the rows of Potatoes planted in the kitchen garden in March have produced vigorous plants, which are now in bloom? *N. S. H., Bury St. Edmund's.*

Bees. — "Apiarius's" extracts from Lawson's old work concerning bees (p. 540), may, perhaps, be taken as a specimen of the knowledge of bee-keeping in his time. That writer, however, is not entirely free from some of the popular errors of his day; although by his instrumentality some were exploded. Nor are instances of superstitious notions concerning those little insects rare in these more enlightened times. On the death of a near relative it is usual to communicate to them the fact in a whisper, and attach a piece of crape by way of mourning to every hive; nor is the dread of the approach of further evil quieted till these ceremonies are duly performed. These and like fabulous notions are imbibed in childhood, and prevails even, at times, in well-informed persons. As regards the bees, however, this is harmless, and does not affect their management, like some of Mr. Lawson's directions. For instance, he observes that "hives may stand within a hand's breadth of one another, yet the bees know their own home." True; but when hives are packed so closely, the bees on the wing are not only apt to come in contact with one another, but, during hot weather, when they cluster about the entrance, mix together, and often slaughter each other. With a view of preventing bees clustering outside their hives, he recommends that the hives "for keeping swarms should hold 3 pecks at least in measure, for little hives procure bees in casting time to lie out and loiter, or else cast before they be ripe." Again, to use his own words, "neither should a hive be too great, for they loiter and waste meat and time." In bad seasons and short pasturage that size is certainly too large, and, of course, would not do for hives on the depriving system. His objection to small hives is hardly correct, though bees in such are much more apt to lie out during hot weather than in large ones. In the latter they have more room, and a greater number of bees are required to keep up the requisite heat in the hive; the loss of time and food, therefore, in both must be nearly equal. Add to this that however strong in numbers these may be in summer, in the winter months they draw closely together, and do not occupy above one-third of the space, consequently the empty combs are apt to get damp and mouldy, and the bees are oftener in a worse condition in spring than those that are wintered packed close and dry in a smaller space. The increase also from such are earlier than from larger hives, which do not commonly swarm before July, a time he justly condemns. But how he could have asserted that "bees gather not before July," I cannot conceive. And those who are at all acquainted with bees must have heard of their taking possession of a neighbour's tenantless hive, yet the same writer says that this is "mere conceit." His views respecting swarming seem to have been very imperfect; indeed, he acknowledges as much, and leaves this curious subject to those "who wish to divine." It may be worthy of remark that we are indebted to a Scotch divine, Dr. Dunbar, for perhaps the best account of this subject. Lawson is wrong in asserting one can catch or secure a swarm by "turning up a stock pestered with bees," and placing an empty hive on the top of it. The bees may fill it, as they might and do a cape or small hive put on in the proper way, still that would only be a strong stock with, of course, one queen. The inverting it would render the cells unfit to hold the honey, and though the bees might remedy that, yet much filth, and a great many

dead bees, would lodge amongst the honey at the bottom, which was formerly at the top, the proper place for the store. But as regards that plan preventing swarming, it has just occurred to me that by the queens' cells being reversed, the insects might be bred imperfect, if not destroyed, by their heads being upwards, instead of downwards, like the larvæ of wasps, which would impede their swarming. I cannot say what was the value of honey nor land at the time Mr. Lawson wrote, but I may safely state that those who expect "40 stocks of bees shall yield more commodity clearly than 40 acres of good land," or that 10*l.* or 15*l.* a year will be yielded by each hive, as an Irish writer lately advanced, will find themselves as much deceived as those who put their trust in Mr. O'Connor's Land Scheme; *J. Wighton.*

Hornets.—Part of their diet consists of Nectarines, Peaches, Apricots, Grapes, Greengages, Plums, Apples, and Pears. The wasp is carnivorous as well as fructivorous, and entomologists will probably pronounce the hornet to be so likewise. It enters bottles of sugar and water or sugar and beer that are hung about wall fruit trees as wasp-traps. I may mention, apropos, that a neighbouring cottager places these saccharine baits in front of her hives, and that the bees are not caught by them though the wasps and hornets are. I, too, had a nest of hornets, in the roof of my house; but it was dislodged by means of a ladder, a sack, and a pint or two of beer; *D.*

Foreign Correspondence.

Paris, Aug. 26: *Potato Crops.*—On the 1st of this month I sent you an account of the Potato crops round Paris, and in the western and north-western districts of France. Since that time I have travelled over the greater part of the eastern and north-eastern departments, and have had ample opportunities of visiting the crops, and also of conversing with farmers, gardeners, and others, fully competent to form a true opinion. The result of my observation and inquiry is, that up to the 20th of this month the disease had not appeared at all in many of these places, and in some others but very mildly, as you will perceive from the following memoranda which I made upon the spot. *Seine and Marne:* The early varieties were taking up in good order; the crops large; the late kinds everywhere looking well; disease almost unknown; fine Potatoes were selling at Meaux at 4 francs (3*s.* 4*d.*) the sack. *Marne:* There are very few Potatoes to be seen in this department, but I was told at Chalons that both there and at Rheims some of the late kinds were affected. The price was from 3f. 50c. to 4 francs the sack. The Wheat was all carried, the Oats and Barley were being cut. In the champagne wine district (round Epernay), the Vines were looking well, and gave promise of an abundant vintage. Good draught wine was selling at 1½*d.* per pint. In the neighbourhood of St. Menehould, and for several miles beyond, are very large plantations of Apple trees, but no fruit whatever was to be seen upon any of them. *Aisne:* The Potatoes were looking well, no blight perceptible. At Chateau Thierry the crop was said to be very abundant, and no disease. *Meuse:* This is a corn country. The Wheat was all carried, and said to be beyond the average. The farmers were complaining of the low prices, and the impossibility of paying expenses. At Bar le Duc no diseased Potatoes had been seen. *Meurthe:* The Potatoes generally looked well; here and there the stems of the early sorts were blighted; at Nancy, the price was 3f. to 3f. 50c. (2*s.* 6*d.* to 3*s.*) the sack of 200 lbs. The produce was said to be fully or more than the average, and the cultivation upon a very large scale; the Wheat was all in, and the Oats were being carried. *Moselle:* At Metz I was informed that the disease had made its appearance, but I saw none in the gardens I visited, although they were on the border of the river; on the contrary, the roots were as clean as could be wished, the late kinds were very luxuriant; from Metz to Nancy the road runs through the valley of the Moselle on the banks of the river; all along the route innumerable plots of Potatoes are planted, but I saw no signs whatever of disease. *Rhin:* The malady has made progress in this department, especially in the Lower Rhine, both the early and late crops are slightly touched, but at present not sufficiently so to cause any fear for the general result; upon the higher lands they have taken up well; the quantity under cultivation is immense, in fact all over Alsace it is the common food of all the lower orders. At Strasbourg the best Potatoes are selling at 3 and 4 francs the sack; it is the same at Mulhouse, where they appear in general to be pretty good. On the borders you see patches quite gone, as if they had suffered from a blast of wind, and on either side they exhibit the most luxuriant vegetation: here the Grapes are now ripening, the quantity is immense, even greater than last year, and if we have a warm September there will be one of the largest vintages ever known. Providence has been most bountiful to France this year; she has had one of the finest harvests ever remembered; her corn has been gathered in, and there in every appearance of her wine and oil being equally abundant. Since my return to Paris, and within the last eight or ten days, there has been a succession of cold wet weather; it has been the same in the west. This I am sorry to say has had an unfavourable effect upon the late crops of Potatoes in Normandy, where the disease has now made its appearance in a bad form, and is daily extending its ravages, so that districts which three weeks ago were considered safe are now materially injured; nevertheless, taking into consideration the large quantity already harvested, and the immense tracts of land under cultivation where the disease has not yet appeared, there is no cause for alarm or fear of scarcity in France: on the contrary, I doubt not she will be able to export a great quantity to other countries which may not have been so highly favoured as herself.

Reviews.

Sidney's Australian Handbook. Richardson. 12mo.

We entirely concur with our contemporaries in setting a high value on this little book, which, for a shilling, gives the emigrant advice that may be to him worth a fortune. It is written by one who, to much strong natural sense and a fearlessness in letting out rough truths, adds a personal knowledge of all that he writes about. His advice is the result of his own dearly bought experience, and his book should be carefully read by all who are thinking of Australia. It does not touch New Zealand.

The following extracts will introduce the reader to Mr. Sidney, quite as much as he ought to be introduced without a perusal of the work itself.

"*The Labourer.*—As to the class of men who should emigrate, the first is the labourer, with no capital, but stout arms and a stout heart; not burdened with any ridiculous fears about blacks and bushrangers. If he can get landed in any Australian port—Sydney, for choice, as the London of the colony—he is quite sure of good wages and plenty of food, with no expense for fuel, and very little for clothes. He has no long winter to endure, as in Canada, and no severe frosts to guard against by coats and flannels. A wife, provided there are no helpless infants, is no disadvantage. As I have before observed, a previous knowledge of agriculture, which is indispensable in Canada, is quite unnecessary on an Australian stock or sheep farm. Among mechanics, the clever Jack of all trades is the man. It is impossible to carry a box of tools on your back. A good bush carpenter will do anything with an axe, an adze, and a few other things, but when you get to a station they find you tools."

"*The Carrier's Boy.*—C. C., of Bathurst, was a carrier's boy in Yorkshire, who, being well flogged by his master if his horses did not look well, although he never gave out half enough of Oats, cribbed a supply from the barn of a neighbouring farmer, was found out and transported. He obtained his liberty at the end of six years. During his servitude he had made some money by platting straw hats, and making stock whips, then worth 8*s.* and 10*s.* each, which he laid out in a brood mare: his master gave him a few pet heifer-calves; with the increase of this stock he sat down on a bit of land, was industrious, and in 1840 was one of the greatest land and stockholders of the district."

BATEMAN'S ACROPERA.

Sp. char.—*A. Batemanni;* sepalis lateralibus reduplicatis, petalis oblongis setaceo-apiculatis, labello apice bilobo: laciniis linearibus obtusis.

Among some Nicaraguan Orchids, imported by Mr. Skinner in 1847, Mr. Bateman obtained this plant, which has much the appearance of the old Acropera Loddigesii, but is rather more robust. The flowers are of the same size and colour, but the petals are not 2-lobed; the lateral sepals are doubled backwards, so that the opposite sides of each nearly touch, and the lip is extended at the end into a double tongue. The species is very distinct, but not handsome.

Garden Memoranda.

Mr. Groom' Nursery, Clapham.—The [illegible] collection of Japan Lilies here is now [illegible] bloom, and we would advise all who are interested in this prince of hardy ornamental flowers to pay Mr. Groom a visit for which we are sure they will be amply compensated and be afforded by the sight of many a thing at this season.

With respect to new [illegible], Mr. Groom has been hybridising largely, and the results are a [illegible] of [illegible] all beautiful; but some extremely handsome, surpassing even [illegible] in [illegible] and breadth of petal, while others possess the rare quality of [illegible] space on a [illegible] ground. The effect of this is [illegible] what may be seen [illegible] by [illegible] and [illegible] rapidly spread. [illegible] are [illegible] and admirable [illegible] to form a [illegible] by which [illegible] of flowering will be prolonged. Autumn is [illegible] to be able to see at [illegible] sufficiently [illegible] to enable [illegible] to introduce it in quantity into [illegible] where it will have an admirable effect, [illegible] well, and forming a worthy [illegible] and that hitherto too much [illegible] the Hollyhock. This, then, is a point worthy of [illegible].

Tulips, Ranunculuses, Anemones, [illegible] grown largely here, have been [illegible] and are in excellent condition, [illegible] that the Anemones were taken up while [illegible] a strong tendency to continue growing.

It may be worthy of mention that [illegible] second year from seed, which Mr. Groom received from the East India House from India, are badly diseased, both root and top.

Luing Park, the Seat of Mrs. Lawrence.—Our readers will be glad to learn that [illegible] is thriving here, and is now a fine specimen. When received in June, 1847, it was only 25 [illegible] high, with 11 leaves on it; it is now [illegible] 7 [illegible] from the pot, about 10 feet through, and profusely clothed with luxuriant foliage, which [illegible] of health. Many of the young [illegible] are 2 feet 4 inches long, with leaflets 11 [illegible] It has been twice shifted, and [illegible] a slate tub 2 feet deep and [illegible] The soil in which it has succeeded so well is Epping loam mixed with crocks, sand, and [illegible] peat (the fibry part) to the extent of about one-third of its bulk. Being a thirsty plant it has been watered generally, and syringed twice a day, keeping the house close and warm. With the above treatment in a temperature of about 80°, shading in very bright weather, it has never lost a leaf; in fact it continues to progress with astonishing rapidity. Of course, with a grower's fast it will not flower, but the object is first to form the tree, and then to flower it—a desideratum which will be effected by a different course of treatment. It has been found to be capable of increase from cuttings made of the half-ripened wood. They should be struck in a gentle bottom-heat. The plant in question is plunged in tan over a hot-air chamber.

Shirburn Castle, the Seat of Viscount Parker.—We understand that there is at present in the large conservatory here a well-grown specimen of Russelia juncea, 6 feet high, forming a pyramid covered with flowers from the base to the apex: and that the same collection also contains a large, well-flowered plant of Gaphimia hirsuta.

Miscellaneous.

Nelson Statistics.—The statistics lately published contained satisfactory proof of what Nelson is doing. Every head enumerated gives evidence of progress. Population, stock, agriculture, revenue, the fruits of healthy commerce, have all increased. So that, viewed in any light, we may congratulate the settlement on the state of its balance-sheet for the year, if we may so call it. If there is one head, however, which is more satisfactory than another, it is the confirmation we receive of the extreme salubrity of our climate. The mortality of the past year was below any preceding one, while, compared with any other country which we know of, the difference is most remarkable. In England, which ranks higher in public health than countries generally, the yearly mortality is 1 in 41, while in Nelson, during the past year, it was 1 in 100, and the half of this resulted from accidents. It is to the same favourable cause that we may attribute the increase which is taking place in stock of all kinds, so that it is not to the human

NEW GARDEN PLANTS, PUBLISHED IN BOOKS.

N.B.—* = Very handsome. † = Second rate. ‡ = Third rate. ¶ = Unimportant.

Name.	Where Published.	Name of Country.	Quality.	Natural Order.	Colour of Flowers.	Time of Flowering.	When first Introduced.	Where.
Tetrazygia elæagnoïdes (1)	Bot. Mag., t. 4383	West Indies	S. ♄	Melastomads	White	May, June	1848	Syon House.
† *Oleaster-leaved Tetrazygia.*								
Acacia argyrophylla	Bot. Mag., t. 4384	Swan River	G. ♄	Leguminous plants	Yellow	April	1848	Kew.
* *Silvery-leaved Acacia.*								
Tropæolum Smithii	Bot. Mag., t. 4385	Peru	H. ☉ ?	Indian Cresses	Scarlet	June, July	1848	Veitch and Son.
* *Smith's Nasturtium.*								
Cantua pyrifolia	Bot. Mag., t. 4386	Peru	G. ♄	Polemoniads	Straw colour	April, May	1848	Veitch and Son.
† *Pear-leaved Cantua.*								
Castilleja lithospermoides	Flores des Serres, t. 371	Mexico	G. ♂	Figworts	Scarlet	August	1848	Van Houtte.
† *Gromwell-leaved Castilleja.*								
Potentilla Smouti	Flores des Serres, t. 373	Garden hybrid	H. ♃	Roseworts	Yellow	July, August	1847	Van Houtte.
† *Smout's Potentil.*								

(1) This is a mistake. We believe the plant to be some Miconia, in the way of M. urophylla.

race alone that the country is suited, but also to "every beast of the field." In surveying the social position we have attained, it is not the less satisfactory to know that we owe it to our industry alone, and that it stands on a secure basis; *New Zealand Journal of July* 1, 1848.

Calendar of Operations.

(For the ensuing Week.)

The Gathering and Preservation of Fruit.—Having progressively indicated the ordinary series of operations which belong to the systematic culture of fruit trees, it may not be amiss, now that we have arrived at a season which generally matures the more important fruits usually cultivated in our gardens, and when we may expect to be rewarded for our multiplied cares, cursorily to mention a few of the most necessary precautions to be observed in the gathering and storing of fruit. Peaches and Nectarines should not be allowed to remain on the tree until they are what is technically called dead ripe. A little practice will enable a person to determine the degree of ripeness at which it should be gathered, without resorting to the common and barbarous way of pinching. Plums should be allowed to remain until perfectly ripe; the large amount of saccharine matter in the fruit acts as a preservative; and although something may be lost in bulk by being allowed to remain on the tree, the flavour will not be deteriorated, such as the Imperatrice and Golden Drop, if protected from wasps, may be kept until a very late period in the season. Apples and Pears generally fall as soon as they arrive at any early degree of ripeness; that period must be anticipated, and their removal effected as soon as it is ascertained. After gathering, the fruit intended for keeping should be laid out in the fruit room for a week or ten days, and exposed to a free circulation of air; the fruit will be found clammy from perspiration, it should be then carefully wiped and laid out thinly in the store-room, which should be kept, as soon as the fruit is introduced, securely closed and protected from the material alterations of temperature. If Apples and Pears are gathered carefully without contusion, and at a proper period sorted, so that all defective fruits are removed and stored in the manner above described—if they are placed on paper so much the better—they may be preserved with very little loss, and found in a plump, highly flavoured condition, throughout the winter season.

CONSERVATORY AND GREENHOUSE.

Large conservatory specimens which have been retained within the house should be carefully looked over before the general collection is introduced, and thoroughly cleansed by hand washing wherever the scale is detected. Orange trees particularly require this attention. Whatever pruning or training is required by climbing plants, the same opportunity of completing it should be used. Stands should be cleaned, and all necessary repairs at once effected. As the plants from without are brought in, let the pots be carefully cleansed of Moss and all impurities, the drainage looked to, and each plant scrupulously freed from insects, dead leaves, and all unnecessary ligatures. Stove specimens temporarily disposed in other houses should now be restored to their proper position, and should generally receive that treatment calculated to ripen their summer's growth of wood, and so prepare them against the injurious effects of our trying winters. Let Euphorbia jacquiniflora receive attention appropriate to its merits. *Pits and Frames.*—Heliotropes, Verbenas, Scarlet Pelargoniums, and Roses required for decorative purposes should be progressively shifted, stopped, and trained; they will be found useful until a late period of the year. Chrysanthemums, Cinerarias, Primula sinensis, are common plants which cannot be put aside, and which amply repay attention bestowed on their culture; there is a large blossomed variety of the old Primula which is very desirable. The Gardenia pit will require regular additions of hot dung to the lining as the heat subsides; any one who can command a moderate supply of stable manure, with a simple brick pit, may cultivate this useful plant (the Gardenia), at the expense of very little trouble and less hazard of success. Bulbs required at an early season must receive proportionate preparation, and be permitted to form an adequate portion of roots, that when put in action inherent vigour may assist them to withstand premature excitement. Employ sandy loam and rotten dung as a compost, and let them, as soon as potted, be placed on a well drained piece of ground and covered with rotten tan or sand and ashes.

FLOWER GARDEN AND SHRUBBERIES.

The work of mowing and general cleaning must be well followed up at this moment, or a vast deal of extra labour will be the consequence. Unless particular caution is given many lapses will arise, from the frequent storms of rain and wind. See to the security of stakes and fastenings generally. All budding should be finished by this time. Attend unremittingly to propagation of stock for bedding next year; harden off the young plants as they are struck. Wistaria sinensis, Jasmines, and the Virginian Creeper may be propagated by cuttings; China Roses, Heartsease, or the Tree Violet may also be increased at this moment.

FRUIT FORCING.

Late Vineries.—The weather, unfortunately, has rendered it frequently necessary to resort to fire heat to maintain an adequate temperature for the ripening Grapes; use the furnace as seldom as possible, and only when a paramount necessity exists for doing so. Grapes ripened by solar heat keep infinitely better than others. Large-berried, highly-cultivated Grapes are by no means adapted for keeping during our gloomy winter months; therefore, such sorts as St. Peter, Black Prince, and Muscadine, are selected and employed for late work. We are not satisfied that the Hamburgh could not still be retained for the purpose, treated throughout in accordance with the end in view, and never overfed. *Early Forced Houses.*—At a period of the year when the Vines have nearly ceased to drain their supplies from the border—when, in fact, moisture is little necessary, and the roots require air and warmth, rather than wet—it is unfortunate the atmosphere should so continuously pour down water upon us. To avert the ill effects of so much water, the borders might be partially protected from it. At all events the efficiency of the drains should be ascertained, if the least doubt exists against them. *Figs.*—Although Figs luxuriate in humidity, this gloomy weather brings them no advantage. Gentle fires will be necessary occasionally, and air on all favourable occasions. Good plants of Alpine Strawberries, potted and highly cultivated, will, if placed within the protection of a cold frame on the approach of winter, afford a late and useful supply. The general stock of Keens' must be sedulously attended to, kept free from worms, and, when necessary, liberally watered. Maintain the linings round the late Cucumber and Melon pits; see that the fruit of the last is elevated on a pan or brick, and cut before too ripe.

KITCHEN GARDEN AND ORCHARD.

The clearance of weeds, which we presume are abundant everywhere this season, should be regularly pursued. The forward Spinach beds will presently want thinning, and to the various successions of Turnips and Horn Carrots similar attention should be given. The rapid spread and extreme virulence of the Potato disease will cause an additional value to be placed on all edible garden stuff. The winter greens should be looked over, and where it is found necessary they may be earthed up, by way of protection against the weather. Spare Cabbage plants should not be cast away, but distributed to the cottagers, whose losses by the failure of the Potato crop will be considerable. Let Asparagus beds be kept free from weeds, and a sufficient supply of seeds saved for the annual sowing.

COTTAGERS' GARDENS.

In many instances the haulm has been left on the Potatoes with the hope of their recovery; in some cases the appearance of the stem and leaves encouraged the belief that it would, as last year, overcome the attack; unhappily but few instances of the kind are presented this season, so the sooner the rotten stems are removed the better. On stiff land a slight examination will show the necessity of the early adoption of this plan; the wet and boisterous weather lately has, by swaying the Potato stalk about, formed holes around them, which of course will readily conduct the water to the tubers, whose only chance of preservation exists in escape from excessive moisture. The plan we recommend has, in many instances, been found beneficial; if the ridges are slightly raised and the soil closely pressed over the Potatoes, an additional advantage would be offered. As soon as the last crop of Peas and Beans is cleared off, give a slight dressing of manure to the land and plant Coleworts. If a sowing of winter Onions has been previously omitted, lose no time in forming a bed, otherwise at a later period endeavour to obtain plants when the neighbouring gardeners are thinning their beds. Hoe and thin Turnip quarters; no cottager should be without a supply of this useful vegetable. Collect and dry herbs, such as Marjoram, Sage, Mint, and Thyme, for ultimate use in the kitchen. At this moment, when so many succulent weeds are at hand, the manure heap should receive frequent additions. On no account destroy French Beans or Runners because too old to be employed in the customary manner; the seed Bean itself is most palatable boiled and served with a little butter and salt.

State of the weather near London, for the week ending Aug. 31, 1848, as observed at the Horticultural Garden, Chiswick.

August.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 25	26	30.034	30.005	66	50	58.0	S.W.	.01
Satur.. 26	27	29.837	29.815	70	54	62.0	S.W.	.04
Sun. .. 27	28	29.859	29.816	69	63	66.0	S.W.	.01
Mon.. 28	●	29.956	29.821	74	56	65.0	S.W.	.10
Tues.. 29	1	29.995	29.970	70	47	58.5	S.	.01
Wed.. 30	2	30.050	30.022	72	45	58.5	S.W.	.00
Thurs. 31	3	30.058	30.029	69	48	58.5	N.	1.31
Average ...		29.967	29.925	70.0	51.8	60.9		1.48

Aug. 25—Hazy; rain; cloudy and fine; partially overcast.
— 26—Uniformly overcast; slight drizzle; cloudy; rain.
— 27—Rain; overcast; slight rain; warm and damp.
— 28—Densely overcast; cloudy; 6h. 45m., P.M., splendid rainbow; slight rain.
— 29—Cloudy; fine; clear at night.
— 30—Clear and fine; very fine; clear.
— 31—Very fine; thunder, 4h. 15m., P.M.; 5h., P.M., unusually heavy storm commenced, thunder loud and frequent, blue lightning, with rain in torrents.
Mean temperature of the week, equal to the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending Sept. 9, 1848.

Sept.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 3	69.1	48.0	58.5	9	0.18 in.	1	5	1	1	3	5	5	1
Mon. 4	69 0	48.5	58.7	11	0. 8	4	4	2	—	4	3	3	2
Tues. 5	69.7	48.7	59.2	11	0.50	2	3	5	—	3	3	4	2
Wed. 6	71.5	48.6	60.0	10	0.70	—	3	3	—	1	9	6	1
Thurs. 7	69.4	47.0	58.2	14	0.55	1	3	1	2	4	8	2	1
Fri 8	69.1	49.8	59 4	10	0.75	1	3	1	2	4	7	2	2
Satur. 9	67.3	50.6	58.9	11	1.09	—	1	1	1	5	6	6	2

The highest temperature during the above period occurred on the 7th 1846—therm. 83 deg.; and the lowest on the 6th, 1847—therm. 31 deg.

Notices to Correspondents.

To our Correspondents—May we beg it to be understood that *we cannot answer inquiries privately through the post.* We are ready to give any reasonable information in our power through our columns; but we cannot consent to the labour of writing letters.

Bees: *A L.* Ether will stupify bees, and so will chloroform; but nothing kills bees better than brimstone. It is certainly better to kill light hives than to leave them to starve; but, now that sugar is cheap, they may be preserved by liberal feeding. That, however, would be useless with fresh, weak colonies, short of pollen as well as honey; without the former, which cannot practically be supplied to bees, they could not rear their brood, consequently such hives must perish before another season. If bee-keepers were to pay more attention to this, it would save them the trouble of feeding very light hives, which, in general, ends in disappointment. *W.*

Glass: *C R.* We would not venture to give a decided opinion upon rough plate glass till some experiments which are in progress shall have been tried. We incline, however, to the belief that it will answer perfectly.‡

Grass: *T Peall.* Destroy it by a strong solution of corrosive sublimate, poured between the paving stones; only remember that this substance is a very dangerous poison. Arsenic will do as well. Coltsfoot can only be killed by incessant destruction of its leaves as fast as they appear. To manure it is to encourage it.

Grapes: *R W.* You must look to the roots. The leaves are sickly because the roots are out of order; and the Grapes won't colour because the leaves are sickly.

Insects: *Fly.* Your insect is the large field bug, Pentatoma rufipes. *W—E. W.* The moth from the Cove of Cork, is the garden tyger moth, Arctia Caja. *W.*

Names of Plants: *J G.* Stachytarpheta jamaicensis.—*C Rae.* The Brassia pumila of Mr. Barker, as far as a flower much shrivelled will enable us to determine it.—*B H.* 1, Arrhenatherum avenaceum; 2, Aira caryophyllea; 3, Poa trivialis; 4, Holcus lanatus; 5, Agrostis spica-venti; 6, Aira cæspitosa. —*W C.* 1, Goniopteris asplenioides; 2, Litotrochia denticulata; 3, Some Athyrium; 4, Pteris temula; 5, Athyrium umbrosum (?) 4, Gariophlebium meniscifolium. *S.—J S.* 1, 2, and 3, Some Cystea; 4, Asplenium Filix-fœmina; 5, Indeterminable; 6, Polypodium calcareum; 7, Asplenium Filix-fœmina, var. ramosum. Such miserable bits of crumpled up specimens cannot be named with certainty. *S.—P B.* 1, Epidendrum phœniceum; 2, E. calocheilum; 3, Stanhopea quadricornis.—*W F G.* Asclepias curassavica.—*S B.* 1, Alstromeria psittacina; 2, Ceropegia elegans.—*J F.* 1, Astragalus glycyphyllus; 2, Vicia sylvatica.—*H M J.* Viburnum Opulus.

Shades: *Amateur.* A figure of the best shade we have seen for protecting flowers from injury was given at page 267, in the *Gardeners' Chronicle* for 1847. Your other question will be answered at the end of the season.*

The Olive: *T S P.* Sismondi's knowledge of political events is, we trust, deeper than that of natural phenomena. The seed of the Olive will grow like that of other plants, if perfect; but like that of others it may be defective—that is all. We will try and trace the origin of this strange notion, which you may take as a *pendant* to our farmers' belief that Thistles do not come from seed.

Tobacco: *Reader.* To prepare Tobacco leaves for smoking, hang them up in an airy shed for a time to dry; then throw them into a heap to ferment, then dry again, and the work is finished.‡

Misc.: *T W L.* There is nothing unusual in your leaves at this season of the year; they are dying—that is all.—*Hardy and Son.* Your Egg plant appears to be affected by a disease similar to that which attacks the Potato.‡—*A G.* Wire baskets may be had of any worker in wire. We cannot recommend tradesmen.‡—*G D S* and *C N R.* Your trees are affected by scale. Water of the temperature of 140° will kill it. Apply the water with a sponge. The Early York Cabbage and Early Frame Pea will possibly suit you.‡—*A C.* The labels are disgraceful to the person who sent them to you. One is illegible; the others are, 4, Boule de Nanteuil; 5, La Mienne; and 10, Coupe de Hebe.

SEEDLING FLOWERS.

Achimenes: *N N.* Your seedlings are pretty, of a rich rosy purple colour, but not sufficiently distinct to be of value.*

Calceolarias: *J P.* The best flowers among your seedlings are 4, 20, 21, and 15; these are varied in their markings, and are pretty varieties. 1, 6, 12, 17, and 24 are commoner sorts with stained grounds.*—*W H C.* Your seedling is a repetition of a variety raised some time ago, named "Miss Antrobus."*

Dahlias: *S N.* The two blooms of your seedling, which have just reached us, have the centres very perfect; it is a compact and very pretty flower. The question to be solved is, will it attain sufficient size for a show flower?*

Fancy Dahlias: *S N.* The lilac with white tip is a compact and well formed flower, very pretty in colour; it will prove a good border variety, the petals being too quilled for a show flower. The yellow with white tip is not sufficiently compact, nor is the centre equal to the flowers in this class that are now exhibited.*

Gloxinia: *W H C.* Your seedling is not at all equal to those in cultivation.*

Passion Flower: *W H C.* Your seedling was crushed to pieces when it reached us.‡

Petunias: *E R.* Your seedling is rich in colour, but not surpassing those in general cultivation.*—*N N.* The colour of your seedling is good, being of a rich crimson, but it possesses no novelty.*—*S B.* No. 1, deep rich crimson, with purple centre; a good flower; 2, light grey, richly veined with purple, large and distinct; 3, crimson purple with dark centre, not uncommon; 4, crimson with a tinge of blue, a good contrast to 1 and 6; 5, veined flower, common; 6, bright crimson with veined tube, a good flower; 7, veined and mottled, pretty but rather small.*—*David.* Your flower was not packed with sufficient care to insure its arrival in good condition; it appears to be a deep and richly veined variety.*—*J D.* Your seedling appears to be too delicate, and we should fear the spotting would not be constant.*

Phlox Drummondi: *N N.* Your seedling is an extremely pretty variety, colour bright rosy pink, with a starlike form in the centre of rosy purple surrounded with white, which renders it very pretty.*

Picotees: *C S P.* Double X is the most promising flower among your seedlings, but at present it is too small. The petals are well formed, colour good, but edges inclined to be rough; next to this is No 12, very similar; and though the edging is good, the petals want smoothness; 13 and 15 are of no use.*

Scarlet Pelargonium: *N N.* Your seedling is a rich scarlet, of good form and moderate sized truss, but it is not superior to the sorts in cultivation.*

Verbenas: *S P.* Your light flower is no improvement upon similar coloured sorts already out, nor are its flowers so large, nor its mode of trussing so good as many in common cultivation.*—*D D.* The white variety No. 1 is not equal to the best of the cultivated sorts of the same class; No. 2, large light red, poor in colour; 3 is superior to 2, being richer in colour round the eye, but there is but little difference between this and several seedlings that have came under our notice. Indeed, so many seedlings are now raised, that those intended for distribution should be clear and bright in colour, good trussers, and fine in habit; 4 is good in colour, but the individual flowers are small, and the segments of the corolla too narrow.*—*D B.* Your seedling is a coarse variety, and the flowers are not a pure white; there is a dirty lilac tinge in the centre, which destroys its purity.*

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those numerous correspondents, the insertion of whose interesting contributions is still delayed.

MARY WEDLAKE AND CO.'S HORSE AND STUBBLE and HAY-RAKE, of superior workmanship, 9*l.* 9*s.* Linseed Crusher, 11*l.* 11*s.*; small ones, 6*l.* 15*s.*; ditto, doing Beans, Linseed, and Oats, 10*l.* 10*s.* THRESHING MACHINES, doing upwards of 25 loads of Wheat straw per day, 60 guineas. MARY WEDLAKE and Co.'s CHAFF-CUTTING MACHINE, 100 to 200 bushels a day, price 7*l.* 7*s.* and 5*l.* 5*s.* Horse-hoe, Dressing Machine, Turnip Cutter, Turnip Drill, Stubble-rake, Oil-cake Breakers, Bean and Oat Crushers, Subsoil Plough, Double Field Roller, &c.—MARY WEDLAKE and Co., 118, Fenchurch-street, opposite Mark-lane.

The Agricultural Gazette.

SATURDAY, SEPTEMBER 2, 1848.

MEETINGS FOR THE FOLLOWING WEEK.

FARMERS' CLUBS.—Sept. 2: Newcastle, Durham. Sept. 4: Claydon.—Sept. 5: South Devon; Totness.—Sept. 7: Carlton-on-Trent.—Sept. 8: Debenham, St. Austell.—Sept. 9: East Kent.

THE wet weather of the past fortnight gives great importance to suggested methods by which DAMP GRAIN may be HARVESTED. Mr. GOULD, of Amberd, near Taunton, writes on this subject as follows:—"My Wheat was reaped on Wednesday, the 9th inst. On Thursday it rained all day, the Wheat being shocked; Friday was showery; Saturday was very fine, and I made my men put the sheaves with the ears inwards in a circle, and on those to lay others, diminishing the circle until the whole formed a conical mow containing about a load; the top was surmounted by a cap of reed. This morning, Aug. 21, after a very rainy and stormy night, I pulled out one of the stalks with the ear, to show that even in this most precarious season corn may be preserved uninjured. Most of the corn in this neighbourhood is in a sad state."

This is one plan: another, which we regard as preferable, was suggested some years ago by Mr. HANNAM, of North Deighton. He recommends the placing of two parallel rows of hurdles 3 feet apart, as long as convenient, erect, on some dry piece of land. He then advises to build sheaves one on the other, laid horizontally, ears inwards, to the hurdles, forming a row sheaf-long wide on each side of them. He builds these sheaves up to the height of the hurdles, and then covers the interval and stooks a row of sheaves all along over the top. There need not be an ear that is not in contact with the air, on this plan; for the tunnel is open from end to end, and the sheaves are all placed with their heads to it, while the top sheaves and the row of stocked sheaves overhead hinder the access of rain. There is nowhere sufficient bulk of corn to heat, though it may be damp; nor is there sufficient weight to hinder the lowest sheaves from getting rapidly dry. Of course it will be advisable to lay the corn not immediately on the land, but on a bed of straw.

We publish these remarks, notwithstanding that appearances, while we write, indicate a favourable change of weather; for in this changeable climate remarks hinging on the weather are never inappropriate for any length of time.

WE are desirous of bringing under the notice of our readers the advantages which all interested in land will obtain in the improvement of estates by means of an Act of the present Parliament (11 and 12 VICT.), just passed, which incorporates the "LANDOWNERS' WEST OF ENGLAND AND SOUTH WALES LAND DRAINAGE AND INCLOSURE COMPANY," the office of which is at Exeter.

By the above Act great and hitherto unknown facilities are granted, by which owners of limited interests in land can charge the inheritance with the expense of all sorts of permanent improvements effected by the above Company, when duly sanctioned by the Inclosure Commissioners; improvements, such as drainage, irrigation, warping, embankment, reclamation, inclosure, buildings, roads, bridges, fences, machinery, brick and tile yards, mills, &c. This Act greatly facilitates the borrowing of money for these purposes, by making the charge on the property take precedence of all other mortgages and incumbrances whatsoever, excepting the tithe rent charge.

The machinery employed to secure these great advantages is cheap and simple, being only a contract with the West of England and South Wales Improvement Company for the execution of the necessary works, which contract, when sanctioned by the Inclosure Commissioners, is a sufficient legal security to the party advancing the money, and enables the person making such contract to charge the inheritance with the repayment of such loan, without the examination of title deeds, or the intervention of the Court of Chancery. Money may also be obtained from the Commissioners of the Treasury.

To secure the effectual execution of works of landed improvement, this Company is invested with the power of purchasing or renting land; and also of carrying an outfall for drainage water from any estate on which they are employed through any adjacent land, on paying proper compensation. When the execution of the works contracted for by the Company on any lands has been duly certified, the Company has thenceforth a lien on the lands so improved by their means, which has a priority over every other charge or incumbrance (excepting tithe rent charge), and they may enter and receive the rents till their claim, together with interest, is satisfied. Such is a sketch of the means now, for the first time, placed within the reach of landed proprietors of improving the present value of their properties, without (in the case of merely life owners) running the risk of having to pay for benefits which may be reaped only by their successors. The public loan for drainage was, it will be remembered, limited in amount, and applicable to that *one* improvement only, whereas the Company's operations may extend to *all* sorts of permanent improvements. Of course the details of the Company's Act, and the provisions contained in it for protecting the interests of reversioners and remainder men, cannot be given here, but must be sought in the Act itself, or by application to the Secretary of the Company at Exeter.

We will only add that the Company are not likely to allow their Act to remain a dead letter, having been already for some years in active operation with a paid up capital (though hitherto only as a private Association and limited to draining), and being provided with a staff of surveyors and skilful workmen, with some tileries erected, &c., all immediately available to carry out efficiently any works, however extensive, which may be intrusted to them. Thus those landlords who regret their want of promptitude in allowing the Government loan for drainage to be caught up by proprietors beyond the Tweed, to the exclusion of themselves, will now have the opportunity of repairing the backwardness then shown in availing themselves of that boon.

We hope that companies connected with other districts of the country may arise to claim from another Parliament powers equally extensive with those to which we have alluded, so that the whole island may have the advantages which that portion of it more immediately in connection with the "West of England" Company now has placed within its reach; *T. T.*

THE TRUE PRINCIPLES OF FARMING.

IF persons engaged in this pursuit would only use that sense which God has provided them with, and which is generally styled *common*, the business would be divested of a great deal of its mystery. Some people will say that it is much easier to find out what is wrong than to say what is right; and this is true to a certain degree: but regarding the cultivation of the land, there are certain inviolable principles which should always be kept in view; and these I will endeavour to enumerate. The first that strikes me is the clearing of the ground; it is absurd to think of trying to grow corn under trees in a wood, nor is it sufficient to take away a part of them—I mean, of course, with the idea of perfection. For instance, suppose you have 50 trees on an acre; that is, about one to every three square rods; the soil capable of bearing 50 bushels of Wheat, or 1 bushel to each tree; and suppose that you cut down 49 of them, you will only be able to grow 49 bushels, instead of 50—the annual waste or cost of that tree being the value of 1 bushel of Wheat, or whatever crop might have been on the 3 rods of ground that that tree monopolised; therefore, if it is necessary to clear the land before you can grow corn, it is reasonable and self evident that it should be entirely cleared, every fractional part you leave doing injury in its degree. The next point to notice is the dryness or wetness of the soil; see if the stagnant water is sufficiently near the surface to do injury to the crops, even by capillary attraction, which, science tells us, will raise water 4 feet—and practice has shown that it must not be nearer: therefore, if the stagnant water be nearer than 4 feet, drain it to that depth. It is absurd to attempt to cultivate land against so powerful an enemy as water. Thirdly, we consider "the pulverisation of the soil." Ought it to be pulverised at all? To this question I think our common sense will give an answer in the affirmative, so that the plant may more easily expand its roots to seek for nourishment in the soil, which soil and which pulverisation should extend as far as the roots of the plant: but is it common sense to think that 5 or 6 inches only is the distance that the roots of plants extend? I will not take advantage of a few facts that have been noticed of the immense depths that roots descend, but merely appeal to common sense and ask whether it is not reasonable to suppose that the roots beneath extend as far as the plants above the soil, and if so, ought not the soil to be pulverised to that extent, viz. about 4 feet?

The first expense of this, I am aware, renders it almost impracticable; but this I cannot help. I cannot alter the true principles of nature. I must assert with common sense that the deeper you pulverise the more you move in the right direction. The next point is the distance at which plants should be placed apart. I was going to say there could be but one opinion about that, and that the common sense answer would be "as close together as possible, giving each plant room to come to perfection;" but instead of this we are frequently told to sow them so thick that they kill one another in their struggle for life, and by the time the plant has reached maturity not more than one in ten has survived the struggle, and consequently, instead of that one being a fine fully formed plant, returning forty fold, you obtain one seldom exceeding twenty fold; nor is this all: common sense will dictate to you that an acre of land sown with Wheat very thinly in drills at a great width apart, say from 12 to 1[illegible] inches, and not allowing other plants to grow on it at the same time, will be in a condition to grow a crop of the same nature the succeeding year, if such a thing be desired, as the land will be improved almost as much as it has been exhausted. Well might it be called a self-supporting system.

Having now glanced at the first principles of agriculture, viz., the entire clearing of the ground, the draining of the land from stagnant water for at least 4 feet deep, pulverising the soil at the same depth, and lastly the natural quantity of seed to be sown, I will endeavour to explain on a future [illegible] how the crop should be disposed of when obtained; *W. G. [illegible].*

ORNAMENTAL POULTRY.

[illegible]

THERE is a venerable joke about a Spanish Don who knocked at a cottage door to ask a night's lodging. "Who's there? What do you want?" said the inmates. "Don Juan José Pedro Antonio Alonzo Carlos Geronimo, &c., &c., &c., wants to sleep here to-night." "Get along with you," was the reply; "how should we find room here for so many [illegible]?" The China Goose is in the same position as the Spanish Don. It has names enough to fill a menagerie. China Goose, Knob Goose, Hong Kong Goose, Asiatic Goose, Swan Goose, Chinese Swan (*Cygnus sinensis*), [illegible], Guinea Goose, Spanish Goose, Polish Goose, Anser and Anser cygnoides, Muscovy Goose, and probably more besides.

Confusion, therefore, and perplexity, are the certain lot of whosoever attempts to trace this bird in our books of natural history. Its place of birth has excluded it from all monographs on [illegible]. In very few systematic works is it mentioned at all, which is remarkable of a bird so striking in its appearance, which there is every reason to believe must have been domesticated for a long period. The uncertainty that has existed as to its correct name and really native country may be one cause of this. Like the Jews, or the Gipsies, it has not been allowed to claim a place among the natives of any one region; and like many others furnished with a variety of aliases, it ends by being altogether excluded from society.

The old writers call it the Guinea Goose, for the excellent reason, as Willughby hints, that in his time it was the fashion to apply the epithet "Guinea" to everything of foreign and uncertain origin. Thus, what we at this day erroneously call the Muscovy Duck was then called the Guinea Duck. Not long back it was common with us to refer every strange or new object to a French source. Spanish Goose is another title, probably as appropriate as Guinea Goose. Bewick has given an admirable woodcut of this bird, but he has evidently selected the gander, which is taller and more erect than the female, though to both may be applied Willughby's description, "a stately bird, walking with its head and neck decently erected." Bewick calls it the Swan Goose. The tubercle at the base of the bill, the unusual length of neck, and its graceful carriage in the water, give it some claim to relationship with the aristocracy of lake and river. Cuvier (Griffith's edition), goes further, calls it at once *Cygnus sinensis*, Chinese Swan, and says that this and the Canada Goose cannot be separated from the true Swans. A Goose, however, it decidedly is, as is clear from its terrestrial habits, its powerful bill, its thorny tongue, and its diet of grass. And therefore we have determined to call it the China Goose, concluding that Cuvier is right about its home, and other authors about its goosehood.

There is something in the aspect of this creature, the dark brown stripe down its neck, its small bright eye, its harsh voice, its ceremonious strut, and its affectation of seldom being in a hurry, which seem to say that it came from China. It would perfectly harmonise in a picture of Chinese still life; or in a Chinese garden, with artificially arranged rocks, dwarf trees, crooked trellises and zigzag pathways; or, in a more extended landscape, it would group well on a broad river, beside a boat filled with shaven fishermen, with their trained cormorants and pig-tailed children. If it does come from China, it has no doubt been domesticated for many hundred years, perhaps as long as the Peacock or Common Fowl. An evident proof of this is the large number of eggs they lay, [illegible] an increased supply of nourishing food. This is very different from the [illegible] Goose lays in [illegible]. If duly furnished with oats, boiled rice, &c., the China Goose will in the spring lay from 20 to 30 eggs before she begins to sit, and again in the autumn, after her moult, from 10 to 15 more. I have never observed any disposition to sit after the autumnal laying. It is not, as in the Guinea-fowl, a spontaneous flow of eggs, for which the ordinary diet of the creature is sufficient, but is as much dependent on feeding as the fatness to which a bullock is brought. A Goose that I

supplied with as many oats as she could eat, besides grass, potatoes, and cabbages, laid eggs larger than ordinary; one of them (with a double yolk) weighed 7½ oz., nearly half a pound. I need hardly say that double yolked eggs are very rare, except among birds that have been long domesticated.

Another proof is their deficient power of flight compared with the rest of their congeners, owing to the larger proportionate size of their bodies.* The common domestic Goose flies much more strongly than its brother from China. Indeed of all Geese this is the worst flyer. There is no occasion to pinion *them*. While the Canada Goose thinks little of a journey from the North Pole or thereabouts to Great Britain, while the Egyptian Goose pays us occasional visits from Africa, while the merry little Laughing Goose, if tamed and allowed the use of its wings, is almost as much at ease in the air as a Pigeon, the China Goose can hardly manage to flutter across a lawn, to get out of the way of a frisky spaniel.

"Said the Tame Goose to the Wild one, 'On such a day I shall fly away.' Said the Wild Goose to the Tame one, 'I shall fly away on such a day, if it be the will of Allah.' At the appointed time the Wild Goose performed her yearly migration: the Tame Goose cannot fly to this day." If China, instead of Egypt, had produced the above fable, we should believe that the Anas cycnoïdes was the vainly boastful bird.

The large number of eggs laid by these birds has led some persons to imagine that, like Guinea-fowls, they were inexhaustible, so that when at last the Goose did make her nest in earnest (which may be known by her mixing her own down with the straw) no eggs had been reserved for the poor thing to sit upon. The best plan is to date the eggs with a pencil, as they are laid, and to consume only those which are more than three weeks old. They are usually very late with their broods, but will rear them well enough if they are allowed to take their own time, and do it after their own manner. My China Goose has now (June 1848) laid 30 eggs, without intimating any intention of sitting, but she has annually brought off a family for the last five years, and I doubt not she will again this season. When the fit comes, she will take possession of her milk-pan, which stands in a large boarded coop like a dog-kennel. Once duly enthroned there, she will maintain her seat with proper perseverance and tenacity. A neighbour discarded his China Goose because she was always found standing over her eggs, instead of sitting upon them. But those were only the preliminaries, the overture to the performance. Hurry no man's cattle; and you may as well try to hurry the Emperor, as the Goose, of China. Their time of incubation is five weeks. I have always found them steady sitters when they once begin in earnest, and exemplary parents. The Goose on leaving her nest to feed covers her eggs carefully. Any difficulty in rearing them results from want of proper management. If, for instance, when the bird does at length sit, she is insufficiently supplied with eggs, or with those which have been kept too long; or if she be permitted to be disturbed by dogs, &c.; if she be suffered to steal a nest, and sit on more than she can cover—things will go wrong. The great number of eggs laid may perhaps cause an uncertainty that each one is properly fecundated. A China Goose, after sitting a fortnight, was driven from her nest by a sow that had been permitted to get loose; the eggs were eaten, shells and all, and the poor bird expressed her agony of mind both by her cries and actions. After she became a little calm, her nest was remade and supplied with fresh eggs. She continued to sit for three weeks longer, as well as could be. At the end of the usual period of five weeks she gave up her task as useless, believing the eggs to be addled, which they were not; and we unfortunately knew no language by which we could persuade her that if she would only persevere for another fortnight, the reproach of barrenness would be taken away from her.

These are annoying cases to practical ornithotrophists. But even here the difficulty need not have been insurmountable; and where there's a will there's a way. A worthy old couple had the misfortune to have their sitting Goose killed in one of her daily promenades, a few days before the goslings were ready to leave the shell. What was to be done? The eggs were cooling fast; no time was to be lost. Difficult emergencies excite brilliant efforts of genius. In an instant the old man was undressed and in bed. To him the orphan eggs were transferred. When he grew tired of his lying in, the old lady took her turn till the goslings were safely hatched.

The prevailing colour of the plumage of the China Goose is a brown, which has aptly been compared to the colour of wheat. The different shades are very harmoniously blended, and are well relieved by the black tuberculated bill, and the pure white of the abdomen. Their movements on the water are graceful and swan-like. It is delightful to see them on a fine day in spring lashing the water, diving, rolling over through mere fun, and playing all sorts of antics. Slight variations occur in the colour of the feet and legs, some having them of a dull orange, others black: a delicate fringe of minute white feathers is occasionally seen at the base of the bill. These peculiarities are hereditarily transmitted, but do not amount to more than mere varieties. But the White China Goose, if it be not specifically distinct, is a variety so decidedly marked as to demand a separate notice.

The male is almost as much disproportionately larger than the female as the Musk-Drake is in comparison with his mate. He is much inclined to libertine wanderings, without, however, neglecting to pay proper attention at home. If there is any other gander on the same premises, they are sure to disagree: one of the two had better be got rid of. Both male and female are, perhaps, the most noisy of all Geese: at night the least footfall or motion in their neighbourhood is sufficient to call forth their clanging and resonant trumpetings. This, to a lone country house, is an advantage and a protection. Any fowl-stealer would be stunned with their din before he captured them alive, and the family must be deaf indeed that could sleep on through the alarm thus given. But by day it becomes a nuisance to the majority of hearers, and has caused them to be relinquished by many amateurs. One is inclined to address them as O'Connell did the uproarious fellow who was interrupting his speech, "I wish you had a hot potato in your mouth." Or they might take a lesson from Ælian's geese:—"Οἱ δὲ χῆνες διαμείβοντες τὸν Ταυρον τὸ ὄρος δεδοίκασι τοὺς ἀετοὺς, καὶ ἑκαστός γε ἀντῶν λίθον ἐνδακόντες, ἵνα μὴ κλάζωσιν, ὥσπεροῦν ἐμβαλόντες σφίσι στόμιον, διαπέτονται σιωπῶντες, καὶ τοὺς ἀετοὺς τὰ πολλὰ ταύτῃ διαλανθάνουσι."—*Book V. Chap.* 29. "The geese, when shifting about Mount Taurus, are afraid of the eagles, and each one of them taking a stone in its mouth, that they may not cry out, as if putting a gag upon themselves, fly through their course in silence, and in this manner generally quite escape the notice of the eagles." We, however, prefer that our geese should silence themselves with grass and corn.

The eggs of the China goose are somewhat less than those of the domestic kind, of a short oval, with a smooth thick shell, white, but slightly tinged with yellow at the smaller end. The goslings when first hatched are usually very strong. They are of a dirty green, like the colour produced by mixing Indian ink and yellow ochre, with darker patches here and there. The legs and feet are lead colour, but afterwards change to a dull red. If there is anything like good pasturage for them they require no further attention than what their parents will afford them. After a time a little grain will strengthen and forward them. If well fed they come to maturity very rapidly. In between three and four months from the time of their leaving the shell, they will be full grown and ready for the spit. They do not bear being shut up to fatten so well as common Geese, and therefore those destined for the table are the better for profuse hand feeding. Their flesh is well-flavoured, short, and tender; their eggs are excellent for cooking purposes. I have heard complaints of their being a short-lived species, from good authority, and that the ganders at least do not last more than ten or a dozen years. I cannot verify the fact, as my own experience with these birds extends only to about six years, but it is quite in opposition to the longevity ascribed to other Geese. Hybrids between them and the common Goose are prolific; the second or third cross is much prized by some farmers, particularly for their ganders: and in many flocks the blood of the China Goose may often be traced by the more erect gait of the birds accompanied by a faint stripe down the back of the neck. With the White-fronted Goose they also breed freely.

In the very clear and useful "Manual of British Vertebrate Animals," by the Rev. Leonard Jenyns, this bird is recorded as Cygnus Guineensis, or Guinea Swan, another synonym; though it is hesitatingly added, "Native country somewhat doubtful;" *D.*

* Professor Low, speaking of the effect of domestication on birds, says: "They lose the power of flight by the increased size of their abdomen, and the diminished power of their pectoral muscles; and other parts of their body are altered to suit this conformation. All their habits change; they lose the caution and sense of danger which, in their native state, they possessed. The male no longer retires with a single female to breed, but becomes polygamous, and his progeny lose the power and the will to regain the freedom of their race."—*The Domesticated Animals of the British Islands, Introduction*, p. liv.

MR. HUXTABLE'S FARM.

HAVING had an opportunity, the summer before last, of visiting some of the best cultivated farms in this country (probably in the world), there was one, that of the Rev. Mr. Huxtable, near Shaftesbury, that had a remarkable feature—great heaps of dung lying about, which the respected proprietor said he hardly knew what to do with, as the land had already become so rich, that the Wheat fell down in wet weather. Yet this farm grows Wheat every other year, that is to say, it is nearly one half in Wheat, yielding about 5 quarters an acre; equal to 2½ quarters or 10 bags per acre per annum. Now compare this with our Devonshire produce, which I think will average very little above 10 bags of Wheat per acre once in five years. If so, Mr. Huxtable's farm produces five times as much Wheat as our average; and yet has increased in richness so much that he has actually a superfluity of manure. It must be interesting to our farmers to know how this is effected.

The farm is about 95 acres; when he took it it was a dairy farm with only 10 acres arable, carrying 14 dairy cows, growing 48 bushels of Wheat and 40 of Beans, and employing three or four hands. It now produces 1600 bushels of Wheat yearly; fattens 40 head of cattle (including calves), 100 sheep, and 80 pigs; and keeps 12 labourers at work the year round; and this change was quickly made. Five years since, when many husbandmen were out of work, he ploughed up the land for the purpose of giving them employment; drained it, levelled the hedges (all but the boundary), and pared and burned the surface, and then tried how much stock he could keep, to raise the land to the highest fertility. After many contrivances he found that by flooring his cattle and sheep houses with boards, set a little apart, to let the liquid drain between (into a tank), they needed no litter; and being thus independent of straw, except for the stables, he might keep as many cattle and sheep as he could feed; in fact the straw saved from litter helped to make out the food. And beside the green crops and straw, he bought Linseed cake, which, while it quickened the fattening of his cattle, improved the quality of his dung. And by this means he brought his farm, in three years, into the high condition above stated. The liquid manure drained into the tank is pumped up to water the Rye-grass, and enable it to be cut four or five times a year, yielding altogether about 50 tons per acre, weighed green, equal to 10 or 12 tons of hay.

But there is an ingenious peculiarity in his management of the dung.

During the summer he turns up a good deal of the clay subsoil, and burns it in heaps slowly, so as to be just charred, quite crumbly, and as light as possible. This he spreads out, when extinguished, under long rough sheds (run up by his own labourers), and upon it a layer of the drained dung (free from straw as before said); then a second layer of burnt clay, and another of dung, and so on alternately. As there are several of these sheds, there is time for the burnt clay to absorb the rich drainings of the dung, and for the mere moisture to evaporate, before the next layer comes on; so that, with proper turning over, it gradually becomes quite crumbly, and fit to spread out broadcast, and turn under like lime and ashes, and thus to mix so thoroughly with the soil, as in fact to become a part of it, and its effect is proportionately quick and productive. And the estate now produces, as above said, more manure than it consumes.

This is not mere scientific speculation. Here we have the actual produce of 95 acres, raised in three years from 48 bushels Wheat, and 40 ditto Beans to 1600 bushels Wheat; and from 14 dairy cows with their calves, cheese and butter, to 40 head of fat cattle, 100 fat sheep, and 80 fat pigs; so that, if even one quarter of our tillage land was brought into this condition, our Wheat produce would be doubled; we should be exporters instead of importers, and all our husbandmen would be in full employ.

But it will be objected that such a result requires not only skill and exertion, but a large capital and heavy expense of labour. This is true; but not really an objection. There is, in fact, no more objectionable practice than the too common one of taking more land than we have capital for. If the soil is half-starved, and half tilled, it will return only half crops, and the farmer who entered worth little, will come out worth nothing, as hundreds can testify. And on the article of labour, Mr. Huxtable's object was not to see how much labour he could save, but how much he could use to advantage; that is, not only how much produce he could draw per acre, but how many hands his 95 acres would profitably employ; and gratefully do those acres repay his attention, while he is still better rewarded by the prosperity of the labourers in his parish.

The increase of his produce, and the management of his dung, are well worth our farmers' consideration. If they would be content to take no more land than they can afford to work properly, they would have less anxiety and more comfort; and the land and the country would advance in produce and prosperity; *J. Prideaux.*

Home Correspondence.

Crops at Wix.—As I am very anxious to convey correct information, I must make a little correction of my last communication to you on my Wheat crop. That article was written some weeks since, though only published on the 19th August. When I wrote it, it was the opinion of myself and of a gentleman on whose judgment I place great reliance, that my crop this year was equal, if not better, than that which I grew last year; but now my opinion is that both he and myself may have rather overrated the yield at 6 quarters an acre; but I am still decidedly of opinion that I shall have more than 5 quarters. I wish to state also that a part of my Wheat was drilled and a part was dibbed, and that the dibbed was much the better crop. It should be remembered also that the former was seeded with 12 and the latter with 8 quarts an acre, except a very small plot which was dibbed by hand only at the rate of 5 quarts an acre. I wish it to be borne in mind also that this is my third crop of Wheat in succession on the same land; and that, should my present crop not exceed 10 coombs an acre, though I do not fear but it will, in three succeeding crops of Wheat I shall have grown full 33 coombs, or 16½ quarters, of fine Wheat an acre, and from a less quantity of seed for each crop than, I believe, was ever before used in this country. Let it also be borne in mind that the general average of yield over the seed sown throughout England, for one Wheat crop in every four years, does not exceed nine-fold, whereas my dibbed Wheat this year will yield, I doubt not, full 176-fold. Now, as these are facts admitting of demonstrative proof, I will challenge the advocates of shallow draining, shallow ploughing, and thick seeding to do likewise by their system, if they can. But do I recommend a succession of crops of Wheat after Wheat? By no means, unless my entire system be followed; but in that case I have proved that it may be done, and with very great profit to the farmer, and with only a little more injury to the soil than is caused by the ordinary mode of cropping. But on this subject I must write another day; I now merely add, that my system is simple, easy

of practice, sure in its results, and above all, profitable to whomever may adopt it. In conclusion, let me add my decided conviction of the correctness of the description of the Potato pest which was published by my friend Mr. H. Davis. Six weeks since, Mr. H. Davis and several other highly-talented gentlemen and my humble self, minutely and scientifically examined a large breadth of Potato plants; and however healthy the haulm might appear to the eye, every plant we examined was decidedly affected with the pest. From that time to the present, either alone or in company with other scientific men, I have examined every plot or field of Potatoes which looked healthy which I have been near, and I now again affirm, what I have written over and over again, that I have not found for the last six weeks a single plant of Potatoes entirely free from disease. I also give it as my decided opinion that Mr. Davis is quite right in affirming that the "first affection is in immediate contact with the old set, and that the disease spreads upwards." In Essex, Kent, Sussex, and Surrey I have examined many hundreds, and I think I may write many thousands of plants, and in every one, without exception, the root was affected, though the haulm might have appeared beautifully green and healthy. Mr. Bree, of Stowmarket, disputes this point; but if he will pay me a visit, I will show him a field of Potatoes planted by myself at Midsummer which has the most healthy appearance possible; yet on applying Mr. Davis's test of the crop by examining the roots, every plant will clearly exhibit disease. The pest first attacks and destroys the roots, then ascends to the haulm and destroys that, and lastly it seizes upon the tubers, and then its work is done. I repeat, that the disease never shows itself on the haulm until the roots are destroyed; and of this every man may convince himself, if he will pull up a healthy-looking plant and examine the root; in that case he will be sure to find disease; *George Wilkins.*

To Dry Damp Corn —I have seen with regret a great deal of corn standing in the fields, sustaining injury, in consequence of the farmer being obliged to wait for a hot sun or a drying wind. In this age of improvement I think the farmer ought not to be dependent on the weather; in all parts there is an abundant crop, and Nature having been so far kind, it becomes the duty of man to exercise his reason, and see if he cannot, by artificial and simple means, render that corn which is now spoiling in the fields fit for the stack or barn. The following plan would, I think, be found useful, and if you give it a place in your *Gazette*, some of your readers may so improve upon it as to produce the something that is so much required. Most farmers have a spare shed or stable, and, if they have not, self-interest will cause them (for the time necessary) to spare a room of some sort. On the outside of this room I propose a fireplace should be formed, like the furnace under a brewing or washing copper; but, instead of fixing a copper over the fire, I would fix horizontally an iron pipe, 9, 10, or 12 inches in diameter; one end of this pipe should enter the room or shed intended for drying, and the other be outside the building and fitted with a rotatory fan-bellows (such are now common with iron founders), the fans of this machine could be made to revolve so rapidly that the atmospheric air would be forced or driven in large quantities through the iron pipe, which being heated, as before described, the temperature of the room might be raised to any degree. On the end of the pipe entering the room I would fix a perforated zinc or iron pipe, the length of the room, for the purpose of carrying the hot air and diffusing it equally to all parts; in the roof or ceiling places should be so formed as to allow the escape of all vapour. A room fitted as I have described might be filled with damp corn, and, within an hour, the same would be fit for the rick or flail; *George Jennings*, 29, *Charlotte-street, Blackfriars Road.*

Chicken Hatching.—Your correspondent "A. C.," who has favoured your readers with a very able and interesting article on the subject, with the promise of a second, will possibly oblige us with some little elucidation on one point. My edition of Reaumur's little work is dated 1751, which in the preface promises a second, enlarged; but my copy contains no such diagram as that representing Egyptian ovens, in p. 529, nor any account of their operation. Your correspondent denies that the heat is communicated to the lower chamber through the opening in the roof [its roof]. Why, let me enquire, is it impossible, for the heat to descend into and through the roof of the lower chamber from the upper? This appears to be the principle upon which these ovens act, the lower oven being the less hot of the two, for which reason, I suppose, the eggs (after 10 days,) are removed to the upper floor. In Brown's "Travels in Africa," will be found another account of these ovens; "they are built with brick, about 9 feet high, with a gallery in the middle, 3 feet wide and 8 feet high; on either side of which is a double row of rooms, each 3 feet wide, 4 or 5 feet high, and 12 or 15 feet long and each capable of containing from 4000 to 5000 eggs, so as not to touch each other, on a mat or bed of Flax." At the outside of one angle there is a fire-place, from which the heat is conveyed to both stories by flues, lighted during 3 or 4 hours daily at intervals; as the fuel burns away, it is renewed two or three times a day, and as often at night, with the precaution each time for a short interval to open the aperture in the roof, both for the purpose of refreshing the atmosphere within, and for moderating the first impression of the heat upon the eggs. Other accounts say, that the eggs are placed in the rooms or cells that are to serve for the first brood, as the whole of the ovens are never employed at once on the same brood, but one half only. The eggs are ranged three deep in the lower rooms of each oven, on a bed of chopped litter and sand. These are after 10 days removed into the upper ones, and the second brood is forwarded by placing fresh eggs in the inferior rooms left empty; *D. S. E.*

Cabbages.—Having found the following plan very successful last year, I am repeating it this season, and recommend it for the consideration of your readers. It is to plough up an acre or two of Wheat stubble, clean and lay in ridges, put between the ridges plenty of rotten dung, split the ridges, roll with a light roller and then plant in the ridges over the dung Cabbages of any sort that will stand the winter. Coss, Drumhead, or even the Savoy. They should be good sized plants, and by Christmas will be good food for moich cattle or early lambs. After the Cabbages the ground will be clear for roots or Italian Rye-grass. Or on a Bean stubble, to be followed in February by spring Wheat; *T. P. B. M.*

Winter Beans, Salt, &c. — At this season some information respecting Winter Beans and Peas, from those who have had experience in the cultivation of them, would be very acceptable to many of your subscribers, resident in districts in which they have been but very partially introduced. The best varieties for seed; the proper time and best mode of planting; whether generally more or less productive than the common Bean; the usual time of harvesting, and particularly the condition of the crop of this and the year 1847, as compared with the spring sown crops, which have been unusually deficient, more particularly the year 1847. This season the spring grown Beans within my own observation had a most healthy and promising appearance up to the beginning of August, after which the leaves turned black very rapidly, very much in appearance like the Potatoes, and they have now entirely disappeared, though the stems remain green; and the fruit having been nearly matured does not appear much affected, though the late blossoms towards the top of the stem have been unproductive. If this be an epidemic prevailing at a particular period of the year, and not referable to a particular stage of maturity of the plant, that would be a very influential consideration in favour of planting at the season which would insure the earliest maturity. On the subject of Beans I will state a fact I am somewhat at a loss to account for. I determined, rather late in the season, to plant with Beans a field of the condition of which I entertained some doubt, though it bore a fair crop of Wheat the preceding year. On walking close to the fence last week, I came upon two stakes about 12 paces apart, indicating the interval had been the subject of some experiment I had forgotten. I had no difficulty in tracing the margins of this space all across the field, the haulm being much shorter and thinner, and the fruit certainly not exceeding half that on the lands on either side. All I remembered was, that the Beans had been drilled through out with bones dissolved in sulphuric acid, and about 20 bushels of ashes to the acre. I met the carter, and asked him what these stakes had been inserted for; and he reminded me I had ordered 3 cwt. to the acre of salt to be sown broadcast over the field prior to its being harrowed, and that a breadth of a few feet should be left all across the field not salted, in order to ascertain whether there was any difference in the crop. Had this portion been left without the other manure I should not have been so much struck, but the man who drilled the manure tells me that was distributed throughout equally. I cannot believe that so remarkable a difference could have been occasioned by the absence of salt merely, but the fact warrants a repetition of the experiment by observers in such matters; *C. L., Cirencester.*

Woollen Rags.—The value of woollen rags varies from 7*s.* to 14*s.* per pack, that is 240 lbs. If the demand for woollen flocks be brisk, they will be worth the higher price. There are large quantities made at paper mills, such as are sorted out of common rags, the lesser pieces, such as tailors' parings, old roller coverings, and many other bits all go to the middēn, the larger pieces are bagged up for manufacturing purposes. The heaps or middens which are made at paper manufactories may be bought for half the value of stable manure, if the parties do not throw them into the river or brook, as I used to do. Of late the Irish pedlers are on the look out for these heaps, which they often purchase and send into Worcestershire for the Hop growers; this transit led me to believe if woollen rags would grow Hops in Worcestershire, they would grow something or other in Derbyshire. Last year I put a pack of the larger rags through my straw cutter, which is turned by water power. The time it took in cutting them was 20 minutes. I applied them to a piece of common land which had never been broken up, grown over with the Agrostis tribe of Grasses. The measurement I strewed over with this chop was 80 yards by 80 yards. The land adjoining I limed two years since —it cost me 7*s.* per ton, 10 tons to the acre. Another portion I bone-dusted at the rate of 80 measures to the acre. The limed part is not to be compared with the other two. For meadow land I apply the same bulk of woollens as stable or cow manure, a heap every 6 yards by 4 yards, and what is lying on the Grass in April I rake off and make a fresh midden till I want them. It will take 7 years to rot them into mould. I have tried lime mixed up with them, a layer of lime and a layer of rags, turned over after they have been mixed about 4 months: this plan will rot them in one season, but I find they are not so good as used by themselves, the lime killing the greasy matter and other ingredients injuring their fertilising qualities. These rags cost me from 10*s.* to 20*s.* per pack; they cost with other rags which are imported upon paper makers by rag dealers, being a material that will not be manufactured into paper. Dry woollens put through a straw cutter are excellent manure for pasture land; *R. S., Hayfield.*

Gradual Rising or Heaving up of the Bed of Rivers; Formation of Sand-banks and Bars.— In order to treat this article within the limits of a newspaper communication matter is necessary omitted. My attention was lately directed to this subject by a statement, showing that some discoveries have recently been made upon the Shannon of the Thames and the depth compared with its depths recorded a century ago, the difference being in some parts several feet. Formerly this was attributed to the contracted space of the arches of London bridge, with its "starlings," as they are called, but projections reaching several hundred yards [1] into the river from the piers of the new bridges, constructed for the purpose of a "pier," to retain the reflux of the tide at high water, for the better supply of the old waterworks. But since the removal of those formidable obstructions, the depth has become rather shallower, and some attribute this to the great increase of steam boat piers. But are there no other causes for these effects than bridges, starlings, and steamboat piers? There, however, may in a slight degree assist in creating large accumulations of mud upon certain spots, which require the aid of trade boats, hand-dredgers, and steam-power to remove from time to time. A careful examination of the area of artificial gravitation, and a knowledge of facts connected with other rivers in different parts of the world, will afford a solution of the question. Extraordinary changes are from time to time observable, particularly at the embouchures of most rivers, where new sand-banks are continually forming and shifting, tremendous bars created, and once streams that half a century back were navigable for ships of the largest tonnage, are now almost choked up, as the Severn above Gloucester, the Stour at Sandwich, Rye Harbour, &c. &c. I was led to my own conclusions after visiting some of the great rivers in Portugal and Spain, the Minho, the Douro, the Mondego, and the Tagus. The Mondego offers probably the most wonderful example on record of the gradual rising of the bed of a river an extraordinary number of feet above its primitive level, and which I do not recollect to have seen recorded or accounted for by any traveller. This noble and romantic river, flowing from Spain through the breadth of Portugal, at Coimbra runs in a deep bed, environed in a comparatively narrow ravine, between two lofty verdant declivities, like the picturesque Vine-trellised banks of the Douro. These lofty banks are composed of long successions of enormous "steppes" or terraces, communicating with each other by flights of small stairs, built gradually, and at vast expence—the saviour of past ages—of massive stone masonry, forming immense hanging gardens in the highest state of cultivation, succeeding one another to the very summits; these are embellished with Vines, Orange, Lemon, and Lime trees, Pomegranates, with all other fruits, and the fragrant evergreens, and present a scene of perpetual verdure most beautiful and enchanting. The two sides at the city are united—marvellous to relate, though no less true—by three bridges upon one and the same foundation, built over and upon each other. The roadways up each of these declivities are paved, taking zig-zag courses, in order to break the otherwise too great perpendicular, supported on either side by ponderous stone walls, probably the work of the Moors several centuries by-gone. From time immemorial the bed of this river has continued to fill up, until the arches of the bridge were choked up; its stream passing over the parapet submerged the causeway, when it became requisite to build another bridge over that or those previously existing. The country people imagine that the bridges had sunk during some unrecorded earthquake; but such is not the case, as this and analogous phenomena occurring, although in a less perceptible degree in the Thames—in all rivers, may be accounted for more easily than at first imagined. First, it had long been observed, that as cultivation progressed along the course of this river and the Tagus, and the banks in a great number of localities had been raised to prevent overflows, so had great alterations occurred in adjacent grounds, which gave rise from time to time to most extraordinary lawsuits. One man's land, it was alleged, had been damaged by the dykes erected by another for the purposes of irrigation, or by precautions of another to secure his from inundation. Possibly if there were records in being that could be consulted, the origin of the Goodwin sands off the coast of Margate, might be ascertained, and the dreadful calamity, which in one night-storm submerged several hundreds of acres belonging to the estate of the Earl of that name. Secondly, as cultivation continued to spread far and wide along the margins of these rivers, a very great extent of their wide spread lagunes and marshes having been drained for tillage, they have been by degrees deprived of their natural arteries and reservoirs, which formerly absorbed for a time or retained a large portion of mud and slush, and all superabundant overflows at the winter season, during the "freshes" after the rainy season, or melting of the snows on the mountain tops for hundreds of miles along the banks. As with the animal frame, which would become surcharged with blood had not the great Designer and Organiser appointed the spleen to be the reservoir of any superfluity, and thus prevent too great irregularity in the circula-

tion, or pressure upon the delicate vessels which convey it over the system; so with a river, its tributaries, marshes, and lakes, are so many great reservoirs along its course for keeping up a continuous, gradual, and equable flow of the waters down its stream. Whilst these natural outlets and receptacles existed, those vast accumulations of mud, grit, and sand, constantly hurried down from the high lands and mountains, formerly mixed with the troubled turbid waters, and were carried and distributed over the adjacent lands, rendering them rich and fertile beyond conception, instead of being deposited on its bed, creating now annually a fresh layer of hard concrete, never after to be removed. Thirdly, in rivers up which the tides flow like the Thames, each reflux causing a return of a large proportion of these matters, which settle and collect into huge sand banks, or create formidable "bars" near their confluences with the ocean; *D. S. E.*

Management of a Small Farm.—A word of warning may save "S." from disappointment and serious loss, that would be felt by his children as well as himself. His plans are nearly such as would be laid out by a gentleman mainly desirous of healthy and innocent occupation, and the liberal supply of his own table, but to whom it is no object to make the most of everything. No very small farm can maintain a large family, unless the occupier himself holds the plough-tail, takes a turn at pig-jobbing and horse-dealing whenever he has a lucky opportunity, and sends his wife or daughter to keep the nearest country market. The profit from bees, in this climate of late springs, rainy summers, and mild winters, is always uncertain; but is sure to become a vanishing quantity, unless some member of the family understands their management and pays them daily attention. It is of no use to set a few stocks of bees in one corner of the garden in spring, and to expect to find them in autumn full of honey, as a matter of course. The best way to begin bee-keeping is to procure in June, or early in July, a strong swarm in a flat-topped straw hive, on the depriving principle, and try what success is obtained with that. The scheme of shutting 100 choice hens in enclosures to lay eggs will never answer. "S." may soon lay out 50*l.* in poultry stock, which he will never see back again. Modes of fowl management that succeed in hot countries, fail in Great Britain. Large profits are not made by those who usually rear chickens, but by the travelling dealers who scour the country and buy, for the lowest farthing they can get them, small lots here and there, either disposing of them immediately at advanced prices, or shutting them up at once to be fatted for market. The rearing of turkeys and geese, under suitable circumstances, is attended with greater advantage to small occupiers. Let "S." procure a dozen healthy chickens from a neighbour; these will lay and sit next spring. Turkeys' eggs may then be bought for 2*d.* or 3*d.* each, and he may thus cheaply secure a stock of those birds. Pigeons and rabbits have been repeatedly calculated to cost as much in food as they are worth, though they are pretty, amusing, and convenient things to have in a farm-house. What fruit and vegetables should "S." have to spare from his farm, if he allows his family and his pigs to eat any? One breeding sow will be found quite enough, but she and her litters will want some milk, and, therefore, Alderney cows will not do, giving so little in quantity, besides being of too tender a constitution, except for the southern parts of the kingdom. As much money may be got rid of in fancy cows as in fancy horses; a small farmer or quiet private individual had better select a few good specimens of the sort kept nearest to him, than to set about importing from Kerry or the Channel Islands. Advice similar in its purport may be given respecting pigs; and, however unwelcome this paragraph may sound, it is more real kindness to print it than to suffer a person with the habits and ideas of a gentleman to enter without a caution upon an undertaking for which he will find himself unsuited; *D.*

Kohl Rabi.—In your Paper for this week much is said in favour of Kohl Rabi. I sowed some seed of both varieties, the green and the purple, the first week in April last. The seed came up extremely well; but as the birds took a great fancy to it, I was obliged to have recourse to transplanting to fill up the vacancies. Now although the ground was in good order and well manured, scarcely any of the plants have formed bulbs larger than the size of an egg. A few that have been top-dressed with guano, and again with bones and sulphuric acid, have been persuaded to swell to the size of a cricket ball. The leaves of all are enormous, but their bodies do not yet exhibit the aldermanic proportions I have been led to expect. No doubt they will grow somewhat larger, still they do not as yet strike me as anything remarkable as food for cattle. Perhaps some of your contributors would kindly give us a full account of their cultivation, stating whether the green or purple variety is the best, the most proper time to sow, the best kind of soil, manure, distance between rows, space between plant and plant, and the weight per acre and average weight of each bulb such cultivation ought to produce in Yorkshire; *A. B. C.*

Fish Waste.—In your Paper of last week Mr. Carter has some excellent practical observations on converting fish waste, &c., into a kind of guano. I fully confirm Mr. C.'s statement respecting this manure, having used a considerable quantity of it for several seasons with good effect. My method of preparing it is to collect and cart a quantity of earth from the borders of the fields, say 50 loads or tons, into a heap, leaving the middle of it rather hollow; I then cart on about the same quantity of farm-yard manure, on the top of which we put 5 tons of fish, which cost 25*s.* per ton, according to quality, over which is put a layer of salt, about a ton, at the cost of 30*s.*, and covered with earth 6 inches to 12 inches in thickness. In the course of a fortnight the fermentation from the manure dissolves the fish, also destroying all seeds and insects. It is then turned over, taking care to keep what is left of the fish and salt as much as possible on the top of the heap. In a week it is fit to cart and spread for the crop; *John Sayers, Field Dalling.*

The Pheasant Breed.—"W." says that half bred cock birds which he saw bore a stronger resemblance to the pheasant than the hens. Does this tend to prove that breeds of fowls, in which the cocks do not bear the slightest resemblance to the pheasant, have an admixture of pheasant blood? It is well known that the pheasant and common hen will produce mules, called peros, but I believe that it is equally certain that they are not fertile among themselves, though they will breed either with the true pheasant or common fowl. Then the question arises, would fowls that had so slight an admixture of pheasant blood as to breed with themselves be of necessity everlasting layers? I incline to think not, unless the crossing had been carried on with some breed of everlasting layers, such as the Spanish or black Poland, breeds which do not bear any resemblance to the pheasant; and, that proved, we may have everlasting layers that do not show any signs of such a cross. How comes it that most of the everlasting layers with which we are acquainted either have large top knots, or unusually large combs. The mule birds that I have seen had unusually small combs. Any one who will look at the representation of the Gallus ———— in the "Penny Cyclopædia," or will read the description of the gigantic cock (in the same work), with his mottled breast, need not be at a loss to account for the pheasant Malays, and other gold or silver spangled breeds. The article "Pheasant" will be found well worth perusing by all who take an interest in this question; *B.*

Farmers' Clubs.

DARLINGTON, *Aug. 7*: *The Harvesting of Wheat and other grain crops.*

Mr. TROTTER was quite convinced that cutting Wheat by the sickle was the best method; and then, as was customary in this country as soon as it was cut, to stook it up, and hood the stooks properly; and in order to do this to the best advantage, there should only be ten sheaves in each stook. As regarded Barley, Oats, and Beans, he was in the habit of cutting them generally by the scythe, when the crop was not too heavy: last year, however, on visiting a friend at some distance, he found him having all his Oats and Barley cut by the scythe, if even the crops were heavy and lodged; but the real fact was, that in this part of the country, he believed we had not so good a method of mowing as his friend's men had. In heavy and lodged crops they mowed it all against the corn with a scythe and a bow, and made good work. Under all ordinary circumstances he would therefore say, that he considered mowing of Oats, Barley, and Beans preferable to sickle reaping.—Mr. DIXON did not think that the observations of Mr. Trotter embraced the whole question; he therefore read a memorandum containing his view of the matter and relative to the proper time of reaping. In "The harvesting of Wheat and other grain crops; with the comparative advantage of mowing and sickle reaping," there are several circumstances in connection which claim consideration. In the first place, there is to be considered the proper time for reaping, as regards the requisite degree of ripeness; then, the best mode of winning or drying the crop, by proper stooking, or otherwise, in order to get it into a proper state for stacking, to the greatest advantage in the least time. There is also the question as to which is most advantageous and least expensive, mowing or reaping by the sickle; both as regards winning, stacking, threshing, and dressing. And, likewise, it is worthy of a consideration, as to which mode is most beneficial or otherwise to the land producing such crop. First, as regards the proper time for reaping, as to ripeness of the grain. In the Wheat crop, my opinion is, that it should be cut a little before it is full ripe, just when it first turns yellow, or rather is turning from green to yellow, and is in the state which we term rather raw or rear. Upon the cold clay lands at this time there are generally portions of the crop in and near the furrows which are rather green, but still if the straw is ripe from the bottom, and has at that time turned yellow above the ground, up to the place where it is cut by the scythe or sickle, then the sap remaining will rise up the straw and feed the ear quite as well as if it were altogether yellow. Besides, if the crop were allowed to stand on these kinds of lands until yellow in all parts of the furrows, then on the ridges it would be too ripe. There are different reasons why the Wheat crop should not remain uncut till full ripe. In the first place, Wheat that stands until full ripe is more easily affected by wet weather; it sprouts much sooner in the stook in a rainy season than it does if cut raw. In the sample of a crop of Wheat, where part is cut full ripe and part cut raw, it will be found that the part cut raw will be a brighter, plumper, and more beautiful looking sample, and will also weigh heavier; whilst in the part cut full ripe, the sample will be browner, thicker skinned, and will weigh rather less. In the reaping, whether mown or cut by the sickle, the part cut rather raw will take up, incomparably, cleaner and with less waste, than if full ripe. A few years ago Mr. Hannam, of North Deighton, near Wetherby, made a series of experiments as to the proper time of reaping Wheat, which were very conclusive as to the advantage of cutting it before full ripe. One part which was cut raw on the 26th of August, and stacked on the 5th of September, gave a return of 14*l.* 18*s.* per acre. Another part reaped not quite so raw on the 30th of August, and stacked on the 9th of September, gave a return of 12*l.* 17*s.* 4*d.*; whilst the part cut ripe on the 9th of September, and stacked on the 17th, gave a return of 12*l.* 11*s.* 8*d.* per acre only, being a loss of 2*l.* 6*s.* 4*d.* as compared with the part cut raw. The straw was also of much better quality on the part cut raw. In the harvesting of Oats, also, it is well to guard against having the crop too ripe before reaping, as there is in this case a waste in reaping and winning, and the straw is also deteriorated in quality. In the harvesting of Barley, however, the case is somewhat different, for, in order to have the quality good for malting purposes, it is necessary to have the crop fully and evenly ripe. It also requires a longer time to dry and win properly than Wheat, and also close attention in the winning. As regards the comparative merits of mowing and reaping with the sickle, much must depend whether the crop be heavy or light, lodged or standing. In reaping the Barley and Oat crops I think the scythe preferable to the sickle in all ordinary cases, because the crop can be done for less cost, and I believe it also is ready for stacking in about one-fourth less time. There are frequently other advantages besides those which I have already named as to mowing grain crops. In a farm establishment it often happens that it may be convenient to have a field mown when it is inconvenient to spare hands to bind and stook it up on the same day; and if the weather be suitable perhaps it may be an advantage in the winning. In some establishments also there are hands who are not good sickle reapers, but who are, perhaps, good hands at mowing, gathering, and dressing up a crop after the scythe. In the Wheat crop, however, I am not quite so certain if mowing will generally answer so good a purpose as sickle reaping; and I think there are some rather formidable objections against it. If the crop be heavy, I believe it can be reaped with the sickle very nearly at the same expense, besides being more neatly accomplished; or, in cases where the crop is thin and light, it cannot be done so neatly, without raking, as it can with the sickle. Besides, there is another question arises, but more particularly on thin land, as to the effects on the land, and which appears to me to be a question of some importance. I have at different times observed that where part of a field has been mown, and another part of the same field cut by the sickle, that in the succeeding crop there has been a great deficiency of produce on the part of the field on which the Wheat crop had been mown, as compared with the part cut with the sickle, perhaps to the extent of five bushels per acre. This could only arise from the part mown being cut much nearer the ground than the part reaped by the sickle. I cannot explain why it was so; whether it was in consequence of the land reaped by the sickle having considerably more stubble upon it, it had a beneficial effect through the autumn and early part of winter in keeping the land warm, mellow, or in preventing the escape of ammonia; or whether the lower part of the straw or stubble contains a considerable quantity of inorganic matter which is beneficial to the succeeding crop, I cannot tell; but, from observation, I am enabled to say, that such is the fact upon clay land.—Mr. CLARKSON observed that, by mowing, the crop was got up at half the expense of sickle-reaping. And in fact he would not have a sickle put into his farm on any consideration. By mowing it he got all into the fold, and lost nothing by gleaners.

EAST ILSLEY, *Aug. 16*: *The most advantageous mode of growing Turnips*.—ALFRED COLES, Esq., Snelsmore Hill West, introduced the subject.

The practice of drilling being now established on sound principles, and sanctioned by experience, is progressively increasing, much to the advantage of the farmer; but ridging for the early crops of Swedes is not so generally practised in this neighbourhood as he could wish to see; there was no doubt as to the great saving of time, if performed in a judicious manner, by first dividing the grounds into sections, according to the number of acres to be ridged, so soon as the quantity of manure, as well as the number of heaps are ascertained, to obviate the necessity of crossing the ridges during the performance of the necessary labour; thus arranged, with eight horses, and the usual number of men and lads, four acres per day can be finished off. Another great advantage the ridge system has—the dreaded fly does not commit its wonted ravages so certain as upon the flat, particularly if the seed is drilled thick (not less than 4 or 5 lbs.) per acre, and that manure is not spared in the ridges; bone-dust and prepared farm dung, turned at least once in the spring, thus quickening the seed's growth, and rendering the plant less attractive to the insect, after the Swedes are strong up, to use the horse-hoe and single out immediately. Since the introduction of special manures, the quantity of Turnip growing has been greatly increased. The Swedish bears the frost well, and will if stored keep till June; it is generally consumed by the highest priced stock on the farm; it is rather more expensive to raise than other kinds, requiring more manure. The Hybrid and Yellow Bullock and Aberdeen Yellow come next in order as to feeding qualities, and approach nearest the Swedish; they have the advantage of being adapted for lighter soils, and can be sown later. All descriptions of soil are now made to grow Turnips; and they have become so necessary to the raising of dung and feeding of cattle and sheep that a farmer cannot carry on his business to advantage without them; all stock are kept healthy, when judiciously fed with them, and when eaten off by sheep they increase the following crops to a great degree. The land is ploughed before winter and again early in the spring, in April, May, or June; the land, with frequent stirrings with the plough, harrows, and scarifier, is made as fine and clean as possible. I find the latter implement very useful in assisting to prepare the land well; it is expeditious and drags the quickens and other weeds to the top, where the sun and air act powerfully upon them. I think the land cannot well be reduced too fine for producing the Turnip. The distance of the drills for Swedes, as well as of most other sorts, varies from 26 to 30 inches in width. If these matters are attended to, I believe there will not be very many failures, making allowance for weather.—*Amicus.*

Reviews.

A Plain Address to the Labouring Classes on the Advantages of Savings' Banks and Friendly Societies. Reading: J. Hatton.

This is a useful little tract, intended for distribution among those whom it is likely to benefit, viz., the industrious classes. The amelioration of the lot of the poor and labouring classes by means of "Savings," is one of those problems which, in every country, have much occupied the minds of men devoted to philanthropical studies, among whom the name of Dr. Chalmers ranks foremost in our own. It has, too, been well observed by an able writer on this subject, that of all the plans devised for bettering the condition of the labouring classes, not one has so successfully promoted that end as the establishment of savings' banks. The Society for the Improvement of the Labouring Classes had this in view, in the institution of a model benefit society, which however has failed to attain, much less to supersede, the advantages of savings' banks. On this point a writer in a recent number of "Chambers' Journal," observes, "It occurred to us that, so far as the saving of money among the poor was concerned, instead of the society setting on foot an institution like their model benefit society, the object they had in view might have been served if they had endeavoured to diffuse among the working classes the advantages which the ordinary savings' banks offered for parties who had the opportunity and the wish to save money, the savings' banks being far superior to any private and kindred institution that we know of, especially in the unexceptionable security which they give to depositors for the safety of their savings." The address before us is to our rural population especiallly, and as a proof of the favourable regard for these institutions entertained by the agricultural body, we may instance the premiums awarded by agricultural societies at their annual meetings to the farm labourer or domestic servant who has been the longest and most regular depositor in a

savings' bank or member of a friendly society; and a writer of ample opportunities for observation remarks, that "he never knew an instance of one who had saved money coming to the parish."

The advantages arising to the industrious classes from the saving of a portion of their earnings, are as varied as the roads they themselves take in journeying through life, and are fully pointed out in the address. Savings' banks and friendly societies afford the means in particular of providing against the hour of sickness. If then disease enters the dwellings of the humbler classes, it is to be feared that not only is its entrance facilitated, but its continuance protracted, or its termination rendered fatal, from the absence of adequate regimen and attention; and if the sufferer happens to be the head or the support of a family, the consequences are tenfold more disastrous: poverty is superadded to the other ills, already sufficiently severe, which had fallen to their lot; and instead of possessing the comforts requisite in sickness, they have not the common necessaries of health. The man who, in such circumstances, is possessed of a fund accumulated by his previous frugality, requires no evidence of the propriety of saving a portion of his earnings, or of the value of institutions whose object it is to aid him in this great work. In the winter of life, too, the man who has husbanded the resources of his earlier days is in possession of the means of tempering the unavoidable evils of his position. These institutions, besides, introduce him who had previously nothing into the class of those who have something; they make him interested in the preservation of the common fortune, and thus are they an element of public peace.

Such being among the objects and advantages of savings' banks and friendly societies, it becomes the duty of all, but especially of those possessing influence, or who, from their position, have peculiar opportunities of intercourse with the industrious classes, to bring frequently and prominently before them the invaluable purposes which these institutions are calculated to effect. Let employers recommend savings' banks and friendly societies to the employed, and they will find an ample reward, not only in doing good, but in the happy results which will arise to themselves, in the improved condition and elevated character of their labourers. Clergymen, also, from their position in society, have within their reach the accomplishment of much good either in disseminating information respecting these institutions; by the establishment of them, where not previously established, within their respective spheres of operation, or by tending them their countenance and support, where already in existence.

We may add that copies of the above tract are supplied at a cheap rate (6*s.* per 100), to give it a wide circulation; and we would especially urge the present time, when work is plentiful and wages good, as a favourable opportunity for its distribution by those who interest themselves in the welfare of the labouring classes.

Miscellaneous.

Which is the most Profitable Breed of Sheep.—Which is the most profitable breed of sheep, is a question often proposed—never solved. Many are the reasons given for preference of certain breeds on behalf of different localities, and many experiments have been tried to test relative merits. These have been principally tried on equality of terms, the natural habits of the animals being left out of sight, so that the results have been pretty equally varied and unsatisfactory; no sound conclusion having as yet been arrived at. It is a subject of great interest in itself, and certainly one of vast importance to a country so thickly populated as our own happy land. The attention of most of our enterprising and energetic agriculturists has been turned to the increased productions of our arable fields; this is perfectly right, and no one appreciates more highly the great advances made than myself. I am also well aware of the intimate connection between the two, from the increase of animal food on these arable lands; they must go hand-in-hand to a great extent; but if it can be shown that certain animals—a particular breed of sheep, for instance—will produce a more abundant supply of food for man, or clothing for his use, then that is the very breed deserving most encouragement, despite of favoured prejudices. I presume not to direct: my object is to promote inquiry. I farm in a district altogether enclosed, and our fields are for the most part of convenient size. Our sheep graze undisturbed; where they feed, there they lie down, and rest in quiet. It is not so with the open field or Down farmer; his sheep travel from field to down, from down to field daily. This requires activity; he requires an animal with light, elastic tread. I say nothing of this mode of farming! Query: What is the loss sustained in fat and muscle by this weary travel? The mountain range appears to require an agile, hardy animal; but have the little animals generally found on these summits undergone all improvement of which they are capable? The bleak and elevated parts of the High Peak of Derbyshire are grazed by sheep of fair size and proportions; and the Cotswold Hills, which are about 700 feet above "sea level," boast the largest sheep in the world. I by no means question the propriety of suiting the animal to the locality or purpose required; but I do seriously object to grazing inferior animals on any pasture, country, or place where a superior can be introduced: to this I desire to direct particular attention, as a subject of no minor importance. I hesitate to give an opinion, but as I occasionally see sheep of every variety, from the little mountain sheep to the gigantic Cotswold, fattening on our best pastures, I will say that, so far as my observation and experience go, they fatten in about the same time; indeed, with animals of the same age, the larger one generally improves the faster. He is more indisposed to exertion, resting more quietly; and in the consumption of food, the balance is not much in favour of the smaller animal; his 'active habits cause him to eat more, and his restless feet destroy much. I need not stay to prove that an active, lively animal will consume more food than a quiet, docile one: it is an axiom. My impression further is, that the little active one will consume and waste (by treading) as much or even more food than the large, quiet, docile one; and I invariably find the larger animal to be the quieter one. My own prepossession is in favour of a large breed of animals, as believing that they come to grow to—a heavier weight in the shortest time, upon proportionably the least food. With the view of exciting discussion on these points, and consequent improvement, I send you the following dimensions of sheep taken at the late York meeting. I withhold the numbers, at least for the present, as I have no wish to come into collision with individual exhibitors. The whole were fairly and carefully taken before the prizes were declared, and in utter ignorance as to whom each animal belonged. I would further say, that I had ample time to make my selection, which, with two or three exceptions, were the largest sheep in each class.

Admeasurement of Sheep in Class at York Meeting, taken before the Prizes were declared:

Breed.	Class.	Age.	Girth.	Length.	Height.
		Months.	ft. in.	ft. in.	ft. in.
Long-wools.....	No. 1 ...	16	5 1	3 8½	2 6½
		16	4 8½	3 6	2 6
		16	4 9½	3 7	2 6
		16	4 8	3 7½	2 5½
	No. 2 ...	40	5 7	4 0½	2 9½
		52	5 7½	4 1½	2 8½
		28	5 4	3 11	2 7½
Leicesters	No. 1 ...	16½	4 4	3 6½	2 5½
		15	4 2	3 5	2 4½
		16	4 6½	3 5½	2 5
		14	4 6½	3 7½	2 6
		16	4 4½	3 6½	2 5
		16	4 5½	3 7	2 6
		16	4 3½	3 4½	2 4½
	No. 2 ...	27	5 2	3 9	2 5½
		30	4 11	3 9	2 5½
		40	4 11	3 7	2 6½
		55	5 1½	3 8½	2 6
		27	4 8½	3 8½	2 5½
		28	4 9	3 6½	2 3½
		28	5 1	3 9	2 6½
		28	5 0	3 6½	2 7
Southdowns	No. 1 ...	16	3 10	3 10	2 2½
		16	3 8½	3 7½	2 2½
		16	4 1	3 7	2 3½
		16	4 0	3 9	2 3
	No. 2 ..	55	4 5	3 11	2 3½
		29	4 0	3 9	2 3
		29	4 6	4 1	2 4
		40	4 1	3 9	2 2½

I give you my estimate of the comparative weight of the heaviest sheep in each class of same age, according to my judgment:

Breed.	Class.	Age.	Weight per quarter.	Wool.
		Months.	lbs.	lbs.
Long-wools	No. 1	16	52	14
Leicesters	,, 1	16	46	11
Southdowns	,, 1	16	33	8
Long-wools	,, 2	40	72	15
Leicesters	,, 2	40	56	11
Southdowns	,, 2	40	46	8

With all deference I beg to say, that in the Leicester classes nearly every variety of Leicesters and long-wools was to be found; the pure Leicesters not predominating, and the long-wool classes embraced a very superior Cheviot, &c.; *J. C., Long Sutton, in Marklane Express.*

The Milking of Cows.—This is a subject of too much inportance to be passed over; and I fear that I must add that it is a subject far too much neglected. The milking of cows resolves itself naturally into two heads, viz., how to milk, and when to milk. *How to Milk.*—It is astonishing what difference there is in good and bad milking. 1. If every drop of milk in the cow's udder be not carefully removed at each milking, the secretion will gradually diminish in proportion to the quantity each day left behind. This fact is well established, and is to be well accounted for on philosophic principles, as well as borne out in practice. Nature creates nothing in vain, and the secretion of milk in the cow only suffices to supply that daily lost—the milk left behind in the udder is reabsorbed into the system, and consequently the next milking will be so much the less in quantity. But another reason why every drop of milk should be taken away is to be found in the well-known fact that the last milk is doubly as good as the first milk—hence, if not removed, there is not merely equal, but double loss. 2. Milking should be conducted with skill and tenderness—all chucking or plucking at the teats should be avoided. A gentle and expert milker will not only clear the udder with greater ease than a rough and inexperienced person, but will do so with far more comfort to the cow, who will stand pleased and quiet, placidly chewing the cud, and testifying by her manner and attitude that she experiences pleasure rather than annoyance from the operation. Cows will not yield their milk to a person they dislike or dread. I have taken some trouble to acquire the art of milking, in order that I might be able to describe. You take the teat in your palm, enclosing it gradually in your fingers, tighter below than above; but not absolutely tight anywhere—a portion of the upper part of the hand—the thumb is uppermost—embraces a portion of the udder, and the whole hand is drawn gently downwards, towards the extremity of the teat, between the thumb and the forefinger; very little practice enables the milker to do this with ease, rapidity, and tenderness. I need not say let the hands be carefully washed before each milking; but I dare say it is scarcely thought necessary to wash the cow's teats. This, nevertheless, should be done, and it will then be found that the milk will flow more freely with any teats than if you wet them with the milk; at least, I find it so, and think myself an expert milkman.—We now require to consider *when the cows are to be milked*—a question again resolving itself into two minor ones, viz., at what hours, and how often? The ordinary practice is to milk cows twice daily—at about 5 o'clock in the morning, or, in winter, at noon after daylight as possible, and again at the same hour in the afternoon, thus leaving 12 hours' interval between each milking. Some recommend milking three times daily during the summer months, stating as their reason that cows are then after calving, and flush of milk; and that the three milkings are calculated to increase the quantity of the secretion. Some even recommend four milkings during that season. There can be no question but that, when fed in proportion, such a constant demand would necessarily increase the quantity of milk secreted; but then it is likely that the same causes might produce such a depression in the secretory system—naturally consequent upon unusual excitement—as would cause a decrease of milk in autumn and winter, in about equal ratio; *Ayr Agriculturist.*

The Deeside Factories.—A plan has been recently adopted at the large factories on the Don, near Aberdeen, employing from 2000 to 3000 people, of supplying them with breakfast and dinner on the premises, and it is found to answer remarkably well, both as regards the workpeople and their employers. The plan, as carried out at Messrs. Leys, Mason, and Co.'s, at Grandholm, is as follows, and the arrangements at the other factories are almost precisely similar:—In the cooking department, to which a supply of spring water is led in by pipes, there is for soup a boiler of 120 gallons, and for coffee one of 70 gallons, and hot table: and attached to the kitchen are six rooms fitted up with benches and fireplaces in each, affording accommodation for above 400 persons when taking their meals. The breakfast consists of a roll of bread, of 6¼ oz. in weight, of mixed or whole flour of the best quality, and a measure of coffee, of one-tenth part of an imperial gallon. For one gallon of coffee there is appropriated 3½ oz. of coffee, 3 galls. of milk, 10 oz. of golden syrup; and to every 30 gallons of coffee half an ounce of ground cassia is added, which gives the coffee an agreeable flavour. Dinner consists of Barley broth and bread, or Peas soup and bread; either one-sixth of an imperial gallon of Barley broth, with a roll of bread weighing 6¾ oz., or one-sixth of an imperial gallon of Peas soup, and a roll of bread weighing 6¼ oz. For 50 gallons of Barley broth there is appropriated 43 lbs. good butcher's meat, 2½ lbs. Barley, 5 lbs. Peas; vegetables—Turnips, Carrots, Leeks, to the value of 2*s.* or 2*s.* 6*d.* For 50 gallons of Peas soup, 22 lbs. Peas, 12 lbs butcher's meat, with the reserved bones from the Barley broth, together with vegetables—say Carrots, Turnips, Celery, Thyme, and an ounce of ground cassia. After the soup is boiled, there is added, to improve its consistency, two or three quartern loaves, cut up into slices and browned. Breakfast and dinner, including bread, charge 1½*d.* each. The meals are served in exchange for printed tickets, of which there are two sets—one for breakfast, and the other for dinner. Each department in the work has a number of these tickets appropriated, having the number of the department on each. Returns of the number of persons in each department who order breakfast and dinner for the following day are given in to the superintendent of the kitchen every day at 12 o'clock, in order to the preparation of the quantity necessary to supply them. Any surplus there may be is inquired after, and bought for domestic use by any persons who may wish it. The overseers of the respective departments, having a list of the names of those who have been supplied with meals during the week, render accounts at the end thereof to the superintendent of the kitchen. The cooking part of the kitchen is railed off, leaving a passage for those receiving meals, who enter at one door, and, on being served, pass out at another door, or go into the sitting rooms. There are two cooks, a man and a woman, in constant attendance; and besides these, there are two of the overseers of the works who assist by rotation during the time of serving out the meals. Four hundred people can be served in 20 minutes. The provisions are all of good quality, bought at wholesale prices. The institution is a self-supporting one. Messrs. Leys, Mason, and Co., much to their credit, supply the fuel gratis, as well as the house, furniture, and cooking apparatus.; *Christian News, July* 29, 1847.

West of Scotland: Condition of the Tenantry.—There is not a doubt but that the shifts on the agricultural draught-board are much more numerous now than formerly. It remains to be considered, What bearing has the fact on the trade of farming, and those who follow it; and how does it concern the landlords? The fact, although it has many sad attendants, is not out of keeping with the spirit of the age. The present is the era of change, bustle, movement, and dislocation in every department of human affairs. There are now no sleepy hollows. The screech of the locomotive is being everywhere heard. Men are, or must be, all wide awake. And so in farming, the old jog-trot farmers and way of farming are being jostled out of being.

In this go-a-head Scotland of ours, and in the farming trade, as in others, there is no place of rest for the lazy, easy man. Nothing but intense exertion, skill, and economy, will keep the ground. Competitive eagerness, the earth-hunger, and the ambition of making "mickle mair," is driving the small farmers off the board,—often out of the country,—to foreign lands, where there is more elbow-room. In this district a curious order and regularity have been noticed in these changes of the tenantry,—explaining, by a sort of general rule, their causes and tendency. It is this. The shifts take place from north to south. The farms that fall in are with striking regularity taken,—of course, often over the heads of the present tenantry,—by men from the neighbourhood of the large towns, where land is dear, and competition is most felt; while the dislodged tenantry repair to Galloway, and places farther south. Some have gone to England, others to Ireland, and succeeded very well. From knowing the system of rouping, and advertising in the local papers, and often in the metropolitan advertising sheets, that obtains, our farmers, as if aware of their fate, and that they will not be able to venture on so large a sum as will likely be offered (for, knowing the farm will be kept in the market till near upon flitting time), look about them a good while, obviously for cheaper land, and generally find what suits them farther south. This has occurred in a number of instances known to the writer, and is daily occurring. It is in this way that the hardship and injustice of the protracted rouping to the term day is endeavoured to be met by the tenant. The injustice itself cannot be rightly met, as will be shown, without a tenant right to unexhausted improvements, such as obtains in Ulster and in some parts of England, being legalized. The southward tide, however, is attended with many good effects, in promoting thorough farming. The competitors from the Lothians, the neighbourhood of Edinburgh, Glasgow, &c., bring with them often large capitals, improved implements, and all the skill and insight which their familiarity and intercourse with the best style of farming and farmers have imparted to them; and an example of clean, thrifty, and efficient farming is afforded to new neighbourhoods. In this way good farming progresses and spreads over the land; and many of our ambitious farmers are already dissatisfied with their having overcome the obstacles to fertility in this northern county, and with the comparatively scant returns, looking down upon the sunny southern plains of England, and saying, "Arise, let us possess the land;" *Edinburgh Witness.*

Sir C. Burrell on Lean Stock Shows.—Having observed great laxity at the Royal Agricultural Lean Stock Exhibitions, as well as at County and District Lean Stock Shows, with respect to the unremunerating system adopted by too many gentlemen and rent paying farmers of over-feeding, by artificial means, the stock they exhibit, many of which have been fat enough for the butcher, and swine so overloaded with fat as to be unable to stand up without inconvenience, and knowing, from experience, that to throw them back on appropriate lean stock keep is prejudicial both to the animals and their owners, by stopping their growth, weakening their breeding powers, and thereby defeating the object of agricultural societies, that of improving and increasing the better kinds of agricultural stock, and, moreover, viewing such practices as unjust towards those who exhibit their animals in a fair thriving state of feeding, by which no difficulty is thrown in the way of right decisions on the part of the judges, I wrote to the secretary of the royal agricultural society on the subject. The following extract from *Bell's Weekly Messenger* of 28th June, 1847, will show that in so doing my opinions were strengthened by a similar representation to the Society by the Marquis of Downshire, and that the effect has been to induce the then president and the council to issue further instructions for the guidance of the judges, and which, I am glad to find, have been renewed preparatory to the Royal Agricultural meeting at York, and which, if faithfully and judiciously acted upon by the judges, cannot fail to produce the best results—an example which I hope will not be lost upon all county and local agricultural societies which have no feeding regulations.—CHARLES M. BURRELL, July 15, 1848.—"Weekly Council, held 23d June, 1847. The Right Hon. Lord Portman in the chair. FAT CATTLE.—The Marquis of Downshire and Sir Charles Burrell, Bart., M.P., having called the attention of the council to the great injury inflicted on the Society's country show of breeding stock by having animals introduced into them which were only adapted to the purpose of the butcher, contrary to the intentions of the Society and the express regulations of the council, the chairman stated that he had, at the monthly meeting of the council in December last, brought this subject under their consideration by a distinct motion, preceded by due notice given during the period of the Newcastle meeting. At that council it was arranged that, previously to any further direct enactment on the subject, the original regulation of the Society—standing as the 32d regulation on the Northampton prize sheet—which instructs their judges, 'that as the object of the Society in giving prizes for neat cattle, sheep, and pigs is to promote improvement in breeding stock, the judges, in making their award will be instructed not to take into their consideration the present value to the butcher of animals exhibited, but to decide according to their relative merits for the purpose of breeding,' shall this year be most distinctly brought under the notice of the judges, by being communicated to them as a portion of the letter conveying to them from the council their respective appointments to that important judicial office. The chairman trusted that the enforcement of this regulation, while it increased the responsibility of the judges in the faithful discharge of their duties, would at the same time more fully justify them in the full and free exercise of the powers with which they would feel themselves invested for carrying out to the best of their judgment the direct objects of the Society.—Mr. Blake thought that it would also be desirable that the judges in the class of horses should be particularly requested to carry out the special instruction constantly given them by the council of taking 'activity and strength' into consideration, in addition to the 'symmetry' of the animal;" *From the Brighton Gazette, of July* 13, 1848.

Calendar of Operations.

AUGUST.

BEDFORDSHIRE FARM, *August* 29.—All our Wheat and winter Beans, and some Barley, have been carried in fair condition. We have still, however, some late Barley and Oats to cut. Our horses did little in harvest besides carrying corn; they have lived chiefly upon green Clover and Lucerne. Since the corn has been carried they have been carting dung upon and ploughing Wheat stubbles for Tares, &c. The Bean stubble where foul has also been cleaning for other crops. Potatoes are very much diseased. Turnips have run more to top than bottom, in consequence of the wet; the land has also been difficult to clean. The corn crops are not an average. Complaints of various kinds have got amongst the cattle; *R. V.*

BERWICKSHIRE MERSE FARM, *Aug.* 25.—Since last report we have been employed ploughing, harrowing, and rolling fallow land, and ploughing and earthing up Turnips. The workers have been employed gathering weeds on the fallow; we have had some rain this week, which has enabled us to reduce it; one man putting up paling; *J. B.*

EAST LOTHIAN FARM, *Aug.* 26.—Since last report (Aug. 12), we have experienced changeable weather, with rather low temperature for the season, which has retarded the ripening of the crops. We have not made much progress in shearing, having cut part of a field of Barley, which is not a heavy crop, being thin in the ground. We have likewise cut down part of a field of Oats, which is an excellent crop, and from the appearance of a few cart-loads which have been threshed, it promises to yield well; a very considerable quantity will be cut down next week, if the weather be favourable. Turnips look well, though later than usual. Potatoes are falling off in appearance; *L.*

SOUTH HAMPSHIRE FARM, *Aug.* 21.—Since our last report we have to record the most unpropitious season for the harvest which has ever occurred since we have been engaged in harvest operations; viz., for 23 years past, not only has the hindrance to the work been greater, but the damage done to the corn is more serious than in any season during the above named period. Our horses have been employed in various ways, rafter ploughing Clover-lea to be prepared for Tares and Trefolium, ploughing, harrowing, and drilling Turnips after Tares, rafter ploughing land after summer Tares cut for soiling cattle, horse-hoeing Turnips at intervals of dry weather, in wet weather they have been working at the threshing machine, and also carting manure from the cattle boxes and stables to the yard, carting 40 quarters of Wheat to the mill, and fetching Beans for the sheep, pigs, &c. The horses and men were employed on the 8th, carting Wheat half a day, making two Wheat ricks containing about 25 or 30 qrs. each, since which it has been quite impossible in this part of the country to cart any Wheat in useful condition, the rains having followed every day more or less. Our labourers have been employed in jobbing work almost as much as in harvest work, which is very unusual, and will make the expenses of harvest come very high, as much of the corn, &c., will remain uncut, and much carting left undone, until the harvest month is finished; during which period our men always receive double pay for all day work, the Wheat, Barley, and Oats, &c., being paid for cutting by the acre. The men have been cutting Wheat, hoeing Turnips, and mowing the second crop of Clover, which is very abundant; in cutting our Wheat crop we have been very particular in not allowing the men to cut unless the straw was dry, that it might be tied into sheaves and set up immediately, in this way the corn will receive less damage in wet weather than in any other mode of treatment. We have also for some years past abandoned the old plan of reaping Wheat, and adopted that of fagging or bagging as it is termed, and find many advantages by so doing; as compared with reaping or mowing, fagged Wheat gets dry sooner, and saves more corn and straw than when reaped; we also take an objection to mowing Wheat, because it does not apply to heavy laid crops, and when tied there are too many ears in the butt of the sheaves, and should rain come whilst laying in swathe it is difficult to manage and tie afterwards, we having seen this year immense damage done to the grain by mowing. Our shepherds have not spent much time with their flocks, but have been assisting in harvest work, our lambs being now all sold, and the sheep having finished feeding on summer Tares, are now kept changed from Clover to pasture land, in which case the shepherd has but little to do with the flock; a boy always being in attendance with the sheep during the day time, whose business it is to see they do not break over fences, and also to root up Docks and Thistles from the Clover leys and pastures in which the sheep are feeding. Our women have been employed in hand weeding Carrots, the horse-hoe being useless in wet weather, also hoeing between the rows of Turnips instead of horse hoeing, weeding quicks, trimming hedges, and turning Clover; we have been selling our Potatoes in the ground, but with the exception of the produce of an acre or two of sandy land, they are a miserable crop, and more than half decayed, and will not pay the expense of the seed; *J. B.*

SOUTH DEVON FARM, *August* 28.—Since our last report the weather has been far from favourable for all farming operations, but more especially the harvest. During the intervals of fine weather we have been enabled to stack all our Wheat and Oats, and cut a portion of our Barley, for which we are giving 2*s.* per acre and 3 quarts of cider. We now and then get a chance of hoeing our Turnips; this operation is generally very backward, from the extreme quantity of rain which has fallen, and the crop begins to show evident signs of stagnation, from the like cause and want of a warmer and more genial atmosphere; *T. W.*

SUSSEX FARM, *Aug.* 28.—For three weeks past we have had rain more or less every day. Our Wheat is nearly all cut, and is quite as good a crop as we expected; but with wet days and warm foggy nights the Wheat is a good deal grown in the shocks, especially the white sorts. Peas have also suffered a good deal, and there will be a great many left upon the ground. I never recollect seeing the Clover so strong amongst the Wheat and Barley, some of it being 2½ to 3 feet high. We have carted a good deal of our Wheat off the Clover out on the Grass land, which is a good plan. We have stacked part in very good order, and, should to-morrow be fine, we shall stack a good deal more. When not engaged with the harvest, we shall scarify and plough Tare land for Wheat; cart faggots to lime-kiln, and draw trees to saw-mill. Men mowing Oats, mending hedges, and turning mixings; women turning Peas and hoeing Turnips; *J. B.*

Notices to Correspondents.

ALDERNEY AND GUERNSEY COWS: *Dairymaid* asks who are the chief importers of cows of the pure Alderney and Guernsey breeds, or where and to whom in these islands should those persons apply who wish to get them brought over to Britain?

BEANS: *R M.* Beans may succeed Wheat. Winter Beans are sown in October and November; common Beans in February and March. Kohl Rabi is sown in April and transplanted in May.

CARROT-SEED: *W R Watson.* Will any correspondent kindly give us his experience in growing it?

COMMUNISM: *Exeter.* We did not see much to blame in the views of our foreign correspondent, as expressed by him at p. 565. We took his mention of O'Connor's "success" to mean the readiness with which his worthless prizes are, notwithstanding their worthlessness, snapped up by the fortunate (?) prizemen; he refers to it not to illustrate any opinion he may have of the "land lottery," but to prove the desire of men to possess land. His remarks do not question the doctrine of property, but the propriety of laws which restrain the natural circulation or distribution of it. The laws of France on this subject are, we imagine, quite as much opposed to the principle on which he argues as are those of England. We do not like what he says about allotments; but even here we cannot believe him to mean that grants under this head are extorted under the absurd "fear" of ultimate confiscation, in case of prolonged refusal. They are held by him to be "tributes" in the natural course of events to the justice of his views; and whether he thinks so or not, where "timidly conceded" it is only in the "fear" that many profess lest they should, in the long run, be an injury not a benefit to the recipients. If we misread his meaning, and it was intended to convey any Louis Blanc doctrines, we must say that no one can more utterly abhor them than we do.

EARLY SPRING FOOD: *Ignoramus.* Rye, sown immediately. You are too late for a winter crop—unless Mustard, sown now, should come to anything in November, as it might if the weather were propitious. Mustard is, however, poor stuff, compared with Rye—which will be ready towards the end of April.

EDUCATION: *J Miles.* Will you excuse the delay necessary to some inquiries on the subject.

HORS: *J S, Deptford.* The union of alkaline with nitrogenous matter is generally better than either alone; and rags, soaked, not in potash, but in some salt of potash, may therefore be a better manure than rags alone.

ITALIAN RYE-GRASS: *Spade Farmer.* We sowed amongst the growing Wheat in May, just before its last hoeing, and dug the crop in during the following March, hacking it over early in April, and sowing Carrots in rows on the flat before May. They have been manured with 3 cwt. of guano per acre: and have now the appearance of a magnificent crop. Guano should be applied to Rye-grass in early spring.—*A B.* London stable manure as a top dressing will no doubt be highly beneficial. Your cow, if fresh, may still receive 8 or 10 weeks' feeding, and if she would fatten in that time you had better adopt that plan. If she is now too poor you had better sell her for breeding. Linseed crushed will keep in bags for months.—*An Old Sub.* It may be sown now with probability of its yielding well in May next year. But it is better sown with the corn, late in spring, for the following year's crop.

INDIGO-DAMAGED RICE: *A B.* We do not imagine that it would be injurious to the pigs, but would recommend it to be used moderately at first and gradually increased. *W. C. S.*

JACOB OMNIUM: *Syntax.* We do not know his Sir Mark Guano.

JERSEY CROPS: *J W C.* The only intimation we received was in a newspaper; the general nature of the testimony was given on the 19th ult.

KOHL RABI: *T S P.* It may be sown in a seed-bed in April, and transplanted in May into rows, 30 inches apart, and 18 to 24 inches apart in those rows.

MILL: *T M Cann.* You should apply to Mr. Dean, of Birmingham.

SMALL FARM: Will "S." be good enough to give us his address; we have several letters for him.

SUNDRIES: *A B M.* Well ripened Cabbage hearts have been kept till spring in thatched pits, like Potatoes. They may be used as food for pigs, boiled with other food. As to the relative value, we name them thus *per ton*—1, Parsnips; 2, Swedes; 3, Carrots; 4, Beet; 5, Mangold Wurzel: and thus *per acre*, in our climate—1, Mangold Wurzel; 2, Carrots; 3, Swedes; 4, Beet; 5, Parsnips. Mangold Wurzel will keep as long as any. The following rotation might do for feeding, not fatting, pigs:—1, Winter Vetches, followed by Rape, and spring Vetches, followed by Cabbage; 2, Cabbages, early and late; 3, Early Bean, followed by Rape; 4, Mangold Wurzel; 5, Kohl Rabi; 6, Beans and Parsnips in alternate couples of rows.

SWEDES: *Amicus.* We should back the drilled against the flat.

THE HARE BILL: *Sub.* It merely allows all those who already have power to kill hares to do so without taking out a game certificate. There is nothing in it about the licensing of guns.

TILE MACHINES: *Constant Reader.* Of the three you mention we prefer Clayton's. A pug-mill is necessary with it.

WHEAT: *W B, Bucks.* If your sample is an average one, the Wheat is well worth advertising. A shilling or two over market price is the common charge for seed Wheat. Your plan for multiplying the sort by one-seeded dibbling at small intervals appears unobjectionable. We would not sow Oats and seeds after Wheat. Some green crop followed by Barley and Clover would be better.

Markets.

SMITHFIELD, MONDAY, Aug. 28.

We have to-day an increased supply of Beasts, and, the weather being mild, the demand is limited, consequently trade is heavy, at a small reduction in price. In some instances a choice Scot makes 4*s.* 4*d.*; but the general average of best qualities do not reach that figure. The supply of Sheep is smaller, and the best descriptions make rather more money. The weather operates against the trade of big Sheep, but everything is cleared off at fair rates. Good Calves are not quite so plentiful; trade is however slow, at very little advance. From Holland and Germany we have 616 Beasts, 2680 Sheep, and 172 Calves; from Scotland, 200 Beasts; and France, 10 Calves.

Per stone of 8 lbs.—	s	d	s	d	Per stone of 8 lbs.—	s	d	s	d
Best Scots, Herefords, &c.	4	0	to 4	2	Best Long Wools	....		....	
Best Short Horns	3	10	— 4	0	Ditto Shorn	4	6	— 4	8
Second quality Beasts	3	0	— 3	6	Ewes and second quality	....		....	
Calves	3	0	— 4	2	Ditto Shorn	3	10	— 4	4
Best Downs & Half-breds	....				Lambs	4	0	— 5	0
Ditto Shorn	5	0	— 5	2	Pigs	4	4	— 5	0

Beasts—3748. Sheep and Lambs—23,250. Calves—317. Pigs—410.

FRIDAY, Sept. 1.

The supply of Beasts is again large. The dead markets being exceedingly flat our trade is very heavy at about Monday's prices; 4*s.* 2*d.* is scarcely exceeded for any thing. The number of Sheep is considerable for the time of year; trade is slow, and Monday's prices with difficulty supported. There is more inquiry for Lamb, but at no more money. The number of Calves is again very large; they make fully 2*d.* per 8 lbs. less than on Monday, nor can a clearance be effected at this reduction. From Holland and Germany there are 175 Beasts, 1890 Sheep, and 305 Calves; from France, 82 Beasts; Portugal 92; and Scotland, 170; and 121 Milch Cows from the home counties.

Best Scots, Herefords, &c.	4	0	to 4	2	Best Long Wools	....		....	
Best Short Horns	3	8	— 4	0	Ditto Shorn	4	6	— 4	8
Second quality Beasts	3	0	— 3	6	Ewes and second quality	....			
Calves	3	0	— 4	0	Ditto Shorn	3	8	— 4	2
Best Downs & Half-breds	....				Lambs	4	0	— 5	0
Ditto Shorn	5	0	— 5	2	Pigs	4	4	— 5	0

Beasts—1152. Sheep and Lambs—10,490. Calves—587. Pigs—390.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Aug. 31.

Prime Mead. Hay	70s	to	75s	New Hay	60s	to	70s	Straw	28s	to	30s
Inferior ditto	60		65	Clover	90		110				
Rowen	50		60	New Clover	70		92				

The trade heavy for Meadow Hay. Good first-cut Clover much in demand.

J. COOPER.

CUMBERLAND MARKET, Aug. 31.

Prime Mead. Hay	72s	to	77s	Old Clover	95s	to	100s	Straw	29s	to	32s
Inferior	50		65	Inferior	70		88				
New Hay	50		68	New Clover	70		90				

JOSHUA BAKER.

WHITECHAPEL, Aug. 31.

Fine Old Hay	70s	to	75s	Old Clover	100s	to	105s	Straw	24s	to	30s
Inferior Hay	—		—	Inferior	—		—				
New Hay	50		63	New Clover	70		90				

COVENT GARDEN, Sept. 2.

The market is well supplied with Vegetables and most kinds of Fruit. English Pine-apples are plentiful; foreign ones less abundant. Hothouse Grapes, Apricots, Peaches, and Nectarines are plentiful and cheap. Melons are sufficient for the demand. Cherries, except Morello, are over. Pears are offered at from 6s to 8s. per half sieve. Nuts are sufficient for the demand. Filberts sell slowly at from 40s to 44s. per 100lbs. Oranges are pretty abundant. Lemons moderately plentiful. Among Vegetables, Carrots and Turnips are abundant and good. Cauliflowers, Broccoli, &c., adequate to the demand. French Beans plentiful. Potatoes the same, but disease continues. Tomatoes. Peas are a little dearer. Lettuces and other salading are sufficient for the demand. Mushrooms are plentiful. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Fuchsias, Carnations, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 4s to 6s
Grapes, hothouse, per lb. 1s 6d to 4s
Peaches, per doz., 6s to 9s
Nectarines, per doz. 4s to 9s
Melons, each, 2s to 6s
Plums, per punnet, 1s 6d to 2s 6d
Apricots, per doz., 2s to 4s
Cherries, per lb., 6d to 3s
Apples, dessert, per bush., 4s to 7s
— kitchen, p. bush., 1s to 4s
Mulberries, per pottle, 4d to 6d
Raspberries, per punnet, 6d to 9d
Oranges, per doz., 1s to 2s 6d
Oranges, per 100, 8s to 20s
— bitter, per 100, 8s to 16s
Lemons, per doz., 1s to 2s
— per 100, 8s to 14s
Almonds, per peck, 6s
— sweet, per lb., 2s to 3s
Walnuts, per bush., 12s to 20s
Nuts, Barcelona, per bush., 20s to 22s
— Cobbets, per lb., 1s to 1s 6d
— Cob, per 100 lbs., 40s to 50s
— Brazil, per bush., 12s to 16s
Chestnuts, per peck, 3s to 6s

VEGETABLES.

Cabbages, per doz., 6d to 1s
Cauliflowers, per doz., 1s to 4s
Broccoli, per doz., 6s to 9s
Sorrel, per half sieve, 6d to 9d
Potatoes, per ton, 60s to 100s
— per cwt., 3s 6d to 6s
— per bush., 1s 6d to 3s
Turnips, per bush. bunches, 2s to 4s
Red Beet, per doz., 6d to 1s
Horse Radish, per bundle, 1s to 6s
French Beans, per half sieve, 1s to 2s
Cucumbers, each, 2d to 8d
Leeks, per bunch, 1d to 2d
Celery, per bundle, 1s to 1s 3d
Carrots, per doz. bunches, 3s to 6s
Spinach, per sieve, 1s to 2s
Peas, per sieve, 3s to 5s
Marjoram, per bunch, 2d to 4d
Onions, per bunch, 3d to 6d
— Spanish, per doz., 1s to 4s
Onions, pickling, per half sieve, 2s to 3s
Tomatoes, per punnet, 9d to 1s 6d
— per half sieve, 4s to 7s
Shallots, per bunch, 3d to 4d
Garlic, per lb., 3d to 1s
Radishes, per doz. bunds, 6d to 1s
— Turnip, do., 3d to 1s
Art chokes, per doz., 1s 6d to 3s
Vegetable Marrow, per doz., 6d to 1s
Lettuce, Cab., per score, 1s to 1s
— Cos, do., 9d to 1s 3d
Mushrooms, per pottle, 1s to 1s 9d
— per bushel, 1s to 6s
Small Salads per punnet, 2d to 3d
Fennel, per bunch, 2d to 3d
Savory, per bunch, 3d to 4d
Thyme, per bunch, 3d to 4d
Watercress, p. 12 small bun., 6d to 9d
Parsley, per half sieve, 6d to 9d
— Roots, per bundle, 1s to 1s 6d
Mint, green, per bunch, 2d to 3d

HOPS, FRIDAY, Sept. 1.

Messrs. Patterson and Smith report that the accounts from the plantations are more favourable, and the duty has advanced to 180s/cwt. The market continues steady at late prices. One pocket of new Sussex Hops has arrived at market, and is said to have been sold at 112s. per cwt.

Mid. & East Kents, p. cwt.	60s to 80s	Yearling Kents, p. cwt. ..	38s to 44s
Weald of Kents	47 — 56	Yearling Sussex	35 — 42
Sussex	46 — 64	Old Hops	20 — 35
Farnhams	80 — 100		

MARK LANE, MONDAY, Aug. 28.

Messrs. Kingsford and Lay report that there was a fair supply of Wheat from Essex and Kent this morning, consisting chiefly of new, the quality of which varies about 20s. per qr. in value, the great majority of samples being much weathered and in wretched condition, so much so that for some 14s. per qr. could not be exceeded, and much remained unsold at a late hour. Fine old must be written 2s. to 3s. per qr. dearer. Free foreign was held at a similar advance, but only a limited business could be transacted. A few rates of bonded were effected at about 2s. per qr. over the rates obtainable last Monday.—Barley met a good inquiry, and we raise our quotations 1s. to 2s. per qr.—Beans were in small supply, and 2s. per qr. dearer. Peas of all sorts 3s. to 4s. per qr. higher.—The Oat trade was less lively than last week, although a rise of 1s. 6d. per qr. was obtained on the business done.

BRITISH PER IMPERIAL QUARTER.

	s	s		s	s
Wheat, Essex, Kent, and Suffolk ..... White	60	62	Red.....	44	57
Norfolk, Lincolnshire, and Yorkshire.....	60	58	White ...	52	58
Barley, Malting and distilling, 32s to 36s	Chevalier	35	40	Grinding	28	32
Oats, Lincolnshire and Yorkshire.....	Polands	23	26	Feed	21	24
Northumberland and Scotch	Feed	21	24	Potato ..	23	26
Irish	Feed	19	23	Potato ..	22	25
Malt, pale, ship.....		—	—			
Hertford and Essex		—	—			
Rye.....		27	30			
Beans, Mazagan, old and new ..32s to 36s		Tick..	35	40	Harrow..	36	41
Pigeon, Heligoland	38	46	Winds	—	—	Longpod	—	—
Peas, White.....	38	38	Maple	42	45	Grey	38	42

ARRIVALS IN THE PORT OF LONDON LAST WEEK.

	Flour, 11936 sks — 300 bls	Wheat. Qrs.	Barley. Qrs.	Malt. Qrs.	Oats. Qrs.	Rye. Qrs.	Beans. Qrs.	Peas Qrs.
English.....		3107	365	2880	390	10	112	293
Irish		—	—	57	—	—	—	—
Foreign.....		13004	4654	—	21613	—	555	1798

FRIDAY, Sept. 1.

The arrivals of Wheat, either English or foreign, during the week have been good, and we have been moderately supplied with other grain. This morning, having a slender attendance of buyers, sales of English Wheat could not be proceeded with on the terms of Monday last, and much of the offered over remains unsold. Foreign, free, or bonded, is nominally unaltered in value.—Barley, Beans, and Peas are as last quoted.—Oats are a dull sale, and barely maintain late rates.

[The weather continued wet and unsettled until the evening of the 28th ult.; it then became fine, and remained so in this vicinity until yesterday afternoon, when we were visited by a severe thunderstorm, and it rained heavily for several hours and during the night; showers appear also to have fallen yesterday in various parts of the south coast. Considerable progress has been made with the harvest, and the fields are becoming cleared of Wheat, but the larger proportion of the Barley crop is still in the fields, although with fine weather, which has returned this morning, the greater bulk will probably be secured this week in England. The quality of the new Wheat has suffered materially along the west, south, and part of the east coasts as far north as Suffolk, and in the districts not included in the above list, and from our advices from the midland counties, Cambridgeshire, Lincolnshire, and further north, lead us to believe that both quantity and quality will prove better than anticipated. Much firmness has been evinced by holders, and in the majority of the markets held this week, prices have further advanced 2s. to 3s. per qr., but at Birmingham yesterday, and one or two other inland places, we observe a decline has taken place of 2s. per qr. Barley has also been better secured than could have been expected, and although much stained, the great bulk will be fit for malting. Prices continue to have an upward tendency, and seem likely to set in rather high. Peas and Beans have both suffered in quality, as also Oats, of which the bulk is still out. Dantzic, 26th August—Market becoming bare, and 52s. had been paid for a parcel of fine new. In the lower Baltic prices may be considered nominal. In Belgium and France, quotations continue to advance, and 52s., f. o. b., paid for red Wheat. Consumption, both at Antwerp and Ghent, is enormous, and supply still large, and the improvement in prices will probably attract arrivals. Wheat quoted 19s. to 30s. 6d., Maize 10s. to 19s. 3d. per qr., f. o. b., and the demand for the latter has increased, all in the market having been bought up at 16s. to 18s. 6d. per qr., f. o. b. New York, 15th ult.—Holders of Wheat were asking higher rates in consequence of light stocks, and the news from England; prices, 38s. to 44s., f. o. b. Flour selling at 24s. to 24s. per barrel, f. o. b.]

Imperial Averages.	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas
July 22	48s 11d	30s 2d	20s 3d	32s 3d	35s 10d	36s 3d
— 29	47 11	29 5	20 7	30 4	35 9	36 5
Aug. 5	49 5	29 11	21 0	29 4	35 3	34 8
— 12	50 11	30 1	21 8	29 7	36 0	35 2
— 19	51 0	30 3	21 5	31 11	37 9	36 5
— 26	52 3	31 2	21 11	30 11	38 1	37 7
Aggregate Average	50 1	30 2	21 2	30 0	36 5	36 0
Duties on Foreign Grain	7 0	2 6	2 0	2 6	2 6	2 6

ARRIVALS IN THE PORT OF LONDON THIS WEEK.

	Wheat. Qrs.	Barley. Qrs.	Oats. Qrs.	Flour.
English.....	5450	—	40	2190 sacks.
Irish	—	—	—	
Foreign.....	14100	3740	11050	— barrels.

Fluctuations in the last six weeks' Corn Averages.

Price.	July 22.	July 29.	Aug. 5.	Aug. 12.	Aug. 19.	Aug. 26.
52s 3d	...	...	...	...	...	...
51 0	...	...	...	...	...	...
50 11	...	...	...	...	...	...
49 5	...	...	...	...	...	...
48 11	...	...	...	...	...	...
47 11	...	...	...	...	...	...

SEEDS, Aug. 28.

Canary.....per qr.	80s to 100s	Linseed-cakes, Foreign, p.ton.	7l to 8l
Caraway .....per cwt.	27	29	Mustard, White, p. bush.,	7s 0d to 10s 0d
Clover, Red, English	35	44	Superfine, p. bush.,	17 18
— Foreign	35	40	Brown, per bush.,	8 12
White, English	38	44	Rapeseed, Eng., per last.....	28l 30l
— Foreign	38	42	Rape-cakes .....per ton	4l 10s
Coriander.....	10	20	Saunfoin.....	— —
Hempseed .....per qr.	42	46	Tares, Eng., winter, p. bush.,	5s 0 11s 0
Linseed.....	36	40	Foreign, per bush.,	3s 0 4s 0
— Baltic.....	34	38	Trefoil	17s 0 20s
— Cakes, Eng. p. 1000,	11l 10s to 13l	Turnip—too variable for quotation.		

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, BUILDERS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to submit to public competition by Auction, on the premises, Hollies Nursery, Thorn Vale, Blackheath, on Monday, the 11th of September, and following days, in consequence of the ground being immediately required by the [illegible] Company, a portion of the valuable [illegible] Stock, consisting of [illegible] Evergreen and shrubs in great variety, Fine and Forest Trees, Deciduous and Ornamental Trees, Fine Fruit Trees, American Plants, Standard and Dwarf Roses, Rose Stocks Plants, three fine specimen of Rose Standards, Dwarf Dahlias 12 feet high; also a portion of the Nursery Frames, comprising choice Camellias, Azaleas indica, Hydrangeas, &c., together with a quantity of strong Iron Rollers, and Whitney's Patent Stages. May be viewed prior to the sale. Catalogues (6d. each, to be had on the premises, of the principal seedsmen, and of the Auctioneers, Ann-lean Nursery, Leytonstone.

TO BE DISPOSED OF, an OLD ESTABLISHED NURSERY BUSINESS, which has been carried on by its present Proprietor and predecessor for the same family for nearly half a century, in a populous market town, which is surrounded by thriving parishes, and is contiguous to the termini of important Railway communication. The Stock, which comprises a judicious number of the very articles essential to the trade, and which is in a very flourishing condition, to be taken at a valuation. Persons possessing a small capital would find this an advantageous and rising neg.—For further particulars, apply by letter, address'd to R. W., at the Office of this Paper.

MERRIOTT, NEAR CREWKERNE, SOMERSETSHIRE.

TO BE LET, and entered on immediately, on most advantageous terms, an Old Established and Well Stocked NURSERY, containing, by estimation, Ten Acres (more or less), situated in the above parish; together with an excellent Hothouse thereon, filled with choice Vines in full bearing, and valuable plants; adjoining which is a comfortable Cottage, with convenient Cart-house, Packing Sheds, Seed Room, &c.

Merriott is situated within a short distance of the populous towns of Ilminster, Ilchester, Yeovil, Crewkerne, Chard, Taunton, &c., to which latter place conveyances pass to and fro daily, in connection with the railways to all parts of England.

To view the above, application may be made to Mr. Andrew, at the Cottage on the Nursery; and further particulars and terms of letting may be known on application to Mr. Whitley, Solicitor, Wrington, near Bristol, Somerset.—Wrington, Sept. 2.

EDGBASTON, BIRMINGHAM.

TO BE LET OR SOLD, with immediate possession, Well-arranged premises for carrying on the NURSERY and SEED BUSINESS, advantageously situated between the Bristol and Pershore roads, and in a most genteel neighbourhood. The Premises comprise a very excellent Dwelling-house, Seed Shop, and Show House, Hothouse, Greenhouses, Camellia House, and Propagating Houses; about 70 feet of Pits, and a good Potting and Packing House. The Business has been established about 10 years, and the ground is rather more than two acres, and contains a general Nursery Stock; has a good entrance from the Bristol road, within the turnpike, and a plentiful supply of water. The Dwelling-house, if not required, will be disposed of separately.—For further particulars, apply to Charles Hale Jessop, Nursery Garden, Cheltenham.

FARMS TO LET.

MR. WYATT'S LIST of 70 FARMS, from 40 to 700 acres, can be inspected at his offices, where useful information and important facilities are afforded to Agriculturists seeking Farms either for immediate or Lady-day entry. A personal application desirable, but the lists will be sent on receipt of three postage stamps. N.B.—Applicants are requested to state the size and kind of Farm required.
Farmers' Agency Offices, 339, Strand, London.

PARTNER WANTED, in an extensive and long-established business of Nurseryman, Seedsman, and Florist; partly carried on within three miles of the Metropolis, and the larger part within two miles of the Great Western Railway, and not more than half an hour's journey from London. The Advertiser is desirous of meeting with an active and persevering partner, who can command from 1000l. to 1500l., as the business is so extensive that he cannot, without injury to his health, pay that attention which it requires. The Nurseries are extensive and well stocked. For particulars apply to Messrs. Hay, Anderson, and Sangster, Nursery and Seedsmen, Newington Butts, London.

THE CONICAL BOILERS, invented by John Rogers, Esq., are sold by John Shewen, Ironmonger, Sevenoaks. They are in use at the gardens of Messrs. Loddiges, Hackney; S. Rucker, Jun., Esq., Wandsworth; Sir C. Lemon, Bart., M.P., Cornwall; the Prince's-park, Liverpool, and numerous other places.

Also, AN IMPROVED CORRUGATED BOILER, adapted for any kind of fuel. May be seen at the hothouses of Mrs. Lawrence, Ealing Park, and in several other gardens of note.

John Shewen, Sevenoaks, Kent. Estimates furnished for heating all kinds of buildings.

STEAM-ENGINE AND THRESHING-MACHINE.—A desirable opportunity of purchasing a Four-horse power STEAM-ENGINE, and THRESHING-MACHINE to match, now occurs. They are from a first-rate maker, nearly new, and in perfect repair: having only done sufficient work to prove their performance, which is very satisfactory. A considerable sacrifice from the cost price will be submitted to, the occupation for which they were purchased having been reduced in extent.—For price and further particulars apply to Mr. R. B. Harvey, Land Agent, Pulham, near Harleston, Norfolk.

VINCOE'S IMPROVED PATENT SEED PLANTING AND MANURING MACHINE.
Manufactured by the Patentee, Penzance.

UNIVERSALLY allowed to be the best, simplest, and most accurate and effective Seed Depositor ever made. It combines all the properties of the DRILL, DIBBLER, and PRESSER, depositing any given quantity of seed, however small, to the acre. It is adapted to large or small enclosures, any kind of soil, over ridge or furrow, on level or hilly lands, and is also highly approved of for gardens. Particulars, with prospectuses, prices, testimonials, &c., sent free, on the receipt of two penny stamps to cover postage, by applying to the Patentee. Freight and carriage paid to any Railway Station within 50 miles of London, Bristol, or Southampton. Any further carriage, 1l. to 1l. 10s. extra.—Penzance, Sept. 2.

PARIAN CEMENT used as a Stucco, cannot easily be distinguished from statuary or Parian marble. It is fit for all the purposes of that beautiful material, and does not crack, warp, or efflouresce in any degree. The fine quality will incorporate with the most delicate colours; it is adapted to encaustic work, fresco, imitation of marble, and the most elaborate embellishment. So perfect are its setting or crystallizing properties, that the coarse quality when applied to newly built or damp walls, may be immediately polished, painted, or papered, and rooms rendered habitable before the materials ordinarily used would begin to dry. Manufactured by Charles Francis and Sons, Roman Cement Works, Nine Elms, London.

PORTLAND CEMENT.—[illegible] received from all quarters proves [illegible] rare property of [illegible] especially [illegible] for [illegible] and hung with [illegible] For general purposes [illegible] three to four times [illegible]

[illegible] J. A. [illegible] Street, Westminster.

PATENT [illegible] for RAILWAY [illegible] LIFE, [illegible] AGRICULTURAL [illegible]

THE PATENT VULCANIZED INDIA RUBBER [illegible] PILE [illegible] Vegetable [illegible] copper [illegible] Paint, [illegible] Lead Hammer, Gutta Percha [illegible] S.E. [illegible] of Hammer and [illegible] and to Messrs. [illegible]

CHEAP AND DURABLE ROOFING.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

F. MCNEILL and Co., of London-buildings, Bunhill-row, London, the [illegible] of THE ASPHALTED FELT [illegible] Horse, Farm Buildings, [illegible] for Garden purposes, to prevent Damp [illegible]

At the Great National Exhibition, in 1845, the Felt which has been [illegible] obtained PRIZE MEDAL PRIZES, and is the first [illegible] by

Her Majesty's Royal Letters,
The Right Hon. the Board of Commissioners,
Her Majesty's Royal Dublin Commission,
Her Majesty's Royal Irish Commissioners,
Her Majesty's Commissioners of Woods,
Her Majesty's Royal Botanic Gardens, Kew Park.

And on the Estates of the Duke of [illegible], Rutland, Leeswood, Northumberland, [illegible], the late Earl Spencer, and most of the Nobility; and at the Royal Agricultural [illegible]

It is half the price of any other roofing, [illegible] and effects a great saving of Timber in the construction of Roofs. Made to any length by 24 inches wide.

PRICE ONE PENNY PER [illegible] FOOT.

*** Samples, with Directions [illegible] Fixing, and Testimonials of seven years' experience, will be forwarded to Gentlemen, Architects, and Builders, post free, on application at the Office, or to any part of the town or country, on receipt of [illegible] stamps.

☞ The Public is cautioned against [illegible] in London or Great Britain where the Asphalted Felt is made, but

F. MCNEILL and Co's
Patent Felt Manufactory, [illegible], Bunhill-row, London, where [illegible] connection with the Felt are [illegible]

The new Vice-Chancellor's Courts, at the entrance to Westminster Hall, were roofed with F. MCNEILL and Co.'s Felt about two years since, under the superintendence of Charles Barry, Esq., R.A. Her Majesty's Commissioners of Woods and Forests are so satisfied with the result that they have roofed the Committee Rooms at the House of Parliament to be roofed with their Felt. Quantity not gether [illegible] feet.

Note.—Consumers sending direct to the Manufactory can be supplied in lengths best suited to their Roofs, so that they pay for no more than they require.

Every information afforded on the construction of Roofs, on any proposed particular [illegible] Felt.

THE MECHIAN DRESSING CASE, the most portable ever invented, being only the size of a pocket-book, containing one pair of Mechian's improved [illegible] steel razors, his magic strop, comb, and [illegible] in mahogany, price only 25s.; the same with more [illegible] 31s. 6d. To military men, and as a [illegible] this invention is an invaluable [illegible] Also a variety of other Dressing Cases, [illegible] in the most [illegible] taney woods or leather, at a [illegible] to suit the [illegible] cal or luxurious. An extensive stock of Writing and [illegible] Cases, Work-boxes, and Dressing [illegible], Razor strops, Table Cutlery, Superb Paper Machè [illegible], Manufactory, 4, Leadenhall-street. [illegible]

HEALTH MORE PRECIOUS THAN GOLD.

DR. ROBERTS'S CELEBRATED OINTMENT, called the POOR MAN'S FRIEND, is confidently recommended to the public as an unfailing remedy for wounds of every description; a certain cure for Ulcerous Sore Legs, if of 20 years' standing; Cuts, Burns, Scalds, Bruises, Chilblains, Scorbutic Eruptions, and Pimples in the Face, Sore and Inflamed Eyes, Sore Heads, Sore Breasts, Piles, Fistula, Cancerous Humours, and as a specific for those troubling Eruptions that sometimes follow Vaccination. Sold in pots at 1s. 1½d. and 2s. 9d. each. Also, his PILULÆ ANTI-SCORBUTICÆ, PHŒLÆ, confirmed by more than 40 years' experience to be, without an exception, one of the best Alterative Medicines ever compounded for purifying the Blood, and assisting Nature in all her operations: hence it is useful in Scrofula, Scorbutic Complaints, Glandular Swellings, particularly those of the neck, &c. They are effectual also in Rheumatism, and form a mild and superior Family Aperient that may be taken at all times without confinement or change of diet. Sold in boxes at 1s. 1½d., 2s. 9d., 4s. 6d., 11s., and 22s. each.

To Messrs. Beach and Barnicott, Somersetshire and Executors to the late Dr. Roberts.

Gentlemen.—About 17 years ago I had the misfortune of knocking my leg while riding some timber, and broke the skin, and my scrupulous breeches would not suffer me to [illegible] many remedies, to no purpose: it continued to get worse. I became an out-patient of Taunton and West Somerset Hospital, in which I continued three months, and I went as an in-patient to the Bridgewater Infirmary; but it continued to get worse. At length I was advised, by my uncle, to get the Poor Man's Friend, which he said would cure me; I continued the application, and after using three pots of the Ointment, and two boxes of the Pills, I am happy to inform you that I am now perfectly cured, and have been so for 18 months, after suffering for 17 years. Knowing the misery of a bad leg, I send you this for the benefit of those suffering in like manner.

I remain, your obedient servant,
Taunton, Nov. 17, 1847. Simon Stone Mitchell.

Sold Wholesale by the Proprietors, Beach and Barnicott, at their Dispensary, Bridport; by the London Houses; Retail by all respectable Medicine Venders in the United Kingdom.

Observe.—No Medicines sold under the above names can possibly be genuine unless "Beach and Barnicott, late Dr. Roberts, Bridport," is engraved and printed on the stamp affixed to each package.

NEW STRAWBERRY.—"THE AIGBURTH SEEDLING."—This excellent Strawberry was raised by Mr. JOSEPH HUTCHINSON, gardener to Henry Harrison, Esq., Aigburth: in general character it resembles the Elton Pine, with superior flavour. The great objection to many lately introduced Strawberries is their tender character; this does not apply to the "Aigburth Seedling;" it is perfectly hardy and a free bearer. Some fruit was sent to the London Horticultural Society, and the following favourable notice has been received:

"A large ovate fruit, with a separable core; the flavour is very good; it is allied to the Coul late Scarlet."—R. THOMPSON.

The following testimonial has also been received: "I have examined the Aigburth Seedling Strawberry, and consider it an excellent variety, resembling the British Queen in flavour; and, from its hardiness, will stand the winter in many situations better than that variety."—JOHN SELKIRK, gardener to W. J. Myers, Esq., Aigburth.

JAMES TYNAN, Seedsman, 120, Park-road, Liverpool, can supply well-rooted Plants, at 25*s.* per 100.

CHAMPION WHEAT.

FREDERICK FAIRBANK, Sible Hedingham, near Halstead, Essex, begs to inform the public that he will be able to send out his WHITE CHAMPION WHEAT by the 18th inst., at 10*s.* 6*d.* per bushel; new sack, 2*s.* Carriage paid to London. All orders must be prepaid.

F. F. feels encouraged by the successes which have attended his Wheat on light soils this season, by which he feels a stronger confidence in recommending it as being adapted thereto more so than for any other. Some persons, contrary to the advice of F. F., have sown (last season) upon strong lands; such have not realised so good a crop as those who have sown upon the lighter soils. The great height to which this Wheat rises on strong land (7 feet), will not allow of its being sown there, whereas upon our lightest soils it grows to about 4 feet, and in proportion is there more prolific.

F. F. would here thank his kind friends for their recommendations, and begs to say that he trusts all orders will be attended to on the above day.

IMPORTANT TO LANDOWNERS.

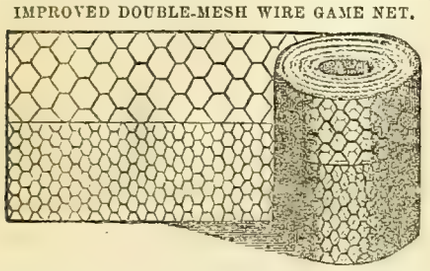
AN ACT OF INCORPORATION having been obtained by "THE LANDOWNERS' WEST OF ENGLAND AND SOUTH WALES LAND DRAINAGE AND INCLOSURE COMPANY," affording Landowners the means of Draining, Irrigating, Inclosing, Erecting Buildings of a permanent nature on, and otherwise improving, their lands, and giving such Landowners the power to charge the inheritance with the value of the outlay for the same in either of the following ways, viz.:

1. By charging the whole on the value on the property.
2. By charging the whole or a certain portion of the value on the property.
3. By having the whole value for Draining, &c., paid off by certain annual instalments in a term of 25 years.

This Company is now ready to receive applications for work to be performed under any of the provisions of their Act of Parliament, or on contract as heretofore; and from the extensive operations already in hand, they request parties, wishing to avail themselves of all the benefits of the Act, to make early application.

For all further particulars, apply to
THOMAS MAY, Secretary, 9, Bedford Circus, Exeter.

IMPROVED DOUBLE-MESH WIRE GAME NET.



BARNARD AND BISHOP, Norwich, can strongly recommend the above NET to the notice of the Nobility and Gentry, as being the cheapest yet introduced: it has met with general approbation, and has been found most efficient in the preservation of young Trees, Gardens, &c., from the depredations of game. The extra strong 2-inch is the same strength as the stoutest article in the market. On inspection, it will be found better manufactured than anything else of the kind, and 20 per cent. cheaper. It is sent out in rolls of 50 yards, or any other length, at prices as under.

				per yard—*s.*	*d.*
Double Mesh Net 2¼ ins. wide, 1⅝ & 3¼-in. mesh,				strong	0 6½
...	...	...	...	extra strong	0 9
...	...	2 & 4	...	strong	0 5½
...	...	..	...	extra strong	0 7½
Single Mesh	...	1⅝	...	light	0 7
...	...	...	...	strong	0 9
...	...	...	...	extra strong	1 0
...	...	2	...	light	0 6
...	...	...	...	strong	0 7½
...	...	...	...	extra strong	0 10

The prices quoted for double net are for equal proportions of each mesh, which may be varied if required, thus, three parts fine to one of coarse, or *vice versa*, at prices accordingly; and it can be made any mesh and width to 7 feet.

A finer description for Aviaries, Pheasantries, &c., sparrow proof, 3*d.* per square foot; or, if made in copper, at 5*d.* per square foot. The Iron Wire Net is twice dipped in anti-corrosive composition, and sent free to London or Hull.

Patterns forwarded per post, free of expence.

PARR'S LIFE PILLS are acknowledged to be the best Medicine in the world.—This Medicine has been before the British public only a few years, and perhaps in the annals of the world was never seen success equal to their progress; the virtues of this Medicine were at once acknowledged wherever tried, and recommendation followed recommendation; hundreds had soon to acknowledge that PARR'S LIFE PILLS had saved them, and were loud in their praise. The startling facts that were continually brought before the public at once removed any prejudice which some may have felt; the continual good which resulted from their use spread their fame far and wide, at this moment there is scarcely a country on the face of the globe which has not heard of their benefits, and have sought for supplies, whatever might be the cost of transmission. The United States, Canada, India, and even China, have had immense quantities shipped to their respective countries, with the same result as in England—universal good.

The sale of PARR'S LIFE PILLS amounts to upwards of 30,000 boxes weekly, more than all other patent medicines put together. This simple fact needs no further comment; it tells plainly that the Pills of Old Parr are the best medicine in the world.

BEWARE OF SPURIOUS IMITATIONS.—None are genuine unless the words "PARR'S LIFE PILLS" are in White Letters on a Red Ground, on the Government stamp, pasted round each box; also, the fac-simile of the signature of the proprietors, "T. ROBERTS and Co., Crane-court, Fleet-street, London," on the Directions.

Sold in boxes at 1*s.* 1½*d.*, 2*s.* 9*d.*, and family packets at 11*s.* each, by all respectable medicine vendors throughout the world. Full directions are given with each box.

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THE AGRICULTURE AND RURAL ECONOMY of FRANCE, BELGIUM, HOLLAND, and SWITZERLAND, from personal observation, by HENRY COLMAN, Esq., author of "Report on the Agriculture of the State of Massachusetts," &c. &c.

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UNIVERSITY COLLEGE, LONDON.
JUNIOR SCHOOL.

UNDER THE GOVERNMENT OF THE COUNCIL OF THE COLLEGE. Head Master, THOMAS HEWITT KEY, A.M.

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THE ADVERTISERS are anxious to draw the attention of the Wealthy Benevolent to a Literary Man in great distress. Though educated for business, at an early period of life accident determined Literature as his profession. For many years he was a principal contributor to the New Times,—and subsequently to Blackwood's and Fraser's Magazines. Under his literary labours his health broke down, and subsequent efforts at gaining a livelihood in business have entirely failed. Although his contributions to the above serials equal 26 vols. octavo, an application made by his friends to the Literary Fund was unsuccessful, because he had not published a separate work. At 61 years of age, with a constitution so broken up by disease as to render him incapable of severe application, and a wife and mother dependent on him for support, he has no alternative but the workhouse, unless the Public will step forward and rescue him from his present wretched condition.

This Advertisement is addressed to all those who can sympathize with the cultivated mind in a distress deeper than that of physical want,—and especially to those for whose political views, as the brilliant pages of Blackwood will testify, the distressed author may be said to have sacrificed his health and strength. The Advertisers hope that the liberality of the benevolent will enable them to raise enough money to procure an annuity, that will place the object of their solicitude for the remainder of his life beyond the reach of the excessive poverty which now distresses him

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Year in which effected.	Age at Admission.	Annual Premium.	Amount of Premiums paid without interest.	Sum assured	Total addition, 1847.	Total Payable in case of death before December 31, 1848.
		£ *s.* *d.*	£ *s.* *d.*	£	£ *s.* *d.*	£ *s.* *d.*
1834	29	24 0 0	336 0 0	1000	244 16 0	1244 16 0
,,	42	71 13 4	1003 6 8	2000	608 0 0	2608 0 0
,,	59	90 13 4	1269 6 8	2000	690 16 0	2690 16 0
,,	47	82 11 8	1156 3 4	2000	657 16 0	2657 16 0
,,	21	9 12 6	134 15 0	500	109 10 0	609 10 0
1846	28	11 13 9	23 7 6	500	16 16 0	516 16 0
,,	34	27 8 4	54 16 8	1000	36 2 0	1036 2 0
,,	27	2 6 9	4 13 6	100	3 6 0	103 6 0
,,	48	8 5 2	16 10 4	200	9 0 0	209 0 0
,,	55	28 0 0	56 0 0	500	27 5 0	527 5 0

The usual commission allowed.

By order of the Board, PETER HARDY, Actuary.

PROVIDENT LIFE OFFICE, 50, Regent-street, and 2, Royal Exchange-buildings, London.
Established 1806. Invested Capital, 1,230,000*l.*
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The profits (subject to a trifling deduction) are divided among the insured. The plan upon which they are divided gives to each party insured a share proportionate to the amount of the Premiums he has contributed.

In addition to the above advantages, the Directors have determined to adopt the principle of allotting a prospective Bonus to Policies lapsing between the Septennial Periods of Division, in order that all the Policy-holders may participate equally in the Profits of the Society.

The following Table shows the amount of Bonuses added to Policies existing at the present time.

Policy No.	Date of Policy.	Sum insured.	Bonuses added.	Increase on original Insurance.	Total Sum payable, to which future Bonuses will be added.
		£	£ *s.* *d.*		£ *s.* *d.*
21	1806	500	415 10 2	83·10 per cent.	915 10 2
521	1807	900	982 12 1	109.17 ,,	1882 12 1
1174	1810	1200	1160 5 6	96.68 ,,	2360 5 6
1395	1811	1600	1328 8 6	83.02 ,,	2928 8 6
3286	1820	2000	1906 13 5	95.33 ,,	3906 13 5
3392	1820	5000	3558 17 8	71.17 ,,	8558 17 8
4356	1822	3000	2541 3 6	84.7 ,,	5541 3 6

Prospectuses and full particulars may be obtained upon application to the Agents of the Office in all the principal towns of the United Kingdom; and the head Office, No. 50, Regent-st.

Printed by WILLIAM BRADBURY, of No. 6, York-place, Stoke Newington, and FREDERICK MULLETT EVANS, of No. 7, Church-row, Stoke Newington, both in the county of Middlesex, Printers, at their office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the Office, No. 5, Charles-street, in the parish of St. Paul's, Covent Garden, in the said county, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY, SEPT. 2, 1848.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 37.—1848.] SATURDAY, SEPTEMBER 9. [Price 6d.

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HANDSWORTH AND LOZELLS HORTICULTURAL SOCIETY.—THE LAST EXHIBITION this season will (through the kindness of Samuel Kenrick, Esq.) be held on the Lawn in front of Handsworth Hall, on Tuesday next, the 12th of September. By permission of the Hon. Colonel Scarlett and Officers of the Fifth Dragoon Guards, their Military Band will attend. Admission to Non-Subscribers, 1s. each. Gates open from 1 until 6 o'clock. Charles James Perry, Hon. Sec.
Hamstead-road, near Birmingham, September 9th, 1848.

NORWOOD FLORICULTURAL SOCIETY.—A GRAND DAHLIA AND MISCELLANEOUS FLOWER SHOW, of the above Society, will be held at the Tivoli Gardens, King's Head Inn, Lower Norwood, Surrey, on Wednesday, Sept. 20, 1848. Open to all Exhibitors. Mr. J. Lewis's unrivalled Horn and Cornopean band will be in attendance from 1 o'clock till dusk. Lists of prizes may be obtained, on application, to Mr. Joseph Mabley, King's Head Inn; and of J. Lacy, Secretary, Chapel-road, Norwood.

THE BEBINGTON HORTICULTURAL SOCIETY'S DAHLIA SHOW, open to all England, will be held at the Rock Ferry Hotel Pleasure Grounds, near Liverpool, on Wednesday, the 20th September instant.—Rules and Regulations may be obtained on application to Thomas Aspinall, Secretary, Beachside, Rock Ferry, near Birkenhead.

BECK'S SEEDLING PELARGONIUMS.—A Descriptive Catalogue of the above may be had on application, prepaid, and enclosing one Postage Stamp.
Worton Cottage, Isleworth.

JOHN HENCHMAN has still left about half a dozen packets of his choice CALCEOLARIA SEED, at 5s. per packet. Saved with great care from a few choice varieties selected from above 2000 plants.—Edmonton, near London.

CHANDLER AND SONS, Nurserymen, Vauxhall, London, can supply good Plants of CAMELLIAS, of the best sorts, with flower-buds, at 30s. to 42s. per dozen; also good Plants of CHRYSANTHEMUMS, of sorts for flowering this autumn, at 9s. to 12s. per dozen.
C. and Sons also beg to state that they have received their Dutch Roots in very fine order, a list of which, together with the above, may be had on application.

MYATT'S NEW FERTILISED HAUTBOIS, Patronised by His Royal Highness Prince Albert.
Messrs. J. Myatt have now strong Runners of this and the following varieties, at the annexed prices: Myatt's Fertilised Hautbois, 25s. per 100; Eleanor, 21s.; Globe, 7s. 6d.; Mammoth, 7s. 6d.; Queen, 3s. 6d.; Pelvetain's Princess Royal and Comte de Paris, 20s.; Black Prince, 20s; La Leigeoise, 10s. 6d.; Aberdeen Beehive, 5s.; and Hooper's Seedling, 5s.
The usual Trade allowance.
Post-office Orders made payable to Joseph Myatt, Deptford.
Manor Farm, Deptford, Sept. 9.

STRAWBERRIES.
R. S. YATES can supply strong plants of all the sorts known to be worthy of cultivation; also several new sorts unproved, all at moderate prices.
R. S. Yates has also a quantity of ABERDEEN BEEHIVE STRAWBERRY Plants (warranted true as received direct from Mr. Mathewson), that he will supply (gratis) to any one who thinks it worth while to make the application.
St. Ann's-square, Manchester, Sept. 9

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JOHN SCHOFIELD AND SON beg to inform their friends and the public, that they have now ready to send out in strong plants,
12 Extra Show PANSIES, 6s., 12s., and 20s.
12 pairs Extra Show PINKS, 3s. to 12s.
12 pairs Extra Show CARNATIONS and PICOTEES, 10s. to 20s.
12 of the best FUCHSIAS out, including their beautiful seedling, "Albano," for 15s.
The selection of the above left to J. S. and Son.
Their Autumn Catalogue is now ready; also select Pansy and Calceolaria Seed, 2s. 6d. and 5s. per packet.
N.B.—Single plants of FUCHSIA "ALBANO," 3s. each.
Knowle Nursery near Leeds, Yorkshire.

DUTCH BULBS.
FREDERICK WARNER begs to inform his friends and the public that his annual importation of DUTCH FLOWER ROOTS has arrived in fine condition, amongst which are many new and beautiful sorts. Catalogues will be forwarded on application.—28, Cornhill, London.

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R. S. has also on hand every article connected with the Seed and Nursery Trade, the latter consisting of choice and varied assortments of Ornamental Trees, Shrubs, and Plants, to which deserving novelties are constantly added.
Edinburgh, September 9.

LANDSCAPE GARDENING & GENERAL IMPROVEMENT.
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,, australis
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,, insignis
,, Gerardiana
,, cembra
Abies Khutrow (true)
,, orientalis
,, clanbraziliana
Picea cephalonica
Picea pinsapo
,, religiosa
,, Webbiana
,, pindrow
Cedrus Deodara, 3 fine plants
Araucaria imbricata, 3 ditto
Cedrus Libani
Cupressus torulosa
,, Uhdeana
Juniperus Bedfordiana
Taxodium sempervirens

Or the following, including the above, for 10l.

Pinus Lambertiana
,, cembroides
Abies Douglasii
,, horizontalis
,, Brunoniana, 4 years (bushy), very rare
Picea Nordmanniana, 5 years, very strong and extremely rare
Picea nobilis
Cryptomeria japonica, strong
Juniperus excelsa
,, Chinensis
Cupressus thurifera pendula
Thuja pendula
With six fine plants of Cedrus Deodara, and six of Araucaria imbricata

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Y. and Co. are now supplying fine healthy plants of the newest and choicest varieties, well set with flower-buds, at 30s. to 42s. per dozen.

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Owing to the rapid steam communication now established between Yarmouth and Holland, Youell and Co. have been induced to import a very extensive collection of the Finest HYACINTHS for glasses and forcing, which have arrived in the best possible condition, the roots being very large and sound. They are enabled to offer the handsomer kinds by name, at 6s., 9s., and 12s. per dozen; catalogues of which may be had on application.

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PINKS.
Comprising the newest and best varieties for successful exhibition, 12s. to 18s. per dozen pairs.

STRAWBERRIES.
YOUELL AND CO. can now supply strong Runners of the following fine and desirable STRAWBERRIES, warranted true to name:—Myatt's Eleanor, 21s. per 100; Mammoth, 7s. 6d.; Globe, 7s. 6d.; La Leigeoise, 5s.; Royal Pine (fine), 7s. 6d.; Queen 3s. 6d.; Eliza, 3s. 6d.; Elton Pine, 3s. 6d.; Black Roseberry, 5s.; Princess Alice, 3s. 6d.; Swainston's Pine, 3s. 6d.; Myatt's Pine, 5s.; Coul, or Sir G. Mackenzie's late Scarlet, 5s.; Myatt's Prolific, 7s. 6d.; Martham Seedling (fine and very early), 10s.; with many other fine sorts.

ANEMONE SEED,
Saved from the finest selected sorts, is now being sent out per post, free, at 2s. 6d. and 5s. per packet, sufficient to sow a bed of 12 and 24 yards; if sown now, a fine bloom will be insured during the winter and spring months.
GREAT YARMOUTH NURSERY.

NEW FANCY GERANIUMS.
WILLIAM AMBROSE will be prepared to send out the following new and first-rate GERANIUMS the first week in October: Jenny Lind, 21s.; this plant gained four first-class Certificates in 1847, and a Medal in 1848, (for which see the *Gardeners' Chronicle*, and Gardeners and Land Stewards' Journal); also Modesta, 21s.; a first-rate show variety, superior to any light one in cultivation, of very robust habit, and flowers as freely as Queen Victoria, with flowers as large again as that variety; also Queen Superb, 10s. 6d.; a fine show variety. This plant also is very superior to Queen Victoria, throwing long footstalks of a much brighter colour and strong habit. W. A. can with confidence recommend the above flowers to growers generally as being first-rate for exhibition; early orders are solicited, the stock being limited of the above. W. A. will have plants of all the new varieties in cultivation by the above time, having all the continental importations of last seasons. In answer to all enquiries, he begs to say he will not be able to send his "Defiance" out this season. The above for cash. No discount, and one over in every two ordered by the Trade.—Battersea, Sept. 9.

ROCK PLANTS.
J. R. AND A. PLARSON having a large collection of ROCK PLANTS, offer them at very low rates. Lists forwarded on application. Chelsea Nursery, near Kingsbury.

RHODODENDRON JAVANICUM.
WILLIAM ROLLISSON AND SONS, in referring to their advertisement in the Gardeners' Chronicle of the 10th June, beg to announce, for the information of the Nobility, Gentry, and Trade, that they will have ready for sale in the spring several thousands of the young, healthy plants of this most beautiful and easily cultivated Rhododendron, at very moderate prices.
W. R. and Sons also beg to say that they are prepared at the present moment to send out a few fine healthy, grafted plants of Rhododendron javanicum, at 5 guineas each.
Tooting Nurseries, Surrey.

SEED AND HORTICULTURAL ESTABLISHMENT, 129, HIGH STREET, SOUTHAMPTON.
W. H. ROGERS (late of the firm of Rogers and Son), begs to announce his having opened the above commodious and central premises, where, by a faithful and punctual execution of all orders committed to his care, combined with moderate charges, he hopes to be favoured with a share of public patronage.
The general SEED DEPARTMENT will be conducted on a new and most efficient footing; London prices will be adhered to, and every article will be warranted genuine and of first-rate quality. Forest-trees, Shrubs, Evergreens, American Plants, and every other description of Nursery Stock, will be sold in large or small quantities, at a low scale of prices. The Fruit Tree department will embrace every variety worthy of cultivation.
W. H. R. having had considerable experience in LANDSCAPE GARDENING, confidently offers his services in designing parks, gardens, and pleasure grounds, in the most convenient and effective style; also horticultural erections of every description. The planting of gardens and waste lands carried on in any part of the kingdom, engaging to replace failures.
GREENHOUSE and STOVE PLANTS, and all the most beautiful varieties of Florists' Flowers, including a splendid assortment of Roses, Camellias, and Chrysanthemums, supplied according to order. A fine selection of the Florists' Flower Roots has just been received direct from Holland. Separate catalogues may be had on application.
The most approved GARDENING APPARATUS, the best Russian Mats, and all articles appertaining to the Nursery and Seed Business, will be kept constantly on sale. Information relative to every branch of Horticultural science will be afforded at this establishment, which it is intended to render as complete as possible.

ARNOLD'S "VIRGIN QUEEN" GERANIUM.—*This is the best* WHITE *in cultivation. It has been fully proved this season, nine specimen plants having produced* 350 *expanded blossoms at one time, only one of which was imperfect.*
We can recommend it with the same confidence as we did Lyne's "Duke of Cornwall" and "Forest-queen," and we are certain that it will give the greatest satisfaction to all who purchase it. It is thus described by Dr. Lindley, in the *Gardeners' Chronicle*:—"*W. E. R. The flower is of a well formed flower, broad white under petals, the upper petals plain colour with a narrow margin of white; the segments flower of the centre.*" The habit of the plant is excellent, and the blooms are thrown well above the foliage.
Price 1l. 10s. each, or three for 3l. to the Trade.
P.S.—We are so satisfied with the excellence of the above, and so certain are we that it will give the greatest satisfaction, we will agree to give the amount in Plants selected from our current Catalogue, should it not prove to be equal to what we have stated.—W. E. R. and Co.
The following set of 5 Geraniums (sent out by us last autumn) for 40s.:

	each—s. d.		each—s. d.
2 Lyne's Jenny Lind ...	15 0	5 Lyne's Mercury ...	10 6
3 ,, Star of the West	10 6	6 Foley's Black Prince	5 0
4 ,, Lady Ebrington	10 6		

The following set of 8 Geraniums (sent out by Mr. Miller, of Ramsgate, last autumn) for 42s.:

	each—s. d.		each—s. d.
7 Miller's Scarlet Defiance	7 6	11 Miller's Admiration ...	7 6
8 ,, Rosa Mundi	7 6	12 ,, Volcius	7 6
9 ,, Queen of Kent ...	7 6	13 ,, Flora's Flag	7 6
10 ,, Distinctus	7 6	14 ,, Conspicuanda ..	7 6

The whole set of 14 *as above, including Arnold's Virgin Queen, for* 4l. 4s., *or exclusive of Virgin Queen, for* 3l. 10s.
First orders will receive the first selection, and will be sent out in October next.
William E. Rendle and Co., Plymouth.
P.S.—Our New Plant Catalogue is just ready, and can be obtained gratis, on application.

PANSIES AND NEW SEEDLING PETUNIAS.
HENRY MAJOR, Knosthorpe, near Leeds, can supply healthy plants of his beautiful and much esteemed PANSY "MILTON," at 2s. 6d. each, or 6 plants for 15s., post free. This variety ought to be in every collection; it has appeared in most of the winning stands this season. Also the following 18 fine varieties for 24s., post free, viz., Milton, Hector, Yellow Celmax, Southern Standard, Duchess of Norfolk, Mrs. Pete, Blooming Girl, Lord Nelson, Star (Hooper's), Cracker, Mr. Hamilton, Superb, Supreme, Marchioness of Breadalbane, Satirist, Celmax, Rainbow, Star Fringe.
H. M. has also to offer four fine Seedling PETUNIAS, price 10s. the set, post free. The following opinion has been obtained upon them, in the *Gardeners' Chronicle*, July 22, 1848:—"M. E.—Your specimens are very pretty varieties, strongly varied, and differing in colour; No. 6, with lilac veins, has also a stripe of that colour running up the centre of each division of the corolla, giving it a star-like appearance. No. 2, with deep purple veins, is a handsome flower. They are four distinct and good varieties."
Select Pansy and Calceolaria Seed, 2s. 6d. per packet. A remittance from unknown correspondents must accompany the order. N.B.—Early orders are respectfully requested, as the stock is small.

NEW PINKS.

CHARLES TURNER will be prepared to execute orders, after the 10th September, for the following new varieties. YOUNG'S XX, purple lace, very smooth on the edges, good size, and constant; the above was raised by P. Young, Esq., of Twyford, near Winchester, a gentleman well known to the floricultural public. It received first-class Certificates at the following exhibitions in 1847: Royal South London, 1 bloom; Slough, do.; Bishopstoke, 3 do. 1848: Royal Botanic, June 14, 6 blooms; Wycombe, June 15, 4 blooms; Royal South London, June 20, 24 blooms; Slough, June 22, 24 blooms; Staines, June 23, 6 blooms; Bishopstoke, June 26, 12 blooms; and shown on stands on different occasions during the two seasons, all of which gained first prizes. It will be seen from the above that 80 blooms have been submitted for public competition and inspection, and its merits fully established. C. TURNER would not have thought it necessary to say more upon the qualities of XX, had not an attempt been made by an individual in a weekly journal to depreciate the merits of the flower; but in justice to himself he begs to state he has the sanction of the following eminent judges and growers, who have had frequent opportunities of judging the qualities of XX, to state that they consider the flower first-rate and constant in every respect, viz., J. F. Wood, Nottingham (editor of the "Midland Florist"); Messrs. Norman, Woolwich; Newhall, do.; Ward, do.; Baker, do.; Marris, Leicester; Hollyoak, do.; Smith, Oxford; Hastings, do.; Costar, Benson; Kirtland, Bletchington; Hall, Enfield; Hale, Billingdon; Jewell, Foot's Cray; Heartstone, St. Mary's Cray; Meade, Lewisham; Holliday, Northampton; Wilmer, Sunbury; Henbrey, Croydon; Harrison, Richmond; Edwards, London; Neville, do.; Bushell, do.; Creed, do.; Harms, do.; Prockter, Bermondsey.

TURNER'S MR. EDWARDS, rose, fine (figured with XX in No. 9 of the "Florist"), 5s. per pair.

TURNER'S MORNING STAR, purple, fine large petal, 5s. per pair.

TURNER'S NONPAREIL, light rose, 3s. 6d. per pair.

MACLEAN'S NARBOROUGH BUCK, rich, dark, large, and finely formed, 5s. per pair.

C. TURNER'S Descriptive Catalogue of Pinks, Carnations, Picotees, Pansies, &c., will be ready in a few days, which may be had on prepaid application.—Chalvey, Slough, Sept. 9.

FIRST-CLASS GERANIUMS.

J. HINE having a very large stock of the best kinds in cultivation, informs the public that he intends to supply them this autumn at unusually low prices. Lists to be had on and after the 12th of this month. The much admired set of Eight Seedlings raised by Mr. MILLER, and advertised for the first time last autumn (price 8l. 8s.) can be obtained this season for 1l. 5s., having a very fine stock of them, namely:

SCARLET DEFIANCE	ADMIRATION
ROSA MUNDI	VULGIUS
QUEEN OF KENT	CONSPICABUNDUS
DISTINCTUS	FLORA'S FLAG.

Illustrated Engravings of which will be sent on receipt of 24 stamps. Other varieties from 10s. 6d. to 1l. 1s. per doz.
Providence Nursery, Ramsgate.

CRYPTOMERIA JAPONICA SEEDLINGS.

MESSRS. STANDISH AND NOBLE, NURSERYMEN, Bagshot, have the honour to inform the Nobility, Gentry, and the Public, that they have succeeded in obtaining a quantity of SEED of the above truly magnificent Tree from the north of China, and are now able to send out SEEDLING Plants at the undermentioned low scale of prices.

It was first sent home by Mr. Fortune to the Horticultural Society, in 1844, and has now proved to be perfectly hardy in this country, having stood out in many exposed situations during the severe winter of 1846 and 1847. It is a tree of rapid growth, and some very fine specimens may now be seen in the gardens of the Horticultural Society nearly 10 feet in height, and very graceful in form.

"I met here (Shanghae), for the first time, with the beautiful Cryptomeria japonica, a species of Pine not unlike the Araucarias of Australia and Brazil. When growing luxuriantly it is highly ornamental, rising from the ground as straight as a Larch, and sending out numerous side branches almost horizontally from the main stem, which again droop towards the ground in a graceful and WEEPING *manner. The wood of the tree has a kind of twisted grain, possessing great strength and durability, and is highly valued by the Chinese."*—FORTUNE'S WANDERINGS IN CHINA.

We need scarcely inform the lovers of hardy evergreens that SEEDLINGS of this species are of much more value than cuttings. The latter never make handsome plants, and grow much slower. Our Seedling Plants, which we are now sending out, if properly managed, will be more than 2 feet high by next spring, the proper time to plant them out in the open ground.

Messrs. STANDISH and NOBLE can now supply nice healthy plants, in 60-size pots, at the following low price, viz., 3s. 6d. per plant, 36s. per doz., or 12l. 10s. per hundred. A liberal allowance to the Trade from the above prices.

N.B.—The above is for cash only.

LAURELS AND ROSES.

D. FERGUSON, CONTRACTING PLANTER, LANDSCAPE GARDENER, &c., respectfully informs the nobility, gentry, and Railway Companies, that he can supply them with small Laurels at 1l. per 1000, adding 1000 to every ten ordered. Delivered free at Wolverton and Oxford, or at any of the London Railway Stations, at 8d. per cwt. He has about 100,000 left that he can supply this autumn, and he can, if called for, supply 50,000,000 in the autumn of 1849. Fine transplanted Berberis aquifolia, at 1l. to 30s. per 1000. A large quantity of large Evergreen and Deciduous shrubs and trees, exceedingly suitable for new places, giving at once effect and shelter, a thing desirable to proprietors in this uncertain life.

A large quantity of Standard and other ROSES, many of which are worked upon tall Standards for planting among American shrubs, &c. Also some of the tall growing sorts trained 5 or 6 feet above their stems, making a splendid show when planted amongst Evergreens, showing the magnificent pillar of Roses without the unsightly stems being seen. Autumn, I have found by experience, the best season for planting, and I advise my patrons to lose no time in preparing, more particularly where earth is to be removed.

In answer to inquiries, my charges are 2l. 2s. per day, with board and second class travelling expenses; but where I supply shrubs, &c., to the amount of 100l., I only charge my expenses. I shall be happy to exchange Roses for fruit tree stocks to the number of 150 or 200,000.

D. FERGUSON, Aylesbury Nurseries, Sept. 9.

SEEDS.—CORNER OF HALF-MOON-STREET, THOMAS GIBBS AND CO.,

(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND," Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

Priced Lists of Agricultural Seeds are always ready, and may be had on application.

HENRY WALTON having seen, with much surprise, in the *Gardeners' Chronicle*, for Sept. 2, an Advertisement from Mr. Hine (successor to Mr. Miller, and to whom H. W. paid this spring 5l. 15s. for the lot), who now offers to supply the set of eight first-rate seedling GERANIUMS, sent out in 1847, "for the unusually low price of 1l. 5s.," begs to make a further reduction, and will have much pleasure in supplying the same for 1l. 1s. Lyne's and other first favourites at equally reduced prices. Catalogues may be had on application. —Edge End, Marsden, near Burnley, Lancashire.

EDWARD GEORGE HENDERSON, Wellington-road, St. John's Wood, London,

Begs to inform the readers of the *Gardeners' Chronicle*, that on and after the 1st of October, he will be sending out his new Seedling French Fancy GERANIUM, "MADAME GRISI," at 10s. 6d. each, small plants, and fine strong bushy plants at 21s. each. It has been shown at the Horticultural Society's Gardens at Chiswick, and a Certificate of Merit was awarded to it. The foliage, habit, and size of flower, is in the true fancy style; the colour of the top petals is a dark rich maroon, with a light margin, the lower petals a lighter shade with a white edging and a white throat.

E. G. H. also begs to annex the following list of fine healthy plants, which he has now on sale. The Ericas marked thus *, are now showing flower. Those in list No. 1 can be supplied at 1s. each; in No. 2 at 1s. 6d. each; in No. 3 at 2s. 6d. each; and in No. 4 at 3s. 6d. each. Those to which prices are affixed can be supplied in different sizes.

NEW BEDDING PLANTS.

ZAUSCHNERIA californica, orange scarlet tube, colour of Gardoquia Hookerii, and same sized flower, likely to prove hardy, good plants, 7s. 6d.
HELIOTROPIUM Triomphe de Liege, 2s. 6d.
CALENDRINIA umbellata, beautiful rich violet plum, 1s. 6d.
SCUTELLARIA macrantha, dark purple blue; flower large, height 1 foot, 5s.
PENTSTEMON Mc Ewenii, good plants, 3s. 6d.
CALCEOLARIA amplexicaulis, good lemon yellow, shrubby habit, blooms very freely in large bunches, and flower extra size; no rain will injure it, as the mouth of the flower is quite closed; strong plants, 3s. 6d. and 2s. 6d.
Ditto, Kentish Hero, orange, large flower, 2s. 6d.
Ditto, albiflora, species; clear white, blooming in spikes, beautiful foliage, 3s. 6d. and 5s.
Ditto, Cuniatum, species; small foliage, yellow flowers, 3s. 6d.
PLUMBAGO Larpentæ, small plants, 3s. 6d.
" " strong flowering plants, 30s.
STEVIA Lindleyana, white, sweet-scented, 2s. 6d.
VERONICA speciosa coccinea, fine variety, 3s. 6d.

NEW HARDY PLANTS.

WEIGELIA rosea, strong, bedded out two seasons, 1½ to 2 feet in height, and bushy in proportion, 3s. 6d.
" small, 9s. per doz.
FORSYTHIA viridescens, strong, bedded out two seasons, 3 feet in height, and bushy in proportion, 3s. 6d.
" small, 9s. per doz.
LIGUSTRUM japonicum, 3s. 6d.
ESCALLONIA grandiflora, 2s. 6d.
JASMINUM nudiflorum, 2s. 6d.
BERBERIS Fortunii, 15s.
GARRYA macrophylla, 5s.
AZALEA squamatum, 5s.; ditto ovatum, 5s.
RHODODENDRON aureum (Smith's), strong plants, 1 to 2 feet (sent out by Lucombe, Pince, and Co.), strong, 15s.
" " carneum elegantissimum, strong, 15s.
" " Broughtonii, 5s. and 7s. 6d.
" " campanulatum Alexandria, 10s. 6d.
" " Victoria regina, 7s. 6d.
" " Abiellianum, 7s. 6d.
CRYPTOMERIA japonica, 3s. 6d. and 15s.
TAXODIUM sempervirens, 3 feet, 3s. 6d.

A few plants that can be recommended.

CHIRONIA glutinosa; blooming freely throughout the season, 3s. 6d. and 5s.
KENNEDYA longipedunculata, 5s.
CANTUA bicolor, 10s. 6d.
ACROPHYLLUM venosum, 5s. and 7s. 6d.
PRIMULA sinensis flore pleno alba, 1s. 6d.*
" " " " " fimbriata, 2s. 6d.*
" " " " " rubra, 3s. 6d.*
* These are strong plants in bloom, that will continue blooming till May.
LESCHENAULTIA arcuata, 3s. 6d.
CORRÆA brilliant, 7s. 6d.
" picta superba, 5s.
" curiosa, 7s. 6d.

ERICAS.—LIST, No. 1.

*Arbuscula
*Assurgens
Bonplandia
Blandfordia
Bergiana (quadriflora)
Blanda
*Cerinthoides coccinea
*Cliffordia
*Caffra
Colorans verna
Curviflora
* " lutea
Concinna
Cistifolia
Cushiniana
*Cantharæformis, 1s. 6d.
*Declinata
Droseroides
Exudens
*Echiiflora purpurea
* " coccinea
* " rosea
Gracilis vernalis
* " autumnalis
Hiemalis
Hybrida
*Incarnata major
Linnæa
Lævis alba
*Mammosa
" major
" pallida
Nigrita
Niscularis
Persoluta
*Præstans
Pellucida
" alba
Quadrata
Rubra calyx
Regerminans
Rubens
Rosea
Sparsa
Sebana aurantia
Sulphurea
Sanguinea
Translucens
Trossula
Transparens
Umbellata
Walkerii
Willmorea
" superba, 1s. 6d.

LIST, No. 2.

	s.	d.
*Archeri		
Acuminata longiflora	1	0
Aristata vittata	2	6
Ampullacea rubra	2	6
*Bowieana		
Baudonia		
Beaumontia		
*Denticulata moschata		
Dickensonii		
Eximia		
Eweriana pilosa	2	6
* " superba		
*Exurgens coccinea	2	6
Elata		
Florida campanulata		
Fastigiata		
" lutescens	3	6
Gelida		
Grandinosa vernalis	1	0
* " autumnale 1s. &	2	6
Hyacintboides		
*Intermedia	1	0
Juliana	1	0
Linnæa nova		
" curviflora		
Linnæoides		
Macnabiana	2	6
Neillii	2	6
Nitida		
Pyreformis		
*Pyramidalis autumnalis		
Perspicua nana	2	6
Petiveriana aurantiaca		
Purpurea		
Savileana		
*Sebana rubra		
Suaveolens		
Viscaria		
Sindryana	2	6
Vestita alba 1s. and	2	6
" coccinea	2	6
" rosea	2	6
" incarnata	2	6
" fulgida		
" " flamea		
Ventricosa carnea	1	0
" superba	1	0
" stellata		
" cruciflora		
" tenuifolia		
" coccinea minor		
" " elegans	2	6
" breviflora	1	0
" rosea superba	2	6
" " grandiflora		
" " splendens		
* " erecta	1	0
*Westcottia		

LIST, No. 3.

	s.	d.
*Aitoni		
Aristata	3	6
" major	3	6
" minor	1	6
Andromediflora		
Banksia purpurea	1	6
" alba		
*Cerinthoides coronata		
Cavendishii, 1s 6d and	3	6
Clusiana (Ewersonii)		
Depressa	1	6
" rubra	1	6
Elegans		
Fimbriata		
Favoides elegans		
Gemmifera		
Grandiflora	2	0
Hartnelli	2	0
Humea	2	0
Halicacaba	3	6
Inflata alba		
Jasminiflora (true)	3	6
" alba		
" nana		
*Lambertia		
* " rosea		
Linnæoides concolor		
Linnæoides superba	2	0
Mirabilis	2	0
*Mutabilis	2	0
Melastoma		
Macnabiana, variety		
Obtusa		
*Princeps	3	6
* " carnea		
Retorta		
Recurvata		
Sanguineolenta	2	0
Suaveolens superba (Pallida)	3	6
" Smithiana	1	6
Swainsoni	3	6
Thunbergia	2	0
Templæa	3	6
Tricolor elegans	1	6
" impressa		
" Wilsonii		
Westphalingia		
*Verticillata		
Ventricosa coccinea	3	6
" alba tincta	3	6
" " hirsuta	3	6
" purpuracens	3	6
" curta rubra	3	6

LIST, No. 4.

	s.	d.
Albertus superba 2s. 6d. and	5	0
Coronata (Imperialis)	5	0
Depressa major		
" multiflora		
Epistomia		
Ferruginea		
Hendersonii		
*Jacksonii		
Lawsonii		
Longiflora		
Macnabiana rosea		
Magnifica		
Odorata		
Perspicua nana rosea	5	0
Retorta major	2	6
Tricolor major		
" Leeana		
" major superba		
Triumphans	5	0

The following at prices stated.

	s.	d.
Eassonia	7	6
" purpurea	7	6
Irbyana (true)	5	0
Lawrenciana	5	0
Massonii major, 7s. 6d. and	10	6
Metulæflora (true)	10	6
Pinifolia discolor	5	0
Princeps Templæa	5	0
Retorta splendens	5	0
Sprengelii	5	0
Tricolor obbata, 5s. and	7	6
Vestita alba (true) habit of coccinea	5	0
" coccinea tenuifolia	10	6
Vasiflora	5	0
Webbiana	5	0

EPACRIS.

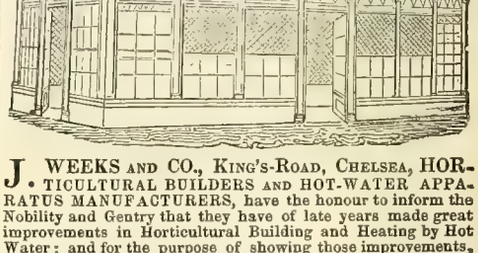
	s.	d.
*Atleeana, 1s. and	1	6
Alba odorata	1	6
Ardentissima	2	6
Autumnalis, 1s., 1s. 6d., and	2	6
Campanulata alba, 1s. and	1	6
" rubra grandiflora, 1s. and	1	6
Carnea	1	6
Ceræflora or Craigii	2	6
Coruscans, 2s. 6d., 1s. 6d., and	1	0
Coplandii or Impressa coccinea	1	6
Elegantissima	1	6
Eximicea	3	6
Fulgens	2	6
Fulgida	3	6
Grandiflora, 1s. 6d. and	2	0
Hyacinthiflora, 1s. and	1	6
" candidissima	10	6
Impressa	1	0
" alba, 1s. and	2	0
" candida	2	6
" coccinea (Rollison's) 1s. 6d. and	2	6
Lævigata, 1s. and	1	6
Lineatus, 1s. and	1	6
Magnifica	2	6
Microphylla	1	0
Miniata, 1s., 1s. 6d., 2s. 6d., and	3	6
Nivalis, 1s. 6d. and	2	0
" compacta	2	0
Onosmiflora	1	6
Splendida	1	6
Sanguinea	1	6
Tauntoniensis, 2s. and	2	6
Variegata	2	6
Variabilis, 1s. and	1	6
Willmorea, 2s. 6d., 1s. 6d., and	1	0

With our usual allowance to the Trade.

WILLIAM HAMILTON (late ROBERT WESTMACOTT), SEEDSMAN and FLORIST, 156, CHEAPSIDE, LONDON, begs to inform the Nobility and the Public that he has received from Haarlem several cases of HYACINTHS and other flowering Bulbs, in fine condition, and can supply excellent sorts, named, single and double, at 6s. and 9s. per dozen; best mixed varieties, 3s. per dozen. CROCUS, RANUNCULUS, ANEMONE, and other roots, equally moderate. When the selection is left to W. H., strict attention is paid to sending really good varieties of all kinds of bulbs. Packages of annual and perennial Flower Seeds for autumn sowing, consisting of 12 fine varieties, 2s. 6d.; 25 varieties, 5s. Catalogues may be had on application.

N.B.—W. H. solicits an inspection of his new improved HYACINTH SUPPORTER, a variety of which may be seen at 156, Cheapside, London (opposite St. Paul's).

HORTICULTURAL ESTABLISHMENT, AND GARDENERS' REGISTER OFFICE.



J. WEEKS AND CO., KING'S-ROAD, CHELSEA, HORTICULTURAL BUILDERS AND HOT-WATER APPARATUS MANUFACTURERS, have the honour to inform the Nobility and Gentry that they have of late years made great improvements in Horticultural Building and Heating by Hot Water; and for the purpose of showing those improvements, they have erected in the King's-road, Chelsea, an extensive ornamental Nursery, which contains upwards of 15,000 feet of Glass, consisting of Hothouses, Greenhouses, Conservatories, Pits, &c. &c., in great variety; the whole of which is heated by Hot Water in various forms. This has also enabled them to grow at very reduced prices a most extensive collection of Stove and Greenhouse Plants.

THE SEED DEPARTMENT at this Establishment is conducted with the greatest care and attention. Samples of every variety are proved before sent out.

PLANS, ESTIMATES, AND CATALOGUES upon application.

BAKER'S PHEASANTRY, Beaufort-street, King's-road, Chelsea, by special appointment to her Majesty and H.R.H. Prince Albert.—ORNAMENTAL WATER FOWL, consisting of black and white swans, Egyptian, Canada, China, bernacle, brent, and laughing geese, sheildrakes, pintail, widgeon, summer and winter teal, gadwall, Labrador, shovellers, gold-eyed and dun divers, Carolina ducks, &c., domesticated and pheasants; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking fowls; white Japan, pied, and common pea-fowl, and pure China pigs; and at 3, Half-moon-passage, Gracechurch-street.

NEW ROSE CATALOGUE.

WILLIAM WOOD AND SON have the pleasure of announcing that the New Edition of their Descriptive ROSE CATALOGUE is now ready, and will be forwarded gratis on application. A Catalogue of Ornamental Trees, Shrubs, &c., will be ready in a few days.
Woodlands Nursery, Maresfield, near Uckfield, Sussex.

ROSES.

THOMAS RIVERS respectfully informs his friends that his DESCRIPTIVE CATALOGUE OF ROSES for 1848 is now ready for delivery. It will be sent free, annual, to all his friends; and applications from strangers, enclosing two penny stamps, will be promptly attended to. The Catalogue contains Reduced and Most Select Lists of First-rate Roses only, and will be found an efficient guide to the purchaser.
Sawbridgeworth, Herts.

The Gardeners' Chronicle.

SATURDAY, SEPTEMBER 9, 1848.

MEETINGS FOR THE FOLLOWING WEEK.
WEDNESDAY, Sept. 13—Royal South London ..... 1 P.M.
COUNTRY SHOWS.—Tuesday, Sept. 12: Midhurst Horticultural, Norfolk and Norwich Horticultural. Thursday, Sept. 14: Edinburgh North British Gardeners'.

VULGAR ERRORS may be divided into two classes; those which are the mere result of superstitious invention, and such as have arisen from the imperfect observation of singular phenomena. The former class is represented by the belief in the miraculous cures of disease effected by agencies wholly destitute of any possible influence; and the blossoming of the Rose of Jericho, which is said to expand at the moment when a child is born. To the latter belong all cases of equivocal generation, the fancy that Thistles and Olives do not grow from seeds, that hedgehogs suck cows, that the Berberry bush blights corn, and the like; and, as some say, the opinion so confidently entertained by many persons that young VIPERS take refuge in their mother's stomach. To the latter question, which has lately occupied more space in our columns than in the opinion of some it deserves, we now wish to draw attention.

The statement that vipers permit their young, when disturbed, to glide down their throats, is one of high antiquity: and if the testimony of the old naturalists and poets possessed any value there could be no doubt about the matter. Nor indeed would it be open to question if such evidence as can be obtained from numerous eye-witnesses of the supposed fact were deemed conclusive. It must be admitted that our correspondents have lately furnished that in abundance. But the question is not what people may believe they saw, but what really happened in the cases in question. Did they see correctly? or were they deceived by the rapid motions of the reptiles? or when they opened the old one did they distinguish correctly the true nature of the part in which the living young were found? These and similar questions must force themselves upon all men of science when they are called upon by unskilful observers to place their belief in occurrences, marvellous and against the usual course of nature. Such occurrences may be true; but they require rigorous demonstration, which they have not yet received.

The question has been so ably handled by Prof. HENSLOW, Mr. GOUGH, of Kendal, and others, that we should not have ventured to introduce any observations of our own, if we had not felt in some sort called upon to do so as the *Amicus curiæ*. And therefore we have asked a friend possessing the most intimate knowledge of the anatomy of reptiles to give us his opinion as to the *possibility* of the alleged facts having occurred. This answer is as follows:

"A man who believes that he has seen the brood of "a viper take refuge in the mother's inside by darting "down her mouth, is more likely to have deceived him- "self than one who has cut up the mother and found "the living young in her inside. The latter observa- "tion is most to the purpose, and its value depends "upon the observer's knowledge of the anatomy of the "viper, and power of distinguishing between the long "oviduct and the long gullet. The viper (*per syncope* "for *viviper*), producing *living* young, the discovery of "such alive in her inside might lead one not cognizant "of that fact, and unable to distinguish the anatomical "characters of the part containing the young vipers, to "connect his observation with the story of the swallow- "ing the young. What is wanting to determine that "instinctive habit as a scientific fact is the capture of "the viper after the supposed act, killing her, tying a "string round the neck, and sending her to the Hun- "terian Museum, where the young might be demon- "strated in the gullet, if they had actually retreated "thither. But, were such a specimen sent me, I should, "of course, be desirous to know the character of the "sender before concluding that any young vipers found "in the gullet had voluntarily betaken themselves "there. Now, as to the anatomical obstacles to their "spontaneous exit, which must be, of course, by the "mouth. The poison fangs, being recumbent when not "in use, would offer none; the fixed, recurved, palatal "teeth seem set on purpose to oppose the escape of "prey from the mouth. Yet serpents can gape so wide, "that it seems quite possible for young vipers to wriggle "themselves out of the mouth, if they were in the "gullet. The instincts of animals are so marvellous "and varied, that I would not venture to disbelieve or "deny the possibility of the manœuvre by which the "viper converts, for the nonce, her long and wide "gullet into a marsupial pouch; but, as yet, I have "seen no evidence in proof of it. You might get as "many eye-witnesses, I suppose, to the sucking of a cow "by a hedgehog, as to the swallowing of her brood by "the viper."

If we were to give the name of the writer of these observations they would command the respect of the most undoubting eye-witness. But it is needless to do so, for they bear internal evidence of a knowledge of the subject to which all must defer. They do not declare it to be impossible for vipers to allow their brood to seek refuge within their mouths, but they ask for proof. And so do we; that is to say for the only proof which can be satisfactory, viz., a viper into whose gullet the young have been seen to glide, with its mouth tied up, and the young still there. The most honest ocular testimony in the world must, in a case like this, be rejected, and even Mr. PAGE, of Manchester, must, we think, admit that the eye may be deceptive. Those, at least, who witnessed the legerdemain of Herr DOBLER, will feel that it is not always possible to believe in the truth of what appears to be seen.

It has been proposed to send vipers in this condition to Professor HENSLOW or Mr. BELL; but it will be better to adopt the advice of our correspondent, and to forward them to the Hunterian Museum, Lincoln's-inn-fields, London, where gentlemen are always present to perform the requisite examinations. If the fact be as represented there can be no sort of difficulty in proving it; for now is the season when the viper may be had in the state required, and we can assure those who live in places where the reptile abounds that they could not perform a more acceptable service to science than by taking means to set so vexed a question finally at rest. If they should prove to be right they will gain a triumph; if wrong they will be too happy to have a great error rectified. Should this proposition not be accepted we shall be obliged to infer that the tales about the viper really belong to the class of vulgar errors.

The scepticism of naturalists has been made a reproach by some of our correspondents; and one of them has ventured to sneer at their scientific doubts. But surely Mr. GOUGH has given very sufficient reason for their continuing to be sceptical about popular notions which are at variance with scientific ideas. It is their "faith in principles" which they know to have been established by cautious and laborious research that is the legitimate parent of all such scepticism. Although the undeniable experiment performed by Mr. GOUGH has greatly strengthened their scepticism about the truth of the fact in dispute, we will engage to say that there is not one man of genuine science who would wish it to have the effect of deterring any one from prosecuting the inquiry in the only legitimate way; that is to say by forwarding vipers in a fit state for examination as to this particular matter. Any surgeon, however (as our correspondent, "J. C. X." suggests), might readily decide whether the young had really entered the stomach, without internal abrasion of this organ having taken place.* Until this has been done, we are sure that our readers, as well as ourselves, will wish the subject to be dropped. Words have already done their best.

GENTLEMEN will find themselves mistaken if they put faith in the idle rumours of the POTATO DISEASE being stayed, or exaggerated, or about to disappear. Whatever local circumstances and the incomprehensible changes in this malady may here and there effect, they cannot alter the course of Nature; they cannot convert putrescence into living matter; they cannot produce a crop where the leaves and stem are blighted before the crop was formed. I have raised my Potatoes, writes the Irish farmer, and "there is nothing under them." Can any one seriously imagine that where nothing is under them anything will come, the leaves and stems—the source from which the underground crop is derived—being removed? The notion is childish.

That the early Potatoes have proved apparently sound in many places, notwithstanding the blight, is doubtless true, and so it is that in many places the loss under such circumstances is not so large as might have been expected. In such cases the crop had reached an advanced stage of growth before the blight struck the leaves.

The truth is that, as we have long foreseen and warned the public, the Potato crop is lost. Of course we do not mean wholly, as some dull person would infer, but lost in the same sense as a general action, wherein multitudes are killed but multitudes escape. We will not pretend to [illegible] the extent of the [illegible] in Ireland, that time has not come for that, but it is generally known by the numerous reports to be a total loss [illegible] the low lands and there, or [illegible] good part." There is no other [illegible] the return themselves; they are, in the [illegible] in seven sorts, and in [illegible] except a few [illegible] have been already exhausted may be looked upon as represented, as to [illegible] by the following letter.

"Harvest is just commencing hereabouts; fair average crop of Oats and Barley. But I am sorry to say the Potato murrain is the [illegible] progress; in some instances one-half and upwards are already unfit for use. I may also state that I had a quantity raised from seed from Mexico ([illegible] country), and they are worse than any of the [illegible] varieties. So much for those who (without any reason) say that that the Potato is run out for want of being renewed from the seed. Several frosts to severe as 22° Fahr. have taken place here lately; but with the exception of Potatoes, and in some instances Oats and Barley, there is not much damage done as yet; *Alex. Walker, Gardener, Mayen House, Banffshire, Sept. 5.*"

We may add that we have as yet received no satisfactory proof that our speculation about the connection between the Potato disease and luxuriance is wrong; on the contrary, some supposed cases to the contrary, especially one from Portishead, near Bristol, confirm the opinion. But concerning this most important subject we wait for further information.

TORENIA ASIATICA,

AS A BORDER PLANT.

MUCH diversity of opinion seems to exist as to the probability of this plant becoming adapted for massing on the parterre. When a person records an experiment of a like nature, it would save a world of controversy and misunderstanding if he were to state the precise locality from which he writes. Many records of gardening experiment are comparatively worthless from the lack of such data. To illustrate this, suppose a gardener writing from the western coast of Cornwall that some plant, hitherto thought to require protection, had withstood an ordinary winter in the open air, and that another gardener, in a midland or northern county, was to repeat the experiment, would it be at all likely that the latter could succeed? Yet, ten to one but on such a failure he would stigmatise the first experiment as a vile imposition, or the mere offspring of some theorist. Minutes in these matters, when utility is the object in view, cannot be too scrupulously attended to.

The first great recommendation of this charming plant is, its readiness of increase by cuttings. In this particular it yields to no plant, however common. Possessing several strong plants last autumn, I inserted a large pot full of cuttings, which all immediately rooted; they were kept in a cool place till January, when wishing to procure as strong plants as possible by the latter part of May, they were potted off and placed in a stove. After occupying this situation till February, they were removed to a house where Beans, &c., were forcing. Being tolerably established at root, rapid growth ensued. As spring advanced they were removed to a light shelf of a cold house, *i. e.* one from which frost was only excluded. Having selected a bed in the parterre, sheltered by a terrace from the S.W. wind (which is here particularly annoying), and from the N. by a high shrubbery, the soil was removed about 20 inches or 2 feet. A good drainage was placed at bottom, and the bed filled with equal parts of fibrous loam and peat, to which was added a good portion of leaf-mould, in which, on the 23d May, the plants were placed. Unfortunately before they were established two or three days of drenching rains ensued, which somewhat retarded them. I should have said night covering for a short time was resorted to as a precaution.

With the disadvantage of premature planting, and a wet summer unexampled in this county for many years, the plants struggled on, and their present appearance is by no means despicable; and I have no hesitation in saying that in many counties in England this beautiful plant will be found adapted to the open air in summer. Arguing from my own experience, I should recommend strong plants to be put out, and not sooner than the first week in June; and I imagine that a wire trellis, fitting the bed, and barely elevated from the surface, on which the plants may creep, would be an acquisition. The plants here have assumed a different tint in the foliage from those grown under glass, and the flowers are of a deeper hue. The past month scarcely giving us one dry day, has of course greatly retarded everything of a tender character; *G., Hants, opposite the western point of the Isle of Wight, Sept. 5.*

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

ON SPRING BULBS.—"What a hoarse, croaking, prophetic note you are uttering this week," some will be ready to exclaim when they see the title of this paper. "We have scarcely got our flower-beds properly covered, our Dahlias are in their glory, and we look forward to a gorgeous autumnal display, and yet you are talking about spring bulbs!" Yes, flower-loving reader, and if you want to be interested and delighted in the cold and

* If any one should prefer sending a specimen to Professor HENSLOW, we must request that it be forwarded to his address at Hitcham, near Hadleigh, Suffolk, and not to Cambridge, as one of our correspondents has proposed.

cheerless season, you must not only talk but act also in reference to these productions. All is pleasant now, it is true, but shortened days and lengthening shadows, and cold evening dews remind us that every out-door beauty of an exotic character is doomed. Soon there will come a frost, a nipping frost, and the best preparative for the disappointment it will occasion is to be ready with a good supply of spring bulbs.

It cannot be too strongly impressed upon amateurs to follow Nature as far as practicable in all things; and with this infallible guide they will find that bulbs which flower in the cold months are now beginning to experience vital motions, and should therefore, as soon as possible, be deposited in the soil. Hyacinths, Tulips, and Crocuses are now protruding roots, if they have been left in the ground all the summer, and even the bulbs which have been kept in a dry place exhibit signs of growth. The Crocus is displaying its yellow shoot, and the Hyacinths of an early kind exhibit the evolving foliage, in a white or greenish speck at the apex of the bulb. They may be kept out of the ground somewhat longer without injury, but the law should be observed as closely as possible, that the root and the foliage are best in action together. Those amateurs will have the finest flowers, and the largest and healthiest increase from their bulbs who plant them as soon as possible after the 1st of September.

The importations from Holland are now mostly made, and dealers have their stocks ready for their customers. In a good catalogue like that published every year by Mr. James Carter, of High Holborn, you will find every variety of bulb fit for growing in the open air, with the colours of the Hyacinths, Tulips, and Crocuses indicated. Buy in time, or the best bulbs will be picked out. In former papers we have urged all who can afford to do so to be liberal in the purchase of bulbs, because they afford great beauty and exquisite pleasure at a season of the year otherwise desolate. If you have a stock by you, look them over, and plant where your beds will allow you to do so, and continue to fill up all places intended for bulbs as the withering of other things permits. To prevent a growth out of the ground, which must be injurious, keep your bulbs as dry as possible and spread out; for you will always find roots emitted where they are kept in masses.

But it is in reference to bulbs intended for pots, and early blooming in rooms, that this paper is principally written, and you should immediately pot as many Hyacinths, early Tulips, and Crocuses, as you intend to devote to this purpose. Let the pots be long 60s, or about 4 inches by 3 for Hyacinths and Tulips, and 48s for Crocuses. The soil should be a mixture of leaf-mould and sand, well drained by crocks at the bottom of the pot. The bulbs should be firmly pressed into the soil, which should cover the Tulips and Crocuses; but it is considered best to let the Hyacinths stand out of the mould about half an inch. When the pots are filled they should be placed on slates, to prevent the ingress of worms, and then covered over with mould to the depth of about a foot. They will shortly be filled with roots, and may then be taken into the house to be forced; *H. B.*

ENTOMOLOGY.

THE ORANGE FLY (CERATITIS CAPITATA.)

"WHEN horticulturists complain of the mischief done to their ripe fruit by the larvæ of insects, they have themselves in a great measure to blame, since the facility of lessening the numbers of such species is great indeed when compared with that of protecting the tree itself, or even the blossom, from the injury which other insects inflict. But if the fruit be left either too long on the tree, or if when plucked it should be left unexamined, so as to allow the perfect insect to emerge in safety, and propagate the evil, while the fruit itself is almost of no value, we must not be surprised at the result."

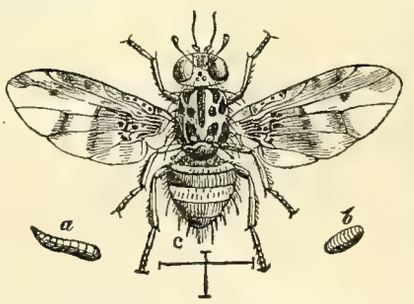
Such are the judicious observations of Mr. W. S. MacLeay in describing a small but very beautiful dipterous (two winged) insect, the larvæ of which annually commit sad havoc in the cargoes of Oranges imported into this country. The quantity of Oranges annually imported into England amounts, he informs us, to about from 90,000 to 100,000 chests, of which the greatest part comes from the Azores. Of the quantity imported, however, only about two-thirds are serviceable, as the Orange merchants calculate on a total loss of one-third of their average importations; and it frequently happens that whole cargoes arrive in such a state of decay as not even to sell for the value of their freight, so that the London merchant, if not insured, incurs, in addition to this loss, all that of the first cost and shipper's charges. As, however, he calculates on the sound cargoes making up the loss, and leaving him a profit on the whole of his importation, it is clear that the real burthen falls on the public, who are thus obliged to pay nearly a third more for the Oranges they consume than they would do on the supposition of the cargoes remaining sound.

That the decay of a cargo of Oranges results from their being stowed away where there can be no free circulation of air is probably true to a great extent, but the quickness of the passage as now performed by steamboats from St. Michael's (10 or 12 days), and the fact, as stated to me by persons engaged in the Orange trade, that the St. Michael's Oranges are much more subject to decay than those from Lisbon, which are rarely infected, evidently point out that there must be some other cause than the want of a circulation in the heated or confined hold of the vessels in which they are imported.

I am indebted to Mr. Samuel Hanson, the very extensive fruit merchant in Botolph-lane, for specimens of the larva (fig. *a*) of a dipterous insect found in these rotten Oranges from St. Michael's, and which is to be considered as the primary cause of the mischief in question. I am the more satisfied in giving a description of this larva, as Mr. MacLeay, in his paper on the subject, published in the 4th volume of the "Zoological Journal," reserved its description for a supplemental paper, which has never been published.

On examining an infected St. Michael's Orange, a minute puncture is to be observed, by which, according to Mr. MacLeay, the parent fly introduces its destructive offspring into the fruit; and sometimes it is only by this puncture, not larger than if made by a pin, that the mischief is to be inferred, but generally it is surrounded by a withered and discoloured spot, varying in size from that of a sixpence to a half-a-crown; the puncture in this case may be distinguished with ease from the orifice made by the larva previous to metamorphosis by a certain whiteness of the sides, which appears to result from some mould or other vegetable of that nature. On opening the Orange the interior beneath the discoloured space is found to be decayed, the fibres decomposed, and it is in the midst of this decaying mass that we find the larva in question. The larva is a white fleshy grub, destitute of legs, very similar to that of the Celery-stem fly, and like it, it possesses two small black contiguous hooks at the front of the body, which it alternately protrudes and retracts, thereby tearing the delicate membrane in which the drops of juice are contained. The body is gradually attenuated in front, very indistinctly articulated, the anterior segments, including the head, being retractile. There are generally several of these larvæ in each Orange, and when removed and placed upon a flat surface they have the power of springing to a considerable distance, in the same manner as the well known cheese maggot. When full grown they eat their way out of the Orange, and undergo the change to the pupa state on its outside.

The pupa (fig. *b*) is a small, hard, brown, oval body, the outer surface scarcely indicating any traces of articulation, being the dried skin of the larva, within which the real pupa is enclosed. From some larvæ received on the 22d May I succeeded in rearing several perfect insects on the 13th June.



Ceratitis capitata belongs to the order Diptera and family Muscidæ, and is nearly allied to the genus Tephritis, the larvæ of one of the species of which forms galls on the Cnicus arvensis, as represented in one of our previous articles. The perfect insect is one of the most beautiful of the order to which it belongs, its general colour being fulvous buff, with the thorax grey, spotted with black; the scutellum black, with an undulated white line at the base*, and two pale grey bars across the abdomen; the basal half of the wing is much variegated with minute black dots and streaks, with a buff and ashy cloud near the base, another across the middle, another along the extremity of the fore margin (dotted with black), and an ashy bar on the inner margin. The male is singularly distinguished by having two slender filaments arising between the eyes, knobbed at the tips (as represented in our figure), a peculiarity which we believe is possessed by no other dipterous insect, and which is wanting in the female.

This insect is also a native of St. Jago, one of the Cape Verd islands, according to MacLeay, as well as of the island of Mauritius, where it was found by M. Cattoire (who sent it to Latreille and MacLeay), and by M. Desjardins, who sent it to M. Guerin, by whom it was generally found upon the leaves of the Orange. Daldorf also found it in the Indian Ocean, and his specimen preserved in the Copenhagen Museum was described by Weidemann, in 1824, under the name of Trypeta capitata. Mr. MacLeay's figure (unaccompanied by any technical description) of the same insect, under the name of Ceratitis citriperda, appeared in 1829. Macquart subsequently gave to it the generic name of Petalophora, which must sink into a synonym of Ceratitis.

Dr. Heineken, who also found the insect in the island of Madeira, states (Zool. Journ. v., 199) that he observed it at rest, as though basking, and with the wings expanded, on the leaves of some thick shrubs in the garden of the English church at Funchal. In the surrounding gardens were Orange, Lemon, and other fruit trees, but not in that where he found it, and which it was afterwards in the habit of frequenting. It had the manners and appearance of an insect of very confined locomotive powers and activity, and he seldom saw it upon the wing further than passing from shrub to shrub, and never upon flowers, or with the attitude and appearance of one either eating or searching for food. He subsequently took it on the Orange tree, and reared several in the middle of the month of February, from pupæ found on a decayed Lemon, and recollected also having hatched them from Peaches. He also mentions a smaller and paler variety (but differing in no other respect), which were certainly not hatched from Oranges. Mr. MacLeay had also been informed that a maggot infests the Oranges in the West Indies; but although long resident in Cuba he had not seen it.

With respect to the prevention of the loss occasioned by C. capitata, Mr. MacLeay remarks that if the loss fell on the proprietors of the Orange groves, or even on the shippers, it would be their interest to pay some attention to an insect by which the public at present suffer so much; and strict attention on their part during the spring of two or three consecutive years to the appearance of the ripe fruit shipped in the Azores, which, according to Dr. Webster, amounts to about 40,000 chests, and the careful destruction in proper time of the worthless Oranges, which are punctured in the above-mentioned manner, would serve at least to diminish the evil, if not entirely to eradicate it.

I have long possessed specimens of this insect taken on the wing in Thames-street, and have received from the Gold Coast of Africa a larger but closely allied species, with the thorax fulvous and destitute of black spots, which alone appear on the hind part of the scutellum, for which I propose the name of C. concolor. Another species has been described by the Marquis de Breme in the Annals of the French Entomological Society under the name of C. hispanica, brought from Andalusia, by M. Rambur, and nearly resembling C. capitata; *J. O. W.*

* This white line is not represented in Mr. MacLeay's figure, notwithstanding its gigantic size.

Home Correspondence.

Scorching Effects of British Sheet Glass.—I have been surprised to observe that, for some time past, a great outcry has been raised against the use of British sheet glass for horticultural purposes, cultivators alleging as a reason that the plants kept in houses glazed with it are in consequence scorched and materially injured. I must say that, to me, this kind of glass has ever proved perfectly satisfactory, both in this place and in every other where I have recommended its adoption. At Chatsworth we have nearly 88,000 feet of it in use, and having now had the experience of eight years, may be considered capable of forming a pretty correct estimate of its real value for gardening purposes. I believe I can safely say that during the whole of the above time not a single instance of injury has occurred which could be fairly attributed to the use of sheet glass; and yet we have it employed for every form of culture, on almost every aspect and inclination, and with every degree of temperature. I am perfectly satisfied that if the slight inequalities on the surface of this glass, occasioned by the manner in which it is made, formed lenses, and became so extensively injurious as alleged, something of the kind must certainly, at one time or other, have occurred at Chatsworth during so lengthened a period as eight years. Such, however, has not been the case, and I am so fully convinced of the superiority of this article for horticultural purposes over every other, that I invariably continue to use it myself, and recommend its universal adoption whenever my opinion is consulted. That material injury has occurred to plants in houses glazed with it in various parts of the country there is evident proof, but I believe that injury to be mainly, if not entirely, attributable to another cause—and that imperfect ventilation. And the more I read the varied correspondence on the subject which has been successively communicated since August, 1847, the more I become convinced of the propriety of the conclusion at which I have arrived; indeed the statements of some very intelligent gardeners would otherwise appear to me both contradictory and absurd. That a greater proportion of light is admitted through long sheets of this medium than through the old crown glass with its heavy laps half-filled with dirt, there can be no doubt; here is one of the great advantages in making use of it, and if, as is the fact, that a larger portion of heating rays is transmitted than through the old medium, humidity and ventilation must be supplied in the same proportion; and the true knowledge of the time when this should be given, and the proper proportions, must entirely depend on the judgment of the practical man who has observed the working of his houses, and who alone is able to lay down a rule by which he can act with success. Every gardener knows that two houses constructed exactly alike, glazed with the same material, subjected to the same rules of temperature, and intended to produce the same articles at the same given time, in many cases require very different treatment; the air and humidity given to the one would be too little or too much for the other, or given too early or too late; differences arising no doubt from subsoil, vaporous exhalations, long continued dull weather, and many other causes over which the practical man has little control; his prudence and judgment are therefore continually called in requisition to prevent injuries, and supply other and more suitable agencies; how otherwise could we reconcile opinions of the most contradictory character, emanating from well known practical men. The present subject of sheet glass is a case in point; here we have the most conflicting accounts, some of the writers so highly approve of its use that they speak of it with what might be termed enthusiasm; others of equal standing, as gardeners, consider it worse than useless, and would gladly extirpate it from gardens altogether. My ex-

perience leads me to the following conclusions: that if a proper proportion of air and moisture be suitably supplied at a proper hour, no burning effects or injury of any kind will be sustained. And I trust this excellent glass will never be replaced with rough plate, which I am satisfied, whenever tried, will prove a decided failure; *Joseph Paxton, Chatsworth, Sept.* 6.

Glass Burning.—Your correspondent "H. K.," in last week's Number, says "some one more learned in optics will inform you what must be the size of the portion of a sphere of glass that will burn leaves at a distance of 8 or 12 feet." Now I, for one, without wishing to be considered learned, do not think the question a difficult one. From this and a subsequent remark, it is evident "H. K." supposes the distance to which the rays travel beyond the lens to depend entirely on the superficial area of the latter, but this is a mistake. I have just measured the focal length of a lens in the roof of our greenhouse, and find it to be about 16 feet, and its superficial area is only about 10 square inches. It was one of the most powerful burners, before it was rendered opaque, with which I had to contend. Every one possessing a knowledge of optics knows that rays of light may be made to travel a longer or shorter distance, in proportion to the curvature of the lens, and its power of refraction; and that every double convex lens may be viewed as a portion of a sphere, whose centre, or semi-diameter, is the focal point. Assuming the lens before-mentioned to be of this kind, to throw its focal point to the distance of 16 feet, it must be a portion of a sphere whose diameter is 32 feet. I am, however, inclined to the opinion that the lenses formed in sheet glass are of the shape called plano-convex. In this state they possess only half the refractive power of the former, and in consequence of which the focal point is thrown to twice the distance, or the whole diameter of the sphere of which it forms a portion. "H. K." says that several of the burned leaves are completely covered from the rays by other leaves over them. Is he in earnest when he says further on, "I think it far more probable that a drop of water falling on a dusty leaf should retain the shape of a sphere (!) or a portion of a sphere, and that the rays of a hot sun passing through it, should be collected to a focus and scorch the leaf, than that sheet glass of 6 or 8 inches width should throw a focus 8 to 12 feet off." Alas for the poor dusty leaves! Since the rays of the sun are so completely excluded, how is it possible that the small globules of water resting on the leaves could be instrumental, in the above case, in producing scorching? If "H. K." had watched the progress of the sun's rays on the foliage of his plants on the day the scorching took place, he would most probably have observed that, although the leaves were covered by others from the direct rays, they were accessible, notwithstanding, to rays which, passing obliquely through a lens, were concentrated just at that distance; for rays of light, whether they pass through a lens either in an oblique or straightforward direction, have a focus beyond, equidistant from the centre of the lens. So much for "H. K." In a letter from Mr. Roberts it appears as if he supposes the angle of the roof to play some part in the burning process. For the reason given above, in speaking of oblique rays passing through a lens, I am inclined to think that a difference of a few degrees in the angle of the roof of a house is of very little importance. Indeed, for the purpose of proving this, a few days since I purposely cleansed a lens which had been previously darkened, and I find its present power equal to what it possessed in June. In that month, a creeper growing against the back wall of one of the houses was severely injured nearly close to the ground; at present the mischief occurs at least 8 feet higher. In another house, the roof of which runs north and south, the injury done by scorching is equal to that in either of the other houses, whose roofs run east and west. It is evident therefore to me that the angle of a roof will never counteract the ill effects of the glass; consequently, any speculation on that point will lead to little practical good; *H. Mitchell, Carnanton, Aug.* 31.

Polmaise Heating and Glass Burning.—"A. K." says, "With the assistance of an intelligent builder, and the plans and directions in the *Gardeners' Chronicle*, I put a Polmaise stove up, and found it a failure." Alas for Polmaise! there are many intelligent builders totally ignorant of the principles upon which it acts; poor thing! it has been cruelly handled, and the only wonder is that it has survived so long, but "truth will out at last." He then says, "To be effective the body of the stove must be in the body of the house. I have no doubt a small one will then answer, but it is very ugly, and takes up much room. It was through endeavouring to avoid this I failed." Now, there is no necessity whatever for the body of the stove to be in the body of the house, though by having it there the advantage is gained of securing all the heat that is radiated from it. Neither is there any necessity for its being "very ugly," nor for its taking up much room. One of mine which heats a large house in a most satisfactory manner, stands under the trellis, and in the compass of one square yard, and if need be it could be made highly ornamental. This house is heated in the most simple form imaginable. I have one house rather more complicated, requiring bottom-heat, and in which I strike the whole of my stock during the winter months, and than which nothing can answer better. I must also beg to point out another error of "A. K.'s:" he says, "and if my memory fail not, he may also see in a house glazed with common glass very many scorched Vine leaves." The Vines which he saw were under sheet glass, in pots, trained up the rafters, perfectly free from any scorching whatever, their brown appearance being the effect of maturity; and now as sheet glass has been arraigned before that awful tribunal—public opinion—and condemned, allow me to say, in mitigation of its sentence, a few words in its favour. It has been my servant for two years; it has done its duty equally well with its fellow servant, crown; true it was found tripping occasionally, so was crown, but "it was more sinned against than sinning," the fault was mine. The case stood thus, and it is very probable that other cases did stand like it also: after days of dark, dull, cloudy weather, the sun breaks out in all its splendour, the weakened plants quail under the excess of light and heat, exhalation takes place with increased rapidity, and the plant cannot supply moisture fast enough to meet it; the consequence is, that a portion, and sometimes the whole of a leaf, becomes shrivelled or burnt. Such has been the case with me both under crown and sheet glass, and such will always be the case unless some such remedy as the following is adopted: whenever it promises to be a clear, bright day, I give air as soon as the sun comes upon the house, not waiting until the thermometer gets too high; as the sun gains power I give more air, and, if need be, shade for two or three hours in the greatest glare of sunshine. With such a course of treatment my plants never burn under either sheet or crown glass; *A. Kendall, Queen Elizabeth walk, Stoke Newington.*

Strawberries.—It has been stated that late crops of Strawberries may be obtained by preventing their flowering in the early part of the season, but as far as my experience goes, I have found that if the flowers are cut off at the usual time of flowering, none are again produced until the following season. Last year, the family here being about to leave home before the Strawberries were ripe, and it being my wish to have some late in the season, all the blossoms of the plants in one square (Keens' seedlings) were cut off, but none were afterwards formed until this season. It is right to mention that most of the blossoms were expanded at the time they were cut off. Our plan of Strawberry culture here, although not new, has the recommendation of being successful in producing fine crops. The ground having been first trenched three spades deep, and a good coating of dung afterwards pointed in, the runners are taken as soon as they can be obtained, and planted in rows 2 feet apart, and 18 inches distant in the rows; if the weather is hot and dry after planting, they are well watered, and short Grass is spread over the surface of the ground to retain the moisture. In winter, rotten dung is put between the rows, which preserves the roots from being injured by frost, and in spring, when all danger of severe frost is over, it is lightly forked in. When the plants come into flower, short Grass is spread on the ground, by which the fruit is kept clean and uninjured. The plants do not bear a full crop until the second year after planting, and after having borne for three years they are removed, it being found that the crop is never so good after that time. By this mode of culture, excellent crops of large and well-flavoured Strawberries are always produced; *W. W., Innistiogue, Co. Kilkenny, Aug.* 29.

Flower Pegs.—I have to thank "H. G. A." for the hint respecting the use of hair-pins for trailing plants. Much as I was pleased with whalebone slips, I think that for Verbenas and other plants with fine stems the hair-pins are superior. I purchased six packets, containing a dozen each, 3½ inches long, at 1*d.* the packet, and I am delighted with them. They really are invisible. In very dry weather, however, when the ground is very light, perhaps the slips of whalebone may be best for stronger plants, as they can be cut to any length that is most likely to keep firm. I think the slips should be cut into 8-inch lengths, which will be 4 inches when doubled for use; but both the hair-pins and whalebone can be used as required, and will be found by amateurs a great addition to the beauty of the flower-beds. The whalebone is sold at the linendrapers, in lengths of different widths and thickness. Mine is a quarter of an inch wide, and just thick enough to keep stiff when folded. I have tried for a long time the Russian mat plan, and consider it tedious and clumsy compared with the other modes. Fern pegs, I have no doubt, are good. I hope none of your readers will be deterred from publishing their useful hints in consequence of the remark of "N. W. G.," who in ridicule advises that the whalebone and hair-pins should be used for their legitimate purposes. What is the legitimate purpose of any manufactured article? Is it the first purpose to which it is applied? If so, adieu to all improvement. Let us keep our India-rubber to efface pencil marks, and give up all the useful and ornamental articles for which it is now used, which add so much to our daily comfort. Formerly when any one discovered a gardening improvement, it was kept a profound secret, and I have read of some *cœur méchant*, or, as it is Anglicised, *curmudgeon*, who died with the secret in his breast sooner than reveal it. This is not the case in this enlightened age, and I hope every improvement will be communicated, for there are many hints which may prove valuable to amateurs, which might not be required by regular gardeners. Nevertheless upper gardeners are generally very intelligent persons, and they are not likely to ridicule or set themselves against anything that will add to the beauty of the flower-beds, merely because it is used as an article of dress; *An Amateur, Aug.* 31.

Mr. O'Connor's Land Scheme.—Your observations on Mr. O'Connor's Land Scheme, or as it may appropriately be called Sand Scheme, for certainly none was ever built on a more sandy foundation, induced me to make some inquiries of a friend who resides near the site of one of O'Connor's intended pauper colonies in the parish of Bromsgrove. A farm there, of 270 acres, was purchased by Mr. O'Connor last winter; a stiff clay, for which he gave 10,300*l.*; the then owner having bought it, three years before, for 6400*l.*, the tenant, at that time, renting it at less than 200*l.* a year. I mention this to show you the degree of judgment and caution that has been employed in expending the money that has been invested in this land scheme. Nearly the whole of the hedges have been cut down, the estate thereby thrown open, and a good deal of draining done, but injudiciously, it is said by practical men; of this, however, I know nothing—and about 30 cottages are in the course of erection. Between 40 and 50 large fat horses, like London dray animals, are kept, with 24 waggoners, each at wages from 15*s.* to 20*s.* a week. Each of these sturdy fellows considers it his duty to take care of two horses, and drive them where required; but if a waggon be to be loaded, Mr Waggoner has nothing to do with that; like my Lord Mayor's coachman, the quadrupeds alone are his care; moreover, inferior flunkies are kept to clean stables, cut chaff, and perform minor duties. There are four smiths, a farrier, and sundry overlookers attached to this young colony. To perfect your conception of the present working of this affair, I must just tell you that the other day two of the workmen took a cart a field's breadth for a load of gravel, or broken stones, but when the loading was to be performed, it occurred to these gentlemen that shovels were requisite. Now just observe the modesty that prevails here; had one fetched the tools, the other, and the cart and the team would have been idle; this dilemma was soon overcome by a turnabout of the team, when both men mounted the cart, and forth they drove, and in due time a pair of shovels was brought in state up to the business. Only see on how gentlemanly a scale all this can be done! Who would think that the hard earnings of a set of poor deluded men could cut so good a figure on the side of a cold hill of clay. I should tell you that it is said the farmers of the parish of Bromsgrove are roused to indignation against the powers that be for sanctioning, or at least allowing the rising prospect of ruin before their eyes. The evident probability of having a hundred families of paupers made parishioners by 10*l.* holdings, and to be maintained at no very distant period at the parish expense, is doubtless a serious affair for them. Further comment is unnecessary; *Looker-on.* [We certainly think the report of the committee a milk-and-water affair, which the evidence before them did not justify.]

Cockroaches.—About six weeks ago our Orchid house was infested with cockroaches to such a degree, that sometimes, in the course of one night, large plants were denuded of their roots, and to kill these pests the following scheme was had recourse to. Three pennyworth of arsenic was mixed with half a pound of melted tallow, and in this a quantity of small birch twigs were dipped five or six times, till they became coated. These were then stuck among the plants, and made to hang down in the way that Orchid roots do. The cockroaches taking the tallowed twigs for roots—ate their fill, and death was the consequence. So effectually has this answered, that now there is not a cockroach, nor the effects of one to be seen, and the plants are again making beautiful roots. I took great care not to let any of the poison touch the plants, experience having taught me that, if any poisonous substance is brought in contact with the tender parts of a plant, those parts die. A good sized Potato, with its centre cut out, is a first-rate trap for them, and answers at the same time as a trap for small shell-snails, earwigs, and woodlice. It should be placed with the hollow side downwards, so as to form a sort of hiding place. I convinced one of the young men here of the utility of having a few of these simple traps in an Orchid house, by showing him one evening, two large brown snails and a cockroach making a comfortable meal off an Ash-leaved Kidney, and yesterday morning I showed the same person 14 woodlice in one Potato; *John A. Watson, Exotic Nursery, King's-road, Chelsea.*

Anti-fungus.—I never noticed so many blunders in one short article as your friend "Anti-fungus," of Elgin, has perpetrated at pp. 588-9. Mr. Berkeley will probably be better occupied than in teaching one so abundantly ignorant and withal conceited. But pray Mr. Editor, yourself correct some of the points which now appear as if with your sanction. Mr. Antifungus should be told—1. That the spores of fungi do exist in the leaves of plants and larva of insects long before they appear outwardly, and develop organs of fructification—just as there is always plenty of spawn in the ground, but not always Mushrooms. 2. That when slugs, &c. are dead, fungi will grow on them, no matter how they are killed, but the salts, and other things we use, have no further connection with the fungi. 3. That Acari [illegible] are not usually found in children's heads, nor are the real parasites (Pediculi I suppose) "produced by filth." 4. That, by "burnt fungus," Mr. Berkeley did not mean a fungus which had been set fire to! but the burnt fungus (*Uredo segetum*, Pers.) 5. That, although it is true that fungi live only on dead matter, yet it must be remembered that a great part of every living plant and animal is in the condition of dead matter; directly any material is deposited in the tissues in such a form that it ceases to undergo any further organic transformations (to act or be acted upon in the economy of life), that instant it is liable to all the accidents of dead

matter—is no longer protected by that nice balance of forces or conditions which we term "vitality," and is ready to be acted on by any chemical agent or by fungi, of which we have notorious examples in the enamel of the human teeth, the heart-wood of trees, and the over-loaded systems (stomachs!) of plants after long-continued rain; *S. P. Woodward*, 40, *Upper Park-street, Islington*. [We cannot suppose that the statements of our correspondents will be taken for our own. No naturalist will require to be told that we do not share the opinions of our Elgin friend; upon whose observations we shall have a word to say next week. In Mr. Berkeley's letter "bunt" was misprinted "burnt."]

Potato Disease.—Having a garden of about a quarter of an acre, my attention, some time ago, was directed to a small pamphlet, issued by Sir Francis Lawley, Bart., to his cottage tenantry and others who had allotments, and I found a simple mode therein for making vegetable manure. I immediately prepared two tanks, one for the reserve and the other for making the manure, and I am happy in being able to state that there is no doubt the composition has been the means of saving my Potatoes from the disease, from which my neighbours' crops, in common with the country at large, have suffered. In the spring of 1847 I had my land well covered with the manure, and early in April I planted my winter Potatoes, which proved a very valuable crop, perfectly free from disease, and about four bushels to the rood. In October last I had the ground trenched, at the same time applying another dressing of the compost, to which I added an extra quantity of soot and lime to what is stated in the pamphlet alluded to. I planted my winter crop at the end of March, and about a month ago several parties pronounced the crop to be entirely diseased (and in fact the haulm had every appearance of such being the case); however I last week had the Potatoes got up (being quite ripe), and out of 30 bushels I have not one bad Potato. I am quite sure that the compost made in the tanks has been the means of saving the crop. I may also add that the party from whom I had the seed, and who also planted several bushels of the same, has scarcely a sound Potato in his garden, and in the gardens immediately adjoining mine they are equally bad; *John Barber, Wellington, Salop, Sept.* 2.

The Viper Anatomy.—This month of August has been very unfavourable for the settlement of the point, as these animals are only seen basking on a dry bank in hot sunshine. Should we have sunny weather, the middle of September will not be too late, as they are yet full of eggs. The inexperienced had better employ a viper-catcher and pay him a trifle than hazard the attempt to secure any himself. Inexperience must be attended with danger. Your correspondent "T." has put the question in its proper shape—"Has the parent the will or the power of suffering the young to reappear?" If the mother have the will or the power in one case, why not in the other? The difficulty of verifying the assertions on each side arises from the quickness of these animals, and the almost impossibility of approach near enough to observe with certainty their actions, which are nearly as quick as thought; besides, the colour of the earth being generally so much akin to their own, they can hardly be seen. The following anatomical description of the œsophagus, stomach, and matrix, extracted chiefly from an old French work, will probably answer the purpose of your correspondent, which I saw verified, some years ago now, more than upon one subject. The œsophagus is situated at the end of the gullet, on the left side, between the lungs and liver, being joined to the stomach. The former is formed of a single membrane, very soft, and easily distended to great extent. It engorges any animal that the viper has first killed with its fangs and prepared for deglutition, swallowing it entire, being deep enough and wide enough for one of commodious size—a mouse, a frog, or an eft, for instance. The stomach, which succeeds the above organ, appears, as it were, sown to its base, and seems to be only a continuation of it, being always much thicker, and composed of two membranes in and adhering to one another. The thickness of the membranes prevents the capability of the same extension as in the former. Further description of this second organ is not required for our purpose. The matrix, as stated in a former article, is placed on the under part of the body, formed at its commencement of rather a hard integument, consisting of two hard membranes, being situated under the great intestine and along with it; they have one common exit, which is large and easily dilatable for the required purposes. The matrix very near its commencement divides into two sacks, for purposes which Nature has designed to perpetuate the species, open at their ends, and commencing from them divides into two parts running along the reins on each side, between them and the intestines as far as the end of the stomach. Being very delicate and transparent, the division is not easily discernible at first sight. Here they are suspended by ligaments which proceed from near the liver, and by other small ligaments proceeding along the spine. They are sufficiently dilatable each to contain a large number of eggs with their embryo vipers. The one situated on the right side contains a much larger proportion than that on the left, and the young ones are expelled one after the other, each enveloped in its caul, which the mother helps to rupture, and licks them clean as they make their appearance. In some I have seen as many as 25 eggs, in others not 15. That the gullet can stretch to receive an animal of much larger size than itself, and the œsophagus extend also to receive it, is certain, as likewise that the matrix could open to receive back what came from it. But what we require to settle this question is—If any one have seen them enter? Have any persons seen them come out again, without being cut out from the body of the parent? I could never ascertain with certainty whether they entered the mouth or the matrix of the parent, nor do I now recollect the exact intestine from whence the young came out after opening the body. "J. C. X." says, p. 590, that the viper should be killed, and that its neck (only) should be tied round with a string. Are not both these recommendations faulty? The dispute is not whether young vipers are not to be found within the body of the parent, but in what part, and how they entered, and whether they can at will come out again. A new question also arises, whether they are killed after taking refuge in the œsophagus or first stomach, or whether the mother's life is not sacrificed by this care of her offspring, which would realise the assertion, quite incorrect in other respects, that the female dies after parturition. Therefore if the viper be deprived of life, the latter point (coming out again at will) cannot be ascertained. There being of course a passage through the animal—by the mouth, œsophagus, stomach, and the great, long, and tortuous intestine—ought not the tail end likewise to be ligatured lest the young ones might escape that way, which, however, is not very likely, as they might be half dead and digested in the passage. Anatomical description will hardly settle the question; it only proves that all the disputants are apparently correct, therefore ocular demonstration alone will do it. It is not correct to say that "all snakes lay eggs" like birds. They do not; the ova are formed and the embryo comes to maturity within, immediately before they are born, at once alive, each enveloped in its transparent tunic, which is ruptured after a few minutes; *D. S. E.*

Vipers.—"They'll sit by the fire and presume to know."—*Coriolanus*. As your viper correspondents seem not to have taken the hint you gave a fortnight ago, I may perhaps also be excused for again troubling you, the more especially as Professor Henslow clings to his unbelief with such theoretical pertinacity. I do not enclose you an enceinte viper, but I send my answers to some of the speculations of the Professor, and the very few other persons who take his side of the subject. To begin, then, Mr. Henslow asks, 1st. "Is it possible that vipers when disturbed in parturition will devour their young?" Putting aside the fact that they have been seen to go down their parent's throat much larger sizes than when they are brought forth, my answer is this: In the instance which I communicated I saw the old one stretched at full length, the young ones lying around her. I saw her open her mouth without turning her head, and then I saw the young ones run from where they were lying, some by her side and some behind her, and go down her throat. Now, all the science in the world will not make me believe this was a case of devouring; besides, would that instinct which taught them to run from the danger of man's presence teach them at the same time to run to their mother's jaws to be devoured? "Oh, lame and impotent conclusion!" Instinct, *alias* Nature, has assuredly made no such mistake. 2d. "Is parturition so slow a process with the viper that the young first delivered might crawl for shelter towards the parent in case of alarm, whilst the rest of the brood being found within her would favour the idea that they had run down her throat?" Then "seeing is not believing." I have seen them distinctly and unmistakeably go down the parent's throat, and the parent make off with them in her, and I want no favour or license for the assertion. 3d. "Did any one ever see the young return out of the mouth of the unmutilated viper?" Now, I think it would be difficult to discover this in a state of nature, as the same cause that drove them there—namely, the presence of man—would also keep them there; then the only plan is to catch the old one whilst in that condition and place her in captivity, and even then I would not admit myself in error if she never gave egress to them again alive, for fear might induce her to keep them there till they were deprived of life. 4th. "Might not the circumstances under which the presumed fact has been observed have misled the imagination?" I answer—probably in some cases, but it is erroneous to suppose that in parts of the country where they abound the sight of a viper is so exciting as to—in every case—"mislead the imagination." Tell the peasantry on the banks of the Ribble in this county, and of the heathy districts of Surrey, where the viper is seen almost daily, that you doubt this fact, and they will laugh at you. It was believed in Goldsmith's days, and it speaks little for science that it has not been satisfactorily cleared up before now. Mr. Bell, in his work on British reptiles, takes the precaution to say nothing at all about it; but although it is mentioned by most naturalists, I know of none who has had the boldness to deny the truth of it. Mr. Blyth, in Loudon's "Magazine of Natural History," says respecting it, "I have been informed of this by so many credible eye-witnesses that I cannot hesitate in yielding implicit credence in the fact." Gilbert White says, "Several intelligent folks assure me that they have seen the viper open her mouth to admit her brood down the throat on sudden surprises, the same as a female opossum does her brood into her pouch upon the like emergencies;" and yet there is not one among our host of naturalists who has proved, nor one scientific man in this very scientific country who has disproved so remarkable a circumstance; but the fact is, we have too many fireside naturalists, who, like arm-chair philosophers, are not much to be depended upon. How often would a little exertion in the right direction enable our writers to speak confidently of their own knowledge, instead of "Mr. So-and-So says in his work on such a thing," or "Professor What-do-ye-call-him, in his talented communication to such a society assures," &c. &c. Everybody knows what such "hear-says" are worth in a criminal court; once open your mouth about what you have heard said, and the judge will immediately order you to "stand down," or confine yourself to what you have seen, and this rule should be more observed in writings and discussions on this and similar subjects. In taking my leave of this protracted subject, I express a hope that the industry of naturalists or zoologistic science (which in this case has been very dilatory), will soon make all persons who feel interested in the subject as satisfied of the truth of it as is *John Page*, 50, *Chapman-street, Manchester, Sept.* 4.

Potato Disease.—It has been stated in your columns that if the tubers are steeped in diluted sulphuric acid they will be proof against the virulence of the disease, and will keep sound for any length of time. I have already drawn attention to this way of preserving the Potato crop, and only again presume to do so, because I see that others have proposed much more expensive plans. The most recent is that of pulling the stalks from the tubers, and trampling the ground so as to exclude moisture and sun, otherwise the cure will be as bad as the disease; but it is well known that trampling on the Potatoes turns them black, for, no matter how small the bruise may be, it has that effect, and consequently renders them unfit for human food. In using acid, the cost is a mere trifle, 17*s.* worth of it being sufficient to steep a large crop, and the operation might be effected in conveying them from the ridge to the pit or shed. Of the medical use of sulphuric acid, the Dispensatory says: "It checks fermentation; it is used with success in morbid acidity, and it is a valuable medicine in many febrile diseases, especially those called putrid." From the above testimony it appears to me that, to render Potatoes wholesome food (no matter how free they may be from taint or disease), it would be best to bring them through a process of this kind; for it is certain that the habitual use of them causes cutaneous affections and worms; I speak of those who solely and entirely use them for food; *M. Callaghan*, 9, *Crampton court, Dublin*. [Can our correspondent refer to an experiment in which sulphuric acid has been successful. We tried it repeatedly in 1845–6 without the smallest advantage.]

Societies.

Horticultural, *Sept.* 5.—E. Brande, Esq., in the chair. Lord Rokeby, J. G. Lye, J. Vere, and J. S. Bedford, Esqs., were elected Fellows. Of subjects of exhibition, Mr. Mylam, gr. to S. Rucker, Esq., sent a small collection of Orchids, consisting of Phalænopsis grandiflora most beautifully flowered; a capital specimen of the large blossomed variety of Miltonia candida, having 13 flower spikes; Dendrobium formosum, equally well managed; and a curious Oncidium called macranthum, pretty, but not so much so as it was expected it would prove. A Knightian Medal was awarded for the Phalænopsis.—Messrs. Veitch, of Exeter, sent Dendrobium triadenium; a variety of the charming Saccolabium Blumei, from Moulmein; and a specimen of their Java Rhododendron, together with a coloured drawing of its yellow variety called aureum.—Mr. Bunney, of Stratford, received a Certificate of Merit for a nice specimen of Dendrobium formosum.—A Banksian Medal was awarded to C. Webb, Esq., of Clapham, for a beautifully flowered plant of the variety of Stanhopea graveolens called venusta, along with which was also a fair specimen of S. Wardii. The latter variety of Stanhopea, together with S. graveolens (both exhibited under wrong names), was also shown by Messrs. Rollisson, of Tooting, who likewise sent Allamanda grandiflora, cathartica, and two imported kinds (the names of which were not given), and a nice specimen of the brilliant red flowered Cape Heath called cerinthoides coronata. A Certificate was awarded for the Heath which is one of the handsomest of autumn-blooming kinds.—Messrs. Garraway, Mayes, and Co. sent a variety of Miltonia spectabilis, in which the light petals of the species were exchanged for purple ones, rendering the flower what is called self-coloured. A Certificate was awarded it.—Mr. Groom received a Knightian Medal for nine specimens, three of Lilium lancifolium album, and six of L. l. speciosum, from his fine collection of these magnificent Lilies, which are now in flower at Clapham. It was stated that in Belgium these Lilies are plentiful in every cottage garden, and being perfectly hardy, it was anticipated that they would no doubt soon find their way abundantly into those of our own country, to which they would prove great ornaments at this season.—From Mr. Green, gr. to Sir E. Antrobus, Bart., were Mr. Bachouse's Achimenes venusta, Leschenaultia splendens, and a finely flowered specimen of the beautiful Dipladenia crassinoda. A Certificate was awarded for the latter.—Mr. Cuthill, of Camberwell, showed a pretty pink flowered Cyclamen, the same as C. Neapolitanum; and Mr. Charlwood, of Covent garden, sent Gladiolus Brenchleyensis, a brilliant red variety raised by Mr. Hooker, of Brenchley.—From Mr. Iveson, gr. to the Duchess Dowager of Northumberland, sent two ripe specimens of the Nutmeg (Myristica moschata); both had split, and showed the beautiful red interior—one, the smaller, into two halves, the other into four valves or quarters, a circumstance rather unusual with this fruit, which seldom divides itself into more than two. From the same garden also came ripe fruit of the Allspice (Myrtus pimenta), and a plant of Echites Franciscea, a Brazilian species, purple with a white eye; the flowers, however, were so much injured by travelling, that no correct idea of their beauty could be formed.—Mr. Wilmot, of Isleworth, sent two well cultivated specimens of Cayenne Pine-apples, one the smooth-leaved variety, weighing 4 lbs. 15 oz.; the other, the prickly, weighing 5 lbs. 4 oz. A Certificate of merit was awarded to the latter.—From Mr. Bray, gr. to E. Lousada, Esq., of Peak House, Sidmouth, Devon, was a Black Antigua Pine, weighing 5 lbs. 12 oz., for which a Certificate of Merit was awarded; and three large obovate orange-coloured Cedrati, with thick, wrinkled, spongy rinds, which are sometimes made into a preserve. They are the Median Apples of the ancients, and are cultivated in the southern parts of Europe, where they are esteemed for their fragrance and beauty, and for the essential oil which they produce.—Two fine looking bunches of Black Hamburgh Grapes were produced by Mr. Middleton, gr. to the Hon. and Rev. J. Norton, of Chertsey. One weighed 2 lbs. 1 oz., the other 1 lb. 12½ oz.; a Certificate was awarded them.—Specimens of a Seedling Apple were exhibited by Mr. Camden, of Hounslow. It looked something like a well coloured scarlet Crofton, inviting in appearance, but on being cut it proved gritty and deficient in flavour.—From Mr. Silverlock, of Chichester, was a dish of Figs from the open wall, consisting of some small variety which was stated to be an abundant bearer.—Of Miscellaneous Objects, Mr. Hamilton, of Cheapside, showed a contrivance for supporting Hyacinths when the latter are grown in glasses. It consisted of pierced rings, through which wires were passed upwards to support the tops, and downwards into the glasses to keep the apparatus steady.—From Mr. Yexley, of Merton, was a sample of cloth (waterproofed by some oily or resinous substance), which was stated to be better adapted for covering greenhouses and frames in winter than Russian mats, a fact which was corroborated by a gentleman present, who said that he had tried it last winter and had found it to answer perfectly. It was mentioned that a trial was about to be made of it in the Society's garden.—J. H. Barchard, Esq., of Putney Heath, sent a Palm leaf, exhibiting a very bad case of burning, occasioned by the employment of British sheet glass in his conservatory. A full explanation of the *modus operandi* of the evil will be found at p. 539, where a woodcut, representing a piece of sheet glass, has been added.

From the Garden of the Society were various Orchids, among which were the new Mexican Miltonia Karwinskii, mentioned at p. 559, and Spathoglottis Fortunei, a Hong Kong species; also six varieties of Achimenes, of which one named candida, a small, white flowered sort, was produced to show that all the species of this usually handsome genus are not beautiful, nor even desirable; and a specimen of the new Nemophila speciosa, a large white blossomed variety, with a blue or rather violet spot on the tip of each petal; together with a pink flowered Anemone, a hybrid between A. japonica and vitifolia. Of the productions of this cross some account was given at p. 559. From the same collection also came the small, round, black fruit and leaves of the Morelle de Guinée, a name under which seeds were sent to the Garden by M. Vilmorin, of Paris, last spring, and from which the specimens exhibited were raised. The common Morelle of the French is the Black Nightshade (Solanum nigrum), which is generally considered to be poisonous. The Morelle de Guinée differs from the common Morelle in having much larger leaves,

even when grown in the same kind of soil. The leaves of both sorts, it appears from the following extract from "Le Bon Jardinier" of 1846, may be eaten like Spinach. "The Morello (Solanum nigrum) is an annual, growing naturally in Europe and America. It has hitherto been considered a dangerous plant in France, where, consequently, it has been treated as a noxious weed; but it appears that the leaves may be used as Spinach. Although it belongs to the Solanum tribe, it is, perhaps, not unwholesome. It is extensively used in the Mauritius under the name of Brede, and likewise in the West Indies under that of Laman. Many of the Creoles who came to France searched for the plant and ate it without experiencing the least inconvenience. This plant may therefore afford for horticulturists another resource for the summer season, and can be easily increased by seeds, sown where the plants are intended to be grown, in any open space in March, April and May." Notwithstanding however this favourable account of a plant which has always been regarded as a poison, due caution was advised in testing its qualities.

Country Shows.

Salisbury Dahlia and Horticultural Exhibition, August 24.—The annual meeting of this Society was held in the beautiful grounds of Wilton House, which, together with the extensive display of flowers, attracted a large company. Dahlias were the principal feature of the exhibition; they were shown in great perfection, each prize being closely contested. Fuchsias were numerous. Of new plants, Mr. Wheeler, of Warminster, sent Achimenes venusta, rosy purple, and Tigridia conchiflora Wheelerii, scarlet with spots. Fruit was abundant and good, and the cottagers' productions were much to their credit. Of Dahlias, in Class I. 24 blooms, open to all growers, equal 1st prizes were awarded to Mr. C. Turner, Chalvey, and Mr. J. Keynes, Salisbury. Mr. Turner's stand contained Marquis of Worcester, Beeswing, Shylock, Captain Warner, Essex Triumph, Crocus, Indispensable, Toison d'or, Turner's The Hero, Do. Louis Philippe, Do. Berryer, Yellow Standard, Boule de Feu, Box, Marchioness of Cornwallis, Marquis of Aylesbury, Nonpareil, Mrs. Anderson, Captivation, Standard of Perfection, Golden Fleece, Princess Radziwill, Miss Vyse, Queen of Roses, Mr. Keynes exhibited Optimus, Nonpareil, Marquis of Worcester, Beeswing, Yellow Standard, Felix, Admiral Stopford, Essex Triumph, Marchioness of Cornwallis, Boule de Feu, Widnall's Queen, Marquis of Aylesbury, Standard, Princess Radziwill, Captain Warner, Aurantia, Dr. Graham, Lillywhite, Queen of England, Shylock, Walter Hilson, Dazzle, Gloria Mundi, Mrs. Anderson; 2d to Mr. Cutter, Slough, for Lady St. Maur, Essex Triumph, Golden Fleece, Beeswing, Yellow Standard, Louis Philippe, Sarah, Shylock, Marchioness of Cornwallis, Box, Andromeda, Queen of Roses, Empress of Whites, Berryer, Mrs. Herbert, Walter Hilson, Princess Radziwill, Sir C. Antrobus, Lillywhite, Raphael, Miss Sarah, Captain Warner, Queen of England, Boule de Feu; 3d, to Mr. Drummond, Bath, for Eximia, Felix, Cleopatra, Caractacus, Marquis of Worcester, Essex Triumph, Biondetta, Admiral Stopford, Boule de Feu, Mrs. Anderson, Shylock, Marquis of Bath, Cassandra, War Eagle, Scarlet Gem, Queen of Sheba, Standard, Queen of England, Dazzle, Beeswing, Louis Philippe, Andromeda, Queen of Perpetuals; 4th, to Mr. Walters, Hilperton, for Delicata, Essex Triumph, Rose d'Amour, Beeswing, Cleopatra, Gloria Mundi, Sir R. Sale, Box, Beauty of Sussex, Miss Vyse, Admiral Stopford, Shylock, Marchioness of Cornwallis, Scarlet Gem, Mrs. Shelley, Standard, Marquis of Bath, Captain Warner, Princess Radziwill, Virgil, Essex Rosy Lilac, Antagonist, Widnall's Queen, Yellow Standard; 5th, to Mr. Bragg, Slough, for Shylock, Louis Philippe, Marchioness of Cornwallis, Mynn, Toison d'Or, Essex Triumph, Miss Vyse, Fulwood Scarlet, Walter Hilson, Beeswing, Yellow Standard, Andromeda, Rose d'Amour, Essex Rosy Lilac, Mrs. Edwards, Standard, Beeswing, Minerva, Marquis of Worcester, Golden Fleece, Princess Radziwill, Cassandra, Queen of England, Nonpareil.—2d Class, 12 blooms, Amateurs and their Gardeners: 1st prize, to H. W. Collison, Esq., Bath, for Scarlet Gem, Louis Philippe, Turner's Privateer, Marquis of Worcester, Beeswing, Delight, Shylock, Captain Warner, Turner's Canary, Essex Triumph, Mrs. Anderson, Nonpareil; 2d, to J. Edwards, Esq., Holloway, for Marquis of Worcester, Essex Triumph, Shylock, Louis Philippe, Indispensable, Nonpareil, Marchioness of Cornwallis, Mrs. Anderson, Beeswing, Queen of Roses, Princess Radziwill, Yellow Standard; 3d, to Mr. Ross, Southampton, for Mrs. Shelley, Captain Warner, Privateer, Beeswing, Toison d'Or, Shylock, Marquis of Worcester, Gloria Mundi, Gem, Rembrandt, Louis Philippe, Essex Triumph; 4th, to Mr. Dodds, gr, to Colonel Baker, Salisbury, for Beeswing, Admiral Stopford, Optimus, Shylock, Yellow Standard, Nonpareil. Standard of Perfection, Dazzle, Princess Radziwill, Samuel Girling, Queen of England, Essex Triumph; 5th, to Mr. Barton, of Lacock, for Box, Essex Triumph, Toison d'Or, Beeswing, Marchioness of Cornwallis, Shylock, Caractacus, Princess Radziwill, Gloria Mundi, Standard, Rose d'Amour, Admiral Stopford; 6th, to J. Howard, Esq., Burnham, for Box, Delicata, Essex Triumph, Marquis of Worcester, Golden Fleece, Admiral Stopford, Marchioness of Cornwallis, Beeswing, Essex Rosy Lilac, Princess Radziwill, Star, Shylock.—3d Class, Amateurs or their Gardeners, 6 blooms: 1st prize, to Mr. Dodds, for Beeswing, Optimus, Shylock, Widnall's Queen, Dazzle, Yellow Standard; 2d, to Mr. Ross, for Mrs. Shelley, Beeswing, Gem, Miss Vyse, Shylock, Turner's Privateer; 3d, to Mr. Barton, for Box, Princess Radziwill, Essex Triumph, Beeswing, Rose d'Amour, Marchioness of Cornwallis; 4th, to Mr. Tyler, of Bath, for Nonpariel, Marquis of Worcester, Shylock, Marquis of Bath, Standard, Louis Philippe; 5th, to J. Howard, Esq., for Beeswing, Essex Triumph, Miss Vyse, Golden Fleece, Fulwood Scarlet, Cassandra; 6th, to J. Edwards, Esq., for Golden Fleece, The Hero, Marchioness of Cornwallis, Cassandra, Toison d'Or, Marquis of Worcester.—4th Class, open to all Growers, 12 Fancy Dahlias: 1st Prize, to Mr. C. Turner, for Emelie Lehmann, Miss Coveny, Surprise, Rembrancer, Vicomte de Ressequier, Robin Hood, Ludwig Pemsl, Jenny Lind, Adelph Dubras, Madame Wachy, Freund Schmidt, Lady Montgomery; 2d, to Mr. C. W. Harrison, Richmond, for Lady Montgomery, Alfred, Picotee, Mrs. Lefevre, Vicomte de Ressequier, Jennie Deans, Jenny Lind, Minerva, Ludwig Pemsl, Florence Dombey, Hermione, Emperor de Maroc. 3d, to Mr. Bragg, for Minerva, Madame Wachy, Florence Dombey, Remembrancer, Letitia, Master G. Clayton, Ludwig Pemsl, Mrs. Lefevre, Vicomte de Ressequier, Admirable, Lady Montgomery, Jenny Lind.—5th Class, Specimen Blooms, Scarlet: 1st prize to H. W. Collison, Esq., for Shylock; 2d, to Mr. J. Keynes, for Shylock.—Yellows: 1st prize to Mr. Keynes, for Yellow Standard; 2d, to Mr. C. Turner, for Yellow Standard. — Rose: 1st prize to Mr. Drummond, for Felix. Lilac: 1st prize to Mr. Walters, for Rose d'Amour. Self: 1st prize to Mr. Walters, for Marchioness of Cornwallis. Mottled or Edged: 1st prize to Mr. Bragg, for Princess Radziwill; 2d, to Mr. Keynes, for Glori Mundi. Dark: 1st prize to Mr. Keynes, for Captain Warner; 2d, to Mr. Walters, for Essex Triumph.—Of Seedlings, there were a considerable number, but only a few were in good condition; the bad weather and earliness of the season are sufficient to account for this. Three first-class Certificates were awarded: To Mr. Turner, for "Mr. Seldon," flower deep and symmetrical, high close centre, petals good shape, numerous, and well arranged—colour, purple at the base of the petals, shaded off with lilac; to H. W. Collison, Esq., for "Dreadnought," a flower of excellent form, finely shaped and well-arranged petals—colour crimson; to Mr. Hood, Paddington, for "General Cavaignac," fancy flower, good in form, and apparently constant—colour, purple tipped with white. The extra prize of 5 guineas given by Mr. Wade, of London, for the best Seedling exhibited, was awarded to Mr. Turner, for "Mr. Seldon."—The first and the second best stands, between Messrs. Keynes, Turner, and Bragg, were decided on this occasion, the conditions being for a collection of [illegible] varieties, three blooms of each. The cup rendered in favour of Mr. Turner's flowers. The next meeting will be at the Surrey Gardens, on Wednesday next.

Horticultural and Mutual Improvement Society.—This Society held its first show on the 1st inst. The day was fine, and the exhibition, which was a good one, was well attended. Many prizes were awarded, but we have only been furnished with a list of awards, without the names of the subjects for which they were given.

Reviews.

Observations et Expériences sur un Champignon entomoctone ou Histoire Botanique de la Muscardine. Par M. C. Montagne, D.M. Read before the French Academy, Aug. 18, 1836, and published in Les Annales de la Société Séricicole. 1847.

Muscardine. Mission Confiée par M. Cunin-Gridaine, Ministre de l'Agriculture et du Commerce, a M. Guérin-Méneville. 1847.

Lettre a M. Le Chev. Bonafous, suivi d'un Mémoire sur la Muscardine. Par MM. Jules Robert & Guérin-Méneville. Turin. 1847.

M. Guérin-Méneville was charged in 1847 by the French Minister of Agriculture and Commerce with an agricultural and scientific mission to examine the insects injurious to Olive trees, and to investigate the disease known under the name of Muscardine, which is so destructive to establishments of silkworms in the south of France and Italy. It is to the latter of these objects that the three memoirs cited above apply. That of Dr. Montagne was prepared more than 10 years ago, and a report by Dutrochet was published at the time in the Comptes Rendus, but appears to have entirely escaped the notice of M. Guérin-Méneville. The latter gentleman, on his arrival at Sainte Tulle, in the south of France, which he had chosen as the point for commencing his investigations, associated with him M. Robert, a person well acquainted with the whole process of rearing silkworms. Thus theory and practice went hand in hand during the observations. The mission completely confirmed the views of M. Bassi respecting its origin, which had been much contested. The conclusions to which they came were:

1. Muscardine is a contagious malady produced amongst silkworms and other insects by the vegetation of a mould discovered by Bassi, and named by Balsamo Botrytis Bassiana.

2. This plant seems incapable of being developed, except in the bodies of caterpillars and insects, in perfect health and extremely vigorous. It is propagated by the spores which are deposited on caterpillars or insects, by immediate contact, or by the air.

3. When the spores fall on a silkworm, they are probably absorbed by the pores of its skin or by the organs of respiration, and penetrate thus into the body. The germination is rapid in proportion to the age of the silkworm: thus six or eight days were sufficient, in the fifth stage of growth, to effect the death of the greater part of the infected caterpillars.

4. In general 20 or 24 hours after its death the silkworm assumes a rosy tinge and becomes gradually hard; after a like period it is whitened by the first branches of the mould.

5. The mould now increases rapidly, and the spores are detached by the slightest touch or breath, and the fingers are powdered with them as with chalk.

6. These spores are extremely small, one hundredth part of a millimetre in diameter.

7. The silkworms which have been dusted with the spores eat their food as usual, as is also the case when actually inoculated with them or the mycelium.

8. If a silkworm in the fourth or fifth stage of growth is inoculated with a portion of the substance of a silkworm that has died of muscardine, but which does not yet show any external vegetation, it dies the more rapidly. This is in fact propagation by grafting.

9. Silkworms attacked by other diseases did not die of muscardine when dusted with the spores. When dead, instead of becoming hard like pastilles, they are soft and soon putrify.

10. Muscardine cannot occur spontaneously. The presence of spores or mycelium of Botrytis Bassiana is absolutely necessary.

There are some other important conclusions, but we have not room for more, and must refer those who are interested in the subject to the works under notice. That of M. Guérin-Méneville is accompanied by excellent figures, which fill eight plates, exhibiting the tissues of the insects, the mycelium, and fungus, under various circumstances, and various fungi which occur on silkworms, though unconnected with the disease.

Garden Memoranda.

Messrs. Fairbairn's Nursery, Clapham.—The extensive stock of young Cape Heaths at this establishment is still out of doors, but the plants have received some protection from the late heavy rains by hooping the beds and throwing mats over them. The larger plants are also still in their summer pit. This is a pit of the usual form, with wooden walls, on which the sashes rest; the top board, both back and front, is provided with hinges at its junction with the board below it, and can be shut up or left open as the case may require. By this means a free circulation of air is obtained while the lights are on, and even when they are off in dry weather a free [illegible] among the plants is afforded by the continuance of [illegible] of importance with Heaths, both when confined in such a season as the present and [illegible].

The planting out system of Heath culture has been tried here, but has [illegible] A [illegible] was prepared for the purpose. It was [illegible] drained, and was put in and the Heaths were planted in the spring time. They grew [illegible] the first season and required no [illegible]; next winter they again grew vigorously, but could not be induced to ripen their wood, and the [illegible] killed them. The experiment was [illegible] in view of growing young [illegible] quickly into large plants, and though it [illegible] it is [illegible] possible that the plan may yet be made to answer, although perhaps under a [illegible].

In one of the houses [illegible] a fine stock of what is called Hume's variety of [illegible] formosa, and also of that most useful of greenhouse plants Boronia serrulata, which [illegible] and may be increased from cuttings struck [illegible].

Since our last visit another [illegible] has been erected here. It is [illegible] on the interior with small glazed frames, which [illegible] the use of bell-glasses, and their [illegible] can be removed and replaced with facility and [illegible]. In these frames were Camellias, newly grafted on the [illegible] and single red; [illegible] on C. alba and Azaleas on Pleroides and Danielsiana; the latter two have now been grafted some eight weeks, and promise an excellent "take." A fine stock of young Camellias has just been separated [illegible] ginning of August from the plants on which they were [illegible] last Christmas; those inarched this spring are, however, [illegible] forward, but Christmas being a comparatively [illegible] time, much of this work is done then in order to ease the generally overloaded months of spring.

The specimen Heaths exhibit capital health, and some were in full flower, even at this late period, as were also a few vigorous specimens of Leschenaultia formosa.

Miscellaneous.

Artificial Skins.—We learn that some curious preparations for covering or closing wounds are likely to be brought into use, as substitute for court [illegible] sister and similar applications. Mr. Maynard, of Regent-street, describes in the "Pharmaceutical Journal" a solution of gutta percha in benzole, which when applied to a wound forms in a minute a new permanent skin which will not wash off. Dr. Bigelow and Mr. Maynard, both residents at Boston, U. S., claim the invention of a similar substance by dissolving gun-cotton in sulphuric ether. This substance is thus described in the "Pharmaceutical Journal:" "1st. By its powerful contraction upon evaporation, it places the edges of an incised wound in much more intimate contact than is obtained by sutures and adhesive cloth—unites them by equal pressure throughout the whole extent of the wound, and maintains them immoveably fixed. 2d. It preserves the wound perfectly from contact with air, being impermeable to the atmosphere, while its adhesion to the skin is so intimate as to preclude the possibility of air entering beneath the edges. 3d. The substance remaining in contact with the skin and wound after the evaporation of the ether, seems to be entirely inert, so far as any irritating property is concerned, and this can scarcely be said of any resinous adhesive cloth or preparation. 4th. It does away with the necessity for sutures in incised wounds of almost any extent. 5th. It is sure to remain in intimate contact with the skin till union is complete, and being quite impervious to water, and presenting a polished surface, it allows the surrounding parts to be washed without regard to the wound or dressing. 6th. It is colourless and transparent, thus permitting the surgeon to witness all that goes on beneath, without involving the necessity for its removal. 7th. No heat is necessary for its application, and the presence of any moderate degree of cold is only objectionable in retarding the evaporation of the ether. 8th. It may be made at a trifling cost; an ounce phial, intrinsically worth little, being sufficient for a great number of dressings." The adhesive power of this solution of gun-cotton is, when it is properly made and applied, certainly very great. In evidence of its strong adhesive powers, Mr. Maynard states the following experiments:—"He glued a strap of sheepskin to the hand by a thin layer of the solution, 9 lines long and 1½ wide, and it sustained a weight of 2 lbs. A second strap, attached to the hand by a layer of the substance, 9 lines in length and 3 in width, sustained a weight of 3 lbs. A third strap, fixed to the hand by a layer of the liquid, 12 lines square, resisted the force of 10 lbs. without giving way; and a fourth strap of the leather, glued to the hand by a stratum of the solution, measuring 1½ inch in length, and 1 in width, was not separated from its attachment by the gravity of 20 lbs." These statements, says Mr. Maynard, may appear incredible, but they are founded on exact and carefully performed experiments."

Calendar of Operations.

(For the ensuing Week.)

CONSERVATORY AND GREENHOUSE.

The weather has assumed a more favourable aspect, and many may hesitate in the work of introducing the house plants while the promise of a late summer is

before them. It is dangerous, however, to trust anything to the weather at this period of the year. Cloudless days are very delightful, and thrice welcome just now, but it not unfrequently happens, when they are succeeded by nights as clear, "nipping frosts" are also an accompaniment, therefore the kindly work should proceed uninterruptedly. But let it be understood that these precautionary hints apply chiefly to plants whose tropical parentage renders them peculiarly liable to injury from absolute cold. Where the opportunity of partial protection exists, many hard-wooded plants may with advantage be allowed to stand out until the end of the month. Let a scrupulous examination be given to the condition of each plant, and defects in the soil or drainage of the pots at once remedied. Clear off moss, remove insects, and replace stakes. In regard to the distribution of the plants in the houses, it may not be inappropriate or unnecessary to suggest that where a variety of aspects and some latitude in the choice of situation can be commanded, a just consideration for the natural or acquired peculiarities of the plants should govern their disposal. The ordinary precautions for obtaining a supply of common flowering plants throughout the winter months should be commenced and progressively continued. Violets should be potted or planted in a frame, Mignonette thinned and sown; Hyacinths, Tulips, and other bulbs potted and plunged; Pinks for forcing encouraged, and Cinerarias duly attended to. Roses in pots should occupy a fair share of attention. Young plants may yet receive a shift, and manure-water may be applied to plants in activity.

FRUIT FORCING.

Pines.—While a healthy and rapid action should be encouraged in fruiting plants, by suitable stimulants, that the fruit may be matured with the full amount of assistance from solar light and heat, a proportionate restriction of every powerful motive to excitement should be employed in regard to succession plants; the object of such treatment being to gradually reduce that succulence of habit induced by high health and luxuriance, gained under the warmth of a summer's sky, and to procure in its stead a certain degree of hardy maturity to enable it better to rest during the long gloomy season of winter. If an extension of the stock of plants is necessary, suckers should be potted without delay, and encouraged to form a sufficient quantity of roots to maintain the health of the plants throughout the winter. Vines, Peaches, and Cherries in pots, intended for early forcing, should be fenced against a north wall or other cold position, to induce partial repose of the vital functions. Spawn Mushroom beds, and continue the accumulation of horse droppings for successional beds. If the opportunity of selection exists, give the preference to droppings from corn-fed stalled horses; those from animals fed largely on green food are much more difficult of preparation for the purpose.

FLOWER GARDEN AND SHRUBBERIES.

A surplus stock of bedding plants should always be provided against contingencies; the propagation of such things as Heliotropes, Verbenas, Pelargoniums, and Calceolarias, should be proceeded with, as the general utility of these plants for decorative purposes is unquestionable, therefore an ample supply is strenuously recommended. Chrysanthemums out of doors should be carefully staked; if against a wall, where they thrive better, they should be trained; while the succulent shoots will bear it, propagate by cuttings for blooming in pots. Budded Rose stocks should be carefully attended to at this moment; those buds which have started may be encouraged to form a more vigorous growth by stopping the wild branches of the stock. The routine of mowing and rolling must yet be kept up, if anything approaching to order and high finish be called for. Look through plantations and arrange about the removal of large shrubs; November is the best month. Hedges may be clipped. Let the weeds be closely pursued, and edgings kept in order.

FLORISTS' FLOWERS.

If *Pansies* are to be grown well, the bed must be renewed yearly; and in order to ensure a good spring bloom, the young plants, obtained as cuttings, or side shoots from the old favourites, in addition to any new varieties which may be bought, should be soon planted. It will be requisite that the bed for their reception should be got ready, in order that they may be put out the latter end of the month. *Auriculas* will now begin to excite and require more attention; all decaying leaves must be removed, and occasional top dressings be given. From the wet weather we have had during the summer months, it is possible we may have a dry autumn; they must be kept in a moist state, never allowing them to get thoroughly dry. Examine seedlings that have been pricked out; if the roots are raised above the surface, which is often the case, reinsert them, by making a notch in the soil with the handle of a budding knife, or a piece of ivory. *Pinks* should be planted out without delay; we recollect Mr. Hoggs exhibiting some extremely fine years ago, at the Horticultural Society of London; the chief ingredient in the compost was the sweepings of some sheep pens; this will afford a hint to our readers who have the means of collecting sheep manure. We have seen a few fine Pinks this season. Amongst many new ones, Wilmer's Laura, purple laced, and Smith's Whipper-in, are very good, and will surprise those who have been in the habit of growing small and thin varieties. *Carnations and Picotees.*—Keep a sharp eye for seed, and carefully examine all pods; though the season has been bad for ripening, still we hear that many of our friends who attended to cross fertilisation have been enabled to harvest a little. The soil for potting off the layers ought immediately to be got ready, keeping it, if possible, under an open shed, as it is then ready for use at any time. *Dahlias* must, to ensure success, have unremitting attention. Pluck off all blooms which are not promising, and cover, &c., as required; take care that the blooms intended for exhibition do not chafe against the covers.

KITCHEN GARDEN AND ORCHARD.

Follow up the plan of promptly clearing away the remains of crops as they successively decay. A proportionate reserve of land must be held for forward Peas and early spring cropping generally. Those quarters which require trenching the ensuing autumn should be kept free after this time in the year of any further crop, that an opportunity may be offered of getting the operation performed before the arrival of winter. The July sowing of Endive may now be pricked out on a warm border, and as the early plantation attains a proper size the plants should be tied for blanching. The weather now offers a favourable opportunity for carrying on the war of extermination against the weeds; the ground also is in good condition for earthing Celery, the perfection of which depends a good deal on the care bestowed on this operation, and its timely performance. Winter Spinach and Turnip beds must be kept hoed and thinned, the first to 9 inches or thereabouts. *Orchard.*—It will be an advantage to have the fruit tree borders free and unshaded by any crop at this season; the effect of planting Endive, Turnips, and such things, is to keep the border cold and wet, when in fact warmth and air are more particularly required. We should be well satisfied to see the width of borders reduced, could even a more limited space be secured exclusively to the wall trees. If no store of material (sods of sandy loam are good for the purpose) is in hand no further delay should take place in collecting a sufficient quantity for carrying out any proposed renovations.

COTTAGERS' GARDENS.

There are few operations that better repay the trouble of performance, if properly carried out, than trenching. A portion of the garden should be selected each season, say one-fourth of the whole, and properly trenched, 3 feet in depth; in four years the entire garden may successively receive the same attention. As soon as the Onion crop is considered ripe, pull up and expose the bulbs, turning them twice a day; for keeping small quantities the best plan is to rope them. Give attention to Turnip beds; no cottager should be without a little store of Celery; thin winter Spinach; prick out Lettuce; gather and cook large seed pods of Runners—the Bean itself is better than the shell.

State of the weather near London, for the week ending Sept. 7, 1848, as observed at the Horticultural Garden, Chiswick.

Sept.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 1	3	30.284	30.140	66	42	54.0	N.	.00
Satur.. 2	4	30.352	30.340	70	45	57.5	N.W.	.00
Sun. .. 3	5	30.362	30.254	75	46	60.5	W.	.00
Mon... 4	6	30.174	29.929	80	47	63.5	S.W.	.00
Tues... 5	7	29.835	29.754	83	57	70.0	S.	.10
Wed... 6	8	29.984	29.791	68	43	55.5	S.W.	.01
Thurs. 7	9	30.055	30.036	64	55	59.5	S.W.	.00
Average...		30.149	30.034	72.3	47.8	60.1		.11

Sept. 1—Clear; low white clouds; fine; clear and cold.
— 2—Cloudless, with heavy dew; lightly overcast and fine; clear.
— 3—Slight fog; very fine; clear.
— 4—Slight fog; sultry; very fine; clear at night; rain.
— 5—Very fine; hot and sultry; slight rain; warm at night.
— 6—Cloudy; light clouds and fine; clear.
— 7—Overcast and fine throughout.

Mean temperature of the week, 1 deg. above the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending Sept. 16, 1848.

Sept.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 10	69.6	49.0	59.0	12	1.27 in.	—	1	1	—	5	5	8	2
Mon. 11	69.2	48.3	58.7	8	0.46	2	3	—	—	4	4	7	2
Tues. 12	69.5	44.5	57.0	7	0.49	3	3	—	2	1	3	10	—
Wed. 13	67.1	44.6	55.8	10	0.49	1	2	4	1	2	5	5	2
Thurs.14	67.5	46.6	56.5	12	0.34	1	2	5	2	2	4	6	—
Fri 15	67.0	46.7	56.9	12	0.63	—	3	2	2	4	1	5	5
Satur. 16	68.1	48.4	58.2	10	0.50	1	2	3	1	3	5	4	1

The highest temperature during the above period occurred on the 12th 1841—therm. 84 deg.; and the lowest on the 10th, 1838—therm. 34 deg.

Notices to Correspondents.

TO OUR CORRESPONDENTS—May we beg it to be understood that *we cannot answer inquiries privately through the post.* We are ready to give any reasonable information in our power through our columns; but we cannot consent to the labour of writing letters.

COTTAGE GARDENS: *John Tailor.* At the present season little can be done towards filling up cottagers' gardens by sowing. The Fulham Cabbage grows much larger than the Early York, and on that account, although not so fine, is to be preferred. The Savoy, especially the large green, may be grown to 10 or 15 lbs. weight, at 2 feet apart, in good rich soil; and where plants of this can be had, some may yet be planted. Cabbage however has the advantage of yielding sprouts after cutting; the Savoy plant, when once cut, is done. Vacant ground should be filled up with Coleworts, planting them a foot apart each way. Where Swedish Turnips have been sown late, the thinnings, instead of being thrown away, would stock cottage gardens to good advantage. All sprouts from the stumps of summer Cabbages may be planted after drying their ends a day or two in a cool place. Some Early York Cabbage, on the supposition that plants cannot be had, if sown now, and planted out thickly, might be of service in May.‖

INSECTS: *A B.* The caterpillar in the cocoon was that of a large saw-fly, Trichiosoma lucorum or an allied species. No. 2 was smashed, and No. 3 escaped. *W.—Jay.* The shoots of the Fir trees are infested with Hylurgus piniperda. See *Gardeners' Chronicle*, p. 740, 1846. *W.—D M.* The mussel scale upon the Apple is a different species from that upon the Orange. See reports of this month's meeting of the Entomological Society. *W. — Constant Reader, J H B H.* Your Vine is badly infested with the common thrips, and not with an aphis. *W.—J L.* The Potato plants sent are attacked by two species of Eupteryx distinct from the spotted-winged species forwarded last week. *W.*

LABOUR: *Justus.* Your question is not susceptible of an answer. All depends on circumstances. A gardener may manage three acres; or he may have his time fully occupied with the work belonging to half a rood. There is no other rule than the old and rough one of a man to an acre.

LABURNUM: *Micklewell.* We have not before seen the pod of the purple Laburnum; and shall be very curious to see the result, which a year or two hence shall be reported, if the seed grows.

NAMES OF FRUITS: *G C, Hounslow.* E, Elruge; F, Violette Hâtive; the Apples are yet too green.‖—*J K.* Bruised, but appears to be the Wine Sour.—*Besborough.* 1, Green Chisel; 2, Early Bergamot; 3, Ambrette d'Eté; 4, d'Amour; 5, Caillot Rosat (English); 7, unknown, and bad.‖—*William Thompson.* 1, 7, Buck's County, a cider apple; 2, Summer Stibbert; 3, Minchall Crab; 4, 14, Ribston Pippin; 6, Boston Russet; 5, 8, 9, Dutch Mignonne; 15, Court of Wick; 10, 11, the same sort, unknown.‖—*G Pike.* 1, Jalousie; 3, 8, Passe Colmar; 4, Easter Beurré; 5, Glout Morceau; 6, Autumn Bergamot; 7, Fondante d'Automne.‖—*Gallicus.* Summer Franc Réal.‖

NAMES OF PLANTS: *H G Z.* Bupleurum fruticosum.—*Enquirer.* Clinopodium vulgare.—*R E.* We have long since discontinued the study of fossil plants, and yours are nearly as unexaminable. No. 1 is some Liparis; 2, an Eria; 3, a Maxillaria allied to variabilis; 4, apparently some Myrica in the way of M. quercifolia.—*G F F.* The fragments appear to belong to Populus candicans, the Ontario Poplar.—*B and S.* Pray do not pack flowers in cotton wool, it renders them unexaminable. The Justicia is not distinguishable by the specimens from J. quadrifida; Lobelia coronopifolia; no doubt a new species of Ipomœa. Send it to Sir Wm. Hooker for figuring in the "Botanical Magazine."—*X.* Both are Lichens; that with red heads is Cladonia digitata; the larger with brown heads is Cladonia rangiferina, the Reindeer Moss. They are not parasites.—*A P.* Galardia picta.

PELARGONIUMS: *A W* will thank "S. N. V." to give him a list of all the sweet-scented Pelargoniums he knows.

PRIMOGENITURE: *Sub.* We must decline answering questions which have no relation to the objects of our journal.

SEEDS: *E W.* February or March is by far the best time to sow Auricula, Petunia, Fuchsia, and Calceolaria seed. If the weather is open, you must guard your plants from the attacks of slugs, &c.‖

VINERIES: *C H.* Employ a flat wooden roof. Glaze it with stout crown glass weighing 16 oz. to the foot, or, if you are not afraid of the experiment, with Hartley's patent rough plate glass. Give it all the ventilation that your ingenuity can contrive. Heat with a little Polmaise apparatus. The angle is of little consequence to a Vinery; as near 45° as it is convenient to make it.

WASPS AND DAHLIAS: *J F* asks if any of our correspondents have been annoyed in the following manner: he states that on examining the stems of his Dahlias the other day he found on nearly every one of them a quantity of wasps devouring the bark and the young shoots, some even boring their way into the heart of the plant, and forming cells in the interior.

YAMS: *Guichenet* says that he saw a letter in the *Times* the other day, recommending the cultivation of the Yam in this country, as a substitute for Potatoes, and he begs for our opinion on the subject. That opinion is, that the writer in the *Times* talks of what he does not understand. Yams cannot be cultivated in the United Kingdom, except in a hothouse.

MISC: *M, Reigate.* Potato, Lancashire Red.‖—*G F F.* Fuchsia fulgens cannot with safety be left out of doors in winter. The plan of your corresponding society reads well, and will work well if all the members are equally enthusiastic or persevering.—*E P.* Yes; the 1842 edition of the Society's "Catalogue of Fruits" is the last that has been published, as you will see by an advertisement in another column.‡—*W H T.* Brugmansia suaveolens will succeed in a soil composed of turfy loam, leaf-mould, and sand.‡—*J H.* A pit 43 feet long by 8 feet wide will be quite large enough for your purpose; and as to heating, you cannot do better than Polmaise it. Your Roses will succeed much better in the open ground than in pots. They may either be planted out now or in spring.‡—*E C.* We are not acquainted with the Stag-horn Green.‡—*R J.* The old leaves of Gesnera zebrina always curl up; if your young ones do the same, then your plant cannot be in good health. Are the roots not at fault.‡—*R S V P.* The "luxuriance" you mention is no doubt the cause of your Salvias and Pentstemons not flowering. Over luxuriance is always incompatible with a fine display of bloom.‡—*G P C.* If your Raspberries are not dead, they will sprout up again next spring. Your other question next week.‡—*M L.* When Fuchsia fruits assume a black colour, the seeds are ripe. The latter should be squeezed out, washed and dried like Melon seeds. To flower F. serratifolia, grow a good plant of it first and then starve it.‡—*E B S.* The plants are attacked by one of the parasitical fungi.

SEEDLING FLOWERS.

ANTIRRHINUMS: *B Y.* The greatest novelty among your seedlings is D, mottled and striped with rosy purple upon a white ground; the flower is of a good form, delicate in colour, and very pretty. E is similar to D, but a degree darker, and not so good in form. F, mottled and striped in the same way, upon a yellow ground; delicate and very pretty. C, a good yellow, but not uncommon. B, white. A, rosy lilac, good in colour, but rather small.*

CALCEOLARIA: *G P S.* Your seedling is a large showy flower (yellow with brown makings), but it is not to be distinguished from many others.*

DAHLIAS: *A P.* Your seedling, a lilac purple, is good in form; the outline circular, and crown well elevated, but slightly depressed in the centre; the petals are well formed. We abound in fine darks, which your seedling does not surpass.*—*G L C.* Your yellow seedling, which is fine in colour, is defective in the centre.*

FANCY DAHLIAS: *A P.* The centre of your flower is too depressed, it wants elevation; it is fine in colour, a deep maroon, with small rosy tips.*—*G L C.* Maroon, with white tips; circular in outline, the centre well elevated, and the flower formed with great regularity.*

FUCHSIA: *G P S.* We consider the stained tube and sepals of your seedling very objectionable; the corolla is bright, and from the sepals turning upwards is seen to advantage; it wants novelty.*

HOLLYHOCKS: —— Your specimens are neither so perfect in form nor so double as the best varieties that have come under our notice during the present season. The rosettes of which the centre is composed in your seedlings are too open in the centre; take as examples 82, 45, 54, and 78. The best are 15, 55, and 30. If compared with the finest specimen they would appear uneven, loose, and rough.*

PELARGONIUMS: *A W.* Your seedlings will not bear comparison with the flowers generally cultivated in the present day; they want substance and fine marking.*

PENTSTEMON: *A Z.* It is necessary in sending flowers for opinion to pack them in a way that they will travel safely and preserve their freshness. A little damp moss or wetted blotting-paper would have insured your specimens arriving in good condition; but from not being packed up in anything whatever they were bruised and dried so much that it was impossible to give a satisfactory opinion of their qualities.*

VERBENAS: *B A.* The condition in which your seedling arrived prevents our giving an opinion of its qualities.*—*J L.* Your seedling is good in colour, a rich purple, but the segments of the corolla are too narrow, and the individual flowers rather small. We could not perceive that it was scented.*

ERRATUM: In the paper on "Exotic Aquatic Plants," 48th line from the top, col. *a*, page 574, for "the larger the pot the firmer the flowers," read "the larger the pot the *finer* the flowers."

MESSRS. NESBIT'S CHEMICAL AND AGRICULTURAL SCHOOL, 38, Kennington-lane, London.—A sound practical knowledge of Analytical and Agricultural Chemistry, Geology, Surveying, Levelling, Railway Engineering, &c., may be obtained in Messrs. Nesbit's Academy, in addition to a good modern education.

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The Agricultural Gazette.

SATURDAY, SEPTEMBER 9, 1848.

MEETINGS FOR THE FOLLOWING WEEK.

Farmers' Clubs.—Sept. 9: East Kent.—Sept. 11: W. Market, Great Oakley.—Sept. 13: Harleston, Tavistock.—Sept. 15: Halesworth, Wadebridge, Hadleigh, Wakefield.—Sept. 16: Reading.

Correspondents have enquired of us the merits of the Winter Bean as a crop for general cultivation. The chief advantage it possesses over the common spring varieties is its early harvest, which brings it to a forward stage of maturity before the Aphis blight can attack it. The season of 1847, which was generally fatal to the Bean crop, scarcely injured that which had been autumn sown. The Winter Bean, like other plants, is however liable to the attacks of mildew: and many crops of it have this year suffered in this way. The early period at which the crop is harvested enables the preparation of the stubble in time for a crop of the "stone" or "six weeks" Turnip, or, what is perhaps more suitable, of a crop of Rape: and considering the difficulty of harvesting one crop from the midst of another among which it had been grown, we prefer this method of *double* cropping, under ordinary farm management, to that which consists in the growth of alternate rows at the same time.

The following are the details of a good method of cultivating the Winter Bean. A Wheat or Oat stubble is to be scarified or grubbed and cleaned; then manured broadcast, ploughed, harrowed, and left till October, towards the end of which it may be ribbed or "bouted up," leaving drills at intervals of 2 feet; and in them 6 or 7 pecks per acre are to be sown and covered by a double turn of the common harrows. Water furrows are then to be made through the field so as to hinder water from stagnating on the surface during winter; and in the early months of spring the horse and hand-hoe must be employed to keep down the weeds as long as the distance between the rows suffers their growth. The plants will, however, soon nearly meet overhead, and are then to be left till harvest, which will generally occur in July.

The produce is rarely so large as that of other sorts, but it is earlier, and leaves the ground ready sooner for a fallow or a fallow crop during the autumn.

Our readers must not conclude, from the last paragraph of a leading article in the past week's Paper, that the operations of the West of England Land Drainage Company are necessarily confined to any particular district. Applications from all parts of the country may be entertained, and operations in all parts of the country, conducted by the officers of this Association. The title of the Company describes its origin rather than its purpose. Our remark referred only to the fact that as provincial offices are hardly compatible with the prosecution of national performances, it was not likely that this Association would engross the whole business of borrowed capital applied in improving land; and that as there was scope enough and demand enough for many Land Improvement Societies, so it was extremely desirable that many such societies should be ready on the opening of another parliamentary session to ask for a grant of the powers which have been conferred upon this.

Acts have been passed, as our readers are aware, for England and Wales and for Scotland, enabling persons who already have the right to kill Hares to do so without taking out a game certificate.

The main difference between them appears to be that in the English act the power granted extends only to inclosed lands, while in the Scottish act no such distinction is made: and there is this in addition, which however is a difference in appearance more than in reality, that the English act authorises *all* persons, occupiers as well as owners, who already have the right; and permits them severally to authorise *one* person in each parish who shall have equal liberty with themselves, on the land in it over which their own right extends; while the Scottish act confers the liberty primarily on owners only, but on *all* persons, as well, who are authorised by them. The difference we say is only apparent, for in England agreements almost universally prevail which reserve the game to the landowner, so that the tenants are rarely indeed in the position of those who already having the right to kill hares are concerned in the privilege conferred by these acts. The only parties to whom this privilege will be useful are cottagers and owners of small patches of land who have hitherto been helpless sufferers by the depredation of another's game. The acts themselves, except in so far as any meddling with the subject affects the stability of the whole structure, are of the very smallest importance to cultivators. Perhaps, indeed, in so far as they may tend to increase poaching, and exasperate any irritability on the subject that may already obtain between landowners and tenantry, they may be considered as injurious to the latter. Certainly, however, they do nothing but justice to the numerous class of landowners who, in England, are to be found amongst cottagers and agricultural labourers. We may mention that both acts specially provide that the privilege they confer shall not be held to extend to the killing of hares by poison laid for them: and they confine it also to sporting operations during the day time.

We take the earliest opportunity of calling attention to a work from the pen of Professor Simonds which, in present circumstances, will doubtless be considered to be of the highest importance.* A practical treatise on *Variola Ovina*, or Small Pox in Sheep, from the pen of one so well informed, will, no doubt, be extensively read at a time when a panic connected with this very subject pervades the sheep market. Mr. Simonds, who was consulted with reference to the earliest cases of this disorder, who has made it a matter of close examination ever since, who with others has been the means of obtaining an Act to hinder, so far as a strict examination of imported animals may be effectual, the further spread of the disease, was eminently qualified to teach on this subject, and his work just published will be read both with interest and instruction. It is illustrated with coloured plates of diseased parts, in all the stages of the disorder, and it is full of history and detail, both on the general subject, and on the treatment of particular cases. We cannot give the large extracts which would alone be able to give a good idea of the contents of this valuable work; our limited space hinders us; and we must content ourselves with naming a few of the points which it appears to establish.

The disease is new to this country (pp 2, 3, &c). It was introduced, in 1847, in sheep imported from Denmark (p. 25), and from other parts of the Continent. It is produced by contagion appearing in animals thus infected in 10 or 12 days after infection (pp. 27, 29, 39). It is, of course, communicable, and in all its virulence, by inoculation, (p. 29). But it may be communicated by inoculation in a mild form by a *superficial* introduction of lymph, procured from the mildest cases (p. 107). And lymph from cases several removes from the natural disease is less likely to induce a virulent case of the disease (p. 127). The disease is not communicable to the human subject, and "ovination" is no substitute for "vaccination" as a preventive of small pox (p. 156). The artificial communication of the disease is very generally adopted on the Continent: and is found greatly to diminish its fatality. The treatment proper for animals suffering under it is given in full detail in Mr. Simonds' work, which we again commend to the notice of our readers.

NOTES ON SOME ENGLISH FARMING.

By Martin Doyle.

Any intelligent Irish farmer who may be favoured with opportunities of observing the modes of husbandry pursued by scientific cultivators in Great Britain will not only be pleased at what he sees, but disposed to introduce in his own homestead some of those practical details which he has admired. Having read of the clever farming of Mr. Hewitt Davis at Spring Park in Surrey, I went there lately to compare the actual state of the farm with the reports which I had received of it.

As it is not my intention to notice anything that may not lead to the consideration of some interesting and important point in agriculture, I shall in this instance confine my remarks to those particulars which in some degree distinguish the practice of Mr. Davis from that of other experienced cultivators. The farm to which I shall first invite attention contains 215 acres in regular tillage, the remaining portion being under coppice wood. The arable part alone is to be noticed here.

At first view I supposed the soil was a calcareous gravelly loam, and the darkness of the colour led me to conjecture that it contained much humus. But on looking at the unstirred margins of the natural soil, which bordered some open drains and gravel pits, I perceived that the blackish colour had been principally occasioned by peroxides of iron, which had bound together the entire subsoil, of which the surface did not exceed more than 6 or 7 inches in depth. The Chronicles of a Clay Farm, which I have read with exquisite pleasure in the *Agricultural Gazette*, have not described so compromising and so difficult a material to work into a fertile texture as this conglomeration of black gravel, intermixed with peat (which has been generated by the agency of confined water underneath), presented to the accountable industry of Mr. Davis. A more discouraging soil can hardly be found, and yet it now yields more weight of Wheat and other crops than better soils in the neighbourhood, and with less manure. But these observations may be urged: any land may be forced into fertility by a great expenditure of labour and money; but will the returns overbalance the outlay? A land proprietor, or any man who has a strong passion for farming, and possesses capital sufficient for the gratification of his whims, may contrive to extract certain classes of crops in favourable seasons even from a field of gravel, but no man who expects a fair interest for his capital, no tenant farmer undoubtedly, nobody who has been bred up to accounts, would ever dream of reclaiming a boggy gravelly moor by such expensive operations as thorough draining, trenching, or subsoiling, for the benefit of his landlord's family and the impoverishment of his own. Let us learn from his own testimony, whether Mr. Davis commenced his agricultural life solely to set a good example to his tenantry, in order to raise the value of his estates, to indulge his farming propensities at any cost, or to work out practically the theoretical projects he had spun out in his library.

"I was 21 before I thought of becoming a farmer, and I feel it has ever been an advantage to me that my farming education did not commence so early as to inoculate me with any particular practice, but began when I was of an age to seek information, and open to every consideration that might conduce to a more profitable cultivation and return. Previous to that period I had been engaged in mercantile employment, where every question was tested by figures, and I had learned the necessity for keeping very accurate accounts. This training has been most serviceable to me. By my accounts I have frequently been set right on many a question with which I could not otherwise have grappled, and by them have gained confidence to enter into expensive improvements. My farming commenced by my being put in charge of 2000 acres of highly cultivated land. Here, with the assistance of bailiffs, I began by keeping the accounts by double entry, and while I was gaining practical information by daily watching what was doing on the farms, I was learning the elements of good farming by carefully perusing every work on agriculture that was recommended to me. * * * At the age of 28 years, when, by study and the opportunity I had of gaining information by the practice of others, I thought myself competent, I took, at a rent far beyond the value, Spring Park, a farm of 500 acres, principally a boggy, gravelly soil, which at that time scarcely returned six times the seed put on it. I believe the state in which I found this farm would have broken the heart of an older or more experienced farmer; but I entered upon it with buoyant spirits, and was young, and not of a character to despond; nor did I then foresee the time, labour, and outlay necessary to make such a wretched soil profitable; and I fortunately was assisted by an income from other sources which kept increasing, and found me means through a long period of heavy expenditure and ungrateful return. I continued to work my farm under every disappointment with that energy and perseverance which insure success, and I can venture to assert that the crops at Spring Park have latterly equalled those on very much better land, although raised at less cost, and that my Wheat is now grown and sent to market, exclusive of all profit, at less than 36s. per quarter."

Here is the simple straightforward testimony of a gentleman brought up in strict habits of business, always looking to his ledger, and as unlikely from education, and from his professional attendance as a land agent at his office in the heart of the city of London during eight hours in the day, to pursue a losing system. If, then, this tenant farmer has found himself, even under the abstraction of his official employments, a gainer, after reclaiming and cultivating so discouraging a farm, under a lease of 14 years, and in a district too where labourers receive 12s. a week, and in harvest more, is it not to be inferred with truth that the land proprietory and tenantry of Ireland (with leases of a much longer duration in general), would find it much more profitable to reclaim and cultivate the tens of thousands of acres of waste shallow bog land, which in quality is vastly superior to the soil of Spring Park!

The subsoil at Spring Park is a uniform and deep mass of worthless gravel and rock, which, with the expensive team employed to open its texture, and mix it with the small portion of vegetable earth above, and two men following the plough, required two days of such labour to each acre. The shallow bogs of Ireland, in general, have beneath the peat either limestone, gravel, marl, or a clay partaking of its qualities, and most suitable in any case for correcting the opposite qualities of the peat above it. Human labour can be obtained readily and thankfully for one-third of the wages paid by Mr. Davis, and the labour of either trenching or subsoiling with the spade would be executed better, and at much less cost than by the expensive machinery which he found it expedient to employ. The shallow Irish bog contains within reach of the cultivator, by merely introducing his spade—without horse or cart in the case—the material for rendering it a prime soil (draining and loosening the under soil being supposed); and any tenant who possesses such bog-land at 1s. and

* James Ridgway, Piccadilly, London.

2*s.* 6*d.* an acre, with measurement (an ordinary case), or any proprietor who has such land under his own control, and will not cultivate it, deserves to be poor. Capital! money may be obtained in most cases by proprietors from the Government Loan Funds; and the tenant farmer has it, but too often unemployed, beneath the thatch of his cabin, in the form of labour. He and his sons often find that their time and labour are uncalled for in stipendiary employment, and they stand gazing at their field of worn-out bog, resting on a mine of wealth (and which hardly supports a lean cow), without dreaming of rendering it, by their labour, even at broken intervals, a productive garden, as it might be rendered.

A superior soil is easily compounded from peat and limestone, gravel, or peat and clay—far better, indeed, than that of Spring Park now is, or ever can become, from the nature of its constituent parts. "Much has been done, probably all that art can do, to improve it; but man cannot change gravel or sand. By draining he may make it dry, and by trenching he may multiply the space for roots to range in and derive nutriment from; but a gravel or a sand, unlike clay or chalk or mould, admits of no other change, and, to the last, must be a hungry, uncertain bed for corn—a fast consumer of nutriment, much dependent on seasons, requiring frequent rains for maintaining continuously its vegetating powers in May and June."

When Mr. Davis took this farm in 1833, for 14 years (but with two extra years at starting), it had been seven months out of cultivation, and had been from 1808 to 1833 in the hands of wealthy owners. One tenant who had held the 500 acres of Spring Park, with 100 acres more, at 66*l.* a year, failed, owing two years' rent, when a new purchaser obtained the property. It is important to bear in mind these circumstances of discouragement, not only to perceive the triumph of perseverance, skill, and energy in the instance of Mr. Davis, but to estimate correctly the comparative facilities which offer themselves to the Irish cultivator. The expensive modes by which Mr. Davis subdued his execrable soil, which was sometimes boggy, from under water, and at other times as dry and hard as rock, were first by trenching it with a powerful plough drawn by eight horses, two men following the plough with pickaxes to raise the rocks which it had not displaced, and thus the iron-bound pan of gravelly composition, which prevented the percolation of water, was crushed, brought up, and laid over the shallow surface-soil, which became an appropriate bed for the roots of future plants in place of the impenetrable barrier which had been the immediate under-soil, and the separated mass of gravel, by imbibing the rains and dews of heaven, and receiving in its bosom the various principles of aliment afforded by the dung-hill and its auxiliaries, has become comparatively fertile. The land was next drained where it most required it, at the cost of 500*l.* on the part of Mr. Davis (the landlord providing tiles), who made the drains 4 ft. deep, at distances of 40 feet. Previously to such drainage, the soil (according to the printed reports of Mr. Davis) was so wet that the sheep waded there in mud up to their bellies during the winter. In spring it could not be sown for weeks after the due season, and the winter crops were starved or partially destroyed by the chilling effects of stagnant water. When that was removed the soil became dry and warm, fit for the reception of seed in the early spring, and capable of nourishing it to full and seasonable maturity, with improvement in the quality and increase in the quantity of produce. And the benefit to the live stock has been in a corresponding ratio. The area of cultivable land has been increased by levelling fences, filling ditches where they were not required for drains, tilling their borders, and cutting down scattered trees.

Such have been the leading points in the natural quality and treatment of Spring Park Farm, which the tenant is going to surrender at the expiration of his lease, after another harvest; not because he has not realised some money by that farm under all its disadvantages, and after all his expenditure, but because a more grateful soil will repay him better for time and outlay. I have other remarks yet to make on the same farm.

DISEASES OF POULTRY.

(*Continued from p. 563.*)

WE now proceed with another class of diseases:

3d Division: Catarrhal, respiratory, and pulmonary. 1st, the chip; 2d, the pip or scale; 3d, influenza; 4th, roup; 5th, asthma; 6th, phthisis. This is, perhaps the most important of the several divisions or sections, into which I have ventured to class the innumerable ailments to which birds in the domestic state are liable, because comprehending the most common, as well as the most fatal, affecting the galinacious tribe in particular. In order to enlighten several inquiring correspondents relative to some of these complaints, much has already appeared by anticipation, pending the collection and publication of my scattered notes in previous Numbers of this Journal.

1. *The Chip, or Chipping.*—This is a disorder incident to little chicks within three weeks or a month old, as properly characterised by Clater, though not mentioned by Richardson, Dickson, Moubray, and others.

The Symptoms.—Ruffled feathers, dullness, moping in corners, and uttering a painful peeping and cheeping cry, with no ability to take nourishment. The whole system is disorganised, in a continual state of fever, digestion bad, with fœtid scouring, lungs weak. The little sufferers often pine away and die in two or three days.

The Causes.—Cold, wet or damp, improper diet, too much soft food, and drinking from puddles.

Precautions.—They should be confined for about three weeks under a coop (except in a large dry farm-yard) lest they commence worming too soon, and pick up matters that will disagree, when away from the mother's ken, she knowing best what to avoid and how to call them away, and suffered to run out from her only in the mid-day sun. One hour's sunshine is more beneficial than a week's shelter. The coop should be gabled-shaped, which gives the chicks greater security from being trodden under the feet of the hen. To save trouble, in the event of rainy weather, a separate shed, dry, warm, and lightsome (an empty greenhouse is excellent), that can be divided into compartments for each hen, with her chicks, is indispensable. If two hens be set about the same time, the chicks of one may be committed to the care of the other, which change must be done in the dark, just after evening, when the hen will not know the strange ones next morning from her own. Or for the facility of removal from one place to another, to prevent handling, whith causes chip and cramp, a hamper with some soft straw in it, laid down on its side so that the hen and chickens can be enticed into it, and then shut up, is what I recommend when frequent removal is requisite. Their nest or brooding place at night had better be raised 2 or 3 inches above the ground, to prevent all risk of damp.

Cure.—This can be effected when taken in time only. Clater says, the first thing to be done is to remove the patients into an airy, dry, warm, and comfortable place. Much patience and attention is requisite when they are very badly, and they should be nursed in a covered basket, in flannel or cotton wool, or wadding, feeding them occasionally. He recommends some good thick gruel, seven parts, to which should be added 1-8th part of the following mixture: 1 oz. of castor oil and a ½ oz. of syrup of ginger, so that each patient should take at least half a teaspoonful during the day. Sweet split groats is the best food for them when in health, which they will select from amongst the corn for the hen. Give also, occasionally, the yolk of an egg that has been boiled quite hard, and a few green Chives cut small.

2. *The Pip or Scale.*—This is a serious complaint, much more common than generally supposed, belonging more properly to another division, although showing itself in the mouth, under the extreme point of the tongue, being caused by internal febrile disorganisation. Nothwithstanding the doubts expressed by Moubray as to the reality of this disease, I speak from my own knowledge and experience of its frequency, fatality if neglected, and facility of cure. In the country, with a wide range, no doubt it is of rare occurrence, where fowls can select what is beneficial and more easily avoid what is detrimental, which they cannot do in markets, towns, and confined places. This is one of those cases for an operation which, although very simple, had better not to be attempted at sight without proper instruction, or learnt under the eye of a practical person. The *modus operandi*, symptoms, and cure, have already been anticipated and detailed in No. 21, p. 352, May 24, 1845, of this journal, to which your readers are referred. To say "the pip or gapes," is to make use of a misnomer which often occurs in books, both being distinct disorders, as has already been shown, and the former is often confounded with and used (I have formerly done so) for the disease or "obstruction of the oil-gland," which latter had better in future be called by its own name. As a caution it must be pointed out that a day after the removal of the scale from under the extreme point of the tongue, very high inflammation setting up, the point of the tongue swells prodigiously, causing an unpractised observer to fancy that the point of the tongue had been cut off, for it appears quite flat and square. But as the inflammation subsides, the tongue in four or five days resumes its pointed shape; *D. S. E.*

AGRICULTURAL GLIMPSES BY RAILWAY.

WHAT incalculable advantages have not railways conferred on the trader, or opened up to those desirous of rapidly and cheaply acquiring, or of diffusing useful intelligence! Having taken a run of eight days by rail to see the splendid agricultural exhibition at York, and to examine, though cursorily, the agricultural aspects of a large tract of the northern and middle counties of merry England, perhaps a few hints on the various subjects—matter of practical importance, which came under my notice—may be instructing if not improving to our spirited agriculturists, the hope of which induces me now to throw together these notes. As the prospective and comparative yield of our husbandry crops is of much interest to the community, and the present period of the year of ticklish importance as to food stuffs to all classes, producers, traders, and consumers, we shall first take a glance at these, and then give a general and relative estimate, as nearly as we can in the circumstances, of the probable yield of crops 1848, proceeding afterwards to take up such relative topics as naturally arise within the scope of our railway tour through parts of Dumfriesshire, Cumberland, Northumberland, Durham, Yorkshire, Lincolnshire, Nottinghamshire, Derbyshire, Lancashire, and Westmoreland.

General Review of Growing Crops.—I need hardly say anything to the readers of this district as to the state of their own crops. We have had several reports from Wigtonshire and the Stewartry, all of which concur in giving most favourable accounts of the crops in general; and of the green crops we have good reason to believe that the crack agriculturists of the Rhins of Galloway exceed in the forwardness of their Swede Turnip any other county, notwithstanding the ravages of insect vermin. The large quantity of inferior old Turnip seed sold and sown this season has mainly contributed to the weak vegetation, the disease of the plant, and the generating of insects which have preyed injuriously on the Turnip brairds generally, seriously retarding their growth, and injuring their probable produce, throughout not only Galloway and Dumfriesshire, but, as far as our observation goes, through the whole circuit of the counties before enumerated; as by report this baneful cause has, we believe, operated similarly throughout the length and breadth of the British Isles. With propitious weather, however, though backward, the general Turnip crops may yet work up near to an average, though Swedes in cool climates are most likely to fall short of their usual weight, considering the weakly sprouting and serious checks they have already experienced. These inferences we draw from what we have seen of the Turnip plant this season in many counties, and from physiological principles which regulate the growth of this tuber. In all the English counties referred to, the Turnip crops, even those of the yellow, white, or late descriptions, were backward, much more so than those of the better portions of Northumberland, Cumberland, of Dumfriesshire, or of Galloway, while the Swedes were peculiarly feeble, backward, and limited in breadth. Culture may probably account in part for this, as we shall afterwards endeavour to ascertain. The state of the Potato crop in these several counties is somewhat similar to that of the Turnip, though we would say, on the whole, more promising. But nothing we saw could compare with the field Potato crops of Galloway and Dumfries-shire. Let us, however, note some particulars, as briefly as we can, by way of report of the country we saw in our route:—Passing from Dumfries to Lockerby, by coach, on the 11th Aug., the crops looked well, climate and soil considered. The cultivation has greatly improved within the last seven years, more especially along the banks of the Annan, for miles above and below Halleaths, and about Lochmaben. The Wheat, Oats, Potatoes, and hay, in the Hitae holms, were barely exceeded by any crops we elsewhere saw. From Lockerby to Gretna little need be remarked, for a great portion of the land is undrained, of cold bottom, or stagnant with moss water. The Caledonian Railway, passing here through a long uninteresting tract, will, however, soon operate as an important means of improvement, as it will point out superior and cheap levels for drainage, bring large quantities of good and cheap lime upon these inert tracts of land and moss, and thus improve the Grass and green crops. From Gretna to Carlisle all crops are fully an average, but drainage is much wanted. In passing from Carlisle along the picturesque bank and vale of the Tyne to Newcastle, the country exhibited a fair average of former favourable years, the pastures of the hill sides bearing a verdant flush of nutritious herbage, while the well cultivated vale and holms of the Tyne will yield an average of white and green crops, more especially near Dilston, under the management of Mr. Grey, the eminent agriculturist, who combines science with practice. But the approach of Newcastle proves no harbinger of agricultural improvement; for though that large and opulent town might afford to the enterprising farmer almost unlimited supplies of rich manure, the ground for miles around, on the Gateshead side in particular, is bearing crops of a very inferior description. The mines, under subterranean culture, seem to have concentrated to an exclusive, at all events an undue, degree, the intelligence, the enterprise, and capital of the district—whereby Nature's surface bounty has been sorely neglected. From the view we had of the country, from the great North of England Railway, passing from Newcastle to the ancient cathedral town of Durham, we fear the same remark too truthfully applies. Though the land is naturally inferior as to the facility of working, being of a wet, stiff, clayey substance—still, with draining, proper culture, such as drilling, horse-hoeing, and sufficient liming and manuring, a wonderful change could be wrought in the county of Durham, whose crops, all in all, were inferior to anything we saw in the whole circuit of our tour. The Wheat was thin and stunted—Beans sickly and dwarfish—Oats somewhat better, but hay crops light. If such be considered as average crops, it speaks little for the farming of Durham. Such a cold, wet spring as the last was sure, however, materially to damage the constitution of the young spring-sown seeds of this county, as the land so imperfectly drained and cold of bottom, would greatly chill the milk and tender sprouts of the vegetating plants. That good crops are grown on some favoured well-cultivated spots we doubt not; but the general aspect of all we saw, in a ride of upwards of 40 miles through a fair average, we presume, of these tillage lands, gave us no high opinion of rapid agricultural improvement in this county, though evidently capable of much amelioration. We have reason to believe, however, that Lord Londonderry is taking great interest in the advancement of agriculture, and having a great stake in the county, and lately engaged as his head land-agent or factor, Mr. Gibson, from Wigtonshire, a gentleman of very high attainments, equally qualified in the science and art of agriculture as in matters of general business management—we have no doubt that in a few years an example will be shown to all around, which will be attended with marked and beneficial results.

Yorkshire.—Passing into this extensive and rich county, the crops from the Tees near Darlington, around Northallerton and Thirsk, sensibly improve, and are represented as of average quality, though to our eye the land would, with improved management, greatly augment its produce. From Thirsk to York something has been done, but much more still remains to be executed. The same remark applies to the deep alluvial deposits down the Humber; in fact, from York to Hull, drainage and improved drill and horse-hoe culture are much required, though nevertheless the crops are represented as about an average, and look comparatively well.

Lincolnshire.—Passing across the Humber, and proceeding by Great Grimsby through Lord Yarborough's extensive estate (recently meritoriously mentioned in the *Agricultural Gazette*, in Letters on Railways and Agriculture), towards Louth, and thence by Horncastle, Wragby, and Lincoln, the agricultural face of the ground wears a more improved appearance. Taking Lincolnshire all in all, in point of improvement and enterprise, and looking to the general good farming which is everywhere to be found on fen, on loam, on clay, or on chalk and heath tracts, we have not yet seen any county, or so great an extent of land, bearing so good cereal crops, Beans, and natural hay; but in Turnip and Potato husbandry, they cannot, we think, cope with the management of Dumfries and Galloway, the Lothians, and other Scottish districts. The principle on which they work their green crops seems defective—not their execution, which is good and neat. The Lincolnshire Barley crop, as a whole, is the heaviest we ever saw; next comes their Oats, a large portion of which is Tartarian, a productive but rather coarse kind of grain; next Wheat and Beans. These are much above the average of the districts between the borders of Scotland throughout Galloway to Portpatrick. Potatoes and Turnips are superior to those of Durham and Yorkshire, but not so good, by one-third, as those of our own districts.

Nottingham.—From Lincoln to Nottingham and Derby a beautiful ride. The remarks which we have made on Lincolnshire generally apply, perhaps with the qualification of the crops generally through this railway tract being a shade lighter, yet very good. From our inquiries, we concluded that those locally acquainted estimated the crops in the counties of Lincoln and Nottingham as fully an average.

Derbyshire.—We have to report favourably of the crops here also, which are fresh and of healthy colour. Hay good, and Turnips and Potatoes improving, a remark which holds true as we proceed northward to Sheffield into Lancashire. Pastures throughout Derby are rough, and the country looks well about Sheffield, and the ride thence to Manchester beautiful and romantic.

Lancashire, Westmoreland, and Cumberland.—We are glad to be able to report favourably of these counties also, not only as regards hay, pastures, and white crops, but of green crops also. They are superior to the green crops of Lincolnshire, Yorkshire, Durham, and of Derbyshire. We had the good fortune to be introduced to an exceedingly intelligent and extensive farmer, resident in the neighbourhood of Liverpool, who gave a very favourable report of the crops generally in Lancashire and Cheshire, and whose views were fully borne out by all we saw in these districts. He was of opinion that with good average weather the harvest would be early and good, and the grain of excellent quality, and of average acreable yield. This is just the opinion we had formed of the whole circuit of our tour, nearly 500 miles in extent. We believe the result will be much the same throughout Scotland, and as regards the east, south, and west of England, from various information which we received from agriculturists attending the York show from these districts, we are hopeful that, with good weather, a like result will be there experienced, and prove a national blessing.

The above estimate then formed of the crops appears, by subsequent experience, to be on the whole as correct as the critical period of the year will allow, namely, a reasonable hope of the United Kingdom yielding near to an average of cereal and leguminous crops, though somewhat below the weight and quantity of last year's Turnip produce. As to the Potato plant, we reported to the *Gardeners' Chronicle* and *Agricultural Gazette*, early in July, the fact of the reappearance of the disease of 1845-6, since which time it has renewed its attacks, and spread too generally through Ireland, England, and Scotland, it is to be feared with a virulence little modified below the devastating virus of these years. No estimate of the damage to, or yield of, this crop, therefore, can be formed.

In the outset of our first sketch we purposed making some remarks upon the late great York Agricultural Meeting, since which, having also attended the Highland Society's Show at Edinburgh, we will now advert to some of the leading features of both.

The York Meeting, 1848, the tenth Cattle and Implement Show of the Royal English Agricultural Association, was probably the most important and interesting agricultural exhibition which has occurred in the whole history of husbandry, taking into account the number, classes, and quality of the animals and articles entered for competition, no fewer than 2232 entries having been made, and 2295*l.* paid in premiums, the largest number of entries ever made, and the largest amount of premiums ever paid. The animals shown, of every kind, were splendid in breeding, and in first-rate condition, while the assemblage and spirit of the meeting were commanding in influence and intelligence. The high tone of enterprize and talent shown upon the occasion augur well of the increasing prosperity of the English Society. It is but 10 years since this association was formed, and already it occupies the highest position of any agricultural society. Its journal is pervaded with scientific, practical, and statistical matter, calculated to stimulate agricultural improvement, and to spread information of the greatest importance among all classes of farmers. In this field of journalism and of growing taste for the improvement of British husbandry, the weekly columns of the *Gardeners' Chronicle and Agricultural Gazette* have tended more than any other work of this kind to second the views, and diffuse the spirit and aim of the society, and of its accredited journal. We would, in an especial manner, tender our humble meed of approbation for the exertions, the enlightened and well directed designs of the English Society in patronizing the cultivation of mind, the ascertainment of statistics, and the habit of minute practical inquiry into the elements of science, and physical appliances, which mainly constitute the principal causes of high intelligent farming. The Committee of Management, with a soundness of judgment and liberality which shows that they are working upon a well-digested and lasting plan, had provided not merely for a good and extensive exhibition of well-bred stock, but also for a discussion of some of those practical points in farming, and of those scientific principles which must direct more or less the procedure of all good agriculture. To illustrate or justify this opinion we need only refer to the valuable discussion which ensued "On the best mode of procuring manure"—certainly, next to draining, the most important problem in farm management, attended as its success must be with all these valuable consequences—the improved feeding of every kind of stock, and the raising of heavier crops of cereal, leguminous, and vegetable food, on which to keep increased numbers of superior animals. To induce the tenantry to improve in these departments is to confer upon them the means of a rich return—to enhance their profits and status in society, as well as to confer on all classes many and varied advantages. We would also allude to Professor Johnston's lecture "On the application of Science to Agriculture," which was well attended, and as well appreciated. It would be difficult to over-estimate the value of this gentleman's studies, chemical experiments, and lectures, applied during the last seven or eight years in diffusing rare information and a healthy spirit of inquiry throughout Scotland and the north of England in the leading elements alike of scientific and practical husbandry. We regret his connection with the Chemical Association of Scotland is likely to cease with the valuable efforts of that Association. How far its position may be amply and usefully occupied by the recent attempt of the Highland Society to engross the object of the Chemical Society, is, to say the least of it, very problematical; but of this we are satisfied, that had the landlords of Scotland appreciated Professor Johnston's services as highly as do our English neighbours and the go-a-head agriculturists of the United States, he would not have been allowed to accept an invitation from that country to cross the Atlantic and deliver lectures to the Americans, as his time and talents would have been amply required in his own country. Nor is it unlikely that he may be permanently engaged to diffuse agricultural information and chemical knowledge in America.

In regard to the Highland Society's Show, as represented in the newspapers, it was certainly one of the best as to stock which has occurred in Scotland. No doubt as good animals were shown formerly, of their respective classes, as were in August 1848, but a marked advance has generally taken place, giving a greater aggregate improvement of all sorts than was ever before exhibited in Scotland. The general taste for, and improvement in, the short-horned breed, strongly indicate a growing spirit of enterprise and of intelligence among our Scotch farmers: none of the ox tribe have been brought to as high a pitch of breeding as this sort of animal, mainly, we believe, because great pains and expense have been bestowed in perfecting the breed; and though the superior climate and richer food of England are best adapted to the short-horn breed, nevertheless they are well fitted for the most fertile districts of many parts of Scotland, and their blood valuable when applied in crossing to feed or otherwise improve much of our deteriorated stock. We are no admirers of overgrown and overfed cattle, but these are rather the consequence of uneconomical and injudicious feeding, than of breeding pure short-horns, and we are glad to say that modern taste in judging of this stock is decidedly bent on the encouragement of compact and neat animals, rather than upon encouraging the hideous formations of fat protuberances which have been so justly ridiculed in much of the stock exhibited at the Smithfield Christmas shows.

The Ayrshire breed were also conspicuous for the attention, study, and refinement bestowed upon their breeding. Though differing materially, in some of the most marked points, from good short-horns, they showed, in peculiar symmetry and formation, the characteristic indications of that pure breed for dairy purposes. Nor is it beside our purpose to remark that this breed (from their ability to live, and milk comparatively better than any other kind of cow, on a small quantity and low quality of food) are best adapted to inferior soils, for dairy purposes, and produce, when crossed with a young short-horn bull of pure breed, stock capable of being fed off at two years old, which will pay our farmers better than any other breed which they can use. Of no kind of cattle have we a higher opinion than of pure Galloways; but they are rarely to be met with, and, after careful examination and consideration of the various breeds established at the English and Scotch national shows for several years bygone, we are convinced that [illegible] farmers in population districts would be best guided by the pure Ayrshire cow, brought from the primary [illegible] part of that county for milk and dairy purposes, the cow being crossed with a young pure short-horn, and the produce fed off when [illegible].

The [illegible] breeds of Leicesters exhibited in Edinburgh also [illegible] the [illegible] of the Scotch agriculturists; they were [illegible] as those of the Lothians and [illegible] and evidently fed in a way calculated to pay the good [illegible] such [illegible].

The [illegible] made upon the short-horn and Ayrshire [illegible] and [illegible] and [illegible] were [illegible] and [illegible] of much practical [illegible] and [illegible] our country [illegible] to [illegible].

Among [illegible] of the [illegible] Society's proceedings [illegible] we fear, do [illegible] meetings only once in [illegible] and [illegible] Edinburgh, Glasgow, and Aberdeen, to any of which there is [illegible] and [illegible] would have [illegible] at [illegible] of the [illegible] breeds of the [illegible] standard of pure breeding [illegible] among our agriculturists. [illegible] however good in their [illegible], are capable of producing great and [illegible] in stock breeding and farming, are not calculated to [illegible] a standard of excellence or [illegible] Scotch, and Irish meetings [illegible] draw together from many quarters [illegible] the superior of breeds, reared by the most enterprising farmers. Local associations [illegible] who rely to raise up and [illegible] local stock; but we fear the [illegible] for an annual national exhibition [illegible] a failure, but a serious [illegible] to the country. Had what we have suggested been urged upon the [illegible] of Edinburgh, Glasgow, and the north, no doubt the needful guarantee of funds would have been obtained.

Again, why should the [illegible] formerly conducted at these meetings, with so much success and appreciation, not have been continued at Edinburgh in August last, and why no lecture from Professor Johnston, or from Mr. Smith on draining, or others, or manifestation of intellectual power beyond the [illegible] implements of [illegible]? Those who begin to discern the signs of the times (and many such there now be) cannot fail to infer that such indications of worse than unnecessary changes show that a screw is loose somewhere, which augurs ominously of the Society's future advancement; *T. H., Dumfries, Aug.* 16, 1848.

Home Correspondence.

Thin Sowing.—I have been looking through the *Agricultural Gazette* from week to week in hopes of finding an answer to Mr. H. Davis's letter of the 12th ult., but I have been disappointed, and it is only because a more competent person has not come forward that I venture to take pen in hand to discuss the relative merits of thick or thin sowing, for it is quite time that this important but knotty point should be settled, in order that we tenant farmers may know whether we are right or wrong in the system we are pursuing, and have acted upon for some years. As far as my own experience goes I have reason to differ from Mr. Davis; for example, I had a 12-acre field good land, which is now Beans, and which in November, 1847, I sowed with Wheat, as follows: 4 acres with 2 bushels per acre, and 8 acres with 2½ bushels per acre all of which I sowed myself before leaving the field, and under the most favourable circumstances, and the whole field was harrowed twice each way. The result was that at the ensuing harvest I felt convinced that the thinner sown portion was 2 quarters per acre deficient. Mr. Davis states, in his letter, that his Wheat is grown from little more than 2½ pecks per acre, say under 6 gallons; now, I offer two acres of the field of which I have spoken as ground for a legitimate trial of the two systems side by side. The Wheat shall be drilled in either way. Mr. Davis may drill in under 6 gallons on any one acre, and I will double the quantity in another acre alongside. Mr. Davis might do me the favour to come himself, or send some trustworthy person, to superintend the operation, in order to insure a fair trial, it being [illegible] that the respective produce shall be separately harvested and threshed out under the same [illegible]. I limit the area to 2 acres for each sort of sowing, as I mean to drill or sow the remaining part with 2 bushels per acre. I give this challenge in good faith [illegible], and with a view to public interest, being sure that, if accepted at all, it will be accepted in the same spirit; *Robert Manson, Wingham, Kent.*

Dairy Produce and Farming, &c.—I send you, for the Gazette, two years' dairying operations, minutely and accurately kept. In the first year I had one Ayrshire cow, one short-horn, and one home bred; in the

second, one short-horn and two Norfolk cows. To the presence of the Ayrshire I attribute the greater produce and profit of 1845. Her milk was rich in cream, and abundant in quantity. Unfortunately her temper was bad, and her horns too handy for my other stock, and I was compelled to part with her. The cows are stalled seven months in the year, and fed three times a day; they are racked up and bedded at night, milked twice a day, and groomed occasionally. The milk is weighed when drawn from each cow separately, and the quantity written down in the stable and entered in a book once a week. Their winter food is 1 bushel of brewer's grains, 1½ bushel of white Turnips or 1 bushel of Globe Mangold Wurzels, and 2 bushels of hay and straw chaff, generally steamed. They are out in a home pasture from 10 till 2 in fine weather in the winter; in the five summer months they are turned out to good Grass; when not in profit they graze on a common. I have sent you a two years' statement only, not wishing to trouble the useful pages of the *Gazette* with matter so apparently trifling. The proportions of butter in milk and cream, and the best temperature, &c., for churning, I will forward at a future time. [Many thanks.]

Dairy Account from May 1845 to May 1846.

Dr.—Three Cows.	£	s.	d.
6 months' keep at 3s.	11	14	0
6 winter months at 5s.	18	0	0
Straw for beds, &c....	1	12	0
Dairy fuel, turf.....	0	18	0
Milking, &c., 1s. 6d. per week.....	3	18	0
Medicine.....	0	6	9
Cost of pigs	4	7	6
	£40	16	3

Three Cows.—Cr. by	£	s.	d.
One fat calf	2	10	0
One ditto, half fat ...	2	2	6
Milk and butter	38	11	3
Pigs	6	18	6
21 loads Manure	5	5	0
	£55	7	3
Deduct costs	40	16	3
One year's net profit of three cows	£14	11	0

From May 1846 to May 1847.

	£	s.	d.
Keep of three Cows	£25	10	0
Attendance	3	10	0
Medicine.....	0	11	6
Dairy fuel	1	1	3
Straw and litter	1	12	0
Cost of Pigs	5	12	0
Food for Pigs	3	9	7
	£41	6	4

	£	s.	d.
One fat calf, 6 weeks	£2	10	6
One calf, a week old	0	11	0
One ditto, two weeks	0	16	6
One ditto, 10 days ...	0	13	0
12 months' Milk	16	14	6
Ditto Butter	14	2	10
22 loads Manure	5	10	0
	£40	18	4
Received for Pigs...	13	5	6
	£54	3	10
Deduct costs	41	6	4
Second year's profit of three cows	£12	17	6

Richard Pigott, Stoke, Norfolk, Sept. 2.

The Irish Crops: Dublin, Aug. 30. — Potatoes planted this year at an early period, about one-fourth the quantity usually planted up to the blighted year of 1845. Those likely to be saved, about one-half the produce, which has been rather good. Those planted late this year, about another one-fourth the usual quantity. Produce not one-tenth the usual average, and of little value, except as a chance of being able to hold some over for seed for next year. In the mountainous districts the value of the crops of late or early Potatoes is not one-half that of the seed planted last spring, and to obtain which thousands of poor farmers sold or pawned their all, and have now very little to eat and nothing to pay rent, poor-rates, or other taxes. The destitution anticipated in such districts is truly terrific. Wheat — the quantity sown less than the usual average. Produce in the best Wheat growing districts one-fourth short of the usual average; in some of the best Wheat growing parts of the county of Dublin there are crops cut and sent to market to be sold as mere straw, the crop not worth threshing. Fallow Wheats bad in quality, produce not more than one-fourth the usual averages. Wheat on land that produced Turnips in most cases fails in spring, on account of the land not having got a good fallowing last year, and from the neglect and ignorance of the parties who grew Turnips last year for the first time; yet many others have proved that Turnip land well treated will produce Wheat fully as good as the best managed Potato land. Oats—a heavy crop on rich soils, but owing to the heavy rains and storms, much laid and unevenly ripened. White Oats much damaged by smut and mildew; on poor soils crop bad, and uneven in character; poor because sown on land that had given corn last year, and in some cases the year before. Produce of Oats will be far below an average, both in quantity and quality. Barley—a tolerable crop on good Barley soils, but in late districts crop exceedingly poor. Breadth sown far above an average. Produce a fourth short of what would be had in good years; should we not have a continuance of good harvest weather, I say never worse in Ireland. The early kinds badly saved, and much of it still rotting in the fields. The late meadows in many places still uncut, and rotting in the ground. Grazing land—Grass rich, but less nutritive than in other years, owing to the wet and cold. Much of the produce of rich pastures in a great measure decomposed; in few places the pastures more than half stacked, owing to the pressure from poor-rates. The conacre system abolished, and the want of accommodation in the banks. In the poorer districts, where thousands of cattle of some kind, as well as some sheep and pigs in abundance, were formerly reared, there is not a beast to be seen, nor many of the people who formerly reared such stock; and the lands which they occupied now deserted and waste, yet taxed at rates varying from 2*s.* 6*d.* to 40*s.* in the pound. Beans much grown in some of the southern counties. Some reports are favourable, others, and the majority, quite the reverse. Peas more abundantly grown than usual; crops, where properly attended to, excellent, notwithstanding that some injury has been sustained by the attacks of the little maggot usually found attacking Peas in wet seasons. Flax becoming more extensively cultivated this year; pretty good, owing to the influence of the Flax Improvement Society, but like last year I much fear no preparation has been made (with few exceptions) to either sow Clover or Grass seeds with the Flax, or for any other crops to succeed it; and next year, like this, will find much of the Flax land a waste. Turnips suffered much from the attacks of the beetle when sown early, and the land had to be resown, and, where well treated, good crops are now seen. Quantity sown this year much less than last year, and the crops generally speaking much more neglected, and the consequence next year will be disgust and prejudice against Turnip culture on the part of those who, for the first time, grew and neglected them; and, as if to add to this misfortune, the practical instructors, who had against much prejudice got the people to sow them, were withdrawn at the time they should be teaching them their after culture. Mangold Wurzel generally very good where well cultivated, but, in many cases, much neglected, like the Turnips. Carrots very fine, and much extended in culture compared to former years; but, like the Turnips and Mangold Wurzel, in many cases most shamefully neglected, owing to the want of skill, not the laziness, on the part of the people, who were induced to grow them for the first time. Parsnips very fine, and, although the vegetable next best to the Potato, much neglected, whilst there are thousands of people unemployed and starving who would willingly "work for their bit," as they themselves express it. The above is a short summary of how things are with us as regards our crops, but there are other facts also which the English people should know. The farmers who have strength, and the prospect of means to do so, are preparing to go to America as soon as they can snatch off as much of the harvest produce as will bring them off, believing it impossible to bear up another year against the poor-rates, and without any hope of being able to pay the present, much less any of the arrears of former rents. Whilst the paid guardians of poor law unions have their books made up, and their rates struck, to pounce on the crops and sell them if they can before the tenants can convert them into cash to take them out of the country, and before the landlords can convert them into cash to pay even an instalment of the interest due to their creditors, and all this in a country capable of supporting four times its population if the people were but suitably educated so that each could know that his interest consisted in the faithful discharge of his duty and thus secure the rights of all. If leisure permits, you may hear more from me, and from other disinterested persons beside me, on the latter part of the above hastily written letter, to which I attach my name, lest there should be a question of its authenticity; *Edward Carroll, Dublin.*

Shed-feeding of Sheep.—Your correspondent "G. R.," in the *Gazette* of the 26th ult., is of opinion that my hogs were kept in the shed much too long. Probably, in so far, he may be right; but I did not find them, like his, become "stationary" at the twelfth week, or "retrograde" afterwards; they went on, progressively improving, as shown by the following memoranda of the weights of 10 of the best, taken every four weeks. It is true, they did not latterly, or ever indeed, increase in weight in the ratio I had expected from statements which have appeared from time to time in the *Gazette*, and which lead to the belief that "farming profits" are much greater than they really are. In experimenting, the record of failure is as necessary and as valuable as the record of success.

Memoranda of Live Weight of half-bred Hogs, taken every 4 weeks.

No.	Weight when put up in Nov.	Increase after first four weeks.	Second four weeks.	Third four weeks.	Fourth four weeks	Fifth four weeks.	Total Increase.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
1	93	½	4½	3	2	5½	15½
2	92	½	5½	5	8	2	21
3	86	7	2½	5	2½	—	17
4	78	4	3	7½	6	2½	23
5	83	6½	1½	6	8	6	28
6	79½	8	3	3	6	3	23
7	77	3	3½	3	4½	4½	18½
8	80½	2½	2	8½	8	7½	28½
9	84	8	—	10	6	8	32
10	83	3	2½	3½	1½	3½	14

—J. Little, Langholm, Sept. 2.

Mr. Cantelo's Hydro-Incubator.—I have read with much interest the various communications upon this subject, and in justice to Mr. C, whom it appears just now the fashion to run down, I wish to add a few lines to the correspondence. I went to Mr. C.'s poultry-yard (Feb. 22d of this year); there were then more than 500 young fowls in the establishment, mostly ready to put up to feed—a great number were in feeding pens —and I saw a good many dead and being plucked, &c., for market. I minutely inspected the whole, made many inquiries of a young man who kept them, and remained there more than an hour. I repeated my visit a few days afterwards. I feel quite convinced from the inquiries I made, and from the appearance of the fowls, which were of all the breeds round the neighbourhood, Spanish, Malay, Dorkings, &c. of the most mixed description, that all had been hatched at the establishment; many had evidently been taken and were in course of being taken to market, and others were coming on. I never met with a more straightforward honest-looking candid lad than the servant whom I met there, and with whom I was so much pleased that if I wanted any one to take care of poultry, and he would come, I would employ him at once; and all his answers were evidently the straightforward truth. The result of my two visits was, that with these incubators any number of chickens, turkeys, &c., can be produced at very trifling cost, except the first outlay. The chickens hatched are extremely healthy at first, more so than the majority of those under hens. In a favourable season, and upon a dry sandy soil, I do not doubt that a great majority might be reared which are hatched during the months of April, May, June, and July. I do not think any one in this country, who has had experience of poultry, would wish to be at the trouble of rearing chickens hatched before or after, except perhaps a few very early ones, hatched, say in January or February. The Chiswick place was a wretched situation, without a single recommendation, except that some wild beast caravans afforded shelter to the fowls and incubators. The soil wet and undrained, not near range enough, no green food to pasture on—in fact without a single advantage. But in spite of all this, many hundreds evidently were reared. This season has been so bad on wet soils, that I know of one generally very successful poultry fancier in Herts upon a wet soil very like Chiswick, who has lost every chicken hatched in the usual manner; and generally it has been the worst season I ever remember. I know nothing of Mr. Cantelo, never having even seen him; I think the enormous price he charges for his incubators much against his own interest, as any one can make them for themselves who examines his, and I think he may well exclaim with the Spanish proverb—"God defend me from my friends; as for my enemies, I can defend myself from them," as the very exaggerated statements made in your Paper must have done his system much injury. I should much like to see it carried out by a cottager and his wife upon a good soil, and in a good sunny situation, with plenty of range; and I do not doubt that almost any number might be hatched and reared at the proper time of year. But it would require a large range of buildings for shelter, much care and cleanliness, good water, and above all, a dry sandy soil to make it profitable, and a reduction in the price of the incubators, &c., of three-fourths, which would leave plenty of profit; *W. Darwin Fox, Delamere Rectory.*

Mr. Hewitt Davis's Farm.—I, in common with "one at a distance," and I have no doubt many others, would be glad to see a report on the farm of Mr. Davis, and should think some neighbour (who would give us his name), would oblige us. It is somewhat strange that we have not seen a critique on Mr. D.'s farming all the summer; and, in fact, I do not recollect reading more than one report, which was that of the Maidstone Farmers' Club, now nearly four years ago. How can we account for it; it is not because the farm is inconveniently situated, it is not because there is difficulty of access to it, it is at all times and seasons open to public inspection; there are no secrets there, everything is fair and honest. What then is it? Is it apathy on the part of the farmers? or because the R. A. Society declared thin sowing to be a dangerous doctrine? I can only say that I visited it at the termination of the winter*, and from what I could see, Mr. D.'s is a system at once the least expensive, and most productive, which I think, combined, may indeed be called economical. The Wheat and winter Beans were at that time looking beautiful; *W. G. Grossmith, Romsey, Hants.*

The Royal Agricultural Show at York.— As the object of the Royal Agricultural Shows is not merely the bringing together of the best specimens of farming stock of the different species for the purpose of competition, but that the unthinking, unimproving, and careless class of farmers and breeders who visit the show may be encouraged by the examples before them to exert themselves in procuring and maintaining more profitable breeds of animals, and use more economical machines also in the various operations of husbandry. It has occurred to me in conversing with a friend on this subject, when on our way to the Minster, the Society would have done a great deal of good, had they spread out a number of book-stalls on the road-side, as we saw many there, and covered them with cheap pamphlets on farming; instead of which we could find little better than some old volume of "Robinson Crusoe," or the "Arabian Nights," or "The Farmer of Inglewood Forest." We were much surprised, too, that the York booksellers had no better taste; they might at least have scattered amongst their old musty volumes some speech of Mr. Mechi's, or some of Mr. Davis's essays. It struck us that this was a channel by which an immense amount of useful information might have been conveyed to different parts of the county. Many an enterprising young lad, who had left his father's hay-field and travelled 50 miles to the show, might have startled the old folks on his return home by telling them that, having no tank for the liquid manure, their muck-midden was like a sucked Orange, its best part was gone. I hope that you concur in these remarks, and will allow them to appear in your Paper, that they may meet the eyes of the Norwich booksellers before the show in their town; they may, perhaps, pay more attention to the wants of the farmers than their brethren of this county have done; *Yorick.*

Irish Experimental Farming.—The article under the above head, signed "Spade," has made a strong impression upon me, and many others, I have no doubt, in its favour, and I have no doubt many would respond to it in the way solicited, in order fairly to try the experiment, could they feel confidence in the parties directing and governing it. I am ready to contribute my 10 guineas, if such a gentleman as yourself, Mr. Mechi,

* And at which time sent a report to a leading Agricultural paper, but they for reasons best known to themselves did not insert it, perhaps it was because the doctrine was "heterodox."

or three such, would undertake to select a practical Englishman to manage its working under their direction and responsibility. The best of the Irish are generally sanguine, very zealous at first, possess abilities and elocution, but are apt to be led aside, to flag and tire, unless sustained by impulse and excitement, and are somewhat difficult to be governed by fixed principles and rules. I should be very sorry to see your valuable Paper, and the press generally, teeming for a time with extravagant communications and laudations on the success of the experiments, and after a while (and, perhaps, after much useless expense) vanish in smoke, like so many other excellent undertakings for the benefit of Ireland. I think Mr. Mechi's experiments were blazoned forth a little too much at first, as well as Polmaise, which has failed in my case without wholly destroying my faith in the principle. But Mr. Mechi's indomitable energy, his love of the science, perseverance, and readiness to reconsider, compare, and receive suggestions and information from any source, has rendered him a benefactor to the country; and his feeling for the comfort of labourers and animals, a philanthropist in the widest sense of the term. Lord Brougham, I think, once said, "Give me a good schoolmaster with a bad system, rather than a good system with a bad master." But why not use all means for securing both in such an experiment as spade cultivation. I have not written this with a view to insertion, nor have I the least idea who Mr. Goodiff or Granard are, whether English or Irish. Indeed I am quite a novice, a mere enquirer on agricultural subjects; but, like most men, feel an interest in it, and believe, with remuneration, it is the most happy and congenial pursuit of man, and most free from the artificial stings of rivalry and competition so rife in the professions and free-tradings, to say nothing of health and proper development of the animal. Let the farmers and agricultural labourers only be suitably educated, and give the latter a comfortable cottage and garden instead of a hovel and beer shop, and a good working clergyman resident and zealous to watch over the education as well as the morals of the people, with the means of living for himself, and a little for pressing exigencies obtruded upon him by the poor of his flock, and not obtainable from the union. Is it true that the Protestant parts of Ireland are better cultivated; the people better employed, happier, more moral and peaceful, than the Roman Catholic parts? If so, what is the real cause or causes of it? I am told the line of demarcation is palpable everywhere; *B. A.*

East Lothian and Berwickshire Farming.—I, like "Amicus," have lately been visiting Berwickshire (my native county), and East Lothian, and like him was surprised to find so little autumn-sown Wheat and none sown after lea in Berwickshire, and only a small quantity after one year's lea in East Lothian. I asked many farmers in Berwickshire why they did not sow autumn Wheat on their leas? The invariable answer was they had not tried it, but they understood the climate was too cold for autumn-sown Wheat on lea, and that Oats always succeeded well. I saw several farms in both counties farmed on the four-shift or alternate system (although the five-shift is most common), where I have a strong opinion autumn-sown Wheat on one year's lea would succeed and pay better than Oats. A friend in the neighbourhood of Dunse promised to try a few acres this autumn; I will inform you of the result. I have long advocated the admirable plan of long leases in these counties, 19 and 21 years is common; I know some of 24 years' duration, but I had no idea that any Scotch landlord bound his tenants to crop their lea with Oats in preference to Wheat. I hope such covenants are the exception not the rule. I thought that practice as well as theory had long ago decided that question, viz., that Oats were a more scourging crop than Wheat. In the south here, in the Bedford Level or the great level of the fens, Oats used to be grown very extensively, but they are now fast giving giving way to Wheat, as that crop is found to pay much better. I never grew more than 9 qrs. of Oats an acre there, 36 lbs. per bushel, and I now grow 6 and 7 qrs. of Wheat per acre, 61 lbs. per bush. I find my Wheat crop this year is too heavy: that is no sign of the land being deteriorated. "A Berwickshire-educated Agriculturist" says, another reason why Oats are grown in preference to Wheat in Berwickshire is because Berwickshire is in the land o' cakes. I have always understood that the best farming is to get the greatest value of produce at the least possible expense with the least deterioration of the land; therefore I would advise the farmers of Berwickshire who farm on the four-shift or alternate system to grow Wheat instead of Oats; according to my calculation the value will be about 30*s.* or 2*l.* in favour of the Wheat crop; *Thomas Fairley, jun., Agent and Farming Bailiff, Weston, Hunts.*

Land Cultivation by Spade Labour in Ireland.—Your correspondent "Spade," in a late Number, benevolently suggests that the public attention should be directed to the culture of land by spade labour in Ireland, and practically evinces his interest in the subject by an offer of money towards a fund to be raised for that object: he does not overrate its importance; and it is to be hoped that the vast importance of finding profitable occupation for the unemployed thousands of able-bodied labourers in connexion with a better system of tillage than generally prevails in Ireland, will commend this object to the attention of those whom it may concern as one of national importance. The readers of the *Gazette* may not be aware that an experiment of this kind is at present in progress under the direction of the Central Relief Committee of the Society of Friends in Dublin. The subject is thus adverted to in a report recently published by that body. "We have lately entered upon the cultivation of about 550 Irish, equal to 900 English, acres of land in the county of Mayo—an engagement requiring the outlay of a considerable sum of money; which being chiefly expended in spade labour in one of the most impoverished counties in Ireland, cannot fail, whatever may be its ultimate issue, to afford a large amount of present relief. We entertain a hope, however, not only that the funds employed will be returned, but that the exhibition of an improved mode of culture, and the growth of useful crops, hitherto but little known in that part of the country, will have a tendency to withdraw the peasantry from their exclusive dependence on the Potato, and in other respects be productive of permanent benefit. The lands are of good quality, and in fair condition; and are placed at our disposal for one season by the proprietors, free of rent and poor rate. We provide the labour, manure, and seed, and receive the produce, giving up the land when the crops shall be disposed of. The allotment of crops is agreed to be as follows:

Turnips	272 acres	Beans	22 acres
Mangold Wurzel	46 ,,	Barley (dibbled)	9 ,,
Parsnips	46 ,,	Oats do	9 ,,
Carrots	55 ,,	Cabbages	21 ,,
Peas	22 ,,	Flax	59 ,,

A considerable portion of the land is now sown, and the prospects so far are favourable. This operation is superintended by an intelligent local committee, consisting of a few highly respectable persons residing at Ballina and its vicinity, assisted by the county surveyor, and one of the practical instructors at present so usefully employed by the Royal Agricultural Society in diffusing sound information respecting the management of land amongst the small farmers in various parts of Ireland. A similar operation on a smaller scale has been undertaken on our behalf in the county of Galway by Lord Wallscourt. In this instance, we have simply given the seed and advanced the sum of 200*l.*, to be repaid in 12 months, on condition of the money being expended in the culture by spade labour of 50 acres in crops approved by us. The whole of this land is now under crop, and the reports made to us of the execution and prospects of the work are exceedingly satisfactory;" *Hibernicus.*

Sheep-feeding in Folds on Clover.—If any of your correspondents can give from experience the result of their trial on the system of sheep feeding in folds on Clover, by feeding the sheep in racks and mowing Clover before the sheep go into the fold, it looks as though there would be great economy in food, by the sheep not running over a large field at a time. Would it not very much more improve the nature of the soil by such a system to commence the cutting of the Clover about the middle or early part of May, and would it not not very materially increase the second cut, the sheep would every two or three days get fresh ground, which appears so necessary for the health of sheep; *A Young Farmer.*

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

Mr. Pusey, M.P., Chairman of the Journal Committee, has reported a further adjudication by the Judges in the department of Prize Essays; namely:—The Prize of 20*l.* for the best Essay on the Management of Farm Horses, to W. C. Spooner, V.S., Southampton

Farmers' Clubs.

Newcastle, *August: On Bare Fallowing.* — Mr. R. W. Matthews, of Beamish, said—

I propose to divide the subject into three heads. 1st, to show that a bare fallow is peculiarly adapted to strong clay lands; 2dly, to point out the advantages of the occasional use of it as a relief on Turnip soils; and, 3dly, to attempt to prove that it must continue to be the general mode of cultivation on inferior lands which are of no decided character. The chief advantage of a bare fallow consists in the farmer having the whole of the summer to cultivate—that is, to clean and prepare his land for the succeeding course of crops—to meliorate it, by exposure to the sun and atmospheric air, in a manner which he can *not* do if it be placed under *green crop*—because he is obliged to break it down and pulverise it early in the spring by mechanical force, to be ready so early as April for Potatoes—by the middle of May, if he intend to sow Swedes—and from the 1st to the 20th of June for other kinds of Turnips. Much may be done by horse and hand hoeing the green crop; but it must be admitted that the bare fallow is the most perfect mode of cultivation. 1stly, and as regards strong clay lands. — This land, from its nature, is better adapted for the production of Wheat than of other grain; and the ordinary mode of preparation has been a summer fallow. I believe it has been proposed, by thorough draining and subsoiling, to grow Turnips and Potatoes upon clay lands. It is certain that great improvement may be made by those operations. Under-water may be carried off; surface-water may be made to percolate more quickly; the temperature, and even the texture of the soil, may in a measure be improved; but the constituent parts of the original deposit will remain substantially the same—their relative proportions unchanged. It is too adhesive, too retentive of moisture, to suit those crops; and the intermixing it with a large quantity of extraneous matter, such as sand, would alone materially alter it. If this kind of land has never grown Turnips, and a favourable season occur for getting it pulverised, it will grow one crop of large heavy bulbs, perhaps a second. The change will call inert particles of the soil into action; but it will be found to fall off. There is also some difficulty of carting off the crop without injury to the land. Therefore it is that I conclude that Wheat, Beans, and Clover are the natural productions of this kind of land—that a bare fallow is the best preparation for the course, and hence must continue an important part of our system of agriculture. 2d. A bare fallow is occasionally useful as a relief to Turnip soils. The great demand for beef and mutton in England, notwithstanding the depressed state of manufactures and commerce, and the conviction that the foreigner cannot export those articles so as to affect the prices in our markets to so great an extent as grain, render the production of *green crop* more lucrative, and enhance the value of Turnip soils. But if these considerations induce the English farmer to push the growing of Turnips to the verge of possibility, they form an equally powerful argument that in many not deteriorate those fine land's suitable for the production of Turnips by a too frequent repetition of the crop; but on the contrary, at he should use every means in his power to [illegible] in full vigour, and in a high state of [illegible]. This, of all kinds of land, from the facility with which it may be wrought, and the variety of crop which it may be made to produce in the most beneficial manner, but how unfortunately is it [illegible] that "the three have fallen to him in such pleasant places." When land has been for many successive years under crops, so forced by [illegible] the intervention of a bare fallow, succeeded by Wheat will not [illegible] a full crop. Change next to good cultivation and the proper application of manures, is the life of crops—perhaps as necessary as either of the former. From the large breadth of Turnips I have grown, it must necessarily follow that a great portion of [illegible] are raised by the use of artificial manure and a return of much to the land, to prepare it for the succeeding crop generally Barley, by depositing all or part of them upon the land as it [illegible] most excellent plan, but I am of opinion that an occasional bare fallow, together with the application of a dressing of farm-yard dung, to be followed by a Wheat crop, is a great improvement upon it. In the former case for the [illegible] already given—the great expense to any one [illegible] very, because the manure left by the sheep is among the Turnips on the land, which is at a distance from the [illegible] does not contain so much of the heavy [illegible] as the farm-yard manure; for straw (or any vegetable matter) is the best [illegible] way of restoring this necessary article to the land. And, lastly, as it is agreed that no one plant feeds exactly upon the same particles of soil as another, I am inclined to think that the substitution of a Wheat for a Barley crop [illegible] useful. After this change of treatment and of crop, the land will produce, with renewed vigour, the Turnip and Barley crops as they come in [illegible] round. In taking up the third part of my subject, to which I would chiefly address myself, viz., the advantage of bare fallowing upon lands of no decided character, I wish to explain what is intended by that term. I mean lands which are not so strong as to deserve the appellation of clay lands, and yet which do not contain a sufficient quantity of sand or gravel, mixed up either with the soil or subsoil, to render them sufficiently light and pervious, so as to entitle them to be called Turnip lands; and of such, a great part of the inferior lands in the hilly part of the county of Durham (with which I am best acquainted), is composed, taking it from the valley through which the turnpike road passes from Newcastle to Durham, thence westward nearest to the moors. In this tract is found almost every variety of soil and subsoil. In some places, on the table land on the top of the hills (and here, I may observe, you find the best patches of soil in the district—on the table land), the subsoil consists of freestone rock, in other places of clay, in others of sand and gravel, but in general of layers of clay interspersed with deposits of sand and gravel. In some places the surface soil inclines to clay; in others it is light, partaking in most instances of the nature of the matter which forms the subsoil upon which it lies. This district is generally speaking, divided into farms of less than 200 acres each, occupied by a most industrious class of farmers, who were many years ago thus described by a writer on agriculture:—"They rise early late take rest, and eat the bread of carefulness." Economy is the leading principle in their management; but, with all their qualifications, in too many instances their farms would not belong to the category of "well-managed farms," lately so ably described by a member of this club. In this district, the lands suited to the cultivation of Turnips are partially situated, and limited in extent; and the farmer often wastes his time, his money, and his energies, in attempting to grow them upon land totally unfit for the purpose. A man who has say 30 acres of fallow, may often be seen spending the whole of the spring months, after Oat seed-time, in preparing land for an acre of Potatoes, and four or five of Turnips, to the neglect of his fallow—which may be seen green as a fog with Couch-grass, and all manner of weeds, where a botanist might revel for days together—and the fallow se dom gets any of his attention, not even a stirring, until after the Turnips are sown, towards the latter end of June. The whole has been devoted to the preparation for growing five or six acres of green crop, where the labour of months may be undone by a heavy shower of rain or a fortnight's drought: for this kind of land will not bear the slightest excess of either: and, lastly, he applies 20 loads of rotten dung per acre (always the best he has), to raise half a crop of Turnips, which would have well manured twice that extent of bare fallow. If no Turnips were grown upon such lands as are here described—if the Oats, Peas, and Barley raised upon the farm, were consumed by the cattle, and the sum usually spent in attempting to grow Turnips expended in the purchase of oilcake, &c., it would in the end be to the benefit of the farmer and the improvement of the land. In advocating the use of a bare fallow, perhaps I shall best illustrate that mode of culture by describing the process. Let the land be "felloed" before winter in as dry a state as you can: cut grips in it to carry off any excess of water in winter: do not come upon it the following spring until it be dry: give it a true good stirring, to the full depth of the felloing: furrow across, if the ridges run north and south, which all ridges ought to do, where the inclination of the land (that is, the angle which the surface forms with the horizon) will permit: next raise it up, endlong, in stitches, like large Potato furrows, in order to expose the greatest possible surface to the air; split the stitches as often as you see need (a team will do three acres a day; keep the harrows off it until about August, when, if a shower of rain fall, the clods will begin to moulder and burst like lime clods; then harrow it, and gather off such weeds as are left; lay on the manure; give it an other good plough[illegible] (two stirrings, stitching, and twice splitting, are about equal to three stirrings of the ordinary plan of working bare fallows): let it now lie to rest as long as possible before the seed furrow, particularly if the land work loose and friable. It is sometimes surprising, in land infested with Couch-grass, to see how little is left after the stitches have been once or twice split. I have seen a piece of land, containing a quantity of Arn[illegible] or ba[illegible] quicken, cleansed by repeatedly stitching it, without the use of the harrow. Where one plant or root had sap stirred left to grow, it pushed up a blade during the time the land was laid to rest before the seed furrow: these were picked out with a gripe, and carried off. And here, I would observe, that it is better to act as handmaid to nature than to coerce her: and I am of opinion that land opened out in the manner described, to the full influence of the sun and atmospheric air, until it begins to moulder and fall spontaneously, will make a cleaner fallow, and be in a better state of preparation for the growth of crops, both corn and Clover, than if it were broken down early in the spring by mechanical force, by the application of all the implements ever invented by the ingenuity of man. To guard against any misconception of my meaning, I would observe, that if the description I have last treated upon could by thorough draining be made to produce Turnips and to bear sheep treading, then a most valuable change might be made in the [illegible] of crops. The four-course shift at present in use might be altered, and extended to an eight-course shift, or, in other words, five and three, the advantages of which would be incalculable. But this, I fear, cannot be general in the district alluded to. Those parts which would produce Turnips and bear sheep-treading, may be but in patches; and though I would say, extend the growth of Turnips as far as a can, [illegible] it will be [illegible] that bare fallow must remain the rule and green crops the exception. And again, if it can be made to produce a moderate crop of Turnips, still, if it is too

retentive to bear the sheep-treading, half the value of them is lost, as there is so much less inducement to use artificial manure, the discovery of which is one of the greatest boons which has fallen to the lot of agriculturists in modern times. Mr. Matthews, in conclusion, gave us an appendix the scheme of husbandry referred to in the last paragraph of this paper, viz., 1, bare fallow; 2, Wheat; 3, Clover; 4, Grass; 5, Oats; 6, Turnips; 7, Barley; 8, Peas. He also appended a scheme of husbandry for clay lands, as follows:—One-fourth of arable land to be put to Grass, to rest as long as may be expedient. Of the remaining three-fourths:— one-third fallow, Wheat, Oats; another fallow, Wheat, Beans; and the third fallow, Wheat, Clover. If there were three fields in each course, one of the three, when in turn for Clover, might be rested, and one of those in new Grass ploughed for Oats. By this plan the land would be once in three years in Wheat, once in three in fallow, and once in nine years in Oats, Beans, and Clover; and no one field need be more than nine years without being rested. When the Beans were intended to follow Wheat, the fallow ought to be limed for Wheat, and manure put upon the stubble for Beans.—When Mr. Matthews had resumed his seat, his paper, which was well received, became the text of a discussion embracing (as one of the members remarked) the whole round of agricultural industry.—The PRESIDENT expressed his entire concurrence with Mr. Matthews. The views unfolded in the paper were those which he held, as contradistinguished from those who would substitute green crops for bare fallow; and he had found the occupiers of strong clay lands—men of experience and position—with whom he had conversed on the subject—he had found them to be of the same way of thinking as Mr. Matthews. While growing a few Turnips they had no wish that their farms should be converted into Turnip farms. The character of the land might be altered to some extent, but you could not give it that loamy quality—that easiness of working—which marked the true Turnip soil. Only the other day he was in conversation with one of his tenants—the occupier of 900 acres, mostly strong land—who had been draining largely. He asked him how many acres of Turnips he had this year; and he answered "Thirty." He (Sir M.) inquired if he thought that was enough, in proportion to the size of his farm. "Yes," he said, "he thought it was; if he grew more Turnips he would be taking away too much of his land that was better fitted for Wheat." Now this land, which lay by the sea coast, was fairly convertible to the purposes of Turnip husbandry; but the tenant thought, in common with others similarly situated, that the soil was more naturally adapted to the growth of Wheat.—Mr. RAMSAY said, that land such as Mr. Matthews had described—of no decided character—if the subsoil were broken up, and it was sufficiently worked, would be altered in character altogether, and become far from an inferior Turnip soil; and if Turnips could be got from land not very favourable to the growth of Wheat, one great point for which English agriculturists were struggling would be gained. The present was not a question of converting good Wheat soils into Turnip soils, but of the best system of cultivating such weak soils as those of the county of Durham. He had been an advocate of bare fallowing, but he had not now one-fourth of the land in fallow that he used to have, and every year the quantity grew less; yet his land had not deteriorated, but the contrary. Mr. Ramsay entered into details to show the profits of stock on a farm from which bare fallows were discarded. The whole country, he admitted, could not farm so; the capital, the intelligence, the skill, could not everywhere be found; but they must struggle for an approximation to such a state of things. Farmers might, no doubt of it, apply themselves to Turnip husbandry unwisely; there were many bad farmers; but that was no reason why the cultivation of Turnips should not be cultivated judiciously.—Mr. W. ANDERSON and Mr. G. BATES coincided in opinion with Mr. Ramsay; Mr. B. expressing his conviction that there was no way so certain as Turnip husbandry of permanently enhancing the value of the land.—Mr. ROBSON, of Sunniside, was an advocate for extending the cultivation of green crops. It could not be done with profit on all lands, nor in all circumstances; but many strong lands would produce Turnips to the great advantage of the tenant. There were seasons, he knew, in which it could not be done; Turnip husbandry required judgment, and skill, and capital; but if the effort were not made to grow more and more food, the country would go back rather than forward.—Mr. T. L. COLBECK agreed with Mr. Matthews. Mr. Bates lived in a land of Goshen, where it would be preposterous to see a bare fallow. Mr. Robson said the farmer should grow Turnips judiciously; and Mr. Matthews had simply contended that it was not judicious to grow Turnips on certain soils. They were both, therefore, of one opinion.—On the motion of Mr. ANDERSON, seconded by Mr. COOKSON, a vote of thanks was unanimously passed to Mr. Matthews, and one of the most lively discussions of the club (which we have not been able to report in full) came to a close. The feeling of the majority was evidently in favour of the views of Mr. Ramsay and Mr. Laycock, rather than of Mr. Matthews and the President.

Calendar of Operations.

AUGUST.

BERWICKSHIRE MERSE FARM, *Sept.* 1.—Since last report we have been employed carrying dung to the fallow land, and in ploughing and harrowing; two pair at the coals one day, and the workers have been employed gathering weeds, spreading dung, and serving the horses that were carrying it. We have begun reaping, and are cutting a good crop of Oats; the shepherd with two men and a boy occupied one day dipping the sheep; *J. B.*

EAST LOTHIAN FARM, *Sept* 3.—The weather, though showery, has scarcely retarded harvest operations. We have been busily employed during the week shearing Oats and remainder of Barley; we have likewise been carting Barley and Oats to barn-yard, also threshing Oats for straw for thatch. Shearers are numerous; wages in the district for the week, 6*s.*, with victuals and lodgings; *S.*

MID-LOTHIAN FARM, *Aug.* 30.—During the past 14 days there have been only 8 days of fine harvest weather, and 2 days each week of very heavy rain; notwithstanding this drawback, the operations of the season have made considerable progress, and in consequence of the dryness of the atmosphere during the working days, the grain does not seem at all injured by the rains, and delay has been the only evil we have to complain of; however, as labourers are abundant and the present prospects of the weather are cheering, it is to be hoped that no bad result will follow. The general crops are excellent, and although much has been said by interested parties as to the scantiness of some crops, we are decidedly of opinion that the general produce will turn out more than an average both in quantity and quality, as has been satisfactorily proved on the barn floor by the samples already threshed out, which, for weight and quality, have been very seldom surpassed. Stacking is now in rapid progress in the three Lothians, and should dry weather continue for two weeks more, the great bulk of the grain crops will be secured. The Turnip crop has a healthy and vigorous appearance, and we have no doubt will still be a full crop, notwithstanding the slowness of its growth in its early stages. The Potato is still being brought to market in full quantities and of fair quality, but we are sorry now to add that there is undoubted proofs of the fatal disease in our neighbourhood; on the farm of Brunstain, at least one half of the tubers are diseased, but as this is the only serious case we know of we still trust that a large portion of this valuable crop will be preserved for winter use and seed. In passing, we may remark that the earlier varieties are the least if at all affected, and that the old sorts are the most; this is an evidence we think deserving of remark, and the cause may probably arise from the old varieties being more feeble and less able to resist the effects of any noxious influence, and we think farmers would do well to select for seed such varieties only as have a tendency to early maturity, and have been recently raised from the seed apple, and, consequently, more vigorous in their constitution. The wages of reapers and other farm labourers vary from 1*s.* to 1*s. 6d.* per day, with food, and from the immense importations of Irish daily arriving, no increase of rates are expected.

SOUTH HAMPSHIRE FARM, *Sept.* 2.—Since our last report we have had no day until yesterday without more or less rain; in consequence, since that period, even where the greatest caution and patience has been exercised, the corn has been carted in very indifferent condition, and within our observation much has been carried in such bad order that its value must be reduced very low indeed. Our horses have been employed carting Wheat and Oats, rafter-ploughing Wheat stubble and ley ground intended for winter Tares and Trifolium; after the rafter ploughing we scarify across, drag and harrow the land, and then collect and carry away the Couch Grass; during the past fortnight we have been sowing and drilling Turnips after Tares fed off, after early Potatoes, and also after the Wheat crop, which we finished on the 31st August. At this late period of the season we generally prefer sowing the manure and Turnips both broadcast when we do not expect the Turnips will grow large; instead of hoeing them we only drag and harrow them for the purpose of thinning the plants, and accelerating their growth; in this way we have often obtained a good produce, for when we cannot expect large roots we must depend upon greater numbers to give the crop. We are quite satisfied of the advantages of drill culture for all early Turnips, where we can obtain roots of a large size, and can give space enough between the rows to have the full benefit of interculture by the use of the horse-hoe; but we are not so satisfied of the advantages of drilling Turnips as compared with broadcast at this late season of the year, as we can neither expect to grow large roots, or to use the horse-hoe with advantage; but for the purpose of deciding this point, we have put in some Turnips for experiment, some manured and sown broadcast, and some drilled 16 inches apart with manure, both being sown on the same day, Aug. 29, and the quantity and kind of manure being the same in both cases. Our labourers have been employed in mowing Oats, cutting spring Wheat, Turnip hoeing, hedge trimming, thatching and trimming the corn ricks, thatching second crop Clover ricks; some of the men are now employed in draining land, intended for a crop of winter Tares; this land appeared to be too wet, by reason of the retentive clay subsoil, which holds up the water on the surface; we place our main drain across the fall of the land, 3½ feet deep, the branch drains 3 feet deep in the furrows, with the fall of the land, 21 feet apart. We use for the main drain 2½ inch arch tiles with soles, and for the furrow drains flat-sided pipe tiles upon narrow soles. Our shepherds are mostly employed in general farm work, having now but little to do with sheep, as we have disposed of the greater portion of our ewes, having only about 100 Southdown ewes remaining unsold. We sold the last of our stock of horn ewes last week, they made a poor price indeed, having suffered very severely from the epidemic, and we reckon that (independently of our losses in the lambs), out of 210 ewes sold out, we had 600 stones of mutton less for sale than we should have obtained if our stock had been free from disease. The women have been employed in turning Oats, turning and stooking Clover, weeding Carrots, hoeing between the rows of Swede Turnips, picking Grass from fallows, and trimming Quick fences; *J. B.*

STIRLINGSHIRE CARSE FARM, *Sept.* 1.—We have been engaged this week with harvest operations generally. In the beginning of the week the weather was showery, but for the last three or four days it has become very fine, which has enabled us to get all our Wheat stacked in fine order, and is also tending greatly to bring forward the other crops to maturity; *W. F.*

SUSSEX FARM, *Sept.* 5.—We have had beautiful weather since Friday last for the harvest operations; and have almost finished Wheat carrying; we had the most of it to unbind and spread out to the sun, and it is now carried and stacked in good order. We are now busily engaged with the Oats, but have still part of the Oats and Barley and spring Wheat to cut. Mowing our Clover seed after Wheat, which is a heavy crop, intended for hay for the sheep. When not engaged with the harvest, the teams are scarifying, ploughing, and cleaning the land intended for Wheat. Men and women engaged with the Clover and taking up and sorting the Potatoes; *J. B.*

Notices to Correspondents.

ALDERNEY COWS: *A Dairymaid* may apply to Mr. E. Parsons Fowler, Kent Cottage, St. Clement's, Jersey; or to Mr. Fowler, of Bushey, Herts.

DISEASES OF CATTLE: *J H.* The disease you speak of is unusual, and requires for its elucidation careful *post-mortem* examination. In the absence of more information on the subject, we would recommend bleeding in the earliest stage; after which a dose of salts and sulphur, followed by sedative media, such as white Hellebore, a scruple; and nitrate of potash, 2 drs., twice a day in gruel. A strong blister should be applied to the exterior of the windpipe, and a seton placed in the brisket; *W. C. S.*

DRAINS: *Yarm.* Deep drains, if they run sooner after rain than shallow ones, do so on the same principle as that on which water poured in at the top of an empty cask will escape at the lowest tap first. There is no method, that we know, of making taper pipes.

NEW BEER BILL: *X.* It prohibits (except as refreshment for travellers) the sale of beer and other fermented or distilled liquors, till after half-past 12, or the period of Divine Service, on Sundays, Good Friday, Christmas-day, or days appointed for public fast or thanksgiving.

THRESHING MACHINES: *Mr. Hunter's* article shall appear next week.

*** Communications reaching town after Wednesday cannot be answered the same week.

Markets.

SMITHFIELD, MONDAY, Sept. 4.

We have an unusually large supply of Beasts, but the average quality by no means good; 4*s.* 2*d.* is quite an extreme quotation for the choicest qualities. A large number remain unsold. The number of Sheep is larger, and trade very heavy, especially for big Sheep, owing to the hot weather. Lambs are more in demand, but at no advance. Choice Calves are rather dearer. From Holland and Germany we have 553 Beasts, 3750 Sheep, and 176 Calves; from France, 48 Beasts; and Scotland, 300.

Per stone of 8 lbs.—s	d	s	d	Per stone of 8 lbs.—s	d	s	d
Best Scots, Herefords, &c. 4	0	to 4	2	Best Long Wools	....		
Best Short Horns 3	8	— 4	0	Ditto Shorn 4	4	— 4	6
Second quality Beasts .. 3	0	— 3	6	Ewes and second quality	....		
Calves 3	0	— 4	4	Ditto Shorn.. 3	8	— 4	2
Best Downs & Half-breds	....			Lambs..... 4	4	— 5	0
Ditto Shorn 4	10	— 5	0	Pigs 4	4	— 5	2

Beasts—4375. Sheep and Lambs—27,000. Calves—286. Pigs—390.

FRIDAY, Sept. 8.

The supply of Beasts is again more than adequate to the demand. Trade is dull, at a reduction of 2*d.* per 8 lbs. on all kinds, and many remain unsold. The number of Sheep is also large, but the majority of inferior quality; 5*s.* is the extreme price for Downs, &c, and 4*s.* 6*d.* for Long Wools, but Ewes and second rate can scarcely be disposed of at 2*d.* per 8 lbs. reduction. Trade is more cheerful for Calves, but at no advance. From Holland and Germany there are 265 Beasts, 2100 Sheep, and 271 Calves; from France, 225 Beasts and 17 Calves; from Scotland, 220 Beasts; and 109 Cows from the home counties.

Best Scots, Herefords, &c. 3	10	to 4	0	Best Long Wools.....	....		
Best Short Horns 3	6	— 3	10	Ditto Shorn 4	4	— 4	6
Second quality Beasts .. 3	10	— 3	4	Ewes and second quality	....		
Calves 3	0	— 4	2	Ditto Shorn 3	6	— 4	0
Best Downs & Half-breds	....			Lambs..... 4	0	— 5	0
Ditto Shorn 4	8	— 5	0	Pigs 4	6	— 5	4

Beasts—1229. Sheep and Lambs—9,890. Calves—516. Pigs—380.

COVENT GARDEN, Sept. 9.

The market is well supplied with Vegetables and most kinds of Fruit; but trade is dull. Pine-apples are plentiful. Hothouse Grapes are sufficient for the demand; and of Peaches and Nectarines there is an abundant supply. Peaches are ticketed at 1*d.*, and small Nectarines at 2*d.* each. Apricots are nearly over. Melons are sufficient for the demand. Ribstone Pippins and other dessert Apples are ticketed eight for 1*s.* Pears begin to make their appearance; among them we remarked good specimens of Beurré d'Amalis, Williams' Bon Chretien, &c. Nuts are sufficient for the demand. Filberts fetch 9*d.* per lb. Oranges are pretty abundant: Lemons moderately plentiful. Among Vegetables, Carrots and Turnips are abundant and good; Cauliflowers, Broccoli, &c., sufficient for the demand. French Beans plentiful. Potatoes the same, but diseased, and so are Tomatoes. Peas are a little dearer. Lettuces and other salading are sufficient for the demand. Mushrooms are plentiful. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Fuchsias, Carnations, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 3*s* to 5*s*	Oranges, per 100, 10*s* to 16*s*
Grapes, hothouse, per lb. 1*s* 6*d* to 4*s*	— bitter, per 100, 8*s* to 16*s*
Peaches, per doz., 1*s* to 4*s*	Lemons, per doz., 1*s* to 2*s*
Nectarines, per doz. 1*s* to 4*s*	— per 100, 7*s* to 14*s*
Melons, each, 2*s* to 5*s*	Almonds, per peck, 6*s*
Plums, per pannet, 1*s* 6*d* to 2*s* 6*d*	— sweet, per lb., 2*s* to 3*s*
Apricots, per doz., 2*s* to 4*s*	Walnuts, per 100, 1*s* 6*d* to 2*s*
Apples, dessert, per bush., 4*s* to 7*s*	— per bush., 16*s* to 24*s*
— kitchen, p. bush., 3*s* to 5*s*	Nuts, Barcelona, per bush., 20*s* to 22*s*
Pears, per doz, 1*s* to 3*s*	— Filberts, per 100 lbs., 38*s* to 50*s*
— per half sieve, 6*s* to 10*s*	— Cob, per 100 lbs., 40*s* to 60*s*
Mulberries, per pottle, 4*d* to 6*d*	— Brazil, per bush., 12*s* to 16*s*
Figs, per doz., 1*s* to 2*s*	Chestnuts, per peck, 3*s* to 6*s*
Oranges, per doz., 1*s* to 2*s*	

VEGETABLES.

Cabbages, per doz., 6*d* to 1*s*	Onions, pickling, per hf sieve, 2*s* to 3*s*
Cauliflowers, per doz., 1*s* to 4*s*	Tomatoes, per punnet, 9*d* to 1*s* 3*d*
Broccoli, per doz, 6*s* to 9*s*	— per half sieve, 4*s* to 6*s*
Sorrel, per half sieve, 6*d* to 9*d*	Shallots, per lb., 4*d* to 8*d*
Potatoes, per ton, 60*s* to 140*s*	Garlic, per lb., 3*d* to 1*s*
— per cwt., 3*s* 6*d* to 7*s*	Radishes, per doz. bands, 6*d* to 1*s*
— per bush., 1*s* 6*d* to 3*s* 6*d*	— Turnip, do., 9*d* to 1*s*
Turnips, per doz. bunches, 2*s* to 4*s*	Artichokes, per doz., 1*s* 6*d* to 3*s*
Red Beet, per doz., 6*d* to 1*s*	Vegetable Marrow, per doz, 6*d* to 1*s*
Horse Radish, per bundle, 4*s* to 6*s*	Lettuce, Cab., per score, 4*d* to 1*s*
French Beans, per half sieve, 1*s* to 2*s*	— Cos, do., 9*d* to 1*s* 3*d*
Cucumbers, each, 2*d* to 8*d*	Mushrooms, per pottle, 1*s* to 1*s* 9*d*
Leeks, per bunch, 1*d* to 2*d*	— per bushel, 4*s* to 6*s*
Celery, per bundle, 1*s* to 1*s* 3*d*	Small Salads per punnet, 2*d* to 3*d*
Carrots, per doz. bunches, 3*s* to 6*s*	Fennel, per bunch, 2*d* to 3*d*
Spinach, per sieve, 1*s* to 2*s*	Savory, per bunch, 3*d* to 4*d*
Peas, per sieve, 3*s* to 5*s*	Thyme, per bunch, 3*d* to 4*d*
Marjoram, per bunch, 2*d* to 4*d*	Watercress, p. 12 small bun., 6*d* to 9*d*
Onions, per bunch, 3*d* to 6*d*	Parsley, per half sieve, 6*d* to 9*d*
— Spanish, per doz., 1*s* to 4*s*	— Roots, per bundle, 1*s* to 1*s* 6*d*
	Mint, green, per bunch, 2*d* to 4*d*

HOPS, FRIDAY, Sept. 8.

Messrs. PATTENDEN and SMITH report that the market continues about the same. Duty, 200,000*l.* About six pockets have arrived and have been sold from 80*s.* to 95*s.* per cwt.

Mid. & East Kents, p. cwt.	60*s* to	80*s*	Yearling Kents, p. cwt. ..	38*s* to	44*s*
Weald of Kents	47 —	56	Yearling Sussex	35 —	42
Sussex	46 —	54	Old Hops	20 —	35
Farnhams	80 —	100			

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Sept. 7.

Prime Mead. Hay	70*s* to 75*s*	New Hay ..	—*s* to —*s*	Straw ..	27*s* to 32*s*
Inferior ditto ..	50 65	Clover ..	70 110		
Rowen	50 55	New Clover ..	— —		

The trade heavy for Meadow Hay. J. COOPER.

CUMBERLAND MARKET, Sept. 7.

Prime Mead. Hay	75*s* to 80*s*	Old Clover .	95*s* to 100*s*	Straw ..	28*s* to 32*s*
Inferior	50 68	Inferior ..	71 84		
New Hay ..	50 68	New Clover ..	65 90		

JOSHUA BAKER.

WHITECHAPEL, Sept. 7.

Fine Old Hay ..	68*s* to 72*s*	Old Clover ..	95*s* to 108*s*	Straw ..	26*s* to 30*s*
Inferior Hay ..	— —	Inferior ..	— —		
New Hay.. ..	55 65	New Clover ..	63 90		

MARK LANE, MONDAY, Sept. 4.

Messrs. KINGSFORD and LAY report that the supply of English Wheat from the neighbouring counties this morning was good, consisting principally of new, the condition and quality of which was much the same as last week. The market opened heavily, and sales proceeded slowly at a decline of 5*s.* per qr. on both old and new Wheat, some quantity remaining unsold towards the close. Foreign was much neglected, although a decline of 2*s.* to 3*s.* per qr. would have been accepted. In bonded and floating cargoes there was nothing doing.—Barley was a dull sale, and is 1*s.* to 2*s.* per qr. lower.—Beans are the turn cheaper.—We reduce our quotations 5*s.* to 6*s.* on Maple and Grey, and 8*s.* per qr. on white Peas.—The Oat trade is heavy, at fully 1*s.* per qr. decline.—The top price of Flour remains unaltered.—In the early part of the morning a few dry parcels of Mustard seed were taken at our quotations, but the greater part remains unsold.

BRITISH PER IMPERIAL QUARTER.	*s*	*s*		*s*	*s*
Wheat, Essex, Kent, and Suffolk ..... White	46	60	Red.....	42	55
Norfolk, Lincolnshire, and Yorkshire	50	54	White ..	52	56
Barley, Malting and distilling, 30*s* to 32*s*	Chevalier	32	34	Grinding	28	30
Oats, Lincolnshire and Yorkshire.....	Polands	23	26	Feed	21	24
Northumberland and Scotch	Feed	—	—	Potato ..	—	—
Irish	Feed	19	23	Potato ..	22	25
Malt, pale, ship.....		—	—			
Hertford and Essex		—	—			
Rye.....		27	30			
Beans, Mazagan, old and new ..32*s* to 36*s*....	Tick..	35	40	Harrow..	36	41
Pigeon, Heligoland 38	46	....Winds		—	—	Longpod	—	—
Peas, White.....34	40	....Maple	38	40	Grey	34	36

FRIDAY, Sept. 8.

The supply of Foreign Wheat and Barley this week has been large, and fair of other grain. The market opened very firmly, with an increased disposition to do business, but as the day wore on and little transpired, prices remained unaltered from Monday for either English or foreign Wheat.—We observe no alteration in the value of Barley, Beans, or Peas.—Oats are a slow sale at prices barely equal to those of Monday.—In Flour there is nothing doing.—Indian Corn: Galatz has been sold at 35*s.* to 36*s.*, f. o. b., including freight and insurance.

[The fine weather, which has been general during the past week, has caused a panic in all the grain markets of the kingdom, and a decline varying from 6*s.* to 8*s.* per qr. has taken place on new Wheat, and 3*s.* to 5*s.* on old, has been experienced. Spring Corn has been similarly affected, the decline being 1*s.* to 3*s.* on Barley, 1*s.* to 2*s.* on Beans, but not general, these being scarce; 2*s.* to 3*s.* on Peas, and 1*s.* to 2*s.* on Oats. Considering the reports of our crops, the condition of a large portion of the new Wheat, the state of Potatoes, the bareness of stocks in granary, and the probable amount of foreign arrivals for some time to come, we are led to the conclusion that the decline will be of short duration, and soon followed by a reaction. In Dantzic, on the 1st inst., business was quiet, and prices consequently 2*s.* cheaper, although the finest 63lbs. Wheat was held at 5*s.* In the lower Baltic, new corn has not yet been brought to market to admit of accurate quotations at present. Holland and Belgium afford the cheapest markets, where good red new Wheat is purchaseable at 43*s.* to 47*s.*, f. o. b. In Marseilles, Polish Odessa Wheat for arrival in October and November was purchaseable at 40*s.* to 42*s.* In Leghorn, owing to the political disturbances, the majority of the corn merchants had fled, and there was no business doing. At Odessa, upwards of 40,000 qrs. had again been purchased, chiefly for the Italian markets, at 27*s.* 6*d.* to 28*s.* 6*d.*, f. o. b. New York, 22d August—Short supplies and fair inquiry sustained prices, and the quotations for Wheat and Flour were slightly advanced. Indian Corn had declined 1*s.* to 1*s.* 6*d.* per qr.]

IMPERIAL AVERAGES.	Wheat.	Barley.	Oats.	Rye.	Beans.	Peas.
July 29	47*s* 1*d*	29*s* 5*d*	20*s* 7*d*	30*s* 2*d*	35*s* 9*d*	36*s* 1*d*
Aug. 5	49 5	29 11	21 0	29 4	35 3	34 8
— 12	50 11	30 1	21 8	29 7	36 0	35 2
— 19	51 9	30 3	21 5	31 11	37 9	36 3
— 26	52 3	31 2	21 11	30 11	38 1	37 7
Sept. 2	55 5	32 1	22 6	32 2	38 8	38 11
Aggregate Average	51 2	30 6	21 6	30 8	36 11	36 5
Duties on Foreign Grain	6 0	2 6	2 0	2 6	2 6	2 6

ARRIVALS IN THE PORT OF LONDON THIS WEEK.

	Wheat. Qrs.	Barley. Qrs.	Oats. Qrs.	Flour.
English.....	3910	80	720	2560 sacks.
Irish	—	—	—	
Foreign.....	16720	8710	13350	— barrels.

Fluctuations in the last six weeks' Corn Averages.

PRICE.	July 29.	Aug. 5.	Aug. 12.	Aug. 19.	Aug. 26.	Sept. 2.
55*s* 5*d*	...	...	...	...	...	
52 3	...	...	...	...	...	...
51 0	...	...	...	...	...	...
50 11	...	...	...	...	...	...
49 5	...	...	...	...	...	...
47 11			...	...	...	...

SEEDS, Sept. 4.

Canary.....per qr.	80*s* to 90*s*	Linseed-cakes, Foreign, p. ton, 77*s* to 97*s*		
Caraway .....per cwt.	27 29	Mustard, White, p. bush., 10*s* 0*d* to 13*s* 0*d*		
Clover, Red, English	35 44	Superfine, p. bush, 14 15		
— Foreign	35 40	Brown, per bush.. 6 12		
White, English	38 44	Rapeseed, Eng., per last.....28*l* 30*l*		
— Foreign	38 42	Rape-cakes .....per ton 4*l* 15*s*		
Coriander.....	19 20	Sainfoin	—	—
Hempseed .....per qr.	42 46	Tares, Eng., winter, p. bsh., 5*s* 0 10*s* 0		
Linseed	36 40	Foreign, per bush., 3*s* 0 4*s* 0		
— Baltic.....	34 38	Trefoil 17*s* 0 20*s* 0		
— Cakes, Eng. p. 1000, 11*l* 10*s* to 13*l*		Turnip—too variable for quotation.		

Sales by Auction.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, BUILDERS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to submit to public competition by Auction, on the premises, Hally's Nursery, Tranquil Vale, Blackheath, on Monday, the 11th of September and following days (in consequence of the ground being immediately required by the South-Eastern Railway Company), a portion of the valuable NURSERY STOCK, consisting of fine Evergreens and Shrubs in great varieties, Fruit and Forest Trees, Deciduous and Ornamental Trees, fine Fan Yews, Pines, American Plants, Standard and Dwarf Roses, Herbaceous Plants, three fine specimens of Pinus Deodara and Douglassii, 12 feet high; also a collection of Greenhouse Plants, comprising choice Camellias, Azalea indica, Lilium lancifolium, &c., together with a quantity of strong Iron Hurdles, and Whitney's Patent Stage.—May be viewed prior to the Sale. Catalogues (6d. each, returnable to purchasers) may be had on the premises; of the principal Seedsmen; and of the Auctioneers, American Nursery, Leytonstone.

IMPORTANT SALE OF CACTI AND OTHER SUCCULENT PLANTS, by order of Messrs. LODDIGES.

MR. J. C. STEVENS is instructed to announce for Sale by Auction, at his Great Room, 38, King-street, Covent Garden, on Thursday, Sept. 28, at 12 o'clock, the whole of Messrs. Loddiges' Collection of Cacti and other Succulent Plants, amounting to upwards of 1500 specimens, comprising many rare and new species from various localities.—May be viewed the day prior and mornings of sale, and Catalogues had at Messrs. LODDIGES' Nursery, Hackney, and of Mr. J. C. STEVENS, 38, King-street, Covent Garden.

EXTENSIVE SALE OF CHOICE SHRUBS, FRUIT TREES, FOREST TREES, &c. AT THE UNION ROAD NURSERY, PLYMOUTH.

MESSRS. SKARDON AND SON beg to inform the Nobility, Gentry, and the Nursery Trade that they are commissioned to offer for unreserved sale, the undermentioned portions of the Stock of Messrs. WILLIAM E. RENDLE and Co., occupying nearly 2 acres of ground, required to be cleared for the Works of the SOUTH DEVON RAILWAY, for sale whereof A PUBLIC AUCTION will be held on the ground, forming part of the Union Nursery, on Tuesday, Sept. 12, and following days, commencing at 12 o'clock each day.

The present is a rare and valuable opportunity that seldom occurs to purchasers of Nursery Stock. The whole is in excellent health and condition, and will be sold without reserve. A sufficient time, to be specified at the sale, will be allowed for the removal of the Lots. The Valuable Stock comprises about the following quantities. 2000 fine Evergreen Oaks, in pots. 1000 fine Araucarias and Cedrus Deodaras, in pots. 1000 other choice sorts of Coniferæ, in pots. 5000 Common Laurels, in fine condition. 600 Large handsome Portugal Laurels. 300 Pinus Austriaca, in pots. 6,000 other choice and valuable Shrubs, most of which are in pots, comprising Arbutus, Laurustinus, Cypress, Arbor-vitæ, Cedars, Berberis aquifolia, Phillyreas, Pyracantha, Thorns, Alaternus, Euonymus, Althæ frutex, Junipers, Irish and English Yews, Aucuba japonica, variegated Hollies, Bays, &c. &c. 100 large handsome Cedars of Lebanon, in pots. 1000 finest named Roses. 1000 yards of the finest Box-edging. 2000 of the choicest kinds of Apples, Pears, Plums, and Cherries, including Dwarfs and Standards. 500 of the choicest kinds of Peaches and Nectarines, including Dwarfs and Standards. 1200 choicest named Gooseberries and Currants. 3000 fine Fastolff and other Raspberries. 20,000 fine transplanted Thorns. 10,000 fine Cornish and other Elms. 20 to 30,000 of other Forest Trees, comprising English and Turkey Oaks, Horse Chestnuts, Evergreen Privet, Birch, and Green Hollies. 20,000 roots of Sea Kale and Asparagus. With various other Shrubs, Fruit Trees, and Forest Trees, usually comprised in a Nurseryman's Stock.

The Stock can be seen on application at the Nursery, at any time before the Sale. Catalogues will be ready in a few days, and will be forwarded on application to Messrs. SKARDON and SON, Auctioneers, Plymouth; or Messrs. WILLIAM E. RENDLE and Co. Union-road, Plymouth.

*** The business of the Establishment will be carried on as usual.

TO BE SOLD, a small NURSERY, in the immediate vicinity of London, well situated for either market or home trade, with Greenhouses, Pits, and other conveniences, forming a most compact and desirable place of business. The whole to be disposed of at a low price, in consequence of the present proprietor having an appointment to go abroad.—For particulars apply to Mr. R. MACKAY, Nurseryman, Stoke Newington, near London.

TO NURSERYMEN, SEEDSMEN, AND OTHERS.

TO BE DISPOSED OF, upon most advantageous terms, and entered upon immediately, a flourishing NURSERY and SEED BUSINESS, with a highly respectable connection, and situated in a populous and rapidly-increasing Market-town, about 30 miles from London, and where one of the largest Corn Markets is held weekly. Railway and canal carriage to all parts of the kingdom. The Ground contains about 5 acres walled, and well stocked with Propagating Pits upon the new principle, &c. Seed Shop and Dwelling-house in a most desirable part of the town. To any person with a moderate capital this will be found a very advantageous investment.—For particulars apply to Mr. JERWOOD, 17, Ely-place, Holborn, London.

HILL, NEAR SOUTHAMPTON. TO MARKET GARDENERS AND OTHERS.

TO BE LET, all that EXCELLENT GARDEN, containing about 31A. 1R. 0P., situate at Hill, within half a mile of the town of Southampton, late in the occupation of Mr. WILLIAM SQUIBB, Market Gardener, deceased. The Property comprises Greenhouses, Forcing Houses, Pits, Framing ground, Barns, Stabling, Carthouses, Sheds, and other conveniences fit for carrying on an extensive and lucrative business. A large portion of the Garden is occupied by trees in luxuriant growth and produce. The tenant's interest in the above to be taken at a valuation. Possession can be given on the 29th September instant. For further particulars, and for cards to view the property, apply to Mr. NEWMAN, Solicitor, or to Mr. WM. B. PAGE, Nurseryman, Southampton.

HAMPSHIRE.

TO BE LET, ON LEASE, from 29th September next, a highly productive FARM, in good cultivation, comprising 550 acres of Arable, Meadow, and Pasture Land, and to which another 100 Acres may be added, situate midway between the important towns of Southampton, Winchester, and Portsmouth. Nearest railway station—Botley, on the South Western Railway. Arrangements can be made on sufficient terms for the erection of new Buildings, if so desired, by a responsible tenant. The farm can be viewed on application to JOHN LAY, Warnford, near Bishop's Waltham, Hants.

TO GARDENERS, NURSERYMEN, &c.

TO BE LET, at Whitten, excellent GARDEN GROUND, in high Cultivation, with 16 acres of Arable Land, Cottage, Sheds, &c, and also about 18 acres of Meadow Land adjoining can be had if required.—Apply to Mr. EMANUEL, Fryers'-place, East Acton.

MAPERTON, SOMERSET.

TO BE LET, by Tender, from the 29th September instant, about 153 acres of good Corn, Orchard, and Dairy LAND, with two substantial Dwelling-houses, Labourers' Cottages, and all necessary and convenient Farm Buildings. The Estate is in good order, and worthy the attention of a spirited agriculturist. The Land may be viewed at any time on application to Messrs. DAVIS and VIGERS, the present tenants, and sealed Tenders may be sent to Messrs. MITCHELL, Wimborne, prior to the 27th instant.—Wimborne, Sept. 9.

TO BE LET, on Lease, a good FARM, near Bedford, comprising 50 acres of Arable Land and 4 acres of Grass, with two complete and well placed Sheds in Home Close, Barn, Cow House, and comfortable Farm-house, distant from Bedford only 3 miles, and from St. Neots 4 miles. The residence and principal homestead and many of the fields adjoin the high road. The Rent, including Tithe, Rates, and Taxes, is only about 65s. per annum. In the occupation of an improving tenant, the Farm would become much more valuable; and to encourage the necessary outlay, a long Lease would be granted. For further particulars, apply to Messrs. DAVIS and VIGERS, 3, Frederick's-place, Old Jewry, London.

TO MARKET GARDENERS, NURSERYMEN, & FLORISTS.

TO BE LET (situate in the King's-road, Chelsea), 15 acres of highly cultivated MARKET GARDEN GROUND, adapted for the Nursery or Florist business, possessing a quantity of full bearing Fruit Trees, convenient premises, and suitable Dwelling. The Land is stocked with a mid Market Garden Crops, and has a stock of Glass in use upon the Land. The whole to be taken at a valuation in the usual way. —For further particulars, apply to Mr. ATTWOOD, Auctioneer and Land Agent, Monthlake, Surrey.

EDGBASTON, BIRMINGHAM.

TO BE LET OR SOLD, with immediate possession, Well-arranged premises for carrying on the NURSERY and SEED BUSINESS, advantageously situated between the Bristol and Pershore roads, and in a most genteel neighbourhood. The Premises comprise a very excellent Dwelling-house, Seed Shop, and Show House, Hothouse, Greenhouses, Camellia House, and Propagating Houses; about 70 feet of Pits, and a good Potting and Packing House. The Business has been established about 10 years, and the ground is rather more than two acres, and contains a general Nursery Stock; has a good entrance from the Bristol road, within the turnpike, and a plentiful supply of water. The Dwelling-house, if not required, will be disposed of separately.—For further particulars, apply to CHARLES HALE JESSOP, Nursery Garden, Cheltenham.

MERRIOTT, NEAR CREWKERNE, SOMERSETSHIRE.

TO BE LET, and entered on immediately, on most advantageous terms, an Old Established and Well Stocked NURSERY, containing, by estimation, Ten Acres (more or less), situated in the above parish; together with an excellent Hothouse thereon, filled with choice Vines in full bearing, and valuable plants; adjoining which is a comfortable Cottage, with convenient Cart-house, Packing Sheds, Seed Room, &c.

Merriott is situated within a short distance of the populous towns of Ilminster, Ilchester, Yeovil, Crewkerne, Chard, Taunton, &c., to which latter place conveyances pass to and fro daily, in connection with the railways to all parts of England.

To view the above, application may be made to Mr. ANDREWS, at the Cottage on the Nursery; and further particulars and terms of letting may be known on application to Mr. WHITLEY, Solicitor, Wrington, near Bristol, Somerset.—Wrington, Sept. 9.

SASH LINE FOR HOTHOUSES AND GREENHOUSES.

R. S. NEWALL AND CO.'S PATENT IMPROVED COPPER-WIRE CORD is now extensively used for Window Sash Line, Hothouses, Lightning Conductors, Picture Cord, Clock Cord, &c., &c., and is found to be cheaper, much more durable, quite as flexible, and one-sixth part the bulk of common Hempen Lines. The Wire Cord may be had wholesale, and specimens seen, at the Office of the Patentees, 163, Fenchurch-street, W. T. ALLEN, Agent; or retail, of G. and J. DEANE, 46, King William-street; E. PARKS, 140, Fleet-street; J. JONES, 62, Charing-cross; and GIBBONS and Co., 345, Oxford-street.

HOT WATER, WARMING, AND STEAM WORK, upon safe and unerring principles. Ranges, Jacks, and Machinery; Gentlemen's Kitchens and Public Establishments fitted complete. References of the first class.—HENRY FROST and SON, Engineer, &c., 17, Rathbone-place, Oxford-street, London.

PERUVIAN AND BOLIVIAN GUANO ON SALE, By THE ONLY IMPORTERS, ANTONY GIBBS AND SONS, LONDON; WM. JOSEPH MYERS AND Co., LIVERPOOL; And by their Agents, GIBBS, BRIGHT, AND Co., LIVERPOOL and BRISTOL; COTESWORTH, POWELL, AND PRYOR, LONDON.

To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

MANURE.

TO BE SOLD, the MANURE of 26 Horses. Must be taken away every morning before 8 o'clock. Apply to G. J. COCKERELL and Co., Purfleet-wharf, Earl-st., Blackfriars.

TO AGRICULTURISTS, GARDENERS, FLORISTS, &c.

ELLERMAN'S PATENT CONCENTRATED, DISINFECTED, and INODOROUS CARBONISED ANIMAL MANURE, in Powder, prepared only by C. F. ELLERMAN, Sole Licensee of Mr. E. BROWN, Patentee. The best manure for fertilising every description of land, and improving the growth, production, quality, and condition generally, of all sorts of agricultural and horticultural vegetation.

Orders (for wholesale only) received by Messrs. ELLERMAN and Co., at their Patent Deodorising Fluid Depot, Nos. 80 and 81, St. Martin's-lane, London, who are prepared to supply this Poudrette to any extent, as well as his Disinfected and Inodorous LIQUID MANURE, at prices that may be ascertained on application to them.

Also sold, by appointment, by the following LONDON AGENTS:

Mr. H. COLES, Seedsman and Florist, No. 32, Cranbourne-street, Leicester-square; Messrs. DEANE, DRAY, and DEANE, Agricultural Implement Depôt, No. 46, King William-street, London-bridge; by whom, in order to afford an opportunity of practically testing, by means of sample, the superior efficacy of this new and incomparable Powder Manure, as well as to suit the convenience of Amateurs, and all those possessing merely SMALL GARDENS, BEDS, OR PLANTS AND FLOWERS IN POTS,

It is also retailed for such purposes in neatly done up tin canisters, at 1s.; double-sized ditto, 1s. 9d.; and treble ditto, 2s. 6d. each; and likewise in compact wooden packages, containing 1 cwt., at 1l.; ½ cwt., 15s.; ¼ cwt., 10s.; and ½ cwt., 6s. 3d. each, packages included.

N.B.—This manure is so clean, and completely free of smell, that the most sensitive and fastidious lady or gentleman may use it for their Pleasure Garden, Greenhouse, or Drawing-room Plants, without experiencing therefrom the slightest annoyance.

Further particulars, and full directions for use, accompany each canister and package.

FLOWER POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very extensive assortment of the above articles in various sizes, which he can supply upon the most reasonable terms. Every description of GARDEN STATUARY and PARTICULARS of the newest patterns sent free by post.—250, Oxford-street, corner of Vere-street.

GLASS.

APSLEY PELLATT AND CO. (late PELLATT and CURTIS, Falcon Glass Works, Holland-street, Blackfriars, have always on hand Fine Crown Glass, Sheet Glass, Colour'd Glass for Churches, Rough Plate Glass, Ground Glass, Enamelled Glass, Embossed Glass, &c. &c. Orders for Glass for Conservatories, Greenhouses, Hothouses, Pits, Frames, &c. &c. executed with punctuality and despatch, and packed in the most secure manner for Exportation. Every description of Glass Cutting, Silvering, Bending, &c. &c. Glass for Horticultural purposes, cut to any size, at the shortest notice. Lists of prices and every information may be procured from Mr. [illegible]

E. AND W. H. JACKSON beg to call the attention of Gentlemen and the Trade to the [illegible] of their PATENT PLATE GLASS, which, from its superior quality and cheapness, is now superseding all other kinds in the building business.

BRITISH MANUFACTURED BEST GLASS FOR CONSERVATORIES, ROLLED PLATE GLASS, CROWN GLASS, COLOURED, AND ORNAMENTAL GLASS [illegible]

Lists of prices and every information may be had, by application at their Warehouse, 28, Oxford-street.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND CO., 119, Bishopsgate-street Without, beg to submit their prices of [illegible] PATENT ROUGH PLATE GLASS, which has been manufactured especially for the glazing of Conservatories, and effectually prevents the Plants from suffering from the [illegible] complained of when Glass is used.

In crates, of the sizes as manufactured, averaging one-eighth of an inch thick, and about 20 oz. to the foot ... ... per foot.

In squares, 8 by 6 and under ... ... ,,

Above 8 by 6 and not exceeding 12 by 10 ... ... ,,

,, 12 by 10 ,, 24 by ... ... ,,

,, 24 by ... ... ,,

Quarries ... ... ,,

GLASS MILK PANS, PROPAGATING GLASSES, and BEE GLASSES. GLASS TILES and SLATES.

CREAM POTS, from 3 to 24 quarts, at 6d. per quart.

CUCUMBER GLASSES, from 12 to 24 inches long, at [illegible] inch.

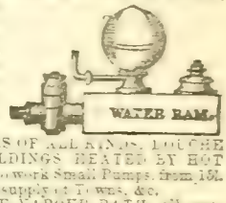
LACTOMETERS for trying the quality of Milk [illegible] 6 tubes 10s.; Peach Glasses, 10d. each; [illegible] each; Wasp and Fly Traps 2s. 6d. per dozen. Paint and Window Glass; Lamp Shades and Chimneys, and every article in the trade. DOUBLE CROWN GLASS cut to order.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Engineers and Manufacturers of the Improved CONICAL and PORTABLE CYLINDRICAL BOILERS, respectfully call the attention of scientific Horticulturists to their [illegible] applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom heat is secured to any required degree, without the [illegible] S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation, prospectuses will be forwarded, as well as reference to the [illegible] or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

THE IMPROVED HYDRAULIC RAM, fixed by FREEMAN REE, Fountain Maker, 70, Strand, London, can be worked by a small stream of half-an-inch, where a fall of two feet can be obtained. The same RAM, without the aid of a Tank or Cistern, arranged to throw a Jet of Water constituting a Fountain with the head of water beneath.



ENGINES FOR DEEP WELLS OF ALL KINDS, DOUCHE AND OTHER BATHS. BUILDINGS HEATED BY HOT WATER. WATER WHEELS to work Small Pumps, from 15l.

Estimates given for the supply of Towns, &c.

A newly invented PORTABLE VAPOUR BATH, all complete for 4l.

PATENT FLEXIBLE INDIA-RUBBER PIPES and TUBING for RAILWAY COMPANIES, BREWERS, DISTILLERS, FIRE ENGINES, GAS COMPANIES, GARDENING and AGRICULTURAL PURPOSES, &c.

THE PATENT VULCANISED INDIA-RUBBER HOSE PIPES are made to stand Hot Liquor and Acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible), and as they require no application of oil or dressing, are particularly adapted for Fire-engines, Pumps, Gas, Beer-engines, Gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes from ¼ inch bore upwards, and of any length to order.

Vulcanised India-rubber Garden Hose, fitted with brass taps, copper branch, and roses complete, ready to be attached to Pumps, Water-butts, or Cisterns.—Sole Manufacturer, JAMES LYNE HANCOCK, Goswell Mews, Goswell-road, London.

N.B.—Vulcanised India-rubber Washers of all sizes for Joints of Hot-water and Steam Pipes, and Vulcanised Sheet Rubber, any thickness, for all kinds of Joints, and other purposes.

PARIAN CEMENT used as a Stucco, cannot easily be distinguished from statuary or Parian marble. It is fit for all the purposes of that beautiful material, and does not crack, warp, or effloresce in any degree. The fine quality will incorporate with the most delicate colours: it is adapted to encaustic work, fresco, imitation of marble, and the most elaborate embellishment. So perfect are its setting or crystallising properties, that the coarse quality when applied to newly built or damp walls, may be immediately polished, painted, or papered, and rooms rendered habitable before the materials ordinarily used would begin to dry. Manufactured by CHARLES FRANCIS and SONS, Roman Cement Works, Nine Elms, London.

HYDRAULIC ENGINES.

J. LEGG begs to return thanks to his patrons and friends, and also to inform them that he continues to erect his improved Hydraulic Engines, Water Ram, &c., suitable for all situations where a fall can be obtained, also Engines for Deep Wells. J. L. also begs to inform his friends that he has made several improvements on his Hydraulic Machines, and flatters himself that he is able to compete with any parties of the present day in the construction of the above machines.

Apply to JOHN LEGG, Cheltenham.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK AND TILE MACHINE COMPANY (James Smith, Esq., of Beanston, Chairman) invite attention to their IMPROVED BRICK and TILE MACHINES, which are to be seen at work at Alperton, and at the Company's Office, 193A, Piccadilly, from 10 A.M. to 5 P.M. Mr. Robert Scrivener, who has been appointed Manager in the room of Mr. John Ainslie, will show the Machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, 193A, Piccadilly, London.

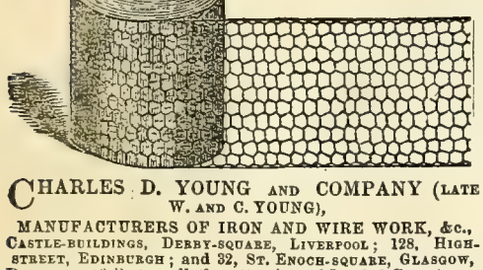
These Machines may also be seen at Mr. Slight's, Leith-walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill, 135, Buchanan-street, Glasgow; Mr. Robert Charles, Mill-hill, Leeds; Messrs. Penny and Finch, Penkeridge, Staffordshire; Messrs. Drummond and Son, Dublin; and at Mr. John Connor's, Newtown Limavady, County Derry.

HOTHOUSES, & HEATING BY HOT WATER. BEST MATERIALS AND WORKMANSHIP. AT SMITH'S, GLEBE-PLACE, KING'S ROAD, CHELSEA, LONDON. ESTABLISHED TEN YEARS.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as building and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

STRONG PREMIUM HARE AND RABBIT PROOF WIRE NETTING.



CHARLES D. YOUNG AND COMPANY (LATE W. AND C. YOUNG),

MANUFACTURERS OF IRON AND WIRE WORK, &c., CASTLE-BUILDINGS, DERBY-SQUARE, LIVERPOOL; 128, HIGH-STREET, EDINBURGH; and 32, ST. ENOCH-SQUARE, GLASGOW, Beg respectfully to call the attention of Landed Proprietors and others to their strong Wire-Net Fence, for excluding Hares and Rabbits from Gardens, young Plantations, Nurseries, &c.

This Net was exhibited at the Show of the Highland and Agricultural Society of Scotland, held lately at Inverness, where its Efficiency, Great Strength, and Exceeding Cheapness attracted general attention, and had awarded from the Judges the Society's Silver Medals, with high commendations.

The immense damage done by Hares and Rabbits in Gardens and Young Plantations, is often so great, that in the course of a year or two it will amount to more than the entire cost of protecting them with this Net. It is so durable, that when Plantations are sufficiently advanced to be independent of its protection, it can be removed to other exposed situations with the greatest facility, by any labourer. As a Fence against Hares and Rabbits, it is of itself quite sufficient, having only to be unrolled and attached, with small wire sent for that purpose, to wooden stakes driven into the ground, about every six or seven feet apart. It is, besides, peculiarly adapted for rendering Hedges, Paling, or other existing Fences, *completely impervious* to such vermin: and by being cut up into small pieces of three or more feet, as required, it forms a most efficient guard, at little expense, for individual Plants and Shrubs.

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Do. of 100 yards, 24 ins. wide	...	5	0 0
Do. of 100 yards, 30 ins. wide	...	6	5 0
Do. of 100 yards, 36 ins. wide	...	7	10 0

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This Netting is also admirably adapted for Pheasantries and Poultry-yards, and is charged at the same rate. As carriage has, in many instances, been an obstacle to parties at a distance requiring this Net, C. D. Y. and Co. have made arrangements by which they will undertake to deliver it at any of the principal ports of Scotland, England, and Ireland, for One Halfpenny per lineal yard.

C. D. YOUNG and Co. cannot give a better idea of the great strength of their Premium Wire Netting than by stating that the weight of one yard of their 24-inch at 1*s.* is equal to 2¼ yards of another article in the market, the same width, at 9*d.* per yard. Samples for inspection sent free of expense.

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JUST PUBLISHED,

PART IX. (PRICE ONE SHILLING), OF

THE FLORIST.

A NEW MONTHLY WORK CONDUCTED BY

MR. E. BECK, OF ISLEWORTH.

*** The early Numbers have been reprinted, and can now be had of all Booksellers and Newsmen.

London: CHAPMAN and HALL, 186, Strand.

MANCHESTER AND LIVERPOOL AGRICULTURAL SOCIETY.—Instituted November, 1847, by the union of the Manchester Society (instituted 1767) with the Liverpool Society (instituted 1839).

Patrons.—The Right Hon. the Earl of Derby, and Wilbraham Egerton, Esq.

President for the Year.—The Right Hon. Lord Stanley.

Vice-Presidents for the Year.—The Right Hon. the Earl of Sefton; the Right Hon. the Earl of Wilton; the Right Hon. Lord Lilford; the Right Hon. Lord de Tabley; the Hon. Edwd. H. Stanley; John Wilson Patten, Esq., M.P.; Wm. Tatton Egerton, Esq., M.P.; William Brown, Esq, M.P.; Mark Philips, Esq.; His Worship the Mayor of Liverpool; and His Worship the Mayor of Manchester.

The FIRST ANNUAL SHOW OF LIVE STOCK, Agricultural Implements, Seeds, Roots, &c., will take place at MANCHESTER, on Tuesday the 19th September next, instead of on the 26th, as announced in the Prize Lists.

The Entry must be made with the Secretary, at the Palatine Hotel, near the Victoria Station, on Saturday and Monday, the 16th and 18th of September, between the hours of 11 and 6 o'clock. Catalogues will be printed, which will include all entries up to the last named hour.

The DINNER will be in a large room adjoining the Palatine Hotel, at half-past 4 o'clock punctually, and will be provided by Mr. Adcock, of the Hotel. Tickets 3*s.* 6*d.* each.

The Right Hon. LORD STANLEY will preside.

Further particulars are given in the Lists of Rules and Prizes, which may be had by applying to the Secretary,

Sept. 9, 1848. HENRY WHITE, Warrington.

IMPORTANT TO LANDOWNERS.

AN ACT OF INCORPORATION having been obtained by "THE LANDOWNERS' WEST OF ENGLAND AND SOUTH WALES LAND DRAINAGE AND INCLOSURE COMPANY," affording owners of limited Interest in Land the means of Draining, Irrigating, Inclosing, Erecting Buildings of a permanent nature on, and otherwise improving, their lands, and giving such Landowners of limited Interests the power to charge the inheritance with the value of the outlay in either of the following ways, viz.: By charging the value on the Inheritance absolutely, or to be repayable by 25 Annual Instalments of 6*l.* 10*s.* per cent. per annum.

This Company is now ready to receive applications for work to be performed under any of the provisions of their Act of Parliament, or on contract as heretofore; and from the extensive operations already in hand, they request parties, wishing to avail themselves of the benefits of the Act, to make early application.

For all further particulars, apply to

THOMAS MAY, Secretary, 9, Bedford Circus, Exeter.

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THE POTATO DISEASE: its Cause, Prevention, and Treatment. By JOHN PARKIN, M.D. Price 2*s.* 6*d.*

"An elaborate, scientific, and practical memoir on the subject, highly interesting to the vegetable physiologist and scientific man as well as the farmer."—*Scottish Farmer.*

"All growers of the root should possess themselves of a copy."—*Mark Lane Express.*

London: W. WOOD, 39, Tavistock-street, Covent-garden.

EMIGRATION AND COLONIZATION.—IMMIGRATION being much required in AUSTRALIA, NEW ZEALAND, &c., and as the supposed expense of an OUTFIT often prevents individuals emigrating, S. W. SILVER & Co., CLOTHIERS, OUTFITTERS, and CONTRACTORS (having a large interest to maintain in those Colonies), have been advised to make known that they can supply a comfortable Outfit (including Bedding) for Male or Female Emigrants, from 4*l.* (net) upwards, or less (2*l.*, if needful); and for Children in proportion, at No. 4, Bishopsgate-street Within (opposite the London Tavern), where Lists will be given on application.

S. W. S. & Co., being the makers of nearly every article in all the Outfits they supply, and as one of their objects is to promote Emigration, they neither receive from Agents, or pay the too usual commission to any person introducing Passengers to be fitted out, so that the Passage and Outfit may be procured at the least possible expense; but they will, on application, advise Passengers how to obtain the most economic passage to the Colonies. They have a Representative in every Australian Colony, to whom they ship Clothing monthly; thus they would forward small parcels free of expense.

Naval and Military Officers, Midshipmen, Cadets, Civilians, Ladies, &c., are outfitted as heretofore, at the Cabin-Passenger Outfitting Warehouse, Nos. 66 and 67, Cornhill (the Emigration Outfitting being exclusively at No. 4, Bishopsgate-street Within), London, and each branch at St. George's Crescent, Liverpool.

THE GROWTH AND PRESERVATION OF THE HAIR. ROWLANDS' MACASSAR OIL insinuates its balsamic properties into the pores of the head, nourishes the Hair in its embryo state, accelerates its growth, cleanses it from Scurf and Dandriff, sustains it in maturity, and continues its possession of healthy vigour, silky softness, and luxurious redundancy, to the latest period of human life. In the growth of WHISKERS, EYEBROWS, and MUSTACHIOS, it is also unfailing in its stimulative operation. For Children it is especially recommended, as forming the basis of a beautiful head of hair, and rendering the use of the fine-comb unnecessary. A small pamphlet accompanies each bottle of ROWLANDS' MACASSAR Oil, wherein important hints and advice will be found on the Culture of the Hair of Infancy, and on its preservation and beauty through the several stages of human life. Price 3*s.* 6*d.*—7*s.*—Family bottles (equal to four small), 10*s.* 6*d.*; and double that size, 21*s.* per bottle. Each bottle of the genuine article has the words, "ROWLANDS' MACASSAR OIL," engraved in two lines on the Wrapper; and on the back of the Wrapper nearly 1500 times, containing 20,928 letters.—Sold by them at 20, Hatton-garden, London, and by all Chemists and Perfumers.

THOMAS DAVIES AND CO., having a large stock of the undermentioned articles, are enabled to supply them at the very low prices quoted.

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Berberis Fortuni	...10*s.* 6*d.*	Primula sinensis alba pleno	1*s.* 6*d.*
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Dipladenia crassinoda	1 6	Quercus glabra	... 5 0
Echites splendeas	... 2 6	Siphocampylos nitida	.. 1 6
Clerodendron do.	... 2 6	Tropæolum speciosum	2 6
Heliotropium, Triumph de Liege ..	... 1 6	Ilex latifolia, 2*s.* 6*d.* to 3	6

Epacris, fine strong flowering plants, in 12 varieties, 12*s.* and 18*s.* per dozen.

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A CATALOGUE OF THE FRUITS cultivated in the Garden of the Horticultural Society of London. Third Edition. Containing the Names, Synonymes, Colour, Size, Form, Quality, Use, Time of Ripening, and many other particulars concerning all the most important varieties of hardy Fruit cultivated in this country.

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THE LONDON MANURE COMPANY beg to offer as under:—

LONDON MANURE COMPANY'S CORN MANURE.		
"	"	" URATE.
"	"	" SUPER-PHOSPHATE OF LIME.

Peruvian Guano, direct from Importers' stores—Fishery and Agricultural Salt—Gypsum for Clover—Soda Ash for destroying wireworm, and every other Artificial Manure.

The London Manure Company would call particular attention to their Corn Manure and Urate, the former containing a large amount of Ammonia, Phosphates, and Silicates, all so essential for corn crops, while the Urate is richer in Phosphates and other mineral substances required for roots.

Full particulars and prices forwarded on application.

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FREDERICK FAIRBANK, Sible Hedingham, near Halstead, Essex, begs to inform the public that he will be able to send out his WHITE CHAMPION WHEAT by the 18th inst., at 10*s.* 6*d.* per bushel; new sack, 2*s.* Carriage paid to London. All orders must be prepaid.

F. F. feels encouraged by the successes which have attended his Wheat on light soils this season, by which he feels a stronger confidence in recommending it as being adapted thereto more so than for any other. Some persons, contrary to the advice of F. F., have sown (last season) upon strong lands; such have not realised so good a crop as those who have sown upon the lighter soils. The great height to which this Wheat rises on strong land (7 feet), will not allow of its being sown there, whereas upon our lightest soils it grows to about 4 feet, and in proportion is there more prolific.

F. F. would here thank his kind friends for their recommendations, and begs to say that he trusts all orders will be attended to on the above day.

GLASS FOR CONSERVATORIES, &c.

HETLEY AND CO. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2*d.* to 3*d.* per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices, and estimates forwarded, on application for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY and Co., 35, Soho-square, London.

See the *Gardeners' Chronicle*, first Saturday in each month.

Printed by WILLIAM BRADBURY, of No. 6, York-place, Stoke Newington, and FREDERICK MULLETT EVANS, of No. 7, Church-row, Stoke Newington, both in the county of Middlesex, Printers, at their office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the Office, No. 5, Charles-street, in the parish of St. Paul's, Covent Garden, in the said county, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY, SEPT. 9, 1848.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 38.—1848.] SATURDAY, SEPTEMBER 16. [PRICE 6d.

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NORFOLK AND NORWICH HORTICULTURAL SOCIETY.—The Committee have the honour to announce their intention of having A GRAND HORTICULTURAL EXHIBITION upon a most Extensive Scale, open to the United Kingdom, during the Show of the Royal Agricultural Society at Norwich, in July 1849. The Schedule of Prizes, with Rules and Regulations, will be published early in the year.
CHARLES J. GILMAN, Hon. Sec., Bethel-street, Norwich.

PINES.—A quantity of healthy Plants, in pots of loam, to be sold very cheap.—Apply to J. CUNNINGHAM, Gardener, Beaufort-lodge, near Battersea-bridge, Chelsea.

ROSES.

THOMAS RIVERS respectfully informs his friends that his DESCRIPTIVE CATALOGUE OF ROSES for 1848 is now ready for delivery. It will be sent free, as usual, to all his friends; and applications from strangers, enclosing two penny stamps, will be promptly attended to. The Catalogue contains Reduced and Most Select Lists of First-rate Roses only, and will be found an efficient guide to the purchaser.
Sawbridgeworth, Herts.

NEW ROSE CATALOGUE.

WILLIAM WOOD AND SON have the pleasure of announcing that the New Edition of their Descriptive ROSE CATALOGUE is now ready, and will be forwarded gratis on application. A Catalogue of Ornamental Trees, Shrubs, &c., will be ready in a few days.
Woodlands Nursery, Maresfield, near Uckfield, Sussex.

LANDSCAPE GARDENING & GENERAL IMPROVEMENT.

MR. JAMES FRASER, LANDSCAPE GARDENER AND DESIGNER OF RURAL IMPROVEMENTS, respectfully informs his Friends and the Public that his Address, in future, will be 147, Strand, London; as well as 17, Lower Dorset-street, Dublin.

MYATT'S NEW FERTILISED HAUTBOIS,
Patronised by His Royal Highness Prince Albert.
Messrs. J. MYATT have now strong Runners of this and the following varieties, at the annexed prices: Myatt's Fertilised Hautbois, 25s. per 100; Eleanor, 21s.; Gibbe, 7s. 6d.; Mammoth, 7s. 6d.; Queen, 3s. 6d.; Pelvelain's Princess Royal and Comte de Paris, 20s.; Black Prince, 20s.; La Leigeoise, 10s. 6d.; Aberdeen Beehive, 5s.; and Hooper's Seedling, 3s.
The usual Trade allowance.
Post-office Orders made payable to JOSEPH MYATT, Deptford.
Manor Farm, Deptford, Sept. 16.

DOUBLE ROMAN AND PAPER WHITE NARCISSUS, 4s. per dozen.—The above Bulbs, the former of which is so justly esteemed for its early blooming and excessive fragrance, and the latter for its purity and elegance, have been just received at A. COBBETT'S Italian and Foreign Warehouse, 18, Pall-mall, near Waterloo-place. Also Dutch Hyacinths, Crocus, Tulips, Anemones, Ranunculus, &c.; priced Catalogues of which may be had per post.

TO THE TRADE.

CLARKE AND CO., SEEDSMEN and FLORISTS, 86, Borough, London, beg to inform their Patrons and the Trade they have received their supply of DUTCH BULBS, which are particularly large and handsome this season, and the prices exceedingly low. Catalogues will be forwarded on application. A remittance or reference required from unknown correspondents.—Sept. 16.

NEW SCARLET EPACRIS.

WM. JACKSON AND CO., NURSERYMEN, beg to announce that they are now prepared to execute orders for their brilliant NEW SCARLET EPACRIS "ALBERTII," at 21s. each, large blooming plants. JOHN TAYLOR NEVILLE, Esq., Editor of the Gardener and Florist Newspaper, and Secretary to the Royal South London Floricultural Society, gives the following opinion of this beautiful variety:—"X.—Seedling Scarlet Epacris: The blossoms are broad, short, and exceedingly compact, perfectly close in the truss, touching each other on either side, forming as it were one flower with so many distinct tubes. This is the best Scarlet Epacris we have seen:" Page 14, April 8th. Also Jackson's CINERARIAS "Maid of Lodi," pure white, tipped with clear light blue, and "Goliah," very large, light blue, at 5s. each, discount to the Trade when three plants of each are ordered. Catalogues may be had on application. The Scruton Station on the Bedale Branch Railway is only three minutes' walk to the counting-house.—Cross Lanes Nursery, Scruton, near Bedale, Yorkshire.

BECK'S SEEDLING PELARGONIUMS.
J. DONSON, informs the public that the varieties of 1845, 1846, and 1847, are now ready for selection, well established in 4-inch pots. Catalogues will be sent in exchange for two postage stamps.—Worton Cottage, Isleworth.
N.B. The Seedlings of 1847 will be sent out the first week in October.

DUTCH BULBS FOR PRESENT PLANTING.
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	s.	d.
Named Hyacinths, choice sorts ... per dozen—	6	0
Mixed ditto, dbl. or single, separate colours, p. 100—21	0	
Polyanthus Narcissi, choice sorts, named, per dozen—	4	0
Early Tulips, for pots or the open ground, 8 sorts, named	2	0
Best Dutch named Crocuses, 20 varieties per 100	2	6
" " mixed ditto, many colours ... " ...	1	6
Early Jonquils ... ... per dozen—	1	0
Persian Iris, highly scented, for pots ... " ...	2	0
English ditto, mixed, many colours ... " ...	1	6
Lilium longiflorum, very pretty ... ... " ...	6	0
Crown Imperials, named, choice sorts ... " ...	8	0
Anemones, double, finest mixed ... ... per lb.—	6	0

Proportionate quantities of each of the above may be had at the prices affixed. No charge for packages. A General and Descriptive Catalogue of Bulbs may be had on application.

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HYACINTHS, superb sorts by name	per dozen—	10	0d.
Ditto ditto in colours, without name		5	0
ANEMONES, new large, double ...	per dozen—	1	6
CROCUSES, many large sorts ...	per 1000—21	0	
Ditto, yellow ... ... "		15	0

Tulips, Ranunculuses, and every other kind of bulbous flower roots at lowest prices.
Messrs. JOHN SUTTON and SONS, having imported largely of the above roots, can offer them at the very moderate prices quoted. Carriage free to London, Oxford, or Bristol.
Reading Seed Warehouse, Reading, Berks., Sept. 16.

MESSRS. J. AND H. BROWN'S Priced List of Dutch and Cape BULBS will be forwarded by post on application. They also offer the following CHOICE PLANTS.

	s.	d.
Camellias of the newest and best varieties, fine healthy plants, well set with flower buds, per dozen ...	30	0
12 Azalea Indica, superb new varieties, one of a sort ...	27	0
12 best Ericas, and 6 new Epacris for	20	0
50 choice flowering Greenhouse Plants for	45	0
12 Tea-scented Roses, superior sorts, by name ...	9	0
12 Bourbon Roses, ditto, for planting in a bed ...	10	6
New yellow flowering hardy Rhododendrons, each ...	10	6
Chrysanthemums, best new varieties, per dozen ...	6	0
Fine perennial Phloxes, Belgian varieties, per doz. ...	8	0
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The most approved Verbenas, Fuchsias, Petunias, and Cinerarias, by post, per dozen	4	0
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6 of the following beautiful Lilies for ...	12	0

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Catalogues of Greenhouse plants and Garden Seeds of all kinds.—Albion Nursery, Stoke Newington, London, Sept. 16.

CRYPTOMERIA JAPONICA SEEDLINGS.
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NORLAND NURSERY, NOTTING HILL.
W. TOWNSEND begs to offer small plants of PLUMBAGO LARPENTÆ at 3s. 6d. each or 30s. per dozen. Also that beautiful plant DIELYTRA SPECTABILIS at 10s. 6d. each. Prepayment from unknown correspondents.
An Apprentice wanted.

HENRY WALTON having seen, with much surprise, in the *Gardeners' Chronicle*, for Sept. 2, an Advertisement from Mr. Hine (successor to Mr. Miller, and to whom H. W. paid this spring 5l. 15s. for the lot), who now offers to supply the set of eight first-rate seedling GERANIUMS, sent out in 1847, "for the unusually low price of 1l. 5s.," begs to make a further reduction, and will have much pleasure in supplying the same for 1l. 1s. Lyne's and other first favourites at equally reduced prices. Catalogues may be had on application.—Edge End, Marsden, near Burnley, Lancashire.

FLOWERING BULBS.
WILLIAM HAMILTON (late R. WESTMACOTT), SEEDSMAN and FLORIST, 156, Cheapside, London, begs to intimate to the Nobility and the Public the arrival of his Dutch Flower Roots, comprising select assortments from the collections of eminent cultivators. They are in fine condition, and he can supply excellent HYACINTHS, named, single and double, at 6s. and 9s. per dozen, best mixed varieties, 3s per dozen. CROCUS, RANUNCULUS, ANEMONE, and other roots equally moderate. When the selection is left to W. H., strict attention is paid to sending really good varieties of all kinds of Bulbs. Packages of Annual and Perennial Flower Seeds for autumn sowing, consisting of 12 varieties, 2s. 6d.; 25 varieties, 5s.; all of which may be relied on as being of the best seeds. Catalogues may be had on application. A Post-office Order is expected from unknown correspondents.
N.B. W. H. solicits an inspection of his new improved HYACINTH SUPPORTER, which was exhibited and much approved of by all who saw it at the South London Floricultural Society. A variety may be seen at 156, Cheapside, London (opposite St. Paul's).

PATRONISED BY THE QUEEN AND PRINCE ALBERT

JOSLING'S ST. ALBAN'S GRAPE.—R. JOSLING, [illegible] that have purchased [illegible] Her Majesty the QUEEN, the Imperial Gardens [illegible] more plants are taken, [illegible] 1 plant is taken, 10s. 6d. each.
Agents, Messrs. Hurst and Co., Leadenhall-street, London; Mr. T. Warner, Cornhill, London; Messrs. Lee and Co., Clapton; Messrs. Lee and Co., Hammersmith; Messrs. Whitley and Osborn, Fulham; Messrs. Cutbush and Son, Highgate; Mr. W. Skirving, Liverpool; Messrs. Backhouse and Son, York; Messrs. Veitch and Son, Exeter; Mr. R. Mayer, Newcastle-under-Lyne.
Good established plants will be sent out. The usual allowance to the Trade. A remittance or [illegible] will be expected.—Rules of Jurisdiction, Chairman or Arbiter.

PANSIES, of the best show varieties.—Twelve of the following, in well rooted [illegible] for prepayment. Beauty, Cruiser, Vivid [illegible], Matchless, Non-such, White Sergeant, Superb, [illegible], and Richard, Duke of Wellington, Lord Harrington, [illegible] Britain, Jenny Lind, Lilac grandiflora, Admiration, [illegible].
Twelve of the following fancies—[illegible], Apollo, Arethusa, Norfolk Hero, Star, Hawkhurst, Grand Sultan, [illegible], Mary Jane, Isabella, Prince of [illegible], Mrs. [illegible], Shakespeare, Pizarro, Sir Francis [illegible].
Walters' Lord Stanley (yellow, with [illegible] edging, fine eye, uncontested), each 5s.
Walters' Purple Standard, extra fine shape and large, each 3s. 6d.—SAMUEL WALTERS, Hipperholme, near Halifax, Yorks.

ROSES, &c.
A. PAUL AND SON, of Cheshunt Nurseries, Herts, respectfully announce that their CATALOGUE OF ROSES (*containing also the [illegible]*) is now ready, and may be had on application, or by post, containing two stamps for postage.
The AUTUMN ROSES are [illegible] in bloom.
Also a fine selection of [illegible] Trees, large Deciduous Trees and Evergreens [illegible], &c., at reasonable prices.
Catalogues may be also had at Messrs. [illegible] Lead-enhall-street; and of Messrs. [illegible], 152, Fleet-street, London.

NEW PANSY GERANIUMS.
WILLIAM AMBROSE will be prepared to send out the following new and first-rate GERANIUMS the first week in October: JENNY LIND, &c.: this plant gained four first-class Certificates in 1847, and a Medal in 1848 (for which see the Gardeners' Chronicle and Gardeners and Land Stewards' Journal); also MARIA, &c.; a first-rate show variety, superior to any sent out in cultivation, of very robust habit, and flowers as fresh as Queen Victoria, with flowers as large again as that variety: also QUEEN SUPERB, 1s. 6d.: a fine show variety. This plant also is very superior to Queen Victoria, throwing long footstalks of a much brighter colour and [illegible]. W. A. can with confidence recommend the above flowers to growers generally as being first-rate for exhibition: early orders are solicited, the stock being limited at the above. W. A. will have plants of all the new varieties in cultivation by the above time, having all the continental importations of last seasons. In answer to all enquiries, he begs to say he will not be able to send out "Defiance" out this season. Terms, strict cash. No discount, and one over in every two ordered by the Trade.—Battersea, Sept. 16.

NEW PINKS.
CHARLES TURNER will be prepared to execute orders, after the 10th September, for the following new varieties. YOUNG'S XX, purple edge, very small in the edges, good size, and constant; the above was raised by P. Young, Esq., of Twyford, near Winchester, a gentleman well known to the floricultural public. It received Certificates at the following exhibitions in 1847: Royal South London, 1 bloom; Slough, do.; Bishopsgate, 3 do. [illegible]: Royal Botanic, June 14, 8 blooms; Wycombe, June 15, 4 do.; Royal South London, June 20, 24 blooms; [illegible]; Staines, June 22, 10 do.; Bishopsgate, June 26, 12 blooms; and shown on stands on different days during the two seasons, a lot which gained first prizes. It will be seen from the above that no blooms have been submitted for public competition and inspection, and the name fully established. C. TURNER would not have thought it necessary to say more upon the qualities of XX, had not an attempt been made by an individual in a weekly journal to depreciate the merits of the flower; but to justify himself he begs to state he has the sanction of the following eminent judges and growers, who have had frequent opportunities of judging the qualities of XX, to state that they consider the flower first-rate and constant in every respect, viz.: E. F. Wood, Nottingham, editor of the "Midland Florist"; Messrs. Norman, Wisbech; Newhall, do.; Ward, do.; Parker, do.; Morris, Leicester; Holdroyd, do.; Smith, Oxford; Hastings, do.; Oastler, Benson; Kirtland, Fletchington; [illegible] Bamford; Hare, Bollington; Jewell, Fair's Cray; Hewitt, do., St. Mary's Cray; Meade, Lewisham; Holliday, North [illegible]; Widmer, Sanctury; Henbrey, Croydon; Harrison, Rickmansworth; Edwards, London; Neville, do.; Rushen, do.; Creed, do.; Harms, do.; Procater, Berkhamsted.
TURNER'S MR EDWARDS, rose, fine figured with XX in No. 1 at the "Flomst", 5s. per pair.
TURNER'S MOANING STAR, purple, fine large petal, 5s. per pair.
TURNER'S NONPAREIL, light rose, 2s. 6d. per pair.
MACLEAN'S NARBOROUGH BUCK, rich, dark, large, and finely formed, 5s. per pair.
C. TURNER'S Descriptive Catalogue of Pinks, Carnations, Picotees, Pansies, &c., will be ready in a few days, which may be had on prepaid application.—Cumbrey, Slough, Sept. 16.

FIRST-CLASS GERANIUMS.

J. HINE having a very large stock of the best kinds in cultivation, informs the public that he intends to supply them this autumn at unusually low prices. Lists to be had on and after the 12th of this month. The much admired set of Eight Seedlings raised by Mr. MILLER, and advertised for the first time last autumn (price 5l. 5s.) can be obtained this season for 1l. 5s, having a very fine stock of them, namely:

SCARLET DEFIANCE	ADMIRATION
ROSA MUNDI	VULGIUS
QUEEN OF KENT	CONSPICABUNDUS
DISTINCTUS	FLORA'S FLAG.

Illustrated Engravings of which will be sent on receipt of 24 stamps. Other varieties from 10s. 6d. to 1l. 1s. per doz.
Providence Nursery, Ramsgate.

NEW AND BEAUTIFUL PLANTS introduced by Messrs. VEITCH through their Collectors, Messrs. W. and T. LOBB, and now offered for the first time.

Messrs. V. have taken every possible opportunity of exhibiting these Plants, so that the Public may see and judge for themselves; it being their determination to send out no new Plant that has not been previously bloomed and fully proved, and that is not calculated to give entire satisfaction to Purchasers.

RHODODENDRON JAVANICUM, TRUE. (BLUME.)

We consider this, without doubt, the most splendid Plant it has ever been our good fortune to introduce. It was sent to us from Java by Mr. Thomas Lobb; and whether we look at the exceeding beauty of its blossoms, habit, and foliage, combined with its freeness of growth and flowering, or whether we look at the certainty of its becoming the parent of an altogether new family of Rhododendrons, there cannot be a doubt but that it completely rivals all other introductions of late years. It was exhibited at Regent-street in June, 1847, and had the Large Silver Medal awarded it. It was also exhibited at the Regent's park Exhibition, May, 1848 and had the First Prize for new and rare Plants. It is figured in Curtis's "Botanical Magazine" for November last, where a full description is given. It requires the same treatment and temperature as Indica Azaleas, and small Plants 6 inches in height have produced fine heads of flower. Good well established Plants, 5l. 5s.—Extra Strong, 10l. 10s. Orders will be executed strictly in the rotation received, and one will be given over to the trade on every three taken.

N.B.—Messrs. VEITCH consider that for the guidance of the Public it is proper they should state that they are the only parties who have ever bloomed this Rhododendron in Europe, and they pledge themselves that every plant they send out is propagated from the original imported plants that have flowered in their nursery. This is necessary to insure their correctness, there being many perfectly different and distinct kinds of Rhododendron in Java, Messrs V. having already flowered two, viz., the present *True* "Rhododendron Javanicum," and a pale, clear yellow variety of it, which is not yet ready for sale. Messrs. VEITCH have also a quantity raised from imported seed; but as there are so many varieties of this plant in Java, they deem it unsafe and injudicious to send out Seedlings as the True R. Javanicum until they have been proved by blooming.

ÆSCHYNANTHUS SPECIOSUS. (HOOKER.)

SHOWY Æ-CHYNANTHUS.

This plant was exhibited at the Royal Botanic Gardens, Regent's Park, in May, 1847, and received the First Prize for New and Rare Plants. It was also exhibited at the London Horticultural Society's Meeting in Regent Street, on the 4th of April, 1848, and had the Banksian Medal awarded it. It is figured in "Curtis's Botanical Magazine" for August last, and also in "Paxton's Magazine" for October; in both of which publications it is spoken of in most flattering terms. It certainly is the finest of all the Æschynanths at present in cultivation, adding to the beauty and size of its flowers, that of blooming most abundantly, plants from three to six inches, in small pots, producing copious clusters of flowers. Messrs. V. confidently warrant this as suitable for the smallest and most select collections of stove plants. Strong flowering plants 42s. each, with the usual trade discount.

ÆSCHYNANTHUS MINIATUS.

This plant is figured in the "Botanical Register," for October 1846. It has unfortunately been confounded with Æ radicans, but from which it is perfectly distinct, and a far preferable plant. It is of fine habit and foliage, free in growth and blooming, producing its deep vermilion flowers in clusters at the axils of the leaves throughout the stem. Strong plants 21s. each, with the usual trade discount.

BROWALLIA JAMESONII.

This most beautiful Greenhouse Shrub was sent to Messrs. VEITCH by Mr. W. Lobb from Peru. It was exhibited at the Regent Street Meeting of the 1st June, 1847, and was awarded the large Silver Medal. (See particulars in report of the Horticultural Society's meeting in the *Gardeners' Chronicle* of June 5, 1847.) It is certainly one of the finest plants Messrs. V. have ever introduced, and they warrant it to give general satisfaction. Strong well-established plants, 31s. 6d. each, with the usual discount to the trade.

FUCHSIA SPECTABILIS. (HOOKER.)

SHOWY FUCHSIA.

This magnificent Peruvian Fuchsia has so recently been exhibited at the London Horticultural Society's Rooms in Regent-street, and figured in Curtis's "Botanical Magazine" and "The Florist," that a lengthened description of it is unnecessary. It is sufficient to remark that it far outvies all other known species. In the *Gardeners' Chronicle* of May 13th last appears a woodcut of it, and in describing it Dr. Lindley calls it "the Queen of Fuchsias."* Many of the principal Fuchsia growers who have seen it pronounce it first-rate, and have ordered plants of it. It will be sent out the first week in May, 1849, before which the names of the trade who have ordered plants of it will appear in the *Gardeners' Chronicle* and United Journal. The strongest plants will supply the earliest orders. Strong plants 21s. each, with one over to the trade on every three taken.

HOYA CINNAMOMIFOLIA. (HOOKER)

CINNAMON-LEAVED HOYA.

This plant was exhibited at the June Chiswick Show of last year, and received the Banksian Medal. It is figured in Curtis's "Botanical Magazine" for January last. It is a very distinct, pretty, and free flowering plant. Strong plants 21s. each, with the usual trade discount.

SALVIA OPPOSITIFLORA. (HOOKER)

This is a fine scarlet Salvia, of dwarf habit and good foliage. It is a free bloomer, and well adapted for bedding. Good plants 7s. 6d. each, with the usual trade allowance.

VIOLA LUTEA.

This lovely little plant was sent us from Patagonia. It was exhibited at Chiswick on the 20th May last, and had the Banksian Medal awarded it. It is perfectly hardy, compact in its growth, and will make a beautiful border plant. The foliage is deep green, above which its numerous bright yellow flowers are thrown well up on erect stems. Good plants in the autumn 5s. each, with the usual discount to the trade when six are taken.

Messrs. VEITCH'S General Catalogue of New and Rare Plants, Geraniums, &c., can be had on prepaid application.
Exeter, September 16.

* See particulars in *Gardeners' Chronicle*, No. 20, 1848.

ABERDEEN BEE-HIVE STRAWBERRY.

R. S. YATES has yet a quantity of plants of the above wonderful production, fruit of which should have been exhibited at Chiswick and other meetings. They are warranted true as received from the raiser, and will be supplied gratis to any one who may think them worth applying for. R.S.Y. would suggest that stamps to cover the postage should accompany the application.

R. S. YATES reminds parties' desirous of cultivating Strawberries, that he can supply plants of sorts, the qualities of which are indisputable. One (Hooper's Seedling) he can supply in unlimited quantities; it is the most productive kind in cultivation, fruit large, brilliant colour, and very juicy. Strong plants at 10s. per 100. Also several new unproved sorts.
St. Ann's-square, Manchester.

THE "BLACK PRINCE" STRAWBERRY.—The above is very early, medium size, fine flavour, and most prolific, having exhibited several plants with 200 fruit on each; fine plants are now ready for sale at the following prices, namely 1l. per 100, 50 for 11s., 25 for 6s., package included. Also a book of 20 years' experience in the forcing and general management of the Strawberry, Potato, Cucumber, Melon, and Lisianthus Russellianus, with a drawing of the Strawberry and the Lisianthus, price only 1s, or by post, 1s. 4d. Sold by the author, JAMES CUTHILL, Camberwell, London.
A Post-office order on Camberwell.

JOHN DICKSON begs to inform the growers of Carnations and Picotees that the Treatise on their Cultivation, by an Amateur, is now ready for delivery. In addition to instructions for raising and growing this beautiful race of plants, a Descriptive List of the best Flowers out, in their several classes, will be given, forming altogether an unerring guide to successful showing. Price 1s. 6d. To be had of JOHN DICKSON, Acre-lane, Brixton; and of Messrs. Warner, Seedsmen, 28, Cornhill, City. Forwarded to all parts upon prepaid application.

LAURELS AND ROSES.

D. FERGUSON, CONTRACTING PLANTER, LANDSCAPE GARDENER, &c., respectfully informs the nobility, gentry, and Railway Companies, that he can supply them with small Laurels at 1l. per 1000, adding 1000 to every ten ordered. Delivered free at Wolverton and Oxford, or at any of the London Railway Stations, at 8d. per cwt. He has about 100,000 left that he can supply this autumn, and he can, if called for, supply 50,000,000 in the autumn of 1849. Fine transplanted Berberis aquifolia, at 1l. to 30s. per 1000. A large quantity of large Evergreen and Deciduous shrubs and trees, exceedingly suitable for new places, giving at once effect and shelter, a thing desirable to proprietors in this uncertain life.

A large quantity of Standard and other ROSES, many of which are worked upon tall Standards for planting among American shrubs, &c. Also some of the tall growing sorts trained 5 or 6 feet above their stems, making a splendid show when planted amongst Evergreens, showing the magnificent pillar of Roses without the unsightly stems being seen. Autumn, I have found by experience, the best season for planting, and I advise my patrons to lose no time in preparing, more particularly where earth is to be removed.

In answer to inquiries, my charges are 2l. 2s. per day, with board and second class travelling expenses; but where I supply shrubs, &c., to the amount of 100l., I only charge my expenses. I shall be happy to exchange Roses for fruit tree stocks to the number of 150 or 200.000.
D. FERGUSON, Aylesbury Nurseries, Sept. 16.

ARNOLD'S "VIRGIN QUEEN" GERANIUM.—*This is the best* WHITE *in cultivation. It has been fully proved this season, nine specimen plants having produced* 350 *expanded blossoms at one time, only one of which was imperfect.*

We can recommend it with the same confidence as we did Lyne's "Duke of Cornwall" and "Forget-me-not," and we are certain that it will give the greatest satisfaction to all who purchase it. It is thus described by Dr. LINDLEY, in the *Gardeners' Chronicle*:—"*W. E. R. The flower sent is a well formed flower, broad white under petals, the upper petals plum colour with a narrow margin of white; this is a good flower of its colour.*" The habit of the plant is excellent, and the blooms are thrown well above the foliage.

Price 1l. 10s. each, or three for 3l. to the Trade.

P.S.—We are so satisfied with the excellence of the above, and so certain are we that it will give the greatest satisfaction, we will agree to give the amount in Plants selected from our current Catalogue, should it not prove to be equal to what we have stated.—W. E. R. and Co.

The following set of 5 Geraniums (sent out by us last autumn) for 40s.:

	each—s.	d.		each—s.	d.
2 Lyne's Jenny Lind	15	0	5 Lyne's Mercury	10	6
3 ,, Star of the West	10	6	6 Folley's Black Prince	5	0
4 ,, Lady Ebrington	10	6			

The following set of 8 Geraniums (sent out by Mr. Miller, of Ramsgate, last autumn) for 40s.:

	each—s.	d.		each—s.	d.
7 Miller's Scarlet Defiance	7	6	11 Miller's Admiration	7	6
8 ,, Rosa Mundi	7	6	12 ,, Vulgius	7	6
9 ,, Queen of Kent	7	6	13 ,, Flora's Flag	7	6
10 ,, Distinctus	7	6	14 ,, Conspicabunda	7	6

The whole set of 14 *as above, including Arnold's Virgin Queen, for 4l. 4s., or exclusive of Virgin Queen, for 3l. 10s.*

First orders will receive the first selection, and will be sent out in October next.
WILLIAM E. RENDLE and Co., Plymouth.

P.S.—Our New Plant Catalogue is just ready, and can be obtained gratis, on application.

SEEDS.—CORNER OF HALF-MOON-STREET, THOMAS GIBBS AND Co.,
(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND,"
Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.
Priced Lists of Agricultural Seeds are always ready, and may be had on application.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

BAKER'S PHEASANTRY, Beaufort-street, King's-road, Chelsea, by special appointment to her Majesty and H.R.H. Prince Albert.—ORNAMENTAL WATER FOWL, consisting of black and white swans, Egyptian, Canada, China, bernacle, brent, and laughing geese, sheldrakes, pintail, widgeon, summer and winter teal, gadwall, Labrador, shovellers, gold-eyed and dun divers, Carolina ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking fowls; white Japan, pied, and common pea-fowl, and pure China pigs; and at 3, Half-moon-passage, Gracechurch-street.

THE GROTTO IN OATLANDS PARK will be opened for the benefit of the Weybridge Parochial Schools, for two days this month. The Grotto is said to have cost the Duke of Newcastle 40,000l. Trains leave the Waterloo Railway Station for Weybridge several times a day. Tickets 5s. each, to admit two persons, or three children under 10 years of age, (of which a limited number will be issued), to be had at the Schools, Weybridge, and of Messrs. GRAVES, 6, Pall-mall.

VINAIGRE DE BORDEAUX.

WINE VINEGAR, well matured, is the strongest, finest, and purest of all; for pickling and every domestic use, it is preferable to all other. Sold throughout the Kingdom, by Chemists, Grocers, and Wine Merchants, whose names may be learnt from the Importers, W. and S. KENT and Sons, Upton-upon-Severn. London Stores, 3, Queen-street-place, Cheapside: W. S. Rumsey, Agent.

SASH LINE FOR HOTHOUSES AND GREENHOUSES.

R. S. NEWALL AND CO.'S PATENT IMPROVED COPPER-WIRE CORD is now extensively used for Window Sash Line, Hothouses, Lightning Conductors, Picture Cord, Clock Cord, &c., &c., and is found to be cheaper, much more durable, quite as flexible, and one-sixth part the bulk of common Hempen Lines. The Wire Cord may be had wholesale, and specimens seen, at the Office of the Patentees, 163, Fenchurch-street, W. T. ALLEN, Agent; or retail, of G. and J. DEANE, 46, King William-street; E. PARKS, 140, Fleet-street; J. JONES, 62, Charing-cross; and GIBBONS and Co., 345, Oxford-street.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND Co., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS FOR CONSERVATORIES.

CUT TO SIZE UP TO 40 INCHES LONG.				SMALL SQUARES of SHEET.	
16 oz. from 3d. to 3½d. per foot.				4 by 3 and 4½ by 3½..1½d. per ft.	
21 ,,	3½	5	,,	5 ,, 3 ,, 5½ ,, 3½..2	,,
26 ,,	3½	7½	,,	6 ,, 4 ,, 6½ ,, 4½..2½	,,
32 ,,	4	9½	,,	7 ,, 5 ,, 7½ ,, 5½..2½	,,
				8 ,, 6 ,, 8½ ,, 6½..2½	,,
				Not above 10 ,, 8 ..3	,,

GLASS MILK PANS, PROPAGATING GLASSES, AND BEE GLASSES. GLASS TILES AND SLATES.
CREAM POTS, from 3 to 24 quarts, at 6d. per quart.
CUCUMBER GLASSES, from 12 to 26 inches long, 1d. p. inch.
LACTOMETERS for trying the quality of Milk, 4 tubes 7s.6d., 6 tubes, 10s.; Peach Glasses 10d. each; Fish Globes from 1s. 6d. each; Wasp and Fly Traps 3s. 6d. per dozen; Plate and Window Glass; Lamp Shades and Chimneys.
METAL HAND-FRAMES.
HARTLEY'S PATENT ROUGH PLATE, AND PATENT DOUBLE CROWN GLASS.

GLASS FOR CONSERVATORIES, &c.

HETLEY AND CO. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2d. to 3d. per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices, and estimates forwarded, on application for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY and Co., 33, Soho-square, London.
See the *Gardeners' Chronicle*, first Saturday in each month.

BRITISH MANUFACTURED SHEET GLASS FOR CONSERVATORIES.

E. AND W. H. JACKSON beg to recommend the above as superior to all other articles manufactured for that purpose. BRITISH, PATENT AND ROUGH PLATE, CROWN, COLOURED, AND ORNAMENTAL GLASS supplied at the lowest terms.
Lists of prices and every information can be had on application at their Warehouse, 315, Oxford-street, London.

GREEN AND HOTHOUSES, CONSERVATORIES, &c., made and fixed Complete in all parts of the Kingdom, at a considerable reduction. One, two, and three-light Cucumber and Melon Boxes, and Lights of all sizes, kept ready for use, packed and sent to all parts of the Kingdom; warranted best material. Two-light Boxes and Lights complete, from 1l. 5s. Garden-lights of every description at JAMES WATTS'S, Hothouse Builder, Claremont-place, Old Kent road.
Reference may be had to the Nobility, Gentry, and the Trade, in most of the counties in England.

GREENHOUSE AND SKY-LIGHT GLAZING, VENTILATING, &c.

RISHTON'S improved method of making Sashes, Glazing and Ventilating (at same time) Conservatories, Sky-lights, Hotbed Frames, Dye-houses, Smoking and Assembly Rooms, and all buildings requiring good Light and free Ventilation. Registered 6 & 7 Victoria, chapter 65.

The evils arising from the common method of Glazing Conservatories, Greenhouses, Sky-lights, &c., particularly since the introduction of Sheet Glass in long lengths, are entirely obviated by this improved plan. It has been fully tested, and highly approved of by practical Gardeners, Horticulturists, Architects, &c., and possessed the following most important advantages:—

1. Free Ventilation and the power of keeping the air in active motion within the building.
2. The Glass is entirely proof against breakage by frost.
3. The condensed water arising inside is immediately carried outside, and no water can possibly stand in the laps.
4. The Panes of Glass are all water tight and independent of each other, and the Frames stronger and neater than those made in the common way.

Since the introduction of the strong flattened Sheet Glass for Conservatories, Sky-lights, &c., the great importance of properly Glazing them, with due regard to Ventilation, has been quite overlooked, and faults are found with the Glass, whereas the fault entirely rests with the method of Glazing. This fact is fully borne out by the Editor of the *Gardeners' Chronicle*, in his scientific and valuable remarks on the subject in his Paper of the 4th of March last, page 155, to which we beg to refer our readers.

Licenses for making and glazing these Improved Registered Ventilating Sashes have been eagerly applied for and granted to parties in many of the principal towns of England, and all further applications must be immediately made to the undersigned, who will grant them on terms favourable to the trade; and will also send sample sashes glazed, and afford every information required.
CHATER and HAYWARD, Glass and Lead Merchants, St. Dunstan's-hill, London.

THE CONICAL BOILERS, invented by JOHN ROGERS, Esq, are sold by JOHN SHEWEN, Ironmonger, Sevenoaks. They are in use at the Gardens of Messrs. Loddiges, Hackney; S. Rucker, Jun., Esq., Wandsworth; Sir C. Lemon, Bart., M. P., Cornwall; the Princes-park, Liverpool; and numerous other places.
Also, AN IMPROVED CORRUGATED BOILER, adapted for any kind of fuel. May be seen at the hothouses of Mrs. Lawrence, Ealing Park, and in several other gardens of note.
JOHN SHEWEN, Sevenoaks, Kent. Estimates furnished for heating all kinds of buildings.

SPLENDID NEW GERANIUMS.

MESSRS. VEITCH AND SON can now supply STRONG and WELL-ESTABLISHED PLANTS of the following beautiful varieties of GERANIUMS, which they can confidently recommend:

TOPPING'S BRILLIANT, 42s. per plant.—This is allowed by competent judges to be one of the best Geraniums in existence; it was raised by S. Topping, Esq., Belvidere House, Stoke Fleming, near Dartmouth. The flower is a brick-crimson scarlet, of beautiful form, large size, and great substance. The upper petals have an intense dark blotch, are finely pencilled, and have a distinct flame of orange scarlet. It is a free bloomer, and throws its trusses on stout foot-stalks well above its foliage. The habit and foliage are very good. It is altogether a most striking and beautiful variety. It is a seedling of 1847, and has had the following Prizes awarded it, viz. at Chiswick, June 19th, 1847, 1st Class Certificate; Regent's-park, July 10th, 1847, 1st Class Certificate—these are the highest Prizes given for Seedlings of the first year. Regent's-park, May, 1848, 1st Class Prize for 2-year old Seedlings; Exeter Horticultural Society, June, 1st Prize.

Cavalier (Beck)	10s. 6d.	Gustavus (Beck) ..	10s. 6d.
Centurion (do.)	10 6	Pretender (Thurtell) .. fine	15 0
Champion of Devon (Topping) fine ..	10 6	Rosamond (Beck) ..	10 6
Desirable (Thurtell) ..	7 6	Rebecca (Topping) ..	10 6
Elegans (Topping) fine	21 0	Salamanda (Gaines) ..	10 6
Guilelma (Beck) ..	10 6	Zelinda	7 6

This set of 12 for 5l. 5s.

Parties taking the above set of 12 for 5l. 5s. will have a plant of "Topping's Brilliant" sent gratis on the lot.

N.B. Topping's Brilliant and Elegans are figured in the "Florist" for August last.

A General List can be had on prepaid application.

Exeter, September 16.

The Gardeners' Chronicle.

SATURDAY, SEPTEMBER 16, 1848.

MEETINGS FOR THE FOLLOWING WEEK.

COUNTRY SHOWS.—Wednesday, Sept. 20: Norwood Floricultural, Bebington Horticultural.

A CORRESPONDENT, who writes under the name of "ANTI-FUNGUS," has touched one of the most delicate subjects in Vegetable Physiology. Whether plants are attacked by parasitical fungi because they are out of health, or whether they are thrown out of health by the attacks of fungi, are questions which, in the existing state of knowledge, it is impossible perhaps so to answer as to satisfy all naturalists. They are, however, of the highest practical consequence, and deserve to be studied carefully by those who desire to rise above the trammels of a self-sufficient routine.

The Rev. Mr. BERKELEY, than whom there is no higher living authority, advocates the opinion that fungi are the cause of disease, and assigns the injury produced of late years in the Potato to their attacks. The notorious mischief connected with the presence in corn of smut (*Uredo segetum*) and the fœtid Bunt (*Uredo caries*), of various mildew plants on Peas, Beans, Peaches, Vines, Onions, and other crops, which mischief is by general consent attributed to the fungi, strengthens this opinion with all the force which can be derived from popular belief in the history of common phænomena. To this Mr. BERKELEY adds much evidence derived from microscopical observation and other careful scientific research. His papers on these subjects in our own columns, and in the "Journal of the Horticultural Society," demand the most attentive consideration. A passage in the latter work (vol. i. p. 23) may be taken as an exposition of the views entertained by this distinguished naturalist.

"The decay" [in the Potato], writes Mr. BERKELEY, "is the consequence of the presence of the mould, and not the mould of the decay. It is not the habit of the allied species to prey on decayed or decaying matter, but to produce decay—a fact which is of the first importance. Though so many other species have this habit, these have not. The plant then becomes unhealthy in consequence of the presence of the mould, which feeds upon its juices and prevents the elaboration of nutritive sap in the leaves, while it obstructs the admission of air and the emission of perspiration. The stem is thus overcharged with moisture, and eventually rots, while every source of nutriment is cut off from the half-ripe tubers. It would be as reasonable to say, with our knowledge of the nature and habits of the cereal fungi, that bunt, or mildew, or the other allied diseases which affect corn, are the consequence and not the causes of disease. In favourable seasons they are not developed; in unfavourable seasons they spread like wildfire: in one sense, therefore, the atmospheric conditions are the cause, but merely as they stimulate into action the latent pest. The immediate cause of disease is the fungus which preys upon the tissues of the corn. So exactly, in the present instance, as far at least as the aërial portions of the plant are concerned, the Botrytis is the immediate cause of destruction. In some instances it may have been aided by unseasonable frost, but this has certainly not always been the case. The mould indeed would not have spread but from peculiar atmospheric conditions favourable to its growth. What these are it may be impossible to say, but it is a fact well known to every student of the extensive tribe of fungi, that their growth, and especially their numbers, depend more than all other vegetables on atmospherical conditions, or what FRIES has happily called 'cosmica momenta.' Even the peasant knows this to be the case with Mushrooms. Dry and wet summers occur, and both are equally barren; while in other seasons, apparently but little dissimilar, they occur in the utmost profusion. A species will be most abundant for a year or two, and then for a period vanish entirely. It is notorious that this is the case in other parts of the creation, especially amongst insects, peculiar species of which sometimes swarm to such an extent as to baffle the naturalist. In the summer of 1846 for instance, Vanessa cardui existed in the greatest profusion in England, and it was traced by Mr. A. WAY from England to Nice. The species of late years has been comparatively rare. There is nothing surprising then in the fact of the immense prevalence of a pest the mould. No one wonders when the Hop grounds are ravaged by their peculiar mildew, because the cultivation of Hops is so limited; but if it were as universal and of so much importance as Potatoes, the ravages would equally excite attention. It is by these instruments, contemptible in the sight of man, that the Almighty is pleased sometimes to accomplish his ends. Instances, like that of the Hessian fly, will readily occur of the immense disproportion between the means and the end."

That we see difficulties in the way of adopting this theory is well known to our readers. Hereafter we may revert to them. For the present we must limit our remarks to the objections of "ANTI-FUNGUS," who, coming to the same conclusion as ourselves, does so by the use of arguments, in some of which we do not at all concur, and the fallacy of which it is absolutely necessary to demonstrate, in order that the difficulties of the question may not be increased by the introduction of supposed facts which are not only unsupported by evidence, but directly opposed to it.

"ANTI-FUNGUS" asserts that fungi grow only on dead vegetable matter, and quotes FRIES and LIEBIG in support of this statement. No doubt, when FRIES wrote his works on fungi, that was the opinion: but he has ceased to attend to such subjects for these 10 years past, and in the course of those 10 years the world has been moving faster in investigating microscopical facts than in the previous half century. If "ANTI-FUNGUS" will look at his window at this time of year, he will probably find a fly sticking to the glass and covered with mouldiness; the day before the fly was active and apparently in good health; and yet at that time, and for days before, the spawn of the mould was insidiously destroying its vitality by preying upon its soft internal tissue; at last the power of the parasite prevailed over the life of the insect, and the latter having perished on the window, the mould plant then burst forth upon its surface. It is notorious that the *Guêpes végétantes* of the West Indies fly about with the long fungus which eventually destroys them hanging down like an intestine from between their fore-legs; we learn that this fact has been recently confirmed by Dr. CARPENTER, who has himself witnessed the occurrence: we have a box full of the wasps now before us. But in order to show that this question is not now open to discussion, we have only to refer to ROBINS' work on the plants which grow on man and living animals*, an 8vo of 120 pages, filled with undoubted cases of this kind. If "ANTI-FUNGUS" will refer to it, he will find that fungi are constantly associated with certain cutaneous affections, with the singular hair disease called *Plica polonica*, with affections of the mucous membranes, the lungs, and other organs. It does not strike us that Professor LIEBIG's words support the opinions of "ANTI-FUNGUS:" and if they did they could have no weight in the face of the abundant evidence to the contrary.

"ANTI-FUNGUS" seems, by his remarks upon Euphorbias and the silkworm, not to be aware that what we call a parasitical fungus is not the whole plant but only its reproductive portion. If he will study the subject he will find that all these parasites grow in the inside of live tissues, and only appear on the outside in order to fructify. Want of attention to this important fact vitiates all arguments relating to the question; for it is by means of the mycelium, or spawn, which we do not perceive, that the formidable mischief produced by fungal plants is effected.

By a singular misprint Mr. BERKELEY was made to say, in a recent communication, that diseased plants of corn may be produced by dusting the grain, from which they are raised, with *burnt* fungus. For this *burnt*-fungus should be read. He referred to the conclusive experiments of FRANCIS BAUER, which leave no doubt that corn plants will be attacked by bunt (Uredo caries) if it is placed upon their grain before being committed to the soil. The farming process of pickling or steeping grain is for the purpose of preventing bunt, by destroying its seeds where they adhere to the corn. This error has led "ANTI-FUNGUS" to quote a passage somewhere in LIEBIG's works, in which he says that "when fungi are exposed to the temperature of boiling water their vitality and power of germinating become completely destroyed." Although it is immaterial to the question before us it may be as well to state at once that this assertion is not confirmed by experiment.

* See our volume for 1848, p. 207, where it is noticed.

It is well known that bread is often rendered worthless by the growth in it of a reddish fungus, called *Oidium aurantiacum*. The temperature which the spores (*Conidia*) of this plant can bear without losing their vegetative powers, has recently been made the subject of experiment, by M. PAYEN, whose results appeared in the *Comptes Rendus de l'Academie des Sciences*, July 18th, and may be stated thus.

The connected appearance which spontaneous decay occurs in cases in which the action of ferments is prevented by the development of the *Oidium aurantiacum*. Observers agree that the ferment germs of the atmosphere, whether they be supplied generally or locally, become the vegetation of the fungus, and that under such circumstances the latter is rapidly developed, or transformed into the cellular plant and water, whilst the azotised matters, fatty and mineral ingredients in the composition of the yeast are assimilated by the fungus. Experiments with the sporules gave a half to the solution in which the Oidium had come to maturity, and the same half made from flour and yeast prevented fermentation by the fungus. M. PAYEN has also proved the fungus to germinate at the same temperature that the yeast will bear, and yet retain their vitality. Experiments were made, in ovens, to temperatures of 212°, 221°, and 248° Fahr. for half an hour, on slices of bread, and kept in a moist heat of 86°; these sporules developed their characteristic vegetation, whilst slices of the same loaf to which the sporules were not applied exhibited only the common white, brown, or greenish mould. When heated to 284° Fahr., the sporules of *Oidium* lost their reddish colour, and acquired a yellowish tint; they were then found to be incapable of reproduction.

It thus appears, that at temperatures between 221° and 248° Fahr., the vegetating power of the Oidium aurantiacum is not destroyed, even in moist air; and it may be therefore inferred that those minute sporules, or reproductive bodies, can resist the heat of the oven in some situations, where the temperature scarcely reaches 212° in the heart of the loaves. Of course, exposed to the temperature by which the crust is formed, 300° or more, the sporules would be completely destroyed.

A consideration of these facts will be found essential in any enquiry concerning the action of parasitical fungi; and they probably throw more light than would at first be suspected upon the history of the diseases connected with them. But to this we must address ourselves on a future occasion.

THE fate of the Potato Crop is being now decided, with the exception of Scotland and the North of England, concerning which accounts are at present conflicting, we this week confine ourselves to mentioning certain processes which our correspondents have found to fail, either in preventing the attack of the disease, or in preserving the tainted produce.

Planting in hillocks has been inquired about. Not having tried the experiment ourselves in such a way as to enable us to give an answer, we have begged for information, and the result is the following replies.

"I planted 10 tubers of the Irish Lumper on a hillock of decayed turf, the produce of which was 7½ lbs., with scarcely one diseased; *H. B. Mason, Bracwood, Wolverhampton.*"

"I put in hillocks, on the 11th of February, four whole Potatoes (Farmers' Glory), a yard and a half apart, 9 inches deep, on a little stable manure. As soon as the haulm appeared (say at the middle of April), I began earthing them up, and continued to do so until the end of June. They were sheltered on the north by a hedge, and on the west by some dense trees. Artichokes and a hedge; open to the east and south. The soil stiff, rich, and clayey. About three weeks ago the leaves began to show blotches, and to-day when dug the haulm was entirely perished. I ought to have stated that only three of the four set came to anything, some sheep having eaten off one. The produce of the three Potatoes was 11½ lbs., many of the Potatoes weighing 1 lb. and a little more. Not one diseased. All my other Potatoes have been very bad, and some Farmers' Glories, planted in the usual way, which we are using now, are very bad on the whole. *Hon. Arnold Buckland, Uxbridge, Ramsbottom's, Newhouse.*"

In a letter from Newport, in Monmouthshire, we are told how a person was informed, in a dream, the cause of the disease, but, as the public has already been edified by a great many waking dreams, we cannot add to the number by the publication of sleeping dreams.

Sulphuric acid has been recommended as a check to the advance of the disease where tubers are attacked. This proposal was made in 1845, and we think by Professor LIEBIG and others. It was tried by ourselves and others with no advantage. We have, however, received from Mr. R. WRANSON of Liverpool, an extract from "The Report of the

Committee appointed by the Literary and Philosophical Society of Manchester, to inquire into the nature and extent of the Potato disease, and the best means to be adopted for preventing or impeding its progress; read Dec. 16, 1845."

"The committee had immersed diseased Potatoes in sulphuric acid, or oil of vitriol, mixed with 40 parts of water, and found that the disease in the Potato so treated had not progressed. The temperature of Potatoes in the natural state was 54¼°; those dipped in the vitriol mixture above-mentioned, 53°; those dipped in creosote, 56°; those in milk of lime, 55°; those fumigated with sulphur, 52½°; those stored in dry clay, 52¾°; those in natural state, becoming diseased, stored in casks three days, and untouched, 64½°. These Potatoes were as nearly as possible under the same circumstances. Mr. YOUNG," adds Mr. ROWLANDSON, "the manager of Messrs. TENNANT, CLOW, and Co.'s extensive Chemical Works at Manchester, who read the paper from which the preceding extracts are taken, is the person to whom we are indebted for this simple but valuable preventative; and I am assured by competent parties that wherever the experiment has been tried the results have been most favourable."

Finally, the Rev. Mr. CARLYON has published a letter in the *Royal Cornwall Gazette*, from which the following are extracts.

"In the first place I have ascertained, by extensive inquiry as well as personal examination, that the tubers decay more or less readily, when allowed to remain in the ground, according to the nature of the soil (whether, for instance, it be more or less dry), and according to their depth in the earth; since the nearer they are to the surface, and the more closely they adhere to the stalks, the more readily do they appear to decay. Whilst, therefore, there is undoubted danger in allowing the tubers to remain under ground, there is great reason to believe that they may be so stored as not only to preserve such as are sound, but to arrest the progress of the mischief in such as are already tainted. According to the Rutlandshire plan, the Potatoes are first washed, then dried, and stored in an outhouse, with layers of dry straw between each layer of Potatoes. The washing, which I at first likewise recommended, I now think unnecessary; but I advise the best tubers to be selected, and, when dry, deposited on straw, over which fresh slaked lime, mixed with an equal quantity of dry earth, has been strewn. Layer upon layer of Potatoes, to the depth of 10 or 12 inches, having the lime and earth well mixed among them, may thus be stored in safety; only I recommend, for greater security, that the heaps, after a few weeks, be turned over and reconstructed with a renewed supply of lime and earth. In this way we proceeded last year with a portion of our Potatoes; the labour was trifling, and the Potatoes remained sound to the last. It is proper, however, to add that the lime appeared to impair the culinary quality of the Potatoes, so as to make them less palatable; and for this reason I shall only store such Potatoes in lime and earth as are intended for pigs and poultry. Particularly as it was found that Potatoes might be equally well saved by storing them in the ashes procured from the burning of charcoal, of which we have both last year and this been able to get an abundant supply from coppice woods in our neighbourhood. All that we stored in this way last year remained sound and unimpaired in quality, and where these ashes can be procured, I strongly recommend their use. According to the Rutlandshire plan, the Potatoes are cleared of any adherent impurity by washing, then so stored as to be kept dry, and from the immediate contact of the different layers, by interposing layers of straw. I have gone a step farther, and have added either lime or the ashes above described, with a view to the antiseptic tendency of such addition; care in all cases being taken to keep one layer of Potatoes from coming in contact with another, whether by layers of straw, or by lime or ashes."

BRITISH ASSOCIATION
FOR THE ADVANCEMENT OF SCIENCE.

(*Continued from page* 588.)

Aug. 11.—*On Friday*, in the *Mechanical Section*, Mr. WHISHAW read a paper giving an *Explanation of the various Applications of Gutta Percha;* numerous specimens of which, in the shape of thread, cord, tubular staves, driving bands, constables' staves, sticks, whips, inkstands, medallions, shields, water buckets, stereotype plates, and almost every other description of article, both useful and ornamental, were present. The first articles of use made of gutta percha in this country were laid before the Society of Arts in 1844, and consisted of a lathe-band, a short length of pipe, and a bottle-case, which he had himself made by hand, having caused the concrete substance to become sufficiently plastic by immersing it in hot water. He also produced casts from medals, which attracted considerable attention at the time, and surgical instruments were soon after made of this new material. It was also adapted to commercial uses; and from the period mentioned to July 11th in the present year between 600 and 700 tons had been imported for the Gutta Percha Company alone. From 20 to 60 tons were now regularly imported every month. Contrary to the general opinion that gutta percha is a simple, hydrogenous substance, Mr. Crane found it in its ordinary state to consist of at least two distinct materials, besides a notable proportion of sulphur—viz., 1. A white matter, gutta percha in its pure state; 2. A substance of a dark brown colour. Various experiments were made to ascertain its strength when mixed with other matters, and also as to what pigments would mix with it without rendering it brittle or deteriorating its qualities. From these it appeared that the only pigments that could altogether be relied on to be used with gutta percha were orange lead, rose pink, red lead, vermilion, Dutch pink, yellow ochre, and orange chrome. Under the influence of heat and pressure, gutta percha would spread to a certain extent, and more so if mixed with foreign matters. All the mixtures composed of gutta percha and other substances which had been subjected to experiment, except that containing plumbago, were found to increase its power of conducting heat; but in its pure state gutta percha was an excellent non-conductor of electricity. The best composition for increasing the pliability of gutta percha was that formed in conjunction with caoutchouc tar, and next in order that of its own tar; and the best material at present known for moulding and embodying was obtained by mixing gutta percha with its own tar and lamp-black. After giving an account of the mode of preparing gutta percha for manufacture, the paper next explained a variety of articles already made of it, which were of three classes: 1, Useful; 2, Ornamental; and 3, Useful and Ornamental combined. Various articles were then exhibited, including two very handsome shields, and a splendid Communion Dish and Service. Mr. Whishaw next exhibited speaking tubes of gutta percha, which were quite new, as was also the means of calling attention by them of the person at a distance, which was accomplished by the insertion of a whistle, which, being blown, sounded at the other end quite shrilly. Attention having been thus obtained, you remove the whistle, and by simply whispering, the voice would be conveyed quite audibly for a distance of at least three quarters of a mile, and a conversation kept up. A submarine rope or telegraph of gutta percha was also exhibited, which consisted of a tube perforated with a series of small tubes for the conveyance of telegraphic wire, and which, for the purpose of preventing its being acted upon by sea water or marine insects, was banded or braided round by a small rope, and its being perfectly air-tight would render it quite impervious to the atmosphere.

In the *Natural History Section*, Prof. OWEN read a paper on the *Teeth of the Kangaroo*, which was remarkable for proposing a system of notation for these organs by which in a few simple signs the number and relations of these organs could be much more easily described than by lengthened descriptions. We give the concluding remarks of Professor Owen's paper as suggestive of the applications of this system to the vegetable as well as to the animal kingdom.

"The description of the foregoing anatomical facts by the ordinary language and verbal definitions of the teeth would occupy about five pages of the type used in Bell's 'Anatomy.' And one disadvantage attending such tax upon the efforts of the attention and memory, was to enfeeble the judgment in forming its conclusions, and to impair the power of seizing and appreciating the results of the comparisons." Prof. Owen concluded by stating his conviction that nothing would influence more the rapid and successful progress of the knowledge of the structure of animal bodies, than the determination of the nature of the parts by tracing their homologies, and the condensation of the propositions respecting them by attaching to the parts so determined symbols, or, at least, single substantive names, distinctly defined: the bones might be denoted by simple numerals, as was proposed in his work on the "Archetype of the Skeleton." And the effect of the few symbols for the teeth, which, when explained, were so easily remembered, had been shown to be to render unnecessary the endless repetition of the verbal definitions of the parts, to harmonise conflicting synonyms, to serve as a universal language, and to convey the writer's meaning in the fewest and clearest terms. The entomologist had already partially applied this principle with much success, and the signs ♂ and ♀ for male and female constantly occurred; the astronomer had early availed himself of it in the signs ☉ and ☽ for the sun and moon, and in the different symbols of the planets, &c.; and Mr. Babbage has advocated the use of this powerful instrument of discovery in geometrical science in his Paper "On the Influence of Signs in Mathematical Reasoning."

On a Peculiarity in the Protococcus nivalis. By M. MOGGRIDGE, Esq.—On the 12th August, 1845, near Delvin Head, Gower, at a place where water oozing out of the old red sandstone stagnates upon fresh-water mud, I gathered Protococcus nivalis, but was prevented from observing it satisfactorily under the microscope. Since that period I have found it each year on the same spot; and though the same conditions apparently obtain in numerous places in the immediate vicinity, the habitat appears to be confined to one precise spot. In 1846 I found the Protococcus nivalis in pools in the rocky bed of the river Pyrddyn (about 40 miles from the former station), a little above and below the Lady's Fall. From 1845 to the present time I have made each year many observations (chiefly with the ¼ inch) on this plant. The peculiarity to which I would draw attention is the occasional presence and office of a tube in length sometimes two-thirds the diameter of the globule. This I have myself repeatedly seen, and on one occasion showed it to my excellent friend, who is now separated from us by nearly half the world, Dr. Hooker, whose express authority I have to use the high authority of his name for the correctness of the observation. Among many specimens which Mr. Jenner was good enough to examine, was one in which the tube occurred. Agardh has figured the Protococcus Grevillei with a somewhat similar appendage; but he regards it as being a pedicel or means of attachment; and the difference between this species and the nivalis has not been apparent to me, as in the observations on the same specimens carried on sometimes for eight weeks, both forms occurred, and I believe the species to be identical; as indeed would appear by Mr. Hassall's book. In the cases above referred to, the passage of the granules from the globule through the tube appeared very decided, the granular mass in the interior being lessened; the tube containing several granules; and in the instance which I exhibited to Dr. Hooker, one granule being seen near the mouth of the tube, having to all appearance just escaped and being free in the water. I may add that on no occasion has any attachment of this tube at its extremity been perceptible to me; and would suggest that this is one, I do not say the only mode in which the granules escape from the parent cell.—The President expressed his doubts as to whether this could be the true red-snow plant which was found in localities so different from that described by Mr. Moggridge.—Mr. Moggridge stated that the plant had been examined by Mr. Brown, who originally described the red snow from the pole, and he had expressed his conviction that it was identical. The Protococcus nivalis was not always red, but sometimes assumed a green tint. He was not aware that the snow in Wales was tinged with it.—Dr. Lankester said that the Protococcus nivalis had been described as giving snow a green tint. This plant had been described by Dr. Greville as occurring in Scotland, and giving the snow there a red colour. From the observations of Mr. Shuttleworth and Professor Agassiz, it appears that not only was this plant present in red snow, but also several species of animalcules. The peculiarity described by Mr. Moggridge in the cell was not uncommon amongst the Algæ, and was an analogous process to the projection of the pollen tube from the pollen cell in the higher plants.—Mr. Thwaites thought the plant described as Protococcus was one of the Palmelleæ. He had found the plant near Bristol; when young it consisted of single cells, which were of a green colour. The tube described was like that found in Diatomaceæ, and perhaps there was conjugation amongst these plants.

(*To be continued.*)

PRACTICAL HINTS FOR AMATEURS
AND SMALL GARDENS.

STRAWBERRIES.—Persons who expend no scientific knowledge or care on their gardens are constantly complaining of failures with their Strawberries. The wonder really is, not that they should often be disappointed, but that they should ever succeed. Were it not for the *vis medicatrix naturæ* which so often helps men out of their scrapes and blunders, in spite of their ignorance, many gardens would produce no fruit at all. The treatment of the Strawberry is often at variance with every physiological principle; the plants are the runners of old stools, which have remained in the same spot for many years; the beds are allowed to be smothered with weeds after the crop is gathered, until in the autumn a scythe mows off the whole produce, weeds, leaves, and sometimes crowns in one promiscuous heap. In this *sauve qui peut* style the bed is left to the chances of another year, and a dressing of dung completes the annual process. It cannot be wondered at that after this summary treatment the crop should be poor in quantity and quality, contrasted indeed in every respect with that of a more thoughtful cultivator.

This is the time to clear off all runners and weeds from old beds and to make new ones; that is, if weeds have been allowed to grow and runners to accumulate, neither of which will be the case in a well-managed garden. However, many amateurs sadly neglect these commonplace matters in tending Dahlias and other fancy things, and in their case the only remedy is to clear the plantations at once. Carefully remove all runners, and where the plants are too thick, some may be dug up, or portions of the crown taken away, to allow full ingress to the sun and air. Do not interfere with the leaves, unless you find any withered, when they can be of no further use. On the healthiness and long continuance of the foliage this year will depend the strength and fruitfulness of your plants next season. We explained the reason of this in a recent paper on Asparagus, and need not go over the same ground again. Another reason why leaves should be allowed to remain on Strawberry plants was stated by a writer in the *Gardeners' Chronicle* some time back—they preserve the incipient fruit-buds from frost during the winter. It has been found that very severe winters are followed by failures in Strawberries, caused by the attacks of frost on the crowns; consequently the protection of the foliage may be a matter of importance. A good dressing of rotten manure may be supplied, either laid on the surface or slightly forked in. The roots of the plants must on no account be interfered with.

In making new beds, let the ground be trenched to the depth of 2 feet at least, and well mixed with rotten dung. When the soil is settled put your plants in rows 3 feet apart, and half a yard distant from each other. Nothing is gained but much is lost by close planting. There should be room to walk between the rows, and it will be seen that 3 feet is scarcely sufficient to allow of this. Each plant should be isolated, if the finest pro-

duce is wanted. Light, air, and solar heat will thus be supplied in the largest possible quantities, with the most beneficial results. The plants themselves should have been trained in a nursery bed early in the season, and, if they have been so treated, they will now be a good size. Remove them with balls of earth, so as to disturb their growth as little as possible. But if you have made no provision for new plantations, you must take up with a trowel the strongest of your self-rooted plants from the old beds. Fix every plant firmly, and your work is done; unless you like to put a little short litter to protect from frost. Thus treated, a bed of Strawberries will bear a little fruit next year, and a full crop the year after. Two full crops is as much as should be expected from any Strawberry plant, and after that the beds should be destroyed. By making a fresh plantation every year, you will always be well supplied, and not run the risk of being laughed at for expecting fruit from plants which, in the common course of events, have become barren; *H. B.*

Home Correspondence.

Supposed New British Fern.—Mr. John Lloyd having sent us a specimen of what he considered to be a new British Fern, it was transmitted for inspection to Mr. Smith, of Kew, whose knowledge of these plants is very great. He replied that it was Lastrea rigida. Mr. Lloyd, however, having had the plant under pot and border cultivation for two seasons, and having compared it in all states with L. rigida, cristata, and spinulosa, and not having found it identical with any of them, sent more specimens for examination, which were again submitted to Mr. Smith's notice, and the following is his reply:—"I have now had leisure to carefully examine Mr. Lloyd's specimens. I find them to agree with an old specimen in my collection, marked Aspidium dilatatum, var., and writers on British Ferns have described several forms or varieties of that species which, viewing them in connection with its congenors A. spinulosum, rigidum, intermedium, and others, will be found to constitute such a transition of forms, that specific distinctions become confused. Most writers on British Ferns appear to forget, or find it more convenient not to take into consideration, that the same and allied forms of most of our British Ferns are found widely distributed over the earth, and that, according to the nature of the climate being moist or dry, hot or cold, or the differences in locality (even within short distances), age, &c., they assume appearances which the local botanist is readily led to view as distinct species. On his taking a general view of numerous specimens from different places, he will find it no easy task to discover words to describe them, if, after a time, he may satisfy himself, others will be very sceptical in adopting his views, and, according to my observation, the series of forms that may be collected are so numerous that specific distinctions almost cease. Such being my view, I cannot allow myself to consider the Fern in question other than a transition form of the group to which it belongs, for if the whole of the known slightly differing forms are to be taken as normal and permanent forms, then species may be multiplied without end."

Propping up Strawberries when in Fruit.—I have for several years used, and with capital success, pantile laths 1½ inch broad, and of any convenient length I could get them, for the above purpose. For Strawberries in rows, a quantity of pegs about a foot in length are cut and driven into the ground half their length, on each side of the rows; the laths are then thrust under the sides of the plants, placed upon the pegs, and fastened with a nail. The laths are stored away in winter; they will last several years; *C. S., gardener, Reddings Park.*

Weald of Kent Horticultural Society.—There has been established at Cranbrook for some years past a Society called the Weald of Kent Horticultural Society, and this year a circular was issued stating that two shows would be held as usual, one in June and the other in September, and the subscriptions were paid accordingly, but in the beginning of this month another circular, very laconic, without a signature, was issued, which, without assigning a reason, stated that "The committee have resolved that it is desirable that the second exhibition should not be held." Surely the subscribers generally are entitled to know why it should not be held. If, as report says, the Society is embarrassed, is it just that the subscribers of the present year are to be made, unknown to themselves, to pay previous years' losses. Would it not have been more honourable for the committee to have issued a circular to which they would not have been ashamed to put their names, and have stated that they required increased subscriptions to enable them to have two shows, and not have led the subscribers to believe such would be the case, and then defraud them of one of them. I hope, for the honour of horticultural societies in general, no other committees act in the same way; *A Ten Years' Subscriber, Sept.* 11. [Surely this statement is susceptible of an explanation creditable to the committee.]

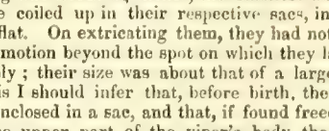
The Season with respect to the Flavour of Fruit.—Having always considered solar heat essential to maturing fruit in this climate, I have been agreeably surprised, after our very gloomy summer, to find my Peaches and Nectarines unusually high flavoured, as well as large in size; *W. R., Yorkshire.*

Diseases.—My Tomatoes are all more or less affected with a disease which I imagine presents some points of similarity with that exhibited in the Potato. I send you leaves, taken from different plants (not the worst, but average instances), at the same time I enclose for your inspection some Mulberry-leaves, gathered from four different trees, the entire foliage of which is affected in like manner. Should these cases prove to be identical with the phenomenon observed in infected Potatoes, will there not be some grounds for the inference that to atmospheric agency and not organic weakness must be attributed this new and terrible plant plague? *W. Ingram, Hatfield House, Herts, Aug.* 30. [These leaves have all the appearance of suffering from wet; the manner in which they are attacked is similar to, but not the same as the Potato disease, and they have produced fungi, but not the Potato Botrytis.]

The Mulberry.—A mistake has inadvertently crept into my statement respecting the Mulberry at page 574. A peck of fruit only is said to have been gathered last year, but instead of a peck it should have been pecks. Ten gallons of wine were made from the fruit which we gathered last year, besides tarts and jellies. Our trees are considered to be the largest in this county; *James Roberts, Gardener, Hatfield Hall, Wakefield, Yorkshire.*

The Viper Question.—My gardener having just caught a viper, apparently with young, I took the opportunity of examining it, and found 13 young ones. They were each inclosed in a sac or bag about ⅞ of an inch in diameter, each bag was connected by a cord (perhaps ¾ of an inch long) with its neighbour; on holding up the animal by the head, they descended towards the tail, swelling out, and occupying the lower half of the body. The old viper measured 19½ ins. in length; the longest of the young was about 5¾ inches, the smallest about 3; they were coiled up in their respective sacs, in which they lay flat. On extricating them, they had not much power of motion beyond the spot on which they lay, but were lively; their size was about that of a large quill. From this I should infer that, before birth, the young viper is inclosed in a sac, and that, if found freed from this in the upper part of the viper's body, they must have returned there after birth; *John L. Ewen, Valewood, Haslemere, Surrey, Sept.* 7.

Culture of the Fig.—The great success which I have witnessed in the cultivation of the Vine on Clement Hoare's plan, induces me to think that a somewhat analogous system might advantageously be adopted with the Fig; and I would suggest the following outline, upon which some of your more experienced readers will probably be enabled to improve. The tree being, as usual, placed against a wall (with a coping of as many inches as the wall is feet high, and planting in 2 or 2½ feet of rich soil laid over a bed of chalk or brick rubbish, with a 6 feet border, clear of vegetables, and a cross drain), is to be trained to a single stem, and the shoots nailed in horizontally, and at 1 foot apart, all fruit as it appears being plucked off. At the end of the season, the tree will present the following appearance:



In autumn, all the alternate shoots (a, b, c, and d) are to be cut down to a single bud, and the tree matted; next spring the shoots so cut down will sprout again, and are to be treated as in the preceding summer, while the extremities of A, B, C, and D, will be producing fruit. These last shoots must not be allowed to extend themselves, but all growths, whether terminal or lateral, must be pinched off. In the autumn these also are, in their turn, to be cut back to a single bud, and thus each shoot on the tree will alternately make wood one year and fruit the next. By this plan I calculate that 6 feet length of walling will suffice for each tree. When the tree is old enough, other shoots may be trained from the main stem horizontally, at right angles from the wall, and on espalier rails. They should be 3 feet apart, and not shortened till they reach 6 feet in length. They are then to be considered as so many main stems, from which fruit-bearing branches will proceed in like manner as from the original main stem, the only difference being that the annual shoots will be perpendicular instead of horizontal; *G. S.*

Uses to which Seakale Pots may be applied in Summer.—A very desirable effect may be obtained in the summer months by means of plants grown in large Seakale pots. My pots are 14 in. deep and 14 in. wide, inside measure; when disengaged from the process of winter forcing, I have them washed and dried, and afterwards apply to them a coat of stone-coloured paint by way of contrast with the green lawn. This painting may be repeated annually with little trouble or expense. I then select from my winter's store plants of one, two, or three years' growth, as may be convenient, and plant them in the pots. The following are the sorts of plants I employ, viz.: Fuchsias, Heliotropes, Brugmansias, Rhododendrons, Azaleas, Pelargoniums, Hydrangeas, Salvias, or other showy flowering plants. In preparing the pots for the reception of the plants, I place the cover in the inside, and over it a little drainage, then a thin layer of turf, and upon that the soil in which I plant my specimen. I also at the same time plant small trailers, to ornament the sides of the pots. These are planted close to the edge, four or five dissimilar plants in each pot. For this purpose the following are suitable, viz.: Nemophilas, Anagallis, Verbenas, Nolanas, Mesembryanthemums, Violets, Mignonette, Clintonia pulchella, Tropæolums, Thunbergias, Mimulus, and Lobelias. A little green moss placed over the soil adds neatness and a finish to the whole. The pots are placed on blocks of wood or stone—the latter is the best. These specimens thus prepared are placed on the lawn or pleasure ground, by the sides of large evergreens, in corners and in windings of walks, &c., and have a fine effect even late in the season; *C. Gaiger, gardener, Puckpool, near Ryde, Sept.* 12.

Picea nobilis.—If, amongst Coniferous plants, one more deserves admiration than another, it is this. It stands second to none in appearance and symmetry of form, which is like that of the Araucaria excelsa. It is perfectly hardy; it sends up its leader very stiff and erect; and at the distance of every 9 inches, or a foot, it throws out five or six horizontal branches, which are ornamented with numerous laterals, all slightly curved at the point. These branches are clothed with foliage, whose thickness the eye cannot penetrate. This may truly be called King of the Pinetum; *Cicindela.*

Scottish Patriotic Society.—Permit me to thank those friends of the highlanders in England who, in consequence of your making known the efforts of the Scottish Patriotic Society to furnish the destitute population of the highlands and islands with Potato sets and garden seeds last spring, very kindly forwarded some hampers and packages for distribution by this Society. The appeal was not made until the eleventh hour, when every other effort had proved fruitless. Subsequently to that appeal, the relief boards of Edinburgh and Glasgow forwarded garden seeds to the destitute districts, but the cordial alacrity with which the Society's appeal was responded to, even when the advanced period of the season had rendered it a forlorn hope, affords a convincing proof that, had it been earlier made, numbers would have made contributions of Potato sets and such garden seeds as are calculated to substitute that root in the event of its failure. It is gratifying to hear that, where the people were enabled to plant Potatoes in the highlands, they have hitherto turned out well, being generally free from disease, or but slightly affected. Although a feeble step has been taken in the right direction, the incubus of permanent destitution among the highlanders remains to be grappled with; I would, therefore, through your columns, take leave to inform the friends of that peaceful and loyal, but destitute population, who may now have an opportunity of saving more Potatoes for seed, and garden seeds, such as Cabbage, Parsnip, Carrot, &c., than they require, that by preserving them, and placing them at the disposal of this Society, they will confer a real benefit upon the poor people referred to, the highest of all benevolence being to enable the poor to help themselves. In a subsequent notice, a London depôt for the reception of such contributions of seeds, &c, will be named, and, while the Patriotic Society will not exercise harshness in requiring repayment of the seed advanced, every such advance will be made as a loan to be repaid in money or in kind, in order to stimulate a feeling of humble independence, and enable the Society to push its means and social improvements over a field of labour at present utterly disproportioned to the limited means at its command; *G. Bond, Sec.*

Mr. List's Account of the Potato Disease in Scotland.—A document has been published in the Edinburgh papers, being a report from Mr. List, Superintendent of the County Police, as to the state of the Potato crop in the several districts of the county where there are stations. In reference to the parish of Ratho, where I live, the constable states that there is no appearance of disease in the fields, that there is a partial failure in some gardens, but that this is attributed to bad seed, and the whole bearing of the others is much of the same nature. The conclusion by Mr. List himself is to the effect that the withered and blackened leaves and stems that are generally seen arise from the effects of a few frosty nights, and that he found no diseased tubers in those blackened fields. Now, so far as my own observation goes, I am forced to say that the disease has shown itself in this neighbourhood as virulently as ever it did in 1845; and it is only the difference in the condition of the soil as to heat and moisture, and the coarse hardy variety of Potato now planted, that prevents the effects from being so manifest on the tubers. But even in 1845, had a report at the same period been obtained from the police, I have no doubt a more favourable one would have been had; its very existence would have been denied, and yet five-sixths of the crop was unfit for human food. As yet it is impossible to tell what may be the issue of the disease here, for some of the ploughmen, in whose gardens it appeared about a month ago, having taken the tubers up and pitted them before the least symptom of it could be seen on the tubers, now find that about one-fifth of them are affected. Of course those places are most affected where the stems are rank and luxuriant, and the soil rather moist. Very little rain having fallen, the fields are exceedingly dry, and, although the putrid-like spot on the stem is seen, yet the leaves seem most affected, and this is not occasioned by the friction of one on the other by wind, nor is the general blackening caused by frost; it comes often in the centre of the leaf, and thence extends outwards, both surfaces being affected. When it first appeared, it spread rapidly for two days; after that, two weeks elapsed with almost no apparent increase; a further increase of the influence was again apparent, and during other two days the later varieties became slightly affected. During these last eight days almost no increase has been visible, but the tubers of those first attacked are becoming affected. A dry, clear air, with the soil poor, dry, and porous, with the situation and the lie of the ground open and exposed, appear to offer the greatest obstacles to its progress. Having had occasion to pass through a considerable part of the country, I observed blotched

leaves in almost every field that had reached a certain stage of growth. So long as the plant continues growing vigorously, few spots appear; but so soon as there is a decline of vital power, they become immediately much more manifest. As you approach the east, the disease lessens, and in East Lothian, except in cottagers' gardens, which are remarkable for leafless, withered stems, there is considerably less of it than in other parts. On the very first appearance of the spot on the leaf in my garden, upwards of a month ago, I had the stems all pulled up, from 4 to 5 acres, in a field of a similar sort, and the tubers, although hardly the size they would ultimately have attained, are keeping well, with not the slightest taint. The foliage had not previously shown disease; *James Melvin, Bonnington, Ratho, Edinburgh, Sept.* 11.

Achimenes candida.—In your report of the meeting held by the Horticultural Society on the 5th inst., you condemned an Achimenes, named candida, as an undesirable variety, which unfavourable opinion may have the effect of causing its possibly valuable properties to be overlooked. I shall, therefore, attempt to show that it will not be wise too hastily to discard it, for though candida is unsuitable for exhibition, it may prove of great service to the hybridist. Several years ago I determined to add to the then very limited number of Achimenes, and the task I imposed upon myself was to produce a scarlet seedling of the size of grandiflora. To attain this object, I attempted to fertilise grandiflora and longiflora with coccinea; but my efforts were vain. I then confined my attention to the smaller sorts, and crossed rosea with coccinea, and *vice versa*, a second cross with coccinea produced several improved scarlets, viz., A. cupreata and coccinea superba, &c.; and a successful cross with grandiflora originated A. venusta and multiflora elegans, all of which, with several others, I presented to the Messrs. Backhouse, of York, and which the public seem to have regarded with favour. Though the above-named seedlings are decidedly beautiful, I merely consider them as an advance of two or three steps in the right direction; and had I not been interrupted in my experiments, by a change of residence, by this time I should have obtained two further improvements on them. Both venusta and elegans will form seed with the improved scarlet kinds, and I dare venture to affirm that the result would prove much handsomer than the parent plants; it is also reasonable to suppose that grandiflora, on account of its relationship, would not refuse to mix with them; thus, three old species furnish all the necessary properties to insure my object. I trust I have satisfied you that colour is to be prized, though the flower may be insignificant in size; I shall now, therefore, try to determine the probable value of candida. A. coccinea, superba, and rosea seed very profusely, and my other seedlings moderately so; a union of candida with them would probably give orange, light rose, light crimson, and white varieties, which, with a little care, might be improved in size, whilst the colours were preserved. The seedlings would be of great service, and especially the white one; as a light ground will be indispensable to cross on to the spotted species: take A. Skinneri as an example. I shall further confirm what I have written by a few facts regarding the Mimulus. When Mimulus Moodii first came out I felt desirous to produce other novelties. After many fruitless attempts to obtain plants of M. variegatus, I procured from New York a pinch of mixed seed, from which I raised a deformed and very small white and crimson variety. With this I set to work, and year after year pursued my object with a sufficient amount of success to induce continued efforts. The seed of last season has supplied me with some decidedly splendid and new kinds; and I do not doubt but that next spring I shall be able to present to the public a white and crimson Mimulus the size of Moodii. At present I have one possessing a pure white tube, with a dark crimson border, which measures 1¼ inch across, and which, though deficient in form, is very pleasing; I have another with a yellow tube and a bright ruby crimson border, which is above the average in form, and yet it measures 1⅞ inch in diameter; these and many others owe their orgin to the little deformed, white American Mimulus; *Abraham Clapham, Bradford.*

Sweet-scented Pelargoniums.—I am sorry to state that I can only give "A. W." a very meagre list of these; for most of the kinds with which I am acquainted (and some of the best of them) have only local names, which may apply to other sorts in other districts; but the following list will, I think, comprise all that is requisite to furnish an ordinary sized house garden. Of small varieties there are two lemon or citron scented, one much smaller in the foliage than the other, and having a more branching habit; then there is the Hawthorn leaved or apple scented; another exists resembling the last in every way except in scent, called the Rose scented; next comes the most powerful smelling one of the lot, called the nutmeg scented, a variety, I believe, pretty well known; Lady Scarborough, Crispum, and Prince of Orange, are all sweet, and generally free growers. Then there is the Tansy leaved, which though not remarkable for scent is nevertheless indispensable on account of its peculiar foliage. Now come the larger and freer growers, partaking more or less of the habit of the old Fair Helen, which, in my opinion, is still deserving a place in the centre of a bed, or in the flower border; certainly some of the varieties of the oak or cut leaved, of which I have seen four or five, are of better habit and stronger scented, and one much cut in the leaf but with no other distinctive name, is a very desirable kind, and a plant after ornamenting the flower border all the summer might be taken up in the autumn, potted, and set in some corner of the greenhouse; it would afford many a sprig for nosegays in the winter months, when such things are valuable. There is a variety which I very seldom see, and which I think might also be introduced amongst sweet scented ones; it is called Tricolor, and I think rather tender, at least it often looks sickly. These will be sufficient to plant a moderate-sized bed. While on the subject of bedding out plants, might I ask some one to give me a select list of Verbenas, say 24, combining every shade of colour in their brightest tints, good shape and habit of plants, together with other remarks relating to their culture. I have myself upwards of 60 varieties, I mean names, and including most of those sent out last spring. I think there is still room for improvement in the way of habit of plant, abundance of bloom, and the property of resisting that insidious enemy the mildew, which with me, as I believe with many others, has this season spoiled what we expected to be our best kinds. I mean to discard a great many of mine. What I find fault with is that so many of the new ones are either rambling growers, subject to mildew, or are only indifferent bloomers, in which latter class I am sorry to place that otherwise useful French variety Heloise; Comte de Paris is good with me, and so are one or two others, but still I do not intend to throw away such good old kinds as Atrosanguinea, Hendersoni, Emma, Rubens, Sabiniana, and some others; *S. N. V.*

Wasps and Dahlias.—I had my Dahlias attacked last year by wasps, which ate the bark and made large holes in the stem, by which the whole limb was invariably killed. This year, owing to there being few wasps, I have not observed them do any mischief; *J. F. F., junior, Barnes Common, Sept.* 12.

Propagation (see page 472).—Some 20 years ago, when I first began cultivation as an amusement, and with the view of benefiting my health, I grew a few Auriculas and Tulips, but being a novice I did not grow them well, and on my expressing my dissatisfaction at their appearance to the person of whom I had bought several, and who is a well known grower, he only laughed at me, and said I must give them something better to eat and drink, but without telling me how to do it; this you will say was no encouragement, but being very fond of flowers I persevered in my endeavours, and by experience have learned at last to manage them pretty well. On another occasion when I was trying to strike some plants, a gardener told me "I need not want to know how to increase any of them, for if I lost what I had he could easily supply me with more, and at a very reasonable expense." Now, what I contend for is, that it is not to save the value of the plants thus raised that an amateur studies their cultivation, but it is the pleasure he derives in their culture, and the knowledge it conveys to his mind, that repays him for his trouble, and an amateur values a plant he has raised more than five times the intrinsic worth, it having been the object of his care and attention for months past; and in my opinion the nurseryman and florist would best consult his own interests by giving amateurs every reasonable information in the cultivation of the plants they are desirous of growing, and upon this principle that a person who can grow any particular flower well will never be satisfied with what he has, but will seek to improve his stock by the addition of new varieties; and where would he be so likely to go to for them as to the person who had taught him to grow them well? but if an amateur cannot succeed in the cultivation of his favourite flower he will cease to grow it, and turn his attention to such plants only as require little care and trouble. I had hoped that by this time nurserymen had become more liberal and enlightened in their opinions, for I am fully convinced that no man, let him be in what class of life he may, will ever do much good for himself, so long as he cultivates a sordid and narrow-minded feeling towards his fellow-man; *Amateur.*

Employment of Vagrants.—"H. B." speaks of the good that might be effected by amateurs employing vagrants in their gardens. The following circumstance occurred under my own observation, a few weeks since. A gentleman in our neighbourhood, a Hop planter, was accosted by two boys of the age of 9 and 15; they asked relief, which was refused; but work was offered, which they readily accepted. The circumstance of their being orphans (according to their tale, having been just deprived of their father while at work at Reigate), so far interested the family, that they were fed from their table, and appearing to have received early religious impressions, they were given new round frocks, caps, shoes, &c. Two days after receiving their new clothes they absconded, leaving their rags. Such is the return the gentleman received in attempting to show kindness as "H. B." suggests; *A. M.*

Societies.

ROYAL SOUTH LONDON FLORICULTURAL, *Sept.* 13.—This exhibition, the last for the season, was held in the Surrey Zoological Gardens. As the garden plants produced were in no way remarkable, we shall confine our report chiefly to the Dahlias, the display of which, for extent or perfection, we have seldom seen equalled.

In the *Amateurs' Class*, for 24 dissimilar blooms, the 1st prize was awarded to J. Howard, Esq., of Burnham, whose stand contained Gloria Mundi, Springfield Rival, Mrs. Anderson, Beeswing, Scarlet Gem, Essex Triumph, Raphael, Marquis of Aylesbury, Lady St. Maur, Captain Warner, Princess Radziwill, Louis Philippe, Miss Vyse, Shylock, Queen of Roses, Mynn, Conspicua, Captivation, Essex Bride, Nonpareil, Sarah Drummond, Competitor, Box, and Yellow Standard; 2d, Mr. Robinson, of Pimlico, for Beeswing, Privateer, Marquis of Worcester, Yellow Standard, Lady St. Maur, Athlete, Caractacus, Louis Philippe, Cardinal Ferretti, Widnall's Queen, Scarlet Gem, Miss Vyse, Mrs. Shelley, Cassandra, Capt. Warner, Berryer, Essex Triumph, Toison d'Or, Conspicua, Lillywhite, Beauty of Sussex, Fulwood Scarlet, Nonpariel, and Shylock; 3d, Mr. Proctor; 4th, Mr. Hopkins; 5th, Mr. James; 6th, Mr. Cook; 7th, Mr. Collison; 8th, Mr. Black. In the same class, for 12 dissimilar blooms, the 1st prize was awarded to to Mr. Pope, of Chelsea, whose stand contained Nonpareil, Delicata, Shylock, Mrs. Shelley, Essex Triumph, Captain Warner, Box, Yellow Standard, Princess Radziwill, Queen, Louis Philippe, and Gem; 2d, Mr. Squib, Southampton, for Mynn, Delicata, Berryer, Gem, Captain Warner, Queen of Perpetuals, Beeswing, Essex Triumph, Shylock, Miss Vyse, Louis Philippe, and Victorine; 3d, Mr. Noke; 4th, Mr. Wildman; 5th, Mr. Holder; 6th, Mr. Burgess; 7th, Mr. Firth; 8th, Mr. Miller. In the same class, for the best 6 Fancy Dahlias, the 1st prize was given to Mr. Miller, for Madame Wachy, Hermione, Emperor of Morocco, Bouquet de Brueil, Judy, and Roi de Points; 2d, Mr. Hutchman, for Bouquet de Brueil, Master G. Clayton, Hermione, Madame Wachy, Miss Watson, and Adolph du Bras; 3d, Mr. Pope; 4th, Mr. Edwards; 5th, Mr. James; 6th, Mr. Holder: and for the best 6 new Dahlias, let out in 1848, the 1st prize was awarded to Mr. Pope, Chelsea, for Walter Hilson, Nell Gwynne, War Eagle, Gem, Golden Fleece, and Shylock; 2d, Mr. Howard, of Burnham, for Hero, Crocus, Golden Fleece, Canary, Shylock, and Gem; 3d, Mr. Collison; 4th, Mr. Cook; 5th, Mr. James; 6th, Mr. Black.

In the *Nurserymen's Class*, for the best 24 Dahlias, the 1st prize was awarded to Mr. C. Turner, of Chalvey, whose stand contained Beeswing, Nonpareil, Mrs. Anderson, Golden Fleece, Essex Triumph, Andromeda, Captivation, Yellow Standard, Captain Warner, Miss Vyse, Richard Cobden, Princess Radziwill, Sir R. Peel, Toison d'Or, Black Prince, Privateer, Louis-Philippe, Gem, Box, Conspicua, Shylock, Mynn, Berryer, and Queen of Roses; 2d, Mr. Bragg, of Slough, for Admiral Stopford, Box, Venusta, Lady Leicester, Prometheus, Nonpareil, Standard of Perfection, Princess Radziwill, Essex Triumph, Competitor, Miss Vyse, Delight, Marquis of Aylesbury, Toison d'Or, Scarlet Gem, Yellow Standard, Louis Philippe, Beeswing, Athlete, Bermondsey Bee, Marchioness of Cornwallis, Mynn, Queen of Roses; 3d, Mr. Cutter; 4th, Mr. Keynes; 5th, Mr. Barnes; 6th, Mr. Drummond; 7th, Mr. Mitchell; 8th, Mr. Hunt. Fancy Dahlias in stands of 12 varieties: 1st, Mr. Turner, for Freund Schmidt, Picotee, Madame Wachy, Triomph de Magdeburgh, Vicomte de Ressiquer, Emilie Lehmann, Dulcinea, M. Chereau, Jenny Lind, Emperor de Moroc, Hermione, Master G. Clayton; 2d, Mr. Harrison, Richmond, for Surprise, Dulcinea, Tricolor Nouveau, Adolph du Bras, Mrs. Shaw Lefevre, Remembrancer, Madame Wachy, Master G. Clayton, Mirocolant, Jenny Lind, Ocillet parfait, and Emperor de Moroc; 3d, Mr. Bragg; 4th, Mr. Keynes; 5th, Mr. Barnes; 6th, Mr. Cutter. The Extra Prize of 10*l.*, offered by Mr. J. G. Waite, to Nurserymen, for the best 6 Dahlias, let out by the exhibitor, was awarded to Mr. Turner, of Chalvey; and the contest for the seedling Sweepstakes, by Messrs. Collison, Bragg and Co., Keynes, and Turner, was decided in favour of the latter.

Of the SEEDLING FLOWERS which were exhibited, we will give some account next week.

ENTOMOLOGICAL, *Sept.* 4.—W. SPENCE, Esq., F.R.S., President, in the chair. Amongst the donations was a new Part of the "Journal of the Royal Agricultural Society," containing a "Memoir on the Insects which attack the Carrot and Parsnip," by Mr. Curtis; also the "Annals of the Lyceum of New York," and Mr. Dillwyn's "Materials towards the Fauna and Flora of Swansea." Mr. J. F. Stephens exhibited three species of Mussel scale insects, one from the Apple, resembling a Mytilus; the second from Ribes sanguinea, resembling a Serpula; and the third from the Orange, resembling a Pinna. The species on the Apple had propagated to such an extent as to destroy the tree on which it was found.—Mr. Samuel Stevens exhibited a number of fine Lepidoptera, from Devonshire, including a singular *pale buff* variety of the *blue* Adonis butterfly. Mr. Doubleday corrected the locality of a species of Cryptorhyncus, which had been asserted to be British, but which he had taken in North America. Mr. Spence read some notes upon the habits of Lithosia caniola, a moth which abounds to such an extent in the heart of the city of Florence as to become a perfect nuisance, flying into the lighted rooms at night by thousands. The larva feeds on Vaucheria terrestris, a Cryptogamic plant, which grows on damp walls. There are two broods in the year. The larvæ produce a strong inflammatory action, when pressed against the human skin, and from their often entering the houses and crawling about the apartments, they are so well known for their noxious properties as to have gained a vulgar name Cocciole. It had been ascertained by Professor Passerini that the inflammation caused by these insects was produced, not by the simple irritation of the detached hairs, as in the case of the processionary and some other caterpillars; but by the injection of a minute drop of poisonous liquid from the elevated base

or tubercle upon which the hairs are placed. Mr. Doubleday noticed that the larvæ of the New Holland Limacodes are armed with spines which are also venomous. He also read descriptions of several new exotic species of Lepidoptera. Mr. Douglas stated that Cebena Haworthii had recently been taken in Normandy; and Mr. Westwood brought for distribution a number of specimens of the rare Sitaris humeralis, lately taken in Oxfordshire.

Reviews.

On Poisons, in relation to Medical Jurisprudence and Medicine. By Alfred S. Taylor, F.R.S. London, J. Churchill.

Those agents which in due proportion constitute a part of the material structure of vegetable and animal frames, or restore to health when in a state of disease, if presented to organised bodies in too large quantities become poisons. Thus, we may poison plants with an overdose of ammonia, one of the principles from which they derive a considerable portion of their nutriment. In the same way human bodies are poisoned by numerous agents which in small quantities act as food or medicines. These poisons may be accidentally or purposely administered; hence has arisen in medicine a distinct branch of science—toxicology, embracing inquiries into the poisonous properties of various mineral, vegetable, and animal substances, and having important relations to the state. The inquiries of the toxicologist have been pursued with great vigour under the recent advances of organic chemistry, and in Mr. Taylor's volume we have the most perfect *resumé* of all that has been done in this department of science that we have yet seen. To those engaged in the study of medical jurisprudence and medicine Mr. Taylor's volume will be found indispensable. Although in criticising the work and describing the nature of its contents we feel bound to confine our attention to the vegetable poisons, yet in passing we cannot but remark that we think Mr. Taylor has not been quite impartial in his treatment of ether, as an anæsthetic agent; although instances have been recorded of dangerous effects resulting from the employment of ether or chloroform, yet we believe that the use of these agents for the purpose of deadening the sensibility of the nerves to the effects of pain is one of the most important contributions ever made to humanity by the medical art.

In treating of the vegetable poisons, Mr. Taylor divides them into three classes—the irritant, narcotic, and narcotico-irritant. The first are those which produce pain, vomiting and diarrhœa, when they are swallowed; the second produce drowsiness or some decided effect upon the functions of the brain; the third combine, frequently, the effects of the other two, and are also attended with convulsions. But Mr. Taylor confesses the difficulty of any satisfactory physiological arrangement of poisons.

"It must be admitted, however, that the operation of many of them is by no means clearly defined. Stupor, delirium, and convulsions are occasionally observed; hence the distinction between some vegetables placed among irritants, and those which are assigned to the narcotico-irritant class, is purely arbitrary. Further experience may hereafter lead to a better knowledge of their *modus operandi*, and to an improved classification. One circumstance is worthy of remark. The effect of narcotico-irritant poisons can commonly be traced to the presence of a poisonous alkaloid in the vegetable Among the irritants the effects appear to be principally due to the presence of an acrid oil or resin. There is only one, the Delphinium Staphisagria, in which an alkaloidal principle, Delphinia, has been found to exist."

The last remark is very curious, and shows how physiological effects are dependent upon the chemical composition of the substance by which they are produced. It is worthy of notice that comparatively few of the plants which belong to the class of irritant poisons are found in natural orders which also yield narcotico-irritant poisons. Of the plants growing in Great Britain belonging to this class, and which are sometimes used as popular remedies, or mistaken for other plants, are the Cuckow-pint or Wake Robin (Arum maculatum), the Spurges (Euphorbia), the Mezereon (Daphne Mezereon), the various species of Ranunculus, and instances are related of poisoning from the common Sorrel (Rumex acetosa).

Decaying vegetable substances act as irritant poisons, and several instances are related in which rotting Carrots, Potatoes, &c., have produced the most deadly effects. We believe that these effects are much more frequent where fruit and other vegetable substances are eaten before they are cooked at all, or a long time after they have been cooked. The same with animal substances. The exposing animal and vegetable matters to heat arrests the process of decomposition which is going on, and it is the decomposing condition of the thing that makes it injurious. Substances after they have been exposed to heat may begin to decompose, and then are as injurious as ever. The most subtle poisons are occasionally generated in grain and flour, and although the effects of taking them have been very severe, no chemical change could in any instance be detected to account for the symptoms produced by eating them. The effects of the changed condition of the fruit of some of the cerealia when attacked by the fungus, now called Ergotetia arborians, is well known. When any of the vegetable irritants are taken, the most effectual treatment that can be adopted is to produce vomiting, for the purpose of getting rid of the poison from the stomach.

The narcotic vegetable poisons are not so numerous as the former class, but they are better known and more frequently employed for self destruction. The most prominent of these poisons is opium, the inspissated juice of the common Poppy (Papaver somniferum) The effect of this agent on the stomach and bowels is the reverse of the irritants, and its action is decidedly manifest on the brain and nervous system. These organs it first stimulates and then entirely subdues, so that deep sleep and coma speedily come on. The action of opium may be taken as the type of the class. Some of our own wild plants exert the same kind of narcotic power, and are on this account used in medicine; such are the Henbane (Hyoscyamus niger) and the wild and cultivated Lettuce (Lactuca virosa et sativa). A substance called Lettucopium is obtained from these latter plants, in the same way as Opium from the Poppy. Its narcotic properties, however, are very feeble, especially of that obtained from the garden Lettuce, and no one need fear poisoning themselves by eating this plant. The species of Solanum, S. Dulcamara and S. nigrum, are more active poisons, and the berries of these plants are sometimes eaten by children. But, of the narcotic poisons, none are so speedy in their action, so destructive in their effects, as prussic or hydrocyanic acid. This acid is developed to a greater or less extent in almost every species of plant belonging to the family of Almond-worts. The leaves of Laurel (Prunus Lauro-cerasus) and of the Peach, the skin of the seeds of the Nectarine, Apricot, and various sorts of Plum, and more especially of the bitter Almond, all contain this destructive agent, and need to be used with great caution whenever they are employed as medicines or condiments. Comparatively few plants beside the Almond-worts possess this constituent, but Mr. Taylor states that "the distilled water of the leaves of the Acacia contains prussic acid." The species of Acacia is not mentioned, but the fact is stated apparently on the authority of the author, and he says that 8 oz. of the distilled water, when treated with nitrate of silver, yielded 4.15 grains of cyanide of silver. If such be the fact, it affords another proof of the relation that exists between the Almond-worts and the Acacias—a relation that has been already pointed out in the production of gum and tannin by these two divisions of the vegetable kingdom. Mr. Taylor states what we have before heard surmised, that the poisonous principle of the Jatropha Manihot, the plant which yields Cassava and Tapioca is hydrocyanic acid. He states that "Prussian blue is easily obtained from the fresh juice by the iron test for prussic acid." If this is really the case, it may throw some light on the nature of the poisonous properties possessed by so many of the Spurgeworts. There are many plants whose action on the system resembles that of prussic acid, and it would perhaps be worth inquiry as to whether their activity does not depend on some substance like oil of bitter Almonds capable of developing or containing the elements of prussic acid.

The narcotico-irritant poisons are those which in addition their narcotic action on the brain, exhibit also effects upon the spinal marrow and nerves, as in the case of convulsions. These poisons are all of them directly obtained from the vegetable kingdom. Amongst them are a number of our common British plants, as well as foreign plants used as medicines. Of the dangerous plants introduced into this country without any real advantage we may mention the Cocculus, which, from the improper use made of it, and its little real value, ought to be forbidden the country as an article of commerce. It is nevertheless imported in large quantities.

"London porter and ale are considered, and in some instances with propriety, to owe their intoxicating properties to a decoction or extract of these berries, a fraud not readily susceptible of detection. Cocculus indicus is sometimes used by robbers to intoxicate their victims, and to this form of intoxication the term hocussing is applied. This substance is applied to no useful purpose whatever, either in medicine or the arts; and, under a proper system of medical police, its importation would be strictly prohibited."

Of these poisons the Darnel-grass (Lolium temulentum), from its very frequent presence in corn fields, and its consequent admixture with the grain, becomes a frequent source of poisoning. If the partaking this plant does not often produce fatal effects, yet when mixed with bread it has been known to produce most alarming symptoms. Although the Darnel is thus poisonous in its effects, it does not appear to possess any alkaloid, but an oil has been found in it having the odour of fusel oil, and this is probably the injurious agent.

The Foxglove (Digitalis purpurea), the Hellebores and the Hemlock (Conium maculatum), all belong to this class of poisons. Although Mr. Taylor has placed the black Hellebore (Helleborus niger) with the white Hellebore (Veratrum album) under the common name Hellebore, we would point out the great difference in the poisonous effects of these plants not much less than the difference between their botanical relations, for whilst one belongs to the family of Crowfoots, the other belongs to the Melanths. Neither of these poisons appear to us to be well placed among the narcotico-irritants. The black Hellebore deserves classification amongst the irritant, whilst the Veratrum might quite as consistently be called a narcotic. Hemlock has sometimes been eaten by mistake for Parsley, but there are other forms of Umbellifers which have been more frequently and fatally mistaken. Amongst these, Mr. Taylor mentions Water Hemlock (Cicuta virosa), Water Parsnip (Œnanthe crocata), Fine-leaved Water Hemlock (Phellandrium aquaticum), Fool's Parsley (Æthusa Cynapium) Also [illegible] of the undoubtedly poisonous nature of [illegible] given by the author, and to the list we [illegible] species may be added Conium [illegible] Lotus, Monkshood, and the Deadly Nightshade (Atropa Belladonna) are also [illegible] poisonous plants growing in Great Britain. The [illegible] to the same with us. The roots of the [illegible] species) have sometimes proved fatal [illegible] mistaken for Horseradish. The [illegible] from the terrace of the Botanic Garden [illegible] in the summer of 1846, will be [illegible] readers of the *Gardeners' Chronicle*.

We have not room to [illegible] further, but cannot conclude our review [illegible] conviction that this is the most [illegible] has hitherto been published.

Gardening Operations.

Oxford Cathedral Garden, one of the [illegible] Bed of Clay, is beautifully situated on the [illegible] 4 miles south of Oxford. The [illegible] has lately been [illegible] around it, under the [illegible] altered and improved. The [illegible] the continental system of [illegible] out here to a considerable [illegible] and the character of the [illegible] changed by the addition [illegible] The new [illegible] for which Oxford [illegible] received the [illegible] are [illegible] of Perpetual Roses [illegible] up nicely in winter.

The way by which Mr. Gardiner [illegible] dodendrons speedily, and in [illegible] them from the [illegible] plants were up in [illegible] with [illegible] both they were [illegible] close, warm [illegible] off and harden [illegible] was replaced next spring, and by [illegible] at two years, plants were [illegible]

Near the church, which is [illegible] a fine avenue of [illegible] which were all removed [illegible] parts of the grounds in the [illegible] They were moved with balls, and "puddled in" with sand and leaf-mould.

But it is to the [illegible] that I first attention. Extensive [illegible] here, more especially with a view to [illegible] produce better crops [illegible] mation, and with what effect we will let Mr. Gardiner speak for himself, quoting from "Transactions of the Caledonian Horticultural Society."

"During the winter and spring of 1840-41, the wall borders here were all [illegible] with a concrete of lime and gravel, 3 inches thick, and properly drained. The roots of trees from [illegible] were cut back to the distance of from 3 to 5 feet from the stem. The trees were [illegible] and [illegible] the roots near the surface, with a good dressing of well decomposed stable litter over the surface, and giving a liberal supply of water, to settle the soil firmly about the roots. The main stems and part of the branches were covered with hypnum moss, to protect them from excessive drought, and were syringed frequently with the garden engine. I find hay or straw ropes rolled round the stems equally effectual as moss. These trees succeeded beyond my expectation—some yielding fine crops of fruit the same year; and in 1842 the trees, which included Apples, Pears, Peaches, Apricots, Plums, and Cherries, were in a very healthy state. The roots of these trees have been several times cut to within 5 feet of the stem, cutting the foreright or front roots in one year, and the side roots the next year; the operation being generally accomplished in November.

"In the spring of 1841 a new wall, 200 yards in length and 12 feet high, was built here. Borders were prepared during the summer; the bottom of the border was concreted and drained. In the same spring trained trees, including Peaches, Apricots, Pears, and Plums, were procured, planted in boxes, and placed close to the wall in July. They were removed out of their boxes in the following spring, and a wall grew freely till August 1845, when many of them were in a very luxuriant state. About the beginning of August, a circle was described about 18 inches from the stem of each tree, and with a sharp spade a trench was dug out to the depth of the concrete, and all roots cut. A dressing of decomposed stable litter was laid over the surface from the stem 2 feet out, and accompanied with watering in dry weather. The trees made no autumn shoots, but formed an abundance of fruit-buds, and produced a good crop of fruit the following year.

"In the autumn of 1845 the foreright roots of these trees were again cut back to within 2 feet of the stem; the side roots were cut back to the same distance in the autumn of 1846. In November, 1847, the foreright roots were cut back to within 30 inches of the stem, the side roots being destined to be cut back to the same distance next November, it being intended that the same process be continued till the cutting extend 5 feet distance from the stem, and that all future cuttings be at the same distance. The trees above mentioned continue

healthy, free from canker, and promise well for yielding fruit in the present year.

"By such treatment fruit trees are kept dwarf, very prolific, and ripen their fruit much earlier, which is of consequence in a cold exposed situation. Another advantage is, that the borders can be regularly trenched at each cutting of the foreright roots to within the distance of the stem prescribed; and the borders can be cropped with early vegetables to within 4 feet of the wall, with no disadvantage to the trees."

Calendar of Operations.

(For the ensuing Week.)

Wintering half-hardy Bedding Plants.—As the majority of our massing plants require for their preservation only sufficient protection to secure them from the direct action of frost, pits of the most inexpensive character are generally found adequate for the purpose. It is a very common, and at the same time a very injudicious plan to thrust the general stock of cuttings into greenhouses, Vineries, and in fact anywhere and everywhere, to the injury of the plants themselves, which are excited when they should be at rest, and by no means to the advantage of the proper occupants of the houses, as the plagues of insects and mildew are too often introduced by the crowding in of Verbenas, Calceolarias, and other bedding stock. It is a good time to set about the construction of store pits; if proper accommodation is not already possessed, they should be excavated to the depth of 18 inches, and drained, so that no water can enter; a few layers of turf, and a framework of wood, to receive the mats, lights, or whatever may be provided, will complete the necessary preparations. We imagine the employment of heating apparatus might in many instances be obviated by following the practice of sinking pits, allowing only the glass roof to be exposed to the weather. In France and Belgium, Camellias, Oranges, and many tender greenhouse plants, are preserved uninjured through severe winters by the adoption of this plan. The precaution most necessary in this country would be efficient draining, moisture being almost as bad as frost. Proper attention to this and ventilation would make them fit receptacles for a vast number of tender things.

CONSERVATORY AND GREENHOUSE.

Proceed uninterruptedly with the housing of tender plants. Many amongst the usual occupants of the conservatory are extremely impatient of a low degree of heat. Anything that tends to interrupt the healthy action of the sap is in fact to be avoided. A month or two's solar excitement is yet left for plants to perfect and harden their immature growth. The advantage of removing them from the cold, moist, ungenial weather will be that this continuous and desired action will not be checked. If the hardier things be still exposed, they should be sheltered by coverings from night-frost or heavy rains. Mildew is the frequent result of damp and cold. Potting, wherever necessary, should be strictly attended to. Cyclamens will now be in action; if requisite, they should be shifted. Roses which have been prepared for early blooming should be housed before the frosty weather arrives, and kept at first in a cold frame; if any deficiency exists in the stock of plants for forcing, healthy young stuff should be selected (the Perpetuals or Bourbons are best) and potted; if plunged in a little bottom-heat, and kept close for a few weeks, they will root, and be fit for forcing the same season. *Stove.*—A certain and gradual reduction of temperature, corresponding to the deficiency of external heat, should be commenced; the plants will thus be prepared to withstand the prolonged gloom of the winter season. In the treatment of stove plants, it is surely an error to act independently of exterior circumstances. The season, and, in fact, variations of temperature, should be allowed in a certain and reasonable degree to exert their legitimate influence.

FRUIT FORCING.

Vineries.—It is a practice not unusual amongst amateur Vine growers to uncover their houses and expose their Vines immediately after the crop is removed. It is seldom the wood is sufficiently ripened, or the leaves arrived at a degree of maturity to make exposure a matter of no moment. When the Grapes are gathered at this period, sudden exposure to the full influence of the weather may speedily remove the leaves; but in such a case their utility is lessened, and the shock caused by suddenly stagnating the action of the sap can only be prejudicial to the Vines. In late houses, look over bunches every day, and remove all mouldy berries; and as prevention is always better than cure, see that the houses are regularly ventilated and kept dry. Canvas or close worsted netting strained along the front air sashes, and fitted under the moveable lights at the back of the houses, will be found highly useful both in preventing the entrance of moisture and excluding hornets and wasps. Let an active growing heat be kept up in late Melon and Cucumber pits. Sow French Beans for fruiting in November. The preparation of successional Mushroom beds must be attended to, and no neglect allowed in the management of forward beds.

KITCHEN GARDEN AND ORCHARD.

As soon as that portion of land intended for trenching falls in hand, let that operation be set about. Stiff, tenacious soils had better be ridged, so that a large surface may be exposed to the action of the weather. The late sowing of Brown Dutch Lettuce should be got in without delay. The cultivation of Watercress should not be omitted in the series of salads; a damp, shady border is not unsuitable, but wherever the advantage of a small stream is possessed, preference should be given; if the trimmings from the bunches are thrown in throughout the season, a regular supply of fresh young Cress may be obtained. Train and stop Tomatoes, and thin the laterals, but avoid stripping too many leaves. Let no further delay take place if Strawberry planting has been previously neglected. The preservation of wall fruit from wasps should be a constant care. Fruit gathering should be proceeded with as the different sorts arrive at due maturity; avoid the error of clearing a tree at once without reference to the general ripeness of the crop. Uncover Currants, if matted, occasionally during fine days.

FLORISTS' FLOWERS.

Polyanthuses.—We have just now a large collection of seedlings coming into flower, having bloomed previously very strong in the spring. *Auriculas* are also apt to do so, and we have seen valuable sorts lost by the stems being inconsiderately broken off; the part left has decayed, and in consequence the infection has been imparted to the heart of the plant. It is a far better plan to merely pull off the half formed pips, injury will then seldom ensue. Seedlings may yet be pricked out into store pans. *Pinks.*—Old plants intended to stand over the winter, for the sake of pipings next year, should be examined and straggling shoots be cut away, reducing them into a neat and compact form. Do not by any means delay planting out in beds, but at the same time pot a few pairs as a reserve in case of accident, or to renew those that may be destroyed in the winter season If seedlings have not already been put out, let these also be planted in beds 6 inches asunder each way. *Tulips.*—Offsets will be better in the ground than out; let the bed for their reception be prepared with equal care as the best one, bearing in mind that from the offset bed reserves are brought forward, and it is usually thought that maiden bulbs or those which have not previously bloomed, produce the best and clearest flowers. *Dahlias.*—We can add little to our instructions given during the few previous weeks. Earwigs are amazingly numerous and destructive this season, and every precaution must be taken to preserve blooms for an exhibition; visits after dark, with a lantern, will often enable the cultivator to destroy quantities of these marauders.

State of the weather near London, for the week ending Sept. 14, 1848, as observed at the Horticultural Garden, Chiswick.

Sept.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 8	10	30.085	29.864	66	49	57.5	S.W.	.00
Satur.. 9	11	29.919	29.829	67	54	60.5	S.W.	.00
Sun. .. 10	12	29.740	29.594	69	43	56.0	S.W.	.33
Mon.. .. 11	13	30.228	29.937	60	36	48.0	N.W.	.00
Tues.. .. 12	14	30.312	30.272	58	31	44.5	N.E.	.00
Wed.. .. 13	○	30.255	30.210	64	37	50.5	N.	.00
Thurs. 14	15	30.300	30.219	63	37	50.0	N.W.	.00
Average...		30.119	29.989	63.8	41.0	52.4		.33

Sept. 8—Overcast; fine; cloudy.
— 9—Fine; very fine; cloudy.
— 10—Cloudy and fine; overcast; rain at night.
— 11—Very clear; fine; clear.
— 12—Deep blue sky and low white clouds; fine; large halo round the moon; frosty.
— 13—Slight fog; fine; overcast. [overcast.
— 14—Partially overcast; dusky clouds and fine; clear; partially
Mean temperature of the week, 5½ deg. below the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending Sept. 23, 1848.

Sept.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 17	68.9	48.0	58.4	10	0.50 in.	1	1	2	2	2	8	4	2
Mon. 18	66.2	48.0	57.2	12	0.76	—	6	1	1	2	6	4	2
Tues. 19	66.9	46.3	56.6	10	0.60	3	2	3	—	5	6	1	2
Wed. 20	66.9	44.8	55.8	9	0.45	—	3	3	3	1	4	5	3
Thurs.21	66.5	46.5	56.5	11	0.30	2	1	5	1	6	3	2	2
Fri. 22	66.7	45.9	56.3	11	0.40	—	1	5	1	5	5	4	1
Satur. 23	65.8	45.7	55.7	11	1.21	—	5	3	1	6	4	2	1

The highest temperature during the above period occurred on the 17th 1843—therm. 84 deg.; and the lowest on the 17th, 1840—therm. 29 deg.

Notices to Correspondents.

TO OUR CORRESPONDENTS—May we beg it to be understood that *we cannot answer inquiries privately through the post.* We are ready to give any reasonable information in our power through our columns; but we cannot consent to the labour of writing letters.

ANNUALS: *Filix, &c.* Sow the following now, on rather poor soil, and give them a top dressing of manure in February, they will then flower freely in May and June: Nemophila insignis, Collinsia bicolor and grandiflora, Godetia Lindleyana, rubicunda and tenuifolia, Clarkia pulchella and alba, Eucharidium grandiflorum, Lupinus nanus, Gilia tricolor, Leptosiphon androsaceus and densiflorus, and Viscaria oculata. All other hardy annuals may be sown about the middle of March. No annuals will flower well in a greenhouse during winter: why not try Cinerarias, Chinese Primrose, Tree Mignonette, Hyacinths, Crocus, and similar things; they are more easily managed, and very cheap.¶

BOOKS; *G D.* Lindley's "Elements of Botany" and "Flora Medica."—*A R* asks to have recommended to her any French Dictionary which will give her the translation of scientific terms, botanical and others. Being engaged in a translation of a French botanical work, many of the technicalities of the same are not to be found! We should think that Lecoq's "Dictionnaire de Botanique" might answer her purpose. Can any one recommend a better? For ourselves we cannot advise any one to undertake the translation of a scientific work without well understanding the subject. — *Young Gardener.* You had better procure Paxton's "Botanical Dictionary" with its Supplement.

CARICA: *J C L.* Probably your plant is a female, or has produced only female flowers. It will require to be set like a Melon.

HEATING: *Inquirer.* The returning cold air flue is indispensable. It should open into the *lowest* part of the hot-air chamber, not into the ash-pit. There should be no communication between the ash-pit and hot-air flue. Will not a damper answer your purpose for stopping the loss of heat?

MANURES: *J T.* Sal ammoniac is muriate of ammonia; a good manure in small quantities, but like all such substances to be used with caution.

NAMES OF PLANTS: *S E N.* Pimpinella saxifraga.—*W V L.* What is called a Rhizomorpha; it is supposed to be the mycelium (or spawn) of some large fungal plant. These Rhizomorphas are common in mines, and have occasionally been observed to be luminous; are yours so?—*Curiositas.* Dahlia Barkeriæ, a distinct species.—*H H.* It cannot be named in the absence of flowers. Do not give Rhododendrons sea sand; silver sand, or any fresh-water sand will do.—*E K.* Clavaria coralloides.—*J W.* 1, Mentha sativa; 2, a starved state of Stachys sylvatica; 3, Ranunculus auricomus?; 4, Arenaria rubra; 5, Stellaria graminea; 6 and 7, wretched specimens, apparently Œnanthe Phellandrium and fistulosa. We know of no means of getting rid of fairy rings; what harm do they do? You will find Triptolomea in the Index of the "Vegetable Kingdom;" Trioptolomea is another mode of spelling the word.—*Admirer.* 1, Pteris longifolia; 2, P. cretica; 3, Sitolobium adiantoides; 4, Phymatodes vulgare; 5, Blechnum australe; 6, Doodia lunulata; 7, D. caudata; 8, Aspidium trifoliatum; 9, Lomaria Patersoni; 10, Phlebodium aureum; 11, Cyrtomium falcatum; 12, Lomaria borealis. *S.*—*B.* Vallota purpurea.—*Midhurst.* Casuarina equisetifolia. —*J S.* Nothoklæna tenera. *S.*

NUMBERS: *Sub.* The plan is well known and in common use in many places. It was first proposed in 1817, in the "Transactions of the Horticultural Society."

POTATOES: *J Walker.* We will report on your Potatoes in a week or two.

SCARLET GERANIUMS: *J. Barton.* For large single specimens in the borders, or for the centre of a clump, the Shrubland Superb is one of the best. Those of a medium size: Comet, Brighton Hero, Gem, Prizefighter, and Scarlet Compactum. Dwarf sorts: Tom Thumb, Queen, and Ingram's Dwarf. The scarlet you inquire about is not a true scarlet, but a Pelargonium having a near approach to scarlet in the brilliancy of its flowers.*

MISC: *Z.* The balls used for furnace fuel in Wales are made by mixing the small coal with as much clay as will hold it together, and then drying them in the sun. Small coal can be burned in this way with advantage.‡—*A J L.* The Pomegranate does best on its own roots. It is most readily increased by cuttings made of the half ripe wood. For Tobacco, see p. 592; and for mildew, the various articles which have appeared in our columns, in which all that is known respecting its cause has been given.‡—*Sub.* We do not see how a Picotee can be shown against a Carnation. The stripes in a Carnation are one of its greatest beauties, in which the Picotee is wanting. Besides, the qualities of the flowers are so different, that we are at a loss to discover how you are to institute a comparison between them.‡—*Nurseryman.* Pumpkins are boiled, baked, or used in soups.‡—*A Lady.* We make it a rule never to recommend dealers. Glass being cheap, we do not now recommend varnished linen as a substitute for it.‡—*J L.* Ammoniacal gas will kill your plants. We have not tried its effect on red spider.‡—*Inquirer.* Prune your fruit-trees in winter, and your evergreens in spring. Prune Rhododendrons after they have done flowering. Hollyhocks should be removed every season, and divided in the autumn.¶—*A B.* We have not a perfect set of the *Gardeners' Chronicle.* You can have the volume for 1847, price 30*s.* Each volume is complete in itself.

SEEDLING FLOWERS.

ANTIRRHINUM: *A Kent Florist.* No. 1 is quite a novelty; dark tube, lower front of the flower rich dark crimson, the upper part pure white; this being the only white in the flower, gives it a very singular appearance. The other seedlings are like those commonly raised, the best of which is No. 3.*

CARNATIONS: *W G.* A and F, rose flakes; white good, and striping bold; in form they are poor, and greatly surpassed by flowers of the same class in general cultivation; the general outline is too much broken, and they are deficient in fulness. B, scarlet bizarre, with clear white and good striping; the edges of the petals want smoothness, they are too serrated, and the third colour is absent in some of the petals. C, pink and purple bizarre; petals large and finely formed, smooth on the edge, and gently cupped; white good, colours strong and well defined; this promises to be a fine variety. D, white impure, and too pouncy. E, crimson bizarre, first-rate in form, petals smooth on the edge, well rounded, and gently cupped; white good, striping clear, bold, and decided; flower full, round in the outline, a good crown; a rich and fine variety.*

DAHLIAS: *An Old Subscriber.* No. 8, 1847, is a very pretty flower, well formed and good in colour; if of dwarf habit, well suited for the border; the flower is too small for showing. No 6 is also rich in colour and of good shape, but the petals are too much quilled.*—*J J.* Your seedling is but a second-rate flower; it is good in form, the crown being well up, circular, and with a good depth of petals; it is a colour in which some of our best flowers abound.*—*J S F.* Your seedling is first-rate in form; it has a good depth of petals, circular in outline, with the centre up; it is small, being under the average size, and the colour is not very attractive; the petals are rather small and flat. It would not bear comparison with the regular show varieties.*

FUCHSIAS: *Philemon.* Neither of your seedlings are sufficiently good for sending out; the larger variety is coarse in the sepals, which have also a faded appearance; the smaller variety is the better of the two, the pink corolla, with the scarlet tube and sepals is a singular combination.*—*C Y.* Your seedling is a small flower, and there is nothing about it sufficiently striking to make it acceptable to the public.*—*A Kent Florist.* Your seedling Fuchsia is very pretty, and to be admired for the diversity of colours; seed-vessels bright green, tube bright rose, sepals white tipped with green, corolla light bright purple; it is very pretty and attractive, and a free bloomer.*

SCARLET GERANIUM: *J C B.* Your seedling is a very good scarlet, with handsome foliage, but there are no new properties about it to distinguish it from those in cultivation.*

PANSIES: *S B.* Your specimens are very curious varieties; ground colour yellow, with the deep colour of the top petals and the broad margin on the lower broken into stripes of light and dark colour, somewhat in the manner of a flamed Tulip; they are very curious, and have a singular appearance.*

PETUNIAS: *Alpha.* We can form no opinion of your flower, owing to the condition in which it arrived. Flowers require to be packed up in some damp material; either damp moss or wetted blotting-paper: dry cotton wool is a very unfit substance to envelope such flowers as Petunias in, for being of a glutinous character it is with difficulty you can divest them of it.*—*X Y Z.* Both your seedlings are good in colour, and No. 1 richly veined, but both are defective in form, the segments of the corolla being too deeply indented.*—*J C.* The condition in which your flowers arrived prevents our giving an opinion of their qualities; the box was crushed quite flat, and the flowers could not be revived.*—*J M.* From your flower being badly packed, we are unable to say anything about it.*

PICOTEES: *G P S.* Your seedling, No. 12, a light-edged purple, is a flower of good general form; guard petals large, stout, finely formed, and gently cupped; crown well filled and elevated; a very promising flower, barring very slight, and the edges tolerably smooth.*—*J C.* Your seedling, a light purple edge, is deficient in the size of the guard petals; but this defect may not be constant, as they appear to have received some injury; there is also a slight degree of roughness on the edges of the petals; in other respects the flower has good qualities, the petals are smooth, of good substance, free from barring, and slightly cupped.*

VERBENAS: *G B.* Your seedling arrived in bad condition; we could discover no novelty either in colour or marking.*

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those numerous correspondents, the insertion of whose interesting contributions is still delayed.

MARY WEDLAKE AND CO.'S HORSE AND STUBBLE and HAY-RAKE, of superior workmanship, 2*l.* 9*s.* Linseed Crusher, 11*l.* 11*s.*; small ones, 6*l.* 15*s.*; ditto, doing Beans, Linseed, and Oats, 10*l.* 10*s.* THRESHING MACHINES, doing upwards of 25 loads of Wheat straw per day, 60 guineas. MARY WEDLAKE and Co.'s CHAFF-CUTTING MACHINE, 200 to 300 bushels a day, price 7*l.* 7*s.* and 5*l.* 5*s.* Horse-hoe, Dressing Machine, Turnip Cutter, Turnip Drill, Stubble-rake, Oil-cake Breakers, Bean and Oat Crushers, Subsoil Plough, Double Field Roller, &c.—MARY WEDLAKE and Co., 118, Fenchurch-street, opposite Mark-lane.

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SMALL GARDENS, BEDS, OR PLANTS AND FLOWERS IN POTS,

It is also retailed for such purposes in neatly done up tin canisters, at 1*s.*; double-sized ditto, 1*s.* 9*d.*; and treble ditto, 2*s.* 6*d.* each; and likewise in compact wooden packages, containing 1 cwt., at 1*l.*; ½ cwt., 15*s.*; ¼ cwt., 10*s.*; and ⅛ cwt., 6*s.* 3*d.* each, packages included.

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The Agricultural Gazette.
SATURDAY, SEPTEMBER 16, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.
FARMERS' CLUB.—Sept. 29: Stranraer.

IT appears that the discussion, commenced before the English Agricultural Society at York, on THE BEST METHOD OF REARING CALVES, has not yet terminated. Mr. DICKINSON, of Whitehaven, has this week favoured us with the details of the plan of management which he has, for many years, adopted, and on several past occasions our columns have borne ample testimony to the interest which the subject has excited. Other agricultural periodicals, too, have communicated information in connection with the matter. Mr. SHAW, of Far Cotton, near Northampton, one of the speakers at the York Meeting, has lately written on the subject to the *Mark-lane Express*; and we the more readily call attention to his remarks, as they include far more than a narrow view of the mere details connected with it. The main topic of his letter is the superiority of arable to Grass lands for breeding, as well as for other purposes. The following are the conclusions at which he arrives; they have especial reference to the midland counties, in which he himself occupies land as a farmer. We give them in his own words.

"That if a man is so fortunate as to occupy a tract of real good Grass land, and he chooses to be a grazier (or, as I should call him, a speculator), let him be so; *but do not connect the making of beef on Grass land with farming.* The two systems are opposed to each other; the one is a stand-still, do-nothing system, the other is progressive, and when connected, little or no improvement follows; as profitable grazing requires a full-grown poor animal, whereas a farmer and breeder wants a young and fat one.

"That with beef at 4*s.* per stone live weight, there is not a profit for two men in one animal.

"That the midland are pre-eminently producing counties, by which I mean breeding and feeding counties, properties which the far-famed Norfolk and Lincolnshire do not nor ever will possess; *properties too valuable to be overlooked, which render them independent of, and superior to, other counties*, and require only the tempered judgment to embrace them (in proof of which I have the example and the authority of the late excellent and ever to be remembered Earl SPENCER, who stated that his young stock paid him more money per day for keeping than his feeding beasts): and the loss of them reflects a stigma on the system that reduces these counties to be dependent on the chance overplus of other counties.

"That the high mode of farming necessary on all large tracts of poor arable land, taken at comparatively low rents, and where they cannot breed, enables the occupier, by *making a profit on his manure*, to outbid the grazier in the store and undersell him in the fat market, both in quality of meat and price; in proof of which, also, beef is cheaper in Smithfield from January to July than from July to Christmas.

"That all the Grass land a farmer and breeder requires (except his mowings, which are always advantageous) is just so much as his cows and heifers, his ewes and his theaves, require to ruminate on, as breeding cattle cannot be kept too naturally.

"That every animal intended for beef should, from the moment it is calved until it is fit for the butcher, be kept under sheds and in small yards with full ventilation, but free from excess of either heat or cold, and fed on the *best of everything the farm produces.* First, new milk (never skim—that may be given to the cow calves), then hay and cake, Turnips and Mangold Wurzel, with Oat flour saturated with Linseed mucilage, and then Bean ditto, mixed with ditto, also with cut Clover and Rye-grass, &c., but not Grass the produce of old Grass land."

These are the principles which Mr. SHAW, as a tenant farmer in the midland counties, deems sound, and which he believes his brother farmers must act upon in order to keep pace with the times and maintain their position.

Mr. SHAW's method of managing calves, and Mr. WILSON's, in Berwickshire, are perfectly compatible with arable farming, and indeed are incompatible with any other. The results which the latter gentleman gives of his experience are conclusive of the excellence of his practice. His paper on the subject was published some years ago in the Transactions of the Highland Society of Scotland, and was reprinted in the *Agricultural Gazette* of July 22.

But it is more particularly as regards the ordinary modes of comparing Grass and arable farming that we refer to Mr. SHAW's letter. It is the habit to contrast the two as if their success depended on altogether different principles. The question is put as if it were more than one of mere selection of the crop to be cultivated; and as if permission to "convert" a Grass field necessarily involved an entire departure from all that assurance of continuous fertility which is supposed to be inseparably connected with the practice of depasturage. No such distinction between the two in reality exists. The systems of treatment proper for every kind of plant depend for their respective effects upon the soil, on precisely the same principles. If a crop, removed from the land, be suffered to extract from it more than was added to it by the cultivator, then deterioration is an unavoidable consequence, whether its produce be Grass or grain. And if, in addition to the treatment which all crops require, that be given which is necessary for each in particular—if, besides the removal of weeds and of stagnant water from the land, there be restored to it for every crop it has yielded at least as much of everything as was taken from it—fertility will be as permanent a thing on arable lands as it is on pasture.

And for the superiority of the former as the provider of food and of labour—of work for mind as well as for body—to which Mr. SHAW alludes, we need not add to what has already repeatedly been urged in our columns.

ON FIELD EXPERIMENTS WITH SPECIAL MANURES.

IN the lecture of Professor Johnston, "On the Present State of Agriculture in its Relations to Chemistry," delivered at the late York meeting, and now published in the "Journal of the Royal Agricultural Society," he particularly calls attention to the want of correctly ascertained facts in experimental agriculture, and expresses strong and pretty general suspicion of the accuracy of field experiments with artificial or special manures as hitherto conducted and reported, and implies that owing to the discrepancy of the results recorded on the subject, little or nothing is as yet ascertained with regard to the effects upon crops of different manuring substances. He says, "in nearly all cases of experiments with what have been called specific manures, the limits of natural differences in the crop on different parts of the same field have not been previously or simultaneously determined. One portion of the field has been left undressed, and the produce of that one part has been taken as the standard with which the produce of the dressed or manured parts was to be compared." In illustration of the errors to which we may be led by such a course, Professor Johnston quotes experiments in which considerably different amounts of produce were obtained in different parts of the same field without manure; the amount of produce on the unmanured plots in the cases referred to, reaching, be it observed, in one instance, to 7 or 8 tons of Turnips per acre, and in another, from 11½ to nearly 13 tons! We are equally convinced with Professor Johnston that the results of experiments conducted in the ordinary course of farming, and upon land yielding without manure the amounts of produce stated above, however useful they may be in many respects, are not fitted to be received in discussions as to the character of the conclusion indicated by the various rotation of crops, or of the special effects of different manuring substances. These questions can only be successfully grappled with, when field experiments are conducted with other views than those which can reasonably be expected to guide even the most intelligent practical agriculturist, unless he is somewhat experienced in the methods of scientific investigation.

In referring to the field experiments at Rothamsted, Professor Johnston does not exclude them from the charge he has made against the accuracy of experiments in general, and complains that good and fair conclusions are spoiled by the introduction of doubtful refinements. It is true that in several parts of his lecture he gives the weight of his sanction to some of the results of the Rothamsted investigations, and specially expresses his confidence in those of the laboratory, a compliment which we fully appreciate. Yet we as fully believe that, however far from his intention, the remarks he has made respecting the accuracy and trustworthiness of the field experiments, are well calculated to excite general distrust of them in the minds of many who are not at the trouble to judge for themselves. It must not, however, be supposed that we wish to claim more on behalf of our field results than is really due to them; the experience which we have gained in conducting them has brought to light many of their defects, and we know full well that the points which they serve to elucidate, constitute but a small section of the vast field of enquiry which the processes of agriculture open to our view. Yet, at the same time, we emphatically deny that the sources of error particularised by Professor Johnston as attaching to field experiments in general, either materially affect the results we have published, or have been neglected in the consideration of them. Our field experiments were not conducted in the ordinary course of culture, under the management of the merely "practical rent-paying farmer;" the previous condition of the land was particularly attended to; the dimensions of the plots were considerable; weights, measures, and numbers were carefully ascertained, and the operations were conducted with every possible attention to accuracy. On the other hand, their sole object was that of investigation; they were devised and superintended by those who are supposed to be "professional experimenters," the labours of the laboratory always giving place to those of the manure shed, the field, or the barn. Special attention was paid to the question of natural yield of soil, and labour was concentrated and applied regardless of economy of cost, over entire series at once, so as to insure uniformity of circumstance, to a degree which furnished a source of ridicule and amusement to the neighbourhood. We submit then, that if the field results given in the papers referred to are not to be received as facts carefully sought and accurately registered, those of the laboratory are as little worthy of confidence, if not even less so; for whilst the experiments of each kind have been devised and conducted with one and the same end in view, and under the same superintendence, those of the laboratory owe the whole of their interest to the field history connected with them, which, if erroneously observed or stated, renders everything worthless which is founded upon it.

Having felt it necessary to take some notice of the objections made by Professor Johnston, it may not perhaps be out of place to recall attention to the conditions under which our experiments were actually conducted, more especially as regards the previous condition of the land selected, and the amount of the produce on the unmanured portions, with the view not only of affording vindication of the results themselves, but as still further insisting on the necessity of more rigid methods, more accurate observations, and more careful consideration than are usually bestowed upon agricultural experiments intended or collected for publication.

It will be remembered that in the cases objected to by Professor Johnston, unmanured portions of land yielded 7 to 8, and even 11½ to nearly 13 tons of Turnips per acre. In our experiments, in the first year, 4½ tons, in the second 2½ tons, in the third only 15½ cwt. were obtained, and in the fourth a mere weed not worth weighing, the chemical characters of which are, however, of the highest interest: a small portion of this unmanured space is now yielding its sixth successive crop of Turnips, and whilst most of the plots around it have plants with leaves touching from row to row, those on the unmanured land, after more than eight weeks' growth, are less advanced than is usual at the time of singling out. There is also a plot in another part of the same experimental land which has been without manure during the last three years of the six, yet its produce is not to be distinguished from that of the one just mentioned. Here, then, we may surely assume that we have some legitimate criterion of the state of the land as to what may be called its exhaustion with reference to the Turnip crop, and we believe that with land in such condition, or rather without condition at all, we are not liable to fall into material error as to the natural

produce of the soil influenced by variety of season alone. The term "condition" we understand to imply that degree of capability which a soil may possess at any given time of yielding, besides the normal produce of the seasons, an amount attributable to the accumulative processes of culture to which it has been subjected. The natural yield of a soil, independently of condition as thus defined, will of course vary greatly according to its geological position and consequent chemical and mechanical characters, different soils yielding very different annual amounts of this or of that crop without manure, according to the peculiar balance of composition and other qualities which characterise them, and which may suit them to the functional peculiarities and relation to sources of growth of one plant rather than another.

It is possible that the soils yielding without manure 7 to 8 and 11½ to 13 tons of Turnips per acre, might be naturally adapted to yield an annual produce much greater than that obtained at Rothamsted. We have no doubt, however, that a large portion of the produce was due to what may be termed Turnip condition, which in a field previously under other crops is not likely to be equalised, and although it is possible that the differences observed were really attributable to hidden peculiarities in the natural soil in the different parts of the same field, we nevertheless presume to suggest that in cases where ordinary judgment is exercised in the selection of the land for experiment, the second or third year's produce of Turnips on the same plots will not betray any of the anomalous differences referred to. In the case of the Rothamsted Turnip experiments, the previous crops since manure had been Wheat, Clover, Wheat, so that the land might be considered to a great extent corn condition exhausted, though the fact that the produce was reduced from 4½ tons of Turnips in the first year to 13¾ cwts. in the third, and to almost nothing in the fourth, shows that there was still a certain degree of Turnip condition in the land during the first year or two of the experiments; and when we are convinced that owing to this circumstance our reasonings on the results are materially erroneous, we shall most cheerfully concede the fact. These facts were not, however, overlooked by the experimenters, and it will be found that special attention was drawn to them in the course of the remarks on the results. The field selected for the Wheat experiments was perhaps still less open to objection on account either of the degree or the inequalities of its condition. The previous crops since manure had been Barley, Peas, Wheat, Oats; so that the land might be pre-eminently considered as exhausted of corn condition and reduced to a state little dependent upon recent accumulations likely materially to raise the produce beyond that of the season and natural soil. And since supposing a difference in condition would induce a corresponding difference in produce, the four crops mentioned were well calculated to equalise the condition, so far as the growth of corn was concerned. We might, then, expect that unmanured plots in several parts of this field would not exhibit further differences than were really due to specialities in the natural soil itself. To avoid, however, the possibility of cavil on this ground, it is to be regretted that in the first two seasons of our Wheat experiments, there was in each case only one plot left unmanured; in the third, besides the plot usually unmanured, another was left in a different part of the field; and though the crops of the two plots had varied considerably in the two preceding years, they were at the harvest of 1846 as follows: Plot unmanured from the commencement, 17$\frac{13}{16}$ bushels; plot unmanured only in season 1845-6, 17$\frac{10}{16}$ bushels.

Although the produce of this field would thus appear to be pretty uniform, in different parts, with one and the same season, yet the yield of the constantly unmanured plot varied considerably in different seasons—a result which, we have endeavoured to show, is intimately connected with the climatic conditions of the season. The following is a statement of the produce of the unmanured land during several successive seasons:

Harvest—1844	.. ..	16 bushels.
„ 1845	.. ..	23 „
„ 1846	.. ..	18 „
„ 1847	.. ..	18 „

The fact that soils which experience has not distinguished in agricultural value should yield almost literally no Turnips, when unaided by manure, whilst the produce of Wheat, under the same circumstances, bears a large proportion to the average of the county under cultivation, we have particularly noticed in the papers which are censured for their "refinements," and perhaps the deductions to which we were led by these and others of the facts we have recorded regarding distinctive functional characters of different agricultural plants in a course of rotation, and their varying reliance upon the sources of growth, may have partly laid us open to the rebuke.

The details given above only refer, however, to the field results, as such, and to some of the circumstances which it is necessary should be duly considered in the conduct of all such enquiries, and we hope that however defective in design, in conduct, or in scope the Rothamsted field experiments may have been, these explanations may serve to regain for them at least the credit of being, as far as they go, facts carefully sought and accurately recorded, and not open to the special charges brought against some other experiments with which they have been classed. So much then for the results, for which simply as trustworthy facts we are willing to hold ourselves responsible. The conclusions adopted in the discussion of them we are at present as little disposed to repudiate or retract; yet, doubtless, they stand in a very different position to the facts themselves, and we would by no means desire others to adopt them, unless they see that they are sufficiently borne out by the results adduced in their support, that they are not indeed merely vague and hypothetical opinions. It was, however, our careful study not to advocate opinions of any important bearing at all otherwise than suggestively, unless we felt that we were fully warranted by facts in so doing; and if we have deviated from this course we shall be fully open to conviction, and not backward to acknowledge our error. Indeed there can be little doubt that our notions may stand materially modified or corrected, as new facts are established, and enquiry and discussion progress. We can readily understand that the past opportunities which Professor Johnston has had of observing or ascertaining the usual methods of conducting field experiments in agriculture, must have led him very seriously to doubt the general accuracy of published results, or their applicability to decide the questions in respect to which they are brought forward; and it may be that a conviction of the frequency and the important and prejudicial effect upon the advancement of our knowledge of improperly conducted experiments, has led him, in the absence of personal knowledge, to suppose that the Rothamsted experiments were subject to the general errors he has so usefully called attention to; if this be the case we are sure that he will feel that his having specially included our results in his charge is a sufficient excuse for us, in noticing his remarks. In requesting the insertion of these remarks, we must apologise for occupying the pages of a public journal with a subject somewhat personal. If the experiments we have published had been hastily undertaken and already brought to an end, we should not have thought it necessary to say a word in defence of them; but they are only part of a series, of which the greater portion have yet to be published, and we thought the remarks of Professor Johnston (though not so intended) would unfavourably influence the opinions of agriculturists, and lessen the effect which they would otherwise have in advancing the science of agriculture; *J. B. Lawes, and J. H. Gilbert, Ph. D., Rothamsted.*

REARING CALVES.

To the several systems of rearing calves you have been supplied with, allow me to add a variation, in the method I have practised about 20 years. From 20 to 30 years ago I suffered many losses annually, in the winter and spring, among the yearling cattle wintered in the houses and sheds, from black-quarter, otherwise inflammatory fever, and consequently found it necessary to change my system to that of wintering in the fields; and since the latter has been put in practice, not a calf has been lost in that complaint in the field. Two petted favourites only, during the 20 years, have been wintered in the house, and both have been carried off towards spring by the black-quarter.

I rear short-horn calves at all seasons of the year, or whenever one of suitable blood is dropped. Those coming from the end of August till about the middle of March are separated from the cows as soon as the dams have licked them—an operation of service to the calf and of harmless gratification to the cow—and fed on new milk solely for about three weeks, or according to the health and state of thriving. After that period a part of the new milk is substituted by a portion of skim milk, with a small quantity of boiled oatmeal or Barley-flour gruel, gradually increased, until in about three weeks more the new milk is in most cases abandoned, and the skim-milk continued till about three months old, mixed with the gruel, which is occasionally varied with crushed linseed. The skim-milk is gradually left off, and is replaced by Clover-tea—the calves at about three weeks or a month old usually learning to eat a little hay and Turnips. Towards spring, the older calves are turned into a dry and sheltered Grass field, for an hour or two, every mild day; and as soon as sufficient Grass comes they are sent off to pasture, according to age and weather, and remain till autumn on a very high and exposed situation, and generally do well. The calves dropped from March to August are fed by hand for a few days, and are then put to nurse-cows, giving each about four quarts of milk per day, and are suffered to run at Grass with their foster-dams on very high Grass land, and suckled in this way till about four months old, when the nurses are successively driven home and tied up on Italian Rye-grass, or other green food, a few days, till the feelings of attachment subside; and as soon as the calves are quiet again they are also successively brought down and put into the best Grass or aftermath the farm affords—the best of it not ranking equal to second quality.

A few of the youngest calves have the first run over the meadows, and other fresh Grass fields; followed by the older ones in one or two bands; alternated, in the early part of winter, with a few days' run on the young Clovers during frost, or when the weather is dry enough to prevent injury by treading. Thus the calves are kept on a continual march from field to field—the youngest in the van, the oldest in the rear; each division halting a week or 10 days, according to the store of Grass in the field, and the shelter afforded against the prevailing wind, and keeping an intervening field between each division, to allow the pasture to sweeten.

On account of the great waste attending foddering in the field, no fodder is given, except when the ground is covered with snow so deep as to prevent their grazing; because if once commenced the calves become uneasy, except when eating, and will run towards the labourers or others passing within sight in clamorous and continuous demand; and if not supplied often are sure to lose condition, and to become infested with lice. When the Grass gets short, or rather before it is short, usually about February, oilcake is given every morning in shallow troughs, at the rate of 1 lb. per day to each calf; and this is continued till a sufficiency of spring Grass comes.

On this system the calves are very healthy—seldom ailing anything, except in some seasons a little bronchitis in the early part of winter; and by the time they reach maturity, they attain a growth and size fit to rank with the first in the neighbourhood; *W. Dickinson, near Whitehaven, Sept. 7.*

LAND DRAINAGE.

The various articles on this subject which, from time to time, make their appearance in the columns of your useful Paper, are read by me with much interest, as such not only tend to enlarge one's own information, but, from their publicity and the discussions they give rise to, conduce in no small degree to the furtherance and ultimate perfection of that useful art—an art in its importance yielding perhaps to none, but which, whether as regards its principles or its practice, is, it must be acknowledged, yet very defective. With the matter usually contained in these interesting contributions, if I were to find any fault, it is that too many words are expended regarding the systems of drainage to be adopted, particularly the depth which drains should be cut, while the manual operations and practical parts of the subject, by which thousands upon thousands of pounds are sunk in the soil, are in a great measure overlooked. That the improvement should be effected on true scientific principles none can appreciate more than I do; but then this is only one of the several means necessary for its due accomplishment. Depth, it is now admitted by all intelligent drainers, will permit of no one fixed specification, but is entirely a case of circumstances. Fields are being drained every day upon the most correct principles, and yet from some fault or other in the execution of the work, the benefit expected, and which ought properly to have been realised, gives way to disappointment; and then we hear of any rather than the true cause attributed as the reason of the failure. Numerous instances occur wherein we are told that lands after being drained are found no better, but even in some cases to have been deteriorated by the operation—thus naturally inducing the belief that the drainage has been worse than useless; but if we will take means rightly to examine into all the particulars, we will discover it is not on account of the circumstance of the drainage that the land is not benefited, but from the imperfect manner the operation has been executed, that the deficiency actually arises and the real fault rests. Draining is an operation attended with great expense, and when it so frequently is followed by results such as those now noted, no wonder it should be productive of disappointment with certain parties, and enjoy less repute with many than from its merits it justly deserves.

It is to call attention to this important but little heeded division of the practice of the art that leads me now to come forward and offer my mite to the general fund for its improvement. I shall not at present enter into particulars, but if the matter is agreeable to you I may afterwards contribute a few short articles on the subject. Meantime I may observe that from my general profession as a land surveyor and drainer, and the appointment I hold as a government inspector of drainage, opportunities are afforded me of observing how works commonly are, or ought to be, executed, and of judging of their comparative efficiency and durability, beyond the ordinary means of most individuals to experience; *J. Duncan, Thornbank, St. Andrew's, N.B.*

THRESHING MACHINES.

It gave me much pleasure in reading the observations you lately made in your valuable Paper respecting threshing machines. I am something in the same way as yourself, trying to do a little public good, and therefore expect you will do me the favour in giving a place in your columns, to clear up the subject a little further. Beginning with the first on the list, the "Scotch threshing machine," whose history and faults you have described; the former so far in the right, the latter partly in the wrong. I shall, therefore, without pointing out the unfavourable charges which your respectable Journal has recorded, rather give you a simple statement of what a Scotch machine was in 1816, a complete threshing machine of that period, and one that I had charge of for three years; from this you will understand that I must have known something of its capabilities. It was driven by water, rated a six horse power machine, erected on a farm on the banks of the Tweed. The farm then kept six pairs of plough horses, and an extra pair for other work. There were something upwards of 300 Scotch acres of grain crop annually to thresh, and this was all done at short intervals, by three women and myself, during the winter half year, besides dressing the grain for the market. Having to wait for the water collecting in the damhead or reservoirs, we could only thresh when we had the power, which we generally had, four times in the week, going an hour and a half each time, that is, making about six hours' labour only in the week for one man and three women, in threshing 300 Scotch acres of grain crop in the season.

I cannot speak of threshing so many sheaves in the minute, because I or any other person might take sheaves for such a trial, that 90 of such sheaves might not make 30 of others; besides some corn is only 18 inches long in the straw, while others will be found upwards of 4 feet. But I can tell you this, Oats that gave 10 bolls or 60 bushels to the acre; such corn as this, we generally threshed off about 50 bushels in the hour. When the straw was short and plenty of water, I have repeatedly threshed off 80 bushels in the hour; on this speed, an additional hand, for giving up sheaves, is required. Having thus far shown you the results, I shall now venture to describe the machine. It consists of a six-horse power water-wheel, rollers of three different motions, with reversing gearing, a drum of four beaters, two shakers with four rakes on each, one of the rakes on each shaker instead of teeth, has a strong brush of bristles to sweep everything clean out. The drum strikes upwards and makes its first effective stroke 30° past the point, where it would have struck the corn at right angles, as shall be afterwards explained. The effective beating of the drum continues from the point mentioned, until it reaches 90°; at this point, straw and corn are thrown into the first shaker, both shakers revolve the same way and the reverse of the drum, both taking the straw under them, not the one taking it over, as you have stated. I never yet saw a shaker that carried the straw over it; all Scotch machines I ever saw, whether with one or two shakers, the straw was invariably brought out under, not over, either by shaker or shakers. Not so with the drum, for it is often made to strike downwards; but this motion is only applied to that class of Scotch Beaton machines, which are unworthy of notice. But I am digressing. There is a close screen under each shaker, for the grain to make its exit from the straw into the hopper of the winnowing machine; and when the straw parts from the shaker it slides down an inclined screen from a height of 10 feet; so that any particles of grain that may come out with the straw are in this last search completely separated; but so perfectly is the work done by the machine, that a bushel of grain could not be collected in the straw barn during the season.

I must here explain what a Scotch barn is. It consists of three separate divisions: 1st, the floor above the corn barn for the unthreshed grain; 2d, the straw barn; 3d, and last, the corn barn. The entrance to the unthreshed grain, and to all the granaries over straw barn, cart sheds, &c., is by the corn barn, by an inside stair with hand-railing. The straw barn has no entrance to these places, except the orifice, when the straw leaves the last shaker. The corn barn, when you enter it, appears destitute of all machinery; in a plane with the winnowing machine is the partitioning of the chaff receptacle, so that the place has something of the appearance of a tidy ball-room—such was the arrangement of a Scotch barn 34 years ago; since that date many improvements have been made in the combination of the barn and its machinery for the reduction of manual labour, and many other appendages of great service to the farmer.

I must now return to the "right-angle" affair, and beg to say that you have taken a wrong view of the action of the Scotch machine when you say the corn is struck at "right angles." I find I must quote a few lines from your Paper, as my illustration might not be understood without it. The passage is in your Paper of July 22, page 497, and runs thus: "The feeding-board also is directed towards the axis; it is also radial; it is horizontal and on the same level with the axis. The consequence of this is, that the corn, as it is passed through the rollers, receives blows exactly at right angles to its position."

It is my turn now to show that the blows are otherwise given, as will be readily perceived when I prove that the drum strikes not the corn until it has travelled 30° past the point it would have so done. To illustrate the matter, take that segment of the circle where the action of the beaters of the drum is required which includes a space of 60°; it is then found that the corn is beat round the segment of a circle, the chord of which cuts the plane of the corn going through the rollers; giving an offhand obtuse angle of 150°, or otherwise produce the chord until it cuts the tangent-level of the axis; the bisection then makes an angle of 30°, the complement of which is 150°. We must all submit to these facts, for we cannot humble the immutable laws of geometry.

As this reasoning without a diagram may appear a little abstruse, let the reader suppose a circle in which the drum moves to be divided into six equal portions, each portion will therefore contain 60°; now it is only in one of these where the effective power of the drum threshes out the corn. Now reader mark this. This effective section is, from the perpendicular to the axis of the drum, counting backward on the scale until you come to 30° for a left-handed machine, or count forward on the same index of the scale until you come to 150° for a right-handed machine, the point where the drum makes the first effective stroke when it has thus been irresistibly proved that the first blows of the drum can only take place 30° passed and distant from the right angled section. How then can it be said that the Scotch machines strike the corn at right angles? Absurd.

The next in turn are the English threshing machines. I shall make brief work of this, and if the English are satisfied that their machines are superior to the Scotch machine, it is to the English certainly an agreeable national gratification; but I will not allow the editor of the *Agricultural Gazette* to run away with the harrows so easily as he may have imagined, for I must tell him that I have travelled the principal corn growing districts betwixt the Thames and the Tweed, and, with the exception of Northumberland, and a few farms in Yorkshire and Lancashire, I never saw a threshing machine that a Scotch farmer would admit into his premises. The objectionable way in which I saw the barn system arranged, and the confusion which takes place in threshing, when straw, corn, and chaff are pell-mell bolted out together, would be ruinous to a Scotch farmer. The fact of the matter is, what can be done in Scotland by one man, three women, and its threshing machine, cannot be done by English machines of the same power with three times the number of manual assistants. The charge applies only to the English machines you have defined, for there are machines in England, and good ones, too, which, perhaps, you have never seen; but these can only be found north of the Tyne, and very likely this is beyond the circle of your agricultural inspection or observation.

I regret to state that nine-tenths of the threshing machines erected in Ireland are, from the bad constructions of the barns and incomplete machinery, made to produce the same unnecessary labour. When I question the millwright why he puts up such paltry machines, he says he could not do otherwise; for he had either to submit to see cut off all the appendages that constitute the complete machine, or otherwise lose the order. When I question the proprietors of having such machinery, they tell me they have got one of the very best threshing machines made from a Scotch model. So far true. But then the indispensable appendages which constitute the Scotch farmer's machine are awanting. "No, no," say they; "for we can thresh from 60 to 80 barrels of Oats in the day." Well, the more the greater is the evil; for, query, how many hands and how many days will it take to clear up this day's work? There lurks the poison of the English and Irish cut away machines. In the Scotch farmer's machine, when water, horse, or steam power is taken off, all is found finished, to the sweeping of the floors, for the last dressing of the grain; and in many cases it is all measured and sacked; sometimes part of it is even loaded and on the way to market, during the threshing operation. This I have got done repeatedly in Scotland.

Is it, therefore, not a strange circumstance that the gentlemen farmers of England and Ireland, who keep studs of fencers and turfers, cannot keep up stitch for stitch with the unassuming Scotch farmer, in his bleak, cold climate, in the above departments? Surely there must be something in the atmosphere of Scotland that gives the farmer there such a bias towards the choice of prudent plans. Would this not make a good case for chemical investigation?

The next and last class I shall notice is the "peg machine." You were quite right in the first description, only it is on the under cover of the drum in which the pegs are placed. The drum of course strikes downwards; the pegs are scientifically arranged; the series of blows are in regular succession, precisely the same as by any other cylindrical beater. You will now observe that your correction, at page 515, of your description of the peg machine in page 529, is in error. I have only to state that the peg machine is an excellent improvement. I have seen many of them making, made, and in operation; and, of all inventions yet produced, the peg threshing-machine requires the least power, and does the work speedily and efficiently.

I have drawn out this article to too great a length, but it is a subject that requires more than common-place consideration, therefore please excuse my prolixity; *James Hunter, Glenville, Co. Cork, August* 26.

ON THE CULTIVATION OF WHEAT ON THE SAME LAND IN SUCCESSIVE YEARS.

(The following letters appeared a year or two ago in the *Manchester Guardian.*)

LETTER I.—I promised to send you some details of my attempt to grow Wheat on the same soil year after year. These I now forward, and hope they may prove interesting. I was led into these experiments by reading Liebig's book on the chemistry of agriculture; for assuming his theory to be true, it appeared to me to be quite possible to grow Wheat on the same land year after year; as, according to that theory, the carbon, oxygen, and hydrogen, which constitute the great bulk of all cereal crops (both grain and straw), are supplied in abundance from the soil and atmosphere (or perhaps to speak more correctly, from the latter), and we have only to supply those inorganic substances which, however numerous, form but a small part of the whole weight of the crop. With the view of testing this theory, and hoping that I might be able to find out what were the elements which built up and connected the carbon, oxygen, and hydrogen together; or, in other words, which constituted fertility, I began, in the autumn of 1841, to experiment on a field which had been exhausted by a succession of crops, and which had just been cleared out of one of Oats. I chose an exhausted field in preference to any other, as the only one in which I could test the truth of the theory; it was very foul, being full of Couch Grass and weeds of all kinds: it was ploughed up and hastily pecked over, for the season was so unfavourable for cleaning the land (from the great quantity of rain that fell), and I was almost induced to abandon the experiment. Previously to sowing the seed, one fourth of the field was manured with a compost of night soil and coal ashes, at the rate of 40 tons to the customary acre (7840 yards) the remaining two fourths having the seed put in without any manure whatever. The winter was very unfavourable for the plant, in our cold wet soil; and, in the unmanured part of the field, many of them perished, and those that survived made very little progress, from having no manure at the roots.

Thinking it desirable to apply my experimental manures in moist weather, I waited [illegible] May, when I treated that part of the field which had not been manured (three fourths of the whole) in the following manner: I applied generally over [illegible], the rate of 2 cwt. to the statute acre, and to another portion, a weight of nitrate of soda over another fourth, leaving one-fourth entirely without manure.

The Wheat examined with the guano and nitrate of soda grew superbly, and the ears, [illegible] in the part manured with guano, were the largest I had ever seen; but when it came to ripen, it [illegible] the ear, and he [illegible] being exactly detected in [illegible] perfecting the grain. The crop [illegible] from the deposition of the [illegible] manured with nitrate produced to the statute acre [illegible] bushels of 60 lbs. each.

Guano [illegible]
[illegible]
Unmanured part [illegible]

I gave these details to show that the land was not exhausted late previously to the commencement of the experiment I am now going on to detail.

After the crop of 1842 was reaped, the land was immediately ploughed up, and the season being very favourable, it was [illegible] was sown (without any manure) about the [illegible] in October. After the Wheat came up it was [illegible] with a dusting of 1 cwt. guano, over the [illegible] (about 1 acre 3 roods), to keep the two [illegible] during the winter. In the spring, being divided into three portions, it was manured with the [illegible] of experimental manures, which were [illegible] by Mr. Blyth, of Church, near Accrington, who also analysed the soil and subsoil for me. [illegible] were applied about the [illegible] of April, and the [illegible] ment was still further varied by [illegible] each division with guano at the [illegible] the rate of 2 cwt. to the acre; but [illegible] to the crop, including the hundred weight [illegible] on in the autumn, did not exceed [illegible] cwt. to the [illegible], which was a very thin one in the spring, improved much by the application of these manures, but, when it came into car, it was allowed by all [illegible] to be the best in the neighbourhood; but the heavy rains of July caused it to lodge in the best part of the field, and there it was attacked by rust, and the sample is very indifferent. In addition to this drawback, there being very little Wheat grown in the neighbourhood of the farm, and this being more forward than any of the other fields, it was attacked by the birds as soon as the grain was formed in the ear. Notwithstanding all the efforts made to prevent them, they continued feeding upon it until it was cut; and it is a very moderate estimate of the damage to say, that they destroyed one-fourth of the crop throughout the field. That part of the field covered with manure No. 1, being the earliest, suffered most. There were patches of several square yards where there did not appear to be a single grain left; and wherever the birds took a grain from the middle of the ear, when in the milky state, the grains on each side of it appeared to grow more, but shrivelled up in the ear. I have little doubt that in this portion of the field one-third of the crop was destroyed. All this seems to reduce the experiment to little more than guess work; and it will, probably, be very difficult to persuade those who did not see the field when it was cut to credit this report of the devastation made by the birds; even when they are told that Cutherstone is a town of 7000 inhabitants and probably as many sparrows, and that apparently they were all assembled to feed in this field; and they became so accustomed to the good living they found there, that even when our neighbours' Wheat was fit to eat, they continued to favour this field with their preference to going elsewhere.

I estimate the damage on No. 1 at one-third; No. 2 at one-fourth; No. 3 at one-fifth. This was later than the others, and suffered more from rust than birds. The following are the results: from [illegible] yards manured with No. 1, there were obtained 1042 lbs. of Wheat, or 27½ bushels of 60 lbs. each to the statute acre; if we add half to this, as we assume that one-third was destroyed by the birds, it will give 41¼ bushels to the statute acre. The weight of straw from this portion was 188 stones 5 lbs., 14 lbs. to the stone. From 2856 yards manured with No. 2, 962 lbs. of Wheat were obtained, and 155 stones 9 lbs. of straw. This is equal to 27½ bushels per acre, or with one-third added for estimated damage, it is equal to 36 bushels per statute acre. From 2610 yards manured with No. 3, there were 1067 lbs. of Wheat, and 211 stones 7 lbs. of straw, or 33 bushels to the statute acre, to which if we add one-fourth according to the estimate of damage, it will be equal to 41¼ bushels per acre. It will be observed that this portion yielded a far greater weight of straw per acre than either of the others, and from the sort of manure applied it was expected that this would be the case.

No. 1 yielded straw at the rate of [illegible] stones per acre.
No. 2 .. ..
No. 3 .. ..

Many people may feel inclined to say all these apparent data are mere guesses, and that a crop may be made to do anything one likes, if they assume so much

for damage; but fortunately it is not all guess work. I have stated previously that I covered a part of each division with guano a fortnight after the application of manures in April, intending to see what advantage was obtained by the use of it; but, owing to the depredations of the birds, the portions of the first and second divisions manured with guano were not kept separate from those which were left without guano; but the third, being later, and therefore not so much injured by them, gave me an opportunity of ascertaining the effect. I measured off a land which had been so manured, and reaped and threshed it separately. From this land of 100 yards long, and 10 feet wide (3000 feet square), there was obtained 220 lbs. of Wheat, or 53 bushels of 60 lbs. per statute acre; and this was far from being the best portion of the field. I don't mean that it was not the best portion of the crop, but I mean that the soil is by no means so good there as it is in other parts of the field; as I have before stated, in the best parts of the field the crop was spoiled by being lodged by the rain, and subsequently attacked by rust. I communicate this to you in the hope that the publication of it in your Paper may be the means of stimulating others to try the same experiments.—*T. G., Clitheroe.*

The following is the account of the next harvest:

Letter II. — I trust that a short summary of the former experiments may not be out of place. These experiments were commenced in the autumn of 1841, after the field had been cleared of a crop of Oats, which had been a very bad one; the land being not only naturally poor, but foul and exhausted by long cropping. As the season was very wet, it was indifferently cleaned, and one-fourth of it manured with a compost of night-soil and ashes, and then the field was sowed with Wheat. Two of the remaining three-fourths were manured on the 6th of May, 1842 (the spring being a very dry one, no rain came until that day), one with guano, the other with nitrate of soda, each at the rate of 2 cwt. to the statute acre; and the remaining fourth was left unmanured. The following were the results at harvest:—

	Bushels of 60 lbs.
That manured with guano produced ..	27 per acre.
,, nitrate of soda ,, ..	27 ,,
,, night-soil and ashes ,, ..	32 ,,
Unmanured	19⅜ ,,

When the field had been cleared of the crop it was immediately ploughed up; and as the season was favourable, the land was well cleaned and sown with Wheat in October, 1842, without any manure, except 1 cwt. of guano, which was scattered over it when the Wheat was coming up. The field was divided into three portions, and in April, 1843, was manured as follows: No. 1, 90 lbs. of sulphate of magnesia, and 2 cwt. nitrate soda, to the statute acre; No. 2, with a compound from a manufacturer of chemical manures; No. 3, with 60 lbs. of silicate of soda, and 2 cwt. of nitrate of soda to the acre: and with the view of still further varying the experiment, a part of each portion was sown with guano a fortnight after the application of the chemical manures. The crop promised to be a very good one, but it was much plundered by the birds; and as the summer was wet it suffered also much from rust. Allowing for the destruction occasioned by the birds, the crop was estimated at—

41½ bushels in patch No. 1
36 ,, ,, No. 2
41½ ,, ,, No. 3

And in that part of No. 3 which was also covered with guano, it reached, by actual weight (not by estimate), 53½ bushels of 60 lbs. to the acre. Those patches in Nos. 1 and 2, which had guano put on them, suffered so much from the depredations of the birds, that no account was taken of them separately. [The above is a summary of the previous letter.]

The land was cleaned, and again sown with Wheat on the 3d October, 1843. It was drilled in rows, 7 inches apart, and at the rate of 2½ bushels to the acre. It is to the result of this crop that I now wish to draw your attention. Before sowing, the land was subsoiled to the depth of from 14 to 16 inches, except a strip of about 10 feet in width, down the middle of the field, which was left untouched, for the purpose of determining what were the advantages derived from subsoiling. If the advantage was merely that of thorough draining (for the field had not been thoroughly drained previous to the subsoiling), it was thought probable that this strip of 10 feet wide would be drained by the subsoiling on each side of it; but if, in addition to this, the Wheat plant derived more nourishment by striking its roots deeper into the soil, where that was loosened by the subsoil-plough, the crop ought to be better in the subsoiled than in the unsubsoiled part. The field runs over the ridge of a hill, and upon that ridge the soil is so poor and thin that it was deemed expedient to give it a slight dressing of coal-ashes or night-soil, from an idea that the plant would scarcely survive the winter, unless some stimulus were applied there; but the ashes contained little manure, and were only applied to the worst part of the field, covering about one-third of its surface. The Wheat was Spalding's Prolific: it came up evenly and well all over the field. It was hand-sowed with lime early in February, to the extent of about 24 cwt. of dry lime on the acre.

In order to ascertain the value of lime, and the proper quantity, I had the field uniformly covered with it, except one land, which was left entirely without, and the headlands, which had one three, the other six times as much lime put upon them as any other part. The field was also dressed with a chemical manure of the following ingredients on the 16th March, costing—

1½ cwt. nitrate of soda	17*s.* 6*d.*
1 cwt. impure sulphate of magnesia ...	5 0
⅔ cwt. silicate of soda	11 3
⅔ cwt. common salt	2 0
Mixing and applying it, say	2 3
Total per statute acre ...	40 0

Speculating on the probability of a dry summer, I gave it an extra quantity of manure; and think that when guano is used afterwards, as it was by me, the nitrate of soda might be dispensed with, which would bring the cost to 22*s.* 6*d.* per acre. I should prefer guano to nitrate of soda, because of the phosphates contained in the former. At the distance we are from the sea (about 30 miles), it would seldom be necessary to apply common salt, as the gales of winter generally bring as much as is needed; but last winter we had no high winds, and I thought that, where salt was applied along with the other chemical manures, the Wheat was more luxuriant than where there was none; but, owing to a misunderstanding of the instructions to that effect, the produce was not kept separate.

When the chemical manure was applied one land was left without, for the purpose of comparison. Guano was sowed on the land on the 29th March, at the rate of something less than 2 cwt. to the statute acre, one side of the field being covered with Peruvian, the other with African, and the land on which no chemical manure had been sowed was, half of it, covered with guano, and the other left without anything except lime; but as it was thought desirable to ascertain the value of the chemical manure, without guano, half of this patch was sown with the chemical manure in April, after the long drought of the last spring had thoroughly set in. A small patch was left without manure, to show the natural condition of the field, and to serve as a comparison both with the manured part alongside of it, and also with the condition of the field when the experiment commenced, in 1841-42, when the unmanured portion yielded only 19⅜ bushels per acre. This part of the experiment however was frustrated by the carelessness of the men who threshed out the Wheat.

The crop was a very good one throughout the field, but was evidently shorter and thinner where there was no lime, and also where guano was applied alone. It was best on the headlands, where more lime had been applied. The weather was exceedingly favourable until the Wheat was going out of bloom: but it then changed and the crop was beaten down by the rain, in some places so thoroughly that it never rose again; and from that time to the day it was reaped (the 21st August) there were not more than six fine warm days. This cold and ungenial weather would, no doubt materially affect both the quantity and the quality of the crop, the sample being only just fair.

On threshing out the crop I find the result to be as follows: where the guano and chemical manure were applied, but no lime, the yield was 49⅓ bushels of 60 lbs. per statute acre; where the land was left unsubsoiled it was 52½ bushels; where guano alone was applied it was 43⅓ bushels; where the African guano was applied it was 45 bushels; where the Peruvian was applied it was 52⅔ bushels: on the headlands, where three times the quantity of lime (or 3½ tons per acre) was applied, it was nearly 62 bushels, and where six times the quantity of lime (or 7 tons to the acre) it was 49⅔ bushels. I give this last result as it was ascertained, but do not consider it conclusive, for the Wheat plant on this headland looked quite as well as the other, until it went out of bloom, when from some unknown cause, it was partially blighted, an irregular patch, from a foot to a yard in width, and extending almost from end to end of the headland, becoming brown and parched, as if affected by lightning or some atmospheric visitation. With the view of making these results a little clearer to the eye, I subjoin the following tabular statement of the produce per acre, in the different parts of the field.

Bushels of 60 lbs. per statute acre.	
Guano alone	42⅓
Chemical manure alone	43½
Guano and manure, with 24 cwt. of lime to the acre, but land unsubsoiled	52⅔
Guano and manure, but no lime	49⅓
African guano, manure, and lime	45
Peruvian guano, manure, and lime	52⅔
Peruvian guano, chemical manure, and three times as much lime	62
Peruvian guano, chemical manure, and six times as much lime	49⅔
Average crop throughout the field	50

It may be as well to observe, that the total expense of manure, and of its application, to that portion of the field which produced 62 bushels per acre (including the guano and the additional quantity of lime used) was at the rate of 31*s.* per statute acre. Deducting the cost of the nitrate of soda, the utility of which, under the circumstances, I am inclined to doubt, it would have been 63*s.* 6*d.*

I consider these to be very favourable results, and as offering strong inducements to continue the experiment. I have accordingly had the land ploughed up and cleaned and it was again sowed with Wheat on the 9th inst. Having detailed the general results of the experiment, I beg to offer the following remarks upon some points in it, which seem to me to require a little elucidation. I consider the success of this experiment to be in a great measure owing to the use of soluble silica and magnesia; because, although there is an abundance of silica in the soil, my first crop showed very miserable results, the grain being ill-fed and poor, and the straw soft and discoloured, although the year 1842 was in this district very favourable for Wheat, the month of August being singularly warm and fine; but when I combined the nitrate of soda with sulphate of magnesia, as in experiment No. 1, in 1843; but still more when I combined it with the silicate of soda, as in No. 3 of that year, the straw became as strong, firm, and bright as need be desired; and this year, when both these salts are combined with nitrate of soda, common salt, and gypsum, I have not only good and bright straw, but also an abundant crop of Wheat. With respect to the lime used, it may be as well to state that the field had not been limed for many years; and although in a limestone district, showed a deficiency of lime on analysis. The soil is a strong loam, on a brick clay subsoil, in which there is little or no lime, although the strong clays which form the subsoil in a great part of the district abound in it, containing from 20 to 30 per cent. of carbonate of lime. I had always believed that lime was used in great excess in this neighbourhood, and had, in fact, an idea that its good qualities were overrated, inasmuch as it does not enter into the composition of the plant, except in very minute proportion; but last winter I saw a paper (by Mr. Briggs, of Overton) on the possibility of growing Wheat on the same land year after year, in which the utility of lime in preventing rust was incidentally touched upon. I also saw Liebig's letters, explaining the action of quicklime in liberating potash from the clay; and then I considered it very important to ascertain the proper quantity to be applied. The quantity required to decompose the phosphate of iron was not great; and assuming Liebig's theory of its action in liberating potash to be true, it seemed to me that an excess of lime would permanently impoverish the land; for, supposing that the crop required 100 lbs. of potash, and as much lime was applied as liberated 500 lbs., what became of the 400 lbs. which did not enter into the composition of the plant? Was not a large portion of the 400 lbs. washed down the drains by the rains, and so lost for ever? Perhaps the absence of lime in this field accounts for its beneficial action in the experiment just detailed; but if my supposition is correct, that any excess of potash which may be liberated from the clay by the use of quicklime (that is, any more than may be required to perfect the crop), is washed down the drains, and thus the land is permanently impoverished by the excessive use of lime, it behoves landed proprietors to ascertain what is required, that they should take care to apply no more than is necessary. This caution is most particularly needed in this neighbourhood, where lime is cheap, and where the opinion is prevalent that the more there is applied the better it is for the land, and where it is common to apply 10 or 12 tons to the acre.

I have stated above that chemical manure was applied to a small portion of the field after the setting in of the drought in April. The action of this manure showed that a good thing may be very injurious, if applied at an improper time; for although it produced a stimulating effect on the plant immediately after its application, there was too little moisture in the land to dissolve it thoroughly, and thus enable the plants to appropriate it, until the rain came, about the end of June, when the Wheat had been in flower some time; but the stimulus was so great that all the plants threw up fresh stalks (from the roots), which were in flower when the Wheat was cut, and it was then found they had not only impoverished the plants, but had prevented the grain from ripening. This was the case not only in the experimental field, but in several others also, when the chemical manure was sown after the setting in of the drought.

When the field was sown with guano, it was thought desirable to cover one part of it with the African, and and the other with Peruvian, for the sake of comparison; but as the African did not appear to produce the same stimulating effect as the other, 50 per cent. more was applied, that the cost might be equal (the Peruvian cost 10*s.*, the African 7*s.* per cwt.); but as this latter application of the African guano was made when the Wheat was just shooting into ear, the same objection applies to the experiment which does to the chemical manure applied after the drought had set in, namely that there was not sufficient moisture in the soil to dissolve it thoroughly, until the plant was too far advanced to benefit by it, and therefore its failure would be no proof of the value of the African, as compared with the Peruvian, which was the object of the experiment. It is true no bad effects followed the application, similar to those produced by the misapplication of the chemical manure in dry weather. Yet, if soluble salts, like the latter, did not find sufficient moisture in the ground, when applied in April, there is reason to suppose that the former would not do so when applied in May.

I regret the failure of the experiment without any manure, as I think the result would have shown satisfactorily that the land is so far from being impoverished by this system of cropping, that it is improving every year. I think, however, that this is shown by the produce of the land manured with guano alone. In the first year's experiment the produce from guano alone was 27 bushels per acre, and both straw and Wheat were very indifferent in quality. This year the produce from guano alone is 42⅓ bushels; and although neither straw nor Wheat are so good as upon the adjoining lands, they are both very much better than they were in 1842. It will be observed that the result from the unsubsoiled portion is very good; and if nothing more were said about it, people would be led to conclude that there was no advantage in subsoiling. But this, in my opinion, is a great mistake; for, to say nothing of the advantage which the unsubsoiled portion would derive from the drainage which it received from the subsoiling

on each side of it, I found when the field was ploughed up this autumn, that whilst the unsubsoiled portion was stiff and heavy, the subsoiled part was comparatively friable and loose, like a garden, and will, I expect, show its superiority in the succeeding crops.

It must be borne in mind, in reading these experiments, that we have here one of the most unfavourable climates in the kingdom for growing Wheat, from the excessive quantity of rain that falls,—three times more rain falling annually in the north of Lancashire than at York; and this no doubt is very prejudicial to the success of such a series of experiments as I have been detailing.

It has been objected to these experiments, that, allowing all to have been done which is here detailed, it leads to no important conclusion, for, although it may be practicable to grow Wheat every year in a small field like the one experimented on, it is not so on a large scale. But the objectors should remember that there is not the seed of a single weed sown with the manure; and therefore if the land is thoroughly cleaned and kept so by hoeing the crop in the spring, it will require very little labour to fit it for another. But I shall be better able to speak on this head next harvest, having sown Wheat on an Oat stubble with one ploughing. It is said there are no weeds in Chinese husbandry, and if they can eradicate them completely, so may we, if we adopt the same methods, and follow them up as perseveringly.

Again, admitting that it is not practicable to grow Wheat on the same land every year on a large scale, yet if we can double the crop in those years in which we grow it by the application of chemical manures (and the same manures are applicable to all cereal crops) will not that be a conclusion worth arriving at. That it is possible to do so is, I think, sufficiently shown by the results which I have obtained. What then may we expect when these experiments are infinitely multiplied and varied under the superintendence of skilful and experienced men, who will devote their whole time and attention to the subject? Will raising the average produce from 25 to 50 bushels per acre be the utmost limit to which improvement can be carried? I believe not.

In conclusion, I would urge on all owners and occupiers of land the importance of devoting at least a small field to agricultural experiments; as I think there can be no doubt that if these are carefully and systematically made and followed up by agriculturists generally, we shall be so far from heeding an importation of corn in average years, that we shall have a large surplus to spare for our neighbours.—*T. G., Clitheroe, Oct.* 12, 1844.

Home Correspondence.

Farm Capital.—I have read with great interest your Paper for the last two years, and my feelings upon the welfare of England for the future induces me to make a few remarks. The remarks of "Falcon" and others upon surplus labour are really of the greatest importance. There is no doubt upon my mind that if the land of England was cultivated, even one-eighth part of it, as the Rev. Mr. Huxtable's farm is, we should be an exporting country of grain. I wrote you, under the same signature as I now do, some time past, as to the capital necessary to take a farm and manage it according to the Rev. Mr. Huxtable's plan; this is necessary to be known, and I should like to see it through your Paper. Since I wrote you, I have made a calculation according to my own operations so far, and I find the cost about 40*l.* per acre, including everything to give a farm a fair start; this, of course, includes all necessary implements, cattle, &c.; and no man has any business to take or let a farm unless he can command a capital to work it with of from 30*l.* to 40*l.* per acre. I should like to see, through your Paper, what the Rev. Mr. Huxtable says upon this. The principal part of the farms in this locality are occupied by men whose interest has entirely been drawn from manufacturing concerns, and they have occupied land at high rents from Lord Scarborough and others, and have paid rents which they have obtained from working for manufactories, and now and for the last two years they are in the most miserable position, in consequence of the manufacturing getting more into machinery. There is one thing clear to me, after a lapse of a few years, unless some plan is devised for improving the agricultural position of the country, we most assuredly shall be done out. America is already holding out high temptations for emigration, and our best artisans are leaving us daily, in consequence of obtaining better wages and a less price for provisions; there is one thing quite clear to me that, unless the soil of England is better cultivated than it is, we shall be a beggared nation. Our wealth entirely depends upon our labour, and our labour cannot be better used than producing the necessaries of life. I saw a letter from a friend in America the other day, upon which I can rely, and he says (a working man), "I have got into a good situation, from 6 to 6, and one hour and a half off for meals. I dined the other day on a good leg of mutton, 9½ lbs., cost 17½*d.*; we can get good flour at 1*s.* 2*d.* per stone; sugar at 2½*d.*; good ham at 3*d.*, &c., and wages are good." He has engaged at 4*s.* 6*d.* per day in a manufactory, and he says the young women there earn from 4 to 6 dollars per week, which is from 18*s.* to 26*s.* per week, and that they go to work in silk veils, parasols, and silk dresses, and in many instances they are to be found owning small farms and their own houses. Now, if this be the case, I must truly say that old England will have to look sharp in her agricultural pursuits, or, as "Falcon" says, what will have to become of England in 1858. Now, there is but one way to proceed in the improvement of England, and Ireland especially, and that is to appoint agricultural inspectors to look over the land and see that it is properly cultivated, and, as one of your correspondents says, if a man does not farm his land properly, either owner or occupier, compel him either to do it or to give it up to those who will. Were inspectors appointed to superintend this matter, and a proper course of cropping got upon, there is no doubt upon my mind that we could manufacture both a sufficiency of produce, and goods of all kinds, to be independent of the whole world, but if we go till 1858 without looking into this matter, we shall be for ever lost. I may add, this year I have grown about 1 acre of Potatoes (after a Turnip crop last year with farm-yard manure) with lime, and my opinion is, had I given them about two-thirds more, I should not have had a diseased Potato in the whole lot. They are considered the best in the neighbourhood. I intend selling about 2 acres this and next month, and intend doing them entirely with lime, about 3 tons to the acre. How they answer I will inform you, and report progress; *Economist.*

Over Population.—We hear much of over population, and the country being burdened with poor; the cry has been raised and spread by those who have never given their serious attention to the subject. The land is not burdened with the working classes, but, on the contrary, they are the riches of the country. As far as my experience, and the result of my inquiries go, the more people the higher the land lets and sells for, notwithstanding our bad laws affecting the application of labour. In a conversation with a tenant-farmer in a monopolist parish, I told him that, notwithstanding the low poor-rates, I would rather occupy land in a more populous parish; he answered, "I know it; most of my labourers have more than two miles added to each end of their day's work, and I told my landlord he was wrong in pulling down the cottages; but he said he would not have paupers bred in his parish to burden the land." I know an ex-M.P. (thanks to Providence and a few good votes he is not so now, but he was when the present settlement law was passed), who has a parish of 1600 acres without a cottage. I recommended him to build some; he replied, "as long as I can get labourers from adjoining parishes I will continue to do so; my poor-rates are next to nothing, and I won't increase them." One can scarcely believe that in the 19th century a reformed House of Parliament has passed measures to foster these barbarous and injurious notions; the principle of our old settlement law was better; it was that of voluntary admission to a community for a consideration; an individual agreed to work for a certain period as apprentice or servant, and so gained his settlement. Now in these days of locomotion the serf is nailed to the soil on which he is born. In my opinion parochial settlement is bad altogether. A tenant of mine complained to me that his neighbours would not employ the labourers. One would not because the other would not, and the poor-rates would be very high. What was to be done? I said, "Employ as many as you can yourself, you have plenty of work that wants doing; there is the draining, for which I agreed to find tiles, set to work with that; you will get them put in on advantageous terms, and can pick the men." However, I went over some time after, and saw the draining and other work was still undone. "Oh!" said the tenant, "one would not employ the men because the other would not, and all that were worth having went to the railway, the work must be done when they come back." The men came back, but still the work was not done; one would not employ the men because the other would not. Oh! wise law that fosters these prejudices. You may change the law, but you cannot human nature. I assert that there is not one able-bodied man too many in the country; the wealth of the country will increase with an increase in their numbers, and proper laws for the distribution of their labour. Every man should be encouraged to take it to the best market; the disabled and infirm should be entitled to relief, from a fund collected on as broad a principle as possible; inducement should be given to increase the population of rural districts (at least the opposite should be taken away); it is here, and not in lanes and alleys, that heroes and men of worth, sound in mind and body, are bred. As it is, I am sure if I was to build half a dozen comfortable cottages, I should have the ill will of my neighbours; "What are you doing—increasing our poor rates?" and then a small proprietor runs up six or eight houses on a space not half large enough for one cottage and garden, gets good interest for his money, and is considered the public enemy. I again assert "there is not over-population;" you may point to the mass of wretchedness in our large towns; I answer, where there are numbers there will be vice; where there is vice there will be misery; no earthly power can prevent it, though much may be done to better the low condition of such places, and I wish the people were not so driven to the towns. You may point to some crowded rural parishes. Where you will find one overpeopled, I will find 10 underpeopled. You may again object, "We have done something for the working classes; and wise legislation has carried us through recent troubles." I answer, "It is to the patient perseverance and steady loyalty of Britons that you are indebted." The something remains still to be done; you may tell us one year there is too much work, and pass a 10 hours act; the next, there is too little, and talk of an emigration bill: but this is not the something. There must, for one thing, be a total emancipation of labour; for another, be a great change in the mode of conveying real property, by which the industrious man may stand a chance of getting a stake in the country, a piece of land on which to build him a dwelling, an Englishman's castle. In this he is totally prevented by the present conveyance laws, and still more must be done. But my pen must not run on, or you will say I should take up too much space. I have touched upon many subjects in this letter, each of which requires a separate essay from a hand far abler than mine. I hope they will receive the attention they at this time especially merit. I know I need not ask your aid in furtherance of anything you consider calculated to benefit the industrious man; *Georges.*

To Dry Damp Corn.—I observe in a late *Gazette* a paragraph signed "George Jennings," and headed, "To Dry Damp Corn." He expresses great regret that there is no process for drying corn artificially. Now, I beg to inform you that I exhibited at York Davies's and Symington's Desiccating Apparatus. This is a fair operation, with the greatest possible success, not only for that purpose, but for a vast variety of other drying operations, most useful and valuable in agriculture; *W. Bullock Webster*, 18, *Charing Cross.*

Berwickshire Agriculture.—I have to thank "A Berwickshire Educated Agriculturist" for his reply to my inquiries respecting the reason of not sowing Wheat on lea there, as practised in the south. I do not, however, perceive that your correspondent has assigned any satisfactory reason for its not being adopted with the same success as in the south, and, I believe, very generally throughout England. The period of lease, five shift course, and food of work people, being perfectly understood by me previous to my former communication. Neither of these appears to be a very satisfactory reason why the tenant should not crop his land with any particular crop at the period when it is most capable of doing so; and if Wheat is a heavy, scourging crop, as some consider it to be, the best time to sow it is when the land has had the longest period of rest, and best able to carry it, viz., after two seasons, one of hay, and the other pasture, and having four clear seasons without the same crop—the intermediate ones having only extracted from the soil certain foods and gases according to their own particular requirements, and each leaving behind other gases not suited to their development, with these views. I am still of the opinion that the practice of sowing Wheat upon lea is the most advantageous to the tenant's profits, and also enables him to sow his Wheat in the autumn, thus giving it the benefit of being brought to early maturity under the influence of a midsummer sun—a great consideration in the uncertain changes of a British climate, and especially in the south of Scotland, which is from three to four weeks later than the south of England. Your correspondent has not shown that Wheat will not succeed upon lea in these counties, which I was told it would not, when in Scotland—the verity of which I did not put much faith in. I should, however, be glad if your correspondent has experienced any similar results during the period of his education; *Amicus.*

Poultry.—I have read in some of your late Numbers articles giving and requiring information concerning the feeding of fowls: if the knowledge of the following method, which I adopted in India, is of any use to your readers, it is much at your service. I practised it there many years, and so successfully that it makes me very much regret that I have no facility for keeping fowls here, for if I had I should very soon be able to send you a couple which I should not be afraid to compare with any that Leadenhall Market can furnish, even though they were such as I have, a few times in my life, paid 9*s.* or 10*s.* a couple for to that very respectable tradesman Mr. Davis. The breed best adapted for the purpose we called the "Chittagong," the same, as far as I can see, as the "Malay," which is common in England. The fowl-house, or rather feeding-house, for only fattening fowls were permitted to be in it, was kept cool as possible (in Bengal remember) and almost dark. Each fowl had a separate pen; they were fed once, and only once a day with rice, boiled as rice ought to be boiled for Christians; not to a mash; but so that grain from grain should separate. The quantity to each fowl was about two ounces (before boiling). For the first three days to each was given about a tea-spoonful of "Ghoor," a coarse sugar—1½ teaspoonful of treacle would be an equivalent. This commencing with sugar was held to be very important; it cleansed the birds and disposed them to fatten; no water was given; neither was any chalk or gravel, both being unknown in the country. In about three weeks the fowls were generally fat. I never in England have seen finer than those I have killed within that time, not even my before-mentioned friend Mr. Davis's. If they did not fatten in three weeks, we supposed that they did not mean to fatten, but this was of rare occurrence, and proceeded, no doubt, from some ailment beyond my power of discovering: but, fat or otherwise, they were never tough. To boil the Rice in buttermilk is by far preferable to boiling it in water; let the fowls be as young as you can if of full growth. Many people run away with an impression that fowls fed on Rice will go blind; no doubt they do sometimes, and, feed them on what you will, under the same circumstances, they will go blind; it is dirt and sourness that cause it; how often do we see a trough loaded with meal food, sufficient for two or three days, placed before the unhappy prisoner in the pen, who cannot escape from it or seek other and sweeter food; when the fowls have done feeding, the trough should be removed, cleaned, and exposed to the air until the next day's feeding

time. At my factory in India the troughs were every afternoon thrown into a pond; there they remained until next morning, when, after an hour or two's sunning, they were returned to the coops; no blindness was known there; *Peter.*

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

Mr. Pusey, M.P., Chairman of the Journal Committee, has reported the final adjudication of the Prizes for Essays and Reports for the year 1848, by the Judges' award of the Prize of 50*l.* for the best Report on the Farming of the North Riding of Yorkshire, to Matthew Marmaduke Milburn, Land Agent, of Sowerby, near Thirsk, Yorkshire.

Calendar of Operations.

SEPTEMBER.

Berwickshire Merse Farm, *Sept.* 9.—Since last report we have been busy reaping, with 14 ridges of reapers. The Wheat is an average crop, and fine in quality; the weather has been favourable for cutting; *J. B.*

Dorset Farm, *Sept.* 12.—Since our last report we have been variously employed. Hoeing Turnips, which we have finished as far as can be done, although, owing to the wet weather, they are far from clean, but they promise to be a fair crop; and we have finished hay-making, which has been a very trying operation; a great deal of it is very bad. Good hay in this part of the country will be very scarce. Harvest is not quite over here, there being still some Barley to carry. The Wheat has been a little damaged, but not to such an extent as was anticipated. We have been digging Potatoes, and I do not think that the disease has made any progress among them recently; it does not appear to have lasted above a month. Those that were affected visibly have rotted; but those that appeared safe are keeping very well. We are now paring and cleaning Wheat stubbles for Trifolium incarnatum, which we intend to sow instead of Tares; pruning some hedges and rooting up others, mixing weeds and salt, driving dung and earth, making roads, &c.; *G. S.*

East Lothian Farm, *Sept.* 9.—We have had another week of excellent weather for harvest operations, and have made considerable progress in cutting down the crop, also carting to the barn-yard the remainder of Barley, likewise a good deal of Oats in good condition. Shearers' wages in the district are 7*s.* 6*d.* per week, with board and lodging. *L.*

Pembrokeshire Farm, *Sept.* 1.—The weather has now taken a favourable change, which allows harvest work to be proceeded with. Since we commenced on the 16th ult., there has been wet, stormy, and tempestuous weather, retarding operations greatly; but fortunately in this neighbourhood there is no scarcity of reapers, who are mostly women; their wages are, women 1*s.* 4*d.*, and men 2*s.* per day, without food. Each man binds and stooks to 6 women, and in this manner Wheat is ready for stacking in 5 or 6 days. Oats and Barley take double that time. The general way of harvesting corn in this country is, by what is called field mows, which contain about 100 sheaves, made up in the form of small stacks. Wheat, when cut, is allowed to remain in small stooks for a day or two; it is then put up in these mows, where it remains three or four weeks before being carted to stack; Oats and Barley are all cut with the scythe, and are left so for about a week, then they are bound and put up in mows until they are fit for stacking. Comparatively speaking this is a tedious operation, but is allowed on all hands to be the best way of harvesting corn in this precarious climate; however, I find no difficulty in securing crops of all kinds by stooking it, which is much easier done and answers the same purpose. Our Wheat was all carted to stack by the 25th ult. in good order. We have finished cutting Oats, and we are now at our Barley; Beans are nearly ready for the hook. Men and horses when not carting corn are preparing land for Wheat and carting lime for the same. Potatoes are now very much diseased, haulm quite black, tubers about one-third gone. Turnips are not making much progress, too much wet and little sunshine. Harvest is now general all over the country, and I believe an average crop; *J. H.*

South Devon Farm, *Sept.* 11.—During the past fortnight we have succeeded in bringing our harvest to a close, and have since been very busily engaged horse-hoeing and thinning our green crops. We work our horse-hoe with two horses, and set it as deep as we possibly can. This implement has this season been quite invaluable, as the sudden transition from wet weather to dry has rendered the soil so impervious as to cause a complete stagnation in the growth of Turnips and other green crops. Also threshing and otherwise preparing old Wheat for the market; *J. M.*

Stirlingshire Carse Farm, *Sept.* 9.—This week has been very changeable; we have nevertheless had a great deal of drought between the showers, which has not only tended greatly to prevent the grain being injured by the wet, but has allowed us to get on with the cutting of it, and the crops, as far as we have gone, appear to be both bulky in straw and the grain sound; *W. F.*

Notices to Correspondents.

Agricultural Gazette: *A Keen One.* We have no room at present; and at any rate, such arrangements cannot be made in this public way. They can only arise out of personal correspondence.

Judges: *A B.* It is not customary for the judges of farms, cottage allotments, &c., after they have awarded the premiums, to conclude their report with individual censure of the unsuccessful competitors. But it is right, for instruction's sake, that they should refer to erroneous *practice*, and mention it in terms of disapproval.

Pigs: *S H.* Mr. Harris, of Hinton, Berkshire; Mr. Moore, Coleshill, Berkshire; Mr. Hannam, N. Deighton, Yorkshire; Mr. Fisher Hobbs, of Colchester; Mr. Bowley, of Cirencester, &c.

Surrey Fowl: *C* says, if any of our correspondents would give information respecting Surrey fowl—their profitableness as stock, their qualities as layers and setters—it would be very acceptable to many.

Tail Disease in Pigs: *W Snowden.* The disease, if disease it may be called, is one of the consequences of domestication and very high breeding. We cannot suggest any remedy or prevention, unless it be crossing the breed with some hairy, long legged animal, such as the New Forest breed; but then we are afraid if you fat for profit you will exclaim that the remedy is worse than the disease; *W. C. S.*

Taper Drain Pipes: *T C W.* We never heard of them, as made by machine. If any one knows of such a manufacture, perhaps he will mention the particulars for you.

Markets.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Sept. 14.

Prime Mead. Hay	68s to 75s	New Hay	—s to —s	Straw	26s to 30s
Inferior ditto	50 65	Clover	70 105		
Rowen	40 54	New Clover	— —		

J. Cooper.

CUMBERLAND MARKET, Sept. 14.

Prime Mead. Hay	72s to 77s	Old Clover	95s to 105s	Straw	28s to 33s
Inferior	50 65	Inferior	70 90		
New Hay	50 65	New Clover	70 90		

Joshua Baker.

WHITECHAPEL, Sept. 14.

Fine Old Hay	68s to 75s	Old Clover	95s to 105s	Straw	26s to 30s
Inferior Hay	— —	Inferior	— —		
New Hay	50 63	New Clover	70 90		

COVENT GARDEN, Sept. 16.

The market is well supplied with Vegetables and most kinds of Fruit; but trade is dull. Pine-apples are plentiful. Hothouse Grapes are abundant; they are ticketed at 2*s.* a lb. The supply of Peaches and Nectarines begins to fall off; melting Peaches are nearly over. Melons are sufficient for the demand. Ribston Pippins and other dessert Apples are ticketed at 6*d.* to 9*d.* Pears begin to make their appearance; among them we remarked good specimens of Beurré d'Amalis, Brown Beurré, William's Bon Chretien, &c. Nuts are sufficient for the demand. Filberts fetch 9*d.* per lb. Oranges are pretty abundant: Lemons moderately plentiful. Among Vegetables, Carrots and Turnips are abundant and good. Cauliflowers, Broccoli, &c., sufficient for the demand. French Beans plentiful. Potatoes the same, but diseased, and so are Tomatoes. Peas are a little dearer. Lettuces and other salading are sufficient for the demand. Mushrooms are plentiful. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Fuchsias, Carnations, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 3*s* to 5*s*	Oranges, per 100, 10*s* to 16*s*
Grapes, hothouse, per lb. 1*s* 6*d* to 4*s*	— bitter, per 100, 8*s* to 16*s*
Peaches, per doz., 2*s* to 4*s*	Lemons, per doz., 1*s* to 2*s*
Nectarines, per doz., 2*s* to 4*s*	— per 100, 7*s* to 14*s*
Melons, each, 2*s* to 5*s*	Almonds, per peck, 6*s*
Plums, per punnet, 1*s* 6*d* to 2*s* 6*d*	— sweet, per lb., 2*s* to 3*s*
Apricots, per doz., 2*s* to 4*s*	Walnuts, per 100, 1*s* 6*d* to 2*s*
Apples, dessert, per bush., 4*s* to 7*s*	— per bush., 16*s* to 24*s*
— kitchen, p. bush., 3*s* to 5*s*	Nuts, Barcelona, per bush., 20*s* to 22*s*
Pears, per doz., 1*s* to 3*s*	— Filberts, per 100 lbs., 38*s* to 50*s*
— per half sieve, 6*s* to 10*s*	— Cob, per 100 lbs., 40*s* to 6*s*
Mulberries, per pottle, 4*d* to 6*d*	— Brazil, per bush., 12*s* to 16*s*
Figs, per doz., 1*s* to 2*s*	Chestnuts, per peck, 3*s* to 6*s*
Oranges, per doz., 1*s* to 2*s*	

VEGETABLES.

Cabbages, per doz., 6*d* to 1*s*	Onions, pickling, per hf sieve, 2*s* to 3*s*
Cauliflowers, per doz., 1*s* to 4*s*	Tomatoes, per punnet, 9*d* to 1*s* 3*d*
Broccoli, per doz, 6*s* to 9*s*	— per half sieve, 4*s* to 6*s*
Sorrel, per half sieve, 6*d* to 9*d*	Shallots, per lb., 4*d* to 8*d*
Potatoes, per ton, 60*s* to 110*s*	Garlic, per lb., 8*d* to 1*s*
— per cwt., 3*s* 6*d* to 7*s*	Radishes, per doz. bands, 6*d* to 1*s*
— per bush., 1*s* 6*d* to 3*s* 6*d*	— Turnip, do., 9*d* to 1*s*
Turnips, per doz. bunches, 2*s* to 4*s*	Artichokes, per doz., 1*s* 6*d* to 3*s*
Red Beet, per doz., 6*d* to 1*s*	Vegetable Marrow, per doz, 6*d* to 1*s*
Horse Radish, per bundle, 1*s* to 6*s*	Lettuce, Cab., per score, 1*d* to 1*s*
French Beans, per half sieve, 1*s* to 2*s*	— Cos, do., 9*d* to 1*s* 3*d*
Cucumbers, each, 2*d* to 8*d*	Mushrooms, per pottle, 1*s* to 1*s* 9*d*
Leeks, per bunch, 1*d* to 2*d*	— per bushel, 4*s* to 6*s*
Celery, per bundle, 1*s* to 1*s* 3*d*	Small Salads per punnet, 2*d* to 3*d*
Carrots, per doz., 3*s* to 6*s*	Fennel, per bunch, 2*d* to 3*d*
Spinach, per sieve, 1*s* to 2*s*	Savory, per bunch, 3*d* to 4*d*
Peas, per sieve, 3*s* to 5*s*	Thyme, per bunch, 3*d* to 4*d*
Marjoram, per bunch, 2*d* to 4*d*	Watercress, p. 12 small bun., 6*d* to 9*d*
Onions, per bunch, 3*d* to 6*d*	Parsley, per half sieve, 6*d* to 9*d*
— Spanish, per doz., 1*s* to 4*s*	— Roots, per bundle, 1*s* to 1*s* 6*d*
	Mint, green, per bunch, 2*d* to 4*d*

SMITHFIELD, Monday, Sept. 11.

We have not quite so large a supply of Beasts as on Monday last, still the number is considerable. Trade has recovered from the depression experienced on Friday; notwithstanding many inferior descriptions remain unsold. The number of Sheep is larger, and trade exceedingly dull, except for the choicest qualities, and for these late prices were with difficulty realised. Calves are more in demand, at an advance of about 2*d.* per 8 lbs., the supply being shorter. Good Pigs are in demand at higher prices. From Holland and Germany we have 925 Beasts, 4260 Sheep, and 104 Calves; from France, 136 Beasts and 16 Calves; and from Scotland, 200 Beasts.

Per stone of 8 lbs.	s	d	s	d	Per stone of 8 lbs.	s	d	s	d
Best Scots, Herefords, &c.	4	0	to 4	2	Best Long Wools	4	4	—4	6
Best Short Horns	3	8	—4	0	Ditto Shorn	....			
Second quality Beasts	3	0	—3	6	Ewes and second quality	3	8	—4	2
Calves	3	4	—4	4	Ditto Shorn	....			
Best Downs & Half-breds	4	8	—5	0	Lambs	4	0	—5	0
Ditto Shorn	....				Pigs	4	6	—5	4

Beasts—4051. Sheep and Lambs—27,730. Calves—252. Pigs—385.

Friday, Sept. 15.

We have again a large supply of Beasts, but the majority are foreign, and second rate; consequently there is no reduction in the choicest qualities. Trade is very dull for inferior, at about 2*d.* per 8 lbs. less money. The number of Sheep is also large, but the average quality inferior. Best descriptions, therefore, maintain Monday's quotations freely, but they are with difficulty obtained for second rate. We cease to quote Lamb, the season being over; what few now come hardly make mutton price. Good Calves average 2*d.* per 8 lbs. more than on Monday, and in some instances an advance of 4*d* per 8 lbs. is realised. From Holland there are 280 Beasts, 1740 Sheep, and 186 Calves; from France, 128 Beasts and 18 Calves; from Scotland, 100 Beasts; and 103 Milch Cows from the home counties.

Per stone of 8 lbs.	s	d	s	d	Per stone of 8 lbs.	s	d	s	d
Best Scots, Herefords, &c.	4	0	to 4	2	Best Long Wools	4	4	—4	6
Best Short Horns	3	8	—4	0	Ditto Shorn	....			
Second quality Beasts	2	10	—3	4	Ewes and second quality	3	8	—4	2
Calves	3	8	—4	6	Ditto Shorn	....			
Best Downs & Half-breds	4	8	—5	0	Lambs	....			
Ditto Shorn	....				Pigs	4	6	—5	4

Beasts—1185. Sheep and Lambs—9,680. Calves—456. Pigs—390.

HOPS, Friday, Sept. 15.

Messrs. Pattenden and Smith report that about 300 pockets of the new growth has arrived at this market, and are selling as follows: Weald of Kents from 60*s.* to 65*s.*; Sussex, 56*s.* to 60*s.* Duty, 205,000*l.*

MARK LANE, Monday, Sept. 11.

Messrs. Kingsford and Lay report that the supply of English Wheat from Essex, Kent, and Suffolk this morning was fair, and the condition being drier it was more easily disposed of on fully the terms of this day se'nnight. The value of foreign, either free or bonded, was well maintained, with an improved inquiry; floating cargoes of Polish Odessa bring 2*s.* to 3*s.* per qr. more money.—There were a few samples of new Barley at market, which sold at our quotations, quality pretty fair. The value of grinding is unaltered, as also of Peas.—Beans barely support late rates.—Oats are the turn dearer.—Indian Corn commands an advance of 1*s.* per qr.—The top price of Flour remains unchanged.

British per Imperial quarter.	s	s		s	s
Wheat, Essex, Kent, and Suffolk	46	60	Red	42	55
Norfolk, Lincolnshire, and Yorkshire	50	54	White	52	56
Barley, Malting and distilling, 30*s* to 34*s*	32	35	Chevalier	36	39
Oats, Lincolnshire and Yorkshire	23	26	Polands	21	24
Northumberland and Scotch	—	—	Feed	—	—
Irish	19	23	Feed	23	25
Malt, pale, ship	—	—	Potato	—	—
Hertford and Essex	—	—			
Rye	27	30			
Beans, Mazagan, old and new	35	38	Tick	36	40
Pigeon, Heligoland	38	44	Winds	—	—
Peas, White	34	40	Maple	38	40
			Grey	34	36

Friday, Sept. 15.

The arrival of foreign Wheat during the week has been fair, that of Flour and other grain small. The market this morning is firm for Wheat, and Monday's quotations are fully supported for all descriptions, but the business transacted is not large, buyers preferring to await the effect of paying duty, which they expect will take place next week.—Barley, Beans, and Peas sell slowly at our quotations.—The Oat trade is firm.—Flour is inquired after on speculation, but cannot be quoted higher.—Maize is held at 33*s.* to 34*s.* per qr., cost, freight, and insurance.

[In our circular of the 8th inst. we stated our conviction that the decline in the value of Wheat would be of short duration, and soon followed by a reaction. This opinion, notwithstanding the continuance of fine weather, has already been verified, and the different circulars throughout the country for the present week quote an advance varying from 1*s.* to 3*s.* per qr. Reports of the yield, even down the rapid destruction of the Potato crop, and a certainty that the importations from abroad can be but moderate during winter, leave no doubt that our present quotations must be well maintained during that period, and probably improved upon to some extent. There is a good demand for l. o. b. and floating cargoes. Polish Odessa is in fair request at 48*s.* per qr., cost, freight, and insurance, but no sellers of good quality. Dantzic and Konigsberg are offered at 52*s* to 56*s.* per qr, fine new 63—64lbs. at 60*s.* per qr. Dutch and Belgium, 49*s* to 53*s.* per qr, all cost and freight. New Pomeranian is purchaseable at 48*s.* per qr., weighing 61—62 lbs. per bushel. In Spring corn little alteration has occurred. On the Continent Barley has a tendency to decline, and new Saal and Rhine can now be bought for delivery free on board at 28*s.* per qr., the former weighing 50*s* lbs., the latter 52 lbs. per bushel. In the Baltic prices of new Wheat have declined about 2*s.* per qr.; in Genoa, Leghorn, and Marseilles, Polish Odessa Wheat is quoted by the last accounts at 40*s* to 42*s.* per qr, and freight 8*s.* 6*d.* to 9*s.* per qr: stocks light. In Ancona also, purchases have been made at 41*s.* per qr., f. o. b.; but there was no other than Roman shipping, and freights were 8*s.* and 10*s.* per qr. In Malta, where the qualities are inferior, prices vary from 35*s.* to 38*s.* 6*d.* per qr. for soft Wheat, and 25*s.* to 29*s.* per qr. for Indian Corn.]

Imperial Averages.	Wheat.	Barley.	Oats.	Rye	Beans.	Peas.
Aug. 5	49*s* 5*l*	29*s* 11*d*	21*s* 0*d*	29*s* 4*d*	35*s* 3*d*	34*s* 8*d*
— 12	50 11	30 1	21 8	29 7	36 0	35 2
— 19	51 0	30 3	21 5	31 11	37 9	36 3
— 26	52 3	31 2	21 11	30 11	38 1	37 7
Sept. 2	55 5	32 1	22 6	32 2	38 8	38 11
— 9	56 10	33 4	22 10	33 8	39 1	41 6
Aggregate Average	52 8	31 2	21 11	31 3	37 5	37 4
Duties on Foreign Grain	5 0	2 0	2 0	2 0	2 0	2 0

Fluctuations in the last six weeks' Corn Averages.

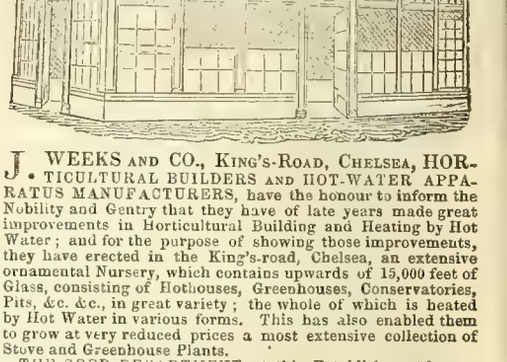
Price.	Aug. 5.	Aug. 12.	Aug. 19.	Aug. 26.	Sept. 2.	Sept. 9.
56*s* 10*d*	...	...	...	...	...	...
55 5	...	...	...	...	...	...
52 3	...	...	...	...	...	...
51 0	...	...	...	...	...	...
50 11	...	...	...	...	...	...
49 5	...	...	...	...	...	...

VINGOE'S IMPROVED PATENT SEED PLANTING AND MANURING MACHINE.

Manufactured by the Patentee, Penzance.

UNIVERSALLY allowed to be the best, simplest, and most accurate and effective Seed Depositor ever made. It combines all the properties of the DRILL, DIBBLER, and PRESSER, depositing any given quantity of seed, however small, to the acre. It is adapted to large or small enclosures, any kind of soil, over ridge or furrow, on level or hilly lands, and is also highly approved of for gardens. Particulars, with prospectuses, prices, testimonials, &c., sent free, on the receipt of two penny stamps to cover postage, by applying to the Patentee. Freight and carriage paid to any Railway Station within 50 miles of London, Bristol, or Southampton. Any further carriage, 1*l.* to 1*l.* 10*s.* extra.—Penzance, Sept. 16.

HORTICULTURAL ESTABLISHMENT, AND GARDENERS' REGISTER OFFICE.



J. WEEKS AND CO., KING'S-ROAD, CHELSEA, HORTICULTURAL BUILDERS AND HOT-WATER APPARATUS MANUFACTURERS, have the honour to inform the Nobility and Gentry that they have of late years made great improvements in Horticultural Building and Heating by Hot Water; and for the purpose of showing those improvements, they have erected in the King's-road, Chelsea, an extensive ornamental Nursery, which contains upwards of 15,000 feet of Glass, consisting of Hothouses, Greenhouses, Conservatories, Pits, &c. &c., in great variety; the whole of which is heated by Hot Water in various forms. This has also enabled them to grow at very reduced prices a most extensive collection of Stove and Greenhouse Plants.

THE SEED DEPARTMENT at this Establishment is conducted with the greatest care and attention. Samples of every variety are proved before sent out.

PLANS, ESTIMATES, AND CATALOGUES upon application.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as building and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

CHEAP AND DURABLE ROOFING.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

F. M'NEILL AND Co., of Lamb's-buildings, Bunhill-row, London, the Manufacturers and only Patentees of THE ASPHALTED FELT FOR ROOFING Houses, Farm Buildings, Shedding, Workshops, and for Garden purposes, to protect Plants from Frost.

At the Great National Agricultural Shows, it is this Felt which has been exhibited and obtained TWO SILVER MEDAL PRIZES, and is the Felt SOLELY patronized and adopted by

HER MAJESTY'S WOODS AND FORESTS,
HONOURABLE BOARD OF ORDNANCE,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE COMMISSIONERS OF CUSTOMS,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANIC GARDENS, REGENT'S PARK,

And on the Estates of the Dukes of Sutherland, Norfolk, Rutland, Newcastle, Northumberland, Buccleuch (at Richmond), the late Earl Spencer, and most of the Nobility and Gentry; and *at the Royal Agricultural Society's House, Hanover-square.*

It is half the price of any other description of Roofing, and effects a great saving of Timber in the construction of Roofs. Made to any length by 32 inches wide.

PRICE ONE PENNY PER SQUARE FOOT.

*** Samples, with Directions for its Use, and Testimonials of seven years' experience, with references to Noblemen, Gentlemen, Architects, and Builders, sent free to any part of the town or country, and orders by post executed.

☞ The Public is cautioned that the only Works in London or Great Britain where the above Roofing is made, are F. M'NEILL AND CO.'S

Patent Felt Manufactory, Lamb's-buildings, Bunhill-row, London, where roofs covered with the Felt may be seen.

The new Vice-Chancellor's Courts, at the entrance to Westminster Hall, were roofed with F. M'NEILL and Co.'s Felt about two years since, under the Surveyorship of Chas. Barry, Esq., R.A. Her Majesty's Commissioners of Woods and Forests are so satisfied with the result that they have ordered the Committee Rooms at the Houses of Parliament to be roofed with their Felt. Quantity altogether used, 24,000 feet.

Note.—Consumers sending direct to the Factory can be supplied in lengths best suited to their Roofs, so that they pay for no more than they require.

Every information afforded on the construction of Roofs, or any proposed particular application of the Felt.

Sales by Auction.

IMPORTANT SALE OF CACTI AND OTHER SUCCULENT PLANTS, by order of Messrs. Loddiges.

MR. J. C. STEVENS is instructed to announce for Sale by Auction, at his Great Room, 38, King street, Covent Garden, on Thursday, Sept. 28, at 12 o'clock, the whole of Messrs. Loddiges' Collection of Cacti and other Succulent Plants, amounting to upwards of 1500 specimens, comprising many rare and new species from various localities.—May be viewed the day prior and mornings of sale, and Catalogues had at Messrs. Loddiges' Nursery, Hackney, and of Mr. J. C. Stevens, 38, King-street, Covent Garden.

CAMELLIAS, AND A SMALL COLLECTION OF ORCHIDS.

MR. J. C. STEVENS will sell by Auction, at his Great Room, 38, King-street, Covent-garden, on TUESDAY, Sept. 19, at 12 for 1 o'clock, about 600 CAMELLIAS, cultivated by Monsieur Souchet, fils, and just received from his celebrated Nursery at Versailles; they comprise most of the old and favourite sorts, together with many new varieties, well furnished with flower-buds, and varying from 1 to 6 feet in height. May be viewed the day prior and morning of Sale, and Catalogues had of Mr. J. C. Stevens, 38, King-street, Covent garden.

TO GENTLEMEN, NURSERYMEN, FLORISTS, & OTHERS.

MESSRS. PROTHEROE and MORRIS are instructed to submit to public Auction, on the premises, Kingsland, near the Bull, on MONDAY, September 25th, 1848, at 11 o'clock, by order of Mr. Lynn, in consequence of leaving the premises, the whole of the NURSERY STOCK, consisting of Fruit Trees, Evergreens, Shrubs, Herbaceous Plants, &c.; also two small Greenhouses, five 2 and 3-light Boxes, Manure, Garden-pots, Utensils in Trade, &c.—May be viewed a week prior to the sale. Catalogues may be had on the premises, of the principal Seedsmen, and of the Auctioneers, American Nursery, Leytonstone.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE and MORRIS are instructed to submit to public Auction, on the premises, Lower Richmond-road, Putney, on TUESDAY, Sept. 26th, 1848, at 11 o'clock, by order of the Executrix of the late Mr. Elliot, the whole of the STOCK, consisting of fine Evergreens, Ornamental Trees and Shrubs, a large quantity of Standard and Dwarf Moss and other Roses, a considerable quantity of Bulbs, comprising Gladiolus, Liliums, Narcissus, Tulips, Ranunculus, Iris, &c.; Herbaceous Plants, several Glazed Lights, ten 1, 2, and 3-light Boxes, Iron Pump, Utensils in Trade, &c. —May be viewed a week prior to the sale. Catalogues may be had on the premises, of the principal Seedsmen, and of the Auctioneers, American Nursery, Leytonstone.

ROYAL PARK, BATTERSEA.—MARSH-LANE.
TO MARKET GARDENERS, NURSERYMEN, FARMERS, COWKEEPERS, GREENGROCERS, AND OTHERS.

MR. B. ANDREWS (Successor to Mr. John King), is favoured with instructions to sell by Auction, on the Premises of Mr. R. Spencer, on MONDAY next, Sept. 18, and two following days, at 12 o'clock, without the least reserve, the ground being required at Michaelmas next, the STOCK IN TRADE of a MARKET GARDENER AND FLORIST, comprising about 5 acres of Potatoes of the most approved kinds, principally Kidneys, in fine condition. Also, a large quantity of Rhubarb in a good state for forcing, a large assortment of Pot-herbs, also above 10,000 Moss, Provence, De Meux, China, and other Roses, large beds of Tulips, Jonquils, Pheasant-eyed Narcissus, Hyacinths, Lilies, Gladiolus, Crocuses, and other bulbous roots, fine yellow and other Picotees, 400 bushels of Globe and Reading Onions of a superior quality, above an acre of Colewort and Cabbage plants, together with the implements of trade, consisting of a strong market cart, and several light spring carts, a four-wheel chaise and others, two ploughs, harrows, harness, &c. Also, three fine milch cows, a powerful cart-horse, breeding sow, and store pigs, seven hives of bees, a stack of fine meadow hay, together with the household furniture and other effects. May be viewed three days prior to the Sale. Catalogues had on the Premises of Messrs. Clarke and Co., Seedsmen, Borough; of Mr. W. Clarke, Seedsman, Bishopsgate-street; and of the Auctioneer, South Grove, Peckham.

MAPERTON, SOMERSET.

TO BE LET, by Tender, from the 29th September instant, about 453 acres of good Corn, Orchard, and Dairy LAND, with two substantial Dwelling-houses, Labourers' Cottages, and all necessary and convenient Farm Buildings. The Estate is in good order, and worthy the attention of a spirited agriculturist. The Lands may be viewed at any time on application to Messrs. Davis and Vigers, the present tenants; and sealed Tenders may be sent to Messrs. Messiter, Wincanton, prior to the 29th instant.—Wincanton, Sept. 16.

MERRIOTT, NEAR CREWKERNE, SOMERSETSHIRE.

TO BE LET, and entered on immediately, on most advantageous terms, an Old Established and Well Stocked NURSERY, containing, by estimation, Ten Acres (more or less), situated in the above parish; together with an excellent Hothouse thereon, filled with choice Vines in full bearing, and valuable plants; adjoining which is a comfortable Cottage, with convenient Cart-house, Packing Sheds, Seed Room, &c.

Merriott is situated within a short distance of the populous towns of Ilminster, Ilchester, Yeovil, Crewkerne, Chard, Taunton, &c., to which latter place conveyances pass to and fro daily, in connection with the railways to all parts of England.

To view the above, application may be made to Mr. Andrews, at the Cottage on the Nursery; and further particulars and terms of letting may be known on application to Mr. Whitley, Solicitor, Wrington, near Bristol, Somerset.—Wrington, Sept. 16

GARDEN FARM.

WANTED TO RENT, a snug Cottage, with from 10 to 30 acres of rich Arable and Grass Land, with Yard and ample Buildings for House-feeding, Cows, Pigs, &c. It must be close to a Market Town or Railway Station.—Address to S., at the Office of this Journal.

TO NURSERYMEN, GARDENERS, AND OTHERS.

PARTNER.—The Advertiser is desirous of meeting with an active intelligent Person to join him in carrying on an old established Business in the above line in one of the leading thoroughfares within two miles of Covent-garden. The object of the Advertiser being principally to meet with a party capable of taking the active management, the Rent will be guaranteed, and only a moderate premium required.—For further particulars direct to A. B., Messrs. Clark and Co., Seedsmen, High-street, Borough.

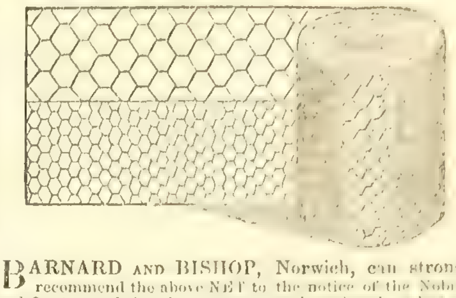
WIRE FENCING, ¾d. per square foot, less than 2-inch mesh, painted, in various widths from 1 foot to 6 feet wide; the 6-feet wide 1s. per yard run, or 6½d. per yard 1 yard wide. The Wire-work is made by powerful machinery, and is little more than half the price of the cheapest article of the kind in the market. It is worked in oil, and warranted not to rust or require paint half so often as the ordinary Wire-work. May be had Galvanised at 1½d. per foot. Also Wire Fencing, 4 feet high, 5d. per yard; Rabbit-proof Iron Hurdles, 6 feet by 3 feet, 6s. to 6s. 6d. each; 5-bar Iron Hurdles, 5s. 6d., with screws and painted.—Robert Richardson, 21, Tonbridge-place, New-road, London.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK AND TILE MACHINE COMPANY (James Smith, Esq., of Deanston, Chairman) invite attention to their IMPROVED BRICK and TILE MACHINES, which are to be seen at work at Alperton, and at the Company's Office, 193A, Piccadilly, from 10 A.M. to 5 P.M. Mr. Robert [illegible], who has been appointed Manager in the room of Mr. John Ainslie, will show the machines at the works at Alperton, which is within a mile of the [illegible] station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway, also at the Polytechnic Institution, Regent-street, London. All communications to be addressed to Mr. [illegible], Secretary, at the office of the Company, 193A, Piccadilly, London.

These Machines may also be seen at Mr. [illegible] [illegible]-walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill, 135, Buchanan-street, Glasgow; Mr. Robert [illegible], Mill-hill, Leeds; Messrs. Penny and Finch, Penkeridge, Staffordshire; Messrs. Drummond and Son, Dublin; and at Mr. John Connor's, Newtown Limavady, County Derry.

IMPROVED DOUBLE-MESH WIRE GAME NET.



BARNARD and BISHOP, Norwich, can strongly recommend the above NET to the notice of the Nobility and Gentry, as being the cheapest yet introduced; it has met with general approbation, and has been found most efficient in the preservation of young Trees, Gardens, &c., from the depredations of game. The extra strong 2-inch is the same strength as the stoutest article in the market. On inspection, it will be found better manufactured than anything else of the kind, and 20 per cent. cheaper. It is sent out in rolls of 50 yards, or any other length, at prices as under

				per yard—s.	d.
Double Mesh Net 24 ins. wide,	1⅝ & 3½-in. mesh,		strong	0	6¾
...	...	...	extra strong	0	[illegible]
...	2 & 4	...	strong	0	5¾
...	...	...	extra strong	0	7¼
Single Mesh	1⅝	...	light	0	7
...	...	...	strong	0	9
...	...	...	extra strong	1	0
...	2	...	light	0	6
...	...	...	strong	0	7½
...	...	...	extra strong	0	1[illegible]

The prices quoted for double net are for equal proportions of each mesh, which may be varied if required, thus, three parts fine to one of coarse, or *vice versa*, at prices accordingly; and it can be made any mesh and width to 7 feet.

A finer description for Aviaries, Pheasantries, &c., sparrow proof, 3d. per square foot; or, if made in copper, at 5d. per square foot. The Iron Wire Net is twice dipped in anti-corrosive composition, and sent free to London or Hull.

Patterns forwarded per post, free of expence.

PARIAN CEMENT used as a Stucco, cannot easily be distinguished from statuary or Parian marble. It is fit for all the purposes of that beautiful material, and does not crack, warp, or effloresce in any degree. The fine quality will incorporate with the most delicate colours; it is adapted to encaustic work, fresco, imitation of marble, and the most elaborate embellishment. So perfect are its setting or crystallising properties, that the coarse quality when applied to newly built or damp walls, may be immediately polished, painted, or papered, and rooms rendered habitable before the materials ordinarily used would begin to dry. Manufactured by Charles Francis and Sons, Roman Cement Works, Nine Elms, London.

PARR'S LIFE PILLS are acknowledged to be the best Medicine in the world.—This Medicine has been before the British public only a few years, and perhaps in the annals of the world was never seen success equal to their progress; the virtues of this Medicine were at once acknowledged wherever tried, and recommendation followed recommendation; hundreds had soon to acknowledge that PARR'S LIFE PILLS had saved them and were loud in their praise. The startling facts that were continually brought before the public at once removed any prejudice which some may have felt; the continual good which resulted from their use spread their fame far and wide, at this moment there is scarcely a country on the face of the globe which has not heard of their benefits, and have sought for supplies whatever might be the cost of transmission. The United States, Canada, India, and even China, have had immense quantities shipped to their respective countries, with the same result as in England—universal good.

The sale of Parr's Life Pills amounts to upwards of 30,000 boxes weekly, more than all other patent medicines put together. This simple fact needs no further comment; it tells plainly that the Pills of Old Parr are the best medicine in the world.

Beware of Spurious Imitations.—None are genuine unless the words "Parr's Life Pills" are in White Letters on a Red Ground, on the Government stamp, pasted round each box; also the fac-simile of the signature of the proprietors, "T. Roberts and Co., Crane-court, Fleet-street, London," on the Directions.

Sold in boxes at 1s. 1½d., 2s 9d., and family packets at 11s. each, by all respectable medicine vendors throughout the world. Full directions are given with each box.

EMIGRATION AND COLONIZATION.—IMMIGRATION being much required in AUSTRALIA, NEW ZEALAND, &c., and as the supposed expense of an OUTFIT often prevents individuals emigrating, S. W. SILVER & Co., CLOTHIERS, OUTFITTERS, and CONTRACTORS, having a large interest to maintain in those Colonies, have been advised to make known that they can supply a comfortable Outfit (including Bedding) for Male or Female Emigrants, from 4l. (net) upwards, or less 2l., if needful; and for Children in proportion, at No. 4, Bishopsgate-street Within (opposite the London Tavern), where Lists will be given on application.

S. W. S. & Co., being the makers of nearly every article in all the Outfits they supply, and as one of their objects is to promote Emigration, they neither receive from Agents, or pay the too usual commission to any person introducing Passengers to be fitted out, so that the Passage and Outfit may be procured at the least possible expense; but they will, on application, advise Passengers how to obtain the most economic passage to the Colonies. They have a Representative in every Australian Colony, to whom they ship Clothing monthly: thus they would forward small parcels free of expense.

Naval and Military Officers, Midshipmen, Cadets, Civilians, Ladies, &c., are outfitted as heretofore, at the Cabin-Passenger Outfitting Warehouse, Nos. 66 and 67, Cornhill, the Emigration Outfitting being exclusively at No. 4, Bishopsgate-street Within, London, and each branch at St. George's Crescent, Liverpool.

WHEAT SOWING.

THE LONDON MANURE COMPANY beg to [illegible]

LONDON MANURE COMPANY'S [illegible]

[illegible]

Peruvian Guano, [illegible] Agricultural Salt—Gypsum [illegible]

The London Manure Company [illegible]

[illegible]

PATENT FLEXIBLE [illegible] RAILWAY COMPANIES [illegible] FIRE [illegible] GAS COMPANIES, [illegible] AGRICULTURAL PURPOSES, &c.

THE PATENT VULCANIZED INDIA RUBBER [illegible] PIPE [illegible]

[illegible]

METCALFE and Co.'s NEW PATTERN TOOTH-BRUSH [illegible]

[illegible]

Caution.—Beware of the word [illegible] by some houses.

VALUABLE REMEDIES FOR THE [illegible]

DR. ROBERTS'S CELEBRATED OINTMENT, called the POOR MAN'S FRIEND [illegible]

[illegible]

To Messrs. Beach and Barnicott, [illegible] Executors to the late Dr. Roberts.

Gentlemen.—About 17 years ago I [illegible] knocking my leg [illegible] skin, and my sore [illegible] remedies, to no purpose [illegible] an out-patient of [illegible] Hospital in which I continued three months, and I was [illegible] the Bridgewater Infirmary [illegible] At length I was advised by my [illegible] Poor Man's Friend, which he said would cure me [illegible] cation, and after using three pots of [illegible] and two boxes of the Pills, I am happy to inform you [illegible] perfectly cured, and have been so [illegible] for 17 years. [illegible] for the benefit of those suffering in like manner.

I remain, your [illegible]

Taunton, Nov. 17, 1847. [illegible] MITCHELL.

Sold Wholesale by the Proprietors, Beach and Barnicott, at their Dispensary, Bridport; by the [illegible] Retail by a respectable Medicine Vendor in the [illegible]

Observe.—No Medicines sold under the above name can possibly be genuine unless "Beach and Barnicott, late Dr. Roberts, Bridport," is engraved and printed on the stamp affixed to each package.

DO YOU SUFFER TOOTH-ACHE?—If so, use BRANDE'S ENAMEL for filling the decaying spots, rendering decayed teeth sound and painless. [illegible] similar to that sold at 2s. 6d. Sold by [illegible] everywhere. Testimonials: "It has given me the use [illegible] my mouth, which luxury I had not enjoyed [illegible] years."—E. J. Macdonald, Bedford, Northumberland. "[illegible] the most effective and painless cure for tooth-ache I [illegible] I have no hesitation in recommending it [illegible]"—Capt. Thomas White, 12, Newington-crescent, London. "I have filled two teeth, and now I can use them as well as ever I did in my life. I have not had the tooth-ache since."—Abraham Collins, Northbrook-place, Bradford, Yorkshire. See numerous other testimonials in various newspapers. [illegible] which is strictly authentic. If any difficulty [illegible] occurs, send 1s. and a stamp to [illegible] Salisbury square, London, and you will [illegible] by return of post.—Agents wanted.

ROWLANDS' TOILET ARTICLES.—ROWLANDS' MACASSAR OIL, for the growth and for preserving and beautifying the human hair. ROWLANDS' KALYDOR for improving and beautifying the Skin and Complexion. ROWLANDS' ODONTO, or PEARL DENTIFRICE, for preserving and beautifying the Teeth and Gums. The especial Patronage of Her Majesty the Queen, H.R.H. Prince Albert, the Court, and Royal Family of Great Britain, and of every Court of the civilised world, together with numerous Testimonials constantly received of their efficacy, afford the best and surest proofs of their merits.

*** BEWARE OF SPURIOUS IMITATIONS. Some are offered under the implied sanction of Royalty and the Government Departments, with similar attempts at deception. The only genuine of each bears the name of "ROWLANDS'" preceding that of the article on the wrapper or label. Their name thus—A. ROWLAND & SONS, is also in red, on the wrappers of the Macassar Oil and Kalydor, and on the Government stamp of both the Kalydor and Odonto.—Sold by them at 20, Hatton garden, London, and by every respectable Chemist and Perfumer throughout the kingdom.

FREDERICK FAIRBANK, of Sible Hedingham, near Halsted, Essex, begs to inform the public that he is now sending out his WHITE CHAMPION WHEAT at 10*s.* 6*d.* per bushel; new sack, 2*s.* Carriage free to London. All orders must be prepaid.

F. F. would lay before the public two letters, from a number he has received.

"Durley Lodge, Bishop's Waltham, Hants, Aug. 24, 1848.

"Sir,—I have pleasure in stating that the Champion Wheat I purchased of you for seed has turned out remarkably well. It was sown on a light soil. I have had applications for it, but I think I shall reserve the whole for my own use, and sow it more extensively on a suitable soil.

"I am, Sir, your obedient servant, Thomas Leard."

"St. Mary's Church, Torquay, Sept. 1, 1848.

"Sir,—I was induced to try your Champion Wheat; I am of opinion it fully bears out its name, and the character I heard of it. Certainly it deserves to stand high in Class A. of the White Wheats. I tried it on three quite different soils, aspects, and elevation above the sea. I consider it a good cropper, stiff in its straw, for although I have a heavy crop of it, 6 feet high, I had none laid. It carries a fine square ear, set with 4. The light soil is the best.

"I am, Sir, your obedient servant, T. Le Evans."

DOMESTIC ECONOMY, EDUCATION, SANITARY REFORM, COTTAGE GARDENING AND FARMING.

THE FAMILY ECONOMIST; a Penny Monthly Magazine, is devoted to the promotion of the above objects among the Industrious Classes. Original articles on different branches of Domestic Economy, by the best writers; Social Sketches, Moral Tales, "Family Secrets," and a variety of valuable Household Recipes appear in every number of the work. This is one of the most useful and entertaining works published. Its moral principles are unexceptionable. Nine numbers are now out, and may be readily obtained, by order, of any Bookseller. Price 1*d.* a Month, 1*s.* a year.

London: GROOMBRIDGE and SONS, Paternoster-row.

On Sale, 8vo, Price 3*s.* 6*d.* to Fellows of the Society, and 5*s.* to others (or postage free, upon receipt of a Post-office order, price 5*s.* to Fellows of the Society, or 6*s.* 6*d.* to others),

A CATALOGUE OF THE FRUITS cultivated in the Garden of the Horticultural Society of London. Third Edition. Containing the Names, Synonymes, Colour, Size, Form, Quality, Use, Time of Ripening, and many other particulars concerning all the most important varieties of hardy Fruit cultivated in this country.

Sold at the House of the Society, 21, Regent street; and also by LONGMAN and Co., Paternoster-row; J. HATCHARD, Piccadilly; RIDGWAY, Piccadilly; RIVINGTONS, Waterloo-place; and by the principal Booksellers in all parts of the empire.

PICTORIAL HISTORY OF ENGLAND.—The Standard Edition of the PICTORIAL HISTORY OF ENGLAND is now completed (with the exception of an Index to the whole, which will make a separate volume). The work, which contains 6650 pages, is divided into Eight Volumes, which are constantly kept on sale, handsomely bound in cloth, price 6*l.* It extends from the earliest times to the end of the war in 1815, and partially to the end of the reign of George III.

A Continuation of the Pictorial History of England was commenced two years ago, and Two Parts, at 4*s.* each, have appeared, which bring down the Narrative to the Accession of George IV. The Publisher deeply regrets that unforeseen circumstances have interfered with the continued publication of this work; but he has now the pleasure to announce that he has made arrangements with Miss MARTINEAU for the completion of this undertaking. The publication of

THE HISTORY OF ENGLAND DURING THE THIRTY YEARS' PEACE

will be resumed on the 1st of October, and continued Monthly, in Half-Parts, at 2*s.* each, and in Parts, on alternate Months, at 4*s.* each. The whole work will be comprised in Eight Parts, at 4*s.* Parts I. and II. will be kept constantly on sale, so that the Subscribers to the Standard Edition of the Pictorial History of England, now completed, may proceed regularly with the continuation.

PICTORIAL BIBLE.—The INDEX is preparing for immediate publication, when the work may be had complete, in Four Volumes, cloth boards, price 3*l.*

London: CHARLES KNIGHT, 90, Fleet-street; and sold by all Booksellers in town and country.

THE POTATO DISEASE ARRESTED.—THE POTATO DISINFECTING POWDER, discovered and prepared by J. GREEN, CHEMIST, West Bromwich, is a dressing for newly-dug Potatoes, which, as proved to the satisfaction of several eminent agricultural chemists and others, last autumn, effectually preserves the sound bulbs, and arrests the progress of the disease in those attacked. Its application, which is extremely simple, costs only 6*d.* a sackful. Every Farmer and Potato grower ought to use it. Sold by all Chemists and Druggists in the United Kingdom, in packets at 6*d.*, 1*s.*, and 2*s.* 6*d.* each. Wholesale Agents, Langton, Brothers, and Scott, London.

IMPORTANT TO LANDOWNERS.

AN ACT OF INCORPORATION having been obtained by "THE LANDOWNERS' WEST OF ENGLAND AND SOUTH WALES LAND DRAINAGE AND INCLOSURE COMPANY," affording owners of limited Interest in Land the means of Draining, Irrigating, Inclosing, Erecting Buildings of a permanent nature on, and otherwise improving, their lands, and giving such Landowners of limited Interests the power to charge the inheritance with the value of the outlay in either of the following ways, viz.: By charging the value on the Inheritance absolutely, or to be repayable by 25 Annual Instalments of 6*l.* 10*s.* per cent. per annum.

This Company is now ready to receive applications for work to be performed under any of the provisions of their Act of Parliament, or on contract as heretofore; and from the extensive operations already in hand, they request parties, wishing to avail themselves of the benefits of the Act, to make early application.

For all further particulars, apply to

THOMAS MAY, Secretary, 9, Bedford Circus, Exeter.

PREVENTION OF COUGHS AND COLDS.—Persons liable to attacks of Coughs and Colds, will entirely escape them by the occasional use of that celebrated remedy

DR. LOCOCK'S PULMONIC WAFERS,

which have a pleasant taste, and never fail to give instant and permanent freedom from all irritation of the lungs. Upwards of 500 cures of Asthma, Consumption, Coughs, &c., have been performed by this medicine (and published) during the last 12 months. Sold at 1*s.* 1½*d.*, 2*s.* 9*d.*, and 11*s.* per box, by all Medicine Vendors. Agents, DA SILVA and Co., 1, Bride-lane, Fleet-street, London.

BEWARE OF IMITATIONS.

Unprincipled persons, Chemists and others, prepare counterfeits of that popular remedy, "Dr. LOCOCK'S PULMONIC WAFERS." Purchasers are therefore cautioned not to purchase any "WAFERS" unless the words "DR. LOCOCK'S WAFERS" appear in white letters on a red ground in the Government Stamps outside each box; without which all are counterfeits and imposition.

SUPERIOR SHEFFIELD PLATED DISH COVERS, with strong silver mountings and silver shields for engraving the crest or coat of arms.

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The Gadroon pattern	per set.	£11	0	0	£15	12	6
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The above sets comprise four Dish Covers, *viz.*, one 20-inch, one 18-inch, and two 14-inch.

A. B. SAVORY and SONS, Manufacturing Silversmiths, 14, Cornhill, London, opposite the Bank of England.

PROVIDENT LIFE OFFICE, 50, Regent-street, and 2, Royal Exchange-buildings, London.

Established 1806. Invested Capital, 1,230,000*l.*

Annual income, 140,000*l.* Bonuses declared, 743,000*l.*

Claims paid since the establishment of the Office, 1,678,000*l.*

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The following Table shows the amount of Bonuses added to Policies existing at the present time.

Policy No.	Date of Policy.	Sum insured.	Bonuses added.			Increase on original Insurance.	Total Sum payable, to which future Bonuses will be added.		
		£	£	*s.*	*d.*		£	*s.*	*d.*
21	1806	500	415	10	2	83·10 per cent.	915	10	2
521	1807	900	982	12	1	109.17 ,,	1882	12	1
1174	1810	1200	1160	5	6	96.68 ,,	2360	5	6
1895	1811	1600	1328	8	6	83.02 ,,	2928	8	6
3286	1820	2000	1906	13	5	95.33 ,,	3906	13	5
3392	1820	5000	3558	17	8	71.17 ,,	8558	17	8
4356	1822	3000	2541	3	6	84.7 ,,	5541	3	6

Prospectuses and full particulars may be obtained upon application to the Agents of the Office in all the principal towns of the United Kingdom; and the head Office, No. 50, Regent-st.

THE LIVERPOOL AND LONDON FIRE AND LIFE INSURANCE COMPANY,

8, Water-lane, Liverpool; 3, Charlotte-row, Mansion-house; and 28, Regent-street, Waterloo-place, London.

LIABILITY of the PROPRIETORS UNRESTRICTED.

MODERATE PREMIUMS in the FIRE DEPARTMENT.

GUARANTEED BONUSES and other peculiar advantages in the Life Department.

Policies, insuring the value of Leasehold Property at the termination of the Lease, are also issued.

Persons whose Policies with this Company expire on the 29th instant, are respectfully reminded that Receipts for the renewal of the same will be found at the Head Offices in London and Liverpool, and in the hands of the respective Agents; and those who, preferring the security offered by this Company, may desire to remove their Insurances, are informed that no expense will be incurred by such removal.

BENJ. HENDERSON, Resident Secretary in London.

SWINTON BOULT, Secretary to the Company.

Sept. 16, 1848.

THE MUTUAL LIFE ASSURANCE SOCIETY, 39, KING STREET, CHEAPSIDE.

Removed from 37, Old Jewry.

PETER HARDY, Actuary.

THE MUTUAL LIFE ASSURANCE SOCIETY, 39, KING STREET, CHEAPSIDE.

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This Society is established on purely mutual principles, with an annual declaration of profits, in which every member participates, according to the amount of premium contributed.

The bonus added to any policy may be converted into an equivalent reduction in the future annual premiums, at the option of the insurers.

The following Table exhibits the additions already declared up to the 31st December last, on the five oldest existing policies, effected in the year 1834, and on the five youngest policies entitled to participate in the surplus of 1847, viz., the five policies last opened in 1846.

Year in which effected.	Age at Admission.	Annual Premium.			Amount of Premiums paid without interest.			Sum assured	Total addition, 1847.			Total Payable in case of death before December 31, 1848.		
		£	*s.*	*d.*	£	*s.*	*d.*	£	£	*s.*	*d.*	£	*s.*	*d.*
1834	29	24	0	0	336	0	0	1000	244	16	0	1244	16	0
,,	42	71	13	4	1003	6	8	2000	608	0	0	2608	0	0
,,	50	90	13	4	1269	6	8	2000	690	16	0	2690	16	0
,,	47	82	11	8	1156	3	4	2000	657	16	0	2657	16	0
,,	21	9	12	6	134	15	0	500	109	10	0	609	10	0
1846	28	11	13	9	23	7	6	500	16	16	0	516	16	0
,,	34	27	8	4	54	16	8	1000	36	2	0	1036	2	0
,,	27	2	6	9	4	13	6	100	3	6	0	103	6	0
,,	48	8	5	2	16	10	4	200	9	0	0	209	0	0
,,	55	28	0	0	56	0	0	500	27	5	0	527	5	0

The usual commission allowed.

By order of the Board, PETER HARDY, Actuary.

ROSE CATALOGUE.

H. LANE AND SON have the honour of informing their patrons that their new Catalogue is now ready, and the prices much reduced. It will be sent, as usual, to all their customers. Strangers, by forwarding two postage heads, will be supplied with a copy. It contains notes of those best suited for pot culture, walls, and grouping in beds.

Great Berkhamstead, Sept. 16.

SOOT FOR SALE.—The Westminster and Marylebone Patent Ramoneur Company have on Sale a large quantity of PURE SOOT. For particulars, apply to the Secretary, at the Company's Principal Office, 22, Bedford-street, Covent-garden, London.

TO MUSHROOM GROWERS.

SAMUEL CHEESE begs to inform Gentlemen, Market Gardeners, Nurserymen, and the Trade in general, that his superior MUSHROOM SPAWN is now ready for delivery at 3*s.* per bushel, not to be equalled by any, and usually charged 7*s.* Any quantity can be safely packed and forwarded to any part of the known world, on receipt of a Post-office order payable at Charing-cross.—Address, Flora Gardens, Bayswater, London.

THE EDINBURGH REVIEW, No. CLXXVIII.—ADVERTISEMENTS for insertion in the forthcoming Number of THE EDINBURGH REVIEW are requested to be forwarded to the Publishers before Monday, the 25th, and BILLS by Wednesday, the 27th inst.

London: LONGMAN and Co., Paternoster-row.

Now ready, with a Map, price 6*d.*, or by post 10*d.*, the SECOND Edition of

THE EMIGRANT'S GUIDE to NEW ZEALAND.

Comprising every requisite Information for intending Emigrants. By a late Resident in the Colony.

Published by STEWART and MURRAY, 15, Old Bailey; and to be had of SMITH, ELDER, and Co., 65, Cornhill; and all Booksellers.

*** At the request of numerous Subscribers, the price of the TREE ROSE is reduced from 4*s.* 6*d.* to 3*s.* 6*d.* (post free.)

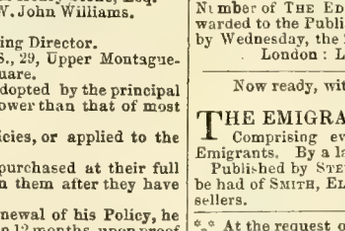
THE TREE ROSE.—Practical Instructions for its Formation and Culture. Illustrated by 200 Woodcuts. Reprinted from the GARDENERS' CHRONICLE, with additions.

Now ready, price 2*d.* each,

THE SPEECHES AT THE AGRICULTURAL MEETING AT DRAYTON. Reprinted from the "Agricultural Gazette" for general distribution, at 2*d.* each. May be ordered of all booksellers, and single copies will be sent free by post on three postage stamps being forwarded to JAMES MATTHEWS, 5, Upper Wellington-street, Covent-garden, London.

London: J. MATTHEWS, 5, Upper Wellington-street, Strand.

WIRE NETTING ONE PENNY PER SQUARE FOOT.



GALVANISED WIRE NETTING, TWO-PENCE PER SQUARE FOOT.—This article requires no painting, the atmosphere not having the slightest action on it. It has the appearance of silver, and maintains its lustre for many years, and is acknowledged to be the cheapest article ever brought into the market. It forms a cheap, light, and durable fence for the protection of Gardens and Shrubberies against the depredations of hares, rabbits, and cats; for Aviaries, Pheasantries, and to prevent poultry from straying, as well as for training creeping plants, it answers admirably.

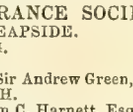
Large quantities of the Netting always kept in Stock, samples of which can be forwarded (free of expense) to any part of the United Kingdom. Prices as follows:

12 inches wide	3*d.*	per yard		30 inches wide	7½*d.*	per yard	
18 ,,	4½*d.*	,,	,,	36 ,,	9*d.*	,,	,,
24 ,,	6*d.*	,,	,,	48 ,,	1*s.*	,,	,,

Galvanised do. 1*d.* per foot extra.

Also Fenders, Fireguards, Fly-proof Dish Covers, Meat Safes, Wire Blinds, Garden bordering and arches, Flower Stands, and every description of Wire Work.

THOMAS HENRY FOX, 63, Snow-hill, London.



NEW ZEALAND COMPANY'S SHIP.—A First-class Passenger Ship will be despatched from the Port of London for the Company's Settlements in New Zealand, Monday, the 3d of October next.

Rates of Passage, Provisions included, viz.:

For each Person.	Chief Cabin. Guineas.	Fore Cabin. Guineas.	Steerage Cabin. Guineas.	Steerage Berth. Guineas.
14 years old, and upwards ..	45	25	20	15
7 years old, and under 14 ..	27	15	12	9
1 year old, and under 7 ..	18	10	8	6
Under 1 year old	0	0	0	0

The Company will appoint an experienced Surgeon, and provide Medicines, Medical Comforts, and an ample Dietary for each Class of Passengers.

For Freight, Passage, or further information, apply at NEW ZEALAND HOUSE; or to Mr. JOSEPH STAYNER, Broker, 110, Fenchurch-street, London. By order of the Court,

THOMAS CUDBERT HARINGTON.

New Zealand House, 9, Broad-street-buildings, London, 16th September.

CAPTAIN CHIOSSO (assisted by his Son) PROFESSOR OF FENCING AND GYMNASTICS at the UNIVERSITY COLLEGE, LONDON, and author of a treatise on Physical Education, respectfully begs to announce that he has Removed to 21, GOWER-STREET, NEW-ROAD, where he continues to treat cases of SPINAL DEFORMITY, CONTRACTION OF THE CHEST, DEBILITY, &c. &c. His system, for its simplicity and efficacy, is peculiarly adapted to the youth of both sexes, as well as adults. As it can be productive of no strain to the muscles, or over-exertion, it is on this account that it is recommended by the highest authorities of the Medical Profession.

Captain C. may be consulted on Tuesdays and Thursdays, between the hours of Two and Three.

Printed by WILLIAM BRADBURY, of No. 6, York-place, Stoke Newington, and FREDERICK MULLETT EVANS, of No. 7, Church-row, Stoke Newington, both in the county of Middlesex, Printers, at their office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the Office, No. 5, Charles-street, in the parish of St. Paul's, Covent Garden, in the said county, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY, SEPT. 16, 1848.

THE GARDENERS' CHRONICLE AND AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 39.—1848.] SATURDAY, SEPTEMBER 23. [Price 6d.

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Amateurs, hints for	646 c	Plants, herbaceous	640 c
Anemone japonica	657 b	— new or	639 a
Beans, water	648 b	Potatoes on hillocks	647 c
British Association	646 a	Potato crop	657 b 658 b
Calendar, horticultural	640 a	— disease	647 c
— agricultural	645 b	— dung, remedy for	658 a
Camellias, rule of	640 a	— and sulphur	658 a
Cattle, to buy feed	641 b	Pots, Scalvade, uses of	638 a
Cherries for a west aspect	641 c	Poultry, Cochin China	645 a—646 a
Corn, transmutation of	644 a	— weights of	646 a
Cotton	658 a	Pruning forest trees	657 a
Crops, reports of	641 a—643 a	Raspberries, to prune	640 c
Dahlias and wasps	648 a	Rhubarb	640 c
Egg hatching, artificial	645 a	Roses, climbing	640 b
Farms, small	642 b	Rose catalogues, rev.	639 b
Farming, hillside	644 a	Rotations, short	641 c
— experimental	644 a	Royal Caledon an Hort. Soc.	638 b
— Radnorshire	644 c	— South London Horticultural Society	639 a
Figs	638 a	Rye	645 a
Flax water as manure	647 c	Shoddy dung	644 b
Forest trees, to prune	657 a	Sheep, tool bolt in	645 a
Husbandry, new	641 a	Slugs	648 a
Kohl Rabi	644 a	Sowing, thin	644 b—646 b
Manure, flax water as	647 c	St. Clare, gardens at, noticed	639 b
Melons, cow post for	647 c	Sulphur, v. the Potato disease	658 a
Morphology	636 a	Trees, forest, to prune	657 a
Nelumbiums	657 c	Vagrants	638 a
Parasites	635 c	Vegetable monstrosities	636 a
Pears for a west aspect	640 c	Wasps and Dahlias	648 a
Phloxes, select	640 c	Yucca gloriosa	648 b
Plants new	649 a		

JOHN DICKSON begs to inform the growers of Carnations and Picotees that the Treatise on their Cultivation, by an Amateur, is now ready for delivery. In addition to instructions for raising and growing this beautiful race of plants, a Descriptive List of the best Flowers out, in their several classes, will be given, forming altogether an unerring guide to successful showing. Price 1s. 6d. To be had of JOHN DICKSON, Acre-lane, Brixton; and of Messrs. Warner, Seedsmen, 28, Cornhill, City. Forwarded to all parts upon prepaid application.

BECK'S SEEDLING PELARGONIUMS. J. DOBSON, informs the public that the varieties of 1845, 1846, and 1847, are now ready for selection, well established in 4-inch pots. Catalogues will be sent in exchange for two postage stamps.—Worton Cottage, Isleworth.

N.B. The Seedlings of 1847 will be sent out the first week in October.

PINE PLANTS.—About 60 Fruiting Plants of the Queen and other PINES, 70 Succession Do., for Sale at a reasonable Price, by applying to Jos. SALTMARSH, Nurseryman, Seedsman, and Florist, Chelmsford.

BEST HYACINTHS, ANEMONES, CROCUSES, &c., direct from Haarlem, at low prices.

HYACINTHS, superb sorts by name per dozen—10s. 6d.
Ditto ditto in colours, without name 5 0
ANEMONES, new large, double ... per dozen— 1 6
CROCUSES, many large sorts ... per 1000—21 0
Ditto, yellow ... ... ,, 15 0
Tulips, Ranunculuses, and every other kind of bulbous flower roots at lowest prices.

Messrs. JOHN SUTTON and SONS, having imported largely of the above roots, can offer them at the very moderate prices quoted. Carriage free to London, Oxford, or Bristol.

Reading Seed Warehouse, Reading, Berks, Sept. 23.

LANDSCAPE GARDENING & GENERAL IMPROVEMENT. MR. JAMES FRASER, LANDSCAPE GARDENER AND DESIGNER OF RURAL IMPROVEMENTS, respectfully informs his Friends and the Public that his Address, in future, will be 147, Strand, London; as well as 17, Lower Dorset-street, Dublin.

NEW ROSE CATALOGUE.

WILLIAM WOOD AND SON have the pleasure of announcing that the New Edition of their Descriptive ROSE CATALOGUE is now ready, and will be forwarded gratis on application. A Catalogue of Ornamental Trees, Shrubs, &c., will be ready in a few days.

Woodlands Nursery, Maresfield, near Uckfield, Sussex.

DOUBLE ROMAN AND PAPER WHITE NARCISSUS, 4s. per dozen.—The above Bulbs, the former of which is so justly esteemed for its early blooming and excessive fragrance, and the latter for its purity and elegance, have been just received at A. COBBETT'S Italian and Foreign Warehouse, 18, Pall-mall, near Waterloo-place. Also Dutch Hyacinths, Crocus, Tulips, Anemones, Ranunculus, &c.; priced Catalogues of which may be had per post.

FIRST-CLASS GERANIUMS.

J. HINE having a very large stock of the best kinds in cultivation, informs the public that he intends to supply them this autumn at unusually low prices. Lists to be had on and after the 12th of this month. The much admired set of Eight Seedlings raised by Mr. MILLER, and advertised for the first time last autumn (price 8l. 8s.) can be obtained this season for 1l. 5s., having a very fine stock of them, namely:

SCARLET DEFIANCE	ADMIRATION
ROSA MUNDI	VULGIUS
QUEEN OF KENT	CONSPICABUNDUS
DISTINCTUS	FLORA'S FLAG.

Illustrated Engravings of which will be sent on receipt of 24 stamps. Other varieties from 10s. 6d. to 1l. 1s. per doz.

Providence Nursery, Ramsgate.

MYATT'S NEW FERTILISED HAUTBOIS, Patronised by His Royal Highness Prince Albert.

Messrs. J. MYATT have now strong Runners of this and the following varieties, at the annexed prices: Myatt's Fertilised Hautbois, 25s. per 100; Eleanor, 21s.; Globe, 7s. 6d.; Mammoth, 7s. 6d.; Queen, 3s. 6d.; Pelvelain's Princess Royal and Comte de Paris, 20s.; Black Prince, 20s.; La Leigeoise, 10s. 6d.; Aberdeen Beehive, 5s.; and Hooper's Seedling, 3s.

The usual Trade allowance.

Post-office Orders made payable to JOSEPH MYATT, Deptford.

Manor Farm, Deptford, Sept. 23.

DUTCH BULBOUS ROOTS.

WILLIAM E. RENDLE AND CO. have much pleasure in stating that their new CATALOGUE of DUTCH ROOTS is just ready, and can be had *gratis* on application. The Roots have this season arrived in fine condition, and orders can be executed without a moment's delay.

Apply to WILLIAM E. RENDLE and Co., Plymouth, adjoining the Plymouth Station, and the Terminus of the Great Western Railway.

W. IVERY begs to inform the public that his autumn Descriptive Catalogue of SEEDLING CINERARIAS, and all the most approved varieties, can be had by enclosing one postage stamp. W. I. has also ready to offer Cantua bicolor, 7s. 6d. to 10s. 6d.; Zauschneria californica, 5s. to 7s. 6d.; Heliotropium Triumph de Liége, 2s. 6d. to 3s. 6d.; new yellow Impatiens (fine), 7s.; Plumbago Larpentæ, 3s. 6d. to 30s.; and Ivery Scarlet Geranium (extra fine), 2s. 6d. to 5s. each.

Hanover Nursery, Peckham, near London, Sept. 23.

ABRAHAM HARDY AND SONS, SEED GROWERS, Maldon, Essex, respectfully solicit all noblemen and others of the United Kingdom, who favoured them in the past season with orders for their 10 varieties of EARLY POTATOES and Seed, to correspond with them, stating which of the kinds have most escaped the blight, thus enabling them to offer the most approved sorts to public notice the ensuing year.

Choice selected SEEDS proper for autumnal sowing.

20 packets Hardy Annuals ... ... 2s.
1 ,, superb Dwarf Double Larkspurs, 10 var. mixed 1s.
4 ,, Nemophilas, distinct varieties, 1s.; or 12 stamps.

THE FINEST SHOW CARNATIONS, PICOTEES, AND PINKS.

YOUELL AND CO. are now executing orders from their celebrated collections of the above, comprising upwards of 700 of the finest varieties known, and is the most extensive and unique collection extant. The plants are very strong, healthy, and well rooted, and, if preferred, can be forwarded with safety per post, at the extra charge of 2s. per dozen pairs, the prices of which are as follows:

12 pairs of very fine show flowers, by name, 1l. 1s. and £1 10 0
25 ditto ditto ditto 2l. 10s. and 3 0 0
12 pairs of newest and finest first class show flowers 2 10 0
25 ditto ditto ditto ditto 5 0 0

Fine mixed border Carnations, 12s. per dozen pairs.

NEW PICOTEE, "THE GEM," 10s. 6d. per pair.

YOUELL and Co. have much pleasure in offering this flower as being one of the finest and most perfect red edged Picotees yet raised. The petals are large and well formed, perfectly smooth on the edge, the white pure and free from the slightest spot, and is indispensable to any collection. Price 10s. 6d. per pair, per post free. It has been successfully exhibited in the 1st Class Prize Stands at Chiswick, and the Royal Botanic Society's Exhibition, and is highly spoken of in the last number of the "Florist." The following opinion has been pronounced in the *Gardeners' Chronicle*: "A first-rate flower; the petals are smooth on the edge, large, and well formed; of good substance, and diminishing gradually to the centre, forming a fine crown, with no confusion, and good, red edge."

For particulars of their Advertisement of rare and hardy Coniferæ, Camellias, Dutch Hyacinths, Pansies, Strawberries, Anemone Seed, &c., see *Gardeners' Chronicle*, Sept. 19.

Great Yarmouth Nursery.

NEW ROSE CATALOGUE.

E. P. FRANCIS begs respectfully to announce that his New Descriptive CATALOGUE of ROSES, containing all the new varieties, is now ready for delivery, and will be forwarded gratis on application.—Hertford Nurseries, Sept. 23.

BASS AND BROWN'S DESCRIPTIVE PRICED CATALOGUE of CHOICE FLOWER ROOTS, SELECT ROSES and SHRUBS, HARDY CLIMBING and HERBACEOUS PLANTS, &c., will be sent free by post on application. Very fine and strong roots may be had of the following assortments:

	s.	d.
EARLY TULIPS, 1 root each of 20 superior varieties ..	8	0
,, ,, 3 roots do. do. ...	21	0
,, ,, 1 root do. do. ...	5	0
,, ,, 3 roots do. do. ...	14	0
DOUBLE TULIPS, 1 root each of best 10 varieties ...	4	6
,, ,, 3 roots do. do. ...	12	0
ENGLISH IRIS, 1 root each of 24 splendid varieties ...	10	6
,, ,, fine mixed 2s. per dozen, per 100 ...	15	0
GLADIOLUS, 1 each of 12 splendid early varieties ...	15	0
,, ,, splendid mixed hybrids, per dozen ...	3	6
RANUNCULUS, 50 superb new varieties	40	0
,, ,, 25 do. do.	22	6
,, ,, 50 fine varieties	15	0
,, ,, best mixed, per 100	10	0
,, ,, early scarlet turban, per 100	4	6
IMPORTED HYACINTHS, 24 fine varieties	15	0
,, ,, 12 do. ... 6s. to	9	0
NARCISSUS, 3 roots each of 6 varieties	8	6
DOUBLE ANEMONES, fine mixed 1s. 3d. per doz., per lb.	8	0
,, ,, best mixed 2s. per doz., per lb.	12	0

Fine roots of Crocuses, Jonquils, Lilium, &c. &c.

Goods free to London, and for long carriage extra articles presented. Remittances are requested from unknown correspondents. Post-office orders payable to Bass and BROWN, or STEPHEN BROWN.

Seed and Horticultural Establishment, Sudbury, Suffolk.

GRIGOR'S AQUILEGIA GLANDULOSA.—The subscribers have now ready to send out stout plants of their new and beautiful COLUMBINE, respecting which Dr. LINDLEY, in the *Gardeners' Chronicle* in June last, says: "This plant is, perhaps, the handsomest hardy perennial in cultivation; its stems rise about 2 feet high, and sometimes carry from 50 to 80 blossoms. We have a plant now before us, which, after a journey from Scotland, has 21 expanded flowers, each 3½ inches in diameter, with broad, thin, delicate, spreading sepals, of the deepest ultramarine blue, surrounding five shorter petals, the upper half or which is pure white, resting on an azure ground. The effect is beautiful in the extreme; and no description we have formerly given of it has done justice to its exquisite appearance." Stout healthy plants are sent free by post, with the mode of treatment, at 2s. per pair, or 9s. per dozen; and seeds at 1s. per packet, or for postage stamps of that value.—JOHN GRIGOR and Co., Nurseries, Forres, N.B.

CHA[illegible] AND [illegible]

[illegible] autumn.

[illegible] the [illegible] may [illegible] on.

ROSES [illegible].

H. LANE [illegible] have the honour of informing [illegible] and the [illegible] will [illegible] and [illegible] Great Berkhamsted, [illegible].

LANDSCAPE [illegible]

W. P. AYRES having [illegible] nearly 20 years to the study of the above [illegible] practice, and [illegible] Sole Agent [illegible] out, and is [illegible] Horticultural Buildings, [illegible] objects [illegible]

[illegible] per Cent. [illegible] and [illegible] Lambeth [illegible].

ROSES.

EDWARD DENYER, [illegible] the [illegible] the [illegible] fal bloom. [illegible] [illegible] trained [illegible] and [illegible] Fuchsias and [illegible] at this time, and [illegible] N.B. Garden and [illegible] planted by contract or otherwise [illegible] has arrived in fine condition. [illegible] friends that he has no other place [illegible] London or elsewhere.

NOW READY FOR [illegible]

ARNOLD'S "VIRGIN QUEEN" GERANIUM.—*This is the best* WHITE [illegible]. *It has been fully proved this season, nine specimen plants having produced 350 expanded blossoms at one time, only one of which was imperfect.*

We can recommend it with the same confidence as we did Lyne's "Duke of Cornwall" and "[illegible]," and we are certain that it will give the [illegible] who purchase it. It is [illegible] decided [illegible] than [illegible]. —W. E. R. and Co.

[illegible] habit of the plant is excellent, and [illegible] above the foliage.

Price 1l. each, or three for 2l. to the Trade.

P.S.—We are so satisfied with the [illegible] of the above, and so certain are we that it will [illegible] we will agree to give the amount in Plants [illegible] current Catalogue, should it not prove to be equal to what we have stated.—W. E. R. and Co.

The following set of 5 Geraniums (sent out by us last autumn) for 40s.:

	each—s.	d.		each—s.	d.
2 Lyne's Jenny Lind ...	15	0	5 Lyne's Mercury	10	6
3 ,, Star of the West	10	6	6 Foley's [illegible] Prince	5	0
4 ,, Lady Ebrington	10	6			

The following set of 5 Geraniums (sent out by Mr. Miller, of Ramsgate, last autumn) for 40s.:

	each—s.	d.		each—s.	d.
7 Miller's Scarlet Defiance	7	6	11 Miller's Admiration ..	7	6
8 ,, Rosa Mundi	7	6	12 ,, Vulgius ...	7	6
9 ,, Queen of Kent ...	7	6	13 ,, Flora's Flag	7	6
10 ,, Distinctus	7	6	14 ,, Conspicabunda ...	7	6

The whole set of 14 *as above, including Arnold's Virgin Queen, for* 4l. 4s., *or exclusive of Virgin Queen, for* 3l. 10s.

First orders will receive the first selection, and will be sent out immediately.

WILLIAM E. RENDLE and Co., Plymouth.

P.S.—Our New Plant Catalogue is just ready, and can be obtained gratis, on application.

LAURELS AND ROSES.

D. FERGUSON, CONTRACTING PLANTER, LANDSCAPE GARDENER, &c., respectfully informs the Nobility, Gentry, and Railway Companies, that he can supply them with small Laurels at 1l. per 1000, adding [illegible] to every [illegible] delivered free at Wolverton and Oxford, [illegible] Railway Stations, at 8s. per cwt. He has also [illegible] that he can supply this autumn, and the [illegible] 50,000,000 in the autumn of 1849. Fine transplanted [illegible] aquifolia, at 1l. to 3l. per 100. A large quantity of fine Evergreen and Deciduous shrubs and trees, exceedingly suitable for new places, giving at once effect and shelter, a thing desirable to proprietors in this uncertain life.

A large quantity of Standard and other ROSES, many of which are worked upon tall stems [illegible] American shrubs, &c. Also some of the tall growing sorts trained 5 or 6 feet above their stems, making a splendid show when planted amongst Evergreens, with which the mountain [illegible] of Roses without the unsightly stems being seen. A plan found by experience, the last season, [illegible] plants, and I advise my patrons to lose no time in preparing, more particularly where earth is to be removed.

In answer to enquiries, my charges are 2l. 2s. per day, with board and second class travelling expenses; but where I supply shrubs, &c., to the amount of [illegible] I only charge my expenses. I shall be happy to exchange Roses for fruit tree stocks to the number of [illegible].

D. FERGUSON, Aylesbury Nurseries, Sept. 16.

A. BALSTON wishing to dispose of the remaining portion of his NURSERY STOCK, offers it to Planters and the Trade at unusually low prices, as at foot. The whole of it is well grown, in light soil, and is extraordinarily well rooted. It consists of 300,000 common Laurel, 9 in. to 1 foot, 15s.; 1 to 2 ft., 30s.; 2 to 4 ft., 40s.; 4 to 6 ft., 80s. per 1000. 70 000 Portugal Laurels, 1 to 2 ft., 5s.; 2 to 3 ft., 10s.; 3 to 4 ft., 15s. per 100. 90,000 Rhododendron ponticum, 1 to 2 ft., 3s.; 3 to 4 ft., 6Os.; 4 to 5 ft., 100s. per 100. Ghent Azaleas, all the finest varieties, 2s. per doz.; ditto, specimen plants, 30s. per doz. Cedrus Deodara, 6 to 8 ft., from seed, and beautifully grown, in pots, 60s. each; ditto ditto, 3 to 5 ft., 20s. each. Pinus patula, 4 to 5 ft., 7s. 6d.; 20 other sorts at same prices. A fine collection of Rhododeudrons, comprising campanulata, caucasicum, catawbiense, &c., 100s. per 100, 18s. per doz; Laurestinus, 1 to 2 ft., 12s. per 100; Hornbeam, 4 to 5 ft., 20s. per 100; Privet, 4 to 5 ft., 10s. per 100; Standard Roses, fine trees of all the best sorts, 18s. per doz. Evergreen Oak, in pots, 1 to 2 ft., 50s. per 100; ditto, transplanted, 2 to 4 ft., 20s. per 100. Good specimens of Ornamental Shrubs, 4s. each. All kinds of Forest and Fruit Trees, at half the usual prices. The whole of this stock is now in excellent order for transplanting. Orders must be accompanied by remittances, and all goods exceeding 5l. in value will be delivered free.

Poole Nursery, Dorset.

TO THE DAHLIA GROWERS OF ENGLAND.

I embrace the earliest opportunity of thanking the Donors to the Dahlia Prize Improvement Fund for their liberality and confidence, and trust my appropriation of their contributions (as shown in the Royal South London Floricultural Society's Dahlia Schedule), met their entire approbation, and "that praise may be bestowed where praise is due," I annex their names, viz., Mr. Barnes, Stowmarket; Mr. Cutter, Slough; Mr. Waite, London; Mr. Bragg, Slough; Mr. Harrison, Richmond; Mr. Keynes, Salisbury; Mr. Whale, Elcot; Mr. Drummond, Bath; Mr. Turner, Chalvey; Messrs. Widnall and Davis, Grantchester; Mr. Turville, Chelmsford; and Mr. N. Gaines, Battersea; to whom, and those Amateurs who also contributed,

I subscribe myself, theirs, very faithfully,

JOHN EDWARDS, Wace Cottage, Holloway, Sept. 23.

RHODODENDRON JAVANICUM, *true*, BLUME.

WILLIAM ROLLISSON AND SONS beg respectfully to inform the nobility, gentry, and the trade, that they are prepared to receive orders for the true Rhododendron Javanicum, of Blume, fine healthy plants of which will be sent out in the spring, at one guinea per plant.

The true Rhododendron Javanicum of Blume, of which W. R. and SONS have the largest stock in Europe, is one of the most splendid and interesting plants ever introduced into the country: it is also of most easy culture, and suitable either for the conservatory, greenhouse, or frame. To afford all cultivators of plants the opportunity of becoming early possessed of this truly magnificent plant, W. R. and SONS have determined to send it out at the moderate price above quoted.

The usual allowance will be made to the Trade, if six or more plants are taken.—Tooting Nurseries, Surrey.

NEW PINKS.

CHARLES TURNER will be prepared to execute orders, after the 10th September, for the following new varieties. YOUNG'S XX, purple lace, very smooth on the edges, good size, and constant; the above was raised by P. Young, Esq., of Twyford, near Winchester, a gentleman well known to the floricultural public. It received first-class Certificates at the following exhibitions in 1847: Royal South London, 1 bloom; Slough, do.; Bishopstoke, 3 do. 1848: Royal Botanic, June 14, 6 blooms; Wycombe, June 15, 4 blooms; Royal South London, June 20, 24 blooms; Slough, June 22, 24 blooms; Staines, June 23, 6 blooms; Bishopstoke, June 26, 12 blooms; and shown on stands on different occasions during the two seasons, all of which gained first prizes. It will be seen from the above that 89 blooms have been submitted for public competition and inspection, and its merits fully established. C. TURNER would not have thought it necessary to say more upon the qualities of XX, had not an attempt been made by an individual in a weekly journal to depreciate the merits of the flower; but in justice to himself he begs to state he has the sanction of the following eminent judges and growers, who have had frequent opportunities of judging the qualities of XX, to state that they consider the flower first-rate and constant in every respect, viz., J. F. Wood, Nottingham (editor of the "Midland Florist"); Messrs. Norman, Woolwich; Newhall, do.; Ward, do.; Baker, do.; Marris, Leicester; Hollyoak, do.; Smith, Oxford; Hastings, do.; Costar, Benson; Kirtland, Bletchington; Hall, Enfield; Hale, Hillingdon; Jewell, Foot's Cray; Heartstone, St. Mary's Cray; Meade, Lewisham; Holliday, Northampton; Wilmer, Sunbury; Henbrey, Croydon; Harrison, Richmond; Edwards, London; Neville, do.; Bushell, do.; Creed, do.; Harms, do.; Prockter, Bermondsey.

TURNER'S MR. EDWARDS, rose, fine (figured with XX in No. 9 of the "Florist"), 5s. per pair.

TURNER'S MORNING STAR, purple, fine large petal, 5s. per pair.

TURNER'S NONPAREIL, light rose, 3s. 6d. per pair.

MACLEAN'S NARBOROUGH BUCK, rich, dark, large, and finely formed, 5s. per pair.

C. TURNER'S Descriptive Catalogue of Pinks, Carnations, Picotees, Pansies, &c., will be ready in a few days, which may be had on prepaid application.—Chalvey, Slough, Sept. 23.

SEEDS.—CORNER OF HALF-MOON-STREET,

THOMAS GIBBS AND Co.,

(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND," Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

Priced Lists of Agricultural Seeds are always ready, and may be had on application.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

BAKER'S PHEASANTRY, Beaufort-street, King's-road, Chelsea, by special appointment to her Majesty and H.R.H. Prince Albert.—ORNAMENTAL WATER FOWL, consisting of black and white swans, Egyptian, Canada, China, bernacle, brent, and laughing geese, sheldrakes, pintail, widgeon, summer and winter teal, gadwall, Labrador, shovellers, gold-eyed and dun divers, Carolina ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking fowls; white Japan, pied, and common pea-fowl, and pure China pigs; and at 3, Half-moon-passage, Gracechurch-street.

BRITISH MANUFACTURED SHEET GLASS FOR CONSERVATORIES.

E. AND W. H. JACKSON beg to recommend the above as superior to all other articles manufactured for that purpose. BRITISH, PATENT AND ROUGH PLATE, CROWN, COLOURED, AND ORNAMENTAL GLASS supplied at the lowest terms.

Lists of prices and every information can be had on application at their Warehouse, 315, Oxford-street, London.

JOSEPH BAUMANN, NURSERYMAN, Ghent, Belgium, respectfully offers to the Nobility, Gentry, and the Trade in general, the following Plants:

		£	s.	d.
100	CAMELLIAS, in 100 varieties, 1 foot high, without flower buds	5	0	0
100	Ditto in 50 ditto ditto ditto	4	10	0
100	Ditto in 25 ditto ditto ditto	4	0	0
100	Ditto in 100 ditto ditto set with flower buds	6	0	0
100	Ditto in 50 ditto ditto ditto	5	10	0
100	Ditto in 25 ditto ditto ditto	5	0	0
100	Ditto in 100 ditto from 1 to 2 ft. high, set with flower buds	8	0	0
100	Ditto in 50 ditto ditto ditto	7	10	0
100	Ditto in 25 ditto ditto ditto	7	0	0
100	Ditto in 100 ditto, from 2 to 3 feet high, set with flower buds	14	0	0
100	Ditto in 50 ditto ditto ditto	12	0	0
100	Ditto in 25 ditto ditto ditto	10	0	0
100	Camellia stocks, from 30s. to 40s.			
100	Lilium lancifolium album, small bulbs	2	10	0
100	Ditto ditto ditto strong	5	0	0
100	Ditto ditto ditto stronger	10	0	0
100	Ditto ditto rubrum, small bulbs	5	0	0
100	Ditto ditto ditto, strong	10	0	0
100	Ditto ditto ditto, stronger	20	0	0
100	Rixea azurea	15	0	0
100	Ditto strong	30	0	0
100	Rhododendron arboreum hybridum, 1 year old, grafted, in 50 varieties	4	0	0
100	Ditto ditto ditto, 2 to 3 years old, grafted, in 50 varieties	7	0	0
100	Ditto ponticum, strong	2	0	0
100	Ditto ditto ditto, set with flower buds	3	0	0
100	Ditto maximum, strong	3	0	0
100	Ditto ditto ditto, set with flower buds	4	0	0
100	Azalea indica, in 50 varieties, 2 years old	4	0	0
100	Ditto ditto from 2 to 3 years old	7	0	0
100	Iris germanica, in 100 varieties	3	0	0
100	Ditto in 50 ditto	2	0	0
	18 varieties of double-flowering Herbaceous Primulas	0	10	0
	Rhododendron aureum (Smith) 6s. to	0	10	0
	" carneum elegantissimum 3s. to	0	6	0
	" chrysolectum 4s. to	0	8	0
	" decorum (Smith) 4s. to	0	8	0
	" flavelcens 4s. to	0	8	0
	" flavum 4s. to	0	8	0
	" Norbitonensis 5s. to	0	10	0
	" spectabilis grandiflorum 4s. to	0	8	0
	" yellow 4s. to	0	8	0
	" yellowish 3s. to	0	6	0
	" Campanulatum Alexandria, a most beautiful variety, raised from seed by Mr. Alexander Verschaffelt, Nurseryman, Ghent, from 5s. to	0	10	0
	Ditto ditto with flower buds	0	15	0
	" Campanulatum bicolor 5s. to	0	10	0
	" " grandiflorum 4s. to	0	8	0
	" " lacteum superbum, 4s. to	0	8	0
	" " latifolium 4s. to	0	8	0
	" " macrophyllum 10s. to	0	15	0
	" " roseum 10s. to	0	12	0
	" " speciosum 8s. to	0	10	0
	" " triumphans 6s. to	0	12	0
	" arboreum gloria gandavensis, new, one of the best; sent out for the first time this year by Mr. Louis Verschaffelt, Nurseryman, Ghent, small plant	0	5	0
	Ditto ditto ditto, strong	1	0	0

All the newest and choicest varieties of Camellias may be had in the same nursery, with or without flower buds, as well as a fine collection of tall Palm-trees, &c. A Catalogue of a general stock of plants may be had on application.

HYACINTHS.

JAMES PHILLIPS AND Co., 116, Bishopsgate-street Without, have some well made, and good shaped, HYACINTH GLASSES, which they can supply at the usual trade price, of every variety of colour.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND CO., 116, Bishopsgate-street Without, are supplying 16 ounce Sheet Glass, at prices varying from 1½d. to 3½d. per foot; also Patent Rough Plate, Double Crown, Patent and British Plate, and Ornamental Glass; Glass Milk Pans, Propagating, and Bee Glasses; Cucumber Tubes, Cream Pots, Peach Glasses, Wasp and Fly Traps. Glass Shades for Ornaments, Lamp Shades, Metal Stand Frames, and a well selected stock of Hyacinth Glasses. List of Prices and Estimates forwarded on application.

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R. S. NEWALL AND CO.'S PATENT IMPROVED COPPER-WIRE CORD is now extensively used for Window Sash Line, Hothouses, Lightning Conductors, Picture Cord, Clock Cord, &c., &c., and is found to be cheaper, much more durable, quite as flexible, and one-sixth part the bulk of common Hempen Lines. The Wire Cord may be had wholesale, and specimens seen, at the Office of the Patentees, 163, Fenchurch-street, W. T. ALLEN, Agent; or retail, of G. and J. DEANE, 46, King William-street; E. PARKS, 140, Fleet-street; J. JONES, 62, Charing-cross; and GIBBONS and Co., 345, Oxford-street.

GLASS FOR CONSERVATORIES, &c.

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See the *Gardeners' Chronicle*, first Saturday in each month.

CARSON'S ORIGINAL ANTI-CORROSION PAINT, specially patronised by the British and other Governments, the Hon. East India Company, the principal Dock Companies, most public bodies, and by the Nobility, Gentry, and Clergy, for out-door work at their country seats. The Anti-Corrosion is particularly recommended as the most durable out-door Paint ever invented, for the preservation of every description of Iron, Wood, Stone, Brick, Compo, Cement, &c., work, as has been proved by the practical test of upwards of 60 years, and by the numerous testimonials (between 300 and 400) in its favour, and which, from the rank and station in society of those who have given them, have perhaps never yet been equalled by anything of the kind hitherto brought before the public notice. A copy of the Testimonials, together with a List of Prices, Colours, &c., will be forwarded on application to WALTER CARSON, 15, Tokenhouse Yard, back of the Bank of England, London. No Agents. All orders to be sent direct.

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MARK FOTHERGILL, 201A, Upper Thames-street, London, offers the following Manures for the Wheat crop, and warrants the quality to be genuine, viz.:

SUPERPHOSPHATE OF LIME (prepared from Bone only).

WHEAT MANURE (containing a large amount of Silicates, with rich Phosphates).

DRIED NIGHT-SOIL (obtained from a large public institution).

PERUVIAN GUANO (direct from import warehouse).

BRITISH GUANO (rich in all the Salts of Ammonia, Phosphates of Soda and Potash, &c., contained in the foreign, at a considerably lower price).

Also, Soda Ash (Wireworm destroyer), Gypsum, Urate, Nitrates Soda and Potash, Salt, Bone-dust, and all other manures of known value.—Apply for prices current as above.

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POTTER'S GUANO is now 7l. per ton.—Owing to the recent discovery of cheaper sources of Phosphoric Acid, Mr. POTTER is enabled to guarantee the quality of his GUANO, as heretofore, at the above reduced price.

Also, PURE GYPSUM, at 15s. per ton, at the Works, in bulk. Bags holding 2 cwt., 6d. each, not returnable.

Works, 28, Clapham-road Place, London.

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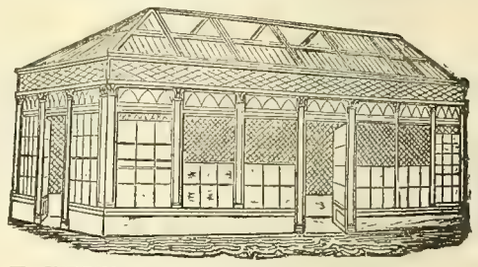

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These Machines may also be seen at Mr. Slight's, Leith-walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill, 135, Buchanan-street, Glasgow; Mr. Robert Charles, Mill-hill, Leeds; Messrs. Penny and Finch, Peukeridge, Staffordshire; Messrs. Drummond and Son, Dublin; and at Mr. John Connor's, Newtown Limavady, County Derry.

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PATENT ASPHALTED ROOFING FELT,

Manufactured by

FRANCIS RITCHIE AND SONS, BELFAST,

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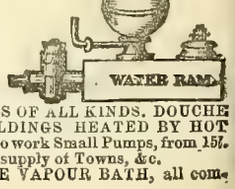
PARIAN CEMENT used as a Stucco, cannot easily be distinguished from statuary or Parian marble. It is fit for all the purposes of that beautiful material, and does not crack, warp, or effloresce in any degree. The fine quality will incorporate with the most delicate colours; it is adapted to encaustic work, fresco, imitation of marble, and the most elaborate embellishment. So perfect are its setting or crystallising properties, that the coarse quality when applied to newly built or damp walls, may be immediately polished, painted, or papered, and rooms rendered habitable before the materials ordinarily used would begin to dry. Manufactured by CHARLES FRANCIS and SONS, Roman Cement Works, Nine Elms, London.

THE IMPROVED HYDRAULIC RAM, fixed by FREEMAN ROE, Fountain Maker, 70, Strand, London, can be worked by a small stream of half-an-inch, where a fall of two feet can be obtained. The same RAM, without the aid of a Tank or Cistern, arranged to throw a Jet of Water constituting a Fountain with the head of water beneath.



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WILLIAM E. RENDLE AND CO. have much pleasure in stating that they have been very successful in the propagation of this magnificent variety, and they beg to say *that for all orders received up to the present time, Two Plants will be sent for every one ordered*, and for the future the price will be 20s. each, or Three to the Trade for 10s.

We can recommend it with confidence as being one of the best white flowers in existence.

Good strong established plants are now ready for sending out. Apply to WILLIAM E. RENDLE and Co., Union-road, Plymouth, adjoining the Plymouth Station and Terminus of the South Devon Railway.

The Gardeners' Chronicle.

SATURDAY, SEPTEMBER 23, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

MONDAY,	October 2	Entomological	8 P.M.
TUESDAY,	— 3	Horticultural	3 P.M.
FRIDAY,	— 6	Botanical	8 P.M.

IN inquiring more particularly into the climate best suited to the AMERICAN COTTON PLANT, not only in its native country, but in the countries where its culture is most successfully conducted, we must remember what both Baron HUMBOLDT and Professor DOVE have pointed out, that while Europe has a true insular or sea climate both in winter and summer, North America inclines to a Continental climate in winter and to a sea climate in summer; that is, has a cold winter with a cool summer. But northern and central Asia have a true continental climate both in winter and summer, or a cold winter and a hot summer. Notwithstanding this, we must also recollect, that though each locality may participate in the characteristic climate of its continent, yet that all places near the coast will have more or less of an insular climate, while those in the interior, such as are of a continental nature, though in varying degrees.

The different kinds of Cotton cultivated in the United States of America appear in the present day, and as far as we have been able to procure satisfactory information, to be varieties of one species, that is, that the Georgian is the Sea Island carried into the interior; the Sea Island itself was originally introduced from Anguilla, one of the West India Islands. The New Orleans does not differ specifically from the Sea Island Cotton, and is admitted by the planters of the southern states of America to be identical with the plant of Mexico, from whence indeed they import their finest seeds. It is probable that it was from the neighbouring coast of Mexico that the indigenous Cotton of that country was introduced into the West Indies, and from thence it was taken to the Island of Bourbon. Hence we may account for Gossypium Barbadense being identical in species with both the New Orleans and Sea Island Cottons as well as with Bourbon Cotton, as is evident from the coloured representations given of these three varieties by Dr. WIGHT.

The Mexican plant is not a native of the temperate regions of that country, but of the Tierras Calientes, or hot districts. It is produced, for instance, in the neighbourhood of Vera Cruz, and is described as growing spontaneously near Valladolid, a town situated on the great plain of the peninsula of Yucatan, described by HUMBOLDT as one of the warmest regions in equinoctial America. Mr. STEPHENS states that the spontaneous growth of Cotton around that town had let to the erection of a Cotton factory in the place. Mr. NORMAN, in his "Rambles in Yucatan," says: "The Cotton plantations, or rather the districts where the material is raised that is consumed in the manufactory in this city, are to the north, and known as the Tizemen district. The same spot is seldom cultivated for two successive seasons. After the crop is gathered, the ground is suffered to be overrun with weeds and brushwood; which, when years have elapsed, are cut down and burned, and the field is replanted." This rude method of culture is adduced only to show how little attention is paid to the plant in its native country. But as it is desirable to know something precise respecting the climate of one at least of its native districts, we take from Professor DOVE the following notice of the means of observations made at Vera Cruz for 13 years. This town, situated on the coast in N. lat. 19°12, and W. long. 96°9, has a mean temperature of 77°·02, with a difference of only 12°·42 between the hottest and coldest months: thus—

Jan.	Feb.	March.	April.	May.	June.
69°98	71·60	73·40	77·18	80·42	81·86
July.	Aug.	Sept.	Oct.	Nov.	Dec.
81·50	82·40	80·96	78·44	75·38	71·06

The Mexican Cotton has been introduced into Texas as well as into Louisiana, and Alabama. In the southern parts of Texas, where the climate is described as being very congenial, "the plant does not require to be renewed more frequently than once in three or four years to yield a crop superior in quality and quantity to the annual planting of Louisiana." Mr. KENNEDY informs us, in his work on Texas, that Cotton planting commences there in February, and picking begins at an earlier, and continues for a longer period than in the United States; also that the average return on the acre is considerably greater in Texas than in the States, and the expence of cultivation considerably less, in consequence not only of the greater richness of the soil, but also of the superior mildness of the climate. The Cotton is, moreover, of a superior quality, and that "planters of acknowledged veracity stated that it is not uncommon to pick 1000 lbs. of seed Cotton from an acre of ground." But in connection with this statement we must not forget that Mr. SEATON, himself an American Cotton planter, says, "The besetting sin of agricultural statements is their exaggeration."

Mr. FEATHERSTONHAUGH, after crossing into northern Texas, in about lat. 33° 40', from the United States, observes that he had never seen the Cotton plant growing in greater perfection before, for in the Cotton districts he had passed through, the plant was a low dwarfed bush, not exceeding 2 feet in height, but here the bushes were 5 feet high, often bearing 300 bolls, and yielding from 1500 to 2500 lbs. of seed cotton to the acre. This gives from 25 to 30 per cent. in weight of raw marketable Cotton. He states that it is considered a fair crop if one bale of 450 lbs. to the acre of such Cotton is produced. The most successful cultivation of Cotton in the United States is in Louisiana, Mississippi, and Alabama. In the southern parts of these states—as, for instance, in the latitudes of New Orleans and of Mobile, there is little frost, and the winter is considered mild, with considerable heat in summer, but this is tempered to a great extent by the pleasant and dry effects of the sea breeze, which sets in from the Gulf of Mexico for a great part of the day. [illegible] and during the summer. In the [illegible] northern parts of these states [illegible] parts elevated from 500 to 1000 feet above the level of the sea, frost is expected in October, and continues till near April, sometimes even as late as May, so as to injure, though not entirely destroy, the Cotton plant. The heat of summer is considerable, but still tempered by the influence of the Gulf of Mexico, and of the numerous great rivers, as well as by dews and occasional showers of rain. The cultivation of Cotton is commenced about the beginning of April, when the land is still saturated with the winter rains, and a drought is sometimes experienced in October before the land sufficiently dry. Of course a good number of rainy days essential when Cotton is first sown, and it is desirable also to have occasional showers during the planting, ploughing, and hoeing [illegible]. The bolls of Cotton begin to open about the middle of July, and continue doing so until the frost sets in, in the middle or end of October. The yield is about 400 lbs. of clean Cotton to the acre.

In order to have a precise idea of the climate of the most favourable Cotton districts, and for the advantage of comparing them with that of other countries into which it may be wished to introduce the American Cotton, we select, from Professor DOVE'S Tables, as published by the British Association, the following mean temperatures of places in Texas, Louisiana, Mississippi, and Alabama, as indicated by their initial letters.

	Lat. N.	Long. W.	Jan.	Feb.	March	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1. Galveston, T.	29·18	95·1	60·3	62·5	75·0	73·2	84·5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2. New Orleans, L.	29·58	90·7	56·75	58·39	66·58	72·41	77·20	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3. Mobile, A.	30·12	87·59	56·40	57·97	65·64	70·60	76·59	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4. Baton Rouge, L.	30·26	91·18	52·37	51·80	61·55	68·29	76·58	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5. Jackson, L.	30·51	91·1	47·6	49·4	59·6	65·4	70·8	78·7	81·7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
6. Houston, T.	31·54	95·56	65·2	60·5	68·7	72·7	85·5	80·1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7. Natchez, M.	31·34	91·25	50·13	50·89	62·2	69·93	72·72	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
8. Vicksburg, M.	32·24	91·6	51·40	53·72	63·01	74·01	76·81	[illegible]	[illegible]	80·11	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

To compare with these, we shall further adduce, from the same Tables, the mean temperature of places on the Atlantic coast, as in Florida, Georgia and Carolina, as well as in the interior of the two last.

	Lat. N.	Long. W.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
9. St. Augustine, F.	29°50'	81°27'	60·73	64·97	67·55	70·06	76·89	81·41	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10. Savannah, G.	32·5	81·10	52·15	55·74	64·1·1	67·56	76·14	77·89	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
11. Charleston, C.	32·47	79·57	49·61	52·80	58·34	63·20	75·19	78·85	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
12. Fort Johnston, C.	34·0	78·5	51·42	52·19	60·52	65·28	73·70	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
13. Columbia, C.	34·0	80·53	37·7	42·9	47·3	62·2	67·6	72·4	76·1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
14. Augusta, G.	33·28	81·54	45·69	47·65	55·66	62·84	69·58	77·72	79·47	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

The climate of Georgia is somewhat warmer than that of Carolina, but the low flat country of both is moist and unhealthy. The spring is commonly rainy, the heat of summer is considerable, but relieved by the gentle winds which blow almost daily from the sea. The winds change from S.E. to S.W. about the end of July, but variable, from storms of thunder and lightning, and the heavy rains of July and August. The cold weather seldom commences until about the beginning of December, and terminates in March, but the winter is usually mild, and snow seldom falls near the sea, and soon melts away. The hilly parts 200 miles from the sea are agreeable and favourable to health. The winter is colder; snow falls to the depth of 5 or 6 inches. Though the above Tables are sufficient to give a general idea of the climates, it would be desirable for agricultural purposes to have also the maxima and minima; for a night of frost may destroy plants, as great heat with drought will be equally injurious from drying them up. Cotton is sown in April, picking commences in July or August, and continues till November, and, on the coast, sometimes even to December. The returns per acre are about 125 lbs. or 130 lbs. of Sea Island Cotton to the English acre. Of the short staple Cotton, Mr. SPALDING states that in the hill country, from the Mississippi to the Carolinas, not more than 500 lbs. of seed Cotton, or 150 lbs. of clear Cotton, can be obtained to the English acre.—(URE, 1, p. 115.) The short staple Cotton is cultivated all the way from the southern borders of Virginia to the south-western streams of the Mississippi. The mean quantity over all is given by Mr. SPALDING at 125 lbs. of both Sea Island Cotton wool and of the short stapled wool to an English acre, but the amount of labour is much greater for the former than for the latter.—(URE, Cotton Manufacture, 1, p. 116.)

In comparing the climate of the above Cotton regions with that of other countries, it is necessary to remember the peculiarity of American climate, with which this article was commenced, and also how much the best Cotton districts are influenced by the Gulf of Mexico or the Atlantic ocean. The climate to the west of the Alleghany mountains is considered more mild than that under the same parallels in the Atlantic states, and by some even to the extent of 3° of latitude. This has been explained by the warm air of the Gulf of Mexico being driven up the basin of the Mississippi as well as that of the Ohio. The configuration of the valley being north and south [illegible] of the southern winds, while the valleys of the Atlantic states being transverse, oppose any such transmission, or the migration of plants. The majority of the places of which the mean temperatures have been adduced being on the sea coast, necessarily participate to some extent in the peculiarities of insular climate, that is, of seasons moderately contrasted. But still the differences between the hottest and the coldest month of the year is much greater than at Vera Cruz, that is, than 12°; being at Mobile, Galveston, and New Orleans, 27°.23, 29°.10, and 29°.96, respectively. But in the interior, at Natchez and at Vicksburg, the differences are greater, being 32°.69 and 31°.57. On the Atlantic states the differences are nearly as great as those on the south coast, being 31°.79 at Savannah, and 31°.09 at Charleston, while in the interior the differences are much greater, being 36°.02 at Augusta, and 38°.80 at Columbia. The application of these facts we shall pursue in a subsequent article.

OUR readers will have observed, from the reports of the late meeting of the British Association at Swansea, that doubts have arisen as to the accuracy of the statements made by M. DECAISNE respecting the Parasitism of Hæmanthus coccineus, Euphorbia Characias, and similar instances mentioned by him. The opinions of the distinguished French botanist were given in our Number for August 7, 1847. Professor HENSLOW has favoured us with the following observations by himself on this curious subject.

"The supposed parasitism of the Scrophulariaceæ (in Euphrasia, Odontites, Melampyrum, Rhinanthus, &c., detected by DECAISNE, has more than once been called in question. You may remember that I stated, in the *Gardeners' Chronicle* last autumn, my own conviction of the fact, and mentioned my having obtained the roots of Euphrasia officinalis and Odontites rubra attached by suckers to the roots of Grass. This fact appeared to me sufficiently satisfactory at the time: but I determined to follow up the inquiry by sowing seeds of Rhinanthus and

Odontites, both near and at a distance from other plants. The results of my experiment are as follows. Several plants of Rhinanthus Crista-galli came up at a distance from other plants, but did not thrive; they scarcely attained an inch or an inch and a half in height; only two produced one flower each, and then the whole withered without any seed being formed. A single plant, which came up close to a plant of Wheat, attained the usual dimensions and flowered freely, but I neglected to observe whether its seeds were perfected. The specimens of Odontites rubra came up more freely than the Rhinanthus; and they all flowered, both those that were near other plants and those at a distance. On examining them I found abundance of examples of the succors, or succor-like protuberances, on their roots attached to the roots of Wheat and Rye; and, in two instances, I traced fibres of the Odontites spreading more than a foot from the spot where the plant was growing till they had reached and intermixed with the fibres of the Rye. In some cases I could detect no appearance of succors, and nothing like an attachment to the roots of other plants.

"I learn from Mr. BENTHAM that he has met with instances where there were certainly none of the succor-like appendages to the roots of some specimens of Euphrasia, Melampyrum, and Odontites examined by him. There is, therefore, something yet to be ascertained concerning the precise character of the parasitism of these plants, if indeed they be truly parasitic. As the question is of some importance to cultivators, I would suggest the following experiment to those who have fields in which Rhinanthus Crista-galli is abundant. Let them keep a space of about 3 yards square perfectly cleared of this plant for two or three years, and observe whether the Grass on that patch flourishes beyond that which surrounds it. I shall propose repeating my own garden experiments with more care than I had thought necessary this year, having hitherto felt sufficiently convinced that DECAISNE's statement was correct.

"I send you a preparation in spirits of the succors (?) on the roots of Odontites rubra, attached to the fibres of Wheat, and you will see what a parasitic aspect they have assumed whatever their real functions may be. I am very desirous of procuring seeds of Melampyrum arvense for experiment, and if any of your correspondents could procure me a few, I shall feel much obliged to them; *Hitcham, Sept.* 14."

The annexed cut will show the appearance presented by the preparations alluded to. That on the right represents the supposed succors of Odontites growing to the roots of Grass, the other those of Euphrasia.

We quite agree with Professor HENSLOW that, independently of mere scientific considerations, the real habits of these common weeds ought to be determined, for the sake of those who desire their eradication.

OUR advertising columns of to-day announce the sale by Mr. STEVENS of a number of plants, recently imported by Messrs. VEITCH. We are able to state that they are really fine things, and in good condition. Among them are various Phalænopsis, Aerides quinquevulnera, Vanda violacea, a new Renanthera, and other novelties, together with six distinct sorts of Nepenthes—one with magnificent crimson pitchers, stated to hold nearly a quart of water. The greater portion of the Orchids are from Manilla, some from Java, and some from Malacca; the Nepenthes from Singapore.

BRITISH ASSOCIATION
FOR THE ADVANCEMENT OF SCIENCE.

(*Continued from p.* 620.)

Dr. LANKESTER read a paper on *some Vegetable Monstrosities, illustrating the Laws of Morphology*. The author stated that the only way of arriving at a proper knowledge of the import and relation of the organs of plants was to study the history of the development of each organ from its primitive cells. By this means the laws of morphology had been evolved which were so successfully applied to systematic botany at the present day. Although morphology must principally rest on observation, more especially with the aid of the microscope, as experiment could hardly be made in this department of human inquiry; yet Nature sometimes experimented, as it were, for us, and by arresting organs in their process of development, presented to us, in a permanent form, the various transitionary stages of a normal development. Plants or parts of plants presenting these forms were called "monstrous," "monsters," or "monstrosities,"—terms borrowed from the animal kingdom. These permanent forms of the lower stages of development were found in all parts of the plant, and were worthy of study, as confirming or modifying the general laws of morphology. The following instances had recently occurred under the author's observation, and he thought them worthy of record. — In the earliest periods of the history of the development of the leaf, its position was alternate, one leaf above the other; subsequently the leaves in many families became opposite or verticillate. An instance was given of the original alternate type remaining in the Hippuris vulgaris, in which the leaves, instead of being in whorls, were arranged alternately in a spiral upon the stem.—In the conversion of the leaf bud into the flower bud, bracts were the organs which indicated the earliest change in the leaf. Two instances were exhibited, one of Plantago major, found by the author, and the other, Plantago media, presented him by Dr. Lindley, in whose garden it grew as a permanent variety, in which the bracts, normally situated at the base of the flower, and smaller than that organ, retained the character of fully formed leaves.—The sepals, petals, and stamens exhibited still further departures from the ordinary character of the leaf. These, however, often retained the appearance of the leaf after the tendency to form the flower had commenced. As an instance of this, specimens were exhibited of the Brassica napa, in which, in the place of the sepals, petals, and stamens, there was developed three rows of succulent, leaf-like organs. This had arisen from the attack of a fungus. Reference was also made to specimens of Trifolium repens which had been gathered by the author, in company with Professor E. Forbes, Mr. A. Henfrey, and Robert Austen, Esq., at Chilworth Manor, in which the parts of the flower exhibited the characters of the leaves, and the short flower stalks were elongated into the character of the stem.—The highest tendency of the plant was the production of the flower, and where this tendency was greatest we must seek the typical form of the vegetable kingdom. This was found in the Compositæ. In this family the tendency to the production of flowers was so strong, that arrests of development were seldom recorded. A specimen of Tragopogon pratensis was exhibited, in which the pappus was converted into foliate appendages; the corolla was of a green colour, and the style had assumed also a foliaceous character. The most central organ of the flower, the pistil, was also, in the earlier stages of its growth, identical with the leaf. In the Trifolium repens and Tragopogon pratensis, just mentioned, it retained this form.—The origin of the placenta and ovules within the carpellary leaves must still be regarded as an undecided point. An instance of the capsule of the Papaver somniferum was exhibited, in which, in the interior of the capsule, at its base, the growing point, there was present, an abnormal growth, consisting of four leaf-like organs, opposite each other, separate above and united at the base, forming a kind of pedicel; each of the leaves were partly united by their margins, forming a kind of cavity which was covered by a curve of the leaf at its apex, one of the leaves was divided into two parts, each containing a cavity. On the edges of the leaves above was a changed condition of the tissue, resembling the stigma, thus confirming the theory which regarded the stigma of Papaveraceæ as the result of the union of the two edges of two carpellary leaves. The author regarded this monstrosity as affording evidence against the theory of the development of the placenta and ovules, independent of the carpellary leaf.—Another morphological question existed, and that was as to whether an inferior fruit should be regarded as the result of the growth of the carpellary leaf, or of the portion of the stem on which it was seated. Some Gooseberries were exhibited, in which bracts were growing from the surface of the berry, and which might be regarded as indicative rather of the axial than the foliar character of the fruit. The proximate cause of these abnormal forms seems to be an overnutrition of the part, which is produced either by culture or the attacks of parasitic fungi or insects. In these cases the formative energy of the plant seemed not able to resist the tendency to produce its tissues in the simplest form, that of the leaf.—Mr. C. C. Babington believed that Dr. Lankester was correct in the causes he had assigned for the production of these monstrosities. He had often observed in cultivated places, and on dunghills, a peculiar variety of a species of Atriplex, in which the flowers were developed one within the other. The fruit in this case was also much larger. With regard to the monstrous Hippuris, he thought this was rather an instance of a produced axis than an arrest of development. He had observed the tendency to produce the monstrous form of Trifolium repens in damp places. The monstrous Tragopogon was the most interesting of the series; it indicated very evidently what was the true nature of the pappus in the Compositæ.—Mr. Arthur Henfrey said that monstrosities were of two classes, those which related to the vegetative organs and those which related to the reproductive organs. Of these, the last were by far the most interesting. As to the question of the production of the ovules, he had found in the monstrous Trifolium repens alluded to the pistil converted into almost a perfect leaf, and ovules growing on the margin of this leaf. The curious monstrosity Papaver somniferum, evidently supported the view that the placenta, stigma, and ovules were all formations of the carpellary leaf. This monster also confirmed the view taken by Robert Brown of the structure of the stigma of Papaveraceæ as the result of the union of two lateral stigmas.—Mr. Thwaites related a case of a Vegetable Marrow in which the ovary was perfectly developed, but between the petals and stigma there was developed two oblong green bodies like the leaves of the Vegetable Marrow rolled up. On the surface of these leaf-like bodies there were found a number of perfectly formed ovules.—Dr. Wallich said that if any argument were wanting to prove that Brown was correct in regarding the ovules as the production of the carpellary leaf, it would be found in the genus Sterculia, where the pistil was prolonged into a regular leaf, whilst the ovules and seeds remained perfectly developed at the base of the leaf. He could not sit down without alluding to the fact that Linnæus had first propounded the idea of morphology in his "Prolexis Plantanum," although it had been subsequently insisted upon with more success by other authors.—Mr. George Bentham said, that he believed there was a great difference between the morphological value of monstrosities produced by the attacks of insects and fungi and those growing naturally. The latter were of by far the greatest interest and importance. With regard to the formation of the placenta and ovules, he did not think it inconsistent with what occurred in other departments of nature to suppose that there were two modes of arriving at the same end. For instance, we found collecting hairs placed on very different parts of the plant, having for their object the same end. Thus he thought that in some instances that the placenta and ovules might be produced from the carpellary leaf, whilst in others they might be independent productions. We might regard the leaves in the Poppy capsule not as the formations of the growing point, but as axillary leaves representing a placental formation.—Professor Edward Forbes said, that in some cases we could not explain the appearances presented by the disposition of the ovules, on their carpellary origin, and referred to a case of the Primula sinensis, recorded by Brongniart, in which the ovules were produced upon an axis independent of the carpellary leaves. In the case of Tragopogon, in reference to Mr. Babington's observations, he suggested whether it did not rather prove that the pappus was the homologue of the veins of the leaf rather than of the whole leaf.

(*To be continued.*)

PRACTICAL HINTS FOR AMATEURS
AND SMALL GARDENS.

AUTUMNAL MANAGEMENT OF THE GARDEN.—Great attention is requisite at the present season to prevent work accumulating, and to keep up that neat appearance so important when beauties begin to fade. In spring we are all alert under the influence of hope; the winter is past, and the genial influences of nature animate ourselves and urge us to fresh exertions. But in autumn our spirits flag; when frosts nip our Dahlias, and heavy rains disfigure more hardy productions, we are apt to turn away disgusted from garden labour. The consequence is, that weeds accumulate, and with them, slugs and other insects. Grass-plots are disfigured and spoiled by decaying leaves, and unsightly stems denuded of all vegetation rustle and creak in the blast. A fortnight's neglect is enough, in October and November, to produce dismal results; and therefore, however unwillingly, work should now be industriously performed. Yet, surely there are some pleasures in gardening even in the weeping and dreary season. See how the robin follows the spade, prying in the upturned mould for its food! What glorious hues accompany the setting sun, and how the whole frame glows with a healthy warmth from the decreased temperature. Let every amateur resist the disposition to leave his garden in a state of desolation during the winter months, and he will be rewarded by all the labour he can bestow upon it.

The Kitchen Garden should be kept free from weeds, which make surprising progress in the autumn. All decayed crops, such as Peas and Beans, should be taken up at once, and the ground thrown up in trenches if not wanted for planting. Growing Broccolies and Cabbages should be hoed up as high as possible. Celery should be earthed up a little at a time. Herb beds may be looked over, and the withered flower stalks cleared away. Raspberry plantations may be arranged for next year, leaving two or three strong canes to each pole, which should be examined, and if weakly exchanged for another. Carrots may be removed, although it is not necessary; Parsnips do better in the ground for some time to come. In short all should now be done that can be, leaving nothing which is important, lest long wet weather should render its performance impossible. Wall trees require pruning and nailing in, and any planting you intend to execute this season should be determined on, and finished as soon after the fall of the leaf as possible.

The Flower Garden, with management, may look gay for a month or six weeks yet. The early frosts which have

been so severe during the last week, may not return again for some time, and Verbenas and scarlet Pelargoniums will probably be more splendid than ever. Let activity be displayed in promoting neatness, and your garden will be an attractive spot at all seasons. The Grass-plots should receive a close shaving, and unless the weather is very warm they will not require mowing again. Go round all your beds and remove everything which has done its work, especially keeping leaves and weeds from accumulating. Dahlias injured by frosts may be looked over and the most unsightly branches and blackened leaves being removed, some good blooms may yet be expected. Rose trees should have the dead flowers cut away. In this spirit of determination against all litter and damp, you will perpetuate the beauty of your garden, and secure for it a deep interest in the estimation of yourself and friends.

Now is the time to turn over the accumulations of leaf mould collected last autumn. Let the heap be removed by a fork, and every portion well shaken before put into a fresh place. It will be thus brought into a fit state for use. Do not neglect to save all similar materials for a future occasion. Everything not fit for fuel should be brought together, and allowed to lie for 12 months. If your frames require glazing and painting, not a day should be lost. To be visited with continuous rains, and not to be prepared for the protection of plants to which damp must be injurious, is the height of folly ; *H. B.*

Home Correspondence.

Pruning Forest Trees.—In your Paper of May 27, there is a communication from the pen of Mr. Gavin Cree, animadverting on what I had previously written (*Gardeners' Chronicle*, Dec. 1847), on the old controverted subject of pruning forest trees. Mr. Cree says, the opinions I have expressed are still entertained in many quarters. I hope in this he is right, and that it will be long before they are superseded by his own. He then goes into some detail of his own "system" which he conceives I have not understood, possibly not, but by his own showing his system is one of severe mutilation, however cautiously and progressively inflicted. He describes it thus : "I shorten the branches till the trees are about 25 feet high and 24 inches in circumference near the ground, before beginning to prune close. I then begin to cut off close the undermost tier (or year's growth) of branches, continuing annually to cut off a tier upwards till the stem is of the required height." (What height ?) And this process, he adds, "only makes the stem shoot up faster than in neglected trees." Who advocates neglect ? I never did ; and it savours rather of unfairness in Mr. Cree to write as if there was nothing between his system and neglect, and yet according to his own showing it seems questionable whether a comparative degree of neglect would not prove more beneficial in the long run than following out such a system, both as regards the growth of the trees and quality of the future timber. Every annual tier which is cut off by Mr. Cree's system must of necessity leave an annual tier of blemishes in the timber ; for although in time they will get covered in and hid by the swell of the stem, no union ever takes place between the face of the cut and the future wood, by which it becomes covered. I should designate the description he gives of his "system," a recipe for producing unsound and deceitful timber. Mr. C. goes on to say, "the process I pursue only makes the stem shoot up faster than in neglected trees (neglected again !) and they attain more strength and size in a given time." Mr. C. and others may believe this if they please, at present I shall beg to set against it a quotation from one of your most intelligent correspondents, who in a late Number writes as follows : "It should be borne in mind that every cut with the knife, and every pinch with the finger and thumb, technically termed stopping, exercises, for a time at least, a corresponding restriction on the roots—indeed it would be no difficult matter to convert a young forest tree into a mere bush, by commencing and rigidly pursuing such a course for the first seven years of its life. The ordinary standard grows, perspires, and elaborates uncontrolled from a much greater amount of leaf, while the severe curtailment necessary with the wall tree destroys in a considerable degree that reciprocity that should exist between the absorbing and elaborating powers, viz., between root and branches." It may be borne in mind by those who have attended to the subject—that from the first I have contended for the principle of reciprocity between the absorbing and elaborating powers, or apparatus, as the efficient and natural means of laying timber on the stem. Mr. Cree's critique on what I said about removing a rival leader, &c. requires no notice. I consider a tree in its "infancy" till it is from 6 to 10 feet high, all pruning after, and, according to some "systems," before that period of growth, only retards instead of promoting an increase, although Mr. Cree says his plan does not deprive the tree of its organs of growth ! In your review of Van Hall's "Action of Leaves on Timber" (June 17, page 403), it is shown that the author has clearly demonstrated, by experiment, that depriving a tree of leaves and branches necessarily retards its growth ; and apart from all experiment, it is the *dictu* of common sense and common observation. Mr. Cree invites me to become a competitor for a prize offered by the Society of Arts for the best essay on pruning neglected trees, and to try my system on the occasion. I beg to say I am not a professor of my system, and only regret that either the Highland Society of Scotland or the Society of Arts of London should find no better use for their funds than bestowing them to foster needless and injurious systems. In all such cases it is taken for granted that some system of pruning is necessary and beneficial. This I deny, and hope some reflecting members of these patriotic societies will give attention to the matter, and save their funds from so injurious a misapplication. Having quoted Mr. Errington, whose communications I always read with pleasure, I would beg to inquire of him, as he lives comparatively near them, whether he has ever seen the far-famed plantations at Nerquis ! and if so, whether he is of opinion that their rapid growth, in no poor a soil and exposed situation, is in fact the result of pruning, as has been formerly asserted ? I make this request, not from any doubt on my own mind on the subject, but to ascertain the opinion of an intelligent and sensible man. If Mr. E. were to take up this controverted subject, I opine he would be an able coadjutor in correcting the mistaken opinions so extensively prevalent about it ; *Quercus.*

Anemone japonica.—If any of your readers are unfortunate enough not to possess this charming acquisition, they should lose no time in procuring a plant of it. It belongs to that limited class of flowers appropriately designated as "everybodys," and as such, is the more to be prized. Equally adapted for the greenhouse, the window, or the flower garden, it addresses itself to every one who loves flowers and possesses a square foot of ground to grow it in. Blooming at the present season too, renders it peculiarly adapted for decoration in plant houses, as well as for prolonging the beauty of the flower garden. Within a few yards of where I write is a beautiful little mass of it, in full bloom, from plants raised in the autumn of last year. And two beautiful plants each respectively occupy a vase in a conservatory, and add, in no small degree, to the general decoration. Its facility of increase by roots must render it universal in a short time. Every one who values a beautiful plant simply for its beauty, and not for its costliness or rarity, should by all means procure Anemone japonica ; *G.*

The Potato Crop.—On the 12th inst. witnessing a labourer, remarkable for his good gardening, turning up his Potatoes, I promiscuously took a bushel of his Goldfinders, and counting all in it found 268 bad and 118 good tubers. Mr. Gunn, of this place, took up the bulk of his Early Shaws in July in excellent order, a practice he has followed for 12 years ; he left four roots in the ground, and on the 13th inst. I saw them taken up, when the four produced 60 tubers, of which 45 were very bad and 15 good, showing that by leaving them in the ground he would have lost three-fourths of the crop ; *A. Barfield, Dunmow, Essex.*

Seakale Pots.—I imagine your correspondent will find composition vases less troublesome than Seakale pots for summer plants on lawns, and less expensive in the end. They also look handsomer, and answer the purpose better in every respect ; *Subscriber, Hampshire.*

The Potato Blight undoubtedly prevails this season to an extent equal to that of any former year. My own immediate neighbourhood confirms this opinion (writing from the north of England) ; the Potatoes grown in gardens being earlier than those in the fields, we see its depredations there first, and in many instances they are destroyed to the extent of two-thirds, and many of the fields which have come under my observation are affected to a very great extent. It is evident that the cause of the disease remains unknown, and even it is disputed on which part of the plant it first makes its appearance. The observations I have made, and the conclusions I have arrived at respecting that point are these—1st. That before ever the stem and leaves above the surface had any appearance of being affected, the other part from which the roots emanate was affected in the shape of canker or whatever it may be, and something similar to the canker in Melon plants. 2d. That the decay of the tubers, the black blotches on the stems, and the blackened and dying leaves, are the effects of that canker, and form the basis for those fungi found upon them. 3d. The plants being affected before they have arrived at maturity, it is obvious that when the outer covering surrounding the lower part of the stem is destroyed, free communication between the roots and leaves will be cut off, consequently the destruction of both. The tubers not having received a sufficient quantity of amylaceous matter to preserve them, in that state they are mere balls of cellular tissue filled with water, the water becomes stagnated, and the result is putrefaction ; the same with the stem. 4th. It will be seen that the problem is easily solved why fields appear comparatively healthy one day and on another are laid prostrate with the earth. 5th. I have carefully examined a great number of Potatoes in the ground, and I have invariably found them affected upon their upper surface first, being the part nearest in contact with the atmosphere ; also that those which appeared healthy on their upper surface were sound Potatoes, and in very few instances could I find any signs of disease in that end of the Potato in connection with the upper stem. It appears therefore conclusive that the disease does not pass from the stem through the fibre into the tuber. 6th. With respect to over luxuriance, I have proofs before me that the most vigorous plants are the worst affected, but it is reasonable to suppose that the gross growing plants will decay more rapidly than others not so, when the upper and under parts cannot act together in concert : but whether that has anything to do with the first cause is very uncertain ; *J. Grey, Hexham, Sept.* 13.

Culture of Nelumbiums. — Walking through the garden of Mr. Van Houtte, at Ghent, last week, my attention was attracted by a large pit, amongst the cool frames, completely filled with *Nelumbiums* in the most luxuriant state of growth, and exhibiting amongst their leaves many more seed-vessels than I could easily count. One had alone, the last of the season, was about to expand ; it was fully 6, or perhaps 7 inches high, and I was informed would, when open, be at least 10 inches across. The pit differed in nothing from its neighbours, but that it had upright glass sides of about 3 feet rising upon its brickwork of 2 feet high, and was formed to receive a glass roof which was then removed. Mr. Van Houtte informed me that the species was *Nelumbium caspicum*, and that it was cultivated in summer by sun heat alone, without any assistance from bottom heat whatever ; but that the roots were preserved in a hothouse in winter when dormant. The pit and exposed to the utmost possible amount of light, and could be compared to nothing but a broad ditch glazed on both sides, and completely overgrown with *Nelumbiums*. Its appearance was so remarkable that I cannot but wish such a pit might be devoted to them, either at Chiswick or Kew, where they could hardly fail to attract much attention. Mr. Van Houtte has found *N. caspicum* much easier to cultivate than *N. speciosum*, and much more ready to flower than *N. luteum* ; of its prolificness in this respect there was abundant evidence. The seed vessels exhibited all their peculiarity of form, but the seeds did not appear as if they would ripen, indeed they were evidently abortive. Some years ago, I found that *N. speciosum* grew much stronger in a pit close shut up and exposed to sun heat than I ever obtained it in a stove. But the plant having been accidentally destroyed in winter I had no opportunity of carrying on my experiment. Intense light is, I believe, essential to its growth ; *J. R., Sept.* 10.

Potato Disease.—Never was this disease seen in so virulent and disastrous a form as at the present time. Its destructive effects are nearly complete, for hardly a fifth of the crop is sound. The very early sorts, and which ripened in July, are sound now, but all other later sorts are extensively diseased. The poor are suffering by a diminution of their food, and those who have many children cannot afford to buy bread, to make up the deficiency in this invaluable esculent ; *X. Y. Z., Hants.*——I have just had my Potatoes taken up, and out of 1 acre and 20 rods I shall scarcely have 6 sacks, but what I have are tolerably good, though small ; the diseased ones are all wasted away except the smaller sort. The above were planted in different situations, some with manure and some without it, some with lime and some with salt, some last autumn and early in the spring, some in an exposed situation and others in a well sheltered south east border ; all have suffered the same fate, and this state of things exists for many miles round. They were never half so bad before ; *J. A., Anerley-road, Hants, Sept.* 18.

Compost for Melons.—On the 7th of April last I placed a 3 light frame on a solid bed of stable manure. Not being able to obtain turfy loam, I got some mould from the sides of a dry ditch, and of this material I formed my hills, allowing about one wheelbarrow load to each. My plants were only seven days old when I broke the bottoms out of the pots and inserted them into the hills ; leaving about 1 inch of the pot above the surface, my plants grew very strongly, and as soon as the roots began to penetrate through the hills, I mixed some garden mould with one-third of lime rubbish, and placed it round them. This compost has proved very suitable for Melons. My plants gave me entire satisfaction in every respect. I cut my first fruit on the 10th of July. It weighed 11 lbs., and my employer said that its flavour was most delicious. The produce of the 3-light frame was 31 lbs. ; *J. C., gardener, Hillfield Gardens, Hampstead.*

Growing Potatoes on Hillocks.—The condition of Potatoes, grown from sets accidentally left in the ground, differs materially this year from what was observed in 1847. Last year, when the Potatoes were succeeded by corn, after reaping, the tubers dug up from these self-planted roots were generally quite sound. This year they are nearly as unsound as those grown in the usual manner. But where the Potato crop has been followed by another, like Carrots, which allowed the self-planted to be earthed up on every side, and left in a small conical hillock, the produce has been found to be remarkably healthy. The reason for this difference I suppose to be the dissimilar state of the two as to moisture, which, in excess, we must allow this year to have aggravated the disease. The success of your two correspondents will, no doubt, induce many to try the hillock system next year ; but, if manure is used, I should recommend it to be placed, at least in part of the crop, above the set. This will cause an upward growth of the tubers, and place them in a drier position ; *Sigma.*

Flax-steep Water as a Manure for Flowers.—I used the water in which I had Flax steeped as a manure for flowers last year. I followed up the experiment this year ; and although I was from home for five weeks, during which time none of the plants had been watered with the Flax-steep, still I am able to say that those Dahlias to which I used the water early continued to keep ahead of those not so treated. The latter grew from 2½ to 3 feet high, while those to which steep-water was applied grew from 7 to 8 feet high, when three of them broke down, the sticks being too weak to support them against the wind ; but their beauty, from the

abundance of bloom, surpassed anything that I have seen. I have not manured my garden for these last four years, being determined to keep it poor, in order to try what effect Flax-water would have in producing good full-grown flowers in cold, worn-out soil. I am now able to assert that none of my neighbours had such a blow of Roses or Dahlias as I have had; and to them I can refer, as they were witnesses of the fact. I had, by the use of Flax-water last year, Dahlias from 10 to 12 feet high, loaded with the most perfect flowers. This rich liquid manure (for it deserves the name) will be found invaluable to market gardeners and growers of flowers. I find it to annihilate the green-fly; *J. Dickson, British Flax Mills.* [With this communication we received a sample of the Dahlia blooms in question; but they were so much spoiled by travelling that no opinion of their merits could be formed.]

Remedy for the Potato Disease.—In our endeavours to obviate the consequences of the Potato malady, we ought, I think, to be prepared for the worst, *i. e.*, to calculate upon its permanent stay. Now we find that some varieties, by early growth or peculiarity of substance, escape from or resist the disease more than others. Let, therefore, fresh kinds be grown from seed; not with the vain hope that they will be entirely proof against the epidemic, but with the expectation that some will be produced which will be comparatively unhurt. The tendency of the plant to run into varieties will favour the endeavour; *Sigma.*

Vagrants.—Is "H. B." wrong in his good-natured suggestions to us to help all the destitute sons of toil, yea, even vagrants, who may even be knaves—testing them wisely with a little work first, because "A. M." having "fed" two young scamps "from her table," and having for the very sufficient reason of their pretending to be imbued with religious impressions, furnished them also with round frocks, finds out that her sensibility has outrun her good sense? Certainly not. It is the very fact that among vagrant boys and men there are many such rogues, and that their frequent impositions are made the convenient excuse by the large mass of mankind for buttoning up their pockets, which induces "H. B." to suggest an often tried and generally successful test of the destitute and the merely idle vagrant. But it is so much easier to feed poor "orphans" from our table than to enquire carefully into their cases, to gratify our sensibility by an easy gift of a round frock than to take the trouble of providing a piece of work for a vagrant, that such deceptions as that practised on "A. M." must constantly occur; *B. A. M.*

Sulphur v. the Potato Disease.—I am happy to be able to corroborate my former communication concerning the cure of the Potato disease by the use of sulphur. Mrs. Bridger's gardener, from Chigwell, told me to-day that he used sulphur last year, and that he had not a dozen diseased tubers in the whole piece of Potatoes so treated. A better crop, he said, could not be desired, whereas those not sulphured all became black; more than half the crop was lost, and that portion saved small and waxy. The sulphur was applied as soon as the disease showed itself, and the plants continued quite healthy, and ripened perfectly sound. Notwithstanding this, however, I think the best remedy after all, particularly in dry situations, is autumn or early spring planting, by which the tubers may get set before the disease arrives. We had some Ash-leaved Kidneys planted last autumn, which ripened towards the end of June, before the disease appeared, and are quite sound. Early Shaws planted about the end of February ripened by the middle of July; at that time the disease was just making its appearance, and I had them taken up; they are now quite plump and sound, with not a diseased one to be seen amongst them. It is of no use to plant late sorts for a crop, unless we apply sulphur, for the disease comes long before they are fit to take up. There is not above a fourth part of the crop saved in this neighbourhood, and that very doubtful, and in damp situations not more than one-eighth part is sound. One great advantage in getting the crops off by the middle of July is that the ground can be occupied with green crops for winter use. Of Potatoes laid down in sulphur, the latter had no effect on them; they are in the same state as those to which nothing was applied; *John Ryle, Leyton, Sept.* 18.

Slugs.—The most effectual remedy against the depredations of slugs and snails is to strew fine sifted ashes, with a little soot and lime, well incorporated together, over the ground directly seed is sown, and again when the plants are coming up the lime and soot will form a coat over the stems and leaves of the tender plants, until they are strong enough to resist the enemy, and the sharp rough particles of coke or coal ashes will prevent their passing over it. The best time to sprinkle is when the dew is on the ground, or after a shower; *Cantium.*

Figs.—I have lately gathered some brown Figs, from an old tree which was formerly trained against a wall, but which of late has been allowed to form a standard above the wall. I thought them uncommonly good specimens, three of them weighed 1 pound avoirdupoise. Were they not fine fruit? *J. Lane, gr., to J. H. Palmer, Esq., Fulham.* [Yes; we presume the sort is the Brunswick, which is readily known by the deeply divided foliage.]

Wasps and Dahlias.—I imagine that wasps are wrongfully blamed for "devouring the bark and young shoots of Dahlias," that would make wasps herbiferous, which certainly is not the case. Their real mission amongst Dahlias is in search of juice, which may happen to ooze from cracks in the stems. Wasps tap or gnaw the bark for the sake of juice, but they seldom "eat the bark, and make large holes in the stems so that whole limbs are invariably killed." "J. F." must be mistaken when he says that wasps form cells in the interior of his Dahlia stems; for neither wasps nor bees make cells from home; *J. Wighton.*

Yucca gloriosa.—It has often surprised me that the peculiarly exotic character of the Yucca gloriosa has not been the means of introducing it more generally into highly kept or dressed gardens or pleasure grounds; it is perfectly hardy, and no other plant will endure the vigour of our winters, possessing an equally majestic and striking effect. The circumstances of its dying down after flowering, though it throws up suckers from the roots, may have prevented its more general introduction. A splendid specimen blossomed with me last autumn, and I found some time after cutting the flower stem down that the remaining stump had imbibed so much moisture, and that in the heart of the plant, that its destruction was evident; to obviate this, I cut away what I could, and inverted a garden pan over it to throw off the rains. In the spring a healthy bud shot up through the centre of the stump, and it now forms a handsome head, promising fairly to bloom again next year. This I consider is a desideratum, for suckers or young plants are five or six years before they produce flowers; *W. Godsall, Nurseryman, Hereford.*

The Potato Crop.—I have this year grown 46 perches of a Potato not known in this neighbourhood, called "Staffald Hall." I planted as early in February as the weather permitted; the soil a very free light sandy loam. The previous crop had been Mangold Wurzel, for which the land had been heavily manured with farm-yard dung. No fresh manure was added when the Potatoes were planted, but the leaves of the Mangold Wurzel had rotted on the ground. The plants came up very strong; they were hacked and earthed up as usual. After the first warm sunshine which succeeded the rains of June, the leaves, and afterwards the haulm, showed generally symptoms of the disease, which increased rapidly, and very shortly the whole became a dry black mass. I have, within the last 10 days, dug and stored the crop, not having removed the haulm, but allowed it to remain until the digging commenced. The result is 20½ sacks of sound full-sized Potatoes, 5 sacks of diseased Potatoes (not so bad as to prevent their being boiled and given to the pigs), and about 2 sacks of small sound Potatoes, making together 27½ sacks of 12 pecks each. I attribute the small proportion of diseased Potatoes to the early planting, to the light dry soil, and to the comparative maturity of the leaves, haulm, and tubers when the disease attacked the plant. The Potatoes at that time were not only formed but had attained their full size or nearly so. The functions, therefore, of the leaves and stems were nearly at an end, and I think it may fairly be argued that they were therefore the less likely to transmit a disease affecting them to the tubers. The greater part of the diseased tubers were those nearest the surface. The sets had been wintered carefully, and had not been allowed to be stimulated into premature vegetation. This sort of Potato I purchased (with several others) of a Mr. Chatwin, a salesman in Hungerford Market, about 7 years since. I lost sight of the sort on a change of residence, but a friend to whom I had given some of them informed me two years since that it had resisted the disease with him in 1845 and 1846, when other sorts under the same treatment had succumbed to it. I accordingly procured some of the sets again, and last year (1847), a small quantity (autumn planted) came to maturity, and escaped the disease in land where other sorts were injured. I do not argue for any immunity from the disease to this particular variety, for my experience of this year proves that it does not wholly escape; but as the disease has been very fatal this year in this neighbourhood, and having succeeded with it during two seasons, my friend (in Wiltshire) having previously tested it with the same result, I have thought the facts may be worth recording in its favour. It is a purplish red Potato, full sized, boils very white and mealy, and is of excellent flavour. It keeps well until spring. I never cut my sets, but use those Potatoes which are just under the middle size. I prefer (as the result of trial), February planting to October planting, because, first, I have found that sets very frequently rot when planted in autumn, whereas sound tubers planted in February produce a regular plant; and, secondly, because I find that Potatoes planted in February are much earlier in growth and maturity than those planted in autumn. On digging this year I found that in those spots where the disease was most fatal to the tubers, there invariably was some natural or accidental dampness or compression of the soil. My practical inferences are therefore that it is of little or no use to cultivate the Potato now, except under the following conditions: The sets to have been wintered with as much exposure to air as is compatible with safety from frost. The planting to be as early in February as the weather will permit. The soil to be of a light free texture, at the same time not cold, so as to promote active early growth without grossness, and to "give out" the plant soon after Midsummer No manure to be used for this crop. The soil to be cleansed and lightened by the ordinary hacking and earthing up; *Alfred Whittaker, Beckington, Somerset, Sept.* 18.

Societies.

ROYAL CALEDONIAN HORTICULTURAL, *Sept.* 7.—This, the Fruit and Dahlia competition, took place in the Experimental Garden, Inverleith. The competitors were more numerous than on any former occasion, and both the fruits and flowers were of first-rate description. The day proved unfavourable, but still a respectable company visited the garden. The fruit prizes were awarded as follows: For the best two sorts of Peaches, a 1st premium was assigned to Mr. Crocket, gr. to Colonel Ferguson, for Noblesse and Bellegarde; and a 2d award was made to Mr. Ramsay, gr. to Sir D. Baird, Bart., for Royal George and Noblesse. For the best two sorts of Nectarines the premiums were also awarded to Mr. Crocket and Mr. Ramsay, each producing Elruge and Violette Hative. The competition in Grapes was extensive, all the competitors producing admirable clusters. For Muscats, a 1st award was made to Mr. Douglas, gr. to C. Kinnear, Esq., and a 2d to Mr. Lees, gr. to the Earl of Haddington. For Black Hamburgh Grapes, a 1st prize was awarded to Mr. Lees, and a 2d to Mr. M'Lachlan, gr. to W. R. Ramsay, Esq. For the best two bunches of Frontignan Grapes, a 1st prize was gained by Mr. Lees, with Black and Grizzly Frontignan; and a 2d by Mr. Crocket, with White and Grizzly Frontignan. For the heaviest bunch of Grapes fit for the dessert, the prize was awarded to Mr. Douglas, for White Raisin. For the best grown Pine-apple, the prize was awarded to Mr. Lees, for a beautiful specimen of the Black Antigua. An extra Silver Medal was assigned to Mr. Pillans, gr. to the Duke of Northumberland, Alnwick Castle, for a well-grown specimen of the Enville, weighing 7½ lbs., which was excluded from competition as not being of Scotch growth. An honorary award was likewise made to Mr. Temple, gr. to O. T. Bruce, Esq., who exhibited (not for competition) the following varieties, viz. Old Queen, Lemon Queen, Black Jamaica, and Smooth Havanna. For Moorpark Apricots, a first prize was awarded to Mr. Ramsay; and a second to Mr. Bell, gr. to Lord Mackenzie. Mr. Bell also gained a prize for Turkey Apricots, and Mr. Currie, gr. to Miss Wedderburn, for Breda Apricots. In Plums there was a keen competition, particularly in Greengages, the prizes for which were respectively gained by Mr. Crocket and Mr. M'Lachlan. The prize for Plums exclusive of Green-gage, was awarded to Mr. Thomson, gr. to Captain Falconer, for White Magnum, Washington, and Victoria. An honorary award was made to Mr. Adamson, gr. Balcarres, for beautiful specimens of Morello Cherries. The competition in Melons was very extensive, but the specimens in general were deficient in flavour; the best was named Prizefighter, a green-fleshed variety, sent by Mr. Lyall, gr. to Sir J. Hope, Bart., for which the premium was voted. The prize for Jargonelle Pears was awarded to Mr. Addison, gr. to the Earl of Wemyss (a superior set, from Rose Park, having been excluded on account of irregularity in the certificate).

The Dahlias excited considerable interest. In the Nurserymen's department the highest prize was assigned to Messrs. J. Dickson and Sons, the kinds being Golden Fleece, Box, Beeswing, Cleopatra, Standard of Perfection, Boule de Feu, Princess Radziwill, Marchioness of Cornwallis, Louis Philippe, Captain Warner, Shylock, and Queen of Sheba; the Silver Medal, as 2d prize, was voted to Mr. Handasyde. Among the Practical Gardeners, the highest premium was awarded to Mr. M'Donald, gr. to Lord Willoughby D'Eresby, for Cleopatra, Gloria Mundi, Queen of Sheba, Nonpareil, Beeswing, Mrs. Shelley, Boule de Feu, Golden Fleece, Yellow Standard, and Standard of Perfection; the Silver Medal, as 2d premium, was voted to Mr. Addison. In the Amateur's department there was this year rather a deficiency of competitors. The prize was awarded to Mr. Sanderson, for Marchioness of Cornwallis, Beeswing, Box, Sir Edmond Antrobus, Marquis of Worcester, and Captain Warner. There was a keen competition in Fancy Dahlias; the highest prize was voted to Mr. M'Donald, for Surprise, Narcissus, Mons. Adolpho, Mr. George Clayton, Harlequin, Hermina, Madame Wachy, and Madame Miellez; and a 2d premium to Mr. Sharpe, gr. to Sir J. S. Richardson, Bart. Several competitors produced seedling Dahlias. After a careful examination the committee unanimously awarded the Silver Medal for an orange-coloured seedling, found to have been raised by Mr. Sharpe, Pitfour, during 1847, and named Knight of Nova Scotia, of which eight blooms were shown. No less than 14 competitors came forward for the prize of one guinea, offered (through the Society) by Messrs. Dickson and Co. to practical gardeners, for the best 12 Hollyhock blooms. After a minute inspection, the prize was awarded to Mr. Veitch, gr. to R. Dundas, Esq. A 2d premium, given by the Society, was voted to Mr. Foulis, gr. to J. Tytler, Esq., and a 3d to Mr. Veitch, gr. to Lord Melville. The prize of one guinea, offered (through the Society) by Messrs. J. Dickson and Sons, for the three finest flowered specimens of Japan Lilies, was gained by Mr. Stewart, gr. to Professor Dunbar, the kinds being Lilium lancifolium album, speciosum, and punctatum.

On this occasion a number of meritorious extra productions were exhibited, for which thanks and honorary awards were made, according to circumstances:—To Mr. Handasyde, for a magnificent display of show and fancy Dahlias, also fine Roses, China Asters, and Verbenas; to Messrs. Dickson and Co., for an extensive and varied display of Dahlias, Pelargoniums, Pansies, and Verbenas; to Messrs. Ballantyne and Son, for trays of China Asters, Hollyhocks, and fancy Poppies; to Messrs. P. Lawson and Son, for a noble specimen in flower of Clerodendron Kæmpferi, and 20 varieties of named Hollyhocks; to I. Anderson, Esq., for a well-grown specimen, in full flower, of the Plumbago Larpentæ; to Professor Dunbar, for Cape Heaths, including Erica jasminiflora, Hartnelli, and Macnabiana, also a well-bloomed plant of Rosa Devoniensis; to Dr. Neill, for a specimen of Curcuma Roscoeana, with two fine flower spikes; to S. Hay, Esq., for two remarkable specimens in flower of Echinocactus Scopa and E. mammillosus. On the same occasion the thanks of the Society were particularly voted to Mr. Reid, gr. to Professor Syme, for a bunch of Grapes, being two clusters grafted together immediately previous to the setting of the fruit (Mr. Reid was requested to try the same experiment with Grapes of different colours); to Mr. Gardiner, Oxenford Castle, for an excellent sample of Plums and Apricots, the produce of trees renovated by root-pruning; to Miss Aitchison, for large and well-retarded specimens of the Green Hedgehog and Warrington Gooseberries; to the Rev. Dr. Ralph, for two extraordinary clusters of Jargonelle Pears; to Miss Hay, for two very large specimens of Savoys, the two weighing 70 lbs.; and to Mr. Addison, for a variety of Potatoes, both early and late, accompanied with a short communication. Amongst the early varieties, Mr. Ad-

dison stated that he had found the Prince Regent and Fortyfold the best, besides being kinds less prone to disease than most other cultivated early sorts. Among the lates the York Regent was stated to be the most desirable for cultivating, being prolific, of first-rate quality, and also resisting disease. On the evening of the same day the anniversary dinner took place.

Royal South London Floricultural, *Sept.* 13. (*Continued from* p. 622).—Mr. Turner's stand, to which Mr. White's prize was awarded, contained: Berryer, Miss Vyse, Louis Philippe, Scarlet Gem, Privateer, and Collison's Shylock. The display of seedlings was numerous, particularly those of 1847. We give the following as a tolerably correct report of the awards in this department of the exhibition; but if any errors have crept in, they must be attributed to the difficulties under which it was obtained, the authorities having only cleared the tents for the censors a short time previous to the Gardens being opened.

Of Seedlings 1847.—3 blooms shown: 1st class Certificates were awarded to Mr. Turner, of Chalvey, for a variety named "Mr. Seldon" flower large, fine in form, with the centre well elevated and filled with petals; flower deep, petals good and well arranged; in colour the petals are deep purple at the base, shaded off to a light lilac purple; the same for a flower called "Grenadier," a deep rich red, flower symmetrical, centre well up, petals good shape, and well arranged; "Dreadnought," Mr. Collison, of Bath, crimson maroon, petals finely formed and well arranged—first-rate in form; "Fearless," Mr. Barnes, Stowmarket, a flower rather novel in colour, being a bright lavender, large, and finely formed; "Duke of Wellington," Drummond, a light, or orange scarlet, novel in colour, a promising variety; "Lamartine," Taylor, yellow, slightly tinged with red—a large flower of good shape; "Victoria Regina," Keynes, white, mottled with lilac—a large flower, fine in form, with the centre well up; "Duchess," Bushell, white, a very promising variety; "Queen of Yellows," Harrison; "Queen of the East," Barnes, blush, a finely formed flower.

Fancy Dahlias, 1847.—First-class Certificates: to J. Howard, Esq., for "Miss Jane," crimson maroon, white tip, form good, regular, and with centre well elevated; "Rainbow," Keynes, red, with white tip—a flower of fine form and very regular; "Mrs. Stanley," Mitchell, light crimson maroon, white tip. 1848: To Mr. Pope, Chelsea, for ———, buff, with lilac back to petals—a singular coloured variety, form very superior; "Queen of Beauties," Drummond, a light lilac—a promising flower of good form. *Fancy Varieties*: "General Cavaignac," Hunt, crimson maroon and white, fine circular form, with good centre.

A new and very pretty seedling Verbena, named Princess Alice, was exhibited by the raiser, Mr. Wymess, gr. to her Majesty at Buckingham Palace, and received a Certificate; the truss is loose, and the individual flowers well formed; it is white with a rosy spot in each division of the corolla, distinct and very pretty. Several collections of Fuchsias were shown in very fine condition; and Japan Lilies, from Mr. Groom, made a good display. Stands of cut flowers added greatly to the gaiety of the Exhibition; and the Verbenas contributed by Messrs. Smith, Gaines, Wymess, Parker, and Robinson, to whom prizes were awarded, were greatly admired. A stand of Hollyhocks, from Mr. Chater, was shown in spikes (a mode of exhibition well adapted for showing this flower to advantage); among them were some splendid varieties, perfect in form, clear and brilliant in colour. Antirrhinums were also freely exhibited, and contributed their share to the interest of the Exhibition.

We cannot close our account of this Show without again alluding to the subject of having the tents cleared at the time appointed for the judges to make the awards. This being delayed to a late hour is most injudicious, and great inconvenience arises from it to all parties. The authorities, who have the management of this department, should enforce a stricter observance of the regulations, which should not be infringed upon by one party to the inconvenience of another—it is a matter that deserves the serious attention of the committee; and it is also the duty and interest of the exhibitors to assist in forwarding the object, so that the claims of each may be duly considered, and full justice done to all. We hope, in another season, to see this evil remedied, and proper time allowed the judges to make a deliberate award (without being annoyed by the continued interruptions to which they have been subjected by parties improperly seeking to obtain a sight of the flowers); such a course could not but prove satisfactory to all.

Reviews.

A Descriptive Catalogue of Selected Roses, cultivated for Sale. By Thomas Rivers, Sawbridgeworth. Edition for 1848.

The same. By William Wood and Son, Woodlands, Maresfield, near Uckfield, Sussex.

These two good Rose catalogues have just been forwarded to us. They both deserve the careful perusal of every cultivator of Roses.

The fault which we have to find with Rose catalogues in general is the great number of sorts, many of them worthless, which are enumerated, and the minute division of some families of Roses into groups, so that it is no easy task to discover their position in the catalogues. The French growers have carried this to a great extent, and some of our English nurserymen have closely followed their example. Mr. Rivers has, however, commenced to reform the evil by reducing the number of sorts. He says "the increase in the number of varieties of Roses has become alike irksome to the amateur and cultivator. The former sees a voluminous catalogue, full of names, fatiguing to read, and impossible to select from; the latter has his attention so much divided that he scarcely knows what sorts to propagate; for the cultivator may order a plant of every kind in his catalogue, he therefore feels obliged to propagate some of all." Now, however, that Mr. Rivers' attention has been directed to the subject, we anticipate that this "growing inconvenience" will be in some measure arrested, and we are glad to find that in his catalogue, very select lists of Roses in each family, only, have been given.

In reference to Bourbon Roses, Mr. Rivers has the following useful paragraph: "This charming family is now almost perfect, so numerous are the splendid varieties recently added to it; for beds on their own roots they are unrivalled; for when well established they seldom receive any injury from the winter. An excellent compost for these Roses on their own roots, in stiff soils, is burnt earth, *i. e.*, any weedy or Grassy surface pared 2 inches deep and burnt, well saturated with manure water, spread on the surface 2 inches deep and then mixed with the soil to about 1 foot in depth." In regard to China Roses, it is stated that "for beds for the flower-garden on their own roots, these Roses ought to be cultivated in preference to many annuals, they are so constantly in flower during the summer and autumn, and give so little trouble. China Roses form beautiful low standards for a group. To ensure their succeeding perfectly, these should be taken up about the end of November, and placed against a north wall, their roots placed in the ground with their heads resting against the wall over which a mat should be nailed in severe weather; they may be planted out towards the end of March, and they will bloom in great perfection during the summer and autumn." The same treatment is recommended for standard, Tea-scented, and other tender Roses.

Messrs. Wood give the following as the result of their experience:

"In order to insure a magnificent and lasting bloom, we have always found an abundant supply of manure absolutely indispensable; indeed it is perfectly useless to attempt growing Roses without it. When planted they require a good mixture of turfy loam and half-decomposed manure (at least one wheelbarrow-full to each plant); and if standards they should be carefully staked. During the summer a plentiful supply of liquid manure will be found highly beneficial. It will be also necessary to cover the beds in the autumn with a good dressing of manure, and during the month of February it should be lightly forked in. The annual pruning takes place either in February or March, according to the season; the shoots should be shortened to about three eyes, with the exception of the Hybrid China and Hybrid Bourbon Roses; these only require some of the superfluous shoots trimmed out, and the remainder left nearly their full length. The climbing Roses may also be subjected to similar treatment. It will be advisable to protect the China and Tea-scented Roses during the winter months, by placing a thick layer of decayed tan round the plants; in addition to which we have found small branches of Spruce Fir, stuck into the ground a short distance from the stools, greatly assist in checking the severity of the frost."

Garden Memoranda.

St. Clare, near Ryde, the seat of Colonel Vernon Harcourt.—To all acquainted with the topography of the Isle of Wight, the castle and grounds of St. Clare are well known. The castle was built by the late Lord Vernon, but the grounds may be said to be the offspring of the present owner, and for beauty and tastefulness of arrangement probably stand unrivalled in the island. The most interesting feature of the place is the collection of Roses, which was started by Mr. Mearns, the gardener, to consist of between 300 and 400 varieties. The soil in this part, and the temperature of the island generally, seem well adapted for the successful cultivation of the Queen of Flowers. The ravages of the Swedish, however, had exerted an influence even over them here, as elsewhere; but the appearance of the last few weeks caused a revision of former lists, which promised an abundant supply of blooms for many months to come, as the frost has as yet been only severe enough to check the total blooming of the Rose till December. In the "Pleasure portion of the new ground, a Rosery has been formed this winter, which contained many of the newer varieties, but they were, however, mostly out of bloom. Madame Laffay (Bourbon) was stated to be a very free grower, and good show variety. Amongst those in bloom were Triomphe de Luxembourg, Madame Oger, Jacques Laffite (H. Per.), Madame Vidal, and Souvenir d'un Ami.

The dahlia-ground (China, Pæonia, &c.) formed beautiful objects planted out as specimens on the lawn in open groups; some plants here and there in bloom behind each. A plant of Verbena Lindleyana on the lawn (China Pink) had been out two years without the slightest injury. Passing in the direction of the castle, by a walk lined on either side by standard Roses, we arrived at another Rosery, formed in what was once a pond, and into which access is obtained by means of a flight of stone steps. The varieties here are somewhat old, but all of them of a crimson China, deserve mention, as being most profuse flowerers: as Cramoisi Supérieur (Perpetual) and Clara Sylvain (China). Of the latter there are two kinds in the country, one loose flowering, and the other approaching the character of the Hardy. Near this Rosery was a clump of Arbutus Unedo in flower, about 10 feet high. Here also was a large specimen with about 50 heads of bloom, and very pretty. This proves to be a valuable addition to ornamental shrubs. On approaching the house by the south side we came upon a third Rosery also in a hollow. The walks between the beds are formed of lime and sifted coal ashes. This prevents a hard and dry footing in the most unfavourable weather, and obviates the objection to gravel, viz. that of losing the surrounding turf with grit. Of Roses in bloom worthy of note were Solfaterre, which is inferior as a yellow Rose to Cloth of Gold, but [illegible] in a collection on account [illegible] de la Reine, Victoria (Yellow China), Madame Audot (Bourbon), Josephine Malton (Yellow China), and that splendid Rose Elize Sauvage, &c. On the south wall [illegible] the well known Marechal Niel, together with a [illegible] on Jasmine [illegible] a large space of wall, though only five years planted on the white Bankian stock. Mr. Mearns considers that where it is required to have fine Rose flowers and healthy plants in soils rather dry, the Bankian stock is almost indispensable. On the same wall were also two Myrtles each about 12 feet high. On the west side of the building a terrace walk runs north and south, parallel with an arrangement of flower beds, a modification of a plan known as the "Dresden." The centre was planted with Roses; Viscomtesse de Cazes was out of flower, but Mr. Mearns considers it a valuable addition to free blooming yellow Roses.

The flower-beds, notwithstanding the unfavourable summer, presented a brilliant appearance. Great attention is paid here to flower gardening, and especially to grouping, on the principle of harmony of colour. The old Isotoma axillaris formed a pretty edging of blues, as did also Lyperia pinnatifida; in the same class was also Lobelia erinus grandiflora. On the north side of the house is a terrace 20 feet above the surrounding ground, from which a splendid view of Spithead and the Hampshire coast is obtained. Aristolochia Sipho, in some parts of the country considered scarcely hardy, here covers the walls as extensively and as naturally as the Ivy on other parts of the building. This terrace is supported on the north side by a battlemented wall, over which is caught a bird's-eye view of a Pelargonium garden, to which access is obtained by a spiral staircase.

In the Pelargonium garden, the most handsome beds were composed of Unique, purple: Emily, white and pink, Ivy leaf (P. acetosum); Moore's Emperor, gooseberry-leaved; and Sidonie. The large oval, forming

NEW GARDEN PLANTS, PUBLISHED IN BOOKS.

N.B.—* = Very handsome. † = Second rate. ‡ = Third rate. ¶ = Unimportant.

Name.	Where Published.	Name of Country.	Quality.	Natural Order.	Colour of Flowers.	Time of Flowering.	When first Flowered.	Where.
Leuchtenbergia Principis	Bot. Mag., t. 4393	Mexico	G. ♌	Indian Figs	Yellow	?	1848	Kew.
† *Noble Leuchtenbergia.*								
Sonerila stricta	Bot. Mag., t. 4394	Java	S. ♌	Melastomads	Red	May	1848	Veitch and Son.
† *Upright Sonerila.*								
Gmelina Rheedii	Bot. Mag., t. 4395	East Indies	S. ♄	Verbenes	Yellow	May	1848	Kew.
† *Rheede's Gmelina.*								
Hoya imperialis.	Bot. Mag., t. 4397	Borneo	S. ♄	Asclepiads	Dull purple	June	1848	Lucombe and Co.
* *Imperial Hoya.*								
Maclcania cordata	Flores des Serres, 312	Mexico	G. ♄	Cranberries	Orange	.....	1848	Van Houtte.
† *Heart-shaped Macleania.*								
Statice frutescens	Flores des Serres, 325	Canaries	G. ♄	Leadworts	Blue	.....	1848	Van Houtte.
† *Shrubby Sea Lavender.*								

the centre, contained Tom Thumb. In four external triangles were Nimrod, and salmon-coloured Scarlets, the effect of which was very pretty. In various parts of the ground were large masses of the various Scarlets (Geraniums); Lucea rosea especially deserves attention. To the north of this garden is another terrace, probably 10 feet above the surrounding ground; for 60 or 70 yards this 10 feet is sloped off so as to form a bank, which is entirely filled with Fuchsias and Roses, and a prettier object than this Fuchsia bank it would be difficult to find. The Roses (Provins) bloom before the Fuchsias, which are of the old and, I will add, matchless, imported varieties and their hybrids. In severe winters they die down, except F. Ricartoni, which has never been known to do so.

In the parterre, near a beautiful promenade, on the northern extremity of the grounds, I observed a bed of Balsaminea latifolia (Impatiens platypetala); it looked admirably, and the plant will no doubt make a valuable bedder in warmer seasons. A mass of Cuphea platycentra was peculiarly handsome, and Ageratum cœlestinum grandiflorum makes a fine blue bed. There were also several masses of Salvia patens. A bed of Fuchsia fulgens, raised from cuttings in spring and placed near a fountain, where it had a moist atmosphere and full sunshine, was remarkable. Beds of Pentstemons pegged down looked well, and the crimson China Rose made a gorgeous display; as did also Verbena sulphurea, an old but good bedding plant. Torenia asiatica does not succeed well. In the stove, greenhouses, and conservatories were many fine plants, some of which were in bloom; *S., Sept.* 14.

Miscellaneous.

Sale of Camellias.—An importation of about 600 Camellias from a nursery at Versailles, comprising most of the old favourite sorts and some new varieties, varying from 1 to 6 feet in height, was sold by Mr. Stevens on Tuesday last. They fetched from 6*s.* to 19*s.* per lot of 4, 8, and 10 plants. One lot, however, consisting of Imbricata rubra and Siebold's Tricolor, fetched 3*l.* 17*s.* 6*d.*

Calendar of Operations.

(For the ensuing Week.)

CONSERVATORY AND GREENHOUSE.

The most desirable object in the management of the majority of plants in these structures, and one which must constantly be held in view, is that of procuring a robust and hardy growth, and of lessening their vital activity, that they may gradually accommodate themselves to the changing circumstances of the season. The influence of the autumn weather should be permitted to exert in a degree its legitimate influence. Ventilation, judiciously managed, will assist to accomplish the result recommended. Water will be required in less quantities both to the roots and foliage. *Pits and Frames.*—Continue to pot off cuttings from the first batch of bedding plants. It is important to get scarlet Pelargoniums established and hardened before the winter. Pot Neapolitan Violets, and let them be plunged in a frame. Lily of the Valley for forcing should now be potted, and Mignonette placed in an exposed and warm shelf in the greenhouse.

FRUIT FORCING.

Pines.—The fine sunny weather which we have enjoyed lately will have exerted a beneficial influence on Pines in every stage; the management of successions at this season is a nice and an important matter; caution must be used with the linings, a strong night heat is highly objectionable, although an equable growing temperature must be supported. *Vineries.*—As soon as the sap is considered at rest, the early house should be pruned and exposed during its strictly dormant period; the border should be covered so that the heavy autumn rains may be excluded. Fires must be employed in the late houses, that ventilation may be more effectually managed.—Melons and Cucumbers depend largely at this season on the aid of linings or tanks, as the nights are chilly coverings will be generally required. The making of Mushroom beds must be progressively attended to; the collection of materials is often a slow operation, whereas the whole amount of droppings should be of the same date, and undergo the same amount of fermentation.

FLOWER GARDEN AND SHRUBBERIES.

Should the Verbenas or other mass flowers show signs of exhaustion, manure water will be found a useful stimulant. We do everything to induce a vigorous growth in Verbenas at this period, and so manage to repress the mildew. See that faded blossoms and seeds are regularly removed from beds, other blossoms will be thus encouraged; much of the vital energy of a plant is expended in the perfection of its seeds. As soon as the beds can be spared they should be prepared for the reception of bulbs. Where many cut flowers are required, it is a great advantage to possess a flower border that proximates to any large building; the heat thrown off at night is sufficient to nullify the effects of early frosts, and a little covering at night ensures their safety; in other cases certain beds should be selected and regularly matted at night. Use the present opportunity of effecting a complete clearance of weeds from walks and borders. Roll and mow Grass; trim edgings; prepare evergreens for removal. Prick out young plants of Berberis, Rhododendrons, &c., that they may get established before the winter. Year old Pinuses and

KITCHEN GARDEN AND ORCHARD.

The weather lately has admitted the progress of the principal operations of this department; should it continue favourable, the opportunity may still be employed of advancing works which can be proceeded with most advantageously when the soil is in a fine malleable condition. It is advisable to adopt precautions at this moment to avert the effects of early frosts from the last crop of Kidney Beans and other tender vegetables. In some localities the frost has already been severely felt. Lights from the Melon pits sloped against the wall will both protect the Tomatoes and hasten the progress of their fruit. If Globe Artichokes are desired at an early period of the year, some strong suckers should now be selected and potted, protected by being placed in a cold pit throughout the winter, and planted out early in the spring; they will precede, in bearing, the old plants by at least a fortnight. Prick out an adequate supply of young Cabbage plants; a good store of Lettuce should be planted in a position where they can be protected from heavy rains. The general crop of Onions will be fit for housing by this time; the rot has been very prevalent amongst them in gardens this year; see that no decayed bulbs are stored with the rest. The quarter they have occupied should be dug on their removal. Cabbage would be a good successional crop. Remove rubbish of all descriptions from fruit tree borders. No obstacles should prevent the roots participating in a proportionate degree in the advantages accruing from favourable weather. Gather carefully and progressively the various Pears and Apples as they arrive at their full growth. Discard at once bruised fruit; its possession entails ultimate trouble.

COTTAGERS' GARDENS.

There seems to be a general desire amongst Potato growers of ascertaining, without further delay, the state of their crops; and, apprehensive of the continued progress of the disease, ridding themselves of the surplus supply without loss of time. In regard to the propriety of this proceeding, we may perhaps be permitted to offer an opinion. By this time, we imagine, the Potato haulm is pretty generally decayed; connection, therefore, no longer exists between the tubers. We suppose that infection would be distributed, while vitality existed in the stem, affecting the Potatoes in proportion to the power of the disease; and as sufficient time has elapsed for the action of the virus, we may conclude the full power of it has been expended, and a determinate portion destroyed. Assuming the correctness of our opinion, apprehensions in regard to a further loss of Potatoes at present ripe and sound are unfounded, and nothing will be gained by raising them from the ground, except indeed the situation be peculiarly unfavourable from excessive humidity or the number of slugs and other enemies to the Potato, when, of course, the sooner they are taken up and pitted the better. We possess one encouraging circumstance in connection with the Potato disease—that portion of the crop which has escaped the disease, we have found invariably excellent in flavour, and we augur favourably of this fact, for if the plant has regained power sufficient to perfect one tuber, it may gradually acquire increased strength, and under more rational treatment ultimately recover.

State of the weather near London, for the week ending Sept. 21, 1848, as observed at the Horticultural Garden, Chiswick.

Sept.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 15	17	30.409	30.359	64	32	48.0	N.E.	.00
Satur.. 16	18	30.433	30.377	69	34	51.5	S.	.00
Sun. .. 17	19	30.361	30.330	71	39	55.0	N.W.	.00
Mon,.. 18	20	30.2-0	30.122	68	36	52.0	N.W.	.00
Tues... 19	(	29.989	29.792	68	37	52.5	S.W.	.00
Wed... 20	22	29.768	29 617	77	37	57.0	S.	.00
Thurs. 21	23	29 798	29.764	75	41	59.5	S.E.	.03
Average .		30.145	30.101	70.3	37.0	53.6		.03

Sept. 15—Slight fog with heavy dew; clear; fine; slight haze; clear and cold.
— 16—Slight fog; very fine; clear.
— 17—Slight fog; fine, with light clouds.
— 18—Foggy; very fine; clear at night.
— 19—F ggy; fine till noon, then cloudy; clear.
— 20—Clear; exceedingly fine, clear at night.
— 21—Slight fog; very fine, with hot sun; partially overcast.

Mean temperature of the week, 3½ deg. below the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending Sept. 30, 1848.

Sept.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 24	65.6	45.1	55.4	10	0.75 in.	1	4	2	1	4	6	3	1
Mon. 25	65 2	47.3	56.2	9	0.-0	1	4	1	1	4	6	4	1
Tues. 26	65.5	45.1	55.3	13	0.69	—	4	2	1	7	6	1	1
Wed. 27	64.5	44.0	54.2	12	0.57	—	1	2	1	4	6	6	2
Thurs.28	61.8	44.0	54.1	9	0.52	1	2	2	1	8	4	3	2
Fri 29	64.6	45.1	54 8	12	0.35	—	2	3	2	5	6	2	2
Satur. 30	61.3	44.0	54.1	10	0.38	2	1	3	1	5	4	6	—

The highest temperature during the above period occurred on the 29th 1852—therm. 79 deg.; and the lowest on the 27th, 1828—therm. 24 deg.

Notices to Correspondents.

To our Correspondents—May we beg it to be understood that *we cannot answer inquiries privately through the post.* We are ready to give any reasonable information in our power through our columns; but we cannot consent to the labour of writing letters.

*** A few answers to Correspondents are unavoidably deferred to another week, for which we have to solicit their patience.

Asters: *Hardy and Son.*—Your Asters reached us in excellent condition; they are beautiful specimens of that showy flower. ‡

Bee Flowers: *Hopkins.* We are not acquainted with the plant in question, and therefore can give you no advice respecting its culture *W.*

Climbing Roses: *J T.* Lamarque, white; Madame Plantier, lemon, yellow centre; Bougainville, purple; La Biche, deep blush; Boursault, rosy purple; De Lisle, blush centre; Jaune Desprez, bronzy yellow; Aimée Vibert, white; Fellemberg, bright crimson; Sanguinea, dark crimson; Ruga, white.¶

Emigration: *J Butt.* The young man should apply to the New Zealand Company's Office, Broad-street, City; and also read the books on emigration by Burns, Sidney, and others. The

Exhibitions: *L B W.* We quite agree with you. It is of the utmost importance that flowers at exhibitions be properly named. When such is the case, amateurs are able to fix upon their next season's purchases; and we would beg to suggest to the managers of horticultural societies generally, that no stand of florists' flowers of any kind should be allowed to compete for a prize unless the proper name of every flower is appended to it. The universal adoption of this practice would greatly extend the usefulness of these societies, and add much to the enjoyment of those who attend their exhibitions. ‡

Fruit Trees: *J T.* The situation against the wall of a house and west aspect will suit the Glout Morceau, Passe Colmar, Hacon's Incomparable, and Marie Louise Pears; and the Mayduke and Elton Cherries. ‖—*A Young Gardener.* We are not certain whether guano would be proper for the Peach tree or other stone fruits; you may, however, safely apply a rich compost of cow-dung and loam or turf. ‖—*G W.* Melling's Crown Bob, Keens' Seedling Warrington, and Leigh's Rifleman, are varieties of Gooseberries that soon acquire size for gathering green. ‖

Insects: *Pavonia.* Stick the moths or butterflies which you wish to relax and reset on a piece of cork or linen cloth, and lay it on the surface of some damp sand in a closed jar, or bruise some Laurel leaves and put them in the jar instead of the damp sand. There are several collectors who would supply you with caterpillars, whose names may be learned by a line addressed to the Curator of the Entomological Society, 17, Old Bond-street. *W.*—*Sylvanus.* Thanks for the Rose-gall, which was, however, bruised in the transit. *W.*

Names of Fruits: *A A.* Your Grape appears to be the Grove-end Sweetwater, but was much bruised when it reached us. ‖—*J F.* 1, Newtown Spitzemberg; 3, Golden Reinette; 4, Lemon Pippin. ‖—*W P, Taunton.* Pears: 2, Comte de Lamy; 3, Napoléon; 4, Gilogil. Apples: 9 and 10, Kerry Pippin; 13, Rhode Island Greening; 14 and 15, Golden Pippin; 17, Golden Reinette; 18, Golden Harvey; 19, Dutch Mignonne. ‖—*G Cooper.* A, Dumelow's Seedling; B, Margil; C, Norfolk Beaufin; D, Blenheim Pippin. ‖—*D Judd.* Nos. 1, 2, 3, 6, 8, 9, 11, 13, appear to be the Violette Hâtive; 5, 7, 12, Elruge; 2, 3, 8, Royal George; 4, 7, 10, Bellegarde; 1, 9, Noblesse. ‖—*J B K.* Cannot name the Pear from the drawing; might by having a leaf from the middle of the shoot. ‖

Names of Plants: *J W.* Apparently Oncidium tetrapetalum. —*Q V.* Leaves cannot be named. It is very doubtful whether it is a Holly at all; we think not.—*Cryptos.* The dark variety of Æthalium septicum.—*G R.* Lysimachia Nummularia.—*Inquirer.* The double-flowered variety of Clematis Viticella. It should be struck from cuttings in the spring, like a Dahlia, selecting young shoots about 2 or 3 inches long for the purpose. The old wood will not strike. ¶—*W Ivery.* Spiræa vaccinifolia. ¶—*B H.* Cynoglossum glochidiatum. ¶—*W E H.* 1, Gymnocladus canadensis; 2, Garrya alba? 3, Æsculus macrostachya. ¶—*T Forsyth.* There is some difference of opinion among botanists as to whether the genera Chelone and Pentstemon should be distinguished or not, and therefore the judges were right in regarding them as being the same.—*Lady G.* Monodichlamydeous signifies monochlamydeous or dichlamydeous, that is to say, having only a calyx or both a calyx and corolla. A full explanation of all terms and abbreviations will be found in Dr. Lindley's "Elements of Botany."—*J C.* Plants not in flower cannot be named.—*S.* Ruscus racemosus. ¶—*W S.* Miltonia Clowesiana. ¶

Peach trees: *G R.* After moving your old Peach tree, you seem to be aware that you have allowed it to bear too heavy a crop. Prune it soon after the leaves have fallen, and you ought to shorten very much all the bearing shoots. Be satisfied with one fruit on each of them. ‖

Raspberries: *C J.* The shoots or canes grow up in one summer, produce fruit in the next, and then die to the ground, a succession having, in the meantime, sprung up. The pruning consists in cutting away all the dead wood, that which has borne fruit, and in shortening that which is alive, thinning the canes so as to leave three, four, five, or six from a plant, according to its strength. This operation may be effected as soon as the leaves have fallen, or, better, as soon as the crop has been gathered, which gives the young canes a better chance of becoming well ripened. ‡

Rhubarb: *Hopkins.* The Elford Rhubarb is one of the earliest and perhaps best sorts for forcing, in consequence of its not losing its bright red colour when grown in the dark, covered with warm litter during winter or spring. The Tobolsk and Myatt's Victoria are among the best for a general crop, and are readily raised from offsets, or seed sown in spring. In order, however, to save time and trouble, you had better procure a few roots of any good sort late in autumn or spring, and plant them in rich soil about 2 feet apart, in rows 3 feet wide. If properly supplied with water, they will produce a late crop the first season, and an abundant one the next. ‡

Snakes: *A T.* They are the eggs of the common snake, a harmless reptile.

Vines: *Ampel.* The ripening of fruit does not depend exclusively on those portions of the foliage which are situated above the fruit. For instance, many kinds of Apples acquire perfection naturally at the very extremity of the shoots. If a tree is weakened by overbearing, the whole of the foliage suffers. Foliage sufficient to keep an active circulation in the part of the branch on which the fruit is situated is, however, necessary in all cases. As regards the Vine, some preserve only the leaf opposite the fruit, many one leaf above this; others summer prune or stop to two leaves, or more, above the fruit; and by each of these modes good bunches have been produced. But for the future health of the Vine, two leaves above are doubtless preferable. ‖

Winter Pits: *C.* The difference between thick and thin glass, as an agent in excluding frost, is little, unless the glass is very thick indeed, for glass in general acts only as a retainer of the internal heat when the external temperature falls below that of the inside of the house or pit. Snow or ice acts in the same way. Your plan for the pit is very good, and with a little trouble in keeping your plants *free from damp*, and with extra covering in very hard weather, you will succeed. ¶

Misc: *Sub.* Apply to the Secretary of the Colonial and Emigration Commissioners, 9, Park-street, Westminster. ‡—*D S.* We know nothing of the Hyacinth supporter in question, beyond what is stated at p. 606. ‡—*N W.* See p. 622 of last week's Number. We cannot recommend dealers. ‡—*J H.* The best sort of glass for a pit for keeping plants in through the winter is Hartley's rough plate. Your Araucaria imbricata has probably been attacked by some insect. ‡—*A J M.* Stephanotis floribunda is a stove plant. ‡—*H C.* Phlox grandis, La Reine, picta, purpurea perfecta, præstans, and Beauty. Pentstemon McEwenii and coccineum grandiflorum. For bed No 1, plant yellow Calceolarias; 2, scarlet Verbenas; 3, blue Lobelias; 4, white Petunias. A few of the best herbaceous plants are Anemone japonica and vitifolia, Aquilegia glandulosa and fragrans, Campanula grandis and garganica, Delphinium grandiflorum (dbl.), Gentiana asclepiadea, Iberis semperflorens, Œnothera macrocarpa and speciosa, the Pentstemons and Phloxes just mentioned, Primula denticulata, nivalis, and the different double kinds, Saxifraga oppositifolia, Silene Schafta, Statice Gmelina and latifolia ¶—*Inquirer.* Resinous trees should not be cut down when in full growth in summer, for then they are full of undigested watery sap, and soon decay. Cut Ribes sanguineum back directly it has done flowering in spring. Gladioli, Tigridias, &c., will flower, treated as you mention, if properly attended to, but certainly not so well as if planted in the open border in good soil. Most hybrid perpetual Roses flower very well in

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The Agricultural Gazette.

SATURDAY, SEPTEMBER 23, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

FARMERS' CLUBS.—Sept. 29: Stranraer.—Oct. 2: Claydon, Moreton Hampstead.—Oct. 4: Harleston.—Oct. 6: St. Austell.—Oct. 7: Newcastle, Durham, Melrose.

IN an adjoining page an abridged report of THE CORN AND POTATO HARVEST from all parts of the island is given in a tabular form. We leave the reader to form his opinion from the statements there made, without any attempt on our part to strike their average for him.—A peculiarity connected with the Potato crop is, however, deserving of particular notice: this is the irregular manner in which the disease has attacked it. There has not been that uniform progress northwards which characterised its first appearance in this country. Certainly the southern part of the island suffered first this year, as formerly; but the Potato crop was materially injured in some parts of Forfarshire, and in some of the Hebrides it was almost entirely destroyed long before the very slight attack under which it yet labours in South-Eastern and Central Scotland had been perceived; and in some parts of Cumberland and Westmoreland the disease had been active long before people could find it in Northumberland and Durham. The drier places this year, just as the drier seasons in a comparison of years, have suffered from it the least. And besides, its earlier appearance in the lower latitudes, owing to the earlier ripeness of the plant, there is an earlier appearance in the wetter climates and wetter districts also, to which the otherwise inexplicable irregularity of its attack must, we suppose, be attributed.

"THE NEW HUSBANDRY"!*

"There is nothing new under the sun." 'Principles' *endure*: the great facts of Nature are as they were: her 'laws,' as we call them, are unchangeable; and experience has always taught the same truths. There can be no differences between those who have received these truths aright, and honestly developed them in practice. And as at all periods some have had the requisite energy and intelligence, so the olden time, also, saw many a specimen of the *new* husbandry. This is no inference based merely on *à priori* reasoning: it is matter of history; for in the writings of all ages men may find the doctrines urged upon agriculturists by living authors.

And yet there are many things to justify the expression—"the new husbandry." Though principles do remain unaltered, and Nature still acts just as she used, yet man is progressive: even in a material sense his desires extend and his wants increase; he is not contented with that which satisfied his ancestors. He requires other things from the soil besides the Wheat, the Rye, the Pulse, and the Grass it used to yield, and he demands a greater abundance of things than their mere produce could supply. And in so far as cultivation results in other produce and more of it than used to reward its labours, it may properly be called a *new* husbandry. The materials which go to build this produce may be the same, for the air and the soil have not altered in composition, and the laws which regulate their action on one another in plants may be immutable, but a *new* husbandry notwithstanding may arise out of all; just as a new order of architecture out of the same stone and cement, notwithstanding the unalterable rules of good building.

Perhaps, however, the best justification which the term can receive lies in the relations, not new indeed, but newly perceived, which agriculture has of late years been shown to possess to truth of all kinds. Must it not be a *new* husbandry in which chemists, and botanists, and geologists, and economists, and philosophers of all aims see so much, and on which they are concentrating the light of all the sciences in their search for more, when agriculture in former days so seldom received the respectful regards of the intelligent? Must it not be a new husbandry which thus attracts the study of the best minds that Europe can boast of, when cultivation in former days was for the most part committed to the careless hands of ignorance and serfdom? And, considering the cost in its details and results, must it not be a new husbandry which engages men so superior, and employs instruments so much more perfect, and produces crops so much heavier, and cultivates plants before unknown, and rears animals so improved, and which, by the capital and intelligence employed in it, has reclaimed to such an extent the forests, and wastes, and swamps, in the midst of which the old husbandry was content to linger?

After all, therefore, it appears that but little reason exists for complaint of this phrase. Mr. RAWSTORNE, a landed proprietor in Lancashire, has adopted it as the title of a work which he has lately published on the practice of agriculture: and no designation, we are sure, could be more suitable for a volume detailing the experience on which modern agriculture is founded, and the theory of its several departments. Mr. RAWSTORNE does not pretend to do so much as this; he confines himself to the practical division of his subject, and, at least for the present, to details of *cultivation* alone; leaving, so we understand his preface, the proper treatment of stock, and other topics belonging to that section of agriculture, to be discussed in a second volume. The present work does not even profess to be an original performance; it is for the most part a compilation, and is fairly described in the following extract from its preface:

"It might appear presumptuous in one not deeply versed in the practical part of it, to school others in an art in which many so eminently excel; and were he only to rely on his own acquirements, it might be supposed that such were the case; but, when he professes to lay claim to little other merit than that of labour and research; when he is anxious to give the ideas of others, more able and intelligent than himself, rather than obtrude his own, and to make such selections from their works, as will better serve his purpose, than any language he can command, he is free from such imputation. In making these selections he has endeavoured to condense and bring into as small a compass as possible the leading and most striking parts of farming management which their works contain, and to illustrate them with such critical remarks as the subject naturally gives rise to, and such observations as his own practice will supply."

The work is in fact a compilation, presenting, certainly in a dense and apparently in a cheap form, much that is useful for the farmer to know of what the later authorities on agricultural subjects have written. It is liable to the faults of all compilations in respect of perpetuating mistakes, and in one or two instances we consider it to have fallen into errors of this kind. It is only fair to add, that of course it enjoys the advantage of compilations also: it condenses within a manageable space the substance of many separate volumes, which it would take much money to purchase, and much labour to peruse.

We shall be glad to record the appearance of the second part, intimated in the preface to this work, which will then more nearly vindicate its claim to the title of "A Complete Code of Modern Agriculture."†

NOTES ON ROTATIONS, BOX-FEEDING, &c.

THE following notes are taken from a correspondence which arose out of the perusal of the tract on Cattle Food, noticed and recommended in this Journal some weeks ago. An agriculturist in the north, with a farm of 200 acres, being desirous to adopt an improved system of soil feeding, wrote to another agriculturist who approved of that system for information on several points, stating the nature of his rotation (a five-course shift), the extent of his feeding-houses, yards, &c., with the view of ascertaining how far these require enlarge-

ment or alteration. The following extracts, taken from this correspondence, may prove useful perusal by feeders: at all events, they cannot fail to be unprejudiced persons with a correct view of the matter subject of inquiry which is abroad, and of the desirableness of those who are at so much pains and trouble in collecting useful statistics on rural economy, and in disseminating these for inquiry, examination, and, if proved advantageous, for the improvement of agriculture, and the increased comforts of the people at large. The question is not whether the cattle-feeding system is the best, but whether it is not, to a considerable degree, an improvement on the hitherto prevalent methods of feeding. Perfection is not to be easily art or science and many of the general practices in husbandry, that of late, prove how little progress has been made in the most necessary branches of industry. But far from this fact being an argument for discouraging inquiry and fair experiment, it ought to stimulate to undiminished and intelligent exertion, to make the principles of their practice better known, and better well the nature of their practice, and its advantage, or economy in [illegible]—and carefully consider and test previous experiments in the practice of husbandry—the main object of which [illegible] every country that great improvements can be made in the general modes of feeding to fat both cattle and [illegible].

Short Rotations.—Cropping [illegible] short. Many good farmers known to [illegible], some the seven course, thinking their [illegible] by lying long out. This notion is rapidly passing away, and the sooner the better. The great [illegible] short rotations is the facility they afford (if [illegible] drained or dry) of more completely cleaning [illegible], and manuring the soil. Besides, by [illegible] or even by repeated deep ploughings, their [illegible] more easily become deep under short rotations than by any other management. The frequent [illegible] of the Clover and hay roots of a soiled or [illegible] greatly enriches the land. A short rotation has [illegible] great advantages, but requires greater [illegible] the course of a lease. It gives more [illegible], and green food and hay, which, [illegible], as much as possible under cover, yields a great [illegible] dung both in quantity and quality, and [illegible] the farmer to manure oftener, heavier, and better.

In commencing winter feeding with [illegible] and practising it partially during summer, [illegible] be prudent for you not to change your rotation suddenly, but to work into an improved system by degrees. In doing so, I would fix upon one field, as near to your offices as you can, to be kept in, and fed upon [illegible] solely, of various sorts. In it I would have [illegible] grass, to be cut and carried to your [illegible] the house. Having a liquid manure tank to catch the [illegible] by your cows, horses, &c., this manure [illegible] out and watered over the cut ground [illegible] cutting. In the field so set apart and [illegible] would grow a portion of Tares, also Turnips, [illegible] and transplanted Rape, put in as other crops are [illegible]. Such a field would, thus managed (manuring [illegible] crop), and worked deep, raise you an [illegible] crop during the season for feeding in the house; and when this field shall be thoroughly grass over, and [illegible] worked and manured, it might go into the regular rotation, and another field placed [illegible] in the same way, and thus the whole farm in three years over. By such a plan it is easy to see what a great or permanent improvement would be made in the land. Of course, besides such varied and successive green crops in one selected field, you would have a regular shift or course of Turnip in another part of your farm, for winter and spring stall feeding. To [illegible] Turnip at a distance you could apply every artificial manures (dissolved bones and guano), in connection with feeding off sheep on every second or third drill of Swede Turnip—also eating the swedes [illegible] required for hay or soiling, with sheep, to enrich the ground.

In Scotland, the Swedish turnip [illegible] as the staple winter and spring green food. They [illegible] at the proper time, and stored with care, they [illegible] good food for both sheep and cattle till [illegible]. Properly managed, Italian Rye-grass [illegible] cut twice in this district. Dunipace and Gartmore [illegible] with you probably by the last of April—five weeks before your Swedes should be exhausted. It would cut again by Whitsunday, or say 1st June, [illegible] when cut, with tank manure; and it would cut [illegible] three times after this during the season, [illegible] the same way. Rape planted in autumn, and [illegible] Turnip sown early in spring—that is, as soon as the winter is over, would rush on, and be [illegible] given with the second and third sowings of the Italian [illegible]:—then the yellow Dale Hybrid and some [illegible] to give stock with common Rye-grass, and feed [illegible] Martinmas, when Swedes would take their place. For a variety of early spring food for ewes and young cattle, I would advise a piece of early Dwarf green [illegible], early stubble turnips, [illegible] and [illegible], and planted [illegible] in rows with a [illegible] Rape plants, which would [illegible] supply [illegible] winter. [illegible] any thing [illegible] Sheep [illegible]. It [illegible] with [illegible]. [illegible] would be [illegible] Rye-grass [illegible] cold [illegible] Turnips [illegible] Rape [illegible] spring [illegible] and [illegible] any right [illegible] system. In spring and summer, having plenty of Grass, it should be cut with the manure,

* The New Husbandry, or a Complete Code of Modern Agriculture. Drawn partly from the works of the most eminent agriculturists, and partly from practice and observation. By LAW. RAWSTORNE, Esq. Preston: Published by H. OAKEY, 25, Fishergate.

† It would be very desirable if, on the completion of the work, it were furnished with an index. This would greatly assist a somewhat involved arrangement of its contents.

mixed with bruised seeds, drenched with weak linseed soup, and given when lukewarm. Instead of tramping down and wasting straw, as many farmers do, it should be carefully husbanded to keep even into summer as an alterative mixture of food, well calculated when cut and given with green and cooked food to extend the paunch. On the soiling system, and many important points in practical husbandry, I would recommend to your perusal a little work by Mr. Skilling (now land agent to Lord Wallscourt, County Galway), which is well worthy of attention. It is entitled "The Science and Practice of Agriculture,"—M'Glashan, Dublin ; price 2*s.* 6*d.* On this head, also, I may state, in answer to a special query, that in practising summer stall feeding, the Grass when brought in is put through the chaff cutter, and when cattle are first put up they get this cut green hay or Grass by itself, several feeds per day—afterwards alternate feeds of cut Grass and bruised grain or seeds ; and when accustomed to this dietary, the cut mixed food of Grass and bruised seeds is mixed with linseed liquid, at first weak, and increased by degrees.

The cattle compound may be formed of any kind of farm produce, but cut—either Rye-grass, Clover, Rye-hay, cereal straw, Pea-straw, or Bean-haulm. Upon such scatter the bruised seeds, meal, or pulse, and then pour the linseed soup on the bulk, mixing the whole well, and putting it, when completely mixed, into a heap to stove and then cool of itself. This is the Yorkshire and Norfolk plan. I think the following, which has occurred to me, would answer still better—namely, to have a large wooden box into which to put the dry cut straw in thin layers, strewing the meal thereupon in layers also, till the box should be nearly full. Then cover, and let into the box, by a stop-cock near the bottom, a quantity of steam from the boiler, so as thoroughly to steam, soften, and expand both the straw and meal or pulse. When steamed 10 or 15 minutes, then shut off the steam, and let the hot linseed soup be introduced by a rose over the straw, and when imbibed, turn the whole out upon the floor, previously covered with chaff, and mix the whole together with a shovel, and then put it up into a heap to stove, till cool enough to deal out to the animals. Such a box would do well for steaming hay, chaff, straw, Turnips, and for cows, horses, pigs, &c. The compound for sheep can be given in troughs in the house or in the field when the sheep are eating the sliced Turnip. It is made in the ordinary place, and taken to the field, previously cut into feeds, after being cold.

Feeding Sheds or Boxes.—I cannot go so fully and practically into this head as I could wish, as I do not sufficiently understand the circumstances of your on-steading ; but I will endeavour to give some hints which may probably apply to your case. You have three sheds capable of holding 10 or 12 cattle each. I think it would answer well, and it would be a cheap process, to leave a 3 feet pathway along the shed wall furthest from the court, and with cheap wood to rail and divide the whole into compartments, each sufficient to hold two animals—inclosing the whole with wooden railing, but giving each pair sufficient room to move a little about. Each pair would have their feeding troughs, also small racks for hay and straw, at the head of each compartment, for their cooked food and Turnip, the troughs and racks being put up in the corners. A doorway would be formed next the court, to allow the herdsman to wheel the dung out, for which two lets or moveable bars would do quite well. This would be a very good plan as to these sheds, as the cattle would not disturb each other, could come out to the air, or go and shelter themselves under cover when inclined. I have seen cattle so fed, such as Colonel M'Douall of Logans, which carried off the prize for Galloways, at the Highland Society's Glasgow show in 1845. I have also seen cattle well fed, four in each compartment ; but if so with cooked food, they would require to be tied up when fed with that food. But as to accommodation for an increased number of cattle to be stall-fed, I would, were I circumstanced as you are, make a fair trial of Mr. Warnes' plan of box-feeding, which I have little doubt will, ere many years, be extensively practised, recommended as it is by simplicity, cheapness of structure, and efficiency. Your court wall will be probably from 5 to 6 feet high, inclosing your dung court. Let it be raised to the height of say 8 feet, and in length 110, and you will then have room for 12 boxes, or 12 additional cattle. If you have any wall in your court, with a good exposure, of as great height, additional building will be unnecessary. The boxes should be 8 feet by 9. Mr. Warnes' are made thus—they are sunk 2 feet below the surface, the roof being rested upon part of the yard wall only 6 feet high. An excavation is made 1 foot, and the soil put out raises the level of the shed 1 foot, thus making a pit or box 2 feet deep. If the soil is thrown out to the yard (which I would prefer), the box must be sunk 2 feet. The feeding passage is not sunk, and the feeding troughs move up and down, to answer the height of the animal, which rises upon the manure and litter. A lining of stone or brick, 4 inches thick, surrounds the bottom of each box, on the angles or at the four corners of which upright posts, 6 feet long, are fixed, and on these the tye beams and roofing rest, all being formed of rough spars of the cheapest description. The roofs consist of Thorns, Gorse, copse-wood, and straw. The boxes are thus 8 feet high within, from the bottom to the tye beam, which gives 6 feet clear when the box is filled with litter to the level. When full of dung and litter, the animal is taken out, the matted and unfermented manure is cut with a sharp spade, removed, and made into a dunghill in the field. Then the bottom of the box is covered with loose mould, peat, saw-dust, or cut straw, to absorb the urine, and the animal is driven in again. Mr. Warnes estimates the expense of his boxes so constructed, at 30*s.* each, but if you can make comfortable boxes for 50*s.* each beast, you will work cheaply, securing accommodation for 12 feeding beasts for 30*l.*, and which, properly put up, may last all your lease. The end of the box next the court is enclosed with a coarse double slab door, hung and opening in the middle, giving room to remove the beast, and to allow the removal of the manure. There is no stench or nuisance accompanying this plan of feeding, as some suppose, and the cattle thrive well summer and winter. On the court wall head of the boxes ventilating holes should be left near the top. The dung thus made is the best of all farm-yard manure. See articles by George Nichols on Mr. Warnes' system of Flax-growing and box-feeding, English "Agricultural Journal," vol. viii., Part 2, pages 438 and 473. To conduct the cooked food system for 40 head of cattle, besides cows, young cattle, sheep, horses, and pigs, would require much accommodation. The store for roots, &c., must be close to the chaff and Turnip-cutters and Linseed-bruiser, so should also the straw-house ; and all these should be convenient to the boiler or steaming-house. Finally, the cooking-house and Turnip food should be convenient to the cattle to be fed ; *T. H., Dumfries.*

THE MANAGEMENT OF A SMALL FARM.

As many of your respected correspondents have done me the honour to notice the communication you were so kind as to publish from me in the *Agricultural Gazette* of the 12th ult., I shall commence my general reply by thus publicly acknowledging the very great courtesy and kindness I have received, and beg you will be pleased to accept this very poor tribute of my sincere thanks. I shall briefly notice the remarks of each of your correspondents in the order in which their respective articles appear in your pages.

Under date 26th ult., "T. T. C." states that a Kerry cow is quite equal to an average Alderney in quality and quantity ; while the former possesses several advantages over the latter. This is fully borne out by a detailed report which I have privately received from an extensive breeder in the county of Kerry, which states that a prime cow with a second calf will yield from 12 to 20 quarts of milk per day, and excellent butter, from 8 to 12 lbs. per week ; while they are very hardy and easily fatted. Beef of the primest quality ; weight when fat, 4 to 5 cwt.

I confess the detailed debtor and creditor account of poultry keeping by your obliging correspondent, Richard Pigott, has puzzled me more than a little ; and is a convincing proof that a most important branch of rural economy is, unfortunately, very much neglected in England. 5*l.* 5*s.* profit from 12 hens in one year ! all their food being purchased at a high market price. Sir, this is great and substantial encouragement for me. In my first letter I said, "I think of speculating on about 100 hens :" I shall now certainly do so, having ordered some of the Cochin-China breed, which, I am assured, is in every respect the best ; for in the keeping of every description of live stock, the best is the cheapest and most profitable—whether it be a rabbit or a race-horse. I feel much obliged to your kind correspondent, "R. G.," for the lively interest he expresses in my concerns, but I fear I did not so express myself as to make my meaning clear with respect to my milling operations. I attach very great importance to this branch, and have, consequently, been at much pains to test it. I am indebted for the idea to the writings of a man, about whose ability and experience in such matters there can be no question, though his political honesty is by no means so firmly established: I mean the late William Cobbett. Speaking from memory, his words are to the effect that no man should sell corn when grinding it will pay so much better ; he adds, that in his time mills could be had to be turned by a donkey on four legs, or on two ; since then they have been vastly improved. I never for an instant contemplated the mad project of erecting a building, or millstones, or dressing-machine, &c. ; if I did, I should well merit permanent quarters in a lunatic asylum. A portable mill and dressing machine may be bought for 20*l.*, to be worked by horse power, which will be warranted to grind 3 pecks of Wheat per hour. I pretend not to have practical experience in this, but the results of very close inquiry amongst those who have, I find to be very satisfactory, as follows : 1 bushel of good Wheat will yield ¾ of a bushel of flour, and ¼ of offal, taking the Wheat at 6*s.*, what would your respected correspondent "R. G." allow the flour and offals to be worth ? These mills do not require the constant attendance of a miller, the stones (best French burrs) require dressing once in about six weeks, charge 5*s.*, and the patent dressing machines do their work admirably, by simply turning a handle, which very easy operation may be performed by a band connecting it with the horse gear. As far as I can learn, 6*d.* per bushel is the lowest price that farmers pay for grinding and dressing their Wheat ; more frequently 7*d.* and 8*d.* is charged ; if I can make my mill pay 5*d.*, I should be quite content. One of the manifest advantages of such a mill would be marvellously soon discovered in its vicinity. I think it is Cobbett who says, "all millers are, no doubt, very honest men, but I have found some millstones play strange pranks by converting the produce of white Essex Wheat into the coarse inferior flour of Hertfordshire Red." Now, sir, I do not know how far this contagion may influence my millstones when I become a miller, but with my stale notions of *meum* and *tuum* at present, I protest if I cannot have honest millstones I shall have none. I can give "R. G." the weekly expenses of such a mill as I describe to a fraction. I readily grant that his remarks about the value of the offal are quite correct, but would he allow nothing for the convenience of having it at home, and the certainty of its being pure and unadulterated ? So much do I think of the convenience and importance of this, that I should be quite satisfied to have no further gain by the mill. It is primarily with this view I shall purchase one, though I am free to admit I shall in no respect be vexed if it will pay me a trifle in the sale of flour, which for many reasons I should prefer to grinding for others. I am still open to conviction, and if it can be shown that this mill must be a losing concern, then I shall give it up, and heartily thank my instructor whoever he may be. I beg to assure "R. G." that I shall feel much pleased and honoured by his further correspondence.

I was almost persuaded to try one of Mr. Cantelo's incubators, but I thank your journal for causing me to pause. A friend of mine says he can construct a machine on far better and safer principles, and has promised to supply me with one to test, in the hope of being able to form a company hereafter, by regularly reporting its operations, and allowing its genuine capabilities to be proved through your columns, which I pledge myself to do most rigidly without "fear, favour, or affection." That there is vast room and equal necessity for improvement in this department of industry is so obvious that the *Agricultural Gazette* is worthy of all praise for the part it is so straightforwardly acting in reference to it. The paper read to the Newcastle Farmers' Club on the importance and profitableness of poultry, as reported in your Paper of August 26th, is worthy of the closest attention.

I thank your correspondent "D. ;" but as his general statements are so abundantly answered by your former correspondents, as above referred to, I do not think he requires any particular notice from me, further than to say, as the majority are clearly and decidedly against him, he must not be displeased if I am governed by them rather than by him. I have now only to notice the "Dairy Profits and Expenses" of your evidently exact and pains-taking correspondent Richard Pigott. Either his prices for produce must have been frightfully low, or his cows none of the best. In one year his profits on three cows were 14*l.* 11*s.*, and the next they were "small by degrees and beautifully less," viz., 12*l.* 17*s.* 6*d.*, or 4*l.* 5*s.* 10*d.* per cow ! Why, it appears to me that a good goat should pay this in a year with such good care and management as Mr. Pigott bestowed on his stock. 12 hens paid him 5*l.* 5*s.*, and a cow only 4*l.* 5*s.* 10*d.* Is not this enough to make cow-keepers dwindle into mere hen-wives ; however the opposite tendency of his two accounts affords striking evidence of his impartial correctness, and his absence of any wish to exaggerate. In Cramp's "Hints to Dairy Farmers," the produce of one cow for six years averaged, I think, 43*l.* per annum ; this is a well authenticated fact. I have to regret no one has yet given me any practical information respecting bees, of which I have read such very encouraging statements. Your correspondent "D." runs them down, but he does the same with everything. It is to be observed that his observations are vague and general, no details, nothing like figures to support assertions. Such a line of argument tends only to check enterprise and industry. However I thank him for his good intentions, but whether failure or success awaits my humble efforts, I shall labour untiringly to succeed.

"What man dare I dare,
He who dares do more is none."

I have resolved on trying this peculiar system in preference to emigrating to New Zealand ; and to give it a fair trial, I am quite determined to act as I should in that colony, regardless of sneers or gossips, for it is my belief that if men would act at home, voluntarily, as they must do in the colonies, there would be less necessity for emigration. By far the best colonists in New Zealand are members of aristocratic families. None worked harder and reaped better profits there than the Hon. Mr. Petre, the Hon. Mr. Dillon, and the brother of Sir Wm. Molesworth. Why will not the same class of men act similarly at home ? I assure you my chief ambition is to see if this cannot be done successfully, and a faithful report of my "transactions" shall appear periodically in your pages, if indeed you consider them worth publication, for the benefit of others. The only part of my plan that I think of changing, is the extent of land that I should undertake to cultivate at starting. Some kind and practical friends assure me that it would be wiser and safer for me to purchase everything than undertake to grow it, alleging that the difference in price would be counterbalanced by the absence of risk, the chances of climate, toil, and the endless contingencies to which the inexperienced producer is exposed. A location near a large town, with ample buildings and a few acres of land, certainly affords great facilities of purchasing and selling. Carrots, Parsnips, Mangold Wurzel, grains, hay, Barley, Oats, and Wheat may there be purchased weekly, and you can tell to a fraction what everything costs, a task not quite so easy in a farm. I have not yet made up my mind which to do, and therefore in my advertisement in your columns I leave it an open question, to be decided by the peculiar features of such places as may offer ; *S.*

REPORTS OF THE HARVEST.

FROM OUR OWN CORRESPONDENTS.

COUNTY.	WHEAT.	OATS.	BARLEY.	POTATOES.	FARMS AND DISTRICTS.
SCOTLAND.					
INVERNESS	Average	Average	Average	[illegible]	J. [illegible]
FIFE	1-7th under average	1-10th over average	Average	Average, [illegible]	[illegible]
	Somewhat deficient	Full average	Average	[illegible]	[illegible]
	Defective	Excellent	Various	[illegible]	[illegible]
LINLITHGOW	Scarcely average	Various	Hardly average	Average produce [illegible]	J. [illegible]
EAST LOTHIAN	Average, and of first quality	Large crop	Large crop	[illegible]	G. HOPE, [illegible]
	Very well	Good	Good	Fair crop, but [illegible]	[illegible]
BERWICKSHIRE	Average	Good	Good	[illegible]	[illegible]
	Full average	Average	Rather under	Diseased, [illegible]	[illegible]
	Below average	Promise well	Promising	[illegible]	[illegible]
LANARKSHIRE	Deficient	Good	[illegible]	[illegible]	[illegible]
AYRSHIRE	1-3d less than last year	Average	[illegible]	[illegible]	[illegible]
SELKIRKSHIRE	Under average	[illegible]	[illegible]	Average, [illegible]	[illegible]
	Average	Good	Good	[illegible]	[illegible]
ROXBURGHSHIRE	Average	Average	Average	[illegible]	[illegible]
	Average	Average	Average	Hardly [illegible]	[illegible]
	Ill	Well	Well	Partly diseased, [illegible]	[illegible]
DUMFRIES	.....	Look well	[illegible]	Getting [illegible]	[illegible]
WIGTON	Hardly average	Excellent	Over average	Abundant; [illegible]	[illegible]
	Full average	Average	Average	Half the average of [illegible] produced [illegible]	[illegible]
ENGLAND.					
NORTHUMBERLAND	Good	?	Good average	Small crop, but good, [illegible]	[illegible]
	Indifferent	.....	[illegible]	Very good in quality, [illegible]	[illegible]
	Good	Yields well	[illegible]	Fair crop, though [illegible]	[illegible]
	Full average	Good	Good	An average crop	[illegible]
	As good as last year	Under average	[illegible]	Quite an average	[illegible]
CUMBERLAND	Promises well	Average	Over average	Abundant both [illegible] of [illegible]	[illegible]
WESTMORELAND	One fifth defective	Abundant	Full average	Crop large, [illegible]	[illegible]
	Yields well	Remarkably good	Very good	A fair crop, [illegible]	[illegible]
	Good	Over average	Good	Had [illegible]	[illegible]
	Under average	Excellent	Good	About [illegible]	[illegible]
	Not well	Very well	Very well	A good crop, very [illegible]	[illegible]
DURHAM	Under average	Late and light	[illegible]	Good; and, excepting [illegible]	[illegible]
YORKSHIRE	Good	Very well	Good	Average; [illegible]	[illegible]
	Under average	.....	.....	Good; but one-[illegible]	[illegible]
	Promises well	.....	Light	Not one-fiftieth of a [illegible]	[illegible]
	The spring-sown is injured by mildew	.....	.....	Under average; [illegible]	[illegible]
	Light	Below average	Hardly average	Haulm three weeks [illegible]	[illegible]
LANCASHIRE	Scarcely average	Good	Good	At present abundant, [illegible]	[illegible]
	Very badly	Average	[illegible]	Not average, [illegible]	[illegible]
CHESHIRE	Full average	Good	Good	Two-thirds rotten, [illegible]	[illegible]
	Deficient	Good	Full average	One-third [illegible]	[illegible]
SHROPSHIRE	Below average	Bad	Bad	Very bad, and [illegible]	[illegible]
	Injured	.....	.....	Various	[illegible]
DERBYSHIRE	Not quite average	Hardly average	Under average	Three-[illegible]	[illegible]
	Nearly average	Average	Average	One-third [illegible]	[illegible]
NOTTINGHAMSHIRE	Deficient	[illegible]	[illegible]	Very scanty crop, [illegible]	[illegible]
	Under average	Over average	Deficient	Rather [illegible]	[illegible]
	Average	Average	Average	Over average, [illegible]	[illegible]
LINCOLNSHIRE	Average	Average	Average	Very bad	[illegible]
	Much under average	1-3d under average	Under average	Three-fourths diseased: [illegible]	[illegible]
	As last year	Average	Average	Less than one-third [illegible]	[illegible]
	Not so good as it promised; but fair	Not good	.....	Five acres produced [illegible]	[illegible]
	Bad	.....	.....	Various	[illegible]
	Not good	.....	Inferior	Two-thirds [illegible]	[illegible]
	Promising	.....	Better than expected	Very bad, half rotten [illegible]	[illegible]
NORFOLK	Under average	.....	Small average	Average; [illegible]	[illegible]
SUFFOLK	Not average	Not average	Not average	Deficient, and much [illegible]	E. S. GOWING, [illegible]
	Below average	.....	.....	Average, but one-[illegible]	[illegible]
	Below average	Not half an average	Various	Abundant, but not [illegible]	[illegible]
	Average, but badly harvested	Average	Promises well	One-fourth to 1-3rd rotten, but an [illegible]	T. L. [illegible]
	Under average	Barely average	Not average	Very bad: half diseased	[illegible]
CAMBRIDGESHIRE	Not an average	.....	.....	Yields well, but not one half are [illegible]	[illegible]
HUNTINGDONSHIRE	Full average	Under average	Deficient	More diseased than [illegible]	[illegible]
NORTHAMPTON	Not full average	Average	Not average	Very poor produce of very small Potatoes, and mostly diseased	[illegible]
	Probably deficient	.....	.....	They turn out very well	W. GREY, [illegible]
RUTLAND	Considerably under average	Good	Quarter short	The worst crop ever known	W. [illegible]
	Considerably deficient	Good	Good	A good crop; worse diseased than in any former year	S. CHEETHAM, [illegible]
LEICESTERSHIRE	Under average	Light	Average	A good crop; two-thirds gone or going	J. [illegible]
WARWICKSHIRE	Not so good as last year	.....	.....	Worse than any previous year	[illegible]
	None yet threshed	.....	.....	More than half diseased	L. [illegible]
WORCESTERSHIRE	Bad	.....	Very good	Very bad on wet or rich clays	J. [illegible]
	Very bad	.....	.....	Never worse	J. [illegible]
	Not ascertained	.....	.....	Two-thirds diseased	J. [illegible]
	Cannot yet say	.....	.....	Very various; certainly not half a crop	— [illegible]
	Nothing like last year	.....	.....	Very bad, and getting worse	F. [illegible]
HEREFORDSHIRE	Average	Average	.....	Worst year known	J. [illegible]
MONMOUTHSHIRE	Not promising	.....	.....	About one-third of a crop. The disease at present stationary	A. [illegible]
	Hardly average	Various	Improved	A great crop; half rotten	G. R. [illegible]
GLOUCESTERSHIRE	Average, but not good	Average	Under average	Not one-third of an average crop	J. [illegible]
OXFORDSHIRE	Unable to say	.....	.....	A fair crop, two-thirds diseased	S. [illegible]
	Good	Average	Average	A large produce; largely diseased	S. [illegible]
BUCKS	Under average	Under	Under	A full crop, much diseased, and not likely to keep	A. [illegible]
	Much below last year	.....	.....	Half of an inferior crop, diseased	G. [illegible]
HERTFORDSHIRE	Not average	Very good	Average	Not keeping, much rotten	S. [illegible]
	An average	Average	.....	A good crop; decaying fast	A. [illegible]
ESSEX	Average	Deficient	Very deficient	Very badly in general	[illegible]
	Deficient	Deficient	.....	Worse than ever known	— [illegible]
KENT	Under average	Various	.....	Nearly wholly unfit for food	T. [illegible]
	.....	.....	.....	The fields are generally dead, and smell as bad as they look	J. [illegible]
	Under average	Under average	Under average	Half a crop, one-third of which is diseased	J. [illegible]
SURREY	Tolerably good	Average	Good	Far worse than on any previous year	J. [illegible]
SUSSEX	Much below average	Under	Under	From 9-10ths to the whole destroyed	C. [illegible]
	1-4th under average	Average	Much under average	Nearly all rotten	J. [illegible]
	Under average	.....	.....	Three-parts rotten	[illegible]
	Under average	Below average	Below average	Next to nothing	E. [illegible]
HANTS	Average, but much sprouted	.....	Stained, but good	One-fourth left, and disease still active	J. W. [illegible]
	Indifferently yielded	.....	.....	Generally not more than the seed left.	E. WYATT, [illegible]
	Bad	Good	Middling	Almost total failure	— [illegible]
	Bad, and saved in wretched order	Very thin	Middling	Hardly worth digging	A. [illegible]
	2-3rds of an average	Injured	Average	Not worth digging	J. [illegible]
	1-4th to 1-3rd below an average	Average	Nearly average	Very bad indeed	J. D. [illegible]
	Under average	Average	Hardly average	.....	W. C. [illegible]
BERKSHIRE	Under average	Full average	Full average	Very bad and very rotten	D. [illegible]
WILTS	Hardly average	.....	.....	Very bad	G. [illegible]
	1-5th to 1-10th under average	.....	.....	Very bad in quantity	T. [illegible]
	Under average	Fair	Fair	Very bad	B. [illegible]
DORSET	1-4th under average	Average	Average	Nearly all diseased	J. [illegible]
	Generally somewhat deficient	Average	Not over average	Far worse than ever before known	J. [illegible]
	Nearly average	Much lost by wind	A good crop	Very bad	W. [illegible]
DEVON	Scanty	Fair crop	Average	Bad indeed	[illegible]

REPORTS OF THE HARVEST—Continued.

COUNTY.	WHEAT.	OATS.	BARLEY.	POTATOES.	NAME AND ADDRESS.
ENGLAND.					
CORNWALL	Abundant and good	.....	.....	Much worse than any last year	W. SIMMONDS, *Gwennap*
	Rather under average	Abundant	Rather deficient	Crop all but gone	J. MICHEL, *Tregoose*
	Rather short and inferior	.....	.....	Variously rotten	
	Yield badly	Good	Deficient	Very bad	J. ROBERTS, *St. Austle.*
	Much deficient	.....	Under average	A total failure	E. H. HILL, *Germains.*
	An average crop, somewhat injured	Considerably damaged	Damaged	Worse this year than ever	—— *Truro*
JERSEY	Half deficient	.....	.....	Disease has progressed rapidly	W. W. CHILDERS, *St. Heliers*
WALES	Good	Heavy	Good	Universally diseased	H. R. SANDBACH, *Abergele*
	Under average	Average	Average	More diseased than any year	E. H. GRIFFITHS, *Denbigh*
	1-3rd under average	Full average	Nearly average	The rot has been destructive	W. EDMONDS, *Swansea*
	Average	Average	Average	Far below average	J. WILLIAMS, *Conway*
	Inferior	Inferior	Inferior	Three-fourths diseased, and increasing	J. GIRDWOOD, *Chirk*

Home Correspondence.

Transmutation of Corn at Paston, Norfolk.—When I sent the report of this most singular occurrence I little anticipated that the article would have made its appearance in our county newspapers. Well, the result of my gossip in the *Gazette* has been, that various comments have passed on my credulity, and a reverend friend jokingly told me that, after all, Tompson's Wheat had come true to stock, and that I should find the Barley have been taken out and a good crop of Wheat remained. I expected therefore that further light was forthcoming and the enigma solved. I prevailed on my friend to accompany me to Paston, where we found, it is true, that Wheat had been reaped and was then standing in the sheaves, but Barley was there also, and the Tompsons firmly maintain that no Barley seed was put in; that, for 12 years, the land had been cropped with Potatoes and Cabbages, and never before by any cereals. Allow me, in addition, to add that I relate only in substance what I saw and heard, and am desirous of guarding myself from being thought presumptuous in either affirming or denying the possibility of the transmutation of corn; *R. P. Kemp, Coltishall.*

Hillside Farming.—I think a diagram of the matter in dispute would be the simplest illustration of the facts relative to the question noticed in the *Agricultural Gazette* whether most corn or Grass will be produced on a level or unlevel surface, the base being equal. Practically with a Grass crop the advantage will be with an uneven surface, as I doubt if each blade of Grass is perpendicular; and the roots will have more space exposed to the influence of the sun and air; and in corn the same advantage will follow as to roots, but if the stalks are quite perpendicular no more can possibly grow upright on a hilly field than would stand on the level base, supposing the hill was removed. My opinion on the subject is, that neither Grass nor corn does, as a fixed law of Nature, necessarily grow perpendicularly from the base but accommodates itself to the surface of the immediate locality where it chances to grow, although the divergence is not perceptible to the eye; *John F. Peacey, Winchcomb.*

Experimental Farming.—In a late number of your Journal, a correspondent signing himself "Spade" offers his assistance to a system of experimental farming for Ireland. Now, though I sympathise with Ireland and her distresses, I consider that something ought to be done for England, so that her working population may be found in employment and proper remuneration for their labour. I believe that by a judicious system of farming, similar to that which your correspondent mentions, and an organisation of labour, so that the producers of food might interchange their produce with the makers up of raw materials, this object might be effected. The problem once solved would be equally applicable to Ireland as to England, the position of both countries with regard to production and employment is similar; the remedy must also be similar. Many men in agricultural pursuits are unemployed; many men in mechanical pursuits are unemployed; set them to work to produce for each other; and the producers of food supply the wants of the mechanics, and the mechanics supply the wants of the producers of food. All that is required is a means of interchange; this means of interchange can soon be found. I cannot now enter into detail, as space will not allow. I merely wish to inform your correspondent that an Association, based upon those principles, is now in active operation, and is being worked by a party of men who have, as advised by a great statesman, "taken their affairs in their own hands." If he is willing to assist the Irish labourers out of their distress, I am sure he will be equally willing to assist the English labourer and artisan out of the poverty and want of employment from which he now suffers so much. If he will be so kind as to communicate with me, either verbally or by letter, forwarded to the enclosed direction, I shall be most happy to explain to him the means by which I conceive both English and Irish labourers of all classes and all countries may be effectually benefited; *James Benny*, 34, *Temple-street, St. George's-road, Southwark.*

Kohl Rabi.— A correspondent in a late *Gazette* speaks of the small size of his Kohl Rabi, notwithstanding the application of bones, guano, &c., and, at the same time, requests some information upon the subject; I will, therefore, briefly state my experience and opinion. In the month of April I made a common seed bed in the garden, without any manure than what remained in the ground from the preceding crop of vegetables; upon this I sowed a mixture of green and purple Kohl Rabi, broadcast, very thick, but in consequence of the badness of the season it came up in patches, but the plants very fine, and far superior to the other seed beds in the garden; I did not observe any liking by the birds for the Kohl Rabi seed, but attribute the paucity of plants to the unpropitious season for every description of plants. About the last week in May I drew some of the plants, and transplanted them in rows, well manured with farm-yard dung; the rows were about 30 inches apart, and about the same between the plants, and no other care is necessary than to keep them clean and free from weeds; some I transplanted in June, and some in July, and some I left in the seed bed, and from these experiments I find that those in the seed bed and those transplanted in May, or the first week in June, but not later, are very good, having bulbs as large as two cricket balls, and I cannot observe that there is any difference between those transplanted with a good manuring and those left in the seed bed, hence I think the best way to grow Kohl Rabi is by drilling the seed the same as Turnips; those transplanted in the latter part of June and July are decidedly inferior, not being larger than an egg, and appear sickly. The purple appears to grow to a larger size than the green, and I think is a hardier plant, but either description I think invaluable as a sheep food in the spring. The soil is a clay loam of rather inferior quality; as to the best manure I cannot speak practically, but the weight per acre shall appear at getting up time; *E. B. H., the Leasows.*—For the information of your correspondent "A. B. C.," I think too much can hardly be said in praise of the above esculent, whether for the table, or as food for cattle. The young plants, when the bulb is about the size described by "A. B. C.," make an excellent dish as a dinner vegetable, very much resembling the Crown Artichoke in taste; and even the green part, which rises immediately from the top or apex of the bulb, is equally relished by the members of my family, a pretty numerous one; this part of the plant, even at a larger stage of growth, being in my opinion every way equal to the sprouts of winter greens. I would just observe that in its present state we neither peel the bulb nor separate the top leaves, but serve them up entire. As to its use for cattle, much has already been written on the subject; one excellent property, however, which this root possesses above other winter food, has scarcely been noted as it deserves, viz. that of its being perfectly invulnerable to frost and all accidents of weather. I have grown the purple variety for two years, sowing the seed in drills, alternately with Swedes, drawing out all but the strongest, and treating them precisely as is the practice with Turnips and Mangold Wurzel. My experiments having been on a small scale, not more than half a statute acre, I have had no opportunity of testing the merits of the Kohl Rabi as compared with the above, but should think it in no respect inferior to either, the bulb divested of its outer integument having the taste of the inside of the Cabbage-stalk, of which most children are fond. I have only to add, for the encouragement of "A. B. C.," that the bulb will continue to grow even longer in the season than the Swede, that its specific gravity is much greater, and that my Kohl Rabi sown the first week in May, now average from 10 to 12 inches in circumference, but that they were not transplanted; *B. C. D.*

Thin Sowing: To Robert Matson, Esq.—I should have very great pleasure in accepting your challenge as given in the *Agricultural Gazette* last week, but I think the impossibility of my so doing, for many reasons, will, on reflection, be seen by you. That thin sowing has for many years answered with me I have no hesitation in asserting, and I believe few will contradict me who have, without prejudice or personal feeling, watched my crops and expenditure; but I am careful, in sowing thin, to accompany it with hoeings in the spring, to prevent the interstices becoming choked with weeds; otherwise I might prefer thick sowing, for the purpose of keeping down the weeds. I mention this to show you that thin seeding requires this attention in the spring, and as one reason why I cannot accept your challenge. I venture to say this to you, because, never having seen your farming, I cannot be supposed to attribute any failure on your part to not having attended to the very important part of good husbandry, namely, the prevention of all interference from weeds with the full progress of the corn; and I believe to you, as little as to any one following the old system, can neglect in this respect be attributable: but you may not yet have introduced on your farm the horse hoe, which so thoroughly takes, in the spring, from the rows all weeds; and in this respect, thin sowing, with you, might have to suffer the disadvantage of a struggle with the plants indigenous to the soil, which, with me, it has not. There are two ways of testing any proposition, namely, by deductions from reasoning, and by the actual result. The two should arrive at the same conclusion. You and I and hundreds of other practical men have differed as to the results of thick and thin sowing, but as, I take it, the reasoning has been all in favour of creating, in the first instance, only so many plants as can be calculated will find room to grow out to maturity, thick and thin sowing are terms extremely vague. What means thick sowing? Where is it to terminate? If 2 bushels produce more than 1, why should not 3 more than 2, and 4 more than 3. On the other side, thin sowing, as urged by me, has no indefiniteness, it is meant to apply to the quantity of seed that shall produce only as many plants as will find space to grow to maturity, and no more. I confess I have been led by the agreeable tone of your letter to again enter into a subject which I had intended to leave on the stream of time and the future progress of agricultural improvement to test, feeling confident that science in farming cannot progress without early bringing forward thinner seeding as one of the essentials to its development. In gardening this has long since been seen necessary, and is ever attended to. I have taken the liberty to send you by post a little work of mine "On the Injury and Waste of Corn from too Thick Seeding," and, notwithstanding your past experiment, let me advise you again to test by a trial the system I recommend, and I do so with the kindest wish to promote your success, and the firm conviction that you will alter your opinion; *Hewitt Davis*, 3, *Frederick's-place, Old Jewry, London.*

Radnorshire Farming.—Having been staying some time near the Hay on the borders of Radnorshire, but in the county of Hereford, perhaps a few remarks on the farming of the district may not be unacceptable to your readers. I think I am not mistaken in estimating the natural capabilities of the soil of Herefordshire as above the average of England; the climate—far west as this part of it is, and contiguous to a mountain district—is rather late, and I believe more rain falls here than an average. The land is chiefly pasture. Woods and orchards abound, and Oaks, Apple, and Pear-trees add to the shade of overgrown hedgerows. Cider-making and the breeding of "Herefords" has been successfully followed from generation to generation, a good deal to the exclusion of corn cultivation, to which the late climate, humid soil, and a checked evaporation from the shadowing of timber, &c., offer every disadvantage. I cannot help thinking a beneficial change might be made and a nearly double amount of produce grown. If so, the effect in stimulating all kinds of industry, trades, and professions would be very great, and Hereford would become a great exporting county of corn and meat as well as stock, for which she has long been famous. The character of most grazing districts is inert; nothing sets the faculties to work and keeps them constantly employed like corn cultivation. I could not therefore help wishing, when I saw so fine a country neglected, that the principles of improved agriculture might be better known and practised; and especially in these critical times, when the operation of free trade in lowering prices tends peculiarly to depress those districts where skill and capital have not paved the way for economical and productive farming. It would then be seen clearly that unless stagnant and superfluous water be taken from the roots of plants, disease must ensue, and the proper tillage of the land prevented. That unless light and warmth are allowed free access to the surface and subsoil, by clearing away timber and shrouding of hedgerows, the climate cannot be improved, nor a healthy vegetation secured. That unless care is taken to prevent the washing of yards and dung heaps, ammonia, the most volatile of all substances, is lost, and with it the very essence of manure. These washed manures will never produce the full crop of roots nor carry a large stock—a deficiency in corn and Grass must follow. It is therefore the interest of every landlord to study these principles, and do his part in carrying them out, by in every way encouraging his tenant, whose interest and his own are identical, and not, as in an instance which came to my knowledge, vex a tenant by petty annoyances, and even go so far back as to revive the old feudal system by requiring, in addition to a money rent, that a tenant should fetch and carry to the mansion, although no part of the original agreement, threatening dispossession at the end of a lease, if not complied with. I trust this is a solitary instance, but it convinces me that the landlord must be enlightened before we can expect to see carried out all these improvements which this country requires. Let me recommend them to avail themselves of the advantages offered by the Royal Agricultural College at Cirencester, where a course of study, embracing all the sciences bearing on agriculture are taught; *Thos. C. Brown, Cirencester.*

On the Foot halt in Sheep.—There is a disease very prevalent at this time among sheep, the proper treatment of which seems to be little understood. It manifests itself by the lameness of the animal, frequently to such an extent that the poor sufferer cannot stand, but feeds upon its knees. This is to be seen now in numerous flocks, even in this dry down district. When you examine the feet you find the hoof not soft, as in the case of decided foot rot, but apparently uninjured. The seat of the disease appears to be between the claws. There you find an offensive discharge, smelling like the thrush in the feet of horses. Now the object of my troubling you with these lines is to request the favour of some of your correspondents who are practical men, flockmasters, to communicate through your useful publication their opinions as to the best way of treating the disease. I find the opinions of my neighbours, whose flocks are suffering from the disease, very much at variance on the subject. Some say leave the sheep alone, for Nature to work her own cure by the discharge from between the claws, unless it be to cool the system by administering 1½ oz. of salts to each sheep; for if you dry up the discharge you will drive the disease internally. Others say (in accordance with Mr. R. Smith, see Journal of the Royal Agricultural Society, vol. viii. Part 1, page 20) if the matter formed between the claws be not checked it will undermine the hoof. I confess I am disposed to receive this opinion; and have therefore tried the experiment this very day of applying butter of antimony. I have used on a larger scale tar and salt. I have been partly led to this conclusion by considering that in the case of thrush in the cleft of the frog of the horse which arises from inflammation produced by excessive moisture, it is not bad practice, I believe, to dry up the discharge by the application of vitriol or some other astringent. Your early attention to this request will much oblige one of your constant readers; for I am desirous of knowing, for my own use, and to communicate to others the safest and most efficacious method of treating the prevalent disease; *B. H.*

Rye.—Last year I sowed St. John's Day Rye the first week in July, and Cooper's Broad-leaved Rye Aug. 25; some of the former ran to seed before the winter. Cooper's Rye looked much the best all through the winter, and was fit to cut for the horses the end of April; the St. John's Day Rye not until a fortnight later. Cooper's was 3 to 4 feet in length, and well worth growing, from being so early, and producing a fair crop from 10 pecks of seed per acre; but the St. John's Day, though later, proved much heavier (a foot longer) from 8 pecks of seed; both had the same treatment. I cut the Rye into chaff for the horses with the common hand box machine. St. John's Day Rye, sowed July 5, has this year run even more to seed than last. Can the seed be perfectly true and unmixed? I had it from a first-rate seedsman. Is it possible that the growth of Turnips can be increased by being half pulled from the ground late in autumn? I am told it was done with good effect in Gloucestershire last season; ***Inquirer.***

Artificial Incubation.—Perhaps a ray of light may be thrown on this subject by the following particulars, extracted from the "Agricultural Magazine" for the month of June, 1810. "Mrs. D'Oyley, of Northallerton, Yorkshire, has proved by experience that her method of rearing poultry, considering the economy and facility with which it may be performed, would, if generally adopted, lower the price of butcher's meat, and thereby be of essential benefit to the community at large. Mrs. D. keeps a large stock of poultry, which are regularly fed in the morning on steamed Potatoes chopped small, and at noon they have Barley; they are in high condition, and lay a great quantity of eggs." After describing the poultry-yard and artificial mother, which is an adaptation of Reaumer's principle, she proceeds: "When the chickens are a week old, and the weather fine, the boy carries them and their artificial mother to the grass-plot, nourishes and keeps them warm, by placing a long narrow tin vessel, filled with hot water, at the back of the artificial mother. When Mrs. D. first attempted to bring up poultry in this way, she found they did not thrive upon the food given them, and many of them died till she thought of getting coarse Barley-meal and steaming it till quite soft; the boy feeds them with this and minced Potatoes alternately; he is also employed rolling up pellats of dough made of coarse Wheat flour, which he throws to the chickens to excite them to eat." The experiments were made for about two months in the summer; during that time her hens produced upwards of 500 chickens, 400 of which were reared fit for the table. It is advisable to have two or three chickens among the brood of about a week old to teach them to peck and eat. Hens kept in the way mentioned, and having the same conveniences, will regularly sit four times a season, and by sitting twice each time they would produce at the lowest calculation 80 chickens each. This is the most important part of the communication, the remainder consists of three plates, showing different views of apparatus employed by Mrs. D'Oyley; *Henry Maddock, Torquay.*

Cochin China Fowl.—Will any of your able correspondents inform me if the Cochin China fowls have their breasts invariably marked with the shape of a horse-shoe, as your Newcastle friend mentions in the *Gardeners' Chronicle* of the 26th ult., page 581. Having purchased a pair last year of one of your crack fowl dealers at a large price, 2*l.* 12*s.*, and having communicated my doubts to him, of the breed being genuine, he thought proper to make no reply. My hens are not extraordinarily large, but handsome, of a bright bay colour, but not, as your correspondent says, marked upon the breast with the form of a horse shoe, neither the hens nor cocks; the latter are yellow, precisely the colour of the common red fighting breed, so much so that I doubted if the breed is genuine, and I wrote to the fowl dealer to that effect, to which he did not deign to reply. The hens may weigh 6 lbs., the cocks 7 lbs. (live weight), the hens lay 13 or 14 eggs and then sit, but only one egg per day. If any of your obliging friends would trouble themselves to give me an answer, it would confer a great favour upon *An Amateur in Poultry.*

Thick and Thin Sowing.—Upon reading the letter of my friend Mr. Robert Matson, in last *Agricultural Gazette*, wherein he says "it is quite time this important but knotty point should be settled," I beg to suggest in furtherance of his views and public advantage, the desirability of its being fairly tried this autumn, by at least one person in every county in England. For this purpose I would wish you, through the *Agricultural Gazette* and *Mark Lane Express*, to publish the conditions, stipulating that all who kindly undertake the experiment shall forward name, address, description of soil, &c., before the 11th of October, and the result sent in to you by the 1st of October 1849. I would not confine the experiment too closely, but I think the Wheat should be drilled or dibbled, and after seeds or other green crop, the quantity of seed uniform, 1 bushel being the minimum; *William Brown, Secretary to the Tring Agricultural Association.*

Winter Beans.—I send for the information of your correspondent "C. L.," my two years' experience in growing winter Beans. In the autumn of 1845, a portion of an Oat stubble received 10 two-horse cart loads of farmyard dung per acre, which was ploughed in deeply, with three horses to a plough, and, owing to the Beans being miss-sent the land lay some time; it was then worked down with harrows, and drilled on the 23d of October in drills 12 inches apart and an interval of 30 inches between the double rows, this interval was ploughed in the spring, and the narrower space between the drills hand-hoed. Owing to the late time of sowing, and the frost setting in early, the Beans came up very irregularly, and were far from a good plant; in the spring they grew rapidly, and where the plant was good, soon overspread the intervals. The crop was harvested in July, and the yield was 24 bushels per acre, weight 67½ lbs. per bushel; the haulm was a very short crop. In the same field, side by side, I had sown some spring Beans, which proved quite a failure, the crop being cut and thrown at once to the pigs; thus ended my cultivation of spring Beans. In 1847, a portion of Wheat stubble was first ploughed and worked down with the harrows, and then dunged with 10 two-horse cart loads of farmyard dung per acre, and formed into two-bout ridges; from the centre of one ridge to the centre of the other measured about 3 feet 6 inches. On the 8th of October the top of each ridge was drilled with a double row of Beans, 10 inches apart, thus leaving between an interval about 30 inches; in the spring, a furrow slice from each ridge was ploughed to the middle of the interval, the space between the drills being hand-hoed; the intention was to have split the furrow slices in the interval, with the double breasted plough, but the wet spring and rapid growth of the Beans would not admit it, it was therefore hand-hoed; the Beans came into blossom early, and kidded well, and were harvested in July. I have threshed a small portion of the crop, and calculate the yield a very little under 40 bushels per acre. The spring sown Beans in this neighbourhood were not planted till mine were in blossom, what the yield may be, I cannot state; the haulm looked well until the beginning of August, when in a few days the leaves turned black and dropped. The Wheat which preceded my Beans was salted with a view to check the growth and stiffen the straw, a portion being left not salted to test the experiment; I however did not observe the least difference in the Beans. I think the difference in "C. L's" Beans must not therefore be attributed to lack of salt; *E. Curtis, Gatcombe, Isle of Wight.*

Calendar of Operations.

SEPTEMBER.

Berwickshire Merse Farm, *Sept* 15.—Since last report we have been employed in reaping and carrying; the weather has been favourable, so that most part of what was cut last week is carried; *J. E.*

Dumfriesshire and Galloway, *Sept.* 14.—Harvest operations have progressed satisfactorily during the last 10 or 14 days, the weather being excellent, and every appearance of a beneficial continuation. From extensive observation and inquiry, I am satisfied that the crops hitherto cut or secured have suffered nothing from the weather—the grain and straw being both sound. Along the alluvial straths and holms of the rivers in Dumfriesshire, and in the first class of hard lands, the white crops will be, as near as may be, an average; and this may be also said of the stewartry of Kirkcudbright and Wigtonshire. Inferior soils, from the cold and wet weather of the early part of the season, may in some districts be rather below an average. The Turnip crop has made great progress during the last month, and though not likely to yield equal to crop 1847, which was extraordinary, will probably yet come up to an average of former years. The state of the Potato crop is very gloomy indeed. The rural police of the county have made reports which are published in some of the Dumfriesshire journals, from which it might be inferred that the Potato scurvy is partial and comparatively trifling. The truth is, the crops of early kinds are generally diseased and severely affected. The later kinds are beginning also to get affected. The extent and progress of the scurvy seem to depend mainly on the period of planting, and the earliness of the kind of seed. In Wigtonshire, which is generally early, and a great Potato country, the disease is quite common and advanced. The stewartry is following rapidly in its wake, and Dumfriesshire is little if any better. From information and personal observation, I do not expect one-half the crop to be raised for human food. Some intelligent agriculturists, growing large breadths, have told me that not a third will be fit for human consumption. From 10 to 14 days of our present weather will secure nearly all the [illegible] *J. H.*

East Lothian [illegible], *Sept.* [illegible].—Harvest operations with us are [illegible] [illegible] finished [illegible], except a [illegible] Wheat, which, if the weather continue fine, will be ready for [illegible] [illegible] [illegible] week. [illegible] Turnips [illegible] (particularly Swedes, and [illegible] for want of rain; *L.*

[illegible] Farm, *Sept.* [illegible].—Men employed [illegible] and [illegible] Barley, Oats, [illegible] Clover, and Beans. [illegible] [illegible] [illegible] [illegible] Potato mills, to be made into [illegible] [illegible] [illegible] [illegible] be put up in the end of the week for Turnip feeding; *J. C.*

[illegible] Farm, *Sept.* [illegible].—The weather, during the last three weeks, has been everything that can be desired for harvest operations. [illegible] the greater proportion [illegible] yard; [illegible] and, should the weather [illegible] favourable, [illegible] by the end of the month. [illegible] one, and [illegible] quality is very good. [illegible] was put [illegible] been much damaged by [illegible] [illegible] in getting it carried [illegible] are [illegible] stooks. [illegible] having to be conveyed from two to [illegible] over very rough roads. The corn being a light crop [illegible] supply of fodder for the cattle [illegible] cutting a quantity of Fern and [illegible] to meet the deficiency in some measure. [illegible] or, at about [illegible] below last year's prices. [illegible] be marketed forthwith. All the stock are doing remarkably well; *A [illegible].*

North [illegible] Farm, *Sept.* 1[illegible].—The fine weather experienced during the past week has enabled us to bring our harvest work nearly to a close; we have cut everything [illegible] of late-sown Oats. The crops generally, with the exception of Beans and Peas, do not turn out so well as was expected. Wheat particularly is much complained of in this part of the county, and will probably yield from [illegible] to [illegible] bushels per acre less than last year. Having now finished sowing Tares, we have commenced cleaning Bean land intended for Wheat with Biddell's scarifier; as soon as this is done we shall cross plough the land intended for Mangold Wurzel next year. We commenced Hop picking yesterday, but do not find the crop near so good as was expected a few weeks since, where 14 cwt. per acre was expected we shall [illegible]; *T. D.*

South Hampshire Farm, *Sept.* 1[illegible].—The weather since our last report has been more favourable for the harvest, and the Barley, Oats, second crops of hay, &c., have generally been housed in fair condition, and but very little is now remaining out in this part of the country. Our horses have been employed by carting Barley and Oats, carting the second crop of hay from pasture land, which is a very abundant crop, and will be good in quality; they have also been horse-hoeing late Turnips and Swedes, harrowing in Trifolium after the Barley crop (we usually sow from 25 to [illegible] lbs. of seed per acre); also ploughing and harrowing in winter Tares, rafter [illegible], dragging, and scarifying land intended for the Wheat crop; ploughing up the Potato crop, and harrowing the stubble Turnips with iron harrows, which we find well adapted for this work. The crop is now making rapid progress, as the Turnips sown August 19 are now quite fit for hand-hoeing. Our labourers have been engaged mowing Oats and Barley; also the second crop of pasture Grass, in which we notice the same striking and decided difference in the produce in favour of the application of guano as we did in the first crop, thereby showing that Peruvian guano is not so transient in its effects as many have represented. They have also been stacking Oats and Barley, thatching the ricks, draining, hedge trimming, and Turnip hoeing, which seems likely to engage their attention for some time to come, as in most instances where our Swedes have been twice hoed, they are far from being so clean and free from weeds as we like to see them; in consequence, we intend to hoe and hand-pull weeds the third time, without which we cannot expect a full crop. Our shepherds are but little employed with the sheep, but now take a part in the general work of the farm. We continue to feed our fatting ewes with Beans and oilcake, and with two changes of pasture Grass and white Clover per day. We would here remark upon the great and beneficial effects produced by the feeding of sheep with Beans and oilcake upon poor sand land pasture, which, 15 months past, was covered with Moss and sour Grass, but now looks most luxuriant, with an abundant crop of good and sweet herbage. The women have been employed chiefly during the past fortnight by hay making; but also [illegible], hedge trimming, and pulling weeds among the Swede Turnips; *J. B.*

Stirlingshire Carse Farm, *Sept.* [illegible].—The weather since last week's report has been the most favourable we have enjoyed this season, and in consequence harvest operations have rapidly advanced. We finished the cutting of our whole crop to-day, Beans being the latest [illegible], and these, though not so heavy a crop as we have sometimes been accustomed to, will, we think, turn out fully as well as was at one time anticipated. Oats are stacked, and a fair average crop. The greater part of our Barley is still in the field, but what is outstanding having had the benefit of the recent fine weather, we think of as good a quality, and looks finer in the sample than what was stacked [illegible] weeks ago, though the latter we at one time thought superior. The greater part of our Barley we cut with the cradle scythe, perhaps better known as Drummond's scythe, which we consider a speedier mode than with the common [illegible] more especially when the Clover which we invariably sow with the Barley seed is any way advanced, and when the crop is standing well. We think the scythe possesses also this advantage, that in about one-fourth less time the crop is ready for the barn-yard. Our neighbours generally throughout this district

are similarly employed with ourselves—all busily engaged in cutting what of their crop is still standing, and carting to the barn-yard as it is ready; *W. F.*

SUSSEX FARM, *Sept.* 18.—The weather has been beautiful for some time past, and harvest is nearly completed; late corn, such as Oats and Barley, are a good crop, and have been carried in excellent order. We are now busily engaged scarifying Tare land for Wheat, and Wheat stubble for Turnips; also harrowing and rolling the same. Carting lime and mould on to Wheat land and tiles to drain; threshing Oats and burning lime. Grass is so abundant that we have mowed part of our meadows the second time. Swedes and Mangold Wurzel look healthy and growing, but from so much wet, and the want of sun, the roots will be small. Yellow Turnips now begin to rot; the disease commences at the top, the same as the Potato disease. The weather is also favourable for the Hop-picking, which is now become general; the crop is favourable, and weighs well—from 65 to 70 bushels to the cwt.; *J. B.*

WEST SOMERSET FARM, *Sept.* 11.—The harvest at one period promised to be early and abundant, but an unusually wet season has retarded and injured our prospects. The white Wheats have suffered most; where we calculated on a yield of 50 bushels an acre, there may be half that quantity, and that of an inferior description. It was much laid by the heavy gales and rains in July, and consequently has been much sprouted and wasted. Our spring Wheats were blighted, and the yield and quality will be bad. We have been more fortunate in harvesting our Oat crop, which was heavy, though there is a loss of about 3 sacks an acre on the land, whipped out by the wind, and which is now being ploughed in for spring feed, but this will depend on a mild winter. Our prospects for the ensuing winter are not very encouraging, for without warm weather the Mangold Wurzel and Turnips (with the exception of those early sown), will be rather deficient; the hay and straw is of an inferior description, and we have very little corn in a saleable condition. This report applies generally to this neighbourhood. The ploughs have been employed on the fallows; they have hitherto worked badly, particularly on the heavy land; indeed, without a dry autumn, it will be almost impossible to haul out the dressing for Wheat, even where the land is thoroughly drained, and this description of work is very much behind-hand; *F. E.*

Notices to Correspondents.

FOOD DISSOLVED: *J Coates.* If all you say of it should be verified by experience we shall be happy to make it known as widely as we can; but we must have the impartial testimony of those who have tried it before we can publish what is at present a mere advertisement. We shall give it a trial on our own farm and elsewhere.

POULTRY: *Linda and J W.* The article on Poultry, from the Newcastle Farmers' Club, is wrong on several points which we cannot here correct seriatim. The addition of a fifth toe is certainly one very distinguishing characteristic of the true Dorking breed, whatever may be said to the contrary. The absurd statement about Cochin China hens laying two or three eggs per day, is copied from the second edition of Richardson's "Domestic Fowl," a work so inaccurate as to be more likely to mislead than to guide the amateur. The Cochin China is, nevertheless, a very valuable variety, and is to be procured in London, though at rather a high price. But the task of naming prices and recommending dealers is a thankless one, which is better avoided. Nobody would keep hens in "wards" who could possibly allow them to be at large. The mode cannot be profitable, except on a small scale for high-priced fancy breeds. There is at present no good useful book on Poultry that can be depended upon. One on the subject, by the author of the articles on "Ornamental Poultry," which have appeared in our columns, is now in the press. *D.*

THE HARVEST MOON: *J C M.* It was at the full on the 12th of October.

WEEDS: *F H S.* Ferns may be destroyed by perseverance in cutting them off as they appear. Centaurea also.

WEIGHTS OF FOWLS: *A very Constant Reader* asks whether the 2 lbs. and 2¼ lbs. spoken of as the average weight of chickens fed up to 90 days old, refers to the live weight or the weight of fowls trussed for the spit. Of some fowls born on the 9th of June this year, the live weights on the 7th of September averaged 2¾ lbs. and 3 lbs. They were not of a large kind, having more or less of the wood pheasant blood in them, and had been well fed in a good walk, but were never cooped. Laying hens of the same breed, four or five months old, averaged 3½ lbs. weight. He thinks some statistics of this kind might lead to useful results, especially with reference to the age at which it is most profitable to send various kinds of fowls to market. Guinea fowls, he notices, at three months old were larger than common fowls. He asks if the price of fowls in London or in our large cities is regulated by the weight, and if so, what is the average price of, say a hundred weight of fowls three months old, averaging 2½ lbs. or 3 lbs. live weight? In many parts of the country an egg is the same price, whether it be 1½ oz. or 2½ oz. weight, and fowls are a good deal subjected to the same rule. He believes, however, that if there were any fixed price by weight, and poulterers willing to contract for considerable numbers, now that the railway system is so well developed, large quantities would be sent from various parts of the country to the London market. It would be well worth while feeding fowls, which just now (September) are selling in many parts of the country for 1*s.*, so as to fit them for the London market at 2*s.* or 2*s. 6d.*

Markets.

SMITHFIELD, MONDAY, Sept. 18.

We have, for the time of year, an unusually large supply of Beasts. Prime Scots, however, are not over abundant, and in many instances make 4*s.* 2*d.*, although, generally, the best qualities only realise 4*s.* Inferior kinds are lower, and many remain unsold. The number of Sheep is about the same as of late. Trade is exceedingly dull; the choicest Downs with difficulty make 5*s.*, and it must be a very selling Long-wool to make 4*s.* 6*d.* Calves are shorter, and a very nice one makes nearly 4*s.* 8*d.*, but more than 4*s.* 6*d.* cannot be quoted as average for best qualities. From Holland and Germany we have 773 Beasts, 3170 Sheep, and 110 Calves; from Northampton and Leicestershire, 3000 Beasts; Lincolnshire, 300; and from Scotland, 100.

Per stone of 8 lbs.	s	d	s	d	Per stone of 8 lbs.	s	d	s	d
Best Scots, Herefords, &c.	3	10	to 4	2	Best Long Wools	4	2	— 4	6
Best Short Horns	3	8	— 4	0	Ditto Shorn	....		....	
Second quality Beasts	2	8	— 3	4	Ewes and second quality	3	6	— 4	0
Calves	3	8	— 4	6	Ditto Shorn	....		....	
Best Downs & Half-breds	4	8	— 5	0	Lambs	....		....	
Ditto Shorn	....		....		Pigs	4	6	— 5	4

Beasts—4708. Sheep and Lambs—27,400. Calves—206. Pigs—413.

FRIDAY, Sept. 22.

The number of Beasts is again large, and there are very few wanted; trade is therefore very dull, at fully 2*d.* per 8 lbs. less than on Monday last. The supply of Sheep is also large; it consists, however, chiefly of foreign and second rate; the very few old Downs on offer make 5*s.*, all other kinds are nearly 2*d.* per 8 lbs. lower, nor can they all be sold at this reduction. Calves are more plentiful, and are fully 6*d.* per 8 lbs. lower. It must be a very choice one to make anything over 4*s.* Trade is worse for Pigs. From Holland and Germany there are 361 Beasts, about 3000 Sheep, and 3.0 Calves; from France, 79 Beasts and 9 Calves; and 104 Milch Cows from the home counties.

Best Scots, Herefords, &c.	3	8	to 4	0	Best Long Wools	4	2	— 4	4
Best Short Horns	3	6	— 3	10	Ditto Shorn	....		....	
Second quality Beasts	2	6	— 3	2	Ewes and second quality	3	4	— 4	0
Calves	3	0	— 4	0	Ditto Shorn	....		....	
Best Downs & Half-breds	4	8	— 5	0	Lambs	....		....	
Ditto Shorn	....		....		Pigs	4	4	— 5	0

Beasts—1092. Sheep and Lambs—7750. Calves—551. Pigs—409.

HOPS, FRIDAY, Sept. 22.

MESSRS. PATTENDEN and SMITH report that there is a large supply of Hops in the market, but the samples are for the most part very indifferent. The demand is good for the best quality. Duty, 205. 0*d.*

Mid. & East Kents, p. cwt.	56*s* to 104*s*	Yearling Kents, p. cwt.	42*s* to 52*s*
Weald of Kents	— —	Yearling Sussex	42 — 52
Sussex	45 — 63	Old Hops	20 — 35
Farnhams	42 — 56		
	80 — 100		

COVENT GARDEN, SEPT. 23.

The market is well supplied with Vegetables and most kinds of Fruit; but trade continues dull. Pine-apples are plentiful. Hothouse Grapes are abundant; they are ticketed at 2*s.* a lb. The supply of Peaches and Nectarines begins to fall off, melting Peaches are nearly over. Me ons are sufficient for the demand. Ribstone Pippins and other dessert Apples are ticketed eight for 6*d.* Pears begin to make their appearance; among them we remarked good specimens of Beurré d'Amalis, Brown Beurré, Williams' Bon Chretien, Marie Louise, &c. Nuts are sufficient for the demand. Filberts fetch 9*d.* per lb. Oranges are pretty abundant: Lemons moderately plentiful. Among Vegetables, Carrots and Turnips are abundant and good; Cauliflowers, Broccoli, &c., sufficient for the demand. French Beans plentiful. Potatoes the same, but diseased, and so are Tomatoes. Peas are dearer. Lettuces and other salading are sufficient for the demand. Mushrooms are plentiful. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Fuchsias, Carnations, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 3*s* to 5*s*
Grapes, hothouse, per lb. 1*s* 6*d* to 4*s*
Peaches, per doz., 2*s* to 4*s*
Nectarines, per doz., 2*s* to 4*s*
Melons, each, 2*s* to 5*s*
Plums, per punnet, 1*s* 6*d* to 2*s* 6*d*
Apricots, per doz., 2*s* to 4*s*
Apples, dessert, per bush., 4*s* to 7*s*
— kitchen, p. bush., 3*s* to 5*s*
Pears, per doz, 1*s* to 3*s*
— per half sieve, 6*s* to 10*s*
Mulberries, per pottle, 4*d* to 6*d*
Figs, per doz., 1*s* to 2*s*
Oranges, per doz., 1*s* to 2*s*
Oranges, per 100, 10*s* to 16*s*
— bitter, per 100, 8*s* to 16*s*
Lemons, per doz., 1*s* to 2*s*
— per 100, 7*s* to 14*s*
Almonds, per peck, 6*s*
— sweet, per lb., 2*s* to 3*s*
Walnuts, per 100, 1*s* 6*d* to 2*s*
— per bush., 16*s* to 24*s*
Nuts, Barcelona, per bush., 20*s* to 22*s*
— Filberts, per 100 lbs., 38*s* to 50*s*
— Cob, per 100 lbs., 40*s* to 60*s*
— Brazil, per bush., 12*s* to 16*s*
Chestnuts, per peck, 3*s* to 6*s*

VEGETABLES.

Cabbages, per doz., 6*d* to 1*s*
Cauliflowers, per doz., 1*s* to 4*s*
Broccoli, per doz., 6*s* to 9*s*
Sorrel, per half sieve, 6*d* to 9*d*
Potatoes, per ton, 60*s* to 160*s*
— per cwt., 3*s* 6*d* to 8*s*
— per bush., 1*s* 6*d* to 4*s*
Turnips, per doz. bunches, 2*s* to 4*s*
Red Beet, per doz., 6*d* to 1*s*
Horse Radish, per bundle, 1*s* to 6*s*
French Beans, per half sieve, 1*s* to 2*s*
Cucumbers, each, 2*d* to 8*d*
Leeks, per bunch, 1*d* to 2*d*
Celery, per bundle, 3*d* to 1*s* 3*d*
Carrots, per doz. bunches, 3*s* to 6*s*
Spinach, per sieve, 1*s* to 2*s*
Peas, per sieve, 3*s* to 5*s*
Marjoram, per bunch, 2*d* to 4*d*
Onions, per bunch, 3*d* to 6*d*
— Spanish, per doz., 1*s* to 4*s*
Onions, pickling, per half sieve, 2*s* to 3*s*
Tomatoes, per punnet, 9*d* to 1*s* 3*d*
— per half sieve, 4*s* to 6*s*
Shallots, per lb., 4*d* to 8*d*
Garlic, per lb., 8*d* to 1*s*
Radishes, per doz. bands, 6*d* to 1*s*
— Turnip, do., 9*d* to 1*s*
Artichokes, per doz., 1*s* 6*d* to 3*s*
Vegetable Marrow, per doz., 6*d* to 1*s*
Lettuce, Cab., per score, 4*d* to 1*s*
— Cos, do., 9*d* to 1*s* 3*d*
Mushrooms, per pottle, 1*s* to 1*s* 9*d*
— per bushel, 4*s* to 6*s*
Small Salads, per punnet, 2*d* to 3*d*
Fennel, per bunch, 2*d* to 3*d*
Savory, per bunch, 3*d* to 4*d*
Thyme, per bunch, 3*d* to 4*d*
Watercress, p. 12 small bun., 6*d* to 9*d*
Parsley, per half sieve, 6*d* to 9*d*
— Roots, per bundle, 1*s* to 1*s* 6*d*
Mint, green, per bunch, 2*d* to 4*d*

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Sept. 21.

Prime Mead. Hay	68*s* to 74*s*	New Hay	—	*s* to — *s*	Straw	26*s* to 32*s*
Inferior ditto	50 63	Clover	70	100		
Rowen	40 50	New Clover	—	—		

Trade very heavy. J. COOPER.

CUMBERLAND MARKET, Sept. 21.

Prime Mead. Hay	72*s* to 77*s*	Old Clover	95*s* to 100*s*		Straw	28*s* to 32*s*
Inferior	50 68	Inferior	60	95		
New Hay	50 68	New Clover	60	95	JOSHUA BAKER.	

WHITECHAPEL, Sept. 21.

Fine Old Hay	68*s* to 75*s*	Old Clover	95*s* to 105*s*		Straw	26*s* to 32*s*
Inferior Hay	— —	Inferior	50	60		
New Hay	55 65	New Clover	80	90		

MARK LANE, MONDAY, Sept. 18.

MESSRS. KINGSFORD and LAY report that the supply of English Wheat at this morning's market was small, and the new taken off at an advance of 1*s.* to 2*s.* per qr., excepting the damp and very inferior, upon which no improvement was obtainable. Foreign, either free or in bond, met but a moderate sale, at the extreme rates of last week.—We reduce our quotations for Barley 2*s.* per qr.—Beans are the turn lower, white Peas 1*s.* per qr. dearer.—The Oat trade is languid, at 6*d.* per qr. over the prices of last Monday.

BRITISH PER IMPERIAL QUARTER.	*s*	*s*		*s*	*s*
Wheat, Essex, Kent, and Suffolk ..... White	46	60	Red	42	55
Norfolk, Lincolnshire, and Yorkshire	50	58	White ..	50	60
Barley, Malting and distilling, 30*s* to 32*s* Chevalier	32	34	Grinding	26	29
Oats, Lincolnshire and Yorkshire ..... Polands	23	26	Feed	21	24
Northumberland and Scotch ..... Feed	—	—	Potato ..	—	—
Irish ..... Feed	19	23	Potato ..	22	25
Malt, pale, ship	—	—			
Hertford and Essex	—	—			
Rye	27	30			
Beans, Mazagan, old and new .. 29*s* to 34*s* .... Tick ..	35	38	Harrow ..	36	40
Pigeon, Heligoland	38	44	.... Winds	—	—
Peas, White	34	42	.... Maple	38	40
			Grey	34	36

ARRIVALS IN THE PORT OF LONDON LAST WEEK.

Flour, 1130 sks — 1349 bls	Wheat. Qrs.	Barley. Qrs.	Malt. Qrs.	Oats. Qrs.	Rye. Qrs.	Beans. Qrs.	Peas Qrs.
English	4131	416	5299	6140	17	282	720
Irish	—	51	332	—	—	—	15
Foreign	23383	3354	—	12186	5	6561	374

FRIDAY, Sept. 22.

The arrivals of foreign Wheat during the week consist of 21,410 qrs.; those of all other grain are moderate. Wheat, both English and foreign, is inquired after, but buyers being unwilling to pay the late rates, transactions were limited.—Barley is scarce, and unaltered in value.—Beans and Peas are a dull sale.—Fine Oats are the turn dearer, but other descriptions difficult to be disposed of.

[The weather during the week has been warm and very fine until yesterday, when rain returned in Scotland and Ireland, and this afternoon we have it here. There are still a few Beans and Peas out in the midland counties, and an occasional field of Barley or Oats, but little of consequence this side of the Humber. In the north, also in Scotland and Ireland, some extent of corn is still in the fields. Prices of Wheat generally throughout the kingdom have been firmly supported, with the exception of Liverpool. In the east coast a slight advance has been established, but the trade is nowhere brisk; buyers have been holding off, hoping the decline of duty to its minimum would cause it to be forced on the market. This, however, is not probable, and the duty not unlikely to remain stationary for several weeks. Malting Barley has declined about 2*s.* per qr. from the first prices realised. In other descriptions of spring corn, no alteration. Barrel Flour is scarce, and some brands command as much as 34*s.* to 35*s.* Indian Corn in request; Galatz has realised 41*s.* per qr. and Ibralia 40*s* afloat. We hear of no improvement in the state of Potatoes from any quarters. By the last accounts from Dantzic prices were again firmer, and arrivals very small. In Pomerania, too little was brought to market to allow of correct quotations being given. The Belgian prices are 1*s.* to 2*s.* higher, and red Wheat is held at 49*s* to 50*s.* per qr., f. o. b., equal to 57*s.* to 58*s.* here. In Marseilles, Polish Odessa Wheat or good quality is not procurable under 48*s.* cost and freight, and at Leghorn they are 1*s.* to 2*s.* higher. It appears by letters of the 5th from New York, that very few orders had been executed there. Good brands of Flour scarce at 26*s.*, f. o. b.; prices had risen about 2*s.* per barrel, and stocks continued small.]

IMPERIAL AVERAGES.	Wheat.	Barley.	Oats.	Rye	Beans.	Peas.
Aug. 12	50*s* 11*d*	30*s* 1*d*	21*s* 8*d*	29*s* 7*d*	36*s* 0*d*	35*s* 2*d*
— 19	51 0	30 3	21 5	31 11	37 9	36 3
— 26	52 3	31 2	21 11	30 11	38 1	37 7
Sept. 2	55 5	32 1	22 6	32 2	38 8	38 11
— 9	56 10	33 4	22 10	33 8	39 1	41 6
— 16	53 8	33 3	22 2	33 5	38 10	40 2
Aggregate Average	53 4	31 9	22 1	31 11	38 1	38 3
Duties on Foreign Grain	4 0	2 0	1 6	2 0	2 0	2 0

ARRIVALS IN THE PORT OF LONDON THIS WEEK.

	Wheat. Qrs.	Barley. Qrs.	Oats. Qrs.	Flour.
English	3580	330	550	1910 sacks.
Irish	—	—	—	
Foreign	21410	5740	15220	— barrels.

Fluctuations in the last six weeks' Corn Averages.

PRICE.	Aug. 12.	Aug. 19.	Aug. 26.	Sept. 2.	Sept. 9.	Sept. 16.
56*s* 10*d*	...	...	...	...	...	...
55 5	...	...	...	...	...	...
53 8	...	...	...	...	...	...
52 3	...	...	...	...	...	...
51 0	...	...	...	...	...	...
50 11	—	—	—	—	—	—

SEEDS, Sept. 18.

Canary ..... per qr.	75*s* to 90*s*		Linseed-cakes, Foreign, p. ton, 7*l* to 9*l*		
Caraway ..... per cwt.	27	29	Mustard, White, p. bush., 6*s* 0*d* to 10*s* 0*d*		
Clover, Red, English	35	44	Superfine, p. bush	10	11
— Foreign	35	40	Brown, per bush.,	6	12
White, English	38	44	Rapeseed, Eng., per last	28*l*	30*l*
— Foreign	38	42	Rape-cakes ..... per ton	4*l*	15*s*
Coriander	10	20	Sainfoin	—	—
Hempseed ..... per qr.	42	48	Tares, Eng., winter, p. bush., 10*s* 0	11*s*	0
Linseed	36	40	Foreign, per bush., 3*s* 0	4*s*	0
— Baltic	34	38	Trefoil	17*s*	0 20*s*
— Cakes, Eng. p. 1000, 11*l* 10*s* to 13*l*			Turnip—too variable for quotation.		

PERUVIAN AND BOLIVIAN GUANO ON SALE,
By THE ONLY IMPORTERS,
ANTONY GIBBS AND SONS, LONDON;
WM. JOSEPH MYERS AND CO., LIVERPOOL;
And by their Agents,
GIBBS, BRIGHT, AND CO., LIVERPOOL and BRISTOL;
COTESWORTH, POWELL, AND PRYOR, LONDON.

To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

TO AGRICULTURISTS, GARDENERS, FLORISTS, &c.
ELLERMAN'S PATENT CONCENTRATED, DISINFECTED, and INODOROUS CARBONISED ANIMAL MANURE, in Powder, prepared only by C. F. ELLERMAN, Sole Licensee of Mr. E. BROWN, Patentee. The best manure for fertilising every description of land, and improving the growth, production, quality, and condition generally, of all sorts of agricultural and horticultural vegetation.

Orders (for wholesale only) received by Messrs. ELLERMAN and Co., at their Patent Deodorising Fluid Depot, Nos. 80 and 81, St. Martin's-lane, London, who are prepared to supply this Poudrette to any extent, as well as his Disinfected and Inodorous LIQUID MANURE, at prices that may be ascertained on application to them.

Also sold, by appointment, by the following

LONDON AGENTS:

Mr. H. COLES, Seedsman and Florist, No. 32, Cranbourne-street, Leicester-square; Messrs. DEANE, DRAY, and DEANE, Agricultural Implement Depôt, No. 46, King William-street, London-bridge; by whom, in order to afford an opportunity of practically testing, by means of sample, the superior efficacy of this new and incomparable Powder Manure, as well as to suit the convenience of Amateurs, and all those possessing merely

SMALL GARDENS, BEDS, OR PLANTS AND FLOWERS IN POTS,

It is also retailed for such purposes in neatly done up tin canisters, at 1*s.*; double-sized ditto, 1*s.* 9*d.*; and treble ditto, 2*s.* 6*d.* each; and likewise in compact wooden packages, containing 1 cwt., at 1*l.*; ½ cwt., 15*s.*; ¼ cwt., 10*s.*; and ⅛ cwt., 6*s.* 3*d.* each, packages included.

N.B.—This manure is so clean, and completely free of smell, that the most sensitive and fastidious lady or gentleman may use it for their Pleasure Garden, Greenhouse, or Drawing-room Plants, without experiencing therefrom the slightest annoyance.

Further particulars, and full directions for use, accompany each canister and package.

WHEAT SOWING.
THE LONDON MANURE COMPANY beg to offer as under:—
LONDON MANURE COMPANY'S CORN MANURE.
" " " URATE. [LIME.
" " " SUPER-PHOSPHATE OF

Peruvian Guano, direct from Importers' stores—Fishery and Agricultural Salt—Gypsum for Clover—Soda Ash for destroying wireworm, and every other Artificial Manure.

The London Manure Company would call particular attention to their Corn Manure and Urate, the former containing a large amount of Ammonia, Phosphates, and Silicates, all so essential for corn crops, while the Urate is richer in Phosphates and other mineral substances required for roots.

Full particulars and prices forwarded on application.
EDWARD PURSER, Sec., 40, Bridge-street, Blackfriars.

MESSRS. NESBIT'S CHEMICAL AND AGRICULTURAL SCHOOL, 38, Kennington-lane, London.—A sound practical knowledge of Analytical and Agricultural Chemistry, Geology, Surveying, Levelling, Railway Engineering, &c., may be obtained in Messrs. NESBIT'S Academy, in addition to a good modern education.

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HOTHOUSES, & HEATING BY HOT WATER, BEST MATERIALS AND WORKMANSHIP, AT SMITH'S, GLEBE-PLACE, KING'S ROAD, CHELSEA, LONDON.
ESTABLISHED TEN YEARS.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

FREDERICK FAIRBANK, of Sible Hedingham, near Halsted, Essex, begs to inform the public that he is now sending out his WHITE CHAMPION WHEAT at 10*s.* 6*d.* per bushel; new sack, 2*s.* Carriage free to London. All orders must be prepaid.

F. F. would lay before the public two letters, from a number he has received.

"Durley Lodge, Bishop's Waltham, Hants, Aug. 24, 1848.

"Sir,—I have pleasure in stating that the Champion Wheat I purchased of you for seed has turned out remarkably well. It was sown on a light soil. I have had applications for it, but I think I shall reserve the whole for my own use, and sow it more extensively on a suitable soil.

"I am, Sir, your obedient servant, Thomas Leard."

"St. Mary's Church, Torquay, Sept. 1, 1848.

"Sir,—I was induced to try your Champion Wheat; I am of opinion it fully bears out its name, and the character I heard of it. Certainly it deserves to stand high in Class A. of the White Wheats. I tried it on three quite different soils, aspects, and elevation above the sea. I consider it a good cropper, stiff in its straw, for although I have a heavy crop of it, 6 feet high, I had none laid. It carries a fine square ear, set with 4. The light soil is the best.

"I am, Sir, your obedient servant, T. Le Evans."

Sales by Auction.

IMPORTANT SALE OF CACTI AND OTHER SUCCULENT PLANTS, by order of Messrs. Loddiges.

MR. J. C. STEVENS is instructed to announce for Sale by Auction, at his Great Room, 38, King street, Covent Garden, on Thursday, Sept. 28, at 12 o'clock, the whole of Messrs. Loddiges' Collection of Cacti and other Succulent Plants, amounting to upwards of 1500 specimens, comprising many rare and new species from various localities. May be viewed the day prior and mornings of sale, and Catalogues had at Messrs. Loddiges' Nursery, Hackney, and of Mr. J. C. Stevens, 38, King-street, Covent Garden.

AN IMPORTATION OF CHOICE EAST INDIAN ORCHIDS AND PITCHER PLANTS.

MR. J. C. STEVENS begs to announce he will sell by Auction, at his Great Room, 38, King-street, Covent-garden, on FRIDAY, 29th September, at 12 o'clock precisely, on account of the number of Lots, an importation of most rare and valuable ORCHIDS from Manilla, Java, and Malacca, just arrived in Ward's Case, in the best possible condition. Amongst them may be mentioned a probably new Phalænopsis and P. amabilis, Aerides quinquevulnera, virens (?), ample-xicaule, and several new species of Aerides; Vanda violacea, a new Saccolabium, a new Renanthera; and several plants of a new genus from Manilla. Also six species of Nepenthes, from Singapore, including Rafflesii ampullacea, a new species, with magnificent crimson pitchers, capable of holding nearly a quart; and many other novelties.—May be viewed on Thursday and morning of Sale, and Catalogues had of Mr. J. C. Stevens, 38 King-street, Covent-garden.

TO NOBLEMEN, GENTLEMEN, AND NURSERYMEN.

MR. J. C. STEVENS is instructed to sell by Auction, at his Great Room, 38, King-street, Covent Garden, on TUESDAY, October 3, at 12 for 1 o'clock, 500 ARAUCARIA IMBRICATA, fine plants, from 1 to 1½ feet; 500 CEDRUS DEODARA, 1 foot, fine and bushy, from Seed; and 200 PINUS GERARDIANA. On view the morning of Sale, and Catalogues had.—Sept. 23.

CAMELLIAS, LILIUM LANCIFOLIUM, GLADIOLUS GANDAVENSIS, AND CRYPTOMERIA JAPONICA, FROM MONS. AUG. VAN GEERT, OF GHENT.

MR. J. C. STEVENS will sell by Auction, at his Great Room, 38, King-street, Covent-garden, on FRIDAY, October 6th, at 12 for 1 o'clock 800 CAMELLIAS, of good sorts, with flower-buds from 1½ to 4 feet; 100 LILIUM LANCIFOLIUM, strong flowering roots, and 200 LILIUM LANCIFOLIUM RUBRUM; 200 GLADIOLUS GANDAVENSIS, mixed varieties, and flowering roots; and a few good plants of CRYPTOMERIA JAPONICA.—On view the morning of sale, and Catalogues had.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS are instructed to submit to public Auction, on the premises, Lower Richmond-road, Putney, on TUESDAY, Sept. 26th, 1848, at 11 o'clock, by order of the Executrix of the late Mr. Elliot, the whole of the STOCK, consisting of fine Evergreens, Ornamental Trees and Shrubs, a large quantity of Standard and Dwarf Moss and other Roses, a considerable quantity of Bulbs, comprising Gladiolus, Liliums, Narcissus, Tulips, Ranunculus, Iris, &c.; Herbaceous Plants, several Glazed Lights, ten 1, 2, and 3-light Boxes, Iron Pump, Utensils in Trade, &c. —May be viewed a week prior to the sale. Catalogues may be had on the premises, of the principal Seedsmen, and of the Auctioneers, American Nursery, Leytonstone.

TO MARKET GARDENERS AND OTHERS.—OLD KENT-ROAD, NEAR THE HALF-WAY-HOUSE.

MR. WARREN will sell by Auction, on MONDAY next, September 25, at 1 for 2 o'clock precisely, on the Ground (the same being required for Building operations), now in the occupation of Mr. Edwin Collins, situated on the south side of the Grand Surrey Canal, at its junction with the Peckham Branch Canal, and nearly opposite the Half-way-house, in the Old Kent-road, THIRTY-TWO THOUSAND FIVE HUNDRED STOOLS of Victoria, Giant, Radford's early, Collins's early, and various other carefully selected sorts of RHUBARB, of the primest quality; 6 acres of excellent Coleworts, 2 acres of Seedling Cabbage Plants, Cape Broccoli Seed, Parsley, Mint, and Winter Savory, and 1050 Moss Rose-trees.—May be viewed upon application to the Tenant, or to the Landlord of the Half-way-house Inn, of whom Catalogues may be obtained; also of Messrs. Kindersley, Denton, and Kindersley, Solicitors, 6, New-square, Lincoln's-inn; Thomas Bygrave, Esq., 14, Clement's-inn; at the Unicorn and Rainbow Taverns, Covent-garden; Bell Inn, Borough-market; and of Mr. Warren, Land Surveyor and Valuer, Isleworth.

TO BE LET and entered on immediately, a first-rate STOCK and TURNIP LAND FARM, containing 570 acres, with good Family Residence. It is situate in the vicinity of excellent markets, by the side of a trunk line of railway and good turnpike roads.—For particulars and cards to view, apply to Mr. Webb, Knebworth, near Stevenage, Herts.

Also another Turnip Land Farm of 240 acres.

MAPERTON, SOMERSET.

TO BE LET, by Tender, from the 29th September instant, about 453 acres of good Corn, Orchard, and Dairy LAND, with two substantial Dwelling-houses, Labourers' Cottages, and all necessary and convenient Farm Buildings. The Estate is in good order, and worthy the attention of a spirited agriculturist. The Lands may be viewed at any time on application to Messrs. Davis and Vigers, the present tenants; and sealed Tenders may be sent to Messrs. Messiter, Wincanton, prior to the 29th instant.—Wincanton, Sept. 23.

MERRIOTT, NEAR CREWKERNE, SOMERSETSHIRE.

TO BE LET, and entered on immediately, on most advantageous terms, an Old Established and Well Stocked NURSERY, containing, by estimation, Ten Acres (more or less), situated in the above parish; together with an excellent Hothouse thereon, filled with choice Vines in full bearing, and valuable plants; adjoining which is a comfortable Cottage, with convenient Cart-house, Packing Sheds, Seed Room, &c.

Merriott is situated within a short distance of the populous towns of Ilminster, Ilchester, Yeovil, Crewkerne, Chard, Taunton, &c., to which latter place conveyances pass to and fro daily, in connection with the railways to all parts of England.

To view the above, application may be made to Mr. Andrews, at the Cottage on the Nursery; and further particulars and terms of letting may be known on application to Mr. Whiteley, Solicitor, Wrington, near Bristol, Somerset.—Wrington, Sept. 23

TO NURSERYMEN AND FLORISTS.

TO BE SOLD, by Private Contract, a small Nursery, in an excellent situation, comprising 1½ acre of very fine Land, a capital Brick Built Cottage, two Pits and two Greenhouses nearly new, held on Lease, 18 years unexpired, at a very low ground Rent.—For particulars, apply on the Premises, Lea-bridge Nursery, Lea-bridge-road, Clapton.

TO GENTLEMEN, NURSERYMEN, AND OTHERS.

TO BE SOLD, 6000 EVERGREEN OAKS.—1500 two-year plants, 18 inches high, very strong plants, 7s. per 100; 4500 one-year plants, 5s. per 100, either fit for potting or planting out, or to make Evergreen Oak Hedges.—Direct, post-paid, to W. P., Wood's Cottage, 12, Sussex-road, Brixton, Surrey.

FARMS TO BE LET, in the parish of Holbeach, Lincolnshire, to be entered upon at Lady-day next.

1. LEADENHALL FARM is to consist of about 155 acres, of which 65 acres are in outmarsh, 31 acres in pasture, and 120 acres are arable; this Farm is in the occupation of Mr. William Thomas.

2. LOPWATER FARM is to consist of about 640 acres, 212 acres of which are in pasture and 428 acres arable, part of this is in the occupation of Mr. William Thomas, and the remainder in possession of Mr. John Pearson Savage.

3. FORTHELINGHAM FARM is to consist of about 340 acres, of which 77 acres are in outmarsh, 117 acres in pasture, and 207 acres arable, part of this Farm is in the occupation of Mr. Thomas Edward Savage, and the remainder in the possession of Mr. John Pearson Savage.

The soil of these Farms consists of alluvial deposit of very rich quality, producing large crops of every kind of grain, of Turnips, and of other roots.

These Farms are to be let on Lease for 14 or 21 years, at a corn rent, to vary as the average price of Wheat for the three preceding years varies. To view the Farms, apply to Mr. George Martin, Holbeach Marsh, who has a plan and particulars of each Farm; and for further particulars apply to Mr. John Morton, Whitfield Farm, Berkeley, Gloucester hire.

TO NURSERYMEN.

TO BE LET, with immediate possession, a COMPACT CONCERN, most delightfully situate in a fashionable Watering Place in the county of Devon. The present proprietor retires, having carried on a successful business upwards of 50 years. For full particulars, apply, by letter only, to Mr. John Hewett, 1, Myddelton square, Clerkenwell, London.

TO NURSERYMEN.

TO BE LET, with immediate entry, a DWELLING-HOUSE, and NURSERY GROUNDS attached, containing about 2 acres, well stocked, and with or without 2½ acres more land, situate at Andover, Hants, close to the intended Railway Station. The whole or part of the Stock, which comprises a general collection of Forest Plants, Laurels, &c., and about 500,000 strong, four-year old, transplanted Quicks, may be taken at a valuation.—To view, apply to Thomas Tarrant, Bishop's court Nursery, Andover; and to treat, to Mr. Westbury, Land Agent, Andover.

A PARTNER WANTED, in an extensive old-established and highly respectable Nursery Business. Any person desirous of entering into the above business will find it such an opportunity as very rarely occurs. The Nursery is extensive and well stocked, and at present doing a good trade. No one will be treated with who cannot command from 1000*l.* to 2000*l.*—Address, stating particulars, with reference, to A. B., Messrs. Hurst and M'Mullen, Seedsmen, 6, Leadenhall-street, London.

STAMP END IRONWORKS, LINCOLN.
PORTABLE STEAM ENGINES.

MESSRS. CLAYTON, SHUTTLEWORTH, AND CO., Engineers and Iron Founders, respectfully solicit the attention of Agriculturists, Railway Contractors, and Builders, to their improved PORTABLE STEAM ENGINES, now used for Threshing and other purposes, in the counties of Norfolk, Huntingdon, Durham, and very extensively in the county of Lincoln.

These engines may be safely and efficiently managed by any steady agricultural labourer. They are easily moved from place to place, being permanently fixed upon wheels.

The EIGHT-HORSE ENGINES will thresh out economically and thoroughly from 60 to 80 qrs. of Wheat per day, consuming only from 8 to 9 cwt. of coals, and the FOUR-HORSE ENGINES will produce proportionate results; thus effecting a saving of 250 p. cent. over the common horse-threshing machine.

Messrs. C. S. and Co. are enabled to produce the following Testimonials from some of the gentlemen for whom they have manufactured Engines:

Sunderland Docks, Contractors' Office, July 5, 1848.

Gentlemen,—In reply to your inquiry, as to how the two Portable Engines we have had from you suit us, we have to say that they give us entire satisfaction, and far exceed our most sanguine expectations respecting them. Our opinion of them for Sawing, Pile Driving, Pumping, &c. (in fact for the general uses that contractors can apply engines to, is, that so far as anything of the sort that we have seen, they cannot be surpassed, either for doing the same quantity of work with the least quantity of fuel, or for little expense in keeping them in repair.

We are, Gentlemen, yours truly, John Craven and Son.
Messrs. Clayton, Shuttleworth, and Co., Engineers, &c.,
Stamp End Works, Lincoln.

Kenwick Hall, Clenchwarton, near Lynn, June 17, 1848.

Gentlemen,—It is with great pleasure I send you my opinion of the "Steam Engine and Thresher" you made me last year. I have no hesitation in saying it far surpasses all I have seen; its simplicity of construction, compactness, and portability, combined with its accuracy and great power, render it quite a favourite with all who have seen it at work.

I approve of the principle of the double cylinder adopted by you, thereby doing away with a ponderous fly wheel which in a portable engine adds materially to its weight; consequently is an objection to its being moved about). Three horses will move the Engine you made me with perfect ease, on a tolerable road. The Engine is so simple that a farm servant of mine drives it quite as well as any skilled mechanic, and keeps it in good order without any difficulty.

The quantity of coal consumed, all must be aware, will depend upon the quality. I find with good hard coals 8 cwt. will work the Engine for 10 hours, and with that quantity of coals I have threshed 60 quarters of Wheat, the straw of which was very long and stiff, and was loaded on to waggons as threshed, and there were 34 waggon loads. I have no hesitation in saying, that in a season when the straw is not beyond its average length, we could thresh a much greater quantity.

I have only to add, you are quite at liberty to make use of this communication in any way you may think proper, and any gentlemen you may refer to me, I shall be happy to answer their inquiries.

I am, Gentlemen, yours truly, William Stanton.
To Messrs. Clayton, Shuttleworth, and Co.

Canwick near Lincoln, June 19, 1848.

Gentlemen,—In answer to your inquiry relative to the "Portable Steam Threshing Machine," which I purchased of you in June, 1846, I have great pleasure in stating that I have found it a very efficient implement, and one which I would not be without on any consideration. It is very economical, easily moved from place to place, and so simple that one of my own labourers attends to it. It can thresh out more corn per day than 12 horses, do it better, requires no more hands, and only consumes from 8 to 9 cwt. of coals per day. If I can be of use to you as a reference, I shall be most happy to answer any inquiry.

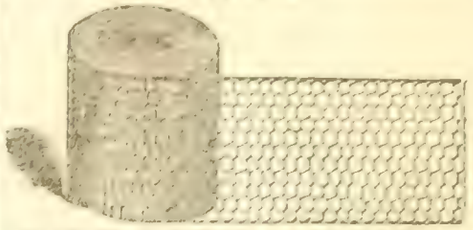
I remain, Gentlemen, your obedient servant, Edward Clarke.
To Messrs. Clayton, Shuttleworth, and Co.

N.B.—Engines of Four and Eight horse-power are now being made at the above works, where, on application (either personally or by letter), every information as to management, cost, &c., will be gladly furnished.—Sept. 23.

PARTNERSHIP.—There is an opening in an old established, and highly respectable Nursery and Seedsmen's business, for a Partner with a small capital. The present proprietor is desirous of retiring from the business, and will give every information to any party wishing to treat. Address, post-paid, to A. B., 3, Cross, Lee, Kent.

THE POTATO DISEASE ARRESTED.—THE POTATO SPECIFIC [illegible] prepared by J. J. Gibbs, Chemist, [illegible] of several eminent agriculturists [illegible] the progress of the disease [illegible] in gardens [illegible] and Potato growers [illegible] brought to its [illegible] to all parts of the country. Sold [illegible] London.

STRONG PREMIUM HARE AND RABBIT FLOOR WIRE NETTING.



CHARLES D. YOUNG AND COMPANY (late W. and C. Young),

MANUFACTURERS OF IRON AND WIRE WORK, &c., Cattle Market, Islington, [illegible] Liverpool-street, Bishopsgate; and 82, [illegible] Crescent, Regent-street, beg respectfully to call the attention of [illegible] and other to their strong Wire [illegible] and Rabbit from Cattle, [illegible] &c.

This Net was exhibited at the [illegible] Agricultural Society of Scotland, [illegible] where its Efficiency, Cheapness, and Durability [illegible] attracted general attention, and [illegible] the Society's Silver Medal, with [illegible]

The immense damage done to Hares and Rabbits in Gardens and Young Plantations, is often to a great [illegible] of a year or two it will amount to more [illegible] of protecting them will [illegible] Plantations are [illegible] to [illegible] protect on, it can be removed to [illegible] with the greatest facility, by any [illegible] Hares and Rabbits, it is [illegible] to be unrolled and attached, with [illegible] purpose, to wooden stakes driven [illegible] or seven feet apart. It is, [illegible] dering Hedges, Paling, or [illegible] to such vermin: and [illegible] pieces of three or more feet, [illegible] cient guard, at little expense, [illegible]

PRICES.—18 ins. high, [illegible] 36 ins., 1s. 6d. per lineal yard.

Or a web of 10 yards, 18 ins. wide, without		£	15 0
Do.	of 10 yards, 24 ins. [illegible]		5 0 0
Do.	of 10 yards, [illegible]		5 5 0
Do.	of 10 yards, [illegible]		7 10 0

If more or less than a web is required, it would be charged at the same rate per yard.

This Netting is also admirably adapted for Pheasantries and Poultry-yards, and is charged at the same [illegible] As large has, in many instances, been required, it is a matter of importance requiring this Net, C. D. Y. [illegible] arrangements by which they will [illegible] to any of the principal ports of Scotland, England, and Ireland, for One Halfpenny per lineal yard.

C. D. Young and Co. [illegible] a large [illegible] of the great strength of their Pheasantry [illegible] that the weight of [illegible] 3½ yards each [illegible] per yard. Sample [illegible]

C. D. Young and Co. [illegible] IRON and WIRE WORK [illegible] Workmen sent to [illegible]

EMIGRATION AND COLONIZATION.—EMIGRATION [illegible] AUSTRALIA, NEW ZEALAND, &c., and [illegible] often prevents [illegible] CLOTHIERS, OUTFITTERS, [illegible] a large [illegible] to [illegible] vised to make [illegible] Outfit (including Bedding, [illegible] it, (not upon [illegible] or less) [illegible] preparations, at No. 4, [illegible] the London Tavern, where [illegible]

S. W. S. & Co. being the [illegible] all the Outfits they supply, and [illegible] mote Emigration, they [illegible] the two usual commissions [illegible] be fitted out, so that the Passage [illegible] at the least possible [illegible] advise Passengers how to [illegible] the Colonies. They have a [illegible] Colony, to which they [illegible] forward small parcels free of expense.

Naval and Military Officers, [illegible] Ladies, &c., are entitled [illegible] Outfitting Warehouse, Nos. [illegible] Outfitting being exclusively at No. 4, [illegible] Within), London, and each branch at St. [illegible] Liverpool.

BEAUTIFUL TEETH.

ROWLANDS' ODONTO, or PEARL DENTIFRICE, a White Powder for the Teeth, [illegible] of the choicest and most [illegible] the Royal Herbal of [illegible] Teeth, strengthening the Gums, and [illegible] and perfume to the breath. It eradicates [illegible] to the Teeth, and [illegible] the enamelled surface. Its [illegible] properties exercise a [illegible] they arrest the further progress [illegible] healthy action to the [illegible] to the Breath, [illegible] the Gums, [illegible] the Teeth, strengthening [illegible] and rendering them [illegible] The proprietors of this [illegible] early in preserving and [illegible] anything of the kind [illegible] Odontalgic, relieves [illegible] the Gums, and [illegible] Family should [illegible] Nearly [illegible] in Europe. Price [illegible] per box.

CAUTION.—[illegible] from them [illegible] Commissioners have [illegible] the proprietors' name and address, thus—"A. ROWLAND and SON, 20, Hatton Garden," to be engraved on the Government Stamp, which is affixed to each box. Sold by the Proprietors, and by Chemists and Perfumers.

COUNTY FIRE OFFICE, 50, REGENT STREET, AND 2, ROYAL EXCHANGE BUILDINGS.

ESTABLISHED 1807.

It is respectfully notified to parties holding policies in this office, the renewals of which fall due at Michaelmas, that the same should be paid on or before the 14th of Oct. The receipts are lying at the head office, and in the hands of the several agents.

The terms of the County Fire Office are highly advantageous to the Insured, and have secured to it a large share of public appr bation. All claims are settled with promptitude and liberality. Full particulars will be immediately furnished to parties applying personally, or by post, to the head office, or to any of its agents, who are appointed in all the principal towns of the United Kingdom.

JOHN A. BEAUMONT, Managing Director.

NEW LIFE TABLES.

ALLIANCE BRITISH AND FOREIGN LIFE AND FIRE ASSURANCE COMPANY,

1, Bartholomew-lane, London.

Capital, 5,000,000*l.* sterling. Established 1824.

SECURITY.—The large invested Capital, and the personal responsibility of upwards of 1000 Shareholders.

BOARD OF DIRECTION.

Presidents.—Samuel Gurney, Esq.—Sir Moses Montefiore, Bart.

Directors.

James Alexander, Jun., Esq.	Charles Gibbes, Esq.
G. H. Parnell, Esq.	William Gladstone, Esq.
Sir E. N. Buxton, Bart., M.P.	James P. Howard, Esq.
Sir R. Campbell, Bart.	John Irving, Esq.
Sir George Carroll	Baron L. De Rothschild, M.P.
Benjamin Cohen, Esq.	Sir A. N. De Rothschild, Bart.
Rt. Hon. G. R. Dawson	H. M. Thornton, Esq.
James Fletcher, Esq.	Melvil Wilson, Esq.

Auditors.—James Cook, Esq.; Samuel Gurney, Jun., Esq.; Thomas Charles Smith, Esq.

The Board, with a view of giving increased facilities to the public in the transaction of Life Business, have directed the construction of various Tables in addition to those they had previously in use.

1. Non-participating, on Reduced Rates of Premium.
2. Tables on Increasing and Decreasing Scales.
3. Tables subject to a Limited Number of Annual Payments.
4. Tables for Endowment Assurances.

No entrance fees are charged. The Assured may proceed to any part of Europe without extra Premium. The Lives of Naval and Military Officers, not in actual service, are taken at the usual rates. A Commission to Solicitors and Agents bringing business is paid.

Detailed Prospectuses, with Tables of Rates and full particulars, will, on application, be forwarded by post, or may be obtained at the Head Office, 1, Bartholomew-lane, London; at the Office of the Company, 95, George-street, Edinburgh; and at their various agencies in England, Scotland, and Ireland.

*** Loans on the Deposit of unencumbered Policies of the Company are made, up to their value, without legal expense to the borrower.

FIRE ASSURANCES are accepted AT HOME at the usual rates. The Company prosecute both *Fire* and *Life* Assurances ABROAD on reasonable terms. The Receipts for the Renewal Premiums due at Michaelmas are ready for delivery at the Office in town, and at the Agencies throughout the country.

A. HAMILTON, Secretary.

PROVIDENT LIFE OFFICE, 50, Regent-street, and 2, Royal Exchange-buildings, London.

Established 1806. Invested Capital, 1,230,000*l.*

Annual income, 140,000*l.* Bonuses declared, 743,000*l.*

Claims paid since the establishment of the Office, 1,678,000*l.*

President.—THE RIGHT HONOURABLE EARL GREY.

Directors.

The Hon. ARTHUR KINNAIRD, *Chairman.*

The Rev. JAMES SHERMAN, *Deputy Chairman.*

Henry B. Alexander, Esq.	William Ostler, Esq.
Henry Blencowe Churchill, Esq.	George Round, Esq.
George Dacre, Esq.	James Sedgwick, Esq.
Alexander Henderson, M.D.	Frederick Squire, Esq.
William Judd, Esq.	William Henry Stone, Esq.
Sir Richard D. King, Bart.	Capt. W. John Williams.

JOHN A. BEAUMONT, Managing Director.

Physician—JOHN MACLEAN, M.D., F.S.S., 29, Upper Montague-street, Montague-square.

The Rates of Premium are those adopted by the principal Life Offices, the rate without bonus is lower than that of most other Offices.

The Bonuses are added to the Policies, or applied to the reduction of the Premiums.

Policies issued by this Office are purchased at their full value; or Loans may be obtained upon them after they have been in existence for five years.

If a party neglect to pay for the renewal of his Policy, he may repair the omission any time within 12 months, upon proof of good health.

The profits (subject to a trifling deduction) are divided among the insured. The plan upon which they are divided gives to each party insured a share proportionate to the amount of the Premiums he has contributed.

In addition to the above advantages, the Directors have determined to adopt the principle of allotting a prospective Bonus to Policies lapsing between the Septennial Periods of Division, in order that all the Policy-holders may participate equally in the Profits of the Society.

The following Table shows the amount of Bonuses added to Policies existing at the present time.

Policy No.	Date of Policy.	Sum insured.	Bonuses added.	Increase on original Insurance.	Total Sum payable, to which future Bonuses will be added.
		£	£ *s.* *d.*		£ *s.* *d.*
21	1806	500	415 10 2	83·10 per cent.	915 10 2
521	1807	900	982 12 1	109.17 ,,	1882 12 1
1174	1810	1200	1160 5 6	96.68 ,,	2360 5 6
1395	1811	1600	1328 8 6	83.02 ,,	2928 8 6
3286	1820	2000	1906 13 5	95.33 ,,	3906 13 5
3392	1820	5000	3558 17 8	71.17 ,,	8558 17 8
4356	1822	3000	2541 3 6	84.7 ,,	5541 3 6

Prospectuses and full particulars may be obtained upon application to the Agents of the Office in all the principal towns of the United Kingdom; and the head Office, No. 50, Regent-st.

DO YOU SUFFER TOOTH-ACHE?—If so, use BRANDE'S ENAMEL for filling the decaying spots, rendering defective teeth sound and painless. Price 1*s.* only: similar to that sold at 2*s.* 6*d.* Sold by chemists everywhere. Testimonials: "It has given me the use of one side of my mouth, which luxury I had not enjoyed for about two years."—E. J. Macdonald, Belford, Northumberland. "It is the most effective and painless cure for tooth-ache I have ever found. I have no hesitation in recommending it to all sufferers."—Capt. Thomas White, 12, Newington-crescent, London. "I have filled two teeth, and find I can use them as well as ever I did in my life. I have not had the tooth-ache since."—Abraham Collins, North-brook-place, Bradford, Yorkshire. See numerous other testimonials in various newspapers, every one of which is strictly authentic. If any difficulty in obtaining it occurs, send 1*s.* and a stamp to J. WILLIS, 4, Bell's-buildings, Salisbury-square, London, and you will ensure it by return of post.—Agents wanted.

NEW WORK BY DOUGLAS JERROLD,

Author of "THE CAUDLE LECTURES," &c. &c.

A MAN MADE OF MONEY.

THIS DESIRABLE INDIVIDUAL WILL BE INTRODUCED

BY DOUGLAS JERROLD,

On the First of October, and every succeeding Month, until completed, in Six Pieces.

N.B. The Man will every Month hold TWO PLATES (to be supplied by LEECH), for a Shilling.

On View at the "PUNCH" Office, 85, Fleet-street.

On Sale, 8vo, Price 3*s.* 6*d.* to Fellows of the Society, and 5*s.* to others (or postage free, upon receipt of a Post-office order, price 5*s.* to Fellows of the Society, or 6*s.* 6*d.* to others),

A CATALOGUE OF THE FRUITS cultivated in the Garden of the Horticultural Society of London. Third Edition. Containing the Names, Synonymes, Colour, Size, Form, Quality, Use, Time of Ripening, and many other particulars concerning all the most important varieties of hardy Fruit cultivated in this country.

Sold at the House of the Society, 21, Regent street; and also by LONGMAN and Co, Paternoster-row; J. HATCHARD, Piccadilly; RIDGWAY, Piccadilly; RIVINGTONS, Waterloo-place; and by the principal Booksellers in all parts of the empire.

PICTORIAL HISTORY OF ENGLAND.—The Standard Edition of the PICTORIAL HISTORY OF ENGLAND is now completed (with the exception of an Index to the whole, which will make a separate volume). The work, which contains 6650 pages, is divided into Eight Volumes, which are constantly kept on sale, handsomely bound in cloth, price 6*l.* It extends from the earliest times to the end of the war in 1815, and partially to the end of the reign of George III.

A Continuation of the Pictorial History of England was commenced two years ago, and Two Parts, at 4*s.* each, have appeared, which bring down the Narrative to the Accession of George IV. The Publisher deeply regrets that unforeseen circumstances have interfered with the continued publication of this work; but he has now the pleasure to announce that he has made arrangements with Miss MARTINEAU for the completion of this undertaking. The publication of

THE HISTORY OF ENGLAND DURING THE THIRTY YEARS' PEACE

will be resumed on the 1st of October, and continued Monthly, in Half-Parts, at 2*s.* each, and in Parts, on alternate Months, at 4*s.* each. The whole work will be comprised in Eight Parts, at 4*s.* Parts I. and II. will be kept constantly on sale, so that the Subscribers to the Standard Edition of the Pictorial History of England, now completed, may proceed regularly with the continuation.

PICTORIAL BIBLE.—The INDEX is preparing for immediate publication, when the work may be had complete, in Four Volumes, cloth boards, price 3*l.*

London: CHARLES KNIGHT, 90, Fleet-street; and sold by all Booksellers in town and country.

DOMESTIC ECONOMY, EDUCATION, SANITARY REFORM, COTTAGE GARDENING, AND FARMING.

THE FAMILY ECONOMIST; a Penny Monthly Magazine, is devoted to the promotion of the above objects among the Industrious Classes. Original articles on different branches of Domestic Economy, by the best writers; Social Sketches, Moral Tales, "Family Secrets," and a variety of valuable Household Recipes appear in every number of the work. This is one of the most useful and entertaining works published. Its moral principles are unexceptionable. Nine numbers are now out, and may be readily obtained, by order, of any Bookseller. Price 1*d.* a Month, 1*s.* a year.

London: GROOMBRIDGE and SONS, Paternoster-row.

On the 30th Sept., Price 6*s.*, Division One of

A DESCRIPTIVE ATLAS OF ASTRONOMY AND OF PHYSICAL AND POLITICAL GEOGRAPHY. With descriptive letterpress, by the Rev. THOMAS MILNER, M.A., Author of the "Gallery of Nature," &c. &c.

The present Part comprises in ASTRONOMY:

1. A Celestial Planisphere, or General Map of the Heavens.
2. Annual revolution of the Earth round the Sun.
3. Phases and Movement of the Moon.
4. Map of the Heavens in August, September, and October.

With a complete Treatise on Astronomy, by the Editor, copiously illustrated.

The MAPS in PHYSICAL GEOGRAPHY are constructed by AUGUSTUS PETERMANN, F.R.G.S., and formerly in Professor Berghaus's Geographical Establishment at Potsdam.

1. Distribution of Atmospheric Heat and Cold indicated by Isothermal Lines.
2. Distribution of Oceanic Currents and Temperature.
3. Distribution of Animals.

4 and 5. The Ocean and River Boundaries in the Two Hemispheres.

The MAPS in POLITICAL GEOGRAPHY, in part constructed and revised by Mr. PETERMANN, and Engraved by Mr. DOWER, with Sections of the principal Mountains.

1. Africa—2. Europe—3. North America—4. South America—5. France—6. Ireland—7. British Isles—8. North Italy—9. South Italy.

The Work will continue to be published in Monthly Parts, each containing Three Maps; and in Divisions, each containing Eighteen Maps, and a proportionate quantity of letterpress. To be completed in Four Divisions, and Twenty-four Parts.

London: WM. S. ORR and Co., and sold by all Booksellers.

On Oct. 5, Price 2*d.*, or stamped 3*d.*, to be continued Weekly,

THE COTTAGE GARDENER; or, Amateur and Cottager's Guide to Out-of-door Gardening and Spade Cultivation. Conducted by GEORGE W. JOHNSON, Editor of the "Gardener's Almanack," "Modern Gardener's Dictionary," &c. FRUIT GARDENING, by Mr. R. EBRINGTON, Gardener to Sir P. Egerton, Bart., Oulton Park. FLOWER GARDENING, by Mr. T. APPLEBY, Floricultural Manager to Messrs. Henderson, Edgeware-road. KITCHEN GARDENING, by the EDITOR and Mr. J. BARNES, Gardener to Lady Rolle, at Bicton.

THE COTTAGE GARDENER will consist of Eight Large Octavo pages, relating chiefly to Out-Door Gardening. The Contents of each Number will be thus arranged:—The Week's Fruit Gardening—The Week's Flower Gardening—The Week's Kitchen Gardening—Miscellaneous Information applicable to the Month's Gardening—General Horticultural Information—Correspondence and Answers to Queries.

The price of each Number will be 2*d.*, or 3*d.* if Stamped, so as to be transmissible free from postage.

London: Published by WM. S. ORR & Co., Amen Corner, and 147, Strand; and Sold by all Booksellers, of whom detailed prospectuses may be had.

TENANT-RIGHT.—The Parliamentary Report of the Evidence given before the Committee of the House of Commons on Tenant-Right being out of print, the Proprietors of THE FARMER'S MAGAZINE have determined to republish it in that periodical, WITHOUT ADDITIONAL CHARGE.

Persons desirous of possessing the Evidence complete should order the Number for October without delay through a bookseller in any market town.—Office, 24, Norfolk-street, Strand, London.

THE HYBRID HONEYSUCKLE, which was favourably noticed in a Leading Article of this Paper, on the 10th of June last, and described in the Notices to Correspondents, as "A very pretty thing," will be sent out next December, if a sufficient number of plants are ordered. Prices for cash, 10*l.* per hundred, and 30*s.* per dozen.

RICHARD TONGUE, Fortou Cottage, near Garstang, Lancashire.

TEN TONS OF EARLY SHAW POTATOES FOR SEED.—Wanted, to be delivered in February, 1849.—Particulars to be addressed to W. BRIDGELAND, Palace Farm, Bromley, Kent.

THE EDINBURGH REVIEW, No. CLXXVIII., will be published at the end of September. Advertisements and Bills intended for insertion in the forthcoming Number are requested to be forwarded to the Publishers immediately.

London: LONGMAN and Co., Paternoster-row.

NEW WORK BY DR. R. D. THOMSON.

Published This Day, in fcp. 8vo, with Woodcuts, 7*s.* cloth,

SCHOOL CHEMISTRY; or, Practical Rudiments of the Science. By ROBERT DUNDAS THOMSON, M.D., Master in Surgery in the University of Glasgow.

By the same Author, fcp. 8vo, Woodcuts, 5*s.*

An ACCOUNT of the GOVERNMENT EXPERIMENTS on the FOOD OF ANIMALS and the FATTENING of CATTLE: with Remarks on the Food of Man.

London: LONGMAN, BROWN, GREEN, and LONGMANS.

THE EDINBURGH REVIEW, No. CLXXVIII., will be published on SATURDAY next, the 30th inst.

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1. MILL'S PRINCIPLES OF POLITICAL ECONOMY.
2. WALPOLE'S LETTERS TO THE COUNTESS OF OSSORY.
3. REVOLUTION AND REFORM.
4. FORTUNE'S CHINA; GARDENING.
5. ETHNOLOGY; OR, THE SCIENCE OF RACES.
6. HERVEY'S MEMOIRS OF THE REIGN OF GEORGE II.
7. STATE OF EUROPE.

London: LONGMAN and Co. Edinburgh: A. and C. BLACK.

Now ready, price 4*s.* 6*d.*,

SECOND EDITION, REVISED AND ENLARGED,

RURAL CHEMISTRY: AN ELEMENTARY INTRODUCTION TO THE STUDY OF THE SCIENCE IN ITS RELATION TO AGRICULTURE.

By EDWARD SOLLY, F.R.S., F.L.S., F.G.S., HON. MEMB. ROY. AGR. SOC. ENG.,

Professor of Chemistry to the Horticultural Society of London, Lecturer on Chemistry in the Hon. E. I. Co.'s Military Seminary at Addiscombe, &c. &c.

Parties not in communication with a bookseller, may have the work sent, free by post, for 4*s.* 6*d.*, on remitting a post-office order to that amount to the Publisher, JAMES MATTHEWS, 5, Upper Wellington-street, Covent-garden, London.

*** At the request of numerous Subscribers, the price of the TREE ROSE is reduced from 4*s.* 6*d.* to 3*s.* 6*d.* (post free.)

THE TREE ROSE.—Practical Instructions for its Formation and Culture. Illustrated by 200 Woodcuts. Reprinted from the GARDENERS' CHRONICLE, with additions.

London: J. MATTHEWS, 5, Upper Wellington-street, Strand.

FARMS AT MARSHFIELD, GLOUCESTERSHIRE, EIGHT MILES FROM BATH.

TO BE LET, at Michaelmas, ASHWICH HALL FARM and RAISES FARM, comprising about 860 acres of superior Arable and Grass Land, in one or two Farms.—Apply to Messrs. Cardale, Iliffe, and Russell, Solicitors, 2, Bedford-row, London; Messrs. Pickering and Smith, Land Agents, 14, Whitehall-place, London; or Mr. Edward Little, Lower Sheldon, Chippenham, Wilts.

WIRE FENCING, ¾*d.* per square foot, less than 2-inch mesh, painted, in various widths from 1 foot to 6 feet wide; the 6-feet wide 1*s.* per yard run, or 6½*d.* per yard 1 yard wide. The Wire-work is made by powerful machinery, and is little more than half the price of the cheapest article of the kind in the market. It is worked in oil, and warranted not to rust or require paint half so often as the ordinary Wire-work. May be had Galvanised at 1½*d.* per foot. Also Wire Fencing, 4 feet high, 5*d.* per yard; Rabbit-proof Iron Hurdles 6 feet by 3 feet, 6*s.* to 6*s.* 6*d.* each; 5-bar Iron Hurdles, 5*s.* 6*d.* with screws and painted.—ROBERT RICHARDSON, 21, Tonbridge place, New-road, London.

HOLLOWAY'S PILLS, A SUPERIOR REMEDY FOR AFFECTIONS OF THE CHEST, AND DISEASES OF THE LUNGS.—Bridget McBride, a respectable young woman, residing at Currigart, Ireland, was afflicted with a severe affection of the chest, from which cause her breathing and articulation had become so extremely difficult that the general opinion, even of medical men, was that the lungs were diseased; failing to obtain relief from other sources, she commenced taking Holloway's Pills, and so rapid has been her recovery by the use of this invaluable medicine, that it appears quite miraculous. These Pills are equally efficacious in curing old coughs, recent colds, asthmas, sore throats, and all pulmonic disorders.—Sold by all druggists, and at Professor HOLLOWAY'S Establishment, 244, Strand, London.

Printed by WILLIAM BRADBURY, of No. 6, York-place, Stoke Newington, and FREDERICK MULLETT EVANS, of No. 7, Church-row, Stoke Newington, both in the county of Middlesex, Printers, at their office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the Office, No. 5, Charles-street, in the parish of St. Paul's, Covent Garden, in the said county, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY, SEPT. 23, 1848.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No. 40.—1848.] SATURDAY, SEPTEMBER 30.

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PATRONISED BY THE QUEEN AND PRINCE ALBERT.

JOSLING'S ST. ALBAN'S GRAPE.—See the following Letter. "Pine-apple Nursery, Sept. 21, 1848.

"Mr. ROBERT JOSLING,—I have much pleasure in informing you that I entertain the very highest opinion of your GRAPE; it has a rich aromatic flavour, and is a decided acquisition to the dessert table. Be so good as to send me 20 good plants at your convenience.—JOHN ANDREW HENDERSON."

Agents will be advertised next week.

ROBERT JOSLING, Seedsman, St. Alban's.

SUPERB DOUBLE HOLLYHOCKS.

WM. CHATER begs to announce that he has a large stock of good strong plants of his unequalled collection now ready, and that he is now executing all orders, this being the best time for planting to ensure a fine bloom next year.

Price, 20 of the best, 5l.; or the whole collection of 30, 6l.

Good double varieties of 12 colours for borders, 6s. per doz., or 30s. per 100.

A remittance from unknown correspondents is indispensable.

Saffron Walden, Sept. 30.

FIRST-CLASS GERANIUMS.

J. HINE having a very large stock of the best kinds in cultivation, informs the public that he intends to supply them this autumn at unusually low prices. The much admired set of Eight Seedlings raised by WM. MILLER, and advertised for the first time last autumn (price 5l. 5s.) can be obtained this season for 3l. 5s., there being a very fine stock of them, namely:

SCARLET DEFIANCE	ADMIRATION
ROSA MUNDI	VALGIUS
QUEEN OF KENT	CONSPICARUNDUS
DISTINCTUS	FLORA'S FLAG.

Illustrated Engravings of which will be sent on receipt of 24 stamps.

J. H.'s Autumnal Catalogue for this year is now ready, and will be sent on application. Cash to accompany orders from unknown correspondents. Post-office orders to be made payable to the name of JOHN HINE, Providence Nursery, Ramsgate.

PLUMBAGO LARPENTÆ.

JAMES BROWN (Successor to MARNOCK and MANLEY) begs to inform the Public that he can supply strong plants of the above, showing flower buds, at 10s. 6d. each; also good plants, four and five shoots to each, at 5s.; and smaller plants, well rooted, at 3s. 6d. each.

Nursery, Hackney, London, Sept. 30.

NEW PICOTEES AND PINKS.—Burroughes' Duke of Wellington, red edge, extra fine pod, and large, 10s. 6d. per pair. Burroughes' Lady Smith, purple edge, extra fine pod and large, 7s. 6d. per pair. Ellis's Mary, pure white, with beautiful rose lacing, 5s. per pair. Ellis's Brilliant, bright red lacing, 3s. 6d. per pair. Catalogues may be had on prepaid application.—BENJAMIN NORMAN, Bull Fields, Woolwich.

DOUBLE ROMAN AND PAPER WHITE NARCISSUS, 4s. per dozen.—The above Bulbs, the former of which is so justly esteemed for its early blooming and excessive fragrance, and the latter for its purity and elegance, have been just received at A. COBBETT'S Italian and Foreign Warehouse, 18, Pall-mall, near Waterloo-place. Also Dutch Hyacinths, Crocus, Tulips, Anemones, Ranunculus, &c.; priced Catalogues of which may be had per post.

ROSES.

EDWARD DENYER, Loughborough-road, Brixton, near London, begs to inform the Nobility, Gentry, and the public in general, that his AUTUMNAL ROSES are now in full bloom. In addition, he has a large stock, as a general nurseryman, of choice FRUIT TREES, of Standard and Dwarf, trained and untrained, of every description, of the finest growth, and true to their kind; also Evergreens and Deciduous Shrubs, Forest and Ornamental Trees, &c., of all sizes. Orders taken at this time, and the plants delivered in November next.—N.B. Gardens and Pleasure Grounds tastefully arranged and planted by contract or otherwise. His importation of Bulbs has arrived in fine condition. E. D. respectfully informs his friends that he has no other place of business but the above in London or elsewhere.

A. PAUL AND SON, of Chesbunt Nurseries, Herts, respectfully announce that their CATALOGUE OF ROSES (and of nearly all the plants in the nursery) is now ready, and may be had on application, or by post, containing two stamps for postage.

The AUTUMN ROSES are still finely in bloom.

Also a fine selection of Fruit and Forest Trees, large Deciduous Trees and Evergreens, Flowering Shrubs, &c., at reasonable prices.

Catalogues may be also had at Messrs. Hurst and Co.'s, 6, London-hill-street, and of Messrs. Noble, 152, Fleet-street, London.

BEST HYACINTHS, ANEMONES, CROCUSES, &c., direct from Haarlem, at low prices.

HYACINTHS, superb sorts by name	per dozen—	10s. 6d.
Ditto ditto in colours, without name		5 0
ANEMONES, new large, double ...	per dozen	1 6
CROCUSES, many large sorts ...	per 1000	21 0
Ditto, yellow	,,	15 0

Tulips, Ranunculuses, and every other kind of bulbous flower root at lowest prices.

Messrs. JOHN SUTTON and SON, having imported largely of the above roots, can offer them at the very moderate prices quoted. Carriage free to London, Oxford, or Bristol.

Reading Seed Warehouse, Reading, Berks, Sept. 30.

MYATT'S NEW FERTILISED HAUTBOIS, Patronised by His Royal Highness Prince Albert.

Messrs. J. MYATT have now strong Runners of this and the following varieties, at the annexed prices: Myatt's Fertilised Hautbois, 25s. per 100; Eleanor, 21s.; Globe, 7s. 6d.; Monmouth, 7s. 6d.; Queen, 3s. 6d.; Pelvelain's Princess Royal and Comte de Paris, 20s.; Black Prince, 20s.; La Leigeoise, 10s. 6d.; Aberdeen Beehive, 5s.; and Hooper's Seedling, 5s.

The usual Trade allowance.

Post-office Orders made payable to JOSEPH MYATT, Deptford.

Manor Farm, Deptford, Sept. 30.

RHODODENDRON JAVANICUM.

MESSRS. VEITCH AND SON beg to inform the Public that they have a few strong, well-established plants, propagated from the original imported plants that have bloomed in their Nursery, and have been exhibited by them, both at Regent's-street and Regent's-park, still for disposal at 5l. 5s. each. For a full description of this beautiful plant, refer to their Advertisements in *Gardeners' Chronicle* and "Journal" of the 16th inst.

Messrs. VEITCH can also offer strong, well-established plants of the following fine things:

Æschynanthus speciosus	42s. 0d	Fagus antarctica, hardy	42s. 0d
,, miniatus ...	21 0	Gardenia Stanleyana ...	5 0
,, longiflorus ...	7 6	,, Devoniana ...	15 0
Adamia versicolor ...	7 6	,, Fortunii	7 6
Allamanda Schottii ..	15 0	,, Whittieldii ...	7 6
Bejaria ledifolia ...	10 6	Heken Victoria, very rare	42 0
Browallia Jamesonii ..	31 6	Hoya cinnamonifolia ...	21 0
Burtonia pulchella, new and beautiful	21 0	,, campanulata ...	5 0
Berberis Jamesonii, hardy ...	15 0	,, imperialis, strong	10 6
,, macrophylla, do...	15 0	Ixora alba	7 6
Cantua bicolor, strong	7 6	,, Griffithiana ...	15 0
Catesbæa Lindeniana ..	7 6	,, javanicum ...	10 6
Clerodendron macrophyllum	7 6	,, odoratissimum ...	7 6
Cestrum candidum ...	7 6	Lisianthus frigidus ...	15 0
Charianthus coccineus, fine	15 0	Magnolia grandiflora ...	42 0
Chætogastra strigosa, fine	10 6	Medinilla speciosa ...	15 0
Chironia glutinosa ...	5 0	Pentarraphia cubensis ...	7 6
Cyrtoceras reflexa, strong	3 6	Prepusa hookerii ...	7 6
,, multiflora, do. ...	5 0	Plumbago Larpentæ, small	3 6
Dichorizandra ovalifolia	5 0	Ditto, large plants ...	2 0
,, ,, variegata .	10 6	Pleroma elegans, 5s. and	7 6
Dipladenia crassinoda, strong	3 6	Rondeletia discolor, new	10 6
Dracophyllum sp. fine, hardy	21 0	Rhttidophyllum floribundum	7 6
Erythrina Bidwelliana	7 6	Siphocampylus macrostoma	5 0
Escallonia organensis, hardy	5 0	,, glandulosa ...	5 0
		,, scandens, new ...	7 6
		Statice frutescens ...	7 6
		Salvia oppositiflora ...	7 6
		Zauschneria californica	7 6
		&c., &c., &c.	

Exeter, Sept. 30.

BASS AND BROWN'S DESCRIPTIVE PRICED CATALOGUE of CHOICE FLOWER ROOTS, SELECT ROSES and SHRUBS, HARDY CLIMBING and HERBACEOUS PLANTS, &c., will be sent free by post on application. Very fine and strong roots may be had of the following assortments:

			s.	d.
EARLY TULIPS,	1 root each of 20 superior varieties	...	8	0
,, ,,	3 roots do. do.	...	21	0
,, ,,	1 root of 12 do.	...	5	0
,, ,,	3 roots do. do.	...	14	0
DOUBLE TULIPS,	1 root each of best 10 varieties	...	4	6
,, ,,	3 roots do. do.	...	12	0
ENGLISH IRIS,	1 root each of 24 splendid varieties	...	10	6
,, ,,	fine mixed 2s. per dozen, per 100	...	15	0
GLADIOLUS,	1 each of 12 splendid early varieties	...	15	0
,,	splendid mixed hybrids, per dozen	...	3	6
RANUNCULUS,	50 superb new varieties	...	40	0
,, ,,	25 do. do.	...	22	6
,, ,,	50 fine varieties	...	15	0
,, ,,	best mixed, per 100	...	10	0
,, ,,	early scarlet turban, per 100 ...	...	4	6
IMPORTED HYACINTHS,	24 fine varieties	...	15	0
,,	12 do. ...	6s. to	9	0
NARCISSUS,	3 roots each of 6 varieties ...		8	6
DOUBLE ANEMONES,	fine mixed 1s. 3d. per doz., per lb.		8	0
,, ,,	best mixed 2s. per doz., per lb.		12	0

Fine roots of Crocuses, Jonquils, Lilium, &c. &c.

A Fine stock of Flowering Plants of the NEW ACHIMENES VENUSTA and FLORIBUNDA ELEGANS, 3s. 6d. each. Beautiful strong bushy plants at 7s. 6d. each.

Goods free to London, and for long carriage extra articles presented. Remittances are requested from unknown correspondents. Post-office orders payable to BASS and BROWN, or STEPHEN BROWN.

Seed and Horticultural Establishment, Sudbury, Suffolk.

GRIGOR'S AQUILEGIA GLANDULOSA.—The subscribers have now ready to send out stout plants of their new and beautiful COLUMBINE, respecting which Dr. LINDLEY, in the *Gardeners' Chronicle* in June last, says: "This plant is, perhaps, the handsomest hardy perennial in cultivation; its stems rise about 2 feet high, and sometimes carry from 50 to 80 blossoms. We have a plant now before us, which, after a journey from Scotland, has 21 expanded flowers, each 3½ inches in diameter, with broad, thin, delicate, spreading sepals, of the deepest ultramarine blue, surrounding five shorter petals, the upper half of which is pure white, resting on an azure ground. The effect is beautiful in the extreme; and no description we have formerly given of it has done justice to its exquisite appearance." Stout healthy plants are sent free by post, with the mode of treatment, at 2*s.* per pair, or 9*s.* per dozen; and seeds at 1*s.* per packet, or for postage stamps of that value.—JOHN GRIGOR and Co., Nurseries, Forres, N.B.

NOW READY FOR SENDING OUT,

ARNOLD'S "VIRGIN QUEEN" GERANIUM.—*This is the best* WHITE *in cultivation. It has been fully proved this season, nine specimen plants having produced* 350 *expanded blossoms at one time, only one of which was imperfect.*

We can recommend it with the same confidence as we did Lyne's "Duke of Cornwall" and "Forget-me-not," and we are certain that it will give the greatest satisfaction to all who purchase it. It is thus described by Dr. LINDLEY, in the *Gardeners' Chronicle*:—"*W. E. R. The flower tent is a well formed flower, broad white under petals, the upper petals plum colour with a narrow margin of white; this is a good flower of its colour.*" The habit of the plant is excellent, and the blooms are thrown well above the foliage.

Price 1*l.* each, or three for 2*l.* to the Trade.

P.S.—We are so satisfied with the excellence of the above, and so certain are we that it will give the greatest satisfaction, we will agree to give the amount in Plants selected from our current Catalogue, should it not prove to be equal to what we have stated.—W. E. R. and Co.

The following set of 5 Geraniums (sent out by us last autumn) for 40*s.*:

	each—*s.*	*d.*		each—*s.*	*d.*
2	Lyne's Jenny Lind ...	15	0	5 Lyne's Mercury	10	6
3	,, Star of the West	10	6	6 Folley's Black Prince	5	0
4	,, Lady Ebrington	10	6			

The following set of 8 Geraniums (sent out by Mr. Miller, of Ramsgate, last autumn) for 40*s.*:

	each—*s.*	*d.*		each—*s.*	*d.*
7	Miller's Scarlet Defiance	7	6	11 Miller's Admiration ...	7	6
8	,, Rosa Mundi	7	6	12 ,, Vulgius	7	6
9	,, Queen of Kent ...	7	6	13 ,, Flora's Flag	7	6
10	,, Distinctus	7	6	14 ,, Conspicabunda ...	7	6

The whole set of 14 *as above, including Arnold's Virgin Queen, for* 4*l.* 4*s., or exclusive of Virgin Queen, for* 3*l.* 10*s.*

First orders will receive the first selection, and will be sent out immediately.

WILLIAM E. RENDLE and Co., Plymouth.

P.S.—Our New Plant Catalogue is just ready, and can be obtained gratis, on application.

STORY'S SEEDLING FUCHSIAS "ELEGANTISSIMA" AND "NEWTONIENSIS."

MESSRS. VEITCH AND SON, in answer to the numerous inquiries which both Mr. Story and themselves are constantly receiving, respecting the above beautiful Fuchsias, take this means of informing all inquirers and the public generally, that Mr. Story has consigned them into their hands for propagation and distribution, and that strong, well established Plants will be sent out in May next, at 10*s.* 6*d.* per plant. The two sorts taken together for 20*s.*, package included. The usual allowance to the Trade when three of a sort are taken.

N.B. The two varieties above named have been selected from a large number of fine Seedlings raised in 1847. Many others are far superior to any at present in cultivation, but as Mr. Story is resolved to permit no Seedling of his to be sent out, under the authority of his name, which is not really distinct and of first-rate quality, has limited the number of varieties for disposal to the above two, which he feels confident cannot fail to give general satisfaction to purchasers.

Woodcuts of these two varieties are given in the first number of "The Florist." The one with the reflexed sepals being "Elegantissima," the other "Newtoniensis."

Exeter, Sept. 30.

A BALSTON wishing to dispose of the remaining portion of his NURSERY STOCK, offers it to Planters and the Trade at unusually low prices, as at foot. The whole of it is well grown, in light soil, and is extraordinarily well rooted. It consists of 300,000 common Laurel, 9 in. to 1 foot, 15*s.*; 1 to 2 ft., 30*s.*; 2 to 4 ft., 40*s.*; 4 to 6 ft., 80*s.* per 1000. 70,000 Portugal Laurels, 1 to 2 ft., 5*s.*; 2 to 3 ft., 10*s.*; 3 to 4 ft., 15*s.* per 100. 90,000 Rhododendron ponticum, 1 to 2 ft., 30*s.*; 3 to 4 ft., 60*s.*; 4 to 5 ft., 100*s.* per 100. Ghent Azaleas, all the finest varieties, 2*s.* per doz.; ditto, specimen plants, 30*s.* per doz. Cedrus Deodara, 6 to 8 ft., from seed, and beautifully grown, in pots, 60*s.* each; ditto ditto, 3 to 5 ft., 20*s.* each. Pinus patula, 4 to 5 ft., 7*s.* 6*d.*; 20 other sorts at same prices. A fine collection of Rhododendrons, comprising campanulata, caucasicum, catawbiense, &c., 100*s.* per 100, 18*s.* per doz.; Laurestinus, 1 to 2 ft., 12*s.* per 100; Hornbeam, 4 to 5 ft., 20*s.* per 100; Privet, 4 to 5 ft., 10*s.* per 100; Standard Roses, fine trees of all the best sorts, 18*s.* per doz. Evergreen Oak, in pots, 1 to 2 ft., 50*s.* per 100; ditto, transplanted, 2 to 4 ft., 20*s.* per 100. Good specimens of Ornamental Shrubs, 4*s.* each. All kinds of Forest and Fruit Trees, at half the usual prices. The whole of this stock is now in excellent order for transplanting. Orders must be accompanied by remittances, and all goods exceeding 5*l.* in value will be delivered free.

Poole Nursery, Dorset.

LAURELS AND ROSES.

D. FERGUSON, CONTRACTING PLANTER, LANDSCAPE GARDENER, &c., respectfully informs the nobility, gentry, and Railway Companies, that he can supply them with small Laurels at 1*l.* per 1000, adding 1000 to every ten ordered. Delivered free at Wolverton and Oxford, or at any of the London Railway Stations, at 8*d.* per cwt. He has about 100,000 left that he can supply this autumn, and he can, if called for, supply 50,000,000 in the autumn of 1849. Fine transplanted Berberis aquifolia, at 1*l.* to 30*s.* per 1000. A large quantity of large Evergreen and Deciduous shrubs and trees, exceedingly suitable for new places, giving at once effect and shelter, a thing desirable to proprietors in this uncertain life.

A large quantity of Standard and other ROSES, many of which are worked upon tall Standards for planting among American shrubs, &c. Also some of the tall growing sorts trained 5 or 6 feet above their stems, making a splendid show when planted amongst Evergreens, showing the magnificent pillar of Roses without the unsightly stems being seen. Autumn, I have found by experience, the best season for planting, and I advise my patrons to lose no time in preparing, more particularly where earth is to be removed.

In answer to inquiries, my charges are 2*l.* 2*s.* per day, with board and second class travelling expenses; but where I supply shrubs, &c., to the amount of 100*l.*, I only charge my expenses. I shall be happy to exchange Roses for fruit tree stocks to the number of 150 or 200,000.

D. FERGUSON, Aylesbury Nurseries, Sept. 30.

NEW CINERARIAS.

EDWARD GEORGE HENDERSON, Wellington-road, St. John's-wood, London, will, on the 2d of October, commence sending out the following beautiful Seedling CINERARIAS of 1848, which were exhibited this season, and awarded three Certificates and one Extra Prize. They are in habit dwarf and compact, and the colours exceedingly rich. He therefore feels confident that they will prove as great favourites as others previously sent out by him. The stock of some of the varieties being small, he recommends intending purchasers to give their orders as early as possible, in order to insure the varieties they may wish, and the best plants.

AMANDA, beautiful porcelain, with white round a dark disc, distinct flower, and fine habit	5	0
ANNIE, deep edging of rich plum, clear white circle, with a dark disc, a peculiar attractive and rich-looking flower	7	6
ELEANOR, clear white, with a clean rosy edging, dark disc, large flower, and fine form	10	6
CLIMAX, rosy crimson edging, clear white centre, dark disc, of good form and cupped	7	6
ALBONI, rosy lilac edging, clear white centre, good form	5	0
SPECIOSA, beautiful bright rose, large, and fine form...	5	0
CERITO, lavender edging, white centre, fine form ...	10	6
GARDONI, fine rich crimson, large flower	7	6
JULIA, bright blue, fine dwarf habit	5	0
EMILY, white centre, with deep purple edging, distinct flower	10	6

E. G. H. will also send out at the same time his new seedling French Fancy GERANIUM, "MADAME GRISI," at 10*s.* 6*d.* each; small plants and fine strong bushy ditto, 2*l*s. It has been shown at the Horticultural Society's Gardens at Chiswick, and a Certificate of Merit was awarded to it. The foliage, habit, and size of flower, is in the true fancy style; the colour of the top petals is a dark rich maroon, with a light margin; the lower petals a lighter shade, with a white edging and a white throat.

N. B. A Descriptive List of the above, including all the best varieties of Cinerarias and Fancy Geraniums in cultivation may be had on application.

NEW ROSE CATALOGUE.

E. P. FRANCIS begs respectfully to announce that his New Descriptive CATALOGUE of ROSES, containing all the new varieties, is now ready for delivery, and will be forwarded gratis on application.—Hertford Nurseries, Sept. 30.

NEW ROSE CATALOGUE.

WILLIAM WOOD AND SON have the pleasure of announcing that the New Edition of their Descriptive ROSE CATALOGUE is now ready, and will be forwarded gratis on application. A Catalogue of Ornamental Trees, Shrubs, &c., will be ready in a few days.

Woodlands Nursery, Maresfield, near Uckfield, Sussex.

STAR NURSERY, SLOUGH.

W. BRAGG begs respectfully to inform the Nobility, Gentry, and Floriculturists in general, that his CATALOGUE, containing E. Foster, Esq's., new and choice Seedling Pelargoniums (which are now ready to send out), likewise Descriptive Lists of Picotees, Carnations, Pinks, Pansies, Verbenas, Fuchsias, are now ready, and can be had on application.

W. BRAGG takes this opportunity to assure the above that the Plants of Pelargoniums are first-rate, likewise the whole of his General Stock.—Slough, Sept. 30.

BECK'S SEEDLING PELARGONIUMS.

E. BECK informs the public that the whole of the above are now ready for selection, the prepaid orders having been sent out. The Stock is in very fine condition, and well established in 4-inch pots. A descriptive Catalogue will be sent in exchange for one postage stamp.—Worton Cottage, Isleworth.

N.B. All orders must be accompanied with a remittance. Post-office order requested on Brentford.

TO NURSERYMEN AND GARDENERS.

FOR SALE, about 500 Wilmot's best Red Currant Trees, 4 years old, at 25*s.* per hundred; 500 Black Currant Trees, 4 years old, 25*s.* per hundred; 1000 Ditto, 2 years old, 10*s.* per hundred; 1000 Gooseberry Trees, 3 years old, 10*s.* per hundred.—Apply at Belle Grove Farm, Welling, Kent.

CHINESE PIGS.—For Sale, a very choice lot of Chinese Pigs. Price, 21*s.*, which will increase weekly.—Apply to THOMAS KENCH. Enstone Farm, Enstone, Oxfordshire.

SEEDS.—CORNER OF HALF-MOON-STREET,
THOMAS GIBBS AND Co.,
(By Official Appointment) the SEEDSMEN to the
"ROYAL AGRICULTURAL SOCIETY OF ENGLAND,"

Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

Priced Lists of Agricultural Seeds are always ready, and may be had on application.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

BAKER'S PHEASANTRY, Beaufort-street, King's-road, Chelsea, by special appointment to her Majesty and H.R.H. Prince Albert.—ORNAMENTAL WATER FOWL, consisting of black and white swans, Egyptian, Canada, China, bernacle, brent, and laughing geese, sheildrakes, pintail, widgeon, summer and winter teal, gadwall, Labrador, shovellers, gold-eyed and dun divers, Carolina ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking fowls; white Japan, pied, and common pea-fowl, and pure China pigs; and at 3, Half-moon-passage, Gracechurch-street.

SASH LINE FOR HOTHOUSES AND GREENHOUSES.

R. S. NEWALL AND CO.'S PATENT IMPROVED COPPER-WIRE CORD is now extensively used for Window Sash Line, Hothouses, Lightning Conductors, Picture Cord, Clock Cord, &c., &c., and is found to be cheaper, much more durable, quite as flexible, and one-sixth part the bulk of common Hempen Lines. The Wire Cord may be had wholesale, and specimens seen, at the Office of the Patentees, 163, Fenchurch-street, W. T. ALLEN, Agent; or retail, of G. and J. DEANE, 46, King William-street; E. PARES, 140, Fleet-street; J. JONES, 62, Charing-cross; and GIBBONS and Co., 345, Oxford-street.

BRITISH MANUFACTURED SHEET GLASS FOR CONSERVATORIES.

E. AND W. H. JACKSON beg to recommend the above as superior to all other articles manufactured for that purpose. BRITISH, PATENT AND ROUGH PLATE, CROWN, COLOURED, AND ORNAMENTAL GLASS supplied at the lowest terms.

Lists of prices and every information can be had on application at their Warehouse, 315, Oxford-street, London.

YARMOUTH BLOATERS—GENUINE AND OF THE FINEST QUALITY.

Yarmouth has for centuries been justly celebrated for its well-known "Yarmouth Bloaters," the delicacy of which, when obtained in their genuine state, requires no comment. Such an opportunity is now offered; and they can be forwarded to any part of the kingdom, or for exportation (on receipt of a post-office order) at 12*s.* per 100 package included.—All orders to be addressed to Mr. FREDERICK BROUGHTON YOUELL, Church-square, Great Yarmouth.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND Co., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS FOR CONSERVATORIES. CUT TO SIZE UP TO 40 INCHES LONG.				SMALL SQUARES of SHEET.
16 oz. from 3*d.* to 3½*d.* per foot.				4 by 3 and 4½ by 3½..1½*d.* per ft.
21 ,,	3½	5	,,	5 ,, 3 ,, 5½ ,, 3½..2 ,,
26 ,,	3½	7½	,,	6 ,, 4 ,, 6½ ,, 4½..2¼ ,,
32 ,,	4	9½	,,	7 ,, 5 ,, 7½ ,, 5½..2½ ,,
				8 ,, 6 ,, 8½ ,, 6½..2⅝ ,,
				Not above 10 ,, 8 ..3 ,,

GLASS MILK PANS, PROPAGATING GLASSES, AND BEE GLASSES. GLASS TILES AND SLATES.

CREAM POTS, from 3 to 24 quarts, at 6*d.* per quart.

CUCUMBER GLASSES, from 12 to 26 inches long, 1*d.* p. inch.

LACTOMETERS for trying the quality of Milk, 4 tubes 7*s.* 6*d.*, 6 tubes, 10*s.*; Peach Glasses 10*d.* each; Fish Globes from 1*s.* 6*d.* each; Wasp and Fly Traps 3*s.* 6*d.* per dozen; Plate and Window Glass; Lamp Shades and Chimneys.

METAL HAND-FRAMES.

HARTLEY'S PATENT ROUGH PLATE, AND PATENT DOUBLE CROWN GLASS.

GLASS FOR CONSERVATORIES, &c.

HETLEY AND CO. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2*d.* to 3*d.* per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices, and estimates forwarded, on application for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER PIPES. PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY and Co., 35, Soho-square, London.

See the *Gardeners' Chronicle*, first Saturday in each month.

GREAT REDUCTION IN PRICE.

POTTER'S GUANO is now 7*l.* per ton.—Owing to the recent discovery of cheaper sources of Phosphoric Acid, Mr. POTTER is enabled to guarantee the quality of his GUANO, as heretofore, at the above reduced price.

Also, PURE GYPSUM, at 15*s.* per ton, at the Works, in bulk. Bags holding 2 cwt., 6*d.* each, not returnable.

Works, 28, Clapham-road Place, London.

PERUVIAN AND BOLIVIAN GUANO ON SALE,
By THE ONLY IMPORTERS,
ANTONY GIBBS AND SONS, LONDON;
WM. JOSEPH MYERS AND Co., LIVERPOOL;
And by their Agents,
GIBBS, BRIGHT, AND Co., LIVERPOOL and BRISTOL;
COTESWORTH, POWELL, AND PRYOR, LONDON.

To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

WHEAT SOWING.

THE LONDON MANURE COMPANY beg to offer as under:—

LONDON MANURE COMPANY'S CORN MANURE.
,, ,, ,, URATE. [LIME.
,, ,, ,, SUPER-PHOSPHATE OF

Peruvian Guano, direct from Importers' stores—Fishery and Agricultural Salt—Gypsum for Clover—Soda Ash for destroying wireworm, and every other Artificial Manure.

The London Manure Company would call particular attention to their Corn Manure and Urate, the former containing a large amount of Ammonia, Phosphates, and Silicates, all so essential for corn crops, while the Urate is richer in Phosphates and other mineral substances required for roots.

Full particulars and prices forwarded on application.

EDWARD PURSER, Sec., 40, Bridge-street, Blackfriars.

THE CONICAL BOILERS, invented by JOHN ROGERS, Esq., are sold by JOHN SHEWEN, Ironmonger, Sevenoaks. They are in use at the gardens of Messrs. Loddiges, Hackney; S. Rucker, Jun., Esq., Wandsworth; Sir C. Lemon, Bart., M.P., Cornwall; the Prince's-park, Liverpool, and numerous other places.

Also, AN IMPROVED CORRUGATED BOILER, adapted for any kind of fuel. May be seen at the hothouses of Mrs. Lawrence, Ealing Park, and in several other gardens of note.

JOHN SHEWEN, Sevenoaks, Kent. Estimates furnished for heating all kinds of buildings.

TO AGRICULTURISTS, GARDENERS, FLORISTS, &c.

ELLERMAN'S PATENT CONCENTRATED, DISINFECTED, and INODOROUS CARBONISED ANIMAL MANURE, in Powder, prepared only by C. F. ELLERMAN, Sole Licensee of Mr. E. BROWN, Patentee. The best manure for fertilising every description of land, and improving the growth, production, quality, and condition generally, of all sorts of agricultural and horticultural vegetation.

Orders (for wholesale only) received by Messrs. ELLERMAN and Co., at their Patent Deodorising Fluid Depot, Nos. 80 and 81, St. Martin's-lane, London, who are prepared to supply this Poudrette to any extent, as well as his Disinfected and Inodorous LIQUID MANURE, at prices that may be ascertained on application to them.

Also sold, by appointment, by the following

LONDON AGENTS:

Mr. H. COLES, Seedsman and Florist, No. 32, Cranbourne-street, Leicester-square; Messrs. DEANE, DRAY, and DEANE, Agricultural Implement Depôt, No. 46, King William-street, London-bridge; by whom, in order to afford an opportunity of practically testing, by means of sample, the superior efficacy of this new and incomparable Powder Manure, as well as to suit the convenience of Amateurs, and all those possessing merely

SMALL GARDENS, BEDS, OR PLANTS AND FLOWERS IN POTS,

It is also retailed for such purposes in neatly done up tin canisters, at 1*s.*; double-sized ditto, 1*s.* 9*d.*; and treble ditto, 2*s.* 6*d.* each; and likewise in compact wooden packages, containing 1 cwt., at 1*l.*; ¼ cwt., 15*s.*; ¼ cwt., 10*s.*; and ½ cwt., 6*s.* 3*d.* each, packages included.

N.B.—This manure is so clean, and completely free of smell, that the most sensitive and fastidious lady or gentleman may use it for their Pleasure Garden, Greenhouse, or Drawing-room Plants, without experiencing therefrom the slightest annoyance.

Further particulars, and full directions for use, accompany each canister and package.

TULIPS, HYACINTHS, RANUNCULUSES, ANEMONES, LILIUM LANCIFOLIUM, AND AURICULAS.

HENRY GROOM, Clapham Rise, near London, by Appointment Florist to Her Majesty the Queen and to His Majesty the King of Saxony, begs to recommend to the attention of the Nobility, Gentry, and Amateurs, his extensive assortment of the above FLOWERS, which he in supply of the finest quality and at very moderate prices, having this season been most successful in their cultivation. He begs to say he has received his DUTCH BULBS in excellent condition. His Catalogue may be had on application.

ARNOLD'S "VIRGIN QUEEN" GERANIUM.

WILLIAM E. RENDLE and CO. have much pleasure in stating that they have been very successful in the propagation of this magnificent variety, and they beg to say that for all orders received up to the present time, Two Plants will be sent for every one ordered, and for the future the price will be 20s. each, or Three to the Trade for 40s.

We can recommend it with confidence as being one of the best white flowers in existence.

Good strong established plants are now ready for sending out. Apply to William E. Rendle and Co., Union-road, Plymouth, adjoining the Plymouth Station and Terminus of the South Devon Railway.

PURE WHITE SALVIA PATENS.

WM. WOOD and SON are now sending out the above highly desirable plant, under the name of "SALVIA PATENS ALBA," at 10s. 6d. each; with the usual discount to the trade, and one additional plant for every three ordered. A full description of the above will be found in the *Gardeners' Chronicle* of Sept. 3. Woodlands Nursery, Maresfield, near Uckfield, Sussex.

The Gardeners' Chronicle.

SATURDAY, SEPTEMBER 30, 1848.

MEETINGS FOR THE FOLLOWING WEEK.

Monday,	October	2—Entomological	8 P.M.
Tuesday,	—	3—Horticultural	1 P.M.
Friday,	—	6—Botanical	8 P.M.

The Preservation of Wood is a subject the importance of which it is impossible to exaggerate. Everything relating to it is of the highest interest to all classes; for by far the greater part of the timber employed for ordinary purposes is only capable of remaining sound for a few years, unless under very favourable circumstances. The durability of the Oak is indeed proverbial; yet how many instances are there on record of ships' timbers having been found rotten, or so unsound as to require replacement, even before the vessel can be launched. Other oaken timbers, of the same size, similarly situated, have served at sea for more than 50 years; then been sold as old ship-timber and set up as land posts, where we find them still, and almost as hard as bone. Whence arises this great difference in durability? It cannot well be owing to the soil in which the trees grew, nor to the distinction which may exist between the wood of Quercus pedunculata and sessiliflora, nor even to variations in the mode of seasoning the wood. The evil must be attributed to some powerful internal action affecting the substance throughout, whilst the materials are yet under the tool of the workman.

The true cause must be traced to felling trees at a wrong season, and that *wrong season is spring*; for then the sap is in a peculiar state, and highly disposed to ferment when it can no longer flow through the tissues. It acts as yeast acts on moistened flour. We do not mean to assert that heart of Oak will, in a short period, become as tender as a loaf of bread. The quantity of sap which it contains is less in proportion to the solid parts than in softer woods. Many kinds of the latter, cut late in spring, have, however, been frequently observed in a state so thoroughly decomposed as to be easily crumbled by the fingers in one or two years from the time the pieces were cut; whilst the same kinds of wood cut in the beginning of winter, but in all other respects similarly treated, remained perfectly sound. Any person who can cut off a limb of a tree in the beginning of December, and another limb from the same tree in spring, immediately before the buds expand, may convince himself that the beginning of winter is the best time to fell timber, and that the use of spring-felled timber ought to be entirely prohibited in all cases where the safety of individuals is liable to be affected by the want of strength in structures formed from this perishable material.

In order that wood may possess its greatest degree of natural compactness and elasticity, combined with hardness and durability, it must be felled in the early part of winter; and although means may be employed for driving out the fermenting or putrescent sap left behind in late spring cutting, and for substituting antiseptic substances, yet there is no proof that the desirable properties above-mentioned will be so ensured. On the contrary, it has been proved that strength and elasticity, or toughness, have been diminished in many cases when wood cut in sap has been subjected to preservative processes.

In stating this, we do not wish to imply that the application of preservatives is unimportant. Quite the contrary. But the proper season for cutting down timber should take precedence of all other considerations in regard to its preservation. If this is admitted and acted upon, means may then be employed for preventing that decay to which the soundest wood is liable, sooner or later.

Among the various methods which have been adopted for the preservation of wood, those employed by M. de Gemini have recently been detailed in a memoir submitted by the Minister of Marine to the Academy of Sciences of Paris, and reported upon by MM. Boussingault, de Gasparin, and Decaisne. Their report appears in the "*Comptes Rendus*" of the Academy of Science, Aug. 14, 1848. We learn from the above report that M. de Gemini had remarked that, by introducing metallic salts, the wood was only impregnated with substances more or less soluble, or even volatile; that consequently they would not remain in the wood, and having been introduced by force, he concluded that the fibres would be separated, thus rendering the wood even more liable to decay than it would have been in its natural state.

The reporters deny, however, that the combination of certain metallic salts with wood, or woody fibre, is of so fugitive a nature; and they differ from M. de Gemini as to the disorganizing effects of salt on the woody fibre. They state that repeated and long-continued washings of either cloth or Flax had not diminished, in any appreciable degree, the quantity of copper which those fibres had imbibed; and that Oak and Hornbeam, impregnated with sulphate of copper, presented no signs of alteration after having been buried for five years in the soil.

M. de Gemini operates on dry wood, or on what has been dried in his apparatus, which consists: 1. Of a cast-iron hollow cylinder, destined to hold the pieces of wood, and sufficiently strong to resist the effects of a vacuum within. One of the ends of this cylinder has a close cover, secured by screws, after the wood has been introduced; the other is furnished with a valve opening progressively by means of a screw, and serving to reintroduce the air to the cylinder. 2. Three reservoirs for the solutions; these are placed in the ground under the cylinder, with which each is in communication by a pipe, having a stop-cock. 3. An air-pump for producing a vacuum in the cylinder. 4. A force-pump for injecting the liquids with great pressure into the cylinder. 5. A generator destined merely to fill the cylinder with steam, by a communication pipe. This apparatus, the reporters observe, resembles that of Bréant, improved by our countryman Mr. Payne, and employed in England for several years for impregnating wood with bituminous substances.

Two pieces of Oak were examined by the reporters. One of them had the sap wood left entire, except on one side; in the other it had been almost entirely removed. They had been prepared by M. de Gemini and injected with tar, or tar and pitch (*goudron*). In the one without sap wood, the wood was split or fissured, and the impregnating substance had followed the irregularities of these fissures from the circumference to the centre. In the one furnished with sap wood, on the contrary, the sound parts of the exterior portion of the sap wood were completely penetrated by the pitchy substance. All the woody zones containing the large vessels, were seen traced by lines of tar when cut horizontally; but the heart was untouched. In fact it was previously known, by the experiments of M. Boucherie, that the heart of Oak is impenetrable to the most fluid substances, unless indeed by a very prolonged action.

Neither by ether nor microscopic examination could the least trace of the tar employed by M. de Gemini be detected in the woody fibres of the heart of Oak. It was possible, however, that the wood may have been penetrated by antiseptic substances (creosote, &c.) in a gaseous state.

M. Boucherie had the idea, many years ago, of petrifying wood by the double decomposition, in its interior, of sulphate of iron and carbonate of lime, and also by precipitates of silica; but he soon abandoned the hope of succeeding. With regard to the *successive* introduction of two solutions, in order to deposit an insoluble salt in the wood, which is M. de Gemini's plan, we know that M. Boucherie obtained in this manner certain mineral colours (blue, yellow, green, &c.). But when it is intended to deposit, by means of double decomposition, an insoluble substance in the tissue of wood, it is first necessary to introduce one of the substances. Now this substance must be in a state of solution, and this solution must have the power of penetrating all the *penetrable parts*. What will then happen when we present to the wood, thus impregnated, a second substance also in an equally soluble condition? It is evident that it cannot be introduced without expelling the first solution by which the *whole of the tissue is filled;* and if the first is driven out by the second, the two cannot mix so as to produce the desired chemical action. This method, then, must be pronounced to be impracticable.

The reporters to the Institute state, however, that M. de Gemini's apparatus is well suited to charge the albumum or *sap wood* with patchy matters, and, although the evidence before them was not conclusive, they think it desirable that it should be applied to timber less refractory than that of Oak.

We believe that our railway companies are in possession of important evidence concerning the effect of charring soft timber with creosote (M. Bethell's patent), and we hope to learn some day to what it amounts.

Our Irish friends still keep up a row [illegible] Royal Horticultural Society of Ireland, and a late meeting in the Rotunda, Dublin, renewed the attack to be renewed with [illegible] vigour. We are not, however, at present [illegible] to carry our criticisms any further. It is admitted that there has been great mismanagement, and that the charges brought against the Council are substantially true; it is also known that a portion of the Council is determined to procure an entire change in the rule which are so often the cause of [illegible] from the management. Under these circumstances we feel that time should be given for effecting the changes which are hoped for, and that the public object is to be gained by [illegible]. We know that many of the Council [illegible] of what should be done; we are [illegible] to suppose that those of the Council [illegible] from them do so conscientiously, and not from pique or a foolish determination not to be forced into an improvement; we are convinced that Mr. Neave can only have at heart the true interest of gardeners and gardening. We therefore say [illegible] proceedings; wait till the 19th report of the Society leaves its appearance; and then, if the rules are not improved, if the rewards are not apportioned with more fairness, if members of the Council continue against all reason to stint up the prizes for the flowers they grow themselves, if the [illegible] of judging is not thoroughly purified in appearance as well as in name—why then, the [illegible] will be at an end.

In the meanwhile we would recommend to the serious consideration of our Dublin friends whether they ought not to bring about a union of the two Horticultural Societies. Dublin cannot support two: and the attempt at keeping them separate must end in the ruin of both. The Horticultural Improvement Society of Ireland is conducted in a good spirit, and it has more popularity with the friends of gardening; it however, like its rival, has errors to confess, as what Society has not? Why not reunite them? There can be no reason that would be held valid in any other country than Ireland: and it surely is time for the unmeaning and disastrous feuds of that country to be [illegible]—in gardening at least. Surely there are members of the two Councils who could meet and settle, as arbitrators, all disputed points, and determine upon regulations which would be acceptable to all parties. We anxiously hope that they will do so before the regulations for another year are promulgated: and that the next notice we shall have to take of Irish Horticulture will be by making the welcome announcement that one strong united party has taken the place of the two feeble and disunited bodies which represent it in Dublin.

We have to announce, for the information of the many persons who are interested in the Stanwick Nectarine, that no plants will be ready this year. Arrangements are making for the proper dispersion of it hereafter: and we take the present opportunity of adding that Dr. Lindley is ready to receive and consider offers from any nurseryman who may be desirous of undertaking its propagation and sale, in the manner best calculated to meet the benevolent intentions of His Grace the Duke of Northumberland.

In another page we give the last Official Return of the state of the Irish Potato Crop, prepared for the use of the Poor-law Commissioners. The statement is conclusive, and shows that another year of Irish misery is before us.

In order to ascertain, if possible, something more precise than we yet possess concerning the Potato disease, we have prepared for circulation half-a-dozen printed questions, for answers to which we shall be extremely obliged. They will be forwarded by post to any one who will apply to us for them; the answers to the questions will involve the reporter in little trouble; and we anticipate with some confidence that when many hundreds of the returns shall have been received, we shall be able, with the experience before us of four years, to give the public some information which will be of more practical value to them than the crude speculations with which they have hitherto been afflicted.

BRITISH ASSOCIATION
FOR THE ADVANCEMENT OF SCIENCE.

(*Continued from page 636.*)

Aug. 14.—In the section of *Natural History*, Mr. G. H. K. Thwaites read a paper on *an apparently undescribed state of the Palmelleæ, with a few observations on Gemmation in the lower tribes of plants.*—The Palmelleæ are usually described as consisting of separate cells imbedded in a gelatine, each cell being supposed to represent a single plant. Mr. C. E. Broome, however, has discovered that in an early stage of Palmella botryoides of Greville, the plant consists of a number of branched filaments without septa, containing endochrome, and having their ultimate ramifications terminated by the ordinary cells of the Palmella. Around each of these cells a quantity of gelatine is developed; they subsequently become detached from the filaments, and develope the mucous prolongations which, as Mr. Hassall has observed, are probably characteristic of most if not all the species of this tribe of plants. Mr. Broome's observations have been confirmed by the author in the species above mentioned, as well as in Coccochloris rufescens, Brebisson? another species of the Palmelleæ. Mr. Thwaites considered that the separation of the cells from the filaments, and the fact of each of the cells then assuming an independent vitality, should be viewed as a gemmation taking place, being rather a division of the individual plant than a reproduction of the species; and therefore the subsequent fissiparous division of these separated cells would be a continuation of the same process of gemmation. The author proceeded to show to what extent gemmation takes place in the lower tribes of plants, instancing the Mosses, in which it would appear to commence even in the subdivision of the contents of the sporangium; if the mass of sporules is to be considered, as seems probable, the representative of one embryo in the higher plant, the phytons produced from the confervoid filaments originating from the sporules are another form of gemmation in the Mosses, and gemmation also takes place in the perfect state of the plant, in Bryum androgynum and other species. In the Lichens and Hepaticæ there is also exhibited a great tendency to produce gemmæ. If the opinion now advanced with reference to gemmation be the correct one, it follows that in some species of Mosses, such as Eucalypta streptocarpa, and of Lichens, as Parmelia Physodes, in which true reproduction by means of spores seems scarcely ever to take place in some localities, an individual plant, by means of its gemmæ or offsets, may attain the age of our largest trees, and occupy as large a space in the economy of nature. The tendency to produce gemmæ in the lower tribes of plants seems to warrant our considering that what has been described by authors as a second form of fructification in some of the Algæ, should be rather referred to gemmation; for example, the Tetraspores of the Florideæ, the Opseospermata of Draparnaldia and Chætophora, and what has been described by Thurat as the spore of Vaucheria. The author took occasion to observe that he did not consider the cilia with which the last-named organ is furnished as affording any proof of a higher character of organisation than if no such cilia existed, and he was inclined to believe that these appendages are merely a modification of cell membrane, which latter is probably, judging from its mechanical properties, made up of a mass of such delicate filaments as those forming the cilia.—Dr. Carpenter regarded this paper as a very valuable one, from the light it threw on some of the highest generalisations of the naturalist. In plants there were two modes of reproduction, one was the result, as Mr. Thwaites had shown, in the lowest plants, of conjugation, the other of this process of gemmation. Now such a process took place in the animal kingdom; animals were produced sometimes by one process, and sometimes by the other, and this had been called by Professor Steenstrup an "alternation of generations." He differed from Steenstrup not in facts but in names. He did not think that we ought to regard the cells produced in plants by gemmation as separate individuals, but he would regard all the cells that were the produce of a single sporule as belonging to the same individual. In the same manner with gemmæ in the animal kingdom. In this way we may regard the gemmæ with separate cells in the lower plants as perfectly homologous with the cells which are produced from the first cell in the embryo of the seed, and which being united together all agreed to call an individual.—Dr. Daubeny thought it was of the utmost importance to determine what were the relations which existed between the higher and lower plants. The most philosophical method of studying the vegetable kingdom was to commence with the lower races and ascend to the higher. Much error had undoubtedly crept in by the contrary course having been adopted. He wished to know of Mr. Thwaites whether he regarded the ciliary motion in the cells of plants as independent of physical causes.—Mr. Thwaites believed that the ciliary currents were entirely dependent on changes going on in the cell.

A paper was read by Mr. Henfrey on *the Development of the Pollen-cell.* In the earliest stages of development the anther consisted of a mass of cellular tissue of the ordinary form. In the centre of some of these cells a mass of endochrome presented itself and eventually formed the pollen-cells. The cells filled with endochrome are simple at first, but gradually the endochrome is divided into four parts, which arises from the formation of two transverse membranes dividing the cell into four equal parts. This membrane does not come from the cell-wall itself, but is formed on the inside of the cell-wall as a distinct membrane. This process takes place quite independent of the appearance of a cytoblast.—Mr. Thwaites said that a similar mode of development took place in the cells of Confervæ. It was not the whole cell that contracted to form two, but a membrane was formed on the inner walls of the cell, which at last embraced a half of the nucleus, and formed with it an entire new cell; by this means the Confervæ grew.—Dr. Lankester stated that, in the development of cells of the higher plants, he had not been able to confirm Mr. Henfrey's view, that they were formed by the intussusception of an inner membrane independent of the nucleus. He still thought the weight of evidence was in favour of the development of cells from a nucleus or cytoblast in the higher plants, whilst most of the filamentous Algæ undoubtedly grew in the way described by Mr. Thwaites. In the animal kingdom there could be little doubt of the importance of the cytoblast, in cell development, and it would be singular if an incorrect observation in vegetable structure should have led to so important a discovery in the animal kingdom.—Mr. Henfrey said that he had repeated Schleiden's observations on the cells of Orchis morio, and was in no way able to confirm them with regard to the growth of the cell from the cytoblast, and he was persuaded that Schleiden was in error.—Dr. Carpenter said that he was not prepared to admit the universal presence of the cytoblast in the cell formation of animals. He believed it was of less importance than had been supposed by Schleiden. It was sometimes seen before and sometimes after the formation of a cell. The endochrome and the nucleus seemed identical. The nucleus might be regarded as condensed endochrome, the endochrome as an extended nucleus.—Mr. Thwaites stated that in the fungi no nucleus at all was present.

(*To be continued.*)

STATE OF THE IRISH POTATO CROP.

COMPILED FROM OFFICIAL DOCUMENTS.

Cork County, *Fermoy Union, Sept.* 17, *Major Bolton.*—Potato crop: Symptoms of disease increasing, that they cannot be relied on for any length of time; those on the workhouse site so bad as to be unfit for use; realised on being sold 1*l.* 17*s.* 9*d.* only; whereas the value of the crop was rated at 15*l.* per acre previously to their being attacked.

Skibbereen Union, Sept. 16, *Mr. Marshall.*— Potato crop: Disease is not now increasing, but in several parts a greater proportion of the crop is destroyed than in others. No doubt there will be a great deficiency, but what has not been affected is likely to remain good.

Kerry County, *Listowel Union, Sept.* 16, *Capt. Spark.*—Has nothing to add to his former reports.

Tipperary County, *Cashel Union, Sept.* 16, *Mr. Henry Robinson.*—Disease spreading rapidly.

Nenagh Union, Sept. 16, *Capt. Darley.*—The disease in the Potatoes advances; great quantities sent to market and sold at from 2½*d.* to 3*d.* a stone; they are of bad quality. Wheat nearly all gathered; not half an average, and of inferior quality. Oats not all cut, but promise of an average. Turnips, only a small quantity sown, but wherever they have been well tilted they look well.

Tipperary Union, Sept. 17, *Capt. Haynes.*—Potatoes: There will not be one in the union fit for human food on 1st January; they are now being dug in a state of fermentation; every day adds to the decay, whether left in the earth or exposed to the air; greater part eaten must be unwholesome, and will, he fears, engender disease.

Wexford County, *New Ross Union, Sept.* 16, *Mr. Bayley.*—Disease has rapidly increased; the proportion of tubers affected considerably greater than when he last reported. Corn crops nearly all saved.

Clare County, *Kilrush Union, Sept.* 16, *Capt. Kennedy.*— Potatoes rotting rapidly. Potatoes that were spotted a week ago are now rotten. In some localities it would take a man a day to dig sufficient sound Potatoes for the family. The Potato is gradually disappearing from the local markets. Heavy rains during the week have damaged the corn crops generally; a twentieth part is not yet saved. Quantity and quality will be very deficient; anticipates a wretched harvest.

Scariff Union, Sept. 17, *Capt. Hart.*—Potatoes continue plentiful and cheap; disease not making active progress; reason to believe that the crop will be profitably used up. Active exertions made last week in harvesting, and much hay saved. Not the most distant prospect of a scarcity of human food.

Province of Connaught: *Counties of Galway and Mayo, Sept.* 17, *Mr. R. Bourke.*—A large proportion of Potato crop still fit for use, but doubtful whether the Potatoes will keep; may, however, be calculated on for some months. Disease continuing to advance; now begins to fear the loss will be as complete in these counties as in the south, where very little of the crop is fit for human food.

Province of Leinster: *Dublin and adjoining Counties, Sept.* 18, *Capt. Hubands.*—About one-fourth of Potato crop deficient, from disease, and from growth having been checked. Chief defect now visible, the small size of the Potatoes; difficult to estimate the ultimate deficiency; certain, however, that but a short crop will be saved; but, as the "plant" was large, the quantity saved may yet be respectable.

Mayo County, *Ballina Union, Sept.* 16, *Captain Hamilton.*—Potato crop going in some districts faster than in others. People digging them for market and selecting the sound ones for seed or consumption; they are rotting fast notwithstanding. Reap[e] general. Wages very low; hard to say whether a f[ull] day's wages or a fair day's work hardest to procure.

Ballinrobe Union, Sept. 16, *Dr. Dempster.*— T[he] people in Joyce's Country (County Galway) will shor[tly] be very badly off for food. Crops backward and Pot[ato] crop altogether gone.

Castlebar Union, Sept. 17, *Capt. Farren.*—Pot[ato] crop 75.83 and 50 per cent. diseased in different fiel[ds] and in others 89.75 and 90 per cent.—all early Potato[es] Late crop abandoned. Out of 158, 100 diseased in [a] gentleman's garden; required 32 stone weight of Pot[atoes] to provide 12 with two meals. Price of Potato[es] at Castlebar, 6*d.* per stone.

Swineford Union, Sept. 16, *Capt. Hanley.*—Pota[to] crop: Disease rapidly progressing; as bad as in 184[7] Of 46 Irish perches, on workhouse site, the yield w[as] only 2 cwt. of sound Potatoes.

Galway County: *Ballinasloe Union, Sept.* 16, *Maj[or] Stuart.*—Weather favourable, and corn crops loo[k] better than was expected. Potato crop: Many fields i[n] which no sound Potatoes could be obtained.

Clifden Union, Sept. 17, *Mr. Deane.* — Disea[se] rapidly progressing; rumours that the disease ha[s] ceased, especially in sandy soils, but Mr. Deane do[es] not concur in this view.

Longford County, *Granard Union, Sept.* 16, *Cap[t.] Long.*—The favourable weather of the last week ha[s] had a good effect on the standing corn, a considera[ble] able quantity of which has been reaped and saved i[n] better condition than was expected. No improvemen[t] in the state of the Potato crop, the disease is makin[g] rapid progress, and few sound are brought to marke[t] Capt. Long does not consider that all which remain i[n] a state fit for human food would sustain the populatio[n] for one month, if the present rate of consumption wer[e] maintained.

Longford Union, Sept. 16, *Mr. Downman.*—Expect[s] that one-third of the Potato crop will be saved.

Roscommon County, *Castlerea Union, Sept.* 17, *M[r.] Auchmuty.*—Crops: Potatoes unfit for human food.

Castlerea Union, Sept. 17, *Vice Guardians.* Pota[to] toes so diseased, only brought 8*d.* per cwt. to feed pigs

Roscommon Union, Sept. 16, *Capt. Musters.* — A change for the better appears to have taken place in th[e] Potato disease within the last week, the Potatoe[s] brought to market being decidedly firmer and mor[e] healthy in appearance. The general crop will, however soon be exhausted; almost all the small plots whic[h] Capt. Musters has seen having been dug and the pro[-] duce consumed. The Oat crop is looking well through out the union; but the Wheat is a light crop an[d] damaged in some localities.

Donegal County, *Milford Union, Sept.* 16, *M[r.] Horsley.*—Potato rot increasing in virulence daily Competent judges are of opinion that a very trifling portion of the crop will remain sound at the close o[f] November. Mendicancy is prevalent, and encouraged by farmers giving away the Potatoes which they hav[e] no hope of preserving through the winter; to this h[e] attributes the small number in the workhouse.

Donegal Union, Sept. 18, *Capt. Herbert.*—Potatoes do not present a more favourable result than stated in last week's report. The disease still continues to spread

Ballyshannon Union, Sept. 17, *Mr. D'Arcy.*—Stat[e] of the Potato crop, so far as he could observe in th[e] counties of Westmeath, Longford, and Roscommon through which he passed in his journey to Ballyshannon from Dublin. From Kinnegad to Mullingar, and thence to Rathowen, disease has appeared in every locality, bu[t] up to the present a large proportion is sound. From Rathowen to Edgeworth's-town the proportion of sound Potatoes is less, particularly in the neighbourhood o[f] Edgeworth's-town. From Longford to Clonea, Taimon barry, and Strokestown, a less fatal character of disease appears, and from thence through Tulsk and Belanagar to French-park a considerable portion remain sound. At French-park he was told all was lost; he examined a field which was particularly pointed out as completely rotten; a considerable portion of a ridge was dug in his presence, but not one unsound Potato was produced. In some fields in and near French-park, where the stalks have long since withered and blackened, no disease worth mentioning has yet appeared in the tuber. From French-park through Ballinafad, Boyle, and Sligo, to Ballyshannon, had no an opportunity of remarking closely the state of the Potato crop; but the corn crop looks well, and Oats abundant—as the corn crop did through the entire line, with the exception of a few heavy Wheat fields which had been damaged by the heavy rains. Reasons for thinking the loss of the Potato crop will not be so serious as some suppose: 1. Great breadth planted this year, and at least two months earlier than usual; hence the great bulk arrived at maturity before disease attacked them. 2. The very abundant crop of this year, of which, judging from his own observation and the proneness of the people to exaggeration, he thinks one-half or more will be sound. Instance given: Capt. O'Neill, of Ballyshannon, out of 16 carts of Potatoes dug last week, only two carts of partially diseased Potatoes were found; and of these two carts, a considerable portion is still fit for use when the tainted part is cut away. Repeats his conviction that a very large proportion of the crop will be raised sound; but whether they will keep over the winter and spring can form no opinion, and this is the point on which he is most fearful.

Parts of Donegal, Sligo, and Leitrim, Sept. 17, *Mr. Otway.*—In last week Potato disease checked; of Po-

tatoes dug on Sligo workhouse ground, half tainted, but for the most part only slightly, and still fit for food; the sound ones good and firm. Result of last week's inquiries much more favourable; strong hopes that more than half the crop will be good and remain so. If so there will be half or more of a very abundant crop sound, and a portion of the unsound Potatoes will be available for human food.

Leitrim County: *Con-Shannon Union, Sept.* 16, *Capt. Wynne.*—Potato crop: Does not think the diseased tubers have increased since his last report, though the diseased Potatoes are daily becoming more unfit for human food. White crops under the sickle. Late crops working better. Wheat will be short.

Manor-Hamilton Union, Sept. 17, *Capt. Gilbert.*—Potato crop: Potatoes much worse, though markets plentifully supplied; impossible to get any contract for the supply of them for the workhouse. Corn looking better, but harvest not begun, nor is it general in Sligo.

Mohill, Sept. 16, *Major Haliday.*—During the last fortnight the progress of the disease has been very marked and extensive. In some parts of the Union not above one-fourth, or at most one-third, of the tubers are affected to such a degree as to be unfit for human food, while, in a very considerable portion of it, the destruction of the crop is much greater, and, unless the disease be arrested, very little of the crop will be available in six weeks. Generally speaking, the grain crop is in good condition.

Province of Ulster, *Parts of Counties of Tyrone, Monaghan, Louth, and Down, Sept.* 17, *Mr. Barron.*—Potato disease still progressing; fears there will scarcely be a Potato fit for use by Christmas. Oat crops very good, and very large quantity of land under Oats. Wheat better than at first thought. Beans, considerable quantity sown. Late Turnips, far larger breadth sown than was imagined, and doing very well. Corn crops more than average.

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

Results of Experience.—In the present state of the garden in general, while the foliage remains unmoved and flowers are still brilliant, every amateur should take a survey of his domain, whether extensive or limited, for purposes of future alteration and improvement. I have just been noting myself matters which admit of a better arrangement than they have yet received, and it is highly important that the various effects produced by the position and filling up of flower beds, and the allocation of trees and shrubs, should be marked. In relation, for instance, to close planting, this is the time to observe its injurious consequences, and to determine to correct them. In winter, when the branches are destitute of their umbrageous coverings, there appears to be space enough for each tree and shrub to revel in; but in the autumn the conviction made by a survey is very different. Some plants touch each other, others are becoming intertwined, others are fast hastening to incommode their neighbours. Now, although it would have been wiser to have planted at a proper distance at first, the quicker the evil is remedied the better it will be. Mark those trees which are thus threatened with shortness of house-room, and let them be moved with care, so that they may suffer as little as possible.

If the cropping of a kitchen garden is observed, and the arrangements which have existed during the year in the plantations of Gooseberries, Currants, Raspberries, and Strawberries, it will be found that the best vegetables and finest fruit have been secured where the most liberal space has been allowed for sun and air. A wet season, like a portion of the past year, teaches capital lessons on this subject, for it is then seen how shade and contracted quarters injure vegetation and deprive fruits of their proper flavour. One of the last lessons learned by the gardener is, that if we are generous to Nature, she will be generous to us, but that if we restrict her she is always amply revenged. Make your observations now, and this fact will be impressed upon your memory. Crops of Cabbages or Broccolies, rows of Peas and Beans, &c., which have been crowded together, are now the dens of mildew and insects, while those provided with plenty of room have been kept in health by sweet air and bright suns. Determine which rows of Raspberries shall be rooted up, which Strawberry plants will be better away, and, having formed the resolution, do not forget to execute it when the desolations of winter have contracted the productions, and seem to give them space enough.

The effects produced by the various colours of flowers, in combination and in contrast, may now be advantageously recorded, either for imitation or alteration next year. For example, I have in my garden some six-year-old scarlet Geraniums, which I annually plant in various situations, generally surrounding them with flowers of a more shrubby growth, and of a contrasted colour. This year I planted round these tall stems some seedlings of a minor Convolvulus, of a much darker blue than the common variety, and as its growth has been very rampant, the plants have been twined with the branches of the Geraniums. The effect of the brilliant blues and deep scarlets, and the light and dark greens of the foliage has been very striking, and I shall endeavour to adopt the same arrangement next year. So in reference to other things. Some combinations I have found to be anything but graceful, while others are worthy of being perpetuated. These various results will fade from the memory unless now distinctly noticed, and the benefit of experience in this manner will be lost.

Nothing teaches like Nature: and the amateur may receive fine lessons on taste by watching and criticising her exquisite painting. Observe the hedgerows at various seasons, and you will learn what various new arrangements your parterres admit of. Bend your attention to the lights and shades produced by the ever-varying combinations of the fields and the woods, and you may transfer some beauties to your shrubberies. The eye and the heart in this way will find plenty to do, and you will become not only an admirer but also a co-adjutor of Flora, the tasteful observer of whose footsteps will often be able to heighten the beauty of his mistress by a chaplet of his own creation; *H. B.*

Home Correspondence.

Forcing Crocuses.—It is a common complaint that "the Crocus bulbs purchased last season did not flower; the leaves grew very rapidly and long, but we had not a single flower." The reason of this is obvious, it is simply this—they were put into too high a temperature. Crocuses will bear but little heat, and if you wish to grow them as you would like them to be (I am now speaking of in-door culture), I would recommend the following treatment, or something near it: Plant as early as you can get them (which will be in September, do not defer it later than October), in a pot, saucer, beehive, hedgehog, or anything you please, in moss, sand, or mould; give them a good watering after planting, and afterwards keep the mould, &c., a little damp until they are in a strong growing state, when they will require a constant supply of water. Keep them where there is no fire or artificial heat, such as on a staircase or room window, giving them all the light and air possible. About the middle of January you may, if desirable, put them into quarters a little warmer, but in a window, so that they have plenty of light, and no doubt the result will be a fine display of bloom; *B. H.*

Planting Potatoes in Hillocks.—In March, 1842, I planted separately seven Potatoes of the De Rohan sort and three of Phillips's Blues, one yard apart each way. The soil, as they advanced in growth, was raised at different times until it formed a hillock. I took them up about the middle of October; from one root of Phillips's I had 89 Potatoes, which weighed when free from dirt 28 lbs., several of the Potatoes being more than 2 lbs. each. From one root of the De Rohan I had 75, weighing 19 lbs., one being 3¼ lbs.; the remainder of the crop was great in proportion; they were grown on an old worn-out Asparagus bed, which accounts, in a great measure, for the immense produce. The following year I planted more in the same way; I had 2 bushels weighing 180 lbs. from 15 hillocks. In 1845 the Potatoes I planted in hillocks were attacked by the disease, and nearly all rotted. I kept no account of the produce. In 1847 the Potatoes in hillocks produced a much better crop than those I planted in 2 feet ridges, and not so much diseased. When planting Potatoes in hillocks I have selected the largest. From the above results I think a larger return can be produced from Potatoes planted in hillocks (that is, for the main crop for winter use), than any other plan that I am acquainted with; great benefit is derived by the distance at which they are planted, affording a free circulation of air, and the applying a small quantity of manure, such as guano, soot, &c., each time the soil is raised round the plants. As to the Potato disease and early planting, the whole of my early crop was raised by the first week in July without a diseased Potato; they were planted early in February, none later than the middle of March. Of the late sorts of Potatoes that have withstood the disease better than any other in this neighbourhood are the Farmer's Glory, both blue and white; *Wm. Smith, Upper Ludstone, Claverley, Salop.*

Polished Plate v. *Sheet Glass.*—I should infer from the fact that the glass manufacturers are trying to introduce a substitute for sheet glass, that they are aware of its being at least imperfectly adapted for horticultural purposes; but it is probable the letter of Mr. Paxton may induce some still to continue its use. I would strongly advise persons who may be so disposed, to buy sheet glass only on condition that the seller gives a warranty that, in case it is found to burn the plants, he will replace it free of charge. I have no doubt that it is possible in cutting the sheets of glass to cut the lenses out, at least the most destructive ones, which are produced in opening the cylinders and flatting the sheets, and which exist in long strips; but I know, from dear-bought experience, that this is not always done. If a square of glass be held in the sun, and the light passing through it be allowed to fall on a white surface, carrying the glass from a few inches to a distance of 8 or 10 feet, it may easily be seen whether it is fit or not for a greenhouse; if any bright, luminous spots or strips are shown on the white surface, it is unsafe, and should be rejected; this test should be made with both sides of the glass to the sun alternately. Last spring I put up a Pelargonium-house, 40 feet long, glazed with 24-inch strips of 16-oz sheet glass. The two first sunny days in April I had all my plants looking sickly and showing hundreds of burnt leaves, that is, with burnt spots upon them, though they were 6 or 8 feet from the glass. I then caused every part of the glass which showed extra luminous places on a white surface to be covered with size and whitening; this stayed the plague in a great measure. I thus either wholly or in part whitened one-fifth of the squares in the roof, and was enabled to get through the season without any more damage of consequence; but, of course, this was only a temporary expedient, and I am now reglazing the whole with polished plate glass, and intend using the same material for another house I am erecting for seedlings; the cost is about half as much more, and its beauty and strength are well worth the difference, and I hope my favourites may now enjoy the cheering sunbeams without being sunburnt; *G. W. Hoyle, Reading.*

Cutting the Stems off Potatoes.—Last year when the stalks of the Potatoes growing in my garden showed symptoms of disease (which I have been led to believe is atmospheric), I selected one root at random and cut down the stalks to within about 2 inches of the ground, removed them, and placed over the root a common hand-glass; soon afterwards the stems remaining threw out fresh leaves, &c., and nearly filled the glass; and when I took up my crop, I dug up, at the same time, the root which had been under the glass, and the Potatoes, about eight in number, were perfectly sound and healthy, while those all around were perhaps two out of three unsound and useless. This year I repeated the experiment, but not until the stalks were more matured; they did not consequently shoot afresh, but the Potatoes raised from the root (nine in number, four ounces) were all perfectly healthy, and remain quite sound. They have been raised about a month, and were left on the surface under the glass; in an adjoining row nearly every Potato was diseased, and at least a third of my present crop is in the same condition; *W. Hall, Marsham, Norwich, Sept.* 25.

Tenacity of Life in Sedum acre.—A specimen of Sedum acre was placed between blotting-paper and boards, to be dried for a herbarium, on the 3rd of July last, and owing to my absence it remained undisturbed on a dry shelf under the pressure of six or eight large folio volumes for nearly nine weeks; when I observed that so far from being dried it had become greatly attenuated, and had thrown out many shoots and branches, whose leaves, in spite of being entirely excluded from light and air, had attained a delicate green. It has since remained in pressure, and continues to grow. A specimen of S. reflexum has also been nine weeks similarly placed, and seems equally determined to live. I am keeping some of the S. acre in order to ascertain how long life and growth will continue; *C. C. H., Sept.* 27. [This amount of tenacity of life is not at all remarkable].

Vagrants.—I am surprised that at the present enlightened time any one should denounce a set because one member proved false. I think it would have been advisable for your correspondent or his friend to have had some hold on the parties, which they might have done by a variety of means, before they trusted them with clothes. I hope the case in question will not tend to check a system which will, in all probability, do a great deal of good; *A Constant Reader.*

Budding Veronicas.—I, in the end of August last, budded a hybrid seedling Veronica, a cross between V. Lindleyana (the female parent) and V. speciosa, having more the habit and foliage of the latter (but not yet flowered)—on the common V. Lindleyana and on V. speciosa, and I find they take well. I have also budded an unnamed species of Jasmine, from the Himalayas, and J. revolutum, on small plants of the common Jasmine, and every one has taken; *Edinensis.*

Potatoes.—I have proved in former years that an abundant crop may be obtained from the smallest tubers. Last year I saved a seedling kidney, whose produce was 40 tubers. I planted 30 of these tubers last April; previous to planting I divided them into three sections, and planted each section separately in light sandy loam, which had received no manure for these last two years. On the 9th I dug up 270 tubers for seed, out of which there was one diseased. The seedling tubers varied in length from that of a wasp to 3½ inches. The tubers of a wasp's length furnished me with as fine Potatoes as those 3½ inches in length. Under the very severe trial this valuable exotic is undergoing in our climate, it will be well for all who have any Potatoes, to preserve the smallest tubers, as they are most likely to be the soundest, and in well tilled ground may next year produce an abundant crop. No Potatoes should be given to pigs this year, save those you cannot keep; *R. A. C. K., Sept.* 26.

Flower Borders.—I have a border in my garden which has, this year, been filled as described below, and of which the effect is, at this moment, very brilliant, and I would be much obliged by some suggestions with a view to filling it in future years with some variety, but with equal effect. The situation of the garden is in the neighbourhood of Edinburgh, and the space to be filled in the border in question is in length 120 feet, and in breadth 12 feet. The present arrangement is as follows: 1st (*i. e.* nearest the gravel walk in front of it), a row of scarlet Verbenas; 2d, Nemophila insignis; 3d, White Stocks; 4th, Erysimum Perofskianum; 5th, Malope grandiflora; 6th, Dahlias; 7th, Hollyhocks. The Hollyhocks and Dahlias I should have no objection to continue in the same spot, but the rows in front of them might be varied in different years, provided an equally brilliant arrangement of colours, and suitable proportion as to the height of the plants, were preserved. They may either be annuals, or, occasionally (if thought equally suitable) plunged greenhouse plants. A list of either or both kinds, of suitable colours and height, would much oblige; *J. D.*

Potato Substitutes.—Allow me for the third time to warn the poorer classes from again cultivating the Potato as a provision for winter, and to urge them to substitute the Parsnip, White Carrot, and Swedish Turnip for their old favourite. I hope I may prove a false

prophet, but I fear those who rest upon the Potato as a mainstay will be bitterly disappointed. It cannot be that the season alone is in fault, as we have had considerable variety in our springs and summers since the appearance of the disease, without having weakened the force of the enemy. The plan I mentioned of cutting the partially decayed Potatoes into sets has only retarded the destruction of the divided tubers, it will not preserve them ; *Falcon.*

"Farmers' Profit" Potato v. the Disease.—Your correspondent, Mr. Alfred Whitaker, states that he has a purplish red Potato, which has withstood the disease for several years better than other varieties. I have also grown for the last three years a bright, purplish-red variety, with yellowish brows over the eyes, and sometimes yellow bands or blotches in other parts, which sort has withstood the attack (so far as regards the tubers) in a very remarkable manner. In 1846 the haulm and foliage were destroyed by the disease, but the roots for the most part remained quite clear and healthy ; and I do not think there was one unsound tuber. In 1847 I planted them again, and very few indeed were at all affected. This induced me to save the whole stock for planting, and it is very fortunate that I did so, as they produced, as before, an excellent crop, with very few diseased. Up to the heavy storm (Aug. 31), I had large patches dug up, to show some friends, and it was very rare to find a single bad tuber ; I may say the whole were bright and clear : but since that storm a few became rotten—many of the Potatoes weighing nearly 1 lb., and several over 1 lb. each ; yield, from 6 to 8 tons per acre, which, but for the disease on the haulm, would certainly have been double. On each side of these were planted Jersey Blue and several other sorts, intentionally mixed with them, of which more than two-thirds were badly diseased : yet when a root of the "Farmers' Profit" (for that is the name I received with them) was dug up amongst them, the produce was invariably clear and sound, while the Jersey Blue, and others mixed with the "Farmers' Profit," were nearly all diseased. All the sorts were planted within a day or two, and the "Farmers' Profit" is as late or later than the Jersey Blue, and an excellent keeper. Had it been an early variety I should have been less surprised, as the disease certainly spares the earliest, in a great measure. I quite agree with your other correspondent (Mr. J. Grey) that the disease almost universally commences in the canker blotches on the roots. Perhaps even in the cases where they do not appear externally, the disease may be latent ; *F. J. Graham, Cranford.*

Youghal Horticultural Society.—May I ask your advice under the following circumstances. There was a horticultural exhibition held at Youghal on the 14th Sept., and, along with other prizes, there was a Silver Challenge Cup, offered for the best 36 Dahlias. Mr. Fennesy, of Waterford, was the judge, and he awarded me the cup. There were also prizes offered for the best 24, best 12, and best 6 Dahlias, all of which I competed for. Immediately the cup had been awarded to me, and before the judge came to decide about the classes, Mr. Barnes, the Secretary of the Society, came to me, and, in the presence of my employer, stated that it was not customary for the winner of the cup to get the prizes for the classes. I replied that being a stranger I did not know the custom ; that I had looked to the Rule Book, Notices, and Schedule of Prizes, and that no such conditions were mentioned ; but that as he said it was a custom I would be satisfied with being mentioned in the advertisement as being first in each class, if the judge so decided it (which he afterwards did in all the classes); if not that I would claim the prizes ; and he (Mr. Barnes) promised that I should be mentioned as the winner in the classes—the prizes to be honorary. I inclose the advertisement of the exhibition as it appeared in the *Cork Constitution*, of the 19th inst., with the secretary's name attached, but no mention of mine as winner in the classes, and shall only ask have I been fairly dealt with ? *E. M'Cabe, Steward and Gardener to Edward Garde, Esq., Ballinacurra House, Middleton, Cork, Sept.* 21. [With this we have received a barbarous advertisement, cut from the columns of a newspaper, and it confirms our correspondent's statement, except that it represents the cup to have been won by Mr. Garde himself and not by his gardener. We should have referred this circumstance to the vicious Dublin habit of suppressing gardeners' names if we had not found that Mr. Mitchell, Lord Shannon's gardener, was in the same document described as the winner of the second prize for Dahlias. We presume that Mr. Barnes, the honorary secretary, can explain this matter, which, as it stands, has an odd appearance, and affords Mr. M'Cabe good cause for serious complaint. As to the winner of the cup not being allowed to contend for other prizes, there we think the Youghal Society right, but they should have expressly said so in their published rules.]

Haricot Beans.—If not too late in the season, let me recommend all market gardeners and growers to save as many French Beans as they can ; they may rely upon it there will be a market for them, and full prices paid. The enhanced value of good Potatoes, and the necessity of finding substitutes in the shape of vegetables for the table a month or two hence, will certainly bring Haricot Beans again into request. Taking weight for weight they give five times the quantity of nutriment which sound Potatoes give, and a more wholesome, strengthening, and useful substitute need not be sought for ; *B. E.*

Seedsmen.—May I request the attention of seedsmen to the shameful way in which they impose and are imposed upon. The following list of seeds was ordered from the catalogues of the year : *Ordered*—Ramondia pyrenaica, Aquilegia alpina, Linaria alpina, Lychnis alpina, and Dianthus alpinus. *Sent*, (under their names) Dianthus (deltoides?), Silene quinquevulnera, Linaria vulgaris, Lychnis viscaria, and Dianthus (a hybrid) ; *Verax.* [This is disgraceful to the parties implicated ; but we protest against the sweeping charge that seedsmen as a body are guilty of such negligence. Nothing can be more unjust. This seedsman must have been a special instance.]

Successful Cultivation of the Potato.—Acting upon the principle of Mr. Cuthill's method of growing early Potatoes, as soon as there was no danger from frost, I placed 1½ peck of Regents on a shelf in a warm room. They soon began to grow from the eyes, and in the beginning of April the shoots were strong. They were then cut to sets of single eyes, and a quarter of a chain of ground was planted with them. The crop was raised last week, and amounted to two sacks of sound Potatoes (many of which are more than half a pound in weight), and half a bushel of decayed. Shortly after the tops appeared above ground I examined them, and was surprised to find the tubers already forming. They were much more forward than earlier kinds planted in the usual way, and it is to their being in advance of the others that I attribute the goodness of the produce ; all the others planted without this precaution were a complete failure. Mr. Cuthill's plan for early Potatoes has been tried here with complete success. The frost at the end of April destroyed the tops, but fresh ones soon grew, and the crop was only retarded. An allotment tenant of mine by this method sent Walnut-leaved Kidneys to Oxford at the end of May, and in the beginning of June, and after paying the carriage for 20 miles, and the salesman's charge, received from 15*s.* to 5*s.* the bushel. They were produced on a bleak but highly-cultivated plot of ground, upon which there is now growing a good crop of transplanted Mangold Wurzel ; *Sigma.*

Luminosity of Rhizomorphas.—After examining a great number of Rhizomorphas, I find that they are only luminous at the end of the newly formed shoot, and that the greater part of the new shoots were not luminous when I examined them. When growing in the mines the ends of the new shoots have the appearance of a soft, transparent jelly, and if taken between the finger and thumb may be drawn out into fine threads something like glue. If a lighted candle be applied to a Rhizomorpha it will explode with a smart clap, and then air rushes out with a hissing noise, and affects the flame of a candle in the same manner as when blown at through a blowpipe. The Rhizomorphas are occasionally attacked by a white fungus ; these are invariably found in a state of decay, but I cannot say whether the decay commenced previous to or after the attack. Some of the fungi are common in mines, and grow to a large size ; they are suspended from the roofs and sides, as white as snow, and in forms of great beauty and elegance ; *W. Wallace, Nenthead, Sept.* 25.

Advantage of Leaving Potatoes in the Ground, and digging them up as they are wanted for the Table.—Ever since 1845 I have kept my Potatoes in the ground, for my table, till the end of December ; they have always been most excellent. My intention is to do the same this season, and I have advised my labourers and neighbours to do likewise ; the former, however, seem unwilling to do it, as they are impatient to know how their crop will turn out. But I am quite sure that all those that are in the least diseased become tainted, and unfit for food, when exposed to the air, whereas those in the ground slightly diseased, and suffered to remain with their mother earth, make an effort, so that their wounds heal, and thus become sound and fit for food. The following case will illustrate this. I was in a nursery garden on the 22d inst., with the owner, and observing some Potatoes very much diseased lying on the surface, that had been taken up about a fortnight, or just at the end of the continued rainy weather, I inquired if they were in as bad a state when they were raised. The answer was, "Nearly so, but that they had become worse since being exposed to the air." As there were several rows left in the ground of the same sort, on the same plot of ground, I thought it a good opportunity to ascertain if the underground healing process had commenced during the late fine weather. We accordingly examined some tubers, and much to my gratification I found many, I think the greater part, shedding the brown spots, and forming a healthy cicatrice underneath ; some few were brown nearly all over, and too far gone ever to recover, and I feel assured that if those I saw in a convalescent state had been taken up at the same time as those above-mentioned, they would also have been lost. I should not probably have mentioned this solitary case had I not the experience of the three last seasons to convince me that in any moderately dry soil, Potatoes, if suffered to remain in the ground, will be found comparatively sound, wholesome, and fit for food, even if diseased to some extent ; and those tubers that are only slightly diseased will heal themselves, but it must be recollected that they should be cooked the same day they are raised ; *R.* [Is not there here some confusion in the word disease ? Is not the scab, in a bad form, mistaken for the murrain ?]

Near Connection between the Potato Disease and Excessive Wet.—Respecting your notice of my former letter, will you allow me to call your attention to a misapprehension of my views. You state (p. 507) that I "ascribe the virulence of the disease to mere wetness." If it is assumed hereby that I regard excess of moisture in the atmosphere or soil as the great or sole cause of the Potato disease, the reference you have been so good as to make to my letter (p. 48), will serve to undeceive yourself and readers. The original cause of Potato disease seems to me as far from being discovered as that of the epidemic visitation which is apparently advancing towards us from the north and east of Europe. But as in the one case we avail ourselves of all the knowledge we can obtain of predisposing and aggravating causes, and the reverse, and find it eminently useful ; just so I would propose to act with regard to what, if it were not for the solecism, I should be inclined to call the epidemic in Potatoes. From a cause which is unknown, and beyond our control, I would descend to the examination of such accessory causes and matters as can be ascertained, and are within our power. If it be admitted (and though I do not think it was at the time you received my last letter, February 14), I think I shall show that it now is generally agreed that excessive moisture is an evidently predisposing and accelerating cause of the destruction of the Potato by this disease, it will follow without difficulty that a corresponding or counteracting mode of treatment is calculated to be of great service. The results of my own experiment may not appear to others to bear out the theory ; nevertheless if we have arrived at the truth in what is laid down as to the effects of excessive moisture, sufficient drainage (which I have not I think yet given) if resorted to, cannot fail to greatly modify the disease, and render it less destructive. The proportion, then, of my own small stock of Potatoes, grown on the summit of ridges, as described in my letter of February last, considered unfit for use, is, as nearly as can be, one-half. This is certainly the best return that I can hear of in this neighbourhood. A poor neighbour was telling me but yesterday, that out of 18 bushels which his land should have produced, he will not save 3 bushels which are fit for use. Compared, then, with the returns hereabouts, as far as my inquiries have gone, my experiment has fully answered. It should be stated, also, that upon digging, during the third week in August, my Potatoes thus set in April, not a single rotten Potato was discovered, that is, none in a state of disintegration or what might be called suppuration, though several evidently were discoloured. My loss has taken place subsequently to storing, which was nevertheless effected, as I thought, in a sufficient manner, viz. on the floor of a stone laid (pitched) coach-house, quite dry. It remains for others, who have made an equally accurate inspection into the proportion of their loss, to say whether mine has been less, and much less than the average, which I venture to affirm is universally the case near me. The limits upon which the experiment was tried were certainly but narrow, viz. on a slip of ground 80 feet long by about 20 wide. Neither am I at all satisfied with the working of the theory, for though the ground was fresh or maiden, and to this advantage my neighbours ascribe my success, such as it is ; yet it was originally wettish land, was unsufficiently drained, and too closely shut in to allow of that evaporation which is obtained in more open situations, and which the theory manifestly requires. For myself I am more than ever convinced of the destructive agency of superfluous moisture in the soil in connection with atmospheric blight (?) in producing the destruction of the Potato. I had made extracts from the recent communications of your intelligent correspondents at home and abroad, fully establishing the fact of the near connection between the Potato rot and excessive wet, whether in the atmosphere or land ; but until the fact is called in question perhaps I had better forbear from drawing these remarks to greater length. Let it suffice to say that in adjacent lands wet and dry, shady and sunny, close and open, effects corresponding to the theory are found to follow. The blight leaps over a dry year (1847), reappears with its original malignity, after the very wet summer of 1848. Not only so, but is found to commence its ravages immediately after violent rain, or several days' superincumbent mist—nay, to vary with the state of the weather (as I believe), viz., to be stationary, or to relax with a few days' dry weather, to start again with renewed violence upon a return of wet. Your correspondents tell the same tale from every part of the United Kingdom, at home and abroad. If these facts, then, be sufficiently ascertained, one cannot fail to see great hope of protecting, if not of wholly preserving, the Potato under similar visitations for the future. Drainage is the key to successful cultivation of the Potato, at least whilst subject to the attacks of this disease. In case the effects should again run on to another year, I hope to be prepared with open and well drained ground, in addition to my ridge planting ; and I do not doubt, under a favouring Providence, of the result. Glad should I be if I could induce many to make the experiment more complete, by following my example, in different parts of the country.—I heard from Rossshire yesterday that much distress is anticipated from the failure of the Potatoes there. Everything tending to dryness is the treatment they still require ; so that if I saw any beginning to be specked in my store (having removed all the bad ones), I fancy that completely drying, or partially baking them in an oven, would be the means of stopping the disease. I just add, in reference to your remarks upon excessive luxuriance, that in the second year of Potato blight I was present at the finding of the haulm of an Ash-leaved Kidney growing with small tubers in the axils of the leaves! a monstrosity I could scarcely have credited from common report ; *Caleb Whitefoord, Whitton Rectory, near Tenbury, Sept.* 27.

Country Shows.

Royal Horticultural Society of Cornwall.— The 53d regular meeting of this Society, and the last for the present year, was held on Sept. 15, when, although the day was remarkably fine, the attendance of visitors was slight. The show of fruit was uncommonly fine, and a large quantity of it was exhibited. Flowers, in point of collections, were meagre in the extreme, but there were a few good specimens. The following is a list of the awards : *Fruit.*—Heaviest Pine-apple, Providence, G. C. Fox, Esq. ; 2d best, Black Jamaica, J. Vivian, Esq. Best Melon, green-fleshed, Teneriffe, Rev. Canon Rogers ; 2d best, Beechwood, G. C. Fox, Esq. ; 3d best, Anderson's Prize, W. Daubuz, Esq. Best bunch of Grapes, Muscat of Lunelle, the Silver Medal, J. Vivian, Esq. ; 2d best, Syrian, G. C. Fox, Esq. ; 3d best, Black Prince, Sir C. Lemon, Bart., M.P. Best dish of Grapes, Black Prince, Black Hamburgh, Frankendale, Muscat of Alexandria, Muscat of Esculata, and Cannon Hall, J. Vivian, Esq. ; 2d best, Syrian, Muscat of Alexandria, Muscat of Lunelle, Black Hamburgh, Black Victrix, and Black Prince, J. Williams, Esq. Best Peaches, W. Daubuz, Esq. ; 2d best, Sir C. Lemon, Bart., M.P. Best 6 Pears, Williams's Bon Chretien, J. Williams, Esq. ; 2d best, Culmian Bergamot, M. Williams, Esq. Best collection of Pears, A. Fox, Esq. Best 6 Nectarines, Elruge, Rev. Canon Rogers ; 2d best, Claremont, W. M. Tweedy, Esq. Best 12 Apples, Kerry Pippin, Rev. Canon Rogers ; 2d best, White Quarandine seedling, G. C. Fox, Esq. ; 3d best, Supreme, A. Fox, Esq. Best collection of Apples, 46 sorts, Rev. Canon Rogers. Best 6 Figs, Black Ischia, A. Fox, Esq. ; 2d best, White Ischia, J. Williams, Esq. Best dish of Morello Cherries, J. Vivian, Esq. ; 2d best, Rev. Canon Rogers. Best dish of Plums, Coe's Golden Drop, G. C. Fox, Esq. *Extra.*—Nectarines, Elruge, W. Daubuz, Esq. Apples, Sops and Wine, Rev. Canon Rogers. Peaches, do. *Flowers.*—Most ornamental plant, Clematis tubulosa, Sir C. Lemon, Bart., M.P. ; 2d best, Cestrum aurantiacum, W. Daubuz, Esq. Best miscellaneous group, Dipladenia crassinoda, Clerodendron squamatum, Cyrtoceras reflexum, Æschynanthus grandiflorus, Phœnocoma proliferum, Polygala grandiflora, Lilium speciosum, Balsaminea latifolia, Geznera zebrina, Torenia asiatica, Cestrum aurantiacum, Allamanda cathartica, and Crowea saligna, W. Daubuz, Esq. ; 2d best, Lantana, Begonia Evansiana, Polygala latifolia, Anemone japonica, Vinca rosea, Scutellaria ventenatii, Corræa quadriformis, C. bicolor, Catasetum sp., Epidendrum cuspidatum, Porphyrocoma longifolia, and Cyrtoceras

reflexum, Sir C. Lemon, Bart., M.P.; 3d best, Catasetum luridum, Clerodendron squamatum, Torenia asiatica, Hæmanthus puniceus, Nerium splendens, Anemone japonica, Pentas carnea, Lilium lanciifolium album, Calceolaria Ne plus ultra, Statice puberula, and Fuchsia Avalanch, G. C. Fox, Esq. Best 12 stove plants, Justicia carnea, Pentas carnea, Achimenes longiflora, Clerodendron squamatum, Chirita zeylanica, Torenia asiatica, Schubertia graveolens, Passiflora kermesina, Vinca ocellata alba, Gloriosa superba, Achimenes pedunculata, and Æschynanthus pulcher, G. C. Fox, Esq. Best stove specimen, Diplodenia crassinoda, W. Daubuz, Esq.; 2d best, Chirita zeylanica, M. Williams, Esq. Best collection of Orchids, Miltonia Cloweslana, Lycaste cruenta, and Aeropera Loddigesii, H. S. Powell, Esq. Best 6 greenhouse plants, Leschenaultia formosa, Kennedya longiracemosa, Cuphea miniata, C. platycentra alba, Roellia splendens, and Cytisus canariensis, G. C. Fox, Esq. Best greenhouse specimen, Balsaminea latifolia, W. Daubuz, Esq. Best Heath specimen, Erica M'Nabiana, Sir C. Lemon, Bart., M.P. Best 6 Fuchsias, Duke of Cornwall, Cassandra Seedling, Napoleon, Hector, Bridesmaid, and Simsii, G. C. Fox, Esq.; 2d best, Miellez' Napoleon, Dixon's Acantha, Lily of Flodden, Sir H. Pottinger, Pince's Corallina, and Dr. Jephson, W. Daubuz, Esq. Best Fuchsia specimen, Napoleon, G. C. Fox, Esq. Best Fuchsia seedling, G. C. Fox, Esq. Best 12 Dahlias, Princess Radziwill, Beeswing, Orange Superb, Marchioness of Cornwallis, Sir E. Antrobus, Cleopatra, Marquis of Aylesbury, Cassandra, Mrs. Shelley, and Bathonia, G. C. Fox, Esq.; 2d best, Alice Hawthorn, Marquis of Aylesbury, Beeswing, Cleopatra, Admiral Stopford, Aurantia, Lady Stopford, Beauty of Hants, Nonpareil, Lady Antrobus, Sir E. Antrobus, and Essex Triumph, J. Williams, Esq.; 3d best, Admiral Stopford, Lady of the Lake, Beeswing, Sir E. Antrobus, Antagonist, Cleopatra, Princess Radziwill, Standard of Perfection, Lady Antrobus, Marchioness of Cornwallis, Marchioness of Bath, and Marquis of Aylesbury, W. Daubuz, Esq.; 4th best, Lewisham Rival, Highgate, Princess Royal, Admiral Stopford, Aurantia, Lee's Bloomsbury, Hope, Prince Albert, Beeswing, Bridesmaid, Pickwick, and Argo, Rev. Canon Rogers. Best six ditto, Admiral Stopford, Sir E. Antrobus, Marchioness of Cornwallis, Queen of Perpetuals, Scarlet Gem, and Marquis of Aylesbury, W. Daubuz, Esq.; 2d best, Sir E. Antrobus, Cassandra, Cleopatra, Mrs. Shelley, Marquis of Aylesbury, and Beeswing, G. C. Fox, Esq.; 3d best, Miss Vyse, Admiral Stopford, Andromeda, Cleopatra, Perpetual Grand, and Lady of the Lake, W. M. Tweedy, Esq. Best collection of Cut Roses, 25 varieties, M. Williams, Esq. Best collection of Hollyhocks, M. Williams, Esq. Best collection of Asters, G. C. Fox, Esq. Best collection of Bulbous Plants, Lilium lanciifolium speciosum, L. album, L. roseum, and Amaryllis Fothergillii, W. Daubuz, Esq. *Extra.*—Six Achimenes, coccinea, longiflora, rosea, grandiflora, picta, and pedunculata, I. K. Kinsman, Esq. Three Cockscombs, G. C. Fox, Esq.—*Cornwall West Briton, Sept.* 22.

Devizes Dahlia, Sept. 5.—The principal competition being for the Silver Cup, offered for the best 12 blooms, open to all growers, we give the names of the flowers in this class: 1st Prize, the Cup, to Mr. C. Turner, of Chalvey, for the Hero, Miss Vyse, Shylock, Indispensable, Scarlet Gem, Queen of Roses, Mynn, Nonpareil, Marchioness of Cornwallis, Yellow Standard, Imbricata, Louis Philippe; 2d, Mr. Keynes, Salisbury, for Shylock, Victor, Beeswing, Standard of Perfection, Princess Radziwill, Captivation, Louis Philippe, Hamlet, Nonpareil, Yellow Standard, Lillywhite, Empress of Whites; 3d, Mr. Cutter, Slough, for Nonpareil, Louis Philippe, Yellow Standard, Cassandra, Lady St. Maur, Raphael, Miss Vyse, Queen of Roses, Captivation, Admiral Stopford, Empress of Whites, Beeswing; 4th, Mr. Walters, Hilperton, for Cleopatra, Miss Vyse, Marquis of Bath, Beeswing, Queen of Sheba, Standard of Perfection, Schone Erfurterien, Minerva, Yellow Standard, Essex Triumph, Mynn, Rose d'Amour. Several Certificates were awarded to Seedlings, the prominent flowers being Hunt's General Cavaignac, fancy variety, white and purple; Turner's Grenadier, deep ruby, and Mr. Seldon, rosy lilac shaded with purple.

Royal Devon and Cornwall Botanical and Horticultural Society.—The last exhibition of this Society for the present season took place on the 21st September. Plants, flowers, and fruits were abundant, and there was a fair attendance of company. A large number of prizes was awarded on the occasion, but we have only been furnished with a list of awards, without the names of the subjects for which they were given.

Morningside Practical Gardeners' Society.—The principal meeting of this Society was held on the 19th inst., when prizes were awarded as follows:—6 Dahlias, 1st, Mr. M'Nie, for Beeswing, Cloth of Gold, Beauty of Hants, Box, Mrs. Shelley, and Nonpareil; 6 Hollyhocks, 1st, Mr. Douglas; 3 Pentstemons, Mr. Young, for Gentianoides album, coccineum, and purpureum; 4 Petunias, Mr. Young, for Calvin, Prince Ernest Alfred, Meteor, and Lewia aderata; 4 fancy Dahlias, 1st, Mr. M'Nie, for Harlequin, Madame Vankey, Bijou d'Esignore, and Prince de Joinville; 3 Fuchsias, 1st, Mr. Young, for Napoleon, Acantha, and Dr Jephson; 6 Hardy Herbaceous Plants, 1st, Mr. Young, for Anchusa italica, Phlox omniflora, Anemone japonica, Campanula pyramidalis, Chelone antiverpensis, and Lychnis chalcidonica; 3 Jargonelle Pears, 1st, Mr. Fargie; 2 Vegetable Marrows, 1st, Mr. Douglas. Subscription Stakes: best 12 Dahlias, distinct varieties, and none newer than 1847, 1st, Mr. Gourlay, for Box, Conspicua, Louis Philippe, Berryer, Marchioness of Cornwallis, Lady of the Lake, Marchioness of Aylesbury, Sir E. Antrobus, Marquis of Lansdowne, Cleopatra, Beeswing, and Standard of Perfection. Extra honorary prizes were awarded as follows:—to Mr. Downie, for a collection of double Hollyhocks, also for a very handsome plant of Erica Irbyana; to Mr. Anderson, for Marigolds, Zinnias, Carnations, Picotees, Verbenas, and annuals. From Grange House, a basket of extra large and fine Peaches (Royal George), grown in the open air, large Gourds and Vegetable Marrow, a basket of French Siberia Crab Apples, and also a tray of superior Pansies: from Mr. Stark, nurseryman, Edinburgh, a collection of superior Hollyhocks, and well flowered Liliums and Phloxes; from Mr. Fargie, Canaan, a miscellaneous collection of plants in flower, which added much to the beauty of the room; from Mr. Young, Newington Lodge, several large and handsome plants of the newest varieties of Fuchsia; from Meggetland House, some large and handsome Apples; from Walter Lothian, Esq., Hope Park, a tray of superior Marigolds, and some fine Flemish Pears; and from Mr. M'Nie a superior collection of Pansies. Several other prizes were awarded, but we have only been furnished with a list of awards, without the names of the articles for which they were given.

Reviews.

The Marine Botanist: an Introduction to the Study of Algology, containing Descriptions of the commonest British Sea-weeds, with Figures of the most remarkable Species. By Isabella Gifford. London: Darton and Co.

A nice little book upon the British Sea-weeds, which our subscribers may safely recommend to such of their friends as purpose visiting the coast.

The work is professedly only a preparation for more perfect systematic books, the object of this being to give descriptions of our commonest marine Algæ in as simple words as possible, and the authoress has shown as much judgment in the important matter of terminology as in the general arrangement. An absolute avoidance of scientific terms must lead to obscurity in the present state of knowledge, and the only way to simplify the technical terms is to make them more scientifically definite. Those who object to the "hard words," as they are called, in works on Natural History, should recollect that the only road to literature lies through the dictionary, and that their objection is the same as that of the child who dislikes the task of "meaning spelling."

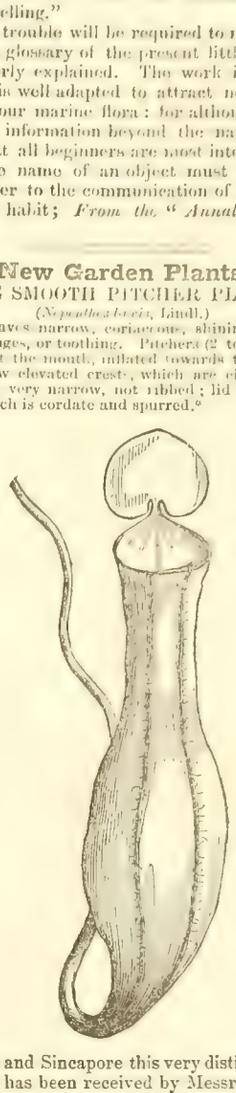
Very little trouble will be required to master the few terms in the glossary of the present little book, where they are clearly explained. The work is very neatly got up, and is well adapted to attract new votaries to the study of our marine flora: for although it does not convey much information beyond the names, these are precisely what all beginners are most interested in, and of course the name of an object must necessarily be known in order to the communication of observation of structure or habit; *From the "Annals of Natural History."*

New Garden Plants.

THE SMOOTH PITCHER PLANT.

(*Nepenthes laevis*, Lindl.)

Sp. Char.—Leaves narrow, coriaceous, shining, without pubescence, fringes, or toothing. Pitchers (2 to 4 inches long) contracted at the mouth, inflated towards the base, with a pair of narrow elevated crests, which are either fringed or naked; brim very narrow, not ribbed; lid circular, except the base, which is cordate and spurred.*



From Java and Sincapore this very distinct species of Pitcher plant has been received by Messrs. Veitch. It is readily known from N. phyllamphora by its narrow, shining, leathery leaves, wholly destitute of fringed teeth, and by its smaller pitchers inflated near the base. The crests of the pitchers are sometimes fringed and sometimes naked.

Miscellaneous.

Sale of Orchids and Pitcher Plants.—What sort of prices the plants mentioned at p. 636 of our last week's Number fetched, our readers will learn from the following statement:—Single plants of Aerides quinquevulnera, from 1*l.* 4*s.* to 2*l.* 4*s.*; of A. virens, from 18*s.* to 2*l.* 12*s.*; A. amplexicaule, from 1*l.* 1*s.* to 1*l.* 3*s.*; Phalænopsis amabilis, from 1*l.* 16*s.* to 4*l.* 4*s.*; P. rosea, a new species, of which a representation will be given in an early Number, from 7*l.* 10*s.* to 20*l.* 9*s.* 6*d.*; Vanda violacea, from 2*l.* 15*s.* to 5*l.* 12*s.* 6*d.*; a Renanthera from Manilla, from 10*s.* to 1*l.* 9*s.*; a Sarcochilus from Malacca, from 10*s.* to 12*s.*; a Saccolabium from Manilla, from 1*l.* 18*s.* to 5*l.* 5*s.*; Nepenthes ampullacea, from 3*l.* 5*s.* to 4*l.* 10*s.*; N. Rafflesiana, from 1*l.* 12*s.* to 5*l.* 5*s.*; N. phyllamphora, from 14*s.* to 1*l.* 12*s.*; N. albo-marginata, from 2*l.* 6*s.* to 3*l.* 15*s.*; a Nepenthes from Malacca, 1*l.* 1*s.* to 3*l.* 3*s.*; a fine species from Mount Ophir, with very large crimson pitchers, quite new, from 12*l.* 10*s.* to 13*l.* 13*s.* Total amount of sale, which consisted of 300 lots, between 600*l.* and 700*l.*

Remedy for the Potato Disease.—A paper appears in the *Agricultural Bulletin*, from which we learn that a chemist named Eusebius Griss, has been paying great attention to the disease, and has found a direct and radical remedy. This gentleman, guided by analogy, has compared the disease of this vegetable to the chlorosis which attacks the human frame; and the idea suggested itself to him whether to apply the same remedies which improve the vitality of the blood, which restore its energy and its colour, might be advantageously resorted to in reanimating the languishing vitality and tone of the discoloured leaves. He accordingly had recourse to an application of salts and iron. He watered the plants with a solution of sulphate of iron, containing from 10 to 20 grains of the salt of iron to one litre of water, and moistened the leaves with a lighter solution, containing only about three grains to a litre of water. This last method proved much more transitory the efficacy of the remedy, than when it is done watering the plants; for in the latter case it ought to be attributed to a chemical reaction produced in the interior of the soil. A committee was appointed by the Royal Society to test the result of Mr. Griss's remedy. Experiments were made in various parts, some on an extended, some on a smaller scale: they were very successful in regard to the disease itself, and the committee reported that although some further trials were needed to prove the facts, yet it was thought probable that the solution might likewise be found valuable in curing [illegible]. M. Gandry, of Paris, was induced to try the remedy on some young chronic [illegible] trees; and a fortnight after, when the committee [illegible] nearly all speedily restored; *Scotch Farmers' Journal, July 7.*

* For the meaning of these technical terms, see Lindley's *Glossary*.

Calendar of Operations.

(For the ensuing Week.)

Preparations for extra work, &c.—As a period of the year generally and justly preferred for planting or for effecting alterations in gardens, is come at last, wherever works of any extent are in contemplation an early and systematic arrangement should be decided on, for carrying out promptly and effectively the proposed operations. The collection of the various materials, such, for instance, as gravel, soil, draining tiles, &c., should be commenced before the land is rotted by the autumn rains, and completed so as to be at hand the moment they are required. Success with trained fruit trees mainly depends on the construction of the borders; were more attention paid to this particular, the failures so many lament would certainly be less general. Fresh loam, with a good proportion of chopped turf, should form the staple of the compost, which should extend to the depth of 15 inches, and rest on a stratum of bricks, or some material impervious to the roots. A different principle will govern the preparation of land for the reception of ornamental shrubs or trees, where all restrictions are removed, and rapidity of growth and high luxuriance are required and encouraged by enriching, trenching, and draining the ground intended for them. As both evergreen and deciduous shrubs may be removed with safety after the middle of October, all requisite preparations should be made, to invite success without loss of time. It is scarcely necessary to expatiate on the advantages of forwarding the work of the character we have alluded to before the arrival of winter, as all possible contingencies should enter into the calculations of gardeners. Who can tell but that a prolonged and severe winter may occur and carry us, inactive the while, to the very threshold of spring, when a thousand busy cares spring up to demand our attention, and our cherished plans remain as before, but hopes for the future.

CONSERVATORY AND GREENHOUSE.

The ephemeral things introduced for decorative purposes must be removed as they exhibit signs of decay. Mildew is often engendered by such plants. With ordinary resources, a good successional supply of Heliotropes (Voltaireanum is extremely pretty as a pot plant), Fuchsias, Cupheas, &c., may be managed: amongst recent introductions, Cuphea platycentra takes a prominent place, both for bedding and pot culture. The Chinese Chrysanthemums will shortly give a feature to the general display; large plants may be taken up, potted, and kept in a close frame for a week or two, when they will flower equally well with others. Salvia azurea should also be taken up from the ground and potted; it will bloom until late in November, if kept in the conservatory; S. splendens is also useful for the same purpose. *Pits and Frames.*—Pot off seedling Coniferæ into small pots; however hardy, they derive much advantage from such nursing. Establish a good stock of Verbenas in pots as duplicates of the choice sorts; harden off cuttings for bedding out next season, that they may resist the gloom of the approaching season. The smaller the pot for merely storing a plant the better.

FRUIT FORCING.

Vineries.—Do not permit the proper functions of the leaves on Vines from which the fruit has been recently removed to be prematurely interrupted by exposure; the action of the sap may be diminished by stopping and removing laterals, and all young green spray that may have been allowed to increase. We have found a great advantage in the practice of keeping a slight surface covering of rich manure, such as pigeons' dung, &c., upon Vine borders, which we have judged to be considerably impoverished: every shower that falls carries a portion of this rich matter to the roots, which can readily assimilate the nutriment thus gradually provided for them; the plan has an additional advantage in encouraging the roots near the surface: an examination of the spongioles will speedily afford a reason for inviting the roots to a position where the large supplies of oxygen which are demanded by a Vine can be obtained. *Melons.*—As only a high temperature can ripen Melons, and little assistance is given by the weather at present, the treatment must inevitably become more strictly artificial than heretofore. Supply warm manure water sparingly; support a night temperature of at least 65°; and let there be a larger proportionate amount of foliage than is permitted earlier. *Fig-house.*—Attend to the due ventilation of the house, and employ fires whenever the external temperature is low. Keep everything dry in the house but the roots.

FLOWER GARDEN AND SHRUBBERIES.

By regularly removing all dead flower trusses and relieving the plants from superfluous and exhausted growths, their health and display may yet be prolonged. Verbena masses, with the attention above described, and assistance from manure-water, and a dusting of sulphur should mildew appear, will continue to bloom till a late period in the season; similar treatment may be applied to scarlet and other Pelargoniums; the weather will effectually counteract luxuriance, which at another and earlier season might be apprehended. Failing vigour often prevents a renewed effort, which otherwise a favourable autumn would encourage, wherefore we recommend stimulants. The parterre, by its high keeping, may be rendered at this moment more striking and engaging, contrasted with the leafy litter and disarrangement which usually pervades the country at this season. Leaves must not be allowed to accumulate on borders and walks; where there are flowering plants it is highly desirable to keep the surface of the soil open and free from all incumbrances. Watch the progress of Rosebuds; if they start, the wild branch must be reduced, and the sap directed to the support of the scion. Lawns should be rolled over at least once more before the winter. Mowing will still be essential in highly kept gardens.

FLORISTS' FLOWERS.

Dahlias.—The present glorious weather is highly favourable for these splendid flowers, and if our readers have attended to the directions given in our previous Calendars, they cannot fail to be rewarded with a fine bloom. The clear nights and changing foliage of trees and shrubs tell us that autumnal frosts may soon be expected. It will be advisable, then, to carefully draw some of the surrounding soil to the stems of the plants. Should a sudden frost occur it will prevent injury to the crowns. Look over the plants for seed, gather the heads and lay them in a dry and airy situation; it is best to allow them to remain without separating the seed from the chaff, till the period of sowing arrives. *Carnations and Picotees.*—These may now be potted; the compost should be simple, avoiding all stimulating manures. We prefer loam, leaf-mould, and river sand in about equal portions. In taking off the layers examine whether that portion of the stem immediately above the root is sound; if there is any appearance of canker it must be cut out to the quick. Put the layers in pint pots, a pair in each, taking care that they are well drained, with some moss placed over the potsherds. Water them, not over the foliage; they may then be placed in a close cold frame for a few days, till they have emitted fresh roots, when they should be gradually inured to the open air; after which time the less protection, except from drenching rains, till severe frosts set in, the better. *Tulips.*—Plant offset Tulips, and give the soil of the best bed a turn every week; do not mind the trouble, that will be amply repaid. Seedlings should be also got in, keeping them if possible distinct. The man who is careful in this matter deserves well of his brother florists, for the confusion amongst seedling Tulips of the present day is most discouraging. The bed for Ranunculuses for next season should be thought about; a good turning over and exposure will be greatly serviceable. *Pinks.*—Get what new sorts you require now; it is far better than waiting till spring.

KITCHEN GARDEN AND ORCHARD.

A strict attention to the order and general propriety of the garden at this season will have its obvious advantages. Cabbage planting can be proceeded with. Celery will still want earthing as it advances, and Endive must be tied to blanch. There should be two separate receptacles for garden rubbish attached to every kitchen garden (and we allude to this matter at present because the accumulation of weeds and decayed vegetable matter is considerable at this season of the year), one to receive the matter convertible by gradual decomposition into manure, the other to contain every substance that can conveniently be burnt. A good reserve of burnt earth and wood ashes should belong to every garden; the last substances may be advantageously substituted for manure of a stronger character in rich soils, which it is desirable to relieve. Vegetable "gourmands" pretend to discriminate between the Broccolies grown on poor soils and those cultivated in highly manured gardens around London. It is highly probable that the flavour of the Brassica may be heightened, and not improved, by rank soil; and no doubt manure is sometimes employed in the cultivation of vegetables excessively and injudiciously, as in most cases it is not the mere production of the object, but its attainment with every interest and peculiar advantage that is coveted; therefore the judgment should be exercised in every case that involves a distribution of manure, and another attempt made towards a most desirable improvement in vegetable culture.

State of the weather near London, for the week ending Sept. 23, 1848, as observed at the Horticultural Garden, Chiswick.

Sept.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 22	23	29.795	29.767	75	52	63.5	E.	.00
Satur.. 23	24	29.664	29.531	65	51	58.0	S.W.	.22
Sun. .. 24	25	29.341	29.326	67	53	60.0	S.W.	.00
Mon.. 25	26	29.478	29.331	69	55	64.0	S.E.	.10
Tues.. 26	27	29.630	29.514	62	54	58.0	E.	.24
Wed.. 27	●	29.702	29.666	64	52	58.0	N.E.	.01
Thurs. 28	29	29.738	29.723	58	54	56.0	N.E.	.80
Average.		29.623	29.558	59.3	53.0	59.3		1.37

Sept. 22—Fine; slight haze; fine; lightning in the evening; clear.
— 23—Foggy; heavy rain commenced at noon; clear at night.
— 24—Foggy; overcast throughout.
— 25—Fine; low masses of white clouds; overcast.
Sept 26—Rain almost throughout.
— 27—Cloudy; overcast.
— 28—Overcast; heavy and constant rain throughout.
Mean temperature of the week, 4 deg. above the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending Oct. 7, 1848.

Oct.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 1	64.2	47.0	55.6	10	0.53 in.	2	2	2	2	6	3	3	1
Mon. 2	64.5	44.2	54.4	11	0.48	1	3	1	1	5	6	4	2
Tues. 3	64.2	44.8	54.0	11	0.17	1	3	—	1	2	6	9	2
Wed. 4	64.2	43.2	53.7	9	0.38	1	3	2	1	3	7	3	1
Tours. 5	63.2	41.1	52.1	8	0.57	4	3	2	1	5	4	3	—
Fri 6	60.6	44.0	51.8	11	0.78	1	2	3	3	3	5	4	1
Satur. 7	61.0	43.8	52.8	9	0.53	1	5	2	—	2	8	3	1

The highest temperature during the above period occurred on the 6th 1834—therm. 79 deg. and the lowest on the 7th, 1814—therm. 29 deg.

Notices to Correspondents.

TO OUR CORRESPONDENTS—May we beg it to be understood that *we cannot answer inquiries privately through the post.* We are ready to give any reasonable information in our power through our columns; but we cannot consent to the labour of writing letters.

BEES: *H Hood.* You are right; it is a mistake to place hives too closely together. The simple storifying plan is better than the one you follow, which does not prevent swarming, and at best is only like catching a swarm at its exit. We cannot offer a practical plan of keeping bees in good condition and preventing them from swarming. Additional room often fails, as in your first case; your second case was rather a singular one. Are you sure there was no communication between the stock and the swarm? The destroying the brood in the queen's cells is the surest remedy for the evil in question, but the operation is attended with some trouble and perhaps must be repeated, for the bees can rear more queens, and consequently may swarm at too late a period for the fresh colonies to do any good. You can unite the bees in the way you mention; but with regard to the exact quantity of honey required to keep a stock through the winter, much depends on the state of the weather. A colony, however, cannot be safe with much less than 10 or 12 lbs. of honey near the end of October. Bees with that supply are sure to have a sufficiency of pollen, a thing as necessary for their prosperity as honey. The statement of weight from the work you mention must be meant to include the contents of the whole hive. *W.*

BOOKS: *A regular Subscriber.* There is no such book as you inquire for—*T S P.* You may safely take as a guide in the selection of fruit trees, Lindley's "Guide to the Orchard," &c ‡

BOTANY: *T B.* Plantago is ribbed, not parallel-veined. It is reticulated between the ribs. There are exceptions to the characteristic marks of Exogens, but Plantago is not an exception.

CUCUMBERS: *A Moore.* The cause is wet. How, we will tell you next week.

DISEASE: *C F.* Your leaves are attacked by parasitical fungi belonging to the genus Uredo. They always are, when dying at the end of the year, and are not the worse for it.

GRAPES: *A A.* Your Sweetwater Grapes are small and unripe.

HEATING: *T S P.* Put the stove in the hall. You will gain nothing by the cellar, and lose much.—*W B.* The Editor thinks as favourably as ever of Polmaise. The system can be seen in operation at Mr. Kendal's, of Stoke Newington. We cannot recommend tradesmen.

INSECTS—*W P.* The insects you have sent as the first cause of the Potato murrain, and of the mildew in Swede Turnips, Melons, &c, are a very minute species of spring-tailed insects, Podura, closely allied to the species figured in our volume for 1847. We will thank you for your notes on their economy, as what we know of their habits would not lead us to believe them to be the cause of the diseases in question. *W.*—*Hastings.* The Hop-dog is the caterpillar of the common tussock moth, Bombyx pudibunda; that found on the Verbascum appears to be one of the shark moths, Cucullia sp. ? *W.*—*E B.* The black bodies at the base of the stems of Achillea millefolium appear to be galls formed by some insect. The plants are, however, too dry to allow us to trace their history. *W.*—*A M.* We believe all your caterpillars to be those of the fox moth, of different ages. *W.*—*S N.* HYMENOPTERA: Tenthredinidæ: No. 1, Allantus fasciatus; No. 7, Dosytheus blandus; No. 8, Dolerus sp. Ichneumonidæ: No. 4, Cryptus sp.; No. 6, Pimpla atrator; No. 9, Damaged. Sphegidæ: No. 5, Æmonus unicolor. Vespidæ: No. 2, Odynerus parietinus. Apidæ: No. 3, Sphecodes gibbus. TRICHOPTERA: No. 11, Limnephilus griseus. HOMOPTERA: No. 10, Membracis cornuta. DIPTERA: No. 12, Ceratopogon geniculatum. We should be glad to inspect the insects from Port Philip, if an opportunity occurs of their being brought to London. *W.*

LANDSCAPE GARDENING: *An Amateur.* Repton's works; Sir Uvedale Price's works; and those of Gilpin. Brown's "Forester" is a good book.

LETTING: *S Chase.* We never give legal opinions. Consult a solicitor.

MANURE; *M B.* Put a handful of guano into a gallon of water; stir it up well two or three times at intervals of two or three hours; when clear decant. The residue may be added to the compost heap. There is no such plant as a blue Dahlia, nor will there be one.

NAMES OF FRUITS: *E Pike.* Received, but yet rather green for determining some of the sorts.—*C M J.* 1, Passe Colmar; 2, White Doyenné; 3, Gansel's Bergamot; 4, Chaumontel; 6 and 7, Hessel; 8, Crassane.‖—*Rev W T, Oakham.* A, Api Gros; D, Royal Russet; E, Blenheim; F, Winter Pearmain; G, Fearn's Pippin; H, Court of Wick; Q and C, Ribston Pippin; 3, London Pippin; 5, Nonsuch; 7, Dutch Mignonne; 10, Minchall Crab; 12, Kentish Fill-basket.‖—*P Q.* Your Peaches 1 and 2 appear to be the Royal George, but without a leaf they cannot be absolutely determined. Your selection should include the Bellegarde.‖

NAMES OF PLANTS: *R G.* 1, Cattleya guttata, *var.* Russelliana; 2, Oncidium Harrisonianum; 3, O. citrinum, as far as can be made out from the shrivelled flowers; 4, Gongora maculata.—*Inquirer.* 2, Clinopodium vulgare, or Wild Basil; 1, apparently some species of Pycnanthemum.¶—*W M J E.* Achillea millefolium, var.¶—*G T F.* Anemone vitifolia.—*S W.* Solidago virgaurea, Hieracium sylvaticum.¶—*H F E.* 1, Carlina vulgaris; 2, Spiranthes autumnalis; 3, Lycopus europæa.¶—*Ignoramus.* Not a Gentianella, but some Borreria. Pentstemon campanulatum.—*J S.* Clitoria Ternatea.—*H R J.* Stachys sylvatica; 2, Veronica serpyllifolia; 3, Stachys arvensis (?); 4, Veronica polita.—*A McK.* Your shrivelled morsel looks like Epilobium tetragonum.

PLUMS: *A Gorrie.* Your seedling Plum from the Green-gage, being a profuse bearer, deserves cultivation. In size and form it resembles the Imperatrice, but is yellow, with rich amber-coloured flesh ‖—*A Godwin.* The specimens of the Dove Bank Plum were not so rich as the variety is in general presumed to be. You have many far superior to it in your catalogue; for example, the Jefferson, Purple-gage, Nectarine, and Royal Hâtive. ‖

POTATOES: *J Walker.* Your Potatoes are admirable, but they much resemble Ash-leaved Kidneys.—*J B H* asks what is the average return of Potatoes? He describes his own as being "very poor this year, only 6½; in taking up he had only 1½ hobbets (a hobbet 200 lbs.) out of 50 bad, the rest quite sound." We are obliged to ask for the meaning of the question.—We have to thank *J L M* and others for information respecting the effects of luxuriance upon the Potato disease; in due time we will faithfully report the result of their communications; in the meanwhile we earnestly ask for more. The question is, "whether it is capable of proof that the disease is virulent in proportion to luxuriance, and the reverse."—*D B.* We received the pamphlet, and shall refer to it when the opportunity occurs. If we understand your letter, you have not read with attention the Leading Article on Fungi.—*W F G F.* Layering the haulm of the Potato when it has attained its growth, *i. e.*, about the period of its flowering, has been tried in the Horticultural Society's Garden; but the result cannot be ascertained till the Potatoes are taken up. ‡

SHEET GLASS: *More Light.* It makes no difference on which side you place it. It burns equally.

THRIPS: *W P.* The odour from bruised Laurel leaves will kill the thrips. It has been stated that for a house 20 feet by 12, 2 bushels of leaves would be amply sufficient. The time required to effect the destruction of the pest being about eight hours. Disperse the leaves over the house, but do not let them touch the plants. ‡

TIMBER: *Ampl.* We would refer you to a Leading Article in another column. The difference between heartwood and sapwood depends upon the presence in the former of a preservative substance formed by the leaves. There is no doubt about it. You may dissolve it all out. Every year the preservative matter is driven by vital force from the circumference to the centre, and deposited there.

TORTOISES: *Henry.* If you turn your tortoise into the open ground it will find its food as long as the weather is warm enough. When the nights are cold, put it where it can hibernate. Any covered place containing moss will do.

VINES: *N B.* A Vine border may become exhausted and require renewing; but the Vines themselves never wear out. We would advise you to lift your old Vines carefully, to renew the border, and to replant them, spreading the roots well out near the surface. If the wood is well ripened, the tops will not hurt by being exposed while your new work is going on. ‡

WHITELEAD: *A Sub* says, I have derived great benefit from the advertisements which have appeared in your Paper of glass at reduced prices. I much wish by the same means a respectable house could be induced to inform us in a similar manner where the best whitelead could be procured for painting hothouses, &c., as it is an expensive article purchased in the country, and inferior at the same time.

WIREWORM: *A Sub.* Dig the beds well over now, and destroy all that can possibly be seen. Take some Potatoes, cut them in halves, and stick a skewer in them; then put the Potato sets about an inch below the surface; the skewers are to indicate where these traps are placed, also for the convenience of taking hold of. These insects will soon be attracted by the Potatoes, and bury themselves in them, when they may be destroyed; by turning the beds over every fortnight, and setting Potato traps in the intervals, the beds will most assuredly be cleared of these sad pests by the time Carnations or Ranunculuses are planted in the spring. ‡

MISC: *Nemo.* It is not possible to preserve Apples, Pears, &c., in their natural shape and colour.——*G P L.* Briza maxima is not a native of Ireland that botanists are aware of.—*J C.* Three handfuls of lime put into 2 gallons of water would make lime water which will kill worms, and will not injure plants. ‡—*W R.* If you send your letter to our office, it will be forwarded. ‡—*Archibald Godwin.* Your catalogue of fruits contains most of the leading sorts, and doubtless many adapted for the Midland counties. You want, however, some of Mr. Knight's hardy sorts of Pears.—*Edinensis.* There is no good work on Conifers: Loudon's "Encyclopædia" is the best. We have formerly given full information on the subject: we cannot fill our columns with long lists, unless for the *general*, not special, benefit of our readers. Abies Brunonii is said to grow 70 feet high; it is the same as A. dumosa. Wax cloth is a bad envelope: paper is better; coarse linen is best. Clematis Buchananii has no synonym. Lilium giganteum is a fine thing: we believe it exists in this country, but it has not flowered. Scarlet Acacias are generally Ingas.—*H M.* A mode by which Rhododendrons are raised speedily from seed, has been given at p. 623, of the present year. ‡—*W R.* A layer of leaf-mould covered over with Spruce Fir branches will preserve the roots of your Fuchsias through the winter. The tops may be killed; but new ones will spring up, and replace them next summer. You had better lift your Geraniums, pot them, and if you have no frame, winter them in the windows of your dwelling-house. ‡—*R K H.* We know of no better remedy for "clubbing" than wood-ashes put into the holes with the plants; the plan has answered near London. Your Asparagus bed may be restored to a good bearing state by the means you mention; if you wish to make a new bed, trench 2 feet deep, manure with farm-yard manure, and plant in spring. ‡—*J W.* Heaths often die off in the way you mention, even under the best management. The cause is unknown. It has been attributed to a soddened state of the soil induced through bad drainage and over-watering. ‡—*J T.* Your Pimelea has probably "flowered itself to death," an evil to which all Pimeleas are liable. Your other question next week. ‡

SEEDLING FLOWERS.

ANTIRRHINUM: *G R.* Your seedling, No. 7, is pretty, but it possesses no novelty. We have seen several in the same way, with stronger colours.*—*G T T.* Your specimen is a delicate and pretty variety; it is not uncommon. We have seen several in the same way, delicately spotted.*

DAHLIA: *H D.* Straw colour, edged with light purple. Had the form of your flower been equal to the varieties of the present day, it would have made a desirable addition to the show flowers, but it wants depth, and the centre is very imperfect.*

FUCHSIAS: *H H.* Your seedling is a large and showy flower resembling globosa in form. Our objection to it is in the sepals, which are large, and have a faded appearance towards the points.*—*N N.* Your specimen is an elegant little flower; slender red tube, with large violet corolla. It resembles in colour a quantity raised by Mr. Thomson some years since.*—*O M.* Your little flower has no claim to novelty; it is very pretty. The scarlet sepals curl upwards so as to display the entire violet crimson corolla. It is a profuse bloomer, having several blossoms at every joint.*—*G F R.* Your seedling, with bright crimson exterior and purple corolla, possesses no novelty, and differs but little from many in cultivation. The variety from F. serratifolia is bright in colour, but not so good in form as the original; the foliage is handsome. It would depend upon its freedom of flowering whether it is worth preserving.*—*H H.* Your seedling is a showy flower and destitute of coarseness, which is its principal claim to notice, as in colour it resembles many known varieties.*—*A Kent Florist.* Your seedling is attractive from the brightness of its colours and freedom in flowering; it is large, but in colour it is similar to several in cultivation.*

MIMULUS: *J C.* Your flower was so much shrivelled up when it reached us, that no opinion of its merits could be formed. ‡

PELARGONIUM: *W P.* Your seedling is a very good flower of its class, the petals are stout and well formed, but flowers having plum coloured spots are not valued, and should not be kept where seedlings are raised; the white is not pure, being tinged with the colour of the spot.*

PICOTEES: *M E.* Your seedling is a flower of good substance; edges to the petals tolerably smooth; light purple edging very perfect. The principal deficiency in the flower is the want of larger guard petals.*—*A B.* Your seedling possesses none of the qualities of a show flower; it is not uncommon, and makes a very good border variety.*

ERRATUM: Under the head "Wasps and Dahlias," p. 638, for "herbiferous" read "herbivorous."

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK AND TILE MACHINE COMPANY (James Smith, Esq., of Dennston, Chairman) invite attention to their IMPROVED BRICK and TILE MACHINES, which are to be seen at work at Alperton, and at the Company's Office, 193A, Piccadilly, from 10 A.M. to 5 P.M. Mr. Robert Scrivener, who has been appointed Manager in the room of Mr. John Ainslie, will show the Machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London. All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, 193A, Piccadilly, London.

These Machines may also be seen at Mr. Slight's, Leith-walk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill, 135, Buchanan-street, Glasgow; Mr. Robert Charles, Mill-hill, Leeds; Messrs. Penny and Finch, Penkeridge, Staffordshire; Messrs. Drummond and Son, Dublin; and at Mr. John Connor's, Newtown Limavady, County Derry.

CHEAP AND DURABLE ROOFING.

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The Agricultural Gazette.

SATURDAY, SEPTEMBER 30, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

FARMERS' CLUBS.—Oct. 2: Claydon, Moreton Hampstead.—Oct. 4: Harleston.—Oct. 6: St. Austell.—Oct. 7: Newcastle, Durham, Melrose, East Kent.—Oct. 9: Oxford, Great Oakley.—Oct. 12: Carlton on-Trent.—Oct. 13: Hadleigh, Wakefield.—Oct. 14: Reading.

THE REPORT on their AGRICULTURAL CHEMISTRY SCHEME, presented and approved at the last General Meeting of the Highland Society, is a very interesting and encouraging document. We are not aware what steps have been taken to work out the plans then authorised, but there can be little doubt, if they shall be skilfully developed, of their useful influence both on agriculture and on agricultural education. Both subjects are discussed in this report, and the means proposed for improving and explaining the one by the agency of scientific men are not more promising than those designed for improving and extending the other. The following extracts from this important paper explain the motives which have induced the Society to take a more active patronage of the chemical relations of agriculture, and the methods she proposes to adopt in her praiseworthy attempt to raise the standard of professional education among agriculturists.

"Some persons have been inclined to doubt whether the other objects which the Society has already under its cognizance, and the duties which these involve, are not so numerous and so onerous as to render it difficult, if not impossible, properly to attend to the business of a chemical department, or efficiently to discharge the additional duties which will arise. The supposition is a natural one, with persons more especially who are not acquainted with the manner in which the business of the Society is conducted. Everything is transacted through the medium of committees, so that each section of work may be said to be under the charge of a list[illegible] direction; and when the proceedings of the Society are extended to chemistry, there will be a separate and independent staff for that particular department. The only additional work thrown on other parties will be in the shape of some increase in the minutes submitted for the approval of the Directors, and some extra superintendence on the part of the Secretary. If the Directors, with the best means of forming an opinion on this subject, conceived that their proposal involved an overload of business, which could not be properly disposed of by themselves and their Secretary, they are the very first parties who would have remonstrated against the scheme which they are now promoting. They are well aware, however, that no such difficulty will be experienced, and that with a proper application of the means at their command, and the appointment of a separate committee of management for the chemical department, its duties will be discharged efficiently and without inconvenience. In seeking to connect it with the Society, they are influenced by no desire to monopolise the guidance of agricultural improvement, or to exclude others from directing their efforts to that object. They have yet, however, to learn that any subject which can be brought to bear on agriculture can be regarded as foreign to the purposes of the Society, and much less one so important and so inseparable in the nature of its connection with agriculture as chemistry. The proper sphere of the Society's operations extends to everything that holds out a prospect of increasing the abundance, improving the quality, or diminishing the cost of production of the food of the country. It has been said that it should restrict itself to the advancement of the mechanical department of agriculture, and leave the scientific department to the care of others. The Directors do not well understand what is meant by, or included in the mechanical division, but they know that if they were to limit the proceedings of the Society to any one section of work, and more particularly if they attempted to dissever its connection with scientific research by handing over that department to other parties, as one foreign to the purposes of the Society, they would be attempting to divorce subjects necessarily and inseparably allied, and they would have to obliterate from the premium book one-half of its present contents. Without the aid and application of science it would be impossible to consider or determine questions relative to the elements of the food of cattle, the constitution and qualities of the cereal grains, and of other vegetable productions; about the effects of special and other manures, the analyses of substances and soils, the products of the dairy, the composition and value of clays, and many other similar subjects, for reports on which premiums are this year offered.

"*Science with practice* expressed the combined object which the Society has ever professed to have in view, and nothing can, in the opinion of the Directors, tend to promote the advancement and the union of both more effectually than the course which is now recommended.

"The Directors will conclude this Report with a very few observations in reference to the scheme for promoting the education of agriculturists, which was submitted to and approved of by the last general meeting. The views then expressed as to the importance of that proposal, have been fully confirmed by the communications which have since been made, as well as by the manner in which it has been received by that portion of the press more immediately connected with agriculture. The Directors have taken into consideration the means best calculated to give effect in a simple manner to the scheme, but before putting these into operation, they considered it to be their duty to report them to the present meeting. They do not recommend as necessary any alteration on the enactments of the present charter. Such modifications of existing regulations as may be desirable can be given effect to by bye-laws, under the powers for that purpose conferred by the charter itself, and they are of opinion that a very short supplementary charter, conceived in the following terms, would provide for the object which the Society has now in view. 'In order to encourage the proper education of agriculturists in Scotland, her Majesty hereby empowers the Highland and Agricultural Society of Scotland to constitute and appoint a Committee, to be called 'the Council of the Highland and Agricultural Society of Scotland on Education,' and which Council shall consist of the following members, namely, the President of the said Society, the Lord Justice General of Scotland, the Lord Advocate of Scotland, the Dean of the Faculty of Advocates, the Professors of Agriculture, Chemistry, Botany, and Natural History, in the University of Edinburgh, all for the time being, or such of them as shall be members of the said Society, and seven other members of the said Society, to be chosen from time to time by the Directors of the said Society [illegible] of at any general meeting thereof [illegible] Council the President of the said Society [illegible] President, and the Lord Justice General [illegible] and five of its Members [illegible] Majesty hereby empowers and [illegible] Council to promote [illegible] agriculture, and to [illegible] have power through the [illegible] be found duly qualified, [illegible] the corporate seal of the said [illegible] proficiency in the knowledge [illegible] arts and sciences connected [illegible] ing them to [illegible] Fellow of the Highland [illegible] of Scotland' declare that [illegible] have all the privileges [illegible] and Agricultural Society [illegible] declaring that the said Society [illegible] delivery of the said [illegible] fees, from the persons [illegible] granted; and likewise [illegible] Council, to enact all necessary bye-laws for carrying into effect the purposes [illegible] hereby granted.'"

CULTIVATION OF WHEAT.

As the agriculture of a country [illegible] more and more an object [illegible] greater proportion of those products which command a higher value in the market, [illegible] equivalents can be [illegible] products of less value, which can be [illegible] amount of capital and labour [illegible] the soil as effectively as the more valuable, it is a growing opinion that a crop of Wheat [illegible] land more than a crop of Oats. It is very [illegible] that a higher condition of the soil [illegible] a good crop of Wheat [illegible] must be dry to enable the [illegible] vicissitudes of winter, as well [illegible] abundance of plant in spring [illegible] with much greater certainty [illegible] conditions, as the spring [illegible] for the reception of the seed, [illegible] rapid growth takes place, which gives [illegible] possession of the land. As [illegible] Wheat [illegible] cultivation extend, the growth [illegible] Since the introduction [illegible] are now rarely grown; [illegible] place, and there is no doubt that the [illegible] kept up by the large quantities [illegible] in the eastern counties [illegible] farmers find it far more [illegible] prices than to raise.

It is no doubt a defect in our Scotch system of farming, which cannot by any means be [illegible] to the influence of climate, that the proportion of Wheat is so small to the extent [illegible] culture. On many of the rich [illegible] in the middle counties, the extent does not average more than [illegible] in Norfolk it has long been [illegible] and in some of the English counties [illegible] Wheat alternately on land [illegible] great as those first mentioned. [illegible] prevalent idea that the fertility [illegible] attained by allowing it to lie [illegible] this is the principal condition [illegible] written leases to prevent deterioration. With proper management this is, no doubt, a sure way where the soil is naturally rich. The farmers on the light lands of Norfolk have fully satisfied themselves that the mere pasturing the land with sheep or cattle does not tend to the accumulation of the fertilising agents, and the four-course shift is universally adopted. Although Wheat requires land in high condition, your correspondent "Amicus" would find that land which has been so from pasturage in Scotland, would not be in a favourable state for a crop of Wheat: among other reasons for this, there would be an undue amount of available nutriment, which would be quite prejudicial to the proper maturing of the crop. But we must confess that we are rather puzzled to give good substantial reasons why Wheat is not grown to a greater extent after Clover lea in the north than it is, excepting that the opinion is somewhat prevalent that Wheat is a much more securing crop than Oats. On the light lands in Ross-shire the practice of growing Wheat after lea prevails to a considerable extent. In the Carse of Gowrie and Lothians it is also adopted, but to a less extent, and from several trials which we have made on our own account our success warrants us in persevering.

In many of our counties the principal part of the Wheat crop succeeded the Potatoes, but as this crop has now become so precarious its cultivation must be curtailed, and it becomes a question how the former extent of winter Wheat can be best made up: this has been partly done already, by a greater breadth of Beans, but they are not suited for such a range of soil and climate as the Potatoes: and there is usually too little time after the ingathering of the corn crops to clear a great breadth of Turnips so as to get the seed committed to the ground in good season; and although spring Wheat succeeds much better in the north than the south, still it is much more uncertain than winter sown.

The principal resource which is left to us appears to be to sow after Clover, and we have no doubt that in many localities it is perfectly practicable, and would prove

much safer practice than sowing so much in the spring months.

We are well aware that there is a distinct line where the geological and climatic influences intersect one another, and the two concur in moulding our farming practices and results, and should make us cautious in adopting the suggestions of those who live under more favoured skies; but we are decidedly of opinion that it would be much for the interests of the farmers of the north that they would suit their cultivation so as to raise a greater proportion of Wheat, which is rapidly becoming the main article of human sustenance, for even in the "land o'cakes," with our increase of population, there is actually less Oats manufactured into meal than there were 20 years ago; *N. B.*

NOTES ON SOME ENGLISH FARMING.—No. II.

By Martin Doyle.

Before I proceed to specify the modes of practice which in my humble opinion distinguish Mr. Davis from other extensive English farmers, I shall refer to the paragraph in my first paper on the present subject, in which it was stated that the proprietary and tenantry of Ireland might reclaim much of the waste lands of that country at less cost than that which has been incurred in the drainage and trenching of Spring Park farm. It occurred to me that Mr. Davis might have availed himself of the gravel raised from the drains, if screened, as the cheapest and most convenient material for drainage; but he stated to me as his reason for not using the round gravel instead that the expense of screening it would be greater than the cost of tiles, 1000 of which—an ample allowance to the acre—he can have laid down in his field for 18*s.*, carriage included. That quantity of tiles is a load for two horses, and the rate of payment is 2*s.* per mile. Where labourers are paid 12*s.* a week, at least, the tiles are probably as economical; and Mr. Davis says that having tried coarse gravel he found that the water did not pass so freely through it as it does through tiles or pipes. But in Ireland, where labour is often but a third of the English rate, there is a decided advantage in favour of screened gravel over pipes or tiles, where gravel or small stones abound in the subsoil. There cannot be a more durable material for drainage, if even very lightly covered with Heath, Furze, Broom, Rushes, or brushwood; and the Irish* farmer may frequently find a bed of gravel beneath his surface soil.

I have already stated that Mr. Davis advocates the depth of 4 feet for drains on arable land. In this particular he is not singular, for experience seems to have nearly established that depth as the standard; but he is so in preferring a lesser depth on perpetual pasture or meadow lands. He says, in his "Farming Essays," "Although no one can be more sensible than I am of the importance in draining of going to the depth, in arable land, of at least 4 feet, I am very far from thinking that the reasons for going to this depth which apply to corn are equally applicable to Grass; indeed I have latterly been led to think that such deep drainage may be injurious to pastures by depriving them of a cool bottom, on the maintenance of which a continuous growth through the summer depends. I readily admit, for I have seen it is so, that deep drains draw further and raise higher the temperature of the soil, and afford a greater space to the cereal Grasses and legumes to root in, advantages of immense importance to the raising of corn; but with Grass land, when we desire a continuance of succulent vegetation and a succession of plants to rise through July and August, a moist bed is an advantage which I imagine should be preserved with this view, and at the same time that I have been considering the advisability of going deeper than 4 feet in arable land, I have been reducing my drains in pasture to 3 feet, for, while I would free the top surface of all stagnant water, I wish not to place the reservoir of moisture so low that it shall not cool and moisten the surface in the summer, for on having this moisture much valuable pasturage at this dry season depends."

Is there not something in this suggestion? We see that the most luxuriant natural meadows are those in low situations, where moisture is never far from the roots, and some Grasses—for instance, the Agrostis stolonifera (Fiorin Grass)—absolutely require water; but this subject is no doubt very disputable: let scientific men decide it, if they can. It would be desirable to test such points by accurate and repeated experiments. Doubtful questions of this nature ought to be set at rest, when it is easy to do so by practical means. Again, Mr. Davis, though not absolutely so, is peculiar in his opinions regarding the disadvantages of thick sowing. His practice is to sow very thinly after a gradual diminution of the quantity of seed, from 3 and 2½ bushels to 2½ pecks, which he considers sufficient for an acre, if sown in drills 12 inches apart, and horse-hoed repeatedly during the growth of the crop. I perceive that an agriculturist in Kent has challenged Mr. Davis in a friendly tone to test the question of thick or thin sowing, by sowing an acre with about 6 gallons of seed Wheat, and a second alongside of it with 12 gallons. Mr. Davis will, no doubt, respond to the challenge. Yet the proposed contest will only ascertain whether a given quantity of seed or double its amount will produce the better crop. The question, "What is the right quantity to be sown?" is another matter, and the answer to this must depend in a great degree on the natural qualities and preparation of the soil, and its condition as respects the amount of alimentary principles which it contains. Judging by the stubbles which I examined, and the ear of the sheaves in stack, I would say that the produce was more than the ordinary yield where thicker sowing prevails. The Oats I saw uncut were a thick and even crop, from I believe but 2½ pecks per acre. If more seed had been sown there would have been I think a less productive crop. Of Barley I have had no fair opportunity of judging. My own experience is in favour of full seeding for that crop, but that experience has been very limited.

The waste of seed corn is undoubtedly prodigious, and if the economy of seed practised by Mr. Davis, were general, the saving would be vast in a national view. Even a much greater saving than that recommended by the practice of Mr. Davis and other advocates for thin sowing might be effected. I am referring more particularly to the case of Wheat by dibbling, and still more by sowing in seeding beds and transplanting. In the latter case where the limited scale of farming and a redundancy of human labour invites such management, the produce would probably be much greater from single plants placed at suitable distances, than from those raised by dibbling, which no doubt causes a loss of seed, many grains being almost necessarily thrown into each hole; yet the saving even by dibbling in this country, where at least a million and a half of quarters of Wheat is used for seed, will appear of great moment to any one who chooses to take the trouble of calculating the difference between the quantity of seed sown and that which would be sown under the circumstances to which I am about to advert.

Three months since I visited a farm in Brittany, within a mile of Dol, on the confines of Normandy, where agriculture is very deficient compared with that of British farmers, and on that farm, consisting of 200 acres of strong clay, which is tilled in a manner very superior to ordinary practice, I saw 40 acres of dibbled Wheat. The cultivator, who has been in the habit, during 25 years, of dibbling his Wheat, has learnt by experience the importance of increasing the distances between the holes from 12 inches every way to 16 by 18 inches. He sows but 20 lbs. of seed to the acre, while many of his neighbours sow 150 lbs., and yet his yield of crop exceeds theirs by one-third on a fair average. The ears of the Wheat so dibbled were very large, whereas those of the corn sown broadcast and closely were very diminutive. His straw, also, was magnificent. His practice is at length spreading in that district, and will probably become the established system there; yet where the quality of the land and superabundance of human labour invite such practice, the produce would probably be still greater from single plants placed at equal distances, and within a few inches of each other, than by either dibbling or drilling, as these operations are usually performed.

Mr. Davis is no advocate for dibbling, by which, "in a wet season the action of the dibbler forms a cup or basin nearly water-tight for the reception of the seed, which must be very pernicious to its germination, for sown in this way the seed often lies in water surrounded with a compressed wall, which the infant root has to penetrate, and lies shut in a box alternately too wet and dry, and without mould in immediate contact." He also objects to the method on account of the crowding of five or six grains "upon the space of a sixpence."

I think that the case which I have stated is sufficiently strong to calm any apprehensions of failure from dibbling, although the comparison in that instance has been between very thick broadcast sowing and dibbling, and not between dibbling and drilling, with horse-hoeing and weeding, as Mr. Davis sows and manages his Wheat. It is remarkable that Mr. Arthur Young in 1771 found in the course of his tour through the east of England that the maximum produce of corn was obtained from the minimum of seed sown at that period—thus he attributes his success in raising so many crops in succession from one manuring to the deep and frequent stirring of the soil, and to his applying manure only to the green or cattle crops, and never to corn, which he thinks would render it more liable to injury from blight, while it would also cause the excessive luxuriance of straw, to the exhaustion of the ground. I was surprised to see so good a crop of Beans without manure, and still more to see the Wheat which he obtained in the fifth year after Beans, which had also been grown without any manure.

* The printer substituted in my first paper the word "with" for "Irish," before "measurement," at top of page 610, which rendered the sense unintelligible.

BRITISH ASSOCIATION
FOR THE ADVANCEMENT OF SCIENCE.

Aug. 11.—Capt. Ibbetson read a paper, he had translated from the French, by Dr. Sacc, on *the Chemical and Physiological Effects of Feeding Fowls, and on the Changes and Chemical Composition of Eggs during Incubation.* — The first part of this paper gave an account of the results of feeding a bantam cock and hen on Barley alone. At the end of a week it was found that the cock had gained 18 grammes (a gramme is 15½ grains English), and the hen had lost 21 grammes, but had laid in the meantime an egg weighing 22 grammes. In addition to the Barley, a certain quantity of carbonate of lime had been consumed. The egg on being examined was found to contain

Albumen	19·49
Oil	27·84
Water	52·67
	100·00

In hens ordinarily fed the egg contained

Albumen	17
Oil	29
Water	54
	100

Thus showing that the Barley fed hen laid eggs with a larger quantity of solid organic matter than ordinarily fed hens. It was found that hens during incubation lose weight. A hen before incubation weighed 672.155 grammes, after 483.202 grammes. During incubation eggs lose weight in the following proportion: 1st week, 5 per cent.; 2d week, 9 per cent.; 3d week, 3 per cent., losing altogether 17 per cent. of their weight. The shell of the egg was found to weigh 18 per cent. of the egg, and to be composed principally of carbonate of lime. The shell is not formed unless the animal has access to carbonate of lime in some form or another. The carbonate of lime is deposited on the egg from without, and is carried to the egg in a state of solution in carbonic acid. Phosphate of lime and traces of iron were found in the albumen and the yolk of the egg, and also soda. The function of the albumen or white of the egg appears to be first to furnish the young bird with phosphate of lime for its bones, and other earthy and alkaline salts; and, secondly, to supply water, the material for the muscles, and to hold in solution the carbonic acid breathed by the young bird before it is hatched. A communication is constantly kept up between the atmosphere and the chick by the shell, which is the organ of the gaseous, pulmonary, and cutaneous excretions. The yolk of the egg is principally composed of oily matter, which appears to be taken into the system of the young chick, and is used in respiration for the purpose of maintaining animal heat. Thus it is found that in the contents of the new-laid egg there are the same principles surrounding the young chick as there is in the vegetable kingdom for the supply of the whole animal kingdom. We have, first, protein for nutrition; secondly, oil for combustion; and thirdly, various salts for combining with the agents of nutrition.

THE TRUE PRINCIPLES OF FARMING.

(*Continued from p.* 593.)

"I will endeavour to explain on natural principles how the crop should be disposed of when obtained," were the closing words of my last communication, and which will therefore serve as a text for the present one.

However simple the present inquiry may appear to many of your readers, who think this the easiest branch of farming, yet I dare say that there are some more thoughtful who do occasionally ask themselves whether they are farming on the most profitable plan, and whether they cannot contradict the old proverb which says, "you can't have the cake and eat it too." But to do this with anything like success requires judgment and perseverance combined with some science, and even then it must have a fair portion of what is frequently called "good luck," and these very useful addenda are not always at hand, and if so, the practice of them enjoins more than is commonly understood by natural principles or common sense; therefore, without the aid of chemistry, we will just bear in mind the axiom "Like produces like," or in the words of Liebig, "all the innumerable products of vitality resume after death the original form from which they sprung. Thus, the destruction of an existing generation becomes the means for the production of a new one, and death becomes the source of life," that is to say, "corn made into manure and applied to the soil will reproduce corn," weight for weight and possibly some to boot, the soil being proverbially grateful; but recollect she is a jealous mistress, and will not share the favours of the (dung) bed with her rivals the ditches without hinting the same to you in the most delicate manner possible, probably "through your banker," if you should not be possessed of sufficient penetration to observe "the slight" for yourself.

Well then, we will suppose a farm in fair heart, cultivated on the four-field system, or half corn and half green crops; now if the whole of this was turned into manure, either by being rotted on the ground or consumed by full-grown cattle kept in store condition, not increasing in weight, the soil would in either case be in the same position as it was before the crops were raised, for although a considerable weight of gases are taken up from the atmosphere during the growth of the crops, yet these are again given off in the former case during the process of fermentation, which leads to the putrefactive or rotten state, and in the latter, in the expiration of the animals; the food, having been assimilated, passes off in union with the gases of the atmosphere inspired, and "like becomes like," ready to again become "the source of life," as the food of the plants; it is true that a great deal passes off by the intestines, but also a great deal is taken from the soil, which counterbalances it. But as it is not profitable either to rot crops, or to keep stock in them without gaining in weight, we must adopt some other method; the first and most natural method that strikes us is that of selling, but then we should have no means of reproduction, without purchasing manures, which is inconvenient and extravagant, without we can obtain more money for them than their feeding value, as is the case with Wheat, and frequently so with Carrots, Swedes, Mangold Wurzel, and straw; then in that case we had better sell them, but this money must not be put to other uses until a "like quantity of like material," or something better be brought back to the soil, to supply the loss, which may frequently be done at a great advantage, as in the case of returning a bushel of Beans at 4*s.* for a bushel of Wheat at

7s., or half a bushel of the former for every bushel of Barley and Oats sold off the farm, so as to return corn for corn; but for Swedes and straw, 2 cwt. of soot, and 7 lbs. of bones per ton, would compensate for the former, and one load of dung for each ton of the latter; this would give the difference in your favour both in quantity and money; but still you have not disposed of the whole of your crops, and you have exchanged a certain weight of Wheat, Barley, and Oats, for the same weight in Beans, which contain better feeding properties (see Stephenson on Cattle Feeding in Stephens' Book of the Farm); therefore as we have seen that poor stock neither do themselves nor the soil any good, and are ruination to their keeper, let us purchase stock in fair condition, clean them, shelter them, prepare their food for them, feed them regularly and reasonably, neither shifting them, by stimulating their appetite so that the greater part of their food passes through them unassimilated, nor feeding them so scantily that the food wholly goes to the support of life, without adding weight to the carcase. But as the ultimate object of keeping stock is the making of manure, which is at all times a tedious process, and one that requires a large capital, besides not being always a profitable one, do let us have the common sense to take care of it when we have made it, and what we do make, make good; let it be composed of similar materials as the produce of the farm, weight for weight, or its equivalent to it. These are the plain natural principles, which should be well understood, but admit of modification according to circumstances.

In writing this paper I have kept free from the use of any chemical terms, but in a future one will attempt to prove the correctness of the principles adduced by chemical reasoning, borne out by the experience of our best practitioners; *W. G. Grossmith, Romsey, Hants.*

Home Correspondence.

With respect to the Potato Crop, in this part of Ireland, I regret having to state that the disease is making fearful havoc within the last fortnight; and in crossing the country for about 20 miles one day last week, I did not see a single field or garden but what the Potato crop was black and the leaves almost gone, and in some places the tubers are rotting away, but in this neighbourhood, which is rather exposed, with a naturally dry soil, and not much growing timber to shade the fields, the tubers are not rotting, and very little of the disease is to be seen in the tubers, not more than one in 20 on this farm in the early sorts, and in the late planted sorts I have not seen any diseased ones, but the tops are gone; the Potatoes scarcely half grown, and of course can only be very inferior quality, even if they should keep, which will be a sad thing for Ireland, as there is so many planted this season, perhaps more than ever there was in one year before; as they kept so well over last winter, seed Potatoes were very plentiful in all the local markets in the spring, and small farmers and cotters planted as much as they could by any means procure seed for. They risked their all, in fact I might say that they staked their existence on the Potato, and now the die has turned up against them, and the consequence must be lamentable, for the small farmers are not so well prepared with Turnips or anything else as a substitute as last year, when a great deal of Turnips, Carrots, and Parsnips were sown, which made provision of one sort or other to be plentiful in most places over the winter. And the grain crops are not turning out so well with us as they promised some time ago, the heavy storms of wind and rain in June and July hurt the Wheat when in blossom, and the consequence is that the ears are very imperfectly furnished with grain; Oats too are in this district below an average crop, from the severe drought during May. The weather has been so wet for the last 4 or 5 weeks that we have scarcely had two dry days on end, and it is only with the greatest care and attention that we can save the crops after they are cut, indeed in some low sheltered places the Wheat is growing both before it is cut and also in the stooks. Turnips in general are an inferior crop, especially Swede, from the ravages of the fly in the early part of the eason; late Turnips had a better chance to escape being cut off by that pest, however the wet weather prevented many people from getting them properly cleaned, and in many situations they have made but very slow progress, and will only be a light crop; therefore taking things as they appear at present, we have rather a poor look-out for winter in this country; *James Alexander, Heath Farm, Athy.*

Irish Experimental Farm.—"B. A.," at p. 612, 1848, of the *Agricultural Gazette*, expresses his willingness to contribute his 10 guineas towards the fund proposed by "Spade," to be raised for the purpose of establishing an experimental spade farm in Ireland. I thank him, not more on the part of Ireland than on the part of England; as a subject of the British empire, having the general interest at heart, and acknowledging no separate one, I thank him. But "B. A.," very naturally and very justifiably seeks first to know the parties to whose direction it is proposed to confide its conduct; it is fair that he and others who may participate in the desire to aid, should be satisfied on this point. Mr. Goodiff, of Granard, has put himself forward for this purpose, and "Spade," has very liberally accepted his offer, but "B. A." has no idea who Mr. Goodiff is, whether English or Irish, and others may be in the same predicament. Mr. Goodiff then is, and his name pretty well indicates his Saxon origin (Goodeve of Hampshire), an English gentleman, born in Westminster, who, in the late war, held a commission in the British army, and served through the Peninsular war in a manner more distinguished than most subalterns, was placed on half pay in 1817, and, having married an Irish lady, he has since been generally residing in that country, where he has, to a greater or less extent, according to circumstances, carried on in several parts of the country, farming operations. Holding, and having held for the last 20 years an appointment under the crown he does not come before the public as a necessitous adventurer. Arrived certainly at years of discretion, and still animated with a desire to carry out views entertained for the past 25 years, he is not likely to be inveigled by the charms of variety, nor when the means of realising his plans are in his hands, to be led aside from them, or to flag, or to tire, when there appears a possibility of their being extended by a few years' more application through the length and breadth of the land; and it may not here be impertinent to the subject to observe that in 1832 he proposed, through the public press, the establishment of parochial spade worked poor farms as a provision for the unemployed poor, and that he continued to urge this plan on the public notice till the actual establishment of the present poor-law union houses. It is now very gratifying to him to see even modifications of his old plan very generally advocated, after so many years of unsuccessful efforts. I trust I have now satisfied "B. A." as to the fitness or unfitness of Mr. Goodiff to carry out the proposed experiment, and of this I do assure him, that with respect to all money arrangements, he will be happy they should be placed in such responsible hands as Mr. Meehi's. Mr. Goodiff expects that after fairly remunerating all parties engaged in the work, a profit of 8*l.* per cent. on the capital may be realised; as the money will not be subscribed with a view to profit, although on the extension of the plan it may become a beneficial employment of capital, it may be deemed advisable to appropriate this 8*l.* per cent. to the industrial education of the children of the labourers employed on the farm, and to form a provision for sickness, hurts, infirmities, old age, widowhood, and little endowments for young couples; for with spade farms we fear no excess of population. We might thus supersede our poor-laws. In the same publication "Hibernicus" brings before the readers of the *Agricultural Gazette*, the pious labours in this way of the sect of practical Christians, called "The Society of Friends." Their relief committee has now advertised for a farm 250 to 400 Irish acres, in one of the midland counties of Ireland, for the purpose of establishing a model farm and agricultural school. Let their example stir us up to our labour of love; there is a sufficiently wide field open for us all. The most prompt measures are called for, as the state of the country is daily becoming more desperate; like rats in a falling house, all that can are preparing to leave it, and thus withdrawing their little capitals from it, before all are swallowed up in the support of the unemployed, whose numbers are rapidly increasing from the progressive breaking down of the farmers, and the clearances of the small holdings by the landlords, as they lose all hope of the tenants' abilities to pay their rents; *J. M. G., Granard, Ireland.*

The Potato Disease.—As it is very desirable that some portion of diseased Potatoes should be preserved, the following methods are recommended to the public. 1. To make Potato Flour, which will keep good for years—Wash the Potatoes quite clean, and then grate them very fine into a tub or earthen vessel of water. When the pulp has had time to settle, pour away the water and wash the pulp through a fine hair sieve into a tub, into which the flour will pass and sink to the bottom. Wash the flour repeatedly with cold water until the water goes away quite clear, then put the wet flour in strong linen bags and hang them up to a kitchen ceiling to dry. The refuse may be boiled for store pigs. The diseased part of the Potatoes need not be cut off, but if left there would be more trouble in washing the flour. 2. For Cattle and Pigs—Boil the small or other diseased Potatoes, and then beat them down into a cask, strewing salt at the same time, until quite full. Preserve the Potatoes carefully from the air, by filling every joint and crack with lime putty, pitch, rosin, or grease. Place the cask in a dry, cool situation. Potatoes will keep good in this way for many months. All Potato pits should be opened, examined, and sorted; but Potatoes cannot be effectually sorted without previously washing them. There are machines for washing and also for grating Potatoes; *C. A. A. Lloyd.*

Farm Capital.—Like "Economist," I have read "with great interest your Paper for some years;" but, meditating to give my farming hobby full scope, I had nearly made up my mind to engage a farm offered to me, consisting of about 1150 acres; not an unusual extent for a corn and sheep farm in my locality. But the average capital, as propounded by your correspondent "Economist" in your last week's *Gazette*, has set me thinking. His *dictum*, based on Mr. Huxtable, is, that I must post from 30*l.* to 40*l.* an acre, or I shall not be up to the mark as regards capital. Now, if this be so, taking his medium proposition of 35*l.* an acre, I must embark 40,250*l.* for this farm, which if I let remain quietly, at even 4 per cent. interest, would give me an income of 1610*l.* a year, or 500*l.* a year more than (with all the hard work, risk, and anxiety of a farm) I could expect from my favourite avocation on the received principles (as I am instructed) of the reasonable, clear return such a farm prosperously managed would afford me. Now, if this be so, who would farm? especially as, in these times of scarcity of money, 5 per cent. might be made readily on good mortgages, in which case I should derive 2012*l.* a year income from my capital of 40,250*l.*, and sit at ease with a care. Pray, remove my mind of doubt on these matters; for, if my ideas are nearly right, your respectable and generally instructive Paper should not be made the vehicle of such mischievous nonsense; and, if I am wrong, what an unread book is that to be studied by both masters and tenants! *Gateacre.* [We have pointed out the calculation by Mr. Huxtable on which "Economist" based his assertion. 30*l.* to 35*l.* would have been more reasonable than 30*l.* or 40*l.* Your point is to ascertain what the sum of capital will yield you the best interest; or, assuming your capital to be a fixed sum, your question is, "How many acres must I take to derive the largest annual income from the capital spent upon them?" 6*l.* per acre in some localities would be a more extravagant outlay than 3*l.* in others. It is entirely a question of circumstance, and you have every stage between stock farming and market gardening amongst which to choose.]

Proposed Terms between Landlord and Tenant.—1. Cultivation: The mode of cultivation to be adopted is the alternate system of husbandry, that is, not to take from any of the arable land more than one crop of Wheat, Barley, Oats, Rye, or other crop producing its seed, without taking in order in the following year a crop of Turnips, Swedes, Rape, Mangel Wurzel, Carrots, Cabbage, Clover, Vetches, or some other green, ameliorating fallow crop; but it shall, nevertheless, be lawful to take a crop of Beans or Pease on one-eighth part of the arable land as an ameliorating crop every year. 2. Consumption or sale of straw and the ameliorating crop: To consume all the straw, hay, and all the roots and ameliorating crop, by feeding or fattening cattle or sheep, or other stock, thereon; or to spend in the purchase of oilcake, linseed, or corn, or in the purchase of manure, at least two-thirds of the price of all the straw, hay, roots, or other ameliorating crop, which shall be sold and taken off the premises; this oilcake, linseed, corn, &c., to be consumed by stock on the premises, and the manure produced therefrom, and the manure which may be purchased, to be applied to the land the same year in which the produce has been sold. 3. Tenants' rights: At the end of the lease the tenant to be paid the value of the unexhausted cultivation and manure, together with the value of the hay and straw, of the last year's crop, which may be left after Lady-day unconsumed, and the value of all the manure left on the farm; the value of these to be ascertained by arbitration in the usual way. 4. Rent: The rent to be in quarters of Wheat, to fluctuate as the average price of Wheat for the three preceding years (as taken from the returns published by Government in the *London Gazette* in the month of January, pursuant to the Tithe Commutation Act). Thus, suppose the rent to be 100 qrs. of Wheat, at 50s. per qr. for the first two years 2500*l.*; then, if the average of Wheat for the years 49, 50, and 51, should be 54s. per qr., the rent to be increased one moiety of this increase of 4s., that is 2s. per quarter will amount to 10*l.* on the rent of 100 quarters, so that the rent for the third year would be 2510*l.*; but if the average price of Wheat for the three years should be 46s. per quarter, that is 4s. below 50s., then the moiety of this, or 2s. per quarter, amounting to 10*l.* on the rent of 100 quarters, is to be deducted from the rent, so that in this case the rent for that year will be 10*l.* less, or 240*l.* 5. The Lease: a lease for 21 years may be granted, provided the tenant be at all the expense of draining the land which requires to be drained, fill up all the creeks, and erect any buildings which may be required by him. Or a lease for 14 years, the landlord having to pay for all the materials required in draining, or in any buildings which may be required, or on any other permanent improvement, the tenant to be at all the expense of horse and manual labour, and to pay the landlord 6 per cent. per annum on the money he may expend in the purchase of materials in addition to the rent; *J. M.*

Parsnip Seed.—The following system will answer for Parsnip seed as well as Carrots:—Let the ground intended for planting the roots be of a good loam and well drained; it must have a good coat of dung spread on the top, and the most successful manner of planting the roots I have found to be this: dig out a trench at least 18 inches deep, and place the Carrots or Parsnips upright against the side, at least 24 inches apart in the rows, and the rows to be 36 inches between each other; the ground must be kept free from weeds all the spring and summer; it is the custom with some raisers of these seeds not to plant the roots till the end of February, but as far as my experience goes it is best to get them in the first open weather after Christmas. I have almost invariably observed that the roots left in the ground all the winter are the most productive, and I always leave those that come up in the ground, though they may injure those plants immediately around them, yet I think the seed is more valuable, as it is generally of the finest description where it is the greatest distance apart, the sun and air having more opportunity of circulating around the plants. The first portion of Carrot seed is ripe generally about the latter end of August or beginning of September, and is always the best seed; it is best to look over the ground twice a week at least when the seed begins to ripen, as Carrot seed holds the wet like a sponge, and it soon discolours the seed much. Parsnips require to be looked over every day or two, as its seed easily shakes out with the least wind; the best way I have found to gather the seed of both Carrots and Parsnips is for one person to go with a sharp knife and cut off those heads that are ripe, he being followed by a boy with either a sack or basket, into which he

drops the seed as cut off; it then requires to be spread out on a floor where the air can get at it; must not be spread more than 2 or 3 inches thick, and be occasionally turned till quite dry. The best way I have found to thresh it is to have a fine sieve just large enough to let the seed pass through, then to be rubbed through with the hand. It is a great pity that all farmers do not grow their own seeds of all kinds; there would not then be the disappointment that is so frequently complained of in missing plants, but it is very difficult to persuade farmers or gentlemen that have never grown them to do so; in fact the growing of roots (except Turnips) are considered too expensive for a tenant farmer, but this is a great mistake, for there is no food that cattle will do so well on as Carrots or Parsnips (particularly the latter), boiled or steamed, and mixed with Bean, Pea, or Barley meal, and for small porkers for London market there is nothing that can be given that will pay so well; *E. Y., Braintree.*

Chicken Hatching.—Your correspondent dating from Delamere Rectory, says: "It appears to be the fashion now to run down" the inventor of hydro-incubation. I confess I think those who have had the disagreeable duty of exposing the gross delusions which have been set forth as facts by the inventor and his supporters, and of thus securing the public from further loss, do not altogether merit this tone of censure; and if your correspondent will read Mr. Cantelo's pamphlet, and the articles which have appeared in the *Gazette*—one of them signed by himself—he will see that in defending the system, or in censuring those, yourself included, who, after very careful scrutiny, have been obliged to expose the statements made respecting it, he is not in the best position in the world. Mr. Fox expresses an opinion that "in a favourable season, and upon a dry sandy soil, a great majority might be reared which are hatched during the months of April, May, June, and July," but thinks no one having experience in poultry would think of rearing them at other seasons. I believe the month of July will not be found to answer, and that March is one of the best; however, here are four clutches which this writer thinks may be profitably reared. But Mr. Cantelo asserts that he raises 18 broods in the year, and his calculations of profit are based upon the successful rearing of 75 out of every 100—"thousands at a clutch." Yet it is for exposing the fallacy of these Bobadilian calculations that we are accused of "running down" Mr. Cantelo. Then Mr. Fox says that the result of his two visits was, "that with these incubators any number of chickens, turkeys, &c., can be produced at very trifling cost, except the first outlay." Well, but has this gentleman inquired what the first outlay is? "License for a 56-tray patent hydro-incubator and 14 chicken mothers to rear poultry, &c., 1550*l.*," says Mr. Cantelo's pamphlet. The first item in calculations based upon getting 75 chickens out of 100 eggs, 18 times a year, in numbers sufficient to enable him to send 200 fowls every day to market, videlicet, 73,000 fowls, the guano and feathers of all which are with ludicrous exactness added to the sum total of the receipts! Total annual revenue (sums up the inventor triumphantly), 8440*l.*; annual current expenses, 4237*l.* 10*s.*; leaving 4202*l.* 10*s.*, as the annual gross gain on a capital of 6000*l.* Gross indeed! And all this while the "gentleman in Sussex," (see *Agricultural Gazette*, p. 548), having "spent more than 1000*l.* in fitting up a complete set of apparatus to produce 200 fowls a day," had found "hundreds of chickens dying every night, and many other unforeseen difficulties," as Mr. Cantelo very well knew; and all this time, although Mr. Fox "saw 500 young fowls mostly ready to put up to feed" on February 12th of this year, the statement of "W. M. F." stands uncontradicted (see *Gazette*, p. 547) that to his "certain knowledge, Mr. Cantelo did not rear a single chicken all last winter from the end of November to the month of March." Now if it be true, as I have not a shadow of doubt, that a very few clutches have ever been reared profitably in one year, what shall we say of those who repeat the deceptive statements and calculations alluded to, and that not in sixpenny pamphlets or advertisements, by which little mischief could have been done, but in the names of many correspondents to a journal looked up to as an authority in such matters? Are we to be accused of "running down" the authors of these statements when we expose their fallacies? I believe with your correspondent that the artificial hatching of fowls might become a very important branch of rural economy, and it is not less from impatience at seeing a question of really national interest retarded by unworthy motives, than from mortification at finding columns which have helped forward so many similar enquiries, unwittingly employed in "darkening counsel by vain words" that I, among others, have exposed the hollowness of the system, appropriately named by a wag "Cant-alone-ian." Far from any desire to run down the inventor, it seems to me that the inquiries into the merits of the invention have commenced with every desire to find the system sound and successful; and that it was only on discovering that the plan by hot water was no better than the old one by ovens, and that the extraordinary statements respecting the number of broods and the profits were at first visionary, and then false, that they were compelled to ridicule and condemn them. If the mode of hatching by hot water can be made as cheap as that by ovens, I can easily believe that many persons would prefer the former to the latter, both being, as they are, equally successful. Though it is very questionable if very large numbers of fowls congregated together can be kept healthy, yet with good open ranges a considerable number might, for four or five months of the year, and by sending many of the chickens, as in Egypt and China (and as has indeed been done this year on a small scale at the Polytechnic Exhibition at Newcastle, where they are sold as hatched) to numerous places in the neighbourhood to be reared, it can scarcely be doubted that a considerable addition might be profitably made to the food of the community. What we chiefly want now is, that which has been again and again enquired for in your columns during the last few months, but never accorded us, the experience of some of those who have purchased the machines. Why will not the "gentleman in Sussex" give us his experience, or why will not some of those others who have tried the plan reveal their disappointments or their success? Meantime it will be seen by carefully examining Mr. Cantelo's own calculations of expenses and profits, that unless the fowls can be produced at a very small expense for incubators or ovens, four or five clutches a year will not pay. But there seems equally little doubt that a very small expense is all that need be incurred for the purpose, and that the chief difficulty to be obviated is the unhealthiness consequent on large numbers of fowls being crowded together, especially at certain seasons of the year. What is wanted on this last subject is the experience of truthful experimenters; *A Very Constant Reader.*

Thin Seeding.—With many others, I conclude that Mr. Matson is aware that I, as well as my friend Mr. Davis, am an advocate of a more scientific and less wasteful cultivation and seeding of land. He has amicably, *pro bono publico*, I presume, challenged my friend Davis to a proof of their respective systems of husbandry. He advocates not less than 2½ bushels of seed Wheat per acre, whilst my friend Davis advocates less than ½ of that quantity. In defence of his system he writes that he tried 2 bushels of seed Wheat, against 2½ bushels, on 4 acres of land, and that he lost in the 2 bushel crops 2 quarters an acre, or 8 quarters on the whole on the 4 acres. Now, as this is a gain of from 20*l.* to 24*l.* from 4 acres of land only by thick sowing, if his system be correct it would at once annihilate all thin-seeders and for ever. Mr. Mechi, Mr. Davis, Mr. Piper, and many more, who do not use more than half 2½ bushels of seed, would be thrown into the shade, and a wet blanket be spread over their farming operations; in fact, as the phrase goes, they would be "done up" as farmers. Now, I saw Wheat on my friend Mechi's farm this year, which I will take at 7 quarters an acre; Mr. Piper informed me last Saturday, that he has full 6 quarters an acre; Mr. Davis's Wheats, which I saw a little before last harvest, in company with some of the most intelligent farmers from Mr. Matson's own county ever met were also very fine crops; Mr. Piper's crop also is Wheat, the fourth time in succession of Wheat after Wheat. Allow me also to add a statement of my own humble doings to those above; the week before last I sold and sent in Wheat which yielded 51 bushels per acre, and from less seed than any other person I know uses except my friend Piper; mine also was from land the second time Wheat in succession, and the former crop was nearly or quite equal to the latter. I am also about to thresh a small field of Wheat which was seeded with 5 quarts, 8 quarts, and 12 quarts an acre, and from land the third time Wheat in succession. As I have before published also, and as there are many wagers upon it among my neighbours and others, the yield shall be published in the *Agricultural Gazette* as soon as it can be known. Those who made the bets will also be present, or some of them, to see that all be fairly done when it is threshed and measured. Now, Mr. Matson has not published what his yields were, but I think he should, from his 2 and 2½ bushels of seed; but if this year, he has 2 quarters an acre more than mine, or if he has more than some of my parishioners, who do not use much more than half the quantity of seed that he publishes, I shall afterwards think less favourably of my system, and may perhaps try his. The contest, therefore, is not between Mr. Matson and Mr. Davis, but between their respective systems of husbandry; or rather, between a system which has notoriously failed to find food for the people of this country, and one which professes to be able to feed the whole at a cheaper rate, and have corn to spare for other less favoured nations. That sowing 2½ bushels an acre cannot do this all the world knows; and were this country, so highly favoured by Divine Providence as it is for agricultural development, left to the 2½ bushel system but for one single year from this time, dearth and famine, disease and death would half depopulate our land. All praise therefore be given to that noble band of true patriots and philanthropists who, by scientific agriculture, in spite of the obloquy heaped upon them, are rescuing their country from this degraded, this fearful state of impending misery. But to the immediate object of this letter. Mr. Matson has published a challenge for Mr. Davis to test their respective plans of husbandry. Will he allow so humble an individual as myself also to try a lance with him? The conditions between us shall be something like these. The lands on which the trial is to be made shall be neither his nor mine. We will use the same kind of Wheat; and as an objection is often made against my doings because I am so small a farmer, I will take one acre from one of the largest, if not the very largest in this neighbourhood, *i. e.* from a farm of nearly 1000 acres; and another acre from a gentleman who farms, I believe, between 500 and 600 acres; and a third acre from a comparatively small farm. I will also take another acre of my own, but not to be brought into the trial further than to partake of a part of my seed. For those four acres I will not exceed 2 bushels of seed, or half a bushel per acre for the whole four; the lands also, until I put in the seed, shall be cultivated by the proprietors or occupiers, as the rest of the fields are; and to make the odds as much against me as possible, and to put my system to as severe a trial as possible, I will take the two former acres, should it be required, in fields which were Wheat this year, so that two-thirds of my crops for trial shall be Wheat after Wheat, a system which I have never advocated further than to show what I can do by it. I think, too, our seed, for so important a trial, should be of the same kind, and even taken from the same heap; I observe further, that the largest of the farms I have chosen is not good Wheat land, but rather the reverse. This is my challenge against Mr. Matson to my friend Mr. Davis, except I add that he is not to sow less than 2½ bushels per acre, and that he shall seed at least 3 acres on three farms as I shall do, *i. e.* an acre on each, and also as I will do, 1 acre, at least, shall be on light land. In conclusion, I add, that I shall consider this trial entirely as a public one, and for the public benefit, and in no other spirit whatever would I enter upon it: I consider that personality in a matter of the very highest importance, as this confessedly is, should not be so conducted as to bolster up and perpetuate a system which has for so many years so notoriously failed, nor to establish another upon an unsound foundation instead of it, *i. e.* on its ruins; *George Wilkins, Wix.*

Farmers' Clubs.

NEWCASTLE, *Sept. 2*: *The Sheep Husbandry of the Cheviots.*—Mr. SAMUEL DONKIN, of Bywell, near Felton, read a paper on this subject, as follows:

The importance which agriculturists attach to the rearing and improvement of sheep has induced me, as a member of this club, and as a farmer whose early life has been passed upon an extensive farm in North Coquetdale, Northumberland, to lay before this meeting a treatise upon *The Sheep Husbandry of the Cheviot Hills.* And as the district over which my thesis extends is wild and solitary, and holds but little communion with the more cultivated and populous parts of the county, the illustrations I shall make upon the social condition of these sequestered regions may not prove altogether void of interest to those who may not have had opportunities of applying a close investigation into every important branch of our rural economy. My observations upon the subject I have chosen are drawn from personal knowledge and practical experience; the green hills, the deep dells, and the "auld grey cairns" of the Cheviots, are familiar to me; while I have the happiness to possess a general acquaintance and the friendship of the intelligent occupiers of those extensive and beautiful sheep farms which I intend to bring within the scope of my criticism. And while I draw a comparison between the management of these farms, as it existed in the olden time, and the systems now pursued, I congratulate the men of the present day upon the improvements effected upon "the wisdom of their ancestors." By a superiority over old prejudices and time-hallowed errors the value of the sheep walks has been greatly increased; by acting upon more rational principles in the maintenance of the flocks, and by a close and careful attention to the constitutional tendencies of the mountain sheep, the disastrous losses of severe winters, which were sustained within my own recollection, have been, if not altogether prevented, greatly mitigated; yet, in justice to a past age, it must be borne in mind that such ruinous losses of sheep as were felt in the Cheviots in the memorable year of 1799 (the mortality amounting to 75 per cent.) were aggravated by causes over which the flockmasters had little or no control. The stock farmers of that period were involved in all the evils and disadvantages of a barbarous system of husbandry. The operations of agriculture were in those days rude and untutored. The productive properties of the soil slumbered beneath the feet of men upon whom those sciences had not dawned, which now, in our days, reveal to the husbandman the secret operations of Nature's laws. Naturalised animal food, which more enlightened systems of agriculture have now furnished to the farmer in such abundance, scarcely existed even in the imaginations of our forefathers. Long after the introduction of the cultivation of the Turnip, the growth of that invaluable root was so limited, by the absence of artificial manures, and by imperfect and injudicious systems of drainage, that the maintenance of even the weaker portions of the Cheviot flocks upon the lowland farms during a severe spring, could only be very partially acted upon. It is, therefore, only from a very recent day that we can date the rapid strides that have been made in the management of the Cheviot stock farms. This impulse is more a sequent than an antecedent; it is more from the propulsion of a general progression in the operations of agriculture, than a distinct and independent improvement; for without the application of those agents to the culture of the soil, which science has taught and experience made, the hill stock-farmers could have advanced but little from the miserable condition in which they stood, when the existence of their flocks depended upon the character of the season. Yet whatever progress has been made within the last 20 years in the husbandry of the Cheviot stock farms, an impartial commentator must record the visible neglect of many advantages which the physical features of the hills present towards great and further improvements. The benefits derived from shelter, in the judicious formation of circular or longitudinal belts of plantations for sheep "stells," are in too many places utterly disregarded. This seeming indifference, on the part of landowners, for the comfort of sheep farms, can admit of no palliation. Upon those elevations where proprietors have already manifested a disposition to benefit and beautify their highland estates, by relieving the dreary wastes with belts of plantations, the trees have thriven to the satisfaction of the public benefactor. Another means of improvement, which Nature may on every hand be seen by the mountain rills struggling to force upon the attention of man for the increase of herbage in these pastoral districts, is culpably neglected—I allude to irrigation. Those who have witnessed the astonishing effects produced upon the early growth of Grass by irrigation, must be struck with surprise, while traversing the Cheviot range, that only four instances can be met with where water-meadows have been formed, while the facilities for their universal adoption are so evident and inviting. Before entering further into detail upon the systems observed in conducting the management of the Cheviot farms, I shall offer an outline of the localities to which my remarks will more immediately have reference. If any gentleman present has enjoyed a prospect from the top of the Cheviot mountains upon a clear day in August, he must have been forcibly struck with the grandeur of the scenery. In this place, I cannot accompany him over the vast range of prospect that lies before him. I must leave him to his emotions, while he casts his eye over the whole expanse of the sea-board of Northumberland—upon the splendid view of the magnificent vale of the Tweed, upon the merse of Berwickshire, and the elevated outlines of the Lammermuirs. Looking down upon the

range of green hills that encircle the Cheviots north and west, he must admire their clustering cones, which appear like to the bubbling of a boiling cauldron, like beads strung upon the girdle of the everlasting mountain. To the south, the prospect is bleak and uninviting to the eye. A broad expanse of heath stretches out towards the Carter Fell and the blue heights of North Tindale. Now let us draw a circle with a radius of 10 miles, from the centre of the Cheviots, and we will intersect the highest portions of the parishes of Elsdon, Alwinton, Alnham, Ingram, Ilderton, Wooler, and Kirknewton, in Northumberland, and of the Scotch parishes of Yetholm, Morebattle, Hownam, and Oxnam, those forming the south-eastern angle of the county of Roxburgh. We have thus a circumference of 60 miles; and herein we have what may be properly termed "The Cheviots." The geological features of the entire district clearly indicate a volcanic origin, being wholly formed of what is termed Cheviot porphyry and whinstone trap. It is this peculiarity in their geological formation which constitutes their excellence for sheep pasturage; for the best criterion whereby strangers can judge of the soundness of the flocks in these border districts is, that they are reared upon the whinstone swards of the Cheviots. Numerous streams, radiating from the central upheaving of this mountain range, from the sources of the waters of the Reed, the Coquet, the Breamish, the Wooler Water, the Bowmont, and the Kale. The highest portions of the Cheviots are covered with heath; and large tracts of peat bog extend from the summits of the principal mountain, southward. The lower hills are mostly steep and broken in their acclivities, and covered with abundance of Fern; a plant which always indicates, by its presence, the porosity and fertility of the subsoil. The beautiful sheets of greensward, covering their very tops, are composed of most of the nutritive sorts of Agrostis; such as the Sheep's Fescue, the Annual Meadow Grass, the Woolly Soft Grass, and frequently White Clover. The sheep farms may be classed in two divisions—those wholly pastoral, and those of a mixed character, having a large portion of arable land. These latter are situated around the eastern and northern bases of the Cheviots, and, from their adaptation to the Turnip husbandry, constitute the finest and most agreeable farms in the county. Before I glance at the system pursued in the cultivation of these farms, I shall detail the modes of management followed in the shepherdings of the exclusive stock farms. The size of these may be taken from 2000 to 5000 acres, each maintaining from 1000 to 3000 sheep. Of the origin of the Cheviot sheep we have no information, either from history or tradition; and whether the aboriginal breed was horned or polled, white-faced or dun-faced, we have no authority to decide. This is a subject which, at different times, has occupied the attention of the curious, but which is likely to remain for ever in obscurity. That they have long been a separate and distinct class of the woolly race, admits of no doubt. Amongst the most celebrated of the present flocks of Cheviot sheep may be found traces of the white-faced horned and the grey-mottled faced; therefore we have no reason to suppose that the prevailing complexion (the hornless white-faced) has any claim to originality above the others mentioned. Whichever of these have been the aborigines, neither of them show any symptoms of proximate consanguinity to the black-faced heath sheep, which is to be met with from Lancashire to the Grampians. Towards the close of the last century the first step may be said to have been taken towards the improvement of the Cheviot sheep by crossing with the Dishley, or Leicesters; these having been introduced into Northumberland in 1766, by the Messrs. Culley, disciples of Mr. Bakewell, of Dishley. It appears by Bailey and Culleys' Report on the Agriculture of Northumberland in 1797, "that the late Mr. Smith, of Woodhall, near Harbottle (one of the most celebrated Cheviot sheep breeders of his day), as also the late Mr. John Robson, of Scotch Belford, Roxburghshire, crossed their flocks with Leicester rams, and thereby improved the carcase very much, by gaining a greater depth of fore-quarter;" and I have frequently heard the late Mr. Wealleans, of Flotterton, relate that his Cheviots (and no man ever possessed better) obtained a tincture of the Leicester from a ram procured of the late Mr. David Moffatt, of Chillingham. Thus we find that a general infusion of the Leicester blood was introduced amongst the Cheviots 50 or 60 years since. Yet from the then scarcity of Turnips and other artificial food, the experiments made with the crosses were far from successful. Upon the most exposed situations the Leicesters were never ventured upon. These would have utterly perished before the storms that sweep over the Cheviots; they wanted hardihood of constitution to subsist by scraping through the snows for the scanty pittance of Heath, stool, and Wirebent, such as the pure-bred Cheviot sheep can subsist upon; though I shall presently show that at this day, under the benefits of modern agricultural improvements, half-bred Cheviots and Leicesters are not only maintained but fattened upon the Cheviot-hills, and also brought much sooner to market than formerly. In times past, when the shepherd with his flock was driven by the severity of the winter to seek refuge in the low-lands, his necessities drove him to purchase hay at most exorbitant prices. It was then nothing singular to see 50 score of sheep eating hay during two months at the cost of 10*l.* per ton. It is in the almost unlimited resources we have at command in the shape of green spring food—in the increase of our provender by drainage, and by artificial manures, and by calling into active operation those humanising influences which theories, confirmed by practice, recommend—that we have the advantage over those who have gone before us. It is only from that eminence towards which we have become irresistibly propelled by the force of human progress, that we can look back and perceive the mischievous effects which injudicious modes of farm management produced. Amongst the erroneous opinions formerly entertained upon the management of highland farms, was the belief in the absolute necessity of sheep salving; it being then considered almost impossible for a sheep to survive upon the hills through winter, unless it was "laid" or smeared with a certain portion of tar and butter. Now, the praise of "tarry woo" is never sung by our Arcadian swains; and the flocks thrive equally well, if not better, since the practice of salving has, by common consent, been discontinued, and that of "dipping" substituted. Another barbarous rule so invariably observed not long ago, and which still finds here and there an advocate, was the removal of the lambs at weaning time to a part of the farm where the least degree of succulent food could be procured. The lambs were herded upon a dry, parched up, heathy hill, for six weeks, under the "philosophical" idea that they became hardened in constitution by being nurtured a certain time in starvation. Upon those farms of the Cheviots which may with propriety be termed highland, the manner of stocking depends entirely upon the sheep walks. Where a regular breeding stock is kept, the sheep are divided into separate flocks provincially termed "hirsels." The ewes are kept upon the most sheltered and best portions of the farm, while the young sheep, composed of gimmers and dinmonts, are confined to the higher situations. The "boggings" are chosen from the advantages presented by shelter, and a sufficient extent of Grassy ground intermixed with a due portion of Heather. These walks are preserved or "hained" from the middle of June to the time of weaning (about the 20th of July). Each flock is under the care of a separate shepherd; and upon his skill, honesty, and experience, in the superintendence of his charge, depends in no small degree the profitable occupation of a hill farm. *The Cheviot Shepherds* are a hardy, athletic, intelligent race of men, with a strong attachment to their native hills, proverbially hospitable to strangers, imbued with deep religious impressions, and a keen relish for historical narrative and newspaper topics. The shepherds upon these farms are to a certain degree joint occupants with their masters, having a certain quantity of sheep and cows depastured in remuneration of their services. A master shepherd has frequently two or three young men as assistants, who are boarded and lodged with him, and for whose maintenance he has the agistment of so many sheep. A new method of paying the shepherd's wages is now adopted by a few flockmasters, namely, the commutation of the shepherd's stock into a money wage, regulated by an *ad valorem* price of sheep and wool. Though this new mode of payment is far from popular amongst the herds, yet there can be no valid objection raised against the principle of such contracts. If it is argued that the whole system of allowing the servant's stock to be kept throughout the year with the master's gives to the former a more lively interest in the well-being of the flocks, it may be answered on the other side that the interest of the shepherd is equally [illegible] at the time of sale of his master's stock, for the higher the price the master obtains, the higher is the wage of the servant. The new mode of hiring is also favourable towards young men, who, under it, are not debarred from taking situations by want of capital to stock their bowing. The only manual labour in which those mountaineers are engaged throughout the whole year is in sheep-shearing, sheep-dipping, haymaking, and in the provision of a sufficient store of fuel from the peat moss. Yet the solicitude of the shepherd for his master's welfare would be unavailing, and all his anxiety for the prosperity of his fleecy charge set at nought—nay, the Cheviot hills, whereon graze numberless large flocks of valuable sheep, each confined with the greatest care and order upon their respective walks, would become reduced to a common hunting ground of as little value as they were in the days of Chevy Chase—but for the sagacity of *The Sheep Dog*, whose fidelity to his master, under the most trying circumstances, is beyond the power of temptation to betray. It is wonderful to see the command which these animals exercise over a flock of sheep. At their master's signal they will take an individual or any number of sheep in charge, and detain them upon the mountain steep, or bring them quietly and securely into the fold. Man would not have the least control over the mountain flocks, were he deprived of the services of the sheep-dog; and the horse is not more valuable in the cultivation of the soil than is the shepherd's dog in the occupation of the Cheviot hills. One of the principal objects to be gained towards the security of the flocks upon the Cheviots, is the accumulation of a sufficient stock of hay. Here a wide field for improvement exists in the benefits to accrue from drainage, irrigation, and fencing off the meadow grounds. Diagonal open drains, such only as are cut along the hill sides and upon the marshy flats, is a mode of draining which, to say the least of it, is a poor apology for these systems of thoroughly relieving the land of its superfluous moisture now almost everywhere acted upon. As the obstacles in the way of procuring tiles are in most places amongst these hills insurmountable, stones and turf might be substituted. The want of efficient fences is very much felt upon most of the sheep farms under notice. Miles of march grounds, having only nominal boundaries, with the shepherd stall-herding with all the vigilance of the sentinel, ought only at this day to be met with in the Australian bush. The erection of walls might be easy of accomplishment where stones are to be had in such abundance, which would in no small degree add to the value of the farms, by permitting the sheep to graze unmolested to the utmost verge of their walks, and liberating the shepherd to follow some more profitable employment. The construction of the wire fence for meadow grounds upon sheep farms has been recommended by my friend Mr. Henderson, of Langleeford, in a paper read by that gentleman last year before the Wooler Farmers' Club; and I have been informed by Mr. Boyd, of Cherrytrees, that he has partitioned his parks as efficiently and much cheaper by the wire fence than he could have done by any other method. Between the hill farms of Alnham and Prendwick, a march fence of wire is now in course of erection. Though this mode of fencing may be commendable in the midst of park scenery, where sheep are exclusively grazed, yet it may be questioned how far such barriers are calculated to withstand the assaults of a herd of cattle roaming in the heat of a summer's day. There can be no doubt that, where stones can be obtained, dry stone walls, built by a class of highlanders most expert in their business, are by far the best kind of fences for stock farms. While aiming at an impartial review of the sheep husbandry of the Cheviots, I must condemn the reluctance evinced by so many proprietors towards *Moor or Heather Burning* as being injurious to the broods of the grouse. With a wish to preserve to the landlord the manly and invigorating recreation of grouse shooting, I would at the same time protest against the gamekeeper's dogma that a more extensive application of the torch to wide tracts of those thickety recesses of Heather, which in their present state are wholly valueless to the farms, would prove detrimental to the preservation of moor fowl. "The moor fowl," says Hogg, "seldom or never feed on old Heath." The tender and juicy sprigs of the young germs of Heath they immediately select for food; and except when driven by the blue hawk, I never saw them condescend to seek shelter in it from any creature or in any weather. Even in the darkest snow drifts they often feed on this young plant, in the most exposed situations; nor will they take shelter on the lee-side of the hill, until they have gathered together a few grains, when they cower down, and let the snow drift them up; in which situation they continue warm, dry, and comfortable, till the hurricane subsides; and then they spring into air with all the vigour peculiar to their hardy nature. As upon many situations of the highest Cheviots, Heath must form the principal food of the sheep, it could be wished that more liberal grants were made by the landlords towards a judicious and systematic burning of the Heather. There is a plant upon peculiar places found upon almost every mountain range, as well as upon the Cheviots, which, from its nutritive properties at a certain season of the year (from the beginning of February to the close of March), is highly valued by the shepherds, who give it the name of moss. This is the Eriophorum Polystachion of botanists, which is the most common species of the genus Eriophorum found on our hills. I have myself frequently seen the sheep hirsels, upon the breaking up of a severe snow storm in the month of February, seeking their way over the snow drifts, and impatiently seeking the "moss flows" upon the highest parts of the Cheviots, and scraping a foot deep through the snow in search of this plant; and so highly is it prized by the shepherds that they prefer it to Turnips for the recovery of weak, poverty-stricken sheep. During severe winters the stock upon heath-clad grounds, where extensive tracts of the plant I have exhibited are found, subsist much better than upon the Grassy hills, which in winter are known in provincial phraseology as "white grounds;" and it is upon these latter situations where the benefits of removing the flocks during the spring months to keep up the extensive Turnip growing farms of Glendale, Roxburghshire, and Berwickshire, are being duly appreciated by most of the hill farmers. The increase in the weight of wool, together with the improvement in the carcase of the sheep, while the grounds at home become cleansed and freshened, and in a much better state of pasturage on the return of the flocks, amply repays the very moderate cost at which Turnips in most years can be procured in the districts mentioned. I could point out particular farms upon the Cheviots where the ewes, from a liberal system of winter feeding from home, are now producing lambs, half Leicester, which, in July, sell at 15*s.* and 16*s.* a head; when, formerly, from the same farm, the Cheviot lambs seldom brought above 8*s.* Still there are deep-rooted prejudices seated in the minds of many of the shepherds against the system of putting the ewe stock upon Turnip keep, from the idea that such indulgence injures their mouths and enervates their constitutions. It is in consequence of this prejudice that the ewe hogs are seldom or never wintered upon Turnips. [illegible] farms, may tempt an [illegible] agricultural society [illegible] at [illegible] ewes and [illegible] annual fair of Penrith and [illegible] 17th of October. [illegible] farms which in a former [illegible] as the finest [illegible] of Northumberland. They constitute the [illegible] situated towards the eastern and northern extremities of that mountain range. In extent they average about [illegible] acres, and consist of wide tracts of hill pasture, with a due proportion of arable land, which, from its [illegible] nature, is peculiarly adapted to the growth of Barley and Turnips. Within the last half century much of this land, now under the plough, has been claimed from the [illegible] pasture lands of the farms. The large number of live stock of different kinds reared and fed upon these farms [illegible] the imperious necessity of [illegible] the Turnip to its utmost limits; upon particular farms [illegible] acres of this crop is grown. In no part of the country has the introduction of guano, bones, and other fertilisers been attended with more beneficial results than upon the farms in question; for, by the application of artificial manures, not an acre of fallow is now left without a green crop. It is upon these soils that lime acts with such peculiar effect. Though the cultivation of the hill-sides has been carried out as far as prudence would warrant, yet it is the opinion of many practical men that a more extended reclamation, with a view to the improvement of the herbage, might be beneficially undertaken, by cleaning the ground of stones, by draining, and by breaking up the old mossy swards, to undergo the growth of two white crops in succession; next to be well limed and properly fallowed; and afterwards sown up with the various sorts of permanent Grasses, without a grain crop. By thus enriching the pasturage, and with a plentiful supply of Turnips upon the infield land, the maintenance of the half-bred Leicesters must become more general, and the "cast" of the hill sheep be brought to market a year earlier. I may observe, that upon the farms I am alluding to, large flocks of Leicesters are reared and fed, as also extensive herds of short-horn cattle; and a more striking evidence cannot be adduced of the advanced condition of the agriculture of these farms, than the fact that two-year-old bullocks are now fed to greater weights than formerly were those of three years old. But as I wish to confine my observations to the management of the hill sheep, I shall most cheerfully leave the subject of the general agriculture practised upon these admirable farms to some other member of this club, who would find, in the elevated social position of the occupiers of that district, a highly pleasing and instructive field for the exercise of the mind. The sheep upon the lower Cheviots have all undoubtedly partaken of a dash of the Leicesters, though they possess in a more conspicuous degree the characteristics of the Cheviot breed. The mode of management pursued with these flocks is nearly the same as that followed upon higher situations; ewes, wedders, and hogs being kept in separate parcels, and under the eye of different shepherds. Upon particular farms the hill dinmonts are kept upon the thickly-planted new Grass of the infield land during summer, and having been highly maintained through winter upon Turnips, they arrive at great weights in [illegible], and have been sold as high as [illegible] and [illegible] a head. The clips of Cheviot wool, from off these farms, by its combing qualities, and by its freedom from those impurities imparted to wools upon peaty, heathy soils, generally bring the best price. I shall close my paper by giving a tabular statement of the price of the clips [illegible] from one of them since [illegible], when the present tenant entered upon it. The clip consists of almost equal proportions of ewe, young sheep, and hogs, and the price is given in stones of 24 lbs.

18[illegible]5	s.	d.	18[illegible]7	s.	d.
18[illegible]6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
18[illegible]7	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
18[illegible]8	31	[illegible]	[illegible]	[illegible]	[illegible]
18[illegible]9	29	[illegible]	[illegible]	27	[illegible]
1810	42	[illegible]	[illegible]	[illegible]	[illegible]
1811	2[illegible]	0	[illegible]	[illegible]	[illegible]
1812	24	[illegible]	[illegible]	[illegible]	[illegible]
1813	25	[illegible]	[illegible]	[illegible]	6
1814	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1815	[illegible]	[illegible]	18[illegible]7	27	[illegible]
1816	[illegible]	[illegible]	[illegible]	27	[illegible]
1817	2[illegible]	[illegible]	[illegible]	24	[illegible]
18[illegible]	[illegible]	[illegible]	184[illegible]	[illegible]	[illegible]
18[illegible]	[illegible]	[illegible]	1841	[illegible]	[illegible]
18[illegible]	24	[illegible]	1842	[illegible]	[illegible]
1821	22	0	1843	[illegible]	6
1822	29	[illegible]	1844	21	[illegible]
18[illegible]	13	6	1845	21	[illegible]
1824	24	0	1846	2[illegible]	6
1825	2[illegible]	0	1847	23	[illegible]
18[illegible]	1[illegible]	0	1848	[illegible]	[illegible]

After a brief conversation, and when the President and other

members had individually acknowledged the obligation conferred on the club by Mr. Donkin, a vote of thanks, on the motion of Mr. Anderson, seconded by Mr. Colbeck, was unanimously passed.—Mr. Anderson said a friend of his had lately been from Newcastle to Berwick, and taken particular notice of the Potato crop. He had not seen a single field that was affected by the disease—a fact which, he was sure, the club would be glad to hear.—The President said that the gentleman referred to had made his survey from the window of a railway train. If the engine-man had allowed him to alight here and there, and he had turned some of the Potatoes up with a graip, he might have had another story to tell.—The club broke up; and, leaving the room with a Northumbrian farmer, he assured us that his Potatoes were diseased—he looked upon his crop as gone; nor, he was sorry to say, was he at all singular in the county. In Durham county, too, we have recently heard unfavourable accounts—and especially in the neighbourhood of South Shields.

Calendar of Operations.

SEPTEMBER.

Berwickshire Merse Farm, *Sept.* 22.—Since last report we have been employed in reaping and carrying; we have finished cutting the white corn and one field of Beans; the other is not ready. Our Wheat, and two fields of Oats, are all carried and covered. We had one field of spring Wheat after Turnips—the bearded kind—a most beautiful crop. We have thrashed a few loads of Oats for straw to make ropes; they appear to yield well; *J. B.*

Dorset Farm, *Sept.* 26.—For the last two weeks we have been ploughing, harrowing, and gathering off the weeds from the Wheat stubble, and as the weather has been fine we have been able to clean it very well. We have been driving dung and the materials of an old mud building together for top-dressing the Clovers; and driving materials for works in water meadows, which are undergoing extensive alterations. Labourers have been cutting down and rooting old hedges, collecting rubbish from the road sides, which we drive together and mix with lime or salt, which is not so wasteful as burning. Since finishing harvest we have had very fine weather up to the 23d, when we had some very heavy thunder-storms, and since then it has been rather unsettled; *G. S.*

East Lothian Farm, *Sept.* 23.—Except a shower of rain about the middle of the week, we have experienced very dry weather. We have been employed in cutting Wheat and Beans, which finishes shearing for the season; we have carted the Beans to a stubble field, and commenced ploughing Bean-land to prepare for sowing Wheat. As noticed in last report, the pasture is getting rather short, and Turnips are making little or no progress, owing to the dry weather; but by appearance to day, and barometer falling, we may look for rain, and it cannot come too soon for these, and it will also soften the land for ploughing, which is hard and turns up lumpy; *S.*

South Devon Farm, *Sept.* 25.—Since our last report we have been enabled to work the horse-hoes through all our Turnips, Mangold Wurzel, Cabbages, and Carrots, and are now hand-hoeing them between the plants in the drills; these crops have made rapid improvement since the fine weather set in, and considering the quality of the land, we have no cause for complaint. The Turnip crop, however, generally speaking, is not considered to be a good one in this portion of the county, the season proving too wet for the heavy soils, and never has the horse-hoe been more required, and its beneficial effects more clearly proved, than during the past month. With regard to the corn crops around here, Wheat and Barley must decidedly be quoted below, whilst Oats are above an average. The Potato crop is bad, and if anything, appears to be worse than last year. Our feeding bullocks are doing very well, and Grass appears to be plentiful and good. We have commenced ploughing our Wheat stubble for next year's green crops, and are putting in a few drains where the wet spots were seen in the late crop; *T. M.*

Stirlingshire Carse Farm, *Sept.* 23.—Having had another week of very fine weather, we have been thoroughly engaged with carting and stacking grain, and have got all other white crops secured in fine condition; we have also threshed a little of the Oats, and they appear to do very well, better in quality and quantity; *W. F.*

Sussex Farm, *Sept.* 25.—The weather being favourable, we are still engaged in ploughing, harrowing, and rolling for Wheat, in scarifying Wheat and stubble land, in carting dung into the fallows, fuel to burn lime, litter to yards, and drain tiles; men collecting and burning Couch, turning dung, hoeing late Turnips, digging Potatoes, cleaning and cutting hedges, and draining 3 feet deep with 2-inch pipe tiles; *J. B.*

Notices to Correspondents.

Cochin China Breed: *Amateur of Poultry.* Your birds are most probably Malays, which are often called, and sold to the uninitiated, as Cochin China. It is not absolutely requisite that the Cochin China should have the horse-shoe mark on the breast, I believe it to be accidental. The real ones are of a golden buff colour, beautifully shaded, and their whole appearance so gigantic and peculiar, as at once to distinguish them from any other breed; the male bird weighs from 12 to 15 lbs., the hens 9 or 10 lbs. Mr. J. J. Nolan, of Bachelor's-walk, Dublin, has the very finest breed of Cochin China now extant, and has carried off the prizes at all the shows where they have been exhibited. They are indeed splendid fowls, and should be in every collection; *S. E.*

Harvest Moon: *J C M.* Our answer last week should have been "September 13th." We referred to the wrong month in the Almanac.

Hordeum: *W D F.* We are not aware that the black colour constitutes it a distinct species. Both the two-rowed and the six-rowed Barley are occasionally seen black. It has been introduced from Canada, and probably from other quarters also. The other specimen is Hordeum jubatum.

Poultry: *Peter.* Do you allow your fowls perches during the three weeks of fattening? will you state the size of each coop.

Separator: *Rushall.* Mr. Clyburn, Uley, Gloucestershire.

Erratum: In page 641, col. *b*, 25th line from top, for "cost" read "art."

*** Communications reaching town after Wednesday cannot be answered the same week.

Markets.

ENGLISH TIMBER AND BARK, Sept. 30.

Round Timber. Per Load.	Plank. Per Foot, Cube.	Inch Board. Per Foot, Superficial.
Oak ....£6 0 to £8 0	3s 0d to 5s 0d	0s 4½d to 0s 6d
Ash..... 5 10 — 7 0	2 6 — 4 0	0 3 — 0 4
Elm..... 2 15 — 3 10	1 9 — 2 3	0 2 — 0 3½
Beech.... 2 10 — 3 0	1 6 — 2 0	0 2 — 0 2½
Lime .... 3 10 — 4 0	2 0 — 2 6	0 3½ — 0 4½

Oak Bark, per load of 45 cwt., Timber, 11*l.* to 13*l.*
Do. do. do. Coppice, 12*l.* to 14*l.* J. S.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Sept. 28.

Prime Mead. Hay	66s to 72s	New Hay	—s to —s	Straw	26s to 32s
Inferior ditto	50 63	Clover	70 98		
Rowen	40 50	New Clover	— —		

Trade continues very heavy. J. Cooper.

CUMBERLAND MARKET, Sept. 28.

Prime Mead. Hay	70s to 76s	Old Clover	95s to 100s	Straw	28s to 32s
Inferior	50 70	Inferior	50 90		
New Hay	50 70	New Clover	50 90		

Joshua Baker.

WHITECHAPEL, Sept. 28.

Fine Old Hay	68s to 72s	Old Clover	95s to 100s	Straw	26s to 30s
Inferior Hay	— —	Inferior	50 60		
New Hay	55 63	New Clover	80 83		

COVENT GARDEN, Sept. 30.

The market is well supplied with Vegetables and most kinds of Fruit; but trade continues dull. Pine-apples are plentiful. Hothouse Grapes are abundant; they are ticketed at 2s. a lb. Peaches, though sufficient for the demand, are scarcer, and Nectarines are all but over. Melons are sufficient for the demand. Ribstone Pippins and other dessert Apples are ticketed six and eight for 1d. Pears begin to be supplied in considerable quantity: among them we remarked good specimens of Beurré d'Amalis, Brown Beurré, Williams' Bon Chretien, Marie Louise, &c. Nuts in general are sufficient for the demand; but Filberts and Cobs are very scarce, and fetch good prices. Oranges are less abundant: Lemons moderately plentiful. Among Vegetables, Carrots and Turnips are abundant and good; Cauliflowers, Broccoli, &c., sufficient for the demand. French Beans plentiful. Potatoes the same, but diseased, and so are Tomatoes. Peas are dearer. Lettuces and other salading are sufficient for the demand. Mushrooms are plentiful. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Fuchsias, Carnations, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 3s to 5s	Oranges, per 100, 10s to 16s
Grapes, hothouse, per lb. 1s 6d to 4s	— bitter, per 100, 8s to 16s
Peaches, per doz., 2s to 6s	Lemons, per doz., 1s to 2s
Melons, each, 2s to 5s	— per 100, 7s to 14s
Plums, per punnet, 1s 6d to 2s 6d	Almonds, per peck, 6s
Apricots, per doz, 2s to 4s	— sweet, per lb., 2s to 3s
Apples, dessert, per bush., 4s to 7s	Walnuts, per 100, 1s 6d to 2s
— kitchen, p. bush., 3s to 5s	— per bush., 16s to 24s
Pears, per doz, 2s to 6s	Nuts, Barcelona, per bush., 20s to 22s
— per half sieve, 6s to 10s	— Filberts, per 100 lbs., 60s to 90s
Mulberries, per pottle, 4d to 6d	— Cob, per 100 lbs., 60s to 90s
Figs, per doz, 2s to 3s	— Brazil, per bush., 12s to 16s
Oranges, per doz., 1s to 2s	

VEGETABLES.

Cabbages, per doz., 6d to 1s	Onions, pickling, per hf sieve, 2s to 3s
Cauliflowers, per doz., 1s to 4s	Tomatoes, per punnet, 9d to 1s 3d
Broccoli, per doz, 6s to 9s	— per half sieve, 4s to 6s
Sorrel, per half sieve, 6d to 9d	Shallots, per lb., 4d to 8d
Potatoes, per ton, 60s to 160s	Garlic, per lb., 8d to 1s
— per cwt., 5s to 8s	Radishes, per doz. bunches, 6d to 1s
— per bush., 2s 6d to 4s	— Turnip, do., 9d to 1s
Turnips, per doz. bunches, 2s to 4s	Artichokes, per doz., 1s 6d to 3s
Red Beet, per doz., 6d to 1s	Vegetable Marrow, per doz, 6d to 1s
Horse Radish, per bundle, 1s to 6s	Lettuce, Cab., per score, 4d to 1s
French Beans, per half sieve, 1s to 2s	— Cos, do., 9d to 1s 3d
Cucumbers, each, 2d to 8d	Mushrooms, per pottle, 1s to 1s 9d
Leeks, per bunch, 1d to 2d	— per bushel, 4s to 6s
Celery, per bundle, 1s to 1s 3d	Small Salads, per punnet, 2d to 3d
Carrots, per doz. bunches, 3s to 6s	Fennel, per bunch, 2d to 3d
Spinach, per sieve, 1s to 2s	Savory, per bunch, 3d to 4d
Peas, per sieve, 3s to 5s	Thyme, per bunch, 3d to 4d
Marjoram, per bunch, 2d to 4d	Watercress, p. 12 small bun., 6d to 9d
Onions, per bunch, 3d to 6d	Parsley, per half sieve, 6d to 9d
— Spanish, per doz., 1s to 4s	— Roots, per bundle, 1s to 1s 6d
	Mint, green, per bunch, 2d to 4d

SMITHFIELD, Monday, Sept. 25.

The supply of Beasts is not quite so large as on Monday last, but the dead trade has been so exceedingly bad during the past week, that the demand is still smaller than on that day. The best Scots, &c., make no more than 4s., and a great many of inferior quality remain unsold. We are but moderately supplied with Sheep, but so few are wanted that trade is exceedingly dull at rather lower prices. The choicest Downs cannot be quoted at 5s. Trade continues quite as bad for Calves. Pigs are not selling quite so well. From Holland and Germany we have nearly 700 Beasts, 3000 Sheep, and 52 Calves; from Spain, 59 Beasts; from Northampton and Leicestershire, 3000; and from Lincolnshire, 400.

Per stone of 8 lbs.—	s	d	s	d	Per stone of 8 lbs.—	s	d	s	d
Best Scots, Herefords, &c.	3	10 to 4	0		Best Long Wools	4	0 — 4	4	
Best Short Horns	3	6 — 3	10		Ditto Shorn	....		....	
Second quality Beasts	2	8 — 3	4		Ewes and second quality	3	4 — 3	10	
Calves	3	0 — 4	0		Ditto Shorn	....		....	
Best Downs & Half-breds	4	6 — 4	10		Lambs	....		....	
Ditto Shorn	....		....		Pigs	4	0 — 5	4	

Beasts—4364. Sheep and Lambs—24,840. Calves—148. Pigs—395.

FRIDAY, Sept. 29.

The supply of Beasts to-day is far more than adequate to the demand. This being Michaelmas week the demand for meat is exceedingly limited, and still lower prices are submitted to. The choicest Scot barely makes 4s. We cannot quote more than 3s. 10d. as average of best qualities, and 3s. 8d. best Short-horns. There are fewer Sheep to-day, and they are more freely purchased, but higher prices are not readily obtained; it is difficult to make 5s. of the choicest Down. Indeed, Monday's quotations will serve for this day's trade. Calves are scarcely so abundant, but very few are wanted, and 4s. is quite an extreme quotation for the best. From Holland and Germany there are 302 Beasts, 1480 Sheep, and 223 Calves; from France, 46 Beasts and 30 Calves; Denmark, 43 Beasts; and 141 Milch Cows from the home counties.

Best Scots, Herefords, &c.	3	8 to 3	10	Best Long Wools	4	0 — 4	4
Best Short Horns	3	6 — 3	8	Ditto Shorn	....		....
Second quality Beasts	2	8 — 3	2	Ewes and second quality	3	4 — 3	10
Calves	2	10 — 4	0	Ditto Shorn	....		....
Best Downs & Half-breds	4	8 — 4	10	Lambs	....		....
Ditto Shorn	....		....	Pigs	4	6 — 5	4

Beasts—1033. Sheep and Lambs—5120. Calves—468. Pigs—380.

HOPS, Friday, Sept. 29

Messrs. Pattenden and Smith report that the market remains steady at late prices. Duty, 2s 6d. Pockets, 210,000*l.* The wet weather is likely to retard the picking, and probably may lessen the duty considerably.

MARK LANE, Monday, Sept. 25.

Messrs. Kingsford and Lay report that the supply of English Wheat by land carriage samples this morning was good; the quality and condition less so than last week, and although a decline of fully 2s. per qr. was submitted to, a considerable portion remained unsold towards the close of the market. Having a large show of foreign, little progress could be made with sales, excepting at a similar reduction in price, at which it met an improved country demand.—Fine samples of Barley command former prices, but inferior must be written 2s. per qr. cheaper.—New Beans are likewise 2s. to 3s. per qr. lower; white Peas a free sale at late rates. The Oat trade is dull, but not cheaper.—The top price of Flour is reduced to 50s. per sack.

British per Imperial Quarter.	s	s		s	s
Wheat, Essex, Kent, and Suffolk ..... White	46	60	Red.....	42	55
Norfolk, Lincolnshire, and Yorkshire	50	58	White ..	50	60
Barley, Malting and distilling, 29s to 31s Chevalier	30	34	Grinding	26	30
Oats, Lincolnshire and Yorkshire..... Polands	23	26	Feed	21	24
Northumberland and Scotch ..... Feed	—	—	Potato ..	—	—
Irish ..... Feed	19	23	Potato ..	22	25
Malt, pale, ship.....	—	—			
Hertford and Essex	—	—			
Rye.....	30	34			
Beans, Mazagan, old and new ..25s to 34s.... Tick..	26	38	Harrow..	28	40
Pigeon, Heligoland 30	40	....Winds	36	40	Longpod	26	32
Peas, White..... 34	42	....Maple	38	40	Grey	34	36

FRIDAY, Sept. 29.

The arrivals of foreign grain during the week have been considerable, those of English moderate. This morning our market was better attended. English Wheat commands the prices of Monday last, and foreign meets an improved sale at the rates of that day.—Barley, owing to the large arrivals from abroad, is purchasable on rather lower terms.—Beans and Peas unaltered in value.—The Oat trade is flat, and must be noted 6d. per qr. cheaper.—In Flour no alteration.—Indian Corn is freely offered at 2s. decline.

[The weather since the 24th inst. has been very wet, and is affecting the condition of the new Wheat. Having had for some time past an easterly wind, arrivals of Wheat from the Baltic and north of Europe have been large, and meeting a minimum duty many importers have shown a disposition to realise ex ship rather than warehouse; a decline of 1s. to 3s. per qr. has consequently been pretty general throughout Great Britain. Farmers, however, evince a great disinclination to sell at the reduction. Spring Corn has been dull, with a lower tendency. Barley, Beans, and, in a few markets, Oats, have receded 1s. per qr. In Dantzic, owing to the barcness of stocks and supplies, amounting to about 3000 lasts, being detained in the Vistula by the almost unprecedented lowness of the water, prices are almost nominal, and may be quoted from 45s. to 52s., f. o. b. In the lower Baltic ports the old stocks may be looked upon as exhausted, and the supplies of new at present too scanty to allow of extensive purchases being effected; prices vary from 45s. to 48s., f. o. b., for good 61—62lbs. red. The new Peas are of good quality, and selling at 28s. to 33s., f. o. b.; Barley, 20s. to 23s.; freights about 4s. In Hamburgh, on the 22d, Wheat advanced 1s. to 1s. 6d. per qr., and good qualities obtained 50s. to 52s., f. o. b. In Leghorn, on the 20th, prices were well maintained. Purchases, chiefly for this country, have been made to the extent of 18,750 qrs. Polish and Marienhoph rates quoted from 38s. to 42s., f. o. b.; freights, 7s. to 7s. 10d. per qr. The quality of the arrivals of the new Polish Odessa was much complained of. In Trieste, on the 16th inst., prices were fully 5s per qr. higher than in Leghorn. Malta, 12th, prices had advanced a trifle, but the purchases had been principally for speculation on the spot. Alexandria letters of the 14th state that a sale of Wheat had been effected at 25s. 5d., f. o. b., but the Pasha had advanced the price to 29s. 4d., and red Baheira had been taken at 21s. 6d. to 22s.; sales of Beans had been made at 18s 10d., and 21s. 6d., f. o. b., since offered; the current freights were 7s. 9d. to 8s., but 10s. had been given for two vessels for Cork.]

Imperial Averages.	Wheat.	Barley.	Oats.	Rye	Beans.	Peas.
Aug. 19	51s 0d	30s 3d	21s 5d	31s 11d	37s 9d	36s 3d
— 26	52 3	31 2	21 11	30 11	38 1	37 7
Sept. 2	55 5	32 1	22 6	32 2	38 8	38 11
— 9	56 10	33 4	22 0	33 8	39 1	41 6
— 16	53 8	33 3	22 12	33 5	38 10	40 2
— 23	52 4	33 7	21 11	32 0	37 11	37 11
Aggregate Average	53 7	32 4	22 2	32 4	38 5	38 9
Duties on Foreign Grain	4 0	2 0	1 6	2 0	2 0	2 0

ARRIVALS IN THE PORT OF LONDON THIS WEEK.

	Wheat. Qrs.	Barley. Qrs.	Oats. Qrs.	Flour.
English.....	4020	640	430	2230 sacks.
Irish	—	—	—	
Foreign.....	23470	10950	27610	— barrels.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

FREDERICK FAIRBANK, of Sible Hedingham, near Halsted, Essex, begs to inform the public that he is now sending out his WHITE CHAMPION WHEAT at 10*s.* 6*d.* per bushel; new sack, 2*s.* Carriage free to London. All orders must be prepaid.

F. F. would lay before the public two letters, from a number he has received.

"Durley Lodge, Bishop's Waltham, Hants, Aug. 24, 1848.

"Sir,—I have pleasure in stating that the Champion Wheat I purchased of you for seed has turned out remarkably well. It was sown on a light soil. I have had applications for it, but I think I shall reserve the whole for my own use, and sow it more extensively on a suitable soil.

"I am, Sir, your obedient servant, Thomas Leard."

"St. Mary's Church, Torquay, Sept. 1, 1848.

"Sir,—I was induced to try your Champion Wheat; I am of opinion it fully bears out its name, and the character I heard of it. Certainly it deserves to stand high in Class A. of the White Wheats. I tried it on three quite different soils, aspects, and elevation above the sea. I consider it a good cropper, stiff in its straw, for although I have a heavy crop of it, 6 feet high, I had none laid. It carries a fine square ear, set with 4. The light soil is the best.

"I am, Sir, your obedient servant, T. Le Evans."

THE CHELTENHAM SIX-ROWED BLACK-SKINNED BARLEY.

Mr. Vaughan, a Tobacconist, of Cheltenham, having by chance, discovered three grains of this extraordinary BARLEY, he planted it in January, 1843, and its produce was 5610 corns.

Mr. Churchill, of the Plough Hotel, Cheltenham, having been favoured with a few corns, planted them in December, 1843, 1844, and 1845; the Black Barley, notwithstanding the severe frosts and cold winds, and the extreme drought in part of 1844, flourished and yielded a very extraordinary crop.

Mr. C. was induced to drill several acres on the 14th of Feb., 1846, allowing 5 pecks to the acre, which he reaped on the 4th of July; its produce was 52 bshls. and 2 pecks per acre, weight 55½ lbs. per bshl., when hummelled 58 lbs. The same land was sown with White Stone Turnips on the 10th of July, which were large and fit for table by the 2d of September.

Mr. C. drilled in January and February, 1847, several acres, allowing 6 pecks to the acre; the produce averaged 68 bushels to the acre, and weighed 55 lbs. per bushel before hummelling.

Mr. C. drilled in October, 1847, several acres, with and without Vetches; he mowed the Barley and Vetches when in ear for his cattle and working horses during April and May, the produce averaged 12 tons 10 cwt. to the acre, and from its superiority of feed was a saving of 3 lbs. of Beans to each horse per day. The land has now on it a good crop of Potatoes and Swedes; that planted without Vetches was harvested on the 10th of July, and the land sown with White Stone Turnips, and fit for sale in September. A small portion of Barley was mown in May, the stubble was let to remain for a second crop, and was reaped on 23d of August, produce 37 bushels 2 pecks to the acre.

Mr. Churchill malted about 100 bushels of the Black Barley in the spring of 1848; it malted well, and when brewed produced a fine and delicious ale of superior quality. The out-cast in malting more than in other Barleys. When the Barley is ground and mixed with Wheaten Flour, it produces good and sweet bread. It is recommended to be sown in October and November for green food, in the spring either with or without Vetches, and not later than February for harvesting or seed, allowing to good land about 84 lbs. to the acre, and for middling 100 lbs.; it is better drilled or dibbled. The straw is very strong, fine, and fit for plait; all sorts of Cattle are very fond of it when cut into chaff. Mr. C. uses it for the thatching of ricks.

So hardy is the plant that a gentleman in Wolverhampton raised a few corns in his hothouse, and during the severe cold ordered it to be transplanted into the open ground, where it came to great perfection.

Agriculturists being desirous of trying this invaluable Black Barley, may be supplied by the original grower of it, Mr. John Churchill, of the Plough Hotel, Cheltenham, on receipt of a Post-office order or stamps.

One bushel, 56 lbs.	...	...	21*s.*
Half bushel, 28 lbs.	...	...	12*s.*
One peck, 14 lbs.	...	...	7*s.*

Smaller quantities, 1*s.* per lb.

Mr. Churchill cannot recommend the sowing of the Barley after February.—Plough Hotel, Cheltenham, Sept. 30.

CARSON'S ORIGINAL ANTI-CORROSION PAINT, specially patronised by the British and other Governments, the Hon. East India Company, the principal Dock Companies, most public bodies, and by the Nobility, Gentry, and Clergy, for out-door work at their country seats. The Anti-Corrosion is particularly recommended as the most durable out-door Paint ever invented, for the preservation of every description of Iron, Wood, Stone, Brick, Compo, Cement, &c., work, as has been proved by the practical test of upwards of 60 years, and by the numerous testimonials (between 300 and 400) in its favour, and which, from the rank and station in society of those who have given them, have perhaps never yet been equalled by anything of the kind hitherto brought before the public notice. A copy of the Testimonials, together with a List of Prices, Colours, &c., will be forwarded on application to Walter Carson, 15, Tokenhouse Yard, back of the Bank of England, London. No Agents. All orders to be sent direct.

VINGOE'S IMPROVED PATENT SEED PLANTING AND MANURING MACHINE.

Manufactured by the Patentee, Penzance.

UNIVERSALLY allowed to be the best, simplest, and most accurate and effective Seed Depositor ever made. It combines all the properties of the DRILL, DIBBLER, and PRESSER, depositing any given quantity of seed, however small, to the acre. It is adapted to large or small enclosures, any kind of soil, over ridge or furrow, on level or hilly lands, and is also highly approved of for gardens. Particulars, with prospectuses, prices, testimonials, &c., sent free, on the receipt of two penny stamps to cover postage, by applying to the Patentee. Freight and carriage paid to any Railway Station within 50 miles of London, Bristol, or Southampton. Any further carriage, 1*l.* to 1*l.* 10*s.* extra.—Penzance, Sept. 30.

Sales by Auction.

TO NOBLEMEN, GENTLEMEN, AND NURSERYMEN.

MR. J. C. STEVENS is instructed to sell by Auction, at his Great Room, 38, King-street, Covent Garden, on TUESDAY, October 3, at 12 for 1 o'clock, 500 ARAUCARIA IMBRICATA, fine plants, from 1 to 1½ feet; 500 CEDRUS DEODARA, 1 foot, fine and bushy, from Seed; and 200 PINUS GERARDIANA. On view the morning of Sale, and Catalogues had.—Sept. 30.

CAMELLIAS, LILIUM LANCIFOLIUM, GLADIOLUS GANDAVENSIS, AND CRYPTOMERIA JAPONICA, FROM MONS. AUG. VAN GEERT, OF GHENT.

MR. J. C. STEVENS will sell by Auction, at his Great Room, 38, King-street, Covent-garden, on FRIDAY, October 6th, at 12 for 1 o'clock 800 CAMELLIAS, of good sorts, with flower-buds from 1½ to 4 feet; 100 LILIUM LANCIFOLIUM, strong flowering roots, and 200 LILIUM LANCIFOLIUM RUBRUM; 200 GLADIOLUS GANDAVENSIS, mixed varieties, and flowering roots; and a few good plants of CRYPTOMERIA JAPONICA.—On view the morning of Sale, and Catalogues had.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, BUILDERS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to submit to Public Competition by Auction on the Premises, Hally's Nursery, Tranquil Vale, Blackheath, about the middle of October, the valuable NURSERY STOCK on the remaining portion of the Land required by the South-Eastern Railway Company, consisting of fine Evergreens and Shrubs in great variety, Fruit and Forest Trees, Deciduous and Ornamental Trees, fine fan Yews, Pinus, American Plants, Standard and Dwarf Roses, Herbaceous Plants, three fine specimens of Pinus Deodara and Douglasii, 12 feet high. Also a collection of Greenhouse Plants, comprising choice Camellias, Azalea indica, Lilium lancifolium, &c., and a considerable quantity of Box-edging.—May be viewed prior to the Sale. Catalogues, 6d. each, returnable to purchasers, may be had on the Premises, of the principal Seedsmen, and of the Auctioneers, American Nursery, Leytonstone.

SWINDON, WILTS.

MR. J. C. SALMON begs to announce that he is instructed to Sell by Auction, on FRIDAY, October 6th, under a Bill of Sale, on the Premises, at Swindon, lately in the occupation of Mr. Francis McDonald, Nurseryman, all the very choice collection of SHRUBS, FRUIT TREES, and PLANTS, consisting of between 5000 and 6000 Ash, Larch, Spruce, Oak, and other forest trees, Evergreens, Standard and other Roses, Peach, Pear, Plum, Cherry, and other fruit trees, a large lot of Quick, about 130 choice Dahlias, together with other flowers. Also, three greenhouses, two skittle alleys, a quantity of gas fittings and pipes, and various other effects, the whole of which will be particularly described in Catalogues. Sale to commence at 12 o'clock at noon precisely.

BATTERSEA BRIDGE ROAD.—TO NOBLEMEN, GENTLEMEN, NURSERYMEN, AND OTHERS.

MR. B. ANDREWS (Successor to the the late Mr. JOHN KING), will Sell by Auction, on the Premises of Mr. T. O. Smith, on MONDAY, the 9th of October, and following days, at 12 o'clock each day, without reserve, the ground being required for other purposes, the whole of the STOCK IN TRADE of a Nurseryman and Florist, comprising about 1000 fine Standard Roses, a large quantity of Rose Stocks, Dwarf Roses, &c., of superior quality, very fine collection of Crataegus, and other Ornamental Trees, Fruit Trees, Deciduous and Evergreen Shrubs, Forest Trees, &c., fine Heaths, Camellias, and other Greenhouse Plants, together with a pony chaise under dry, and a quantity of household furniture and effects.—May be viewed three days prior to the Sale. Catalogues had on the Premises; of Messrs. CLARKE and Co., Seedsmen, Borough; of Mr. WM. CLARK, Seedsman, Bishopsgate-street; and of the Auctioneer, South Grove, Peckham, Surrey.

FARMS TO BE LET, in the parish of HOLBEACH, LINCOLNSHIRE, to be entered upon at Lady-day next.

1. LEADENHALL FARM is to consist of about 754 acres, of which 83 acres are in outmarsh, 241 acres in pasture, and 430 acres are arable; this Farm is in the occupation of Mr. William Thomas.

2. LOPWATER FARM is to consist of about 600 acres, 212 acres of which are in pasture and 388 acres are arable; part of this is in the occupation of Mr. William Thomas, and the remainder in possession of Mr. John Pearson Savage.

3. FORTHERINGHAM FARM is to consist of about 549 acres, of which 77 acres are in outmarsh, 115 acres in pasture, and 357 acres arable; part of this Farm is in the occupation of Mr. Thomas Edward Savage, and the remainder in the possession of Mr. John Pearson Savage.

The soil of these Farms consists of alluvial deposit of very rich quality, producing large crops of every kind of grain, of Turnips, and of other roots.

These Farms are to be let on Lease for 14 or 21 years, at a corn rent, to vary as the average price of Wheat for the three preceding years varies. To view the Farms, apply to Mr. GEORGE MARTIN, Holbeach Marsh, who has a plan and particulars of each Farm; and for further particulars apply to Mr. JOHN MORTON, Whitfield Farm, Berkeley, Gloucestershire.

MERRIOTT, NEAR CREWKERNE, SOMERSETSHIRE.

TO BE LET, and entered on immediately, on most advantageous terms, an Old Established and Well Stocked NURSERY, containing, by estimation, Ten Acres (more or less), situated in the above parish; together with an excellent Hothouse thereon, filled with choice Vines in full bearing, and valuable plants; adjoining which is a comfortable Cottage, with convenient Cart-house, Packing Sheds, Seed Room, &c.

Merriott is situated within a short distance of the populous towns of Ilminster, Ilchester, Yeovil, Crewkerne, Chard, Taunton, &c., to which latter place conveyances pass to and fro daily, in connection with the railways to all parts of England.

To view the above, application may be made to Mr. ANDREWS, at the Cottage on the Nursery; and further particulars and terms of letting may be known on application to Mr. WHITLEY, Solicitor, Wrington, near Bristol, Somerset.—Wrington, Sept. 30

TO BE LET and entered on immediately, a first-rate STOCK and TURNIP LAND FARM, containing 550 acres, with good Family Residence. It is situate in the vicinity of excellent markets, by the side of a trunk line of railway and good turnpike roads.—For particulars and cards to view, apply to Mr. WEBB, Knebworth, near Stevenage, Herts.

Also another Turnip Land Farm of 240 acres.

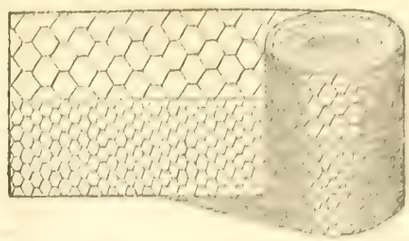
TO NURSERYMEN.

TO BE LET, with immediate possession, a COMPACT CONCERN, most eligibly situate in a fashionable Watering Place in the county of Devon. The present proprietor retires, having carried on a successful business upwards of 30 years. For full particulars, apply, by letter only, to Mr. JOHN HEWETT, 4, Myddelton-square, Clerkenwell, London.

TO BE LET, in Gloucestershire, FARMS from 200 to 250 acres each, with about three-fourths good Arable land, the remainder good sound Pasture and Water Meadow, situate in the Vale of the Thames, and within a short distance of Cirencester.—For particulars, &c., apply to Messrs. BRAVENDER and TRINDER, Land Agents and Surveyors, Cirencester, Gloucestershire.

PARIAN CEMENT used as a Stucco, cannot easily be distinguished from statuary or Parian marble. It is fit for all the purposes of that beautiful material, and does not crack, warp, or effloresce in any degree. The fine quality will incorporate with the most delicate colours; it is adopted to encaustic work, fresco, imitation of marble, and the most elaborate embellishment. So perfect are its setting or crystallizing properties, that the coarse quality when applied to newly built or damp walls, may be immediately polished, painted, or papered, and rooms rendered habitable before the materials ordinarily used would begin to dry. Manufactured by CHARLES FRANCIS and SONS, Roman Cement Works, Sun-lane, London.

IMPROVED DOUBLE-MESH WIRE GAME NET.



BARNARD AND BISHOP, Norwich, can strongly recommend the above NET to the notice of the Nobility and Gentry, as being the cheapest yet introduced: it has met with general approbation, and has been found most efficient in the preservation of young Trees, Gardens, &c., from the depredations of game. The extra strong 2-inch is the same strength as the stoutest article in the market. On inspection, it will be found better manufactured than anything else of the kind, and 20 per cent. cheaper. It is sent out in rolls of 50 yards, or any other length, at prices as under

						per yard	s.	d.
Double Mesh Net 2¼ ins. wide, 1⅞ & 3¼-in. mesh,						extra strong	0	9
...	...	...	...	...	...	strong	0	6½
...	...	...	2 & 4	...		strong	0	5½
...	...	...	..	..	...	extra strong	0	7½
Single Mesh	...	...	1⅞		...	light	0	7
...	...	...	...		...	strong	0	9
...	...	...	...		...	extra strong	1	0
...	...	...	2		...	light	0	6
...	...	...	...		...	strong	0	7½
..	...	...	...		...	extra strong	0	10

The prices quoted for double net are for equal proportions of each mesh, which may be varied if required, thus, three parts fine to one of coarse, or *vice versa*, at prices accordingly; and it can be made any mesh and width to 7 feet.

A finer description for Aviaries, Pheasantries, &c., sparrow proof, 3d. per square foot; or, if made in copper, at 5d. per square foot. The Iron Wire Net is twice dipped in anti-corrosive composition, and sent free to London or Hull.

Patterns forwarded per post, free of expence.

PATENT FLEXIBLE INDIA-RUBBER PIPES and TUBING for RAILWAY COMPANIES, BREWERS, DISTILLERS, FIRE ENGINES, GAS COMPANIES, GARDENING and AGRICULTURAL PURPOSES, &c.

THE PATENT VULCANISED INDIA-RUBBER HOSE PIPES are made to stand Hot Liquor and Acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible), and as they require no application of oil or dressing, are particularly adapted for Fire-engines, Pumps, Gas, Ever-engines, Gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes from ¼ inch bore upwards, and of any length to order.

Vulcanised India-rubber Garden Hose, fitted with brass taps, copper branch, and roses complete, ready to be attached to Pumps, Water-butts, or Cisterns.—Sole Manufacturer, JAMES LYNE HANCOCK, Goswell Mews, Goswell-road, London.

N.B.—Vulcanised India-rubber Washers of all sizes for Joints of Hot-water and Steam Pipes, and Vulcanised Sheet Rubber, any thickness, for all kinds of Joints, and other purposes.

MARY WEDLAKE AND CO.'S HORSE AND STUBBLE and HAY-RAKE, of superior workmanship, 9l. 9s. Linseed Crusher, 11l. 11s.; small ones, 8l. 15s.; ditto, doing Beans, Linseed, and Oats, 10l. 10s. THRESHING MACHINES, doing upwards of 25 loads of Wheat straw per day, 60 guineas. MARY WEDLAKE and Co.'s CHAFF-CUTTING MACHINE, 100 to 200 bushels a day, price 7l. 7s. and 5l. 5s. Horse-hoe, Dressing Machine, Turnip Cutter, Turnip Drill, Stubble-rake, Oil-cake Breakers, Bean and Oat Crushers, Subsoil Plough, Double Field Roller, &c.—MARY WEDLAKE and Co., 118, Fenchurch-street, opposite Mark-lane.

PARR'S LIFE PILLS are acknowledged to be the best Medicine in the world.—This Medicine has been before the British public only a few years, and perhaps in the annals of the world was never seen success equal to their progress; the virtues of this Medicine were at once acknowledged wherever tried, and recommendation followed recommendation; hundreds had soon to acknowledge that PARR'S LIFE PILLS had saved them, and were loud in their praise. The startling facts that were continually brought before the public at once removed any prejudice which some may have felt; the continual good which resulted from their use spread their fame far and wide, at this moment there is scarcely a country on the face of the globe which has not heard of their benefits, and have sought for supplies, whatever might be the cost of transmission. The United States, Canada, India, and even China, have had immense quantities shipped to their respective countries, with the same result as in England—universal good.

The sale of PARR'S LIFE PILLS amounts to upwards of 30,000 boxes weekly, more than all other patent medicines put together. This simple fact needs no further comment; it tells plainly that the Pills of Old Parr are the best medicine in the world.

BEWARE OF SPURIOUS IMITATIONS.—None are genuine unless the words "PARR'S LIFE PILLS" are in White Letters on a Red Ground, on the Government stamp, pasted round each box; also, the fac-simile of the signature of the proprietors. "T. ROBERTS and Co., Crane-court, Fleet-street, London," on the Directions.

Sold in boxes at 1s. 1½d., 2s. 9d., and family packets at 11s. each, by all respectable medicine vendors throughout the world. Full directions are given with each box.

METCALFE AND Co's NEW PATTERN TOOTH-BRUSH and SMYRNA SPONGES.—The Tooth-Brush has the important advantage of searching thoroughly into the divisions of the teeth, and cleaning them in the most extraordinary manner, and is famous for the hairs not coming loose—1s. An improved Clothes Brush, that cleans in a third part of the usual time, and incapable of injuring the finest nap. Penetrating Hair-brushes, with the durable unbleached Russian bristles, which do not soften like common hair. Flesh Brushes of improved graduated and powerful friction. Velvet Brushes which act in the most surprising and successful manner. The genuine Smyrna Sponge, with its preserved valuable properties of absorption, vitality, and durability, by means of direct importations, dispensing with all intermediate parties' profits and destructive bleaching, and securing the luxury of a genuine Smyrna Sponge. Only at METCALFE & Co.'s Sole Establishment, 130 B., Oxford-street, one door from Holles-street.

CAUTION.—Beware of the words, "From Metcalfe's," adopted by some houses.

EDINBURGH VETERINARY COLLEGE.—The Committee of the Highland and Agricultural Society of Scotland, appointed to superintend the VETERINARY COLLEGE, hereby intimate that the Session will commence upon Monday, the 6th of November.

The Course of Study will be completed in Three Years.

1. Zoology, including the Anatomy, Physiology, and Pathology of the Horse, and Cattle, Sheep, and Dog, Dietetics, Hygiene, Management, and the Diseases of [illegible]

2. The Principles of Chemistry, Materia Medica, and Pharmacy, by Dr George Wilson, F.R.S.E.

3. General Zoology, and [illegible] by Dr Balfour, F.R.S.

4. Zoology, particularly [illegible] and Veterinary Materia Medica, by Mr Wyatt Gill.

By order of the Committee, J. HALL MACDONALD, Secretary.

Highland and Agricultural Society's Hall,
Edinburgh, Sept. 25, 1858.

IMPORTANT INFORMATION.

DR. ROBERTS'S CELEBRATED OINTMENT, called the POOR MAN'S FRIEND [illegible] recommended to the public as an unfailing remedy for [illegible] every description, a certain cure for [illegible] of 20 years' standing. Cuts, Burns, [illegible] blains, Scorbutic Eruptions, and Piles. [illegible] Inflamed Eyes, Sore Heads, Sore Breasts, [illegible] cerous Humours, and is a specific for [illegible] tions that sometimes follow [illegible] pox. [illegible] 1s. 1½d. and 2s. 9d. each. Also, [illegible] PILLS, confirmed by more than [illegible] without exception, one of the best [illegible] compounded for purifying the blood, [illegible] all her operations [illegible] Complaints, Constipation, [illegible] neck, &c. These are [illegible] form a mild and [illegible] at all times without confinement [illegible] above at 1s. 1½d., 2s. 9d., and 11s. each.

To Messrs. BEACH and BARNES, [illegible]

Gentlemen,—About 17 [illegible] of knocking my leg with [illegible] and, finding [illegible] remedies, to be prepared [illegible] an out-patient of Taunton [illegible] which I continued three months, [illegible] the Bridgewater Infirmary, [illegible] At length I was advised, by my [illegible] Friend, who had used your [illegible] cation, and after using three pots of the Ointment and two boxes of the Pills, I am happy to say [illegible] perfectly cured, and have not had [illegible] for 17 years. In writing the above, I [illegible] for the benefit [illegible]

I remain, your [illegible]

Taunton, Nov. 17, 1857.

Sold Wholesale by the Proprietors, [illegible] at their Dispensary, Bridport; by the [illegible] by all respectable Medicine Vendors throughout the Kingdom.

CAUTION.—As Messrs. BEACH and BARNES [illegible] possibly be genuine unless "BEACH and BARNES, late [illegible] Roberts, late Pearl," is engraved [illegible] on the Stamp affixed to each package.

PROTECTION FROM FIRE.—THE PATENT FIRE-PROOF FLOORS AND [illegible] by Dr. Fox are applicable to [illegible] effectually prevent the [illegible] afford complete security from [illegible] of vermin and insects; and though far [illegible] ordinary floors, they are not at all [illegible] may be seen, and further information [illegible] the Proprietors, Messrs. FOX and BARRETT, [illegible] Leicester-square, London.

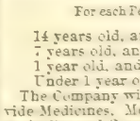
NO MORE PILLS NOR ANY OTHER MEDICINE.—Published by Dr BARRY and Co., 77, New Bond-street, London, price 6d., or 8d. (in letter stamps) post free, the Eighth Edition of

A POPULAR TREATISE ON INDIGESTION AND CONSTIPATION, the main cause of Nervousness, Biliousness, Scrofula, and Consumption, and their Effectual Removal, without Medicine, purgatives, or artificial means of any kind, and without Expense.

JOHN DICKSON begs to inform the growers of Carnations and Picotees that the Twenty-first Edition, by an Amateur is now ready for delivery. It contains instructions for raising and growing this beautiful flower; and a Descriptive List of the best Flowers now in their several classes, will be given, forming a true standard guide to successful showing. Price 1s. 6d. To be had of JOHN DICKSON, Acre-lane, Brixton; and of Messrs. Warner, Seedsmen, 23, Cornhill, City. Forwarded to any part on a prepaid application.

THE GROWTH AND PRESERVATION OF THE HAIR.

ROWLANDS' MACASSAR OIL insinuates its balsamic properties into the pores of the head, nourishes the Hair in its embryo state, accelerates its growth, cleanses it from Scurf and Dandruff, sustains it in maturity, and continues its possession of healthy vigour, glossy softness, and luxurious redundancy, to the latest period of human life. In the growth of WHISKERS, EYEBROWS, and MUSTACHIOS, it is also unfailing in its stimulative operation. For children it is especially recommended, as forming the basis of a beautiful head of hair, and rendering the use of the pine-comb unnecessary. A small pamphlet accompanies each bottle of ROWLANDS' MACASSAR OIL, wherein important hints and advice will be found on the Culture of the Hair in infancy, and on its preservation and beauty throughout the several stages of human life. Price 3s. 6d.—7s.—Family bottles (equal to four small), 10s. 6d.; and double that size, 21s. per bottle. Each bottle of the genuine article has the words "ROWLANDS' MACASSAR OIL," engraved in two lines on the Wrapper; and on the back of the Wrapper nearly [illegible] lines, containing 20,928 letters.—Sold by them at 20, Hatton-garden, London, and by all Chemists and Perfumers.



NEW ZEALAND COMPANY'S SHIP for NEW PLYMOUTH, NELSON, WELLINGTON, and [illegible] in NEW ZEALAND.—The First-class Passenger ship MARY, [illegible] Tons, now lying in London Docks, will be despatched by the New Zealand Company for the above Settlements, from the Port of London, on Monday the 25th of October next. Rates of Passage, viz.:

For each Person.	Cuddy Cabin.	Fore Cabin.	Steerage.
	Guineas.	Guineas.	Guineas.
14 years old, and upwards ..	45	25	15
7 years old, and under 14 ..	27	15	9
1 year old, and under 7 ..	18	10	6
Under 1 year old	0	0	0

The Company will appoint an experienced Surgeon, and provide Medicines, Medical Comforts, and an ample Dietary for each Class of Passengers.

For Freight, Passage, or further information, apply at NEW ZEALAND HOUSE; or to Mr. JOSEPH STAINER, Broker, 110, Fenchurch-street, London. By order of the Court of Directors,

THOMAS CODRINGTON HABINGTON.

New Zealand House, 9, Broad-street-buildings,
London, 30th September.

Just Published, Vol. III., Part IV. of

THE JOURNAL OF THE HORTICULTURAL SOCIETY OF LONDON.

CONTENTS.—Vegetation of the Diamond and Gold Districts in Brazil. By G. Gardner.—The Dwarf Cocoa-nut of Ceylon. By the Vice-Secretary—The Pot-culture of Gladiolus. By J. Duncan, gr. to Joseph Martineau, Esq.—The Formation of Vine-borders. By G. Fleming, gr. to the Duke of Sutherland—Two Varieties of Grapes. By J. Williams, of Pitmaston—The White Rust of Cabbages. By the Rev. M. J. Berkeley—A Visit to Pitmaston, near Worcester. By R. Thompson—Potatoes for 1849. By R. Errington, gr. to Sir Philip Egerton, Bart.—The Temperature to which Plants are naturally exposed in New Holland. By the Vice Secretary.—The Cultivation of Celery. By R. Errington—An Account of some Hybrid Melons. By Sir G. S. Mackenzie, Bart.—Forcing Sea Kale and Rhubarb, and Protecting late Vegetables. By J. Duncan, gr. to J. Martineau, Esq.—Clumping out Flowers. By R. Errington—Notes on some Grapes, fruited in 1847. By R. Thompson—On the Culture of Lisianthus Russellianus. By J. Green, gr. to [illegible]

NEW PLANTS: Metrosideros robusta, Lupinus affinis, Monardella undulata, Double Crimson Peach, Restrepia vittata, Gastronema sanguineum, Navarretia atractyloides, Valeriana Mikaniæ, Phytolacca icosandra, Achimenes candida, Achimenes atrosanguinea, Rosa rugosa, Achimenes misera, Nemophila maculata. PROCEEDINGS at Meetings of the Society, from June 6, 1848, to August 1, 1848.

London: Published by the Society, at their House, 21, Regent-street, and sold by all Booksellers.

On Sale, 8vo, Price 3s. 6d. to Fellows of the Society, and 5s. to others (or postage free, upon receipt of a Post-office order, price 5s. to Fellows of the Society, or 6s. 6d. to others),

A CATALOGUE OF THE FRUITS cultivated in the Garden of the Horticultural Society of London. Third Edition. Containing the Names, Synonymes, Colour, Size, Form, Quality, Use, Time of Ripening, and many other particulars concerning all the most important varieties of hardy Fruit cultivated in this country.

Sold at the House of the Society, 21, Regent street; and also by LONGMAN and Co., Paternoster-row; J. HATCHARD, Piccadilly; RIDGWAY, Piccadilly; RIVINGTONS, Waterloo-place; and by the principal Booksellers in all parts of the empire.

Now ready, price 3s. 6d., Part XV., containing 19 plates, and a half sheet of Letter-press. To be continued monthly.

SOWERBY'S ENGLISH BOTANY. A few copies of the first 7 vols. of the 2d edition, cloth boards, lettered, comprising the Flowering Plants, may be had at 14l. 7s. the set (originally sold at 17l. 10s.), of Mrs. SOWERBY, 3, Mead's-place, Lambeth; Messrs. LONGMAN and Co.; Messrs. SIMPKIN and Co.; and of all Booksellers in town and country.

On Thursday the 5th of October will be published, price 2d., or 3d. stamped, the First Weekly Number of

SIDNEY'S EMIGRANT'S JOURNAL.—Conducted by SAMUEL and JOHN SIDNEY, Authors of "A Voice from Australia," "Australian Hand-book," "Railways and Agriculture," &c. &c.

London: W. S. ORR and Co., Amen Corner, and 147, Strand.

No. XXII., price 3s., of the New Series of

THE JOURNAL OF AGRICULTURE AND THE TRANSACTIONS OF THE HIGHLAND AND AGRICULTURAL SOCIETY OF SCOTLAND.

CONTENTS: I. Social and Political Influence of Small Holdings—II. The Use of Lime in Agriculture. By Professor Johnston—III. The Farmers' Note Book—IV. Tables of the Revenue—Prices of Grain — Average Prices of Grain — Foreign Markets—Butcher Meat and Wool—V. Report by the Directors on the General Shows—VI. Report by the Directors on the Proposed Chemical Establishment—VII. Account of the Annual Meeting and Show held at Edinburgh in 1848—VIII. Plantations on the Estates of Cawdor—IX. On the Improvement of Waste Land.

WILLIAM BLACKWOOD and SONS, Edinburgh and London.

To be published in November, price 1s.,

JOHNSON'S GARDENERS' ALMANACK for the year 1849.—The work will be newly arranged, so as to give increased facility of reference, and will contain contributions from some of the best of English Gardeners; full information relative to the Potato Murrain, and all the Horticultural Discoveries of the year.

Printed for the Stationers' Company, and Published at their Hall, Ludgate-street, London, by GEORGE GREENHILL; to whom Advertisements for insertion must be sent before November 1.

On the 18th of October will be Published, Price 12s. 6d.,

THE FIRST PART OF A NEW EDITION OF

THE BOOK OF THE FARM, a systematic Work on Practical Agriculture, by HENRY STEPHENS, F.R.S.E.

CONTENTS.—The existing Methods for acquiring a knowledge of Practical Husbandry—Difficulties the Pupil has to encounter—Different Kinds of Farming—The Labour of the Farm—Branches of Science—Institutions of Education—Observing Details and recording Facts—Summary of Field Operations and Practice in Winter—The Plough, Swing-trees, and Plough-harness—Ploughing different forms of Ridges, Stubble and Lea ground—The Steading in Winter—Pulling and Storing Turnips, Mangold-Wurzel, &c.—Varieties of Turnips—Feeding of Sheep—Accommodation, Rearing and Fattening of Cattle on Turnips—Construction of Stables.

Illustrated by Six Engravings on Steel, and upwards of 100 Wood Engravings.

WILLIAM BLACKWOOD & SONS, Edinburgh and London. Specimens may be had of, and Orders received by, all Booksellers.

THE EDINBURGH REVIEW, No. CLXXVIII., is this day published.—CONTENTS:

1. MILL'S PRINCIPLES OF POLITICAL ECONOMY.
2. WALPOLE'S LETTERS TO THE COUNTESS OF OSSORY.
3. REVOLUTION AND REFORM.
4. FORTUNE'S CHINA: GARDENING.
5. ETHNOLOGY; OR, THE SCIENCE OF RACES.
6. HERVEY'S MEMOIRS OF THE REIGN OF GEORGE II.
7. STATE OF EUROPE.

London: LONGMAN and Co. Edinburgh: A. and C. BLACK.

NEW WORK BY DR. R. D. THOMSON.

Just published, in fcp. 8vo, with Woodcuts, 7s. cloth,

SCHOOL CHEMISTRY; or, Practical Rudiments of the Science. By ROBERT DUNDAS THOMSON, M.D., Master in Surgery in the University of Glasgow.

By the same Author, fcp. 8vo, Woodcuts, 5s.

AN ACCOUNT OF THE GOVERNMENT EXPERIMENTS ON THE FOOD OF ANIMALS AND THE FATTENING OF CATTLE: with Remarks on the Food of Man.

London: LONGMAN, BROWN, GREEN, and LONGMANS.

THE POTATO DISEASE ARRESTED.—THE POTATO DISINFECTING POWDER, discovered and prepared by J. GREEN, CHEMIST, West Bromwich, is a dressing for newly-dug Potatoes, which, as proved to the satisfaction of several eminent agricultural chemists and others, last autumn, effectually preserves the sound bulbs, and arrests the progress of the disease in those attacked. Its application, which is extremely simple, costs only 6d. a sackful. Every Farmer and Potato grower ought to use it. Sold by all Chemists and Druggists in the United Kingdom, in packets at 6d., 1s., and 2s. 6d. each. Wholesale Agents, Langton, Brothers, and Scott, London.

NEW WORK BY THE AUTHOR OF THE "CAUDLE LECTURES."

A MAN MADE OF MONEY.

THIS DESIRABLE INDIVIDUAL WILL BE INTRODUCED

By DOUGLAS JERROLD,

On the First of October, and every succeeding Month, until completed, in Six Pieces.

N.B. The Man will every Month hold TWO PLATES (to be supplied by LEECH), for a Shilling.

On View at the "PUNCH" Office, 85, Fleet-street.

THE FLORIST.

This day is published No. X., Price One Shilling, containing a beautifully coloured Plate and Woodcuts.

To be had of all Country Booksellers.

*** The Proprietors of "THE FLORIST" have much pleasure in announcing to those who have made inquiries on the subject, that this Work will be continued in 1849 as

"THE FLORIST AND GARDEN MISCELLANY."

The following subjects are in the hands of the Engraver and Colourer:

ONE PLATE OF FANCY PELARGONIUMS; ONE OF MR. STORY'S SEEDLING HEATHS; ONE OF DR. MACLEAN'S SEEDLING TIGER FLOWERS; ONE OF MR. RILEY'S SEEDLING ANTIRRHINUMS; ONE OF VERBENAS; ONE OF PLUMBAGO LARPENTÆ; AND ONE OF TYSO'S SEEDLING RANUNCULUSES.

London: CHAPMAN and HALL, 186, Strand.

COUNTY FIRE OFFICE, 50, REGENT STREET, AND 2, ROYAL EXCHANGE BUILDINGS.

ESTABLISHED 1807.

It is respectfully notified to parties holding policies in this office, the renewals of which fall due at Michaelmas, that the same should be paid on or before the 14th of Oct. The receipts are lying at the head office, and in the hands of the several agents.

The terms of the County Fire Office are highly advantageous to the Insured, and have secured to it a large share of public approbation. All claims are settled with promptitude and liberality. Full particulars will be immediately furnished to parties applying personally, or by post, to the head office, or to any of its agents, who are appointed in all the principal towns of the United Kingdom.

JOHN A. BEAUMONT, Managing Director.

FOUR-FIFTHS, or EIGHTY PER CENT., of the PROFITS of LIFE INSURANCE divided amongst the participating Policy-holders, of the ROYAL, FARMERS' AND GENERAL, FIRE, LIFE, AND HAIL INSURANCE INSTITUTION. Offices, Strand, London. Capital, £500,000. Empowered by Special Act of Parliament.

THE *Guarantee of an Ample Capital and Exemption* of the ASSURED from the LIABILITY of PARTNERSHIP. Every SPECIES OF LIFE INSURANCE effected. Low Rates of Premium. The usual commission to Solicitors.

FIRE INSURANCE of every description effected at moderate premiums.

RATES ON CORN MILLS.—In future the charge by this Office for a Wind or Water Corn Mill, brick or timber built, or for the contents, will be 5s. per cent., without reference to the number of pairs of stones.

The renewal receipts for premiums on policies falling due at Michaelmas, are now ready at the head office, or in the hands of the agents in the country, and should be taken up on or before the 14th day of October, 1848, when the 15 days allowed by this office over and above the time for which they are insured, will expire.

Prospectuses and every Information may be obtained of the Agents, or at the Head-Office.

WM. SHAW, Managing Director.

PROVIDENT LIFE OFFICE, 50, Regent-street, and 2, Royal Exchange-buildings, London.

Established 1806. Invested Capital, 1,230,000*l.*
Annual income, 140,000*l.* Bonuses declared, 743,000*l.*
Claims paid since the establishment of the Office, 1,678,000*l.*

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The Rates of Premium are those adopted by the principal Life Offices, the rate without bonus is lower than that of most other Offices.

The Bonuses are added to the Policies, or applied to the reduction of the Premiums.

Policies issued by this Office are purchased at their full value; or Loans may be obtained upon them after they have been in existence for five years.

If a party neglect to pay for the renewal of his Policy, he may repair the omission any time within 12 months, upon proof of good health.

The profits (subject to a trifling deduction) are divided among the insured. The plan upon which they are divided gives to each party insured a share proportionate to the amount of the Premiums he has contributed.

In addition to the above advantages, the Directors have determined to adopt the principle of allotting a prospective Bonus to Policies lapsing between the Septennial Periods of Division, in order that all the Policy-holders may participate equally in the Profits of the Society.

The following Table shows the amount of Bonuses added to Policies existing at the present time.

Policy No.	Date of Policy.	Sum insured.	Bonuses added.	Increase on original Insurance.	Total Sum payable, to which future Bonuses will be added.
		£	£ s. d.		£ s. d.
21	1806	500	415 10 2	83·10 per cent.	915 10 2
521	1807	900	982 12 1	109.17 ,,	1882 12 1
1174	1810	1200	1160 5 6	96.68 ,,	2360 5 6
1395	1811	1600	1328 8 6	83.02 ,,	2928 8 6
3286	1820	2000	1906 13 5	95.33 ,,	3906 13 5
3392	1820	5000	3558 17 8	71.17 ,,	8558 17 8
4356	1822	3000	2541 3 6	84.7 ,,	5541 3 6

Prospectuses and full particulars may be obtained upon application to the Agents of the Office in all the principal towns of the United Kingdom; and the head Office, No. 50, Regent-st.

ATLAS ASSURANCE COMPANY,

92, Cheapside, London.—Established 1808.

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FIRE DEPARTMENT.

RETURNS.—Policies for 300*l.* and upwards which may have been in force for one year prior to the date to which the account is made up, will be periodically entitled to participate in the return of Surplus Premium.

DISTILLERIES, SUGAR HOUSES; and MERCANTILE PROPERTY, in the Docks; in Private or Public Warehouses; also SHIPPING in Harbour; assured for the Year or for any shorter period on advantageous terms.

FARMING STOCK is now exempt from Duty, and may be assured without the average clause.

On Assurances for SEVEN YEARS, by one payment, a deduction of one-seventh part of the Premium and Duty will be made.

RENEWALS.—Policies due on Michaelmas-day should be renewed within 15 days thereafter.

LIFE DEPARTMENT.

The attention of the Public has, in the Advertisements and Proposals of this Company of late years, been called to a Table of Additions applicable to and expectant on Policies of particular dates and ages; the Directors now beg to submit the following statement of Claims actually paid, showing the Sums respectively assured and the Bonuses thereon, and they request, in order to exemplify the advantageous plan of Assurance proposed by this Company, that Persons desirous of effecting Assurances on their Own Lives or on the Lives of Others, will compare the statement now submitted, with the Addition or Bonus of any of the other Offices which may apply to a Policy issued by them since 1816, when the Atlas Company adopted the Bonus System.

Statement of CLAIMS PAID *on Policies effected in London or through an Agent in Great Britain.*

No. of Policy.	Name of Life Assured	Term of Years during which Bonus accrued.	Sum Assured.	Bonus.	Total Amount paid.	Bonus per Cent. on the Sum Assured.	Bonus equal to the per centage mentioned per Cent. on the Sum Assured.
			£.	£.	£.	£. s. d.	£. s. d.
213	H. M. William IV....	14	3000	1068	4068	35 12 0	2 10 10
69 & 92	H.R.H. Duke of York	7	5000	962	5962	19 5 0	2 15 0
1458	Mrs. N. Hyde	20	400	284	684	71 0 0	3 11 0
3729	Mr. N. Barling	13	300	107	407	35 13 4	2 14 10
5610	Adm. Sir S. Smith..	8	1700	324	2024	19 1 2	2 7 8
3422	Late Duke of Argyll	14	5000	1453	6453	29 1 2	2 15 2
3604	Late Earl Clarendon	12	2500	1120	3620	44 16 0	3 11 8
687	M. S. (Berks)	21	400	437	837	109 5 0	5 4 1
1202	Sir J. D. Thomson...	21	500	308	808	61 12 0	2 18 8
1578	Rev. Thos. Crompton	20	500	350	850	70 0 0	3 10 0
7828	William Gilles, Esq.	8	500	197	697	39 8 0	4 12 9
756	George Jones, Esq.	21	5000	3754	8754	75 1 7	3 11 6
1915	Sir J. S. Sebright, Bt.	25½	5000	3980	8980	79 12 0	3 1 10
1120	Nicholas Doidge.....	28	100	126	226	126 0 0	4 10 0
1010	Rev. F. W. Blomberg	28	3000	3596	6596	119 17 4	4 5 8

Persons assured for the whole term of Life, for 100*l.* and upwards, in Great Britain or Ireland respectively, will be entitled at the end of the fifth year (instead of every seventh year as heretofore) to participate in the Surplus Premiums, either by addition to their Policies, or an equivalent reduction will be made in the future payments of Premium, at the option of the Assured.

Policies may also be effected for the whole term of Life by a limited number of yearly payments.

Assurances for short periods may now be effected in this Office at considerably reduced rates of Premium.

The next valuation will be at Christmas 1849, and Policies effected before that date will participate in proportion to the time they may then have been in force.

The Company's Rates and Proposals may be had at the Office in London or of any of the Agents in the Country, who are authorised to report on the appearance of Lives proposed for Assurance. HENRY DESBOROUGH, Secretary.

92, Cheapside, September 30.

Printed by WILLIAM BRADBURY, of No. 6, York-place, Stoke Newington, and FREDERICK MULLETT EVANS, of No. 7, Church-row, Stoke Newington, both in the county of Middlesex, Printers, at their office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the Office, No. 5, Charles-street, in the parish of St. Paul's, Covent Garden, in the said county, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY, SEPT. 30, 1848.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No 41.—1848.] SATURDAY, OCTOBER 7. [Price 6d.

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GARDENERS' BENEVOLENT INSTITUTION.—NOTICE is hereby given that an ELECTION of TWO PENSIONERS on the Funds of this Charity will take place in January next. All persons desirous of becoming Candidates are required to send in their applications and testimonials on or before the 4th Nov. next, after which time they will not be received. Printed forms may be had on application to the Secretary. By order, EDWARD ROGER CUTLER, Sec.
97, Farringdon-street, Oct. 7.

P.S. The Committee will thank those persons whose subscriptions are not yet paid to forward the same without delay.

NGAINES begs to inform the Nobility, Gentry, and Nurserymen, that his LIST of First-rate Pelargoniums, Fancy Pelargoniums, Calceolarias, Fuchsias, Cinerarias, Camellias, Azaleas, Chrysanthemums, Corræas, &c., can be had by applying at the Nursery, Surrey-lane, Battersea. The above includes his new Fancy Pelargoniums, Hero of Surrey and Madame Rosatil, also Meleager, Lyra, and many other new varieties.

AMERICAN NURSERY, BAGSHOT, SURREY.
JOHN WATERER begs to announce that Catalogues of his splendid collection of AMERICAN PLANTS for the present season are now ready for delivery, and may be obtained on application. The same comprises his stock in general.

NEW PICOTEES AND PINKS.—Burroughes' Duke of Wellington, red edge, extra fine pod, and large, 10s. 6d. per pair. Burroughes' Lady Smith, purple edge, extra fine pod and large, 7s. 6d. per pair. Ellis's Mary, pure white, with beautiful rose lacing, 5s. per pair. Ellis's Brilliant, bright red lacing, 3s. 6d. per pair. Catalogues may be had on prepaid application.—BENJAMIN NORMAN, Bull Fields, Woolwich.

MYATT'S NEW FERTILISED HAUTBOIS, Patronised by His Royal Highness Prince Albert.
Messrs. J. MYATT have now strong Runners of this and the following varieties, at the annexed prices: Myatt's Fertilised Hautbois, 25s. per 100; Eleanor, 21s.; Globe, 7s. 6d.; Mammoth, 7s. 6d.; Queen, 3s. 6d.; Pelvetain's Princess Royal and Comte de Paris, 20s.; Black Prince, 20s; La Leigeoise, 10s. 6d.; Aberdeen Beehive, 5s.; and Hooper's Seedling, 5s.
The usual Trade allowance.
Post-office Orders made payable to JOSEPH MYATT, Deptford.
Manor Farm, Deptford, Oct. 7.

DOUBLE ROMAN AND PAPER WHITE NARCISSUS, 4s. per dozen.—The above Bulbs, the former of which is so justly esteemed for its early blooming and excessive fragrance, and the latter for its purity and elegance, have been just received at A. COBBETT'S Italian and Foreign Warehouse, 18, Pall-mall, near Waterloo-place. Also Dutch Hyacinths, Crocus, Tulips, Anemones, Ranunculus, &c.; priced Catalogues of which may be had per post.

LANDSCAPE GARDENING, GARDEN ARCHITECTURE AND RURAL IMPROVEMENT.
W. P. AYRES having devoted nearly 20 years to the study of the above Sciences, both in theory and practice, and also had the honour of being consulted by the Nobility and Gentry, especially in relation to modern cultural improvements and high decorative art in the designing, laying out, and improvement of Gardens Lawns, Pleasure Grounds, Horticultural Buildings, &c., begs to offer his services to superintend such works in every part of the country.
Designs, Specifications, and Estimates for Greenhouses, Conservatories, Flower-gardens, &c., furnished, and Flower-gardens arranged or modernised upon moderate terms.
Blackheath Park, near London, Oct. 7.

TULIPS, of the most popular show flowers; 20 of the following varieties, one root of each, for 20s., post free; Ambassadeur, Holmes' King, Captain White, Desdemona, Rose Brilliant, Catafalque, Lord Lansdowne, Heroine, Fair Helen, Triumph Royal, Washington, Abercrombie, Cato, Sir William Pitt, Cleopatra, Andromeda, Rodney, Leopold, Globertine, Reine de Fleurs, Strong's Duke, Duchess of Newcastle, Roi des Roses, Optimus. 100 best mixed, 20s.; 100 choice named varieties mixed, 50s.
PANSIES.—See Advertisement of the 16th ult.
ROSE CATALOGUE for 1848, with the best show flowers notified from practice, together with a few practical remarks on the culture and pruning of this most popular flower, the Rose, which may be had in exchange for six postage stamps.
SAMUEL WALTERS, Hilperton, Trowbridge, Wilts.

ARNOLD'S "VIRGIN QUEEN" GERANIUM.
WILLIAM E. RENDLE AND CO. have much pleasure in stating that they have been very successful in the propagation of this magnificent variety, and they beg to say *that for all orders received up to the present time, Two Plants will be sent for every one ordered*, and for the future the price will be 20s. each, or Three to the Trade for 40s.

We can recommend it with confidence as being one of the best white flowers in existence.

Good strong established plants are now ready for sending out. Apply to WILLIAM E. RENDLE and Co., Union-road, Plymouth, adjoining the Plymouth Station and Terminus of the South Devon Railway.

BASS AND BROWN'S DESCRIPTIVE PRICED CATALOGUE of CHOICE FLOWER ROOTS, SELECT ROSES and SHRUBS, HARDY CLIMBING and HERBACEOUS PLANTS, &c., will be sent free by post on application. Very fine and strong roots may be had of the following assortments:

	s.	d.
EARLY TULIPS, 1 root each of 20 superior varieties ..	8	0
,, ,, 3 roots do. do. ...	21	0
,, ,, 1 root of 12 do. ...	5	0
,, ,, 3 roots do. do. ...	14	0
DOUBLE TULIPS, 1 root each of best 10 varieties ...	4	6
,, ,, 3 roots do. do. ...	12	0
ENGLISH IRIS, 1 root each of 24 splendid varieties ...	10	6
,, ,, fine mixed 2s. per dozen, per 100 ...	15	0
GLADIOLUS, 1 each of 12 splendid early varieties ...	15	0
,, ,, splendid mixed hybrids, per dozen ...	3	6
RANUNCULUS, 50 superb new varieties	40	0
,, ,, 25 do. do.	22	6
,, ,, 50 fine varieties	15	0
,, ,, best mixed, per 100	10	0
,, ,, early scarlet turban, per 100	4	6
IMPORTED HYACINTHS, 24 fine varieties	15	0
,, ,, 12 do. ... 6s. to	9	0
NARCISSUS, 3 roots each of 6 varieties	8	6
DOUBLE ANEMONES, fine mixed 1s.3d. per doz., per lb.	8	0
,, ,, best mixed 2s. per doz., per lb.	12	0

Fine roots of Crocuses, Junquils, Lilium, &c. &c.
A Fine stock of Flowering Plants of the NEW ACHIMENES VENUSTA and FLORIBUNDA ELEGANS, 3s. 6d. each. Beautiful strong bushy plants at 7s. 6d. each.
Goods free to London, and for long carriage extra articles presented. Remittances are requested from unknown correspondents. Post-office orders payable to BASS and BROWN, or STEPHEN BROWN.
Seed and Horticultural Establishment, Sudbury, Suffolk.

SUPERB DOUBLE HOLLYHOCKS.
WM. CHATER begs to announce that he has a large stock of good strong plants of his unequalled collection now ready, and that he is now executing all orders, this being the best time for planting to ensure a fine bloom next year.
Price, 20 of the best, 5s.: or the whole collection of 30, 6d.
Good double varieties of 12 colours for borders, 6s. per doz., or 30s. per 100.
A remittance from unknown correspondents is indispensable.
Saffron Walden, Oct. 7.

THOMAS JACKSON AND SON, having a good Stock of the undernamed new and rare PLANTS, respectfully offer them at the following low prices:

Achimenes ocellata	5s. 0d	Brachysema præmorsa	15s. 0d
,, floribunda elegans	2 6	Gompholobium Brownii	5 0
,, venustum ...	2 6	Hovea Manglesii ...	7 6
Chirita Moonii, true	10 6	Calceolaria angustifolia	1 6
Gesnera bulbosa lateritia	7 6	,, cuneifolia ...	1 6
Gardenia longistyla	15 0	Cantua bicolor ...	5 0
,, malleifera ...	10 6	Hydrangea involucrata	5 0
,, nitida ...	10 6	,, sp. China ...	7 6
,, Stanleyana, 3s. 6d.	5 0	Leschenaultia lancifolia	5 0
Manettia speciosa ...	3 6	Mesembryanthemum sp. California ...	7 6
Siphocampylus glandulosus ...	7 6	Prostanthera retusa ...	2 6
,, microstoma ...	3 6	Plumbago Larpentæ ...	3 6
,, nitidus ...	2 6	Trichilium elegans ...	5 0
Dipladenia sp. Colombia	5 0	Caprifolium sp. China...	5 0
Abelia triflora ...	7 6	Forsythia viridissima ...	1 6
Abutilon aurantiacum...	2 6	Pentstemon Cobæa ...	5 0
,, coccineum... ...	3 6	,, Murrayanum ...	3 6
Adamia versicolor ...	3 6	Rose, Tea, "Qu. Victoria"	2 6
Bouvardia aurantiaca...	3 6	Spiræa prunifolia fl. pl.	1 6
,, Cavanallesii ...	2 6	Weigelia rosea	1 6
Backea rubra	5 0	Zauschneria californica	5 0

Nurseries, Kingston, Surrey, Oct. 7.

LAURELS AND ROSES.
D. FERGUSON, CONTRACTING PLANTER, LANDSCAPE GARDENER, &c., respectfully informs the nobility, gentry, and Railway Companies, that he can supply them with small Laurels at 1l. per 1000, adding 1000 to every ten ordered. Delivered free at Wolverton and Oxford, or at any of the London Railway Stations, at 8d. per cwt. He has about 100,000 left that he can supply this autumn, and he can, if called for, supply 50,000,000 in the autumn of 1849. Fine transplanted Berberis aquifolia, at 1l. to 30s. per 1000. A large quantity of large Evergreen and Deciduous shrubs and trees, exceedingly suitable for new places, giving at once effect and shelter, a thing desirable to proprietors in this uncertain life.
A large quantity of Standard and other ROSES, many of which are worked upon tall Standards for planting among American shrubs, &c. Also some of the tall growing sorts trained 5 or 6 feet above their stems, making a splendid show when planted amongst Evergreens, showing the magnificent pillar of Roses without the unsightly stems being seen. Autumn, I have found by experience, the best season for planting, and I advise my patrons to lose no time in preparing, more particularly where earth is to be removed.
In answer to inquiries, my charges are 2l. 2s. per day, with board and second class travelling expenses; but where I supply shrubs, &c., to the amount of 100l., I only charge my expenses. I shall be happy to exchange Roses for fruit tree stocks to the number of 150 or 200,000.
D. FERGUSON, Aylesbury Nurseries, Oct. 7.

GIBLING'S "BIRSOLA" RED WHEAT.
W. R. GIBLING in the harvest of 1841 discovered three ears of Wheat, from one kernel sown, which contained 362 grains. These he planted, and their produce in 1845 was four pints and a half. Mr. GIBLING being well satisfied with the Wheat, continued its growth, and was enabled, by preserving all the produce, to plant for the present year 10½ acres. The last acre has been inspected by many of the most extensive practical agriculturists in the neighbourhood, who have universally expressed their astonishment at the size and strength of the straw, the ample bloom in the ears, and the uniformity of its appearance one with the other. It must be seen by an observer that Mr. GIBLING farms very high, there were not 3 acres out of the 10½ judged. It is a large-grained yellow Wheat, with a white chaff.
W. GIBLING offers the produce of 8 pints, now in the straw, to the public except what he requires for his own seed, at 10s. the bushel, delivered at the Maidstone Station of the Eastern Counties Railway. (Sacks at 1s. 6d. each.)
Orders received for this Wheat by Mr. THOMAS WARRINGTON, New Corn Exchange, London, on whose stand a sample of the straw may be seen, and who will execute any quantity exceeding 4 bushels to be forwarded from the Maidstone Station to any part of the United Kingdom, on receiving a cash remittance for the same, at the above price.
Kessingland-next-the-Sea, near Lowestoffe, Suffolk.—Oct. 7.

A. BALSTON wishing to dispose of the remaining portion of his NURSERY STOCK, offers it to Planters and the Trade at unusually low prices, as at least. The whole of it is well grown, in right sort, and is extraordinarily well rooted. It consists of 200,000 common Laurel, 3 to 4 ft., 15s.; 1 to 2 ft., 5s.; 2 to 4 ft., 4s.; 4 to 6 ft., 8s. per 100; 70,000 Portugal Laurels, 1 to 2 ft., 5s.; 2 to 3 ft., 10s.; 3 to 4 ft., 15s. per 100. 30,000 Rhododendron ponticum, 1 to 2 ft., 8s.; 3 to 4 ft., 60s.; 4 to 5 ft., 100s. per 100. Choice Azaleas, all the finest varieties, 2s. per doz. Ditto in specimen plants, 5s. per doz. Cedrus Deodara, 6 to 9 ft., from seed, and beautifully grown, in pots, 6s. each; ditto ditto, 4 to 5 ft., 20s. each. Pinus patula, 4 to 5 ft., 7s. 6d.; 2 other sorts at same prices. A fine collection of Rhododendrons, comprising catawbiense, caucasicum, catawbiense, &c., 18s. per 100, 2s. per doz.: Laurestinus, 1 to 2 ft., 12s. per 100; Hortensias, 4 to 5 ft., 20s. per 100; Privet, 4 to 5 ft., 10s. per 100; Standard Roses, fine trees of all the best sorts, 18s. per doz. Evergreen Oak, in pots, 1 to 2 ft., 50s. per 100; ditto, transplanted, 2 to 4 ft., 25s. per 100. Good specimens of ornamental Shrubs, 4s. each. All kinds of Forest and Fruit Trees, at half the usual prices. The whole of this Stock is now in excellent order for transplanting. Orders must be accompanied by remittances, and all goods exceeding 5l. in value will be delivered free.
Poole Nursery, Dorset.

NEW AND GOOD PLANTS.
YOUELL AND CO. beg to offer the following:

	s.	d.
Achimenes cupreata, each	2	6
,, ignea... ...	2	6
,, ocellata ...	2	6
,, pyrolæa ...	2	6
,, Skinnerii ...	5	0
Adamia versicolor ...	3	6
Aquifolium species, nova	5	0
Berberis Fortunii ...	10	6
Calceolaria altiflora ...	1	6
Cantua bicolor ...	3	6
Chirita Moonii (true) ...	3	6
Chironia glutinosa ...	3	6
Corræa speciosa, fine, per dozen ...	18	0
Corræa bicolor ... each	2	6
Cyrtoceras reflexa ...	2	6
Dipladenia crassinoda ...	2	6
Echites atropurpurea ...	2	6
Ernus Lychnidea ...	1	0
Escallonia grandiflora ...	2	6
Escallonia macrantha ...	2	6
Forsythia viridissima ...	1	6
Fuchsia macrantha ...	1	0
Gardenia Fortunii ...	7	6
,, Whitfieldii ...	10	6

	s.	d.
Gesnera Hendersis, each	1	6
Gloxinia Fyfiana, p. doz.	15	0
,, atro sanguinea	15	0
,, Teschemi ... each	2	6
,, Gratiosa ...	2	6
,, rosea elegans ...	2	6
,, alba (new) ...	2	6
,, pulchella	2	6
,, coccinea ...	2	6
Helictonema Triphyllum, Large, 1s. each, p. doz.	9	0
Jasminum humile, revolutum	1	0
Lasiandra nitida superba ...	3	6
Lasiandra macrantha ...	3	6
Plumbago Larpentæ ...	2	6
Scutellaria Ventenatii ...	1	0
,, coccinea ...	2	6
Spiræa prunifolia flore pleno, per dozen ...	3	0
Statice puberula, p. doz.	6	0
,, latifolia ...	6	0
,, Dicksonii	12	0
Thyrsacanthus strictus, ea.	5	0
Weigelia rosea	1	6
Zauschneria californica	3	6

A COLLECTION OF RARE AND HARDY ORNAMENTAL CONIFERÆ FOR 7l.
The following collection of CONIFERÆ is offered by YOUELL and Co., in very healthy plants in pots, for 7l. package included and carriage paid to London or Hull.

Pinus Ayacahuite	Picea picsapo
,, Llaveana	,, religiosa
,, australis	,, Webbiana
,, excelsa	,, pindrow
,, Montezuma	Cedrus Deodara, fine plants
,, insignis	Araucaria imbricata, 6 ditto
,, Gerardiana	Cedrus Libani
,, cembra	Cupressus torulosa
Abies Khutrow (true)	,, Lobbeana
,, orientalis	Juniperus Bedfordiana
,, clanbraziliana	Taxodium sempervirens
Picea cephalonica	

THE FINEST SHOW CARNATIONS, PICOTEES, AND PINKS.
YOUELL AND CO. are now executing orders from their celebrated collections of the above, comprising upwards of 700 of the finest varieties known, and is the most extensive and unique collection extant. The plants are very strong, healthy, and well rooted, and, if preferred, can be forwarded with safety per post, at the extra charge of 2s. per dozen pairs, the prices of which are as follows:

12 pairs of very fine show flowers, by name, 1l. 4s. and	£1	10	0
24 ditto ditto ditto	2l. 10s. and	3	0	0
12 pairs of newest and finest first class show flowers	2	10	0
25 ditto ditto ditto	ditto	5	0	0

Fine mixed border Carnations, 12s. per dozen pairs.
[Turn over.

YOUELL and Co.'s Advertisement continued.

NEW PICOTEE, "THE GEM," 10s. 6d. per pair.

YOUELL and Co. have much pleasure in offering this flower as being one of the finest and most perfect red edged Picotees yet raised. The petals are large and well formed, perfectly smooth on the edge, the white pure and free from the slightest spot, and is indispensable to any collection. Price 10s. 6d. per pair, per post free. It has been successfully exhibited in the 1st Class Prize Stands at Chiswick, and the Royal Botanic Society's Exhibition, and is highly spoken of in the last number of the "Florist." The following opinion has been pronounced in the *Gardeners' Chronicle*: "A first-rate flower; the petals are smooth on the edge, large, and well formed; of good substance, and diminishing gradually to the centre, forming a fine crown, without confusion, white ground, red edge."

PINKS.

Comprising the newest and best varieties for successful exhibition, 12s. to 18s. per dozen pairs.

CAMELLIAS.

Y. and Co. are now supplying fine healthy plants of the newest and choicest varieties, well set with flower-buds, at 30s. to 42s. per dozen.

FINEST DUTCH HYACINTHS AND OTHER BULBS.

Owing to the rapid steam communication now established between Yarmouth and Holland, YOUELL and Co. have imported very extensive collections of the Finest HYACINTHS for glasses and forcing, which have arrived in the best possible condition, the roots being very large and sound. They are enabled to offer the handsomer kinds by name, at 6s., 9s., and 12s. per dozen; catalogues of which may be had on application.

PANSIES.

The finest first class show varieties, including the best of the new varieties of 1847 and 1848, 10s. to 18s. per dozen.

STRAWBERRIES.

YOUELL AND CO. can now supply strong Runners of the following fine and desirable STRAWBERRIES, warranted true to name:—Myatt's Eleanor, 21s. per 100; Mammoth, 7s. 6d.; Globe, 7s. 6d.; La Leigeoise, 5s.; Royal Pine (fine), 7s. 6d.; Queen 3s. 6d.; Eliza, 3s. 6d.; Elton Pine, 3s. 6d.; Black Roseberry, 5s.; Princess Alice, 3s. 6d.; Swainston's Pine, 3s. 6d.; Myatt's Pine, 5s.; Coul or Sir G. Mackenzie's late Scarlet, 5s.; Myatt's Prolific, 7s. 6d.; Marthum Seedling (fine and very early), 10s.; with many other fine sorts.

ANEMONE SEED,

Saved from the finest selected sorts, is now being sent out per post, free, at 2s. 6d. and 5s. per packet, sufficient to sow a bed of 12 and 24 yards; if sown now, a fine bloom will be insured during the winter and spring months.

GREAT YARMOUTH NURSERY.

PINKS.

HENRY SHAILER, Chapel Nursery, Battersea-fields, near Nine Elms, begs to offer to his Friends, lovers of PINKS, and others, a splendid collection, with 40 new Seedlings, chiefly Rose-leaved, sown in 1846, flowered in 1847, proved and piped in 1848, and never exhibited for competition, though pronounced by celebrated judges to be the finest collection ever seen. H. S. takes the advantage of the appropriate season (October to the middle of November) for planting to ensure their flowering well in the following season.

Approved Seedlings, never sold out, per pair ...	2s. 6d.
Second class, fine flowers, 9d. per pair, or per dozen...	4 0
Good mixed Pinks, per dozen	2 0
Moss, Seedling, fit for potting, one of the best forcing Pinks known, per dozen	2 0
Shailer's Mars, superior to Moss in colour, per dozen	3 0
Anne Boleyne, per dozen	1 6
Intermediate Stock plants for potting, per 100 ...	1 6

FIRST-CLASS GERANIUMS.

J. HINE having a very large stock of the best kinds in cultivation, informs the public that he intends to supply them this autumn at unusually low prices. The much admired set of Eight Seedlings raised by WM. MILLER, and advertised for the first time last autumn (price 8l. 8s.) can be obtained this season for 1l. 5s, there being a very fine stock of them, namely:

SCARLET DEFIANCE	ADMIRATION
ROSA MUNDI	VALGIUS
QUEEN OF KENT	CONSPICABUNDUS
DISTINCTUS	FLORA'S FLAG.

Illustrated Engravings of which will be sent on receipt of 24 stamps.

J. H.'s Autumnal Catalogue for this year is now ready, and will be sent on application. Cash to accompany orders from unknown correspondents. Post-office orders to be made payable to the name of JOHN HINE, Providence Nursery, Ramsgate.

GERANIUMS, IN FINE HEALTHY CONDITION, NOW READY FOR SENDING OUT, AT VERY LOW PRICES.

WILLIAM E. RENDLE AND CO. have a very large and extensive stock of the following GERANIUMS, all of which are offered at very low prices.

Selection of 12 from the following for 20s.—Forget-me-not, Remembrance, Mount Etna, Hebe's Lip, Mary Queen of Scots, Orion, Firefly, The Peri, Talisman, Nourmahal, Sir Robert Sale, Queen of Beauties, Sir W. R. Gilbert, Gigantic, Bacchus, Sirius, Desdemona, Standard of Perfection, Sidonia, with a plant of Folley's Black Prince over on every order.

Selection of 20 from the following for 20s.—Rosy Circle, Chaplet, Titus, Zenobia, Margaret, Rosebud, Gipsy Queen, Sarah Jane, Merry Monarch, Othello, Pluto, Champion, Duchess of Leinster, King of Saxony, Sunrise, Madelina, Isabella, Duke of Cornwall, Marc Antony, Prince Alfred, Conflagration, Apollo, Mustee, with a plant of Folley's Black Prince over on every order.

SCARLET GERANIUMS.

The following choice sorts, at 12s. per doz.: Britannia, Beauty of St. John's Wood, Cottage Maid, Surpass Frogmore, Eclipse, General Tom Thumb, Monarch, Hendersonii, King, Compacta, Vivid.

STRAWBERRIES.

Myatt's Eliza	per doz. 1s. 0d.	Elton ...	... per doz. 3s. 0d.
,, Mammoth...	... 3 0	Myatt's British Queen...	1 0
Victoria ...	... 1 0	,, Globe ...	... 3 0
Cooper's Seedling	... 3 0	,, Prolific ...	... 3 0
Keens' Seedling	... 1 0	Deptford Pine ...	... 3 0
Cole's Prolific ...	... 3 0	Roseberry ...	... 1 0

DUTCH FLOWER ROOTS.

We have a splendid assortment of all the best kinds, which have just arrived, in the best possible condition, from one of the largest houses in Holland.

HYACINTHS, 20 fine named varieties, per doz., 10s.
,, fine mixed varieties, per doz., 3s. to 4s. 6d.
ANEMONES, best double mixtures, per lb., 7s.
RANUNCULUSES, best double mixtures, per 100, 5s. to 7s.
,, Scarlet Turban, per 100, 3s.
CROCUS, fine named, per 100, 2s. 6d.

And all other kinds equally low, full particulars and prices of which can be obtained from our Catalogues, which will be forwarded gratis on application to WILLIAM E. RENDLE and Co., Union-road, Plymouth, adjoining the Plymouth Station and Terminus of the South Devon Railway.

*** *All Orders above 2l. from the above Advertisement will be delivered free of Carriage to London, Bristol, Exeter, or any other Station on the Great Western or South Devon Railways.*

PATRONISED BY THE QUEEN AND PRINCE ALBERT.

JOSLING'S ST. ALBAN'S GRAPE.—R. JOSLING most respectfully returns his thanks to the 378 subscribers who have purchased his ST. ALBAN'S VINE, including Her Majesty the QUEEN, the Nobility, Gentry, and leading Nurserymen of Europe. And in soliciting future subscribers he feels warranted in recommending it to their notice. If 10 or more plants are taken, 6s. each; if 8 or under 10, 7s. each; if 1 plant is taken, 10s. 6d. each.

Agents: Messrs. Hurst and Co., Leadenhall-street, London; Mr. T. Warner, Cornhill, London; Messrs. Henderson, Pine-apple-place, Edgeware-road, London; Messrs. Low & Co., Clapton; Messrs. Lee and Co., Hammersmith; Messrs. Whitley and Osborn, Fulham; Messrs. Cutter and Co., Slough; Mr. W. Skirving, Liverpool; Messrs. Backhouse and Son, York; Messrs. Veitch and Son, Exeter; Mr. R. Miller, Newcastle-under-Lyne.

Good established plants will be sent out. The usual allowance to the Trade. A remittance from unknown correspondents will be expected.—ROBERT JOSLING, Seedsman, St. Alban's.

FIRST CLASS GERANIUMS.

JAMES WHOMES can now supply strong and well-established plants of the following first-class Geraniums, raised by G. W. Hoyle, Esq.

HOYLE'S CRUSADER, 42s.—This famous flower needs no praise of mine. I will only here remark, that those who had the pleasure of seeing this delightful flower, expressed themselves in the following words, which are annexed to most of the orders I have received for it. "I saw your Crusader when exhibited at Chiswick last year, and consider it, beyond comparison, the finest Pelargonium I have ever seen."

No. I.		No. II.	
Hoyle's Sparkler	21s. 0d.	Whomes's Queen Victoria ...	21s. 0d.
,, President	21 0	,, Windsor Castle...	21 0
,, Belle of the Village	21 0	,, Cupid ...	21 0
,, Rollo	21 0	,, Plutarch ...	21 0
,, Abd-el-Kader..	21 0	,, Princess Helena .	10 6
,, Terpsichore ...	21 0	,, Violetta ...	7 6
,, Promethens ...	15 0	,, Comet ...	7 6
,, Superlative ...	15 0	,, Master Rivers Bulkeley ...	7 6
,, Flamingo ...	15 0	,, Premier ...	7 6

One-third off to the Trade; one plant given where three are ordered of any one sort.

No. I.—Parties taking the set of 10, Crusader inclusive, may obtain them for 5l. 18s.

No. II.—Parties taking the above set, 9 sorts, including Windsor Castle and the Queen, may obtain them for 3l. 17s.

N.B. A Descriptive Catalogue of the above may be obtained by application.—Pelargonium Nursery, Windsor, Oct. 7.

CHINESE PIGS.—For Sale, a very choice lot of Chinese Pigs. Price, 21s., which will increase weekly.—Apply to THOMAS KENCH, Enstone Farm, Enstone, Oxfordshire.

THE HOPE NURSERIES, NEAR BEDALE, YORKSHIRE.

WILLIAM MAY, F.H.S., in acknowledging the numerous favours already conferred upon him, for which he begs respectfully to thank his Friends, announces that he has provided a large stock of the undernamed NURSERY ARTICLES, comprising the most select new, and approved old varieties in each department in present cultivation, which he is enabled to offer in collections at very reduced prices, viz.:

	s.	d.
Hardy Ornamental Trees, Evergreen and Deciduous Shrubs, 100 sorts for	42	0
Roses, comprising the various classes, fine dwarf plants, 100 sorts for	42	0
Ditto, good kinds for the border, 100 sorts for ...	25	0
Hardy Ornamental Herbaceous Plants, select, 100 sorts for	30	0
Hardy select Alpine or Rock Plants, 100 sorts for... ...	30	0
Greenhouse Plants of select varieties, 100 sorts for ...	75	0
Ericas, fine collection and fine young plants, per dozen...	12	0
Stove Plants, fine new sorts, very select, per dozen ...	25	0
Stove Climbers, do. do. do. ...	25	0
Calceolarias, 12 finest vars. for show, very select, p. doz.	20	0
Cinerarias, do. do. do.	20	0
Geraniums, do. do. do.	20	0
Do. do. fancy sorts do. do.	20	0
Do. do. scarlet, &c. do. do.	10	0
Hollyhocks, fine double varieties, very select, per dozen	6	0
Pinks, 25 pairs fine sorts by name for	10	0
Hyacinths, fine named sorts, per dozen, from 6s. to ...	9	0

N.B. Also Forest Trees, Trained and other Fruit Trees, in unlimited quantities at moderate prices, &c.

CHOICE SEEDLING CALCEOLARIAS.

JOHN HENCHMAN has now ready for delivery a fine stock of strong healthy young Seedling CALCEOLARIAS, raised from seed saved with great care from a few choice varieties. If properly treated these plants will bloom in April, and may be grown to any reasonable size in May, June, and July. They are more free in growth, are less liable to green-fly, bloom more freely, and are altogether more easily cultivated than plants from cuttings; and those who desire to have a rich display of these beautiful plants at a small cost, will find the plants now offered suit their purpose. They are also well adapted for the Trade, to retail when in bloom. Price 6s. per dozen, or 50 plants for 20s. No charge for package, and delivered carriage free to any part of London.

Edmonton, near London, Oct. 7.

HENRY LITTLE, NURSERYMAN, SEEDSMAN, and FLORIST to the QUEEN, King's-road, Chelsea, has imported DUTCH BULBS and other Flower Roots, of first-rate quality, for forcing or border planting, and is now selling, as above, at the following low prices:

Fine named Dutch Hyacinths for glasses or pots, at 6s. per doz.
,, mixed Dutch Hyacinths, for splendid beds or early forcing, in separate colours, at 2s. per doz.
,, large Crocus, Yellow, Blue, White, Cloth of Gold, Striped, &c., at 2s. per 100.
,, large Seedling Polyanthus Narciss, for beds or pots, at 3s. per doz.
,, Narciss poetica (or Pheasant-eyed), ditto, at 2s. per 100.
Elegant early Tulips, in 30 named varieties, at 2s. 6d. per doz.
Fine Double Tulips, in 20 named varieties, at 4s. per doz.
,, Mixed Biblomen and Rose Tulips, at 5s. per 100.
Splendid Mixed Double Anemones, at 6s. per lb.
,, Single Mixed Anemones, at 3s. per lb.
Fine Gladiolus Bizantinus, showy border flower, at 1s. per doz. or 5s. per 100.
,, ,, cardinalis (handsome), at 3s. per doz.
,, ,, floribundans, at 2s. per doz.
,, ,, psittacinus, at 1s. per doz.

All the usual varieties at corresponding low prices, Catalogues of which may be had on application.

A large quantity of Fine Dwarf-trained Peaches, Nectarines, Apricots, Greengage Plums, and Cherries, all the best varieties, at 30s. per dozen, of any of the above sorts.

A collection of choice Dwarf free-blooming Roses, in 20 varieties, at 1l. per 100.

WM. MITCHELL, Enfield Highway, Middlesex, begs to call the attention of the Public to his ROYAL ALBERT RHUBARB, which still retains its supremacy over all other sorts hitherto produced, being from two to three weeks earlier than any kind now grown. It has other qualities eminently entitled to notice; it is most delicious in flavour, of a splendid red colour, a most prolific bearer and free grower, with large fleshy stalks, and for early forcing is more suitable than any other variety. Specimens of this splendid vegetable have been inspected and highly approved of by her Majesty, by whose commands it has been introduced into the Royal Gardens, Windsor. Also Mess. Soyer, of the Reform Club, and other eminent judges, have declared this Rhubarb to surpass anything of the kind ever eaten, and all the principal growers attending the London markets have pronounced it to be by far the best in cultivation. In addition, W. M. begs leave to observe that this Rhubarb is the same as was sold so early last season in Manchester, Birmingham, Liverpool, Cambridge, Brighton, and other large provincial towns, where it gave universal satisfaction by its extreme earliness, quality, and beauty.

Strong one year planted roots will be sent out at the end of October, at 2s. 6d. each. Also, Myatt's Linnæus, 2s. 6d., and Victoria, 9d. each. The usual trade allowances.

Remittances requested from unknown correspondents by post-office order, made payable to WILLIAM MITCHELL, Enfield Highway, Middlesex, Post office, Enfield.—October 7.

BRENTFORD NURSERIES.

HUGH RONALDS AND SONS beg to inform Noblemen, Gentlemen, and Gardeners interested in the cultivation of Fruits, that they have this year cultivated a fine LATE CHERRY, calculated to improve the dessert in the months of August, September, and October, the colour being of a deep crimson, the size and flavour much superior to the Mayduke, and a most abundant bearer. It was introduced by the Horticultural Society of London, and most accurately described in the *Gardeners' Chronicle* of August 19th, p. 555. A painting may be seen at the Brentford Nursery. Plants 5s. each, with the usual discount to the trade.

They have a large collection of Fruit Trees, of fine growth, trained and untrained. Fine horizontal trained Pears in good bearing state; standard trained Peaches and Nectarines, of good size for Peach houses; Vines in pots. Lists of the most approved varieties may be had on application.

RUDBECKIA FULGIDA, 2s. per dozen; Double COLUMBINES, various colours, 2s. per dozen; White-eyed LARKSPUR, 2s. per dozen; Semi-double do., descendants from Barlow's, and equal to it, 4s. per dozen, may be had of RICHARD TONGUE, whose Hybrid Honeysuckle will be sold by him in December, if a considerable number should be ordered previously; prices, 10l. per 100, and 30s. per doz. The first Leading Article of this Paper, dated June 10th, termed it "quite novel in appearance;" and a Notice to "R. T.," in the same Number, described it as "a very pretty thing."

Forton Cottage, near Garstang, Lancashire.

TO NURSERYMEN.

WANTED FOR PLANTING, this autumn, from 150 to 300 Rose-trees, of various sorts; 50 Standard Roses, various; 20 Hardy Creepers, for out-doors; 12 Climbing Roses, various; 6 Climbing Honeysuckles; 6 Virginia Creepers; 50 Rhododendrons; 20 Evergreen Shrubs, for lawn, various.—Direct, stating lowest prices for cash, to P. R., Post-office, Pean, near Amersham, Bucks. A delivery in or within 10 miles of London will be preferred.

NEW AND DISTINCT CINERARIAS.

JOHN BELL begs to offer the following four new and beautiful CINERARIAS, raised by Thomas Edmonds, Gardener to Lady Lacon, Ormsby Hall, selected from upwards of 20, all of which were of first-rate excellence. Specimens have been sent to the Editors of the *Gardeners' Chronicle* and "Gardeners' Journal," and elicited the following remarks:

"Gardeners' Journal," April 1, 1848.—"(THOMAS). Your Seedlings reached us in good condition; the flowers are large, and the colours remarkably bright."

Gardeners' Chronicle, April 22, 1848.—"Your Flowers are large and fine, and varied in colour and marking;" and May 6th, the same Journal says, "These are all handsome specimens, measuring more than 1 inch in diameter;" and May 13th, "Your Flowers are all large and good in colour, and generally slightly cupped."

No. 4.—COUNTESS OF ORFORD (BELL'S) is the best, the white is pure round the disk, and the crimson purple terminates to the petals deep and rich; the flowers are slightly cupped.—*Gardeners' Chronicle*, April 22, 1848. Letter B. B. Price 7s. 6d.

No. 8.—EDMONDIANA (BELL'S), dark disk, the petals equally divided between blue and white, a brilliant and handsome variety, form good and very attractive.—*Gardeners' Chronicle*, May 13, 1848. B. B. Price 7s. 6d.

No. 24.—HUNSEYANA (BELL'S), dark purple disk, with the petals equally divided between the white ground and purple crimson points; a handsome variety.—*Gardeners' Chronicle*, May 6th and 13th, 1848. B. B. Price 5s.

No. 84.—MAGNA (BELL'S), blue lavender, broad petals, and well formed; this is a very distinct and showy variety.—*Gardeners' Chronicle*, April 22, 1848. B. B. Price 5s.

The Set free per post for 1l. 5s. One Set over to the Trade when three are taken.

Bracondale Horticultural Establishment, Norwich.

NEW ROSE CATALOGUE.

E. P. FRANCIS begs respectfully to announce that his New Descriptive CATALOGUE of ROSES, containing all the new varieties, is now ready for delivery, and will be forwarded gratis on application. Catalogues may be had of Mr. Clarke, Seedsman, 25, Bishopsgate-street, and of Messrs. Noble, 152, Fleet-street, London.—Hertford Nurseries, Oct. 7.

NEW EDITION OF

WM. WOOD AND SON'S ROSE CATALOGUE FOR 1848-49; also, A GENERAL CATALOGUE OF NURSERY STOCK, containing detailed lists of Ornamental Trees and Shrubs, Conifers, Evergreens, Climbers, and American Plants; also Fruit and Forest Trees, Seedlings, &c.

PART THE SECOND contains a selection of all the most esteemed Herbaceous and Alpine Plants, Chrysanthemums, Strawberries, &c.

WM. WOOD AND SON have the pleasure of informing their friends that copies of the above will be sent, gratis, on application. The Autumnal Flowering Roses are still in perfection.

Woodlands Nursery, Maresfield, near Uckfield, Sussex.

JOHN DICKSON begs to inform the growers of Carnations and Picotees that the Treatise on their Cultivation, by an Amateur, is now ready for delivery. In addition to instructions for raising and growing this beautiful race of plants, a Descriptive List of the best Flowers out, in their several classes, will be given, forming altogether an unerring guide to successful showing. Price 1s. 6d. To be had of JOHN DICKSON, Acre lane, Brixton; and of Messrs. Warner, Seedsmen, 28, Cornhill, City. Forwarded to all parts upon prepaid application.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

FREDERICK WARNER, SEEDSMAN, 28, Cornhill, and 3, Lawrence Pountney-lane, Cannon-street, London, begs to inform his friends that he has a stock of GIBLING'S DANECROFT EARLY PEAS, which he strongly recommends as being a fine cropper and quite distinct in their habit from other Peas; the flavour when dressed is excellent. WARNER'S EARLY EMPEROR PEAS may be had on application. The merits of these Peas are too well known to require any remark.

PURE WHITE SALVIA PATENS.

WM. WOOD AND SON are now sending out the above highly desirable plant, under the name of SALVIA PATENS ALBA, at 10*s.* 6*d.* each, with the usual discount to the trade, and one additional plant for every three ordered.

The following are highly recommended:	*s.*	*d.*
Allamanda grandiflora	3*s.* 6*d.* to 5	0
,, Schottii, bright orange, superb; strong plts., 7*s.* 6*d.* to 10		6
Clerodendron sinuatum	3	6
,, viscosum	5	0
,, volubile	3	6
Gardenia Fortuni	7	6
Pleroma elegans	3	6
Plumbago Larpentæ, small, 3*s.* 6*d.*; large	21	0
Rhododendron Cavendishianum, splendid yellow ..	21	0
,, luteum splendens, ditto, new ..	42	0
,, Victoria Regina, ditto, new ..	42	0
Rhynchospermum jasminoides, TRUE	3	6
Tweedia pubescens	3	6

CHRYSANTHEMUMS, including all the latest imported novelties, the selection left to W. W. & S.

Extra fine varieties, 6*s.* and 9*s.* per doz.; Superior varieties, at 12*s.* and 18*s.* per dozen.

25 good distinct varieties for 15*s.*; 50 extra superior do., 35*s.*

*** Additional plants will be presented with each order to compensate for carriage. A remittance or reference required from unknown correspondents; post-office orders to be made payable at Uckfield.

Woodlands Nursery, Maresfield, Uckfield, Sussex.

The Gardeners' Chronicle.

SATURDAY, OCTOBER 7, 1848.

IS PLANTING PROFITABLE? This is a question which is still open to discussion, notwithstanding all that has been written upon the subject; that is to say, if by profit is meant a money return: comfort, pleasure, beauty of scenery, and the imponderable parts of what is sometimes called profit, being omitted.

If we are to place confidence in the enthusiasts who have written on planting, it is the most profitable of all modes of employing land, especially if the owner will duly consider the interest of his heirs, and not attach too much importance to his own. The Duke of ATHOL'S Larch plantations were to be worth 1000*l.* an acre in 70 years, the land originally not yielding more than from 9*d.* to 1*s.* an acre of rent. Mr. PONTEY estimated an acre of land planted with Larch "to yield a net profit, after paying every expense, of much nearer 500*l.* than 400*l.* in 42 years." The author of the "Foresters' Guide" assures us that if 100 acres of land are planted chiefly with Oak, "the clear balance profit at the end of 40 years will be 41,000*l.*, after bearing a high rent and unusually heavy charges." Finally, Mr. WITHERS, of Holt, sets the net profit of plantations arranged in his way at 1300*l.* an acre in 64 years. We should be curious to know whether the accounts of the office of Woods and Forests confirm these seductive anticipations. We should be agreeably astonished if they did.

It can scarcely be a matter of surprise that disappointment should have followed in the train of such exaggerated statements, and that planting, from being the fashion, should have at length sunk, in many parts of England, into disrepute; so that men now inquire, not how much they are to gain, but whether anything at all in the form of profit may be expected.

The gentlemen who still cling to the idea of huge planting-profits will doubtless allege that people have not realised them because the woods have been so much neglected. Nor are they wholly wrong in this assertion. It is only too notorious that landed proprietors can be found who imagine, or act as if they imagined, that trees merely require to be stuck in the ground, hedged in, guarded, *perhaps*, from game, and left to themselves, until, at some remote period of time, the woodman who fells them is to find a mine of gold. Of course no calculations can be founded upon proceedings of that kind, and the failures which attend them are not a proof that planting is unprofitable: they only show that loss attends folly in planting as well as in other matters.

For ourselves we much doubt whether it answers so well to plant good land as to farm it skilfully. But with respect to poor land the question is different, and there we apprehend that little doubt can be entertained of its being reasonably profitable. If land will bear corn profitably, let corn be the crop. But if land will not carry farm produce, then it must be admitted that timber should be planted. Among the land where timber is most useful, and where it is nevertheless least seen, are to be named our low mountainous districts which are at present the habitation of Furze and Heath. There the climate is unfavourable for even Rye and Oats, and sheepwalks are the common destiny of such districts. We have often been told that it is useless to plant such land; that trees will not grow; that they are smothered by the bushes; or, if that is to be prevented, that they demand so much outlay in labour as to render the operation wholly unprofitable. The traveller who is acquainted with the counties of Denbigh and Flint would, perhaps, point to the district on the Denbigh side of the dividing wall, not far from Mold, and ask what advantage it has been to the proprietor of those hills to have expended money in planting them 40 years ago. It must be confessed that the advantage is hard to discover, for only a few straggling trees are visible, and the rest is Furze and Broom, as it was at first. We should say that the operation has entailed upon him no magnificent gain of 400*l.* an acre, but a loss of from 16*l.* to 20*l.*; as much, we imagine, as the fee simple of the land. And yet great Oaks once did grow on those hills, as is attested by the buried trunks upon which the labourer occasionally strikes with spade or mattock.

But instead of staying in Denbighshire, let the traveller jump over the broken wall into Flintshire; he will then discover that, in the case before him, all that was wanted was the necessary skill and care. He will find himself in the midst of flourishing plantations of Firs, and hard-wood trees. The ground is covered with beautiful Larches, measuring from 4 to 6 feet of timber, and even as much as 10 feet; vigorous, straight, silver-skinned Oaks, some of which have made shoots 3 feet long in the present season; fine Ash trees and Spruce Firs, with an undergrowth of Beech, springing from trees that have been already felled. As he descends the hill and reaches a better climate, he may find plantations rather older, formed on the rugged uncultivable sides of a stony hill, filled with magnificent Oaks, Spruce, and Larches, among which are to be found Hollies and Whitethorn 20 feet high, straight, clean barked, and shining with health. These are the famous plantations of Nerquis, made between 30 and 40 years ago by Dr. THACKERAY, of Chester, upon a moor 800 feet above the sea, producing 1*s.* an acre as a sheep walk.

The manner in which this was effected, and the way in which the growth of the young trees has been fostered, we shall describe on another occasion. Concerning the cost of the operation and the present value of the timber, we shall hope for some facts from our venerable correspondent Dr. THACKERAY himself. In the meanwhile any one acquainted with these subjects can calculate pretty nearly what the cost ought to have been, and what the probable value of the timber, such as we have described it, and standing about 15 feet apart on an average; the hard-wood consisting principally of Oaks and Ash.

When the direct return for the original outlay has been computed, how much ought to be added for the increased value of the valleys now effectually sheltered from the winds, and thus improved in climate?

WE need not tell gardeners how much they have to fear from the presence of the SCALE INSECT in their greenhouses. They know it too well, as they also know the difficulty of removing it. The ordinary applications employed to arrest its progress—tobacco-water, sulphur, lime, soft mud, gum, paste, &c.—all are powerless before it; and it was not till Mr. GORDON ascertained that water of the temperature of from 150° to 160° Fahr. (see p. 203, 1847) would kill the Scale without injuring trees, that gardeners had any chance of even keeping it down, except by a process little less wearisome than his wheel to Ixion. Rub, rub, rub—scrub, scrub, scrub; this was the endless doom of the unlucky labourer until the virtues of hot water were ascertained. In the meanwhile trees perished in gardens, and what was worse, in the colonies. The Orange trees of the Azores were devoured, or rather sucked to death, by the Coccus, and at one time it was feared that it might overwhelm all Orange-growing countries in one common ruin.

But although the Scale may certainly be destroyed by hot water wherever it can be brought instantly in contact with it, yet there is a practical difficulty in the application of the remedy in consequence of the smallness of the creature and the facility with which it can screen itself in the crevices of bark or in the earth itself. Vigilance is, therefore, still demanded in order to keep it down, or a sudden multiplication of it may take place to an extent which leaves no remedy except the destruction of the trees and insects by means of fire.

An instructive and most disastrous example of the consequences of neglecting the progress of one of the Scale insects is now before us in the form of a letter addressed to Earl GREY by the Governor of Ceylon. Lord TORRINGTON states that the effects of the ravages of the "Coffee bug," a species of Coccus said to be allied to C. adonidum, "are most serious: one estate has been reported to me in which the production of a single season, which, calculated upon that of the previous one, ought to have been 2000 cwt., fell suddenly to 700 cwt., the difference being destroyed in a few months by the bug, and to the present hour no improvement has taken place in its condition. Others have been more or less unfortunate. In some the insect has disappeared partially, and partially returned; and, in some few, whence it has entirely passed away, the trees are now covered with fresh and healthy leaves and promise an abundant harvest; but unfortunately we are not in a condition to pronounce when they may not again be visited by another visit from the bug."

A report on this subject from Mr. GARDNER, to the Ceylon Government, is now before us. It appears that the insect was probably introduced on some Mocha Coffee plants brought from Bombay; for the belief of the native Cingalese that it is indigenous to their island does not rest upon satisfactory evidence. On the contrary it has been ascertained that on an estate to which an infected plant was introduced about two years ago the pest was burned and no bug has since appeared, a strong proof that the insect was not a native of the neighbourhood. Unfortunately in other districts no attention was paid to the progress of the bug till it had gained such a footing in the plantations as to be irresistible. We beg gardeners to mark this. The case of the Morutu estate, which is now mentioned by Mr. GARDNER, is that of most others.

"This estate first began to show symptoms of the pest in 1844. During that and the following year it did not cause much damage, but in 1846 it had extended over nearly the whole of the plantation, and about two-thirds of the produce was lost on those portions that were worst affected. In 1847 it disappeared in a great measure, but the trees had received such a shock that those growing on the least fertile parts of the estate yielded almost no crop, but those on better soil, and therefore more able to recover themselves, produced an average one. This season the trees at a distance appear to have become quite free of the pest, having nearly regained their usual green colour, and the crop promises to be a fair one for the district; but when the young branches and the footstalks of the fruit are closely examined, the Scale in its different stages is still found to be there, and as they multiply in such excessive numbers, the probability is that the estate next year will be exactly in the same state that Lapallagalla is in this season; indeed, in the hollows many patches of black are even now to be seen."

The Harrangalla estate was even worse. It was there that Mr. GARDNER "first saw the effects of the pest in June, 1845. It had then been observed about two months before, but had already extended over a patch of about an acre, in a hollow part of the estate, sheltered from the winds. Since then it has gone on gradually increasing, and now extends over more than two-thirds of the whole estate, while the effect produced on the trees is much worse than anything I have seen elsewhere. It was truly painful to find that trees, which in a healthy state would produce from two to three pounds of Coffee, were either entirely destitute of berries, or only producing a few shrivelled ones that will barely repay the expense of collecting."

The manner in which the mischief extends is well pointed out in the report.

"Whatever may have been the origin of the Coccus, it is certain that having once appeared, the rapidity with which it multiplies, and the immense number of eggs that each Scale produces, will sufficiently account for the speed with which it extends. As the females do not possess wings, it is quite impossible that they can spread from tree to tree by flight. By means of their legs, however, they possess excellent powers of locomotion, and as at the opening of each 'Scale' to give exit to the young that have been hatched within it, hundreds of them must necessarily fall to the ground, many will, of course, take possession of adjoining trees. This seems to be the way in which the pest radiates from a centre to the circumference in the localities where it first appears on estates. As regards its transmission from one place to another, there are many means by which it may be effected. Thus any one passing an infected tree will be sure to carry away with him hundreds of the minute young, unknown to himself, as they are all but imperceptible to the naked eye: and I should say that Coolies going from one estate to another have done more to extend the pest than anything else. The same end has no doubt also been effected by birds and large insects. In some of the estates that I have visited, the disease was first noticed near the Coolie lines; and where it broke out in single patches in the middle of estates, far from roads, birds have most likely carried the seeds. That the spread of the pest from west to east has been accomplished by

transmission of the young females from place to place, is, I think, very probable."

We recommend these facts to the especial notice of gardeners. They teach them a salutary lesson; for they show the consequence of neglecting apparent trifles, and the facility with which dangers may be averted if taken in time. Had the foul imported trees been all burnt, or dipped into hot water, when they were found to be infested, the Coffee planters of Ceylon would not have been in their present painful condition. The worst of the matter is, that the Coffee bug, now that it has taken possession of the Coffee plantations, is spreading fast to other plants. Mr. Gardner finds it on Limes, Guavas, Myrtles, Roses, Careyas, and Chaste trees (Vitex), by the road side: and in the Botanic Garden there is scarcely a tree that is not in some measure infested. Let it never be forgotten that what has happened in Ceylon may happen any day in England, not merely in greenhouses, but in the open air, as, indeed, has been the case with Apple and Pear trees; and that, knowing this, and knowing the simple remedy, a gardener who permits his plants to be overrun, stands before his employer without the shadow of an excuse for his negligence.

Although it appears that the Northern Potato crop has, to a great extent, escaped the disease which in the south has carried Potatoes to 8*l.* per ton in the month of October,* yet it is a mistake to imagine that it has escaped there, or is entirely free from danger. From Scotland we have the following letter, which comes from high authority:

"We have had a month of beautiful weather, which has enabled the farmers in the low country of Scotland to secure the harvest in the finest possible condition. It is a full average crop of all sorts of grain, and there is a very large crop in the Highlands, but which it will require another fortnight of good weather to make safe. The Potato disease has appeared everywhere, but has done no great injury as yet, except, it is said, in some of the southern counties, and along the west coast, where it is most virulent. At Ullapool, which is within a few miles of the deer forest, in which I have been, I was assured that nearly the whole of the Potatoes were already destroyed."

We are also now obliged to add that the disease has made such progress in some parts of the North of France as to be compared by the people there to the rot of 1845. We also learn that in several instances it has been found extremely advantageous to dust the Potatoes with *fresh burnt gypsum* before storing them. This is done without washing or cleaning the tubers, and is said to act with great and uniform success.

BRITISH ASSOCIATION
FOR THE ADVANCEMENT OF SCIENCE.

(*Continued from p. 652.*)

Aug. 15.—The business was commenced by Mr. C. C. Babington, who read a paper on *Additions to the British Flora*, and an exhibition of drawings prepared for publication in the "Supplement to English Botany." The author made a few remarks upon the causes of the recent great increase in the number of recorded British plants, which he supposed had resulted chiefly from the more careful and minute study of plants ensuing upon the attention of our younger botanists being turned to the works of foreign, more especially German and Swedish, authors. He then noticed the necessity of attending to minute subdivision of species before any correct determination of what constitutes a species could be obtained; after which doubtless many of the so-called species would be combined into real species. At present no good distinction of species and varieties is known. Species and varieties noticed: Lolium linicola, Apera interrupta, Anacharis Alsinastrum, Simethis bicolor, Ranunculus tripartitus, Orobanche Picridis, Malva verticillata, Trifolium Molinieri, T. strictum, Melilotus arvensis, Filago Jussiæi, F. apiculata, Crepis setosa, and some others.

Mr. H. E. Strickland read the *Report of the Committee appointed for making Experiments on the Vitality of Seeds.*—Seeds of various ages had been sown, and the results were given in a tabular form. The committee invited the further contributions of seeds, whose age could be well certified, to be sent to Mr. Baxter, of the Botanic Garden, Oxford.—On the reading of this report a discussion took place, in which Dr. Carpenter, Mr. Joshua Clarke, Mr. Jerdan, Mr. Jeffreys, Mr. Babington, and Dr. Daubeny took part.—Mr. Jerdan stated that he believed it had been clearly made out that Wheat buried with mummies grew when planted.—Dr. Daubeny said that he had recently heard of a well authenticated case of seeds from the inside of a mummy producing plants when sown; the only misfortune in this case was that the seed produced Maize. Now, Maize was a plant of the new world, and although grown in Egypt now, must have been introduced into the mummy since the discovery of America. All kinds of tricks were played with mummies for the purpose of deceiving travellers.—Mr. Babington stated that he had never yet seen a case of the supposed growth of mummy Wheat that would bear investigation, and he had the strongest impression that no such growth ever took place.

On the Colour Stripes of a Macartney Rose. By John Phillips, F.R.S., G.S.—After some observations on the colour in the cells of plants, and the distribution of the tints according to structure, the author gave the following statement:—The large firm petals of this beautiful Rose, when fully expanded, and grown in an open aspect, are white, with a delicate tint of yellow toward the base, and, in very bright hot weather, an almost indiscernible tint of red. But there are on the flower two bands of very full clear red, which sometimes appear on one petal only, and then generally converge and reunite at an obtuse angle at or near the middle of the free edge of the petal. This is the usual appearance, but it sometimes happens that, while two colour stripes appear on one petal, and are convergent upon it, they do not meet at a point. When this happens, some portions of red appear on one or more of the other petals of the flower, giving a slightly variegated aspect to the whole. There are cases also of one stripe being on one petal, and the other on parts of two others. Since it appears clearly from the above examples of variation in the place of the colour stripes, that they are independent of any structural peculiarity of the flower, it appeared to me that their form and distribution must be dependent on some other part of the organization of the flower or its envelopes. Watching, therefore, the unfolding of the flower from its early bud, it is found that the colour stripe is not visible in the petals while they are entirely covered by the calyx: but that when the calyx, opening in a slit across the apex of the bud, presents to the light a portion of the petals folded on one another, this portion, and this only, acquires the deep red dye which makes the colour stripe. When, as is often the case, this petal receives the whole dye, it alone is striped, and the stripes converge to a point; but when the opening crosses not the surface of this petal only, but also the edges and surfaces of one or more of the others, these edges and surfaces partake of the red stripe, which is really in its origin one continuous bud on the flower. From these facts it may be concluded that the limited red dye of this Rose is due to light acting during a very short period of time on whatever cells of the petals happen to lie in the zone which is uncovered by the calyx; that there is no peculiar susceptibility for colour in these cells which distinguish them from the others, all being in fact susceptible of this colour, but only in a particular state of growth, viz., that which precedes the full opening of the calyx into its five segments. I have found, by examining many other Roses, single and double, the same principle of the colour depending on partial exposure of the petal to light at a particular epoch of growth, is capable of extensive application; but it very seldom happens that in Rose petals the susceptibility for a red dye is so remarkably limited; the dehiscence of the calyx determines indeed in many cases a band or bands of darker tint, but this generally spreads so far to the right and left beneath the leaves of the calyx, as not to catch the attention. The author declined at present to offer his explanation of the tints of these Roses, as a general view applicable to other flowers, but expressed his intention of prosecuting the inquiry in various groups of flowering plants.

(*To be continued.*)

THE VEGETABLE MARROW.

I have been trying various experiments this autumn with ripe Vegetable Marrows, and I find they contain a rich sugary and farinaceous matter, and my taste, as well as that of those to whom I have sent them, very much approves of them if cooked after the following manner: Cut the Marrows into manageable lengths, take out the pith and seeds, and boil them in plenty of water, with salt; when well done scrape out all the marrow, put it between two dishes and squeeze out all the water, then mash it well, and add salt, pepper, a little butter, and a little milk; it is then "a dish fit for a queen."

But my object is to recommend the vegetable for fattening pigs. We will suppose that early Potatoes are grown, for to grow late ones any longer is a waste of land, and starving of the population, until better seasons come; the early sorts having been taken great care of during the winter, and treated as recommended in my pamphlet, will be off the ground early. The seeds of the Marrows may be sown about the 1st of May, in the open ground, in any warm corner. When transplanting time comes, the Potatoes will not be near ripe, but proceed thus: lift a root of Potatoes every 5 or 6 feet apart in the row, leaving six or eight rows of Potatoes between the rows of Marrows, and so on. I find that with moderately rich land I can grow 20 tons to the acre easily. When ripe they can be stowed away anywhere, and may be boiled along with other food for pigs, for all pigs' food ought to be boiled. Wherever we find the cottagers to boil the food they always have the best pigs, which are sooner fit for home consumption or for the market.

The cottager may grow Marrows where other things will not grow, such as on walls, trellises, poles, and over his cottage. The trouble of training will not be much, and would occupy his time in the evening. Landlords and farmers might also, perhaps, be induced to give prizes for the best produce, in the shape of a load or two of dung. There is no mistake about ripe Marrows being first-rate food for pigs, and they form good human food. I have eaten half a pound dressed as above every day for these six days, and I like them much better than the dear and half-rotten Potatoes we now buy; *James Cuthill, Florist, Camberwell, Oct.* 4. [Won't they scour the pigs?]

STATE OF THE IRISH POTATO CROP.

COMPILED FROM OFFICIAL DOCUMENTS.

Cork County, *Fermoy Union, Sept.* 23, *Major Bolton.*—The appearance of the crop continues most discouraging, and the disease is spreading rapidly. A great portion of the Potatoes unfit for food, even when first dug.

Skibbereen Union, Sept. 23, *Mr. Marshall.*—Potatoes. The disease does not appear to have increased. There is a considerable portion of the crop uninjured, and greater confidence on the part of the people. Grain crop: There is a great deficiency.

Kerry County, *Kenmare Union, Sept.* 24, *Capt. Ommanney.*—The crop appears to be equally bad everywhere. Two-thirds of the crop blackened and destroyed by the disease. No change yet in price; 8*d.* a weight of 21 lbs.

Listowel Union, Sept. 23, *Capt. Spark.*—Potatoes in most parts fast decaying. The very poor have no Potatoes, in consequence of having had no seed or planting late. Farmers who planted 10 or 12 acres do not expect to have a sound tuber left after November, if so long.

Tipperary County, *Cashel Union, Sept.* 23, *Mr. Robinson.*—Disease spreading daily in every part of the Union; cannot form an opinion as to how long the crop will last, but all the relieving officers concur in reporting that one-half is lost.

Nenagh Union, Sept. 23, *Capt. Darley.*—As to Potatoes and Wheat, can add nothing to his former report. (Last week's report as follows: disease in Potatoes advances; great quantities, but of bad quality, sent to market, and sold at 2½*d.* to 3*d.* a stone. Wheat nearly all gathered; not half an average, and of inferior quality. Oats and Barley, a great portion cut and secured, but in the hilly districts much is yet unfit for the sickle. Both these crops promise well.)

Tipperary Union, Sept. 24, *Capt. Haymes.*—Crops cut and being stacked. No change except in the increasing decay of the Potato.

Tipperary, Cork, Kerry, and Limerick, Sept. 27, *R. Griffith, Esq.*—Of the Potato crop not more than a quarter is fit for human food. Potatoes left in the ground have not deteriorated much during the last month; but what have been dug, I apprehend, will not keep; tubers, where planted late and land wet, not larger than marbles. The Wheat crop is also deficient in quantity and quality, and cannot be rated at more than half a crop. The Oat crop is, probably, above the average, but, on elevated cold clays, still green. It is remarkable for its luxuriance on the lands which have been thorough drained both under the Labouchere letter and the Land Improvement Act. On those improved lands the produce will be fully double what it would have been had not the improvement been effected, and what it is on the adjoining undrained land. In future, Oats must be the poor man's crop in Ireland; it bears a wet climate and indifferent cultivation better than any other cereal crop. On light friable land Peas will be found excellent and productive. Barley, where grown, has been good. Turnips, on gentlemen's farms, good; but where sown late and on small farms, deficient. On the whole, as far as native produce is concerned, the Oat crop must be considered as the mainstay for the support of the people from the beginning of January next.

Wexford County, *Wexford, Sept.* 23, *Mr. J. Burke.*—The present favourable weather may arrest further disease in the tubers of the Potato; if so, thinks that half the crop will be saved. Not yet generally dug, and remaining in the ground while the dry weather continues is favourable.

New Ross Union, Sept. 23, *Mr. Bayley.*—Potatoes: Disease steadily progressing in all parts of the Union. Potatoes "soft" when not black. Produce generally very good, and a large quantity will be available for food.

Clare, *Kilrush Union, Sept.* 23, *Capt. Kennedy.*—Potato being dug wherever produce is worth it. To the disappointment of the owners, all state that the "black" has gone deeper, and a few days out of the ground is sufficient to rot them; they are rapidly disappearing from the market. Frequent heavy rains during the week, and in consequence but little corn saved; by far the greater part is standing, and much of it (he fears) will not ripen. The grain brought to market realises a good price.

Scariff Union, Sept. 24, *Capt. Hart.*—Potatoes continue plentiful and cheap, and disease not making rapid progress. Harvesting progressing.

Dublin County, *Dublin, Sept.* 25, *Capt. Huband.*—Nothing to report worthy of note. Growth of the tubers having ceased, attention should be directed to keeping qualities; has no sanguine expectation on this head.

King's County, *Parsonstown, Sept.* 24, *Mr. Flanagan.*—Potatoes rapidly decaying in Parsonstown Union. Guardians unable to obtain sufficient daily supply for workhouse, and in adjoining Union contractor has declared his inability to comply with his contract. Prices, nevertheless, still low; for picked sound Potatoes at Parsonstown 4½*d.* and 5*d.* per stone.

Galway County, *Ballinasloe Union, Sept.* 23,

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* Price of Potatoes in Covent Garden Market in the 1st week in October

1841, 60*s.* to 100*s.*		1845, 60*s.* to 80*s.*	
1842, 40 ,,	70	1846, 60 ,,	160
1843, 50 ,,	70	1847, 60 ,,	120
1844, 50 ,,	80	1848, 60 ,,	160

Major Stuart.—"Potato has ceased to be the general article of food." In some instances, though the stalks are completely blighted, the Potatoes are sound.

Clifden Union, Sept. 23, *Mr. Deane.*—Potatoes: Disease making most rapid progress. Scarcely any Potatoes free from disease. Those persons who were most sanguine as to the preservation of a portion of the crops have now been deprived of all hope. Very unfavourable weather for the harvest.

Gort Union, Sept. 24, *Vice Guardians.*—Extent of the failure daily developed. Five stones of sound Potatoes on an acre of the workhouse ground; poor using the diseased Potatoes. Wheat produce small, and grain inferior.

Mayo, *Sept.* 24, *Mr. R. Bourke.* — Potato disease not making greater advance than in last report; still of opinion that not more than about one-half is unfit for use. Much advance made in carrying the harvest, but still much corn uncut.

Ballina Union, Sept. 23, *Capt. Hamilton.*—Potatoes: Nothing favourable to report this week; generally speaking the crop is going fast. Persons begging for the "black Potatoes." Disease to be apprehended.

Castlebar Union, Sept. 24, *Capt. Farren.*—Potatoes: The Potato disease continues its ravages with unabated vigour.

Meath County, *Kells Union, Sept.* 16, *Capt. Dent.*—The supply of Potatoes is bad, and it is difficult to obtain even small supplies of Potatoes of good quality. Reports vary much as to the average crop of grain. Oats are said to be of a superior quality, and to yield better than in most seasons, while Wheat, although not much injured, is said to be of inferior quality and only half filled.

Kells Union, Sept. 25, *Capt. Dent.*—Capt. Dent cannot report any improvement in the Potato crop, but he is of opinion that there is a larger quantity of sound Potatoes than is generally allowed. The corn crops are generally saved throughout the Union.

Longford County, *Granard Union, Sept.* 23, *Capt. Lang.*—The Potato crop may be looked upon as totally lost. The corn crops within the last week have improved in a degree that was unexpected by Capt. Lang.

Longford Union, Sept. 24, *Mr. Downman.*—The disease has not extended during the last week; but the Potatoes that were affected previous thereto are worse.

Donegal County, *Ballyshannon Union, Sept.* 24, *Mr. J. S. D'Arcy.*—A considerable quantity dug since his last report. He was not mistaken in the opinion he had formed; the account generally spread of the extent of the loss was exaggerated. The peasantry account for the small portion diseased by saying that the disease has not progressed during the last 10 days. In Bundoran division a considerable portion dug, and seven-eighths are safe. Ballintra division exhibits a worse form of disease, but even there half is safe; the digging is pretty general, and he will report on the remote divisions next week. Corn crops being harvested.

Donegal Union, Sept. 23, *Capt. Herbert.*—Harvest operations carried on successfully, but nothing encouraging in the condition of the Potato crop. In the gardens at the Lighthouse, St. John's-point, the Potatoes are perfectly sound; but a little more inland half the crops are diseased. Potatoes on the lighter soils are less tainted than those on the heavier land.

Glenties Union, Sept. 22, *Capt. O'Neill.*—The Potato disease, according to the reports of small farmers, not progressing; disease not so virulent in moss or moorland as in clay soil. Thinks three-fourths of the crop will be sound and fully an average crop, and double what it was last year. The people are not bringing their Potatoes to market as they did when disease first appeared, and from this he infers that the disease is not progressing.

Milford Union, Sept. 23, *Mr. Korsley.*—The result of his inquiries as to the Potatoes very discouraging; disease making steady and rapid progress among the tubers of every variety. The general opinion (in which he concurs) is, that the bulk of the crop is already lost, and there is little room to hope that the remainder will continue sound any considerable time.

Leitrim County, *Manor-hamilton and Sligo Union, Sept* 24, *Capt. Gilbert.*—Potatoes: Market at Manor-hamilton very scantily supplied with an inferior kind of Potato. Market at Sligo supplied with a large quantity, and the average price very high—4*s.* per cwt. Corn: New Oats good quality—high price, 20*s.* a sack.

Mohill Union, Sept. 23, *Major Halliday.*—There is no abatement of the disease, which extends from one-fourth to one-half of the produce. The sound portion of the diseased Potatoes are used for human food, while the diseased parts are given to the pigs. A large portion of the corn crop is uncut, although quite ripe. The yield is generally very good and abundant.

Fermanagh County, *Enniskillen Union, Sept.* 23, *Vice Guardians.*—We regret to state that it is not in our power to give hopes that any considerable amount of the Potato crop in this union can be preserved through the winter. The rot is gradually progressing.

Province of Ulster: *Parts of Counties of Cavan, Monaghan, Louth, and Down, Sept.* 24, *Mr. Barron.*—Potato disease rapidly progressing. Farm crops generally good everywhere, especially the Oat crop, which is very heavy; late Turnips doing much better, and larger crop than expected.

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

Autumnal Arrangements.—Time flies, and every day leaves a longer shadow behind it, scattering in its passage the premonitions of approaching winter. Although the last week's Calendar speaks of the glory of Dahlias at the present time, in my neighbourhood they have long since been deformed by frosts; and recent heavy rains have given the garden that ragged and marred appearance which reminds us that nothing but the return of spring can restore its beauties. Let labour, therefore, now take the place of that admiring and luxurious contemplation which summer suns and bright colours and sweet scents induce. Work is now requisite, in some respects without its accustomed rewards, which must be looked for in the future rather than enjoyed at the present moment. As the husbandman has now to toil amidst brown fallows and bleak winds for the production of future golden harvests, so the amateur gardener must *work*, animated by the prospect of no very distant gratification.

While it is often necessary to remove trees and shrubs because they are planted too thickly, it is likewise important to fill up vacant spaces, and make additions to your stock of useful and ornamental productions. Look round and see where a new tree may be introduced; where standard or dwarf Roses will add to effect another year; or where flower beds may be advantageously increased in size and number. If your garden is large, you may cultivate Honeysuckles with the best effect. I have many varieties, so as to ensure a good bloom from spring to autumn. I train them among evergreens and Roses, fastened to pillars and pruned in a pyramidal form. If kept cut close in, they acquire in a few years a firm and regular appearance, and produce abundance of bloom. When about 8 or 9 feet high, their beauty is great, and attracts universal admiration. If put in now of a good size, and in well drained and fertile soil, they will be all you can wish in a year or two.

Verbenas which have thrown out rooted branches should now have such offsets removed into pots for next year. All exotics now planted out of doors, which are wanted for propagation, should be raised and potted for preservation through the winter. As that season is fast approaching, it will be unsafe to leave anything tender to the mercy of the frost, unless it is destined to destruction. Scarlet Pelargoniums, Calceolarias, &c., will do very well in a room from which frost is excluded during the winter. Seedling Dahlias, Hollyhocks, &c., must be looked over, and if any bloom, they may be examined to see whether they are worthy of preservation. Crown Imperials, Martagon, and other Lilies, may be divided, and replanted in light rich soil; *H. B.*

Home Correspondence.

Morphology.—I send an instance of a very curious monstrosity, in the growth of a Pear-tree (Gansel's Bergamot), trained against a wall in a garden, within a few miles of the city of Hereford. One out of the truss of blossoms set its fruit, which swelled to about 1½ inch in length; from its crown a shoot proceeded bearing three leaves; at the summit another fruit about half the size of the first, and from the crown of this again springs a stalk with an abortive blossom now in flower; *Lyston, Sept.* 12. [The annexed woodcut represents a somewhat similar case. It is taken from p. 587 of our volume for 1842, where a full explanation is given of these singular monstrosities in the Pear.]

Do Thistles grow from Seed?—Having heard that it was a received opinion that the seed of the Thistle (the common Thistle) could not possibly be made to grow, I have been induced to try the experiment. I put in a pot of earth a handful of Thistle seeds, and from those seeds I now have in full growth six Thistle plants. I am prepared to be on my oath that these Thistles were produced from the seeds I sowed. Whether or not I have succeeded in effecting anything new in the science of growing what has been hitherto held impossible to grow, I leave to your better knowledge to decide. If Thistles were never before grown from seed I have originated them, and upset the old opinion, viz., the impossibility of raising them from seeds; *Robert Baker, Rickinghall, Botesdale, Suffolk, Oct.* 3.

New Variety of Heath.—Last year I was made acquainted with a new variety of Heath, which had been discovered in this neighbourhood (if I am not mistaken) by that excellent British botanist, William Borrer, Esq., and I have now the pleasure of sending you a specimen from the original plant, and another from a cutting that was struck from it last autumn, together with specimens of Erica ciliaris and *E. tetralix*, for the sake of comparison, and to enable you the better to judge whether it is deserving of being recorded as an addition to the British Flora. In its natural state the whole plant is of a loose, slender, straggling habit, which at once distinguishes it from the other kinds of Heath that are growing around it; and when cultivated, you will perceive by the specimen, that it continues to retain the same peculiarities. The flowers are also remarkable, from resembling those of *E. ciliaris* in form, arranged in a terminal head, like those of *E. tetralix*, from which I am inclined to suspect that it is a hybrid between the two species, partaking of some of the distinctive characters natural to both; *W. R. Booth, Carclew, Sept* 30. [From an inspection of the specimens we should say that Mr. Borrer's Heath is, as Mr. Booth conjectures, a wild hybrid.]

Ivy mantled Ruins.—There is not a more frequent source of disappointment and regret to those in search of the picturesque than the huge, living, and constantly expanding veils of impenetrable Ivy, which, instead of being kept within reasonable bounds, is allowed unlimited licence to cover, one after another, the features which, architecturally considered, are the especial points of interest, and the most instructive to the artistic student (whether painter or architect) wishing to profit by what remains to us of the castles and ecclesiastic edifices of the middle ages. Having taken up my temporary abode near one of the most interesting of these mutilated but majestic proofs of the noble genius and consummate skill of a by-gone race of artists, I write under a keen sense of the evil of which I complain, viz., a superabundance of Ivy and other rampant vegetation, by which (when regarded either as a distant object, or as the object of chief pictorial interest in a lovely landscape composition) that most picturesque ruin Goodrich Castle is converted into little better than an insipid mass of mere foliage. The removal of but a few of the near and densely surrounding trees, simultaneously with a judicious exposure of the stonework of the over "Ivy mantled towers" would render the building intelligible as a building when seen from a distance, and thereby restore to the landscape its chief interest, and the legitimate climax of its pictorial composition. With regard, also, to close views and artistic bits (such as Prout, for instance, would rejoice in), the removal of two or three ugly and worthless trees, and of a few unfortunately situated branches and bushes, in the moat and about the interior buildings, would open up to the sketcher some choice combinations which are now unavailable. The external architectural features of the principal entrance in particular, and of the interesting parts in connection with it, might as well consist of mere mounds, so completely are they concealed by Ivy. It is surely worth a little trouble to those who have control over ancient buildings of pictorial or architectural interest that such valuable models should be rendered as available to the purposes of modern art as possible. It is grievous to think of what important works of art the world may have been and has been deprived by the unfortunate position of an ugly valueless tree or vile bush, by which such a genius as that of the mighty Turner may have been turned from its purpose, by which the efforts of a Girtin or a Clennel, of a Cristall, a Cox, or a Dewint may have been foiled. Alterations and improvements, such as are here suggested, should, however, by no means be attempted excepting under the immediate superintendence of a "competent person," and there are such, though I should not seek for them in the ordinary source of supply—not amongst the professors of the modern art of landscape gardening; nor would I accept advice of every one who writes himself artist. In my opinion the safe man to advise with and to direct in detail in such cases would be a landscape painter of reputation and experience, one whose works clearly prove that he possesses a thorough understanding of what are the requisites of landscape composition in all its classes; *J. H. Maw, Whitchurch, Herefordshire.*

Insects.—I think I understand the habits and modes of rearing all varieties of kitchen plants, but I cannot understand grubs. I have been planting out my Savoys, Cabbage (Drumhead and Vanack), &c., for crop next season; but it would require almost an acre of *corps de reserve* for a rood of plantation. My gardener (when morning after morning he had to dibble, dibble, dibble in the heartless little wretches' empty beds) told me it was "all the snails." I believed him; for, as everybody knows, if a snail be slow, the slimy castellated thing is sure. Sure enough, however, was the disappearance of my choice plants—snails or none. At last, for murder will out, I caught the enemy, and I have been keeping up a sort of guerilla skirmishing ever since; successfully as to individuals, but the main army seems to be as strong as ever. At the root of every plant (no matter what) I find an ugly grub, about 1½ inch long, and ¼ inch diameter all along; for it is as thick at the head as at the tail, and of a dirty mock-turtle-soup sort of colour, and fat as an alderman to boot, as my bootless and headless pretty plants can certify. Perhaps some of your experimental friends, who are able to make out my rigmarole description of "that devil on devilish deeds intent," may throw some light on its deeds, which are really deeds of darkness. To what genus does it belong? Its work fixes its genealogy as a grub, but to what branch of the grubbish family does it belong! Pray do inform me how I can possibly put the insidious wretch in Chancery. I am not sure if he would be "harmless for ill" even there, but it has tamed nobler reptiles in its time; *Amateur.*

The Potato Crop.—I give you the result of my different crops. Those grown on new ground were decidedly worst, though former experience would have led me to expect a totally different result. Nov. 4th, 1847: Planted four rows greened, and four rows not greened. The autumn of last year being mild, many of these were 6 inches high before Christmas, and were cut off by the frost. Those which remained were dug on the 17th July, when the tops were dead. These, though small, were sound and good. Dec. 29th: Planted three rows of Pinks, which were dug on the 16th Sept., sound and good. Dec. 29th: Three rows of Early Shaws, 13th July, good. Feb. 4th, 1848: Three rows of Purple, dug on the 16th Sept., sound and good. Three rows of Early Shaws, do. do. Feb. 10th: Four rows do. do. do. March 5th: Four rows of Pink, dug 18th Sept., good. The above were whole Potatoes, about the size of Walnuts, and planted in different parts of an old kitchen garden, some with and some without manure. There was no perceptible difference in the produce. Feb. 4th: Planted three rows of Shaws upon a bank composed of a clayey loam, dug from under a floor that was lowered, and mixed with a considerable quantity of old mortar rubbish. These were dug on the 19th Sept. Fair quantity and full grown, but all diseased. Many quite rotten. A few of the tops were blotched when I left home, about a month before they were taken up. When I saw them again, early in September, the tops were all dead. As they were all full grown, I presume that the disease did not attack them at an early stage, and that had they been taken up a month earlier, they would have been perfectly sound. Feb. 29th: Planted four rows of Early Shaws, and one row of Dark Reds; and on April 25th, two more rows of Dark Reds, in a piece of old meadow, well trenched. These were dug on the 20th July, and were all bad. No manure was used. The soundest, best, and largest quantity of Potatoes obtained was from a few roots left in the ground, accidentally, at last year's digging. These were deep in the earth, and did not make their appearance above ground till late in June, being amongst the third crop of Peas in the garden. My neighbours' crops of Potatoes are generally worse than my own. Feb. 6th: Planted four rows of Dark Reds, and one row of Champions, in meadow land, trenched. All bad, 15th Sept. All were whole Potatoes; *C. W. M.*

The Royal Horticultural Society of Ireland.—As an humble but sincere friend to horticulture I am not a little pleased to observe that you very justly recommend a union of the two rival societies of Dublin, and I sincerely trust that the many excellent and really disinterested gentlemen connected with both societies will lay this matter seriously to heart, and take such steps as are necessary to bring about a speedy and permanent union of the two bodies. Dublin, as you very justly remark, cannot support two horticultural societies. This truth I have often stated when called upon to assist them in any way; and I beg, once for all, to say that the sooner they are united, the sooner will they receive the support of every sincere friend to the diffusion of horticultural skill; *J. Walker, Viceregal Gardens, Dublin, October* 2.

Do not tie up Deodars.—During the year 1846, two dozen Deodars were neatly tied to stakes, with the view of forming good shapely plants. In every case the leading shoot was soon found to appear unhealthy, and in some instances died. During the following season, every tie and stake was removed, the plants allowed to take their natural drooping habit, and since that time the leading shoots and plants generally have gone on well; *J. H.* [Quite right.]

Malformation in Seeds.—On opening a Melon, I was surprised to find one of the seeds split open and the two divisions widely distended by a globular somewhat cerebriform corrugated mass about the size of a Pea. It was in parts firmly attached by little membranous expansions to the cavity of the seed, though the greater part was free. The seed had lost all attachment to the bundle of vessels which gives origin to the raphe; but, what surprised me very much, the mass itself terminated one of the umbilical cords which expanded above, giving off a multitude of branches, each accompanied by a sheath of elongated tissue, and the whole surrounded by irregular hexagonal cells, which being moulded on the vessels and their surrounding tissue caused the surface of the mass to be irregularly granulated. The cavities of the tubes containing the spiral threads were mostly obscured, as also the walls of certain patches of the hexagonal cells, with matter analogous to that which is found in the Potato and Turnip murrain. The elongated tissue surrounding the spiral vessels did not seem to be affected. I hunted in vain for a second instance, but found only a seed, highly discoloured and partially decomposed, split nearly to the chalaza, but with nothing in its cavity; another seed also was burst, from the embryo having begun to vegetate. I do not attempt to explain the very curious appearance which I have detailed. If the mass came from the umbilical cord belonging to the seed which contained it, there was probably some malformation at a very early state of growth, and perhaps such an occurrence is more possible in an anatropal ovule than in others. The condition of the tissues shows that there was some disease at work, unless indeed the deposit of dark matter was altogether subsequent to the formation of the intrusive mass, which is scarcely probable. The fact also of one of the seeds having germinated *in situ* is worthy of remark. Opportunities will possibly soon occur of investigating the matter more fully; meanwhile I must content myself with merely directing attention to it, in the hope of exciting the interest of some more competent observer; *M. J. B.*

Local Horticultural Exhibitions.—I beg to notice the very imperfect manner in which the reports of local horticultural exhibitions are usually given. In the list of prizes awarded, the names of the successful individuals only are recorded, which in most instances are uninteresting, except in their own immediate locality; whereas if the names of the successful productions of the exhibition were given, it would be interesting wherever the report was read, as giving an idea of the state of gardening, and the taste of individuals. For instance, the third exhibition of the Darlington Horticultural Society, said to be the best that ever was in that town, was held on September 21st, and whether considered as a show, or, for the beauty and fashion present, was superior to any previous one. Now, in the report of more than one of the local papers, no name of any plant present is given, yet in glancing over the list, prizes are offered for the best 12, 9, and 6 decorative plants, as well as for the best single stove plant, and best stove creeper, and the same of greenhouse plants, also the best Orchidaceous plant, and the names of such things are most essential as forming part of the regulations. This might easily be remedied by requiring exhibitors to attach names to all productions, as is the case with the Horticultural Society of London; *J. H., October* 2.

Cucumbers.—I studied Mills' 10*s.* worth, and the book is cheap enough if one had means and opportunities such as he has; but as I have to "stop my plants" for "common dungbed purposes," although I can give them "a lively heat, from 65° to 75°, with plenty of air," and grow them "strong and healthy," I must be content to swallow the description if I cannot raise the fruit. I made up a bed for a single light frame in March last, and from one plant I cut a round three dozen of handsome fruit before the middle of July. My frame had not heat enough to bring out fresh seed timeously, so, having new lined the dungbed, I sowed two seeds of M'Kindlay's hybrid in a thumbkin pot. This I placed in a large pot filled with moss, well watered, covering it over with a Gaselee glass. I placed it on the top of the boiler of my kitchen range, and in four days the growth was about an inch. I transferred the pot to the frame, gave the plants two shifts at intervals of a week, then planted them out. This was done two months ago, and at the moment I write, I have a most luxuriant crop; one fruit being 19 inches in length, and all its proportions being in keeping, others not far behind it. Indeed there are 11 fruit coming forward, the smallest of which is 9 inches, all from a single light frame 5 feet by 3, and more setting than I feel inclined to saddle the precocious parent with; *An Amateur.*

Rain at the Craig, Bowness, Windermere, for three months, ending Sept. 30, 1848.

Inches.	Wet Days.	Inches.	Wet Days.	Inches.	Wet Days.
Jan. 4.876	13	July 5.618	19	April 1.852	17
Feb. 13.404	25	Aug. 5.874	24	May 1.149	11
Mar. 5.502	27	Sept. 3.257	11	June 5.885	22
23.782	65	14.749	54	8.886	50

By comparing this with the quantity measured during the two first quarters of the year, and with the number of days on which rain fell, it will be seen that the quantity which fell in the first quarter is more than that which fell in the two succeeding quarters put together; and this is so notwithstanding a very rainy summer, or, to speak more exactly, a very showery summer, for on comparing the number of days on which rain fell, the difference in each month is by no means in proportion to the quantity of rain; the great fall in February giving that quarter such a preponderance, while the very small one in April and May reduces the total of the two following ones. It shows, too, why so many spring planted trees this year have failed, in spite of the great total of the three quarters; *T. S. P.*

Does Sheet Glass burn the leaves under it or not? Is it beneficial or injurious? are questions of much consequence. At present the matter stands thus: On one side the Editor and Mr. Roberts, with Mr. Mitchell, affirm that sheet glass burns. On the other hand, Mr. Paxton, with his great experience, and with 88,000 feet of sheet glass, and Mr. Kendall, with my humble self, as stoutly affirm, that sheet glass does not burn, and that it is greatly superior to crown glass. Whence arises this difference? Is it in the different quality of the glass, or is it, as Mr. Paxton and Mr. Kendall intimate, in the attention to ventilation that we must seek for the cause? When I erected my house I saw some 20 or 30 samples of glass at different dealers, varying somewhat in price and very much in quality. The greater part of the 16 oz. glass I saw appeared to me much inferior to good crown glass. Now if a man buys inferior glass cheap, or glazes his house by a tight contract, is it fair to blame the glass? Would it not simplify the question if in future your correspondents were to state what they understood by a scorched or burnt leaf—what the price and weight of their glass, and also who is first in the house in the morning, the writers, their assistants, or the sun. To set the example, I understand that when a scorched leaf is spoken of, one is meant that has a brown or reddish-brown spot or spots, or rather blotches on it, generally with a lighter hue surrounding it. My glass cost 6½*d.* cash at the factory, and weighs full 21 oz. to the foot, and I never allow that respectable gentleman "Old Sol" to take a peep at my Vines, before I have been there attending to the gradual ventilation of the house. Strong arguments have been drawn from two statements in the *Gardeners' Chronicle*; 1st, the mode in which sheet glass is made; 2d, a plate representing a piece of sheet glass after having been slightly ground. Now, on turning to an elementary work on the arts, I find the making of crown and window glass is described in the very terms that the making of sheet glass is described in the *Gardeners' Chronicle*, and would not the experiment have been more fairly stated if a piece of window glass had been subjected to the same process, and the result given? Mind, I do not assert that if a man wilfully covers his house with lenses, that it is impossible to burn the leaves; all I contend for is, that good 21 or 32 oz. glass will not do it. Allow me to ask, Why the outcry has been made this year, when the sun has had less power than for many years past? Is it that more careful ventilation has been required this year? Why has Mr. Roberts or Mr. Mitchell omitted to state what would so greatly corroborate their assertions — how much damage these convex and plano-convex lenses have done to the wood-work within their houses, for I presume they, as I, have either shelves, or stages, or stands, or trellis of wood-work there, and I do verily believe that such very dry wood-work would be more easily and quickly scorched or burnt than a green living leaf. In this neighbourhood is a greenhouse, the floor of which, the shelves round it, the trellis-work at back, and a large stage in the centre, are all of wood, and though glazed partly with 16 oz. and partly 21 oz. good sheet, is not yet burnt, though the plants are removed in spring to be returned in winter, and the dry wood is fully exposed to the lenses. Will any of your readers look carefully at the leaves of their out-door Vines, and of other trees as well, and they may find, as I have done, a few, though perhaps only a few, with a similar appearance of scorching on them. But to any one of your readers, who are about to erect a greenhouse, and hesitate, for fear of scorching, to use 21 oz. sheet glass, I would suggest a simple and cheap experiment. Procure from an optician or watchmaker a lens—the larger in diameter the more it will correspond with the supposed lenses in the glass; the one I used was only a little more than two inches in diameter, with a focal distance of 10½ inches; let him try with it to produce the same appearance on a green Vine leaf as is on the so-called "scorched" leaves. I think he will find that it requires management and nicety to discolour the leaf without burning a hole through it; and when it is so discoloured the appearance will be different from the scorched leaves. I would also suggest to Mr. Mitchell, as a more simple experiment than covering and uncovering his convex and plano-convex lenses, to place a sheet of paper (previously steeped in a solution of nitre and dried) over the leaves that his lenses are suspected of burning, when, if he is correct, the touchpaper will soon prove it. Once more I do not say that bad glass will not burn, for of that I have no experience, but I assert that good 21 oz. will not. One word on rough plate glass. I doubt whether it will answer, but only for the following reason. For an experiment not worth recording, I some years ago kept a blind over a small Vinery from the middle of November to the beginning of March; I had that year a good but late crop, but the two following years the produce was deficient, owing, as I then thought, though I may be in error, to the deficiency of light in the winter months. I only state the fact; *A. K.* [Those who engage in this question should distinguish burning from scorching. When leaves are acted upon artificially with a burning-glass the appearance is the same as when the effect is produced by sheet glass. We believe that leaves may be burnt at a temperature much below what is required to inflame wood. There is no analogy between shaded glass and rough plate; in the former light is cut off, in the latter it is dispersed.]

Construction of Glass Houses.—As economy is as necessary in the erection of horticultural structures as in other gardening matters, I subjoin one or two facts relative to the subject, which may prove useful. The first is the doing away with rafters in the roofs, especially of forcing houses. The roof may be made perfectly strong without such incumbrances, which in small structures can scarcely claim even the credit of utility. It may be said that the astragals are not sufficient in themselves to support the weight of the superincumbent glass; but I have seen it tried, and that with the greatest success. Now for an early forcing house what can be more simple than a low wall, say 2 feet 6 inches high, for the front and basis on which the astragals are to rest, the latter being let into a good substantial wall plate, and likewise a piece of timber built into the back wall at the necessary height, into which they are also let. The astragals which I have seen used for this purpose were 3 inches deep by 1 inch thick, thus giving them increased strength without in any way preventing the free transmission of light; and for their greater stability a small iron rod or two, according to the length of the roof, was run along, connecting them by being neatly screwed into each astragal. The ventilating is another most important consideration, but it is easily effected by openings along the front wall, say 2 feet by 1 foot 3 inches, and likewise a row along the back wall, just below the beam. I mentioned before the glass most appropriate for such a structure is the British sheet or plate glass, being of a large size, and thereby tending, in a great measure, to strengthen the whole roof. The cost of a house like this is exceedingly moderate compared to that in which top sashes and rafters are used; *G. C. Niven, Royal Gardens, Kew, August* 28. [We do not like this kind of ventilation, which is wholly insufficient for most purposes.]

Societies.

HORTICULTURAL, *Oct.* 3.—E. BRANDE, Esq. in the chair. — Lane, Esq., of Bristol, and M. Ricardo, Esq., of Kiddington, Oxfordshire, were elected Fellows. Of subjects of exhibition, Messrs. Rollisson, of Tooting, sent a collection of Orchids, consisting of a fair specimen of the orange-blossomed Epidendrum vitellinum; Phalænopsis grandiflora, well flowered; the white-blossomed Dendrobium formosum; a variety of Miltonia candida; Mormodes citrina; two unnamed Vandas, both nearly related to V. suavis; and an Ixora from Java. A Banksian Medal was awarded to the two first-mentioned plants.—A collection of Orchids was also supplied from the nursery of Messrs. Loddiges, of Hackney, in which were the somewhat scarce Oncidium oblongatum; the self coloured variety of Miltonia spectabilis, a specimen of which was exhibited at the last meeting of the Society; M. Clowesiana; Angræcum caudatum; the showy Cattleya maxima; a good Oncidium recurvum, and two other species; the beautiful and rare Stanhopea bucephalus; together with Odontoglossum cordatum; the curious rather than beautiful Cycnoches Egertonianum; the Apricot-coloured Calanthe curculigoides; and Catasetum lanciferum. A Banksian Medal was awarded the two first-mentioned plants.—Messrs. Veitch sent Oncidium onustum, a dwarf, yellow-flowered, Peruvian species, new to gardens; Gloxinia fimbriata, a French variety, with the habit of an Achimenes, and white flowers spotted in the throat with yellow and purple; and two plants of a new yellow-fruited Peruvian Capsicum, found to be far less pungent than the common Capsicum. A Certificate of Merit was awarded to the Oncidium. A similar award was also made to Mr. Glendinning, of the Chiswick Nursery for an unnamed Angelonia, remarkable for its strong odour of musk.—From Mr. Jackson, of Kingston, was Impatiens repens, a new Ceylon kind of Balsam, with a trailing habit and bright yellow flowers, which, if produced in abundance, will render it a pretty ornament to hothouse rockwork. It is expected that it will prove suitable for out-door decoration in summer. It is said to be an annual, but may readily be kept up by cuttings. From the same collection also came a Bifrenaria, from Rio Janeiro. Messrs. Paul, of Cheshunt, sent two trays of autumnal Roses, of which they have had a fine display; but which have suffered there, as elsewhere, from the superabundance of wet we have lately experienced. The collection comprised fine blooms of—*Hybrid Perpetual:* Lady Sefton, lilac blush; Lady A. Peel, rosy carmine; Louis Bordillon, rose; Jacques Laffitte, cherry crimson, edges pale; Mrs. Elliot, rosy purple; Comtesse Duchatel, rose; La Reine, pink tinged with lilac; Dr. Marx, carmine; Marquisa Boccella, pink, blush edges; William Jesse, crimson, tinged with lilac; Madame Laffay, rosy crimson; Edward Jesse, crimson, shaded, dark purple; Baronne Prevost, pale rose; Duchess of Sutherland, ditto; Lawrence de Montmorency, rosy pink, tinged with lilac; Du Roi, or Crimson; Mogador. *Bourbon:* Acidalie, blush white; Amarantine, purplish rose; Comte d'Eu; Madame Desprez, rosy lilac; Celimene, clear blush; Irina; Armosa, bright pink; Comice de Seine et Marne, crimson; Queen, fawn-coloured rose; Pierre de St. Cyr, pale rose; Vicomte de Cassey, lively red; Le Grenadier, light crimson; Duc de Chartres, deep rose; Souchet, deep crimson purple. *Tea:* Caroline, blush pink, centre rose; Comte de Paris, light crimson, tinged with lilac. *China:* Mrs. Bosanquet, pale flesh; Cramoisie superieure, velvety crimson. *Hybrid Perpetual:* Madame Aimé, pale flesh, nearly white.

Of FRUIT, Mr. Henderson, gr. to Sir George Beaumont, Bart., sent a Queen Pine-apple, handsome and well ripened, weighing 6 lbs. 2½ oz., for which a Banksian Medal was awarded. This was certainly a fine fruit, but at the same time it must be recollected that Queens have been exhibited before the Society weighing 6 lbs. 15 oz. Mr. Povey, gr. to the Rev. J. Thornycroft, of Congleton, Cheshire, received a Certificate of Merit for a Providence Pine, weighing 9 lbs. 4 oz. It was stated to have been cut from a plant 21 months old, grown under Vines. Various Grapes were exhibited. The most remarkable was a bunch of Muscat of Alexandria, weighing 2 lbs. 8½ oz., though it had lost nearly 1 lb. from berries having dropped off, and from its having been cut and sent to London a week before the meeting took place. It came from Mr. Hutchison, gr. to A. L. Gower, Esq., of Castle Malgwyn, Pembroke; and with it another, which could not be kept till the day of exhibition, weighing 4 lbs. These were the produce of Vines grown on a border constructed as described at p. 651 of our volume for 1847, and from which bunches of Black Hamburgh had been produced weighing 4 and 5 lbs. each! S. Gye, Esq., of Springfield, Surrey, showed a basket of Black Hamburgh Grapes, 11 bunches of which, together with the basket, weighed 17 lbs. They were finely swelled and well coloured for the season, and were remarkable as being the produce of Vines planted on the 15th of May last year. They had been grown on Mr. Crawshay's plan, without the aid of fire heat, except so much as has been required to keep out damp. A Banksian Medal was awarded them. J. Allnutt, Esq., of Clapham, sent Grapes in which it was stated mildew had been cured by means of free ventilation and occasional fire heat at night. Branches of his new monthly fruited Raspberry, profusely loaded with ripe fruit, were produced by Mr. Rivers, of Sawbridgeworth; and from Mr. Greenshields, gr. to J. Penn, Esq., of Lewisham, came the fruit or seeds of Cycas revoluta, being round flattened reddish coloured nuts, which may be eaten like Hazel nuts, and which are produced on the edges of small buff coloured woolly leaves. It was stated that a kind of arrowroot prepared from such plants was used as food by the natives about Vera Cruz and other parts of Mexico.—From the *Garden* of the Society were fine specimens of Sedum Sieboldii; Mulgedium macrorhizon, a plant useless for pot culture, but which would form a good out-door plant for rockwork, if the roots could be preserved over winter; a large Cape Heath; Centrum viridiflorum, a highly fragrant species; Miltonia candida; Odontoglossum grande; Hovea ilicifolia, a species whose beautiful violet flowers amply compensate for the difficulty experienced in cultivating it; a new Calceolaria from South Australia, with numerous tufts of crimson stamens surmounted by yellow anthers, which contrast well with them; and Satyrium Herschelli, a variety nearly related to S. erectum. In consequence of the supposed difficulty of cultivating this and other kinds of terrestrial Orchids, which comprise some of the most beautiful herbaceous plants in existence, the Society has taken some pains to obtain a collection, with the view to ascertain whether they are cultivable or not, and the plant in question was produced as a result of the experiment, which it was stated had as yet proved successful. The plant shown was far from the prettiest of its race, but it exhibited the best of health.

New Garden Plants.

THE PINK BUTTERFLY PLANT.

(*Phalænopsis rosea*, Lindl.)

SP. CHAR.—Stemless. Leaves narrow oblong, leathery, sharp and recurved at the point (8–12 inches long). Flowers 12 or 13, about an inch in diameter, at the end of a stiff ascending lateral peduncle (18 inches long). Sepals spreading, oblong-lanceolate, rather acute, equal, white slightly tinged with pink. Lip ascending, deep violet, with the lateral segments linear-spathulate, oblique, incurved, the middle one ovate-acuminate, slightly lozenge-shaped; crest thin, concave, lunate, rounded.*

[P. ROSEA, a little magnified.]

This is a very unexpected addition to the genus Phalænopsis, of which it has exactly the habit. The flowers are small, numerous, and arranged in a loose spike. The lip wants the tendrils so remarkable in Ph. amabilis and grandiflora, instead of which it is bright rose colour, with almost the shape of a trowel. It was found in Manilla by Mr. T. Lobb, who sent it to Messrs. Veitch, who describe it as having a spike of flowers from 12 to 18 inches long; that which we saw was not more than 4 inches long, but it had blossomed at sea, and is probably inferior to what it will become hereafter.

Miscellaneous.

Cultivation of Saffron.—1. Saffron was not cultivated in France before the Crusades. The bulbs (*cormi*) from Avignon were introduced towards the latter end of the 14th century, by a gentleman of the family of Porchaires, who first planted them on his estate at Boyner. The botanical characters of the Crocus sativus autumnalis are well known. The same bulb or cormus flowers once only; and as soon as the flower is withered, a bud (*caieu*) appears, which, after having produced several flowers in the autumn of the second year, also dies. After the third year the bulbs should be transplanted. A dark, somewhat loose, sandy soil, in a sunny situation, suits it best. Heavy, wet, clayey, and freshly-manured soils are unfavourable for its cultivation. The usual manure is the marc of the Grape. The bulbs are planted at the beginning of July, about 12 to a square foot. A temperature of 14° Fahr. is very injurious to them, in case the snow does not lie very high. In the Gatinais, the Saffron herb dries up in May, but it is collected for cows. When the flowers are gathered, the stigmata (*le jaune*) are plucked off, dried, and preserved in dry wooden boxes, for when protected from dampness, the Saffron keeps for years. Saffron is adulterated by mixing it with Safflower, Marygolds reddened by salt, and shreds of beef (*la roucile de bœuf*) Saffron is employed in dyeing, in cookery, in pharmacy, and in medicine. In France and Spain, a balsam or Saffron ointment is prepared from it, under the name of Croco-magma or Crocinum. It is also used as a prophylactic against sea sickness. 2. The Saffron of Lower Austria is the best and most costly in Europe, but the produce is scarcely sufficient for the home consumption, and, therefore, Saffron is imported. It is chiefly produced at Ravelsbach, Meissau, Eggendorf, Kirchberg, and Wagram. Most of the Saffron gardens have a substratum of loam, covered about a foot high with mould. Wheat fields are best adapted for the cultivation of Saffron, the produce being threefold that of the Wheat. The gardens should be placed dry, exposed to the sun, and towards the south, and protected against northerly winds. They should not be shaded by forest trees, nor be too much elevated and exposed to the wind. Districts favourable for the cultivation of the Vine are best. The flowering season begins during the last week of September, and ends in the first week of October; but sometimes lasts till the beginning of November. The soil is prepared after three methods: the first is similar to that of preparing a garden bed. By the second method, the field is ploughed in autumn after the harvest, the same as for Wheat, only somewhat deeper and narrower. According to the third method, the field is ploughed immediately after the harvest (whether of Wheat, Rye, or Oats), and then rolled and harrowed. Three days before planting, it is ploughed again. The manure is only added during planting; but so that it is well covered with earth and does not come in contact with the bulbs. This method requires the best soil and the smallest and best manure, as sheep manure. The Saffron bulb is called in Austria Kiel. It is of the size of a Walnut, surrounded by 10 or 12 soft, brownish membranes, of a cinnamon-brown colour, which terminate at the top, around the germ, in capillary threads—called hairs—but in such a manner that only about three of them reach the top, the others being shorter and finer. The multiplication of the Saffron proceeds from these bulbs (*Kiele*). No case is known of a flower producing seed. Each bulb produces, within half a year, namely, between autumn and the end of spring, from one or two, or from three to four new young bulbs; but the parent bulb perishes in the meanwhile every year, and nothing remains of it but some coarse black brown membranes, called hollen, and a dried hard mass—the platte, on which the young bulbs are seated. Before the bulbs are planted they must be cleared of all membranes remaining of the parent bulb, of the platte, &c., and all damaged or diseased bulbs rejected. They are stowed away 3 to 4 inches high, in a dry airy place. The sowing is performed by two men, one making with a hoe furrows of 8 inches depth, the other placing the bulbs 3 inches apart, and pressing them in the ground so that they are half covered. The Saffron flowers appear before the leaves, and can easily be gathered without disturbing the bulb. The best time for gathering them is early in the morning while they are closed. When gathered they are spread in a cool room, on cloth or straw mats, until fit for picking. The picking (called *Saffrandlesen*) consists in separating the tripid stigma from the style, and removing it from the flower. This is done the day after the gathering, and must be performed without separating the parts of the tripid stigma (called the *Zungelein*, or tongue-lets) from one another. They should remain adherent, or, as it is said, "the book should be entire." Little or nothing of the yellow style should be left attached to the stigma. In this way the Saffron has a better appearance and fetches a higher price. On the following day it is dried on a hair sieve over a charcoal fire; and placed in boxes without compression. After a few hours it becomes oily and flexible, and can then be pressed into well closed boxes. Most of the Austrian Saffron is sold at Krems on the 28th of October. Its price is from 30 to 32 fl. [=36—38 fl. 24 kr. Rhenish] per pound. After the crop of the first year, the green leaves are left growing till the spring of the next year, and in June, when they begin to wither and to become yellow at the top, they are mowed as food for cattle. The little bulb (*Kindeln*), which in the first year had formed itself on the parent bulb, and from which a little tube, with or without leaves, had already grown, in the autumn of the second year, goes on swelling till the spring. About Whitsuntide, the new bulb (*Kiel*), called kindel, is perfect. If everything goes on well, the Saffron garden will, in the autumn of the second year, contain two or three times the quantity of bulbs (each bearing two or three flowers) originally planted. If the bulbs are left for a third crop, nothing else is to be done but what was required after the first, namely, mowing the Grass and carefully removing the weeds in July. It is, however, remarkable that neither bulbs nor flowers multiply in the third year. The bulbs having now yielded Saffron for two, three, or four years, are removed about Whitsuntide, when the new bulb (*Kiel*) is perfectly developed, the Saffron-grass gathered, and the old bulb quite disappeared. By means of a coarse sieve they are cleared of the adhering mould, and stored up in an airy barn or loft: *Pharmaceutical Journal.*

On the Means of Destroying Snails.—I determined to undertake the analysis of the small grey snail (Limax agrestis), so frequently found in gardens and in the fields, and which has this year done so much damage to all kinds of cultivation, hoping that such an investigation might lead to the discovery of a means of preventing the too great increase of these creatures. My attention was especially directed to the glutinous matter which they continually secrete, and which serves to attach their bodies to the surfaces over which they pass. I endeavoured to find out in what way lime, which has long been recommended to cultivators as a means of destroying snails, acted upon them; and I have ascertained that lime-water diluted with three times its bulk of water, was sufficient for their destruction. Water, scarcely rendered alkaline by the addition of potash, killed them still more quickly, causing a large quantity of slime to be thrown out. Solutions of the metallic salts, when added to this slimy matter, produce an abundant coagulated mass: that which is produced by the action of nitrate of copper dissolves in an excess of potash, and produces a violet-coloured liquor. Of all

* For the meaning of these technical terms, see Lindley's *Glossary*.

the poisons which I have tried on the snails, there is none which has appeared to exert so deleterious an influence as the alkalies. If a drop of caustic ammonia, or of caustic potash, be added to a quart of rain-water, an alkaline solution will be formed of such little strength that it scarcely affects delicate test-paper, and causes no impression on the organs of taste; if, however we place some snails in this solution, they soon die, whilst other snails placed in rain-water alone, escape out of the vessel in which they are placed. It would appear difficult to find more energetic poisons for snails than those I have indicated; I therefore think that a weak solution of caustic potash or soda, or, what would be still more economical, the refuse lyes which have served for the washing of linen, diluted with water to which a small quantity of quicklime has been added, will enable us to attain the object we have in view more readily and certainly than by the use of lime alone in the state of powder, as this is speedily converted into a carbonate of lime by the action of the air, and thus loses its poisonous influence on the snails; *M. Braconnot, in The Florist.*

Calendar of Operations.

(*For the ensuing Week.*)

CONSERVATORY AND GREENHOUSE.

Hints from the thermometer should regulate the admission of air; the great advantages accruing from favourable weather should be employed to the utmost extent, and in many cases openings for air left all night. The careless practice of opening the sashes at stated intervals to only a certain degree, without reference to external circumstances, must throughout the season be avoided. Bark or other beds of fermenting materials for plunging plants should be renewed if necessary, as soon as the proper materials can be collected. A surface of either sawdust and sand, old tan, or decayed leaves will be found useful for plunging. For early forcing, a bed of this kind, capable of supplying a lasting bottom heat of from 65° to 70° will be found of the utmost value. Introduce Roses for forcing; no fire heat will be required at present; by shutting up early on bright days sufficient heat will be included to invite an early root action. *Pits and Frames.*—Regulate the general bedding stock, and get the majority established in small pots. Give as much air as possible, and restrict the supplies of water, to mature the growth as far as possible. All temporary pits for their accommodation should be completed by this time; glazing and other repairs forthwith finished. Common mats afford scarcely sufficient protection to the half-hardy things in store pits; for such purposes a stock of straw or reed mats should be made in wet weather.

FRUIT FORCING.

Fig-house.—The general taste, perhaps, does not accord a preference for Figs; and possibly for that reason we find them slighted in many ways: in one place associated, without regard to any principle of equality of position, with Vines; in another, made to suffer for the tropical tastes of Pines; and yet they are seldom unfruitful. But to do full justice, to develope fully the valuable properties of the Fig, a house should be devoted exclusively to its cultivation; and if treated with propriety in the course of a season, few forced fruits can compete with it in the duration, value, and quality of its production. To ripen off the late fruit an average heat of at least 60° should be managed, with a free circulation of air, to prevent the damp affecting the fruit. *Vines.*—Prune early Vines as soon as the operation can be performed with safety; employ the scissors daily in removing decaying berries from the Grapes in the late houses. Check the further growth of laterals wherever the speedy ripening of the foliage is looked for. Glazing, painting, &c., should be forwarded as soon as the houses can be spared; an examination of the flues and furnaces should also take place.

FLORISTS' FLOWERS.

Carnations and Picotees.—Recently potted layers must be preserved from excessive wet, and unless this advice, which has previously been given, has been acted on, our friends will suffer in their stocks. We hardly remember a season when the complaint has been so universal as to the paucity of seed, owing to the late ungenial weather. We would recommend those of our readers who are fond of making experiments, to patronise the yellow Picotee, being certain there is ample room for improvement, and that those who persevere in well directed efforts to ameliorate them will reap an abundant reward. *Auriculas* will require to be placed in their winter quarters; being perfectly hardy, many are destroyed or materially injured by being overmuch cared for. Too much moisture must be avoided, and a dry airy situation selected for the frame to stand in during the winter season. *Polyanthuses* are flowering abundantly this autumn. It is advisable in old varieties to remove the pips, as the plants are certainly not benefited at this season by producing them. In the case of seedlings they may be permitted to bloom, though it often happens that those which flower thus early are from the boldest seed, and are generally coarse and worthless. These should be removed; but should any present properties at all desirable, mark them and allow them to remain, in order that on blooming next spring, a proper estimate may be made of their quality. *Tulips.*—Plant offsets, and arrange for the best beds; take advantage of dry weather still to turn and sweeten the beds. *Pinks.*—Small pipings are often dragged out of the ground by worms; carefully attend to them and refasten where required.

KITCHEN GARDEN AND ORCHARD.

The decline of the late crops of Peas, Beans, Cauliflowers, &c., should be followed by their immediate removal, and no decaying or useless vegetable matter at this moment should be allowed to cumber the ground. If the vacancies be not directly required they had better be rough dug or ridged, for exposure. The distribution of manure should be governed by a due consideration of the late and proposed crops; for instance, the Onion quarter has probably received dress sufficient to carry a crop of Cabbage without further assistance. Strong growing Peas and Beans impoverish the land; quarters which have been thus occupied might be appropriated to early Potatoes, in due season. In the future cultivation of the Potato all circumstances that tend to promote excessive luxuriance and production must be avoided; at least with us, this season, the general examples tend to prove this assumption. A good supply of the late sowings of Lettuce should be planted in situations best calculated to afford them protection in the winter; when the accommodation of pits or frames can be afforded a quantity might be planted within them to ensure a regular supply, independent of the weather. The out-of-door Cucumber-bed, stirred over, will be suitable for August sown Cauliflowers, which shortly will require the protection of hand-glasses. Some prefer keeping their Cauliflower plants in small pots under glass. Asparagus stalks should be removed, and an adequate quantity of seed collected for the yearly sowing. A slight dressing of salt may be advantageously applied to the beds. Clear away decayed leaves from Rhubarb, and dress with a little good soil those plants intended for early forcing. Forward all preparations that attend the planting of fruit trees; it is an advantage to complete that operation in November. The employment of fresh soil of a loamy character should invariably be preferred to the use of manures of a more powerful nature.

FORESTING.

The preparation of land for planting should be proceeded with; peculiarities of locality and situation may justly be allowed to modify a practice, but generally we believe that planting may be most advantageously effected in the autumn. Clear away weeds, and the overgrowth in young plantations; free water-courses from interruptions, and see that drains are not defective; ditches and larger water-courses may be cleared, and the mud stacked for agricultural purposes; although such matters are not the best, with proper management they may be usefully applied.

State of the weather near London, for the week ending Oct. 5, 1848, as observed at the Horticultural Garden, Chiswick.

Sept. and Oct.		Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. ..	29	2	29.677	29.669	58	51	54.5	N.	.27
Satur..	30	3	29.790	29.691	64	51	57.5	S.W.	.09
Sun. ..	1	4	29.681	29.673	63	39	51.0	S.W.	.00
Mon.. ..	2	5	29.688	29.404	67	40	53.5	S.	.03
Tues...	3	6	29.940	29.711	67	49	58.0	S.W.	.04
Wed...	4	7	29.988	29.864	65	58	61.5	S.W.	.01
Thurs.	5	)	30.151	29.538	67	49	58.0	S.W.	.00
Average ...			29.845	29.677	64.4	48.1	56.2		.44

Sept. 29—Rain throughout.
— 30—Partially overcast; cloudy; lightning in the evening; overcast.
Oct. 1—Densely overcast; clear at night.
— 2—Hazy clouds; very fine; overcast; rain.
— 3—Fine throughout; overcast at night.
— 4—Rain; cloudy; densely overcast.
— 5—Cloudy and mild; very fine, clear.
Mean temperature of the week, 2 deg. above the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending Oct. 14, 1848.

Oct.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 8	60.8	44.9	52.8	11	0.63 in.	—	4	3	2	4	5	4	—
Mon. 9	59.9	44.5	52.2	12	0.52	—	4	1	1	4	7	4	1
Tues. 10	61.7	44.3	53.0	11	0.63	—	1	3	—	7	7	2	2
Wed. 11	63.0	44.1	53.5	11	0.31	—	2	2	2	3	8	4	1
Thurs.12	60.6	43.4	52.0	12	1.00	1	2	1	—	4	5	7	2
Fri 13	61.0	42.2	51.6	10	0.33	3	2	2	—	6	4	3	2
Satur. 14	59.8	41.5	50.6	10	0.50	1	1	2	1	7	2	3	5

The highest temperature during the above period occurred on the 11th 1832; and 12th, 1847—therm. 72 deg.; and the lowest on the 14th, 1843—therm. 29 deg.

Notices to Correspondents.

To our Correspondents—May we beg it to be understood that *we cannot answer inquiries privately through the post.* We are ready to give any reasonable information in our power through our columns; but we cannot consent to the labour of writing letters.

Berberis: *C D A.* The berries of B. aquifolium are harmless.

Books: *Young Gardener.* Loudon's "Self-Instruction for Young Gardeners."‡—*J Mooney.* Dr. Lindley's "Theory of Horticulture" may be obtained of any bookseller. The price is 12*s* ‡—*F C.* Macintosh's "Practical Gardener," or Neill's "Fruit, Flower, and Kitchen Garden."‡

Botany: *J W S.* Foreign botanical works cannot be read without a small knowledge of Latin, unless they are in the language of the country. It is the same here, but our English Floras have abandoned Latin altogether. What is most essential is a Glossary, and that you will find in Lindley's "Elements of Botany."

Carnations: *A Subscriber.* The ground colour of a Carnation should be white; no others are shown.*

Figs: *J H.* At the season when Figs ripen out of doors, it is sometimes not readily perceived whether they are on the young wood or on that produced in the previous summer; but if you observe closely, you will find that none are perfectly matured on the present summer's shoots.‖

Heating: *Vitis.* It is computed that 292 feet in length of 4-inch pipe will heat 1000 cubic feet of air in hothouses to 75°, when the external air is 22° below freezing; but much depends upon the extent and nature of the roof, and unless this is taken into account, any calculation made with reference to the number of cubic feet of air in the house is of little value.‖—*J T.* Your plants probably suffer from dryness. Cannot you put evaporating pans on the flues, or throw moisture into the atmosphere by some other simple contrivance? Orchids *must* have a moist atmosphere while making their growth, although they like comparative dryness at other seasons.

Herb Growing: *Hants* says: I wish to grow the following articles, to supply the trade, having land excellently adapted to such a purpose; you will oblige me if you can name any work treating on the subject, or in any way putting me in the way of obtaining information on the subject: Peppermint, for its oil; Lavender, for ditto; Rhubarb, medicinal, for its dried root; Chamomiles, for dried flowers and oil; Damask Rose, for petals dried; Liquorice, for root. We are not aware of any work specially treating on this subject. Perhaps some correspondent may know of such a one.

Insects: *S N.* No. 6, Pimpla accusator, Fab., Fz.; No. 5, Pemphredon lugubre; No. 1, Alantus cinctus. Insects sent to be named must be properly pinned and set. *W.*—*W P.* We stated in our last Number that your Podura was closely allied to, and therefore distinct from, P. viatica; but what proof have you of its attacking either Potatoes or Melons in a sound state? Your promised letter, with details of its habits, will be gladly received. *W.*—*A S.* Tephritis Onopordinis. See *Gardeners' Chronicle*, 1841, p. 660. *W.*—*H L.* Spirits of turpentine poured into the nest, or sulphur burnt in it, and the mouth stopped up, will destroy the colony of ants. *W.*—*Pavonia.* Your query was answered in our Number of September 23. Your moth is Acronycta Rumicis, and the small insect is Aleyrodes Chelidonii. *W.*—*T S.* It is the caterpillars of the several species of clothes-moths which are destructive throughout the greater part of the year. They may be destroyed by inclosing the objects attacked in fumes of brimstone or spirits of turpentine. *W.*—*S A.* Aspidiotus Echinocacti. Try hot water for its destruction; but a better plan would be to inclose the plants in a house with fumes of bruised Laurel leaves, at the time when the winged males make their appearance, or when the young are just hatched and moving about. *W.*

Names of Fruits: *C Wood.* 1, King of the Pippins; 2, Autumn Pearmain; 3, Blenheim Pippin; 4, Wormsley Pippin; 5, Beauty of Kent; 6, Hollandbury; 7, Margil; 12, Alfriston; 14, Kentish Fill-basket; 16, Scarlet Nonpareil; 17, Ne plus Meuris.‖—*C E K.* 1, Belle et Bonne; 2, Old Colmar; 3, 4, Marie Louise; 5, Glout Morceau; 8, Beurré de Capiaumont; 9, Swan's Egg; 10, Chaumontel.‖—*Vorax.* The Chancellor Peach.‖

Names of Plants: *J M S.* A trifling variety of Cattleya Loddigesii.—*I B W.* Nostoc commune; a most curious though common plant. If you have a microscope examine it. We shall try and persuade the author of "Familiar Botany" to tell you something about it.

North Borders: *B K.* You cannot do much with your border, but you may do something. 1. Drain it thoroughly; 2. Mix plenty of plasterers' rubbish with the soil, to keep it more open. If you can add a good lot of coarse *river* sand so much the better; half would not be too much. You may then grow the usual summer border flowers, especially such as love shade; and Camellias and Fuchsias will probably flower in it, only you must give them some nice mellow loam for their own especial benefit. Roses will do no good, except China Roses.

Peas: *W S.* The Early Frame or Early Kent will possibly suit you. Of the artificial manures guano is as good as any for Peas ‡

Roses: *P S.* The following, which we extract from the "Florist," for October, is a complete answer to your question: "All pot Roses that require shifting should be done as soon as convenient. If they are in large pots, turn them out, and cut the roots back, replacing them in the same sized pots. If they can be plunged in trenches, with sawdust, they will soon root out with vigour. The tender varieties will require housing in a frame for the winter. If my readers have no such convenience, the plants should be closely stuck round with pieces of Yew, or interlaced with Fern, on the appearance of frosty weather; but these are mere uncertain makeshifts. Look over the young stock, and shift all small plants requiring it into larger sizes; also top-dress all large plants that do not need repotting with some well rotted dung and loam."

Rosewood: *Subscriber.* The Triptolomæas, which produce this, are trees inhabiting the forests of Brazil.

Uniting Bees: *J Usher.* Colonies may be united with advantage by the plans of the writer in question; but he, like most others who are anxious to advance any favourite pursuit, says too much in its praise, while those who oppose it are often governed by prejudices. The writer you mention, who observes that uniting bees is impracticable, requires no comment. It is true that uniting bees sometimes fails, as in your own case; but as you do not exactly mention how the operation was performed, nor condition of the colonies as to their state of honey and pollen, we cannot give the cause. And although we do not advocate destruction of bees, yet when attempts to unite them are badly performed, more evil will follow than if they had been destroyed at once. Well established colonies would not be disturbed by the operation, nor put into confusion while slaughtering the bees palmed upon them. There is not much gained by adding strange bees to a good stock, especially if they belonged to a first early swarm of the current season, for many of them in that case would be of an age to die before the spring, when their services would be most required. If their brood combs, which are unavoidably destroyed, were introduced (a thing not practicable), the produce of young bees from them alone would be of more service than triple their number of old ones. However, the uniting weak fresh swarms answers very well; also adding other bees, when deprived of their store, in autumn, to old stocks, particularly if they happen to be weak in numbers, by repeated swarming during the season. *W.*

Misc: *J L.* The subscription to the Paper is 6*d.* a Number, or 6*s.* 6*d.* per quarter, payable in advance.—*An Irish Subscriber, Cork.* Pray complain to the agent who supplies you with the Paper, as we have nothing to do with the folding. We supply the trade in sheets.—*Hubert.* A list of 12 good Pansies has been given at p. 176 of the present year.‡—*Honora.* Presl's name is pronounced like an English word, both the *s* and *l* being sounded, which makes the name as if *Presel.*—*F G G.* Sulphur will kill mildew if applied early; but it will have little effect if the disease is suffered to get well established before it is applied. Verbenas will grow out of it in spring. The odour from bruised Laurel leaves will kill the insects of which you complain.‡—*J F F.* Your Eschscholtzia is very double, handsome, and worth taking care of.‡—*J G W.* We do not know in what year Delphinium Barlowii was sent out. Donn says in 1741.‡—*Y G, Bradford.* Lists of 50 or 60 varieties of Roses would occupy too much room to be given here. You had better consult Paul's "Rose Garden," which will give you all the information you seek for.‡—*Ampel.* Apply fire heat to your Vinery in the day time, and give plenty of air at the same time, to dry up damp. By that means you may possibly ripen your crop.‡—*A B.* The common Laurel planted as you propose will, we imagine, answer your purpose perfectly.‡—*Novice.* Of any nurseryman. We cannot give prices. In folding the paper be guided by the paging; where is the difficulty?‡—*N C.* Lime water will kill worms, but we are not sure that it will not injure Heaths.‡—*Cornwall.* Six shillings.—*Henry.* We are unable to say what killed your Heath, from the bit sent. Heaths often die in the manner you mention without any apparent cause. ‡

SEEDLING FLOWERS.

Antirrhinum: *J F F.* Your seedling is a very pretty flower; it is not uncommon in its colour and marking, but the yellow is brighter and the striping stronger than usual.*

Pansy: *W H M.* Your specimen is rather rough on the edges of the petals; though good, it is not a first-rate variety.*

Pentstemon: *A Z.* Your seedling appears to be no improvement on the old one.‡

Petunia: *W T.* Your specimen is very fine in colour when the blooms unfold, being a rich velvety purple. Exposure to light takes the blue colour out, and leaves the flowers of a bright crimson. It is a very good variety.*

Verbenas: *D J N.* Your seedling is good in colour; the truss is small, and it is not equal to similar coloured varieties that are already generally cultivated.*

FARMS TO BE LET, in the parish of Holbeach, Lincolnshire, to be entered upon at Lady-day next.

1. LEADENHALL FARM is to consist of about 754 acres, of which 83 acres are in outmarsh, 241 acres in pasture, and 430 acres are arable; this Farm is in the occupation of Mr. William Thomas.

2. LOPWATER FARM is to consist of about 660 acres, 212 acres of which are in pasture and 388 acres are arable; part of this is in the occupation of Mr. William Thomas, and the remainder in possession of Mr. John Pearson Savage.

3. FORTHFRINGHAM FARM is to consist of about 519 acres, of which 77 acres are in outmarsh, 115 acres in pasture, and 357 acres arable; part of this Farm is in the occupation of Mr. Thomas Edward Savage, and the remainder in the possession of Mr. John Pearson Savage.

The soil of these Farms consists of alluvial deposit of very rich quality, producing large crops of every kind of grain, of Turnips, and of other roots.

These Farms are to be let on Lease for 14 or 21 years, at a corn rent, to vary as the average price of Wheat for the three preceding years varies. To view the Farms, apply to Mr. George Martin, Holbeach Marish, who has a plan and particulars of each Farm; and for further particulars apply to Mr. John Morton, Whitfield Farm, Berkeley, Gloucestershire.

MERRIOTT, NEAR CREWKERNE, SOMERSETSHIRE.

TO BE LET, and entered on immediately, on most advantageous terms, an Old Established and Well Stocked NURSERY, containing, by estimation, Ten Acres (more or less), situated in the above parish; together with an excellent Hothouse thereon, filled with choice Vines in full bearing, and valuable plants; adjoining which is a comfortable Cottage, with convenient Cart-house, Packing Sheds, Seed Room, &c.

Merriott is situated within a short distance of the populous towns of Ilminster, Ilchester, Yeovil, Crewkerne, Chard, Taunton, &c., to which latter place conveyances pass to and fro daily, in connection with the railways to all parts of England.

To view the above, application may be made to Mr. Andrews, at the Cottage on the Nursery; and further particulars and terms of letting may be known on application to Mr. Whitley, Solicitor, Wrington, near Bristol, Somerset.—Wrington, Oct. 7.

GREAT REDUCTION IN PRICE.

POTTER'S GUANO is now 7*l.* per ton.—Owing to the recent discovery of cheaper sources of Phosphoric Acid, Mr. Potter is enabled to guarantee the quality of his GUANO, as heretofore, at the above reduced price.

Also, PURE GYPSUM, at 15*s.* per ton, at the Works, in bulk. Bags holding 2 cwt., 6*d.* each, not returnable.

Works, 28, Clapham-road Place, London.

WHEAT SOWING.

THE LONDON MANURE COMPANY beg to offer as under:—

LONDON MANURE COMPANY'S CORN MANURE.
" " " URATE. [LIME.
" " " SUPER-PHOSPHATE OF

Peruvian Guano, direct from Importers' stores—Fishery and Agricultural Salt—Gypsum for Clover—Soda Ash for destroying wireworm, and every other Artificial Manure.

The London Manure Company would call particular attention to their Corn Manure and Urate, the former containing a large amount of Ammonia, Phosphates, and Silicates, all so essential for corn crops, while the Urate is richer in Phosphates and other mineral substances required for roots.

Full particulars and prices forwarded on application.

Edward Purser, Sec., 40, Bridge-street, Blackfriars.

PERUVIAN AND BOLIVIAN GUANO ON SALE,
By the only Importers,
ANTONY GIBBS and SONS, LONDON;
Wm. JOSEPH MYERS and Co., LIVERPOOL;
And by their Agents,
GIBBS, BRIGHT, and Co., LIVERPOOL and BRISTOL;
COTESWORTH, POWELL, and PRYOR, LONDON.

To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

MESSRS. NESBIT'S CHEMICAL AND AGRICULTURAL SCHOOL, 38, Kennington-lane, London.—A sound practical knowledge of Analytical and Agricultural Chemistry, Geology, Surveying, Levelling, Railway Engineering, &c., may be obtained in Messrs. Nesbit's Academy, in addition to a good modern education.

Mr. Nesbit's works on Arithmetic, Mensuration, Gauging, Land Surveying, English Parsing, &c., are published by Longman and Co., and may be had of all Booksellers.

The terms of the School can be had on application either personally or by letter.

HOTHOUSES, & HEATING BY HOT WATER, BEST MATERIALS AND WORKMANSHIP, AT SMITH'S, GLEBE-PLACE, KING'S ROAD, CHELSEA, LONDON. ESTABLISHED TEN YEARS.

TO AGRICULTURISTS, GARDENERS, FLORISTS, &c.

ELLERMAN'S PATENT CONCENTRATED, DISINFECTED, and INODOROUS CARBONISED ANIMAL MANURE, in Powder, prepared only by C. F. Ellerman, Sole Licensee of Mr. E. Brown, Patentee. The best manure for fertilising every description of land, and improving the growth, production, quality, and condition generally, of all sorts of agricultural and horticultural vegetation.

Orders (for wholesale only) received by Messrs. Ellerman and Co., at their Patent Deodorising Fluid Depot, Nos. 80 and 81, St. Martin's-lane, London, who are prepared to supply this Poudrette to any extent, as well as his Disinfected and Inodorous LIQUID MANURE, at prices that may be ascertained on application to them.

Also sold, by appointment, by the following

LONDON AGENTS:

Mr. H. Coles, Seedsman and Florist, No. 32, Cranbourne-street, Leicester-square; Messrs. Deane, Dray, and Deane, Agricultural Implement Depôt, No. 46, King William-street, London-bridge; by whom, in order to afford an opportunity of practically testing, by means of sample, the superior efficacy of this new and incomparable Powder Manure, as well as to suit the convenience of Amateurs, and all those possessing merely

SMALL GARDENS, BEDS, OR PLANTS AND FLOWERS IN POTS,

It is also retailed for such purposes in neatly done up tin canisters, at 1*s.*; double-sized ditto, 1*s* 9*d.*; and treble ditto, 2*s.* 6*d.* each; and likewise in compact wooden packages, containing 1 cwt., at 1*l*; ½ cwt., 15*s.*; ¼ cwt., 10*s.*; and ⅛ cwt., 6*s.* 3*d.* each, packages included.

N.B.—This manure is so clean, and completely free of smell, that the most sensitive and fastidious lady or gentleman may use it for their Pleasure Garden, Greenhouse, or Drawing-room Plants, without experiencing therefrom the slightest annoyance.

Further particulars, and full directions for use, accompany each canister and package.

CLARK'S METALLIC HOTHOUSE WORKS 65, Lionel-street, Birmingham.—Proprietor, Mr. THOMAS CLARK; Manager, Mr. JOHN JONES.

Mr. Clark presents his grateful thanks to the Nobility and Gentry for their liberal patronage of the above Establishment during a period of thirty years, and begs to state that the repeal of the duty on Glass enables him to offer his METALLIC HOTHOUSES at a greatly reduced price. These Houses are glazed with British Sheet Glass, in panes of from 24 to 36 inches in length, and of such thickness as to preclude all danger of accidental breakage, whilst that which arises from the action of frost is effectually prevented by the peculiar mode of glazing adopted. As a sample of his Metallic Hothouses, in which all the most recent improvement are happily combined, Mr. Clark refers to the magnificent range erected by him in the new Royal Gardens at Windsor, admitted by competent judges to be the most complete of its kind in the world.

The Agricultural Gazette.
SATURDAY, OCTOBER 7, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS

Farmers' Clubs.—Oct. 7: Newcastle, Durham, Melrose, East Kelle.—Oct. 9: Yoxford, Great Oakley.—Oct. 12: Carlton-on-Trent.—Oct. 13: Hadleigh, Wakefield.—Oct. 14: Reading.

We are glad to hear that the Royal Agricultural College at Cirencester is in a very prosperous condition, and that the power of nominating students, which is vested in the shareholders, is soon likely to be a valuable privilege. The opportunity which it affords of acquiring sound agricultural and scientific education, under Mr. Wilson, its able principal, and the other highly qualified professors, on a farm now getting into a high state of cultivation, is perhaps superior to any other of the kind in this country; and its bearing upon a young man's prospects in life for obtaining a livelihood in connection with the management and cultivation of land, have just received satisfactory exemplification. During the past week we hear that two students, who since they left the college had prepared themselves by further practice, have obtained valuable appointments.

The alacrity and good nature which so many of our correspondents have displayed in furnishing "S." with information and advice, on the best method of making a Small Farm profitable to a family, who, with limited means, possess the feelings and associations of good society, suggest many agreeable reflections. The kindheartedness exhibited—the lively interest so generally felt in the kind of "genteel" rural economy spoken of; the wish to turn it to a practicable and profitable end—and the voluptuous fancy with which many persons on first approaching the bountiful profusion of Nature are apt to exercise, in speculations upon turning that profusion into profit, are among the reflections that occur to a bystander on looking and listening to the querist and his friendly advisers.

Among the counsel offered, that of "D." (p. 596) seems well worthy of being carefully pondered, though no one will be surprised that it should at first be thought a little unpalatable. A year or two hence it will probably be otherwise. But "S." urges, as his reason for rejecting "D.'s" sober advice, that the preponderance of opinion is against him, forgetting that it is so much more agreeable to express hopes than fears, and that the enthusiastic are so much more voluble than the experienced, that this perhaps may account for the small number in the ranks of the enemy. It is to prevent the large number who we believe are placed in a situation very similar to his from falling into errors most injurious to themselves, so far as our humble efforts can, that we venture to express opinions very similar to those of "D." It is a mistake to think that the most honourable attempt which our Paper has lately recorded, to turn knowledge of rural economy to account in the support of a family is something new—a "peculiar system." The chief interest of the subject, and a chief reason for our anxiety that it should be thoroughly discussed in our pages, is, that large and increasing numbers of persons similarly situated are in one shape or other following out similar plans, and that it is very desirable the best methods of "getting along" in such circumstances should be widely made known. The lovers of peace and retrenchment believe that a considerable increase will shortly be made to the half pay list; and the other learned professions, in the stage at which society has arrived in this country, must provide every year an increasing number of recruits to the peaceful battalion. Meantime there is already a sufficient number of persons in the situation of our correspondent to make the subject well worth the attention of those who can in any way help it forward. Multitudes of people are, for example, trying to make a moderate income go as far as possible by retiring to cheap country quarters, raising their own fruit and vegetables, occasionally sending some to market, selling their surplus milk, butter, eggs, and bacon, and thus by the application of their own labour or superintendence, or both, to a small farm, are making 100*l.*, or 150*l.* a year do, as well as it may, the work of 200*l.* or 300*l.* A country [illegible]; [illegible] and garden, and 15 or 20 [illegible] of land for 30*l.* or 35*l.*, two or three cows, a [illegible] and a store of hens and turkeys, [illegible] collection of [illegible] and [illegible] very limited means are [illegible] very comfortably. And if a [illegible] to keep their garden themselves, they and [illegible] their vegetable and [illegible] useful habit, and knowledge, [illegible] imparted to children in the process [illegible] will involve the necessity of an [illegible] education for the boys; but so far [illegible] tion of children being kept [illegible] cumstances we can imagine none better calculated, if parents do their duty, for [illegible] with the best of all knowledge, and [illegible] the character by the best of all [illegible]. If two boys and five girls have to be [illegible] pay," and the produce of 20 or 30 [illegible] it is clear that there can be neither [illegible] nor college education for them; but there may be something far better, both for their [illegible] and their happiness. It will be better for the latter to understand how to rear fowls, than to botch ridiculously unlike resemblance of [illegible]; and a Dutch hoe will answer better purposes than a billiard one in the hands of the young man. There are abundance of noisy pretenders [illegible] Greek and Latin among the rising generation; a knowledge of the plants and animals which "S." could give on his farm, and a touch of the plain sense and philosophy which such [illegible] ought to impart, would be infinitely superior to "the Battle of Prague" or the Satires of Juvenal. The [illegible] labour that is employed on the farm, the [illegible] of course, of the profits thence [illegible] a family receive; and these, though doubtless small in money, will be very great in money's worth. And this, besides the being able to [illegible] plain food in a plain way, without criticism from good-natured friends, is the great advantage which a large family would thus derive from the soil; they till it and live upon the produce of their industry, which they would otherwise have to exchange money for. The profit of the three cows and brood sows, with what might be spared from the garden and orchard, ought to pay the rent, besides supplying the family with milk and bacon. A score of hens and turkeys will do little more than supply eggs and fowls for family consumption. For books and clothes the half pay or other source of income must still be drawn upon.

Something like this is what in practice the thing usually results in. That the difference between a Kerry and any other useful sort of cow, or of the pure Berkshire and any other profitable pig can make much difference in the annual [illegible] is not to be supposed. "S." will find, after he has reduced his poultry statistics to practice, that about 5*s.* is the average profit to be realised per hen per annum, supposing him to be fortunate: and a very large profit too for so small a creature. If he has plenty of range he may "speculate on 100 hens" very well, but let him not be disappointed if he find the system of wards fail. There are some very absurd calculations of profit on several wards of fowls quoted from Mr. England in the fourth volume of the Prize Essays of the Highland Society, by the "Farmers' Wife" of the Newcastle Club, in the article which "S." thinks so worthy of attention, but which, after he has kept 100 hens for a year, he will perhaps estimate somewhat differently. We hope meantime he has not ordered Cochin China fowls at dealer's prices with the view of making profit by their eggs, for this would be a bad speculation indeed. Who has ever kept laying hens in wards profitably? With space enough it would answer very well, but to set down upon paper, 24 hens and a cock in a "ward," to make each hen lay (upon paper) 144 eggs, of which 72 dozen are to be sold, and 24 dozen to be hatched, "24 hens, multiply by 24—5 wards, multiply by 5," and estimate the profit by the result, is a most [illegible] calculation, yet a "farmer's wife" sends this to a club of farmers, and it is circulated through the country, and "S." and many others are induced to think such information "worthy of attention!" Of the same unpractical nature are the statements about hens sitting four times a year and producing 80 chickens.

But dissatisfaction is further expressed with "D.'s" opinion respecting the profit of bees, and "details" are called for. Well, then, two neighbours of ours have to-day "taken" their hives: one of them, two hives, not one particle of honey: the other, five hives, not 10 lbs. of honey in the heaviest. True, this is a bad year. One of them, an intelligent bee master of 40 years' standing, declares his belief that he has never made anything but amusement by them; the other, a shrewd enough good-wife, thinks "one year with another there's nothing gained by

bees." Yet each of these bee keepers could have furnished "encouraging statements;" *e. g.* that in 1831, an excellent year for bees, one large hive produced five guineas' worth of comb and drip honey, and so on. But then in 1832, the year of cholera, though apparently a good year for bees, some unknown baleful influence prevented success, and in 1833, after spending 2*l.* in attempting to preserve some light hives through the winter, the whole were lost in spring. And such histories are common, commoner than high profits. "D." was justified in insisting on bees being too precarious in our country as a source of income to calculate upon. We mention these things with the best and kindest wishes for "S.," and not with any view of repressing his enthusiasm, for we are well aware he is armed in proof against all attempts of that kind. For, *apropos* of this peaceful business of rural economy, he quotes:

"What man dare I dare,
Who dares do more is none!"

As a gallant Marquis the other day at Darlington, very *apropos* to the business of a Horticultural Society, of which he was Chairman, informed the Members, that Lord Hardinge had "fought four pitched battles in 10 days, and won them all!" But, alas! we cannot summer fallow a piece of heavy clay land by a dashing charge of light horse, nor dislodge even a few sackfuls of Potatoes by taking them suddenly in flank; and it is what we can *do* and *endure*, more than what we dare, which will help us through the difficulties of the situation described by "S."

However, to a cheery heart, such an honest struggle to provide for beloved ones is full of all hope, and worthy of all sympathy.

To purchase cattle to box-feed, and to purchase food to give them, as "S." hints in his last communication, will surely never answer. But, as he has not fixed on his "location," would it not be worth his while to try to procure some unappropriated water power for his milling operations, with a few acres of poor ground, near at hand, if possible, for his hens and artificial incubator? As he has abundance of help and superintendence, if he had room enough, his chicken rearing would probably do well. To purchase fowls around the country (they would in many places be brought to him if the market were sure), feed them, and supply the London or nearest large market, would help. The raising of Turnip or other seed, where there are so many little hands to do the *minutiæ* required, might also aid. A Vinery on one side, and poultry house on the other, if such a thing could be got or built, would be useful. If near ever so small a stream, which could be diverted through a reservoir or pond, amusement might be provided, and an occasional dish of trout and tench, by the exercise of a little skill and care. Perhaps, if in a country where planting was going on, a few hundred thousand Larches and other forest trees might be raised, which would command a ready sale. With so many young hands to undertake the details, it is probable that the conversion of a portion of his "holding" into a nursery ground might be as profitable and manageable a plan as any. Many other hints and details might be offered, and, believing the subject to be one of general interest, we should be glad to see these from *persons of experience* in the condition of life we have referred to. Meantime, the general rules wise parents have adopted in such circumstances as those of "S." may be summed up in few words: to excise from the family expenditure, as far as possible, all exciseable articles; themselves to superintend the education of their children; to cultivate the soil, and live upon its produce.

These few remarks we offer with cordial good-will to "S.," and, trusting he will not "give in," should he ever be disappointed in some of the gay hopes which he will not give up, we heartily wish him God speed. *L.*

LAND DRAINAGE REPORTS.

No. XXIV.— Parbold Hall, Standish, Wigan, Lancashire.—Drained in 1845-6-7.

Extent Drained, 55 acres.

Soil.—An open stony marl, and occasionally quicksand; part old pasture, part old arable land.

Most of the land has not more slope than is sufficient for getting off the water. The drains run down the hill for the greatest fall, parallel, mostly 8 yards and some 9 yards distant. The wing drains 3 feet deep, the main drains 3 feet 4 inches. Some places I have cut even 7 feet. 29 acres are drained with broken stones of about 2 inches diameter, well sifted before put into the drains. Into wing drains, 18 inches stones; main, 20 inches. I sometimes used tiles for main drains, but no stones on the top of them. 26 acres tile drains, the same depth as the above. I used the common tiles, with small slates to rest the end of the tiles upon, except when there are quick-sands, when I use whole runners. When the land is Grass, I put the sod over the stones or tiles, then the clay trampled down, and fill up with the soil. When there is no sod, I put the clay on the stones or tiles, being very careful in having it well trodden down before the soil is put in. I have the farm on a lease of 21 years. The draining is done entirely at my own expense. The cutting the wings a yard deep costs me from 8*d.* to 9*d.* for a rod of 8 yards; the main drains 9*d.* to 10*d.* The getting, breaking, sifting, and loading the stones 6*d.* a rod of 8 yards when in the drains, and I calculate the carting and putting the stones into the drains (which my own man does), at 4*d.* per rod. The tiles in 1846 cost me, 8 miles off, 24*s.* for 2½-inch, and 4-inch 32*s.* In 1847, 2½-inch tiles 16*s.* 6*d.*, 4-inch 20*s.*, 6-inch 25*s.*; these were made by machine and steam power. The total cost of 53 acres is 271*l.* 0*s.* 6*d.*, or about 5*l.* an acre. I still have 30 acres to drain, which I intend to do 4 feet deep, 12 yards distant, and if I can procure pipe tiles shall prefer them, except when the stones can be had in the field, and carted down-hill to the drains. I consider 1 foot of stones as good as 18 inches, if broken small and well sifted. I am perfectly satisfied, and have derived every benefit from my draining; *Frances Twining.*

No XXV.—Ardingly, near Cuckfield, Sussex.—Though not a subscriber to the *Agricultural Gazette* I have it regularly forwarded to me, and have been much interested in what has appeared in it on that most important of agricultural subjects—draining; and observing a request in one of your late numbers that any of your readers, who had had practical experience in draining, would forward you the result of such experience, I beg to send you some account of mine. I entered on the farm I now occupy, in the Weald of Sussex, at Michaelmas, 1844; and, like most of the farms on the Weald clay, it stood in great need of being thoroughly drained, which, after enlarging the fields by grubbing up a great number of the hedgerows, I determined should be the first step to improvements; and having been recommended to try 4-feet draining, after inspecting some farms that had been partially drained, and reading Mr. Parkes' writings on the subject, I was satisfied of the superiority of it over more shallow draining, which I had before practised. I have now drained between 90 and 100 acres, the whole of which is 4 feet deep and from 30 to 50 feet apart, except that in several of the fields I have laid in a few drains 3 feet deep, for the purpose of showing the superiority of the deep over the shallow. I have used pipes, cut the drains directly down the natural fall of the land, and filled with the soil which was taken out, after putting in a small quantity of Heath over the pipes, but which I do not consider necessary. I have also laid in a few drains across the fall of the land, but consider this mode of draining far inferior to cutting directly up and down. The soil generally is a stiff tenacious blue and yellow clay, but there are several acres of a more porous soil with a large mixture of sand-stone, which required the continual use of the pickaxe. The cost of cutting, laying in pipes, and filling has been about, on an average, 2*l.* 15*s.* per acre. The pipes were provided by the landlord, and would, with the hauling, cost something more than another pound. The results have been very satisfactory; on a field of Wheat I grew last year, where I had purposely left out some drains in different parts, the difference was most striking, and I requested an old bailiff on the estate, who was opposed to deep draining, and whose shallow drains I had cut through in another field, to tell me what he thought the difference in the crop would be, between the deep drained and the undrained portions of the field; he said he thought there would be between two and three sacks, or 8 to 10 bushels more Wheat on the drained than on the undrained parts, and I believe he underrated it. I also grew good crops of Swede and other Turnips, where I was frequently told it would be useless to attempt to grow them, and am laying all my land level, which was before in high and narrow ridges; *Edw. Vizard.*

No. XXVI.—Belfast.—In 1844 I got possession of a farm of 88 acres, at Glenavy, 12 miles from this town, on the estate of the Marquis of Hertford. The land in the district generally of good quality, but wretchedly in want of under drainage. At that period I was acquainted only with the Deanston system, and completed about 15 acres in the course of the autumn and winter, 30 inches deep and 18 feet asunder, partly done with 2-inch broken stone and partly with tiles, as directed by Mr. Smith. In 1845 I became acquainted with Mr. Parkes's system, so ably advocated by Mr. Mechi, and was forcibly struck with the arguments in its favour. In the autumn and winter of that year I drained 17 acres 3½ feet deep and 30 feet asunder, and 3½ acres 4 feet deep and 36 feet asunder; material same as in 1844. An inspection of the several fields so drained has proved to me, and convinced my most sceptical neighbours, that the deepest drained field is the best and most effectually drained, and I am able to show them that the deep drains run sooner after rain, and continued to run for days after the Deanston have ceased to draw. A walk on the ground will convince all that the deep drained is the driest. As to the cost, I am unable to state with accuracy the relative amounts, but inasmuch as the material used in each system is the same, and as the tiles must be drawn 12 miles, I calculate that the deep drains will cost per acre 20 to 25 per cent. less than the shallow. I pay 2½*d.* per Irish perch (21 feet), for opening 2½ feet deep, and 6*d.* for 4 feet. During the past winter I have drained 26 acres 3½ feet deep and 30 ft. asunder, being unable to go deeper, in consequence of the great number of large boulder stones imbedded in the subsoil. I should have said that the drains are all parallel and run down the declivity; *John Montgomery.*

No. XXVII.—Denver, near Downham Market, Norfolk.—I have been engaged in under-draining for the last 20 years, and during that time have done a great deal of draining on several descriptions of soil, viz., from strong clay to a quick-sand. I am of opinion that the deeper the drains are in reason the better—say from 3 to 4 feet deep—and the distance from drain to drain must be determined by the porousness of the soil which you are draining. I have drained from 21 feet to 60 feet. I am satisfied the deeper you drain the fewer drains are required. A great error has been committed till within the last few years of laying the drains too shallow, but in my neighbourhood we cannot get a great depth, in consequence of the flatness of the land and bad outlet for the drains. I drained, this last winter, 50 acres, a complete flat, the soil a gravel and coarse black sand for about 3 feet deep, and then a fine white sand, as quick as it can be—as I found a great difficulty in getting the pipes and tiles into the drains. The drains are 3 feet deep and 60 feet asunder, and it seems perfectly drained, and the crop (Oats) now growing on it looks well. It was formerly old pasture or heath land, and a mass of Rushes and water, so as in winter you could scarcely ride across it. The materials used for draining in the neighbourhood are principally the common horse shoe tile and a sole; the price per rod of 6 yards varies according to soil. I have given from 4*d.* to 6*d.* Pipes are now beginning to be used, and I am of opinion, if laid with collars on sandy soils, will be the best things of all; *Thomas Brown.*

No. XXVIII.—Clitheroe.—You invite people to give you the results of their experience in draining; and as there seems to be a great difference of opinion as to what is the proper depth to cut drains, I will contribute my mite to the general stock of information on the subject, merely premising that I think the disputes on this subject are like that of the two knights in the fable, who fought because they could not determine amicably whether the shield set up in the highway was gold or silver. It is very evident that a depth just suited to one locality is worth nothing in another; here all depths have been tried, from 2 to 7 feet, and the rule I now adopt is to find a loose, pervious stratum, and to go to the bottom of that; this I generally find at depths varying from 3 to 6 feet, but when this is reached and bottomed, the land is thoroughly drained and almost doubled in value in a couple of years, whereas the old drains that are crossed by this thorough draining, and which vary in depth from 20 to 30 inches, are generally quite dry, and the land not a farthing better for them. As a proof how far capillary attraction will carry moisture, I may mention what I observed last summer. On getting up a field of early Potatoes in August last, I perceived that a part of the field was quite wet and heavy, although there had been a long spell of fine weather, and I directed one of the men to sink a hole there, and go down until he found water, which he did at the depth of 5 feet 6 inches, and yet, as I said before, the soil was wet and heavy to the surface, and in wet weather there was always a pool of water standing there, but by bringing up a drain of this depth (5 feet 6 inches), the field has been effectually cured, and the quickness with which this drain acts is shown by its beginning to discharge the water freely within a few hours after a fall of rain. Again, we have a field here the subsoil of which is a tenacious, strong clay, reaching to a considerable depth without any pervious stratum, and this field has been drained all through at depths varying from 20 to 30 inches without any benefit whatever, but on sinking trial holes in it, the last autumn, to the depth of 5 and 6 feet, I found that, although the weather was dry, and where the holes were sunk there appeared to be no signs of water, yet two days after water stood in them to the depth of 2 feet, and the inference I drew from this was that, at this depth, the hydrostatic pressure had overcome the capillary attraction, and I mean to drain an acre or two of this field to ascertain whether a depth of 5 feet in the drains will not be quite sufficient to render the soil firm and dry at all times; *T. G.*

SMALL POX IN SHEEP.

Thinking a few observations respecting the small pox in sheep would not be altogether uninteresting to some of your readers, I am induced, by the request of some of my employers, to send you a few facts connected with that baneful and destructive disorder.

This disease, it appears, is but recently introduced in this country, and from what I have seen of it, it is certainly the most fearful epizootic that our agriculturists have had to contend with. It is both infectious and contagious, and should it continue to spread I am afraid it will get such strong root in this country as to become a naturalised pest.

My object in addressing you is not to offer any particular mode of treatment for the cure of this frightful disease, but to provoke discussion as to the best means of prevention, and, if possible, its total expulsion from our shores; but under the present state of things I am afraid there is little chance of doing either, when persons are allowed to drive their diseased flocks along the highways, lanes, &c., causing the infection to spread far and wide. From what I have seen of the disease, I am convinced that vaccination does neither palliate nor prevent this malady. I experimented upon nearly

50 sheep, and was assisted by a medical friend who took great interest in the matter both in procuring the vaccine lymph and assisting me in the operations; and to prove the lymph was pure a child was vaccinated at the time, who passed through all the stages of the cow pox, having, as the mother expressed herself, a "beautiful arm," &c.

The sheep were seen five days after they were operated upon; there had been, from what we could ascertain, no constitutional nor were there scarcely any local effects. A few cases had a small vesicle, but there was no surrounding inflammation to indicate any irritation from the vaccine virus. Upon the seventh day they were seen again. The skin had assumed its healthy character, a small scratch being only visible. To prove whether these sheep were safe from the infection, several of them were inoculated with the small pox virus. They all had the disease in a most virulent form, some of them having died, the others reduced to complete skeletons.

Inoculation of the flock from animals that have the disease in a mild form has been advocated, it being stated to produce a disease more manageable and not so virulent as the natural pox. Even if it does (of which I have my doubts), I am decidedly opposed to the practice, and for this reason: that we are propagating, and, in all probability, perpetuating, a highly infectious and contagious disorder. I see an Act has just been passed to prevent the introduction of infectious and contagious disorders into this country, by enforcing quarantine, &c.; but I am afraid it will not have the desired effect, for the length of quarantine that will be enforced will not be sufficient to ensure the safety of the sheep from this malignant disorder. An instance occurred in this neighbourhood, where a farmer had the small pox break out in one of his flocks; he had another flock grazing in the same field, but they did not commingle. The latter was immediately removed to a farm between three and four miles off, and remained in a perfect state of health for the space of six weeks, when the disease showed itself in the most virulent form, they having no doubt received the taint before they left their diseased companions. Now, if this disease lies in the system in a dormant state for the space of six weeks, it will be hazardous to say when a flock will be free from the infection after having been once exposed to the taint.

In conclusion, I will just state what, in my opinion, ought to be immediately done to prevent the spread of this disease:—1. Forbid the importation of all sheep for a time, or immediately kill them upon their arrival. 2. Appoint district inspectors who should have the power to enforce certain rules upon owners of diseased flocks. What those rules should be I will leave to a committee of competent persons chosen for that purpose; *F. R. Silvester, Vet. Surgeon, St. Alban's Sep.* 27.

Home Correspondence.

Comparison of the Turnip Crop of 1848 *with that of* 1845.—In a certain locality in the south of England, it was generally considered that the Turnip crop of 1845 was on the whole better than had ever been previously known in the memory of any one; irrespective of any particular mode of culture, the season was justly regarded as an unusually favourable one. You will perceive by the inclosed extracts from the *Gardeners' Chronicle*, between May 20th and August 19th, 1845 and 1848, that the readings of the thermometer, both mean and minimum, as also the quantity of rain, are in favour of 1848. However, during the present year, in the same locality, and under similar circumstances, the Turnip crop is much inferior to that of 1845. I beg to ask if you can assign any reason for this state of things? Is it probable that the severe winter preceding the season of 1845 had the effect of pulverising and enriching the soil so as to account for the difference? Or are insects and prevailing diseases sufficient to account for the inferiority of the Turnip crop as compared with the year 1845? Your opinion will be appreciated.

State of the Weather in 1845 *and* 1848.

	1845.	1848.	1845.		1848.	
	Min.	Min.	Ther.	Rain.	Ther.	Rain.
May ... ... 20 ...	40.1	44.4	49.9	0.24	62.7	0.01
,, ... 27 ...	40.0	43.7	49.4	0.68	57.6	0.02
June ... ... 3 ...	45.1	43.4	53.0	1.23	58.0	0.22
,, ... 10 ...	45.5	43.3	58.8	0.19	55.9	0.13
,, ... 17 ...	46.8	51.2	60.0	0.25	60.2	2.12
,, ... 24 ...	53.0	52.1	66.0	0.24	62.5	0.16
July ... ... 1 ...	50.3	52.5	62.4	0.30	61.4	0.58
,, ... 8 ...	51.8	48.0	61.4	0.58	60.4	0.48
,, ... 15 ...	54.8	49.8	65.7	0.29	62.0	0.61
,, ... 22 ...	50.3	50.1	60.8	0.95	63.5	0.11
,, ... 29 ...	53.1	53.8	60.8	0.34	62.5	0.77
August ... 5 ...	48.4	51.4	57.9	0.63	61.4	0.81
,, ... 12 ...	51.6	44.5	60.7	1.18	58.0	0.79
,, ... 19 ...	52.0	51.7	59.4	0.76	59.5	1.22
	682.8	679.9	826.2	7.86	845.6	8.08

J. H., Sept. 12. [The extreme wetness of early spring did not enable so perfect a cultivation of the soil in 1848.]

Berberry and Mildew.—On my glebe farm there is an old ring fence, formed of about a dozen different kinds of shrubs, and among them several Berberry bushes. Every year the mildew is to be seen, more or less, in the vicinity of the Berberries, and the conclusion drawn is, that they are the cause of this peculiar malady. Now, there is no error of observation here. I have for eight or nine years examined the Wheat crops adjoining the old hedge, and I have no doubt there is a connection between the two; the bushes, however, are not the cause, but merely an index of the cause. A single fact will prove this. I have been informed by several of the aged labourers that a portion of this hedge, consisting solely of Berberries, was destroyed about 50 years ago, and a stone wall built instead; because it was supposed to infect with mildew not only the immediate vicinity, but even a field separated from it by a turnpike road, 60 feet broad. This very spot, however, still continues to be liable to the same evil, and, in 1847 the Wheat crop was almost entirely destroyed by it. The opposite field is now Grass, and close to the hedge side is a plantation of ornamental trees; but the stunted growth of these trees, and the worthless quality of the Grass, tell plainly that the soil beneath is not sufficiently retentive of moisture. Here, then, is the cause; and the reason why the Berberry is present is, that the soil on both sides of the road (loose, rubbly, and calcareous) is the natural *habitat* of the shrub (*vide* Smith, &c.), and most uncongenial to the healthy growth of Wheat. To grub up the Berberries, therefore, to prevent mildew, is much the same as turning the weathercock with the expectation of altering the direction of the wind. It must be remembered that the Berberry is rarely planted in hedges, and that when present, it has come by the common course of Nature, and is therefore found in the soil which peculiarly favours its growth. The conclusion, then, is that mildew in the straw of Wheat may be expected where this maligned plant grows, but that its removal will not remedy the soil; *Sigma.*

Housing Wheat.—Seldom has the writer of this seen so much want of judgment and patience in the farmers in securing their crops as during the present harvest. Bad as the weather has been, there have been intervals when the corn could have been carried in tolerable condition. But what have they done? ricked their Wheat as soon as the rain ceased, whether fit to carry or not; thinking no doubt to save it in like manner as I myself witnessed during a great fire at an hotel, persons throwing looking-glasses and chamber-pots out of the windows with the laudable idea of saving the property of their friends, but in their haste and frenzy forgot how such frail articles are best preserved. There is no doubt that more Wheat has been damaged by man than by the hand of Providence; and though its dispensations are oftentimes severe and hard to bear, yet a way to escape as often accompanies the infliction. "Fato prudentia major," which saying has puzzled commentators because they were not Virgils or Columellas in husbandry; *X. Y. Z., Hants.*

Kohl Rabi.—"A. B. C." inquires for the best cultivation of this plant. I do not think the heading part of this vegetable depends so much on cultivation as on the kind of seed. I received a packet from my London seedsman in the spring and also some from Germany; both were sown in April and transplanted adjoining each other, and have been treated alike in every respect to the present. I have this morning measured several from each kind of seed, but find those from the imported seed much larger and superior in every respect to the other. Dimensions of bulbs from the imported seed 12 to 17 inches in circumference, with few and small leaves; and the London seed 6 to 9 inches in circumference, with many and large leaves; therefore, if the value of the Kohl Rabi depends on the size of the bulb, which I presume it does, the imported seed must be much more valuable than the other to the cultivators of that vegetable. In retransplanting into the rows, the plants from the imported seed may be planted much nearer both in the row and between each row, in consequence of the tops being so much less than the other kind. I should have had much larger bulbs than the above mentioned from the imported seed had I not cut the best for exhibition at a horticultural show some three weeks ago; *Anon.*

Education.—Although our beloved country may have weathered the storm that has recently wrecked kingdoms and dynasties (and therein we may rejoice and take courage), must we not also take counsel and examine our real position and future destination? Parliament has been so occupied with Irish politics and sessional measures, so wearied with long speeches and endless divisions, that many subjects of vital importance and practical nature are neglected, and individuals are compelled to discuss questions that should be mooted by prime ministers, and settled by senates—subjects that require the power of a government to establish and the funds of a nation to support: and one of them, perhaps the most important of all, as going to the foundation of the character of a people, is education. Great Britain may be assumed to be the power that moves the world; her position in Europe is first-rate; in the rest of the world she may be said to have no equal. There is no quarter of the globe in which she has not colonies, her language is becoming universally diffused. The important position she holds, and her rapidly increasing population, call upon her to provide education for all, whereas there is no national education, and that conducted by societies or individuals is woefully deficient in everything that can promote the social, moral, and religious improvement of the people. The present exertions of societies and individuals is limited and imperfect, dependance is not to be placed upon their permanency, being mainly founded on voluntary contributions. They are too sectarian to be national; too many words, too few things are taught, and the mass of the population is ignorant of thrift and economy. The mind is not cultivated; domestic, rural, or scientific economy is little known, and the man enters the garden of life, not knowing how to cultivate it to the best advantage, how best to use the fruits when he has grown them, or how to spend his leisure time happily; so that want and misery abound, and the seeds from the parent have are unfitted to cultivate the wilderness they migrate into; to civilise any aboriginal people, or to diffuse the real blessings of Christianity. Can anything be more disgraceful or more fatal to a wise and understanding nation? The time is come that something must be done; all parties agree in the necessity of putting the working classes in a position to help themselves. The nature of moral education is better known, it has many able advocates and expounders; my aim in what I purpose to enter upon more in detail in future letters is, to the iron being hot, to assist in the hammering; *T. C. Brown.*

Threshing Machines.—I have read with much pleasure your recent communications respecting the threshing machines, and as the subject is of high importance to the agricultural interest, deserving further investigation, I beg to offer a few remarks, with a view to provoke further discussion. Allow me to premise—I am one of the largest corn growers in the south of Ireland, and have in use two threshing machines, one of them upon the old plan, with beater cross; the other on the new principle, with a peg drum. I therefore flatter myself my opinions, founded upon experience, may be entitled to some weight. About six years since I erected a beater machine, of three-horse power, quite to my satisfaction; and, I believe, one of the very best of the kind. Considering the great advantages of threshing by machinery, I was induced to put up a second machine, on another farm, two years ago; but, previous to doing so, I called upon the same manufacturer, in Cork, for his recommendation as to the relative merits of the beater and peg machines. His reply was candid enough: "If I were in a threshing machine myself, I should have a peg one; but go and see, at work, machines of the different descriptions, by the various manufacturers, and judge for yourself, as every practical farmer ought to do." Well I did so; and have reason to congratulate myself on the result. But to occupy too much of your valuable space, I shall defer to another letter, with your permission, a description of, and comparison between, the two machines. Suffice it to say, for the present, that the peg threshing machine, although yet a novelty, is peculiar to the locality, where upwards of a hundred are already in active operation; and, in spite of ignorance, prejudice, and mismanagement, foolish clamour, and interested misrepresentation and opposition, is steadily gaining ground; and I am confident will stand upon its own merits, a credit to the ingenious patentee and enterprising manufacturer. Let your talented correspondent, Mr. Hudson, forego his national predilections for a time, and come over here, some fine autumn day, when the sky is bright, the corn brought in (and men and horses in vitality), and I will be happy to show him (after the single beater, my "cut-away peg machine," which has regularly threshed upwards of 30 barrels of Wheat in 8 hours, delivering the separated corn clean and sound, the straw in whole and good condition, and wisped, without the slip to the horses; and, as soon as my under barn arrangements are completed, I hope to have a fair trial with him, as to what an Irish farmer can also do in "finishing" his work, under equal circumstances. Your canny Scot threshes and dresses the grain, sweeps clean the barn, bags, sacks, finishes his work, and pockets his money, with the cool complacency of a philosopher; while Paddy, in all his moods, the child of generous impulse, and the wayward votary of amusement, still leans rather to thresh and dress with his sprig of shillelah, sweeps the snakes, bags the produce of his gun, finishes his punch and pockets the fun and the joke! *John Roberts, Annmore House, Passage West, County of Cork.*

An Ear of Wheat, said to have been grown from Wheat taken from a mummy, was enclosed in a letter by a clergyman, and forwarded to me in February. As the season was far advanced, and from the circumstance of its not being sown until the month of March, I hardly expected it would succeed; but to my surprise it ripened in the latter part of July, producing ears entirely dissimilar from each other, of which I send you a specimen. You will perceive that one description is exactly like the ordinary Egyptian Wheat, having rough chaff and small finger ears projecting from the bottom of the larger ear. The other is entirely different, forming a square ear similar to the Sprat Barley, and having long stiff awns without the small finger ears at the bottom, and so entirely different in character as to be supposed distinct varieties by those who have seen them, although produced from grains taken from one and the same ear. The proportion of the first described ears was as four to one, but from being sown in the garden, they were with the utmost difficulty preserved from the sparrows, which have increased in this district to such an extent as to become a pest: acres of Wheat being destroyed by them, as well as the seed of Mangold Wurzel, &c. (which they prefer to anything else), although it was grown by me several years at first without being injured: *R. Baker, Wendle.* [They certainly appear of entirely distinct varieties, the one branched as Egyptian Wheat (Triticum compositum), is commonly understood to be; and the other very chaffy, the chaff being very stiff and awned more like Triticum polonicum.]

Irish Distress: Experimental Farms.—The distress so prevalent in Ireland, and the inability of the land to bear the increased burthens, consequent upon the introduction of the Poor-law, induced me to suggest a subscription to establish experimental farms in the most impoverished districts, as the best means of introducing

labour and industrious habits. So far little notice has been taken of the proposal, which is to be regretted. As for my own countrymen, I have often advocated their cause in the *Agricultural Gazette* and I shall be rejoiced to read, in that Journal, Mr. James Benny's plan for the amelioration of the labouring classes. I beg to thank Mr. Benny for his kind offer of corresponding with me, but a scheme such as he mentions cannot be too publicly known; *Spade*. P.S. My 10*l.* will be ready, for the plan I propose to assist the Irish, any time for the next six months. After that I shall spend it in my own neighbourhood.

"*S.'s*" *Small Farm.*—Your enterprising correspondent "S." deserves every assistance from the experienced. It is refreshing to see how zealously affected he is towards "farming on a small scale." May his hopes be realised, and his well judged labours rewarded. I would not by a word deter him from his project, but a few years' practice has taught me to look for a very limited profit from the trouble and outlay of farming a few acres, even when well stocked and diligently attended to. The accuracy of my "poultry profits," given in a former number of the *Gazette*, "S." may rely on. The returns may seem large, but my belief is, good hens with a rooster to every six or eight will yield a clear annual profit of 10*s.* each, if well fed and cared for. Mine give me nearly that with eggs, averaging from 8*d.* to 9*d.* a dozen, only; and chickens fit for the table at 1*s.* 3*d.* and 1*s.* 6*d.* each, brought up on purchased food. One of my hens this year has brought up 21 good chickens, in two broods, from 25 eggs. My plan of farming these, and all other "small deer," is to read all I can, choose the way that seemeth best, and give it a fair and patient trial by strict personal attention, and keeping all the accounts myself. Labour I cannot, but look on and direct I do; and that I conceive to be the best way of having work carried out properly, especially where live stock are concerned. I would have "S." receive very cautiously statements of large dairy profits. Cows have large appetites, and consume immensely. Too many who have written about them have figured from thoughts rather than from positive experience. Random guesses and crude notions of what things ought to pay, instead of clear statements of what they do pay, are of no use except to deceive. Really good dairy cows are rare, and seldom to be bought at fair, market, or farm-yard. Who would part with a profitable cow? By breeding or purchasing heifers, and running the chance of their excellencies "for the pail," a good dairy of cows may be reared; even then, to keep up the supply of milk and the quality of cream, they must be well housed and fed. To keep a cow in condition will cost 5*s.* a week, or not less than 12*l.* 10*s.* a year, whether you buy or grow the food. A good common right for the four or five summer months, and when the animal is out of profit, will ease off to possibly 10 guineas. And now of the produce. Very few cows will average half a pound of butter a day throughout the year; if they do, and give 300 gallons of skim milk for the pigs, they are good ones; 182 lbs. of butter at 1*s.* a pound is 9*l.* 2*s.*; 300 gallons of skim milk at 3*d.* per gallon is 3*l.* 15*s.*; making the annual produce 12*l.* 17*s.*, exclusive of manure. A Norfolk cow I have at present has yielded 3977 lbs. of milk in 39 weeks. I began to register the quantity a fortnight after calving; 3977 lbs. is 397 gallons, which I sell to a retailer at 6*d.* per gallon, making 9*l.* 18*s.* for the nine months. A half-bred Scot and Norfolk cow has given 3046 lbs., or nearly 17 lbs. a day, for the last 26 weeks. A third, a true home bred, milks from 16 lbs. to 18 lbs. at a meal, or 35 lbs. a day. She has calved only nine weeks. I find 120 lbs. of milk give 10 pints of cream; this, raised to the temperature of 52° by placing it before the kitchen fire all night, or with a hot bath, yields 60 oz. of excellent butter in 40 or 45 minutes' churning. New milk at 1*d.* per pint is equal to butter at 1*s.* per lb., 1 quart yielding 2½ oz of cream, or 1$\frac{1}{16}$ oz. of butter, after standing in a glass milk pan 40 hours. Butter for our own use we make every other morning in a large glass bottle, by merely warming the cream and shaking it up for 10 or 15 minutes. "Facts and Figures on Bee-keeping and Pig-fatting," I will forward another time. May every success attend the efforts of your straight-forward and right-minded correspondent "S."; *R. Pigott.*

Societies.

North Lancashire, *Sept.* 20 and 21: *Discussion on the Drainage of Land.*—The Earl of Burlington occupied the chair.—Mr. Hewitt Davis introduced the subject. For several ages the farmers had applied means for the purpose of getting rid of water from the surface of the soil, and until late years they had been content to lay up their land in rounded surfaces, so that when the rain descended on it, it was thrown off; but science had clearly proved that this was a highly improper mode of getting rid of the surface water. They now knew that rain was sent to them for beneficial purposes; and that it was not the best plan to throw the water off the surface. On the contrary, they had found that the advantages derived by the land from rain descending on it, was not like that which was received from the application of other water; but if it were brought down to the soil, and allowed to percolate, or run into the earth, it would prove of incalculable benefit to the earth. On running into the land it left behind it that matter which was designed, from its fertilising qualities, as a store for all vegetation. In this way great benefit was to be derived by allowing the rain to percolate into the soil. But, instead of adopting this plan, the rain had not only been thrown off the surface, as quick as it was possible, by the system acted upon by the farmers, but it was thrown off in such a way as to permit it to take away along with it the valuable fertilising qualities inherent in the soil itself. All practical men well knew that the first autumn rains that were thrown off from the surface of the earth carried away along with them a quantity of manure—the fertilising matter—which the soil indispensably required to make it productive. Now, instead of thus allowing the first rains to run off the surface of the soil, they should rather allow them to descend into the earth, and deposit their fertilising qualities on the top of the land. The next advantage which they would derive from deep drainage was the increased temperature of the soil. The earth was warmed in the spring of the year by the rays of the sun; but if it were saturated with moisture at that period, a cooling process would then be going on. The most cooling process which he knew of was caused by the action of the sun's rays on the wet soil in the spring of the year. That process which he spoke of was evaporation. In cases of fever of the brain, physicians applied ether. This process damped the head, and so by evaporation induced cold. In India, for instance, the inhabitants frequently had recourse, and so had had for a long time, to evaporation with a view to produce cold. They placed water in basins, and by allowing the water to soak through and evaporate, they were enabled to produce so intense a cold as actually to freeze water. If that was the case, they should only reflect upon what was going on when water was at the surface of the earth, and removed before it could soak in. The earth was thus chilled by the rays of the sun, instead of being warmed by it. When the earth was warmed by the sun's rays, and showers came upon it, the earth that was porous was warmed, and the earth that was not was made much cooler than it was previously. It had been necessary for him to introduce these few remarks in the way he had, because a great difference of opinion existed as to the mode in which draining should be carried on, and also as to the defects in the drainage of arable land. Different people advocated draining at various depths—some 2 feet, 3 feet, and some 4 feet, while others advocated draining even still deeper, and a large number of occupiers of land imagined that the soil could not be drained properly if the drains were put in beyond a depth of 2 or 3 feet. These parties did not take into account that clay was a substance which varied in size according to the moisture which it contained. In the winter season the clay became saturated and swollen to a much larger body than at any other time, while in summer it shrunk. Practical men knew that in dry summer months clay cracked to a very considerable extent. Now, this being the action of droughts in clays, the effect of draining was to convey the water underneath, in making the clay soil porous. Clay soils were remarkable for their power of attracting moisture upwards, and more especially when the sun warmed the surface of the earth. The moisture was evaporated by the action of the sun's rays on the earth, and as that passed away vacuums were left, which sucked up the moisture left in them. Thus, as long as the soil was porous, the moisture was being gradually sucked up. If they had put drains in at 2 feet or 2½ feet, for a long period in the spring of the year the sun's rays were almost powerless; for this reason, that as fast as the evaporation took place the moisture was displaced from underneath. If, however, the drains were placed at a depth of 4 feet, the distance of the action of the sun's rays was too great to allow it to be so sucked up. Now, the great benefit of drainage was the increased temperature that took place in the spring of the year from the warmth of the sun acting on the surface of the soil. It was of the greatest importance to farmers, especially in this part of the country, to understand that they would never get the proper temperature unless they drained deep. Cattle, sheep, &c., all preferred a dry bed to lie upon rather than a wet one, because it was more healthy for them. In the same manner it was also more healthy and agree able for man that he should occupy a dry rather than a damp place. Some other parts of the world were more adapted to growing Wheat than England; and it was therefore desirable that in this country we should endeavour to make our soil warmer by a proper system of drainage, by which not only vegetation but even man himself would be considerably benefited. He hoped a great change was going on in this country on the subject of drainage, for he had no doubt of the advantages to be derived from it. He then referred to the great improvement which he had effected on his own estate by a system of draining, which was carried to a depth of 4 ft, and from having been the worst in the neighbourhood, it had now become one of the best. After adverting to the loss which farmers often met with, from the prevalence of rainy seasons, especially in February, March, and April, which in most cases more than equalled the outlay upon a proper system of draining, he concluded by trusting he had said sufficient to induce them to adopt a proper system of drainage, and expressing his opinion that the drains should be sunk to a distance of 4 feet in the ground. He also hoped that what he had said might have the effect of provoking discussion on the subject, by inducing others then present to state their opinions. (Loud applause.)—J. Grey, Esq, of Dilston, said he would not attempt to add much after the very luminous manner in which the subject had been brought under their notice by Mr. Davis. That gentleman had told them his views on draining and improving the soil, and the means by which a greater amount of produce might be derived from it. In the course of his observations he referred to the necessity which existed for adopting a system of drainage for the purpose of promoting the growth of plants, which were thereby rendered more capable of expanding their roots; and there could be no doubt that the greater depth they took the water, so in proportion did they remove all impediments that were obnoxious to the plant, and prevented everything which tended to discourage its growth. With respect to deep or shallow drains, he thought that no rule could be laid down which would be applicable alike to all situations and all circumstances. (Hear.) He had drained a field 2½ feet deep, whilst he found that other lands were very little benefited when they were 4 feet deep. His own opinion was, however, that drains less than 3 feet deep ought not under any circumstances to be adopted.—G. Smithers, Esq., had tried draining to all depths, from 18 inches to 4 feet, and he must say, in all soils, that of 4 feet acted far superior to any which was shallow. He was decidedly favourable to the adoption of an extensive system of draining as the best means of increasing the value and produce of the land.—Colonel Rawstorne was sure that all of them must feel extremely obliged to the several gentlemen who had come forward and expressed their opinion upon the subject of draining, with a view to instruct them in a matter of the greatest possible importance to agriculturists. He thought the light which had been thrown on the subject was such as was likely to be beneficial to all practical agriculturists then present, and a means of diffusing information to all who were interested in it. They all knew that there were two modes which were at the present time strongly recommended. There was what he believed was generally called (but which would not have been called so 10 or 12 years ago) shallow draining, for that some years ago would have been called deep draining. The object of all draining was to promote tillage; and unless tillage was carried on to a greater extent than it was throughout this country, they lost entirely the full effect of that drainage. Drainage was only the way leading to tillage, and by its adoption they would get a security in all weathers against injury to their crops; and without it they would never have any really good farms. The adoption of a good system of drainage was a cheap mode of conducting a farm, and no farming was good unless it was cheap.

At the Public Meeting on the following day the following remarks were made in connection with a toast to "The Judges:"

John Grey, Esq., one of the judges, said: I fully concur in the sentiment that has been expressed by our noble chairman, when he said that the especial benefit to be derived from such societies as these, consists more in the introduction of better instruments and implements, than in giving premiums for stock. I think, however, that the two ought to go hand in hand, because good stock cannot be maintained upon badly cultivated land, and so long as good stock is preferable, it will be a stimulant to the farmer to rear that kind of food which is essential in bringing that stock to maturity. I remember in passing through this country a few years ago, being struck with the then state of agriculture in a county otherwise remarkable for its energy and capital; and I was surprised to find that there was not that energy and capital thrown into this department of natural industry as there was into the manufacturing department. I am glad to see that this is not now the case, and that this very important branch of national industry has attained that attention in North Lancashire which it so highly deserves. The improvement having gone so far I hope you will progress, and that you will not suffer ground to be covered with rushes which might be better occupied, nor that you will content yourselves with that Chinese method of agriculture which extirpates the weeds and then leaves the land. This district, I am aware, has material impediments to contend with in soil and climate; but these are impediments which may be overcome, and probably the best mode of overcoming these natural impediments is to overcome the mental or intellectual impediments, because they stand more in the way than anything else. It has often been to me a matter of surprise and regret, that whilst education is bestowed upon persons intended to follow almost every other pursuit, those who are designed for agriculture are considered to be able to go on very well with an exceedingly deficient system of education. We know that where there are several in a family, one is educated for the church, another for the law, and a third for some other profession, but he who is intended to go to the plough is thought undeserving of having such education bestowed upon him; but I hope the time is now coming when the practice of agriculture will be vindicated, and the farmer educated to that standard which the progress that has been made in the world demands. If you wish, as all parents must wish, to see your children acquit themselves creditably in life, if you wish to see them elevated in character as well as benefited in circumstances, do not deny them the means by which those desirable ends are most likely to be attained; do not deny them in early life that which if neglected can never be recalled—the blessings of a systematic, combined with a religious education.—Mr. Hewitt Davis, another of the judges, then rose and said, Agriculture, hitherto, has been a pursuit learned by the son from the practice of his father, little aided by the information that science has diffused; they have been but little aware of what a knowledge of chemistry, botany, and mechanism would do for them, but fortunately these are now brought home to them by such societies as this. Farmers are by this means brought together, and are here shown what others have done, and by rivalry, which I look upon as the source of all information, they are being led forward in the pursuit of knowledge and a better practice. Now, gentlemen, in addressing you, I am addressing you as if I were not a farmer, but I am a farmer, and my means have been considerably enlarged by the pursuit. In my early life I had the advantage of an education that has taught me the importance of reducing everything I am about to engage in to figures, and it has been my knowledge of accounts that has made me a farmer. It is necessary that I should bring this fact before you, because advocating as I do a new system, having started a new routine, I have obtained the character of a speculative farmer; but you, gentlemen, who appreciate the value of figures, will say that I am for no speculation. From early life I was made an economist; and true economy has taught me never to hesitate in spending 5*l.* if I could save 6*l.* by the transaction; but to enable every one to do this they must understand accounts. I am brought forward as an advocate of thin sowing. I was taught farming on the old principle of sowing 2½ bushels of Wheat to an acre, but I afterwards saw that where by accident a greater amount of seed was deposited, there the crop suffered in the early spring, and at harvest there was not so much corn at that place as where less seed had fallen. It was from this that I commenced sowing less seed, and I went on every year gradually, not speculatively,

ucing the amount till I brought it down to a bushel an acre is may appear to be a matter of small importance.—(No, no) ut when I tell you that if the saving which has been of so ch importance to myself were carried out throughout the ited Kingdom, it would amount to more than the average pply of corn that this country has drawn for the last years from other countries, and that the saving in money uld amount in value to more than 7 or 8,000,000*l.* per annum, ause the practice I follow in regard to the sowing of Wheat, lso observe with respect to other grain, and with a like vantage. I have found from experience the success of thin wing, and naturally sought for a reason why it should pro- ce a larger crop. I perceived, that a large number of grains re deposited in the corn, and that more plants were produced an by any possibility could obtain maturity by the old system sowing, and I was led to reason what was the consequence of is. If you were to plant a dozen acorns upon a square yard of ound, you would very soon have a dozen small trees grow- g, but this space would in a very short time become too con- ted for them—each tree would trespass upon its neighbour, d the natural consequence would be that out of the 12, not o would be healthy; and after a period only so many would main as there might be space and food to enable them to gain maturity. Exactly the same result follows from sowing o much corn. All know what extraordinary success has tended gardeners in producing finer vegetables; and by what eans they have obtained this success. One of the principal eans taken by gardeners to produce full-grown plants is, king care that from a certain period each plant shall have om to develop itself to the full size. This plan is adopted y the farmers with regard to the Turnip; still I don't think at they allow it sufficient room. They don't calculate at early period the space which the Turnip requires, yet they now the necessity of putting in the hoe and thinning the urnips. But why should gardeners find it necessary to sow eas and Beans thinly in a garden, and yet the same thing ould not be attended to in the field? It is because farmers ave not been taught to calculate; they do not understand gures—do not bring that mathematical education—if I may so the term—which is necessary, into the pursuits of farming. y giving corn space at an early stage, it is enabled to obtain ull maturity. Each plant is not unduly robbed of a quantity of nnure to support a number of useless plants. This is the heory of thin sowing: but there is another consideration ttending it which I look upon as one of the means of intro- ucing a better system of farming in another respect, namely, hat of cleaning land. I found that it was much easier to clear he land of weeds by hoeing each crop than it was by allowing it to require a fallow, by neglecting it for three or four years, hus losing the value of a year's crop upon the land; and besides, here is no expense so great as that of cleaning fallow land. The expense of a fallow is 4*l.* or 5*l.* an acre; and I find that not half that sum is spent in sowing each crop thin, so that by his system is not only the expense of the fallow land saved, ut each year a larger crop is obtained. The keeping it clean n seeding, therefore, is a matter of great importance, whether ve look to the saving of corn or to its waste. It is a most extraordinary fact, that, hitherto, one-tenth of the grain rown in this country is again returned to the earth, in eed; of every 10 bushels of Wheat, 1 is for seed—and yet what s the fact? A grain of Wheat, when planted singly, when given space enough to reach maturity, returns two or three thousand fold, whilst it only returns the farmer under the pre- sent system ten-fold. Surely if Nature gives us the power of raising a thousand-fold, man is very backward indeed in only raising ten-fold; but such is the fact. I have thought that the most striking point to draw attention to is the waste of seed which has hitherto taken place. I have laid great stress upon the annual waste of 7 or 8 millions of money, by the loss of 2 or 3 million quarters of corn annually; but I have a greater con- sideration in bringing the matter before your attention. I wish to prove, by a scientific principle, that you cannot have fruitful crops without keeping the land clean. In arguing with farmers upon the subject I always say, if you have a rich pasture, and find that a number of donkeys are turned in amongst the other cattle, you desire that the trespassers may be removed; and when asked why, you say because the trespassers are con- suming the nutriment which is wanted for the other cattle. Is not that also the case if they allow weeds to grow amongst their corn? By keeping the land clean I discover that it re- quires a great deal less manure than was before thought neces- sary. I find that by thinning the corn there is far less occasion to manure the land; so that in every respect is the expence of growing corn reduced. In mentioning these things to farmers, my advice to them in trying the experiment is never to trust the sowing of the whole field; if they have it thin, and distributed in equal proportions, and if they keep the weeds down, they will grow the most grain with less seed, of course supposing that they use enough. My pleasure to-day has been very much increased by finding that you have here in many respects a better class of implements than I find in the south of England. I attribute much of the fact of farmers not failing, and being able to sell corn now at 60*s.* a quarter, when 30 years ago it was generally understood that 80*s* was necessary to remunerate the producer, to the improvement in implements. Thirty years ago four horses were employed to do the work which can now be accomplished by two. At the present day we are enabled to plough with two horses where four were formerly required; and two horses are sent to market to draw manure, whilst at the date to which I allude not less than three or four would have been required. This neighbour- hood in particular, I find, enjoys the advantage of lighter carts than we have in the south of England. It is an ordinary matter in this part of the country for one horse to draw a ton and a half on the road, whilst in Sussex, Surrey, and I am afraid to say in the greater part of the south of England, the carters would generally grumble if only allowed two horses for that weight. They have a load in their waggons themselves, and the carts are so made that instead of the wheels acting properly, they drag upon the axles. In a large part of the south of England they still use wooden axles, three or four times as thick as those you have for the wheels to turn upon. In addition to this, in order to strengthen the wheels, they re- quire to be considerably dished, the consequence of which is that when the horse draws straightforward, the natural ten- dency of one wheel is to draw to the right and the other to the left hand. I bring this before you in order to show the benefit to be derived from such meetings as the one we have had to-day; *Preston Paper.*

Reviews.

The Agriculture and Rural Economy of France, Belgium, Holland, and Switzerland, from Personal Observation. By Henry Colman, Honorary Member of the Royal Agricultural Society of England, &c. &c. John Petheram, 94, High Holborn.

The reader will find this to be a most interesting and instructive volume, and full of useful remark and de- scription. The author was competent, from personal experience and practice, both in the art he describes and the no less difficult art of *observation* which he has brought to bear upon it; and though necessarily con- densed, extending as they do over so many countries and so many subjects belonging to each, his narratives, critiques, and descriptions are full of that good sense and intelligence we naturally expected in them. A work full of such detail does not give a good opportunity for characteristic extracts: passages on particular sub- jects we shall take care at intervals to present to our readers: but for the present we must content ourselves with the following, from Mr. Colman's preliminary ob- servations on the importance of agriculture:

"The present excited state of the civilised world ought more than ever to call the attention of philan- thropic individuals and of governments to the immense importance of agriculture. I have been in France during the exciting scenes of a political revolution, in which I have seen very many thousands of workmen without the means of support from their labour, and large bodies of them actually dependent upon public charity for their daily bread. It is not the dangers to public liberty and order, growing out of such large un- employed and destitute multitudes, which so much dis- turb me, as the actual suffering to which they are ex- posed, and the melancholy future that lies before them. In London I have encountered, with an extreme depres- sion of heart, thousands of squalid, ragged, miserable poor, without resource but from crime or charity. A distinguished manufacturer in one of the most indus- trious counties in England states that there are at least 500,000 operatives without employment, and many on the borders of starvation: tradesmen and professional men will tell you that every trade and profession is overstocked: and one is daily saluted with the melan- choly, not to say presumptuous, exclamation, that there are too many people. This reminds one of the sad shipwreck of the French frigate, the Alceste, when many of the wretched survivors, who were floating upon a raft composed of fragments of the ship, deemed it necessary to their own safety to drive by force a large portion of their suffering companions into the sea—a sad and horrible alternative!

"It would be more than absurd in me to attempt to prescribe a remedy for evils upon which so many sagacious heads and philanthropic hearts have concentrated without success their powerful energies. But I will point out what I deem the true cause of this great evil, and leave to wiser minds to suggest a cure. * * * The great cause of the evils complained of is that the cultivation of the earth is deserted; and that such in- numerable multitudes pour into cities and towns, and, filling every profession and every mechanical art and trade, destroy each other by a competition in articles of which the demand is necessarily limited. There may be too many physicians, too many lawyers, and too many ministers, for them all to get a sufficient and an honest living: and too many hatters, and too many printers, and too many shopkeepers; for, besides that these per- sons furnish more of a particular article or service than the community require, their work is in general only formal; they *only* manufacture, they do not produce; they do not, like the grower of bread and of clothing, create that which may be said to have a substantial and permanent value. For when was the time when there was too great an abundance of the materials—I mean particularly those which can be kept from year to year—for food and clothing, for human subsistence and comfort. As long as this state of things continues, there must be misery in the community; as the popula- tion increases this misery must increase.

"In cities, money becomes the standard of prosperity. Wages are paid in money; money is the instrument of subsistence, of gain, and of pleasure. Avarice, under these circumstances, becomes stimulated to excess, and often leads to crime. Men's happiness becomes de- pendent upon that which has no intrinsic, but only an arbitrary value—a value which is always capricious and continually changing. If men could be induced to cul- tivate the earth, and, trained to the simple habits of laborious and rural life, be satisfied with what that affords them; if they would measure their prosperity and wealth, not by so many shining pieces of gold and silver, which they have hoarded in their closets, but by the produce of their labour in bread and clothing, and the various and innumerable simple luxuries of life, with which a kind Providence so often blesses the labours even of the most humble, how changed would be their condition! If they could be as well satisfied to breathe the fresh air of their native mountains and forests as the corrupt and pestilential atmosphere of crowded streets and confined dwellings, from which both sun and light are shut out; as well content to enjoy the simple and healthful sports of the country as the exciting and exhausting pleasures of city life; if their taste could be better satisfied to contemplate the verdant fields, waving with crops or enamelled with flowers, than carpeted and gilded halls; if they could be taught to prefer skies painted with clouds of brilliant hues, and studded with stars whose lustre never grows dim, to palaces blazing with artificial lustres and adorned with the far inferior magnificence of man's genius and taste; if, indeed, by any possible means, you could induce men and women, and, above all, the young, to love the country; if, in a word, you could keep them in the country by an attachment to its simple labours and recreations, and prevent their crowding cities to repletion, and thus destroying by competition the ordi- nary professions and trades which prevail there, where so many vigorous young men and so many fair and blooming maidens rush in, like flies in a summer evening into a blazing taper, to find too often the grave of their health, hopes, happiness, and virtue, what an immense gain would be achieved for morals and for humanity!"

Calendar of Operations.

SEPTEMBER.

BEDFORDSHIRE FARM, *Sept. 27.*—We commenced harvest three weeks ago, and have cut a small portion of late Oats and Barley in the fields. A great many patches of corn are laid and spread throughout the country, which a week's fine weather would do much to get safely secured. The late crops are lanky, and up to the present time have not got together in good condition. The early crops, proved by threshing, do not turn out well. The harvest on the whole has been tedious, some, expensive, and protracted in the extreme, and no one can desire a repetition of it. The late fine weather has been very much suitable for the later harvest, and also for allowing the cleaning of the stubbles, and green crops, which stood much in need of the sun. We have got most of the greater part of our Wheat and Bean crops. Some of the Wheat stubble has been dunged and sown with Tares and Trifolium. Some of the Bean stubble has been dunged and prepared for Barley. We have commenced ploughing for Wheat, and intend to top-cross the Clover lays with one before ploughing, to destroy the slugs and other vermin, which are unusually abundant. What Potatoes we have dug turn out not only diseased, but deficient in yield; but we anticipate better quality and greater bulk from what remains to be raised. The Turnip crops are good. The pastures feed out well for the cattle, which are now free from the symptoms of epi- plant. We have begun to consume the early Turnips by the fatting beasts, and shall soon put the sheep upon them. The tups have been with the ewes for the past three weeks. We put a Cotswold tup to Down ewes, and a Down tup to long- woolled ewes; the produce are not intended for breeding. There is at present a great contrast between the prices of store and fat sheep. The abundance of keep on the one hand increases the demand, and raises the price of store, while on the other, the produce of mutton is increased, and the price diminished; *R. V.*

BERWICKSHIRE MID FARM, *Sept. 27.*—Since our last report we were employed carrying Oats on Saturday afternoon, a time that time the weather has been wet, so that the corn is unfit for carrying; the men have been leading gravel for repairing the roads, delivering corn, and ploughing stubble land for Tur- nips; one pair of horses at the corn, the remains have been employed threshing with water power, drawing, hoeing Tur- nips, pulling weeds, and assisting the men that are engaged for the harvest in making rope for the stacks, and binding the Beans; *J. B.*

MID LOTHIAN, *Sept. 28.*—Since our last report we have made various extended trips through the best Wheat districts of Scotland, as well as our own county, and feel happy to represent that our former predictions of plenty are confirmed. Our route lay through the three Lothians, Stirlingshire, Renfrew- shire, and part of Lanarkshire and throughout the whole the Wheat, Oats, and Beans are superabundant, particularly so on the carse of Gowrie, Falkirk, and Stirling. The Barleys are a full average crop, and the whole is of fine quality and in higher condition than we ever remember it to have been at this season of the year. Indeed, it could not have been otherwise, for there has been an uninterrupted train of fine dry weather during the harvest, which is now so nearly completed that only a portion of the Bean crop and some patches of late sown spring Wheat remain in the field. The Potato is for the most part partially affected with the blight, but the general damage is trifling, and will not exceed 15 per cent., which will be very little felt, as the crop is abundant, many fields having been estimated at from 12 to 14 tons per Scotch acre, and at recent sales the prices have ranged at from £4. to £5. per acre, and the rate per ton varies from 5*s.* to 6*s.* From the long con- tinued drought the growth of the Turnip crop was severely checked, but from the effects of the cheering rains which fell during the past two days, and from the large breadth sown, we have no reason to fear the want of a fair supply of that valuable root; and in the neighbourhood of Edinburgh, where the early varieties have already entered into the consumption of the dairy stock, we find the roots of a medium size and the pur- chasers satisfied with their bargains, the selling price being from 14*l.* to 20*l.* per acre. The pastures have suffered severely, and were it not for the aid of the stubbles, stock would soon have fallen out of condition. On many farms the following down of stubble has commenced in earnest, and a considerable quantity of manure has been carted out on the field, which if rapidly ploughed in will not receive much injury from the ex- posure, and will greatly forward the spring work.

SOUTH HAMPSHIRE FARM, *Sept. 30.*—The dry weather we have experienced since our last report has been highly favour- able for all kinds of farm work; it has more particularly favoured the hoeing and clearing of late Swede and common Turnips, which are now making most rapid growth, and the crop seems to promise an average produce, notwithstanding the late period at which they were in general sown. Our horses have been employed horse-hoeing late Swedes and Turnips, ploughing and harrowing in winter Tares, dragging and harrowing Wheat stubble lands which had been previously rafter ploughed, thrashing old Wheat with machine, ploughing up the last portion of our Potato crop, carting manure from the farm-yard on to the Clover leas, to be ploughed in for the Wheat crop. Our mode of managing the manure made on the farm, the whole of which we allow to accumulate for the Wheat crop, is not to draw it together in a heap and turn it before laying out, as is a common practice, but keep it in the farm- yard until required for use; the management of the manure during its accumulation in the yard having been explained in our former reports, we shall only remark upon the effects of manure applied in this way to the Wheat crop in former seasons. We find when manure has never been heaped and turned, it being only in a partial state of decay, its effect upon the young plant is not so immediate as that of manure completely rotten, which is liable to make the young plant too gay and forward during the winter months, whereas the endurance and pro- longed action of partially decayed manure is most beneficial, because it affords a gradual and continued supply of nourish- ment to the plant during the whole time of its progress towards maturity: there is also great economy in applying manure as above stated, by saving the expense of one extra turning and turning. Our labourers have been employed trimming fences, draining, hoeing late Swedes and single Turnips, attending threshing machine, taking into barn a rick of new Wheat for seed and assisting in raising and securing the remains of Potato crop. We are now setting our horses, cows, pigs, &c., upon Clover, of which we have a good cutting, it having sprung up in a very unusual manner after the Wheat crop which was seeded to Clover. Our shepherds have at present but little to do with sheep, as we are short of stock, the few sheep we have are still suffering severely from the epidemic, which disease seems to progress, many flocks having been attacked with it during the past month. The women have been employed weeding Swedes, couching, and picking grass from fallows, hedge trimming, and attending threshing machine; *J. B.*

Notices to Correspondents.

ARTIFICIAL INCUBATOR: *Chicks.* The mere hatching is a very easy matter, and has been successfully performed by Cantelo and many others. The difficulty is to rear the chicks economically and successfully: and that difficulty has nowhere as yet, that we are aware, been overcome on any important scale in this country.

AYRSHIRE COW: *Constant Reader.* "Where in south England can I get an Ayrshire cow?"

BEANS: *G. P. C.* The Russian or Winter Beans, of which 6 pecks per acre are an ample seeding, are the hardiest va- riety. Sow a week or so hence.

CAMELINA: *W. H. T.* Sow 1 lbs. of seed broadcast early in April

on a finely pulverised soil. The seed ripens in July, and may be mown or pulled, yielding perhaps a produce of 24 bushels per acre, from which may be expressed an oil, leaving a cake which cattle do not like. The whole seed may be used as Linseed is, and stock may be forced to acquire a taste for it.

COCHIN CHINA FOWL: *Amateur*. The birds described are no doubt of the genuine breed, although they may have no horseshoes on their breasts, and do not lay three eggs a day each. Did the dealer who sold them promise that they would? If not, he cannot justly be blamed for exaggerated statements made by other parties unconnected with himself, which are not verified by experience; although he might, in courtesy at least, have acknowledged the letter of a customer. "An Amateur" will see that the Cochin Chinas are distinct from any game breed, if he only compares the large single comb and white ear-lobe of the cock, and the small depressed tail of the hen with the same features in the corresponding sexes of the other variety. *D.*

FARRIERY: *Constant Reader*. The works of the Society for the Diffusion of Useful Knowledge—"The Horse," "Ox," and "Sheep."

FEEDING: *Tyro*. If you have plenty of Mangold Wurzel, Parsnips, Carrots, and hay, you do not require to give cows Linseed or Barley-meal: they would not pay you for it. A milking cow will eat as much and more than a fattening ox of equal size—say, 1½ to 2 cwt. of green food daily—a quantity that is diminished 4 or 5 for every one of hay, and 7 or 8 for every one of grain or farinaceous food that is given it. An ordinary cow will eat 100 lbs. weight of green food and 7 or 8 lbs. of hay daily, besides straw *ad. lib.*, and will do well on it. If the straw be cut into chaff, and wetted with salt and hot linseed soup, so much the better. Sheep will eat 20 to 24 lbs. of Turnips, &c., daily, besides half a pound of oilcake or Barley. Pigs eat according to size: a large hog will eat probably 28 lbs. of Potatoes, and 5 or 6 lbs. of meal. Horses will eat 10 lbs. of Oats, 14 lbs. of hay, ¼ cwt. of Carrots, and straw *ad. lib.* daily.

FLOORING: *Juba* asks advice as to the most eligible material for the floors of a cowhouse and a pigsty. Blue lias paving-stone would cost, laid, about 7*d.* a foot; bricks much less; concrete formed of lime, sand, and small stones, less still; and a kind of asphalte, formed of gas tar and coal ashes, least of all. Is there any objection to this last? Would the effluvium from the tar be injurious or offensive to the animals? Would they break it up with their hoofs, or would the urine soften it, and thereby cause holes to be made in it? Footpaths by the sides of roads are made of it, and they seem to wear well.

IMPROVED ESSEX BREED: *A M.* Mr. Fisher Hobbs, Boxted Lodge, Colchester. They are a small breed of black colour.

MANGOLD WURZEL: *W B.* The best plan is, not to commence feeding till March or April, and then give them gradually, mixing with the Turnips as long as the latter lasts; and letting them ultimately take the entire place of the Turnips. Cattle will eat as many of them as of Swedish Turnips, probably rather more.

MOSSY GRASS: *M B.* The pond mud is more likely to be influential in extirpating the Moss, if mixed with lime, wood ashes, &c., in a compost, and then applied broadcast in autumn, after the harrows have been used.

POTATOES: *A B.* The dip into sulphuric acid would not injure them as food, if washed afterwards. Can any one state an experience of the use of Apples as food for pigs?—*M Barson.* Try 4 cwt. of guano per acre, mixed with 2 cwt. of sulphate of soda, in your compost next year. That has been found efficient elsewhere, though in times when the Potato disease was unknown. All rich manures appear to expose the plant to the disease.

POTT'S CYCLOPÆDIA: *Subscriber for a long time.* We do not know the work.

POULTRY FEEDING: *Peter* says, in answer to an inquiry in the *Agricultural Gazette* of the 30th Sept., that there were no perches in his coops or pens. The pens were just large enough for the fowl to move in, about 8 inches wide, 10 deep, and 14 high; the bottom was of open rails.

RAPE CAKE: *A Subscriber*. Has any one any experience to record of crushed Rape seed and Rape cake, or any preparation of Rape, as food for cattle. Some has been ordered for consumption by working cattle in the West Indies, and any information on the fattening properties of Rape, as compared to Linseed or Linseed cake, will much oblige.

THE NEW HUSBANDRY; The Index that appears most desirable is an alphabetical one: no other kind would so facilitate the use of the work. As an instance of error, the republication of some of Mr. Greig's descriptions of Scottish farmers and Scottish farming may be adduced.

TRANSPLANTING: *A Subscriber*. Will any one state their experience of transplanting the tops of Swedish Turnips. Is it done in autumn for a crop next year? We imagine that in such a case the produce is seed, not bulbs.

WATER: *Constant Reader*. Can any one half way between Bristol and Bridgewater state if water is to be obtained in quantity and constancy by boring along the junction of the red sandstone and mountain limestone? We hardly understand your question about tank water. Can you not cover the tank over?

WINTER BEANS: *A B*. You will not get Carrots to grow well between rows of Beans only 30 inches apart. You had better let your Bean-rows be in couples at intervals of 6 or 7 feet; the distance between the rows in couples being 15 or 18 inches. In so wide an interval you may then sow two rows of Carrots, 2 feet apart. Your boiled Potatoes should be rammed together. We have no experience regarding Rabbits. The guano for Beans had better be horse-hoed in during spring.

*** Communications reaching town after Wednesday cannot be answered the same week.

Markets.

SMITHFIELD, MONDAY, Oct. 2.

The supply of Beasts is again large, but the average quality is by no means good. Trade is rather better; on the average, good qualities make 2d. per 8lbs. advance, and in some instances a choice Scot has made 4s. 2d. There is a remarkable falling off in the number of Sheep. Prices are better, but trade was very flagging towards the close; everything is, however, disposed of. We have very few Calves on offer; they are consequently readily sold, at an advance of 4d. per 8lbs. Pigs are still dear. From Holland and Germany we have nearly 900 Beasts, 3080 Sheep, and 70 Calves; from France, 76 Beasts; from Spain, 8; from Denmark, 46; and from Northamptonshire and Leicestershire, 2700.

Per stone of 8lbs.—s d	s d	Per stone of 8 lbs.—s d	s d
Best Scots, Herefords, &c. 3 10 to 4	0	Best Long Wools ..... 4 4—4	8
Best Short Horns ..... 3 8—3	10	Ditto Shorn	....
Second quality Beasts .. 3 0—3	6	Ewes and second quality 3 8—4	2
Calves ..... 3 4—4	4	Ditto Shorn..	....
Best Downs & Half-breds 4 10—5	0	Lambs.....	....
Ditto Shorn	....	Pigs ..... 4 6—5	4

Beasts—4167. Sheep and Lambs—19,180. Calves—149. Pigs—400.

FRIDAY, Oct. 6.

Although the number of Beasts is by no means large, yet the demand is so limited, owing to the hot weather, that there are too many for the trade. It is with difficulty that Monday's quotations are realised for the choicest descriptions, and second rate are fully 2d. per 8lbs. lower. The supply of Sheep is about an average for the time of year; trade is very dull, at rather lower prices. Calves are not quite so plentiful as they have been of late. Monday's prices are more cheerfully given, but it is very difficult to obtain any advance. Trade for Pigs is rather slower than it has been. From Holland and Germany there are about 140 Beasts, 1110 Sheep, and 153 Calves; from France, 11 Beasts; and 121 Milch Cows from the home counties.

Best Scots, Herefords, &c. 3 10 to 4	0	Best Long Wools..... 4 4—4	6
Best Short Horns ..... 3 6—3	8	Ditto Shorn	....
Second quality Beasts .. 2 10—3	4	Ewes and second quality 3 6—4	0
Calves ..... 3 4—4	4	Ditto Shorn	....
Best Downs & Half-breds 4 8—5	0	Lambs.....	....
Ditto Shorn	....	Pigs ..... 4 4—5	4

Beasts—847. Sheep and Lambs—6290. Calves—343. Pigs—405.

COVENT GARDEN, Oct. 7.

The market is well supplied with Vegetables and most kinds of Fruit; but trade continues dull. Pine-apples are plentiful. Hothouse Grapes are abundant; they are ticketed at 2s. 6d. a lb. Peaches, though sufficient for the demand, are scarcer, and Nectarines are all but over. Melons are sufficient for the demand. Ribstone Pippins and other dessert Apples are ticketed six and eight for 6d. Pears are supplied in considerable quantity; among them we remarked good specimens of Beurré d'Amalis, Brown Beurré, Williams' Bon Chrétien, Marie Louise, &c. Nuts in general are sufficient for the demand; but Filberts and Cobs are very scarce, and fetch high prices. Oranges are scarce, and Lemons moderately plentiful. Among the Vegetables, Carrots and Turnips are abundant and good; Cauliflowers, Broccoli, &c., sufficient for the demand. French Beans plentiful. Potatoes the same, and so are Tomatoes. Peas are dearer. Lettuces and other salading are sufficient for the demand. Mushrooms are plentiful. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Fuchsias, Carnations, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 3s to 5s
Grapes, hothouse, per lb., 1s 6d to 4s
— foreign, per lb., 9d to 1s 6d
Peaches, per doz., 4s to 8s
Melons, each, 2s to 5s
Plums, per punnet, 1s 6d to 2s 6d
Apples, dessert, per bush., 4s to 7s
— kitchen, p. bush., 3s to 5s
Pears, per doz., 2s to 6s
Figs, per doz., 2s to 3s
Oranges, per doz., 1s to 2s
Oranges, per 100, 10s to 15s
— bitter, per 100, 8s to 16s
Lemons, per doz., 1s to 2s
— per 100, 7s to 14s
Almonds, per peck, 6s
— sweet, per lb., 2s to 3s
Walnuts, per 100, 1s 6d to 2s
— per bush., 16s to 24s
Nuts, Barcelona, per bush., 20s to 22s
— Filberts, per 100 lbs., 60s to 100s
— Cob, per 100 lbs., 60s to 120s
— Brazil, per bush., 12s to 15s

VEGETABLES.

Cabbages, per doz., 3d to 1s
Cauliflowers, per doz., 6d to 2s
Broccoli, per doz., 4s to 9s
Sorrel, per half sieve, 6d to 9d
Potatoes, per ton, 60s to 160s
— per cwt., 5s to 8s
— per bush., 2s 6d to 4s
Turnips, per doz. bunches, 9d to 2s
Red Beet, per doz., 6d to 1s
Horse Radish, per bundle, 1s to 6s
French Beans, per hf sieve, 1s to 1s 6d
Cucumbers, each, 2d to 8d
Leeks, per bunch, 1d
Celery, per bundle, 6d to 1s 3d
Carrots, per doz. bunches, 2s to 4s
Spinach, per sieve, 1s to 1s 6d
Peas, per sieve, 3s to 5s
Marjoram, per bunch, 2d
Mint, green, per bunch, 2d
Onions, per bunch, 3d to 4d
— per bushel, 2s to 3s 6d
— Spanish, per doz., 1s to 4s
Onions, pickling, p hf sieve, 1s 6d to 3s
Tomatoes, per punnet, 9d to 1s 3d
— per half sieve, 3s to 5s
Shallots, per lb., 4d to 8d
Garlic, per lb., 8d to 1s
Radishes, per doz. bands, 6d to 1s
— Turnip, do., 9d to 1s
Artichokes, per doz., 2d to 3s
— Jerusalem, p. hf sieve, 1s to 1s 6d
Vegetable Marrow, per doz, 6d to 1s
Lettuce, Cab., per score, 4d to 1s
— Cos, do., 9d to 1s 3d
Endive, per score, 9d to 1s
Mushrooms, per pottle, 1s to 1s 9d
— per bushel, 4s to 6s
Small Salads, per punnet, 2d to 3d
Fennel, per bunch, 2d to 3d
Savory, per bunch, 2d to 3d
Thyme, per bunch, 3d to 4d
Watercress, p. 12 small bun., 6d to 9d
Parsley, per doz. bunches, 1s 6d to 2s
— Roots, per bundle, 1s to 1s 6d

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Oct. 5.

Prime Mead. Hay	66s to 72s	New Hay	—s to —s	Straw	24s to 30s
Inferior ditto	50 68	Clover	60 95		
Rowen	40 50	New Clover	— —		

Trade very heavy. J. COOPER.

CUMBERLAND MARKET, Oct. 5.

Prime Mead. Hay	70s to 75s	Old Clover	95 to 100s	Straw	28s to 32s
Inferior	50 68	Inferior	50 90		
New Hay	50 68	New Clover	60 90	JOSHUA BAKER.	

WHITECHAPEL, Oct. 5.

Fine Old Hay	66s to 72s	Old Clover	95s to 105s	Straw	26s to 30s
Inferior Hay	45 50	Inferior	50 65		
New Hay	55 65	New Clover	80 90		

HOPS, FRIDAY, Oct. 6.

MESSRS. PATTENDEN and SMITH report that the supply of Hops is not equal to the demand, and that prices for fine Hops are from 2s. to 4s. higher. Duty, 205,000*l.*

Mid. & East Kents, p. cwt.	50s to 105s	Yearling Kents, p. cwt.	42s to 52s
Weald of Kents	46 — 63	Yearling Sussex	40 — 48
Sussex	42 — 56	Old Hops	20 — 35
Farnhams	80 — 105		

MARK LANE, MONDAY, Oct. 2.

MESSRS. KINGSFORD and LAY report that the supply of English Wheat by land carriage samples this morning was small, and enabled factors to realise the prices of last week for picked samples, but inferior and cold parcels were difficult of disposal, and some quantity remained unsold. The arrivals of foreign last week amount to 48,787 qrs., besides several cargoes fresh up this morning, making in all a large show. Nevertheless, there was no disposition evinced to force sales, and a moderate business was transacted in retail at the rates of this day se'nnight.—Fine samples of new malting Barley are rally as dear, but grinding and foreign must be noted 1s. per qr. lower.—White Peas comm nd our extreme quotations; Maples and Dun, as also Beans, are unaltered in price. We observe no alteration in the value of best Oats, but all others are 1s. per qr. cheaper.—In Flour no change.

BRITISH PER IMPERIAL QUARTER.	s	s		s	s
Wheat, Essex, Kent, and Suffolk ..... White	46	60	Red.....	42	55
Norfolk, Lincolnshire, and Yorkshire	40	58	White ..	50	60
Barley, Malting and Distilling, 29s to 31s	Chevalier			34	Grinding	26	30
Oats, Lincolnshire and Yorkshire..... Potatoes		23		26	Feed	21	24
Northumberland and Scotch ..... Feed		—		—	Potato ..	—	—
Irish ..... Feed		19		23	Potato ..	22	25
Malt, pale, ship.....		—		—			
Hertford and Essex		—		—			
Rye.....		30		32			
Beans, Mazagan, old and new ..26s to 34s	Tick..	26		38	Harrow..	28	40
Horse, Heligoland	30		44	Windsor	36		Longpod..	26	32
Peas, White.....	34		42	Maple	38	40	Grey	34	36

ARRIVALS IN THE PORT OF LONDON LAST WEEK.

	Flour, 16954 sks — — bls	Wheat. Qrs.	Barley. Qrs.	Malt. Qrs.	Oats. Qrs.	Rye. Qrs.	Beans. Qrs.	Peas Qrs.
English.....		4689	740	2927	1046	50	1553	888
Irish		—	—	—	80	—	—	—
Foreign.....		48187	22455	—	42528	1009	1983	5666

FRIDAY, Oct. 6.

The supplies of English grain and Flour during the week have been moderate, but we have to report an arrival of 20,350 qrs. of foreign Wheat. This morning's market was very thinly attended, and the weather being fine, buyers of all descriptions of corn were indisposed to do business. Transactions were therefore of quite a retail character, and where sales were effected rather less money was taken.

[Much rain has fallen throughout the country since the 29th ult., which renders the general condition of our new Wheat bad, and with large importations of foreign, consisting partly of new, makes its sale difficult and prices irregular. With few exceptions, prices have declined 1s. to 2s. per qr. in the country. The rates of foreign are only supported for particular qualities, the very fine and Polish Odessa, but where it has been necessary to force sales, a reduction of 1s. to 2s. per qr. upon all intermediate descriptions was inevitable. The arrivals of foreign Barley having been large, prices have given way 1s. per qr. Beans and Oats are the turn cheaper, and white Peas, owing to considerable arrivals here from abroad, are neglected, and may be purchased at a decline of 2s. per qr. Flour a dull sale at our quotations. Indian Corn finds buyers at 31s. 6d. for American (rather yellow), and 36s. to 37s. Odraila and Galatz also.—By the last accounts prices in the Baltic have declined 1s. to 2s. per qr., and new Uckermark 61½lbs. is procurable at 48s., cost and freight to the east coast. In Holland and Belgium prices have also slightly given way, but it is generally and confidently reported from the latter country that they will shortly require to import for their own consumption. Prices at present are 47s. to 48s. per qr., f. o. b., for white and red 61 lbs. old and new.]

IMPERIAL AVERAGES.	Wheat.	Barley.	Oats.	Rye	Beans.	Peas.
Aug. 26	52s 3d	31s 5d	21s 11d	30s 1d	38s 1d	37s 7d
Sept. 2	55 5	32 1	22 6	32 2	38 8	38 11
— 9	56 10	33 4	22 0	33 8	39 1	41 6
— 16	53 8	33 3	22 12	33 5	38 10	40 2
— 23	52 4	33 7	21 11	32 0	37 11	37 11
— 30	52 9	33 3	21 1	31 9	36 1	39 8
Aggregate Average	53 10	32 10	22 1	32 4	38 1	39 4
Duties on Foreign Grain	4 0	2 0	1 6	2 0	2 0	2 0

ARRIVALS IN THE PORT OF LONDON THIS WEEK.

	Wheat. Qrs.	Barley. Qrs.	Oats. Qrs.	Flour.
English.....	2270	660	570	1830 sacks.
Irish	—	—	770	
Foreign.....	20350	6820	8310	— barrels.

Fluctuations in the last six weeks' Corn Averages.

PRICE.	Aug. 26.	Sept. 2.	Sept. 9.	Sept. 16.	Sept. 23.	Sept. 30.
56s 10d	...	...	...	...	...	...
55 5	...	...	...	...	...	...
53 8	...	...	...	...	...	...
52 9	...	...	...	...	...	...
52 4	...	...	...	...	...	...
52 3	—	...	...	...	...	...

SEEDS, Oct. 2.

Canary ..... per qr.	75s to 84s		Linseed-cakes, Foreign, p. ton.	7*l* to 9*l*	
Caraway ..... per cwt.	27	29	Mustard, White, p. bush., 6s 0d to 9s 0d		
Clover, Red, English	35	44	Superfine, p. bush.,	9	10
— Foreign	35	40	Brown, per bush.,	6	12
White, English	38	44	Rapeseed, Eng., per last.....	28*l*	30*l*
— Foreign	38	42	Rape-cakes ..... per ton	4*l*	15s
Coriander.....	10	20	Sandfoin	—	—
Hempseed ..... per qr.	42	48	Tares, Eng., winter, p. bsh., 10s 0	11s 0	
Linseed.....	36	40	Foreign, per bush., 3s 0	4s 0	
— Baltic.....	34	38	Trefoil	17s 0	20s
— Cakes, Eng. p. 1000, 11*l*	10s to 13*l*		Turnip—too variable for quotation.		

BAKER'S PHEASANTRY, Beaufort-street, King's road, Chelsea, by special appointment to her Majesty and H.R.H. Prince Albert.—ORNAMENTAL WATER FOWL consisting of black and white swans, Egyptian, Canada, China bernacle, brent, and laughing geese, sheildrakes, pintail widgeon, summer and winter teal, gadwall, Labrador shovellers, gold-eyed and dun divers, Carolina ducks, &c., domesticated and pinioned; also Spanish, Cochin China Malay, Poland, Surrey, and Dorking fowls; white Japan, pied and common pea-fowl, and pure China pigs; and at 3, Hab moon-passage, Gracechurch-street.

SASH LINE FOR HOTHOUSES AND GREENHOUSES. R. S. NEWALL AND CO.'S PATENT IMPROVED COPPER-WIRE CORD is now extensively used for Window Sash Line, Hothouses, Lightning Conductors, Pictur Cord, Clock Cord, &c., &c., and is found to be cheaper much more durable, quite as flexible, and one-sixth part th bulk of common Hempen Lines. The Wire Cord may be ha wholesale, and specimens seen, at the Office of the Patentees 163, Fenchurch-street, W. T. ALLEN, Agent; or retail, G. and J. DEANE, 46, King William-street; E. PARKS, 140 Fleet-street; J. JONES, 62, Charing-cross; and GIBBONS an Co., 345, Oxford-street.

BRITISH MANUFACTURED STEEL GLASS FOR CONSERVATORIES.

E. AND W. H. JACKSON beg to recommend the above as superior to all other articles manufactured for that purpose. BRITISH, PATENT AND ROUGH PLATE CROWN, COLOURED, AND ORNAMENTAL GLASS supplied at the lowest terms.

Lists of prices and every information can be had on application at their Warehouse, 315, Oxford-street, London.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND CO., 116, Bishopsgate-street Without, are supplying 16 ounce Sheet Glass, at prices varying from 1½*d.* to 3½*d.* per foot; also Patent Rough Plate Double Crown, Patent and British Plate, and Ornamental Glass; Glass Milk Pans, Propagating, and Bee Glasses; Cucumber Tubes, Cream Pots, Peach Glasses, Wasp and Fly Traps. Glass Shades for Ornaments, Lamp Shades, Metal Stand Frames, and a well selected stock of Hyacinth Glasses. List of Prices and Estimates forwarded on application.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

SEEDS.—CORNER OF HALF-MOON-STREET, THOMAS GIBBS AND Co.,

(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND," Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

Priced Lists of Agricultural Seeds are always ready, and may be had on application.

GLASS FOR CONSERVATORIES, GREENHOUSES, PIT FRAMES, &c.

HETLEY AND CO. are supplying 16-oz. Sheet Glass, of British Manufacture, packed in boxes containing 100 square feet each, at the following REDUCED PRICES for cash, A reduction made on 1000 feet.

Sizes. Inches.				Inches.			Per foot.	Per 100 feet.
			Under	6	by	4	at 1½*d.*	is £0 12 6
From	6	,, 4	,,	7	,, 5	,, 2*d.*	,, 0 16 8	
	7	,, 5	,,	8	,, 6	,, 2½*d.*	,, 0 18 9	
	8	,, 6	,,	10	,, 8	,, 2½*d.*	,, 1 0 10	
	10	,, 8	,,	12	,, 9	,, 2¾*d.*	,, 1 2 11	

* Larger sizes, not exceeding 40 inches long.

16 oz. from 3*d.* to 3½*d.* per square foot, according to size.
21 oz. ,, 3½*d.* 5*d.* ,, ,, ,,
26 oz. ,, 3½*d.* 7½*d.* ,, ,, ,,

PATENT ROUGH PLATE, THICK CROWN GLASS, and PATENT PLATE GLASS for Horticultural purposes, at reduced prices, by the 100 square feet.

GLASS TILES AND SLATES made to any size or pattern, either in Sheet or Rough Plate Glass.

Propagating Glasses, Bee-hive Glasses, Cucumber Tubes, Glass Milk Pans, Glass Water Pipes, and various other articles not hitherto manufactured in glass.

PATENT PLATE GLASS.—The present extremely moderate price of this superior article should cause it to supersede all other inferior window glass in a gentleman's residence. No alteration connected with the sash is required.

GLASS SHADES, as ornamental to, and for the preservation of every description of goods susceptible of injury by exposure. Prices, since the removal of the Excise duty, reduced one-half. List of Prices and Estimates forwarded on application to JAMES HETLEY and Co., 35, Soho-square, London.

TO BRICK AND TILE MAKERS.

THE AINSLIE BRICK AND TILE MACHINE COMPANY (James Smith, Esq., of Beanston, Chairman) invite attention to their IMPROVED BRICK and TILE MACHINES, which are to be seen at work at Alperton, and at the Company's Office, 195A, Piccadilly, from 10 A.M. to 5 P.M. Mr. Robert Scrivener, who has been appointed Manager in the room of Mr. John Ainslie, will show the Machines at the works at Alperton, which is within a mile of the Sudbury station of the London and North-Western Railway, and two miles of the Ealing station of the Great Western Railway; also at the Polytechnic Institution, Regent-street, London.—All communications to be addressed to Mr. WILLIAM GORDON, Secretary, at the office of the Company, 195A, Piccadilly, London.

These Machines may also be seen at Mr. Slight's, Leithwalk, Edinburgh; Mr. Robert Boyle's, Ayr; Mr. Lawrence Hill, 135, Buchanan-street, Glasgow; Mr. Robert Charles, Mill-hill, Leeds; Messrs. Penny and Finch, Penkeridge, Staffordshire; Messrs. Drummond and Son, Dublin; and at Mr. John Connor's, Newtown Limavady, County Derry.

Sales by Auction.

CARNATIONS, PICOTEES, AND PINKS.

MESSRS. PROTHEROE AND MORRIS will sell by Auction, at the Auction Mart, Bartholomew-lane, on MONDAY, October 9th, 1848, at 12 o'clock, a superior collection (the surplus stock of Mr. Newhall, of Woolwich), comprising among the CARNATIONS Colonel's Bronze and John, Ely's Lord Milton and Sir Hugh Gough, Brooks' Flora's Garland, Eason's Admiral Curzon, Norman's Duke of Wellington, May's Ariel, Holliday's Lord Ranelife, Grand Master, &c.; among the PICOTEES, Matthews' Enchantress, Burroughes' Duke of Newcastle, Mrs. Bevan, and Amy, Holliday's Minerva and Northampton Bride, Wildman's Isabella, Barnard's Mrs Barnard, Garrett's Lady Dacre, Green's Queen Victoria, Headley's Venus and King James, Edmonds' Jenny Lind, Youell's Gem, Cox's Regina, &c.; among the YELLOW PICOTEES, Barraud's Euphemia, May's Malay Chief, Hoyle's Topaz, &c. &c., with most of the new and choice Pinks in cultivation.—May be viewed the morning of sale. Catalogues to be had of Mr. Newhall, Woolwich, at the Mart, and of the Auctioneers, American Nursery, Leytonstone.

TO GENTLEMEN, NURSERYMEN, FLORISTS, & Others.
A CONSIGNMENT OF ORCHIDS FOR ABSOLUTE SALE.

MESSRS PROTHEROE AND MORRIS are instructed to sell by Auction, at the Auction Mart, Bartholomew-lane, on WEDNESDAY, October 18th, 1848, at 12 o'clock, Six Cases of ORCHIDACEOUS PLANTS, just arrived from Vera Cruz, in good condition, comprising Sobralia macrantha, Brassavola glauca, Chysis, Laelia, Lycaste, Stanhopea, Cyrtopodium, Epidendrum, Schomburgkia, &c. &c. Also 70 Camellias, Azalea indica, &c., well set with bloom-buds, from 2 to 4 feet; together with 100 lots of first class Dutch Bulbs, consisting of fine Double and Single Hyacinths, Narcissus, Jonquils, Crocus, &c. Catalogues may be had at the Mart, and of the Auctioneers, Leytonstone.

*** The Orchids may be viewed until the sale—at the American Nursery, Leytonstone; at the Auction Mart, morning of sale.

VALUABLE FARM AND LANDS, BARTON GRANGE, LANCASHIRE.

MESSRS. THOMAS WINSTANLEY AND SONS, of Liverpool, will offer for Sale by Public Auction, in the month of November next, in the City of Manchester, by order of the Devisees-in-Trust of the late Edward Baines, Esq., of Leeds, a valuable FARM and PARCELS OF LAND; also a Villa Residence, and a Bailiff's House and Farm Buildings, and thriving Plantations of Larch, Scotch Fir, and Mixed Timber, in Barton-upon-Irwell, near Manchester. The whole contains about 180 Statute Acres. The Property is situated in an increasingly populous district, is in a high and improving state of cultivation, and presents an eligible opportunity for investment. The Estate lies distant less than a Mile from the Barton Station of the Liverpool and Manchester Railway, with which it is connected by a Private Tram-road. It is only a Quarter of a Mile from the Turnpike Road leading from Manchester to Liverpool, and a Quarter of a Mile from the Navigable River Irwell; and there is a privilege of carrying Manure on that River free of Toll. The Private Tram-road also extends the whole distance between the Railway Station, the Turnpike Road, and the River Irwell, and passes through the centre of the Estate. The estate is Tithe-Free, and is held under Lease from Sir Thomas Joseph de Trafford, for a term, of which 49 years are still unexpired.

At the same time will be offered for Sale certain RESERVED RENTS of other Lands, comprising about 700 acres, adjoining the above Estate, held under the same Lease and subleased to four parties. These total Rents amount to 235*l.* 11s. The whole Estate, including the above subleased portions, is subject to a Reserved Rent of 116*l.* 15s. Printed particulars, with Lithographed Plans, will be ready for distribution two or three weeks before the Sale.

Applications may be made to Mr. THOMAS BAINES, at Barton Grange Farm, or the Resident Bailiff; to Mr. EDWARD BAINES, Leeds; to Mr. HENRY WHITE, Land Agent, Warrington; and to Messrs. HARVEY and FALCON, Solicitors, 12, Castle-street, Liverpool.

BATTERSEA BRIDGE ROAD.—TO NOBLEMEN, GENTLEMEN, NURSERYMEN, AND OTHERS.

MR. B. ANDREWS (Successor to the late Mr. JOHN KING), will Sell by Auction, on the Premises of Mr. F. O. Smith, on MONDAY, the 9th of October, and following days, at 12 o'clock each day, without reserve, the ground being required for other purposes, the whole of the STOCK IN TRADE of a Nurseryman and Florist, comprising about 1000 fine Standard Roses, a large quantity of Rose Stocks, Dwarf Roses, &c., of superior quality, very fine collection of Cratægus, and other Ornamental Trees, Fruit Trees, Deciduous and Evergreen Shrubs, Forest Trees, &c., fine Heaths, Camellias, and other Greenhouse Plants, together with a pony chaise under duty, and a quantity of household furniture and effects.—May be viewed three days prior to the Sale. Catalogues had on the Premises; of Messrs. CLARKE and Co., Seedsmen, Borough; of Mr. WM. CLARK, Seedsman, Bishopsgate-street; and of the Auctioneer, South Grove, Peckham, Surrey.

AN advantageous opportunity for Gentlemen, Market Gardeners, and others engaged in Planting.—About Five Acres of capital NURSERY STOCK, in good moving condition and great variety, to be positively sold at about half the general nursery prices. This stock will be found to contain all the usual varieties, with a considerable quantity of large plants, all in good moving condition, and capable of producing immediate effect, standard and dwarf trained Apricot, Peach, Nectarines, Cherries, and Plums, in fruit bearing condition, a selection of the choicest and most profitable Pears, Apples, Plums, and Cherries, as standard or pyramids, a large stock of dwarf and standard Roses, the whole of which must be cleared; fine dwarf-trained Apricots, Peaches, Nectarines, Gages, Plums, and Cherries, in any quantity from one dozen, and any proportion of sorts at 30*s.* per dozen; Pears, Apples, Plums, and Cherries, standards and pyramids, from 50*s.* to 5*l.* per 100; dwarf Roses, in 20 varieties, 20*s.* per 100; a limited stock of the true old Golden Pippin Apple, at 2*s.* 6*d.* each. An early application is recommended to Mr. HENRY LITTLE, Nurseryman, Seedsman, and Florist to the Queen, King's-road, Chelsea.

N.B. Goods delivered free within 10 miles of the Nursery.

TO NURSERYMEN.

TO BE LET immediately, a capital NURSERY, SEED, AND FLORIST BUSINESS, beautifully situated near a fashionable town in Devonshire. The grounds consist of 3½ acres with a stream of water running through them. There is about 2000 feet of Glass, Seed Shop, Packing, Potting, and other Sheds; Stock (to be taken at a valuation) about 400*l.* No premium will be required, the principal object being to obtain a respectable tenant.—For particulars, apply to Mr. JOHN HEWETT, Tortfield, Sidmouth, Devon.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as building and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, BUILDERS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to submit to Public Competition by Auction on the Premises, Holly's Nursery, Tranquil Vale, Blackheath, on THURSDAY, October 19th, 1848, and following day, at 11 o'clock precisely, THE VALUABLE NURSERY STOCK on the remaining portion of the Land required by the South-Eastern Railway Company, consisting of fine Evergreens and Shrubs in great variety, Fruit and Forest Trees, Deciduous and Ornamental Trees, fine Irish Yews, Pyrus, American Plants, Standard and Dwarf Roses, Herbaceous Plants, three fine specimens of Pinus Deodara and Douglasii, 12 feet high. Also a collection of Greenhouse Plants, comprising choice Camellias, Azalea indica, Lilium lancifolium, &c., and a considerable quantity of Box-edging. May be viewed prior to the Sale. Catalogues, 6*d.* each, returnable to purchasers, may be had on the Premises, of the principal Seedsmen, and of the Auctioneers, American Nursery, Leytonstone.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, LAND AGENTS, AND THE PUBLIC GENERALLY.
IMPORTANT and EXTENSIVE SALE of NURSERY STOCK.

MESSRS BENTLEY AND SAUNDERS are instructed to offer for sale, by public Auction, on the premises, on MONDAY, November 6, 1848, and following days, the whole of the very VALUABLE AND EXTENSIVE STOCK AT BARBOURNE NURSERY, near Worcester, comprising upwards of FIFTEEN ACRES OF GENERAL NURSERY STOCK of the best description, together with an extensive variety of GREENHOUSE and STOVE PLANTS. The above Stock being offered in consequence of the decease of a Partner, will be sold without the slightest reserve. Further particulars in early Papers.—63, Foregate-street, Worcester.

TO NURSERYMEN PLANTERS, RAILWAY CONTRACTORS, &c.
EXTENSIVE SALE OF NURSERY STOCK.

To be Sold, by Public Roup, at the Nursery Grounds of Rosemount, Corbelly, and Banks of Troqueer, in the immediate neighbourhood of Dumfries, N.B., upon THURSDAY, the 26th day of October next,

THE following STOCK of NURSERY PLANTS, &c., which belonged to the late Firm of Messrs. Richardson and Pringle, viz.:

THORNS 1,300,000 Thorn Quicks, two and three years transplanted, of fine quality, some of them very strong. Ditto, 500,000, two years seedling, of fine growth.

OAKS—200,000 (drilled), three years old, cut in the roots, 2 feet. Ditto, 150,000, transplanted, two, three, and four years old, from 2 to 4 feet. Ditto, 20,000 (Turkey), two years seedling.

BEECH—50,000 three years transplanted, 2 feet.

LARCH FIR—50,000 two years transplanted, from 1½ to 2½ feet. Ditto, 200,000, two years transplanted, from 1½ to 2 feet. Ditto, 100,000, one year transplanted, from 12 to 18 inches.

SCOTCH FIR—120,000, two years transplanted, from 9 to 18 inches.

SPRUCE FIR—100,000 (Norway), two, three, and four years transplanted, from 9 to 18 inches.

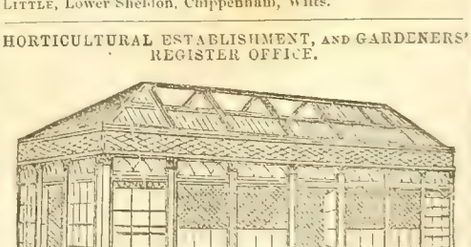
SILVER FIR—40,000, three years transplanted, from 9 to 15 inches. A quantity of Sycamore, Elm, Weeping Birch, Ash, Horse Chestnut, Sweet Chestnut, &c., from 2 to 3 feet.

Trained and Standard Fruit Trees; Gooseberry and Currant Bushes; Ornamental Trees; Evergreen Privets. A large Stock of fine healthy Shrubs. Rhododendrons of all sizes; Portugal and common Laurels; Irish and English Yews; besides a choice collection of other Plants and Shrubs. Every facility for removal of the Stock that could be wished is available to the West and North of Scotland by Railway, and to England by Railway, and three Steamboats, which ply regularly between the Ports of Dumfries, Annan and Liverpool. Farther information will be given by Mr. NEWBIGGING, Dumfries; or Mr. RICHARDSON, Banks of Troqueer. Four Months' Credit will be given on Approved Security, or 6*d* per Pound Discount for Ready Money. The Sale will commence at 10 o'clock forenoon each day.—G. DUNBAR, Auctioneer, Dumfries, Oct. 7.

FARMS AT MARSHFIELD, GLOUCESTERSHIRE, EIGHT MILES FROM BATH.

TO BE LET, with immediate possession, ASHWICK, HALL FARM and RAISE'S FARM, comprising about 860 acres of superior Arable and Grass Land, in one or two Farms.—Apply to Messrs. CARDALE, ILIFFE, and RUSSELL, Solicitors, 2, Bedford-row, London; Messrs. PICKERING and SMITH, Land Agents, 14, Whitehall-place; or Mr. EDWARD LITTLE, Lower Sheldon, Chippenham, Wilts.

HORTICULTURAL ESTABLISHMENT, AND GARDENERS' REGISTER OFFICE.



J. WEEKS AND CO., KING'S-ROAD, CHELSEA, HORTICULTURAL BUILDERS AND HOT-WATER APPARATUS MANUFACTURERS, have the honour to inform the Nobility and Gentry that they have of late years made great improvements in Horticultural Building and Heating by Hot Water; and for the purpose of showing those improvements, they have erected in the King's-road, Chelsea, an extensive ornamental Nursery, which contains upwards of 15,000 feet of Glass, consisting of Hot-houses, Greenhouses, Conservatories, Pits, &c. &c., in great variety; the whole of which is heated by Hot Water in various forms. This has also enabled them to grow at very reduced prices a most extensive collection of Stove and Greenhouse Plants.

THE SEED DEPARTMENT at this Establishment is conducted with the greatest care and attention. Samples of every variety are proved before sent out

PLANS, ESTIMATES, AND CATALOGUES upon application.

PARIAN CEMENT used as a Stucco, cannot easily be distinguished from statuary or Parian marble. It is fit for all the purposes of that beautiful material, and does not crack, warp, or efflouresce in any degree. The fine quality will incorporate with the most delicate colours: it is adapted to encaustic work, fresco, imitation of marble, and the most elaborate embellishment. So perfect are its setting or crystallising properties, that the coarse quality when applied to newly built or damp walls, may be immediately polished, painted, or papered, and rooms rendered habitable before the materials ordinarily used would begin to dry. Manufactured by CHARLES FRANCIS and SONS, Roman Cement Works, Nine Elms, London.

STAMP END IRONWORKS, LINCOLN.
PORTABLE STEAM ENGINES.

MESSRS. CLAYTON, SHUTTLEWORTH, AND CO., Engineers and Iron Founders, respectfully invite the attention of Agriculturists, Railway Contractors, and Builders, to their improved PORTABLE STEAM ENGINES, now used for Threshing and other purposes, in the counties of Norfolk, Huntingdon, Durham, and very extensively in the county of Lincoln.

These engines may be readily and efficiently managed by any steady agricultural labourer. They are easily moved from place to place, being permanently fixed upon wheels.

The LIGHT PORTABLE ENGINES have been constructed and their merits proved by the use of about twenty-one pairs, from 4 to 9 cwt. of coals, and from 3 to 4 gallons B.S.-GILLS, with perfect proportionate results, thus showing a saving of 25 per cent. over the common horse-power machines.

Messrs. C. S. and Co. are enabled to produce the following TESTIMONIAL from one of the gentlemen for whom they have manufactured Engines:

Sunderland Docks, Contractor's Office, July 5, 1848.

Gentlemen,—In reply to your inquiry, as to how the two Portable Engines we have had from you answer, we have to say that they give us entire satisfaction, and far exceed our most sanguine expectations respecting them. Our chief use for them is for Sawing, Pile Driving, Pumping, &c. &c. for the general uses that such factors can apply to, and, indeed, for as anything of the sort that we have seen, they cannot be surpassed, either by doing the same quantity of work with the least quantity of fuel, or for little expense in keeping them in repair.

We are, Gentlemen, yours truly, JAMES CLAYTON and SON.
Messrs. Clayton, Shuttleworth, and Co., Engineers, &c.,
Stamp End Works, Lincoln.

Kenwick Hall, Clee-thorpes, near Louth, June 17, 1848.

Gentlemen,—It is with great pleasure I can give my opinion of the "Steam Engine and Thresher" you sent me last year. I have no hesitation in saying it far surpasses all I have seen in its simplicity of construction, compactness, and portability, combined with its accuracy and great power, to make it quite a favourite with all who have it at work.

I approve of the principle of the plan of fire adopted by you, thereby doing away with a powerful draught, which in a portable engine adds to the danger of it, and especially is an objection to its being used in corn ricks. The Engine will move the Engine you made me with great ease on a tolerable road. The Engine is so adapted that a horse is void of what drives it quite as well as any skilled labourer, and keeps it in good order without any other help.

The quantity of coal consumed, of course, must depend upon the quality. I find with mine, I have never used more than work the Engine for 10 hours, and with that quantity of coal I have threshed 60 quarters of wheat, the straw of which was very long and rich, and was tended by two women to the machine, and there were 11 waggon loads. I have no hesitation in saying, that in a season when the straw is not beyond the average length, we could thresh a much greater quantity.

I have only to add, you are quite at liberty to make use of this communication in any way you may think proper; and any gentleman you may refer to me, I shall be happy to answer their inquiries.

I am, Gentlemen, yours truly, WILLIAM STARTON.
To Messrs. Clayton, Shuttleworth, and Co.

Cauwick near Lincoln, June 12, 1848.

Gentlemen,—In answer to your inquiry relative to the "Portable Steam Threshing Machine," which I purchased of you in June, 1848, I have great pleasure in stating that I have found it a very efficient implement, and that I would not be without one on any consideration. It is very economical, easily moved from place to place, and in use, I find one of my own labourers attends to it. It can thresh and dress 50 per day than 12 horses, do it better, requires no more hands, and only consumes from 5 to 6 cwt. of coals per day. If I can be of use to you as a reference, I shall be most happy to answer any inquiry.

I remain, Gentlemen, your obedient servant, EDWARD CLARKE.
To Messrs. Clayton, Shuttleworth, and Co.

N.B.—Engines of four and eight horse-power are now being made at the above works, where an application either personally or by letter, every information as to management, cost, &c., will be gladly furnished.—Oct. 7.

WHEAT SOWING.

MARK FOTHERGILL, 2014, Upper Thames-street, London, offers the following MANURES for the Wheat crop, and warrants the quality to be genuine, viz.:

SUPERPHOSPHATE OF LIME (prepared on Mr. Lawes' only).

WHEAT MANURE, containing a large amount of Salts, with rich Phosphates.

DRIED NIGHT-SOIL (obtained from a large public institution).

PERUVIAN GUANO (direct from import warehouse).

BRITISH GUANO (which has the Salts of Ammonia, Phosphates of Soda and Potash, &c., contained in the former, at a considerably lower price.

Also, Soda Ash (Wireworm destroyer), Gypsum, Urate, Nitrates Soda and Potash, Salt, Bone dust, and all other manures of known value.—Apply for prices current as above.

IMPORTANT TO LANDOWNERS.—An Act of Incorporation having been obtained by "THE LANDOWNERS' WEST OF ENGLAND AND SOUTH WALES LAND DRAINAGE AND INCLOSURE COMPANY," affording Owners of limited Interests in Land the means of Draining, Irrigating, Enclosing, Erecting Buildings of a permanent nature on, and otherwise improving their Lands, and giving such Landowners of limited Interests the power to charge the Inheritance with the value of the outlay in either of the following ways, viz.:—By charging the value on the Inheritance generally, or to be repayable by 25 Annual Instalments of 6*l.* 10*s.* per cent. per annum. This Company is now ready to receive applications for work to be performed under any of the provisions of their Act of Parliament, or of a similar character; and from the extensive operations already in hand, they request parties wishing to avail themselves of the benefits of the Act to make early application. For all further particulars, apply to THOMAS MAY, Secretary, 4, Bedford Circus, Exeter.

PATENT FLEXIBLE INDIA-RUBBER PIPES and TUBING for RAILWAY COMPANIES, BREWERS, DISTILLERS, FIRE ENGINES, GAS COMPANIES, GARDENING and AGRICULTURAL PURPOSES, &c.

THE PATENT VULCANISED INDIA-RUBBER HOSE PIPES are made to stand Hot Water and Acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible), and require no application of oil or dressing, are particularly adapted for Fire-engines, Pumps, Gas, Over-counters, Gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes from ¼ inch bore upwards, and of any length to order.

Vulcanised India-rubber Garden Hose, fitted with brass taps, copper branch, and rose complete, ready to be attached to Pumps, Water-butts, or Cisterns.—Sole Manufacturer, JAMES LYNE HANCOCK, Goswell Mews, Goswell-road, London.

N.B.—Vulcanised India-rubber Washers of all sizes for Joints of Hot-water and Steam Pipes, and Vulcanised Sheet Rubber, any thickness, for all kinds of Joints, and other purposes.

HYDRAULIC ENGINES.

J. LEGG begs to return thanks to his patrons and friends, and also to inform them that he continues to erect his improved Hydraulic Engines, Water Ram, &c., suitable for all situations where a fall can be obtained, also Engines for Deep Wells. J. L. also begs to inform his friends that he has made several improvements on his Hydraulic Machines, and flatters himself that he is able to compete with any parties of the present day in the construction of the above machines.

Apply to John Legg, Cheltenham.

THE IMPROVED HYDRAULIC RAM, fixed by Freeman Roe, Fountain Maker, 70, Strand, London, can be worked by a small stream of half-an-inch, where a fall of two feet can be obtained. The same RAM, without the aid of a Tank or Cistern, arranged to throw a Jet of Water constituting a Fountain with the head of water beneath.

ENGINES FOR DEEP WELLS OF ALL KINDS. DOUCHE AND OTHER BATHS. BUILDINGS HEATED BY HOT WATER. WATER WHEELS to work Small Pumps, from 15*l.*

Estimates given for the supply of Towns, &c.

A newly invented PORTABLE VAPOUR BATH, all complete for 4*l.*

MR. LAWES has prepared a MANURE for WHEAT, the composition of which is—Salts of Ammonia, yielding 14 to 15 per cent. of ammonia—70 to 80 per cent.; Precipitated Phosphate and Sulphate of Lime, with a small quantity of water and silicious matter—20 to 30 per cent. Price 9*l.* 10*s.* per ton.

Office, 69, King William-street, City, London.

SMITHFIELD CLUB.—CHRISTMAS SHOW.—The Annual Show of Fat Stock, &c., will take place at the Horse Bazaar, King-street, Baker-street, Portman-square, London, on the 6th, 7th, 8th, and 9th of December, 1848.

The separate PRINTED FORMS OF CERTIFICATE required for each Class must be obtained from the Hon. Secretary; and all Certificates filled up on the Forms above named, both for Stock and Implements, must be lodged with the Hon. Secretary on or before the 11th of November, 1848.

B. T. Brandreth Gibbs, Hon. Secretary, corner of Half Moon-street, Piccadilly, London.

N.B. Lists of the Prizes can be had on application as above. Exhibitors in applying for Printed Forms are required to state the Number of the Class or Classes in which they intend to exhibit.

The Anniversary Dinner of the Club will take place at the Freemasons' Tavern, Great Queen-street, on Friday, the 8th of December, at 5 o'clock precisely.

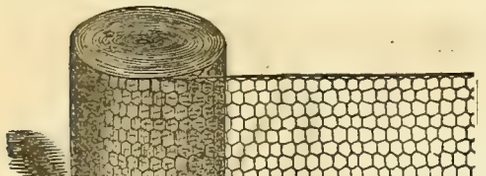
WIRE-WORK, HOT-WATER APPARATUS, GREENHOUSES, &c.

ST. THOMAS BAKER, MANOR-HOUSE, MANOR-PLACE, KING'S-ROAD, CHELSEA, Manufacturer of INVISIBLE WIRE FENCE, to resist Grazing Stock, and rendered Rabbit-proof. WIRE-WORK in Trainers, Arches for Walks, Bordering, Flower Stands, Pheasantries, &c. HORTICULTURAL BUILDINGS, Green and Hothouses, Conservatories, &c. The same heated by HOT-WATER APPARATUS on improved and economical principles.

Parties waited on in Town and Country, and Drawings and Estimates free. Work for the Trade as usual.

Ward's Cases, or Domestic Greenhouses.

STRONG PREMIUM HARE AND RABBIT PROOF WIRE NETTING.



CHARLES D. YOUNG and COMPANY (late W. and C. YOUNG),

MANUFACTURERS OF IRON AND WIRE WORK, &c., Castle-buildings, Derby-square, Liverpool; 128, High-street, Edinburgh; and 32, St. Enoch-square, Glasgow, Beg respectfully to call the attention of Landed Proprietors and others to their strong Wire-Net Fence, for excluding Hares and Rabbits from Gardens, young Plantations, Nurseries, &c.

This Net was exhibited at the Show of the Highland and Agricultural Society of Scotland, held lately at Inverness, where its Efficiency, Great Strength, and Exceeding Cheapness attracted general attention, and had awarded from the Judges the Society's Silver Medals, with high commendations.

The immense damage done by Hares and Rabbits in Gardens and Young Plantations, is often so great, that in the course of a year or two it will amount to more than the entire cost of protecting them with this Net. It is so durable, that when Plantations are sufficiently advanced to be independent of its protection, it can be removed to other exposed situations with the greatest facility, by any labourer. As a Fence against Hares and Rabbits, it is of itself quite sufficient, having only to be unrolled and attached, with small wire sent for that purpose, to wooden stakes driven into the ground, about every six or seven feet apart. It is, besides, peculiarly adapted for rendering Hedges, Paling, or other existing Fences, *completely impervious* to such vermin: and by being cut up into small pieces of three or more feet, as required, it forms a most efficient guard, at little expense, for individual Plants and Shrubs.

PRICES.—18 ins. high, 9*d.*; 24 ins., 1*s.*; 30 ins., 1*s.* 3*d.*; and 36 ins., 1*s.* 6*d.* per lineal yard.

Or a web of 100 yards, 18 ins. wide, will cost	...	£3 15 0
Do. of 100 yards, 24 ins. wide	...	5 0 0
Do. of 100 yards, 30 ins. wide	...	6 5 0
Do. of 100 yards, 36 ins. wide	...	7 10 0

If more or less than a web is required, it would be charged at the same rate per yard.

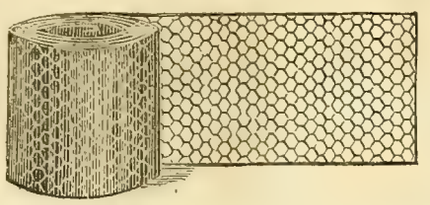
This Netting is also admirably adapted for Pheasantries and Poultry-yards, and is charged at the same rate. As carriage has, in many instances, been an obstacle to parties at a distance requiring this Net, C. D. Y. and Co. have made arrangements by which they will undertake to deliver it at any of the principal ports of Scotland, England, and Ireland, for One Halfpenny per lineal yard.

C. D. Young and Co. cannot give a better idea of the great strength of their Premium Wire Netting than by stating that the weight of one yard of their 24-inch at 1*s.* is equal to 2½ yards of another article in the market, the same width, at 9*d.* per yard. Samples for inspection sent free of expense.

C. D. Young & Co. manufacture every description of IRON and WIRE WORK required for this and foreign countries.

Workmen sent to all parts of Scotland, England, and Ireland.

WIRE NETTING ONE PENNY PER SQUARE FOOT.



GALVANISED WIRE NETTING, TWO-PENCE PER SQUARE FOOT.—This article requires no painting, the atmosphere not having the slightest action on it. It has the appearance of silver, and maintains its lustre for many years, and is acknowledged to be the cheapest article ever brought into the market. It forms a cheap, light, and durable fence for the protection of Gardens and Shrubberies against the depredations of hares, rabbits, and cats; for Aviaries, Pheasantries, and to prevent poultry from straying, as well as for training creeping plants, it answers admirably.

Large quantities of the Netting always kept in Stock, samples of which can be forwarded (free of expense) to any part of the United Kingdom. Prices as follows:

12 inches wide	3*d.*	per yard		30 inches wide	7½*d.*	per yard	
18 "	"	4½*d.*	" "	36 "	"	9*d.*	" "
24 "	"	6*d.*	" "	48 "	"	1*s.*	" "

Galvanised do. 1*d.* per foot extra.

Also Fenders, Fireguards, Fly-proof Dish Covers, Meat Safes, Wire Blinds, Garden bordering and arches, Flower Stands, and every description of Wire Work.

Thomas Henry Fox, 63, Snow-hill, London.

IMPROVED POLMAISE HEATING.

J. LEWIS'S IMPROVED REGISTERED STOVES are delivered to the Railways or Wharfs, with plans for fixing, at the following prices: for a Greenhouse 20 feet by 12, 6*l.* 10*s.*; 30 feet by 14, 8*l.* 10*s.*; 60 feet by 18, 10*l.* 10*s.* To be seen on the premises, Machine Hothouse Works, Stamford-hill, Middlesex.

GREENHOUSES made of the best materials, glazed with large sheet glass, painted three coats of best oil colour, and delivered to any of the Railroads or Wharfs in London, at the following prices, including a Stove for heating the same; a House 12 feet long by 8 feet wide, for 24*l.*; do. do. 15 feet by 10, 32*l.* 10*s.*; do. do. 18 feet by 12, 42*l.*; do. do. 21 feet by 12, 47*l.* These Houses are fitted and marked to place, so that any country carpenter can fix a Greenhouse in one day. The Works may always be inspected at J. Lewis's Hothouse Works, Stamford-hill, Middlesex.

YARMOUTH BLOATERS.—GENUINE AND OF THE FINEST QUALITY.

Yarmouth has for centuries been justly celebrated for its well-known "Yarmouth Bloaters," the delicacy of which, when obtained in their genuine state, requires no comment. Such an opportunity is now offered; and they can be forwarded to any part of the kingdom, or for exportation (on receipt of a post-office order) at 12*s.* per 100. package included.—All orders to be addressed to Mr. Frederick Broughton Youell, Church-square, Great Yarmouth.

WANTED TO RENT a small piece of GROUND, from 1 to 2 acres, for the cultivation of Flower-roots. No objection to take the Stock, if under the same, within five miles of London; also has no objection to a few acres of Meadow Land, if attached.—Direct by letter, post paid, to A. B., at Mr. Stutter's, 184, Shoreditch.

THE POTATO DISEASE ARRESTED.—THE POTATO DISINFECTING POWDER, discovered and prepared by J. GREEN, Chemist, West Bromwich, is a dressing for newly-dug Potatoes, which, as proved to the satisfaction of several eminent agricultural chemists and others, last autumn, effectually preserves the sound bulbs, and arrests the progress of the disease in those attacked. Its application, which is extremely simple, costs only 6*d.* a sackful. Every Farmer and Potato grower ought to use it. Sold by all Chemists and Druggists in the United Kingdom, in packets at 6*d.*, 1*s.*, and 2*s.* 6*d.* each. Wholesale Agents, Langton, Brothers, and Scott, London.

EMIGRATION AND COLONIZATION.—IMMIGRATION being much required in AUSTRALIA, NEW ZEALAND, &c., and as the supposed expense of an OUTFIT often prevents individuals emigrating, S. W. SILVER & Co., CLOTHIERS, OUTFITTERS, and CONTRACTORS (having a large interest to maintain in those Colonies), have been advised to make known that they can supply a comfortable Outfit (including Bedding) for Male or Female Emigrants, from 4*l.* (net) upwards, or less (2*l.*, if needful); and for Children in proportion, at No. 4, Bishopsgate-street Within (opposite the London Tavern), where Lists will be given on application.

S. W. S. & Co., being the makers of nearly every article in all the Outfits they supply, and as one of their objects is to promote Emigration, they neither receive from Agents, or pay the too usual commission to any person introducing Passengers to be fitted out, so that the Passage and Outfit may be procured at the least possible expense; but they will, on application, advise Passengers how to obtain the most economic passage to the Colonies. They have a Representative in every Australian Colony, to whom they ship Clothing monthly; thus they would forward small parcels free of expense.

Naval and Military Officers, Midshipmen, Cadets, Civilians, Ladies, &c., are outfitted as heretofore, at the Cabin-Passenger Outfitting Warehouse, Nos. 66 and 67, Cornhill (the Emigration Outfitting being exclusively at No. 4, Bishopsgate-street Within), London, and each branch at St. George's Crescent, Liverpool.

DONCASTER and EPSOM RACES.—DRUMMOND, GREVILLE, and Co, Sporting Printsellers and Publishers, 72, Princes-street, Leicester-square, London, beg to to apprize their sporting friends that, on the 1st of January next, they will have ready for distribution a SPLENDID ENGRAVING, 30 inches by 24, of the DONCASTER RACE-COURSE, at the moment of the coming in for the Great St. Leger Race of September, 1848, beautifully coloured, and exhibiting correct likenesses of the three first horses and their riders, from a plate engraved by that celebrated artist Mr. Charles Hunt, and sent post free, to all parts of the Kingdom, at the small charge of 15*s.*, being less than half the usual cost. They have also secured the services of the same artist to engrave a plate of the Winning Horse for the Epsom Derby Race of 1849, with a correct portrait of his rider, proof impressions of which, beautifully coloured, will be presented to their patrons, on terms to be known (free of postage) on application to them. Betting on all the principal races—liberal odds laid—money posted, and paid the day after the race. Country commissions promptly executed. Post-office orders, payable at Charing-cross, punctually attended to.—All persons having any claims on Drummond, Greville, and Co., are requested to make immediate application for payment.

AGRICULTURAL and SCIENTIFIC TRAINING SCHOOL, Hoddesdon, Herts.—VACANCIES for TWO STUDENTS on the foundation of this Institution will be filled up on Wednesday, October 21st. Particulars may be had of the head master, either personally or by letter, and the names of the noblemen and gentlemen whose nominations are vacant, will be given to parents desirous of availing themselves of the foundation.

To be published in November, price 1*s.*,

JOHNSON'S GARDENERS' ALMANACK for the year 1849.—The work will be newly arranged, so as to give increased facility of reference; and will contain contributions from some of the best of English Gardeners; full information relative to the Potato Murrain, and all the Horticultural Discoveries of the year.

Printed for the Stationers' Company, and Published at their Hall, Ludgate-street, London, by George Greenhill; to whom Advertisements for insertion must be sent before November 1.

Just published,

THE NEW HUSBANDRY. By Law Rawstorne, Esq. Price 9*s.*, by post, 10*s.*

Also, by the same,

GAMONIA, OR BATTUES ILLUSTRATED. Price 9*s.*, by post 10*s.*

LANCASHIRE FARMING. Price 1*s.* 6*d.*, by post 2*s.*

Sold by H. Oakey, 25, Fishergate, Preston.

NEWSPAPERS.—The TIMES, HERALD, GLOBE, and SUN posted on the evening of publication for 23*s.* a quarter; the CHRONICLE for 19*s.* 6*d.* All the Daily and Weekly Papers sent to any part of the World; Magazines and Periodicals supplied to order. All orders must be paid in advance.

James Barker, Bookseller, 19, Throgmorton-street, Bank.

THIRD EDITION OF "JANE EYRE."

Just published, in 3 vols. post 8vo, price 1*l.* 11*s.* 6*d.* cloth,

JANE EYRE, an Autobiography. By Currer Bell. Third Edition, with Preface by the Author.

"A very pathetic tale; very singular, and so like truth that it is difficult to avoid believing that much of the characters and incidents are taken from life. Here in one example is represented the strongest passion and the strongest principle, admirably supported. It is an episode in this work; a day world, most interesting, and touched at once with a daring and delicate hand. The execution of the painting is as perfect as the conception. It is a book for the enjoyment of a feeling heart and a vigorous understanding."—*Blackwood's Mag. for Oct.*

London: Smith, Elder, and Co., 65, Cornhill.

Of whom may be had, price 4*s.*,

POEMS BY CURRER, ELLIS, and ACTON BELL.

One vol. post 8vo, with Plates and Cuts, price 12*s.* cloth,

LIFE IN RUSSIA; OR, THE DISCIPLINE OF DESPOTISM. By Edward P. Thompson, Esq., Author of the "Note Book of a Naturalist."

"One of the most amusing and useful books that has been published on Russia."—*Spectator.*

"We recognise in Mr. Thompson's accounts an air of truth and fairness which wins our confidence. The work is pleasantly written."—*Athenæum.*

"An instructive volume, from which an accurate idea of Russian manners may be gained."—*Critic.*

"A work of sound judgment, shrewd observation, and extensive knowledge."—*Eclectic Review.*

"A delightful and impartial narrative of a residence in a part of the world of which we really know next to nothing."—*Westminster Review.*

"This book describes life in Russia well."—*Observer.*

"Veracious as to its facts; lively and interesting."—*Nonconformist.*

London: Smith, Elder, and Co., 65, Cornhill.

NEW WORK BY DR. R. D. THOMSON.

Just Published, in fcp. 8vo, with Woodcuts, 7*s.* cloth,

SCHOOL CHEMISTRY; or, Practical Rudiments of the Science. By Robert Dundas Thomson, M.D., Master in Surgery in the University of Glasgow.

By the same Author, fcp. 8vo, Woodcuts, 5*s.*

An ACCOUNT of the GOVERNMENT EXPERIMENTS on the FOOD of ANIMALS and the FATTENING of CATTLE: with Remarks on the Food of Man.

London: Longman, Brown, Green, and Longmans.

THE EDINBURGH REVIEW, No. CLXXVIII., was published on SATURDAY last.

Contents.

1. MILL'S PRINCIPLES OF POLITICAL ECONOMY.
2. WALPOLE'S LETTERS TO THE COUNTESS OF OSSORY.
3. REVOLUTION AND REFORM.
4. FORTUNE'S CHINA; GARDENING.
5. ETHNOLOGY; OR, THE SCIENCE OF RACES.
6. HERVEY'S MEMOIRS OF THE REIGN OF GEORGE II.
7. STATE OF EUROPE.

London: Longman & Co. Edinburgh: A. & C. Black.

Now ready, price 3*s.* 6*d.*, Part XV., containing 19 plates, and a half sheet of Letter-press. To be continued monthly.

SOWERBY'S ENGLISH BOTANY. A few copies of the first 7 vols. of the 2d edition, cloth boards, lettered, comprising the Flowering Plants, may be had at 14*l.* 7*s.* the set (originally sold at 17*l.* 10*s.*), of Mrs. Sowerby, 3, Mead's-place, Lambeth; Messrs. Longman and Co.; Messrs. Simpkin and Co.; and of all Booksellers in town and country.

TENANT-RIGHT.—The Parliamentary Report of the Evidence given before the Committee of the House of Commons on Tenant-Right being out of print, the Proprietors of THE FARMER'S MAGAZINE have determined to republish it in that periodical, without additional charge.

Persons desirous of possessing the Evidence complete should order the Number for October without delay through a bookseller in any market town.—Office, 24, Norfolk-street, Strand, London.

CARSON'S ORIGINAL ANTI-CORROSION PAINT, specially patronised by the British and other Governments, the Hon. East India Company, the principal Dock Companies, most public bodies, and by the Nobility, Gentry, and Clergy, for out-door work at their country seats. The Anti-Corrosion is particularly recommended as the most durable out-door Paint ever invented, for the preservation of every description of Iron, Wood, Stone, Brick, Compo, Cement, &c., work, as has been proved by the practical test of upwards of 60 years, and by the numerous testimonials (between 300 and 400) in its favour, and which, from the rank and station in society of those who have given them, have perhaps never yet been equalled by anything of the kind hitherto brought before the public notice. A copy of the Testimonials, together with a List of Prices, Colours, &c., will be forwarded on application to Walter Carson, 15, Tokenhouse Yard, back of the Bank of England, London. No Agents. All orders to be sent direct.

Printed by William Bradbury, of No. 6, York-place, Stoke Newington, and Frederick Mullett Evans, of No. 7, Church-row, Stoke Newington, both in the county of Middlesex, Printers, at their office in Lombard-street, in the Precinct of Whitefriars, in the City of London; and published by them at the Office, No. 5, Charles-street, in the parish of St. Paul's, Covent Garden, in the said county, where all Advertisements and Communications are to be addressed to the Editor.—Saturday, Oct. 7, 1848.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No 42.—1848.] SATURDAY, OCTOBER 14. [Price 6d.

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GARDENERS' BENEVOLENT INSTITUTION.—NOTICE is hereby given that an ELECTION of TWO PENSIONERS on the Funds of this Charity will take place in January next. All persons desirous of becoming Candidates are required to send in their applications and testimonials on or before the 4th Nov. next, after which time they will not be received. Printed forms may be had on application to the Secretary. By order, EDWARD ROGER CUTLER, Sec.
97, Farringdon-street, Oct. 14.
P.S. The Committee will thank those persons whose subscriptions are not yet paid to forward the same without delay.

BECK'S SEEDLING PELARGONIUMS.—A descriptive CATALOGUE of the above may be had in exchange for one postage stamp.
E. BECK, Worton Cottage, Isleworth.

PINE APPLE PLANTS.—The whole stock (two small Houses) of Fruiting and Successions, principally Queens, clean and healthy. To be sold cheap.—Apply to ——, Post-office, Godalming, Surrey.

UNBLOOMED SEEDLING GERANIUMS.—Now sending out, plants raised from Seed, carefully selected and hybridized from the choicest flowers, free by post, for 7s. 6d. per dozen; or 3 dozen for 20s. Prepayment only.
JOHN HINE, Providence Nursery, Ramsgate, Kent.

FIRST CLASS GERANIUMS.—Miller's beautiful set of Eight sent out for the first time last year, namely:
SCARLET DEFIANCE, ADMIRATION,
ROSA MUNDI, VALGIUS,
QUEEN OF KENT, CONSPICABUNDUS,
DISTINCTUS, FLORA'S FLAG,
For 1l 5s.
NEW VARIETIES, 20s. to 25s. per dozen. Fine and distinct sorts, 10s. 6d. to 15s. per dozen.
JOHN HINE, Providence Nursery, Ramsgate, Kent.

DANECROFT NURSERIES, STOWMARKET.—The Representatives of the late S. Girling have an unrivalled collection of DAHLIA ROOTS now to offer, in fine condition, and at low prices; Catalogues of which may be had on application.— Letters addressed as above, to T. BARNES, will meet with prompt attention.—Oct. 14.

DUTCH FLOWER BULBS, &c.
JAMES CARTER, SEEDSMAN and FLORIST, No. 238, High Holborn, London, begs leave to submit the following Extract from his Autumn Catalogue to the notice of his customers. The Bulbs are warranted of finest quality.

HYACINTHS—per doz.	s.	d.
Mixed, double or single	3	0
Named, 7s. 6d., 12s., 15s., and 20s.		
P. NARCISSUS, &c. per doz.		
12 Dutch, in 6 varieties	5	0
12 Italian, in 2 do.	3	6
36 various, in 6 do., for	6	0
18 Jonquils, in 3 do., for	2	6
DUTCH CROCUS—per 100.		
Any colour separate	2	6
1000 in 10 fine sorts	20	0
Fine mixed, per 100	1	6
Large yellow, per 100	2	6
David Rizzio, per 100	3	6
Queen Victoria, per 100	2	6
500 in 100 new vars., for	20	0
250 in 50	7	6
TULIPS per doz.		
Early named, 12 vars.	4	0
„ fine mixed, 100, 10s.	1	3
„ Van Thol, 100, 7s. 6d.	1	0
„ ditto, in 4 vars.	0	6
Double, named, 12 vars.	4	0
„ fine mixed, 100, 10s.	1	3
„ Van Thol, 100, 7s. 6d.	1	0
„ Tournesol	4	0
„ Rex Rubrorum	4	0
Late, finest mixed, 100, 10s.	1	3
„ common, 100, 5s.	0	9
Parrot, mixed, 100, 7s.	1	0
„ 12 in 3 vars.	1	6
IRIS		
English, fine, mixed, doz.	2	6
50 in 50 splendid vars., for	30	0
25 in 25 do., 15s.,—doz.	7	6
Spanish, mixed, 100	4	0
50 in 50 vars., 7s.; 25	3	6

ANEMONES	s.	d.
Splendid mxd. dbl, p. lb.	7	0
Double scarlet, per lb.	12	0
New mixed single, p. lb.	4	0
100 new double, for	30	0
50, 15s.; 25, 7s. 6d.; p. doz.	4	0
Hortensis, mixed, p. doz.	2	0
25 newest varieties	15	0
DOUBLE RANUNCULUS		
Finest mixed, per 100	10	0
Very good do. do.	4	0
100 in 100 fine sorts, for	24	0
50, 12s.; 25, 7s. 6d.; doz.	4	0
New Scotch, 30 vars. for	20	0
Scarlet Turban, per 100	2	6
Dark crimson, per 100	3	0
Yellow, per 100	3	0
LILIES		
White, 3s. 6d.; orange, per doz.	2	6
Scarlet, per doz.	5	0
Speciosum, red, each 3s. to 10	1	6
„ album, do., 2s. 6d. to 5	0	
GLADIOLUS—per doz.		
Cardinalis, 2s. 6d. to	5	0
Communis, 3 vars., each	1	6
Floribundus, new var.	2	0
Psittacinus	2	0
Island Queen, each	10	6
Speciosissimus, each	3	6
20 very fine sorts for	40	0
Ixia, 50 in 10 sorts, for	10	0
Sparaxis, 15 in 5 do., for	3	0
Tigridia pavonia, p. doz.	2	0
„ „ superba, „ 12	0	
Snowdrops, dble., per 100	2	0
Winter Aconites, per 100	4	0

GERANIUMS, IN FINE HEALTHY CONDITION, NOW READY FOR SENDING OUT, AT VERY LOW PRICES.
WILLIAM E. RENDLE AND CO. have a very large and extensive stock of the following GERANIUMS, all of which are offered at very low prices.
Selection of 12 from the following for 20s.—Forget-me-not, Remembrance, Mount Etna, Hebe's Lip, Mary Queen of Scots, Orion, Firefly, The Peri, Talisman, Nourmahal, Sir Robert Sale, Queen of Beauties, Sir W. R. Gilbert, Gigantic, Bacchus, Sirius, Desdemona, Standard of Perfection, Sidonia, with a plant of Foltey's Black Prince over on every order.
Selection of 20 from the following for 20s.—Rosy Circle, Chaplet, Titus, Zenobia, Margaret, Rosebud, Gipsy Queen, Sarah Jane, Merry Monarch, Othello, Pluto, Champion, Duchess of Leinster, King of Saxony, Sunrise, Madelina, Isabella, Duke of Cornwall, Marc Antony, Prince Alfred, Conflagration, Apollo, Mustee, with a plant of Foltey's Black Prince over on every order.

SCARLET GERANIUMS.
The following choice sorts, at 12s. per doz.: Britannia, Beauty of St. John's Wood, Cottage Maid, Surpass Frogmore, Eclipse, General Tom Thumb, Monarch, Hendersonii, King, Compacta, Vivid.

STRAWBERRIES.

Myatt's Eliza per doz.	1s. 0d.	Elton ... per doz.	3s. 0d.
„ Mammoth ...	3 0	Myatt's British Queen ...	1 0
Victoria ...	1 0	„ Globe ...	3 0
Cooper's Seedling	3 0	„ Prolific ...	3 0
Keens' Seedling	1 0	Deptford Pine ...	3 0
Cole's Prolific ...	3 0	Roseberry ...	1 0

DUTCH FLOWER ROOTS.
We have a splendid assortment of all the best kinds, which have just arrived, in the best possible condition, from one of the largest houses in Holland.
HYACINTHS, 20 fine named varieties, per doz., 10s.
„ fine mixed varieties, per doz., 3s. to 4s. 6d.
ANEMONES, best double mixtures, per lb., 7s.
RANUNCULUSES, best double mixtures, per 100, 5s. to 7s.
„ Scarlet Turban, per 100, 3s.
CROCUS, fine named, per 100, 2s. 6d.
And all other kinds equally low, full particulars and prices of which can be obtained from our Catalogues, which will be forwarded gratis on application to WILLIAM E. RENDLE and Co., Union-road, Plymouth, adjoining the Plymouth Station and Terminus of the South Devon Railway.
*** *All Orders above 2l. from the above Advertisement will be delivered free of Carriage to London, Bristol, Exeter, or any other Station on the Great Western or South Devon Railways.*

AMERICAN NURSERY, BAGSHOT, SURREY.
JOHN WATERER begs to announce that Catalogues of his splendid collection of AMERICAN PLANTS for the present season are now ready for delivery, and may be obtained on application. The same comprises his stock in general.

PURE WHITE SALVIA PATENS.
WM. WOOD AND SON are now sending out the above highly desirable plant, under the name of SALVIA PATENS ALBA, at 10s. 6d. each, with the usual discount to the trade, and one additional plant for every three ordered.
The following are highly recommended:

	s.	d.
Allamanda grandiflora	3s. 6d. to 5	0
„ Schotti, bright orange, superb; strong plts., 7s. 6d. to 10	6	
Clerodendron sinuatum	3	6
„ viscosum	5	0
„ volubile	3	6
Gardenia Fortuni	7	6
Pleroma elegans	3	6
Plumbago Larpentæ, small, 3s. 6d.; large	21	0
Rhododendron Carendishianum, splendid yellow	21	0
„ luteum splendens, ditto, new	42	0
„ Victoria Regina, ditto, new	42	0
Rhynchospermum jasminoides, TRUE	3	6
Tweedia pubescens	3	6

CHRYSANTHEMUMS, including all the latest imported novelties, the selection left to W. W. & S.
Extra fine varieties, 6s. and 9s. per doz.: Superior varieties, at 12s. and 18s. per dozen.
25 good distinct varieties for 15s.; 50 extra superior do., 35s.
*** Additional plants will be presented with each order to compensate for carriage. A remittance or reference required from unknown correspondents; post-office orders to be made payable at Uckfield.
Woodlands Nursery, Maresfield, Uckfield, Sussex.

THE HOPE NURSERIES, NEAR BEDALE, YORKSHIRE.
WILLIAM MAY, F.H.S., in acknowledging the numerous favours already conferred upon him, for which he begs respectfully to thank his Friends, announces that he has provided a large stock of the undernamed NURSERY ARTICLES, comprising the most select new, and approved old varieties in each department in present cultivation, which he is enabled to offer in collections at very reduced prices, viz.:

	s.	d.
Hardy Ornamental Trees, Evergreen and Deciduous Shrubs, 100 sorts for	42	0
Roses, comprising the various classes, fine dwarf plants, 100 sorts for	42	0
Ditto, good kinds for the border, 100 sorts for	25	0
Hardy Ornamental Herbaceous Plants, select, 100 sorts for	30	0
Hardy select Alpine or Rock Plants, 100 sorts for	30	0
Greenhouse Plants of select varieties, 100 sorts for	75	0
Ericas, fine collection and fine young plants, per dozen	12	0
Stove Plants, fine new sorts, very select, per dozen	25	0
Stove Climbers, do. do. do.	25	0
Calceolarias, 12 fine: sorts, for show, very select, p. doz.	20	0
Cinerarias, do. do. do.	20	0
Geraniums, do. do. do.	20	0
Do. do. fancy sorts do. do.	20	0
Do. do. scarlet, &c. do. do.	10	0
Hollyhocks, fine double varieties, very select, per dozen	6	0
Pinks, 25 pairs fine sorts by name for	10	0
Hyacinths, fine named sorts, per dozen, from 6s. to	9	0

N.B. Also Forest Trees, trained and other Fruit Trees, in unlimited quantities at moderate prices, &c.

JOHN CATTELL begs most respectfully to inform [illegible]

DOUBLE HOLLYHOCKS.
ROBERT COOPER, [illegible], Croydon, has the following DOUBLE HOLLYHOCKS [illegible] at 9s. per dozen:

Double Brown	Double Variegated	Double Red	
„ White	„ Striped	„ Crimson	
„ Black	„ Crimson and White	„ Purple	
„ Yellow	„ Blush		
„ Scarlet	„ Rose & Crimson	„ Purple	
„ Pink	„ Purple & White		

Or mixed from the above [illegible] per dozen, or the yard 9s. Also Double Primroses, strong blooming roots, 4s. 6d. per 100, or 1s. per dozen.

SUPERB HOLLYHOCKS.
R. B. BIRCHAM, Hedenham Rosary, Bungay, Suffolk, begs to [illegible] sale of the [illegible] from the late Mr. Bates's [illegible] and strong, and will [illegible]

Attraction	3	[illegible]	1
Black Prince	3	[illegible]	2
Bicolor	2 6	[illegible]	2 6
Commander-in-chief	3	[illegible]	2 6
Dentata	2	[illegible]	2 6
Dark Crimson	2	[illegible]	2 6
Formosa	3	[illegible]	2 6
Pulgens	7	[illegible]	

Ready to be forwarded [illegible] Descriptive Catalogue of [illegible] most select and best varieties [illegible]

CAREY TYSO, Florist and Seedsman, Wantage, Berks, begs to [illegible] remittances to order:
TULIPS, 100 superb named [illegible]
RANUNCULUSES, 100 [illegible]
ANEMONES, 50 [illegible]
CARNATIONS and PICOTEES, 25 ditto, in pairs, 2l. to 3l.
PINKS, 25 ditto, [illegible]
These can be safely forwarded by post.
THE RANUNCULUS: HOW TO GROW IT, price 6d., or sent post free, in a General Catalogue for 1848, on receipt of nine postage stamps.

TULIPS AND LILIUM LANCIFOLIUM.
HENRY [illegible], [illegible] Rose, near London, by Appointment [illegible] AND TO HIS MAJESTY THE KING OF SAXONY, respectfully [illegible] to the Nobility, Gentry, and Amateurs, the present season as the best to plant the above BULBS, and to state that having a fine stock of them [illegible] them at very moderate prices. His [illegible] may be had on application.
He begs to say he has received [illegible] of LILIUM LANCIFOLIUM in excellent condition. The Trade supplied [illegible]

DOUBLE ROMAN AND PAPER WHITE NARCISSUS, 4s. per dozen.—The [illegible] which is so justly esteemed for [illegible] fragrance, and the latter for its purity [illegible] just received at A. CONSTABLE'S [illegible] 18, Pall-mall, near Waterloo [illegible] Crocus, Tulips, Anemones, [illegible] Catalogues of which may be had [illegible]

MYATT'S LINNÆUS RHUBARB.—Messrs. J. MYATT and Sons have a [illegible] of this superior variety, which has been the leading variety in the London Markets [illegible] recommend as the best [illegible] point of produce and [illegible] Victoria. It is also [illegible] culinary purposes, and [illegible] surpassed; price 2s. 6d. per root. Also Myatt's Royal Albert, 2s. 6d.; and MYATT'S Victoria [illegible] to the Trade.
Post-office orders made payable to JOSEPH MYATT, Deptford.

ROYAL ALBERT MEWARD.
WM. MITCHELL begs to call attention to the above excellent variety, which still retains its superiority over all other sorts [illegible] earlier than any [illegible] It has other [illegible] enumerated [illegible] it is most [illegible] of a bright red colour, a [illegible] large fleshy stalks, and [illegible] any other variety. [illegible] been inspected and highly approved [illegible] commands it has been introduced into the Royal Gardens, Windsor. Also Myatt's Victoria [illegible] eminent judges, have declared this [illegible] anything of the kind ever seen, and the premium [illegible] attending the London and other [illegible] the best in cultivation. In addition [illegible] serve, that it [illegible] the season was [illegible] season in Manchester, Birmingham, Liverpool, Cambridge, Brighton, and [illegible] universal satisfaction [illegible] extreme richness, and splendid beauty.
Strong one year planted roots will be sent out at the end of October, at 2s. [illegible] Also, Myatt's Linnæus, 2s. 6d., and Victoria, 2s. each. [illegible]
Remittances requested from unknown correspondents by [illegible] Post-office [illegible] WILLIAM MITCHELL, Royal Exotic Nursery, Bedford Railway, Maidenhead, Berks, and Exeter.—October 14.

YARMOUTH BLOATERS.—GENUINE AND OF THE FINEST QUALITY.
Yarmouth has for centuries been justly celebrated for its well-known "Yarmouth Bloaters," the delicacy of which, when obtained in their genuine state, renders a treat. Such an opportunity is now offered; and they can be forwarded to any part of the kingdom, or to any station on receipt of a post-office order for 10s. per hundred.—All orders to be addressed to Mr. FREDERICK ANDREWS'S Yards, Church-square, Great Yarmouth.

EXHIBITIONS AT THE GARDEN

OF THE

HORTICULTURAL SOCIETY OF LONDON,

FOR THE YEAR 1849.

THE EXHIBITIONS WILL TAKE PLACE ON THE FOLLOWING DAYS, Viz. :—

SATURDAY, May 5 ; SATURDAY, June 9; and WEDNESDAY, July 11.

SCHEDULE OF THE PRIZES.

FLOWERS.

Class I.—In which Nurserymen and Private growers exhibit independently of each other.

A Pelargoniums ; in collections of 6 new and first-rate varieties, with perfectly distinct colours, cultivated with superior skill, in 8-inch pots. SG—CE—LS
NB. The collections in which the varieties are most distinct *will have the preference.*

B Pelargoniums ; in collections of six varieties, in 11-inch pots. SG—CE—LS
N.B. Any plant that shall not have been actually grown in 11-inch pots will be disqualified.

C Roses, in pots ; in collections of 12 distinct varieties. GB—SG—CE [In May and July only.]
NB. The Judges are required to disqualify any collection which shall be found to contain a plant which has been recently placed in the pot from the open ground.

D Yellow Roses, best six varieties. SK—SB—C
[To be shown in July only, and really to be yellow ; pale cream colours are inadmissible.]

E Cape Heaths ; in collections of 15 entirely distinct varieties. GK—GB—SG
NB. It is expected that the same plant shall not be exhibited on more than one occasion.

Class II.—In which all persons are admitted to equal competition.

F Cape Heaths ; in collections of 9 entirely distinct varieties. SG—CE—LS
NB. No person will be allowed to show in more than one of the classes.

G Cape Heaths ; single specimens displaying very superior cultivation. LS—SK—SB

H Calceolarias, in sixes ; in 11-inch pots. LS—SK—SB [To be shown in June only.]

I Carnations, in pans of 24 distinct varieties. SK—SB—C

K Picotees, in pans of 24 distinct varieties. SK—SB—C

L Pinks ; in pans of 24 distinct varieties. SB—C
N.B.—Carnations, Picotees, and Pinks can be exhibited in July only. They must be shown in boxes of four sixes, of the following dimensions :—From centre to centre, 3¾ ins. ; from centre to outside, 2¼ do. ; depth at back, 7 ins. ; ditto front, 3½ do. The face to be painted light green. *No collections will be allowed to exhibit in which these conditions are not complied with.*

M Single specimens of very superior cultivation, excluding everything which can be shown singly in other letters, and plants not in flower. CE—LS—SK

N Stove or Greenhouse plants ; in collections of 30 plants. CH—LG—GK
NB. Calceolarias, Fuchsias, Orchids, and Pelargoniums are excluded. Not more than two duplicates can be shown.

O Stove or Greenhouse plants ; in collections of 15 plants. GK—GB—SG
NB. No duplicate can be shown here.

P Stove or Greenhouse plants ; in collections of 6 plants. SG—CE—LS
NB. No duplicate allowed here. Exhibitors cannot show in more than one of the classes *N*, *O*, and *P*

Q Greenhouse Azaleas ; in 12 distinct varieties. GB—SG—CE

R Greenhouse Azaleas ; in six distinct varieties. SG—CE—LS
NB. No one can show in both classes of Azaleas.

S Greenhouse Rhododendrons ; in six distinct varieties ; *in May only.* SG—CE—LS

T Collections of 6 New Hardy Evergreens grown in pots ; Conifers excluded. CE—LS—SK [In July only.]
NB. Nothing will be regarded as new which has been previously exhibited, or which has been in the nurseries more than three years.

U Conifers, of new or very rare species, in not less than the third year of their growth, in sixes. CE—LS—SK [In July only.]

V Exotic Orchids ; in collections of 20 species of superior cultivation. LG—GK—GB
NB. Exhibitors cannot show in more than one of the classes *V*, *W*, *X*, and *Y*.

W Exotic Orchids ; in collections of 10 species of superior cultivation. GK—GB—SG

X Exotic Orchids ; in collections of six species. SG—CE—LS

Y Exotic Orchids ; single specimens displaying *very* superior cultivation. LS—SK—SB

Z Fuchsias ; single specimens ; *in July only.* LS—SK—SB

AA Pelargoniums ; in six DISTINCT SPECIES, exhibiting superior cultivation. SG—CE—LS
NB. By the word species is meant the wild kinds imported from the Cape of Good Hope, or New Holland, exclusive of tuberous species and garden cross-breds.

BB Fancy Pelargoniums ; in sixes. SG—CE—LS

CC New Hybrid Pelargoniums. LS—SK—SB
NB. This class is to include any varieties that do not belong to the Fancy or Florist's varieties.

DD Achimenes ; in collections of not fewer than six species, exhibiting superior cultivation. CE—LS—SK

EE Six distinct varieties of Tall Cacti in flower. GB—SG—CE

FF Roses of 50 varieties in loose bunches, each consisting of three trusses as they are gathered, so as to exhibit, as far as possible, the habit of the variety. CE—LS—SK [In July only.]
NB. No one who exhibits in this letter can also compete in the following.

GG Roses, exhibited as in the letter *FF*, and in 25 varieties. LS—SK—SB (*Private growers only can exhibit here*). [In June and July only.]
NB. If Roses are brought for exhibition without attention to the regulations here explained, they will not be allowed to compete

HH Æschynanths ; in collections of 6 species. CE—LS—SK

II Cape terrestrial Orchids, in not fewer than six species. LS—SK—SB

KK Statices ; in collections of six species. SG—CE—LS

LL Ferns, in collections of 10 species of *very* superior cultivation. LS—SK—SB [To be shown in July only.]

MM New Hardy Hybrid Shrubs, exclusive of Roses, Rhododendrons, Azaleas, and the like. SG—CE—LS
N.B.—It is certain that much may be effected by hybridizing plants in common cultivation, such as Lilacs, Honeysuckles, &c. &c.

NN Amaryllids, in sixes. SG—CE—LS

OO Newly introduced or extremely rare ornamental plants in flower. SG—CE—LS
NB. These Medals will be awarded by the Society's Officers, and not by the usual Judges. Exhibitors will particularly observe that none but new or rare plants can be exhibited under this letter. *Nothing will be regarded as new which has been exhibited in the Garden or Regent-street in a previous season*, nor garden seedlings, hybrids, nor domesticated varieties of any kind.

PP Miscellaneous subjects, exclusive of Ferns. SK—SB—C
NB. Exhibitors under *P P* will not be thereby *entitled* to a pass ticket. Cockscombs, Heartsease, Hydrangeas, and bouquets, together with all plants for which separate prizes are offered as single specimens, are altogether excluded.

QQ Seedling Hybrid Pelargoniums, of entirely new crosses. S—BC
NB. Every seedling must be shown singly, and marked with the name it is to bear. The same seedling cannot gain a prize more than once in the season. The plants must be shown in pots, and not in a cut state.

In addition to any Medals assigned to the letters *E*, *N*, and *V*, the SK, SB and C are offered for the collections under those letters which shall be best named by the Exhibitor.

N.B. The Society's Officers, who will make this award, will be guided in their judgment by a consideration not only of the correctness of the names, but of the accuracy of the spelling, and the neatness of the writing.

FRUIT.

No Prizes are offered for Fruit in May and June ; but if any is produced which shall appear to the Officers of the Society to be of extraordinarily fine quality, they are authorized to assign it medals at their discretion. No rules for exhibiting on these occasions are prescribed.

In *July* three prizes, of the respective value of Fifteen Pounds, Ten Pounds, and Five Pounds, are offered for the finest Exhibitions of Fruits, *delivered at the Garden, or in Regent-street, by noon on the previous day.* No rules are given for this Exhibition, which is left to the judgment of Exhibitors.

In addition, the following prizes are offered, for which Market Gardeners, or Growers, not Fruiterers, in the habit of supplying the Market, and Private Gardeners, exhibit independently of each other. Fruiterers are not allowed to exhibit at all. No duplicate awards can be made in any case whatever, except in *P*. No person can take more than one award in each letter, except in **A, B, E, K, M, O, P.**

N.B. All Fruit must be sufficiently ripe for Market, WELL COLOURED, and PROPERLY NAMED by the Exhibitor, as far as practicable ; if the contrary, it will be disqualified.

Uncommon Tropical Fruits. GB—SG—CE
NB No Medal higher than SG can be given for Musas or Guavas. Oranges, &c. are excluded.

Pine Apples, in single specimens :—
1. Queens. LS—SK—SB.
2. Enville, Cayennes, Sugarloafs or Trinidads, &c. LS—SK—SB
3. Black Jamaicas, Otaheites, &c. LS—SK—SB
4. Providences. LS—SK—SB

Grapes in pots ; three specimens to be shown. CE—LS—SK

Grapes, the heaviest single bunch of any kind, SK

E Grapes ; in three bunches for private growers, and six bunches for Market Gardeners :—
1. Black Hamburgh, Black Prince, &c. LS—SK—SB
2. White Muscadines, Sweetwaters, &c. LS—SK—SB
3. Muscats. LS—SK—SB
4. Frontignans LS—SK—SB
5. Other sorts, distinct from the foregoing. LS—SK—SB

F Peaches, in sixes. SK—SB—C

G Nectarines, in sixes. SK—SB—C

H Apricots, in sixes. SK—SB—C

I Figs, in sixes. SB—C

K Cherries, in dishes of 1lb. each :
1. Black. SB—C 2. White. SB—C

L Strawberries, in pots ; six pots to be shown. SK—SB—C
NB. They must have grown in the pots.

M Strawberries, one dish each :—
1. British Queen, &c. SB—C
2. Keens' Seedling, &c. SB—C

N Oranges, Citrons, &c., in pots ; no one to show more than one pot. LS—SK—SB
NB. This class of Fruits is excluded if gathered.

O Melons, one specimen each :—
1. The heaviest. SK
2. The best flavoured. SK—SB—C

P Other kinds of fruit, exclusive of Apples and Pears of the previous year. SB—C

Judges.—The Judges have the power of *increasing* or *diminishing* the number of the Silver Medals offered by the Society for particular objects, in cases where no regulation exists to the contrary. But they have not the power to award any duplicate Silver Gilt Medal in any class, nor any duplicate medals whatever above a Silver Knightian, except in collections of Stove and Greenhouse plants and single specimens ; nor can they, even in those classes, award more than two Medals of the same value.

The Judges are to bear in mind that the Society's Rewards are offered less for new and curious objects, than for fine specimens of Horticultural skill, the design of the Council, in instituting these meetings, being not so much to encourage the Collector as to reward the skilful Gardener. They are also not to make any award in cases where the objects exhibited do not appear worthy of a Medal ; otherwise a bad single exhibition might obtain a prize, merely because there is no better exhibition of the same class to oppose it.

THOMAS JACKSON AND SON, having a good Stock of the undermnamed new and rare PLANTS, respectfully offer them at the following low prices:

Achimenes ocellata	5s. 0d	Brachysema praemorsa	15s. 0d
,, floribunda elegans	2 6	Gomphobalum Brownii	5 0
,, venusta	2 6	Hovea Margisii	7 6
Chirita Moonii, true	10 6	Calceolaria angustifolia	1 6
Gesnera bulbosa lateritia	7 6	,, cuneiformis	1 6
Gardenia longistyla	15 0	Cantua bicolor	5 0
,, multifera	10 6	Hydrangea involucrata	5 0
,, nitida	10 6	,, sp. China	7 6
,, Stanleyana, 3s. 6d.	5 0	Leschenaultia lanceolata	5 0
Manettia speciosa	3 6	Mesembrynthemum sp. California	7 6
Siphocampylus glandulosus	7 6	Prostanthera retusa	2 6
,, microstoma	3 6	Plumbago Larpentæ	3 6
,, nitidus	2 6	Tryandrum elegans	5 0
Diplademia sp. Colombia	5 0	Caprifolium sp. China	5 0
Abelia triflora	7 6	Forsythia viridissima	1 6
Abutilon aurantiacum	2 6	Pentstemon Cobæum	5 0
,, coccineum	3 6	,, Murrayanum	3 6
Adamia versicolor	3 6	Rose, Tea, "Qu. Victoria"	2 6
Bouvardia aurantiaca	3 6	Spiræa prunifolia fl. pl.	1 6
,, Cavanillesii	2 6	Weigela rosea	1 6
Buckea rubra	5 0	Zauschneria californica	5 0

Nurseries, Kingston, Surrey, Oct. 14.

PATRONISED BY THE QUEEN AND PRINCE ALBERT.

JOSLING'S ST. ALBAN'S GRAPE.—See the following Letter. "Pine-apple Nursery, Sept. 21, 1848.

"Mr. ROBERT JOSLING,—I have much pleasure in informing you that I entertain the very highest opinion of your GRAPE; it has a rich aromatic flavour, and is a decided acquisition to the dessert table. Be so good as to send me 20 good plants at your convenience.—JOHN ANDREW HENDERSON."

Agents will be advertised next week.

ROBERT JOSLING, Seedsman, St. Alban's.

FIRST CLASS GERANIUMS.

JAMES WHOMES can now supply strong and well-established plants of the following first-class Geraniums, raised by G. W. Hoyle, Esq.

HOYLE'S CRUSADER, 42s.—This famous flower needs no praise of mine. I will only here remark, that those who had the pleasure of seeing this delightful flower, expressed themselves in the following words, which are annexed to most of the orders I have received for it. "I saw your Crusader when exhibited at Chiswick last year, and consider it, beyond comparison, the finest Pelargonium I have ever seen."

No. I.		No. II.	
Hoyle's Sparkler	21s. 0d.	Whomes's Queen Victoria	21s. 0d.
,, President	21 0	,, Windsor Castle	21 0
,, Belle of the Village	21 0	,, Cupid	21 0
,, Rollo	21 0	,, Plutarch	21 0
,, Abd-el-Kader	21 0	,, Princess Helena	10 6
,, Terpsichore	21 0	,, Violetta	7 6
,, Prometheus	15 0	,, Comet	7 6
,, Superlative	15 0	,, Master Rivers Bulkeley	7 6
,, Flamingo	15 0	,, Premier	7 6

One-third off to the Trade; one plant given where three are ordered of any one sort.

No. I.—Parties taking the set of 10, Crusader inclusive, may obtain them for 5l. 18s.

No. II.—Parties taking the above set, 9 sorts, including Windsor Castle and the Queen, may obtain them for 3l. 17s.

N.B. A Descriptive Catalogue of the above may be obtained by application.—Pelargonium Nursery, Windsor, Oct. 14.

The Gardeners' Chronicle.

SATURDAY, OCTOBER 14, 1848.

EVERY gardener who pretends to an acquaintance with his profession is now aware of the prejudicial effect of HIGH NIGHT TEMPERATURE. We have repeatedly pressed the subject on his attention: we have shown that in countries called hot the thermometer often falls low during the night, and that to the Vine in particular night cold is indispensable and always provided by Nature where Grapes are finest. The well known formation of ice near Calcutta, although brought about by slightly artificial means, is in itself a beacon to guide the gardener who reflects. In short the kind of periodical rest which a low nocturnal temperature secures to plants is undoubtedly as necessary to them as sleep to animals: it may be broken for a short time with impunity, but it must be provided eventually, and the greater the regularity of it the better the health of the individual.

The physiological reasons for this are well understood, and need not be explained to-day. That it is a universal provision of Nature that temperature should greatly diminish in the absence of the sun is attested by all good meteorological observations on tropical countries, and in the absence of them would be sufficiently indicated by the well known effects of the nocturnal radiation to which plants are exposed in starlight nights.

It is probable, however, that no one has been prepared for such a fall of temperature by night as is recorded in Sir THOMAS MITCHELL'S late Journal into the interior of tropical Australia. The facts revealed in this interesting work have been fully extracted and made the subject of comment in the last number of the "Journal of the Horticultural Society of London." For details the reader is referred to that work. The following is the author's summary of the facts.

"In the end of April (our October), in latitude 82° S., within 4½° of the tropic, at an insignificant elevation, the thermometer stood at 26° at sunrise, and was as low as 43° at 9 P.M.; nevertheless, the country produced wild Indigo, Mimosas, Casuarinas, arborescent Myrtleblooms, and Loranths. A degree nearer the tropic in May (our November), the thermometer at sunrise marked 20°, 19°, 18°, 17°, 16°, 12°, and, on two separate days, even 11°! On the 22d of May the *river was frozen*, and yet herbage was luxuriant, and the country produced Mimosas, Eucalypti, Acacias, the tropical Bottle-tree (Delabechea), a Calandrinia, and even a Loranth. On the 23d of May, the thermometer at sunrise marking 12°, Acacia conferta was coming into flower; and Eucalypti, with the usual Australian vegetation, were abundant. On the 30th of May, at the elevation of 1118 feet, the almost tropical Delabechea was found growing with the temperature at sunrise 22° and at 9 P.M. 31°, so that it must have been exposed to a night's frost gradually increasing through 12°. And this was evidently the rule during the months of May, June, and July (our November, December, and January); in latitude 26° S. among Tristanias, Phebaliums, Zamias, Hoveas, Myoporums, and Acacias, the evening temperature was observed to be 29°, 22°, 37°, 29°, 25°, falling during the night to 26°, 21°, 12°, 14°, 20°; in latitude 25° S. the tents were frozen into boards at the elevation of 1421 feet, the thermometer, July 5, sunk during the night from 38° to 16°, and there grew Cryptandras, Acacias, Bursarias, Boronias, Stenochiles, and the like. Cymbidium canaliculatum, the only Orchidaceous epiphyte observed, was in flower under a night temperature of 33° and 34°; that by day not exceeding 86°. These facts throw quite a new light upon the nature of Australian vegetation. It may be supposed that so low a temperature must have been accompanied by extreme dryness, and such appears to have been usually the case. Nevertheless, it cannot have been always so, for although we have no hygrometrical observations for June and July, and only four for May, yet there is other evidence to show that the dryness cannot always have been remarkable. In May the hygrometer indicated ·764, ·703, ·934, or nearly saturation, and ·596; yet the sunrise temperature was on those occasions 25°, 28°, 30°, and 34°. On the 22d of May the Grass was white with hoar frost, and then the thermometer was at sunrise 20° under canvas and 12° in the open air; and on the 5th of July, when it rained all day and the tents were 'frozen into boards,' the thermometer sank during the night from 38° to 16°. It is probable that this power of resisting cold is connected with the very high temperature to which Australian vegetation is exposed at certain seasons, and this is horticulturally a most important consideration. We find that in latitude 32° S. in January (our July) the thermometer stood eight days successively above 100°, and even reached 115° at noon; that it was even as high as 112° at 4 P.M.; that in the latter part of February one degree nearer the line it was twice 105° and once 110°; that in March one degree further northward it frequently exceeded 100°, and there was not much fall in this excessive temperature up to the end of April. This will be more evident from the following

Table of Noon-day Temperatures.

Latitude.			Max.	Min.
29° S.	Nov., Dec.	Average of 3 Observ., 102°	108°	62°
32 S.	Jan., Feb.	,, 18 ,, 97½	115	73
31 S.	Feb., March	,, 17 ,, 90	110	80
30 S.	March	,, 20 ,, 95	105	84

"At this time the dryness must also be excessive, as will have been seen by Sir THOMAS MITCHELL'S observations.* Even such heats as these do not, however, destroy the power of vegetation, for we find in the midst of them all sorts of trees in blossom; a few bulbs, and even here and there (in damp places, no doubt) such soft herbs as Goodenias, Trichiniums, Helichrysum, Didiscus, Teucrium, Justicia, herbaceous Jasmines, Tobacco, and Amaranths. During these heats the night temperature seldom remains high. Sometimes, indeed, the thermometer was observed as much as 88° and once even 97° at sunrise, the average noon-heat of the month being 97½°, but generally the temperature is lower. Thus:

			Temperature occasions ly at Sunrise.			
Nov. and Dec., averaging	102° at noon,	62°,	58°,	6°.		
Jan. and Feb.	,,	97½	,,	61	60	59	47°, &c.
Feb. and March	,,	90	,,	61	59	54	48 &c.
March	,,	95	,,	68	55	51	47 &c."

Now that winter is approaching, these facts have no small significance. They may console those who fancy that their heating apparatus is defective because they cannot *force* up the night temperature to 80°; they may teach some clever persons how it happens that the best gardening is often to be found in the worst houses; and they may reconcile the possessor of a glass shed or two to his not having the command of Lord BLESSINGTON'S iron conservatories, glazed with patent glass, heated with patent pipes and furnaces, and ventilated by patent self-acting calorific and modern arts.

Another week will give us the opportunity of explaining why and under what circumstances a low night temperature is needed by plants; for to-day our limited space is exhausted.

* "The humidity of the atmosphere, as indicated by a wet bulb thermometer, does not, however, give such a degree of dryness as might have been anticipated; but it is to be suspected that some errors may have crept into this part of the 'Journal.'"

In the middle of September a Pea-pod was transmitted to us by Dr. DICKIE, of Aberdeen, apparently infested by a tremelloid fungus. The whole appearance was so anomalous that we were at once convinced that it could not be a true fungus, and as we could not ascertain in it any organic structure, we were led to believe that it must be some chemical compound oozing in short irregular tenuree from the green surface of the pod. We could not, however, by means of such powers of chemical analysis as we possessed, refer it satisfactorily to any substance, such as gum, bassorin, pectine, &c. It seemed as if some fermentation was taking place in the masses, as we found minute fungi-like cells analogous to those which occur in yeast, but differing in being of a more oval form, and producing one or more globules either directly at the apex or forming an acute angle with each other.

The matter appeared to us so interesting that we wrote to Dr. DICKIE for a further supply of specimens, and accordingly we received yesterday some pods in good condition, which have enabled us to ascertain the nature of the disease, which is interesting, as being somewhat analogous to the phenomenon described in our Number for Aug. 19, 1848, as taking place occasionally in Potatoes.

Dr. DICKIE writes to us—"Mr. BARCLAY, of Knockleith, in the parish of Aucherterless, in the interior of Aberdeenshire, who sent the pods to Mr. MAC GILLIVRAY, from whom I received them, says the gardener ordered the kinds of Pea which he calls SHILLING'S Grotto, but thinks he got by mistake another kind which resembles, and he thinks is, KNIGHT'S Marrow. The crop was good, and the Peas themselves have never been affected by the disease or whatever it may be upon the pods, neither have they ever affected the other varieties of trees growing in the adjoining rows. There were two distinct sowings, with an interval of a month between them. Both of them, though in different soils, present the same appearance at the pods."

The case appears, from the specimens just received, as indeed was remarked by Dr. DICKIE, to be one of hypertrophy of the hexagonal cellular tissue of the pods, which is remarkably thick and juicy, and to be no further injurious than warts in the human frame. The gelatinous bodies are at first white, sometimes scattered, but frequently close together, and then forming a Thelephoroid stratum, and acquiring at length a russet tinge. They consist of hexagonal tissue, smaller perhaps, but clearly continuous with that of the pods, and, as we believe, not protruding through the stomates, most of which appear gorged and blocked up with a dark gummy substance. The tissue is traversed by moniliform threads, and the masses, when squeezed, make the water in which they are immersed milky from minute granules, amongst which are mixed larger oily globules. We do not find in these specimens any of the yeast-fungous bodies which we have detected only where the cellular walls were more or less absorbed.

It would have been interesting to ascertain the changes which took place, if any, from the origin of the gelatinous masses to the more or less complete absorption of the cells, and the development of fungal globules; but this would evidently require the investigation of some skilful chemist on the spot. The phenomenon appears to be strictly analogous to the large tremelloid masses which occur so frequently in Madeira on the indigenous Laurels, and which, though described as a fungus, are merely masses of exuberant cellular tissue; *M. J. B.*

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

ROSES.—Those amateurs who wish to form a collection of these beautiful flowers, or to increase their present stock, should do so before October is past, that the trees may become established before winter. Some thought should be given as to the sorts most suitable to the size of the garden, and also as to the longest duration of bloom. The varieties which only flower once should be mixed with the Perpetuals, otherwise the garden will present a dull appearance during the greater part of the summer. Although the last few years have added so immensely to the capabilities of the Rose garden, by the introduction of the kinds which produce their flowers from summer to autumn, it is surprising how few persons, comparatively, are aware of this. Many admirers of flowers have visited my garden this season, and have expressed wonderment at the autumnal Roses in full bloom. There is consequently a market to be created of indefinite extent for this flower, and it

cannot be out of place to urge all gardeners to understand what their deficiencies are, that they may be supplied.

I have now before me a little book entitled "Descriptive Catalogue of Roses cultivated for sale by E. P. Francis, Hertford, in three parts: Part I., Roses that flower in May, June, and July. Part II., Roses that flower from June to November. Part III., Climbing Roses, in two divisions." From June to November is a large portion of the year, and to have Rose blooms all that time must be a desideratum to every one possessed of a garden. The Roses which bloom in May, June, and July are Moss, Provence, Gallica, Hybrid Provence, Hybrid China, Hybrid Bourbon, Belgic, and Damask. Here is a field to select from, and if from the catalogue you mark the contrasted colours, two or three dozen from this class will make a fine show. The Roses which bloom from June to November are Damask Perpetual, Hybrid Perpetual, Bourbon, China, Tea-scented, Noisette, Rosa rubifolia, and Austrian Briars. The very names seem redolent of beauty and fragrance, and will tempt your hands to your pockets if you are people of taste and refinement, and have anything to spend. For beds or for borders, here is as great a supply as can be wished. Then the climbers are equally plentiful for stakes or walls, early and late; so that even if your garden is now destitute of Roses, it may become a Persian Paradise before the close of another year.

There is a feature in the culture of Roses in nurseries which has been recently introduced; it is the keeping many varieties in pots, so that a garden may be stocked at any time without the plants suffering by disturbance of their roots. About 200 sorts are marked in Mr. Francis' Catalogue as being thus kept ready at all times. This is a great advantage, for plants often get their roots so dried in a long carriage as to be greatly injured: so much, indeed, is this the case, that they often do not recover. If you receive a collection in pots, the roots may be loosened and spread out a little, to counteract the spiral direction the pots have given them, and then their removal will not be perceptible. If you cannot rely on your own judgment in selecting sufficiently distinct varieties, take the advice of some experienced Rose grower. At all events lay in a moderate stock, that your laborious energies may be expended on something worthy of them.

The following remarks, appended to the catalogue just noticed, are so excellent that they will render any observations of mine unnecessary:

"*In Cultivating Roses*, nothing delights in rich soil more than this handsome flower. They should always be planted in a composition of stiff loam, rotten dung, night soil, and leaf mould. Where Roses have grown strong after three or four years' standing, they may be taken up, the ground well renewed, the roots close pruned, as well as their shoots very much thinned, and then planted in the same situation—they will then produce as fine blooms as when first transplanted from the nursery. This should always be done in the early part of November. Roses bloom well the first year after being transplanted, if carefully attended to. They should, when transplanted, have a strong stake attached to each standard to preserve them from the wind moving them, and then well mulched round. During the winter, the ensuing spring and summer, they should be plentifully supplied with liquid manure.

"*In Pruning Roses*, the observations made in last year's catalogue may apply to the present. With the exception of Teas and Chinas, December and January are considered the best months for pruning; many sorts, such as the Hybrid Chinas, Hybrid Bourbons, with some of the strongest growing Noisettes and Bourbons, require very little pruning; about every third year they should be pruned in close, so as to make them produce new wood, and to prevent the plants getting too old and ugly in appearance. The Persian Yellow requires merely to have just the top of the shoots taken off, it being found to flower only on the last year's wood. Another excellent plan for Standard Hybrid Chinas, many of the Pillar Roses, and Standard Climbers, is to prune them in quite close just after they have done flowering: they will then produce new shoots the same summer, and flower abundantly the next season. February and March are considered the best months for pruning Teas, Chinas, and Bourbons.

"*For Protecting Roses*, when planted out on their own roots, such as Teas, Chinas, and Bourbons, dry Moss, Fern, or small Spruce Fir boughs, may be stuck round the plants, which will very much protect them from sharp frosts; also, the crown of the roots should be covered with rotten manure early in December, which should be dug in the following spring"; *H. B.*

PYRAMIDAL PEAR TREES ON QUINCE STOCKS.

Having many months ago read in the *Chronicle* some remarks in disapprobation of Mr. Rivers' pyramidal Pear trees on Quince stocks, stating, among other objections, that they were stunted unhealthy trees, and that neither good nor handsome fruit could be expected from them, I beg to forward you the size of a few I have just gathered from trees received from the Sawbridgeworth nursery only 10 months ago; and I can also affirm that the fruit is remarkably handsome, and appears to be beautifully ripened. My belief is that the wood and leaves of several of these trees would not weigh so much as the fruit they have produced. I must also add that they are highly ornamental, and being perfectly upright are capable of supporting a very heavy crop in proportion to their size; the leaves are large, and of a fine dark green, showing perfect health; nevertheless the growth has been moderate, and they are now full of blossom-buds; in a few years I am confident they will yield a very considerable supply of fine fruit, and from their pyramidal form will cause scarcely any injury to the garden.

The management these trees require is evident and easily performed; undoubtedly they must be watched, but who can possess these beautiful trees and deny himself the pleasure of watching them? When we have a full grown Pear tree of the height, perhaps, of 30 feet, and in full bearing, it may be said there is a balance between the roots and the leaves; in other words, the roots are only strong and numerous enough to produce leaves and blossom-buds and fruit, but no additional shoots; on the other hand, every young tree has a tendency to produce more roots than are sufficient to maintain it in a dwarfish form and fruitful state, and if these roots remain undisturbed the shoots will grow vigorously and require severe pruning, and the fruit-buds will of course proportionately decrease; and as the growth depends entirely upon the quantity of matured leaves, it follows, if we want a dwarf tree, we must, as soon as it has reached the required size, limit the number of leaves to that point at which the roots will not stimulate the tree to produce injurious growth.

On the above principle remove every leaf on every shoot down to the point to which you propose to prune, and as soon as it can be done without danger to the blossom-buds cut these shoots all away, and in winter root-prune; but if you have had no occasion to leaf-prune, you will also have no occasion to root-prune in the winter; and if the tree is as large as you wish it to be, well shaped, and has fine leaves and good fruit, it is perfect. On the other hand, if you have neglected root-pruning where it was needed in the winter, and have permitted, by way of safety to the blossom-buds, the terminal shoots to grow all through the summer, the tree will become so vigorous, and a habit of rank growth will have been so thoroughly established, that the tree must be half killed by excessive root pruning to reduce it to a disposition to produce spurs instead of shoots, and then disease, small leaves, and bad fruit, as named by the writer alluded to, may very likely follow. If leaf-pruning is not liked, nip off every shoot as soon as it reaches the allotted limit; if it shoots again, nip it off one leaf beyond this point, and repeat this until it ceases to grow; this will not injure the blossom buds, provided the tree has been duly root pruned; in the winter cut the shoot back just beyond the point at which it was first nipped. Let the trees be well mulched, and also well watered through the spring, and the fruit will set well and grow large; towards autumn draw away the mulching and withhold water, and the fruit will ripen perfectly on the latest sorts and be good flavoured, and the buds will be plump and bold for the next season. As soon as a tree has acquired the size determined upon, if root pruning be properly performed, it will require scarcely any leaf pruning, or nipping, or winter pruning.

In the early management of these trees I prefer constantly taking off the leaves to shortening the shoots; I have this year brought a Crassane Pear of 30 years' growth, and which never produced a tenth part of a crop, into the most promising state as respects blossom buds, merely by leaving all the spring-produced foreright shoots and taking all the leaves from them; the leaves on the spurs are unusually large, but not a single summer shoot has been produced. I should also state that this tree has been pruned in various ways, sometimes by removing all the foreright shoots, sometimes by leaving them all on, and at other times by breaking them down and letting them hang, and again by removing half and shortening the other half in July, and removing entirely in winter; but in all these various modes, summer shoots, so destructive to blossom-buds, have been produced from the spurs, and leaf-pruning has cured this apparently incurable evil.

Circumference of the Pears.

Napoleon	9	in. by 8	Jalvie	9	in. by 8
De Curé	10	" 8	Beurré d'Aremberg	8½	" 8
Passe Colmar doré	7½	" 7	Gratioli of Jersey	9	" 8½
" " Gris	7½	" 7	Louise Bonne of Jersey	9	" 7¾
St. Germain	7	" 6	Beurré d'Amalis	9½	" 8½
DoyennéGoubault	7½	" 7	Beurré Capiaumont	8½	" 7
Easter Beurré	10	" 8½	Thompson's	7½	" 7½
Colmar d'Aremberg	10¾	" 10½			

The Easter Beurré is the only tree not planted last autumn; *Y.*

STATE OF THE IRISH POTATO CROP.

COMPILED FROM OFFICIAL DOCUMENTS.

Cork County, *Bantry Union, Sept.* 30, *Mr. Marshall.*—Three-fourths of the crop unfit for food.

Fermoy Union, Sept. 30, *Major Bolton.*—Disease thoroughly set in; no hope of its being overcome. Price already doubled.

Skibbereen Union, Sept. 30, *Mr. Marshall.*—No change for the worse; one-half of the crop sound.

Tipperary County, *Tipperary Union, Oct.* 1, *Capt. Haynes.*—Crops all off the ground, with the exception of some mountainous districts where Oats are still standing. Potatoes digging fast, and selling at 1*d.* and 1½*d.* per stone. About one-fifth may be found fit for human food.

Wexford County, *New Ross Union, Sept.* 30, *Mr. Bayley.*—Potato crop daily getting worse. Wheat deficient. Oats and Barley good.

Parts of Wicklow and Carlow Counties, Sept. 30, *Mr. Phelan.*—Extent of Potatoes planted considerable, and crop appears better and of better growth than in other districts reported on. Great loss stated to have taken place. In some fields very considerable extent of disease; in others far otherwise. General statement is that one-half has been or will be lost; but still thinks there will be Potato food for three or four months. Quality not good in general, though better than in other districts. Wheat, Oats, and Barley generally stacked. Wheat light; Oats and Barley crops good.

Clare County, *Scariff Union, Oct.* 1, *Captain Hart.*—Potatoes risen in price; diseased 3*d.* per stone, superior quality 5½*d.*

Kilrush Union, Oct. 4, *Captain Kennedy.*—Potato crop becoming steadily and progressively worse. One of the most promising fields in the Union was on the workhouse farm. A fortnight ago the tubers were untainted, now half are infected and unfit for human food. They are rapidly disappearing; those that are sound are being hoarded for seed.

Galway County, *Clifden Union, Sept.* 30, *Mr. Deane.*—Nothing new to report. Grain very inferior.

Leinster, Oct. 2, *Mr. Flanagan.*—Potatoes rapidly rotting, and though still extensively used, can hardly be said to be fit for human food.

Mayo County, *Ballina Union, Sept.* 30, *Captain Hamilton.*—Nothing favourable to report. Able-bodied men seeking employment for their diet.

Ballina Union, Oct. 2, *Mr. R. Hamilton.*—Potato crop not one-half what was expected. One-half the produce not fit for food. In some places the crop not injured to anything like the extent in other places. Corn crops look well. Extent of land sown very limited.

Longford County, *Granard Union, Sept.* 30, *Capt. Lang.*—Potato crop such a total failure that the farmers have ceased to dig them. Measures recommended: sowing of Bere and Rye; remarks on the results of the small farm system.

Longford Union, Oct. 1, *Lieut. Downman.*—Disease has not increased; those that were sound at the beginning of the week remain so.

Counties of Waterford, Wexford, &c., Sept. 30, *Mr. J. Burke.*—Disease not progressing. Of opinion that on the general digging of the crop a greater quantity will be found safe than is expected, but much will depend on continuance of fine weather.

Castlebar Union, Oct. 1, *Capt. Farren.*—Potatoes 6*d.* and 6½*d.* a stone in Castlebar market on the 29th of Sept. The quality of Potatoes was indifferent.

Roscommon County, *Boyle Union, Sept.* 30, *Capt. Wynne.*—No perceptible change. Quantity brought to market small, quality bad, unripe, and three-fourths diseased. Price of good Potatoes 6*d.* per stone. White crops have suffered less than was expected. Wheat, short crop. Oats, not more than an average. Turnips, remarkably bad.

Castlerea Union, Sept. 23, *Mr. Auchmuty.*—Potatoes getting getting worse every day. They are not fit for human food. *Sept.* 30.—Potatoes have become so bad that they are not fit for human food.

Donegal, *Sept.* 28, *Mr. C. G. Otway.*—General result of inquiries as to the Potato crops favourable, and disease not progressing; the tubers that were tainted are getting worse, and in numerous instances have become completely rotten, but the proportion of diseased to sound Potatoes is not getting greater than it was a week or 10 days ago. On the workhouse site (in Milford workhouse) not one-twentieth diseased, while just outside the bounds nearly one-half was diseased. The general impression about Derry is that more than one-half the crop in that district is safe. On the estate comprising Rathmullen division (Milford Union) the opinion is that more than half the crop is sound. Mr. Otway concurs in this opinion. Sanguine hopes entertained that the sound Potatoes will remain sound. Still thinks that half of a very abundant crop is sound. Weather favourable for harvest operations, and the Oats will be above an average. Turnip crop, though not so extensive as last year, is a large and good crop. Does not anticipate a greater, or so great an amount of distress as last year.

Ballyshannon Union, Oct. 1, *Mr. D'Arcy.*—Has concluded a minute examination of the Potato in each electoral division. More than three-fourths of the crop of the union (taken as a whole) is free from disease; in some places, half, or even more, may be diseased; but, along the coast, the peasantry admit that not one stone in 50 is diseased. Spoke to a person in the union on the state of his crop, who said one-fourth was more or less injured, but the remaining three-fourths was more than an average, so abundant had they been.

Glenties Union, Sept. 30, *Capt. O'Neill.*—Disease considerably checked. Difficulty in finding Potatoes in market, the small farmers being unwilling to send them in. This, he thinks, shows that the disease is stayed, as, when it was spreading, the people took alarm and were anxious to sell.

Parts of Armagh, Cavan, Down, and Monaghan, Oct. 2, *Mr. Barron.*—Potato disease still progressing, some farmers leaving the Potato in the ground for seed next year. Greatest part of corn crops saved.

BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

(*Continued from page* 668.)

Aug. 16.—The business of the *Natural History Section* was continued on Wednesday.

Mr. Joshua Clarke, of Saffron Walden, made the following communication *On the Parasitic Habits of Rhinanthus Crista-galli.*

Recent researches have discovered an interesting fact that a whole group of plants, closely allied to the Rhinanthus, are parasitic, but my object in noticing the parasitic habits of R. Crista-galli is only as a fact bearing

on the practice of agriculture, viz.: the injury and sometimes the destruction of the Barley crops on clay lands.

1. *Extent of the Evil.*—A farmer in the neighbourhood in which I reside, in the county of Essex, invited me two years since to inspect a field of Barley infested with the Rhinanthus Crista-galli or Yellow Rattle as he called it. I found the field consisting of about 10 acres, in some places the Barley was entirely destroyed; about half the field was cut for fodder, and the other half yielded only 2 qrs. per acre. I examined the field this year, which was of Clover, but not a vestige of the plant could I find. There is a district in the county of Essex, of clay land, called the Roothings, particularly infested with this weed. A farmer of this district told me that in a wet May he sometimes did not get more than 1 qr. per acre, and frequently had cut some portion of his crop for fodder.

Mode of Effecting the Injury.—The fibres of the root of the Rhinanthus attach themselves to the fibres of the Barley on which they grow; they then form small round tubers, or what perhaps might be more properly called spongioles, on the sides of the fibres, which embrace the fibres so effectually that they suck the juices of the plant so as to starve it, and sometimes ultimately destroy it. A section of the root of the Rhinanthus, or rather a slice cut out of the tuber, is rather opaque, which adds to the difficulty of making it out; it appears to consist of minute bundles of ducts, of somewhat globular shape, which may probably be the mouths of ducts; some of them become detached in water, owing probably to their being cut through in dissection. I know from my own observation that the plant appears again after eight or ten years' absence.

Mr. C. C. Babington said this was a curious confirmation of the views which had lately been taken of the habits of the family to which this plant belonged. The connection between the roots of the Rhinanthus and that of the Barley seemed to have been clearly made out. There could be no doubt of the importance of early getting rid of such a visitor to the Barley field.—Mr. Thwaites stated that he believed it would be found that most of these plants were parasitical, as had been pointed out recently by Messrs. Decaisne and Mitton.—Mr. Bentham said that he believed he had first suggested that some of the Figworts were parasitical, and this more particularly, from an examination of the Buchnereæ and the Gerardieæ. He had examined, with some care, the roots of Euphrasia, Odontites, and Melampyrum, for the purpose of ascertaining if parasitism existed in these plants. In Euphrasia and Odontites he had been unable to trace any connection between them and other plants. In two instances he had traced the roots of Melampyrum into dead roots, but not into the living plant. There were two modes in which plants exhibited their parasitic structure: by knobs, as had been described in the Rhinanthus, &c., and by fibres. It was possible that some of these plants might be occasionally parasitical, but not constantly so. At any rate he could say that Euphrasia and Odontites were certainly not always parasitical. His friend, Mr. Edgeworth, had recently informed him that he had sown the seeds of Euphrasia in his garden at Calcutta, and that it had come up. He knew nothing of the habits of Rhinanthus Crista-galli.

(*To be continued.*)

Home Correspondence.

Felling Resinous Timber.—I think, as a pendant to your article upon the folly of felling Oaks in spring, it might be advisable to say something of the same want of foresight in cutting Larch and other resinous trees during the season when the resin is absent from the pores of the wood. It is surely nothing but common sense (that least common of all senses) to take the natural advantage of the timber in question. We often, nay generally, find Pines cut in the winter promiscuously with other thinnings or timber, while the resin is out of the wood, and, as you justly remark, reverse the practice with Oak while the sap is in it, for the sake of the bark, which, though excusable enough in Coppice, which in poor lands is grown entirely for the sake of the bark and for the charcoal, the practice is carried out with cutting Oak, no matter what size, and then a cry is raised that Oak of the present day is by no means equal to that of the middle ages. I have no hesitation in saying that good red Pine, cut full of resin (which is, in fact, a sort of embalming), is fully equal in lasting qualities to any timber that can be produced, quite putting in the shade Sir William Burnett or Payne, from the efforts of Nature being more freely carried out than those can possibly be of the very best exhausting engine which has yet been made. That due attention may in time be given to following the real facts of Nature instead of the false theories of would-be philosophers, and that people may not take it for granted that all Oak is what Oak ought to be; and that wretched soft, white Pine is as endurable as red Pine, full of resinous matter, is the wish of—*Cerniwaidd.*

Delphinium Barlowii, about which some enquiries have been made, Mr. Barlow himself informs me was sown 19 years ago this summer. That Mr. Barlow was the original possessor of the stock can be substantiated by scores of people interested in floriculture. At that time he was, I understand, a weaver, and took great pride in raising seedlings of various descriptions; *S., Manchester.*

Walks (*see p.* 639).—The manner in which coal-ash and lime walks at this place are made, is as follows:—To about three bushels of coal ashes, previously passed through a coarse sieve or fine screen, are added one of grey lime and one of fine gravel. Water is applied till the whole is of the consistency of mortar. This composition is then spread three inches thick over the walks prepared for it, and made smooth and even with a flat piece of board or a trowel. In a few days it will become hard. The walks are prepared with rough gravel—the coarse screening of that used with the coal ashes. To this I might add that the only necessary precautions to obtain a hard and dry walk are to break the lime small before it is mixed, and to raise the centre of the walk an inch or so above the sides; *E. Meehan, gr. to Col. Harcourt, St. Clare, Isle of Wight.*

Profits of an Acre of Woods.—I observe, page 589, a statement showing the profits arising from an imperial acre of wood at 30 years old. I would be particularly obliged by being informed what the expenses of planting were, and the yearly rent of the land; *Thomas Blackhall, Forester, the Burn, by Brechin.* [This of course must be given to render the statement examinable.]

Distances to be observed in Planting Forest Trees.—In looking over the book which I published last year upon the management of forest trees, "The Forester," I find that I have not made my meaning sufficiently clear when stating the distance at which hard-wood trees should stand one from another in a plantation; and as this want of clearness may have a tendency to mislead those who read "The Forester," I beg to say that at page 98, and at the fourth line from the bottom, where it reads "at all stages of the growth of the trees," I ought to have added, "after their nurses have been removed." Again, at page 99, and at the 9th line from the top, where it reads "at all stages of the growth of the trees," I ought to have added here also "after their nurses have been removed." And again, at page 155, and at the eleventh line from the top, where it reads "after they have received their first course of thinning," I ought to have added, "that is to say, among the hard-wood trees themselves, and after all their nurses have been removed;" *James Brown, Arniston, Oct.* 6.

Flower Borders (*see p.* 653).—I would advise "J. D." to plant Mesembryanthemum tricolor in the first line next the gravel walk, Brachycome iberidifolia in the second line, German Asters in the third, African Marigold the fourth, Ageratum mexicanum the fifth, and to keep Dahlias and Hollyhocks in the 6th and 7th lines; but I would put a plant of Digitalis between the plants of Hollyhocks, and a plant of Delphinium Barlowii between the Dahlias, and by the time the Dahlias and Hollyhocks are grown up, the Delphiniums and Digitalis will be ready for cutting down. For the second year I would have Brachycome iberidifolia next the gravel; Gaillardia picta in the 2d line, White Verbenas staked up in the 3d line, Coreopsis tinctoria in the 4th, and Salvia fulgens in the 5th line. For the 3d year I would put Gorteria rigens 1st, Convolvulus minor 2d, Scarlet Defiance Verbenas, tied up to stakes, 3d, Coreopsis Atkinsonii 4th, and Salvia patens 5th. To relieve the Hollyhocks and Dahlias, a line of Tropæolum canariense, or Nasturtiums and Sweet Peas, might take their place with good effect; *W. C., Forfarshire.*

Gardeners' Labour Hours.—At what hour of the day is it usual for the gardeners in your part of the country to begin their morning's work? My gentleman walks in about a quarter before 8, oftener 8, and by the time he has taken off his coat, opened his frame lights, and turned himself round, it is time to go to his breakfast, which he always brings with him; after sitting half an hour at this meal, and by the time he has taken out his tools, and again turned round, it is usually much nearer 10 o'clock than half-past 9. Should I take so great a liberty as to hint my own opinion of the proper time of the morning at which I think a gardener ought to begin his work, and to which I have always in the north of England been accustomed, I am cut short with the remark, that "It is our custom here, and that he begins as early as other gardeners do." This latter part I believe. Then, again, my man takes his hour and half to dinner, having about 10 minutes' walk to his house, and this too I find is the custom; for I see it practised almost daily by my neighbours' gardeners, who stroll home at half-past 1 o'clock, as if they were going to be put to the treadmill; so that very often it is on the eve of striking 2 when my man has put himself to rights, ready to begin to work. I do not know if this is the custom in your neighbourhood (with gardeners who get fair wages); but, if it is, I think it is a very bad one; *G. W.* [This is not the practice with industrious gardeners anywhere. Fix reasonable hours, and if they are not kept you have your remedy.]

Azote in Plants.—That "knowledge is power," is true, in manufactures as well as in morals. The more familiar our acquaintance with, and the more complete our command over natural agents, the greater must be our ability to modify rude products, and to make them minister to our wants and the gratification of our desires. Now, gardeners at times have pretty rough products to deal with, and sometimes a difficult task to gratify the desires of those who employ them, and they would require a considerable quantity of knowledge to be able to do their work well. To be able to raise good Carrots and Turnips, Cabbages and Cauliflowers, Leeks and Onions, they would be all the better to know something about the general powers and properties of matter, something about primary principles and proximate principles; for we are told that it is in plants that the true laboratory of organic chemistry resides; that carbon, hydrogen, ammonia, and water, are the principles which plants elaborate; ligneous matter, starch, gums, and sugars, on the one part—fibrin, albumen, caseum, and gluten, on the other, are the fundamental products of the two kingdoms—products formed in plants, and in plants alone, and transferred by digestion into animals. Again, we are told that, during its life, every plant fixes azote, whether it borrows the azote from the atmosphere or takes it from the manure; in either case it is probable that the azote enters the plant and acts its part there only under the form of ammonia or of nitric acid; and chemists tell us that they have proved that certain plants borrow a great quantity of azote from the air, and that others, on the contrary, are obliged to derive all theirs from manure; this distinction is surely worth the enquiry after by poor gardeners, when we consider the important part azote performs. It has been asked for what purpose is this azote, of which plants seem to have such an imperious want? The answer is somewhat long, but the extract may be useful to vegetable manufacturers. M. Payen's researches partly teach us, for they have proved that all the organs of the plant, without exception, begin by being formed of an azotised matter analogous to fibrin, with which at a later period are associated the cellular tissue, the ligneous tissue and amylaceous tissue itself. This azotised matter, the real origin of all the parts of the plant, is never destroyed, it is always to be found, however abundant may be the non-azotised matter which has been interposed between its particles. This azote fixed by plants serves, therefore, to produce a concrete fibrinous substance, which constitutes the rudiment of all the organs of the vegetable. It also serves to produce the liquid albumen which the coagulable juices of all plants contain, and the caseum, so often confounded with albumen, but so easy to recognise in many plants. Fibrin, albumen, and caseum exist, then, in plants; these three products, identical in their composition, as M. Vogel has long since proved, offer a singular analogy with the ligneous matters, the amidon and the dextrine; indeed, fibrin is like ligneous matter, insoluble; albumen, like starch, coagulates by heat; caseum, like dextrine, is soluble. These azotised matters moreover are neutral as well as the three parallel non-azotised matters, besides in like manner as it suffices for the formation of non-azotised neutral matters, to unite carbon with water or with its elements, so also for the formation of these azotised neutral matters it suffices to unite carbon and ammonium with the elements of water; 18 molecules of carbon, six of ammonium, and 17 of water, constitute, or may constitute fibrin, albumen, and caseum. Thus in both cases, reduced bodies, carbon or ammonium and water suffice for the formation of the matters which we are considering, and their production enters quite naturally into the circle of reactions which vegetable nature seems especially adapted to produce. The function of azote in plants, is therefore worthy of the most serious attention, since it is this which serves to form the fibrin which is found as the rudiment in all the organs, since it is this which serves for the production of the albumen and caseum, so largely diffused in so many plants, and which animals assimilate or modify according to the exigencies of their own nature; *P. M., W. P.*

Lime a means of preventing Plant Wounds from Bleeding.—This year, I saved some fine Pelargoniums from bleeding to death, after being cut down, by dusting slaked lime over the wound. It might have the effect of preserving other plants under similar circumstances; *Falcon.*

Introduction of Foreign Weeds.—I send you a few specimens of plants which may be of some interest to you; they have made their appearance in great vigour and considerable numbers upon a large heap of volcanic earth from Rome (Pozzolana), brought a few months ago to this port for the purpose of making concrete, to be employed in the construction of the pier now in full operation. The vessel which brought the cargo, nearly 500 tons, took in her freight at Civita Vecchia, being too large to lie at Ostia. The earth was conveyed to her by smaller vessels, which brought it down the Tiber. The earth was deposited upon a quantity of Myrtle brushwood, to protect the hold of the ship, and we may suppose the seeds of the plants were contained among this; *H. L. L., Dover.* [These plants consist of Digitaria humifusa, Setaria italica, a Medicago not in flower, Heliotropium europæum, and Reseda phyteuma. They serve to show how our Flora becomes colonised by strangers, and should be carefully noted by British botanists. Some years hence the plants will be here, and their origin forgotten.]

Propagation of extremely Succulent Pelargoniums, having the habit of the old Shrubland Scarlet.—Prepare the cuttings and insert them in the pots in the usual manner, but instead of applying water immediately to settle the soil, place them in some partially shaded situation, and withhold water a few days. This facilitates the formation of a callosity, and preserves the cutting from damping off; an important consideration in such a season as this, when all out-door Pelargoniums have made watery shoots; *J. C., Newton Abbot, Oct.* 6.

Oak Timber.—Granting you are correct in stating that the early part of winter is the proper season for felling trees, in order to secure the largest amount of preservative qualities, I am led to inquire is the Oak timber used for the royal navy felled at that period of the year, or in the spring, when the sap is in such a state as to allow of the bark being removed? *Cornwall.*

Potato Disease.—In 1845, about the 24th of June, a month before the disease was heard of, we promiscuously cut off the blades of half a good breadth of Ash-

leaved Kidneys, in order to give air to some Lettuces planted in the interstices. No further notice was taken of the circumstance till the Lettuce seed was cut, when, to our surprise, every Potato to a root was found sound, whilst on the remaining part of ground, not so treated, the crop was full three-fourths rotten. Hence the origin of our cutting off or pulling up the haulm, which we maintain is a specific remedy against the disease, if performed before the blight is manifest in the leaves or stalks ; *Hardy and Son.*

Glass Burning.—I have unfortunately suffered by the use of sheet glass. In a Vinery erected here last year, glazed with sheet glass 21 oz. to the foot, the Vines were twice stopped by the sun burning the leaves and ends of the shoots ; and some Pine plants standing at least 8 feet from the glass were burnt, one plant was nearly spoiled, the leaves looked as if they had been burned with a hot iron. I was surprised to see Mr. Paxton so highly recommend the use of sheet glass, which he says at Chatsworth, and at every other place, where he has recommended it, has ever proved perfectly satisfactory; and, as your correspondent stated last week, his letter may induce some still to continue its use, may I be allowed to refer such of your readers who are interested in this subject, to a passage in Mr. Paxton's own Magazine, 1847, page 206. "With reference to the influence of light, as connected with plant cultivation, it would appear that the theory of its importance is not borne out by practice, inasmuch as no decided improvement has resulted from its use ; but on the contrary we know some of the best practical gardeners in the country are decidedly opposed to the use of sheet glass. So far as our own experience enables us to judge, we have no great affection for it, and except for its superior appearance and economy in repairs, we should not care much about using it. Singular as it may appear, it is not more singular than true that nearly all the best specimens of both fruits and plants sent to the London exhibitions are grown under common glass, and very frequently in heavy houses seemingly ill-adapted for first class cultivation. We have been growing plants under sheet glass of the best quality for some time past, and we find that houses so glazed require much closer attention in changeable weather, and are very liable to scorch the plants if neglected." Now surely Mr. Paxton had had experience enough with sheet glass, previous to writing the article to prove whether it was satisfactory or not, and yet he says "he has no great affection for it;" that houses glazed with it, although the glass was of the best quality, "required much closer attention, and were very liable to scorch the plants if neglected." I must say if a gardener can accomplish without the use of sheet glass, and without so much "close attention," what Mr. Paxton has related with regard to fruits and plants, it must be a decided advantage to him, and the inside of such a house would present a better appearance than that of a house glazed with sheet glass, and with numbers of burned leaves in it ; *Thomas Anness, Easton.* [Our correspondent is under a misapprehension. Mr. Paxton is no more answerable for all that may appear in his Magazine than we are for what appears in our columns. The editorial responsibility rests only with leading articles and general management.]

Influence of Light and Gravitation on the Growth of Trees.—Have landscape gardeners, in the arrangement of shrubberies, clumps, or plantations, taken advantage of gravitation and light? These agents have a great influence on vegetation, and may be made to answer certain ends if properly understood. Knight tells us that the stems of plants rise perpendicularly under the influence of their unerring guide—gravitation, so long as they continue to be concealed beneath the soil, but as soon as they rise above it they are to a considerable extent under the control of another agent — light. Each inclines in whatever direction it receives the greatest quantity of that fluid, and consequently each avoids and appears to shun the shade of every contiguous plant. In another place, on the cultivation of the Pine-apple, he says: It will be necessary, when fruit of the largest size is required, to place the plants at all periods of their growth at considerable distances from each other ; the leaves of the Pine-apple plants act less efficiently in the generation of sap in proportion as they are made to take a perpendicular direction, and this direction they are compelled to take when they are laterally much shaded ; for the leaves of this plant, like the stems of Potato plants, are subject to the conflicting influence of gravitation and of light, the one labouring to give a perpendicular the other a horizontal direction to the leaves, and the comparative power of one agent increasing as that of the other decreases. The direction of the stems and branches of many deciduous trees may be greatly varied by the agency of light, for they appear to be more controlled by its influence than evergreens, especially Pinuses, for we may often see a deciduous tree bend away from a larger one growing near it, while some species of Fir will push their leading shoots into the heart of another tree growing close to it, and still keep their erect position, the Oak, Elm, Ash, Beech, Birch, &c., may be made to take different forms, according to their distances. In one case their branches may be nearly oblique where they are closely surrounded with other branches ; where they have more room to grow they will, in many cases, take almost a horizontal direction. In grouping trees advantage may be taken of such circumstances. A late writer on landscape gardening says : "With respect to the disposition of trees in a plantation where art is avowed or purposely displayed, the more regularly the plants are placed the better is the end obtained ; but where Nature is to be imitated, irregularity will best sustain the character. This should be studied in larger as well as in smaller plantations in the natural style, but more especially in detached groups, which have so powerful an effect in the grounds of a residence. The greatest beauty of a group of trees, as far as respects their stems, lies in the varied direction these take as they grow into trees ; but as for all practical purposes this is beyond the influence of art, all we can do is to vary as much possible the ground plans of groups on the relative position which the stems have to each other where they spring from the earth." From observations I have made, I imagine if the influences that gravitation and light have upon vegetation were more studied by those who direct the formation of plantations or the groups of trees, some point might be obtained that would be desirable to the designer as well as the possessor of garden scenery, and in regard to the varied direction in which the stems and branches of trees grow, they would find that this is not, for practical purposes, beyond the influence of art. To form a group of weeping Birches, the stems may be made to take a bending position by means of a robust growing tree in their centre ; by such means one tree may be made to train another tree in a certain direction ; or one group may be made to have an influence upon another group, and when the object is obtained the trainer may be cut down or left, as may be thought proper ; *Peter Mackenzie, West Plean, Sept.* 11.

Royal Horticultural Society of Ireland.—Having in a recent number of your Paper observed my name mentioned in connection with some remarks of yours relative to this Society, I feel myself called upon, in the peculiar circumstances under which I am placed as the official organ of that body, to take some notice of the same. You have been pleased to give me credit for having the interests of "gardeners and gardening at heart." In this you have discriminated justly, for I always have had, have, and I trust ever will have, these important interests deeply and sincerely at heart. My object, it must be well known, has been, from first to last, to promote and help forward, whenever it was in my power, the meritorious and deserving. My political creed, as it relates to the profession, may very briefly be stated. It is this : Not to consider the party nor the country, but the man, be he Irishman, Englishman, or Scotchman. Such distinctions I repudiate and cast to the winds as bigoted, partial, and unworthy. Every man to me is the same, let his country or creed be what it may, if he has moral worth and talent to recommend him. And that there may be no ambiguity in the matter, as it relates to the gardeners and gardening of this wofully divided and unhappy country, I take the opportunity thus afforded me of expressing my sentiments and views. As regards the Royal Horticultural Society, I conceive it would not well become me, as at present related to it, to become its apologist, if it required such, or critically to reflect. The time is approaching when that Society and the public will have an opportunity of judging as to the actual state of things, as regards the intentions of the Council, who I may be allowed to say have, as a body, been—as far as I can judge—very grossly misrepresented. That faults attach to the Society is not to be denied, but, as you justly observe, "What Society has not?" So it is with the Royal Horticultural. This much, however, I will add, that I am thoroughly satisfied it is the anxious desire of the Council to carefully correct every fair and reasonable cause of complaint, and promote, by all the means within their power, the best interests of horticulture. You too, Sir, have properly and rightly reflected upon the miserable consequences of "division in the land" where not even gardening forms an exception. It is indeed lamentable to think how apparently impossible it is to do anything in Ireland that does not sooner or later merge into this. It scarcely requires to be told that it is this unprincipled party jobbery that ruins and blasts almost every public undertaking in it. Would that at length an otherwise quick, sagacious and clever people, could see the folly of such conduct, and understand that "unity of action" in the right direction, upon the part of any people, in any cause, is not only strength, but as to ultimate success almost a moral certainty. The case however, I fear, is almost hopeless. It is a national malady, a chronic disease, that alike baffles and disgusts such as see and deplore its evil consequences, or who have any desire to remedy this all-pervading contagion. As one, however, who would still hope for better things, and one whose desire is not to be "weary in well doing," with you I would most cordially and earnestly unite in urging on the divided Royal Horticultural Societies of Dublin an amicable and fair adjustment of their differences, a prompt and speedy union ; in this case, at least, there has surely been enough of "Repeal," and it does appear to me that the time has arrived when such union might with great advantage to the interests of all concerned be easily accomplished. One healthy, vigorously conducted society in Dublin will do much ; two "feeble ones," as you justly call them, can do but little. As an individual, I may be allowed to state, that no greater gratification could I have, than in being permitted in any fair and honourable way of being the medium of such desirable result ; and thus with the friendly flag of truce in hand, I stand between one and other of these respected bodies, ready with head, heart, and hands to guide and foster one common, strong, and undivided interest. So much for the present. I trust that what I have now advanced will be taken as it ought, and credit at least be given for the best of wishes and intentions ; *N. Niven, Hillsberry House, Carrick-on-Shannon, Oct.* 9.

Societies.

Entomological, *Oct.* 2.—William Spence, Esq., F.R.S., President, in the chair. The President stated that the venerable patron of the Society, the Rev. W. Kirby, had been induced to sit for his portrait, intended for the Museum of the Ipswich Institution of Natural History, and of which it was intended to publish copies for distribution. Donations of entomological works were received from the Natural History Society of Boston, U.S., the Imperial Natural History Society of Moscow, and the Entomological Society of Stettin. Specimens of both sexes of the rare Lamia Textor were presented by Mr. Jacques, of Bristol, who considers it to be a nocturnal insect, as he never meets with it before 7 P.M. : and his mode of capturing the insect is by feeling along the branches after it is too dark to see. Mr. J. F. Stephens exhibited some Fir-tree wood obliquely perforated by Sirex Gigas and S. Juvencus, taken at Charing, in Kent, the insects appearing from June to September. Mr. Weir exhibited a specimen of Cynæda dentalis, from Lewes ; also a box of Lepidopterous insects, which he had obtained by beating thatch, thus dislodging them from their winter quarters. Mr. Vernon Wollaston exhibited a box of rare Coleoptera, from Ceylon ; and Mr. S. Stevens a variety of rare British Coleoptera, from the neighbourhood of Deal ; also specimens of insectiferous amber, found on the beach at Deal. Mr. J. F. Stephens exhibited some insects which had been kept moist with bruised Laurel leaves for two years without their suffering any injury or rotting. An extract of a letter from W. Thompson, Esq., of Belfast, was read, containing an account of the injury inflicted on Phillyrea latifolia by myriads of the minute white Aleyrodes Phillyreæ, of Haliday.

Reviews.

The Emigrant's Guide to New Zealand. 12mo. Stewart and Murray, Old Bailey. pp. 64.—*Emigrant's Guide to the Cape of Good Hope ; to New South Wales, &c. ; to Port Natal.* 3 vols. 16mo. By J. C. Byrne. Effingham Wilson.

We trust that the announcement of these four little books, together with that of the Messrs. Sydney, noticed a few weeks since (p. 591) will be a sufficient answer to the numerous persons who apply to us for advice in their plans of emigration. We cannot take upon ourselves the grave responsibility of saying to A, go thither, to B take the other place, and to C make choice of a third. Every man must judge for himself of what best suits him ; and in order to form a correct judgment *he must read* such books as can be procured. They are cheap enough to meet the convenience of the poorest settler. All that we can venture upon doing is to express our continued belief in the excellent prospects offered to gardeners and clever active cultivators in New Zealand, provided the Cook's Straits settlements are selected, and Auckland avoided.

The following extracts from the "Guide to New Zealand," convey useful information of a kind which our readers will appreciate.

"Three years and a half ago, the cost of clearing and cultivating timber land ranged from 40*l.* to 60*l.* per acre, while that of clearing and cultivating the Fern land was from 18*l.* to 20*l.* per acre. The expense in each case when I left Taranaki in February last (1845) was very much decreased, being as follows :

	£	s.	d.
Expense of felling, burning, and moving logs from 1 acre of timber land	1	0	0
Expense of breaking up by hand do.	2	12	0
Expense of putting in crop, and expense of seed ..	1	10	0
Total	£14	2	0

Expense of cutting and burning Fern, and removing tutu stumps from 1 acre of Fern land ..	0	12	0
Expense of ploughing first time, do.	1	0	0
Expense of ploughing second time, harrowing, ploughing in seed, and harrowing again	1	0	0
Expense of 2 bushels of seed, at 5*s.* each	0	10	0
Total	£3	2	0

"Now timber land yields from 50 to 80 bushels per acre, while Fern land yields from 30 to 50, but when you consider that, for the sum required to cultivate one acre of timber, you can cultivate four acres and a half of Fern land, and instead of 80 bushels, taking the maximum in each case, you reap 225 bushels ; the advantage in the latter case is so great and apparent, that the question as to which is the more profitable investment of labour and capital cannot admit of a moment's doubt.

"I am not prepared to give an opinion respecting the wearing of timber land. I have heard some farmers say that it would require manure sooner than Fern land ; this I leave for experience to decide. The facts I have here stated are mentioned for the purpose of removing from the minds of intending colonists those frightful ideas of enormous outlay formerly required for the cultivation of a single acre of land, and to place before them the more encouraging prospect of being able to purchase, cultivate, and crop an acre of land in New Zealand for less money than I have known paid here for rent alone of the same quantity of land."

"On the shores of Cook's Strait, and at Poverty and Hawke's Bay, so rapid is the growth of the coasting trade, in its several branches, that the supply next year will, in all probability, be more than sufficient for the support of the European population of these settlements ; as an instance, from one station on the East Coast, and that in one article alone—salted pork, a quantity, amounting in value to 3000*l.*, is annually brought into Wellington, in exchange for British manufactures ; and I estimate, on correct data, that the general coasting trade with the southern settlements will next year show a return of at least 100,000*l.* The great importance of this branch of the commerce of these islands demands every support, and will be found one of the most effectual means of habituating the natives to the manners and customs of Europeans. Again, in agriculture, we have only to refer to the statement exhibiting the quantity of land cleared by the natives in this district, and its neighbourhood, and we shall learn that there are 7000 acres of land available for cropping.

"To return to the coasting trade and its prospects. Besides the article I have mentioned, as forming so considerable an item, there are others equally valuable, as bacon, hams, &c. The quantity imported from Wanganui and the East Coast is very great, and the improvement in curing ensures a ready market.

"Lard is also becoming an extensive business ; and when the residents on the coast discover that lard and pigs' tallow is the best shape in which to bring their pigs to market, we shall be abundantly supplied."

The accounts of the fitness of the natives for the work of agricultural labourers, continue to be most favourable.

"The following extract from the report of Captain Russell, of the 58th regiment, and Superintendent of

the Military roads now in progress in the district of Wellington, will, no doubt, quiet the fears many entertain regarding the savageness of the native race. The report is dated January 1, 1848:

"'They rapidly improve as workmen, and it is extraordinary that men whose previous lives have been passed in uncontrolled idleness should now work for months together so incessantly as to rest but one hour out of ten, and under such restriction as not to be allowed to smoke or even to talk, to the interruption of their work; yet this result has been obtained by means so slight as to appear quite insufficient. An idle workman is occasionally fined 6d., or, if so talkative as to interrupt work, he is placed alone without listeners; if he has given satisfaction, he, perhaps, receives his week's wages in crowns, or, if otherwise, in sixpences. If a troublesome character, he is discharged; and though the superintendents of parties have been detached many miles from any Europeans, besides their overseers, in the wildest and most inaccessible places, there has never been an instance of violence towards them or the overseers. The greatest crime has been that of stealing an axe by a discharged native, when another of the tribe, after working all day, travelled all night to recover it, and returned with it in time for work the next morning. The means by which this control is maintained are, the exercise of strict justice in keeping our engagements with them, and firmness on insisting on their doing the same by us. I have been fortunate in having the assistance of gentlemen, as superintendents of parties, who have carried out my views most fully, and without whom the effect which has been produced upon the character of the labourers could not have been obtained. They assure me that the bearing of those natives, where they have known them up the coast, was so different to that which they now exhibit with the parties as to make them appear a different race. In disposition they are cheerful, not quarrelsome amongst themselves, nor vindictive. So singularly free from the vice of drunkenness, as to enable me to repeat the assurance which I gave your Excellency some months since, that not a case has ever yet come under the observation of either myself or the superintendents of parties.'

"In a report by Major Marlow, dated May 3, 1847, he mentions that, out of upwards of 60 natives employed by him upon one work at Auckland, there was not one who could not read, and only one who could not write his own language. Would that our own labouring population had more of this New Zealand savageness!"

The Gooseberry Growers' Register; or an Account of the different Gooseberry Shows held in Lancashire and Cheshire, and other parts of the Kingdom, for the year 1848. Pp. 174. Whittaker, Blackley.

THIS publication is, of course, almost indispensable for those who exhibit at these shows; and it will be found useful for others who have a fancy for growing large Gooseberries; for it contains the weights of the respective varieties, and the number of prizes which each has obtained in the past season. The varieties are arranged according to their colours. Of red Gooseberries, 53 varieties are enumerated; yellow, 43; green, 49; white, 53. The total thus amounts to 198. The number of shows, of which accounts are given, is 150; and at these, the prizes given for red varieties amounted to 1372; for yellow, 1300; green, 1223; white, 1207; making a total of 5102 prizes awarded in the course of the season, besides some as encouragement for young growers, maiden growers, or Colts, as new growers and new exhibitors are technically designated.

The following are the names of four of each colour standing highest on the lists, together with the number of prizes each of them has obtained, and the weights of the heaviest berries.

	No. of Prizes.	Weight of Heaviest Berry.
RED.		
London	256	31 dwts. 19 grs.
Companion	225	28 ,, 3 ,,
Wonderful	129	30 ,, 18 ,,
Lion	114	25 ,, 4 ,,
YELLOW.		
Catherina	219	30 ,, 15 ,,
Leader	180	24 ,, 20 ,,
Drill	123	25 ,, 12 ,,
Pilot	90	25 ,, 0 ,,
GREEN.		
Thumper	280	30 ,, 9 ,,
Peacock	102	24 ,, 15 ,,
Turnout	100	23 ,, 19 ,,
Overall	94	24 ,, 0 ,,
WHITE.		
Freedom	186	28 ,, 1 ,,
Eagle	151	22 ,, 19 ,,
Lady Leicester ...	96	24 ,, 13 ,,
Tally Ho	74	22 ,, 21 ,,

Garden Memoranda.

Horticultural Society's Garden.—Since we last visited this establishment two of the young men, Culverwell and Colmer, have passed the general examination with credit, and are now ready for places. The business of the reading room has recommenced. On Monday evening last, prizes were awarded to Balchin, 1st; Hudson and Elworthy, 2d and equal; and to Harrison, 3d, for the four best plans of a piece of ground in the garden. In addition to these, Dr. Lindley presented the unsuccessful competitors with book prizes, and highly commended all the work as being very creditable to the competitors. Other prizes had been won by Smith, 1st; Grey, 2d; and Harrison, 3d, for their surveys of the same. Prizes in arithmetic have also been gained by Grey, 1st; Elliott, 2d; and Dart and Williams, 3d and equal. On the beneficial results of such exercises to the men there can be but one opinion.

Several of Mr. Hartweg's Californian annuals have lately flowered in the garden, and among others Collinsia tinctoria, an ugly species of stronger growth than C. bicolor, and Nemophila maculata,* a very pretty thing, the following woodcut and description of which we borrow from the last number of the Society's Journal:—"This (N. maculata) is the best annual yet raised from Mr. Hartweg's seeds. With the habit of N. insignis, it has whitish flowers distinguished by a deep violet blotch on the end of each lobe of the corolla. It varies, however, much in their colour, the dots being sometimes faint, ill defined, and run; the veins, too, of the corolla are often of a pale blue, which interferes much with the gay effect of the blossoms. It will therefore require to have its seeds saved from well selected plants. Mr. Hartweg called it N. speciosa, a very objectionable name, for which Mr. Bentham has substituted maculata. It requires exactly the same treatment as N. insignis."

In regard to fruit, owing to the late spring frosts, the crop has been but partial, and the fruit room contains but few varieties of Pears compared with what is usually to be seen in it at a similar period of the year. We observed, however, some good specimens from walls. The Beurré Diels were generally large; one of them weighed 1 lb. 4 oz., and measured 12½ inches in circumference. Some specimens of Van Mons Leon Le Clere were between 5 and 6 inches in length, and very handsome. The tree, however, seems to dislike the Quince stock.

Trentham Hall, one of the Seats of the Duke of Sutherland.—This ducal residence has been long celebrated for the magnificence of its gardens, but more especially during these last few years. Under the direction of Mr. Fleming most extraordinary strides have been made, both in the ornamental ground and in the horticultural department. Right principles have been applied with rare practical acumen, and the results have been attended with that success which, under ordinary circumstances, is not usually reaped. This goes to show that mere experiment is not gardening, and how urgently essential and important it is to study and comprehend the first principles of the art. When these are acquired it is easy to calculate what the result will be as far as human power is concerned. The gardens at Trentham are a striking illustration of these remarks. Trentham, as regards situation and soil, is anything but congenial for gardening operations, and we are, accordingly, the more surprised to find such disadvantageous circumstances actually capitulating to the energetic skill which is brought to bear upon them in so masterly a manner.

Trentham Hall lies in a low and damp valley through which the River Trent passes. The original source of this stream is a little above the mansion, which takes its name from it. The mansion has recently been modernised by the classic taste of Mr. Barry, and the flower garden stretching out from the principal front was, we believe, laid down from a plan by the same architect. It is what is usually termed an Italian terrace garden, but the situation does not admit of much boldness in carrying out such a design. The excavations are necessarily limited, but, notwithstanding the disadvantages of situation, everything has been done which good taste and judicious planting are capable of accomplishing to render it what it most unquestionably is—a magnificent garden. The planting and grouping of the various masses are managed with the utmost skill, and when we saw them they were in the highest floral perfection. Each group contrasted remarkably with its neighbour, not only in colour but in peculiarity of growth, a point of quite as much importance to be attended to in a garden of this kind. Nothing can tend so much to destroy what may be termed unity of expression in a geometrical flower garden as the mixing together of plants, causing them to present to the eye the same thing out of balance. It creates an unsettled, unsatisfying, and restless sort of that pleasing sensation which proportion either in architecture or geometrical gardening always produces.

One of the chief ornaments of a garden of this kind is sculpture, which carries by its classic contrast the entire scene; indeed no garden in the style of any pretension whatever is worthy of the name without the aid of [illegible] art. Here [illegible] in winter require something to [illegible] up, something on which the mind can repose with satisfaction.

At Trentham these [illegible] are not wanting. Some of them are [illegible] of pure white Italian marble, [illegible] the impress of no mean [illegible] and the good taste which so abundantly [illegible] at this fine establishment [illegible] with the very best effect. Many of the beds which are now teeming with floral beauty and fragrance would [illegible] their charms. They are, however, supported by dwarf evergreen, [illegible], &c., which keep up during winter both character and interest, and contrast admirably with the figures, vases, herms, and other ornamental statuary. The fountains in the flower-garden, as may readily be supposed, are of a simple kind. The [illegible] will always supersede spouting wheels, globes, convolvuses, &c., and they are also always in better taste. There are few things so badly managed in this country as fountains. This does not consist so much in their application as in the contrivances which are brought into play to effect the work, which are anything but chaste, natural, and appropriate.

In order to carry out the style of gardening in question, Orange trees in tubs are usually introduced in parallel lines on each side of the main walks, but in this country Orange trees are not generally the most satisfactory part of our gardening, and for this reason a substitute, agreeable and appropriate, has been found in the Portugal Laurel. The Orange tree, even under the best management, when exposed to the atmosphere of our climate, exhibits too often a yellow sickly hue. On the Continent too, where great care and pains are taken to keep them in good condition, this appearance is but too perceptible. The Portugal Laurels for the purpose were selected from a lot of them where they had been drawn up with single stems. These have been placed in the tubs, and having round symmetrical heads and dark green foliage, most fully maintain that peculiar conformity of character so requisite in the embellishment of Italian gardens. They have moreover, an advantage over the Orange tree in this country, in consequence of their being hardy. In winter, when Orange trees are stowed away in their hibernatories, the garden is left naked and cheerless; but when ornamented with Portugal Laurels, a refreshing effect is kept up during the dreary days of winter, and they maintain unbroken an important feature in such a garden. These Portugal Laurels, if placed in tubs, without bottoms, manufactured of slate, stone, or durable cement, may remain permanent for an age; the roots passing into the natural soil of the garden will keep them in vigorous health, and will certainly render them at all times preferable to sickly stunted ill-conditioned Orange trees. We need hardly say that this garden exhibited the best of keeping. The turf, walks, &c. were perfection. Mr. Fleming lays down his turf on sand, which obviates all worm-casts; although it is now autumn such a thing could not be perceived.

The view from the terrace garden carries the eye across a lake, the opposite shore of which was at one time a mere morass, but it has been converted into an ornamental shrubbery, surpassing in interest and variety anything of the kind which we ever saw in England, and of which we shall take an early opportunity to give a cursory outline; beyond this artificial garden, the distant hills covered principally with large plantations terminate the view; *G.*

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* N. maculata; patentim pilosa, foliis radicalibus pinnatifidis lyratis laciniis brevibus obtusis subfalcatis 2-3-lobis integrisque supremis cuneatis trilobis, pedunculis 1-floris foliis longioribus, calycis sinubus reflexis, corolla calyce multo longiore appendicibus crenulatis convolutis, ovulis plurimis; *J. L.*

Miscellaneous.

Wasps.—A North Shropshire correspondent informs us that a very small number of wasps has been seen this summer; not any on his wall fruit, which have entirely escaped their ravages. That about a tenth part of the usual nests have been found and destroyed this season, only one of which was taken account of. This nest was taken on the 6th of September, at night, in the usual manner, with a squib, and on the 8th of September a glass funnel trap, placed where the nest had been destroyed, contained no less than 711 wasps. It was observed that the wasps which survived the previous winter had been induced to leave their hiding places

very early in the spring, by the unusual heat of the weather, when the cold weather recurred and killed them before they had time to make any nests. The bees greatly injured a heavy crop of Gooseberries; *Country Paper, Sept.* 20.

Plant Sales.—The following three sales have lately been effected by Mr. Stevens: 1st. A collection of Cacti, Echinocacti, and other succulents, in all 187 lots of some 10 or 12 plants each, fetched on an average about 7*s.* per lot. 2d. 134 lots of Camellias averaged 7*s.* per lot of four plants. Lots of 20 mixed varieties of Gladiolus Gandavensis fetched 7*s.*; ditto of 10 roots of Lilium lancifolium rubrum, 16*s.* and 1*l.* 3d. Conifers; 10 good sized plants of Araucaria imbricata fetched from 9*s.* to 15*s.*; ditto of Abies Deodara, from 9*s.* to 15*s.*; 6 Pinus Gerardiana, 4*s.* to 5*s.*; and 4 Pinus Gerardiana, 4 Araucaria imbricata, and 4 Deodars, 7*s.* 6*d.* The lots of Conifers in all amounted to 125.

Calendar of Operations.

(For the ensuing Week.)

CONSERVATORY AND GREENHOUSE.

The stock of plants fairly housed, arranged, staked, and cleansed from parasitic impurities, beyond the ordinary attentions of watering and regulating the admission of air, little is required. Trees liable to the attacks of scale should be narrowly looked over at least once a week, that it may be repressed in time. A perpetual bloom of Roses may be managed with comparatively little artificial assistance; young plants in a growing state of the Bourbon and Perpetual kinds, especially if kept in activity by progressive shifting and rich stimulants, will flower until the early forced plants begin to bloom; a common pit with a very little bottom heat will be found quite sufficient for this purpose. The necessity of a store of the various kinds of soil for potting, should invite the precaution of securing a sufficient stock for winter use, under cover, before the drenching rains of autumn have rendered it unfit for use.

FRUIT FORCING.

Vineries. — The relation between the roots and branches of a Vine is partly by our system of training, as well as the essential peculiarity of its structure, of a most intimate and active character. The necessity of adapting circumstances so as at all times to ensure simultaneous action between two parts of an organisation, or immediately connected, becomes obvious. It is not unusual to find late Grapes, on fine vigorous Vines, almost worthless by the sudden decay of the stalks and branchlets of the bunch, and it is not unreasonable to suppose that in the instance we name the injury is produced by a sudden check, at a critical period, caused by chill communicated by cold and heavy rains, to which consequences, in ordinary cases, Vines are exposed from the unprotected state of the external borders. Glazing and painting should be proceeded with in good earnest; it is a good plan to paint hothouses every year. As soon as the houses fall vacant, they should undergo a thorough purification. Cucumber pits especially demand attention.

FLOWER GARDEN AND SHRUBBERIES.

Although a few early frosts and heavy rains marred for a period the brilliance of the flower garden, a little fine weather has done wonders in restoring the plants to bloom and beauty. This may not generally be the case, but we are persuaded where the composition of the soil of the flower beds and borders has received proper attention, and where stimulants have been judiciously applied, the health and vigour of the missing plants generally have enabled them to continue the development of blossom. It is seldom at this season that some little inconvenience is not incurred by the increase of stock requiring protection. Large Fuchsias and similar plants can be stored away in sheds or caves, or in any situation protected from frost and damp, but the disposal of tender evergreen or still succulent plants cannot be managed so easily, as light must be secured to them. The south or west side of a wall offers the best position primarily; a straw or wooden roof dependant from the top at a sharp angle would throw off the rain, and a temporary protection of straw bound hurdles in front would assist to form a retreat for many things it would be unwise to hazard to the full exposure of our winter. Proceed with preparations that must necessarily be attended to before planting. Transplant evergreens. The accumulation of leaves on borders and lawns must be prevented.

KITCHEN GARDEN AND ORCHARD.

The early part of the present month is the period most generally preferred for planting the main crop of Cabbages. The quarter selected for the purpose should be deeply dug and sufficiently manured to support a crop, the demands of which will be incessant on the soil for at least twelvemonths. A reserve of smaller plants may be pricked out on a border for spring planting. Young plants of the red Cabbage may be treated in the same manner. The recommendations previously given in regard to the precautions necessary for securing an unfailing supply of Lettuce throughout the winter may be reiterated, a quantity should by this time be well established in frames; a good space within the same species of protection should be reserved for Endive, which can be taken up on the approach of hard weather. Protect Tomatoes when frost is apprehended, and continue to afford the late border crops of French Beans adequate protection under the same circumstances. Pot Mint, Sorrel, and Marjoram for forcing. On the removal of the Asparagus stalks, manure the beds, and throw up a portion of earth from the alleys. Where Carrots, Parsnips, Beet, and Salsify are liable to injury from any peculiarity in the situation, it will of course be advisable to remove them. The tops should be cut pretty close, and the roots stored in dry sand under cover. In favourable situations each of these crops, with the exception of Beet, may remain in the ground for some time to come. Rough dig spaces as they fall vacant, and in old garden soils discontinue the use of manure in favour of fresh soils. Nothing is better than stiff loam for mending and solidifying the exhausted soil of an ancient garden. The preparation of quarters for the reception of Gooseberries and Currants should be completed, as planting may shortly commence. The formation of fruit tree borders should be in progress; stagnant water must be carried off by drains; a stratum of stones or bricks should intervene between the border and a cold clayey bottom; we have used blocks of charred wood bedded in brick rubbish with apparent success. Although these precautions may not be strictly necessary in all cases, there are but few instances where they can be with propriety dispensed with.

State of the weather near London, for the week ending Oct. 12, 1848, as observed at the Horticultural Garden, Chiswick.

October.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 6	9	30.143	30.124	74	49	61.5	S.W.	.00
Satur.. 7	10	30.128	30.030	73	50	61.5	S.W.	.00
Sun. .. 8	11	30.092	30.011	68	46	57.0	W.	.00
Mon.. 9	12	30.013	29.758	62	46	54.0	S.W.	.06
Tues.. 10	13	29.803	29.852	59	41	50.0	W.	.00
Wed.. 11	14	29.927	29.793	60	35	47.5	N.W.	.00
Thurs. 12	○	29 975	29.928	56	38	47.0	N.	.01
Average...		30.011	29.899	64.5	43.5	54.0		.07

Oct. 6—Clear; very fine; slightly clouded.
— 7—Slight fog; fine; exceedingly fine; cloudy.
— 8—Fine; very fine; overcast.
— 9—Fine; rain; clear at night.
— 10—Cloudy and fine; rather boisterous; clear.
— 11—Clear; fine; cloudy.
— 12—Fine throughout; slight shower at night.
Mean temperature of the week, 1½ deg. above the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending Oct. 21, 1848.

Oct.	Average Highest Temp.	Average Lowest Temp	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 15	58.8	41.6	50.2	9	1.04 in.	1	1	2	1	7	2	3	5
Mon. 16	58.8	43.1	50.9	9	0.52	—	1	3	1	3	8	7	3
Tues. 17	58.4	43.0	50.7	6	0.18	1	—	4	—	1	6	8	4
Wed. 18	58.4	42.8	50.6	11	0 85	—	2	1	1	3	4	9	2
Thurs.19	59.8	40.0	49.9	9	0.14	—	1	2	3	2	4	6	4
Fri 20	59.5	40.0	49.8	10	0.25	1	2	—	3	4	6	5	1
Satur. 21	58.8	39.9	49.8	8	0.64	1	3	1	3	4	4	6	—

The highest temperature during the above period occurred on the 21st 1825—therm. 72 deg.; and the lowest on the 21st, 1842—therm. 20 deg.

Errata.—In No. 40, table for the week ending Sept. 28, read, for the mean temp. of Sept. 25th, 62 deg. instead of 64; and the aver. max., 65.7.

Notices to Correspondents.

To our Correspondents—May we beg it to be understood that *we cannot answer inquiries privately through the post.* We are ready to give any reasonable information in our power through our columns; but we cannot consent to the labour of writing letters.

Bees: *E H L*: If possible try to keep your old stock wind and water-tight until next season, and fill other hives with the swarms from it. If increase is not your object, the best time to dislodge the bees is about the middle of April. In order to do so, turn up the stock, put another hive upon it, and tie a cloth round both where they join, to keep in the bees; drum or tap upon the under one until the whole of the bees ascend into the other, and examine the combs in the old hive to see if the queen is not left behind; if so, place her amongst the bees, which will begin to work like a fresh swarm. If the operation was done now, and the bees even housed amongst empty combs and fed, they would probably perish before spring; for no feeding, however liberal, could make up the great loss of both pollen and brood unavoidably destroyed in the old stock. *W.*

Books: *J Abell.* The "Manse Garden," or Neill's "Fruit, Flower, and Kitchen Garden."‡—*Grantham.* Robin's book may be had through any foreign bookseller in London.‡—*T C.* The best work on Indigo, &c., is Porter's "Tropical Agriculturist." There are two works on the Sugar-cane, one by Mr. Wray and the other by Dr. Evans, both of which you should read. Plants and seeds can only be had in the countries where such plants grow.

Cacti: *J Hubbard.* The chief point in managing these plants is to allow them an alternate period of growth and rest. They should be grown in a mixture of lime rubbish and loam, with a little cow-dung, and in well drained pots. In summer they should be fully exposed to the sun and well watered; but from October till March they should be kept almost if not quite dry.‡

Chicory: *W P L.* This is largely grown in Yorkshire for the supply of the dealers in coffee. We know nothing of its value, as it is not grown near London.

Cryptomeria: *J A.* It is quite hardy. We will answer your enquiry more particularly next week.

Fruit-trees: *C W M.* The following can be recommended: Violette Hâtive, Elruge imperatrice, and Pitmaston Orange Nectarines; Acton Scot, Grosse Mignonne, Royal George, Noblesse, Bellegarde, and Barrington Peaches. ‖

Grapes: *Anon.* A good-sized berry of the Sweetwater Grape will weigh 100 grs., and so will one of the Black Hamburgh.‖

Heating: *A Subscriber.* Tank-heating is anything rather than new. You will find ample details in previous volumes or in Rendle's pamphlet on the subject. It is a very good method properly managed.

Honey: *Apis.* You need not exclude the plants you mention from your garden because they are said to offer bees poisonous honey. Azaleas have too deeply tubed flowers for hive bees to reach their sweets; and you may find pure honey in the sacks or bags of wild bees while amongst Kalmias and Andromedas. Some kinds of flowers produce of course better honey than others, but we cannot name any sort in particular that affords it of a noxious quality. A little honey, however, from Leek or Onion blooms gives the whole in the hive a bad smell, while that from "honey dews" is inferior and of a smutty colour. The notion that bees collect poisonous honey may have arisen from their being sometimes found in a state of stupor or dead on certain plants; but as that often happens amongst Lime trees, whose flowers afford excellent honey, the thing is traceable to another cause. Some imagine that the bees die by having eaten too much, but this we think is wrong, for that never happens when they have food in abundance. In such cases we may possibly safely return a verdict of natural death. *W.*

Insects: *Hort Soc Gard.* The insects which have attacked the roots of the Cyclamen are the larvæ of Otiorhynchus vastator. See *Gard. Chron.*, 1841, p. 292; 1842, p. 216. *W.*—*G K C.* The insects sent, which have abounded to so great an extent in your garden, which is highly manured with stable manure, are a species of Julus, which especially frequents decaying vegetable matter, and is evidently attracted by the manure used in a state of decomposition. Let the plants be removed, and the beds well dug and saturated with a weak solution of corrosive sublimate, and we do not doubt that in the spring they will be clean and fit for your seeds. *W.*—*Lyston.* The fly sent is the Musca stabularis, Fallen. See *Gard. Chron.*, 1845, p. 817. Its larva feeds on decaying Potatoes and other vegetable matter. *W.* — *Sub.* Syringe the Banksian Rose with tobacco water, and subsequently with clean water, and repeat this process for several alternate days. *W.*

Monsters: *C D.* The Walnut is thus far curious that it seems to show that the ovary of Juglans may be composed of either two or four carpels surrounding the one seeded free central placenta. We do not recollect a similar instance. No change in the inside had occurred.

Names of Fruits: *T G.* 1, Knight's false Monarch, good for nothing, except as a good stock for being grafted with the true sort; 2, Winter Nelis; 3, 4, White Doyenné. Apples not known, seem worthless.‖—*R Ross.* 1, Napoleon; 2, Marie Louise; 3, Winter Nelis; 4, 6, Passe Colmar; 5, Beurré Rance; 7, 8, Glout Morceau; 9, Beurré Diel.‖—*T S.* Not the Alexander, but the Hall-door.‖—*W P L.* The Pear is not well known; it has been received from France under the name of Louise Bonne, but it is neither the Jersey Louise Bonne nor that of Duhamel. The Virgouleuse is a winter Pear, with yellow flesh.‖—*W Baldock.* As far as can be judged from the specimen, it appears to be the Grey Doyenné.‖—*E Pike.* 2, Seckel; 3, Ambrette.‖—*C B, Rutland.* The outline sent represents the leaf of the Brunswick Fig.‖

Names of Plants: *G. Turner.* Melica ciliata; apply at Botanic Gardens.—*Oriana.* The plant is Erophila verna; the Colts-foot is attacked by a Fungus called Uredo compransor.—*PWX.* Calamintha officinalis.—*H Farrer.* You ought to have sent more specimens than one to enable us to answer your question; nevertheless we consider it to be Asplenium viride. We make much allowance for the different appearances Ferns assume under different circumstances of growth—such as age and locality. Most Ferns, at one time or other, besides producing what may be considered their perfect fertile fronds also produce perfectly developed fronde, but which fronds may be entirely barren, or bearing but a few scattered sori: such fronds have always a more expanded disk or surface; all serratures or dents of the margin are more obtuse than in the truly fertile fronds, or sometimes the margin is entire. We look upon the frond in question as an example of this state in Asplenium viride. Many circumstances tend to do this, such as vigorous growth of young plants in shade, &c. &c. It is very desirable to have a number of specimens (entire plants) sent of both states, as found in the locality you mention. *S.*—*W F G.* Myrica laciniata.—*B.* Vallota purpurea. Let it go to rest after it has done blooming‡—*D W.* 1, Pyrus edulis; 2, vestita; 6, sambucifolia; 10, intermedia. The rest are correct.¶—*R Z.* So much shrivelled up as to render it quite indeterminable. —*W L.* Tecoma capensis.—*T H Y.* An unpublished plant, called by Dr. Lindley Cyanotis vittata.

Potatoes: *JBH.* A fair average return of Potatoes is 8 tons per English acre.—*Dr Lang's* Potato-tops are unaffected by disease, as far as external appearances indicate their state.

Perry: *E H.* This can only be made advantageously from particular kinds of Pears. It requires a volume to describe properly the mode of making it. In brief, make it like Grape wine, if you will try the experiment.

Revalenta: *Hastings.* This word has no Arabic derivation. The substance is the flour of Ervum lens, from which may come Ervalenta, disguised as Revalenta. Fudge is the only epithet that can be applied to some modern inventions.

Misc: *Silex.* Lists of Carnations and Picotees have been given at p. 784 of our vol. for 1847, and at p. 494 of the present year.‡—*Constant Reader.* Your Yucca gloriosa may be moved now.‡—*T C.* To reprint the article on scalo would serve no good end. The trees are merely washed with the hot water as you would with cold water; that is all.‡—*R C.* Your Achimenes coccinea is attacked by one of the parasites called Cuscuta by the learned and Dodder by the plain-spoken.—*Inquirer.* Leaf-mould cannot be made quickly; you must have patience. Cannot you get it in the woods ?‡—*J D.* The leaves of your Passion-flower are burned by the glass. Your Chrysanthemums are mildewed. For the latter sulphur is the best remedy, if it is applied in time.‡

SEEDLING FLOWERS.

Antirrhinums: *G P.* Your seedlings are very good flowers, but the difference between some of the varieties is too trifling; take for instance 2, 6, and 7; if you preserve No. 2, 6 and 7 are of no use. Nos. 9 and 4 are nearly alike, the latter being the brightest and most distinct of the two. No. 1 is very good in colour, and 5 and 8 are both good flowers—take them in their particular class; they are large, distinct, and well-formed varieties.*

Fuchsias: *E T.* Your seedling is a stout and good flower, but it is not superior to varieties of the same class in general cultivation.*—*G G.* The colours of your flower are strong and good, but it is defective in the sepals not expanding more; the fine colour of the corolla is but little seen in consequence.*—*F E.* Your specimen No. 1 is large, but it is also very coarse, and has a faded appearance; 2 is good in texture, but there are many in cultivation similar in colour, and with larger flowers.*—*J H S.* Your seedlings are common varieties, and very inferior to those shown and generally cultivated. No. 3 is the best, being a flower of good form and colour, but the colours want contrast; the tube and corolla are too much alike.*—*L M.* Your seedling is very large, but there is a degree of coarseness about it which will prevent its becoming a favourite.*—*W H M.* Your seedling is a pretty flower, but it is no improvement upon a great many that have been cultivated for some time past.*

Hibiscus: *S Z.* Your seedling is a good improvement on the parent.¶

Pansies: *R S.* It is impossible to judge of flowers, unless they are transmitted to us in a favourable condition; your specimen should have been packed in some damp material. Is not the lip of a deeper yellow than the rest of the ground colour ?*

Petunias: *L M.* Your white seedling having green veins is a very good variety.*—*W S H.* Your seedling is a flower of good form, and rich in colour; if of dwarf habit and a prolific bloomer it will be an excellent border variety.*

Scarlet Geranium: *P C.* Your seedling is a most brilliant scarlet; trusses large, being about 4 inches in diameter, and forming more than half a globe. On the trusses sent there were about 36 fully expanded flowers and 20 buds to open. The individual flowers are not quite so compact as some of the older varieties; but in general appearance it is showy, brilliant, and attractive, and appears to be a free bloomer.*

Verbenas: *L M.* The best specimens among your seedlings are Nos. 1 and 6; the former, a lilac purple, is a very good flower of its colour; the truss large, flowers large, flat, and well formed; the latter, red with a light eye, is good; but there are flowers in cultivation too much resembling it. The remainder of the seedlings are pretty in colour, but they are defective in form, the outline being too much indented. No. 1 is the best.

Vincas: *Sub.* Your seedling exhibits no improvement on flowers from well cultivated plants of the old sort. Your specimen is a bit of Cuphea silenoides.‡

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those numerous correspondents, the insertion of whose interesting contributions is still delayed.

CHEAP AND DURABLE ROOFING.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

F. M'NEILL AND Co., of Lamb's-buildings, Bunhill-row, London, the Manufacturers and only Patentees of THE ASPHALTED FELT FOR ROOFING Houses, Farm Buildings, Sheddings, Workshops, and for Garden purposes, to protect Plants from Frost.

At the Great National Agricultural Shows, it is this Felt which has been exhibited and obtained TWO SILVER MEDAL PRIZES, and is the Felt SOLELY patronized and adopted by

HER MAJESTY'S WOODS AND FORESTS,
HONOURABLE BOARD OF ORDNANCE,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE COMMISSIONERS OF CUSTOMS,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANIC GARDENS, REGENT'S PARK,

And on the Estates of the Dukes of Sutherland, Norfolk, Rutland, Newcastle, Northumberland, Buccleuch (at Richmond), the late Earl Spencer, and most of the Nobility and Gentry; and *at the Royal Agricultural Society's House, Hanover-square.*

It is half the price of any other description of Roofing, and effects a great saving of Timber in the construction of Roofs. Made to any length by 32 inches wide.

PRICE ONE PENNY PER SQUARE FOOT.

*** Samples, with Directions for its Use, and Testimonials of seven years' experience, with references to Noblemen, Gentlemen, Architects, and Builders, sent free to any part of the town or country, and orders by post executed.

☞ The Public is cautioned that the only Works in London or Great Britain where the above Roofing is made, are F. M'NEILL AND CO.'S Patent Felt Manufactory, Lamb's-buildings, Bunhill-row, London, where roofs covered with the Felt may be seen.

The new Vice-Chancellor's Courts, at the entrance to Westminster Hall, were roofed with F. M'NEILL and Co.'s Felt about two years since, under the Surveyorship of Chas. Barry, Esq., R.A. Her Majesty's Commissioners of Woods and Forests are so satisfied with the result that they have ordered the Committee Rooms at the Houses of Parliament to be roofed with their Felt. Quantity altogether used, 24,000 feet.

Note.—Consumers sending direct to the Factory can be supplied in lengths best suited to their Roofs, so that they pay for no more than they require.

Every information afforded on the construction of Roofs, or any proposed particular application of the Felt.

CHEAP AND DURABLE ROOFING.—Houses of all descriptions can be roofed at less than one-half the ordinary cost, by using the PATENT ASPHALTED ROOFING FELT, Manufactured by FRANCIS RITCHIE AND SONS, BELFAST,

Who also make INODOROUS FELT for lining damp walls under paper in place of lead. Samples, directions, and all necessary information sent free, on application to the Manufacturers, or any of the following Agents:—

Bristol—Tratman, Brothers.
Carlisle—Edward Jobling.
Hull—Thomas Flint.
Liverpool—Chapman, Bowman, and Co.
London—Hay, Anderson, and Sangster, Newington Butts
Manchester—James Hurst, 14, High-street.
Newcastle-on-Tyne—Richard Warham
Southampton—John Vaux
Whitehaven—Randleson and Forster.
Hurst and M'Mullen, Seedsmen, 6, Leadenhall-street, London.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as building and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

PARIAN CEMENT used as a Stucco, cannot easily be distinguished from statuary or Parian marble. It is fit for all the purposes of that beautiful material, and does not crack, warp, or effloresce in any degree. The fine quality will incorporate with the most delicate colours; it is adapted to encaustic work, fresco, imitation of marble, and the most elaborate embellishment. So perfect are its setting or crystallising properties, that the coarse quality when applied to newly built or damp walls, may be immediately polished, painted, or papered, and rooms rendered habitable before the materials ordinarily used would begin to dry. Manufactured by CHARLES FRANCIS and SONS, Roman Cement Works, Nine Elms, London.

PATENT FLEXIBLE INDIA-RUBBER PIPES and TUBING for RAILWAY COMPANIES, BREWERS, DISTILLERS, FIRE ENGINES, GAS COMPANIES, GARDENING and AGRICULTURAL PURPOSES, &c.

THE PATENT VULCANISED INDIA-RUBBER HOSE PIPES are made to stand Hot Liquor and Acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible), and as they require no application of oil or dressing, are particularly adapted for Fire-engines, Pumps, Gas, Beer-engines, Gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes from ¾ inch bore upwards, and of any length to order.

Vulcanised India-rubber Garden Hose, fitted with brass taps, copper branch, and roses complete, ready to be attached to Pumps, Water-butts, or Cisterns.—Sole Manufacturer, JAMES LYNE HANCOCK, Goswell Mews, Goswell-road, London.

N.B.—Vulcanised India-rubber Washers of all sizes for Joints of Hot-water and Steam Pipes, and Vulcanised Sheet Rubber, any thickness, for all kinds of Joints, and other purposes.

MARY WEDLAKE AND CO.'S HORSE AND STUBBLE and HAY-RAKE, of superior workmanship, 9*l.* 9*s.* Linseed Crusher, 11*l.* 11*s.*; small ones, 6*l.* 15*s.*; ditto, doing Beans, Linseed, and Oats, 10*l.* 10*s.* THRESHING MACHINES, doing upwards of 25 loads of Wheat straw per day, 60 guineas. MARY WEDLAKE and Co.'s CHAFF-CUTTING MACHINE, 100 to 200 bushels a day, price 7*l.* 7*s.* and 5*l.* 5*s.* Horse-hoe, Dressing Machine, Turnip Cutter, Turnip Drill, Stubble-rake, Oil-cake Breakers, Bean and Oat Crushers, Subsoil Plough, Double Field Roller, &c.—MARY WEDLAKE and Co., 118, Fenchurch-street, opposite Mark-lane.

VINGOE'S IMPROVED PATENT SEED PLANTING AND MANURING MACHINE.
Manufactured by the Patentee, Penzance.

UNIVERSALLY allowed to be the best, simplest, and most accurate and effective Seed Depositor ever made. It combines all the properties of the DRILL, DIBBLER, and PRESSER, depositing any given quantity of seed, however small, to the acre. It is adapted to large or small enclosures, any kind of soil, over ridge or furrow, on level or hilly lands, and is also highly approved of for gardens. Particulars, with prospectuses, prices, testimonials, &c., sent free, on the receipt of two penny stamps to cover postage, by applying to the Patentee. Freight and carriage paid to any Railway Station within 50 miles of London, Bristol, or Southampton. Any further carriage, 1*l.* to 1*l.* 10*s.* extra.—Penzance, Oct. 14.

SMITHFIELD CLUB.—CHRISTMAS SHOW.—The Annual Show of Fat Stock, &c., will take place at the Horse Bazaar, King-street, Baker-street, Portman-square, London, on the 6th, 7th, 8th, and 9th of December, 1848.

The separate PRINTED FORMS OF CERTIFICATE required for each Class must be obtained from the Hon. Secretary; and all Certificates filled up on the Forms so issued, both of Stock and Implements, must be lodged with the Hon. Secretary on or before the 11th of November, 1848.

B. T. BRANDRETH GIBBS, Hon. Secretary, corner of Half Moon-street, Piccadilly, London.

N.B. Lists of the Prizes can be had on application as above. Exhibitors in applying for Printed Forms are required to state the Number of the Class or Classes in which they intend to exhibit.

The Anniversary Dinner of the Club will take place at the Freemasons' Tavern, Great Queen-street, on Friday, the 8th of December, at 5 o'clock precisely.

The Agricultural Gazette.

SATURDAY, OCTOBER 14, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.
Farmers' Clubs.—Oct. 14: Reading.—Oct. 16: W. Market.—Oct. 20: Halesworth.—Oct. 27: Stranraer.

WISE men regard with suspicious eye the assertions of those who profess to accomplish a variety of dissimilar effects by a single cause. It is customary to be jealous of the pretensions of "Universal Restorative," "Heal All," or any other panacea warranted to cure diseases of all symptoms or all origins. And the proposal to ADAPT ONE BREED OF SHEEP TO ALL CIRCUMSTANCES of food, climate, and situation, making it answer all the purposes for which sheep are usually employed, seems justly to meet with similar distrust and suspicion.

From the varied habits of sheep, the widely different circumstances in which they are placed, and the opposite results which the several kinds are intended to produce, we are at once led to doubt the practicability and value of the scheme. We are induced still further to view the proposition as contrary to the order of Nature, when we consider the fact that there is scarcely any animal which appears under so many forms as the sheep. In Persia and other parts of the east it is found with a tail of 20 pounds weight; at the Cape of Good Hope the tail is worth as much as all the rest of the carcass; there and in other parts of Africa the sheep have clusters of horns, to the number of five or six; in Madagascar the same horns and tails are to be seen, and ears hanging down like those of a hound; about Aurengabad, between Agra and Bengal, they are found without any horns at all, but so strong that, being bridled and saddled, they will carry children of 10 or 12 years of age; the so-called sheep of Chili somewhat resemble camels, being hair mouthed and hunch backed, and they are used for carriage and field labour; those of China are small, with short tails, which, however, are a lump of fat; TERCEN, in his voyage to Surat, mentions sheep with bent snouts and pendent ears, with wool more coarse and stiff than goat's hair; in Africa, to the north of the Cape of Good Hope, they never eat Grass, only succulent plants and shrubs; in Thibet the sheep have large broad tails; in Natolia these tails are laid in carts on wheels; in Anspach, in Germany, a small sort exist that are shorn twice a year, and also lamb every spring and autumn; in Juliers and Cleves, also, they are said to lamb twice a year, and bring two or three each time—five sheep have brought 25 lambs in a year; on the slave coast of Africa, the sheep have no wool, "but," says the old Dutch traveller, BOSMAN, "the want is supplied with hair, so that here the world seems inverted, for the sheep are hairy and the men are woolly"—this hair forms a sort of mane, like that of a lion, on the neck, and the same on the rump, with a bunch at the end of the tail; the Javanese sheep have tails weighing occasionally 40 or 50 pounds, having a coat of red and white hair; four-horned sheep are numerous in several parts of Tartary, and a few have six horns, with wattles under the throat.

It may be thought that, by thus traversing the countries where sheep are in their wildest state at the present day, or by going back to the primitive ages, and determining in what manner Nature suits various breeds to different conditions of climate and surface, we might show by analogy what kinds of sheep are best adapted to every district of our own land. But this we are precluded from doing for two reasons; 1st, because the surface of our country is totally different from that of the regions where sheep are found in their natural state, and the sheep must be materially changed in order to be adapted to artificial inclosures, cultivation, and food; and 2d, because we use the sheep for an entirely different purpose to that of the earlier and ruder shepherds. The sheep was grazed for his fleece, and the ewe for her milk—its flesh was untasted by many of the foreign nations; many of the wandering tribes preferred the flesh of the horse and the camel to that of the sheep: even at the present day it is comparatively disliked in Spain; a prejudice exists against it in America; and even in Great Britain its liking is but of recent growth, though it is *now* universally accepted and recognised in this country as our commonest meat, most easy digestion, and most conducive to health. But if we examine the sheep in its present nearly perfect state, and as the principal improvement of grasslands and sheep husbandry in this country has made him, we shall find that the various breeds are merged into some few only which are truly valuable, and that there is scarcely more difference between the hill and the vale country, than the practised eye perceives between the mountain and valley sheep. We shall observe that there is a peculiar character and importance attaching to the particular point of each variety; and we shall easily arrange them into three distinct classes, viz.: the large bladed sheep, distinguished for quantity of mutton and length of wool, destined to live on rich pasture, and of precisely the form for a sheep provided with plenty of good food, and without any great distance to travel or exertion to make in gathering it; next, the hill sheep, adapted to more elevated situations and shorter feed on the natural and permanent pastures, able also to travel without detriment a considerable distance to the fold and to the downs, and valued for the fineness of its fleece and the fine grain and good flavour of its flesh; and lastly, the kind which is the inhabitant of a still more elevated region and a colder clime, occasionally exposed to the severest storms, yet enduring and thriving through all.

After taking such a survey, we shall be very doubtful of the expediency or even possibility of making any one of these classes a substitute for the others. It may probably be said that there is no truth in the supposition that the larger breeds are found upon the richer and more plentiful pastures, for the small breeds feed upon them extensively as well as on the downs; and, indeed, the large sheep are seen, in many parts of England, on the higher lands, as, for instance, the Cotswolds, upon hills elevated 700 feet above the sea. The answer to this is, that *there is* a natural connection between the large sheep and rich and abundant food, because, though the Cotswolds are by nature of large frame, yet it is well known that inclosure and improved cultivation of the land have, in the Cotswold and every other district, both increased the carcass and lengthened the wool. In utter disregard of this natural adaptation of the various breeds to the three descriptions of country above mentioned, it has been often proposed to institute experiments, testing the comparative value of different breeds, with the expectation of extending the best one over every district in the kingdom. As might be expected, there are great difficulties in the way of deciding this point, for the advocates of each kind of sheep contend for superiority upon different grounds, each appealing to a different standard of merit. When it is asked, "What are the criteria of good sheep?" the breeders of each sort of sheep in the kingdom give answers at variance with one another. And, in fact, the longer an experience on the merits of our various breeds of sheep the more variable are its results. The answers come of every colour, not only from different quarters; but each experimenter, if from accurately recorded experiment he should attempt to give an opinion, is repeatedly forced to contradict himself. This we shall next week endeavour to show; *C.*

AGRICULTURAL MEETING AT DUDMASTON.

ON Tuesday, Sept. 19, a large number of agricultural gentlemen, friends and tenants of W. W. Whitmore, Esq., met by invitation, at Dudmaston, and inspected his very fine and ably cultivated estate. The first part of the estate they visited was the Oat farm, in the yard of which Mr. Whitmore pointed out a tram-way, which he found very useful in bringing remote parts of the building together. It was laid down at a trifling cost, and he thought it could be applied with very great advantage to many farms, for the purpose of connecting the buildings together, which sometimes from their distance apart, were rendered nearly useless. We must not however, omit to mention the very complete manner in which the manure in the yard is collected together, and protected from the action of the elements. An excellent shed was here constructed, with a substantial slate roof, under which the manure and farm-yard dung is placed, and therefore well-protected from rain. The whole of the liquid portion of the manure is carefully drained off into a well, and a strongly constructed iron pump is employed to raise it as required. Passing across two or three fields, the company next proceeded to inspect the small portion of land under the cultivation of the boys of the Industrial School at Quatt, the land of which belongs to Mr. Whitmore, who we believe was very active in forming and carrying out this establishment. The present state of this land is an admirable instance of what may be effected by *Spade Husbandry and Liquid Manure.*—This School, which is connected with the Bridgnorth Union, was founded a few years ago, and was placed under the care and direction of Mr. Garland, who has shown himself to be a most able officer, and admirably adapted for the management of an establishment of this character.

Viewing it entirely in an agricultural light, and without touching upon its admirable principle with respect to the moral training of the juvenile pauper population, we proceed to give a short description of it.

This school is exclusively for the instruction of the pauper children of the Union. They often amount to 60 in number; the object not being to get rid of them as soon as possible, but to give them such an industrial training as may remove habits of idleness and incapacity, which are productive of future pauperism, and to facilitate the means of a permanent and independent livelihood when they leave the school. For this purpose the children of out-door paupers are sometimes admitted. A private dwelling-house has been taken for the establishment, in a rural village four miles from the workhouse, with about four acres of arable and half an acre of meadow land. About 15 boys cultivate this land, and attend to the stable, cows, pigs, &c.; not quite so many girls are instructed and employed in household work, sewing, baking, washing, and the dairy. The afternoons are wholly devoted to industrial labour, and the mornings chiefly to school instruction, in which the attainments of the children are very superior to those of most workhouse schools, where no industrial training exists. The system of cultivation pursued and its produce were fully set forth in a letter which was furnished by the master this year to H. M. Inspector of Workhouse Schools of the district, at his request, for the information of other unions. It is gratifying to observe that a net profit of above 65*l.* resulted from the farm during last year. It is worthy of note that this large produce is owing to the quantity of liquid manure applied to the land, and which is derived from the drains of the house, together with all refuse matter suitable for the purpose, collected in one large cesspool constructed to receive it, whence it is drawn out in pails as it is required. The following is the produce of four square yards of the land now under cultivation by the boys, from the crop at present on the land:—

	lbs.		tons.	cwt.	qrs.	lbs.	
Carrots.							
Roots and tops	55	equal to	29	14	0	22	per acre.
Roots alone	32	,,	17	5	2	24	,,
Tops alone	23	,,	12	8	1	26	,,
Yellow Wurzels.							
Roots and tops	84	equal to	45	7	2	0	,,
Roots alone	68	,,	36	14	2	16	,,
Tops alone	16	,,	8	12	3	12	,,
Red Wurzels.							
Roots and tops	64	equal to	34	11	1	20	,,
Roots alone	46	,,	24	16	2	2	,,
Tops alone	18	,,	9	14	3	18	,,

One square yard Italian Rye-grass weighed 11 lbs.; equals per acre for one mowing, 23 tons 15 cwt. 1 qr. 12 lbs.; and for five cuttings, 110 tons 16 cwt. 3 qrs. 4 lbs.

Leaving the industrial farm, the company then proceeded to view Park Farm, a place of about 200 acres, part of Mr. Whitmore's estate, but which he has only lately taken in hand to cultivate himself. On this farm Mr. Whitmore has commenced an extensive system of *Draining* on clay land, one field of which the party inspected. Mr. Whitmore had tried to drain that land before with drains 30 inches deep, but found it was of no use, and that the money so expended was quite thrown away; he had consequently determined to lay down drains 5 feet deep, which he was at present doing. The drains were 15 yards apart, 18 inches open at the top, there being just sufficient room for the men to cut them; and gradually decreasing the width to the bottom, where there was just room enough to lay the pipe. Although not half of the pipes were laid, a great deal of water was already emptying itself at the outlet for that purpose.

The next attraction was the process of *Charring* on foul stubble land. With respect to this, Mr. Whitmore said no one having foul land could overrate its importance. The charred matter was most valuable as a manure. He calculated that upon foul land there were 30 bushels of this weed and stubble to the acre, and on clean land about 10; and his gardener had told him that he considered that material when charred to be the most valuable manure that he could obtain, and if he could always obtain it he would never use any other. Mr. Whitmore also said that, though he would not certainly recommend farmers to grow weeds merely that they might char them afterwards, yet he would strongly impress upon those who were annoyed with them, which they all were in some degree, to get rid of them in this way. It was a much preferable plan than entirely burning them, in consequence of the excellence of the charcoal as a manure.

Continuing their course right down to the banks of the Severn, the next thing to which the attention of the company was called was the mode of *Irrigation* that is pursued by Mr. Whitmore, by means of water brought round by the side of a hill considerably above the level of the meadows which it irrigates. From this upper stream water channels are cut, by means of which it is brought down into open trenches in the meadows, which can be replenished at pleasure, and by means of a simple contrivance the water at any time can be excluded. Mr. Whitmore said in relation to these fields, that hay had been taken off them from almost time immemorial, without the slightest quantity of manure being put on the ground, and the crop had got down to about a ton per acre. Since he had irrigated the land, however, he had fed 500 ewes off it, and afterwards obtained a crop of hay averaging two tons per acre, without any manure being used. Occasionally, this meadow was overflowed by the Severn; but this was considered to be rather against than in its favour. The trenches, which were full of water, were about 15 feet apart. On some one remarking on the cost of all these improvements, Mr. Whitmore said he always considered in farming, it was not a question of what it costs, but whether it will pay, and if it yielded a return for the money, it was a good application of capital. What he wanted was to make that good land, and he thought the best way to accomplish that object was by feeding and breeding upon it. For that purpose he caused the mill which they would presently visit, to be erected, in order that he might always have the appliances and means close at hand to make all the processes of the farmer available to the greatest extent, taking especial care in the whole of these proceedings not to lose sight of the great farming manufacture, that was, the manufacture of manure. He believed till that was carried out to its fullest extent, they could never know the capabilities of land for producing, and would never derive from it all the crops that they might. His object, therefore, was first to water the land, and, after that, he believed the whole science of farming resolved itself into a question of manure. Nothing worthy of notice occurred until we arrived at a field on the estate near the Iron Works, on the opposite side of the Severn. This field had a large quantity of the alluvial soil that had been removed, which Mr. Whitmore proceeded to explain. He said that finding it was very desirable to improve some of the high land contiguous to this field, and that the field itself, which runs down to the Severn, required draining, he introduced the system of pumping, and constructed a common drain, which carried off the superfluous water into the Severn. Sometimes, however, it happened that the Severn, as they knew, rose very high, and to prevent the water entering through the drain in question, a valve was placed at the entrance of the drain, so that by means of that the field was kept dry, for whenever the water rose to the level of the drain, its own action closed the trap door, and thus prevented its ingress. While engaged in this operation he accidentally discovered that the alluvial soil of that meadow was the very thing he wanted to improve the high sandy soil of the hills, from its containing so large a quantity of alumina, and a substance which he described as an impalpable matter. After leaving this place the company proceeded to view a remarkably well-grown crop of Potatoes, which were produced on a sandy soil on the opposite side of the road, leading to Bridgnorth. This field, we believe, was tried as an experiment, and a portion manured with bone-dust; the Potatoes were very fine, but in some cases affected with the disease. Mr. Whitmore stated that some 5 or 6 per cent., we believe, were affected. Very considerable curiosity was raised in examining a field of Turnips planted also with several different kinds and quantities of manure. From some cause, however, a general blight appeared to have fallen on the Turnips. The best crop was that manured with Peruvian guano, 3 cwt. and 4½ cwt. to the acre. Some also manured with 10½ bushels of bone-dust were pretty good, but in consequence of the blight it is impossible to judge of the true effect of the manure. Some Mangold Wurzel was remarkably fine. It was manured with alluvial soil and farm-yard manure, 24 loads of farm-yard to 24 bushels of bone and charcoal. When the plants, however, came up, they were very sickly. The party then returned to the house. About 80 or 90 gentleman dined, and the evening was spent in a very pleasant and agreeable manner.

Home Correspondence.

Poultry.—I am somewhat surprised that the silver fowls have not yet been named among the other valuable poultry in your columns. I assure you they are worthy of notice both on account of their beauty and productiveness; they are small bodied, have short blue legs, a very pretty head, with a full comb, and a remarkably short bill, rounded, and shaped somewhat like a sparrow's; their colour white with very regular black dots or moons on their wings and tail. They lay well; mine commenced early in February, and are laying now (Oct. 3); they do not show any inclination to sit, but in a hatch their eggs are very productive. I have had 14 chicks out of 15 eggs. It is necessary to keep a game hen or two, to perpetuate the breed. I find rice at 12*s.* to 14*s.* per cwt., soaked all night in water, and then rolled in Indian meal, a very economical and fattening food, occasionally varied with a little Barley. My hens would have commenced laying earlier in the season if their roosting place had been warmer. I am desirous of heating it by a small stove or other means; can any of your numerous readers suggest the most economical heating apparatus for the purpose? *W. Y.*

Turnip-fly.—Allow me to suggest to your agricultural readers a remedy against the ravages of the Turnip-fly; it is both cheap and readily attainable, very important points in the estimation of farmers, who too often, through fear of a trifling outlay, injure their own interests. As soon as it is seen that the fly is at work, procure some soot and sow it broadcast, or sprinkle it over the young plant, when the fly will vanish as if by magic, and will not come near the plant again, so long as the soot retains its pungency; but should rain fall before the plant has outgrown the fly's influence, then when it becomes fair repeat the dose of soot. I can assure you, from satisfactory experience, that it is a most effectual cure for the fly, and a fructifier of the soil, as my present crop of Swedes (Skirving's Purple-top) bears witness, some of them being now, 28th Sept., upwards of 2 feet in circumference. Some of my neighbours had to sow their Turnips twice and even three times; *Ullswater.*

Thick and Thin Seeding.—I have read with satisfaction the Rev. Mr. Wilkins's communication upon thin seeding, and I now begin to have some hopes that facts may be brought to bear upon the question. At the same time I approve of the mode, I must be allowed to express my surprise at the statement given of the supposed yield of Mr. Mechi's crop, for without any intention to depreciate the management of that gentleman, I cannot allow the public to be misled upon the subject, having seen the crops of Mr. Mechi, with many others, just previous to the harvest. I think I can venture to assert that no portion of the crop would produce 7 or even 5 quarters per acre. On one piece only (that was considered the best), being the portion formerly old pasture, lying adjoining the road, none of the practical farmers present estimated it at 5 quarters per acre, whilst the majority supposed it would fall below that quantity; and so far as regarded the other pieces, the opinion, that I could gather, was that they could not, under the most favourable circumstances, reach 4 quarters per acre. Some discussion after dinner arose as to the yield of a field in Peas, which Mr. Mechi estimated at 6 quarters per acre. The opinion of several practical farmers was solicited by him, and the one given by myself of 3 quarters per acre was the highest. Mr. Hutley's opinion was 2½ quarters only. I mention this to show how the crops are estimated by gentlemen who profess to give impartial statements. I have withheld writing upon this subject for some time, because it might appear that I was personally opposed to Mr. Mechi and Mr. Wilkins, but as the investigation has become one of public interest, I consider that I should be dealing unfairly if I did not contradict statements that I felt were not correct, and which by the manner in which they are made is at least equivocal. Mr. Wilkins states, "that I saw Wheat on my friend Mechi's farm this year which I will take at 7 quarters an acre. Mr. Piper informed me last Saturday that he has full 6 quarters an acre." Now what is there in all this statement but mere supposition? and what has there been otherwise in nearly all other statements from the same source? Mr. Mechi can, if he pleases, publish his statement of the previous year's growth—the best he ever had—and can, if he pleases, also, give the produce of this year's growth; and if he chooses to accept the challenge, give the return of all previous years, and thus clear up all doubts upon the subject. His yield of 1847, I understand, was under 5 quarters per acre. In a former letter I made a statement which I am ready to prove of 682 quarters having been grown upon 104 acres, the entire produce of one farm drilled or sown with 2½ bushels per acre, which clearly proves, as I then stated, that although thin sowing *may*, that thick sowing, as it is termed, *will* grow an abundant crop. Mr. Wilkins in a former statement, in reply to my letter, stated that he had produced his Wheat for three years in succession, without manure; it may be so or not, but such is not the impression of his neighbours, and perhaps he will set this matter at rest. I wish to establish facts, and not to set myself against him upon the merits of my composition. Many errors of a grammatical nature are doubtless contained even in this letter, but which I recommend him to pass over, and confine himself to the matter in question. My education was limited, and too much intermixed with the practical work upon the farm to allow me to devote my time sufficiently to become competent to meet him upon points of grammar; at the same time that I lost the opportunity of advancement in learning I gained some practical experience, which enables me now to speak with positiveness upon this important subject; and deprecating controversy of a personal character, I hope my observations, however old, and by him considered now exploded, may act as ballast to the vessel which really appears to carry too much sail for its own safety; *Robt. Baker, Writtle, Oct.* 2.—We have also received the following: In an article appearing in the *Agricultural Gazette* of Sept. 30, to which the name of Mr. George Wilkins, of Wix, is attached, I observe the following sentence: "I saw Wheat on my friend Mechi's farm, which I will take at 7 quarters an acre." I assert that the yield of Wheat on Mr. Mechi's farm is less than one-half of the amount here stated, and I give as my authority Mr. Mechi himself. Mr. Wilkins is bound, for the credit of your journal as well as his own, either to substantiate his statement or to admit his error. It will be time enough to publish my name when Mr. Mechi fails to justify my assertion. I enclose my card to you; *Beta.*

Scotch Farming.—"Amicus," not considering the reasons I formerly advanced with respect to the East Lothian and Berwickshire farmers growing Oats on their lea, as at all satisfactory, I will advance two or three more which may have greater weight with him, and lead him not to condemn the practice of his countrymen as wholly wrong. 1st, "Amicus" will know that there is little or no permanent pasture in the above counties, and as neither the ewes nor the lamb hogs receive a full supply of Turnips in the winter, it is the general custom to draw the Turnips off the Turnip field, and strew them on the lea, which is the only part adapted in this season for that purpose; it is generally, and ought to be invariably, the second year's lea, that the limited supply of Turnips for the store sheep ought to be strewed on, because there will not be much harm done to the Grass, if it gets wet, and is poached with the animals' feet; if on the first year's lea, the poaching would damage the Grass for the next year. Also, in wet weather, the fatting sheep have occasionally to be drawn off the Turnips, and the only part of the farm where they can eat their Turnips

clean, is on the lea, where they are of course put. Now, if the lea was ploughed up, there would be no place fit for the temporary reception of the fattening sheep in a wet season; or the store feeding of the ewes and lamb hogs. In pastoral districts, it is usual (where there is much moor) to pen the store flock on the Turnips two or three hours each day, and then to drive them to the moors afterwards; but on the low lands the best practice is to strew Turnips on lea for the stores. While with a farmer in Berwickshire, we penned some lamb hogs on Turnips, and some we put into a lea field, and strewed the Turnips in the field. I remarked one day that those on the lea field which only received a limited supply were doing better than those that were penned on the Turnips, which received as many as they could eat; the farmer replied, that he had always found it so. Thus "Amicus" will admit that the lea, lying all winter, is of very great service for the flock. In the month of October, when the pastures begin to fail, a very good practice is adopted of strewing a few Turnips on the lea, for the fattening sheep and the bullocks that are to be fattened in the yards or hovels; by increasing this quantity gradually you accustom your bullocks and sheep to their winter's food without danger. Thus "Amicus," without deranging the good stock-feeding system of our northern friends, you could not sow Wheat on Lea until November, and even then you would derange it, as you would plough up and sow the best lie the store sheep have on the farm. 2d. November is too late for sowing Wheat in Scotland, as lea Wheat would be

"When winter frosts constrains the field with cold,
The tainty root can take no steady hold."—DRYDEN'S VIR.

September is reckoned the best time for sowing; I have seen it sown in August, and with very great success; the best piece I ever saw in Berwickshire was August sown. As far as my personal observations would guide me, I would prefer a spring crop of Wheat or Oats to a November one; unless I was sure that we were to have a mild winter. 3d. The soil and climate of the south of Scotland "Amicus" knoweth are not so favourable for Wheat as the south of England, and I would also say that the soil and climate of the former are more favourable for the production of Oats: at least the soil is. I consider fallow, Potato, Bean, and Turnip land as better preparations for Wheat than lea, as these crops have always a liberal supply of manure when sown or planted, and this manure not being exhausted, is of great advantage to the Wheat crop ere these (the best preparations) are sown, October will have nearly ended, and November lea Wheat may then be sown; but unless a mild winter follows a poor prospect of a good crop there will be. The hay crop is, I think, always considered a scourging crop, especially where the seed is ripened, which the Rye-grass seed is generally allowed to be in Berwickshire, so that there is only one year's rest, and not two, as "Amicus" saith. Thus far have I written and yet not shown that Wheat cannot be grown on lea in Scotland; indeed I think it could be grown, and would recommend it to be grown on strictly grain-growing farms, where the lea is not used as a layer for the sheep; but in half stock half grain growing farms, I think "Amicus" would find, in a series of years, his spring crop would pay best, taking everything into consideration. For my part I have never seen lea-sown Wheat grown in Scotland. I think now that I have advanced all the reasons that the Scotch farmers have for sowing Oats on their lea instead of Wheat, as the farmers in the south of England do, and hope they are more satisfactory than the ones I formerly advanced. What I have advanced is the result of observation. Probably some one who has had more experience can show figures on the subject, I mean quantities of Nov. sown Wheat and Feb. or March sown Oats, and justify the practice of sowing Oats on lea instead of Wheat, to the satisfaction of our well wishing southern friends. With the opinions of our Scotch authorities I would conclude. Professor Low says, in his "Elements of Agriculture," "that the Oat is generally sown after Grass, and this is precisely the period in the rotation in which the Oat should be sown." We would have liked to have seen the Professor's reasons; his conciseness leads us naturally to suppose that he considers them self-evident. To a Scotchman they may be, but not to an Englishman. Stephens, in his "Book of the Farm," admits that Wheat may be grown on lea in spring; his chief objections are soil and climate, but what he says concerning the subject is too long for insertion here; *A Berwickshire-educated Agriculturist.*

Pigs.—Your correspondent, "S.," when enumerating the live stock of his contemplated farm, has omitted that most valuable class of animals either to an amateur farmer or to any one who has a few acres under tillage—pigs. I have heard it said they do not pay, but I know from experience the contrary is the fact, with good management. No quadrupeds deserve more attention, provided a proper breed is selected. I strongly recommend "S.," if he locates himself near a large town, to rent a certain quantity of land; he should not launch out on too grand a scale at first (as, I believe, he professes not to have much agricultural knowledge at present); yet there is great advantage in having a supply of roots on the premises for cattle, &c., instead of always removing to the market for what is wanted. Besides, the manure from cows, &c., will make a better return when spread upon the land than it would if sold. Supposing a large farm is entered upon, sufficient to give employment to a horse-mill, it would be advisable, and save expense, to have the machinery so adjusted as to be able to apply the power to Chaff or Turnip cutting and Bean crushing. A man who proposes to farm with the view of making money should be prepared with about 20*l.* per acre to commence work with. Artificial chicken hatching may be considered a somewhat hazardous experiment, demanding constant attention, which might be more advantageously employed in other ways; *Falcon.*

Kohl Rabi is with us this year finer than ever; already I have bulbs after Tares too large for my hat to hold. But I see your correspondent on the subject of the time of sowing is in error; the seed should be sown the last week in February, or early in March, or else the plants are too late to come to full size; will you refer to my Farming Essays, the 16th and 25th articles. The early appearance of the Potato disease at the shoot underground from the old set, long before their appearance above, enabled me early in June to forestall the general forthcoming failure. I have little doubt that Potatoes forced now would enable you to see the early canker at root, and the commencement of the disease from the old set, as I have before informed your readers. The sad destruction going on in the clamps will, I fear, shortly leave but very few for winter use; already they are becoming a luxury. The present price is 6*l.* to 7*l.* a ton, a price that makes them dearer than bread, from the large proportion of water they hold. The new Wheats in the south come to market grown and very cold, and when we take into account that the best are threshed first, the prospect for the winter appears a very bad one; *Hewitt Danis.*

Fattening Calves.—Having been very much annoyed by the scarcity of milk that comes to my house, whilst I have a number of calves, permit me to inquire, through the pages of your journal, whether there is any good method of fattening calves for the butcher, without the use of the mother's milk, at any rate for more than a fortnight. A good system would, no doubt, be a great boon to many. My case at present is just this: I keep six cows for the supply of my family with milk, cream, and butter, and occasionally, in June, make a few cheeses; through untoward circumstances every cow has a calf from about five to nine weeks old; the larger ones take all the milk, and the younger ones have very little, so that I am minus some made butter, or, at least, have it in very small quantities. If you or any of your correspondents could inform me of any system practised or known to answer, you would much oblige. The butchers here do not like calves under 10 or 12 weeks old, unless very fine ones; *Viator, Sept.* 25.

Land Drainage.—In my former communication on this subject (p. 626), I expressed the opinion I entertained of its importance, and that how in addition to proceeding on correct principles, its execution, to be beneficial, required to be guided by right practice. Its importance will at once be admitted when we consider how materially it tends to increase the productive powers of the soil, and enables the country to support a more numerous population; and, not less so, when we reflect on the amelioration it is calculated to produce on the climate, and the beneficial effects resulting therefrom to the general health. Such being the case, drainage of the soil cannot be too widely extended, and ought to be fostered and encouraged as a great public good. Its extension, however, is best ensured by its being made profitable or remunerative, which, as it is in all cases a matter of considerable expense, we can only expect to find upon its being accomplished by proper means judiciously applied. Now, it is well known from experience that instead of satisfaction the result is but too often loss and disappointment; at least, not that full realisation of success which might have been rationally looked for. This is much to be regretted, and as it proceeds in every instance of failure either from inadaptation of the means used, or from their defective execution, if, through the medium of your widely disseminated journal, I can succeed in exposing what is faulty, conveying a few simple instructions for amendment, and directing attention generally to the subject, my small exertions in the cause will not have been altogether useless. The particulars noticed may be looked upon as simple, some of them quite commonplace, but let it not be thought therefore that they are the less important or the more undeserving of attention on that account. In setting about a drainage the first matter that requires consideration is the plan most suited to the peculiar circumstance of the land proposed to be drained. Having determined on this, we must next proceed to make a particular examination of the outfalls, which, indeed, sometimes are of such a nature as to influence or change the whole system proposed. In all cases the outfalls ought to be well cleaned out, if possible rendered free from the occurrence of future obstruction, and possess a decided current. The main or principal drain brought up from the outfall should be cut there to a depth so as to leave its current free, or nearly so, when the outfall itself is in flood, and not at once to the very bottom of the latter, as is too often done, to the risk of the choking up and serious injury of the whole drainage. Attention should be paid to this, though the main drain cannot be had of a greater depth than barely protect it from injury or disturbance in working the land. Main drains, in fact, are more properly water channels than drains, and ought in that light to receive their principal study. The proper depth can, in general, be gradually attained as we proceed. Never cut the furrow or parallel drains till the mains and sub mains are formed, and observe the same rule in regard to their outlet into these, as was stated in respect to the outlet of the main drain itself. It is a very common practice among workmen, in the cutting both of mains and common drains, to cut down at once to the specified depth, regardless of the circumstances now narrated. Such cannot be too strongly condemned as an evil certainly affecting the efficiency of the work, and its occurrence ought to be firmly checked and prevented. The opening of drains should invariably be commenced at the outlet or lower end; never at the upper. Generally, in cutting, carrots or sharp workmen, instead of giving the bottom of the drain a gradual or easy uniform descent, are apt to scoop out pieces when afterwards, on having the tiles or pipes put in, are sure to lodge a quantity of silt, much to the injury of the drain, by obstructing its free current, and not unfrequently choking up its lower end, thereby ruining the whole. Whenever cutting of that description is observed or suspected, it ought to be corrected before laying in the materials, and in certain cases, particularly in level grounds, where it is most likely to occur, and where its occurrence is likely to be most hurtful, it may be necessary in rectifying the fault to pour down water into the drain and obtain proof positive of its possessing the desired current. Such portions of the drains as have been found cut too low must be carefully attended to, in order to prevent sinking afterwards. It very frequently happens that in flag swales or hollows are met with in fields: in respect to the former the depth of cutting ought to be so increased as may be found necessary to preserve the current in the drain; and, with the latter, decreased for the same purpose. Never mind if, in cutting through a small hollow, you are unable to preserve a depth as may be necessary to lay the ground in it perfectly dry; the preservation of the current of the drain from the higher parts of the field is often of ten times greater moment than this. A drain in such circumstances, as already observed, partakes more of the nature of a conduit than a drain; and as such, what is most to be studied is to see that it be of a depth sufficient to preserve it from injury in the management of the land. By proper attention, however, in studying to cut a little deeper through the swales or hollows, the necessity of extreme shallowness in the hollow parts is in some measure obviated, and the matter rendered much more practicable. When this is found insufficient to attain the end, subsidiaries must be had recourse to; *J. Duncan, Thorndank, St. Andrew's, N. B. Sept.* 22.

Education (No. 2).—In my last I attempted to give a general view of the importance of real education to a nation, and the want of it in Great Britain. I took a short review of her position in the world, and the necessity of her preparing the succeeding generation by real education to provide more easily for their wants, whether located at home or abroad. I will now enter more fully into what I conceive a national education ought to be, and which should be put within reach of every poor child in the United Kingdom; but my remarks at present will be principally confined to the rural districts, but including all cities and towns which admit of locating the schools in the country. Some modification of the plan may be required in those manufacturing districts where the towns are grown to such a size as to render the attendance of children difficult, from the distance they would have to go to school. In a comprehensive scheme for national education, it would be absolutely necessary to include the infant training: as such I do not wish hastily to approve or condemn any existing system, I must be allowed to pass by that essential part of education for the present. Having observed attentively the working of the voluntary system, I am come to the decided conviction that no education dependant upon it will ever answer. The revenue I require for the support of my plan must be certain and ample: therefore I depend upon the state for supplying the funds. I do not say I will not take a part payment from the children, but at present my belief is that it will be better to provide a gratuitous education. Let the nation act as a bountiful father of the people. Acting thus paternally is calculated to found a patriotic feeling, and to beget a reverence for the institution which has been the means of largely increasing their happiness, by extending their power of supplying their intellectual and physical wants. I equally depend on the same source for means of preparing the minds that are to direct this great work. I look not therefore to any benevolent individuals for voluntary teaching and overseeing, but require a permanent staff of masters, mistresses, and inspectors, first selected with reference to natural qualifications, and afterwards trained for the express purpose of qualifying them for teaching and governing. These officers must be provided with comfortable residences attached to the schools, must be paid adequate salaries, and, as something is wrong in every class of society where the labour of youth and middle age does not accumulate for the wants of old age, their salaries must be sufficient to accomplish this end: or, considering them in the same public light as soldiers, after a certain period of service they may be entitled to a pension. The school-houses must be without the towns, and must have a most essential part of my plan an acre or more of land attached to them. Unless the whole system is on a liberal scale, providing for those who teach and those who learn, it will never answer the purpose or be worthy of a great nation; *T. C. Brown, Circucester.*

Butter-making.—There is a paragraph in your Paper headed "Butter-making," in which the writer condemns the use of Turnips for feeding cows, as giving the butter and cream a bad taste, and expresses his surprise that there should not be any method to prevent it. I occupied a farm of 500 acres, and kept a large dairy of

cows, and never had the taste of Turnips in the butter, by applying hot water and steam, at different times, to the milk and cream, which entirely took away all flavour of the Turnip. We generally made from 1*d.* to 2*d.* per lb. of our butter more than market price. Should any gentleman wish to know what our process was, I should be most happy to give him any information that he may require. Our system has been carried out for 40 years, and has never been known to fail where properly attended to; *E. Beck.* [Will Mr. Beck kindly state the details of the process.]

Kohl Rabi.—I suspect the cause of the small size of the plants complained of by some of your correspondents must, in some cases at least, be ascribed to bad seed; in other cases, probably, to late transplanting or unsuitable soil. From a limited experience of the vegetable, I should imagine we are more likely to be troubled with untrue seed of Kohl Rabi than of Swedes, Turnips, or Cabbage—many of the plants running off to mere Cabbage stalks and leaves: hence the necessity for either raising one's own, or dealing with those respectable seedsmen who do raise it. Of a little of the purple and green cattle Kohl Rabi, which I had transplanted upon various soils, many plants in each place have proved untrue; while of some seed of the finer garden kind, raised by a friend, scarcely one has failed to bulb well. The latter swells much more rapidly than the cattle kind, and is altogether more suitable for the table. I also tried transplanting a few rows, week after week, till the end of July, but, like your other correspondents, did not find them do well after June. Of similarly-aged plants, taken from the seed-bed on the same day and transplanted upon different kinds of soil, the garden kind in two months was quite fit for being cooked—some of the plants 1½ lbs. weight, while the purple and green cattle kind had scarcely presented any appearance of bulb. Now (close of September), many of both sorts are 4 lbs. weight (bulb only), the failures of the large sizes being observable in the purple and the green kind indiscriminately; of course it will increase very much yet. It is very desirable, for the table, to preserve the fine globular form and smooth delicate skin; for if perfect in these respects, and served up in proper style, the Kohl Rabi will, I think, be admitted, even by those who do not like it, to be a beautiful and, if large, a noble vegetable. So far as my own limited experience goes, I think this smoothness and delicacy depend much on the soil in which it is grown; for almost every one of those transplanted into deep fine clay loam, manured with farm-yard dung, and having plenty of room, are smooth-skinned, plump bulbs; while a large number placed upon good ground on the "crag," manured with ashes and night-soil, are rough, scaly, and unsightly. This garden kind of Kohl Rabi does not seem much used in England yet; but is certainly well worthy of general cultivation. "*De gustibus*," &c.: some call it "only a Turnip;" others think it better than Asparagus. Truth, I believe, lies between: and as it is very hardy and useful, I think it will take its place as a very palatable vegetable; *Very Constant Reader.*

Foot-halt.—Your correspondent "B. H." in your last paper, wishes to know the best manner of treating or curing the (as he calls it) foot-halt in sheep. I am inclined to think his admitting having used tar and salt, that the patience of the operator must have been exhausted, or it was not applied often enough to effect a remedy. I think if the foot were well cleansed from dirt, and any caustic applied, and an unsparing quantity of salt well worked in, 24 hours would enable the sheep to walk much more firmly, and in a week, if the treatment is repeated, the lameness disappears. The application should be used every other evening, not in the day-time, and the sheep after dressing should be turned on dry, hilly ground. Do not be satisfied by the sheep appearing to be free from lameness, after the second or third dressing, but use the application for a month, alternate days, or twice a week after 14 days. Always remove any detached portion of the hoof. The following I have found well worthy of notice:—1 oz. blue-stone, 1 oz. verdigris powder, 1 oz. white vitriol, ½ oz. bole Armenia, ¼ oz. oil of vitriol, 1 quart vinegar; *James Wait, Portshead Hotel, near Bristol.*

"*S.'s*" *Small Farm.*—I am pleased to observe that the enterprising spirit of your correspondent "S." had received no check from the observations made by other correspondents upon his projected plan of home colonisation, as I heartily enter into his views as to the possibility of accomplishing in our own country a great deal more than has hitherto been considered, and that without a separation of many thousand miles from the land of our birth. On the subject of his mill, I must, however, still differ with him, for although in no way practically brought up to the business, I am bold enough to flatter myself, from particular circumstances, I know as much or more than many that are so, which is my apology for venturing to advise him. I am glad to find we misunderstand each other as regards the erection of a building, &c., for the purpose, and that he does not intend to enter upon the subject on the scale with which I was at first impressed; but what he then said was, that a three horse-power engine would grind 3 bushels of Wheat per hour. Now, he refers to a small portable mill, to grind 3 pecks per hour, at a cost of 20*l.*; so here is a wide discrepancy in our meanings. The cost of such a machine is of course trifling compared with the other; but I must be candid enough to tell him that I really feel he will experience so much disappointment on this plan as to induce him to lay it aside after a short trial. Where there are large steam and water mills, of which there are many in all parts of the country, flour is to be bought by the sack (from the very great competition prevailing) at a very moderate return of profit, and that of a far superior manufacture to that turned out by a small portable mill; and few of the uninitiated know the importance in this particular. There is no doubt these small portable mills will grind the corn, but here lies the difference, and the necessity of an experienced hand and improved machinery, so as to make a sack of flour of such quality and strength as to give the fair return of loaves from a sack, and that the flour should not be killed in the manufacture, *i. e.*, lose all that life and lightness the article ought to possess, instead of being heavy and doughy, as badly ground flour must be when made into bread, independent of the loss in quantity. "S." is below the mark in saying 1 bushel of good Wheat will produce ¾ of a bushel of flour and ¼ of offal; and as regards this latter he may be under no fear of adulterations if bought from the large mills. The dealers who buy of the millers, when the article is scarce and dearer than common, I have no doubt do adopt many dishonest practices. As to Cobbett, he was a visionary being, and scarcely any of his Utopian schemes have ever been successfully carried out. In what I have ventured to advise, I give it as my sincere and candid opinion, based upon a considerable knowledge of facts. I have written so much more than I intended to intrude upon your columns, that I hesitate to make a further encroachment, yet I cannot refrain from making a few observations respecting cow-keeping and its profits. "S.," in referring to Mr. Pigott's report, either misunderstands him, or takes by far too exaggerated a view of the real facts. Mr. Pigott's account is, no doubt, given from the common farm returns of a dairy, such as butter making, fatting veal and pork from the skim milk, without any of the advantages of selling milk arising from local circumstances. From my own experience, with average dairy stock, I consider his statement as very near the truth in such appropriation of produce, having on my own farm, with 20 cows, proved that to be about the gross return. If "S." is so fortunate as to locate near a town, and obtain regular customers for the milk (which, by-the-bye, are mostly forestalled), there is little doubt of his obtaining an increase of from 3*l.* to 5*l.* per head more. The allusion to Cramp's cow can be no guide, as such an animal as that has never been heard of since, and dairy produce was then far higher than now. In my returns of this produce I felt I was obtaining 30 to 35 per cent. profit upon a good cow, costing 15*l.*; and a net profit of 5*l.* gives that rate of interest which leaves a good margin to cover losses from death or other casualties. "S." certainly throws a new light upon the value of the Kerry cattle as compared with the Alderney, and which will induce me to make further inquiries. From the Alderneys having become so famous hitherto, it seems late in the day for them to meet competitors for rivalry, even considering the pro's and con's that may be urged on all points. The average return of a good Alderney cow is 10 lbs. of butter per week through the prime of her milking. I have had one that gave 14 lbs.; *R. G.*

Calves.—I have found the following method to rear Calves the surest and cheapest: Let the calf run with the cow for a week, then shut it up, giving it about 10 minutes' sucking night and morning, having ready small par-boiled Carrots scraped backwards; let the dairy-maid introduce the Carrot into the calf's mouth, it will soon suck it; continue this easy process for a few days, then cut in small pieces the boiled Carrots and put them into a trough, the calf will soon eat them greedily; as soon as it does so, no longer boil the Carrots. Now give it as many Carrots as it will eat, and put into a little rack some good hay, with young Rye and Tares. Thus attentively managed, the calf will chew its cud in a fortnight; gradually reduce the time of its sucking, and finally wean it at the end of a month; then tether, on fine days, in good Grass, still giving it the Carrots at night; let it go into a warm, comfortable, clean pen. The cow from the beginning is either fatting another calf or filling the pail for the dairy. In the following winter let it have plenty of good hay and roots, with chopped straw and Linseed, a quarter of a pint to a quart of water, put into a jar or saucepan and placed on the hearth on hot ashes; in the morning it will be done but not burnt. I have succeeded well with this simple method, and at 18 months the heifers have generally had their calves by their side. Should they scour during the year, I give in balls one tablespoonful of Epsom salts, two of flour, and two of whitening or chalk; *Anon.*

Charity.—If England cannot support its population in 1848, what is to become of the country in 1858? is a question of such vast importance as to require the attention not only of our rulers, but of every individual who is capable of thinking. It is too much the custom of those in power (indeed it is a fault that may be laid to the charge of all classes) to look a very short distance beyond the present time; legislating or working for those who are to come after us is diving too far into futurity. We consider how we are to get over the month, the day, the year, without recollecting that we are responsible beings having most serious duties to perform. We are free agents, under Divine Providence, and are capable of discriminating between good and evil; and if from the highest to the lowest we neglect the commands of our Maker—to assist each other, we cannot expect that aid from above which we are promised in case of obedience to Divine ordinances. No man is to live for himself alone; he is desired to take care of those belonging to him; but at the same time to be kind and liberal to others. The foregoing remarks may be deemed more fit for the pulpit than a newspaper, yet feeling convinced that our prosperity so entirely depends upon our actions, emanating from true Christian principles (apart from twaddle on the one hand and fanaticism on the other), that I could not resist expressing my sentiments on the subject. Attributing the number of men out of employment to over-population is an easy way of getting rid of a disagreeable topic. In the same manner an application for work from a labourer is met by "such a strong fellow as you should be able to find employment." It is the duty of every one who is above want to assist in promoting useful labour in his neighbourhood, without the selfish consideration of whether he is to benefit directly by it; indirectly he will in more ways than one. It is quite impossible this country can continue in the enjoyment of domestic peace with a decreasing revenue, lavish expenditure, ruinous poor's rates, and idle but willing men roaming about in search of occupation; it does not require a conjuror to prognosticate how such a state of things will terminate, provided common prudence and foresight are not called into requisition to alleviate the pressure. It is ridiculous to suppose that an extensive tract of land can remain much longer in the hands of a tenant who will not cultivate his acres more highly and expend more human labour upon them. A farmer rents land at 2*l.* per acre, and complains that his landlord is too hard upon him. Labouring men take the same field in allotments of two acres each, pay double the rent, and all compelled to till the ground with the spade. Here is an anomaly! Farmers should look about them, and keep more strength on the land, or we shall, ere long, see large holdings cut up for the sake of the rent they will produce when under cultivation by common labourers. Agriculturists must not be surprised at divisions and subdivisions of land, which they encourage by their penny-wise and pound-foolish economy. It is sad to see the growth of weeds overspreading land which should yield, under skilful management, 40 bushels of Wheat, and now sending scarcely half that quantity to the barn. No man who pays a fair rent for land can afford to grow Couch-grass instead of grain; therefore it is fair to conclude, when a field is seen in a dirty state, it is let too cheap. There are three ways of helping us out of our difficulties: 1. Bringing all waste lands under the plough and spade. 2. A more liberal and generous system of tillage. 3. Saving the refuse of towns and villages to enrich the earth. The three combined would give an impetus to trade in all its branches, and allow the advocates for emigration (a most essential point), time to mature their projects for establishing fresh markets to receive our home manufactures; we must create new countries in our colonies, peopled with our own flesh and blood, whose interest it will be to buy, sell, and exchange with the mother country. We cannot any longer depend upon foreigners to consume our surplus cottons, hardware, &c. Owners of what has hitherto been considered irreclaimable moor would do well to ascertain if there is not some natural production in the vicinity capable of being converted into a fertilising manure, as no doubt all land was intended, sooner or later, to become subservient to our wants; such a fact, if once ascertained, would induce monied men to enter into what would then be the safe speculation, of turning a heathery waste into a corn field, to the annoyance of the sportsman, but to the extreme satisfaction of the starving and ill clad peasant. It grieves one to witness a deserving class in society, staggering under a weight which bears them almost to the ground, toiling under a system of neglect which is fast demoralising the agricultural population, and from which they can never hope to rise unless some great effort is made to render their prospects in life more cheering, and their condition more respectable by keeping both body and mind in activity, and elated with the hope of preserving themselves and their families from misery and want. We have mendicity societies, benefit clubs, &c.; why should we not establish working companies to provide employment during the dead time of the year? and to check the systematic begging which exists during stated periods. If those who dispense shillings and sixpences to sturdy wanderers were to subscribe to a fund for the purpose of encouraging industrious habits, and receive tickets on the same plan as the mendicity society, we should hear of less distress and diminish the number of idle characters now perambulating the country. It is not desirable to limit private charity where it is called for, and God knows there are too many cases for the exercise of true benevolence pining in secret; it is only wished to guard the public against street begging, and to direct their charity towards a proper channel; *Falcon.*

The Irish Character.—As every man's character is generally estimated according to the rank of those with whom he associates, so the reputation of the public newspaper is valued according to the ability and the intrinsic value of those who contribute to its support. It sometimes happens, however, that a man of proper character may, unconsciously, fall into disreputable company, and that a silly correspondent or contributor may gain access to the columns of the most talentedly conducted journal, notwithstanding the utmost vigilance on the part of the conductors to prevent it. The former may occur without deeply affecting the general character of the individual, and the latter without detracting from the character or general principles of the paper. Now, in your Paper of the 9th ult. an initial correspondent addresses you on the subject of "Irish experimental Farming." The singularity of that address forms the subject of the following remarks; but let it not be un-

derstood that, in my lucubrations on it, I mean any personal offence or disrespect to your correspondent, who may be a highly respectable person, though the disparaging manner in which he speaks of my fellow-countrymen, and the hints that he insinuates may make it no very easy matter for a person of high sanguine Irish temperament to restrain himself within bounds. He gives a conditional promise that he will contribute 10 guineas to the society, provided they make certain concessions to his whims or choice—that of "selecting a practical Englishman to manage its working," &c., stating his objections to the Irish to be their "sanguine disposition," and their "possessing abilities and elocution," &c.; but they "require impulse and excitement," &c. Your correspondent is the first person I have ever heard of objecting to an Irishman on the score of incompetency in handling the spade. With regard to sanguineness of temperament, it is our national physiological characteristic; and all physiologists and historians who have written on the three leading peoples of whom the inhabitants of the United Kingdom are constituted, concede the preference of the sanguineness of temperament of the Irish to the phlegmatic and dogged sullenness of the English, or to the plodding selfishness of the Scotch, when contrasting their characters. I must briefly notice what seems to be "the burthen" of your correspondent's letter; namely, "Whether it is true that the Protestant parts of Ireland are better cultivated, the people better employed, happier, more moral and peaceful than the Roman Catholic parts? If so, what is the real cause or causes of it?" He at the same time states his convictions that, on the infallible authority of "I am told! the line of demarcation is palpable everywhere." As I have examined the two numbers of your Paper that have been published since that letter appeared, without seeing any public notification of it from you, should you have furnished him privately with the desired information, I would feel much pleasure, and, I am sure, he would confer a lasting benefit on the community also by his elucidating and setting at rest that *vexatio questio*, that long controverted national, or rather sectarian topic. I must also add, that I am confident no gentleman possessing ordinary common sense would come to conclusions on so grave a subject without the strongest testimony of their truth and accuracy; as I could not suppose that any person writing for "the information of the people" could possibly be so weak as to take "I am told," or "Mr. So-and-so" for authority. It would be a very fallacious test on which to rest conviction on any ordinary subject, a very delusory, if not a very dangerous one, on a question of such importance, one vitally affecting national character. Had your correspondent read the long protracted viperous controversy, he would find a very salutary hint in the concluding paragraph on that subject, in the Paper in which his letter appears. Should you not have satisfied your correspondent on the subject referred to, on his stating to the public, or to myself personally, his own views, and the data on which he has founded his opinions, I, as an Irishman, deeply interested in the matter, perhaps from national pride, shall feel much pleasure in discussing the subject with him, in order to remove any prepossessions he may have conceived to the prejudice of the Catholic part of the community, whether with regard to their religion, morals, education, or their social and domestic relations; *A Subscriber from the first, Wexford.*

[Fairness requires us to insert this letter; but not with the view of encouraging any such controversy as it suggests; for our columns are entirely unsuited to its subject.]

Foot Rot in Sheep.—In answer to your correspondent respecting the foot disease at present in sheep, I beg to inform him that I have had some very bad, and I think I have cured them by the following plan (at least they are nearly well) and I only operated on them about 10 days ago. I cut off all the hoof that required it, I then washed their feet well in very strong salt brine; after that a man rubbed in some salt, and did not care if they bled a little. I am quite satisfied this has answered, but I continue to examine them and rub more salt if they appear to require it, first washing the feet well in brine; *A Subscriber.*

Farmers' Clubs.

EVESHAM: At the late meeting of this Society, Mr. F. WOODWARD stated his views upon thick and thin sowing. The latter practice was advocated, as they knew, by Mr. Hewitt Davis, Mr Mechi, and others, but he had not found it to answer. Of course they would save some millions of quarters of Wheat in the year, if they only sowed 2 or 3 pecks to the acre instead of 2 or 3 bushels; but that was not the only thing to be considered. He gathered from the public prints that Mr. Hewitt Davis and Mr. Mechi's land produced about 30 or 32 bushels per acre, and that would not answer the purpose.—Mr. HANFORD: You must recollect it is very bad land.—Mr. WOODWARD said he suspected the fact to be that the land was not in sufficiently good condition to bear more. His own experience led him to believe that about 9 pecks to the acre produced the best crop. Some time ago he had visited the farm of the late Mr. Shelton, of Thorngrove, where, upon some property which he had recently purchased, he had been trying experiments on this point, and he found that where he planted his land with 2 pecks to the acre the produce was 21 bushels, and where 2½ bushels had been sown there were 30 bushels of produce. With his own system of thick sowing and green crops he thought from 40 to 50 might be grown on the acre. Another subject which agitated the agricultural world at this time was that of green crops and bare fallows, and he thought it would be one of interest to that meeting. His own opinion was decidedly in favour of green crops. Some 15 years ago he planted the fourth of a field with Vetches, whilst the rest was suffered to remain a dead fallow. The Vetches were eaten off by sheep, and the following year the field was planted with Barley. Where the green crop had grown, the Barley yielded from 50 to 60 bushels to an acre, but on the remainder only 35. Green crops were, he believed, advantageous to all descriptions of soil. First, on light and sandy soils, they should plant Rye and Vetches or winter Oats. On the second description of mixed soils, Rye or Rye and Vetches; and on the third, or clay lands, only Vetches. The Rye should be planted early in March or April, and they would procure after it a much better crop of Swede Turnips than by allowing it to remain in fallow, and so, on the stiff lands, the green crop would ensure a much better crop of either Barley or Wheat in the following year. The land was much more easily cleaned, too, by planting green crops, and he thought it very injurious to allow the land to lie bare all the summer exposed to the rays of a burning sun.—Mr. HOLLAND observed, that he thought no general principle could be laid down with regard to thick and thin sowing. As the physician would inquire the habit and constitution of a patient before he prescribed for him, so the farmer must consider the state of his land, as to cultivation, whether it was in or out of condition, and the climate to which it was exposed. If it was 200 feet up the side of a hill that was equivalent to being 69 miles farther north.

EAST SUFFOLK: *Report of the Committee on Underdraining.*—In presenting their Second Annual Report, your Committee beg leave to submit for the consideration of the members of the Association the following particulars: First.—That in accordance with their instructions, they have taken a personal view and enquiry into several localities, as to the manner in which this very important operation has been performed, as also the cost per acre; and although the tile draining done under the immediate inspection of Mr Parkes, at Sibton, in the opinion of your Committee, cannot be surpassed, in point of execution, still, your Committee have pleasure in subjoining a statement of two instances which came under their notice, as well deserving especial attention, viz., upon the farms of Mr. Robert Crisp, at Leiston Abbey, and Mr. Robert Bond, at Sternfield.

Mr. Robert Crisp, Leiston Abbey.—Distance between the drains, 23 feet; depth of drains, 36 to 38 inches; number of rods to the acre, 115; number of pipes required for an acre, 1900; cost of pipes per 1000, 12*s.*, exclusive of cartage; cost of cutting drains per score rods, 4*s.* 6*d.*; cost of laying pipes and floor per score rods, 8*d.*; cost of filling per score rods, 4*d.*; cost per acre for pipes, 1*l.* 2*s.* 8½*d*; cost of tiles for main drains per 1000, 17*s.*; cost of digging drains per acre, 1*l.* 11*s.* 7*d.*; extra cost per score rods for digging main drains, 10*d.* Cost of draining an acre of land, with 1½ inch pipes, 12 inches long, the drains being 23 feet apart, and from 36 to 38 inches in depth:

Digging 20 rods	4*s.* 6*d.*		
Laying pipes and floor of drain	0 8		
Filling in	0 4—5*s.* 6*d.* per score rods.		
Average depth, 3 feet 2 inches.			
Digging 5 score and 15 rods, at 5*s.* 6*d.* per score ...	£1	11	7
1900 pipes, at 12*s.* per 1000 (1½-inch.)	1	2	8½
	2	14	3½
Extra for digging:—Rods main drains, at 10*d.* per score over and above the aforementioned cost of 4*s.* 6*d.* per score rods. Ditto, extra cost for larger pipes for main drains. Cartage of pipes	0	10	4
	£3	4	7½

One man and a boy (4*d.* per day) will lay tiles for 6 men, doing about 3 score rods per day.

Mr. Robert Bond, at Sternfield.

Drawing drains with plough and horses, per score of 20 rods	0	1	0
Manual labour, clearing out furrows ready for draining out the first spit, and laying pipes	0	1	6
Digging 2 broad and 1 narrow spit, of 12 inches each in depth, and filling in 2 spits	0	6	6
Plough and horses and manual labour to complete filling the drains	0	0	6
	£0	9	6

Cost per acre, average depth 3 feet 10 inches to 4 feet, intervals between the drains 28½ feet:

4 score 8 rods, at 9*s.* 6*d.* per score ...	£2	2	0
1500 horse-shoe pipes, at 17*s.* per 1000	1	5	6
Cartage of ditto, at 2*s.* per 1000	0	3	0
	£3	10	6

In conclusion, your Committee desire to express their decided conviction that there is no material for filling drains to be compared to well-made pipes, of not less than 1½ inch diameter; that to ensure safety, the roots of large trees must be avoided at least 30 feet; and that in no case should the pipes be laid nearer the surface than 36 inches. (Signed.) Corn. Welton, George Bond, Thomas Roberts, jun., and Thos. Elvin Capon.

Calendar of Operations.

OCTOBER.

BERWICKSHIRE MERSE FARM, *Oct.* 6.—Since last report, we have been employed ploughing stubble land for Turnips with three horses; the weather has been so wet that we could not carry any corn till this day; it was dry last night, and a strong wind all day, which made a great change in the corn; the workers have been employed in hoeing Turnips, threshing and cutting Beans this day; *J. B.*

EAST LOTHIAN FARM, *Oct.* 7.—We have been employed for most of the week in ploughing Oat stubble intended for Turnips and Beans, likewise in threshing Oats and carting coals for the family and for farm servants. Yesterday the weather cleared up and high wind soon dried the roads, and we have to-day carted the spring wheat to the farm-yard in a favourable condition, though a little discoloured from the previous drizzling rain we experienced for two or three days.

PEEBLESSHIRE FARM, *Oct.* 1.—Our crops have not all secured in the stark yard by the 29th ult., as you predict. We have got one field of Wheat sown (the seed), the produce 2 bushels per acre. The weather has been very unfavourable for harvest, which is very much against preparing land for Spring work. It is hard work for the later districts, where there is still a quantity of corn exposed to the weather, and part of it stood. Our labourers are employed in thrashing and carrying corn, like wise making ropes for the same. Our stacks are all put upon wooden frames 14 feet diameter, 10 pairs of which are 2 feet in height, with a cap to each pair of pillars to prevent vermin from getting access to the corn, and to allow of a free circulation of air upwards, there being an opening left for that purpose. Having thrashed a few quarters of Wheat to-day, I find the quality good, but the produce is less than we had seen it. Oats are likewise a good crop. Working horses are now on their usual allowance of Oats and hay. Young stock are continuing to thrive well, there having been a good supply of Grass all this season. Our fat cattle are now all disposed of, all were but middling, and of course, to meet with the neighbourhood prices, from 7*s.* to 8*l.* per st. *J. H.*

SOUTH WESTERN FARM, *Oct.* 7.—We have just now finished our grain harvest, and notwithstanding the unfavourable state of the weather during the greater part of our operations, we secured all in good condition at a cost of 4*l.* per Scotch acre. We found considerable advantage this season from the use of the Hainault reaper, the work being better executed, and at less expense than with the ordinary sickle used in the district. In three cases, however, in which the crop was lodged by excess of weight, &c., we were compelled to have recourse to the sickle, as we found it difficult to operate with the scythe satisfactorily. We are now anxiously waiting for a favourable opportunity to secure our Root crop, which has turned out much better than we at one time expected; should the weather continue dry for a few days we shall hope to accomplish our desire in good style. Having visited various parts of this county, we believe we are warranted in pronouncing the crops in general good, and rather beyond the average of former years. We are sorry we cannot record any improvement in the condition of the Potato crop: our worst fears regarding the ultimate character of this crop have been fully realised by the experience of the past fortnight, that 75 per cent. of the produce is evidently gone so far as to be thoroughly useless for the purposes of human food, is now distinctly established and acknowledged. In the district from which we write there happily exists such facilities for the consumption of the tainted portion of the crop as will, to a considerable extent, ameliorate the consequences attending the recurrence of the Potato malady: there, 3*s.* per ton is the current value of such description; and in those cases in which the seed was committed to the ground in proper time in the year it will appear evident, from the high price which can at present be obtained for sound tubers, and the remunerative terms upon which tainted ones can be disposed of to the farina mills, the crop in this district will be found to yield a greater amount of saleable value than can be expected in those portions of the country in which no such means do exist. From our own experience in the cultivation of the Potato, we would adduce two points which we reckon of the very greatest importance in approximating to success: 1st, the seed matured in the autumn, and 2d, planted as early as possible in the following spring, say as early in March as the circumstances of weather, &c. will permit. We have found that a portion of our own crop which was treated in this manner not to contain more than 10 or 15 per cent. of disease, whereas those planted in the usual manner, and in the month of April, contained by far the greater proportion perfectly gone. We did not find much advantage in removing the stems on the first appearance of blight: a gentleman who did so in July to a very considerable extent, informs us that it did arrest the progress of disease. Our occupations on the farm have been preparing for Wheat sowing after Potatoes, but in consequence of the heavy rains since the beginning of this month, our work has been considerably retarded. Our sound Potatoes have been all stored up in small pits covered with straw, a little soil, and then thatch. We are now preparing our pigs for market, giving them abundance of steamed food of all sorts, with crushed Oats, &c. Our green crops have much improved of late, though inferior in appearance to those of 1847. Our stock are in excellent health, and the horses are now receiving their allowance of Oats and straw in the stalls: *P. M.*

STIRLINGSHIRE CARSE FARM, *Oct.* 7.—The weather this week for the most part has been wet, and we have been engaged in threshing Wheat and Barley, in driving manure from Straning, and dressing Wheat for seed, &c.: *J. A.*

Notices to Correspondents.

AUTUMN WHEAT: *A Subscriber.* We would recommend you to defer the dressing of guano till the first wet weather in April next.

AYRSHIRE COW: *A Constant Reader* may apply to Mr. Whittaker, Beckington, Somerset, or to Mr. Swinburne, Red Bull Wharf, Upper Thames-street, London. We cannot assist any such inquiries as this again. The subject is proper for the advertising columns, not for these.

BARLEY OR RICE: *T. W. L.* We prefer Barley, even at the prices you name.

COCHIN CHINA BREED: *C. K.* says: I was induced by the article from your correspondent, "S. F.," in a late Paper, to send a competent person to Dublin, for the purpose of procuring a pair of fowls of this breed, and to my chagrin I find they are not near so good as those I already possess, and which I procured last year from Messrs. Baker, Beaufort-row, Chelsea. Had the information appeared as a paid advertisement I should not complain. [We publish this just to remind correspondents of their responsibility when undertaking the work of advice.]

DIBBLING MACHINE, &c.: *M. R.* Will any of our correspondents give information respecting the success of the dibbling machine refered to in our leading article of the 18th March. Will some of our correspondents inform us of their experience in the use of the different steaming apparatuses which are now made.

FLOORING: *Mr. Farmer* copied, about two years ago, a receipt for making a flooring: 21 gallons of gas tar, 3 bags of sand, 1 bushel of lime, and upon trying this about a year afterwards, found it would not answer, but one of the workmen, by accident, mixing a much larger quantity of lime, it formed a most excellent cement. The exact quantity of lime is not known. Can any one furnish us with an experience on this subject?

GRASS: *Subscriber, Ilminster.*—Donaldson's work on Manures, Farming, and Grasses is a very good one. The mere sowing the finer Grasses amongst the coarser description which now obtain would not have any effect. The best plan would be, after drainage and manuring with salt, alkaline manures, lime, ashes, &c., to feed it down close: cattle and sheep would relish it after such treatment. Then in spring time put a grubber through the land, with pointed teeth, or Smacey's subsurf plough, to be followed by the harrow, after which the following seeds may be sown and rolled in:—Alopecurus pratensis, 5 lbs.: Dactylis glomerata, 6 lbs.: Festuca duriuscula, 2 lbs.: F. heterophylla, 2 lbs.: F. elatior, 2 lbs.: F. tobacea, 2 lbs.: F. pratense, 2 lbs.: Lolium medium, 3 lbs.: L. perenne, 5 lbs.: Poa memoralis, 2 lbs.: P. trivialis, 2 lbs.: Trifolium pratense, 3 lbs.; T. repens, 4 lbs.

HARES: *Subscriber*. The bill enables any having liberty to kill hares to do so without taking out a license provided they register themselves with the clerk of the sessions in their respective districts. If you give your tenants liberty to kill hares, then they do not need any other license.

IMPROVED ESSEX BREED: *A M*. They are a small breed of black colour, distinguished for tendency to fat and early maturity. We answered you last week. Thanks for your offer about the Potato return, but you have omitted your address.

INDIAN CORN: *A B*. We have no experience, but from analogy should recommend seed of the earliest variety from an early district, and therefore we would prefer imported seed to that which had been grown in England.

INSECTS ABOUT ROOTS: *R Tongue*. Expose the earth containing them to the frost during winter; that would probably be more serviceable than a *summer's* fallow.

KOHL RABI: *Z B*. The bulbs may be stored just as Swedes are, by filling the interval between two rows of hurdles from 2 to 3 yards apart, piling up and thatching over.

LINSEED: *Idler*. Your informant is mistaken. Boil the Linseed meal in water enough to make a thin mucilage; throw it over straw and hay chaff; add twice the weight of Bean-meal that you used of Linseed, and serve it up to your beasts at the rate of 3 or 4 lbs. apiece of the mixed meals daily. They will soon tell you that it is nourishing food.

MEASURES: *Cornwall*. 1 peck is always 2 gallons in our columns.

NEW WORK ON FARMING: *F B H*. The new edition of Stephens' work is not the one we referred to. You had better wait. The one we named is in progress. The per centage on profits proper for a working bailiff, besides his regular wages, depends, of course, on the amount of profit expected. You would probably benefit by making one-fourth of a liberal wage depend in this way upon his success.

PEG DRUM THRESHING MACHINE: *T C W*. We are assured that it is very efficient: and we know that it is very generally adopted in many districts; as in Yorkshire, for instance. You had better apply to Mr. Crosskill, of Beverley.

POTATOES: *J L*. Probably as good a plan as any to preserve them (if they are rotting) as food for cattle, is to boil or steam them, and mash them up and tread them well down into a heap in some dry corner, salting them well at the same time. If they are dry, and at present sound, store them away in a dry place, taking care to keep them dry.

POTATO STARCH: *L, Valley Rock*. Would Mr. Lloyd, or any other correspondent of experience in the making of starch from diseased Potatoes, describe the best kind of grater for breaking down the Potatoes, both on a large and small scale, and say how it can be most easily procured? Where there is water power to reduce the Potatoes to a pulp, by means of stones or other machinery, and running water to facilitate the other processes, it seems to me that a large quantity of Potatoes (now allowed to go to decay) might be profitably, and without difficulty, converted into starch. But it is found that the peasants and farmers will not or cannot put into operation the very simple plans necessary—on a small scale. On a large scale, however, it might be worth while to purchase and convert considerable quantities; and if the processes were made clear, it would probably be done. Unfortunately, there seems every probability that opportunities will be afforded for practising this new branch of rural economy; perhaps, for years to come. Can any one give a good description of the methods which the large starch manufacturers employ in converting the diseased Potatoes? While the Potatoes are "going," they may be bought in large quantities from the farmers for from 1*d*. to 1½*d*. per stone, or from 13*s* to a guinea per ton; there can be little doubt that (especially where water power, and running water to wash the pulp, &c., are accessible) it would pay, besides saving the food, to convert Potatoes at that price into starch, and that people would be found to do it.

SEEDS: *Will E X, Braintree*, be good enough to say what amount of Turnip, Parsnip, and Carrot-seed he raises, on an average, from, say a rod of 5½ yards square, at "24 inches apart in the rows, and the rows 36 inches from each other," which will give about 40 plants. How, by means of nets or otherwise, to save the seed, what the difficulties are, and how best to obviate them, would be useful information.

SMALL FARM NEAR A TOWN: *A P*. Our opinion is that your anticipations would not be realised. We believe that a person just commencing such a scheme would do better than attending to so many little concerns as you suggest, by simply growing Mangold Wurzel and selling it to cow feeders; or Tares, and then transplanting Mangold Wurzel, &c. Eight acres at 30 tons per acre, sold at 25*s*. to 30*s*. per ton, would be more productive thus than in any other way. This supposes that you look for profit, and that only.

ST. JOHN'S DAY RYE: *Inquirer* may reasonably believe that the St. John's Day Rye which spindled before winter was mixed seed. In very many years that I have cultivated that variety, I never had a plant run up to ear before winter. *Hantoniensis*.

SWEDISH TURNIPS: *G F H F*. Transplant as soon as they have done growing. Cut off their half-withered leaves, and plant them a yard apart every way on some dry light soil, in ordinarily good condition. Mangold Wurzel, as well.

THE SUNFLOWER: *R E*. Some years ago a prospectus was issued for forming a company for the cultivation of the Sunflower. Can any one inform us whether such company was ever formed, and what was the result? Can any one give us information on the cultivation of the Sunflower; its value for feeding poultry, and other uses? The Haricot Beans, bruised and given with Linseed jelly and chaff, will no doubt be eaten by cattle and sheep.

THE GAPES: *A Farmer's Wife* must take the bird on its back in her left hand, holding its beak open with the fingers of that hand, and with the right holding the end of a small quill feather, properly trimmed and dipped in sweet oil, she must, watching her opportunity, slowly insert the feather end 2 inches into the windpipe of the unfortunate bird, and turn it once round and withdraw it. The bird will cough up the worms which occasion the disease.

WHEAT SEED: *Cornwall*. 12 gallons if drilled, and 16 sown broadcast, per acre, are sufficient on land of ordinary cleanness and and free from game.

*** Communications reaching town after Wednesday cannot be answered the same week.

Markets.

SMITHFIELD, MONDAY, Oct. 9.

The supply of Beasts is shorter to-day, but the weather is unfavourable for slaughtering. Trade is slow, although a few choice qualities make 4*s*. 2*d*. There are a few more sheep, and the demand very small; we have consequently a heavy trade at rather lower prices. Calves meet with a dull sale at rather less money. From Holland and Germany we have nearly 600 Beasts, 2100 Sheep, and 42 Calves.

Per stone of 8 lbs.—s	d	s	d	Per stone of 8 lbs.—s	d	s	d
Best Scots, Herefords, &c. 3	10	to 4	0	Best Long Wools	4	2	—4 6
Best Short Horns	3	8	—3 10	Ditto Shorn		....	
Second quality Beasts	2	10	—3 6	Ewes and second quality	3	6	—4 0
Calves	3	4	—4 6	Ditto Shorn		....	
Best Downs & Half-breds	4	2	—5 0	Lambs		....	
Ditto Shorn		....		Pigs	4	6	—5 4

Beasts—3635. Sheep and Lambs—22,670. Calves—184. Pigs—390.

FRIDAY, Oct. 13.

We have to-day a shorter supply of Beasts, and the dead trade being better, the demand here is considerably larger. An advance of 2*d*. per 8 lbs. is cheerfully given. The number of Sheep is about an average for the time of year; trade is much more active, at an advance of about 2*d*. per 8 lbs. on all descriptions. Calves are not so plentiful as of late. Trade is brisk, but it is difficult to obtain any more money. From Holland and Germany there are 160 Beasts, 320 Sheep, and 81 Calves; from France, 10 Beasts; and 116 Milch Cows from the home counties.

Best Scots, Herefords, &c. 4	0	to 4	2	Best Long Wools	4	4	—4 8
Best Short Horns	3	8	—4 0	Ditto Shorn		....	
Second quality Beasts	3	0	—3 6	Ewes and second quality	3	8	—4 4
Calves	3	8	—4 6	Ditto Shorn		....	
Best Downs & Half-breds	4	8	—5 2	Lambs		....	
Ditto Shorn		....		Pigs	4	6	—5 4

Beasts—836. Sheep and Lambs—5490. Calves—329. Pigs—395.

COVENT GARDEN, Oct. 14.

The market is well supplied with Vegetables and most kinds of Fruit; but trade continues dull. Pine-apples are plentiful. Hothouse Grapes are abundant; they are ticketed at 2*s*. 6*d*. per pound. Peaches are scarce, and those offered are of inferior quality. Melons are sufficient for the demand. Ribstone Pippins and other dessert Apples are ticketed six and eight for 1*d*. Pears are supplied in considerable quantity: among them we remarked good specimens of Brown Beurré, Williams' Bon Chrétien, Marie Louise, &c. Nuts in general are sufficient for the demand; but Filberts and Cobs are very scarce, and fetch high prices. Oranges are scarce, and Lemons moderately plentiful. Amongst Vegetables, Carrots and Turnips are abundant and good; Cauliflowers, Broccoli, &c., sufficient for the demand. French Beans plentiful. Potatoes the same, and so are Tomatoes. Peas are scarce. Lettuces and other salading are sufficient for the demand. Mushrooms are plentiful. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Fuchsias, Carnations, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 3*s* to 5*s*
Grapes, hothouse, per lb. 1*s* 6*d* to 4*s*
— foreign, per lb., 9*d* to 1*s* 6*d*
Peaches, per doz., 3*s* to 8*s*
Melons, each, 2*s* to 5*s*
Plums, per punnet, 3*d* to 2*s* 6*d*
Apples, dessert, per bush., 4*s* to 7*s*
— kitchen, p. bush., 3*s* to 5*s*
Pears, per doz, 2*s* to 6*s*
— per half sieve, 6*s* to 10*s*
Figs, per doz, 2*s* to 3*s*
Oranges, per doz., 1*s* to 2*s*
Oranges, per 100, 10*s* to 16*s*
— bitter, per 100, 8*s* to 15*s*
Lemons, per doz., 1*s* to 2*s*
— per 100, 7*s* to 14*s*
Almonds, per peck, 6*s*
— sweet, per lb., 2*s* to 3*s*
Walnuts, per 100, 1*s* 6*d* to 2*s*
— per bush., 16*s* to 24*s*
Nuts, Barcelona, per bush., 20*s* to 22*s*
— Filberts, per 100 lbs., 60*s* to 100*s*
— Cob, per 100 lbs., 60*s* to 120*s*
— Brazil, per bush., 12*s* to 16*s*

VEGETABLES.

Cabbages, per doz., 3*d* to 1*s*
Cauliflowers, per doz., 6*d* to 2*s*
Broccoli, per doz., 4*s* to 9*s*
Sorrel, per half sieve, 6*d* to 9*d*
Potatoes, per ton, 60*s* to 160*s*
— per cwt., 5*s* to 8*s*
— per bush., 2*s* 6*d* to 4*s*
Turnips, per doz. bunches, 9*d* to 2*s*
Red Beet, per doz., 6*d* to 1*s*
Horse Radish, per bundle, 1*s* to 6*s*
French Beans, per h*f* sieve, 1*s* to 1*s* 6*d*
Cucumbers, each, 2*d* to 8*d*
Leeks, per bunch, 1*d*
Celery, per bundle, 6*d* to 1*s* 3*d*
Carrots, per doz. bunches, 2*s* to 4*s*
Spinach, per sieve, 1*s* to 1*s* 6*d*
Peas, per sieve, 3*s* to 5*s*
Marjoram, per bunch, 2*d*
Mint, green, per bunch, 2*d*
Onions, per bunch, 3*d* to 4*d*
— per bushel, 2*s* to 3*s* 6*d*
— Spanish, per doz., 1*s* to 4*s*
Onions, pickling, p h*f* sieve, 1*s* 6*d* to 3*s*
Tomatoes, per punnet, 6*d* to 1*s* 3*d*
— per half sieve, 3*s* to 5*s*
Shallots, per lb., 4*d* to 8*d*
Garlic, per lb., 8*d* to 1*s*
Radishes, per doz. bands, 6*d* to 1*s*
— Turnip, do., 9*d* to 1*s*
Artichokes, per doz., 1*s* 6*d* to 3*s*
— Jerusalem, p. h*f* sieve, 1*s* to 1*s* 6*d*
Vegetable Marrow, per doz, 6*d* to 1*s*
Lettuce, Cab., per score, 4*d* to 1*s*
— Cos, do., 9*d* to 1*s* 3*d*
Endive, per score, 9*d* to 1*s*
Mushrooms, per pottle, 1*s* to 1*s* 9*d*
— per bushel, 1*s* to 6*s*
Small Salads per punnet, 2*d* to 3*d*
Fennel, per bunch, 2*d* to 3*d*
Savory, per bunch, 2*d* to 3*d*
Thyme, per bunch, 3*d* to 4*d*
Watercress, p. 12 small bun., 6*d* to 9*d*
Parsley, per doz. bunches, 1*s* 6*d* to 2*s*
— Roots, per bundle, 1*s* to 1*s* 6*d*

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Oct. 12.

Prime Mead. Hay	66*s* to 72*s*	New Hay	—*s* to —*s*	Straw	24*s* to 30*s*
Inferior ditto	50	63	Clover	60	95		
Rowen	40	50	New Clover	—	—		

Trade very heavy. J. COOPER.

CUMBERLAND MARKET, Oct. 12.

Prime Mead. Hay	70*s* to 75*s*	Old Clover	93*s* to 100*s*	Straw	28*s* to 33*s*
Inferior	50	70	Inferior	50	95		
New Hay	50	70	New Clover	50	95		

JOSHUA BAKER.

WHITECHAPEL, Oct. 12.

Fine Old Hay	68*s* to 72*s*	Old Clover	98*s* to 105*s*	Straw	26*s* to 30*s*
Inferior Hay	45	50	Inferior	50	60		
New Hay	55	65	New Clover	84	95		

HOPS, Friday, Oct. 13.

Messrs. PATTENDEN and SMITH report that the latter pickings have come much browner than was expected, and consequently all Hops possessing a fair share of colour are in demand at rather higher prices. Duty, 205,000*l*.

Mid. & East Kents, p. cwt.	50*s* to 110*s*	Yearling Kents, p. cwt.	42*s* to 52*s*
Weald of Kents	45 — 70	Yearling Sussex	40 — 50
Sussex	40 — 63	Old Hops	20 — 35
Farnhams	80 — 120		

MARK LANE, Monday, Oct. 9.

Messrs. KINGSFORD and LAY report that the supply of Essex Wheat by land carriage samples this morning was moderate, that from Kent good, but the general quality of both very inferior; the former was disposed of on about the same terms as last week, but much of the latter remained unsold, although offered at a decline of 1*s*. to 2*s*. per qr. The demand for foreign was limited; picked parcels commanded late rates, but no progress could be made with the sale of general qualities without submitting to a reduction of 1*s*. per qr.—Fine malting Barley is fully as dear; other qualities the turn cheaper, as are also Beans; White Peas 1*s*. per qr lower.—Best Oats are rather dearer, but ordinary descriptions unaltered in value.—In Flour no change.

BRITISH PER IMPERIAL QUARTER.	*s*	*s*		*s*	*s*
Wheat, Essex, Kent, and Suffolk	46	60	Red	42	55
Norfolk, Lincolnshire, and Yorkshire	40	58	White	50	60
Barley, Malting, distilling, 29*s* to 31*s*	30	34	Grinding	26	30
Oats, Lincolnshire and Yorkshire	Polands	23	26	Feed	21	24
Northumberland and Scotch	Feed	—	—	Potato	—	—
Irish	Feed	19	23	Potato	22	25
Malt, pale, ship		—	—			
Hertford and Essex		—	—			
Rye		30	32			
Beans, Mazagan, old and new	25*s* to 34*s*	Tick	36	Harrow	28	40
Pigeon, Heligoland	30	44	Wrinkled	36	40	Longpod	26	32
Peas, White	34	41	Maple	38	40	Grey	34	36

FRIDAY, Oct. 13.

We have again to report an arrival of 20,990 qrs. of foreign Wheat during the week; with this exception, supplies of all grain are moderate. The market this morning was thinly attended, and the few sales effected were chiefly confined to an occasional forced sale ex ship at some reduction upon the rates of Monday last, which were generally insisted upon—Barley is a heavy sale, and barely supports our quotations.—Beans are unaltered in value.—Peas must be noted 1*s*. to 2*s*. per qr. cheaper.—Fine Oats are fully as dear, but ordinary qualities difficult of disposal.

(The country markets remained firm at the close of last week for Wheat, but during the present they have more or less sympathised with the dulness here, and a decline of 1*s*. to 2*s*. per qr. has been pretty general. Fine malting Barley has maintained its former value, but ordinary qualities have declined fully 1*s*. per qr. Beans, Peas, and Oats have shown a downward tendency, and business has been for the most part of a limited character. In Dantzic, by the last accounts, a few purchases of new Wheat had been made, at an advance of 1*s*. per qr., and quotations were fixed as high as 55*s*. f. o. b. for fine Wheat. In Stettin Wheat was obtainable on rather easier terms, but the scarcity of vessels and advance of freights prevented any diminution in the cost, including freight, which was still 47*s*. to 48*s*. for good new. Oderbruck Barley was purchaseable at 21*s*. f. o. b. In Holland and Belgium Wheat has declined 1*s*. to 2*s*. per qr., but some of the late arrivals of new Wheat want condition. In Leghorn there has been a good demand, both for consumption and export; the sales of Wheat between the 20th and 30th of September amounted to about 20,000 qrs., Marianopole and Odessa qualities being quoted from 39*s*. 6*d*. to 43*s*. 2*d*.; freights, 8*s*. to 8*s*. 6*d*. Indian Corn, 54 lbs. to 56½ lbs., 28*s*. to 30*s*. Odessa letters of the 29th ult. inform us, that there continued a lively demand for Wheat for the Italian ports, particularly of low qualities, which were quoted 3*s*. to 3*s*. f. o. b., and good Polish 3*s*.; freights 11*s*. to 12*s*. per qr.; supplies were light and falling off; the stocks amounted to about 504,000 qrs. In New York, on the 24th ult., the receipts of Flour and Wheat were increasing and prices declining. Good white Genesee Wheat 128 cents, equal to 5*s*. 2*d*. cost and freight. Western Canal Flour 5½ to 5¾ dollars, and Indian Corn 65 to 75 cents per 56 lbs.; freights to London 2*s*. 6*d*. per barrel of Flour.)

IMPERIAL AVERAGES.	Wheat.	Barley.	Oats.	Rye	Beans.	Peas.
Sept. 2	55*s* 5*d*	32*s* 1*d*	22*s* 6*d*	32*s* 2*d*	38*s* 8*d*	38*s* 11*d*
— 9	56 10	33 4	22 0	33 8	39 1	41 6
— 16	53 8	33 3	22 12	33 5	38 10	40 2
— 23	52 4	33 7	21 11	32 0	37 11	37 11
— 30	52 9	33 3	21 1	31 9	36 1	39 8
Oct. 7	52 5	32 6	20 8	32 1	35 3	38 0
Aggregate Average	53 11	33 0	21 10	32 6	37 8	39 4
Duties on Foreign Grain	4 0	2 0	2 0	2 0	2 0	2 0

ARRIVALS IN THE PORT OF LONDON THIS WEEK.

	Wheat. Qrs.	Barley. Qrs.	Oats. Qrs.	Flour.
English	4090	2380	990	3320 sacks.
Irish	—	—	100	
Foreign	20990	5910	13920	— barrels.

Fluctuations in the last six weeks' Corn Averages.

PRICE.	Sept. 2.	Sept. 9.	Sept. 16.	Sept. 23.	Sept. 30.	Oct. 7.
56*s* 10*d*	...	...	...	...	...	...
55 5	...	...	...	...	...	...
53 8	...	...	...	...	...	...
52 9	...	...	...	...	...	...
52 5	...	...	...	...	...	...
52 4	...	...	...	...	...	...

SEEDS, Oct. 9.

Canary	per qr.	84*s* to 94*s*	Linseed cakes, Foreign, p. ton	7*l* to 9*l*
Caraway	per cwt.	27 29	Mustard, White, p. bush.	6*s* to 9*s*
Clover, Red, English		35 44	Superfine, p. bush.	9 10
— Foreign		35 40	Brown, per bush.	6 12
White, English		38 44	Rapeseed, Eng., per last	28*l* 30*l*
— Foreign		38 42	Rape-cakes	per ton 4*l* 15*s*
Coriander		19 20	Sainfoin	—
Hempseed	per qr.	38 40	Tares, Eng., winter, p. bush.	10*s* 0 12*s* 0
Linseed		36 40	Foreign, per bush.	3*s* 0 4*s* 0
— Baltic		34 38	Trefoil	17*s* 0 20*s*
— Cakes, Eng. p. 1000		11*l* 10*s* to 13*l*	Turnip—too variable for quotation.	

SEEDS.—CORNER OF HALF MOON-STREET.

THOMAS GIBBS AND CO.,

(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND," Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

Priced Lists of Agricultural Seeds are always ready, and may be had on application.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

BAKER'S PHEASANTRY, Beaufort-street, King's-road, Chelsea, by special appointment to her Majesty and H.R.H. Prince Albert.—ORNAMENTAL WATER FOWL, consisting of black and white swans, Egyptian, Canada, China, bernacle, brent, and laughing geese, sheildrakes, pintail, widgeon, summer and winter teal, gadwall, Labrador, shovellers, gold-eyed and dun divers, Carolina ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking fowls; white Japan, pied, and common pea-fowl, and pure China pigs; and at 3, Half-moon-passage, Gracechurch-street.

SASH LINE FOR HOTHOUSES AND GREENHOUSES.

R. S. NEWALL AND CO.'S PATENT IMPROVED COPPER-WIRE CORD is now extensively used for Window Sash Line, Hothouses, Lightning Conductors, Picture Cord, Clock Cord, &c., &c., and is found to be cheaper, much more durable, quite as flexible, and one-sixth part the bulk of common Hempen Lines. The Wire Cord may be had wholesale, and specimens seen, at the Office of the Patentees, 163, Fenchurch-street, W. T. ALLEN, Agent; or retail, of G. and J. DEANE, 46, King William-street; E. PARKS, 140, Fleet-street; J. JONES, 62, Charing-cross; and GIBBONS and Co., 345, Oxford-street.

BRITISH MANUFACTURED SHEET GLASS FOR CONSERVATORIES.

E. AND W. H. JACKSON beg to recommend the above as superior to all other articles manufactured for that purpose. BRITISH, PATENT AND ROUGH PLATE, CROWN, COLOURED, AND ORNAMENTAL GLASS supplied at the lowest terms.

Lists of prices and every information can be had on application at their Warehouse, 315, Oxford-street, London.

GLASS FOR CONSERVATORIES, &c.

HETLEY AND CO. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2*d*. to 3*d*. per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices, and estimates forwarded, on application for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY and Co., 35, Soho-square, London.

See the *Gardeners' Chronicle*, first Saturday in each month.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND Co., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS FOR CONSERVATORIES.

CUT TO SIZE UP TO 40 INCHES LONG.				SMALL SQUARES of SHEET.			
16 oz. from 3*d*. to 3½*d*. per foot.				4 by 3 and 4½ by 3½..1½*d*. per ft.			
21	,,	3½	5 ,,	5 ,, 3 ,, 5½ ,, 3½..2 ,,			
26	,,	3¾	7½ ,,	6 ,, 4 ,, 6½ ,, 4½..2½ ,,			
32	,,	4	9½ ,,	7 ,, 5 ,, 7½ ,, 5½..2½ ,,			
				8 ,, 6 ,, 8½ ,, 6½..2½ ,,			
				Not above 10 ,, 8 ..3 ,,			

GLASS MILK PANS, PROPAGATING GLASSES, AND BEE GLASSES. GLASS TILES AND SLATES.

CREAM POTS, from 3 to 24 quarts, at 6*d*. per quart.

CUCUMBER GLASSES, from 12 to 26 inches long, 1*d*. p. inch.

LACTOMETERS for trying the quality of Milk, 4 tubes 7*s*.6*d*., 6 tubes, 10*s*.; Peach Glasses 10*d*. each; Fish Globes from 1*s*. 6*d*. each; Wasp and Fly Traps 3*s*. 6*d*. per dozen; Plate and Window Glass; Lamp Shades and Chimneys.

METAL STAND-FRAMES.

HARTLEY'S PATENT ROUGH PLATE, AND PATENT DOUBLE CROWN GLASS.

PERUVIAN AND BOLIVIAN GUANO ON SALE,

BY THE ONLY IMPORTERS,

ANTONY GIBBS AND SONS, LONDON;

WM. JOSEPH MYERS AND Co., LIVERPOOL;

And by their Agents,

GIBBS, BRIGHT, AND Co., LIVERPOOL and BRISTOL; COTESWORTH, POWELL, AND FRYOR, LONDON.

To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

WHEAT SOWING.

THE LONDON MANURE COMPANY beg to offer as under:—

LONDON MANURE COMPANY'S CORN MANURE.

" " " URATE. {LIME,

" " " SUPER-PHOSPHATE OF

Peruvian Guano, direct from Importers' stores—Fishery and Agricultural Salt—Gypsum for Clover—Soda Ash for destroying wireworm, and every other Artificial Manure.

The London Manure Company would call particular attention to their Corn Manure and Urate, the former containing a large amount of Ammonia, Phosphates, and Silicates, all so essential for corn crops, while the Urate is richer in Phosphates and other mineral substances required for roots.

Full particulars and prices forwarded on application.

EDWARD PURSER, Sec., 40, Bridge-street, Blackfriars.

WHEAT SOWING.

MARK FOTHERGILL, 201a, Upper Thames-street, London, offers the following MANURES for the Wheat crop, and warrants the quality to be genuine, viz.:

SUPERPHOSPHATE OF LIME (prepared from Bone only).

WHEAT MANURE (containing a large amount of Silicates, with rich Phosphates).

DRIED NIGHT-SOIL (obtained from a large public institution).

PERUVIAN GUANO (direct from import warehouse).

BRITISH GUANO (rich in all the Salts of Ammonia, Phosphates of Soda and Potash, &c., contained in the foreign, at a considerably lower price).

Also, Soda Ash (Wireworm destroyer), Gypsum, Urate, Nitrates Soda and Potash, Salt, Bone-dust, and all other manures of known value.—Apply for prices current as above.

Sales by Auction.

ORCHIDS.

MR. J. C. STEVENS is instructed to sell by Auction, at his Great Room, 38, King-street, Covent-garden, on FRIDAY, October 20, at 12 o'clock, a collection of ORCHIDS; established Plants, in fine health, and many of the favourite East Indian, Mexican, and South American varieties. May be viewed the Morning of Sale, and Catalogues had of Mr. J. C. STEVENS, 38, King-street, Covent-garden.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, BUILDERS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to submit to Public Competition by Auction on the Premises, Gully's Nursery, Tranquil Vale, Blackheath, on THURSDAY, October 19th 1848, and following day, at 11 o'clock precisely, THE VALUABLE NURSERY STOCK on the remaining portion of the Land required by the South-Eastern Railway Company, consisting of fine Evergreens and Shrubs in great variety, Fruit and Forest Trees, Deciduous and Ornamental Trees, fine fan Yews, Pinus, American Plants, Standard and Dwarf Roses, Herbaceous Plants, three fine specimens of Pinus Deodara and Douglasii, 12 feet high. Also a collection of Greenhouse Plants, comprising choice Camellias, Azalea indica, Trium lanceifolium, &c., and a considerable quantity of Box-edging.—May be viewed prior to the Sale. Catalogues, 6d. each (returnable to purchasers), may be had on the Premises, of the principal Seedsmen, and of the Auctioneers, American Nursery, Leytonstone.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, & Others.

MESSRS. PROTHEROE AND MORRIS will sell by Auction, on the premises, Fitzroy-park Nursery (near the Gate House) by order of the proprietor, on WEDNESDAY, October 25, at 11, o'clock, the thriving NURSERY STOCK, comprising about 6000 Aucuba, from 1 to 4 feet; 1000 Laurels, 6 to 8 feet; Green Hollies, Arbutus, Cedar of Lebanon, Sweet Bays, Red Cedars, Laurestinus, Limes, Evergreen Oak, Rhododendron, Azalea, &c.—May be viewed prior to the sale. Catalogues may be had on the premises of the principal Seedsmen, and of the Auctioneers, American Nursery, Leytonstone.

WOKING, SURREY.

TO NURSERYMEN, GENTLEMEN, AND OTHERS.

35,000 FOREST and FRUIT TREES of sorts, 800,000 Transplanted and Seedling QUICK, ROSES, and other valuable NURSERY STOCK.

MR. WATERER will sell by Auction, on TUESDAY, October 24th, and two following days, at 10 o'clock, at the Royal Oak Nursery, near the Woking Station, all the valuable NURSERY STOCK of the late Mr. John Chapman, comprising 9000 Striped and Green Hollies, from 1 to 5 feet; 1000 Box, from 2 to 4 feet; 3000 Aucuba japonicas, from 1 to 3 feet; 5000 Privets of sorts, from 2 to 4 feet; 12,000 common and Portugal Laurels, and Laurestinus, from 1 to 5 feet; 6000 Spruce, Silver, and Larch Firs, from 4 to 12 feet; 500 Yews, from 4 to 6 feet; 6000 Oak, from 4 to 6 feet; 5000 Dwarf Roses and Honeysuckles of sorts; 2000 Copper Birch and Lime, 5 to 12 feet; 9000 Dwarf Maiden and Standard Nectaries, Peaches, Apricots, Plums, Pears, and Cherries; 300 000 transplanted and Seedling Quick, and other valuable Nursery Stock, the whole of which is in a safe moving condition, and well worth the attention of persons about planting.—May be viewed three days previous to the sale, and Catalogues had on the premises, and of Mr. Charlwood, Seedsman, Tavistock-row, Covent-garden, London, and will be forwarded by post, upon application by letter, inclosing four postage stamps, to Mr. WATERER, Auctioneer and Estate Agent, Chertsey, Surrey.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, & Others.

MR. B. ANDREWS will sell by Auction, on the premises, near the Duchess of York, Lower-road, Battersea fields, on MONDAY, October 16, and following day, at 12 o'clock each day, by order of Mr. Fisher, in consequence of the ground being required for other purposes, the whole of the NURSERY STOCK, consisting of Ornamental, Fruit, and Forest Trees, Deciduous and Evergreen Shrubs, comprising very fine Chinese Arbor-vitæ, Laurestinus, Hollies, Alaternus, Aucubas, Euonymus, Yew Trees, Laurels, &c.; also some very fine Vines in pots, and a quantity of Seakale.—May be viewed prior to the sale. Catalogues had on the premises, of Messrs. Clarke and Co., Seedsmen, Borough; of Mr. W. Clark, Seedsman, Bishopsgate-street; and of the Auctioneer, South-grove, Peckham, Surrey.

VALUABLE FARM AND LANDS, BARTON GRANGE, LANCASHIRE.

MESSRS. THOMAS WINSTANLEY AND SONS, of Liverpool, will offer for Sale by Public Auction, in the month of November next, in the City of Manchester, by order of the Devisees-in-Trust of the late Edward Baines, Esq., of Leeds, a valuable FARM and PARCELS OF LAND; also a Villa Residence, and a Bailiff's House and Farm Buildings, and thriving Plantations of Larch, Scotch Fir, and Mixed Timber, in Barton-upon-Irwell, near Manchester. The whole contains about 180 Statute Acres. The Property is situated in an increasingly populous district, is in a high and improving state of cultivation, and presents an eligible opportunity for investment. The Estate lies distant less than a Mile from the Barton Station of the Liverpool and Manchester Railway, with which it is connected by a Private Tram-road. It is only a Quarter of a Mile from the Turnpike Road leading from Manchester to Liverpool, and a Quarter of a Mile from the Navigable River Irwell; and there is a privilege of carrying Manure on that River free of Toll. The Private Tram-road also extends the whole distance between the Railway Station, the Turnpike Road, and the River Irwell, and passes through the centre of the Estate. The estate is Tithe-free, and is held under Lease from Sir Thomas Joseph de Trafford, for a term, of which 49 years are still unexpired.

At the same time will be offered for Sale certain RESERVED RENTS of other Lands, comprising about 700 acres, adjoining the above Estate, held under the same Lease and subleased to four parties. These total Rents amount to 235*l.* 11*s.* The whole Estate, including the above subleased portions, is subject to a Reserved Rent of 116*l.* 1*s.* Printed particulars, with Lithographed Plans, will be ready for distribution two or three weeks before the Sale.

Applications may be made to Mr. THOMAS BAINES, at Barton Grange Farm, or the Resident Bailiff; to Mr. EDWARD BAINES, Leeds; to Mr. HENRY WHITE, Land Agent, Warrington; and to Messrs. HARVEY and FALCON, Solicitors, 12, Castle-street, Liverpool.

TO MARKET GARDENERS, GENTLEMEN'S GARDENERS, AND OTHERS.

TO BE DISPOSED OF, with immediate possession, a seven years' LEASE of an old-established FRUIT GARDEN, situated within five miles of the bridges, containing Three Acres of Ground, planted with Strawberries, Standard Fruit Trees, 6 Vineries, 150 feet in length, planted with choice Vines in healthy bearing condition; a brick Pit, 54 Lights, various Frames, &c.; the whole heated with hot water. A fine wall of Peach and Nectarine trees, a substantial brick-built Dwelling-house, packing and other Sheds, Stabling, &c. This eligible property would be found admirably adapted for any one about to commence business. A standing in the best part of Covent Garden Market to be had with it. Coming-in moderate; Rent 55*l.* per annum.—For full particulars apply to J. G. WAITE, Seed-merchant, 181, High Holborn, London.

FARMS TO BE LET, in the parish of HOLBEACH, LINCOLNSHIRE, to be entered upon at Lady day next.

1. LEADENHALL FARM is to consist of about 751 acres, of which 83 acres are in outmarsh, 211 acres in pasture, and 430 acres are arable; this Farm is in the occupation of Mr. William Thomas.

2. LOFWATER FARM is to consist of about 660 acres, 242 acres of which are in pasture and 382 acres are arable, part of this is in the occupation of Mr. William Thomas, and the remainder in possession of Mr. John Pearson Savage.

3. FORTHERINGHAM FARM is to consist of about 540 acres, of which 77 acres are in outmarsh, 115 acres in pasture, and 357 acres arable; part of this Farm is in the occupation of Mr. Thomas Edward Savage, and the remainder in the possession of Mr. John Pearson Savage.

The soil of these Farms consists of alluvial deposit of very rich quality, producing large crops of every kind of grain, of Turnips, and of other roots.

These Farms are to be let on Lease for 14 or 21 years, at a corn rent, to vary as the average price of Wheat for the three preceding years varies. To view the Farms, apply to Mr. GEORGE MARTIN, Holbeach Marsh, who has a plan and particulars of each Farm; and for further particulars apply to Mr. JOHN MORTON, Whitfield Farm, Berkeley, Gloucester shire.

SUSSEX.

TO BE LET ON LEASE.—MARSHFOOT FARM, near the Market town of Hailsham, and the Brighton and Hastings Railway. About 161 acres Arable and 51 acres Pasture and Marsh Land, with House, Barn, &c., mostly free of Great Tithe; rent charge only 17*l.* 16*s.* per annum. Poor's rate moderate. To View, apply to H. MARSHALL at the Farm. For Rent, &c., apply post-paid to J. P. STURGE and SON, Surveyors, Bristol.

HAMPSHIRE.

TO BE LET, ON LEASE, from 29th September last, a highly productive FARM, in good cultivation, comprising 550 acres of Arable, Meadow, and Pasture Land, and to which another 100 Acres may be added, situate midway between the important towns of Southampton, Winchester, and Portsmouth. Nearest railway station—Botley, on the South Western Railway. Arrangements can be made on sufficient terms for the erection of new Buildings, if so desired, by a responsible tenant. The farm can be viewed on application to JOHN LAY, Warnford, near Bishop's Waltham,

MERRIOTT, NEAR CREWKERNE, SOMERSETSHIRE.

TO BE LET, and entered on immediately, on most advantageous terms, an Old Established and Well Stocked NURSERY, containing, by estimation, Ten Acres (more or less), situated in the above parish; together with an excellent Hothouse thereon, filled with choice Vines in full bearing, and valuable plants; adjoining which is a comfortable Cottage, with convenient Cart-house, Packing Sheds, Seed Room, &c.

Merriott is situated within a short distance of the populous towns of Ilminster, Ilchester, Yeovil, Crewkerne, Chard, Taunton, &c., to which latter place conveyances pass to and fro daily, in connection with the railways to all parts of England.

To view the above, application may be made to Mr. ANDREWS, at the Cottage on the Nursery; and further particulars and terms of letting may be known on application to Mr. WHITLEY, Solicitor, Wrington, near Bristol, Somerset.—Wrington, Oct. 14.

CHINESE PIGS.—For Sale, a very choice lot of Chinese Pigs. Price, 21*s.*, which will increase weekly.—Apply to THOMAS KENCH, Enstone Farm, Enstone, Oxfordshire.

GREAT REDUCTION IN PRICE.

POTTER'S GUANO is now 7*l.* per ton.—Owing to the recent discovery of cheaper sources of Phosphoric Acid, Mr. POTTER is enabled to guarantee the quality of his GUANO, as heretofore, at the above reduced price.

Also, PURE GYPSUM, at 15*s.* per ton, at the Works, in bulk. Bags holding 2 cwt., 6*d.* each, not returnable.

Works, 28, Clapham-road Place, London.

MR. LAWES has prepared a MANURE for WHEAT, the composition of which is—Salts of Ammonia, yielding 20 to 22 per cent. of ammonia—70 to 80 per cent.; Precipitated Phosphate and Sulphate of Lime, with a small quantity of water and silicious matter—20 to 30 per cent. Price 9*l.* 10*s.* per ton.

Office, 69, King William-street, City, London.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

THE CONICAL BOILERS, invented by JOHN ROGERS, Esq., are sold by JOHN SHEWEN, Ironmonger, Sevenoaks. They are in use at the gardens of Messrs. Loddiges, Hackney; S. Rucker, Jun., Esq., Wandsworth; Sir C. Lemon, Bart., M.P., Corswall; the Prince's-park, Liverpool, and numerous other places.

Also, AN IMPROVED CORRUGATED BOILER, adapted for any kind of fuel. May be seen at the hothouses of Mrs. Lawrence, Ealing Park, and in several other gardens of note.

JOHN SHEWEN, Sevenoaks, Kent. Estimates furnished for heating all kinds of buildings.

IMPORTANT TO LANDOWNERS.—An Act of Incorporation having been obtained by "THE LANDOWNERS' WEST OF ENGLAND AND SOUTH WALES LAND DRAINAGE AND INCLOSURE COMPANY," affording Owners of limited Interests in Land the means of Draining, Irrigating, Enclosing, Erecting Buildings of a permanent nature on, and otherwise improving their Lands, and giving such Landowners of limited Interests the power to charge the inheritance with the value of the outlay in either of the following ways, viz.:—By charging the value on the Inheritance at solutely, or to be repayable by 25 Annual Instalments of 6*l.* 15*s.* per cent. per annum. This Company is now ready to receive applications for work to be performed under any of the provisions of their Act of Parliament, or on contract as heretofore, and from the extensive operations already in hand, they request parties wishing to avail themselves of the benefits of the Act to make early application. For all further particulars, apply to THOMAS MAY, Secretary, 3, Bedford Circus, Exeter.

SEED WHEAT.—The Red Straw White Wheat may be had here or at Cranford station, on the Great Northern and Birmingham railways, for 4*s.* per bushel.

JAMES MORTON, Wheeler's Farm, Bromley, Middlesex.

HOT WATER WARMING APPARATUS, with the latest improvements, adapted for Conservatories, Greenhouses, Pits, &c., continue to be supplied and fixed by SPELLER and TAYLOR, Battersea Iron Foundry, Surrey. All Applications for Churches, and other buildings requiring to be warmed only occasionally, &c. The parts being always ready, promptitude may be relied on.

TO FARMERS AND HORSE PROPRIETORS.

WASHBOURN'S IMPROVED GUTTA PERCHA HARNESS offers great advantages to its wearers over harness; as it is produced at one-third less expense than leather, is impervious to wet, requires no cleaning, can be repaired easily, and is most warm in appearance to any person.

The many purposes this material has lately been applied to, are now dispelled, as W. L. W. has numerous and valuable testimonials to prove the superiority of his Harness to that which have had it to wear whilst two summers have passed over them.

W. L. W. has a complete assortment of MILLBANK, TUBING, RODS, SOLES, and all other Commercial and Fancy Articles of Gutta Percha.

The WATERPROOF DUBBING is an article to the exposed to the weather should be applied for waterproofing Boots, Harness, Gig, and Carriage Aprons, Tarpaulings, &c. Sold in pots at 3*d.*, 6*d.*, 9*d.*, and 1*s.* to take a polish, and at 1*l.* which will not polish.

WASHBOURN'S Improved Gutta Percha Harness Manufactory and Warehouse, 54, Oxford-street, London.

AGRICULTURAL REPOSITORY, Clarke-street, Bristol. (Established, A.D. 1770.) [illegible] Year.

In returning from a business which I have conducted in this City during the space of 19 years, I feel the completion of returning my very sincere thanks for the kind and liberal encouragement I have received. I have now the satisfaction of announcing as my successors, my Son BENJAMIN STRATTON, who has been thoroughly educated in the business, and for the last 12 years has assisted me in the management thereof, in conjunction with Mr. SAMUEL HUGHES, a Civil Engineer from London, whose practical experience in the improvement of Estates by Drainage, &c. &c., will supply a deficiency which has been long felt in connection with this establishment. I trust, therefore, that a firm so constituted will [illegible] of that support and encouragement which has been [illegible] and extensively accorded to myself. BENJAMIN STRATTON.

P.S.—R. STRATTON will continue his attendance at the Office in Clarke-street, where he will pay all accounts due to the 29th September last, and where he requests an early settlement of all accounts due to him previous to that date.

STRATTON, HUGHES, and Co., having succeeded to the business of Mr. RICHARD STRATTON as Patentees and Manufacturers of Wheels, Carts, Waggons, and Agricultural Implements, and general Agriculturist, Engineers, venture to request a continuance of those favours which have been so liberally bestowed on their predecessor. Their system of carrying on business will be essentially the same, their attention will be incessantly devoted to the improvement of every item of Agricultural Implement, and they trust that their long history will always contain an unrivalled selection, including the best Implements of other Makers as well as those of their own Manufacture. The present stock, comprising upwards of 2000 articles, all with prices affixed, and ready for immediate use, is well worthy of attention.

STRATTON, HUGHES, and Co., beg to call attention to their Patented Hollow Iron, and its application to the beams of Ploughs, and Shafts of Carts, the Spokes of Wheels, and the Tire Hoops of Railway Goods, Waggons, and a variety of other purposes where strength and lightness are essential. They also invite attention to their Norwegian HARROW, an implement of great power, for the purpose of pulverising and disintegrating the surface of heavy ploughed lands, to their Patent TUMBLER CART for Night-soil, and their Patent CYLINDER CART for Liquid Manure, &c.

STRATTON, HUGHES, & Co. have extended their business to Agricultural Engineering, and undertake the Survey of Lands for the purposes of Draining and Irrigation, and the erection of Farm Buildings, under the personal superintendence of Mr. HUGHES, C.E., F.G.S. They beg to assure their customers and friends in the neighbourhood of Bristol, that the same attention as ever will be paid to the business of repairs; that they purpose always to keep in hand a large and well-assorted stock of choice and well-seasoned timber; to use none but the best materials, and to employ only the most experienced and careful workmen. They hope thus to execute all orders entrusted to them with such punctuality, exactness, and economy as to give satisfaction to their employers.

CARSON'S ORIGINAL ANTI-CORROSION PAINT, specially patronised by the British and other Governments, the Hon. East India Company, the principal Dock Companies, most public bodies, and by the Nobility, Gentry, and Clergy, for out-door work at their country seats. The Anti-Corrosion is particularly recommended as the most durable out-door Paint ever invented, for the preservation of every description of Iron, Wood, Stone, Brick, Compo, Cement &c., work, as has been proved by the practical test of upwards of 60 years, and by the numerous testimonials between 300 and 400 in its favour, and which, from the rank and station in society of those who have given them, have perhaps never yet been equalled by anything of the kind hitherto brought before the public notice. A copy of the Testimonials, together with a List of Prices, Colours, &c., will be forwarded on application to WALTER CARSON, 15, Tokenhouse Yard, back of the Bank of England, London. No Agents. All orders to be sent direct.

JESSE ROSS'S PATENT HAND SEED AND WHEAT DIBBLES.—These Dibbles, which are just invented, deposit the seed at the point of the dibble, and are allowed to, by competent judges, the most efficient made of the kind. They press the seed into the earth at one operation, thereby securing and preventing the seed from starvation or other injury, whereby it immediately germinates, and is full three times more productive than seed sown by other dibbles, served by children, or the most expert hand sown, as it is a well known fact that two-thirds of the seed usually sown perishes or otherwise is destroyed, whereas by these dibbles it is all properly deposited and pressed into the earth, causing an immediate germination, consequently more than the seed casually or loosely sown. They can be worked with ease and rapidity. A man with a pair may dibble as [illegible] per day with ease; six rows on a sort of roosting machine two acres; and they are not liable to get out of order. For further particulars apply to the Patentee or Agents. Price, the pair, 10*s.*; four and six rows, with rocking frames, 2*l.* and 3*l.* 10*s.*; and may be had of Messrs. Dean, Bray, & Co., King William-street, London; Messrs. Mapperbeck and Lowe, Birmingham; Messrs. Whitbeck & Co., ditto; Mr. W. Underhill, Newport; Mr. James Davis, Shrewsbury; Messrs. Gibson and Dove, York; Mr. Richard Stratton, Bristol; Messrs. Ransome and Co., Ipswich; Messrs. Warton, Wanser, and Co., Wolverhampton; Messrs. Barnard and Boulton, Norwich; Mr. S. Brook, Lynn; Messrs. W. and J. Cooper, Lynn; Mr. Bell, Cambridge; Mr. J. W. Sharman, Wellingborough; the Patentee, Leicester, on a Post-office order being enclosed; and of all the Agricultural Implement sellers in the Kingdom.

Nos. 2 and 3, which are lighter, on the same principle, and which deposit the seed at the same time, but not at the point of the dibble, the pair, 1*l.* 1*s.*; four rows, 3*l.*

A BALSTON wishing to dispose of the remaining portion of his NURSERY STOCK, offers it to Planters and the Trade at unusually low prices, as at foot. The whole of it is well grown, in light soil, and is extraordinarily well rooted. It consists of 300,000 common Laurel, 9 in. to 1 foot, 15*s.*; 1 to 2 ft., 30*s.*; 2 to 4 ft., 40*s.*; 4 to 6 ft., 8*l.* per 1000. 70,000 Portugal Laurels, 1 to 2 ft., 5*s.*; 2 to 3 ft., 10*s.*; 3 to 4 ft., 15*s.* per 100. 90,000 Rhododendron ponticum, 1 to 2 ft., 30*s.*; 3 to 4 ft., 60*s.*; 4 to 5 ft., 100*s.* per 100. Ghent Azaleas, all the finest varieties, 2*s.* per doz.; ditto, specimen plants, 30*s.* per doz. Cedrus Deodara, 6 to 8 ft., from seed, and beautifully grown, in pots, 6*s.* each; ditto ditto, 3 to 5 ft., 20*s.* each. Pinus patula, 4 to 5 ft., 7*s.* 6*d.*; 20 other sorts at same prices. A fine collection of Rhododendrons, comprising campanulata, caucasicum, catawbiense, &c., 100*s.* per 100, 18*s.* per doz.; Laurestinus, 1 to 2 ft., 12*s.* per 100; Hornbeam, 4 to 5 ft., 20*s.* per 100; Privet, 4 to 5 ft., 10*s.* per 100; Standard Roses, fine trees of all the best sorts, 18*s.* per doz. Evergreen Oak, in pots, 1 to 2 ft., 50*s.* per 100; ditto, transplanted, 2 to 4 ft., 20*s.* per 100. Good specimens of Ornamental Shrubs, 4*s.* each. All kinds of Forest and Fruit Trees, at half the usual prices. The whole of this stock is now in excellent order for transplanting. Orders must be accompanied by remittances, and all goods exceeding 5*l.* in value will be delivered free.

Poole Nursery, Dorset.

CHOICE SEEDLING CALCEOLARIAS.

JOHN HENCHMAN has now ready for delivery a fine stock of strong healthy young Seedling CALCEOLARIAS, raised from seed saved with great care from a few choice varieties. If properly treated these plants will bloom in April, and may be grown to any reasonable size in May, June, and July. They are more free in growth, are less liable to green-fly, bloom more freely, and are altogether more easily cultivated than plants from cuttings; and those who desire to have a rich display of these beautiful plants at a small cost, will find the plants now offered suit their purpose. They are also well adapted for the Trade, to retail when in bloom. Price 6*s.* per dozen, or 50 plants for 20*s.* No charge for package, and delivered carriage free to any part of London.

Edmonton, near London, Oct. 14.

NEW AND DISTINCT CINERARIAS.

JOHN BELL begs to offer the following four new and beautiful CINERARIAS, raised by Thomas Edmonds, Gardener to Lady Lacon, Ormsby Hall, selected from upwards of 20, all of which were of first-rate excellence. Specimens have been sent to the Editors of the *Gardeners' Chronicle* and "Gardeners' Journal," and elicited the following remarks:

"Gardeners' Journal," April 1, 1848.—"(Thomas). Your Seedlings reached us in good condition; the flowers are large, and the colours remarkably bright."

Gardeners' Chronicle, April 22, 1848.—"Your Flowers are large and fine, and varied in colour and marking;" and May 6th, the same Journal says, "These are all handsome specimens, measuring more than 1 inch in diameter;" and May 13th, "Your Flowers are all large and good in colour, and generally slightly cupped."

No. 4.—COUNTESS OF ORFORD (BELL'S) is the best, the white is pure round the disk, and the crimson purple terminates to the petals deep and rich; the flowers are slightly cupped.—*Gardeners' Chronicle*, April 22, 1848. Letter B. B. Price 7*s.* 6*d.*

No. 8.—EDMONDIANA (BELL'S), dark disk, the petals equally divided between blue and white, a brilliant and handsome variety, form good and very attractive.—*Gardeners' Chronicle*, May 13, 1848. B. B. Price 7*s.* 6*d.*

No. 24.—HUSSEYANA (BELL'S), dark purple disk, with the petals equally divided between the white ground and purple crimson points; a handsome variety.—*Gardeners' Chronicle*, May 6th and 13th, 1848. B. B. Price 5*s.*

No. 34.—MAGNA (BELL'S), blue lavender, broad petals, and well formed; this is a very distinct and showy variety.—*Gardeners' Chronicle*, April 22, 1848. B. B. Price 5*s.*

The Set free per post for 1*l.* 5*s.* One Set over to the Trade when three are taken.

Bracondale Horticultural Establishment, Norwich.

HENRY LITTLE, Nurseryman, Seedsman, and Florist to the Queen, King's-road, Chelsea, has imported DUTCH BULBS and other Flower Roots, of first-rate quality, for forcing or border planting, and is now selling, as above, at the following low prices:

Fine named Dutch Hyacinths for glasses or pots, at 6*s.* per doz.
" mixed Dutch Hyacinths, for splendid beds or early forcing, in separate colours, at 2*s.* per doz.
" large Crocus, Yellow, Blue, White, Cloth of Gold, Striped, &c., at 2*s.* per 100.
" large Seedling Polyanthus Narciss, for beds or pots, at 3*s.* per doz.
" Narciss poetica (or Pheasant-eyed), ditto, at 2*s.* per 100.
Elegant early Tulips, in 30 named varieties, at 2*s.* 6*d.* per doz.
Fine Double Tulips, in 20 named varieties, at 4*s.* per doz.
" Mixed Biblomen and Rose Tulips, at 5*s.* per 100.
Splendid Mixed Double Anemones, at 6*s.* per lb.
" Single Mixed Anemones, at 3*s.* per lb.
Fine Gladiolus Bizantinus, showy border flower, at 1*s.* per doz. or 5*s.* per 100.
" " cardinalis (handsome), at 3*s.* per doz.
" " floribundans, at 2*s.* per doz.
" " psittacinus, at 1*s.* per doz.

All the usual varieties at corresponding low prices, Catalogues of which may be had on application.

A large quantity of Fine Dwarf-trained Peaches, Nectarines, Apricots, Greengage Plums, and Cherries, all the best varieties, at 30*s.* per dozen, of any of the above sorts.

A collection of choice Dwarf free-blooming Roses, in 20 arieties, at 1*l.* per 100.

D. FERGUSON respectfully offers to Planters the following: Common Laurel, 1 to 8 ft.; Portugal Laurel, 1 to 8 ft.; Aucuba japonica, 1 to 4 ft.; Arbutus, 1 to 4 ft.; red Cedars, 1 to 5 ft.; Arbor-vitæs, 1 to 8 ft.; Box green and variegated, 1 to 6 ft.; Phillyreas, 1 to 5 feet; a few fine variegated Hollies, in boxes; large specimen scarlet Oak, scarlet Chestnut, sweet and common do., Limes, Birch, Weeping Willows, Ash, and Elm; Spruce, Larch, Silver, and Scotch Fir; Lilacs, Ribes, Berberis, several thousand yards of dwarf Box, Standard and other Roses, &c.—Aylesbury Nurseries, Oct. 14.

HYACINTHS AND OTHER FLOWERING ROOTS.

WILLIAM HAMILTON, Seedsman and Florist, 156, Cheapside, London, can supply at the following low prices:

HYACINTHS, named, for pots or glasses, 6*s.* and 9*s.* per dozen; fine mixed for border, 3*s.* per dozen.

NARCISSUS, named, 4*s.* to 6*s.* per dozen.

TULIPS, best mixed for border, 25*s.* per 100; early for pots, 1*s.* to 2*s.* 6*d.* per dozen.

CROCUS (Dutch), large, in colours, 2*s.* 6*d.* per 100.

ANEMONES, RANUNCULUS, IRIS, GLADIOLUS, and other roots at very moderate prices. When the selection is left to W. H., strict attention is paid to sending really good varieties of all kinds of roots. Catalogues forwarded on application.

NOTICE.—W. H. strongly recommends his NEW IMPROVED FLOWER SUPPORTER, for Hyacinths in glasses (lately advertised in this Journal), and solicits the Public to inspect them at 156, Cheapside, London, where a variety may be seen, price 6*s.* per dozen. A Post-office Order expected from unknown correspondents. All kinds of Vegetable and Flower Seeds of the best description.

TULIPS.—To be Sold, the entire Stock of an Amateur, long-known for the excellence of his collection; accident having thrown the entire collection into mixture. To insure immediate disposal, they are offered fine Bulbs at 40*s.* per 100, as their further growth is relinquished. No inferior flower was grown, and there are many duplicates of the most rare and costly, such as Dickson's Duke of Devon, Brown's Hamlet, Polyphemus, and Ulysses; Walker's Coronation, Strong's King, Julia Romano, Laila Rookh, Louis XVI., Pandora, Thalia, Marcellus, Pompe Funebre, Salvator Rosa, Brulante Eclatante, Camuse d'Craix, Rose Lac, Lavinia, Rose Brilliant, Juliana, &c., &c. With the very finest stains in such flowers as Aglaia, Rosa Blanca, Camuse, Claudiana, Musidora, Superb en noir, David, Bijou des Amateurs, Addison, Polyphemus, Charbonnier, Milton, Surpasse pompe, Sultan, &c. Address, with post-office order, to Mr. Henry William Bucknall, Bedminster Lodge, Bristol.

TULIPS, of the most popular show flowers; 20 of the following varieties, one root of each, for 20*s.*, post free; Ambassadeur, Holmes' King, Captain White, Desdemona, Rose Brilliant, Catafalque, Lord Lansdowne, Heroine, Fair Helen, Triumph Royal, Washington, Abercrombie, Cato, Sir William Pitt, Cleopatra, Andromeda, Rodney, Leopold, Globertine, Reine de Fleurs, Strong's Duke, Duchess of Newcastle, Roi des Roses, Optimus. 100 best mixed, 20*s.*; 100 choice named varieties mixed, 50*s.*

PANSIES.—See Advertisement of the 16th ult.

ROSE CATALOGUE for 1848, with the best show flowers notified from practice, together with a few practical remarks on the culture and pruning of this most popular flower, the Rose, which may be had in exchange for six postage stamps.

Samuel Walters, Hilperton, Trowbridge, Wilts.

PLANTING SEASON.

PROTHEROE and MORRIS respectfully announce to their friends, customers, and the public, that NURSERY STOCK, including Evergreens, Flowering Shrubs, Fruit, Forest, and Ornamental Trees; American Plants in every variety, from the simple to the specimen plants, are kept in fine order for removal, as they are regularly transplanted, and the known kindliness of the soil favouring the operation. They will be happy to receive orders, accompanied by remittances or references. Lists forwarded by post, on application, to the American Nursery, Leytonstone, Essex.

FREDERICK WARNER, Seedsman, 28, Cornhill, and 3, Lawrence Pountney-lane, Cannon-street, London, begs to inform his friends that he has a stock of GIRLING'S DANECROFT EARLY PEAS, which he strongly recommends as being a fine cropper and quite distinct in their habit from other Peas; the flavour when dressed is excellent. WARNER'S EARLY EMPEROR PEAS may be had on application. The merits of these Peas are too well known to require any remark.

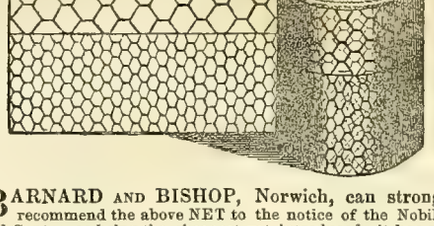
NEW EDITION OF

WM. WOOD and SON'S ROSE CATALOGUE FOR 1848-49; also, A GENERAL CATALOGUE OF NURSERY STOCK, containing detailed lists of Ornamental Trees and Shrubs, Conifers, Evergreens, Climbers, and American Plants; also Fruit and Forest Trees, Seedlings, &c.

PART THE SECOND contains a selection of all the most esteemed Herbaceous and Alpine Plants, Chrysanthemums, Strawberries, &c.

Wm. Wood and Son have the pleasure of informing their friends that copies of the above will be sent, gratis, on application.—Woodlands Nursery, Maresfield, near Uckfield, Sussex.

IMPROVED DOUBLE-MESH WIRE GAME NET.



BARNARD and BISHOP, Norwich, can strongly recommend the above NET to the notice of the Nobility and Gentry, as being the cheapest yet introduced: it has met with general approbation, and has been found most efficient in the preservation of young Trees, Gardens, &c., from the depredations of game. The extra strong 2-inch is the same strength as the stoutest article in the market. On inspection, it will be found better manufactured than anything else of the kind, and 20 per cent. cheaper. It is sent out in rolls of 50 yards, or any other length, at prices as under.

				per yard—	*s.*	*d.*
Double Mesh Net 24 ins. wide, 1⅝ & 3¼-in. mesh,				strong	0	6¾
...	...	...	...	extra strong	0	9
...	...	...	2 & 4 ...	strong	0	5¾
...	...	...	...	extra strong	0	7½
Single Mesh ...	...	1⅝	...	light	0	7
...	...	...	...	strong	0	9
...	...	...	...	extra strong	1	0
...	...	...	2	light	0	6
...	...	...	...	strong	0	7½
...	...	...	...	extra strong	0	10

The prices quoted for double net are for equal proportions of each mesh, which may be varied if required, thus, three parts fine to one of coarse, or *vice versa*, at prices accordingly; and it can be made any mesh and width to 7 feet.

A finer description for Aviaries, Pheasantries, &c., sparrow proof, 3*d.* per square foot; or, if made in copper, at 5*d.* per square foot. The Iron Wire Net is twice dipped in anti-corrosive composition, and sent free to London or Hull.

Patterns forwarded per post, free of expence.

EMIGRATION AND COLONIZATION.—IMMIGRATION being much required in AUSTRALIA, NEW ZEALAND, &c., and as the supposed expense of an OUTFIT often prevents individuals emigrating, S. W. SILVER & Co., CLOTHIERS, OUTFITTERS, and CONTRACTORS (having a large interest to maintain in those Colonies), have been advised to make known that they can supply a comfortable Outfit (including Bedding) for Male or Female Emigrants, from 4*l.* (net) upwards, or less (2*l.*, if needful); and for Children in proportion, at No. 4, Bishopsgate-street Within (opposite the London Tavern), where Lists will be given on application.

S. W. S. & Co., being the makers of nearly every article in all the Outfits they supply, and as one of their objects is to promote Emigration, they neither receive from Agents, or pay the too usual commission to any person introducing Passengers to be fitted out, so that the Passage and Outfit may be procured at the least possible expense; but they will, on application, advise Passengers how to obtain the most economic passage to the Colonies. They have a Representative in every Australian Colony, to whom they ship Clothing monthly; thus they would forward small parcels free of expense.

Naval and Military Officers, Midshipmen, Cadets, Civilians, Ladies, &c., are outfitted as heretofore, at the Cabin-Passenger Outfitting Warehouse, Nos. 66 and 67, Cornhill (the Emigration Outfitting being exclusively at No. 4, Bishopsgate-street Within), London, and each branch at St. George's Crescent, Liverpool.

WILLIAM PAMPLIN has lately received a fresh supply of the following Books.

LLAVE ET LEXARZA.—Novorum Vegetabilium Descriptiones. The two Parts in one volume, royal 8vo. 6*s.* 6*d.* Mexico, 1824.

STEUDEL.—Nomenclator Botanicus; Plantis Cryptogamis, &c. Royal 8vo. 12*s.*; or half-bound, 14*s.* Stuttgardt, 1824.

AGARDH.—Species, Genera et Ordines Algarum. Vol. I. 12*s.* Lund, 1848.

AGARDH.—Recensio specierum generis Pteridis. 4*s.* Lund, 1839.

*** And most of Agardh's other Works.

MIKAN.—Delectus Faunæ et Floræ Braziliensis. Fine coloured Plates. Largest folio. The four Parts complete. 78*s.* Vindob, 1820.

LEHMANN.—Plantæ Preissianæ; enumeratio plantarum in Australasia occidentali, &c. Now complete in two vols. 30*s.* Hamb., 1844-48.

LINDENBERG, GOTTSCHE, et NEES ab ESENBECK.—Synopsis Hepaticarum. Now complete, in one vol. 21*s.* Hamb., 1844-48.

ELLIS.—Corall-arten, &c. German edition of the celebrated Work of "Ellis on the Corallines." 9*s.* Nürnberg, 1767.

WAHLENBERG.—Flora Upsaliensis, &c. Map. 10*s.* 6*d.* Upsaliæ, 1820.

*** And most of Wahlenberg's other works.

BIVONA BERNARDI. Sicularum plantarum Centuriæ duo, &c. The two Parts complete in one volume. 4to. 6*s.* Panormi, 1806.

WILLIAM PAMPLIN has lately published the following.

THE SPIRITUAL USE OF AN ORCHARD, OR GARDEN OF FRUIT TREES. Set forth in divers Similitudes between Natural and Spiritual Fruit Trees, according to Scripture and Experience. By Ralph Austen, practiser in the art of planting. Price 5*s.*

"Now learn a parable of the Fig Tree."—Matth. xxiv., 32; Mark xiii., 28."

Carefully reprinted from the Quarto Oxford Edition of 1657.

BOTANICAL LABELS for the HERBARIUM. Adapted to the respective Floras of Smith, Hooker, Lindley, and Mackeight. Including one for every plant hitherto recognised as indigenous to the British Islands. By a corresponding Member of the Botanical Society of London. Price reduced to Three Shillings.

SPECIES FILICUM; or A Synopsis of all known Ferns. By Sir William Jackson Hooker, K.H.D.C.L. Oxon, L.L.D., F.R.S., &c., &c. Vice-President of the Linnæan Society, and Director of the Royal Botanic Gardens at Kew. Vol. I. complete, in extra cloth boards, price 38*s.* Or, Part the First, 12*s.*; Part the Second, 10*s.*; Part the Third, 10*s.*; and Part the Fourth, 6*s.* Part the Fifth is nearly ready.

Beautifully reprinted, line for line and page for page, in small 4to, with three plates and fac-simile wood-cuts, 12*s.*,

OPVSCVLA OMNIA BOTANICA Thomae Johnsoni, Pharm. Soc. Lond. Soc. Being all the small Rare Tracts of Thomas Johnson, including, 1, Iter Botanicum Cantianum, 1629; 2, Iter Botanicum Hamstedianum, 1632; 3, Mercurius Botanicus, 1634; 4, Thermæ Bathonicæ, 1634; 5, Mercurii Botanici, pars altera, 1641. Nuperrime Edita à T. S. Ralph, Coll. Reg. Chirur. Ang. et Soc. Lin. Soc.

AN EXPERIMENTAL INQUIRY into the Cause of the ASCENT and DESCENT of the SAP, with some observations upon the Nutrition of Plants; and the cause of Endosmose and Exosmose, with Plates. Price 3*s.* By G. Rainey, M.R.C.S.E., Demonstrator of Anatomy, and Microscopic Anatomy, St. Thomas's Hospital.

London: WILLIAM PAMPLIN, 45, Frith-street, Soho-square.

BRITISH FERNS.—Now ready, 32mo, price 5*s.*

A HANDBOOK OF BRITISH FERNS: intended as a guide and companion in Fern culture; and comprising scientific and popular descriptions, with wood engravings of all the Ferns indigenous to Britain.

By Thomas Moore, Curator of the Botanic Garden of the Society of Apothecaries, Chelsea.

London: R. Groombridge and Sons, Paternoster-row; and W. Pamplin, 45, Frith-street, Soho-square.

To be published in November, price 1*s.*,

JOHNSON'S GARDENERS' ALMANACK for the year 1849.—The work will be newly arranged, so as to give increased facility of reference; and will contain contributions from some of the best of English Gardeners; full information relative to the Potato Murrain, and all the Horticultural Discoveries of the year.

Printed for the Stationers' Company, and Published at their Hall, Ludgate-street, London, by George Greenhill; to whom Advertisements for insertion must be sent before November 1.

WIRE NETTING ONE PENNY PER SQUARE FOOT.

GALVANISED WIRE NETTING, TWO-PENCE PER SQUARE FOOT.—This article requires no painting, the atmosphere not having the slightest action on it. It has the appearance of silver, and maintains its lustre for many years, and is acknowledged to be the cheapest article ever brought into the market. It forms a cheap, light, and durable fence for the protection of Gardens and Shrubberies against the depredations of hares, rabbits, and cats; for Aviaries, Pheasantries, and to prevent poultry from straying, as well as for training creeping plants, it answers admirably.

Large quantities of the Netting always kept in Stock, samples of which can be forwarded (free of expense) to any part of the United Kingdom. Prices as follows:

12 inches wide	3*d.*	per yard		30 inches wide	7½*d.*	per yard	
18 "	4½*d.*	"	"	36 "	9*d.*	"	"
24 "	6*d.*	"	"	48 "	1*s.*	"	"

Galvanised do. 1*d.* per foot extra.

Also Fenders, Fireguards, Fly-proof Dish Covers, Meat Safes, Wire Blinds, Garden bordering and arches, Flower Stands, and every description of Wire Work.

Thomas Henry Fox, 63, Snow-hill, London.

Printed by William Bradbury, of No. 6, York-place, Stoke Newington, and Frederick Mullett Evans, of No. 7, Church-row, Stoke Newington, both in the county of Middlesex, Printers, at their office in Lombard-street, in the Precinct of Whitefriars, in the city of London; and published by them at the Office, No. 5, Charles-street, in the parish of St. Paul's, Covent Garden, in the said county, where all Advertisements and Communications are to be addressed to the Editor.—Saturday, Oct. 14, 1848.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No 43.—1848.] SATURDAY, OCTOBER 21. Price 6d.

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NGAINES begs to inform the Nobility, Gentry, and Nurserymen that his LIST of first-rate Pelargoniums, Fancy Pelargoniums, Calceolarias, Fuchsias, Cinerarias, Camellias, Azaleas, Chrysanthemums, Cormas, &c., can be had by applying at the Nursery, Surrey-lane, Battersea. The above includes his new Fancy Pelargoniums, Hero of Surrey and Madame Rosatii, also Meleager, Lyra, and many other new varieties.

TO PEAR GROWERS.

RENÉ LANGELIER, Clarendon Nursery, St. Helier, Island of Jersey, as the season is approaching for planting, begs to say that his well-known collection of the above still deserves particular attention. Having largely increased both in number of sorts and stock, he flatters himself to be able to supply the best sorts, and the trees particularly fine this year. Should any amateur wish to have a box of the best sorts, R. L. will be happy to forward a box, by inclosing a post-office order for 25s., box included. Early orders can only be supplied, as the crop is not large, but the fruit very fine.

DOUBLE ROMAN AND PAPER WHITE NARCISSUS, 4s. per dozen.—The above Bulbs, the former of which is so justly esteemed for its early blooming and excessive fragrance, and the latter for its purity and elegance, have been just received at A. Corbett's Italian and Foreign Warehouse, 18, Pall-mall, near Waterloo place. Also Dutch Hyacinths, Crocus, Tulips, Anemones, Ranunculus, &c.; priced Catalogues of which may be had per post.

SUPERB HOLLYHOCKS.

R. B. BIRCHAM, Hedenham Rosary, Bungay, Suffolk, begs to state that he has a few plants to offer for sale of the following superior HOLLYHOCKS, which originated from the late Mr. Barron's collection; the plants are healthy and strong, and will give satisfaction to purchasers.

Atropurpurea	2s. 6d	Mulberry	5s. 0d
Black Prince	5 0	Model of Perfection	10 0
Bicolor	2 6	Napoleon	2 6
Commander-in-chief	5 0	Purpurea elegans	2 6
Delicata	3 6	Rosea alba	2 6
Dark Crimson	2 6	Rosea superba	3 6
Formosa	3 6	Sulphurea perfecta	3 6
Fulgens	7 6	Rosy Purple	2 6

Ready to be forwarded upon prepaid application. Bircham's Descriptive Catalogue of ROSES, including about 350 of the most select and best varieties in cultivation.

PLANTING SEASON.

JOSEPH FRYER begs to offer his GENERAL NURSERY STOCK, which is now in fine condition for removing, and consists of the finest varieties of Standard and Trained Fruit Trees of every description, in the finest possible order; Ornamental Trees, Evergreens, and Flowering Shrubs, in great variety; American Plants, Standard and Dwarf Roses, &c., which will be supplied at very low prices.

J. F. likewise begs to state that his importation of DUTCH ROOTS has arrived in excellent condition, and are offered very cheap.

N.B.—A very large stock of Glycine sinensis, Garrya elliptica, Bignonia radicans major, double-blossomed Furze, Brooms of sorts, Evergreen Oaks, Gum Cistus, Pyrus japonica, Irish Ivies, Virginian Creepers, &c., of various sizes, all in pots, can be supplied to the Trade, as well as any of the above, at a reduced price.—Clarendon Nurseries, Camberwell, London.

BRENTFORD NURSERIES.

HUGH RONALDS and SONS beg to inform Noblemen, Gentlemen, and Gardeners interested in the cultivation of Fruits, that they have this year cultivated a fine LATE CHERRY, calculated to improve the dessert in the months of August, September, and October, the colour being of a deep crimson, the size and flavour much superior to the Mayduke, and a most abundant bearer. It was introduced by the Horticultural Society of London, and most accurately described in the *Gardeners' Chronicle* of August 19th, p. 556. A painting may be seen at the Brentford Nursery. Plants 5s. each, with the usual discount to the trade.

They have a large collection of Fruit Trees, of fine growth, trained and untrained. Fine horizontal trained Pears in good bearing state; standard trained Peaches and Nectarines, of good size for Peach houses; Vines in pots. Lists of the most approved varieties may be had on application.

NEW PICOTEE, "THE GEM, 10s. 6d. per pair. Youell & Co have much pleasure in offering this flower as being one of the finest and most perfect red edged Picotees yet raised. The petals are large and well formed, perfectly smooth on the edge, the white pure and free from the slightest spot, and is indispensable to any collection. Price 10s. 6d. per pair, per post free. It has been successfully exhibited in the 1st Class Prize Stands at Chiswick, and the Royal Botanic Society's exhibition, and is highly spoken of in the last number of the Florist." The following opinion has been pronounced in the *Gardeners' Chronicle*: "A first-rate flower; the petals are both on the edge, large, and well formed; of good substance, and diminishing gradually to the centre, forming a fine crown, without confusion; white good, red edge."

For particulars of their Advertisement of rare and hardy Conifera, Camellias, Dutch Hyacinths, Pansies, Strawberries, Anemone Seed, &c., see *Gardeners' Chronicle*, Sept. 19.

THE FINEST SHOW CARNATIONS, PICOTEES, AND PINKS.

YOUELL and CO. are now executing orders from their celebrated collections of the above, comprising upwards of 700 of the finest varieties known, and is the most extensive and unique collection extant. The plants are very strong, healthy, and well rooted, and, if preferred, can be forwarded with safety per post, at the extra charge of 2s. per dozen pairs, the prices of which are as follows:

12 pairs of very fine show flowers, by name, 1l. 4s. and			£1	10	0
25	ditto	ditto	ditto 2l. 10s. and	3	0 0
12 pairs of newest and finest first class show flowers				2	10 0
25	ditto	ditto	ditto	5	0 0

Fine mixed border Carnations, 12s. per dozen pairs.
Great Yarmouth Nursery.

MESSRS. J. and H. BROWN have to offer the following, which they will forward to any part of the United Kingdom or the Continent.

	s.	d.
Fine Standard and Dwarf trained Peaches, Nectarines, Apricots, Plums, Pears, and Cherries. The best and most approved sorts of these respective kinds, true to name, 2s. 6d. each, or, per dozen	24	0
Untrained or Maiden ditto, 1s. 6d. each, or per dozen	15	0
Fine Gooseberries, Currants, and Raspberries, per doz.	3	0
Strong Vines, Figs, and Apples ... per dozen	15	0
Filberts, new thin shell and red skin per dozen	3	6
Andromeda floribunda ... ... per dozen	20	0
25 Azaleas, new hardy Belgian varieties, on their own roots, with flower buds, one of a sort, by name ...	20	0
25 American Azaleas, Ditto ditto ...	15	0
25 Hardy flowering shrubs, one of a sort, by name ...	10	6
12 Rhododendrons, including scarlet, white, and rose, hardy varieties	12	0
New hardy yellow Rhodonien lrans each, 7s. 6d. to	1	0
6 Fine hardy Magnolias, one of a sort ...	10	0
50 Dwarf Roses, on their own roots, by name ...	15	0
12 Tea-scented Roses, superior sorts, by name, in pots	9	0
Standard and half-standard Roses, per doz., 12s. and	15	0
Strong Moss Roses, per 100	25	0
New crimson Moss Roses, per dozen	6	0
*Bourbon Roses, superior sorts, and Rose La Reine, per dozen	10	6
12 Greenhouse Azaleas, one of a sort, blooming plants	25	0
12 Choice Camellias, by name, ditto, ditto ...	30	0
50 Choice Flowering Greenhouse plants, one of a sort ...	15	0
24 Choice Ericas, one of a sort, by name	18	0
* Chrysanthemums, of newest and best kinds, per doz.	6	0
* Fine Perennial Phloxes, Belgian varieties, per dozen	8	0
* Fine Yellow Picotees and Carnations, of best sorts, per pair	2	6
* Cinerarias, new choice varieties ... per dozen	6	0
*6 Bulbs of the following beautiful Lilies: lancifolium album, punctatum, rubrum, speciosum, venustum, eximium, superbum, candensa belladonna, and longidora	12	0

Those marked thus *, can be sent by post, if desired. Also. Priced Lists of Dutch and Cape Bulbs.
Albion Nursery, Stoke Newington, London, Oct. 21.

PINE PLANTS FOR SALE.—The different varieties of Blacks and Queens warranted clean and well-rooted.—Apply to W. Davis, Starch Green, Hammersmith.

SEVERAL THOUSAND YOUNG TREES for Sale, from 4 to 12 feet high. They include Chestnut, Lime, Acacia, Ash, Elm, Larch, Scotch and Weymouth Firs, Birch, &c. Price very moderate. The plantations are within 6 miles of London, and near good roads.—Apply to Mr. Tims, Estate Agent, 63, Upper Charlotte-street, Fitzroy square, London.

LANDSCAPE GARDENING, GARDEN ARCHITECTURE, AND RURAL IMPROVEMENT.

W. P. AYRES having devoted nearly 20 years to the study of the above Sciences, both in theory and practice, and also had the honour of being consulted by the Nobility and Gentry, especially in relation to modern cultural improvements and high decorative art in the designing, laying out, and improvement of Gardens, Lawns, Pleasure Grounds, Horticultural Buildings, &c., begs to offer his services to superintend such works in every part of the country.

Designs, Specifications, and Estimates for Greenhouses, Conservatories, Flower-gardens, &c., furnished, and Flower-gardens arranged or modernised upon moderate terms.
Blackheath Park, near London, Oct. 21.

FLORIST FLOWERS.

BRADSHAW GARDENS, MIDDLETON, nr. MANCHESTER. JOHN HOLLAND respectfully informs his Friends, Amateurs, and Florists that his CATALOGUES for the present season are now ready, containing Priced Lists of Carnations, Picotees, Pinks, Auriculas, Alpines, Polyanthuses, Primroses, Pansies, and the Lancashire Show Gooseberry Trees.

J. H. in returning thanks for the liberal patronage bestowed upon him, respectfully informs his Friends that he has taken more spacious premises near the Middleton Station of the Lancashire and Yorkshire Railway, where in future all letters and parcels must be addressed.

Catalogues, on application, enclosing a post stamp.
Bradshaw Gardens, Middleton, near Manchester, Oct. 21.

PATRONISED BY THE QUEEN AND PRINCE ALBERT

JOSLING'S ST. ALBAN'S GRAPE.—R. J. [illegible] who have purchased [illegible] Vine [illegible] Majesty the Queen [illegible] everyone in [illegible] been warranted [illegible] more plants [illegible] 1 plant is [illegible]

Agents: [illegible] Mr. F. Warner, [illegible] applegate, [illegible] tion; Messrs. [illegible] Osborn, Fulham [illegible] Skirving, [illegible] Messrs. Veitch [illegible] under. Lyra.

Good established plants [illegible] ance to the Trade. [illegible] will be expected.—Packing, [illegible] St. Albans.

SELECT PLANTS AND CHOICE FLOWER ROOTS, [illegible]

GERANIUMS, 12 Beck's, [illegible] 12 superb vars. [illegible]
" 12 superb vars. [illegible]
10s. 6d.; 25 vars., [illegible]
CHRYSANTHEMUMS, 12 [illegible] plants
CARNATIONS, 12 pair superb show varieties
PICOTEES, 12 pair do. do.
STANDARD ROSES, 12 [illegible]
DWARFS, do., per dozen, [illegible]
without names, per 100
CLIMBING ROSES, 12 fine varieties
HARDY HERBACEOUS PLANTS, 100 select and showy vars.
" 50 do., [illegible]
ROCK PLANTS, 12 [illegible]
GREENHOUSE PLANTS, [illegible]
" 25 do., [illegible]
DO. and STOVE PLANTS, 12 fine vars. for winter and spring flowering
HOLLYHOCKS, 36 fine [illegible]
" 24 do., [illegible]
ANTIRRHINUMS, 12 fine [illegible]
SWEET WILLIAMS, [illegible]
[illegible]
[illegible]
GOOSEBERRIES, [illegible]
" 12 do., [illegible]

CHOICE FLOWER ROOTS.

IMPORTED DUTCH HYACINTHS, [illegible] for beds, pots, and glasses, 12 [illegible] vars., 9s.; 24 [illegible]
EARLY TULIPS, [illegible]
BOUQUET TULIPS, [illegible]
SINGLE ROSSUS, [illegible]
CROCUS, [illegible]
" [illegible]
ANEMONES, [illegible]
" best [illegible]
ENGLISH IRIS, [illegible] 10s. 6d.; [illegible]
SPANISH IRIS, [illegible]
GERMAN IRIS, [illegible]
GLADIOLUS, [illegible]
" Splendens, [illegible] free by post for [illegible] 2s. 6d. per doz.; [illegible] 1s. 6d. per doz.; [illegible] Gandavensis, late [illegible] 2s. 6d. each, Rex [illegible] Speciosus, fine, [illegible]
LILIUM LANCIFOLIUM ALBUM, [illegible] punctatum, [illegible]
RANUNCULUS, [illegible] superb new vars., [illegible] of seedlings (free [illegible] 2s. 6d.; 50 [illegible] mixed, 10s. per [illegible]

A DESCRIPTIVE PRICED CATALOGUE [illegible] Roots, select Roses and [illegible] ing Plants, &c., sent [illegible] of London, and, for [illegible] Remittances requested [illegible] office orders [illegible] Seeds, Seed and [illegible] Suffolk.

NEW HYACINTH GLASS, with brass stirrup, designed by R. Gregory, Esq., for STEPHENS'S ART MANUFACTORY, [illegible] The late novelties in Stephens's Art Manufactures are The Sylphine Salt-cellar, the [illegible] Stephens's patent metal, the Camellia Teapot, Cream [illegible] Knife, Glass Flower Vase, &c. A Catalogue, with 24 designs, sent on receipt of three postage stamps, from Cornhill, 1, Old Bond-street, London.

YARMOUTH BLOATERS—GENUINE AND OF THE FINEST QUALITY.

Yarmouth has for centuries been justly celebrated for its well-known "Yarmouth Bloaters," the delicacy of which when obtained in their genuine state, requires no comment. Such an opportunity is now offered: and they can be forwarded to any part of the kingdom, or on the continent, on receipt of a post-office order at 12s. per [illegible] package included.—All orders to be addressed to Mr. Frederick Proctor Youell, Church-square, Great Yarmouth.

A. BALSTON wishing to dispose of the remaining portion of his NURSERY STOCK, offers it to Planters and the Trade at unusually low prices, as at foot. The whole of it is well grown, in light soil, and is extraordinarily well rooted. It consists of 300,000 common Laurel, 9 in. to 1 foot, 15s.; 1 to 2 ft., 30s.; 2 to 4 ft., 40s.; 4 to 6 ft., 80s. per 1000. 70,000 Portugal Laurels, 1 to 2 ft., 5s.; 2 to 3 ft., 10s.; 3 to 4 ft., 15s. per 100. 90,000 Rhododendron ponticum, 1 to 2 ft., 30s.; 3 to 4 ft., 60s.; 4 to 5 ft., 100s. per 100. Ghent Azaleas, all the finest varieties, 2s. per doz.; ditto, specimen plants, 30s. per doz. Cedrus Deodara, 6 to 8 ft., from seed, and beautifully grown, in pots, 6s. each; ditto ditto, 3 to 5 ft., 20s. each. Pinus patula, 4 to 5 ft., 7s. 6d.; 20 other sorts at same prices. A fine collection of Rhododendrons, comprising campanulata, caucasicum, catawbiense, &c., 100s. per 100, 18s. per doz; Laurestinus, 1 to 2 ft., 12s. per 100; Hornbeam, 4 to 5 ft., 20s. per 100; Privet, 4 to 5 ft., 10s. per 100; Standard Roses, fine trees of all the best sorts, 18s. per doz. Evergreen Oak, in pots, 1 to 2 ft., 50s. per 100; ditto, transplanted 2 to 4 ft., 20s. per 100. Good specimens of Ornamental Shrubs, 4s. each. All kinds of Forest and Fruit Trees, at half the usual prices. The whole of this stock is now in excellent order for transplanting. Orders must be accompanied by remittances, and all goods exceeding 5l. in value will be delivered free.

Poole Nursery, Dorset.

PURE WHITE SALVIA PATENS.

WM. WOOD AND SON are now sending out the above highly desirable plant, under the name of SALVIA PATENS ALBA, at 10s. 6d. each, with the usual discount to the trade, and one additional plant for every three ordered.

	s. d.
The following are highly recommended:	
Allamanda grandiflora .. .. 3s. 6d. to	5 0
,, Schotti, bright orange, superb; strong plts., 7s. 6d. to	10 6
Clerodendron sinuatum	3 6
,, viscosum	5 0
,, volubile	3 6
Gardenia Fortuni	7 6
Pieroma elegans	3 6
Plumbago Larpentæ, small, 3s. 6d.; large	21 0
Rhododendron Cavendishianum, splendid yellow ..	21 0
,, luteum splendens, ditto, new ..	42 0
,, Victoria Regina, ditto, new ..	42 0
Rhynchospermum jasminoides, true	3 6
Tweedia pubescens	3 6

CHRYSANTHEMUMS, including all the latest imported novelties, the selection left to W. W. & S.

Extra fine varieties, 6s. and 9s. per doz.; Superior varieties, 24 12s. and 18s. per dozen.

25 good distinct varieties for 15s.; 50 extra superior do., 35s.

*** Additional plants will be presented with each order to compensate for carriage. A remittance or reference required from unknown correspondents; post-office orders to be made payable at Uckfield.

Woodlands Nursery, Maresfield, Uckfield, Sussex.

ROYAL ALBERT RHUBARB.

WM. MITCHELL begs to call attention to the above excellent variety, which still retains its supremacy over all other sorts hitherto produced, being from two to three weeks earlier than any kind now grown. It has other qualities eminently entitled to notice; it is most delicious in flavour, of a bright red colour, a most prolific bearer and free grower, with large fleshy stalks, and for early forcing is more suitable than any other variety. Specimens of this splendid vegetable have been inspected and highly approved of by her Majesty, by whose commands it has been introduced into the Royal Gardens, Windsor. Also Mons. Soyer, of the Reform Club, and other eminent judges, have declared this Rhubarb to surpass anything of the kind ever eaten, and all the principal growers attending the London markets have pronounced it to be by far the best in cultivation. In addition, W. M. begs leave to observe that this Rhubarb is the same as was sold so early last season in Manchester, Birmingham, Liverpool, Cambridge, Brighton, and other large provincial towns, where it gave universal satisfaction by its extreme earliness, quality, and beauty.

Strong one year planted roots will be sent out at the end of October, at 2s. 6d. each. Also, Myatt's Linnæus, 2s. 6d., and Victoria, 9d. each. The usual trade allowances.

Remittances requested from unknown correspondents by post-office order, made payable to WILLIAM MITCHELL, Enfield Highway, Middlesex, Post office, Enfield.—October 21.

THE PERPETUAL TREE VIOLET (true), or VIOLA ARBOREA.—In answer to the numerous enquiries for the above, and the great satisfaction given by the plants sent out last season by EDWARD TILEY, he begs to state that he has this year a fine stock of the above beautiful DOUBLE VIOLET now to dispose of, which he can highly recommend, this being the proper time for making beds or potting. They are beautifully scented, the blooms are as large as the double blue Hepatica, they bloom freely from August till the end of May, and are perfectly hardy. 12 of these plants grown in pots will scent a large greenhouse, and a small bed 9 feet long by 3 feet wide will be sufficient to furnish a family with bouquets the whole of the winter and the spring. They should be planted in rather a dry situation, and in loose soil, as the Violet will thrive and bloom finer than in wet or clay borders.

E. T. has been informed by the gentleman that introduced it into this country, that he has seen them growing in the thickets of Persia to the height of 4 feet, with a large bushy head to it, and hundreds of blooms on them at the same time.

Large bushy plants 6s. per dozen, smaller ditto 3s. per dozen, or 1l. per 100, postage and package free to any part. A remittance in cash, or postage stamps, must accompany the order.

Nurseryman, Seedsman, & Florist, 16, Pulteney-bridge, Bath.

CHARLES DALY AND SON beg to inform the Trade and the Public that they are determined to sell out their large stock of THORNS and QUICKS, at the following prices: 2 year seedling, 1s. 6d. per 1000; 3 year do., 2s.; 2 year fine, 3s.; 1 year transplanted, 3s.; 2 year do., 4s. SPRUCE FIR, 2 year, 1s. 6d. per 1000; 2 year seedling do., 2 year transplanted, 5s. LARCH, 1 year, 1s. 6d.; 2 year do., 3s.; 3 year do., 4s. per 1000. BEECH, 1 year, fine, 1s. 6d. SYCAMORE, 1 year, 1s. 6d. SCOTCH FIR, 2 year, 1s 6d. ASH, 2 year, 1s.; 3 year do., 1s. 6d. BIRCH and ELM, 1 year, 1s. 6d. per 1000. Common LAUREL, 1 to 2 feet, 9s. per 1000; Portugal do., 1 to 1½ feet, 6s. per 100. Broad-leaved Irish IVY, 2s. 6d. per 100. Irish YEWS, 1 to 1½ feet, 24s. per 100; 2 to 2½ feet, 50s. per 100; large furnished plants, 1s. each. Free to Liverpool or Glasgow.

Large Beech for hedges, 3s. per 100; 2 and 3 year transplanted Forest Trees put on board a steamer, free, for Liverpool or Glasgow, at 10s. per 1000. Large Ash, Mountain Ash, Poplars, Limes, and Horse Chestnuts, &c., sold cheap; 12 months' credit will be given from this date, by naming any respectable seed merchant whom they will pay to, as value may be taken in seeds for the amount. Messrs. Clarke and Co., 84, High-street, Borough, is our agent, where samples of Thorns, &c., may be seen. Five per cent. for cash allowed. We should be much obliged to our friends by paying their last year's account as soon as convenient.—Coleraine, Oct. 21.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

NEW SCARLET PELARGONIUM "CONWAY'S ROYALIST."—In "Notices to Correspondents," *Gardeners' Chronicle* of Oct. 14th, may be seen a description of the above, viz., "SCARLET GERANIUM: *P. C.* Your seedling is a most brilliant scarlet; trusses large, being about 4 inches in diameter, and forming more than half a globe. On the trusses sent there were about 36 fully expanded flowers and 20 buds to open. The individual flowers are not quite so compact as some of the older varieties; but in general appearance it is showy, brilliant, and attractive, and appears to be a free bloomer."

P. CONWAY pledges himself that the above description of this superb seedling, to which he has given the name of "ROYALIST," flattering as it appears, is under rather than over the mark, feeling quite confident that it will prove itself one of the most distinct and beautiful varieties that has yet been introduced. To be seen here in flower. Having a few strong healthy plants now ready, P. C. is induced to offer them at 7s. 6d. each, allowing the usual discount to the trade, and one plant over where four are taken. For prepayment only. 1s. to be added for basket.

P. C. also begs to offer another of his seedlings, ROSY MORN.—Colour a deep rosy pink, of dwarf habit, and a free bloomer. 3s. 6d.

TAM O'SHANTER, Mitchell's.—A fine bold trusser, in the way of Shrubland, but larger. 2s. 6d.

IVERY'S SCARLET.—This variety has become a great favourite, from its fine stocky habit and deeply marked horse-shoe leaf. 2s. 6d.

TOM TEUMB'S MASTER, Mitchell's.—A very splendid variety, but quite dissimilar to Tom Thumb. It is more of an improvement on Page's Nimrod. 3s. 6d.

PUNCH AND JUDY.—P. C. has not proved these two varieties, but they are highly spoken of and strongly recommended. 2s. 6d. each.

The six last-named varieties 15s., basket included; Royalist added, 21s.

PLUMBAGO LARPENTÆ, 3s. 6d. each.

CALCEOLARIA AMPLEXICAULIS, for bedding, 2s. 6d.

,, KENTISH HERO, do., 1s 6d.

HELIOTROPIUM TRIUMPH DE LIEGE, 1s 6d.

PHILIP CONWAY, Earl's-court Nursery, Old Brompton-road.

PANSY "MAGNIFICENT."

JAMES NEILSON, AUCTIONEER and FLORIST, Falkirk, begs respectfully to intimate to the lovers of the Pansy, that he will send out his celebrated PANSY, "MAGNIFICENT," on the 1st of November, and which is not surpassed in its class by any Pansy in cultivation. It has a rich rose ground colour, surrounded by a deep dark claret, with a delicate white line completely encircling the outer edges of the three lower petals; with substance fine, velvet fine, edges smooth, form perfect, and dark eye. This flower is a great beauty, and no fine collection can be complete without it.

"MAGNIFICENT" will be forwarded (post free) to any part of the United Kingdom for 5s. 6d.—Falkirk, Oct. 21.

PLANTING SEASON. — Nursery Grounds, Red Lodge, North Stoneham, near Southampton. An unlimited supply of every description of FOREST, FRUIT, and ORNAMENTAL TREES, EVERGREENS, and AMERICAN PLANTS, FLOWERING SHRUBS, QUICKSETS, &c., &c., may be procured from these extensive grounds at the most reasonable prices, Catalogues of which may be had of the Proprietor, W. ROGERS, NURSERYMAN and CONTRACTING PLANTER.

Planting contracted for to any extent from 5l. to 20l. per acre.

SEEDLING FOREST TREES.

	Years.		s. d.	s. d.
Ash, 1 to 3 feet	1 2 3	per 1000	1 6	3 6
Beech, 1 to 3 feet	0 2 3	,,	2 6	5 0
Spanish Chestnut, 1 & 2 ft. (fine)	1 2 0	,,	7 0	10 0
Fir, Larch	1 0 0	,,	1 6	—
,, Scotch (fine)	1 2 0	,,	1 0	2 0
,, Pineaster	1 0 3	,,	2 6	3 6
,, Sea Pine	1 0 3	,,	3 6	5 0
Mahonia (for cover)	1 2 0	,,	15 0	20 0
Furze (for cover)	0 2 0	,,	10 0	—
Hazel (fine) 2 feet	0 2 0	,,	10 0	—
Oak, English, 1 to 3 feet	1 2 3	,,	3s. 6d. 5 0	7 6
Thorn, Quicksets	1 2 0	,,	2 0	3 6

TRANSPLANTED FOREST TREES, ½ to 2 feet, adapted for extensive Forest or Coppice planting; for plants of a larger size, from 3 to 12 feet, for Ornamental Planting, the price varies from 25s. to 5l. per 100.

	s.	s.	s.		s.	s.	s.
Ash	15	20	30	Fir, Silver	40	60	80
Beech	15	20	30	,, Austrian (P. austriaca)	40	60	80
Birch	15	20	40	Hazel	15	25	30
Chestnut, Spanish	20	30	40	Oak (true English Durmast)	20	30	40
Elm	15	20	—	Poplar, Black Canada	20	30	40
Fir, Larch	10	20	30	Sycamore	20	40	60
,, Scotch	10	15	20	Willow, Comewell	40	60	80
,, Pineaster	10	15	20	Quicksets, 5s., 7s. 6d., 12s. 6d.			
,, Sea Pine— (Pinus maritima)	15	25	40				
,, Spruce	20	40	80				

ORNAMENTAL TREES AND SHRUBS, &c.

Rhododendrons, bedded, 2 to 6 in., 20s, 40s., 80s. per 1000
,, very fine, 1 to 2 feet, transplanted, 10s., 20s. per 100
,, 3 to 5 feet, straight and handsome, for standards, 40s., 50s. per 100
,, scarlet, 1 and 2 feet, 18s, 30s. per dozen
,, roseum, 2 feet, 40s. per 100
,, hybrid Catawbiense, 1 foot, 20s. per 100
Kalmia latifolia, bedded, 12s. 6d. to 20s. per 100
,, ,, 1 to 2 feet, 40s, 50s. per 100
Arbutus, bedded, 40s. per 1000
,, 1 and 2 feet, 25s. and 40s. per 100
Laurel, 1 to 4 feet, 4s. to 25s. per 100
Portugal Laurel, 1 to 3 feet, 12s. 6d. to 50s. per 100
Sweet Bay, 1 to 2 feet, 25s. to 50s. per 100
Laurestine, bedded (small), 8s. per 100
,, 3 sorts, 1 to 1½ foot, 20s. to 40s. per 100
Holly, variegated, 1 to 2 feet, 25s. to 40s. per 100
Rose Stocks, 1 foot (Boursault), fit for bedding or grafting, 4s. per 100
Single Camellia Stocks, from pots, 40s. per 100
Clematis azurea grandiflora, 30s. per 100
Weeping Willow, 3 to 4 feet, 20s. per 100
Deutzia scabra, 1 to 2 feet, 20s. per 100
Pinus maritima, from pots, 40s. per 100
Roses, Standards and Dwarfs, a most superb collection, 12s. to 18s. per dozen
Hollyhocks, from double flowers, 8s. per 100
China Roses, 12s. 6d. per 100 Irish Ivy, 8s. per 100
Pinus Abies Douglasii, on their own roots (from seed), in pots, 2 to 3 inches, 42s. per dozen, or 15l. per 100. This is the hardiest and most magnificent of the Coniferæ.

The prices throughout are wholesale; if ordered in less quantity, a proportionately higher charge will be made.

HOT WATER PIPES, &c.

J. JONES, Ironbridge Wharf, No. 6, Bankside, Southwark, keeps a large Stock of HOT-WATER PIPES, with the usual connection for heating Buildings and Hothouses; also Socket and Flange Pipes, Bends, Branches, Syphons, Tees, Plug-pipes, and Lamp Columns; Rain-water pipes, Gutters, Sash-weights, Railing-bars, Air-bricks, Coal-plates, Scrapers, Tile-lights, Barrow-wheels, &c. The above Castings at very low prices, at JONES's, 6, Bankside, Southwark, London.

FIRST-CLASS GERANIUMS.

JOHN HINE is now sending out his NEW VARIETIES of this autumn, viz.:

Delight	15s. 0d	Brilliant	15s. 0d
Rodolphus	21 0	Safrano	10 6
Nobilissima	10 6	Magnibonum	7 6
Bellus	10 6	Childe Harold	15 0
Surprize	10 6	Venusta	15 0

Or the set of 10 for 5l. 5s.—For description of these, apply for Catalogue.

MILLER'S beautiful set of Eight, sent out for the first time last year, namely:

SCARLET DEFIANCE, ADMIRATION,
ROSA MUNDI, VALGIUS,
QUEEN OF KENT, CONSPICABUNDUS,
DISTINCTUS, FLORA'S FLAG,

Now only 1l. 5s.; or the two sets together for 6l.

Purchaser's selection from the following, at 25s. per doz.; or if taken with either of the above sets at 20s., namely: Snowball, Fireblaze, Garland, Salamander, Duke Constantine, Feu de Joie, Marion, Black Prince, Rosamond, Mount Etna, Voyager, Star of the West, Cruenta, Aurora, Brenhilda, Jenny Lind, Centurion, Isabella, Surpass, Admiral Napier, Blanche, Jet, Helidas, Hebe's Lip, Competitor, Bacchus, Lord Hardinge, Princess Olga, Mary Queen of Scots, Orion, Pearl, Pickwick, Rosy Circle, Desdemona, Pelida, Aurant a, Florence, Melpome, Superb, Speciosa, Turban, Zenobia, Mustee, Milo, Attraction, Magnet, Venosa, Miss Sebright, Paragon, Samye, Arabella, Negress, Mars, Sultan (Arden's), Avalanche, Favorita, Margaretta, Marc Antony, La Polka, Merry Monarch, Empress, Purpurea, Pilot, Imperialis, Virgil, Delicata, Smouche, Meteor Superb, Eclipse, Telegraph Beauty Surpass, Sanguinea, Antagonist, Virginus, Fairy, Tippoo Saib, and Formosa.

Also, a number of second-rate sorts, at from 10s. to 15s. per dozen, the selection left to J. G. H., and parties ordering may rely upon receiving fine and distinct varieties; but it would be well for them to send the names of those they possess, to prevent having duplicates. One or two plants will be put in gratis, to defray the expense of carriage. Cash to accompany all orders from unknown correspondents. Post-office orders to be made payable to the name of JOHN HINE, Providence Nursery, Ramsgate.

HENRY LITTLE, NURSERYMAN, SEEDSMAN, and FLORIST to the QUEEN, King's-road, Chelsea, has imported DUTCH BULBS and other Flower Roots, of first-rate quality, for forcing or border planting, and is now selling, as above, at the following low prices:

Fine named Dutch Hyacinths for glasses or pots, at 6s. per doz.
,, mixed Dutch Hyacinths, for splendid beds or early forcing, in separate colours, at 2s. per doz.
,, large Crocus, Yellow, Blue, White, Cloth of Gold, Striped, &c., at 2s. per 100.
,, large Seedling Polyanthus Narciss, for beds or pots, at 3s. per doz.
,, Narciss poetica (or Pheasant-eyed), ditto, at 2s. per 100.
Elegant early Tulips, in 30 named varieties, at 2s. 6d. per doz.
Fine Double Tulips, in 20 named varieties, at 4s. per doz.
,, Mixed Biblomen and Rose Tulips, at 5s. per 100.
Splendid Mixed Double Anemones, at 6s. per lb.
,, Single Mixed Anemones, at 3s. per lb.
Fine Gladiolus Bizantinus, showy border flower, at 1s. per doz. or 5s. per 100.
,, ,, carminalis (handsome), at 3s. per doz.
,, ,, floribundans, at 2s. per doz.
,, ,, psit acinus, at 1s. per doz.

All the usual varieties at corresponding low prices, Catalogues of which may be had on application.

A large quantity of Fine Dwarf-trained Peaches, Nectarines, Apricots, Greengage Plums, and Cherries, all the best varieties, at 30s. per dozen, of any of the above sorts.

A collection of choice Dwarf free-blooming Roses, in 20 varieties, at 1l. per 100.

MYATT'S LINNÆUS RHUBARB.—Messrs. J. MYATT and SONS have a stock of one-year planted roots of this superior variety, which has been the leading feature in the London Markets for several years, and which they confidently recommend as the best in cultivation—being far superior in point of produce and a fortnight earlier than their well known Victoria. It is also peculiarly adapted for preserving and all culinary purposes, and for richness of flavour cannot be surpassed; price 2s 6d. per root. Also Mitchell's Royal Albert, 2s. 6d.; and MYATT'S Victoria, 9d. The usual allowance to the Trade.

Post-office orders made payable to JOSEPH MYATT, Deptford.

DUTCH BULBS FOR PRESENT PLANTING.

WILLIAM DENYER, SEEDSMAN and FLORIST, 82, Gracechurch-street, near the Spread Eagle, London, begs to offer the to lowing:

	s. d.
Hyacinths, choice sorts, named ... ... per doz.	6 0
,, mixed, in separate colours ... ... per doz.	3 0
Narcissus, choice sor s, named ... ... per doz.	4 0
Early Tulips, for pots or the open ground, named sorts, per doz.	2 6
Best Dutch Crocus, named sorts, all colours ... per 100	2 6
,, ,, mixed, many colours ... per 100	1 6
Gladiolus Gandavensis, splendid, strong flowering bulbs, ea.	1 0
,, floribundus, superb variety ... ... per doz.	2 0
Lilium lancifolium album, strong flowering sorts, each	2 0
,, longiflorum, very pretty ... ... per doz.	6 0
Iris Persica, highly scented, for pots ... ... per doz.	2 0
,, English, mixed, with many colours ... ... per doz.	1 6

No charge for package.

A General and Descriptive Catalogue of Bulbs may be had on application.

TO THE AMATEURS OF TULIPS.

HENRY GROOM, Clapham Rise, near London, by Appointment FLORIST TO HER MAJESTY THE QUEEN, AND TO HIS MAJESTY THE KING OF SAXONY, begs to say that having been most successful in the cultivation of the TULIP this season, he can supply them at very moderate prices, including many of his New Varieties, some of which were noticed in the "Midland Florist" for this month. His Catalogues may be had on application.

THE LARGE-FRUITED MONTHLY RASPBERRY.—This fine autumnal-bearing Raspberry, the plants of which are now covered with blossoms and green and ripe fruit, differs from the "double-bearing" varieties in the superior size and flavour of its fruit, in commencing to bear towards the end of August, continuing in full productiveness till the middle of November, or even later if the weather be mild and open, and in giving its fruit on numerous lateral shoots from every cane from base to summit. Branches with fruit may be seen at Messrs. Hurst and Co., Seedsmen, Leadenhall-street; Kernan, 4, Great Russell-street, Covent-garden; and Clark, Seedsman, Bishopsgate-street, London. Plants 18s. per dozen. Carriage paid to London, package free.

THOMAS RIVERS, the Nurseries, Sawbridgeworth, Herts.

IMPROVED LOPPING SHEARS.—These very useful articles are made of the best steel, and so constructed that any green wood to 1¼ inch diameter can be cut with ease, and without the possibility of spoiling the shears. Price 10s. 6d. per pair, to be had only of JOHN SHELVES, Ironmonger, Sevenoaks, Kent. An order, enclosing Post-office order or postage stamps to the amount, will have immediate attention.

CEDRUS DEODARA FROM SEED.

YOUELL AND CO. beg to call the attention of Noblemen and Planters to the fact that they possess the largest stock in the country (raised from seed) of the above valuable and highly ornamental Evergreen Tree, which they can supply very extensively, in fine bushy plants, from 1 to 1½ foot, in pots, also smaller sized plants of the same.

TRUE FASTOLFF RASPBERRY.

Y. and Co. beg to announce they are now executing orders for the above in fine strong Canes of the same stock as they had the honour of supplying Her Majesty's Gardens and most of the Nobility.

FRUIT TREES,

Comprising the finest sorts of Peaches, Nectarines, Apricots, Plums, Cherries, Pears, Apples, Gooseberries, and Currants, warranted correct to name, as obtained from the London Horticultural Society.

WHITETHORN.

Several millions of fine Whitethorn, suitable for Planters and Contractors, at 3s. 6d. per 1000.—Great Yarmouth Nursery.

UNBLOOMED SEEDLING GERANIUMS.—Now sending out, plants raised from Seed, carefully selected and hybridized from the choicest flowers, free by post, for 7s. 6d. per dozen; or 3 dozen for 20s. Prepayment only.
JOHN HINE, Providence Nursery, Ramsgate, Kent.

AMERICAN NURSERY, BAGSHOT, SURREY.

JOHN WATERER begs to announce that Catalogues of his splendid collection of AMERICAN PLANTS for the present season are now ready for delivery, and may be obtained on application. The same comprises his stock in general.

BECK'S SEEDLING PELARGONIUMS.—A descriptive CATALOGUE of the above may be had in exchange for one postage stamp.
E. BECK, Worton Cottage, Isleworth.

The Gardeners' Chronicle.

SATURDAY, OCTOBER 21, 1848.

MANY of our readers may recollect that some few months since we reviewed a book written by Mr. JOHN SMITH, recommending fruits and farinacea, that is, a vegetable diet, as the only proper food of man. At that time we took occasion to point out what we regarded as the errors into which the author of that book had fallen. The advocates, in fact, of an exclusive animal diet, or an exclusive vegetable diet for man, are equally wrong, having the structure and organisation of man, as well as the universal practice of man, equally opposed to them. We only allude to this book now by way of illustration. That food which can be recommended by an intelligent man, as capable of supporting human life in perfect health—a fact demonstrated by the experience of thousands of individuals—ought not on light grounds to be condemned as injurious, and as subjecting those who do not even take it exclusively to an alarming and destructive malady. It has been recently put forth to the public that, as a precautionary measure, fruits and certain forms of vegetable diet should be avoided, in order to prevent an attack of Asiatic cholera. Had not this statement been circulated throughout the country as the recommendation of the central Board of Health, constituted by the new Public Health Act, we should not have thought it worth while noticing, especially as during the visitation of cholera in 1832 this same notion had been generally circulated, and was attended with such bad results that people who had abandoned a vegetable diet speedily resorted to it again.

We have in vain sought for the grounds on which the assertion is made, that the moderate use of fruit and vegetables, as a part of the diet, give any tendency to the disease known as cholera, whether English or Asiatic. On looking over the report of the Registrar-General, we find that deaths from diarrhœa and cholera frequently occur at periods when there is little or no fruit eaten, and when vegetables are least abundant. In addition to this we find that the most intelligent medical men attribute these attacks to the condition of the atmosphere, and regard as a mere old woman's fancy the popular notion that the "plum season" has anything to do with them. It is true that large quantities of unripe or decaying fruit, or uncooked vegetable matter, will produce disturbance of the bowels sometimes of a severe and fatal character, but this is just as true of animal food. Large quantities of indigestible animal food, as veal, pickled salmon, uncooked shell-fish, or meat in a state of decay, will as assuredly bring on these attacks as the substances from the vegetable kingdom. So that the objection lies, not against vegetable food, or animal food, as such, but against improper quantities or qualities of either. To show how absurd the objection to fruit and a mixed diet consisting partly of vegetable matter is, we may point to the experience of the "Vegetarians" (those who live exclusively on vegetable diet) during the cholera in 1831-2. From authentic statements it appears that such individuals, both in this country and America, were remarkably free from cholera, and, although we are far from recommending an exclusively vegetable diet, this fact proves the groundlessness of the apprehension that it would tend to produce this disease. On the other hand, the testimony is quite as decisive that those who exclusively ate meat, and especially those who combined this diet with stimulating drinks, were those who suffered most from cholera.

Under these circumstances we feel bound to lift our warning voice against the alteration of diet which the perusal of the Government directions is likely to produce, and we are glad to find that we are not alone in this respect. The *Daily News* of Tuesday last says—

"We stated the other day that we thought the directions of the Board of Health about diet were injudicious, and we are glad to have our opinion confirmed by so great an authority as the President of the Royal College of Physicians. Dr. PARIS, in speaking of the recommendation to refrain from a vegetable diet, says, 'The probable consequence would be to substitute a less healthy diet than persons have been accustomed to, and to prepare the way for the incursion of disease.' The general recommendation to abstain from all articles of diet that from experience are known to have 'a purgative effect,' will be very variously interpreted, and in some instances, we fear, lead to a diet which, by first producing constipation, will end in the very effect it is sought to avoid. Again, the recommendation to abstain from fruit is quite unnecessary. Sound ripe fruit, in moderate quantities, can in no way contribute to bring on a state in which there is any occasion for alarm."

We make these remarks early, in the hope of arresting an evil which falls heavily on a large class of industrious, hard working men—we mean the market gardeners, and those whom they employ. During the panic about vegetable diet, so unnecessarily produced in 1831, many market gardeners were entirely ruined, and great numbers of poor men were thrown out of employ. We hope, by the aid of our fellow-labourers of the daily and weekly press, that more correct notions of the true relations of diet to bodily health will now be diffused through the community, so as to prevent the equally serious consequences that arise from the consumption of improper, or the abstinence from proper, kinds of food.**

IN proceeding to consider in detail the culture of AMERICAN COTTON, we may safely consider the Sea Island, New Orleans, and Georgian Cottons, to be varieties of one species, that known to Botanists as Gossypium Barbadense; for the Mexican Cotton has been traced to the Tierras Calientes of Vera Cruz and of Yucatan; from thence we may suppose it was early introduced into the West Indies. The first cultivators of Sea Island Cotton trace their plant to the Bahamas, and the Bahama seed is said to have been obtained from Anguilla, one of the Caribbee Islands. We have lately had an opportunity of seeing several specimens of Gossypium hirsutum, and we find that they are only varieties of G. Barbadense, like all the above, as well as Bourbon Cotton. That some of these are perennial and others annual in habit is no valid objection, for we know in many cultivated plants that varieties which originated in accident, or were the result of a designed culture, have become permanent in character if similarly cultivated. It appears indeed that "any tendency which is once given to a plant may be carried on from generation to generation, by a careful attention to the stoppage of all disposition to depart from the new character."

So with Cotton itself, the Indian species, which is annual in the south of Europe, produces varieties which are perennial in its native country. The Cotton cultivated in the West Indies was perennial, and we have seen that the Mexican plant introduced into Texas survives for three or four years. Mr. SPALDING states that he has known the Sea Island Cotton "in warm alluvial lands to survive for five years." But both this, the New Orleans, and the Georgian Upland Cotton, are all cultivated as annuals. So in India we find New Orleans Cotton is usually cultivated as an annual, but occasionally as a perennial. Mr. PRICE, the American Cotton planter employed in Bengal, speaks of the plant as taking a few months longer before bearing, and says, "it is a triennial plant here, not an annual, as in the United States." But Mr. SPALDING observes that, "where the plant grows so large it yields no return of Cotton-wool to the cultivator," and also that "the Sea Island Cotton was very subject to this overgrowth when first introduced into Georgia." Even now in newly cleared lands it is apt to run into long shoots, in consequence of which planters in the first year take a crop of Indian corn.

In noticing the details of culture, we must keep these facts in mind, also that the winter of the Southern States leaves the soil in a moist and cool state, and that it is followed by frequent falls of rain in the spring as well as in the summer, and this in a climate which we have seen is upon the whole a moist one, and where, consequently, some difficulty is experienced in having the soil sufficiently dry for ploughing and sowing. Fortunately Mr. SPALDING says "Trees rather hardy to be known to the colonists, and was adopted for the Sea Island Cotton with great success." It may also be remarked that the cultivation of Cotton in the United States is more of the nature of garden than of field culture; meaning by the first culture in which more labour may be and is paid to plant and hoe, than to the latter in which the land is adapted to the species of crop, and each plant takes its chance among the rest. Mr. SPALDING considers a rotation of crops essential, or rather that an intermediate crop of corn should be reaped, and all root crops be avoided.

For the cultivation of Cotton the ground is well ploughed and cast into ridges which are about 10 inches in height but vary in breadth from 5 to 6 or 7 feet, according to the richness of the soil or the kind of Cotton to be cultivated. In general, the richer the ridges are in mould, so that the plants may grow to large may yet be able to cover the ground. The ridges allow superfluous moisture to be carried off by the water furrow, which a few showers cannot make into a trench. The soil is allowed to settle for a few days before sowing, as the young plants take root more vigorously than when they spring up in freshly ploughed and loose earth. Sometimes the ground is manured by running a deep furrow early in the spring between the old rows of Cotton stalks, which are beaten down into it by women and children, who follow the ploughman; or well rotted Cotton seed is added as a manure, and well covered up by forming a slight ridge over it. When the ground is quite prepared, a one-horse drill makes a slight furrow from 1½ to 2 inches deep along the centre of the ridge. The seed is sown and drops in the seed pretty thickly, which is immediately covered by a light harrow. The sides of the ridge. Sometimes five or six seeds are dropped into holes, which are made at intervals of about 9 inches, on the top of the ridge. In favourable weather the plants make their appearance in four or five days, and are thinned out as soon as they put forth the third or fourth leaf. This operation is performed by scraping out with the hoe all the superfluous plants and weeds, leaving three or four together, with spaces of 12 or 14 inches between them. When the plants are sufficiently established they are reduced to a single one, and care is taken to root up every particle of grass or weed. A light furrow is then run with a one-horse plough within 5 or 6 inches of the plants, turning the earth inwards towards the roots, and even drawing it around them with the hoe, in order to supply the place of that previously removed by scraping. Hoeing and ploughing are frequently repeated, in order to keep the ground free from weeds, and this is of essential importance towards obtaining a good crop. The above processes, besides loosening the soil and keeping it clean, must assist in drying it, at the same time that they prevent much lateral extension of the roots.

The Cotton plant is one of those having a tap root, which, according to the dryness or moisture of the season, will penetrate from 2 to 3 feet in the former, and perhaps not more than a foot in the latter. The plant may be fine looking in a moist season, when there are only short roots: but in a dry season, the roots having penetrated deeply, obtain a supply of moisture from a greater extent, and are necessarily better able to bear drought and the vicissitudes of seasons. The Cotton being sown towards the end of March or the beginning of April, attains, in about six weeks or two months, what the planters call a "good stand," that is, plants well grown, and at intervals proportioned to the richness of the land. About the beginning of June the weather becomes hot and the air dry; this checks the upward growth of the plant, while the root continues to penetrate deeper, and has thus to supply a smaller bush and less wood at the very time when there is a tendency to the production of flowers. But when the parts of vegetation have grown freely, in consequence of a moist season, the roots being easily supplied, spread little, and will be found small in proportion to the size of the plant. Here the hopes of the planter cannot fail to be disappointed when drought comes on. Though in the other case he has often been surprised with a good crop when the appearance of the plant above ground did not seem to him to give much promise. Topping or pinching off an inch or two of the top of the plant is not always necessary, but is useful when there is a tendency to the production of wood and leaves, to the detriment of flowers and bolls. The picking season, or when the capsules begin to burst, varies from the middle of July to that of August, and continues till cold comes on. The Cotton should be gathered as soon as the capsules burst, and should not be allowed to hang in the sun, or be exposed to the dews of night. If dried under shade the glossiness of its appearance is said to be improved.

The above may be considered as the general

features of Cotton culture in the United States. In Guiana, where the climate is both hotter and moister, and the land chiefly an alluvial mud, this is divided into beds, which are slightly elevated in the middle, and which are surrounded by drains, emptying themselves into trenches. By these the redundant moisture is readily carried off, and its lodgment prevented round the roots of the Cotton, which is so injurious to its growth. Topping or pruning is here more frequently practised, but may depend perhaps as much upon another species being that commonly cultivated.

The climates in which Cotton cultivation has been successfully carried on, being all more or less moist, means are necessary to get rid of superfluous moisture. It appears curious that the same Cotton should be successfully cultivated in Egypt, which is remarkable for being a dry climate; but here moisture is supplied artificially. Lieut. Waghorn some years since described the cultivation of the foreign Cotton in Egypt as consisting of four or five seeds being sown at every 18 inches, in trenches about 5 feet apart, though only one plant of each group, and that the most healthy, is afterwards left. The soil must be a rich and not a sandy one, situated either near the banks of the Nile or some canal near it, where there is water the whole year. It must be watered every three or four days when it first begins to sprout, and afterwards every ten days. The crop is gathered from June to January.

We have not alluded to the disasters which attend Cotton culture arising from "rains, winds, and worms;" also that a single night's frost in spring "will ruin the whole prospect, and require a renewal of the labours;" and after long continued drought "the whole plant puts on the appearance of having been scorched by fire." Some at least of these drawbacks must be looked for when the culture is tried in other countries. We shall proceed in our next article to consider the attempts which have been made to introduce the successful culture of American Cotton into other countries.

An obliging correspondent has pointed out an erratum in our Journal of October 14, page 683, column 1, four lines from the bottom, where occur these words: "In latitude 82° S., within 4½° of the tropic, &c." As this latitude 82° S. is far within the antarctic circle, where the foot of man never trod, it will be obvious that lat. 28° S. was meant. The error was caused by one of those accidental transpositions of figures which are apt to occur notwithstanding every care that can be given to the passage of newspapers through the press.

GERMINATION OF ANCIENT SEEDS.

I have recently received, through the kindness of M. Charles des Moulins, President of the Linnean Society of Bordeaux, &c., a small pamphlet entitled "Documents relatifs a la Faculté germinative conservée par quelque Graines antiques; réunis par M. Ch. des Moulins," and containing accounts of two instances in which very ancient seeds have germinated. As these cases seem to be very well authenticated, do not appear to be known in England, were published in the transactions of provincial societies, and moreover as the present pamphlet is not published but merely printed for private circulation, it seems desirable to give them additional publicity.

In the spring of the year 1834, M. Géraud de Marcillac, a proprietor of Monzie Saint Martin (Dordogne), when deeply trenching land discovered several remarkable tombs. They were formed of Roman bricks or rough stones, and in them the head of the skeleton was placed upon a kind of cushion formed of about two handfuls of seeds. In the same field were found a brick marked with the letters L V P, supposed to be an abbreviation of Lupus or Lupercus, a white marble monumental stone bearing the monogram of Christ, some stone coffins, and several other antiquities, but no weapons. A careful examination of the tombs was made by the Abbé Audierne, vicar-general of Perigueux, a distinguished antiquary, and they are confidently referred by him to the third or fourth century of the Christian era.

One of the brick tombs was scrupulously (scrupuleusement) retained untouched until M. Audierne's arrival and then opened by him. He found the seeds deposited as already described, and collected all that were in the tomb which he had himself opened. The seeds appeared to be those of a very small number of plants, and it was M. Audierne's intention to have retained them until he had an opportunity of determining their names. However in about two days a considerable number of them commenced germinating in the paper in which they were wrapped, and were therefore immediately sown in two flower-pots, and a plot of ground prepared for the purpose in the garden of M. Rousseau, a nurseryman of Bergerac. In the following month of August M. des Moulins visited the garden and examined the plants which had sprung from these seeds, and found them to be Heliotropium europæum, Medicago lupulina, and Centaurea Cyanus; but as all these are natives of that part of France, he observes that some doubt may justly exist concerning their being really the produce of the seeds from the tomb, and adds that "it is much to be regretted that so valuable an experiment was not made with every precaution to establish unquestionably its authenticity." He does not seem, however, to have any doubts on the subject, and adds that even supposing these plants to have sprung from seeds already in the ground, still the main fact of the seeds from the tomb commencing germination is proved, "*dans toute son intégrité dans toute son authenticité*;" for M. Audierne was induced to sow them because they had begun to grow within two days after they were taken from the tomb, and became exposed to the contact of air. The absence of a sufficient quantity of air he considers as the cause of their not germinating during the 1500 or 1600 years that they have been in the tomb. A translation of the paper of which the above is an abstract appeared in the "Companion to the Botanical Magazine," vol. ii., p. 293. The following is new to me:—"A Memoir," by M. Brard, at that time Director of Mines at Sardin (Ann. de la Soc. d'Agri. de la Dordogne, t. xvi., livr. vii., Juill. 1835) is added to the above, in which its author states that some of the seeds from the same tomb were given to him and sown with the greatest precautions to ensure accuracy. He boiled some earth for two hours, and after it became dry and cold, placed it in a flower-pot (*vase de terre cuite*), and sowed the seeds in it. Having thus placed them in earth in which no other seeds capable of growing could possibly remain, he also prevented accidents by covering the vase with a fine cloth through which air, water, and light could pass, but no seeds could be introduced by the wind or otherwise.

The seeds germinated in about six hours, and after they had produced their second leaves, were removed carefully into other pots, in which they flowered, and proved to be Medicago lupulina and Heliotropium europæum. He did not obtain the Centaurea. Whatever doubt might possibly attend the experiment of M. Rousseau, in this case there can be none that the seeds found in the tomb really produced the plants.

M. Brard then gives an account of another instance. Colonel Lapeyre, Maire de Saint Lazare (Dordogne), found in a part of his garden where he was digging the foundation of a building, an earthen vessel containing a mass of seeds mixed with earth into which they appeared to have been kneaded and together formed into a ball. It appeared upon careful examination that the vessel was found at a depth of 6 feet beneath the stratum of vegetable soil, which is itself 2 feet in thickness. Messrs. Brard and Lapeyre were quite convinced, from the appearance of the place, that the earthen vessel had been deposited in its bed of clay before the formation of the vegetable soil, which is of a different colour, and has been formed by the streams descending from the mountain of Poujouloux, on the slope of which the village of Saint Lazare is situated. The vessel also was considered by antiquaries to belong to an age anterior to the Roman conquest of Gaul.

At first sight the seeds seemed quite dried up, but when placed in wet cotton in a few hours they swelled and were, therefore, sown by M. Brard with the same precautions as he had taken with the seeds from La Monzie, and in the course of a week about 20 of them germinated, and proved to be Mercurialis annua.—*Charles C. Babington.*

FUNGI THE CAUSE OF THE POTATO DISEASE.

Several theories have been adduced to account for the Potato disease, and a multitude of empirical remedies have been suggested. The decay and death of the plant have been ascribed to the ravages of aphides. It is well known that aphides do often destroy plants by feeding on their juices; the Aphis rosæ is an example. A large field of Beans in this neighbourhood was last year destroyed by a species of this genus. But aphides were constantly found on the Potato, more or less abundantly, in years when the disease now in question was not discoverable, and they are found in years of disease on plants which escape it, and may sometimes be looked for in vain on haulms that are perishing under the influence of the murrain, as I can myself attest. Again, it has been attributed to an abnormal variation of proportion between the intimate chemical constituents of the tuber, which variation is supposed to be due to meteorological causes. But in the cells of the diseased tubers that are submitted to analysis, the microscope reveals the presence of granular bodies which are certainly foreign to their structure, and this must vitiate any conclusions from the chemical examination; and to call in meteorology to assist our conceptions is at present only to conceal our ignorance from ourselves.

Again, others have said that the plants become unhealthy and die from the presence of an undue quantity of moisture in the air, which renders their cell walls weak and prone to decay, which constitutes the disease; the fungi which are present only acting like carrion crows and scavengers by removing the dead matter. This again belongs to the domain of conjecture, for, besides the fact that the disease has appeared in a very dry year, plants, to all appearance in full vigour, may be inoculated by it; and the microscope shows that the cellular tissue of the tuber itself is the last part of the plant to be destroyed. If a portion of a diseased tuber in a perfectly deliquescent state from decay is microscopically examined, perfect cells can be found.

The fungal theory is not so easily dismissed. All observers are agreed that a minute microscopical fungus called Botrytis infestans is present on the leaves, and that granular bodies occupy the cells and intercellular spaces of the stalks and tubers. The question arises, Is the disease due to the presence of this fungus, or does the fungus merely find its site and aliment on an already decaying plant? It is perfectly well known that many species of fungi attack dead and decaying organic bodies, and consume them. But an organism in which the functions of life have ceased is not the only habitat of this family. Other species infest living bodies, as all naturalists know. The smut on the Wheat is familiar enough to the farmer, and is rather welcomed than dreaded, when not too abundant (whether foolishly or not), as the sign of a healthy crop. It may be prevented by steeping the seed in poisonous solutions, which destroy its germs. If the fungus depended on the unhealthiness of the plant, this plan would be without effect. At the present moment, in this district, distinct species of fungi are devastating the Lucerne, the Oats, the Beans, and the Grapes, both in the hothouse and out of doors. The latter disease, as far as I know, is confined to this locality. It has been described and figured in the *Gardeners' Chronicle* for 1847, by the Rev. M. J. Berkeley. Perfectly healthy and fruitful Vines here lost their Grapes by its agency.

Fungi also grow upon and destroy live silkworms and gold fish. They are found also on the mucous surfaces of the human body. It is evident, then, that death, complete or incipient, is not a necessary condition of the growth of fungi. Now this particular fungus, the Botrytis infestans, can be made to grow on any healthy-looking Potato plant, taken at random, and will destroy it. Last autumn, after the disease had passed away, several healthy Potato plants were growing in pots in a greenhouse. Some preserved specimens of the diseased leaves, on which the Botrytis was abundantly present, were shaken over one of the plants; the Botrytis was reproduced in a few days, and the plant perished with all the signs of the disease. The others not so treated remained perfectly healthy. One of these placed in juxtaposition to the diseased plant shared the same fate.

A simple inspection of the leaves of the plant, at the commencement of the disease, for a few days suffices to determine that the disease grows on the living tissue and not on the dead. An examination of the cellular tissue of the under surface of the leaf by the aid of a good microscope, shows the presence of fungus-threads creeping amongst the loose tissue, and sending up fertile shoots through the breathing apertures. These quickly increase in number so as to become visible to the naked eye, in appearance like the pile of whitish velvet. The whole substance of the leaf in this situation soon becomes brown. The first crop falls off, and the fungi are seen extending in an ever-widening circle, like the fairy rings in a meadow, and the brown desiccated tissue which it has left occupies a continually increasing area within it. The Botrytis has deprived the tissue of the plant of all that is capable of nourishing itself. The tissue dies, and the fungus no longer finding support, pursues it ravages on the living parts around. But the dead part is still capable of supporting the growth of other species, which feed on decaying matter; and if the atmospheric conditions permit the absorption of moisture by the perished tissue, such fungi may be observed growing abundantly on the tracts that have been thus forsaken by the Botrytis. This must be considered quite sufficient to prove that the Botrytis grows and feeds on living and not on dead plants.

As the disease proceeds, brown spots and tracts occur on the stems, and the whole plant withers and dies down. If suffered to remain in this state for some time, brown spots will be found on the tubers both externally and internally, particularly in the course of the spiral vessels. The microscope shows that these brown spots are due to the presence of minute granular bodies. There is great difficulty in demonstrating the existence of the jointed tissue of the fungus in this situation. A simple Codrington lens will exhibit it on the leaves. Yet, by placing the tubers in a moist place, the same Botrytis which was developed on the leaves grows from the surface of the brown spots, proving that these last mentioned bodies are a state of the fungus. The disease now extends through the whole substance of the tuber, and it ultimately becomes a pulpy deliquescent mass.

The circumstances which seem most favourable to the development of the fungus, are:—A certain season of the year, a moist atmosphere, deprivation of light and heat from the sun, so that the disease first appears and proceeds most rapidly in shady situations, and on the lower leaves of the plant. It is well ascertained that both in animals and vegetables, the functions which constitute life are in their greatest vigour previously to and during the reproductive nisus, and the tendency to death commences when the perpetuation of the species is secured; as the whole tribe of animals evinces. The Potato is no exception; and it is fair to suppose that it has not the same power of resisting disease after it has flowered and produced its seeds and tubers. But this diminished vitality cannot be the cause of the murrain, for in the absence of the Botrytis, the plant does continue to live, and to ripen its tubers after inflorescence.

To admit the notion of diminished vitality, in this sense, by no means invalidates the theory of the fungal origin of the disease. It may predispose to the invasion of the Botrytis, but it cannot be considered a disease of itself. In any other sense the idea of diminished vitality seems insusceptible of proof, for the plant that is about to perish in the manner here described may afford to any means of investigation we possess no evidence of debility whatsoever.

The facts above detailed will now be made the ground of some remedial suggestions. The formation of the tubers on the underground branches seems to concur with the progress of the flowers and Potato-apples. May it not be worth while, then, to assist the seed-forming effort by plucking off the flowers? It is

agreeable to analogy and experience to expect the prolongation of vigour, as well as the increase of crop, from this plan. A noted cultivator compelled the production of seed in an obstinate Potato plant, by contriving that it should not form tubers, and what is now recommended is the converse of the experiment. It may do something to save the plant from disease, and at any rate it has been proved to increase the yield of tubers in a very considerable proportion.

As the Botrytis comes only at a particular season of the year, which varies with the locality, if the tubers can be matured before this season arrives the early crop will be saved, as has been shown in this district in the present year. This is sufficient reason for increasing the breadth of early Potatoes. Again, it affords ground for thinking that the main crop should be planted so late that the haulms may be in a vigorous condition at the period most favourable to the Botrytis, and for some time after it has disappeared; the plants may have time to mature their tubers before the frost sets in. This experiment has been tried with great promise of success; Potatoes were planted here on the 31st July; they are already several inches high, and perfectly free from the disease.

As the general progress of the disease is from the leaves down the stalks to the tubers, it is obvious that when the leaves are dead and the stalks turning brown, and can therefore be of no further use to the tuber, the removal of the diseased parts as soon as they exhibit this condition may prevent the access of the disease to the tuber, and thus save the crop. This experiment is in course of trial by an intelligent cultivator in this neighbourhood. Doubtless the Potato thus treated will not be so large, nor the starch granules so numerous in the cells, but it certainly will be less prone to decay than if the granular matter previously described is added to these conditions.

Humidity seems absolutely necessary to this secondary growth of the Botrytis in the gathered tuber. Several specimens of diseased Potato, kept in a room where the air was rendered dry by an Arnott stove, remained as they were. When the stove was extinguished in the spring, although damp weather set in, the fungus did not resume its activity, and as much of the tubers as was not already occupied by the Botrytis remained fit for food. This points clearly to the propriety of drying the Potatoes thoroughly before storing them. If the sun is not powerful enough to do this, it may be accomplished by sufficient exposure in a maltster's kiln or a Hop-oast. To recapitulate the remedies suggested at present: Pluck off the flowers as soon as they appear; plant early Potatoes very early—the main crop very late; diligently watch the Potatoes, and remove the diseased parts as they appear; kiln-dry the crop before storing; *G. H. H., Margate, Aug.* 25. [Kiln drying Potatoes increases the mischief; about that there is no question.]

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

On Wintering Plants.—No delay must take place in getting your stock of plants for next year into winter quarters, since protection from frosts and rains is now imperatively demanded. The first thing is to see that your frames are in good order, with no broken glasses, and well puttied and painted so as to prevent the wet from dripping through. The best situation is against a wall, protected from north and east winds, as a cold blast will sometimes penetrate through all coverings and freeze the plants. To ensure dryness it is best to put the frame on a platform of old boards raised up a little from the soil. On these boards put a layer of ashes, to prevent slugs from getting through. Let the frame have a good slope, to throw off the wet. Having everything clean and in order, proceed to remove your cutting pots, and other more established plants, to the frame. Look over every pot as you proceed, and see that no slugs lurk in the hole at the bottom. Pick off all dead leaves, remove weeds, and stir the soil a little. If any of the pots are found to be very dry, a little water may be applied, so as to bring the whole stock into the same degree of moisture. Arrange the plants so as to prevent their being crowded, putting low ones next to the taller sorts, &c. When the frame is full, put on the lights at night, but remove them in fine weather. Nothing is more to be guarded against than damp and mildew, and whenever there is no frost, no covering will be needed. In about another month the frame must be surrounded with loose litter, to keep out frost, and thatched hurdles and mats kept ready for the lights in severe weather.

Many plants may be taken up with the spade, and placed in a frame without being potted. Verbenas, Calceolarias, Pentstemons, Heliotropes, &c., may be kept easily in this way, and young plants can be struck from this stock in the spring. Fuchsias and other fleshy rooted plants can be laid with the mould about them in any shed or stable, where they will be safe from frost; they will be found in good order in spring. Scarlet Pelargoniums must be kept in-doors, as all such succulent productions suffer easily from damp; but the other varieties will do well in a frame as above directed. If you have not a greenhouse and yet have a large stock to look after, you must fill all your windows with the best specimens, or put them on the floor of a light room. Watch for frosty weather, and then shut up the windows of the room until a thaw takes place. If the principle is remembered that plants want little or no water during their state of inactivity, and that cold will not injure them so long as the thermometer is not below the freezing point, every amateur will be able to afford protection to all his valuable flowers. Cactuses will do in any place; they do not even require light during the winter months, but may be kept in a dark dry cellar.

As many things look well in the garden even now, it is a pity to disturb them; but when the frost has robbed them of their beauty, then cut them down and put them into pots. This requires but little labour, and good plants of Pelargoniums, Verbenas, Calceolarias, &c., may be kept till the spring; *H. B.*

STATE OF THE IRISH POTATO CROP.

COMPILED FROM OFFICIAL DOCUMENTS.

Cork County, *Fermoy Union, Oct. 7, Major Bolton.*—Disease progressing; Potatoes cannot be depended upon as food for the poor during the ensuing winter.

Skibbereen Union, Oct. 7, Mr. Marshall.—No change perceptible; the Potatoes dug are not found to be so much diseased as it was expected that they would be. Much suffering from want of fuel apprehended.

Kerry County, *Kenmare Union, Oct. 1, Capt. Ommanney.*—Difficult to arrive at accurate conclusions; is of opinion that two-thirds of the crop may be destroyed.

Listowel Union, Sept. 30, Capt. Spark.—The observations in former reports apply equally to the present state of the Potatoes; they are in a rapid state of decay.

Tipperary County, *Clonmel, Oct. 7, Mr. J. Burke.*—Nothing new as to state of Potato crop; great portion of what is now being dug is sold in market at reduced prices (say 1*d.* a stone), and used for pigs.

Waterford County, *Waterford, Oct. 8, Mr. Barron.*—Potato crop not so bad as in Monaghan, Fermanagh, &c.; has seldom seen finer Potatoes, and the general impression is that half the crop will be available. Accounts of corn crops unsatisfactory; stated that they will not amount to an average. Great distress apprehended in the next spring.

County Clare, *Kilrush Union, Oct. 8, Capt. Kennedy.*—Adheres to opinion expressed in former reports as to Potato crop. Many persons saving the sound portion on speculation for seed; the diseased used for food. Sound Potatoes 6*d.* and 7*d.* per stone of 18 lbs., others purchased with avidity at 1½*d.* and 3½*d.* per stone; the whole crop is being rapidly consumed. A large portion of the corn crop uncut and seriously deteriorated. Farmers complain of the yield both in regard to quantity and quality.

County of Galway, *Clifden Union, Oct. 7, John C. Deane, Esq.*—Disease steadily progressing. Tubers apparently sound when dug, invariably become diseased when either housed or pitted.

Gort Union, Oct. 8, Francis Gibbons, Esq.—Greater portion of the crop black. Apprehended disease from the use of black Potatoes. Wheat deficient. Oats and Barley, much to be cut, owing to the heavy rains.

County Mayo, *Ballina Union, Oct. 8, Mr. R. Hamilton.*—Crop not more than half an average one; half the Potatoes in the ground unfit for use. Disease has not spread much during the last fortnight. Unfavourable weather for grain harvest. No money wages.

Longford County, *Granard Union, Oct. 7, Capt. Lang.*—I have to report that although a large portion of the harvest in this Union has been got in safe, yet there still continues a very considerable quantity of the Oat crop uncut, and in shocks upon the fields. With energy and exertion all might now have been in the stack yards, but there is a deplorable want of these qualities prevalent among the smaller class of farmers. I lose no opportunity of urging them to increased activity, and to a timely autumn preparation for the sowing crops to take the place of the Potato, upon which they ought no longer to place the same dependence they have hitherto done.

Longford Union, Oct. 9, J. T. Downman, Esq.—Potato disease has slightly increased during the week, but remains of opinion that nearly one-third of the crop is safe.

Meath County, *Meath, Oct. 7, Mr. Phelan.*—Potatoes much diseased; some represent three-fourths to be lost, but in general the statements are that there is not a sufficiency till Christmas; some fields in which scarcely any have grown, others in which not a tenth of an ordinary crop; has not seen a good Potato at table. Respectable persons state that Potatoes which were a few weeks ago comparatively good are now becoming unfit for use. Wheat universally represented as a deficient crop; Oats tolerable.

County Roscommon, *Boyle and Carrick-on-Shannon Union, Oct. 7, Capt. Wynne.*—No change apparent in the crop; one-fourth of it likely to be available. White crops in tolerably good condition. Oats, much not yet fit for sickle.

Boyle, Oct. 8, Mr. Flanagan.—Crop has escaped better than in other unions in the district. Accounts various; but at least one-third has been saved in this union.

Castlerea Union.—Much more unfavourable accounts. Potatoes cannot be looked to as an article of food for the poor; but large quantities will be saved and reserved for seed. Wheat, a light crop and grain inferior. Oats, crop good and quality of grain excellent.

Donegal County, *Glenties Union, Sept. 30, Capt. O'Neill.*—Examined Potato crop in Meevally district; a good number affected with blight, but on an average not more than one-third will be lost. Corn crop nearly all safe, and of good quality. *Oct. 7, Capt. O'Neill.*—Disease in the Potato crop does not appear to increase. Has examined them carefully wherever he saw them digging, and in no case did he find more than one-third affected, and in some localities not even that. The crop is not so abundant as in former years. Corn crop good, but there is much not yet cut.

Milford Union, Sept. 30, Mr. S. Horsley.—The prevalence of dry and cold weather has favoured harvest operations, and is said to have exercised a beneficial operation on the Potato crop in checking the progress of the rot. The safety of that portion of the crop which has hitherto escaped cannot, however, be reasonably calculated on.

County of Leitrim, *Mohill Union, Oct. 8, Major Halliday.*—Upwards of half the crop unfit for food from disease. An impression prevails that the rot has not extended itself, but Major Halliday thinks there is no foundation for it.

Home Correspondence.

The Neapolitan Violet.—At a late meeting held in the Study, Exotic Nursery, Chelsea, Mr. Cox read an essay on the culture of this Violet. "About the middle of April or the beginning of May," he said, "I prepare a compost of fresh loam and sandy peat, in equal proportions, and use it in as rough a state as possible. Some people use loam and leaf-mould, others make use of peat only; but I have found that this variety flourishes best in a compost of loam and peat soil in equal proportions. Having formed the bed of earth, I level it; then tread it firmly all over, and plant out the runners in rows 1 foot apart and 6 inches distant in the row. Much of our success depends on the keeping the runners cut close in as they are produced, from the time of planting out until the plants are taken up and potted; and I need hardly mention that the beds should be kept free from weeds. Stirring the soil, too, between the rows with a small fork is necessary occasionally. Watering must be attended to as often as it is required, and mulching in hot weather will hasten their growth very much. It will also be found that, in hot weather, the plants receive much benefit if they are shaded occasionally. Any old canvas or left-off greenhouse shading is the best material that can be employed for the purpose, as it does not altogether exclude the sun's rays, which is not desirable. If the plants are exposed to hot burning suns, it mostly occurs that they become infested with red spider and thrips—sometimes mildew; and after they are attacked by that they seldom do any good. My object for growing them in pots is this: I am convinced that as many flowers, and as large or even larger ones, can be produced in the same space, when grown in pots, as can be produced by planting them out into frames. In fact, I have always observed that the more room they have after the plants have attained a moderate size, the less likely they are to flower abundantly; and instead of producing flowers, they start to growing vigorously. They are also more convenient to gather, and they are handy in pots for supplying the drawing-room all through the winter. A few pots, nicely mossed and supplied weekly, have a charming appearance. I have seen from 50 to 100 expanded flowers, or more, on a plant. In the end of July or the beginning of August, I take the plants up and pot them into 6-inch or even 8-inch pots, and afterwards place them on ashes, with a layer of salt underneath, to prevent worms getting into the pots until the plants are required for excitement. I never allow a plant to flag for want of water, nor do I use stimulating manures until I see the blooms have begun to appear. I half plunge the pots in a little bottom-heat. It may be said that they may be made to flower very well in a greenhouse, and that bottom-heat is unnecessary; but to flower them well the application of a little warmth to the roots is beneficial. I have seen them flower first-rate in houses and in pits where the temperature was kept at 60° or 62° Fahr. at night, with a rise of 15° during daytime. The plants were brought on gradually before they were introduced into the above-mentioned temperature. All air possible must be admitted before noon, and by shutting up with a little sun-heat we obtain the flowers in perfection. By introducing a few pots into heat weekly a supply may be constantly kept up for the drawing-room and for bouquets from October until March, when we may begin to expect flowers on out-door plants."—Mr. Wood said he believed shading the plants in hot weather to be of more importance than was generally considered; *James Veates, Secretary.*

Autumn Planting Potatoes.—I tried this plan last year, and the year before, but in neither year have I had above a quarter of the crop that I had from those planted in spring, and treated in a similar manner. This year they came up early, although 8 inches deep, owing to the mild winter, and were so injured by the frosts in spring, that I only just doubled the seed I put in; *Street, Glastonbury.*

Insects the Cause of Disease in the Potato, &c.—In reference to the Podura which I sent you as being the cause of the Potato murrain, canker and mildew in Cucumber and Melons, &c., I am now clearly convinced that the insect in question is the first cause of these maladies. In an early stage of its existence it lives on decayed vegetable matter, which it collects by burrowing into the earth; 2d, it occurs in numbers sufficient to cover nearly the whole surface of the earth; 3d, it collects, as a means of existence, a substance which is poisonous to vegetables. It has power to infuse this into living plants by burrowing into the parenchyma; the poison is circulated through the system, vital action becomes suspended, mildew immediately follows, and, in less than three days, some of the plants attacked are dead vegetable matter—food for the offspring of the newly-discovered Podura. That there is a remedy

against the ravages of this insect is obvious from the following occurrences :—1. Nearly 50 lbs. of good Melons have been grown in a three-light frame, in the Kempshatt-park Gardens, from plants that were attacked early in May ; the plants, after recovering, remained healthy till the end of September. 2d. I have from another frame this day (October 12) cut a good 4 lb. Melon ; the plants in this frame were attacked early in August. 3d. The Potatoes grown in frames, in the same gardens, have never been injured to any extent. I will be glad to forward a boxful of this insect, and a few healthy Potatoes of 1847, now in a vegetating state, to any gentleman who will test the accuracy of what I have stated ; but this must be on conditions which I can hereafter mention ; *W. P.* [We insert this unwillingly ; but we trust our correspondents will excuse us if we should in future close our columns against such speculations. Insects are not the cause of the Potato disease.]

Planting Tulips.—When a Tulip grower I planted in the manner which I suppose to be common, viz, with a line from one end of the bed to the other, shifting it as each row was planted ; but somehow or other I never was satisfied with my work, the plants generally came up irregularly, and reflected no credit on my straightness of vision. Now that the season for planting is at hand, the plan that suggests itself to me is to mark the wooden bordering round the bed at every seventh inch with a white-headed tack, then to have a flat piece of board exactly 7 inches wide and about 1 inch thick, along which bore at equal distances of 7 inches, measuring from the centre of each, seven holes sufficiently large to admit readily the flat-pointed dibber, and to plant the bulb with the required sand. This piece of board may be easily kept from sliding about by nailing on the under side a small strip of wood at each end, and being placed exactly between the nails on each side the wooden border, and moved forward from rail to nail as each row is planted, must ensure equal distances throughout the bed ; a barrow load or two of earth can easily be added afterwards, to slope off the bed ; *Peter, Oct.* 16.

Bees.—In your Number for August 12, "S." requests information regarding bees. I give my experience of the last six years, first premising that my bees are kept in a garden, with an orchard nearly surrounding it, in which together there are about 100 Apple and Pear-trees, which I consider a very great advantage to bees. Beyond my farm are extensive heaths, and I pay great attention to growing Turnips for seed, and quantities of Wallflowers for early feed ; generally 8 or 10 acres of Trifolium, and as many of Buckwheat ; also some Mignonette and Michaelmas Daisies ; all of which bees are very fond of. The weight given is the weight of the honey in the comb as taken from the hive. I kept no account of what proportion the wax has to the honey ; it varies of course according to the season, but it is generally considered that in 20 lbs. of comb there are about 13 lbs. of honey, and, acting on this presumption, 20 lbs. of honey in the comb are sold for the same price as 12 lbs. of run honey in this neighbourhood :

In 1843, three hives produced	.. .. ..	115 lbs.
1844, four ditto ditto (very bad season)	..	20 ,,
1845, nine ditto ditto	.. ..	137 ,,
1846, account mislaid.		
1847, eight hives produced	.. .. ..	282 ,,
1848, four ditto ditto	.. .. ..	65 ,,

A respectable widow in this neighbourhood, who pays great attention to her bees, has given me an account of what she has done this year, and which account I am sure I can depend on. She had in the spring 18 stocks, from which she had 27 swarms, of which she took 22 hives, which produced 198 lbs. of honey and 18 lbs. of wax. The honey she sold at the same price she had done for several years past—7*d.* per lb. ; but then she hawks it from house to house, and sells it, if required, by single pounds. I have sold my honey at 5*s.* 6*d.* the 12 lbs., or 10*s.* the 24 lbs. The widow sold her wax at 1*s.* 3*d.* per lb. At the time she sold she had great difficulty in getting 7*d.*, owing to the great quantity of stolen honey in the market, but I am told that now honey is selling at 8*d.* The price of a swarm hereabouts in the spring is 10*s.*, but in the autumn a good hive, fit to stand the winter, is worth from 1*l.* to 1*l.* 10*s.* In 1847 I tried different kinds of hives, viz. :

1, Knight and Thompson's patent hive, glass top, gave	.. ..	26lbs. honeycomb
2, Polish hive	.. ..	44 ,, ,,
3, Common straw hive	.. .. ..	39 ,, ,,
4, Polish hive	.. ..	43 ,, ,,
5, Deep straw hive	.. ..	44 ,, ,,
6, Deep straw hive	.. ..	44 ,, ,,
7, Deep straw hive	.. ..	42 ,, ,,

The hives are numbered in the order they swarmed. The patent hive cost 20*s.*, the Polish hives about 10*s.* ; they will last many years. I made them by the "Bee-keepers' Manual." The common hive cost 1*s.*, and two rearings to it 1*s.* 2*d.* more. The deep straw hives I had made from an idea of my own ; they are made like a common skip, but are 23 inches deep and 15 ins. wide, have a flat wooden hoop at the bottom, in which are cut three or four holes for an entrance, and cost me here 2*s.* 6*d.* each. This year I tried two bee boxes, made according to the directions in the Edinburgh Journal of Agriculture for March 1847 ; they were made by a jobbing carpenter, who cost me 7*s.* 6*d.* whilst at work on them ; the materials I cannot put a price on, as the wood was grown at home. I had this year but 4 lbs. of honeycomb in one, and but 2 lbs. in the other ; but I have great hopes that they will answer another year. The bees are not destroyed. The honey is far superior to that in common hives, and another very material point is that the honey is taken without the least risk or difficulty. I have also tried straw hives, one placed on the other, and boxes also placed in the same manner, but I found them more troublesome than the common skip, and shall not use them again. "S." will perceive from the above, that estimating that 20 lbs. of comb produces 13 lbs. of honey, and 1 lb. of wax, the rest is bee bread, dead bees, and drop, which I believe if not quite correct is very near the mark, that in the two best years I made about 12*s.* 6*d.* one year, and 13*s.* the other, as I sold the wax for 1*s.* 6*d.* per lb., and that the widow this year made about 6*s.* 2*d.* per hive—all rather short of his estimate of 20*s.* per hive ; *A. K.*

—I have taken this year four caps, the produce from which was 47 lbs. of honey and wax ; the honey was sold at 1*s.* 4*d.* per lb., with the exception of 3 lbs. of honeycomb and 2 single lbs. of honey, which were sold at 1*s.* 6*d.* per lb. ; the wax was sold for 1*s.* 8*d.* I feed constantly at this season of the year ; also in the winter when not too cold for the bees to be out ; during the early spring and on wet days in summer. The cost of feeding with Foot's sugar, at 4*d.* and 4½*d.* per lb. is not much. I had a hive of bees given to me in the spring of 1845, and now I have eight hives. The part of the country I live in is not favourable for bee-keeping ; *A. B. C., Oct.* 8. [The statement that 47 lbs. of honey were obtained from four caps is worthy of notice ; the price is, however, fully 4*d.* per lb. above that which good honey usually fetches in most parts of the country, and as our correspondent feeds largely, its value should not be lost sight of. That all the colonies should have fared alike appears injudicious ; established ones surely cannot require feeding "on wet days in summer ;" the bees will not refuse it, and it will not injure them, but if they happen to be at work in the caps, the extra supply from dark sugar will spoil the quality of the honey. Having eight hives, if the produce in question is meant to show the real profit from them during the season, it must be stated at a little less than 6 lbs. a hive.]

Popular Superstitions.—Many of the readers of the *Chronicle* may be ready to say,

> "Whither be the Violets gone ?
> Those that bloomed of late so gay,
> And in fragrant garlands strown
> Decked the blooming flower queen's May.
> Youth, alas! the spring must fly,
> Yonder Violets withered lie.
> "Whither are the Roses fled ?" &c.

But although spring Violets and summer Roses die, we sometimes meet with such flowers in autumn ; but how are they received by many ? not with joy but with fear and trembling. Wellsford, in his "Scents of Nature," records that "when Roses and Violets flourish in autumn it is an evil sign of an ensuing plague the year following, or of some pestiferous disease ;" and as has been remarked in "the flowers of the year," so the blooming of a flower which might have told of God's love was enough to trouble a man's mind, and to presage ills which should have no existence but in his own imaginings. It is really surprising to think in how many ways the peace of some persons may be disturbed, and not only their own peace, but they endeavour to mar the happiness of others, so that there appears to be truth in the statement of Burns when he said, or made the dog say,

> "But human bodies are sic fools
> For a' their colleges and schools,
> That when nae real ills perplex them
> They make enow themselves to vex them."

I was lately told by a man who considers himself very sensible, that something strange was to happen soon, because the Beans in the pods were all attached to the wrong side. The legume, we are told, is to be found in its most genuine state in the Pea, where it is a follicle opening by both dorsal and ventral sutures into two valves ; and "School Botany" teaches us that most fruits which split into valves are called capsules, with the exception of the legume or pod, which has two valves and a placenta on one side, as in the Pea. Now, has it ever happened, or is it likely to occur, that the placentæ of Peas and Beans are to be found attached to one suture this year and to the opposite the next ? I received one of the pods which was said to contain the wrong-placed Beans, with orders to examine those of the garden. I did so to please the person, and found the field Beans and the garden Beans to be in their proper position. It is remarkable that so much old prejudice and superstition should still exist, for there are still many who form their judgment of things beforehand, without the least examination, and instead of thanking God for giving us our sweetest and fairest flowers and most valuable vegetables, look upon them with dismay, and earth's fairest gems become to such minds as the Apples of Sodom were to the devils who were driven out of heaven ; *P. Mackenzie.*

How to prevent Celery from "Piping."—I have worked many years in a garden, of which the natural soil is clay. Though there has been much pains and skill bestowed on the cultivation of Celery, it has always been more or less "piped." I have not been able to correct this since I had the garden under my charge till this year, when I thought I would try the effect of not transplanting. I sowed as usual, and thinned out sufficiently to allow of my earthing up each remaining plant in its original place. I earthed up with soil from the frame-yard. I have very large Celery and not a stick I have yet cut has been piped ; *Jack, Castlecarey.*

White Mulberry.—If any one would tell me the best way to treat a white Mulberry, I shall be obliged. I have had one against a wall 5 years in a favourable situation, which I prune as I do my other wall fruit ; but it does not bear, though it has every sign of health ; *Jack, Castlecarey.*

Aralia Japonica.—Is this singularly ornamental plant generally known to be hardy. [Yes.] A small one planted out in the spring of 1847 is now in a flourishing condition here, and I had the pleasure, a few days back, to see, at the Milford Nursery, in this neighbourhood, a fine specimen in full flower, which had been planted out previous to the long and severe winter of 1846. This is some proof of its hardiness ; *H. Bowers, Busbridge, Godalming, Surrey.*

Glazing.—Since glass has become so much cheaper, I have been frequently trying plans how to unite with it the utmost possible cheapness in the construction of frames and greenhouses, so that they might fall within the skill of the common village carpenter. The great obstacle that I have met with is this : I can nowhere meet with the sash-bars or rafters ready rebated to receive the glass ; and yet one would think that such things could be easily and cheaply made in lengths at our sawing or planing-mills, as well as the mouldings which are now so much used, as made by them. I tried to obtain them in several places in London, but without success. Perhaps you may know where these articles are to be met with. If the price of greenhouses could be much reduced, they would become common in many places where they are not now thought of, and would give a great impulse to gardening ; τ [Mr. Paxton long since published an account of a machine for doing this work, and it is stated, at p. 423 of our volume for the present year, that sashbars may be obtained ready sawed, with the rebate for holding the glass, at Montgomery's Saw Mills, at Brentford.]

Friable Soils Lightly Manured v. *The Potato Disease.*—I have this day been taking up some Potatoes of the "Early Frame" kind, of unusual produce, and particularly free from disease. The produce is about 3 bushels (Winchester, 24 gallons) per yard (18 feet square). They were planted in February, and were thought to be the worst manured lot I had. I had planted about 60 yards, and had some good seed left, but my usual manure (dung purchased from towns, cottagers, &c.) being expended, I had some leaves collected, mixed with sea sand and ashes, and applied this very light manure with the expectation of an inferior crop. I have used various manures, and my crops on the same garden have all turned out fairly. They exhibit, however, disease in all instances, but always in a less ratio with the friability of the soil, induced by the nature of the manure. The produce of the ashes, sand, and leaves is immense, and exhibits very little disease ; and nearly all the Potatoes are perfect in their kind. It would therefore appear that anything that would facilitate percolation would, in a measure, prevent disease ; though this must be in good soil, where the Potato has strength, for I have much disease in a most friable soil of decomposed granite, but the soil is poor and badly manured ; *N. Kendal, Pelyn, near Lostwithiel, Cornwall.*

Strawberry Cleaning.—Go over the rows and hand-weed them ; then, taking a pair of Grass-edging shears, go along the side of each line and cut the runners, but as few of the leaves as possible. This done, and everything cleaned off between the rows, take short hold of a Dutch hoe by the handle (a fork will do better where the ground is much trodden), and stir the ground well. In this state they may remain till February. Then, taking the opportunity of the frosty mornings, give them a mulching of cattle dung (gathered from the parks) of about 1½ or 2 inches in thickness all over between the lines. Smooth it with the spade when put on, and, to give it a neat and agreeable appearance, a barrow-load of earth can be taken occasionally when the work is going on, and thrown along the surface of it. Your varieties being good, and these directions attended to, you will always succeed, even though the season be dry, in having good Strawberries ; *H. Morgan, gardener, Inverie, N.B., Oct.* 9.

The Potato Crop in the North of Scotland.—The disease has, indeed, appeared everywhere, but your correspondent of last week is wrong in affirming "that it has done no great injury as yet ;" for it will be found to have occasioned much serious loss. In the vicinity of Aberdeen it was first observed in the same localities where it broke out in 1846, viz., on the banks of the Dee, but at a somewhat earlier period, viz., in the beginning of July. Towards the end of that month a field was pointed out to me in this neighbourhood, where it had commenced its attacks ; and from that time it continued to extend its ravages, assuming a westward course, showing itself more destructive in certain situations than in others ; but, as far as I can learn, sparing none entirely. On the nights of the 13th and 14th of August we had an uncommonly severe frost, which blighted the tops of the plants in all the low grounds ; and either from this cause, or from the inclemency of the season, the tubers have never ripened thoroughly. Now that great part of the crop has been dug up, I should say that more than one-half may be pronounced to be tainted. Of the different varieties cultivated, the early kinds have suffered least. Of the late, that known by the name of the Cups is the most free from disease ; but judging from past experience, there is too much reason to apprehend that many of the tubers which, when taken up, appear to be sound, will become tainted when pitted. Last year the sets of the Bermuda Potato, which I had in my garden, produced a crop of healthy tubers. This year, although the foliage was vigorous, and until lately gave no indication of decay, two-thirds of the tubers are diseased, and many of them are perforated in all directions by slugs. This I have not observed in other kinds ; *A. H., Oct.* 14.

Growing Plants in Nutshells.—Those who are interested in the nutshell culture of plants will find the present time favourable for commencing operations. Choose for the purpose some nice little short-jointed half-ripened cuttings, which are generally to be found on branches that have been much exposed to the wind. The rose ark applies to Verbenas, Roses, Pelargoniums, Fuchsias, or other favourites. Pinch off the bottom leaves, and insert the cutting about half way up in silver sand. Place them in a little bottom heat, and tilt up the light so that they may enjoy a full current of air, and keep them moderately dry. When they have made their first roots, which will be in about three weeks, take them out carefully and plant them firmly in the nutshells for their winter's quarters. The soil best adapted for plants in nutshells is a thoroughly decomposed vegetable manure mixed with silver sand. A single, or what is called a one-light frame, will be quite sufficient to accommodate a moderate collection of plants. The frame should be 4 feet by 3, and about 2 feet deep; *W. P.*

Glass Burning.—My experience leads me to conclude that sheet glass burns only in a moderately dry and close atmosphere, and that with a plentiful supply of air and water its injurious tendencies may be counteracted. In the year 1841 I planted young Vines in a new range of houses glazed with 16 oz. sheet glass, and every leaf was burned to the extent that I could not place a shilling entirely upon green on any part of their surface. The following year I increased my means of admitting air, and likewise increased the atmospheric moisture materially in the houses. Since that time I have had no burning until the Grapes were ripening, and the moisture lessened for their benefit; more or less burning has then annually occurred; *George Wells, Scotney.* [This reads like a case of *scorching*, not burning.]

Royal Horticultural Improvement Society of Ireland.—In your article of Sept. 30th, upon the Irish Horticultural Societies, you strongly recommend a union of the two bodies, and in this you are seconded by Mr. Walker in a short but sensible letter in the *Chronicle* of Oct. 7th. That this would be a very desirable consummation few will be likely to gainsay, but I doubt the likelihood of such an occurrence being brought about under existing circumstances. The great obstacle, at least one of them, to the union of these two societies is, the principles upon which they are severally founded, one exclusive and the other popular. No men in society require to sustain a higher character, morally speaking, than gardeners generally, and there are few members of society from whom so much is required, forming the necessaries, nay, the very luxuries of life; and it is these men who are expected by the Royal Horticultural Society of Ireland to consider themselves as absolute nonentities; unworthy, in fact, of appearing in the position which they are, *de facto*, obliged practically to occupy; they deeply feel this anomaly, and it must eventually recoil upon that society. There remains, therefore, no other rational course but to permit each society to follow its own way until the unpopularity consequent upon mismanagement brings with it its natural results, by leaving the impracticables to dissolve quietly away. With regard to the "confession of errors," you seem to couple the Royal Horticultural Improvement Society in something like equal culpability with the other. Now I must, with the greatest respect for your generous advocacy of horticultural science, particularly in Ireland, protest against such an hypothesis. This Society has no such errors to confess as have from time to time graced the pages of your journal with regard to the other society. And although the committee have had almost insurmountable difficulties to contend with, still all their proceedings have ever been marked with straightforwardness and candour; *John C. Humphreys, Honorary Secretary, Oct.* 16. [We regret to hear that the Societies cannot be combined: if that be so, then they should both be dissolved and a new one formed. We should be sorry to let it be imagined that we attach to the Improvement Society any such blame as belongs to the Royal; but it is not faultless, as Mr. H. will learn by letter in a few days.]

Societies.

Botanical of London, *Oct. 6th.*—The Treasurer in the Chair. Mr. G. S. Gibson exhibited specimens of Melilotus arvensis (Wallr.), collected in the neighbourhood of Saffron Walden, Essex, which appear to be an identical species with M. Petit-Pierreana (Willd.), except that the latter was founded on a white flowered variety according to Koch's Synopsis, although other German botanists label the yellow-flowered states by the name of Petit-Pierreana. Mr. Gibson explained the distinctions between the new species and M. officinalis, with which the yellow flowers might cause it to be confused; but in technical characters it is otherwise more allied to M. alba (Des.), and from which the white-flowered variety of M. Petit Pierreana will with difficulty be distinguished, if it should be found in England. Mr. Thomas Moore, communicated a paper, being "Notes on Two Varieties of Pteris aquilina."

Reviews.

A Descriptive Catalogue of a Selection of Roses Cultivated for Sale. By A. Paul and Son, Nurserymen, Cheshunt, Herts. Edition for 1848-9.

The Same. By John Cattell, Westerham, Kent.

Two more good Rose catalogues have been forwarded to us. Both are creditable to their compilers, and will be found useful guides to the Rose grower. In Mr. Cattell's, the following paragraphs seem worthy of extract.

"The month of November is the best season to transplant the generality of Roses; nevertheless, they may be safely removed as late as March.

"*General Directions as to Soil.*—The first and most essential thing is a dry subsoil; this must be so naturally, or made so. In light soils, add some good strong loam with some half rotten stable dung, and let it be well mixed with the earth by being trenched and cross trenched: charred earth burnt in a smouldering heap, and applied to Roses in any soils, will be of great benefit. The best manure for Roses is pigeons' dung, but as this can only be procured in very limited quantities, strong liquid manure makes an excellent stimulant, stirring the surface and pouring on the liquid at various times in open weather during winter, giving the usual stirring of the surface in the spring, always remembering that the roots of Roses go a long distance in search of nourishment. After planting, each standard should be tied to a neat stake, to prevent their being blown about, till they are firmly established in the ground.

"Orders for dwarf Tea-scented, Isle de Bourbon, China and Noisette Roses, are chiefly executed in April and May, that being the best time for planting these classes in the open ground; to protect these in winter, heath or moss may be laid over the ground, and round the plants, about 4 inches from the stems and a foot thick: this should not be put on till severe frost sets in, it may then remain till the beginning of March, or later if the season is backward, which will keep the ground from being frozen: they will grow vigorously from the roots in spring, and flower freely during the summer and autumn."

Garden Memoranda.

Trentham Hall (*continued from p.* 687).—Passing from the flower-garden to the shrubbery, a mass of rockwork on the opposite shore of the lake is seen jutting forward with admirable effect. Its appearance is excellent: unlike much of the rockwork we see, it has been executed so as to harmonise with everything around it, and that is what rockwork very seldom does. Every situation, however, does not admit of this kind of embellishment, and it is indeed difficult to render rockwork bearable at all on flat surfaces. The greatest triumph which has been effected on such a surface with ornamental rockwork in this country is, as far as we have seen, at Elvaston, in Derbyshire.

The most ornamental portion of the pleasure-ground at Trentham, as well as the most interesting, was a few years ago a mere quagmire; and when we reflect upon its proximity to the mansion, it must have been an unseemly feature of the place, as well as an unhealthy one. Mr. Fleming has most effectively drained this fen of some 10 or 12 acres, and planted it in irregular masses, which are surrounded by a carpet of turf of the smoothest description. The planting of this ground has been accomplished with the utmost skill, and the whole arrangement, which is that of a kind of arboretum, is eminently effective. The beds are generally of very considerable dimensions, and irregular in their outlines; at least mostly with occasional deep recesses of lawn. A group of hardy Rhododendrons and Kalmias has one projecting point ornamented with Pernettia mucronata, a recess with Gaultheria Shallon, another point with Rhododendron ferrugineum, succeeded by Daphnes of sorts; these, therefore, constitute a bed of American plants, which, edged with common Heath, thrusting itself luxuriantly upon the lawn, has a charming effect. The latter is enhanced considerably by an irregular patch of wild Heath, which is planted on the lawn, a little in advance of the edging. A Rosery is also introduced in this shrubbery, and is planted with all the best Roses; the climbing varieties are carried over arches, and also trained to pillars; the Perpetual Roses were, when I saw them, in full beauty, and on account of this property of flowering in autumn demand our warmest commendation. They almost perpetuate the summer to us until frost destroys them.

In some large masses of plantation, which blend the shrubbery into the more lofty trees, we find the Arbutus and Yew in the background, while in advance a group of Crataegus, embracing nearly all varieties, takes its position. In spring and autumn these Thorns are extremely ornamental, both as regards flowers and fruit. In winter the eye penetrates the Thorns and rests satisfactorily on the bank of Arbutus and Yews covered with their berries; but here again there is no tameness, no lack of variety, for immediately in front is a mass of common Furze and Heath bursting out of the smooth green velvety sward. The contrast is striking, in consequence of some of our rudest plants being placed in highly dressed ground, and surrounded by an endless variety of the choicest plants of all countries that will stand the climate of Trentham.

As we proceed we approach the Italian group, which covers a large space with bold promontories, and some parts of it are considerably elevated. We have here those plants sacred to the soil of Italy and the south of Europe, several species of Quercus, the Stone Pine, Pinus maritima and palustris; then the Cypress standing forth in bold relief; this, as may be readily inferred, is a group of much historic interest, but not less so than one which immediately follows it, and which is dedicated to the Conifers of Mexico. We have here these beautiful long foliated Pines which the Horticultural Society of London has been instrumental in adding to our collections of Coniferous plants [illegible] Deodara, Rosemania, Hartwegii, &c., three [illegible] As a striking contrast to the group, we have next a large group of Abies canadensis, than which we know of no more graceful tree. [illegible] the shores of North America, the [illegible] being prettily dotted [illegible] Proceeding beyond one of the [illegible] a large bush of wild Honeysuckle, [illegible] more startling and at the same time more [illegible] than to find the friend of our cottage [illegible] proud a position! A large group of [illegible] were every species and variety [illegible] tion. Of these [illegible] to add to their effect, [illegible] the edges were [illegible] had a peculiar effect. On the [illegible] up, the effect which [illegible] ends to a large and graceful [illegible] and effective feature in such a [illegible] Tree Ferns, Dicksonia antarctica and Arauja japonica seem to [illegible] genial climate of this district, and a group of these, together with Weigela roseas, [illegible] matus and rum, tree [illegible] Anemone japonica, had a capital effect.

An extensive plantation which clothes a part of the bank of the lake has been [illegible] composed of large beds of [illegible] Heath, and towards the margin [illegible] of foliage are seen from the opposite [illegible] are composed of plants seldom used for such a purpose; Heracleum giganteum, Rheum, [illegible] &c., are employed to carry out the design, which, as it has been stated, looks well from the opposite shore where the effect is required. Being in the [illegible] of these are white and yellow Broom in large quantities. To add character and to give effect to a [illegible] seen from a distance, Mr. Fleming has [illegible] patches of common Aconites, Digitalis, [illegible] similar showy plants with the [illegible] not fail to meet the fastidious [illegible] highly beautiful and [illegible] Arbutus, Irish Yews, Irish Junipers, [illegible] spaces intervening are all covered [illegible] and all are pegged; one of these [illegible] bed: one of the many wild [illegible] they were dropped by Nature [illegible] posed of the common Hedge [illegible]

This garden as a whole [illegible] tion, whether in the variety of the [illegible] evolutions which mark the [illegible] multitude of plants, pegged [illegible] which covers the surface. We [illegible] after another department of this [illegible] occupy our attention; *G.*

Miscellaneous.

Diseases of Sydney.—The [illegible] are subject to two diseases: one [illegible] kind of dry rot [illegible] death (*la mort*), is chiefly humidity of the [illegible] bulbs. Some agriculturists have cured the [illegible] by placing the bulbs for some days in well dried marc of Grapes. The death [illegible] Two different kinds of insects are found on the bulbs affected by this malady. These diseases are known to attack the bulbs. The first is the rot (*Fumago*), which, though visible externally, destroys the substance of the bulb. The second disease is a Tremella, like excrescence (Rhizoctonia crocorum, Decand.), which appears mostly on the inferior part of the bulb, which it deprives of its nourishment. Both of this as well as the before-mentioned disease, is not common. The latter can be removed by picking the bulbs. The third is the most fatal malady. It is called the death (*Tod*). It consists in the formation of a malignant, woolly, mould-like fungus, composed of several separate balls of the size of a Hazel nut. These are partly on the bulb, partly 1 to 3 inches distant from it; but they never appear at the surface of the ground. From these balls a large number of violet coloured, fine, woolly fibres spread, partly from one ball to the other, partly surrounding the membrane of the bulb like a net. They penetrate beneath the membranes to the substance of the bulb, and then kill it. In Lower Austria the disease is called the brand, or austral. One such diseased bulb is sufficient to infect a whole garden. The existence of the disease is known by bare circular spots in the Saffron garden; in the bulb itself black holes are perceived, as if dusted with soot; sometimes they look as if burnt. Duhamel advises the spread of the disease to be checked by digging a foot deep around such infected spots and placing in heaps the earth of the infected spots; *Pharmaceutical Journal.*

Sale of Orchids.—A collection of Orchids, which was brought to the hammer yesterday by Mr. Stevens, fetched the following prices:—A Maxillaria and two Oncidiums, 17*s.*; a Cirrhaea, Dendrobium fimbriatum, Cyrtochilum maculatum, and Epidendrum cinnabarinum, 11. 4*s.*; an Epidendrum, two Oncidiums, and Lælia purpurascens, 10*s.*; a Liparis Dendrobium moniliforme, an Epidendrum, and Cyrtochilum maculatum, 12*s.*; a Cattleya, an Epidendrum, a Bletia hyacinthina, and Epidendrum ciliare, 15*s.*; Dendrobium aggregatum, an Eria, Bletia, and Epidendrum, 5*s.*; two Oncidiums, an Epidendrum and Trichopilia tortilis, 7*s.*; Cyrtopodium maculatum and three other plants, 4*s.*; an Acineta and two others, 9*s.*; A. Humboldtii, 3*s.* 6*d.*;

Dendrobium nobile, fine plant, 2*l.* 2*s.*; D. Wallichii, and Lycaste aromatica, 1*l.* 10*s.*; Cymbidium giganteum, 1*l.* 10*s.*; Vanda Roxburghii, and Dendrobium pulchellum, 2*l.* 10*s.*; two Peristerias, 1*l.*; other lots, of which there were in all 125, fetched from 5*s.* to 12*s.* per lot, of from two to four plants.

Calendar of Operations.

(For the ensuing Week.)

Preparations for Winter.—There should be no more delay in carrying out the necessary preparations for severe weather. The angry storms of autumn are gathering power, the daily limitation of solar light, the brooding mists, and above all, the fall of the leaf, are significant warnings to all whose interest extends to a garden, of the approach of winter. Whenever out-of-door operations are interrupted, the formation of all sorts of protective materials can be actively promoted; the stock of Russian mats should be tied, and others of reeds, straw, &c., fashioned. A contingent should always be held in hand, as a resource against accident in the houses, or extraordinary weather; a store of sawdust and wood-ashes should be kept under cover ready for the stock, which it is necessary to protect by plunging. Damp, rotten plunging matter is worse than useless. Young and rare Pinuses planted out may be guarded from the weather and the attacks of rabbits by a circle of Furze, 2 feet high, stuck funnel-wise around them. Fern should be collected as soon as possible for covering. Leaves (Oak, Beech, and Chestnut are the best) must be regularly collected; an ample store is necessary in every department. If a surplus supply may be relied on, a pit may be dug 4 feet deep, capable of receiving a frame of a dozen or less lights, and filled. From a rude pit of this kind we took three crops during the last season, viz., Asparagus, Seakale, Rhubarb; early Potatoes; and Melons; and even now some slight portion of heat remains. The body of leaves was very considerable, and only rose on a level with the surface.

CONSERVATORY AND GREENHOUSE.

There is often occasion to employ fires at this period in the year, as much to promote an active ventilation, and remove all superabundant moisture, as to make up for the deficiency of heat from external sources; however, assistance of this kind must be used with the utmost circumspection, and no actual interruption given to the system previously commenced, of gradually reducing the temperature to correspond with the natural decline of the season, and consequent limitation of solar light and heat. Considerable mischief cannot fail to ensue from an injudicious application of fire heat, particularly if used at night, and this should be held in view throughout the season. This rule of treatment applies more particularly to conservatory and greenhouse stock, which it is desirable to maintain in a state more or less quiescent. A contrary system must be put in force with growing Begonias and other stove plants for early flowering. The incitement of bottom-heat is of the utmost advantage, and that of course can be best secured to the plants by plunging them in the bark or leaf beds.

FRUIT FORCING.

Vineries.—Vines put in action at a season of gloom and frigidity require more support from the roots than they would at a more suitable season; a perfect unity of excitement becomes essential. Early precautions should be taken to prevent the drenching rains of autumn from charging the borders with their torrents. It is not so easy to throw heat into a border so situated. By covering the borders about this period, a good deal of wet may be excluded, and a proportion of terrestrial heat retained in the ground. Attend constantly to the preservation of late Grapes by maintaining an active ventilation, and thinning out all defective berries as soon as they exhibit signs of decay. *Peach Houses.*—The trees should be occasionally looked over, and all decaying leaves lodging on the stems removed. As soon as the leaves are fully matured and ready to fall, exposure, hitherto interdicted, may be permitted, and after a few days, the trees being clear of leaves, they may be pruned and carefully washed. This last operation may be repeated, as the complete eradication of the scale is a matter of some moment in Peach management.

FLOWER GARDEN AND SHRUBBERIES.

The weather has assumed an aspect so decidedly wintry that further hope for the lingering beauty of the parterre can scarcely be indulged. While a remnant of the summer's gaiety remains in verdure, it should be permitted to occupy its position, as anything is preferable to bare beds; due care must be taken for a future season in the preservation of such tender massing things as may with advantage be preserved for a second season's display; the dwarf Scarlet Pelargoniums and various Fuchsias repay the trouble, and are especially useful for vases or large beds. Roses may be transplanted towards the end of the month; preparations should be made to receive such subjects. Fresh loam, rotten stable litter, and burnt earth, form an excellent compost. Hardy creepers should be examined at this season, and all unnecessary spray removed, and their security from the blasts of winter ensured; examine stakes and ties generally; forward all preparations for planting evergreens, lay turf, prevent the accumulation of leaves on borders and walks. In situations where peat mould is scarce, its substitute (leaves and sand), may at this season be in course of formation. Garden rubbish may be made available again for garden purposes, if ridged and occasionally turned over; from it the wood-ash heap may also gain assistance.

FLORISTS' FLOWERS.

Uncongenial weather may now be expected; amateurs will, therefore, take care that nothing is left undone which can conduce to the safety of their several favourites. *Auriculas.*—However these plants are sheltered from heavy rain, still it is highly important that they should have all the exposure possible, as far as air and light are concerned. Should any surface soil of the pots assume a wet, mossy appearance, it will be evident that the drainage is affected, and the sooner it is seen to the better it will be for the health of the plant. Water must be given sparingly, and constant attention will be requisite to ensure a fine bloom in spring. When we say *constant attention*, we do not mean that anything very laborious will be required; in fact, the success of all cultivators of florists' flowers depends more on their regard to minutiæ than any hard work applied to them at intervals. *Carnations and Picotees.*—We would advise no one to get in layers after the present month; so much of the plant's future prosperity depends on its being well established in order to winter well, that we would hardly thank any of our friends for any layers after the last week in October. Those plants which have been framed after potting must be gradually inured to the weather, for, like other hardy plants of the Dianthus tribe, they are extremely susceptible of confinement and consequent damp. As for *Pinks and Pansies*, we presume our directions have been adopted, and the beds formed and filled up. The only attention they will require at present is to keep them free from worms, &c.

KITCHEN GARDEN AND ORCHARD.

The planting of Cabbage and Cauliflowers, the disposal of Lettuces and Endive in secure positions, should by this time be fairly completed. The garden should now be cleared of weeds and all useless or decaying vegetable matter which will still maintain the fire heap in activity, and ultimately render a valuable supply of charred materials, and a good supply of wood ashes will be found in the course of the season of the utmost value for various purposes; in over manured gardens it corrects the rank fatness of the land; it is valuable as a check to the ravages of the Turnip fly, and eminently useful as a manure for Potatoes. Use every opportunity of trenching or rough digging vacant land. Proceed with the formation of fruit tree borders for future planting. Commence pruning as soon as the fall of the leaves tell of the diminished action of the sap.

State of the weather near London, for the week ending Oct. 19, 1848, as observed at the Horticultural Garden, Chiswick.

October.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 13	16	30.041	30.010	58	44	51.0	N.E.	.02
Satur.. 14	17	30.046	30.005	54	40	47.0	N.E.	.14
Sun. .. 15	18	29.815	29.765	52	41	46.5	N.W.	.21
Mon.. 16	19	29.749	29.697	54	44	49.5	N.E.	.04
Tues.. 17	20	29.914	29.808	49	33	41.0	N.E.	.02
Wed... 18	21	29.636	29.550	42	36	39.0	N.	.04
Thurs. 19	☾	29.738	29.596	50	41	45.5	N.E.	.01
Average ...		29.852	29.774	51.3	39.8	45.5		.48

Oct. 13—Clear; heavy masses of dark and light clouds; slight rain.
— 14—Slight rain; cold rain with N.E. wind; clear.
— 15—Hazy; rain in afternoon; overcast.
— 16—Slightly overcast; rain; clear and cold at night.
— 17—Overcast; cold rain; overcast.
— 18—Partially overcast; rain, and cold throughout; overcast.
— 19—Overcast; cloudy; densely overcast; clear.
Mean temperature of the week, 5 deg. below the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending Oct. 28, 1848.

Oct.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 22	58.5	44.5	51.5	15	0.50 in.	—	—	3	1	5	7	4	2
Mon. 23	57.8	40.3	49.1	15	0.44	2	1	—	2	4	8	7	1
Tues. 24	56.0	40.1	48.0	10	0.83	1	1	1	—	7	6	4	2
Wed. 25	55.5	38.3	46.9	9	0.72	4	1	3	3	3	3	2	3
Thurs.26	54.1	38.5	46.3	8	0.52	5	2	1	1	3	5	3	2
Fri 27	54.1	39.6	46.8	17	0.80	2	5	2	—	3	2	6	2
Satur. 28	53.8	37.6	45.7	9	1.06	—	5	2	—	4	6	2	3

The highest temperature during the above period occurred on the 22d 1830—therm. 69 deg.; and the lowest on the 28th, 1836—therm. 2½ deg.

Notices to Correspondents.

To our Correspondents—May we beg it to be understood that *we cannot answer inquiries privately through the post.* We are ready to give any reasonable information in our power through our columns; but we cannot consent to the labour of writing letters.

Books: *T P.* Get "Paxton's Botanical Dictionary" with its supplement, and Lindley's "School Botany."—*J J S.* "Sowerby's Botany" is a complete work. It is only issued in numbers for the convenience of buyers who cannot afford to pay for it all at once. A perfect set costs a good round sum no doubt, but although expensive it is really a very cheap book; excellent—much the best that exists on such subjects. —A correspondent, "Hants," having inquired for books on herb growing, *E C* recommends to him Phillips' "History of Cultivated Vegetables," and his "Sylva Florifera;" and *A Constant Reader* the following work, with which we are unacquainted: Manuel des Plantes Médicinales, où Description, Usages, et Culture des Végétaux Indigènes employés en médecine; contenant la manière de les recueillir, de les sécher et de les conserver; les préparations qu'on leur fait subir, et les doses auxquelles on les administre; leur propriétés; le temps de leur floraison, de leur récolte, et les lieux où ils croissent naturellement; les symptômes et le traitement des empoisonnements par ceux qui sont vénéneux, &c.; par A. Gautier, Doct. en Méd., in 12, de 1140 pag., fig. 6 fr. Audot, 8, Rue de Paon, Ecole de Médecine, Paris.—*J B.* If you will refer to the review of Robins' book, at p. 207, it will give you the information you seek. ‡—*Correspondent.* We know of no book on the subject you mention. Cannot you find the information you want in our "Calendar of Operations," more especially in that of 1844?

Diseases: *A Correspondent from Killboy* is angry at our not having "scientifically examined and reported on" three or four ears of Wheat, which he sent to us last August, ripe, but, as he says, attacked with disease. This gentleman must permit us to observe that if he wished for information he should have sent full particulars of his case, and have observed his disease in its early stages: if the brown stains, which did no apparent harm to the corn, were really disease at all. We venture to add that civility goes further in England than hectoring even in Ireland.

Exhibitions: *An Admirer* will find the directions very clear. *Any* Pelargoniums, if wild species, and not mere garden productions, may be shown under A A, if not tuberous. The object is to revive the taste for the beautiful things—beautiful in foliage if not in flower—which are now neglected for the sake of florists' varieties. Those you mention would be proper.

Grapes and Figs: *John Abell.* We have not had sufficient experience as regards Josling's St. Alban's Grape, to say whether it would ripen perfectly in a greenhouse or conservatory with very little heat. All you can do at present with your young Fig-trees against a wall is, to thatch them well with *straw.*‖

Heaths: *G.* It will not *pay* to reprint. We will think about the questions. Why not add a supplement to the Heaths? We shall write to you on this subject some day.

Heating: *T J.* Galvanised sheet iron has not been long enough in use to enable us to learn whether it is fit for the conveyance of water in houses. You will be able to buy iron pipes at their market value at the Carron Wharf in London, or at any iron foundry where such articles are made on a large scale.

Insects: *C W M.* The quill with the Carrot maggots was injured in the postage, and the insects escaped. We suppose them to have been the larvæ of the two-winged fly Psila Rosæ, which are hatched in the spring. "Remove the infested roots as soon as the leaves turn yellow, and burn them. Trenching the ground in the autumn is one of the best securities against these and other injurious insects. A dressing of spirits of tar and sand before sowing has been successfully tried. Pigeons' and cow dung pointed in at the time of sowing will also secure the crop." *W.*—*Amos.* We cannot make out from your query what is the species of insect which is injuring your collection of Lepidoptera; if it be the small wood louse, Atropos pulsatoria, camphor placed in the drawers will destroy it. *W.*—*J C M* The gall on Cnicus arvensis is caused by the thistle gall fly, Tephritis Cardui. See *Gard. Chron.* 1847, p. 815. *W.*—*R P Y.* The beetle which eats the bark of your Rhododendrons is the weevil named Otiorhynchus sulcatus. Strong tobacco water, or a decoction of aloes and quassia, will destroy them in, or drive them from their hiding-places at night. *W.*

Late Flowers: A correspondent has sent us from Brighton the common purple Lilac in full flower. Rhododendrons are blossoming in the gardens near London, and Camellias in the open air are bursting their flower-buds. Such is often the case in such constantly wet summers as this has been.

Locust Tree: *Clericus.* The truth about the Locust tree is that it grows fast when young, slow when old, and makes admirable lasting timber; *but* the tree is so brittle that fine specimens are seldom seen except in sheltered places, the branches being shivered by heavy gales. It is the common white-blossomed Acacia.

Names of Fruits: *J J.* 1, Manks Codlin; 2, Pack-horse; 3, Court-pendu Plat; 4, King of the Pippins; 5, Cornish Gilliflower; 7, Ross Nonpareil; 10, Easter Pippin? 13, Blenheim Pippin; 14, Cat's Head.‖—*Micklewell.* Many thanks. No. 1, Catillac; 2, Napoléon; 3, Beurré Rance; 4, Glout Morceau; 5, Beurré Diel; 6, Henri Quatre? 7, Brown Beurré; 8, Passe Colmar; 9, Seckel; 10, Old Colmar; 11, Gravenstein; 12, King of the Pippins; 15, Court of Wick ‖—*Spade.* 1, 2, Passe Colmar; 4, Nonesuch; 5, Newtold's Duke of York; 6, St. Germain; 8, Wormsley Pippin? 9, Red Streak; 10, Scarlet Nonpareil; 12, Easter Pippin; 13, Northern Greening. ‖—*Constant Reader.* 1, Beauty of Kent; 3, Alfriston; 5, Alexander; 6, Dutch Mignonne. ‖

Names of Plants: *Anon.* Epimedium macranthum; a native of Japan; a hardy herbaceous perennial. Varieties of florists' flowers cannot be named.—*Hester S.* 1, Staphylea pinnata—the Bladder Nut; 2, Saponaria officinalis, apparently—the Soap root; 3, some Aster, apparently dumosus. Gather Medlars now and keep them in the fruit-room till they are bletted, that is to say, till the flesh is soft and brown, when they are ripe. The fruit of Pyrus japonica is useless.—*C W M.* Your Rose is attacked by the spawn of some fungal plant, which, not being in fructification, cannot be named.—*D Judd.* Malva moschata; the Marsh Mallow is quite another thing.—*J B Weir.* Hyoscyamus albus.—*A F Y.* 1, Mentha Pulegium; 2, Geranium pyrenaicum; 3, Lithospermum officinale; 4, apparently Cerastium arvense, starved; it is of no consequence; the fewer the better.—*C E J.* Lastrea spinulosa.§—*Xilif.* Sitolobium adiantoides.§—*C J Darbishire.* Your Primula from Kawak is a beautiful thing, unknown in gardens. It looks like P. Clusii, but, as you have not sent leaves, the name cannot be determined. Pray cherish it.—*S W.* Arachis hypogæa, probably from the west coast of Africa.—*C Fox.* Leycesteria formosa.

Orchards: *P W H.* Your friend's advice is excellent, and you cannot do better than follow it. Some years hence, when the trees are full grown, you may let the Grass grow up to their roots, provided the trees are thin enough.

Scale: *J F and Leyton.* There is no difficulty in applying hot water to kill scale. All that is indispensable is that it should come in contact with it. Apply it with a sponge in the same way as you would cold water. ‡

Shamrock: *Charlotte.* Opinion is divided as to what this really was. Some think Trifolium repens, the common white Clover; others, with more probability, Oxalis Acetosella, the Wood Sorrel. Both are well figured in Sowerby's "English Botany," the one at plate 1769, and the other at plate 762.

The Stanwick Nectarine: *W B H.* Due notice and full particulars will be given in our columns whenever plants of this fruit-tree are ready for sale.

Tobacco: *G B.* To prepare Tobacco leaves for gardening purposes, hang them up in an airy shed for a time to dry; then throw them into a heap to ferment, then dry again, and the work is finished. ‡

Tomato Sauce: *A B.* To make this, when the Tomatoes are quite ripe cut them in two, press out the pulp, and separate the seeds, then put them into a skillet with some savoury sauce and a little salt. When of the thickness of Pea soup, rub it through a coarse cloth, boil it to the consistence of marmalade, put it into jars, and in a day or two after pour over it lard or butter, and tie down with oiled paper. ‡

Walnuts: *W A.* To preserve Walnuts in a moist state throughout the winter, put them in jars, with a little salt dusted over them as they are packed.

Misc: *C E J.* We cannot recommend dealers ‡—*Juba.* Winter your Amaryllids and other bulbs in the pots in which they have bloomed, on a shelf near the glass in your greenhouse. Give them little or no water till they show signs of growth, when they should be repotted, placed in a growing temperature, and watered—sparingly, however, at first; but afterwards more copiously ‡—*B B.* Both the red and white Fraxinella grow freely from seeds, if the latter be good. Sow in light soil in the open border. They are also increased by division of the root.‡—*Amateur.* We cannot say why you have failed in striking your Carnation pipings, unless it has happened from your using loam instead of sand; they strike best in the latter, which is of course opener and much less retentive of moisture than loam. The cutting sent appears healthy and properly prepared.‡—*Const. Reader.* Plant your Japan Lilies and Gladiolus in the open border now. Plant in light, rich, well drained soil. A sheltered border, having a southern aspect, is the best situation for them. When grown in pots, the latter should be roomy; they dislike confinement.‡ —*J H W.* Lime will form the best dressing for your ground, which you say is overrun with slugs, &c., and which we presume is otherwise in good condition: point the lime in with a spade. It is not absolutely necessary to lift your plants, shrubs, &c.; but if that can be easily done, of course the ground could be more effectively cleaned. ‡—*A B.* The Anemone japonica is perfectly hardy, and needs no protection.—*W W.* The White Elderberry is not uncommon. The fruit is held in no estimation.

SEED WHEAT.—The Red Straw White Wheat may be had here or at Charfield Station, on the Bristol and Birmingham Railway for 8s. 6d. per bushel.
JOHN MORTON, Whitfield Farm, Berkeley, Gloucestershire.

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THOMAS GIBBS AND CO.,
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S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.
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IMPORTANT TO LANDOWNERS.—An Act of Incorporation having been obtained by "THE LANDOWNERS' WEST OF ENGLAND AND SOUTH WALES LAND DRAINAGE AND INCLOSURE COMPANY," affording Owners of limited Interests in Land the means of Draining, Irrigating, Enclosing, Erecting Buildings of a permanent nature on, and otherwise improving their Lands, and giving such Landowners of limited Interests the power to charge the inheritance with the value of the outlay in either of the following ways, viz.:—By charging the value on the Inheritance absolutely, or to be repayable by 25 Annual Instalments of 6l. 10s. per cent. per annum. This Company is now ready to receive applications for work to be performed under any of the provisions of their Act of Parliament, or on contract as heretofore; and from the extensive operations already in hand, they request parties wishing to avail themselves of the benefits of the Act to make early application. For all further particulars, apply to THOMAS MAY, Secretary, 9, Bedford Circus, Exeter.

The Agricultural Gazette.
SATURDAY, OCTOBER 21, 1848.

MEETING FOR THE FOLLOWING WEEK.
FARMERS' CLUB.—Oct. 27: Strawracer.

WHAT ARE THOSE EXPERIMENTS WHICH SHALL PROVE ONE SHEEP TO BE BITTER THAN ANOTHER? ARTHUR YOUNG, in his "Annals of Agriculture," has the following, in amplification of this query: "Is that the best sheep which eats least, and yields most in mutton and wool? No (says a Norfolk man), it is not, for to prove it you must stall the sheep; and so treated, the heavy sluggish breeds will beat the hardy and active ones. Is that the best sheep that weighs most? Ridiculous! (cry the advocates of half a dozen breeds). What is the merit of a great weight, if purchased at the expense of great food? Should such a criterion be allowed, the richness of the pasture decides the business, and merit will be found only in a salt marsh. Is the fattest sheep the best? Certainly not (say Wales, Norfolk, Sussex, Wilts, and twenty more), for mutton may be so fat that a gentleman would not eat it; and it would be extraordinary indeed, if the best sheep was that which gave bad mutton. Is the finest flavoured mutton a proof of the best sheep? What! (say Lincoln, Leicester, &c.) an animal of universal use turned to a mere supply of luxury! Do not thousands of manufacturers deserve attention as well as scores of gentlemen? Is that the best sheep that gives the finest wool? Very strange if it was (replies half England), as the carcass is worth five, perhaps ten, times the fleece; it would be to consider half a crown as worthy of more attention than a guinea. Is that the best sheep which gives the most wool? No (says Hereford); the price rises as the fleece lightens; why give a premium for producing bad wool?"

Let it be assumed that *the best breed of sheep is that which produces the greatest net profit in money from a given quantity of food.* Now the only way of comparing the several sheep is by shed-feeding, weighing them at the commencement and conclusion of their trial, and also their food. Although many comparisons have been from time to time made, very few have been conducted with that accuracy and sufficiency of data which would entitle them to the name of "experiments;" and those which have been most fairly and carefully conducted have produced opposite results. Thus the only conclusion that can be arrived at seems to be that there is probably very little difference in the weight gained by Downs, Leicesters, and long-wools in proportion to the food consumed. In the year 1793 the Duke of BEDFORD tried an experiment on the feeding qualities of various breeds of sheep. It was conducted as fairly as possible; the Turnips and corn were regularly weighed, and the result was that the Leicesters had a slight advantage over the Southdowns. In 1795 he tried an experiment, in which 20 Southdowns (on Turnips and hay) ate 555 lbs. less Turnips than 20 Leicesters, yet had 75 lbs. advantage in their difference of weight from 3½ months' feeding. A similar experiment in 1796 gave the Leicesters a little the advantage. In 1799, he instituted another experiment, when the Southdowns consumed, for every pound of flesh gained, 23 lbs. 4 oz. of Turnips, and 7 lbs. 13 oz. of corn; the Leicesters 20 lbs. 5 oz. of Turnips, and 7 lbs. 1 oz. of corn; and the Lincolns only 14 lbs. 2 oz. of Turnips, and 4 lbs. of corn. The same variableness of result is observable in the more recent experiments, some of which have occasionally appeared in the *Agricultural Gazette*, the "Agricultural Society's Journal," &c. For instance, in 1846, two experiments made on the Earl of RADNOR'S farm at Coleshill resulted: one in favour of the Cotswolds against the Downs; and the other placed Leicesters first, and the Downs before the Cotswolds.

Suppose, then, that an experiment is made with a view of settling this question; it appears that the result is just as likely to be in favour of a large breed as a small one, and that no dependence whatever can be placed upon its authority. If it shall be decided that the Southdown, or some other "fold sheep," brings the largest profit, it will not, therefore, be in consequence of the extra weight gained, but from the higher price of his fine grained flesh and fine wool at market. Would it, then, be desirable to adopt this "best breed" upon all the richest as well as the scanty pastures? If this were done, then the increased supply of fine mutton would at once lower the price, and the cause of its extra profitableness thus vanish. But if the people might be thus supplied with first-rate mutton at the same price they had previously paid for coarse, why not do it? For two reasons: 1st, because this fineness of mutton and wool could not be sustained upon the luxuriant pastures, experience showing that the change to better keep would enlarge the frame of the breed, and as it increased the weight of mutton and wool, deteriorate them also in quality and value; 2d, because the "fold breed" could not thrive upon rich valleys and alluvial plains, their native soil being the dry and sandy down, and though hardy to bear bad weather and hard keep, the rot soon attacks them upon low wet grounds. Besides, it is their nature to be active and restless, receiving little detriment from their frequent drivings to and fro, or from searching over a scanty pasture; and if they were located on a rich pasturage, where the gathering of their food requires much less exertion, they would still need a similar amount of exercise for their health, and would, therefore, run about, trample, waste, and destroy a great deal of Grass. Or suppose that the final decision is in favour of a long wool breed. Could that breed be universally adopted? Certainly a heavy, dull, inactive sheep could not exist long upon the mountains; and if he be employed for folding purposes, the exertion of constant exercise, so contrary to his natural habit, would always keep him thin. Experiments, therefore, of this order will never succeed in introducing any single breed into a strictly universal adoption and use: for the varied conditions of climate and surface require different animals, the demand for both delicate and bulky carcasses renders it necessary to cultivate both the great and the mountain sheep, and the extra value of fine wools, with the necessity for long coarse wools in various manufactures, are inducements to continue the breeding of both classes of sheep which produce them.

Experience has established what are the characteristics of sheep, possessing the profitable qualities of an early maturity of carcass, and quantity and useful properties of the wool. It is a universal rule that propensity to fatten is indicated by a fineness of bone, a roundness and compactness of form, a condensation of substance, and a beautiful proportion of every part, combined with a springy elastic softness in the handling. Subordinate to this rule, each breed has its peculiar conformation and separate standard of excellence, according to the situation and purpose for which it is designed: the weight and symmetry of its carcass, and the quantity, length, and fineness of its fleece, being appropriate to its own locality and intended uses. To determine the relative merits of rival breeds as contend for superiority upon the same pastures is, therefore, both practicable and expedient, and the Agricultural Society has offered a piece of *all* for the fullest evidence respecting the breeds of sheep best suited to the lowlands, the downs and the mountain, the rich and scanty pastures. The report to be thus furnished will enable [illegible] before the public a mass of valuable information respecting the best breeds for various districts, and it will then be for the farmers of those districts, acting upon the proofs and recommendations of the report, to relinquish the grazing of inferior breeds, and employ more extensively that one which is found best adapted to their neighbourhood and mode of cultivation. C.

CHEAP MANURING.

It may be in the recollection of some of your readers that the writer of this has been for several years watching the progress of experiments and records on the manuring; and giving them from time to time the summaries of the results, when of particular interest or benefit. So many of these results are now confirmed by repeated experience, as well as by common reasoning, that it seems time to connect them into a concise system, for the benefit of the inexperienced farmer, who has little time or means for experiments or study, and can still worse afford to waste his manures, upon the old rule of thumb system. And it is for those only, that this and some following letters are intended; the "large" and learned farmer having the same means of information as the writer. His object is, then, to give the working farmer, with small capital, as much of the benefit of the modern experiments in manuring as he can make simply and concisely intelligible to persons of such limited education. To show them the cheapest means of increasing their produce, and at the same time improving the land, by applying to each crop or course just the right sort of manure it requires, instead of turning them indiscriminately, without selection or understanding the properties of one to another. But in all our cheap resources, the dunghcap must still stand first, as the main necessary; and, whatever may be here, for discussion, it may still be said, so far, that the good and economical management of this will do more for him, than all the other new experiments put together. We will therefore begin with the dunghcap, return to it continually, and conclude with the same—so that such of your farming readers as take interest in what I have to say, should keep this for reference.

FARM-YARD DUNG, or rather MUCK remains to be, notwithstanding the valuable help of the mineral fertilizers, the great source of food for plants; and should be thoroughly understood in all its bearings: quantity, quality, preparation, waste, fermentation, application.

a. Quantity.—The solid and liquid excrement of animals, of all kinds, should be carefully preserved (see *Waste, m*); and may be much more largely collected, by soiling and stall-feeding; every kind of animal, offal and refuse should be likewise taken care of. Two acres of ground will keep a beast; which, well littered will make 1 cwt. dung, &c., per day, or 15 tons a year; and this may be tripled by the addition of vegetable compost (see *Preparation, i*): one beast, or 2 acres, thus giving 18×3=54 tons (or 27 tons per acre) yearly. It is for the farmer to judge how many beasts he will keep; and how much of their time he will feed them in the homestead. (The more dung, the heavier green crops; the more green crops, the more cattle food; the more cattle, the more dung: an ever improving from year to year.) A horse may nearly equal a cow, setting quality against quantity; and two or three pigs may perhaps equal one beast. Sheep are so much out, that they add but little to the heap, though very effectual in fold and pasture.

b. Vegetable matter of all kinds, fresh, dry, or decayed, should be also brought to the heap; or if too distant, composted where it lies; not rotted to waste. Weeds, roots harrowed up, hedge clippings, fallen leaves, or other recent herbage, containing the vegetable salts, readily decay with salt and lime (4 cwt. each to the ton), producing an excellent humus. The addition of sea-weed improves it much, and the salt is not then required.

c. Peat, soils, turf-parings, ditch and pond scourings, way soil, humous earth in whatever form, and ashes of all kinds, are good for the heap.

d. All liquids in which vegetables or animal matters have been soaked or boiled; and all that contain fertilizing materials, as soap suds, dish washings, pot liquor, &c., are good to moisten it.

e. Quality.—We must remember that vegetable matters work sour, and that animal substances generate ammonia, which neutralises the acid, and is fixed by it; so that, in due proportions, they correct each other. Urine gives most ammonia.

f. But vegetable matters, including peat, soils, &c. (*c.* above) being much more plentiful than animals, the acid may still predominate. This may be corrected by lime and salt (*b*), which will also kill weeds and insects, and quicken the manure.

g. It should contain, not only all the elements of vegetable food: but all in due properties. Much of the dung tried in experiments against other manures seems to have been exhausted by drainage.

h. The heap should be alike throughout, in com-

position and consistence ; which requires a circulation of the juices. For this purpose, the drainings should be thrown back upon it, from time to time, to spread the soluble matters right through the whole. But no other water should touch it, unless it gets too dry, and therefore it is best under shed, or any cover from rain.

i. Preparation.—A staunch pit, rather deep than wide, being made to receive the drainings, clear of land-springs, a bed of humous earth may be first laid down, inclining towards the pit. Upon this, spread hard stalks, &c. which are slow to decay ; then a layer of dung, &c., mixed from the cow houses, stables, and sties, 6 in. thick, sprinkled with salt ; next a layer of vegetable matter (*b*) same thickness, dusted with slaked lime ; and upon this, 4 in. of peat, bark, sawdust, turf parings, or other humous earth (*c*) and so repeating salted dung, limed vegetables, and humous earth ; keeping the lime from touching the dung, until 4 or 5 feet high. (If green turfs are used, they are best laid face to face, with the lime strewed between.)

k. Then pour over it the liquid drainage, &c., described below (*l*), till it soaks right through. Then build on again as before, and pour the drainage, &c. upon the next 4 feet ; and so as high as you find convenient. In this way your quantity is threefold ; your quality free from sourness ; but may be deficient in activity, for want of ammonia. For this you have to depend on the urine.

l. Every drop of this essence which is not absorbed by the litter must run into the tank or pit, to be thrown upon the heap ; deep narrow drains being cut from every stable, sty, and cow house, to the pit or tank. All the other liquids (*d*) may be thrown on as they are got, so as to mix in soaking down. As the liquid passes through, it will dissolve salt and lime ; and carrying the juices of one layer to another, give it the same quality throughout. When finished, slant it at top, with straw or long dung, to throw off the rain : and once a month open the centre, to throw back the drainage, which should always soak right through ; and if there is not enough, including the liquids (*d*), water must be added If the farmer thinks the proportion of vegetable, &c., too great, or more than he can collect, he may, of course, put less, but experience has shown that well-saved dung will bear double its weight of such additions, with aid of salt and lime. In six months it is ready for use. Many other improvements have been proposed for the muck heap ; but this appears to me best, considering quantity as well as quality.

m. Waste.—Materials for the dung-heap are wasted in many ways. The essence itself the urine and drainage, is let run away, or even wash out by the water-course of the yard and weather, leaving the dung cold and hungry (*g*). The dung dropped on pasture is let lie in patches, throwing up coarse Grass, which the cattle will not eat for a year or more, till the dung is exhausted. Vegetable and humous matters are left lying about unnoticed, or put to rot in running water, which carries off their salts ; even the wash of the country is let run through the straw-yard. Roots, weeds, and parings are needlessly burnt, whereby their humus is wasted ; and the ammonia which gives life to the manure is let fly off in fermentation. These wastes, brought together, would sometimes make a larger and better heap than that remaining in the yard.

n. Fermentation. The greater the number of vegetable elements, thoroughly united together, in a sufficiently soluble state, the better the manure for general purposes. In the above muck heap we have most of the vegetable elements, and can regulate their proportions by those of dung and vegetable matters ; and add all that are wanting by the inorganic manures to be hereafter described. And by fermentation they may be brought to a state of uniform composition and solubility. Spit dung, when well made, cuts down soft and fat, with little appearance of straw. This is, probably, the most generally active condition, half digested for the root sap ; and, with care, it may be fermented so far, with little other loss than the evaporation of water ; overworked, it loses both ammonia and humus. Short dung having less risk of loss, it may be safest generally to stop there.

o. The ammonia may be retained by crusting over with humous earth (*c*), and still better by mixing gypsum and sulphate of magnesia with the salt thrown on the dung (*i*), by which the deficient magnesia and sulphuric acid are at the same time supplied.

p. Application.—Long dung is said to do best in stiff land, and for Potatoes and pasture. It works slower in the ground than in the warm heap, and may therefore require three or four years to become thoroughly incorporated with the soil ; and the quantity must be in proportion. But spit or short dung, which is all ready for the root sap, may be applied every other year to the green crop, in half the quantity ; thus bringing a quicker return, and allowing less waste by the weather when the land lies open.

By thus returning to the soil not only all that he draws from it, but also much carbon which the plants have drawn from the air, the farmer may gradually enrich his land to the highest degree. But do what he will in this way, the salts actually carried off by his market crops must be restored, or his crops will be limited ; and the most costly of these will be potass and phosphate, of which more in future letters. Stable dung, containing more ammonia and phosphate, would bear a larger proportion of vegetable matters, &c ; say three to one, if there was spare urine to pour on, which is seldom the case. But as it is generally collected in towns, this deficiency may be made up by night soil, which is much richer still ; and any of the liquids (*d*), or even common water, poured on to keep it moist and circulate the juices. Prepared night soils are yearly increasing in importance, and may make good our wants of phosphate, by the time the supplies of bone fail : for the present waste of night soil (and urine), by sewerage and neglect, probably exceeds 4,000,000 tons yearly. The best materials for stiffening and unstinking it for carriage are charred sods, or other compounds of charcoal and burnt earth : but coal ashes answer the purpose, and are easier obtained in towns. Lime is unfit, as it wastes the ammonia.

c. Gypsum, salt, and sulphate of magnesia, compose an excellent fixer of ammonia, and supply the sulphate, soda, and magnesia, chiefly wanting in muck heaps ; *J. Prideaux.*

DISEASES OF POULTRY.

(*Continued from p.* 563.)

"Received opinions" are often mere popular or vulgar errors, but old customs, though followed on no defined principle, and maxims of the "old school," should not, however, be discarded before being tested. Questions however trifling they may appear in themselves, frequently involve matter which leads to the elucidation of many of those latent, simple, but inexhaustibly beautiful laws of Nature which scientific research is daily revealing to us.

Incubation.—It is very frequently asked, whether the common practice with some housewives be recommendable, to remove the chicks from under the hen, so soon as each appears, and house them in a basket in flannel or cotton wool wadding, until all have been hatched. This is often a desirable practice in the artificial or domestic state, where hens are set in small boxes or baskets (which had better be round, roomy, and rather basin-shaped, on sweet not musty short cut straw, dry Fern leaves or Heather), generally confined for space, with danger of being incommoded by other hens desiring to lay in the same nest. Although young chicks are possessed of the wonderful power of partaking of food instinctively immediately after being hatched, without any teaching, they nevertheless require no food absolutely for 24 hours, or water for 48. But it should be borne in mind, where a hen "steals her nest," following the instincts of Nature, who is often the best nurse and the best doctor, failing only where her impulses or directions are exceeded or not followed, scratching her nest in the dust on the ground, in some sly dry corner, she will lead from her hiding-place 16 and as many as 25, strong, healthy chicks. This she will accomplish in a stolen nest with the greatest facility, with no other assistance than Nature's instinct, herself and her chicks subsisting for many hours in the nest upon the crushed egg-shells, which soon become dry and very friable. If this be correct, bruised (not entire) egg-shells cannot be improper food for birds. The reason why, when a hen sits upon the ground, a larger brood is obtained in such a natural nest than when set in an artificial one, and of the more numerous and more healthy brood of a missing hen that has covertly made her nest under a hedge, is very obvious. In this natural nest the eggs are all laid by one hen, when capable of procreation. Whereas "when she is placed in any other situation" (on an artificial nest) the eggs are seldom her own, and generally the produce of several hens selected almost at random, some of them impregnated and some unimpregnated. In an artificial nest there may be also an absence, first, of the proper degree of heat ; and second, the due proportions of moisture ; and third, of the like of atmospheric air requisite in the process, caloric being the first essential, the second in order to neutralise any too large accumulation of carbonic acid, and the third for the imbibition of the just quantity of oxygen. I therefore agree with the writer on hatching, No. 32, p. 529, that a consideration of the above facts may give the reason why, in the artificial Egyptian mode, one-third of the eggs prove abortive, they being from necessity chosen almost at random, fecundated and unfecundated, as chance may afford. Another point likewise insisted on by some good housewives is "to chip off with your finger nail" from the point of the upper mandible the small speck or scale so soon as the young ones are hatched, which is said to be a provision of Nature in order to enable the chick within the shell to crack it and release itself ; also that one or two peppercorns should be administered to each at the same time. In the natural state they have not and require no such aids, and I do not believe these to be essentials, or that any die from a neglect of either precaution, though both may be good when the chicks happen to be weakly.

3. *Influenza or Rheum, Inflamed Head, Eyes, and Nostrils.*—This very common catarrhal disorder incident to all descriptions of poultry, appears to be quite analogous to that known by the same name afflicting mankind, said only to have been recognised within the last century. It attacks the whole surface lining of the mucous membrane, and is perfectly synonymous in its effects to the Distemper in dogs. If not checked in an early stage, the discharge from the eyes, nostrils, and palate, becomes fœtid and purulent, infests the whole system, including the lungs, when consumption often supervenes, or degenerates into that most obnoxious of diseases the roup, sometimes appropriately called poultry glanders, from its close resemblance to that dreadful disease among horses. Poultry purchased in some of our markets apparently in perfectly health, have after a fortnight or so often betrayed the usual symptoms, sometimes becoming quite blind, and could only find the pans containing food and water by rattling them against the kitchen floor, in order to attract attention to the precise spot. Three weeks have sometimes elapsed before the symptoms have began at all to abate.

Symptoms.—In the commencement they are like those in other disorders, moping, gaping, loss of appetite, and the usual atrophy, then difficulty of breathing. But the first appearance is often so slow as not to attract notice until the disorder has made some inroad into the system, then showing itself by sneezing, a flow of thin watery viscid fluid from the eyes, which after a time become incommoded by swelling, and keeps extending over the whole of the head ; the nostrils fill up with incrustations, and the discharge which escapes from them becomes fœtid and purulent, much fever supervenes, and the consequence is, incipient, if not confirmed roup, or otherwise confirmed phthisis.

Causes.—The more fine the variety, often the more delicate and susceptible. Sudden changes of temperature—cold, wet, and damp — filth, accumulations of their dung (a predisposing cause in many complaints), which ferments in a few hours, throwing out strong ammoniacal fœtid vapour, unwholesome diet, salted meats or broths, or the like in a sour or putrid state, sour or putrid vegetables, or dirty water much impregnated therewith, too confined situations, particularly with want of good shelter in wet and bleak weather, and plenty of dry pure air at all times, which is more than anything essential to health.

Cure.—Wash the eyes with warm (not hot) water, and the nostrils with warm (not hot) soap and water, once or twice a day, keeping them well cleansed from any incrustations. After this use a warm (not hot) fomentation of boiled poppy-heads, to be applied carefully only under the eye, two or three times a day, dabbing the part with a small piece of flannel, which has the effect of drawing the inflammation downwards. The above remedy has always with me proved infallible, as with others who have profited by it. Every evening examine the palate of the patients, and gently extract, with the point of a feather, any mucus or phlegm found adhering thereto. Separation is requisite in very bad cases, in order to prevent contagion ; additional shelter and additional warmth are absolutely requisite. Generally this complaint, like many others, will have its run, and the symptoms do not begin to mend until the lapse of about three weeks.

4. *Roup, or "Poultry Glanders."*—The complaint just treated, if neglected, speedily degenerates into this most loathsome and much more infectious disease, most correctly denominated by the latter designation.

Symptoms.—The same as influenza, which complaint, when neglected, is often merely the precursor to this disease. One indication is a pungent ammoniacal odour from the patient, occasioned by the flow of a slimy, acrid, often excoriating fluid from the bowels, as before described in the worst stage of diarrhœa, much resembling the albumen of the egg. The patient often requires to be fed by the hand, giving with a teaspoon occasionally a little corn, bread and milk, and the like often during the day. In spite of every precaution, great atrophy comes on, and it soon dies. This disease being very infectious, where a bird is not valuable, the most humane plan is to remove or destroy it when the case is very hopeless.

Cause.—The same as in the last ; also some error in the management, quality of diet, want of proper shelter, confined situations, and want of cleanliness.

Cure.—When the head, eyes and nostrils are affected, proceed as before directed, and also wash off the excoriating discharge from the bowels, plucking away the feathers where requisite. Cleanliness being the first requisite, the recommendation of "J. S," Epsom, in No. 3, Jan. 16, 1847, should be followed : "Hot lime-wash the fowl-house, which should be done twice every spring, and at least once in the autumn, to destroy vermin and their eggs." This is excellent advice against epidemics, lime being a great disinfector. If the roosting shed be floored, it should not rest upon the earth, but be raised some inches above the surface, that a thorough draft of air may prevent any accumulation of damp or mildew underneath. Warmth being essential to the cure of all catarrhal affections, the fireside in such cases will often do more than medicine. Many are proposed in books, but the medicament which I find the most efficacious is rue and garlic, chopped fine or bruised, compounded with a proportion of red brick-dust made into pellets, with moistened barley-meal ; and the succeeding day, one or two tea-spoonfuls of castor oil. The rue appears to act as a stomachic, the garlic as a warm stimulant and anti-spasmodic, and the brickdust as a triturant, and to separate the particles in the stomach, in order to bring them in quicker contact with its solvent juices. Stimulants being highly efficacious, a minute proportion may be added either of black pepper, or mustard, or ginger, or cardamin, or caraway seeds bruised. To the above pharmacopœia I need add no more, but for the sake of giving the published experience of others. Where there is much fever in the system, I find a small pinch, as much as a fourpenny piece will take up, of purified nitre in powder, in a pellet of moistened barley-meal, to be an excellent refrigerent. When the throat is much obstructed with phlegm, Clater recommends a large tea-spoonful of salt and water as an emetic. He also mentions a wash for swelled head and eyes, composed of weak Goulard water, but adds "that warm water will be quite as efficacious." Dr. R. W. Dickson recommends the same, a very weak mixture of the diluted solution of subacetate of lead in rain water

or warm milk, afterwards to use, when the inflammation has subsided, a little spirit and water. Brandy and water is often said to be a good topical application, but the use of any cold spirits in this way for the purpose of counteracting the effects of cold is a common though strange vulgar error, which has cost many a strong man (brandy put into wet shoes or boots with the false notion of producing warmth) his life. Cold spirit applied externally (after hair cutting, for instance,) is extremely dangerous, producing the very contrary effect intended, an immediate check of perspiration, and a sudden cold evaporation on the surface of the skin, and a severe cold or catarrh is generally the consequence. Camphorated spirit, brandy and water, and the like, should therefore be used with great discretion. So many authors propose the use of calomel, that it would be wrong to omit it. Clater recommends white antimonial powder in doses of 1 grain morning and night; Dr. R. W. Dickson, half a grain to a grain; as also half a grain to a grain of submuriate of mercury in a cram of some sort; and "the most effectual remedy is said to be antimonial powder or calomel in grain doses," says Walter B. Dickson. Flowers of sulphur cannot be injurious, but sulphur vivum, the live or black sulphur, must be poisonous. Cayenne in quantity sufficiently minute, is very difficult to apportion, therefore dangerous.

I will here take the opportunity of naming two very old remedies for the benefit of the curious, which I never saw used in this country, but perfectly safe and effectual. A portion of ground ivy pounded in a mortar, and warmed in a little water, used as a wash in inflammation; and bromwort pounded, made into pellets with barley-meal, given as a cleanser of the stomach; *D S E.*

LAND DRAINAGE.

The very common practice of leaving large stones unremoved till the execution of the earth-work of the entire drain is finished, thus damming up the water in heavy rains, and causing the sides to slip, never afterwards to be satisfactorily rectified, is much to be condemned. Such obstructions should, unless, perhaps, in the driest and most settled weather, be at once removed. Some drainers make it their practice to cut round these, instead of taking them out; but if it can be possibly accomplished by ordinary means, it is greatly to be preferred to remove them at once and carry the drain in the direct line through. Laying the tiles round corners, and in bent lines is a thing not to be commended; imperfect work is the certain result, even by the hands of the most careful; and with the indifferent it is an infallible means of rendering the drain useless: the joints do not fit, earth gets in, the current is impeded, and the duct finally closes up. Be careful to keep well away from trees and hedges; for, however deep or well formed, and of whatever materials constructed, the roots of these will assuredly penetrate to them, and render their effectiveness anything but permanent. As main drains are more liable to be placed in such situations than other drains, and at the same time are of greatest importance, so they are most apt to be injured, involving not unfrequently in their destruction the fate of the whole drainage. If outlets must necessarily come near hedges or trees, the ducts should be made roomy and frequently cleared out, or lifted and renewed. All sharp turns should be avoided, more especially in the case of the principal drains having little fall, as such present an impediment to the velocity of the current. Upon cutting the main and other tail drains, and laying in the tiles, the outlets of the common drains should be cut into them, taking care to begin from a main tile joint, and giving the end of each small drain a slight turn in the direction of the current. In the case of common drains entering a main on both sides, it is preferable to have the outlets not exactly opposite. By using a main-drain tile for each common-drain outlet, having an aperture formed in its side for fitting the small tile to, a much better job of it is obtained than cutting from the joints of common tile. If, however, these are not to be had, and only common tiles are used, the joint at the proper place should be kept a little open; and, one of the small drain tiles being laid down, it should then be carefully protected by pieces of broken tile or flat stones. The other end of the tile in the small drain should, at the same time, be closed till its cutting be proceeded with, to keep out vermin or the ingress of rubbish. It is a barbarous but common practice, on executing the main drains, to replace the earth without making provision for what I have here stated; as, in that case, when the common drains come to be made, their outlets are cut down to the mains on chance, and when a joint in the tiles does not happen to be hit upon, a rude handling and breakage or displacement of materials ensues, which cannot be again rectified, and, though it may still leave the channel passable, must more or less seriously affect its efficiency, as also its permanency. The bottom of drains should not merely be made so as to possess a continuous and, as much as possible, uniform descent, but they must be likewise taken out smooth—an object most essential when small pipes are to be used. Even soled tiles require a well smoothed bottom, being then laid in much more satisfactorily.

Drains, after having been opened, should not be suffered to remain so one moment longer than is necessary to have their dimensions tested, and to see that their execution agrees with what has already been enjoined. The tiles or pipes should then at once be laid in and covered with a considerable portion of the stuff excavated, so as to prevent sludge from being washed into them by heavy rains, to protect them from casualties, and in order to confine the water within the duct. It is recommended by some to leave drains open for a considerable length of time, that the sides may get cracked with the drying and shrinking of the ground, thus forming channels for the easier escape and passage of the water to the drain; but this is a great mistake, and done at the risk of far more serious injury than it can possibly be productive of benefit. I have in numerous instances seen drains left open but for a very short space of time, when heavy rain having ensued, the sides have so tumbled in, and the dilapidation altogether has been so great, that with all the additional and very disagreeable labour thereby incurred, a completion to give satisfaction could not afterwards be made of them. Nor hardly is it one remove better when the tiles or pipes have been laid in without having any covering over them. In this latter case such a quantity of *debris* is washed into and lodged about the drain that the passage gets clogged and unequal to hold the quantity of water passing along, which then is necessarily forced out at the joints, forms new channels to itself on the outside or top of the tiles, and leaves the proper duct to become entirely choked up and of no further use. In these circumstances to fill in the earth is virtually to condemn the work. There remains no alternative, if we desire the proper action of the drain, but to again lift the whole of the materials, or at least such portions as are found so grounded up, and clear out the accumulated rubbish. Confining the water to the duct, where it is still able partially to find a passage, by throwing in earth, may enable the current to clear the duct and keep it open; but the quantities of sludge and gravelly rubbish that are washed down, carried along, and lodged in the outfalls, mains, and flatter portions of the drainage, abundantly testify the injudiciousness of the system of allowing drains to remain open and unfinished. It many times happens that the mains and principal drains are completed, while the common ones are left open; in which event the former most probably suffer, and the desire of reopening them and remedying the mischief is but too apt to be overruled by considerations of the cost, and hence the work is left such as it is with all its unfitness for free and efficient action. In short, every circumstance proves the imperious necessity of allowing drains to remain in an unfinished condition as short a time as possible, and never for one single instant longer than is absolutely necessary. It will be said, how are we to succeed in this? I reply, by making proper arrangements and provision for the work, employing principally careful and experienced workmen, and, in all drainages of any considerable extent, having a superintendent who is constantly on the spot. These are onerous conditions undoubtedly, but they are imperative on those who would expend their money with effect, and would expect to find satisfaction in the result. Replacing the earth into the drains should always be done by hand, at least so much of it as may be necessary to protect the tiles from injury. To save expence and expedite the work many are in the practice of turning in the whole with the plough; but, unless more carefully performed than we can expect to find at the hands of others, who feel little interest in the matter, this is a method that never can be sanctioned, so apt or so certain is injury to happen from the horses setting their feet into the drain, or the tumbling in of large stones, which must inevitably break or displace the tile; circumstances that scarcely any amount of caution will altogether prevent. Parties may rest assured that they will find it to their advantage to execute this portion of the work by the means I have now recommended rather than the other: at all events to a certain extent, viz., putting as much earth over the tiles as sufficiently protects them from the sources of harm now narrated.

I ought to have observed sooner that all drains should be neatly marked out and rutted off with the line: they should be cut as narrow as practicable, in order to lessen the quantity of stuff excavated, as such saves labour, and is less injurious to the surface of the land than when much hungry subsoil is left upon it; and the more neat and finished they are in their appearance: the more efficiently and the more durably will they perform their work. There is something about a well-cut drain that pleases the experienced eye at a glance; *John Duncan, Thornbank, St. Andrew's, N. B.*

Home Correspondence.

Clover Lea and the Grub.—Your correspondent "N. B.," writes as a man of observation, but like myself, is not a practical farmer. One of his remarks is so closely connected with a circumstance to which my own attention was called in the spring of the present year, that I venture to mention it, partly in explanation of his query, hoping it may not be wholly useless. He says, "We are rather puzzled to give good substantial reasons why Wheat is not grown to a greater extent after Clover Lea." I myself have asked for the reason of this in the midland counties, and the reply has been, "Because after Clover on some lands Wheat is so liable to fly in the spring." That is, the plant flourishes till spring, and then, from some cause unaccounted for, it dies off, especially in patches. My attention was called by an agricultural friend to an instance of this last spring, where it was discovered that the plant of spring-sown Wheat was dying away from its being eaten through just beneath the surface of the earth and that the enemy was the larva or grub of a species of Tipula, or Daddy-long-legs, or Harry-long-legs as it is sometimes called. In some parts of the field these were so numerous just beneath the surface, that half a dozen or more could be collected within the space of a square foot, and such devastation had they made, that for half an acre together in some parts of the field, very few plants of Wheat were to be found. Before attacking the stubborn of his land, my friend, a most admirable farmer, resolved to attack his enemy with Crosskill's Clod crusher; with this implement he rolled the field three times over in different directions in April, and in a fortnight afterwards, the weather being dry, the land was almost as compact as a newly-made road, so that it was with the utmost difficulty that with a well-sharpened piece of hard wood, shaped as a chisel, I could "hunt the vermin." I found the shrivelled bodies of many that had been crushed but I also found some in as many as ever. At this time the Wheat plant presented good evidence of a partial release from its enemy, for in many places the injured roots were throwing up young and tender leaders, which, had the seed been unattended to, would doubtless have been saved by this insect the exactest food. Of the grubs, which were three-quarters of an inch long, the size of a small quill, without legs, and of a dirty brown colour, I preserved a few specimens in a flower pot, amongst a little of the turf of the field. I examined them from time to time, but found them unchanged till the second week in September, when they had turned to chrysalids, and one perfect Harry-long-legs had been produced. Two or three of the grubs had been injured by the frequent stirrings to ascertain the progress they were making towards the perfect insect. I have no doubt but their change was retarded by the confinement to which they were kept, for in the field, in July, the crops had been, and were sporting in the sun-beam as day-fly. Here then is an explanation of the disease—not for the remedy. It is not unknown to farmers in the midland counties that a crop of Potatoes cannot be grown on some farms after Clover, on account of the existence of this grub, and the only remedy suggested—a most effectual one, is breast-ploughing the turf and burning it. This, it must be confessed is a wasteful remedy, even if as much care be taken as possible to carry the burning to the charring point only, which would be far better than burning the roots of the turf to ashes. Although Potatoes are known to be thus destroyed by the grub, Wheat, under the like circumstances used to "fly," without any cause being attributed to the grub, unless the wireworm,—the universal destroyer in the estimation of some farmers, be the accused enemy. A Scotch farmer informed me that salt, from 2 to 3 bushels to the acre, sown as soon as the enemy was discovered, proved to be a remedy in the south of England. My friends here doubt the propriety of using salt on their strong soils; this, however, is I think, a fair subject for experiment, since its tendency to moisten the soil would be much abated during the summer and before any further cultivation of the land would be required. Breast ploughing, and putting the turf in heaps and again spreading it would be expensive, but when the destruction of the crop is at risk it surely would be advisable, and if this were done, with a suitable sprinkling of either lime or salt between every layer of turf in the heaps, and leaving it together for two or three months, would, I have no doubt, destroy this destructive insect. The depredations of this insect are by no means unknown, but its habits require to be still further studied, and if farmers would but seek diligently for the cause of every failure in their crops, especially where insects are suspected to be the instruments, something at least may be done towards remedying the many disappointments which it must be confessed agriculture inherits: *B. Manuel.*

Some Things which do not bring to Light.—A correspondent reminds us, that in referring to the late Act for granting permission to proprietors and others to kill hares without taking out a game certificate, we should have informed our readers that the privilege can only be secured by the claimant sending his name to the clerk of the petty sessions for the district wherein he resides, to have it registered, which register is to be open for the inspection of the tax collector, to see who is entitled to the benefit of the Act: and this brings to light *Something Comical*—Namely, that these gentlemen of the law are compelled to do something for nothing, as there is no allowance of fee or reward for their trouble. *Something Strange.*—Our paper last year contained a few remarks from a person who was greatly puzzled at finding the plants growing from the seed of Long Red Mangold Wurzel, to be the Yellow and Red Globe, and for which he has had no satisfactory explanation. Approving of these varieties especially the Yellow Globe, he planted an equal quantity of the three sorts for seed, say half a dozen of each, in his garden, and he now finds the plants have resumed their original character, as there is not a single root of Yellow or Red Globe in the whole field: all are Long Red, as formerly purchased from Messrs. Grieve. Hence arises this important question, "How can any person warrant his seed?" Here is the fact of the Yellow and Red Globe springing from seed the produce of the Long Red, and, after one season, the Yellow and Red Globe produce exclusively the Long Red. The case most amusing, which he has been able to hear of, is that of a gardener who carefully preserved the seeds of one very choice long Cucumber, and the following season found his several glasses filled with that and other sorts, long and short. *Something New.*—We are informed of a gentleman having tasted 20 score hogs last season on Barley merely broken in a malt mill, and given dry in a trough by itself, there being another trough with water. He expresses himself perfectly satisfied on the economy and success; he fancies 4 bushels of Barley eaten in this

way will go as far as five when ground into meal; besides which, in the case referred to, he saved 5*l.* in grinding. *Something Alarming.*—The same gentleman mentions the appearance, to a very great extent, of a grub or worm, having attacked the Barley in the neighbourhood of Epsom, being lodged in the joint from whence the ear springs, there eating its way through, and then dying for want of nourishment. He speaks of it as making a great deficiency in the crop; he has detected the same complaint in Hampshire. Supposing for a moment the same or a like disease should in another season pervade the Wheat crop, accompanied by the Potato disease, the consequences would be such as the firmest mind would tremble to anticipate; and yet the difference between these two plants is too trifling not to revive a feeling of uneasiness on the subject. *Something Mysterious.*—We are confidently assured that in one part of Hampshire the foot-sore in the sheep, so prevalent last year, broke out simultaneously, that is within one week, in very many flocks, entirely cut off from any communication with each other; *Delta.*

Crops in Fifeshire.—I see, at p. 677 of your Paper, a report of your Mid Lothian correspondent, in which he says he "had made various extended trips, through the three Lothians, Stirlingshire, Fifeshire, Perthshire, and part of Forfarshire, and throughout the whole the Wheat, Oats, and Beans are superabundant;" he further informs us "that the whole is of fine quality, and in higher condition than he ever remembers it," and "that only a portion of the Bean crop and some patches of late sown spring Wheat remain in the field." Now, will this gentleman, who knocks off counties in this wholesale manner, be kind enough to inform us whether he took his trip by rail, and if so, how he could form an opinion of the crops of any part of Fife, with the exception of the immediate neighbourhood of the railway? Will he further inform us how, when all the crops except a small portion were in, if he may be believed, he could form any accurate judgment as to the quantity of the crops? Yet he tells us they are superabundant. If your correspondent consults Johnson he will find that "superabundant" means "more than enough." Now I'll answer for the Fife farmers that whenever he proves the truth of his statement, they will give him all their superfluous grain for his trouble. But to be serious; it is now 13 days since the date of the above report, and there is still fully one-third of the crop in this county exposed, and what is worse, much of it is seriously damaged; and with a showery day and a falling barometer, our prospects for the future are not very high. Then as to the quantity of the crops, it is now well enough known throughout Fife, that though the Oat crop is heavy, the Wheat and Barley are decidedly not above an average, whilst the Bean is as decidedly below it. I must say, that under these circumstances an average crop, with fully one-third still exposed and growing as fast as the continued rains and the thermometer at 60° can make it, I must say it is rather hard to see it published through the length and breadth of the land that "our crops are superabundant, and secured in the highest condition." Then your correspondent further informs us that the damage to the Potato crop will not exceed 15 per cent. Really the idea of judging the per centage of diseased tubers whilst whirling along at the rate of 40 miles an hour is sufficiently ridiculous; *R. B. D.*

Poultry.—The many admirable articles your Paper has presented to the public on poultry, must have excited in many, as in me, a great desire that the subject should receive every encouragement. Few, I presume, will deny its general usefulness and its direct profit, particularly to small farmers, to whose wives and daughters it mainly contributes to furnish their few personal requirements. There are many ladies, at least in the country, who take a great interest in poultry as a pleasing and unfailing amusement. The subject then being profitable to some, and highly interesting to others, why should not every encouragement be given to it, so that the best breeds may be more generally diffused throughout the country? Why should it not be considered an essential part of the farm, and deserve the attention of the Royal Agricultural Society? An exhibition of the different breeds would most certainly attract great attention, and create an additional interest in the Society's annual Show, particularly to the gentler sex, to whom at present it offers but few attractions. If the matter is deemed worthy of your advocacy, I think the Royal Agricultural Society will not long exclude it from its patronage; *A Member of the Royal Agricultural Society.*

Comfrey.—In answer to "Lusor's" inquiry respecting Comfrey as food for cattle, I beg to state that I have grown it for two years, and cannot get either cows or horses to eat it if there is anything else to get at, which I wonder at, as it comes earlier than anything else in the spring, and cattle generally eat anything green with avidity when first offered to them. "W. P. L." asks which is the best to grow on shallow land, Chicory or Comfrey? I have grown both, and should decidedly grow Chicory, as Comfrey requires a deep soil, and Chicory will grow on any hard stubborn soil without much trouble being taken with it; *A North Essex Farmer.*

Thin Sowing.—Having about 4 acres to sow with Wheat, I made the experiment as to the supposed advantage of thin sowing. Half an acre was drilled at the rate of 6 pecks an acre, and the remainder at the rate of 10 pecks an acre. The land is good, well drained, and was tolerably well manured. The produce of the ½ acre which was thinly sown was 2 quarters, while that of the adjoining ½ acre was 3 quarters and 1 strike. This is the measure of the corn before being winnowed; you will therefore perceive that, in this instance, thin sowing has not succeeded; *W. Ostler, Jun., Arnold Field, Grantham.*

Kohl Rabi.—As some of your readers have been asking for information about the cultivation of Kohl Rabi, I take the liberty to send you a few remarks on that subject, having grown some of it annually for 20 years. I shall state in as few words as I can the system of cultivation which I have found to answer best in both the garden and the field. To grow it as a culinary vegetable, and to have it nice and tender for 10 months in the year, it requires to be sown at three different times, viz.: about the 1st of September, beginning of March, and in the latter end of May or in June; about half an ounce of seed sown at each time will be sufficient for a small family. When the plants get two or three rough leaves, they should be pricked into a nursery bed for three or four weeks before they are finally planted out in lines about 2 feet apart and 18 inches in the line. Those sown in the autumn should remain in the nursery bed over the winter and be planted out in February in drills as above stated, in well manured and deeply worked ground. These will be ready for use in June, July, and August, and those sown in the spring and summer will continue fit for use until June comes again; thus supplying a useful vegetable all the year round for the poor who have got a bit of ground to grow it in, and especially in winter and spring, when more tender vegetables are scarce. The young and tender leaves may be used for greens, but these should be gathered sparingly, otherwise it will retard the growth of the bulbs, which sometimes in strong rich soils will weigh more than a stone each; when they come to anything like that size, however, they are not fit for table use, as they get hard and woody, and should only be used as food for cattle. I think that Kohl Rabi is the most profitable vegetable that a poor man can grow, as a great deal of food, by good management, can be produced from a small piece of ground — the tops furnishing a good supply of greens, and the bulbs when boiled and sliced, with a little melted butter or fat, make a very palatable dish for the poor, and in these times every thing should be cultivated that is adapted to increase the food and in any way make up a little for the loss of the Potato to the people, especially on this side of the Channel. Those who may wish to cultivate Kohl Rabi on a large scale for cattle must make their seed beds accordingly. About the middle of March, or a few days later, is the best time for sowing the seed for a field crop, and as these would have but little chance of being pricked out into a nursery bed, if the weather was favourable at the time of planting, they would do very well without it. Indeed, I find them to do equally as well to sow at once in the drills in the same way as Turnips, about the beginning of May or a little earlier if the weather be favourable; this saves a great deal of labour, and is not so dependant on the weather, and as the seed, however, is rather dear, it is a more economical plan to dibble in the seed about 14 or 15 inches apart in the drills, dropping two or three seeds into each hole along the top of the drills, and when the plants are strong enough to be thinned out, to leave only one plant in each hole, and otherwise hoe and clean the ground the same as for Turnip crops; when the bulbs get about the size of a man's hand, raise a little earth to the stems with a hoe or plough, but not to raise the soil so high as to cover any part of the bulb. When fully matured, they will stand the severest weather without being injured by frost, but whether cultivated for kitchen use or for stock in winter, there should be always a portion of them, according to the demand, taken up in fine weather and stored the same way as Turnips, to be at hand in case of severe frost or snow in winter. With plenty of manure and deep tillage on good strong soil, a heavy crop might be expected, perhaps from 20 to 30 tons per acre; but in what may be called Turnip soil, Turnips will give a heavier crop; I may add that both Kohl Rabi and Turnip crops are greatly increased in weight by having the ground subsoiled, which, with the exception of thorough draining, is the greatest improvement that farmers can turn their attention to; and as we have subsoiled about 150 statute acres on this farm, I intend to send you a few remarks on the way that we accomplished the work, as well as on the beneficial results arising from crops having a deep loose soil for their roots to run in, especially green crops; *James Alexander, Heath Farm, Athy, Ireland.*

The Game Fowl.—I have read with pleasure the articles which have appeared from time to time in the *Gazette* on the subject of domestic poultry, but have been surprised, and I may add disappointed, that amongst your numerous able contributors none have uplifted their pens or their voices in favour of the game fowl. I will premise by stating that I am an amateur of five-and-twenty years' practical experience, during which period I have tried nearly all the popular varieties, namely, the white and grey Dorkings, the black Spanish, Polish, and Hamburgh, almost all the eastern varieties, which come under the denomination of Malays, Poules de Siam, Brazilian, *et hoc genus omne*, each of which have their respective merits; but of all, for appearance and quality, both on and off the table, commend me to a well fed game fowl. I am aware that it will be objected to me that they are not good layers, and to those to whom this desideratum is of paramount importance I would not recommend them; but experience has taught me they are very early layers, commencing usually in October, and continuing their supply through the winter and early spring months, when eggs are scarce and dear; and to those who set a value on early chickens or a constant succession, they are invaluable, as a hatching can be produced at almost any period. Should this find a place in your columns, I shall be tempted to descant more largely on the merits of my favourites; *D., Guernsey.*

Hydro Incubator.—In a letter which I addressed to you some few weeks since on this subject, I quoted *verbatim* from the *County Press* of Oct. 29, 1847, which contained a lengthened report of the annual meeting of the Herts Agricultural Society, a statement represented to have been made by Mr. Bailey, of Mount-street, of the enormous sums expended annually by himself and others in the rearing and purchase of poultry. Although present myself at the dinner, I did not catch at the time the figures that gentleman gave, and concluded naturally enough, as they had not subsequently been either corrected or contradicted by Mr. Bailey himself, that the report was substantially correct. The *County Press* of Saturday last contains a report of the meeting of the Herts Agricultural Society for the present year; Mr. Bailey is there reported to have denied the correctness of the former report in almost every particular. I feel it but right, therefore, to forward to you without delay Mr. Bailey's amended report, although it appears to me even in its present shape not to be sufficiently explicit, more especially as regards the precise length of time to which his figures refer. I must beg to express my regret at having thus unintentionally forwarded to you an incorrect version of what was certainly spoken in my presence, although Mr. Bailey may possibly not regret having thus had a fair opportunity offered to him of correcting the original mistake, so that, as he himself says, "the reporters may set him right with his friends and the world." The report of Saturday last, which I enclose, is as follows: "Mr. Bailey also returned thanks, and stated that he wished to correct some mistakes which had been made last year through a misunderstanding on the part of the gentlemen of the press, or his own want of sufficient clearness in expressing his ideas. He said that in the rearing of poultry he himself had paid 81,000*l.* for poultry, and in the same period had paid for wages in rearing poultry 3000*l.*, and that his father in the same period had turned 200,000*l.* in poultry. Now by mistake it was said that in one year he had himself turned 100,000*l.*, and paid an immense sum in wages. Poultry was made out to be a perfect El Dorado, &c." If my quotation of the original report has then at length called Mr. Bailey's attention for the first time, although it has been already so long in print, to such a glaring mistake which, by being thus transferred to your columns, it has been circulated more extensively than might otherwise have been anticipated, that gentleman has no ground of complaint; and although I must again express my regret that so incorrect a statement should have thus found its way into your columns, it furnishes at least a proof that the discussions which your paper encourages are not without value, since they are proved in very many instances to elicit the truth, even at the eleventh hour; *A Subscriber and Member of the Agricultural Society.*

Cantelo's Hydro-Incubator.—As an eye-witness, I must follow the course of Mr. Fox, in merely stating what I saw at Mr. Cantelo's. It was towards the end of July this year that I determined upon seeing for myself. The first thing I saw was a four-tray incubator in operation; one of the trays were taken out, and I could hear numbers picking at their prison walls; next was the drying nest, with numbers of chicks hatched that day; I felt the degree of heat on the underside of the waterproof cloth, and thought it admirably adapted. I next saw the different broods, with their hydro-mothers, from a day old until they ranked as roosters. Next were the out-door runs, where there were hundreds of full-grown fowls; and the whole, from the smallest, looked in perfect condition. Yet still it struck me that the place out-doors was altogether unsuitable for the full development of the system; *E. Hulme, Clapham.* [Thanks for this report. Now, will you be kind enough to report a similar visit in February. That, if favourable, would be useful, indeed, to Mr. Cantelo, and encouraging to others. A favourable result in the summer months was not at all unlikely. You are altogether mistaken as to the character of the correspondent whose communications you condemn.]

Profits of Poultry Keeping.—When a boy of 10 or 12 years of age, I commenced keeping fowls, and as my father had a great prejudice against them, from the fact of his father having been a pigeon fancier (the most unprofitable stock kept, except lap-dogs), I determined to buy my own corn, and keep them where they had only a Grass field to run in. Not being extravagant in my expenditure, I found my eggs kept me in pocket money, and that I had the chicken money clear for books, &c. I was so proud of the correctness of my opinion being fully established, that for years I not only did not ask for pocket money, but never received any. Many a good laugh I have had against the old ladies our neighbours, when I had more than double the number of eggs in winter from less hens than they had. The principles which I laid down, and on which I still rely for success, were: 1, to have two breeds—a few to hatch and rear the chickens, and twice the number of everlasting layers, as eggs are more profitable than chickens; 2, to get a hatch as early as possible in spring, and to keep them well; these never cast their feathers like the old

birds, and if they begin to lay in autumn, lay more or less all winter; 3, never to keep old fowls (none but favourite fowls ought to be kept more than two years); old birds lay larger eggs than pullets, but not nearly so many; 4, to give them the best Barley I could get, and as much as they could pick up once a day in summer and twice in winter; they are not only more profitable well kept, but the eggs are better. The two breeds I like best are the spotted Dorkings for sitting, and the pheasant breed for laying; those who have only one yard will have no difficulty to keep one variety true by selecting the eggs, and of course only keeping cock birds of that sort; the other breed must of course be imported from some other breeder who has them true. Our experience has always been directly opposed to those who advise not keeping a cock in the yard to have plenty of eggs. I always had two cocks to 15 hens, and thought they laid better for that reason. I see some of your correspondents say the chicks of the Dorking breed are tender; we think them the easiest to rear, and the fastest growers we have; and a gentleman to whom I gave a cock of this variety, said his half-bred chickens were stronger than usual. There is no question that the Dorkings ought to have five toes, as they have been selected with this feature as a desideratum, but I never saw a hatch in which there were not some with only four. But if any person should find any of his little favourites without the desired number of toes, he has only to call them Surreys and they are equally valuable, as I believe this is the sort of fowl sold under that name, a sport only from the Dorking. My pheasant fowls (or as they are called here Capt. Crammer's fowls), are a beautiful variety, and lay better, particularly during the heat of summer, than any sort we have had in this neighbourhood, though the black Spanish lay larger eggs, and are a nobler breed. Any person who has once had a yard full of fowls of any good and true breed, will never fear to see it afterwards filled with mongrels, and will be disgusted as if he were the possessor of any other inferior stock; black-nosed and brindled short-horns do not look more inferior to thorough-bred beasts than a yard of mixed fowls to one of one colour. Fond as I am of poultry, I have never been able to make any profit from Turkeys; and from their savage natures, think them quite unfit for the civilised society of my favourite hens; to see the tail feathers pulled out of a fine fowl in full plumage, is very annoying; *J. R. Pearson, Chilwell Nurseries.*

Fattening Pigs. — Mr. Pigott has promised you "Facts and Figures on Bee-keeping and Pig-fattening." Perhaps you will also not object to publish the following statement, on the accuracy of which you may safely rely: Eight pigs, valued by several competent judges at 30*s.* each, were shut up together, Dec. 10, 1847. During the first 11 weeks they consumed 16 bushels 2½ pecks each of Barley-meal which was worth (the Barley being partly "tail") 2*l.* 10*s.* Four were then killed. They weighed—No. 1, 234 lbs.; No. 2, 205 lbs.; No. 3, 189 lbs.; No. 4, 180 lbs. Total 808 lbs.=101 stone. They sold for 19*l.* 3*s.* 10*d.*, leaving a profit of 3*l.* 3*s.* 10*d.*, or 15*s.* 11½*d.* each. The other four, kept a few days longer, weighed nearly as much, and yielded a profit of 14*s.* a head, making the average profit of the eight about 15*s.* each. The small quantity of wash which they had from the house, together with the expense of attendance and litter, were supposed to be balanced by the worth of the manure; *An Essex Man.*

Farmers' Clubs.

HEREFORD: *The best method of Cultivating Autumn Green Crops after Stubble, as Mustard, &c.; also upon the Cultivation of the Carrot.*

Mr. BATSON made a few remarks upon the cultivation of Mustard as an autumn green crop. His attention had been particularly drawn to the subject in consequence of having found that the average produce of corn, in the neighbourhood in which he resided, was very small, and the average rentals were very large when compared with other counties; and it occurred to him that if such high rentals were to be paid, a different system of cultivation must be adopted. With this object in view he turned his attention to the market gardeners, who were, perhaps, paying the highest rents of any portion of the community as farmers, and he found that their system was to grow a variety of crops—sometimes as many as three in a year, and to cultivate to an immense extent. From this fact he thought if the farmers could introduce the system of growing two or three crops in the year, such as Mustard after stubble, &c., it would be the most likely plan to make the land productive. The subject which more particularly took his attention was that of growing double crops. For instance, winter Beans and a green crop between; and instead of growing Clover every four years, as was the custom on most light soils, it struck him that, if they could introduce the system of growing winter Beans once in eight years, and Clover once in the same period, it would be very advantageous. The system he had now adopted was that of growing double crops, such as winter Beans and Turnips, planted in rows 28 inches apart, in September or October. The Turnips were grown in rows between the Beans, and after the Beans were taken away the Turnips were fed off for another crop. There had been objections made to this system. He believed that everybody, in this and other counties, was very fond of growing Clover. It was allowed by all to be a good preparation for Wheat—perhaps the best preparation they had—but it was a most uncertain crop, and not unfrequently quite a failure. That was not all; for if they had a failure, they had an immense quantity of weeds as well. Now by sowing double crops of winter Beans and Turnips they were enabled to get their crops clean, and their second crop was planted and horse-hoed when the winter Beans were off. He had been endeavouring to draw out a calculation of what he estimated to be the expenses of cultivating land according to the plan he had suggested. He had supposed that the first cut of Clover would produce a ton and a half per acre, taking it as an average of good and bad years (he did not know whether this was under or above the mark), and he had assumed the second crop, which must be fed off on the land, as worth 0*l.* per acre, making the average of the whole Clover crop worth 6*l.* per acre. On the other hand he had estimated the crop of Beans at 20 bushels an acre, which at 5*s.* 6*d.* per bushel, would bring 5*l.* 10*s.*, and the produce of the Turnips, eight tons, at 10*s.* per ton, thus making 5*l.* 10*s.* against 6*l.* Now the expenses of the winter Beans and Turnips would be something more than the expenses attending the Clover crop, because the former was not on the ground 18 or 20 months without cultivation. The extra expenses per acre, he thought would be 1*l.* 8*s.* 8*d.*, namely, once ploughing, 7*s.*; three harrowings, 2*s.* 4*d.*; planting, 4*s.* 6*d.*; three horse-hoeings, 4*s.* 6*d.*; horse-hoeing between Turnips, 2*s.* 10*d.*; once hand hoeing, 2*s.* 8*d.*; twice Turnip hoeing, 6*s.*; leaving a balance upon the whole in favour of the Beans and Turnips, over the Clover of 2*l.* 1*s.* 4*d.* an acre. The seed Beans he assumed to be in value equal to Clover seeds. The next question to be considered was whether this would be a good preparation for Wheat. So far as he had been enabled to judge from experiments which he had made, the Wheat had been as good after the Beans as after the Clover, and in some instances better. This year he had been a large grower of winter Beans, but, from the wet state of the land throughout the season, the Beans had grown so fast that he had found it impossible to horse-hoe them, and the crop might not be so good in consequence; still he believed he should produce a very fair crop. He had now been ploughing and working the land about, in order to prepare it for a crop of Mustard, to come between the Wheat. He supposed he should not be able to consume the whole of the Mustard upon the land, but his intention was to consume a portion and plough in that which was remaining, to make manure. He had for some years previous to the present grown Mustard. He believed he sowed the first crop in his neighbourhood, and he had been uncommonly pleased with it, not only on account of its growing to a very great size in a very short time, but also because it kept the land unusually clean; and the crops which had succeeded it had invariably been good. He thought the expense of the crop rather less than a coat of manure, even if the whole crop were ploughed in. He had estimated the cost per acre as follows:—One skim ploughing (which would plough two acres per day from 2 to 3 inches deep), 3*s.* 6*d.*; three harrowings and rollings, 2*s.* 10*d.*; 12 lbs. of seed at 10*s.* per bushel, 1*s.* 8*d.*; making the total expense 8*s.* per acre. He thought in cases where the land was kept tolerably clear, that the stubbles might be just ploughed over with a skim plough, and a crop of Mustard sown upon it, and plough in the whole crop. This he considered would become of the best things that they could do before they ploughed the land as furrow for Turnips; for it was a well-known fact that nothing tended more to enrich the soil than to plough in the produce of it as a green crop, and he believed it to be cheaper than manure and more effectual. With respect to the cultivation of Mustard, it would be well to bear in mind that the land ought to be well pulverised previously to planting the crops. As regarded Carrots, he could not say much about them. His were very bad this year. He had cultivated them for two years, but he had not been very successful.—Mr. TAYLOR had cultivated one crop of Mustard, and was exceedingly pleased with it. He found that by growing Mustard the crop which followed it was larger than usual, and the land in a much better condition. Sheep would eat Mustard in preference to Turnips. He had a field cultivated with Mustard and Turnips, into which he turned his sheep; but they would not touch the Turnips until they had consumed the whole of the Mustard. The sheep did not appear to relish the Mustard for the first day, but as soon as they took to it they appeared remarkably fond of it; and his shepherd spoke of it very approvingly.—Mr. BATSON had also found that sheep would not readily take to Mustard at first, but he had invariably found that when once they did take it they ate it very readily.—Mr. TAYLOR was recommended to sow but a peck of Mustard per acre, and he had done so. However, he now thought that hardly enough, and he intended slightly to increase it next year.—Mr. BATSON conceived that as Mustard was a bulky crop, and grew very rapidly, it must take a greater portion of its nourishment from the atmosphere than from the soil, and consequently, when ploughed into the land, must prove highly beneficial to the soil, much more so than green crops which derived the greater portion of nourishment from the soil. If sheep were turned upon it of course part of the nourishment is taken away. In light soils, where there is a good state of cultivation, you may make a surface by skim ploughing for sowing Mustard. This may be done at a cost of from 5*s.* to 8*s.* per acre, and what is grown can be ploughed in, and will do for Turnips. The expense will not exceed the ordinary expense of Turnips.—Mr. APPERLEY asked if there were not other autumn green crops that could be sown successfully after stubble?—Mr. FATSON: I should say Rape might be cultivated with success. I believe it should be sown the second week in August, and can be fed off in November. The best time to sow Mustard was when the soil was in a fit state to sow Turnips. It may come to maturity in four weeks, after which time it will be ready for feeding off. I cannot say whether Mustard will answer the purpose of fatting sheep. I have always given it to my sheep previous to putting them on Turnips; *Hereford Times.*

Reviews.

The Pocket and the Stud, or, Practical Hints on the Management of the Stable. By Harry Hieover. Longman, Brown, Green, and Longmans.

THIS is a most interesting and useful little volume, full of detail and anecdote, on the cheapest and most efficient methods of stable management. The purchase of a horse, the arrangements of his house, his food, and the general economy of the subject, are here all discussed by one who speaks with all the confidence of ample experience.

We select the following passage, as illustrative both of the style and the substance of his instructions.

"It is quite a mistaken notion with those who consider a hunter the most expensive sort of horse to keep (race-horses being out of the question): a hunter, take him all the year round, does not cost more than any common well fed and well worked hack—certainly not so much as a carriage horse. These gentlemen, like the gentlemen who sit in front of, and sit or stand behind, the carriage, are never off their appetite, or into one; so nothing but the best does for them, and plenty of it. The usual allowance of London carriage horses is three half pecks a day, with Beans when (the coachman pleases to think them) necessary.

"Stage coach horses in full work and health will go close upon hiding away their half bushel each, with chaff; and for some old horses, Beans with it: but they earn it: their exhaustion of animal power is great, and their consumption of hay is—or, at least, ought to be—a mere trifle. Doubtless, from this allowance of Oats in the stable, there is a little 'shouldering,' as there is from the coach on the road: but where we cannot always be present, and must trust to subordinates, the only way is to make a fair, liberal, but not profuse allowance; and if things on that allowance are done well, it is bad policy to notice any little advantage those subordinates may derive on particular occasions. For instance, a coachowner whom I knew employed a horse-keeper on a particularly fast stage—in coaching language, both sides of the road"—that is, both going and coming. The man's horses and work altered not; but he, like many horsed copers, was partial to poultry, liked fresh eggs to eat, and his wife liked them to sell. In short, he had a very pretty little community of the feathered tribe. His employer, with that shrewd closeness that characterises many persons, feared the man took more off his feed—partridge breasted game, Polish, and Dorkings. Going up the road some time afterward, he found this had not been done: he examined the man on the spot. He was poor and not above a feather to flatter on the premises, but he had his 'penchant'—he loved something more substantial: he owned a pig, that he located at the next cottage and by Christmas had won a good 15 score; and it was quite remarkable that the horses got thin in precisely the same ratio the grower got fat: when killed he exhibited a spare rib and cover'd, while the horses exhibited only the usual number, and those not covered at all. The poultry farmer was brought back, when, out of pure charity, he brought also back a lot of Mary fowls in addition to his wages, and turned them down before master's face. Notwithstanding this, the horses soon showed who had the care of them.

"Cart horses (a description of animal that, among most other of a domestic kind, I have had the pleasure of entertaining at rack and manger), I always allowed 2 bushels of Oats per week, which is not too much. If the master achieves that rather difficult task of making them do a fair day's work, it is not too much, with chaff (and when the work is hard, Beans), which they take as a kind of whet to their appetites for hay (as some persons do oysters before dinner): of hay, cart horses will consume half a truss in the 24 hours, and, if the carters are not well watched, even more: for nothing short of absolute exhaustion of the masticating powers ever yet convinced a carter that he or his horse had enough.

"We now come to the kind of horse I will suppose the reader about to keep, namely, a moderate sized one, for moderate work, in harness, or for the saddle. For such a horse, 4 quarters of corn and a truss of hay in four days are quite sufficient; if a horse merely to ride for an airing, 3 quarters are enough, with perhaps a trifling addition in that case to his hay. Straw is an article somewhat expensive in London; in the country we reckon little upon it, as farmers will, in some places, supply it to have the manure in return, in others for the manure and a small compensation: but we will look at the thing altogether as it stands in London, and take the horse as eating four feeds per day. We will take Oats on an average at 24*s.* per quarter, hay at 4*l.* 10*s.* per ton, and straw at 20*s.* In stating these prices, I reckon on their being laid in at a cheap season of the year, bought for ready money, and at first hand. Persons who have no room for storage of provender must, perhaps, pay something more in some places than the prices here set down; and less straw (if scarce) will do. I have said nothing about Beans, bran, or an occasional malt mash; neither have I mentioned Carrots, these being occasional additions that it would be impossible to reckon on so as to mention a price or weekly sum as the cost of keep.

7 pecks of Oats per week, at 24*s.* per quarter	..	..	..	0*l.* 14*s.* 0*d.*
7 stones of hay, at 4*l.* 10*s.* per ton	..	..	..	0 11 6
1 cwt. of straw, at 1*l.* 10*s.* per ton	..	..	..	0 3 0
				1 8 6

"Thus we see a moderate horse is, with good management, to be kept for, say 11*s.* a week, so far as feeding goes, which my friend calculated at something like 1*l.* 18*s.* Horses working harder, or larger horses, must, of course, get more; but as reckoning corn at a fair average, it will cost about 2½*d.* a quartern. If five pecks or six become necessary, there can be no difficulty in any person calculating what his horse's provender ought to cost, if kept in the owner's stable; and, allowing a horse to get the topmost quantity of Oats that private horses ever eat—that is, 6 quarterns per day—the keep only then comes to about 13*s.* 4*d.* per week as to forage."

Miscellaneous.

Farm Accounts.—Through the kindness of the owner, I was enabled to procure a form of these accounts. I subjoin it, thinking I can give few things of the kind more valuable to my readers. The great and almost universal fault of farmers is, that through ignorance or neglect they can hardly be said to keep any accounts; sometimes merely a few memoranda in an interleaved almanack, or a few details behind the door; or if they keep books, they are often erroneous, are seldom balanced, and the farmer never arrives at a result upon which he can rely. Often under these circumstances he finds himself gradually declining into hopeless bankruptcy, without being able to ascertain the most active and certain causes. The ship is filling, but he cannot detect the leak, nor consequently the means of stopping it; *Colman's European Agriculture.*

Calendar of Operations.

OCTOBER.

BERWICKSHIRE MERSE FARM, Oct. 13.—Since last report we have been employed carrying Barley and Oats, finished cutting Beans; ploughing stubble land, one part at the ends, &c.; the women's have been cutting beans, assisting at the threshing, and taking up Beans; the weather has been unfavourable for carrying; *J. D.*

LANCASHIRE SHEEP FARM, Oct. 24.—The principal business of the past month has been the drafting of ewes. As the Cheviots we intend sending at this time are now shipped, and were sent away about three months ago. As lime-stored

draft ewes realise small prices when sold in the autumn, we endeavour to keep them through the winter, and sell them in March (a few weeks before lambing), retaining as many as will stock our enclosures during summer, the lambs (crosses) being sold fat in August, and the ewes as soon after as they can be got into condition. Owing to the greater abundance of sheep at this season, draft ewes are selling about 2s. a head above last year's prices. Our lambs are now all sold, except a very few crosses. At present lambs are selling at comparatively higher prices than they were ten weeks ago, owing, in a great measure, to the improved appearance of the Turnip crop. Our stock of rams is now provided, and secured in a well fenced enclosure, where they are allowed a few Oats in addition to their pasture. In the course of a fortnight we shall commence bathing the sheep, an operation which lasts a fortnight. After several weeks of very dry weather, which enabled low country farmers to secure most of their corn in beautiful condition; we have had a great deal of rain since the 23d of September. At that time there was a good deal of corn to cut in this district, and very little carried. Much of it has been seriously damaged, and there is still much out. We were fortunate in getting our own in on the 12th, not in good condition certainly, still better where it is than exposed to the weather and the depredations of the grouse, which are severe in any season, but particularly so in a late harvest, the outsides of the sheaves in exposed fields being picked clean. Turnips are growing amazingly fast. The whole of our crop is doing well except two acres manured with dissolved bones, at the rate of six bushels of bones and 50 lbs. of sulphuric acid per acre, mixed with an equal quantity of peat ashes. These are nearly a failure; *A Lammermuir Farmer.*

NORTH LINCOLNSHIRE FARM, *Oct.* 9.—After a tolerably fine week, we have again heavy rain this afternoon, which will prevent the farmers finishing leading the late patches of Barley and Oats, of which there are a good many left abroad in this part of the country. The Barley that has been exposed to the late heavy rains has got very much discoloured and sprouted, and cannot be fit for anything but grinding purposes. In threshing Wheat we find the yield to be about an average to the quantity of straw, but the straw short to the acre—fully one-fourth less than last year. Potatoes very bad, more than one-half not fit for family use, the remainder, we fear, will not keep when pitted down. We have commenced sowing Wheat this day, likewise folding lambs upon Turnips, giving them Clover with their Turnips. Turnips upon well-drained, high managed land have done well lately, and are a good crop; upon light soils, and where not well managed, are not equal to expectation. Our horses were employed last week in leading lime upon seeds, to plough up for Wheat, &c. Men thatching, trimming hedges, &c.; *S.*

Notices to Correspondents.

BONE MILLS: *A Young Farmer* wants to know where he can get a small bone mill fitted for a farm. He should apply to some of the leading firms among our agricultural machine makers on the subject; but we doubt the policy of undertaking such a work on the small scale which he proposes.

BOOKS: *Omega.* The works on surveying most in use are by DIX, Crocker, Nesbit, Williams, and Burr. Everything that is required by the measurer will be found in those works. For computing values of fields, &c., Hudson's "Land Valuers' Assistant" is sufficient. If Hudson's will not satisfy, try Taylor's. The "newest and cheapest" works are not always the best, we have therefore named such as we believe to be good. Booksellers will furnish prices. We desire to caution "Omega" against supposing that a knowledge of measuring and mapping only—the mere schoolboy department of the business—will entitle him to the name of land surveyor. If he wishes to obtain a useful practical knowledge of the business, he had much better spend the time he would be in reading books on the subject in a surveyor's office. The mention of "sworn land surveyor" is sufficient to excite the risible faculties of the most grave. No such creature exists, "Sworn measurer" is a mere fabulous thing, and can have no liabilities or privileges. To state the duties of a land surveyor, properly so called, would fill a volume. He enjoys no privileges, nor has he any liabilities peculiar to his calling, as legal and medical gentlemen have. His liabilities are such only as honesty, integrity, and responsibility impose on any other man of business who is entrusted with the conduct of matters of importance. *B.*

COPPERAS: *J Abell.* The sulphate of iron is soluble in twice, and that of copper in four times its weight of cold water. Use double this quantity of water to make the disinfecting liquid. Either salt will do; use the cheaper of the two.

DIBBLING WHEAT: *Tyro.* Dibble about 3 grains in a hole, and make the holes 3 inches from one another in rows 6 inches apart. You will then sow rather less than a bushel per acre. Newberry's dibble will answer your purpose well. On Clover lea, if you plough a 9-inch furrow slice, your rows of plants, set in each slice, will of course be 9 inches apart.

DRAINING, &c.: *Simplex.* We are draining land now, the surface of which is never more than 30 inches, and often less than 2 feet, above the level of standing water, at a depth of 2 feet, 5½ yards apart, with pipe tiles, which make their exit by one channel into the ditch—a channel which is closed by a valve, to hinder the entrance of mud and rubbish when the water rises above it. Will this plan meet your views? About foot-rot, see the two or three last Numbers of this Paper.

ROTATION OF CROPS: *X O.* We do not know what rotation of crops the gentleman alluded to adopts, and we must decline dragging people into a publicity which may be disagreeable to them. We do not think he has published on that subject. As good a rotation as you can adopt might be constructed on this principle: 1st. A grain crop for sale; 2d. A fallow crop, either Pulse or green crop, for sale; 3d. A fallow green crop for consumption on the land.

*** Communications reaching town after Wednesday cannot be answered the same week.

Markets.

POTATOES.—SOUTHWARK, WATERSIDE, Oct. 16.

The Committee report that the arrivals during the past week have been quite equal to the demand, particularly from the Continent, which come to market in good order. We have several barges from the north of England in very bad condition, which causes a wide range between our prices. The following are this day's quotations:—York Regents, 50s to 120s; Wisbeach do., 100s to 110s; Scotch do., 100s to 120s; Scotch Reds, 50s to 100s; French Whites, 80s to 90s; Belgian do., 80s to 90s.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Oct. 19.

Prime Mead. Hay	66s to 72s	New Hay	—s to —s	Straw	24s to 30s
Interior ditto	50 63	Clover	60 95		
Bowen	40 54	New Clover	— —		J. COOPER.

CUMBERLAND MARKET, Oct. 19.

Prime Mead. Hay	75s to 80s	Old Clover	95s to 100s	Straw	28s to 33s
Inferior	50 70	Inferior	55 90		
New Hay	50 70	New Clover	55 90		JOSHUA BANKS.

WHITECHAPEL, Oct. 19.

Fine Old Hay	68s to 72s	Old Clover	95s to 105s	Straw	26s to 30s
Inferior Hay	50 55	Inferior	50 60		
New Hay	60 66	New Clover	84 95		

HOPS, FRIDAY, Oct. 20.

MESSRS. PATTENDEN and SMITH report that there is a good demand for all Hops with colour and quality; low and inferior samples are unsaleable.—Weyhill Fair finished well. Many buyers waited over until Monday, thinking to purchase cheaper; but it turned out to the contrary, and full 6s. per cwt was realised over and above Saturday's prices. Duty, 200,000*l.*

Mid. & East Kents, p. cwt.	50s to 112s	Yearling Kents, p. cwt.	42s to 52s
Weald of Kents	45 — 70	Yearling Sussex	40 — 50
Sussex	40 — 65	Old Hops	20 — 35
Farnhams	80 — 112		

COVENT GARDEN, Oct. 21.

The market continues to be well supplied with Vegetables and most kinds of Fruit; but trade continues dull. Pine-apples are plentiful. Hothouse Grapes are abundant; they are ticketed at 2s. 6d. per pound. Ribstone Pippins and other dessert Apples are ticketed six and eight for 6d. Pears are supplied in considerable quantity; among them we remarked good specimens of Brown Beurré, Williams' Bon Chrétien, Marie Louise, Crassane, Glout Morceau, Beurré Diel, Passe Colmar, &c. Nuts in general are sufficient for the demand; but Filberts and Cobs continue to be scarce, and fetch high prices. Oranges are scarce, and Lemons moderately plentiful. Amongst Vegetables, Carrots and Turnips are abundant and good; Cauliflowers, Broccoli, &c., sufficient for the demand. French Beans plentiful. Potatoes the same, and so are Tomatoes. Lettuces and other salading are sufficient for the demand. Mushrooms are plentiful. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Fuchsias, Carnations, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 3s to 6s	Lemons, per 100, 7s to 14s
Grapes, hothouse, per lb. 1s 6d to 4s	Almonds, per peck, 6s
— foreign, per lb., 9d to 1s 6d	— sweet, per lb., 2s to 3s
Plums, per punnet, 1s 6d to 2s 6d	Walnuts, per 100, 1s 6d to 2s
Apples, dessert, per bush., 4s to 7s	— per bush. 16s to 24s
— kitchen, p. bush., 3s to 5s	Nuts, Barcelona, per bush., 20s to 22s
Pears, per doz., 2s to 6s	— Filberts, per 100 lbs., 60s to 100s
— per half sieve, 6s to 10s	— Cob, per 100 lbs., 80s to 120s
Oranges, per doz., 2s to 3s	— Brazil, per bush., 12s to 16s
Lemons, per doz., 1s to 2s	

VEGETABLES.

Cabbages, per doz., 3d to 1s	Onions, pickling, p hf sieve, 1s6d to 3s
Cauliflowers, per doz., 6d to 2s	Tomatoes, per punnet, 9d to 1s 3d
Broccoli, per doz., 4s to 9s	— per half sieve, 3s to 5s
Sorrel, per half sieve, 6d to 9d	Shallots, per lb., 4d to 8d
Potatoes, per ton, 60s to 160s	Garlic, per lb., 8d to 1s
— per cwt., 3s to 8s	Radishes, per doz. bands, 6d to 1s
— per bush., 2s 6d to 4s	— Turnip, do., 9d to 1s
Turnips, per doz. bunches, 9d to 2s	Artichokes, per doz., 1s 6d to 3s
Red Beet, per doz., 6d to 1s	— Jerusalem, p. hf sieve, 1s to 1s 6d
Horse Radish, per bundle, 1s to 6s	Vegetable Marrow, per doz, 6d to 1s
French Beans, per hf sieve, 1s to 1s 6d	Lettuce, Cab., per score, 4d to 1s
Cucumbers, each, 2d to 8d	— Cos, do., 9d to 1s 3d
Leeks, per bunch, 1d	Endive, per score, 9d to 1s
Celery, per bundle, 6d to 1s 3d	Mushrooms, per pottle, 1s to 1s 9d
Carrots, per doz. bunches, 2s to 4s	— per bushel, 4s to 6s
Spinach, per sieve, 1s to 1s 6d	Small Salads, per punnet, 2d to 3d
Peas, per sieve, 3s to 5s	Fennel, per bunch, 2d to 3d
Marjoram, per bunch, 2d	Savory, per bunch, 2d to 3d
Mint, green, per bunch, 2d	Thyme, per bunch, 3d to 4d
Onions, per bunch, 3d to 4d	Watercress, p. 12 small bun., 6d to 9d
— per bushel, 2s to 3s 6d	Parsley, per doz. bunches, 1s 6d to 2s
— Spanish, per doz., 1s to 4s	— Roots, per bundle, 1s to 1s 6d

SMITHFIELD, MONDAY, Oct. 16.

We have a large increase in the supply of Beasts, but the average quality is very middling; consequently some of the choicest descriptions suffer very little reduction in price. The weather, however, being unfavourable, general quotations are rather lower, but the demand being extremely dull, comparatively very few remain unsold. There are a few more Sheep, and the demand is limited; trade is therefore slow, at about last Monday's rates. The number of Calves is not large, there being, however, very few wanted, they suffer a decline of about 2d. per 8 lbs. From Holland we have nearly 700 Beasts, 2600 Sheep, and 108 Calves; from Denmark, 43 Beasts; Spain, 14; Leicester and Northampton, 2800, and Lincoln, 300.

Per stone of 8 lbs.—	s	d	s	d	Per stone of 8 lbs.—	s	d	s	d
Best Scots, Herefords, &c.	3	10	to 4	0	Best Long Wools	4	4	— 4	6
Best Short Horns	3	8	— 3	10	Ditto Short	....		....	
Second quality Beasts	2	10	— 3	4	Ewes and second quality	3	8	— 4	2
Calves	3	4	— 4	4	Ditto Shorn	....		....	
Best Downs & Half-breds	4	8	— 5	0	Lambs	....		....	
Ditto Shorn	....		....		Pigs	4	0	— 5	4

Beasts—4707. Sheep and Lambs—25,080. Calves—185. Pigs—335.

FRIDAY, Oct. 20.

The supply both of Beasts and Sheep is again large, and the demand very limited, owing to the state of the dead markets. The best Scots cannot be quoted anything over last; indeed, Monday's prices, which were then freely given, are with difficulty obtained to-day. What few choice Downs are on offer maintain late prices, but big Sheep are rather lower; Long-wools make 4s. 2d. to 4s. 6d. Calves are 2d. per 8lbs. lower, with a slow trade. From Holland there are about 320 Beasts, 1350 Sheep, and 140 Calves; and 120 Milch Cows from the home counties.

Per stone of 8 lbs.—	s	d	s	d	Per stone of 8 lbs.—	s	d	s	d
Best Scots, Herefords, &c.	3	10	to 4	0	Best Long Wools	4	2	— 4	6
Best Short Horns	3	8	— 3	10	Ditto Shorn	....		....	
Second quality Beasts	2	10	— 3	4	Ewes and second quality	3	6	— 4	0
Calves	3	0	— 4	2	Ditto Shorn	....		....	
Best Downs & Half-breds	4	8	— 5	0	Lambs	....		....	
Ditto Shorn	....		....		Pigs	4	0	— 5	4

Beasts—1087. Sheep and Lambs—6240. Calves—354. Pigs—390.

MARK LANE, MONDAY, Oct. 16.

Messrs. KINGSFORD and LAY report that the supply of English Wheat from the neighbouring counties this morning was moderate, and the general condition very damp. Picked samples were taken at 2s. per qr. under the prices of this day se'nnight, but other descriptions were difficult of disposal at a decline of 2s. to 3s. per qr. The arrivals of foreign during the past week amount to 45,199 qrs, in consequence of which millers acted with great caution, and only a small retail business resulted, at a reduction of 1s. to 2s. per qr.—Fine qualities of malting Barley, either English or foreign, are the turn dearer, but ordinary and grinding barely maintain our quotations.—Beans are unaltered in value.—White Peas must be noted 2s. per qr. cheaper.—Fine Oats are fully as dear; ordinary sorts the turn lower.

BRITISH PER IMPERIAL QUARTER.	$	$		$	$
Wheat, Essex, Kent, and Suffolk	White		Red	42	54
Norfolk, Lincolnshire, and Yorkshire		50	56	White	50	58
Barley, Malting and distilling, 29s to 31s	Chevalier	30	31	Grinding	26	30
Oats, Lincolnshire and Yorkshire	Polands	20	26	Feed	18	23
Northumberland and Scotch	Feed	21	24	Potato	23	26
Irish	Feed	19	23	Potato	22	25
Malt, pale, ship		—	—			
Hertford and Essex		—	—			
Rye		30	32			
Beans, Mazagan, old and new	35s to 38s		Tick	36	38	Harrow	28	40
Pigeon, Heligoland	30	44	Winds	34	40	Longpod	26	30
Peas, White	36	39	Maple	38	40	Grey	31	36

ARRIVALS IN THE PORT OF LONDON LAST WEEK.

	Wheat.	Barley.	Malt.	Oats.	Rye	Beans.	Peas
Flour, 17412 sks	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.
— 1500 bls	6205	4492	4120	2622	—	958	991
English	—	—	59	100	—	—	—
Irish	45199	13517	—	27414	2977	1384	6770
Foreign							

FRIDAY, Oct. 20.

The attendance at market this morning was small, and having an arrival of 22,120 qrs. of foreign Wheat, the trade was heavy, and to have effected sales less money must have been taken.—In Spring Corn of all descriptions there is very little doing, but our quotations remain nominally unaltered.

[During the last eight days the Wheat trade has been very dull throughout the kingdom, and a decline of 1s. to 2s per qr., principally occasioned by large foreign arrivals, was generally submitted to. Fine malting Barley has been and continues in request, with a tendency to advance in price, whilst the ordinary sorts barely maintain their late value. With the exception of White Peas, which are 2s. cheaper, no material alteration has occurred in other descriptions of Spring Corn. The Flour trade is dull, and French is sold at 1s. per sack decline. Danube Indian Corn continues to find buyers at 36s. to 38s. per qr. afloat. In the Baltic, as also the Dutch and Belgian markets, Wheat has declined 1s. to 2s. per qr. by the last accounts, and Barley is also a shade lower: Sale, 56/lbs., 28s. to 29s.; Chevalier, 52—54lbs., 31s. 6d. to 32s, f o b. In Odessa, on the 6th instant, the demand for Wheat continued extremely lively, prices varying according to quality, from 31s. 6d. to 35s. per qr, f. o. b.

IMPERIAL AVERAGES.	Wheat.	Barley.	Oats.	Rye	Beans.	Peas.
Sept. 9	56s 10d	33s 4d	22s 10d	33s 8d	39s 1d	41s 6d
— 16	53 8	33 3	22 2	33 5	38 10	40 2
— 23	52 4	33 7	21 11	32 0	37 11	37 11
— 30	52 9	33 3	21 1	31 9	36 1	39 8
Oct. 7	52 5	32 6	20 8	32 1	35 3	38 0
— 14	51 11	32 0	20 0	30 4	35 2	39 2
Aggregate Average	53 4	33 0	21 7	32 3	37 1	39 6
Duties on Foreign Grain	4 0	2 0	2 0	2 0	2 0	2 0

ARRIVALS IN THE PORT OF LONDON THIS WEEK.

	Wheat.	Barley.	Oats.	Flour.
	Qrs.	Qrs.	Qrs.	
English	1970	2710	1360	2360 sacks.
Irish	—	—	—	
Foreign	22120	7700	22610	— barrels.

Fluctuations in the last six weeks' Corn Averages.

PRICE.	Sept. 9.	Sept. 16.	Sept. 23.	Sept. 30.	Oct. 7.	Oct. 14.
56s 10d		...	...	...	...	...
53 8	...		...	...	...	...
52 9	...	...		...	...	...
52 5	...	...	...		...	...
52 4	...	...	...	...		...
51 11	...	...	...	...	...	

SEEDS, Oct. 16.

Canary	per qr.	84s to 94s	Linseed-cakes, Foreign, p. ton	7*l* to 9*l*
Caraway	per cwt.	27 29	Mustard, White, p. bush.,	6s to 9s
Clover, Red, English		35 44	Superfine, p. bush	9 10
— Foreign		35 40	Brown, per bush.	6 12
White, English		38 44	Rapeseed, Eng., per last	28*l* 30*l*
— Foreign		38 42	Rape-cakes per ton	4*l* 15s
Coriander		19 20	Samlon	— —
Hempseed	per qr.	34 36	Tares, Eng., winter, p. bush.,	10s 0 12s 0
Linseed		36 40	Foreign, per bush.,	3s 0 4s 0
— Baltic		34 38	Trefoil	17s 0 20s
— Cakes, Eng. p. 1000,		11*l* 10s to 13*l*	Turnip—too variable for quotation.	

BAKER'S PHEASANTRY, Beaufort-street, King's-road, Chelsea, by special appointment to her Majesty and H.R.H. Prince Albert. — ORNAMENTAL WATER FOWL, consisting of black and white swans, Egyptian, Canada, China, bernacle, brent, and laughing geese, sheildrakes, pintail, widgeon, summer and winter teal, gadwall, Labrador, shovellers, gold-eyed and dun divers, Carolina ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking fowls; white Japan, pied, and common pea-fowl, and pure China pigs; and at 3, Half-moon-passage, Gracechurch-street.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND CO., 116, Bishopsgate-street Without, are supplying 16 ounce Sheet Glass, at prices varying from 1½*d.* to 3½*d.* per foot; also Patent Rough Plate, Double Crown, Patent and British Plate, and Ornamental Glass; Glass Milk Pans, Propagating, and Bee Glasses; Cucumber Tubes, Cream Pots, Peach Glasses, Wasp and Fly Traps. Glass Shades for Ornaments, Lamp Shades, Metal Stand Frames, and a well selected stock of Hyacinth Glasses. List of Prices and Estimates forwarded on application.

BRITISH MANUFACTURED SHEET GLASS FOR CONSERVATORIES.

E. AND W. H. JACKSON beg to recommend the above as superior to all other articles manufactured for that purpose. BRITISH, PATENT AND ROUGH PLATE, CROWN, COLOURED, AND ORNAMENTAL GLASS supplied at the lowest terms.

Lists of prices and every information can be had on application at their Warehouse, 315, Oxford-street, London.

GLASS FOR CONSERVATORIES, &c.

HETLEY AND CO. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2*d.* to 3*d.* per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices, and estimates forwarded, on application for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY and Co., 35, Soho-square, London.

See the *Gardeners' Chronicle*, first Saturday in each month.

WHEAT SOWING.

MARK FOTHERGILL, 201a, Upper Thames-street, London, offers the following MANURES for the Wheat crop, and warrants the quality to be genuine, viz.:

SUPERPHOSPHATE OF LIME (prepared from Bone only).

WHEAT MANURE (containing a large amount of Silicates, with rich Phosphates).

DRIED NIGHT-SOIL (obtained from a large public institution).

PERUVIAN GUANO (direct from import warehouse).

BRITISH GUANO (rich in all the Salts of Ammonia, Phosphates of Soda and Potash, &c., contained in the foreign, at a considerably lower price).

Also, Soda Ash (Wireworm destroyer), Gypsum, Urate, Nitrates Soda and Potash, Salt, Bone-dust, and all other manures of known value.—Apply for prices current as above.

MR. LAWES has prepared a MANURE for WHEAT, the composition of which is—Salts of Ammonia, yielding 20 to 22 per cent. of ammonia—70 to 80 per cent.; Precipitated Phosphate and Sulphate of Lime, with a small quantity of water and silicious matter—20 to 30 per cent. Price 9*l.* 10*s.* per ton.

Office, 69, King William-street, City, London.

PERUVIAN AND BOLIVIAN GUANO ON SALE,

BY THE ONLY IMPORTERS,

ANTONY GIBBS AND SONS, LONDON;

WM. JOSEPH MYERS AND CO., LIVERPOOL;

And by their Agents,

GIBBS, BRIGHT, AND CO., LIVERPOOL and BRISTOL;

COTESWORTH, POWELL, AND PRYOR, LONDON.

To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

WHEAT SOWING.

THE LONDON MANURE COMPANY beg to offer as under:—

LONDON MANURE COMPANY'S CORN MANURE.

" " " URATE. [LIME.

" " " SUPER-PHOSPHATE OF

Peruvian Guano, direct from Importers' stores—Fishery and Agricultural Salt—Gypsum for Clover—Soda Ash for destroying wireworm, and every other Artificial Manure.

The London Manure Company would call particular attention to their Corn Manure and Urate, the former containing a large amount of Ammonia, Phosphates, and Silicates, all so essential for corn crops, while the Urate is richer in Phosphates and other mineral substances required for roots.

Full particulars and prices forwarded on application.

EDWARD PURSER, Sec., 40, Bridge-street, Blackfriars.

PARIAN CEMENT used as a Stucco, cannot easily be distinguished from statuary or Parian marble. It is fit for all the purposes of that beautiful material, and does not crack, warp, or effloresce in any degree. The fine quality will incorporate with the most delicate colours; it is adapted to encaustic work, fresco, imitation of marble, and the most elaborate embellishment. So perfect are its setting or crystallising properties, that the coarse quality when applied to newly built or damp walls, may be immediately polished, painted, or papered, and rooms rendered habitable before the materials ordinarily used would begin to dry. Manufactured by CHARLES FRANCIS and SONS, Roman Cement Works, Nine Elms, London.

WIRE-WORK, HOT-WATER APPARATUS, GREENHOUSES, &c.

ST. THOMAS BAKER, MANOR-HOUSE, MANOR-PLACE, KING'S-ROAD, CHELSEA, Manufacturer of INVISIBLE WIRE FENCE, to resist Grazing Stock, and rendered Rabbit-proof. WIRE-WORK in Trainers, Arches for Walks, Bordering, Flower Stands, Pheasantries, &c. HORTICULTURAL BUILDINGS, Green and Hothouses, Conservatories, &c. The same heated by HOT-WATER APPARATUS on improved and economical principles.

Parties waited on in Town and Country, and Drawings and Estimates free. Work for the Trade as usual.

Ward's Cases, or Domestic Greenhouses.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as building and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

Sales by Auction.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, & Others.

MESSRS. PROTHEROE AND MORRIS will sell by Auction, on the premises, Fitzroy-park Nursery (near the Gate House) by order of the proprietor, on WEDNESDAY, October 25, at 11 o'clock, the thriving NURSERY STOCK, comprising about 6000 Aucuba, from 1 to 4 feet; 1000 Laurels, 6 to 8 feet; Green Hollies, Arbutus, Cedar of Lebanon, Sweet Bays, Red Cedars, Laurestinus, Limes, Evergreen Oak, Rhododendron, Azalea, &c.—May be viewed prior to the sale. Catalogues may be had on the premises, of the principal Seedsmen, and of the Auctioneers, American Nursery, Leytonstone.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will sell by Auction, at the Mart, Bartholomew-lane, on FRIDAY, October 27, a first class collection of DUTCH BULBS, comprising very fine double and single Hyacinths, Tulips, Narcissus, Jonquils, Crocus, Anemone, Amaryllis, Gladiolus, Ixia, &c.; also a splendid assortment of Standard and Dwarf Roses, consisting of Noisettes, Hybrids, Bourbons, Perpetuals, Chinas, &c.—May be viewed the morning of sale. Catalogues had at the Mart, and of the Auctioneers, Leytonstone, Essex.

Greenhouse Plants, Quantity of Fruiting and Succession Pines, Cucumber Frames and Lights, Rustic Garden Seats, Garden Tools, and various out-door effects.

MESSRS. BEADEL, SON, AND CHANCELLOR have been instructed to Sell by Auction, on SATURDAY, October 28, 1848, on the Premises, Coptfold Hall, Margaretting, within two miles of the Railway Station at Ingatestone, a number of Choice Greenhouse Plants in pots, comprising Camellias, Geraniums, Fuchsias, Heliotropes, Cinerarias, Chrysanthemums, Seedling Orange Trees, &c., &c., upwards of 150 Fruiting and Succession Pines, 10 old Pine stools, 4 Cucumber and Melon Boxes, with Lights nearly new, Garden Rustic Chairs, several lots of Garden Tools, Flower-pots, &c. Catalogues may be obtained on the Premises; of Mr. BEADEL, 25, Gresham-street, London; and at the Offices of the Auctioneers, Chelmsford, Essex.

WOKING, SURREY.

TO NURSERYMEN, GENTLEMEN, AND OTHERS.

35,000 FOREST and FRUIT TREES of sorts, 800,000 Transplanted and Seedling QUICK, ROSES, and other valuable NURSERY STOCK.

MR. WATERER will sell by Auction, on TUESDAY, October 24th, and two following days, at 10 o'clock, at the Royal Oak Nursery, near the Woking Station, all the valuable NURSERY STOCK of the late Mr. John Chapman, comprising 9000 Striped and Green Hollies, from 1 to 5 feet; 1000 Box, from 2 to 4 feet; 3000 Aucuba japonicas, from 1 to 3 feet; 5000 Privets of sorts, from 2 to 4 feet; 12,000 common and Portugal Laurels, and Laurestinus, from 1 to 5 feet; 6000 Spruce, Silver, and Larch Firs, from 4 to 12 feet; 500 Yews, from 4 to 6 feet; 600 Oak, from 4 to 6 feet; 5000 Dwarf Roses and Honeysuckles of sorts; 2000 Copper Birch and Lime, 5 to 12 feet; 9000 Dwarf Maiden and Standard Nectaries, Peaches, Apricots, Plums, Pears, and Cherries; 800,000 transplanted and Seedling Quick, and other valuable Nursery Stock, the whole of which is in a safe moving condition, and well worth the attention of persons about planting.—May be viewed three days previous to the sale, and Catalogues had on the premises, and of Mr. Charlwood, Seedsman, Tavistock-row, Covent-garden, London, and will be forwarded by post, upon application by letter, inclosing four postage stamps, to Mr. WATERER, Auctioneer and Estate Agent, Chertsey, Surrey.

TO NURSERYMEN, PLANTERS, RAILWAY CONTRACTORS, &c.

EXTENSIVE SALE OF NURSERY STOCK.

To be Sold, by Public Roup, at the Nursery Grounds of Rosemount, Corbelly, and Banks of Troqueer, in the immediate neighbourhood of Dumfries, N.B., upon THURSDAY, the 26th day of October next,

THE following STOCK of NURSERY PLANTS, &c., which belonged to the late Firm of Messrs. Richardson and Pringle, viz.:

THORNS—1,300,000 Thorn Quicks, two and three years transplanted, of fine quality, some of them very strong. Ditto, 500,000, two years seedling, of fine growth.

OAKS—20,000 (drilled), three years old, cut in the roots, 2 feet. Ditto, 150,000, transplanted, two, three, and four years old, from 2 to 4 feet. Ditto, 20,000 (Turkey), two years seedling.

BEECH—50,000, three years transplanted, 3 feet.

LARCH FIR—50,000, two years transplanted, from 1½ to 2½ feet. Ditto, 200,000, two years transplanted, from ½ to 2 feet. Ditto, 100,000, one year transplanted, from 12 to 18 inches.

SCOTCH FIR—120,000, two years transplanted, from 9 to 18 inches.

SPRUCE FIR—100,000 (Norway), two, three, and four years transplanted, from 9 to 18 inches.

SILVER FIR—40,000, three years transplanted, from 9 to 15 inches. A quantity of Sycamore, Elm, Weeping Birch, Ash, Horse Chestnut, Sweet Chestnut, &c., from 2 to 3 feet.

Trained and Standard Fruit Trees; Gooseberry and Currant Bushes; Ornamental Trees; Evergreen Privets. A large Stock of fine healthy Shrubs. Rhododendrons of all sizes; Portugal and common Laurels; Irish and English Yews; besides a choice collection of other Plants and Shrubs. Every facility for removal of the Stock that could be wished is available to the West and North of Scotland by Railway, and to England by Railway, and three Steamboats, which ply regularly between the Ports of Dumfries, Annan, and Liverpool. Further information will be given by Mr. NEWBIGGING, Dumfries; or Mr. RICHARDSON, Banks of Troqueer. Four Months' Credit will be given on Approved Security, or 6d. per Pound Discount for Ready Money. The Sale will commence at 10 o'clock forenoon each day.—G. DUNBAR, Auctioneer, Dumfries, Oct. 21.

COTTAGE FARMS NEAR LINCOLN.

TO BE SOLD, THREE COTTAGE FARMS; one with Three Acres, one with Four Acres, and one Five Acres of rich and very convertible land, in the highest cultivation. The Cottages are quite new, and replete with every convenience, comprising an appropriate Dwelling, with three good rooms, Kitchen, Dairy, Stable, Cow-house, with Pigeries; all enclosed within a walled yard. The Cottages have very excellent frontages to the great roads, and are one mile from the city of Lincoln, and in close proximity to the termini of five railways connecting Lincoln with London, the out-ports, and the manufacturing population of the Midland and Northern districts. The roads are excellent, water pure and abundant, and the air salubrious.—Apply to Mr. T. ALLSOP, 1, Royal Exchange Buildings, London.

TO BE LET, with early possession, SPITAL FARM, consisting of about 180 acres of excellent Pasture and Arable Land in a high state of cultivation and thoroughly drained, with good Farm House, and all necessary Out-buildings, and with three good Labourers' Cottages. The property is situated four miles from Birkenhead, and the railway passes through it. There is a station close to the house, with a siding for the convenience of the farm; also deep water communication with the river Mersey. The Stock and Implements will have to be taken at a valuation.—For particulars apply to Mr BURNHAM, on the premises, Spital Hall, near Birkenhead, who will show the estate.

FARM TO BE LET, in the parish of HOLBEACH, LINCOLNSHIRE, to be entered upon at Lady-day next.

FORTH INGHAM FARM is to consist of about 540 acres, of which 77 acres are in outmarsh, 115 acres in pasture, and 357 acres arable; part of this Farm is in the occupation of Mr. Thomas Edward Savage, and the remainder in the possession of Mr. John Pearson Savage.

The soil of this Farm consists of alluvial deposit of very rich quality, producing large crops of every kind of grain, of Turnips, and of other roots.

This Farm is to be let on Lease for 14 or 21 years, at a corn rent, to vary as the average price of Wheat for the three preceding years varies. To view the Farm, apply to Mr GEORGE MARTIN, Holbeach Marsh, who has a plan and particulars of it; and for further particulars apply to Mr. JOHN MORTON, Whitfield Farm, Berkeley, Gloucestershire.

MERRIOTT, NEAR CREWKERNE, SOMERSETSHIRE.

TO BE LET, and entered on immediately, on most advantageous terms, an Old Established and Well-stocked NURSERY, containing, by estimation, Ten Acres (more or less), situated in the above parish, together with an excellent Hothouse thereon, filled with choice Vines in full bearing, and valuable plants; adjoining which is a comfortable Cottage, with convenient Cart-house, Packing Sheds, Seed Room, &c.

Merriott is situated within a short distance of the populous towns of Ilminster, Ilchester, Yeovil, Crewkerne, Chard, Taunton, &c., to which latter place conveyances pass to and fro daily, in connection with the railways to all parts of England.

To view the above, application may be made to Mr. ANDREW, at the Cottage on the Nursery; and further particulars and terms of letting may be known on application to Mr. WHITLEY, Solicitor, Wrington, near Bristol, Somerset.—Wrington, Oct. 21.

TO NURSERYMEN.

TO BE LET immediately, a capital NURSERY, SEED, AND FLORIST BUSINESS, beautifully situated near a fashionable town in Devonshire. The grounds consist of 3½ acres with a stream of water running through them. There is about 2000 feet of Glass, Seed Shop, Packing, Potting, and other Sheds; Stock (to be taken at a valuation) about 100l. No premium will be required, the principal object being to obtain a respectable tenant.—For particulars, apply to Mr. JOHN HEWETT, Tortfield, Sidmouth, Devon.

GLASS FOR GREENHOUSES, CONSERVATORIES, GARDEN FRAMES, &c.

Hothouse Builders, Nurserymen, and others, supplied with every description of Sheet and Crown Glass, Rough Plate, &c.

PRICES OF SMALL SQUARES IN BOXES OF 100 FEET.

	Crown.	Sheet.
Squares under 6 by 4	10s. 6d.	12s. 6d.
6 by 4 and under 7 by 5	14 0	0 16 6
7 by 5 ,, 8 by 6	15 0	0 18 6
8 by 6 ,, 10 by 8	16 0	1 0 6

Larger sizes, of all qualities and substances, equally low.

CROWN and SHEET, BRITISH and FOREIGN, in the original cases, for cutting up, at the lowest wholesale prices. Glass Tiles, Propagating, Cucumber, and all other Garden Glasses.

GLASS FOR THE DAIRY, GLASS MILK PANS, Lactometers, Cream Pots, Glass Rolling Pins, &c.

COGAN'S DURABLE LITHIC PAINT, for Farm Buildings, Agricultural Implements, Park Fences, &c. Genuine Whitelead, Colours, Brushes, &c.

LISTS OF PRICES for the above, and all other goods, will be sent on application to T. COGAN, Horticultural and Window Glass, Colour and Lead Merchant, 48, Leicester-square, London.

HYDRAULIC ENGINES.

J. LEGG begs to return thanks to his patrons and friends, and also to inform them that he continues to erect his improved Hydraulic Engines, Water Ram, &c., suitable for all situations where a fall can be obtained, also Engines for Deep Wells. J. L. also begs to inform his friends that he has made several improvements on his Hydraulic Machines, and flatters himself that he is able to compete with any parties of the present day in the construction of the above machines.

Apply to JOHN LEGG, Cheltenham.

JESSE ROSS'S PATENT HAND SEED AND WHEAT DIBBLES.—These Dibbles, which are just invented, deposit the seed at the point of the dibble, and are allowed to be, by competent judges, the most efficient machine of the kind. They press the seed into the earth at one operation, thereby securing and preventing the seed from starvation or other injury, whereby it immediately germinates, and is full two-thirds more productive than seed sown by other dibbles, served by children, or the most improved drill, as it is a well known fact that two-thirds of the seed loosely sown perishes or otherwise is destroyed, whereas by these dibbles it is all properly deposited and pressed into the earth, causing an immediate germination, indescribably more than the seed casually or loosely sown. They can be worked with ease and rapidity. A man with a pair may dibble an acre per day with ease; six rows on a sort of rocking motion two acres; and they are not liable to get out of order. For further particulars apply to the Patentee or Agents. Price, the pair, 35s.; four and six rows, with rocking frames, 4l. and 7l. 15s.; and may be had of Messrs. Dean, Dray, & Co., King William-street, London; Messrs. Mapplebeck and Lowe, Birmingham; Messrs. Whitfield & Co., ditto; Mr. W. Underhill, Newport; Mr. James Davis, Shrewsbury; Messrs. Gibson and Dove, York; Mr. Richard Stratton, Bristol; Messrs. Ransome and Co., Ipswich; Messrs. Walton, Walker, and Co., Wolverhampton; Messrs. Barnard and Boulton, Norwich; Mr. S. Brock, Diss; Messrs. W. and J. Cooper, Lynn; Mr. Bell, Cambridge; Mr. J. W. Sharman, Wellingborough; the Patentee, Leicester, on a Post-office order being enclosed; and of all the Agricultural Implement sellers in the Kingdom.

Nos. 2 and 3, which are lighter, on the same principle, and which deposit the seed at the same time, but not at the point of the dibble, the pair, 1l. 10s. Four rows, 3l.

A PARTNER Wanted, dormant or active, with moderate capital, to carry out the above, with other important machinery connected with the patent. This is an opportunity for capitalists seldom to be met with.—For Particulars, apply to the Patentee.

FARM-HOUSE, Thorney, near Peterborough.—A Newly Discovered Wheat.—Improved 12-rowed Blood-Red Wheat. I have received information from a grower of my TWELVE-ROWED WHEAT, who tells me that, with the same management and on the same land which he sowed with ordinary Wheat last year, he has this year reaped four times as much, and of a far superior quality. To any one who desires it I will give a reference to this gentleman. Timely application should be made respecting it, otherwise parties may be disappointed. The price is 12s. 6d. per bushel. The ears are 1 inch broad and 6 inches long.—THOMAS FULLARD. Extract from a Letter: "Louth, Sept. 16, 1848. Sir,—You will probably like to hear an account of my crop from the Seed which I purchased of you last October. I threshed yesterday, and the produce was Seven Quarters per acre of very superior Wheat. The crop, when growing, was the admiration of the neighbourhood, for the very superior head it produced. Yours, &c., Thomas Sargent." To be had of my Agents: Mr. Wm. Meates, 12 and 13, Davies street, Berkeley-square, London; and Mr. Edward Fullard, Birkenhead-market, near Liverpool.

HYACINTH GLASSES.

JAMES PHILLIPS AND CO. have a large assortment of ROOT GLASSES of every variety of form. Canal shape, 4s. per dozen, or 12s. per gross; Pyramidal shape, 4s. per dozen. Hanging Baskets, 18s. per dozen. Wire supporters, 6d. each.

Address, 113, Bunhill-row, Finsbury, London.

NOLAN, of the North Ash of Leicester Bazaar, [illegible], begs to inform the Public generally, that he has purchased the following PATENTS, viz.:—[illegible] Hanging, Lawn, Spotted, Sprigged Hangings for Rooms, Halls, or Pleasure Boats, with Gold Cornices and Rich Festoon Curtains; American and Scotch Linens, Table Cloths and Ornamental Window Blinds.

PATENT FLEXIBLE INDIA RUBBER PIPES AND TUBING FOR RAILWAY COMPANIES, BREWERS, DISTILLERS, FIRE ENGINES, GAS-FITTERS, CARRIAGE AND AGRICULTURAL PURPOSES.

THE PATENT VULCANISED INDIA RUBBER HOSE PIPES are made to stand [illegible] without injury, do not become hard in cold weather, and are not affected by [illegible] that are always perfectly flexible, [illegible] carriage of air or water, and particularly adapted for [illegible] engines, Pumps, Gas, Beer Engines, [illegible] where a perfectly flexible [illegible] Also Braided Hose, [illegible] inch Lead Pipes, and Sheet [illegible]

Vulcanised India rubber Cloth, [illegible] copper Bottoms, and Rings for [illegible] Pumps, Washers, or Cement [illegible]

N.B.—Vulcanised India rubber [illegible] of Hot-water and Steam Pipes, [illegible] any thickness, for all kinds of [illegible]

THE IMPROVED HYDRAULIC RAM, fixed by FREEMAN ROE, Fountain Maker, [illegible] London, can be worked by a small stream of half-an-inch, where a fall of 2 feet can be obtained. The same RAM, without the aid of a Tank or Cistern, arranged to throw a Jet of Water constituting a Fountain with the head of water beneath.

Engines for deep wells of all kinds, [illegible] Baths, Buildings heated by hot water. Water [illegible] pumps, from 15s. Fountains [illegible] Jets, &c.

A newly-invented Portable Vapour [illegible]

MESSRS. NESBIT'S CHEMICAL AND AGRICULTURAL SCHOOL, 28, Kensington-gore, London.—A sound practical knowledge of Analytical and Agricultural Chemistry, Geology, Surveying, Levelling, Engineering, &c., may be obtained at Messrs. NESBIT'S Academy, in addition to a good modern education.

Mr. NESBIT'S works on Artificial Manures, Manures, Gardening, Land Surveying, English Pastures, &c., are published by LONGMAN and Co., and may be had of all Booksellers.

The terms of the School can be had on application either personally or by letter.

SMITHFIELD CLUB.—CHRISTMAS SHOW.—The Annual Show of Fat Stock, &c., will take place at the Horse Bazaar, King-street, Baker-street, Portman-square, London, on the 6th, 7th, 8th, and 9th of December, 1848.

The separate PRINTED FORMS OF CERTIFICATE required for each Class must be obtained from the Secretary; and all Certificates filled up in the Forms appointed for the Stock and Implements, must be lodged with the Hon. Secretary on or before the 11th of NOVEMBER, 1848.

E. T. BRANDRETH GIBBS, Hon. Secretary pro tem.
Half Moon-street, Piccadilly, London.

N.B. Lists of the Prizes can be had on application as above. Exhibitors in applying for Printed Forms are required to state the Number of the Class or Classes in which they intend to exhibit.

The Anniversary Dinner of the Club will take place at the Freemasons' Tavern, Great Queen-street, on Friday, the 8th of December, at 5 o'clock precisely.

EMIGRATION AND COLONIZATION.—IMMIGRATION being much required in AUSTRALIA, NEW ZEALAND, &c., and as the supposed expense of an OUTFIT often prevents individuals emigrating, S. W. SILVER & Co., CLOTHIERS, OUTFITTERS, and CONTRACTORS, having a large interest to maintain in those Countries, have been advised to make known that they can supply a complete Outfit (including Bedding, for Male or Female Emigrants, from 4l. (net) upwards, or less (2l., if needful); and for Children in proportion, at No. 4, Bishopsgate-street Within, opposite the London Tavern), where Lists will be given on application.

S. W. S. & Co., being the makers of nearly every article in all the Outfits they supply, and as one of their objects is to promote Emigration, they neither receive from Agents or pay the too usual commission to any person introducing Passengers to be fitted out, so that the Passage and Outfit may be procured at the least possible expense; but they will, on application, advise Passengers how to obtain the most economic passage to the Colonies. They have a Representative in every Australian Colony, to whom they ship Clothing monthly: thus they would forward small parcels free of expense.

Naval and Military Officers, Midshipmen, Cadets, Civilians, Ladies, &c., are outfitted as heretofore, at the Cabin-Passenger Outfitting Warehouse, Nos. 66 and 67, Cornhill, the Emigration Outfitting being exclusively at No. 4, Bishopsgate-street Within), London, and each branch at St. George's Crescent, Liverpool.

CARSON'S ORIGINAL ANTI-CORROSION PAINT, specially patronised by the British and other Governments, the Hon. East India Company, the principal Dock Companies, most public bodies, and by the Nobility, Gentry, and Clergy, for out-door work at their country seats. The Anti-Corrosion is particularly recommended as the most durable out-door Paint ever invented, for the preservation of every description of Iron, Wood, Stone, Brick, Compo, Cement, &c., work, as has been proved by the practical test of upwards of 60 years, and by the numerous testimonials between 300 and 400 in its favour, and which, from the rank and station in society of those who have given them, have perhaps never yet been equalled by anything of the kind hitherto brought before the public notice. A copy of the Testimonials, together with a List of Prices, Colours, &c., will be forwarded on application to WALTER CARSON, 15, Tokenhouse Yard, back of the Bank of England, London. No Agents. All orders to be sent direct.

HEAL AND SON'S BEDDING MANUFACTORY.

The peculiar feature of their Establishment is, that it is confined exclusively to the Manufacture of Bedding, and consequently they are enabled to keep the largest Stock and greatest Variety of any House in London.

HEAL AND SON'S LIST OF BEDDING,

containing a full description of Weights, Sizes, and Prices, sent free by post, on application to their Factory, 196, opposite the Chapel, Tottenham-court-road, London.

On the 1st of November will be published, price 2s. 6d., roan, gilt edges,

PUNCH'S POCKET BOOK,
For 1849,
With a Coloured Frontispiece and other Illustrations by John Leech and Richard Doyle.
London: Punch Office, 85, Fleet-street.

NEW WORK BY THE AUTHOR OF "VANITY FAIR."
On the 1st of November will be published, price 1s. (to be continued Monthly), No. I. of

PENDENNIS;
HIS FORTUNES AND MISFORTUNES,
HIS FRIENDS AND HIS GREATEST ENEMY.
By W. M. THACKERAY,
Author of "Vanity Fair," "The Snob Papers" in Punch, &c.
With Illustrations on Steel and Wood by the Author.
London: Bradbury and Evans, 11, Bouverie-street.

NEW EDITION OF
WM. WOOD AND SON'S ROSE CATALOGUE FOR 1848-49; also, A GENERAL CATALOGUE OF NURSERY STOCK, containing detailed lists of Ornamental Trees and Shrubs, Conifers, Evergreens, Climbers, and American Plants; also Fruit and Forest Trees, Seedlings, &c.

PART THE SECOND contains a selection of all the most esteemed Herbaceous and Alpine Plants, Chrysanthemums, Strawberries, &c.

Wm. Wood and Son have the pleasure of informing their friends that copies of the above will be sent, gratis, on application.—Woodlands Nursery, Maresfield, near Uckfield, Sussex.

ROSE CATALOGUE.—NEW EDITION FOR 1848-9.
NURSERIES, CHESHUNT, HERTS.

ADAM PAUL AND SON beg to inform their Friends and the Public in general, that their new ROSE CATALOGUE may now be had gratis, on enclosing two stamps for postage. The prices are low as possible, and they ensure the supply of well-cultivated plants.

Notices of previous Editions by the Horticultural Press.

"Messrs. Paul and Son's Descriptive Catalogue of Roses is before us, and deserves to be made known."—*Gardeners' Chron.*

"Messrs. Paul's is a very nicely arranged Catalogue, containing the fullest descriptions of any we have seen."—United Gardeners and Land Stewards' Journal.

"Paul's Catalogue of Roses is remarkable alike for the great variety it comprises and the low prices at which they may be purchased."—Gardeners' Gazette.

"Mr. Paul is the most successful Rose grower in England." Journal of Agriculture.

GARDENING FOR COTTAGERS.—The most perfect system of Cottage Gardening, comprising very plain instructions for every operation required in out-door Gardening, and a calendar of work to be done for every month in the year, is just published, in Part 40 of the HORTICULTURAL MAGAZINE, price 1s., or post-free by enclosing 18 postage stamps.

A complete list of the TREATISES published in the Horticultural Magazine may be had through any bookseller.
C. Cox, 12, King William-street, Strand.

PYRAMIDAL FRUIT TREES.
In a few days will be ready,
THE MINIATURE FRUIT GARDEN, or the Culture of Pyramidal Fruit Trees, adapted for small Gardens, by Thomas Rivers, of the Nurseries, Sawbridgeworth, Herts, with seven wood and one copper-plate engravings, third edition entirely re-written, with an appendix containing a new method of cultivating Peaches and Nectarines, in a letter from H. B. Ker, Esq.

JOHNSON AND SHAW'S FARMERS' ALMANAC for 1849 will be published on the 1st of November; price, sewed, 1s.; bound in cloth and interleaved, 2s.
London: James Ridgway, Piccadilly, and all Booksellers.
Also,
JOHNSON'S RURAL SPELLING BOOK; price 1s. 6d. cloth.
JOHNSON'S READER, in continuation of the Rural Spelling Book: containing Useful Facts in Early Themes for Children; price 1s. 6d. bound in cloth.

TENANT-RIGHT.—The Parliamentary Report of the Evidence given before the Committee of the House of Commons on Tenant-Right being out of print, the Proprietors of THE FARMER'S MAGAZINE have determined to republish it in that periodical, WITHOUT ADDITIONAL CHARGE.

Persons desirous of possessing the Evidence complete should order the Number for October without delay through a bookseller in any market town.—Office, 24, Norfolk-street, Strand, London.

To be published in November, price 1s.,
JOHNSON'S GARDENERS' ALMANACK for the year 1849.—The work will be newly arranged, so as to give increased facility of reference; and will contain contributions from some of the best of English Gardeners; full information relative to the Potato Murrain, and all the Horticultural Discoveries of the year.

Printed for the Stationers' Company, and Published at their Hall, Ludgate-street, London, by George Greenhill; to whom Advertisements for insertion must be sent before November 1.

NEW WORK ON THE ROSE, price 1*l.* 11s. 6*d.*, imp. 8vo.
THE ROSE GARDEN. By William Paul. Embellished with 15 highly finished coloured Plates, by Andrews, Maubert, and Wakeling; and numerous Wood Engravings. The work embraces the theory and practice of cultivation, and descriptions of more than 2000 varieties.

"His instructions are full and precisely what the amateur requires."—*Gardeners' Chronicle.*

"A book full of most useful information."—*The Florist.*

"Mr. Paul is the most successful Rose-grower in England."—*Journal of Agriculture.*

By the same Author, price 1s. 6d.,
OBSERVATIONS ON THE CULTIVATION OF ROSES IN POTS, including Forcing and Propagating.

"Well worth the attention of all Rose fanciers."—*Floricultural Cabinet.*

London: Sherwood, Gilbert, and Piper, 23, Paternoster-row; and all Booksellers.

This day is published, price 12s. 6d., the first part of a New Edition of
THE BOOK OF THE FARM, a systematical Work on Practical Agriculture. By Henry Stephens, F.R.S.E.

CONTENTS:

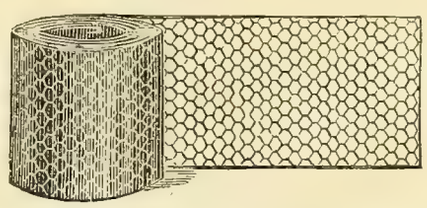
The existing Methods for acquiring a knowledge of Practical Husbandry—Difficulties the Pupil has to encounter—Different Kinds of Farming—The Labour of the Farm—Branches of Science—Institutions of Education—Observing Details and recording Facts—Summary of Field-Operations and Practice in Winter—The Plough, Swing-trees, and Plough-harness—Ploughing different forms of Ridges, Stubble, and Lea ground—The Steading in Winter—Pulling and Storing Turnips, Mangold Wurzel, &c.—Varieties of Turnips—Feeding of Sheep—Accommodation, Rearing and Fattening of Cattle on Turnips—Construction of Stables.

Illustrated by Six Engravings on Steel, and upwards of 100 Wood Engravings.

William Blackwood and Sons, Edinburgh and London.
*** Specimens may be had of, and Orders received by, all Booksellers.

BRITISH FERNS.—Now ready, 32mo, price 5s.
A HANDBOOK OF BRITISH FERNS: intended as a guide and companion in Fern culture; and comprising scientific and popular descriptions, with wood engravings of all the Ferns indigenous to Britain.
By Thomas Moore, Curator of the Botanic Garden of the Society of Apothecaries, Chelsea.
London: R. Groombridge and Sons, Paternoster-row; and W. Pamplin, 45, Frith-street, Soho-square.

WIRE NETTING ONE PENNY PER SQUARE FOOT.



GALVANISED WIRE NETTING, TWO-PENCE PER SQUARE FOOT.—This article requires no painting, the atmosphere not having the slightest action on it. It has the appearance of silver, and maintains its lustre for many years, and is acknowledged to be the cheapest article ever brought into the market. It forms a cheap, light, and durable fence for the protection of Gardens and Shrubberies against the depredations of hares, rabbits, and cats; for Aviaries, Pheasantries, and to prevent poultry from straying, as well as for training creeping plants, it answers admirably.

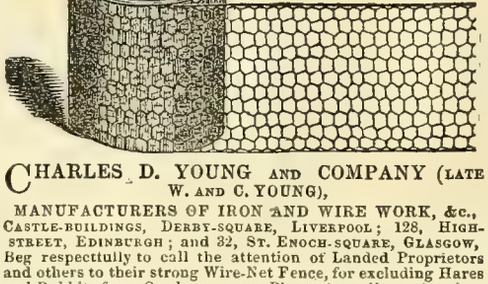
Large quantities of the Netting always kept in Stock, samples of which can be forwarded (free of expense) to any part of the United Kingdom. Prices as follows:

12 inches wide	3*d.* per yard		30 inches wide	7½*d.* per yard	
18 "	4½*d.* "		36 "	9*d.* "	
24 "	6*d.* "		48 "	1*s.* "	

Galvanised do. 1*d.* per foot extra.

Also Fenders, Fireguards, Fly-proof Dish Covers, Meat Safes, Wire Blinds, Garden bordering and arches, Flower Stands, and every description of Wire Work.
Thomas Henry Fox, 63, Snow-hill, London.

STRONG PREMIUM HARE AND RABBIT PROOF WIRE NETTING.



CHARLES D. YOUNG AND COMPANY (LATE W. AND C. YOUNG),
MANUFACTURERS OF IRON AND WIRE WORK, &c., Castle-buildings, Derby-square, Liverpool; 128, High-street, Edinburgh; and 32, St. Enoch-square, Glasgow, Beg respectfully to call the attention of Landed Proprietors and others to their strong Wire-Net Fence, for excluding Hares and Rabbits from Gardens, young Plantations, Nurseries, &c.

This Net was exhibited at the Show of the Highland and Agricultural Society of Scotland, held lately at Inverness, where its Efficiency, Great Strength, and Exceeding Cheapness attracted general attention, and had awarded from the Judges the Society's Silver Medals, with high commendations.

The immense damage done by Hares and Rabbits in Gardens and Young Plantations, is often so great, that in the course of a year or two it will amount to more than the entire cost of protecting them with this Net. It is so durable, that when Plantations are sufficiently advanced to be independent of its protection, it can be removed to other exposed situations with the greatest facility, by any labourer. As a Fence against Hares and Rabbits, it is of itself quite sufficient, having only to be unrolled and attached, with small wire sent for that purpose, to wooden stakes driven into the ground, about every six or seven feet apart. It is, besides, peculiarly adapted for rendering Hedges, Paling, or other existing Fences, *completely impervious* to such vermin: and by being cut up into small pieces of three or more feet, as required, it forms a most efficient guard, at little expense, for individual Plants and Shrubs.

PRICES.—18 ins. high, 9*d.*; 24 ins., 1*s.*; 30 ins., 1*s.* 3*d.*; and 36 ins., 1*s.* 6*d.* per lineal yard.

Or a web of 100 yards, 18 ins. wide, will cost	...	£3	15 0
Do. of 100 yards, 24 ins. wide	...	5	0 0
Do. of 100 yards, 30 ins. wide	...	6	5 0
Do. of 100 yards, 36 ins. wide	...	7	10 0

If more or less than a web is required, it would be charged at the same rate per yard.

This Netting is also admirably adapted for Pheasantries and Poultry-yards, and is charged at the same rate. As carriage has, in many instances, been an obstacle to parties at a distance requiring this Net, C. D. Y. and Co. have made arrangements by which they will undertake to deliver it at any of the principal ports of Scotland, England, and Ireland, for One Halfpenny per lineal yard.

C. D. Young and Co. cannot give a better idea of the great strength of their Premium Wire Netting than by stating that the weight of one yard of their 24-inch at 1*s.* is equal to 2½ yards of another article in the market, the same width, at 9*d.* per yard. Samples for inspection sent free of expense.

C. D. Young & Co. manufacture every description of IRON and WIRE WORK required for this and foreign countries.
Workmen sent to all parts of Scotland, England, and Ireland.

COMFORT FOR TENDER FEET, AND A CERTAIN CURE FOR CORNS AND BUNIONS.

PAUL'S EVERY MAN'S FRIEND,
Patronised by the Royal Family, Nobility, &c.

PAUL'S EVERY MAN'S FRIEND, which gives relief on the first application. Paul's Every Man's Friend (Corn Plaister) is generally admitted to be the best emollient application for Corns and Bunions, and is worthy of a trial on the part of those who are afflicted with such unpleasant companions.

Prepared by John Fox, in boxes at 1*s.* 1½*d.*, or three small boxes in one for 2*s.* 9*d.*; and to be had, with full directions for use, of C. King, 34, Napier-street, Hoxton New-town, London; and all wholesale and retail Medicine Vendors in Town and Country. The genuine has the name of "John Fox" on the Government Stamp. A 2*s.* 9*d* box cures the most obdurate corns. Ask for "Paul's Every Man's Friend."

Sold also by Barclay and Sons, Farringdon-street; Edwards, 67, St. Paul's Church-yard; Butler and Harding, 4, Cheapside; Newbery, St. Paul's; Sutton, Bow Church-yard; Johnston, 68, Cornhill; Sanger, 150, Oxford-st.; Willoughby and Co., 61, Bishopsgate-st. Without; Eade, 39, Goswell-st.; Prout, 229, Strand; Hannay and Co., 63, Oxford-st.; retail by all respectable Chemists and Medicine Vendors in every town in England.

GERANIUMS.—A Gentleman wishes to dispose of a quantity of Geraniums to make room for other stock; they consist of Beck's Aurora, Marc Antony, Desdemona, Rosy Circle; Hoyle's Mount Etna, Isabella, Josephus; Miller's Pickwick, Snowball, Pallida; Foster's Nabob, Constellation, and other favourite varieties, which will be sold at very reduced prices per dozen.—Particulars and specimens can be seen at Mr. W. Hamilton's, Seedsman and Florist, 156, Cheapside.

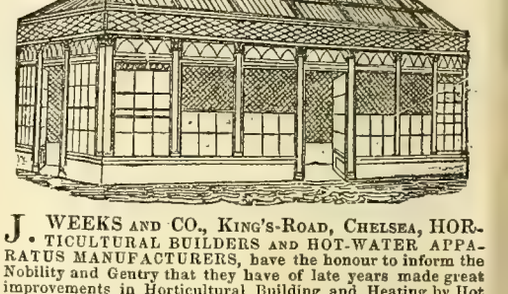
Now ready, price 2*d.* each.
THE SPEECHES AT THE AGRICULTURAL MEETING AT DRAYTON. Reprinted from the "Agricultural Gazette" for general distribution, at 2*d.* each. May be ordered of all booksellers, and single copies will be sent free by post on three postage stamps being forwarded to James Matthews, 5, Upper Wellington-street, Covent-garden, London.

Just published, in one small vol., 12mo,
RURAL CHEMISTRY.
By Edward Solly, Esq., F.R.S.,
Experimental Chemist to the Horticultural Society of London.

*** At the request of numerous Subscribers, the price of the TREE ROSE is reduced from 4*s.* 6*d.* to 3*s.* 6*d.* (post free.)

THE TREE ROSE.—Practical Instructions for its Formation and Culture. Illustrated by 200 Woodcuts. Reprinted from the Gardeners' Chronicle, with additions.
London: J. Matthews, 5, Upper Wellington-street, Strand.

HORTICULTURAL ESTABLISHMENT, AND GARDENERS' REGISTER OFFICE.



J. WEEKS AND CO., King's-Road, Chelsea, HORTICULTURAL BUILDERS AND HOT-WATER APPARATUS MANUFACTURERS, have the honour to inform the Nobility and Gentry that they have of late years made great improvements in Horticultural Building and Heating by Hot Water; and for the purpose of showing those improvements, they have erected in the King's-road, Chelsea, an extensive ornamental Nursery, which contains upwards of 15,000 feet of Glass, consisting of Hothouses, Greenhouses, Conservatories, Pits, &c. &c., in great variety; the whole of which is heated by Hot Water in various forms. This has also enabled them to grow at very reduced prices a most extensive collection of Stove and Greenhouse Plants.

THE SEED DEPARTMENT at this Establishment is conducted with the greatest care and attention. Samples of every variety are proved before sent out.
PLANS, ESTIMATES, and CATALOGUES upon application.

MECHI'S CHESSMEN, in Ivory, Bone, and Wood 4, Leadenhall-street, London, the best and cheapest, which may be also said of his Backgammon, Draught, and Chess Boards, Cribbage Boards and Pegs, Cushioned Bagatelle Tables, Pope Joan Boards, Work-boxes, Desks, Pocket-books, Writing and Envelope Cases, Dressing-cases, Tea-caddies, Table Cutlery, Sheffield Plated Ware, Pen-knives, Scissors, Clothes, Hair, and Tooth Brushes, Combs, Razors, Strops, &c. Quality of all articles first-rate.

ASTHMA.—ANOTHER CURE THIS MONTH of 39 YEARS' ASTHMA, by DR. LOCOCK'S PULMONIC WAFERS.—Dated 17, Church-lane, Hull, Oct. 13, 1847. Sir,—I have suffered more than I can describe from the effects of an asthma, which has for years rendered my days irksome, and my nights sleepless. It was brought on by cold, while accompanying the retreat of Sir John Moore. I have had the ablest advice, but nothing has given me one-tenth part of the benefit which your DR. LOCOCK'S WAFERS have, &c.

(Signed) Walter Errington, late Grenadier Guards.

DR. LOCOCK'S WAFERS give instant relief and a rapid cure of asthma, coughs, and all disorders of the breath and lungs. To singers and public speakers they are invaluable, for clearing and strengthening the voice; they have a most pleasant taste. Price 1*s.* 1½*d*, 2*s.* 9*d.*, and 11*s.* per box. Agents—Da Silva and Co., 1, Bride-lane, Fleet-street, London; sold by all medicine venders.

Note.—These Wafers being Antacid and Sedative, effectually prevent irregularity of the Bowels.

THE GROWTH AND PRESERVATION OF THE HAIR.
ROWLANDS' MACASSAR OIL insinuates its balsamic properties into the pores of the head, nourishes the Hair in its embryo state, accelerates its growth, cleanses it from Scurf and Dandriff, sustains it in maturity, and continues its possession of healthy vigour, silky softness, and luxurious redundancy, to the latest period of human life. In the growth of Whiskers, Eyebrows, and Mustachios, it is also unfailing in its stimulative operation. For Children it is especially recommended, as forming the basis of a beautiful head of hair, and rendering the use of the fine-comb unnecessary. A small pamphlet accompanies each bottle of Rowlands' Macassar Oil, wherein important hints and advice will be found on the Culture of the Hair of Infancy, and on its preservation and beauty through the several stages of human life. Price 3*s.* 6*d.*—7*s.*—Family bottles (equal to four small), 10*s.* 6*d.*; and double that size, 21*s.* per bottle. Each bottle of the genuine article has the words, "Rowlands' Macassar Oil," engraved in two lines on the Wrapper; and on the back of the Wrapper nearly 1500 times, containing 20,028 letters.—Sold by them at 20, Hatton-garden, London, and by all Chemists and Perfumers.

THE CHOLERA—HOW TO PREVENT—BY HOLLOWAY'S PILLS.—Thousands of lives may be spared by adopting the following precautionary means: to eschew the use of fruit, vegetables, pastry, eggs, the fat of meat, sauces, wine, beer, and spirits, and to avoid committing any kind of excess; to cleanse well the stomach, liver, and bowels, and purify the blood of all impurities, which will be effected by taking five or six Pills night and morning for 15 days, and afterwards to take two or three doses a week. Thus the highest state of health will be obtained, and cholera in every case prevented. The same precautions should be taken in cases of diarrhœa and ordinary bowel complaints.—Sold by all Druggists, and at Professor Holloway's Establishment, 244, Strand, London.

Printed by William Bradbury, of No. 6, York-place, Stoke Newington, and Frederick Mullett Evans, of No 7, Church-row, Stoke Newington, both in the county of Middlesex, Printers, at their office in Lombard-street, in the Precinct of Whitefriars, in the city of London; and published by them at the Office, No. 5, Charles-street, in the parish of St. Paul's, Covent Garden, in the said county, where all Advertisements and Communications are to be addressed to the Editor.—Saturday, Oct. 21, 1848.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No 44.—1848.] SATURDAY, OCTOBER 28. [Price 6d.

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MYATT'S LINNÆUS RHUBARB.—Messrs. J. Myatt and Sons have a stock of one-year planted roots of this superior variety, which has been the leading feature in the London Markets for several years, and which they confidently recommend as the best in cultivation—being far superior in point of produce and a fortnight earlier than their well known Victoria. It is also peculiarly adapted for preserving and all culinary purposes, and for richness of flavour cannot be surpassed; price 2s. 6d. per root. Also Mitchell's Royal Albert, 2s. 6d.; and Myatt's Victoria, 9d. The usual allowance to the Trade.

Post-office orders made payable to Joseph Myatt, Dept ford.

UNBLOOMED SEEDLING GERANIUMS.—Now sending out, plants raised from Seed, carefully selected and hybridized from the choicest flowers, free by post, for 7s. 6d. per dozen; or 3 dozen for 20s. Prepayment only.
John Hine, Providence Nursery, Ramsgate, Kent.

BECK'S SEEDLING PELARGONIUMS—A descriptive CATALOGUE of the above may be had in exchange for one postage stamp.
E. Beck, Worton Cottage, Isleworth.

TO PEAR GROWERS.

RENÉ LANGELIER, Clarendon Nursery, St. Helier, Island of Jersey, as the season is approaching for planting, begs to say that his well-known collection of the above still deserves particular attention. Having largely increased both in number of sorts and stock, he flatters himself to be able to supply the best sorts, and the trees particularly fine this year. Should any amateur wish to have a box of the best sorts, R. L. will be happy to forward a box, by inclosing a post-office order for 25s., box included. Early orders can only be supplied, as the crop is not large, but the fruit very fine.

TULIPS, RANUNCULUSES, ANEMONES, HYACINTHS, AURICULAS, AND LILIUM LANCIFOLIUM.

HENRY GROOM, Clapham-rise, near London, by Appointment Florist to Her Majesty the Queen, and to His Majesty the King of Saxony, begs to recommend to the attention of the Nobility, Gentry, and Amateurs, his extensive assortment of the above Flowers, which he can supply of the best quality. He begs to state that this is a good season of the year to make a selection of the various kinds.

100 TULIPS, in 100 very fine sorts, named	...	£7	7 0
100 do. in 50 do. do.	...	5	5 0
Superfine mixtures, per 100, from 7s. 6d. to	...	1	1 0
100 RANUNCULUSES, in 100 superfine sorts, named	...	2	10 0
Superfine mixtures, per 100, from 5s. to	...	1	1 0
100 ANEMONES, in 50 superfine sorts, named, new collection	...	2	2 0
Superfine mixtures, per 100, from 6s. to	...	0	10 6
12 HYACINTHS in 12 fine sorts, named	...	0	9 0
25 AURICULAS, in 25 superfine sorts, named	...	2	10 0
12 do. in 12 good kinds, do.	...	0	18 0
LILIUM LANCIFOLIUM ALBUM, good bulbs, each, from 1s. to	...	0	2 6
Do. do. PUNCTATUM, each, from 3s. 6d. to	...	0	7 6
Do. do. RUBRUM or SPECIOSUM, ea., from 5s. to	...	1	1 0
Do. do. ROSEUM, each, from 5s. to	...	0	15 0

A new collection of Hybrid Seeding LILIES, 6 sorts for 0 18 0
A Catalogue of Tulips, &c., may be had on application.

SUPERB HOLLYHOCKS.

R. B. BIRCHAM, Hedenham Rosary, Bungay, Suffolk, begs to state that he has a few plants to offer for sale of the following superior HOLLYHOCKS, which originated from the late Mr. Barron's collection; the plants are healthy and strong, and will give satisfaction to purchasers.

Atropurpurea	2s 6d	Mulberry	5s. 0d
Black Prince	5 0	Model of Perfection	10 0
Bicolor	2 6	Napoleon	2 6
Commander-in-chief	5 0	Purpurea elegans	2 6
Delicata	3 6	Rosea alba	2 6
Dark Crimson	2 6	Rosea superba	3 6
Formosa	3 6	Sulphurea perfecta	3 6
Fulgens	7 6	Rosy Purple	2 6

Ready to be forwarded upon prepaid application. Bircham's Descriptive Catalogue of ROSES, including about 350 of the most select and best varieties in cultivation,

FIRST-CLASS GERANIUMS.

JOHN HINE is now sending out his NEW VARIETIES of this autumn, viz.:

Delight	15s. 0d	Brilliant	15s. 0d
Rodolphine	21 0	Saffrano	10 6
Nobilissima	10 6	Magnibonum	7 6
Bellus	10 6	Childe Harold	15 0
Surprize	10 6	Venosta	15 0

Or the set of 10 for 5l. 5s.—For description of these, apply for Catalogue.

Miller's beautiful set of Eight, sent out for the first time last year, namely:

SCARLET DEFIANCE, ADMIRATION,
ROSA MUNDI, VALGIUS,
QUEEN OF KENT, CONSPICABENDUS,
DISTINCTUS, FLORA'S FLAG,

Now only 1l. 5s.; or the two sets together for 2l.

Purchaser's selection from the following, at 25s. per doz.; or if taken with either of the above sets at 20s., namely: Snowball, Fire blaze, Garland, Salamander, Duke Constantine, Feu de Joie, Marion, Black Prince, Rosamond, Mount Etna, Voyager, Star of the West, Cruenta, Aurora, Brenhilda, Jenny Lind, Centurion, Isabella, Surpass, Admiral Napier, Blanche, Jet, Beidas, Hebe's Lip, Competitor, Bacchus, Lord Hardinge, Princess Olga, Mary Queen of Scots, Orion, Pearl, Pickwick, Rosy Circle, Desdemona, Pellida, Aurantia, Florence, Melpomene, Superb, Speciosa, Turban, Zenobra, Mustee, Milo, Attraction, Magnet, Venosa, Miss Sebright, Paragon, Samye, Aratella, Negress, Mars, Sultan (Arden's), Avalanche, Favorita, Margarettn, Marc Antony, La Polka, Merry Monarch, Empress, Purpurea, Pilot, Imperialis, Virgil, Delicata, Sirlouche, Meteor Superb, Eclipse, Telegraph Beauty Surpass, Sanguinea, Antagonist, Virginus, Fairy, Tippoo Saib, and Formosa.

Also, a number of second rate sorts, at from 10s. to 15s. per dozen, the selection left to J. G. H., and parties ordering may rely upon receiving fine and distinct varieties; but it would be well for them to send the names of those they possess, to prevent having duplicates. One or two plants will be put in gratis, to defray the expense of carriage. Cash to accompany all orders from unknown correspondents. Post-office orders to be made payable to the name of John Hine, Providence Nursery, Ramsgate.

V. SCHERTZER and SONS, Florists and Seedsmen, Haarlem, in Holland, beg to inform all Seedsmen in England, Scotland, and Ireland, that they have now sent out their CATALOGUE of VEGETABLE SEEDS for 1848. This and their List of Flower Seeds will be delivered gratis on prepaid application.

JAMES CHARTRES, Seedsman, &c., 74, King William-street, London (many years with Messrs. Henderson, Pine-apple-place, and Messrs. Warner, 28, Cornhill, London), begs most respectfully to inform his Friends and the Public generally that he has COMMENCED BUSINESS at the above address, and hopes to be favoured with a share of their patronage and support, which he will endeavour to merit by supplying nothing but genuine new seeds, &c., and every article true to its name.

N.B. A Catalogue of Dutch Flower Roots on application.

HENRY LITTLE, Nurseryman, Seedsman, and Florist to the Queen, King's-road, Chelsea, has imported DUTCH BULBS and other Flower Roots, of first-rate quality, for forcing or border planting, and is now selling, as above, at the following low prices:

Fine named Dutch Hyacinths for glasses or pots, at 6s. per doz.
,, mixed Dutch Hyacinths, for splendid beds or early forcing, in separate colours, at 2s. per doz.
,, large Crocus, Yellow, Blue, White, Cloth of Gold, Striped, &c., at 2s. per 100.
,, large Seedling Polyanthus Narciss, for beds or pots, at 3s. per doz.
,, Narciss poetica (or Pheasant-eyed), ditto, at 2s. per 100.
Elegant early Tulips, in 30 named varieties, at 2s. 6d. per doz.
Fine Double Tulips, in 20 named varieties, at 4s. per doz.
,, Mixed Biblomen and Rose Tulips, at 5s. per 100.
Splendid Mixed Double Anemones, at 6s. per lb.
,, Single Mixed Anemones, at 3s. per lb.
Fine Gladiolus Byzantinus, showy border flower, at 1s. per doz. or 5s. per 100.
,, ,, cardinalis (handsome), at 3s. per doz.
,, ,, floribundus, at 2s. per doz.
,, ,, psittacinus, at 1s. per doz.

All the usual varieties at corresponding low prices, Catalogues of which may be had on application.

A large quantity of Fine Dwarf-trained Peaches, Nectarines, Apricots, Greengage Plums, and Cherries, all the best varieties, at 30s. per dozen, of any of the above sorts.

A collection of choice Dwarf tree-blooming Roses, in 20 varieties, at 1l. per 100.

ROYAL ALBERT RHUBARB.

WM. MITCHELL begs to call attention to the above excellent variety, which still retains its supremacy over all other sorts hitherto produced, being from two to three weeks earlier than any kind now grown. It has other qualities eminently entitled to notice; it is most delicious in flavour, of a bright red colour, a most prolific bearer and free grower, with large fleshy stalks, and for early forcing is more suitable than any other variety. Specimens of this splendid vegetable have been inspected and highly approved of by her Majesty, by whose commands it has been introduced into the Royal Gardens, Windsor. Also Mons. Soyer, of the Reform Club, and other eminent judges, have declared this Rhubarb to surpass anything of the kind ever eaten, and all the principal growers attending the London markets have pronounced it to be by far the best in cultivation. In addition, W. M. begs leave to observe that this Rhubarb is the same as was sold so early last season in Manchester, Birmingham, Liverpool, Cambridge, Brighton, and other large provincial towns, where it gave universal satisfaction by its extreme earliness, quality, and beauty.

Strong one year planted roots will be sent out at the end of October, at 2s. 6d. each. Also, Myatt's Linnæus, 2s. 6d., and Victoria, 9d. each. The usual trade allowances.

Remittances requested from unknown correspondents by post-office order, made payable to William Mitchell, Enfield Highway, Middlesex, Post office, Enfield.—October 28.

GERANIUMS, CARNATIONS PICOTEES, PINKS, POLYANTHUSES, AURICULAS, &c.

JAMES WALKER most respectfully begs to call the attention of the Public to his CATALOGUE of the above named popular Florists' Flowers, which is now ready, and may be had gratis on prepaid application.
Rhodes, Middleton, near Manchester.

W. H. ROGERS, Nurseryman and Landscape Gardener, begs to announce the publication of his GENERAL CATALOGUE of Hardy Fruit and Ornamental Trees, Flowering and Evergreen Shrubs, American Plants, &c., which may be had, on application to 120, High-street, Southampton.

Orders for every description of Nursery Stock carefully and promptly executed, and forwarded to any part of the kingdom.

The Port of Southampton offers great advantages for the transmission of Nursery Stock to all parts of the world.

*** An extensive Seed Catalogue will be published next month.

FOREST TREES FOR FORMING AVENUES, GROUPS IN PARKS, OR FOR PLANTING SEPARATE.

HUGH RONALDS and SONS beg to inform Noblemen, Gentlemen and Nurserymen that they have a fine stock of the above, from 6 to 10 feet, transplanted, well shaped and rooted. Likewise a fine stock of Trees of sorts, best, particularly the new Scarlet, Double and Double flowering. Lists may be obtained, with prices, by applying at the Brentford Nurseries.

PLANTING SEASON.

FOREST AND ORNAMENTAL TREES AND SHRUBS.

DRYSDALE AND CO. respectfully invite an inspection of, or continental orders for, their stock of the above, which will be found of very superior growth and quality, and from the nature of their soil and manner of cultivation thereto, are less liable to failure from removal than plants from any other nursery, to whom we are opposed.

Also a fine Stock of transplanted Thorn Hedges and Privets for hedging. Fruit Trees and Shrubs in great variety. Dwarf and Standard Roses a choice stock. Hardy Herbaceous Border Flowers, a numerous assortment in large stock. Tobolsk Rhubarb, at 9s. per doz.; strawberry, raspberry, and gooseberry, for the hitting and planting season. Evergreen and Shrub Plants, a selected stock, most of them from Pyramids, 4 to 6 feet, per doz.: Pannbaco Larpenteæ, 4 to 6 feet, extra strong plants, 10s. 6d. each, &c.

Unknown correspondents will please to give satisfactory reference, or a remittance in remittances, prices to goods being forwarded, carriage, &c.—Grange W. Orchard.

MR. GORDON'S FINE WHITE SPINE CUCUMBER is now offered to the public for the first time at 2s. 6d. per packet, containing [illegible] seeds. Mr. W. G., late gardener to the Duke of Montrose, has grown this variety for several years, and with entire success, having grown it the same as any other variety, but last year, having grown it in a pit with a bottom heat of 90°, the plant, when well grown, is strong, and produces, at a very early season, fruit of the finest quality, and of the true shape and symmetry with a fine bloom, which, when in perfection, will run from 16 to 24 inches in length. The seed is only known in the counties of Cambridge and Huntingdon, and was exhibited at the Horticultural Society's Garden. The true and genuine Seed can only be obtained from Mr. Gordon, Kimbolton, Hunts.

CHARLES DALY and SON beg to inform the Trade and the Public that they have [illegible] cut their large stock of THORNS and QUICKS at the following prices: 2 year seedling, 1s. 6d. per [illegible]; 1 year, 2 year transplanted, 2s.; 1 year transplanted, 2s. SPRUCE FIR, 2 year, 1s. 6d. per [illegible]; 2 year transplanted, 2s.; LARCH, 1 year, 1s.; 2 year transplanted, 2s. 3 year do. 4s. per 100. BEECH, 1 year, 1s.; SYCAMORE, 1 year, 1s. 6d. SCOTCH FIR, 2 year, 1s.; ASH, 2 year, 1s.; 3 year do., 1s. 6d. ELM, 2 year, 1s. 6d. per 1000. Common LAUREL, 1 to 2 feet, per [illegible]; do., 1 to 1½ feet, 5s. per 100. Broad-leaved Portugal, per 100. Irish YEWS, 1 to 2½ feet, 24s. per 100; 2½ to 3 feet, 36s. per 100; large furnished plants, 1s. each. Privet, 1 year, per Glasgow.

Large Breeze for hedges, 2s. per [illegible]; 3 to 4 feet, 3s. per [illegible]. Transplanted Forest Trees, per hundred and upwards, [illegible] to Glasgow, at 10s. per [illegible]. Large Ash, Maple, Sycamore, Poplars, Elms, Horse Chestnuts, &c., [illegible] month of October will be [illegible] Orders for the above, or any other description of seeds, will be executed with [illegible] care, and may be taken in seeds from [illegible] Messrs. Lawson, Edinburgh; Lee, Forrest, Dickson, Brothers, Perth, &c., may be seen [illegible] Glasgow. [illegible] be much obliged to [illegible] to pay their accounts as soon as [illegible].—Carlton, Glasgow.

A. BALSTON wishing to clear off the remaining portion of his NURSERY STOCK, previous to [illegible] and the Trade at the usual low prices, [illegible] of it is well grown, in fine [illegible] rooted. Conifers, 2 to 3 feet, 15s.; 1 to 2 ft., 8s.; 3 to 4 ft., 30s.; 2 to 3 ft., 20s.; 1½ to 2 ft., 15s.; 1 to 1½ ft., 10s. per 100. Standard Roses, 3 to 4 ft., 4 to 5 ft., 30s. per 100; fines, varieties, 2s. per doz. Cedrus Deodara, 3 to 4 ft., 2s. each; grown, in pots, 2s. 6d. each. Pinus pinea, 4 to 5 ft., 2s. each; Pinus [illegible] A fine collection of [illegible] cacaveensis, catawbiense, &c., [illegible] per 100; Laurustinus, 1 to 2 ft., 2s. per 100; 2 to 3 ft., 3s. per 100; Privet, 4 to 6 ft., 2s. per 100; Standard Rose trees of all the best sorts, 3s. per doz.; Evergreens, 1 to 2 ft., 6s. per [illegible] per 100. Good specimens of [illegible] 5s. each. All kinds of Forest and [illegible] at [illegible] prices. The whole of this stock is now in excellent order for transplanting. Orders must be [illegible] sorts, and all [illegible] value will be delivered free.
Rose Nursery, Dorset.

NEW PRIZE SEEDLING CALCEOLARIAS, &c.

DICKSONS AND CO. beg to inform their Friends and the Floricultural Public generally that their unrivalled collection of CALCEOLARIAS, with those superb and much admired NEW PRIZE SEEDLINGS, raised by Mr. Weir, Gardener, Castle Craig, strong plants of which will be sent out in collections, as under, the first week in November, viz :

Six finest and most distinct varieties	£2	2	0
Twelve ditto	ditto	ditto	3	3	0
Eighteen ditto	ditto	ditto	4	4	0
Twenty-four ditto	ditto	ditto	5	5	0

Finest varieties of collection 1847, price from 18*s.* to 42*s.* per dozen. Older ditto 12*s.* per dozen.

D. and Co. also invite attention to their SIX DISTINCT SEEDLING PANSIES, which they will be prepared to send out with the above, price 21*s.* the set, viz. : Champion, Clarinda, Duchess of Sutherland, Douglas, Marchioness of Ailsa, and Miss Jessie R. Dickson.

Separate Priced Lists may be had free, on application, of Calceolarias, Pelargoniums, Fuchsias, Verbenas, Cinerarias, Ericas, Camellias, and a general Catalogue of Greenhouse and Stove Plants. Also Seedling and Transplanted Forest Trees, Ornamental Trees, and the Pine Tribe ; American Evergreen, and Deciduous Flowering Shrubs, Roses, Prize Pansies, Prize Hollyhocks, Phloxes, Pentstemons, Dahlias, Florists' Flowers, Herbaceous Plants, &c.

From the great addition D. and Co. have made to their Plant-houses, they are prepared to furnish the most extensive New Greenhouses, Conservatories or Stoves, with well-grown Rare and New Plants, at very moderate prices.

In Fruit trees their stock also continues unrivalled, and deserves the attention of gentlemen and horticulturists who are forming New Orchards and Gardens, or improving their collections.

*** Noblemen and Gentlemen supplied with Practical Gardeners, Land Stewards, and Foresters, whose character and abilities may be relied upon.

1, Waterloo Place, Edinburgh, Oct. 28.

HORTICULTURE.

MR. J. KIRKE, jun., Son of the late celebrated Nurseryman, Old Brompton, Middlesex, begs to announce to the Nobility and Gentry, that he attends professionally the designing and planting New Fruit Gardens, Dwarf Orchards, &c. ; also advising the mode of treatment he considers most judicious to facilitate growth and bearing. Mr. J. K. flatters himself the long practical experience he has had, will ensure the patronage of those gentlemen who may honour him with their commands. Letters addressed, 29, Cadogan-street, Chelsea, will be promptly attended to.

CAMELLIA STOCKS.

RENÉ LANGELIER begs to inform the public that he has several thousand fine plants of the above, all in pots, fit for grafting, at from 50*s.* to 70*s.* per 100. Also, a very extensive collection of the choicest sorts ; some are fit to plant out in Conservatories. None but the best are kept by R. L. A remittance or reference is required from unknown correspondents.—Clarendon Nursery, St. Helier, Jersey.

PLANTING SEASON. — Nursery Grounds, Red Lodge, North Stoneham, near Southampton. An unlimited supply of every description of FOREST, FRUIT, and ORNAMENTAL TREES, EVERGREENS, and AMERICAN PLANTS, FLOWERING SHRUBS, QUICKSETS, &c., &c., may be procured from these extensive grounds at the most reasonable prices, Catalogues of which may be had of the Proprietor, W. ROGERS, NURSERYMAN and CONTRACTING PLANTER.

Planting contracted for to any extent from 5*l.* to 20*l.* per acre.

SEEDLING FOREST TREES.

	Years.				*s.*	*d.*	*s.*	*d.*
Ash, 1 to 3 feet	1	2	3	per 1000	1	6	3	6
Beech, 1 to 3 feet	0	2	3	,,	2	6	5	0
Spanish Chestnut, 1 & 2 ft. (fine)	1	2	0	,,	7	0	10	0
Fir, Larch	1	0	0	,,	1	6	—	
,, Scotch (fine)	1	2	0	,,	1	0	2	0
,, Pinaster	1	0	3	,,	2	6	3	6
,, Sea Pine	1	0	3	,,	3	6	5	0
Mahonia (for cover)	1	2	0	,,	15	0	20	0
Furze (for cover)	0	2	0	,,	10	0	—	
Hazel (fine) 2 feet	0	2	0	,,	10	0	—	
Oak, English, 1 to 3 feet	1	2	3	,,3*s.*6*d.*5	0	7	6	
Thorn, Quicksets	1	2	0	,,	2	0	3	6

TRANSPLANTED FOREST TREES, 1 to 3 feet, adapted for extensive Forest or Coppice planting ; for plants of a larger size, from 3 to 12 feet, for Ornamental Planting, the price varies from 25*s.* to 5*l.* per 100.

	s.	*s.*	*s.*		*s.*	*s.*	*s.*
Ash ... per 1000	15	20	30	Fir, Silver, p. 1000	40	60	80
Beech	15	20	30	,, Austrian (P. austriaca)	40	60	80
Birch	15	20	40				
Chestnut, Spanish	20	30	40	Hazel	15	25	30
Elm	15	20	40	Oak (true English Durmast)	40	...	60
Fir, Larch	10	20	30				
,, Scotch ...	10	15	20	Poplar, Black Canada	40	...	60
,, Pinaster ...	10	15	20				
,, Sea Pine— (Pinus maritima)	15	25	40	Sycamore	20	40	60
,, Spruce ...	20	40	80	Willow, Comewell	40	60	80
				Quicksets, 5*s.*, 7*s.* 6*d.*, 12*s.* 6*d.*			

ORNAMENTAL TREES AND SHRUBS, &c.

Rhododendrons, bedded, 2 to 6 in., 20*s* , 40*s.*, 80*s.* per 1000
,, very fine, 1 to 2 feet, transplanted, 10*s.*, 20*s.* per 100
,, 3 to 5 feet, straight and handsome, for standards, 40*s.*, 50*s.* per 100
,, scarlet, 1 and 2 feet, 18*s* , 30*s.* per dozen
,, roseum, 2 feet, 40*s.* per 100
,, hybrid Catawbiense, 1 foot, 20*s.* per 100
Kalmia latifolia, bedded, 12*s.* 6*d.* to 20*s.* per 100
,, ,, 1 to 2 feet, 40*s.*, 50*s.* per 100
Arbutus, bedded, 40*s.* per 1000
,, 1 and 2 feet, 25*s.* and 40*s.* per 100
Laurel, 1 to 4 feet, 4*s.* to 25*s.* per 100
Portugal Laurel, 1 to 3 feet, 12*s.* 6*d.* to 50*s.* per 100
Sweet Bay, 1 to 2 feet, 25*s.* to 50*s.* per 100
Laurestine, bedded (small), 8*s.* per 100
,, 3 sorts, 1 to 1½ foot, 20*s.* to 40*s.* per 100
Holly, variegated, 1 to 2 feet, 25*s.* to 40*s.* per 100
Rose Stocks, 1 foot (Boursault), fit for budding or grafting, 4*s.* per 100
Single Camellia Stocks, from pots, 40*s.* per 100
Clematis azurea grandiflora, 30*s.* per 100
Weeping Willow, 3 to 4 feet, 20*s.* per 100
Deutzia scabra, 1 to 2 feet, 20*s.* per 100
Pinus maritima, from pots, 40*s.* per 100
Roses, Standards and Dwarfs, a most superb collection, 12*s.* to 18*s.* per dozen
Hollyhocks, from double flowers, 8*s.* per 100
China Roses, 12*s.* 6*d.* per 100 Irish Ivy, 8*s.* per 100
Pinus Abies) Douglasii, on their own roots (from seed), in pots, 2 to 3 inches, 42*s.* per dozen, or 15*l.* per 100. This is the hardiest and most magnificent of the Coniferæ.

The prices throughout are wholesale ; if ordered in less quantity, a proportionately higher charge will be made.

IMPROVED LOPPING SHEARS.—These very useful articles are made of the best steel, and so constructed that any green wood to 1¼ inch diameter can be cut with ease, and without the possibility of spoiling the shears. Price 10*s.* 6*d.* per pair, to be had only of JOHN SHEWEN, Ironmonger, Sevenoaks, Kent. An order, enclosing Post-office order or postage stamps to the amount, will have immediate attention.

YARMOUTH BLOATERS.—GENUINE AND OF THE FINEST QUALITY.

Yarmouth has for centuries been justly celebrated for its well-known "Yarmouth Bloaters," the delicacy of which, when obtained in their genuine state, requires no comment. Such an opportunity is now offered ; and they can be forwarded to any part of the kingdom, or for exportation (on receipt of a post-office order) at 12*s.* per 100, package included.—All orders to be addressed to Mr. FREDERICK BROUGHTON YOUELL, Church-square, Great Yarmouth.

NEW HYACINTH GLASS, with brass fittings, designed by R. REDGRAVE, A.R.A., for SUMMERLY'S ART MANUFACTURES, and sold by all first-class retailers. The late novelties in Summerly's Art Manufactures are The Shrimp Salt-cellar, and a Tea-caddy Spoon in plated metal, the Camellia Teapot, Clarinda, a Wooden Bread Platter and Knife, Glass Flower Vase, &c. A Catalogue, with 24 designs, sent on receipt of three postage stamps, from CUNDALL'S, 12, Old Bond-street, London.

HYACINTH GLASSES.

JAMES PHILLIPS AND CO. have a large assortment of ROOT GLASSES of every variety of colour. Usual shape, 4*s.* per dozen, or 42*s.* per gross ; improved shape, 7*s.* per dozen. Hyacinth Dishes, 1*s.* 8*d.* and 2*s.* 8*d.* each. Wire Supporters, 6*d.* each.

Address, 116, Bishopsgate-street, Without, London.

GLASS FOR GREENHOUSES, CONSERVATORIES, GARDEN FRAMES, &c.

Hothouse Builders, Nurserymen, and others, supplied with every description of Sheet and Crown Glass, Rough Plate, &c. Glass Tiles, Propagating, Cucumber, and all other Garden Glasses.—Address, T. COGAN, 48, Leicester-square, London.

PRICES OF SMALL SQUARES IN BOXES OF 100 FEET.

	Crown.	Sheet.
Squares under 6 by 4	10*s.* 6*d.* ...	£0 12*s.* 6*d.*
6 by 4 and under 7 by 5	14 0	0 16 6
7 by 5 ,, 8 by 6	15 0	0 18 6
8 by 6 ,, 10 by 8	16 0	1 0 6

Larger sizes, of all qualities and substances, equally low.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND Co., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS FOR CONSERVATORIES.

CUT TO SIZE UP TO 40 INCHES LONG.

16 oz. from 3*d.* to 3½*d.* per foot.				
21 ,,	3½	5	,,	
26 ,,	3½	7½	,,	
32 ,,	4	9½	,,	

PRICES OF SMALL SHEET SQUARES,

In boxes of 100 feet.	*s.*	*d.*
Under .. .. 6 by 4	12	6
6 by 4 and under 7 by 5	16	6
7 by 5 ,, 8 by 6	18	6
8 by 6 ,, 10 by 8	20	6

GLASS MILK PANS, PROPAGATING GLASSES, AND BEE GLASSES, GLASS TILES AND SLATES.

CREAM POTS, from 3 to 24 quarts, at 6*d.* per quart.

CUCUMBER GLASSES, from 12 to 26 inches long, 1*d.* p. inch.

LACTOMETERS for trying the quality of Milk, 4 tubes 7*s.* 6*d.*, 6 tubes, 10*s.* ; Peach Glasses 10*d.* each ; Fish Globes from 1*s* 6*d.* each ; Wasp and Fly Traps 3*s.* 6*d.* per dozen ; Plate and Window Glass ; Lamp Shades and Chimneys.

METAL HAND-FRAMES.

HARTLEY'S PATENT ROUGH PLATE, AND PATENT DOUBLE CROWN GLASS.

TO HOTHOUSE BUILDERS, FLORISTS, AND OTHERS.

HOT WATER PIPES, &c.

J. JONES, IRON-BRIDGE WHARF, No. 6, Bankside, Southwark, keeps a large STOCK of HOT-WATER PIPES, with Elbows, Syphons, Tee Pieces, Collars, Valves, &c., &c., for HEATING Buildings and Hothouses ; also SOCKET and FLANGE PIPES, with the usual connections ; LAMP COLUMNS, Rain-water Pipes, Gutters, Sash Weights, Railing Bars, Air Bricks, Scrapers, BARROW WHEELS, Tile Lights, &c. The above CASTINGS at very low prices, at JONES'S, 6, Bankside, Southwark, London.

PAINTS—LITHIC AND OTHER DURABLE PAINTS, ready for use for FARM Buildings, Agricultural Implements, Park Fences, Outhouses, &c , &c. Genuine Whitelead, Colours, Brushes, &c., best quality, and lowest prices.

GLASS MILK PANS FOR THE DAIRY.

Cream Pots, Lactometers, Glass Rolling Pins, Pastry Pans, Shades for Ornaments, Lamp Shades, &c., as usual. For Lists, (priced) direct to T. COGAN, Glass, Colour, and Lead Warehouse, 48, Leicester-square, London.

POLMAISE HEATING.

J. LEWIS'S IMPROVED REGISTERED STOVES, are delivered to the Railroads, with plans for fixing, at the following prices. For a Greenhouse, 12 feet by 8, 4*l.* 10*s.* ; 20 ft. by 12, 6*l.* 10*s.* ; 30 feet by 14, 8*l.* 10*s.* ; 60 ft. by 18, 10*l.* 10*s.* To be seen on the premises, Horticultural Works, Stamford-hill, Middlesex.

HOT-WATER APPARATUS for Heating Horticultural Buildings, Dwelling-houses, Churches, and Manufactories, upon the most improved principles, at the very lowest charges, supplied and fixed by

WM. WITHAM, 8, George-street, Camberwell-green, having heated a considerable number of horticultural and other buildings, and having had many years' experience, begs leave to inform the Gentry and Nurserymen that he can supply and fix any kind of HOT-WATER APPARATUS on the most liberal terms, in any part of the Kingdom, together with Conical and other Boilers, of all sizes ; the largest consumes but a small quantity of fuel, only requiring attention once in 10 or 12 hours, and will heat a range of Forcing-houses 200 feet in length. He also begs leave to recommend his improved TANK, which can be made of wood, iron, or cement, for bottom heat for Propagating-houses, Pineries, Pits, &c.

Reference may be had from Gentlemen and Nurserymen, and Apparatus seen in use at his own place. Gentlemen waited upon with Plans, Estimates, &c.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as building and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

PARIAN CEMENT used as a Stucco, cannot easily be distinguished from statuary or Parian marble. It is fit for all the purposes of that beautiful material, and does not crack, warp, or effloresce in any degree. The fine quality will incorporate with the most delicate colours ; it is adapted to encaustic work, fresco, imitation of marble, and the most elaborate embellishment. So perfect are its setting or crystallising properties, that the coaree quality when applied to newly built or damp walls, may be immediately polished, painted, or papered, and rooms rendered habitable before the materials ordinarily used would begin to dry. Manufactured by CHARLES FRANCIS and SONS, Roman Cement Works, Nine Elms, London.

CHEAP AND DURABLE ROOFING.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

F. M'NEILL AND Co., of Lamb's-buildings, Bunhill-row, London, the Manufacturers and only Patentees of THE ASPHALTED FELT FOR ROOFING

Houses, Farm Buildings, Shedding, Workshops, and for Garden purposes, to protect Plants from Frost.

At the Great National Agricultural Shows, it is this Felt which has been exhibited and obtained TWO SILVER MEDAL PRIZES, and is the Felt SOLELY patronized and adopted by

HER MAJESTY'S WOODS AND FORESTS,
HONOURABLE BOARD OF ORDNANCE,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE COMMISSIONERS OF CUSTOMS,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANIC GARDENS, REGENT'S PARK,

And on the Estates of the Dukes of Sutherland, Norfolk, Rutland, Newcastle, Northumberland, Buccleuch (at Richmond), the late Earl Spencer, and most of the Nobility and Gentry ; and *at the Royal Agricultural Society's House, Hanover-square.*

It is half the price of any other description of Roofing, and effects a great saving of Timber in the construction of Roofs. Made to any length by 32 inches wide.

PRICE ONE PENNY PER SQUARE FOOT.

*** Samples, with Directions for its Use, and Testimonials of seven years' experience, with references to Noblemen, Gentlemen, Architects, and Builders, sent free to any part of the town or country, and orders by post executed.

☞ The Public is cautioned that the only Works in London or Great Britain where the above Roofing is made, are

F. M'NEILL AND CO.'S

Patent Felt Manufactory, Lamb's-buildings, Bunhill-row, London, where roofs covered with the Felt may be seen.

The new Vice-Chancellor's Courts, at the entrance to Westminster Hall, were roofed with F. M'NEILL and Co.'s Felt about two years since, under the Surveyorship of Chas. Barry, Esq., R.A. Her Majesty's Commissioners of Woods and Forests are so satisfied with the result that they have ordered the Committee Rooms at the Houses of Parliament to be roofed with their Felt. Quantity altogether used, 24,000 feet.

Note.—Consumers sending direct to the Factory can be supplied in lengths best suited to their Roofs, so that they pay for no more than they require.

Every information afforded on the construction of Roofs, or any proposed particular application of the Felt.

MARY WEDLAKE AND CO.'S HORSE AND STUBBLE and HAY-RAKE, of superior workmanship, 9*l.* 9*s.* Linseed Crusher, 11*l.* 11*s.* ; small ones, 6*l.* 15*s.* ; ditto, doing Beans, Linseed, and Oats, 10*l.* 10*s.* THRESHING MACHINES, doing upwards of 25 loads of Wheat straw per day, 60 guineas. MARY WEDLAKE and Co.'s CHAFF-CUTTING MACHINE, 100 to 200 bushels a day, price 7*l.* 7*s.* and 5*l.* 5*s.* Horse-hoe, Dressing Machine, Turnip Cutter, Turnip Drill, Stubble-rake, Oil-cake Breakers, Bean and Oat Crushers, Subsoil Plough, Double Field Roller, &c.—MARY WEDLAKE and Co., 118, Fenchurch-street, opposite Mark-lane.

PATENT FLEXIBLE INDIA RUBBER PIPES AND TUBING FOR RAILWAY COMPANIES, BREWERS, DISTILLERS, FIRE-ENGINES, GAS COMPANIES, GARDENING AND AGRICULTURAL PURPOSES, &c.

THE PATENT VULCANISED INDIA-RUBBER HOSE PIPES are made to stand Hot Liquor and Acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible), and as they require no application of oil or dressing, are particularly adapted for Fire-engines, Pumps, Gas, Beer-engines, Gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes from ¼ inch bore upwards, and of any length to order.

Vulcanised India-rubber Garden Hose, fitted with brass taps, copper branch, and roses complete, ready to be attached to Pumps, Water-butts, or Cisterns.—Sole Manufacturer, JAMES LYNE HANCOCK, Goswell Mews, Goswell-road, London.

N.B.—Vulcanised India-rubber Washers of all sizes for Joints of Hot-water and Steam Pipes, and Vulcanised sheet Rubber, any thickness, for all kinds of Joints, and other purposes.

VINGOE'S IMPROVED PATENT SEED PLANTING AND MANURING MACHINE.

Manufactured by the Patentee, Penzance.

UNIVERSALLY allowed to be the best, simplest, and most accurate and effective Seed Depositor ever made. It combines all the properties of the DRILL, DIBBLER, and PRESSER, depositing any given quantity of seed, however small, to the acre. It is adapted to large or small enclosures, any kind of soil, over ridge or furrow, on level or hilly lands, and is also highly approved of for gardens. Particulars, with prospectuses, prices, testimonials, &c., sent free, on the receipt of two penny stamps to cover postage, by applying to the Patentee. Freight and carriage paid to any Railway Station within 50 miles of London, Bristol, or Southampton. Any further carriage, 1*l.* to 1*l.* 10*s.* extra.—Penzance, Oct. 28.

JESSE ROSS'S PATENT HAND SEED AND WHEAT DIBBLES.—These Dibbles, which are just invented, deposit the seed at the point of the dibble, and are allowed to be, by competent judges, the most efficient machine of the kind. They press the seed into the earth at one operation, thereby securing and preventing the seed from starvation or other injury, whereby it immediately germinates, and is full two-thirds more productive than seed sown by other dibbles, served by children, or the most improved drill, as it is a well known fact that two-thirds of the seed loosely sown perishes or otherwise is destroyed, whereas by these dibbles it is all properly deposited and pressed into the earth, causing an immediate germination, indescribably more than the seed casually or loosely sown. They can be worked with ease and rapidity. A man with a pair may dibble an acre per day with ease ; six rows on a sort of rocking motion two acres ; and they are not liable to get out of order. For further particulars apply to the Patentee or Agents. Price, the pair, 35*s.* ; four and six rows, with rocking frames, 4*l.* and 5*l.* 15*s.* ; and may be had of Messrs. Dean, Dray, & Co., King-William-street, London ; Messrs. Mapplebeck and Lowe, Birmingham ; Messrs. Whitfield & Co., ditto ; Mr. W. Underhill, Newport ; Mr. James Davis, Shrewsbury ; Messrs. Gibson and Dove, York ; Mr. Richard Stratton, Bristol ; Messrs. Ransome and Co., Ipswich ; Messrs. Walton, Walker, and Co., Wolverhampton ; Messrs. Barnard and Boulton, Norwich ; Mr. S. Brook, Diss ; Messrs. W. and J. Cooper, Lynn ; Mr. Bell, Cambridge ; Mr. J. W. Sharman, Wellingborough ; the Patentee, Leicester, on a Post-office order being enclosed ; and of all the Agricultural Implement sellers in the Kingdom.

Nos. 2 and 3, which are lighter, on the same principle, and which deposit the seed at the same time, but not at the point of the dibble, the pair, 1*l.* 10*s.* Four rows, 3*l.*

A PARTNER Wanted, dormant or active, with moderate capital, to carry out the above, with other important machinery connected with the patent. This is an opportunity for capitalists seldom to be met with.—For Particulars, apply to the Patentee.

CEDRUS DEODARA FROM SEED.

YOUELL AND CO. beg to call the attention of Noblemen and Planters to the fact that they possess the largest stock in the country (raised from seed) of the above valuable and highly ornamental Evergreen Tree, which they can supply very extensively, in fine bushy plants, from 1 to 1½ foot, in pots, also smaller sized plants of the same.

TRUE FASTOLFF RASPBERRY.

Y. and Co. beg to announce they are now executing orders for the above in fine strong Canes of the same stock as they had the honour of supplying Her Majesty's Gardens and most of the Nobility.

FRUIT TREES,

Comprising the finest sorts of Peaches, Nectarines, Apricots, Plums, Cherries, Pears, Apples, Gooseberries, and Currants, warranted correct to name, as obtained from the London Horticultural Society.

WHITETHORN.

Several millions of fine Whitethorn, suitable for Planters and Contractors, at 3s. 6d. per 1000.—Great Yarmouth Nursery.

BEDALE NURSERIES, YORKSHIRE.

WM. JACKSON AND CO., NURSERYMEN, have the pleasure to offer the following, all select, healthy, strong plants, which cannot fail to give every satisfaction; and to state that in consequence of their immense stock they have determined upon GREAT REDUCTIONS in the prices.

		s.	d.
100	Select, showy, hardy herbaceous plants, in 50 sorts	20	0
100	Do. Do. in 100 sorts	30	0
100	Fine proved Hollyhocks (per doz. 4s.)	20	0
100	Hardy Roses, strong flowering plants, in 50 sorts ...	20	0
100	Do. Do., first-rate vars., in 100 sorts ...	35	0
25	Standard Roses, in 25 splendid show varieties ...	40	0
100	Ornamental, hardy, Fancy Trees and Shrubs ...	40	0
12	Very beautiful Ghent Azaleas, 2 ft. high and bushy, quite hardy	30	0
12	Do. do., small plants	9	0
12	Miscellaneous American Plants, all Evergreens ...	6	0
12	Fine Varieties of Epacris, 1 to 1½ ft. high, correctly named	18	0
12	Very healthy, choice Ericas, 1 foot high, very bushy	24	0
12	First-rate Greenhouse Plants, 1 to 2 ft. high ...	30	0
12	Do. Stove Plants, 1 to 2 ft. high...	20	0
12	Beautiful Indian Azaleas, blooming plants	18	0
12	Camellias, finest sorts, with flower buds ... 24s. to	30	0
12	Cinerarias, handsome prize varieties, large plants	20	0
12	Myatt's Linnæus Rhubarb, true	20	0
12	Mitchell's Royal Albert Rhubarb, true	20	0

Upwards of 30,000 of the finest Rhododendrons; large three and four years trained Fruit-trees, carefully packed, for any part of the kingdom. Prices and Catalogues may be had on application; and a remittance or reference is required from unknown correspondents.

THE LARGE-FRUITED MONTHLY RASPBERRY.— This fine autumnal-bearing Raspberry, the plants of which are now covered with blossoms and green and ripe fruit, differs from the "double-bearing" varieties in the superior size and flavour of its fruit, in commencing to bear towards the end of August, continuing in full productiveness till the middle of November, or even later if the weather be mild and open, and in giving its fruit on numerous lateral shoots from every cane from base to summit. Branches with fruit may be seen at Messrs. Hurst and Co., Seedsmen, Leadenhall-street; Kernan, 4, Great Russell-street, Covent garden; and Clark, Seedsman, Bishopsgate-street, London. Plants 18s. per dozen. Carriage paid to London, package free.

THOMAS RIVERS, the Nurseries, Sawbridgeworth, Herts.

The Gardeners' Chronicle.

SATURDAY, OCTOBER 28, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

FRIDAY,	Nov.	3—Botanical	8 P.M.
MONDAY,	—	6—Entomological	8 P.M.
TUESDAY,	—	7—Horticultural	2 P.M.
SATURDAY,	—	11—Royal Botanic	3½P.M.

THERE is but one opinion respecting the recommendations of the BOARD OF HEALTH, condemning the use of fruit and vegetables. That they were wholly wrong is admitted by all whose knowledge of disease enables them to form a correct opinion. Avoid, says the Board, "*every variety* of green vegetables, *whether cooked or not*, as Cabbage, Cucumber, salad. It will be important also to abstain from fruit of all kinds, *though ripe and even cooked*, and whether dried or preserved." And they add, "the *most* wholesome articles of vegetable diet are well baked but not new bread, Rice, Oatmeal, and good Potatoes." No wonder that all society should rise in arms against such a wholesale anathema, and that the College of Physicians should, through their President, denounce the advice in the strongest terms which it would be becoming in so grave a personage to employ. "The first great object," says Dr. PARIS, "appears to me to sustain, by every practicable means, the highest possible standard of health; and to accomplish this object it has been recommended by authority that the quantity of vegetable food should be diminished or withdrawn. *The probable consequence would be to substitute a less healthy diet* than persons have been accustomed to, and *to prepare the way for* the incursion of *disease*. I think a hint of this kind would be highly salutary. THE FALLACY IS SO MISCHIEVOUS that the public mind should be disabused without delay." This view is precisely in accordance with the opinions publicly expressed by all the leading medical men of this country when the cholera was here before. What those opinions were will be seen by the following extracts:

"Although bread, flesh, and water, be the staple articles of diet, yet the admixture of succulent vegetables and esculent roots with animal food, is as much adapted by the wisdom of Providence to the nature of man, as vegetable matters are to the graminivorous, and flesh to the carnivorous classes of the animal kingdom. I have allowed and partaken of the wholesome vegetables and fruits in their season, and I think that the error cannot, *without the most palpable offence against common sense*, continue; JOHN RICHARD FARRE, M.D."

"There is a prevailing but mistaken opinion as to the use of vegetables, as an article of food, being the cause of the disease now familiarly known by the term Asiatic cholera. I have no hesitation in saying that it is an opinion founded in *error*, and *serious in its consequences*; THOMAS KEY, M.D."

"I do not hesitate to express my regret that *so senseless an impression* should have been made on the public mind respecting the injurious tendency of a moderate employment of vegetables and ripe fruit. In my own family we partake of every kind, and it yet remains to be proved, that either fruit or vegetables have originated a single case of the prevailing epidemic, and certainly in no one instance, except when they have been immoderately used, and when the disease would have been induced by the abuse of any other article of wholesome food; J. T. CONQUEST, M.D."

"If a rumour has obtained credit that vegetable diet is not only injurious to health, but a certain cause of the disease termed Asiatic cholera, I can only say it is *most unfounded and absurd*. Every one ought to know that nothing is more necessary for the preservation of health than a certain quantity of vegetable food; and as regards cholera, experience has taught me that those persons whose diet consists of a due proportion of vegetables *are less subject to it* than they who have wholly abstained from them; T. KING, Surgeon."

"I am of opinion that a due proportion of vegetable food is essential to the preservation of health. I have patients at present under my care *who had nearly lost their lives in consequence of restricting themselves almost exclusively to animal food*, and of endeavouring to counteract the natural effect of their diet (bilious diarrhœa) by taking opium; HENRY REES, Surgeon."

"I believe that the disease in question, if it be at all caused by articles of diet, is more likely to be excited by a diet wholly animal, than by a diet consisting of animal and vegetable food combined. Vegetable food is natural to man, and, if used in moderation, cannot be injurious; ASTON KEY, M.D."

"The absurd, and, I am sorry to find, most mischievous rumour of which you speak, has not I hope, for the credit of the profession, 'emanated,' as you assert, 'from the medical world.' It is true indeed that in a very strange document, uttered by a body ridiculously entitled a Board of Health, to which the name of the President of the College of Physicians was (surreptitiously of course) appended, something was advanced against the use of fruit and vegetables in reference to cholera; yet so far as I have been able to discover, no opinion of the kind has been maintained by any individual, who, medically speaking, ought to be considered either intelligent or respectable; GEORGE BIRKBECK, M.D."

"I consider good ripe fruit, and sound cooked vegetables, eaten at the proper season, and in moderate quantity, not only not likely to originate cholera, but, jointly with animal food, absolutely necessary to maintain individual, and, consequently, public health; DAVID BARRY, M.D."

"The usual proportion of vegetable diet and ripe fruit *can in no way be considered as predisposing causes* of cholera, but are rather likely to be beneficial, by contributing to the general constitutional health, and in this way be of service in averting the disease; WILLIAM RUSSELL, M.D."

"I have no hesitation in declaring that the progress of the present epidemic has been quite unconnected with the proper use of fruit and vegetables. Ripe fruit and fresh vegetables I believe to be necessary and wholesome articles of food. My own table has been constantly served with them as in other seasons, and I am firmly persuaded that *no prejudice can be more unfounded than that against fish, fruit, and vegetables* under existing circumstances; MATTHEW TIERNEY, M.D."

"I consider the best kind of diet, viewed as a preventative of cholera, to be a just proportion of animal and vegetable food. I have not met with a single case in which I suspected that vegetables had induced cholera; but I have met with a case in which an improper animal diet seemed to have been the cause of the attack; MARSHALL HALL, M.D."

"The prejudice that fruit and vegetables render persons liable to cholera, is *unfounded* and *irrational*; JOHN ELLIOTSON, M.D."

"I have no hesitation in saying that in the course of my investigation into the nature and causes of the recent (and I hope it will soon be said, *late*) epidemic, few or no cases presented themselves to my observation, where a temperate use of wholesome fruit and vegetables had anything to do with the production of cholera; JAMES JOHNSON, M.D."

"I do not believe the disease called Asiatic cholera *to have any connection whatever with a common use of the fruits of the season*. The complaint called cholera morbus of this country is sometimes produced by an *abuse* of fruit and vegetables, particularly if the former be unripe, or the latter ill boiled. But I think it mistaken care to abstain from either one or the other, by a person accustomed to eat them, on a supposition of their liability to produce the Asiatic disease; HENRY HALFORD, M.D."

"I believe the best principle of precaution with respect to the disease called the Asiatic cholera, is to preserve as perfect a state as possible of general health. This, as far as relates to diet, is best done by a due admixture of animal and vegetable food. Too stimulating a diet is quite as injurious as one too much of an opposite nature; W. P. W. PHILIP, M.D."

"I have seen no reason to believe that a moderate use of well cooked vegetables is in any degree calculated to produce the disease; R. MARTIN, M.D."

"I consider a proportion of vegetables in our diet, as not only not injurious but conducive to health, and I have seen no proof that a moderate use of well cooked vegetables had any share in producing cholera; JAMES CLARK, M.D."

We might add largely to these extracts by the opinions of such authorities as Dr. LATHAM, BABINGTON, DE HAVILLAND, A. T. THOMSON, PEREIRA, BURNETT, WILSON, and Sir BENJAMIN BRODIE, Bart., in truth, the *data* of these eminent medical men, however useful they may be with the profession, who dare not think for themselves, are superfluous to people of common sense.

A chemist of the name of ACCUM wrote a well known book called "Death in the Pot," in which he assured the world that the result of his entire investigation was to prove that every article of food was poisoned. The learned gentleman should have seen the Secretary of the Board of Health. According to that eminent authority, all sorts of vegetable food, *cooked or uncooked*, ripe or unripe, are to be eschewed. Apples and Pears, Figs, Prunes, Raisins and Grapes, Pine-apples, Medlars, Mulberries and Quinces, Nuts, Walnuts, Brazil-nuts, Cocoa-nuts, and Oranges, form but one class of baleful articles. A second consists of Cabbages and Cucumbers, Lettuces and Endive, Onions, Chives, Leeks, and Garlic, small Salads, Turnips, Carrots, Parsnips, and Beet, Scorzonera and Salsafy, Celery and Celeriac, Sourkrout and Laver, Parsley and Spinach, Spring Radishes, Horse-radish, Watercresses, Fennel, Savory, Mint, and Kidney Beans, together with Potatoes and Jerusalem Artichokes. Not even farinaceous food escapes the fatal sentence. Haricots, flour, grits, sago, tapioca, pearl barley, and arrowroot, coffee, tea, rice and oatmeal, these, too, come under the sweeping denunciation; for the Board will only permit us to have bread in a limited degree, and with a cold and doubtful sanction. Hot bread is to be avoided; stale bread, rice, oatmeal, and good Potatoes *may* be eaten; the Board grants a reluctant permission; intimating, however, that though there is death in all such articles, yet they are "the *most* wholesome" of the evil.

Had the Board expressed their opinion in these words and this form, they would have raised a shout of derision from one end of Europe to the other. They have, however, avoided the palpable absurdity by more general phrases. Their "regulations," nevertheless, mean this, and will bear no other interpretation. Perhaps the Board did not intend to say what they have said: but we cannot judge of men's meaning otherwise than by their words, any more than of intentions except by acts.

Was anything so preposterous ever heard of before? Human beings are condemned by the Board of Health to become carnivorous, and even of animal diet only a few permitted articles can be found, after the exceptions are eliminated.

If the Board of Health had said "*Eat and drink moderately of that which your experience teaches you is suited to your constitution, and avoid everything which is known to disagree with the stomach*," they would have given the country unexceptionable advice. But they forget that "one man's meat is another man's poison," and because Cabbages disagree with A, Salad with B, Apples with C, and Oranges with D, therefore they advise all the letters of the alphabet to have nothing to do with Cabbages, Salad, Apples, and Oranges. Let us see what this inconceivable mode of reasoning really goes to. A delicate young lady has an attack of Nettle rash after eating Strawberries; *therefore* to eat Strawberries is to invite Nettle rash. An old lady faints under the influence of Violets; *therefore* to smell of Violets is to induce faintness. A dyspeptic gentleman finds that new bread produces flatulence; *therefore* all who eat new bread will be flatulent. HERR FISCHGENT ate some steaks of cod-fish and died; *therefore* cod steaks are fatal. Lady EMILY GRISELLIN suffered immediately from a piece of roast veal; *therefore* nobody should eat roast veal.

The whole thing reminds us of CERVANTES and his heroes; we need only substitute JOHN DYER for SANCHO PANZA, and the Board of Health for Dr. PEDRO.

Then said SANCHO: "That great dish, smoking yonder, I take to be an olla podrida: and amidst the diversity of things contained in an olla podrida, surely I may light upon something both wholesome and palatable." "*Absit!*" cried the Doctor; "far be such a thought from us. *There is not worse nutriment in the world than an olla podrida.* Leave such dishes to prebends and rectors of colleges, or for country weddings; but let the tables of governors be far from them, where nothing but neatness and delicacy ought to preside: and the reason is clear: it is because simple medicines are more esteemed than compounds, by all

persons and in all places; for in simples there can be no mistake, but in compounds there may, by altering the quantities of the ingredients. Therefore, what I would advise at present for the Signor Governor's eating, to corroborate and preserve his health, is about *an hundred of rolled-up wafers*, and some thin slices of marmalade, *that may sit easy upon the stomach, and help digestion.*"

Sancho, hearing this, threw himself backward in his chair, and surveying the Doctor from head to foot, asked him, in a grave voice, his name, and where he had studied. "My lord governor," answered the Doctor, "I am called Doctor Pedro Recio de Aguero; I am a native of a place called Tirtealuera, lying between Caraquel and Almodovar del Campo, on the right hand; and have taken my Doctor's degree in the University of Osuna."—"Why, then," cried Sancho, "Signor Doctor Pedro Recio of ill-omen, native of Tirteafuera, lying on the right hand, as we go from Caraquel to Almodovar del Campo, graduate in Osuna, get out of my sight this instant, or, by the sun, I will take a cudgel, and, beginning with you, will so lay about me that there shall not be left one physician in the whole island, at least of those I find to be ignorant; as for those that are learned, prudent, and discreet, I shall respect and honour them as divine persons."

If raw fruit disagrees with a person, then that person should avoid raw fruit, but not imagine with the Board of Health that his neighbour's stomach is his own. Nothing can be more just and conclusive than Dr. Babington's advice as to this matter. "According to my experience," he says, "founded on frequent inquiry, both heretofore and since the spasmodic cholera has made its appearance in this country, vegetables and ripe fruit, in a vast majority of persons, do not produce any disorder of the digestive organs, and with these I cannot hesitate to believe that they are wholesome articles of diet. Others there are in whom they give rise to a greater or less degree of uneasiness, of flatulency, of nausea, or of relaxation. Such persons would act prudently at all times, but especially at the present, to abstain from their use. It is not to vegetables or fruit alone that these very obvious remarks will apply, but to every article which is used as food, since there is scarcely one which agrees indiscriminately with every body. *Common sense then seems to point out that each individual should use his deliberate judgment*, and setting a higher value on his security than on the gratification of his palate, *regulate his mode of living by the dictates of his own experience.*" To this we confidently believe that every member of the medical profession will entirely and unreservedly subscribe.

Let us only add one further hint, in the words of Mr. Martin, of Reigate, a medical practitioner, with the experience of nearly half a century to guide him. "It is certain that although well ripened fruit may with propriety be taken in moderation, yet all kinds of fruits and vegetables agree better for having undergone the action of heat by boiling, baking, or otherwise. Man is said, and said truly, to be a "cooking animal," and no doubt all vegetable food is more easily digested and assimilated by being cooked."

The attention of our readers was a short time since directed to a disease with which Pear trees were affected, arising from a minute olive-coloured mould, which attacks the leaves, fruit, and young shoots, and is highly injurious to the general health of the stock. We have since had several opportunities of observing this malady, and find it very prevalent, and Mr. Graham has forwarded to us the result of his own observations. He does not find his trees generally affected. Young dwarf standards of the Nelis d'hiver and Glout Morceau have been preyed upon for the last three years, but of a dozen trees of the same varieties planted against a wall close to them not a leaf is affected, and a standard Marie Louise, almost touching the most injured Nelis, is in the highest state of health. All the trees, he observes, came from the same stock; and as the fruit in his garden on the varieties above mentioned never ripens, however full of blossom the trees may be which are in the open ground, though they produce extremely fine fruit against the walls, he concludes that the development of the fungus is owing to sudden chills and changes of climate, which their more delicate constitutions cannot withstand in exposed situations.

There is, however, something extremely capricious in the attacks of these diseases amongst plants, exactly as is the case with infectious maladies amongst ourselves. One is taken and another left without our being able to account for it, nor is it probable that we shall ever penetrate these mysteries, which baffle all our efforts, and remind us of our true position in the scale of intelligent beings.

A perennial plant or tree once attacked by parasites seldom gets perfectly free from the disease, and there may be a greater analogy in the peculiar liability of certain constitutions to the recurrence of such maladies as influenza, to the fact, than in the present state of our knowledge as to the cause of disease, we should at present be willing to allow. A plant of Achillea Ptarmica was given to us at Lille, in the month of March, for the express purpose of bearing a crop of Labrella Ptarmicæ the ensuing autumn, which it did not fail to do, though the fungus is at present not known as indigenous to this country.

The subject has, however, been recently called more forcibly to our notice from some remarkable phenomena which have occurred in a garden near London, where all the plants of Pyracantha arising from particular seed are more or less completely destroyed by the same species of Cladosporium which has injured the Pear trees. The plants were raised from Russian seeds about four or five years since. They first appeared to be blighted last year, but inconsiderably. This year they are all nearly killed. The old shoots are black with the spores, the leaves crumpled and withered, and the late shoots and leaves now forming are about to break out as their predecessors. The seedling bushes are in heavy land well drained, but the disease is confined to them; old bushes of Pyracantha in the same places are perfectly clear.

It is possible that there may have been something in the constitution of these seedlings which rendered them peculiarly liable to attack; but there is some reason to believe that diseases arising from parasitic fungi are occasionally capable of being propagated by seed, as though the whole cellular system were infested with the elements of the fungus. M. Decaisne commenced, we believe, some experiments upon the subject in 1845, but we have never heard whether they were followed up, or led to any result. The great difficulty is that they require much time, and to be at all useful must be instituted on a large scale, and varied as much as possible; and after all, they may lead only to negative results, which will not repay the expenditure of time and labour.

At present we fear that we must rest content with the record of well ascertained facts, and one great use of our journal is the facility which it affords for such records; *M. J. B.*

Dr. Lindley has to thank great numbers of persons throughout the United Kingdom for the readiness with which they have filled up the Returns that have been sent them respecting the Potato Disease. Several hundreds have been already received, and they show that a mass of valuable evidence will be thus collected.

He is, however, imperfectly supplied with information from some of the more remote parts of the kingdom, and would be grateful to correspondents who would favour him with the addresses of residents likely to possess the requisite information, in any of the Islands of Scotland, or the following counties, viz., Argyleshire, Caithness, Clackmannon, Cromarty, Dumbarton, Kinross, Kirkcudbright, Nairn, Peebles, Renfrew, Selkirk, Sutherland, Wigton, Shetland, and Orkney.

It is highly important to get at facts in these districts, without which no statements can be accepted as being complete enough for general inferences.

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

Vines.—I this day (Oct. 25) cut from a Vine out of doors a bunch of black Grapes weighing three quarters of a pound, perfectly ripe and covered with bloom; some of the berries are nearly an inch in diameter, and the whole bunch is a very beautiful spectacle. The flavour is delicious. It was taken from a Vine covering about nine square yards, which produced this season nearly a hundred bunches. I believe the variety is the Black Hamburgh. As an opinion is very prevalent that it is of little use growing Vines in the open air, because of the difficulty of ripening them, I think it is worth while to give some details of this one, which has been this season a source of so much gratification to my family. The coldness of the past summer renders the case more worthy of attention, for if Grapes have been produced fine out of doors this year we never need despair. I should say that only those bunches ripened fully which were close to the wall, and covered with leaves; those which were not nailed in and more exposed were less fine. The bunch in question had been in a muslin bag for the last month to protect it from wasps.

This Vine grows against a dwelling-house with a due southern aspect, and which, being on an eminence and far from all other buildings, has the earliest morning sun. No preparation was made for its reception, when five years ago it was merely "stuck in" to a flower bed by which the front of the house is adorned. The soil is a hazel loam, and where the Vine was planted is very shallow, not more than a foot deep, and resting on a brick archway, which surrounds the basement of the house, to preserve the lower buildings from damp. The roots of the Vine must have travelled two yards before the free deep soil was arrived at, and therefore I presume its principal sources of support must have been in the arid mould near to the stem. In summer this mould is so parched that it appears like dry dust to the depth of several inches, and is quite warm; the Vine is thus in the same situation as I have heard it delights in in its native climates. Perfect drainage and a high temperature below the surface of the soil are here secured, and I presume it is to these conditions I have my ripe Grapes. Here has been no expensively formed border, and very little manure has been given since the time of planting. This last summer I dug small holes round about the stem, and deluged it with diluted cow-dung. In August I also mulched it with the mowings of Grass, because I fancied during some hot days the leaves flagged.

As few things are more pleasing in a garden than a supply of Grapes, and as but comparatively few persons can afford the expense of time and money demanded by a Grapery, any information respecting Vines out of doors must be acceptable. I know large crops of fruit are secured often near London, and in the southern parts of England; but around me, in Bedfordshire, it is considered almost vain to expect fine Grapes, except in houses. I have other Vines against walls in different parts of the garden, but none succeed like this one. The aspect certainly is as fine as possible; but I think the accidental advantages of the subsoil have much to do with the matter. I remember at a horticultural show hearing some first-rate gardeners conversing about Vines, and one gave it as his opinion that the temperature of the roots was everything, and that if that was provided for properly, there would be plenty of ripe Grapes. Amateurs who wish to grow Vines should therefore make a survey of their premises, and endeavour to secure these conditions. A low, damp, undrained situation never can succeed, and Nature and Art should both be laid under contribution to gain a warm wall for the branches, and a dry porous soil for the roots.

The whole art of pruning the Vine is dependent on the physiological fact in its history, that it only produces fruit on the wood which is the growth of the previous year. The knife must therefore be so used as to get rid annually of old branches, to be replaced by new ones. Care must be taken not to have too much wood, and perhaps 8 inches apart is the medium distance to be observed in nailing in the branches, which must be shortened according to the ripeness and strength of each. About four or six eyes will be enough to leave, unless the stem is very strong; *H. B.*

POTATO SEED FOR NEXT YEAR.—PULSE AS FOOD FOR IRELAND.

The destruction of the Potato crop is already so extensive that even if there were not every chance of a further loss during the winter, there will most likely be much difficulty in procuring seed next year. This might be in a great measure obviated by the general adoption of a plan which, although it has been frequently recommended, does not appear to be so well known as it deserves. It has been proved that the crown of the Potato, if used exclusively for seed, will produce an earlier and frequently a better crop than if sets from any other part of the tuber be employed; it is therefore only necessary, in preparing Potatoes for food, or before employing them for any other purpose, to cut off this end and preserve it, in order to accumulate a supply of the best kind of seed. [Excellent advice.]

To prevent the sets from rotting they should be mixed with some absorbent substance, as dry sand mixed with newly slaked lime, or with a small proportion of quicklime or burnt gypsum, baked or burnt clay, &c. At one of the meetings of the Royal Agricultural Society it was stated by the Duke of Richmond that the plan is followed by families in North America, the sets being thrown into a vessel containing lime and charcoal.

There does not appear to be much danger of the pieces becoming too dry, for it was found on making the experiment many years ago in Kildare, that although cut crowns which had been preserved through the winter in the chaff of Oats had become quite hard, they produced a crop a fortnight earlier than fresh sets from other parts of the Potato.

Those who take an interest in the welfare of the labouring classes in Ireland and the Highlands of Scotland, and in the allotment system in England, would do well to make known this mode of providing Potato sets, and to use their influence in getting it generally adopted. The two-fold object would thus be accomplished of insuring a supply of seed for those who might otherwise be enable to obtain it, and securing a crop of new Potatoes at the earliest possible period. Were the plan to be immediately put in operation in hospitals, barracks, and other public establishments, on farms where Potatoes are used for feeding pigs and other animals, in Potato starch manufactories and private families, an immense quantity might be collected before the season for planting. It would of course be highly desirable that each sort should be kept separate and correctly named; the seed would lose much of its value if different varieties were to be mixed. This would be most likely to occur in private families, and those who may be disposed to aid in so useful a work should continue to use the same kind as long as it can be procured.

When the season for planting arrives, in order to promote the growth of the sets, it would be advisable to soak them in lukewarm water till they become saturated, or to mix them with wet sand, and keep them in a warm place, so as to cause them to sprout before planting.

Advantage will, no doubt, be taken of the failure of another crop, to recommend "the total and immediate abolition" of Potato culture in Ireland. This may be "a consummation devoutly to be wished," and in theory may be accomplished by a stroke of the pen—you have *only* to substitute other vegetable productions; but, in practice, it will be found impossible. We must recollect the facility with which the crop may be raised by people possessing little or no capital and few agricultural implements, and who have long been accustomed to that particular culture; that the produce can be stored without even the shelter of a roof, and may be prepared at any moment as food without any previous manipulation; and when we add to these advantages the undeniable fact, that if the produce be free from disease, an acre of land planted with Potatoes will yield a much larger quantity of nutritive matter than when sown with grain, it will be evident that in the present state of the Irish peasantry they will cling to the cultivation of Potatoes as long as there is a shadow of hope that a sound crop may be obtained.

Instead, therefore, of labouring to accomplish that which is simply impossible, let us do what we can; and in order to accustom the people by degrees to a different diet, and to mitigate the lamentable consequences of a failure in the Potato crop, it should be made a condition in supplying sets that they should form part of a mixed crop—Beans, Carrots, Cabbages, &c., being raised in alternate rows. Potatoes and Beans form an excellent crop, the large proportion of nitrogen in the one compensating for its deficiency in the other. Indeed, the general use of pulse as food would confer an immense benefit on Ireland. It is of course desirable to encourage the consumption of those kinds of produce which, while they are little subject to disease, contain the largest proportion of really nutritive matter, and which, consequently, among other advantages, cost less for freight than any other kind of food, when it becomes necessary to import it from distant countries. This is evidently the case with the dried seeds of many leguminous plants that are eaten in various parts of the world, where their nutritious qualities are duly appreciated. Of these, Kidney Beans are perhaps the most extensively used, and they are generally a favourite diet with those who are accustomed to them.* They contain more azotised matter than any other vegetable food, they are easily stored in a small space, are not liable to decay, and require no more trouble in cooking than Potatoes, for which they would be found an excellent substitute, especially in winter and spring. A mixed diet of pulse and Potatoes, even when the latter are plentiful, would be more nourishing and economical than Potatoes alone; *A. C.*

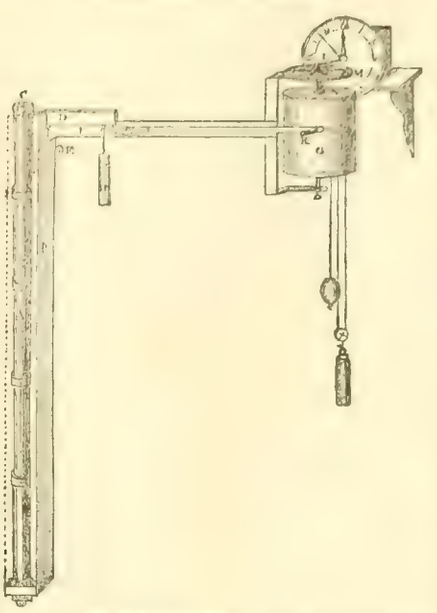
BRITISH ASSOCIATION
FOR THE ADVANCEMENT OF SCIENCE.

(*Continued from page* 685.)

On a Self-registering Thermometer, with 12 *months' tracings of its work, by* M. HARRISON.—The principle on which the instrument acts is the difference in the expansion and contraction of two metals, from the effects of heat and cold, and acting by the direct pull of the contracting metal when it is kept in a straight line. It is made sufficiently powerful to overcome any resistance which the fulcrums of the levers or the tracing pencil may cause. I have selected cast-iron and hard-rolled copper as the best suited for the purpose. I find from tables published by Smeaton and others, that copper expands $\frac{1}{580}$ of its length, while cast-iron only expands $\frac{1}{910}$ with a variation of 180 degrees of Fahrenheit's thermometer, which leaves a difference of about the $\frac{1}{1260}$ of its length; and as the range of the thermometer in the shade in this climate is about 90 degrees, or half of 180, I have the $\frac{1}{2520}$ part of the length of the copper bar employed as a moving power. I fixed upon a bar 10 feet long as being a convenient length; the two metals will then vary nearly the one and-twentieth part of an inch between the hottest day in summer and the coldest day in winter. This variation I multiply by means of a compound lever, so as to get a sufficient scale to divide. The end of the last lever carries a pencil which traces upon a revolving cylinder the variations that take place. In order to divide the scale accurately, I procured a standard thermometer by Messrs. Troughton & Simms. I placed it in the same situation, and made several observations in the day, for some weeks, in the spring of the year, when the range of the thermometer is the greatest. After I had got the scale properly divided, I engraved it on a plate of copper, in order to get a number of copies printed. The only attendance the instrument now requires, is to put a fresh paper upon the cylinder, by means of stretching screws fixed on one side of the cylinder, once a week, when I wind the time-piece up.

A, copper bar, 1 inch in diameter, and 10 feet long; B, cast-iron trough, to which the copper bar is made fast at the bottom; C, brass cap soldered fast to the copper bar, with knife edges on the under side, which rest on the tubular end of the first lever D; its fulcrum rests on the upper end of the cast-iron trough B; E, flangers to bolt the trough to the outer side of a wall, near the angle of a room; F, part of the cast-iron trough which passes through the wall into the room, carrying the fulcrum of the second lever I, and to which the revolving cylinder G is fixed; H, a weight to keep the first lever, D steady on its bearings, and to counterpoise the second lever I; K, tracing pencil; L, a screw working in the edge of the wheel M, and coupled to the minute-hand of the time-piece, making one revolution in an hour; the wheel M, is fixed to the axis of the cylinder, and has 192 threads cut in its edge, and would make one revolution in eight days; N, a binding screw, to adjust the pencil to the proper hour line, when a fresh paper is put on once a week; O, brass rings, made fast to the cast-iron trough to keep the copper bar steady, but through which it can move; the dotted line shows the side of the iron trough. The instrument acts by the difference in the expansion of copper and iron, that difference being multiplied about 120 times, by a compound lever. The scale was obtained by placing in the same situation a standard thermometer, by Messrs. Troughton and Simms, for several weeks in the spring of the year, when the range is the greatest, and making a great number of observations each day.

Self-registering Thermometer.



Tabulated results for the year 1847, *taken from tracings by the Instrument described.*

General mean of whole year	... ...	47.89
,, of January	... ...	36 61
,, of April	... ...	44.13
,, of July	... ...	61.80
,, of October	... ...	49 35
Highest single observation, 1st August	...	80.0
Lowest single observation, 13th February	...	22 0

Prof. LLOYD observed, that he much feared, as the indications of this thermometer were derived from the unequal expansion of different metals magnified by a system of levers, that the bearings of the levers would be found not to move continuously, but by starts.—Sir W. S. HARRIS thought it likely some correction would be required for the hygrometrical state of the paper on which the curves were traced, as well as for the effects of changes of temperature in other parts of the instrument.

STATE OF THE IRISH POTATO CROP.
COMPILED FROM OFFICIAL DOCUMENTS.

CORK COUNTY, *Fermoy Union, Oct.* 14, *Major Bolton.*—The present state of disease can hardly be exceeded. The best Potatoes that can be procured are sold at an exorbitant price, and are scarcely eatable.

Skibbereen Union, Oct. 14, *Mr. John J. Marshall.*—A greater portion of the crop is sound than was expected. The Potatoes dug keep well so far.

CLARE COUNTY, *Kilrush Union, Oct.* 14, *Capt. Kennedy.*—A great breadth of the late crop of Potatoes left untouched, being considered not worth digging. Produce miserable every where, and every field that he sees dug seems more infected than last week. A considerable quantity of Barley and Oats remain uncut, and cannot be otherwise than a failure.

Scariff Union, Oct. 14, *Capt. Spark.*—Believes there is an average loss of at least two-thirds by disease. The poor cottiers who planted late are the greatest sufferers: most of them have now no Potatoes fit for food left.

Parts of QUEEN'S, CARLOW, *and* TIPPERARY COUNTIES, *Oct.* 13, *Mr. J. Burke.*—Potatoes being dug. Thinks that, although great part is diseased, a large portion will be found uninjured, and will aid much in the way of food.

WEXFORD COUNTY, *New Ross Union, Oct.* 14, *Mr. Bayly.*—The disease seems to have been arrested; not more than half the crop affected, and the unsound Potatoes fit for feeding pigs and cattle.

GALWAY COUNTY, *Clifden Union, Oct.* 14, *John C. Deane, Esq.*—Nothing new to report. The disease appears to be progressing.

MAYO COUNTY, *Ballina Union, Oct.* 14, *Capt. Hamilton.*—Those which were selected as sound remain free from disease; a comparatively large quantity will be reserved for seed. Late crop unavailable. *Oct.* 14, *Mr. R. Hamilton.*—A larger portion will be saved than was at first anticipated. Moory ground free from disease comparatively, but produce bad; garden ground very bad, clayey ground worse. Grain crop yields a fair return.

ROSCOMMON COUNTY, *Athlone Union, Oct.* 7, *Vice Guardians.*—We regret to say that the Potatoes that grew on the workhouse ground have decayed so rapidly since being dug, that it is now nearly impossible to get sufficient to supply the officers of the house.

Carrick-on-Shannon and Boyle Unions, Oct. 14, *Capt. Wynne.*—Nothing new to report. Oats still being cut and not opened.

Castlerea Union, Oct. 15, *Mr. Auchmuty.*—It is the general report that the Potatoes are unfit for human food.

DUBLIN AND KILDARE COUNTIES, *Oct.* 16, *Capt. Huband.*—Result shown on the digging out the Potatoes in Rathdown and Celbridge Unions. In August last the fields had every appearance of the worst description of disease; the stems of some were pulled up, others were mown with a scythe, and others allowed to stand. No difference appeared in the produce, notwithstanding the different treatment of the stems. The loss by disease in Rathdown was one-eighth upon an average. In the Celbridge crop, a fourth was found in a state of disease, and one-third was deficient in size, the growth being checked. The circumstances of crops contiguous to one another are so different, that he conceives no estimate could be made of the quantity of Potatoes in the country, unless based upon personal observations of every individual field while being dug.

MEATH COUNTY, *Kells Union, Oct.* 9, *Capt. Dent.*—Accounts vary still. Believes there is a large quantity of the crop good, which is being hoarded for seed. Oats very good.

LONGFORD COUNTY, *Granard Union, Oct.* 14, *Capt. Long.*—Wheat and Oats well saved; grain in good condition, greater exertion than usual being made to thresh it and bring it to mill or market, which has caused a decline in prices.

Longford Union, Oct. 13, *J. T. Downman, Esq.*—Disease has not increased. Markets continue to be well supplied at prices varying from 6*d.* to 8*d.* a stone.

DONEGAL COUNTY, *Glenties Union, Oct.* 14, *Capt. O'Neil.*—Disease in the Potatoes not increased since last report. As proof of this, the people are not bringing their Potatoes to market, which they would do if the rot was increasing.

Milford Union, Oct. 14, *Samuel Hayden, Esq.*—Disease not made much progress during the last fortnight. The supply of really good Potatoes at the markets is limited, as the farmers endeavour to sell those that are slightly tainted, and store the sound ones for seed. As far as he can ascertain, rather more than one-third of the entire crop is untouched by disease.

Home Correspondence.

Autumnal Flowering Primrose.—At present a Primrose in the garden is producing flowers. It appears to be the descendant of some plants which, many years since, were found in the woods flowering in autumn, after the removal of a thicket of Sloe-thorn. They continued for several seasons to flower at the period first remarked, but at length, reverting to the general time of flowering of the species, were thrown out. "The rathe Primrose that forsaken dies" is known to all. I only mention this instance as illustrative of acquired habits in plants; *James Hardy, Penmanshiel, by Cockburnspath, N.B., Oct.* 23.

Japan Lilies.—Has it ever been remarked that all the varieties of Lilium lancifolium degenerate or go back to the white variety? For these last three years I flowered with success L. l. album, l. punctatum, and l. roseum, all of which, in November 1847, were repotted as usual by myself. My stock consisted of 4 pots of L. l. album, 2 of punctatum, and 1 of roseum. This autumn all the seven plants have produced white flowers! I may state that I am my own flower gardener, and that it is impossible that any substitution of roots could have taken place, and that the pot of L. l. roseum was remarkable and unmistakeable, from the following circumstance: I had originally received the plant from Mr. Van Houtte, of Ghent. Observing that it had been grown in pure black peat, or rather heath soil, I always replanted it, and that bulb alone, in similar soil; therefore, without any label, that particular pot was always distinguishable, and so it continues to be at this moment. I would further observe that in making its growth this summer, the ex L. l. roseum retained its former dwarf habit, flowering at the height of about 2½ feet, whilst all my true L. l. album attained as usual an altitude of nearly 5 feet; *H. D., jun., Beau Séjour, Guernsey, Oct.* 15.

The Viper.—I hardly know what to say. I have had no opportunity of personal observation. The testimonies adduced in your Paper are very strong, and I believe that these gentlemen who have written them firmly believe what they have written. Still, on cool consideration, I hesitate to swallow the dose. 1st. I know, that all snakes, immediately on being disturbed, glide away with amazing velocity. Is the viper an exception to this? If not there would be no time allowed for the little ones to retire into their abdominal cradle. I have been much amongst vipers in the South American forests, but I never saw one tarry for half a moment after I had disturbed it. 2d, Vipers are always near their holes, or close to cover. Hence, this position would secure a safe retreat to the young ones, as well as to the old ones. Still after all, this is mere theory, and ought to have no weight in the scale with ocular demonstration. But apparent ocular demonstration may fail. Thus, in Guiana I tried hard for some years to find out if humming birds ever sang. At last I

* In a late number of the *Chronicle* a doubt was expressed as to the meaning of "frijoles." It is one of three Spanish names —*fasoles, frisoles, frijoles*—applied to Kidney Beans, which, like *fasioles* and *fayols* in French, and *fagiuoli* in Italian, are evidently derived from *phaseolus*. It is the name by which these Beans are known in several of the South American states.

had an opportunity. I was sitting under an Orange tree, and I heard a humming bird singing within 4 yards of me. I fancied that I could see its bill move as it warbled. I had not the smallest doubt of the fact. Upon moving a little aside, I saw, just behind the humming bird, a small kind of Sylvia producing the notes which till then I was quite sure that the humming bird had produced. A leaf or two intervening betwixt the humming bird and the real songster had led me into error; whilst my imagination, far too vivid for the occasion, had innocently helped me on to the delusion. Again, when I was in Rome, 1841, an English gentleman asked me, if I believed that the pelican fed its young with blood from its own breast. "I believe no such thing," said I. "It is one of my old grandmother's stories." "But I believe it firmly," said he; "because, one of the African travellers assured me, that, with his own eyes, he had seen the young pelicans receiving blood into their mouths from the breast of their mother." I asked him, "What surgeon stopped the flowing of the blood, after the young ones had dined? How did the old pelican bear the loss of blood? from what source would she draw a fresh supply for supper?" I then explained to him, that pelicans carry a supply of food in their bag under the bill; that, in feeding their young ones, they stand bolt upright; and that they empty their bag into the gaping mouths of their little ones, who stand around. I added that no doubt, blood from the fish might occasionally trickle down the throat and breast of the parent bird. "Ah, said the gentleman, I see now clearly how my informant has been deceived." I have read with great interest the remarks on vegetable diet in your last number. When I was in the tropical forests, I made the following experiment. Although I had plenty of game and fish at my command, I resolutely resisted my inclination to feed on them; and for 11 whole months, I never once tasted either fish or flesh. During all this time, I was ranging every day in quest of natural history, with nothing on but a check-shirt and trousers, and oftentimes without a hat. This was in latitude 6°. During the whole of the time, I never had a headache, or the least tendency to fever. I could run like a deer, and I knew not what it was to be fatigued; *Charles Waterton.*

The Hollyhock Fund.—In your Paper of Sept. 2 there appeared a letter by Mr. Bircham, in which he expressed a desire that a fund should be raised by subscription, out of which prizes might be offered next August for double Hollyhocks. It has also been suggested that the South London Floricultural Show would be the best place to exhibit them. I shall be glad to contribute towards such a fund, and offer 20*s.* for spikes and 20*s.* for stands of cut blooms. J. Clarke, Esq., of this town, also offers 20*s.* for spikes—the money in both instances to be deposited with the secretary of the South London Floricultural Society, or with any other person whom the subscribers may think proper to nominate. I see by the published accounts that the flowers which have been shown this year at the South London and Norwich Floral Exhibitions have been much admired, still the ignorance that prevails both as regards the properties and cultivation of this noble flower, is great. An excellent paragraph on the propagation of the Hollyhock by single eyes or buds, appeared in the *Chronicle* of July 22, by Mr. Weir, of Galashiels. I have tried the plan, and I find it to answer admirably. I am glad to learn by Mr. Weir that the Hollyhock has assumed a prominent place in the flower gardens in Scotland; and I should be happy if our Scotch friends would unite with us in contributing to our fund and show, so that we might have an opportunity of ascertaining where the best flowers are grown and of judging of their comparative merits by seeing exhibitions from all parts of the country placed side by side; *Wm. Chater, Saffron Walden, Oct.* 23.

The Potato Disease.—I have to-day seen a printed paper directed to Dr. Lindley, seeking information upon the disease in the Potato; and after my return home I read your Paper, the horticultural part of which is edited by the Professor. [In that paper no inquiry is made into the cause of the disease: but opinions are asked for as to the supposed cause of exemption.] You give us two columns under the head "Fungi the cause of the Potato disease," and you insert a paragraph under the head of "Insects the cause of the Disease in the Potato, &c." So far, so good. But as I am equally anxious with yourself to find out the real cause of the disease, may I ask if it be for the good of the readers of the *Gardeners' Chronicle*, or, indeed, is it likely to prove beneficial as regards the discovery of the real cause, to find at the bottom of the latter paragraph the following editor's remarks: "We insert this unwillingly (!), but we trust our correspondents will excuse us if we should in future close our columns against such speculations. Insects are not the cause of the Potato disease." As I know this is an assertion without proof—on the contrary, I know that it has been proved that an insect can destroy the haulm of the Potato—[everybody knows that]—I hope your readers will not excuse you from giving publicity to all the communications which may tend to the discovery of the true cause; and I am sure, upon reflection, you will see the necessity of so doing, if you wish to work with your eyes open, unprejudiced, and for the benefit of the community at large; *Murphy, Suffolk, Oct.* 24. [Does our correspondent really imagine it to be the duty of an editor to insert every absurdity that is sent to him? An editor must exercise his discretion, and is responsible to his readers for doing it wisely. Let us suppose that some one were to be of opinion that cholera was caused by bugs, and the editor of a medical journal were to give currency to such an extravagance, would not our correspondent be the first to complain? Gentlemen who pertinaciously maintain preposterous doctrines should find private means of giving them currency.]

Mulberries.—Enquiry has been made concerning the best way of treating the white Mulberry, a fruit not much cultivated, I believe, in England; and certainly in the few instances in which I have seen it grown, not worth the patience and time required to bring it to perfection. If its culture and habit resemble those of the ordinarily cultivated or purple Mulberry, your correspondent must be content to wait many years before he may expect his tree to come into bearing. Twenty-two years since I became the proprietor of a small property, in the garden of which was a Mulberry tree of the purple kind, supposed to be more than 200 years old. On examining the tree, soon after taking possession of the property, I found that on three sides of it the branches were in a healthy condition, bearing prodigious quantities of fruit, but that those on the south side, together with the trunk, had become decayed; the whole trunk, indeed, being quite hollow, and the slight portion of it which remained being reduced to touch-wood, the bark alone on one side exhibiting any signs of vegetation. Being anxious to preserve the tree as long as possible, I proceeded to fill in the entire decayed body with well kneaded clay, worked up after the manner in which clay is prepared for building houses common to the district, and having thus filled it, I caused the trunk to be bound up with iron hoops, to keep it together. After the first year new vigour was apparent in the head; from the trunk, immediately above the uppermost hoop, shoots were thrown out at the point where the decayed branches had been cut off, and have continued to grow with luxuriance, until on that side a perfectly new head is formed, nearly equal in extent to the old branches. These latter continue to bear in profusion; but until last year no fruit has been thrown out by those newly formed; and the few fruit set on them this season was of very inferior quality. I may add that some 10 years before I became proprietor of the parent tree, a neighbour had taken from it a limb of considerable size, which was planted by him in a favourable situation under a south wall, and having taken root very speedily, threw out lateral shoots, which now extend some 15 feet from the stem, but which, though carefully pruned and attended to, came into bearing only two years since. These facts would tend to show that if the white Mulberry is of the same habit, your correspondent has much patience to exercise before he may expect a crop from his six years old tree. As the result of my experiment may interest some of your readers, I will complete the history of its success. Three years since I observed that the bark had swollen over the hoops, and on examination I found that the branches had thrown out roots into the clay, which, descending through the entire length of the trunk (about 7 feet) into the ground, accounted for the new vigour infused into the old head, and for the formation of the new one. One of these roots has adhered to that portion of the bark of the old trunk which at the time of the introduction of the clay retained signs of life, and has swollen to the thickness of 8 inches and upwards in diameter, around which the old bark is gradually enveloping itself, forcing off the decayed remains of the old trunk, and forming an entirely new one, whilst other roots of smaller dimensions have also extended themselves to the ground, and give additional support to the head. I have taken care to assist these operations of Nature, by the removal of the hoops and of the clay, and also by relieving the new stem (by props) of the superincumbent weight of the head, and have by these means not only invigorated and saved the old branches in constant bearing, but have also the promise of a succession in those newly formed ones; *W., Oct.* 23.

Birds and Black Currants.—Have any of your correspondents ever observed, and accounted for, the circumstance that black Currants escape the depredations of the small birds which are so destructive to the other kinds of Currants, Raspberries, and Cherries? In my garden, which is almost surrounded by trees and hedges, giving shelter to these clever little thieves, the number of red, white, and black Currant-bushes is nearly equal; from the two first kinds I scarcely rescue sufficient fruit to supply the wants of my cook for her preserves; whilst the crop of black is more than necessary, and the fruit ripens and drops from the bushes apparently uncared for by the birds; *E. E. M. M., Oct.* 23.

Effect of Naphtha on Plants.—The heating pipes in a greenhouse at Norwich were, some months ago, ordered to be covered with black paint. The person who did them used a naphtha varnish for the purpose, and the consequence was that all the plants in the house where the varnish was used were either dead or dying; every plant was so injured that the leaves instantly fell off on being touched. I never could have imagined that such an effect could have taken place from the volatilisation of naphtha; though it is pretty certain that an atmosphere of carburetted hydrogen is destructive to vegetable life. To prevent future mischief, the varnished pipes were washed over with strong caustic potass; *W. S.* [Have our readers any analogous facts?]

Beet Root.—In a new work just published, I find it stated—"In storing Carrots the first thing is to trim off all the small fibrous roots; the tops of the Carrots must be cut off, and not only the leaves must be removed, but also a slice of the root, or Carrot itself, sufficiently thick to remove the whole of the ring or collar from whence the leaves would spring if the root began to grow. Parsnips and Beets must be treated, when stored, exactly as we have given directions for Carrots." As this procedure appears to me quite contrary to the general practice, and the opinion of gardeners, as far as regards Beet, I am induced to trespass upon your kindness in answering the queries of correspondents, by asking your opinion upon the subject. Would it not utterly spoil Beet to submit it to this treatment? *Beta.* [The practice is very injudicious, and can only lead to rot. Whoever gives such advice should not be listened to.]

Conifers in Scotland.—I saw Pinus Menziesii, orientalis, nobilis, Cedrus Deodara, and Douglasii; Araucaria imbricata, and several others less uncommon, growing healthily on a moor near Methven in Perthshire the other day; *Beauport.*

Cutting off the Haulm Early a Remedy for the Potato Disease.—My experience leads me to corroborate Hardy and Son's statement, that when the haulm is cut down prior to the appearance of the disease, the tubers are sound. This year I planted a small piece of ground with Regent and Brecon Kidneys; the fence which separated this from the other part of the field was broken down by cows, who ate off the tops of some of them. On digging up the crop, I found that that portion, the tops of which had been eaten, was almost entirely free from disease, whilst the remainder was very considerably affected. The sound tubers were small, but of very good quality. These facts go far to prove what has been a much disputed point with some, viz., as to where the disease commences, and what part of the plant is primarily affected, whether the tubers or the haulm. I have examined the plants with the microscope, and have found that the disease extends along the veins through the sound parenchymatous structure. I think that the proximate cause of the disease must be traced to some atmospheric or electrical agency, generating or favouring the propagation of the peculiar poison on which it depends that the plants thus affected lose their vitality either partially or wholly, and that the subsequent changes, such as the appearance of fungi, &c., noticed by many, must be attributed to the altered condition of the plant; *James W. Ilott, Bromley, Kent.*

Is Planting Profitable?—Few practical men will be prepared to subscribe to all that the writers to whom you allude in your Leader of Oct. 7 have said, but I do think it is premature to brand what they have said on the profits to be derived from well-managed plantations as the dreams of "enthusiasts," calculated to "seduce" the public by raising anticipations which cannot be realised. The inevitable result of such assertions will be to discourage planting altogether. As this is a subject of national importance in several respects, it might possibly help to throw some additional light on the subject were proprietors and foresters from different parts of the country to communicate to you the exact amount received by them for an acre of woods, stating at the same time the cost of draining and planting such acre now with the same sorts of trees, and of fencing the same, the age of the plantation when cut, and the rent per annum of an acre of land immediately beside it, under the plough or pastured, and the elevation of the site. I presume that most men are ready to admit that the expense of pruning and thinning is generally covered by the young timber cut out during these operations. The above calculation would not include an additional consideration in regard to Oak, which, when once planted and grown, remains permanently on the ground as coppice wood, a branch of foresting which at present does not pay the proprietor so well as it once did, but which even yet, under proper management, gives a better return than could be secured from any other crop on the same ground, except timber; nor does it include the advantage the contiguous fields gain by shelter from woods, nor the general amelioration of the climate, nor the improvement of the landscape, all advantages to be considered. I am of opinion that a good practical book on the subject of forest trees, embracing directions for the management of all our timber trees, and the suitableness of each for any given locality, is still a desideratum. It is time that foresters were bestirring themselves as a class, for that want of true knowledge of their business prevails to a great extent among them is too true, a fact which the wretched condition of many of our plantations fully verifies; *Scoticus.* [It is accurate accounts that the public wants; not dreams and Utopian anticipations.]

Sheet Glass.—As the question about sheet glass now seems to rest upon individual experience, I venture to add my mite of testimony. I had a greenhouse, of south aspect (25 feet by 13), glazed in the autumn of 1847, with 16 oz. sheet glass, bought of Messrs. Hartley's London agent, in panes 18 inches long. I have watched carefully during the whole season, and have failed to detect a single instance of scorching on the plants beneath, or upon the Vines trained to the rafters. A mixed collection of plants was in the house during the cloudless days which occurred in April and May last, and Camellias were placed in it to ripen their wood in summer. The Grapes ripened well without fire, and were of the highest possible colour. I need hardly add, ventilation was duly attended to. I prefer panes 18 inches long to those of greater size. The former are not liable to be cracked or loosened by any warping of the wood or sagging of the lights in summer, and if a pane be broken (which none of mine have been yet), it is easier to replace. The laps, except the bottom, are all closed and perfectly air-tight; *J. Rogers.*

The Rose.—This gem of flowers I find to be much improved by triennial root-pruning and transplanting.

My practice is to lift a portion of the stock (standards, &c.) every year, in October or early in November, displacing part of the soil to make way for plenty of good dung. I shorten the strong roots and replant immediately. The advantages of this mode of treatment are apparent in the compactness of the growth, fine abundant bloom, and vigour of plant, without suckers or moss, giving promise of a prolonged existence. The land here is not favourable to the growth of the Rose; yet under the above management, with my practice of late spring pruning and careful thinning out of the small young shoots, I obtain a capital display, and am very rarely troubled with that pest of the Rose, the green fly. To prevent the untimely wearing out of the Rose tree, which takes place in some soils, I have no doubt that annual removal would prove beneficial. I am glad to find that Rose growers are attempting to improve the form of the Rose bush. I think the standard Rose tree might be further improved by growing the stocks sufficiently strong, before budding them, to support a large head of Roses without the usual stake. Thus unsupported the trees would be moved to and fro by the gentle breezes of summer, and, whether in lines or otherwise, would present the appearance of so many waving bouquets; *H. Bowers, Busbridge, Godalming, Surrey.* [In Germany standard Roses are to be procured 8 or 9 feet high in the stem, and stout in proportion.]

Potatoes on Hillocks.—It is a practice with me as soon as I turn the cows out to Grass in the spring, to throw over the winter's accumulation of dung from the cowhouse, and before it ferments I collect the coal-ashes from the hall, and spread a few cartloads about 6 inches thick on the top, to prevent the escape of ammonia from the dung. Amongst those ashes happened to be some bits and small Potatoes, which in course of time grew. Last year being dry they came up small, but were remarkably sound. This year the Potatoes being badly diseased in the garden, while those on the dunghill were healthy in appearance, I was induced to try them, and I turned up some of the finest Potatoes for size and look that could be desired; being anxious to test their quality I tasted them the same day, and I may add they were excellent in quality. Practical men say that coal-ashes "scab" the Potato, but those were perfectly free from scab, and clear, except one root, which growing where the ashes were thin, got into the manure, and was slightly diseased. This circumstance has induced the idea that should opportunity offer, I shall dig a larger trench than usual when planting, and fill it up with ashes, planting the sets in it; but in the interval I would feel obliged by your correspondents' opinions thereon; *A Young Gardener, Heworth Hall, York, Oct.* 24.

Reviews.

Flora Hertfordiensis; being a Catalogue of Plants known or reported to grow wild in the County of Hertford, &c. By the Rev. R. T. Webb, assisted by the Rev. W. H. Coleman, and other correspondents. W. Pamplin, London, 1848. Part I., small 8vo; pp. xlvi. and 10, and Map.

THE first Part of the work now before us is occupied principally by an introduction, giving a view of the physical geography and botanical divisions of the county, by Mr. Coleman, and illustrated by a map. This is preceded by a tabular view of 12 districts, into which the county is naturally divisable, showing at a glance, as far as has been hitherto ascertained, what species have been found, and what are presumed to be deficient in each compartment. The introduction is carefully drawn up, and will be read with interest, especially by those who are alive to the importance of botanical geography. A flora drawn up with a view only to certain prescribed limits, dependant merely on accident, can lead to no general results, though it may be useful as a manual for the student. We hail therefore, with pleasure, the appearance of this little work, which will, we hope, meet with success which may be far more than commensurate with the small portion of the island which it comprises.

Garden Memoranda.

Trentham-hall (continued from p. 703.)—It may be readily supposed that these extensive grounds are all securely fenced against deer or other cattle. For this purpose iron hurdles are employed and rendered rabbit-proof. A serious objection to iron for this purpose is the annual outlay for paint with which it is necessary to cover it, to keep down the corrosion. A paint chiefly consisting of the lead paint in common use, is not only expensive but objectionable, because the galvanic action prevents the union of the two metals. Boiled oil and lampblack have been extensively applied; but then this ought to be used before any corrosion takes place; otherwise it soon scales off. Not so with the composition used at Trentham, where miles of iron fencing are completely free from rust; in fact, the rustier the better before this composition is laid on. The following is the system pursued:

	£	s.	d.
The material used consists of one-third Stockholm tar and two-thirds gas-tar, laid on while quite hot with a brush, and spread as thinly as possible. This, when applied to iron fencing (common ox-hurdles) costs about three-eighths of a penny per square yard, and will last nine years. One thousand superficial yards, at this rate, will cost 1*l.* 11*s.* 3*d.*, of which the yearly proportion will be	0	3	9
The cost of painting the same would be about 6*d.* per yard (25*l.*), but it will not last more than three years. The yearly proportion of the cost of painting will be	8	6	8
Annual saving on 1000 yards, besides saving the expence of cleaning the iron work before painting, and which is unnecessary before tarring	8	3	1

The process is much facilitated by the use of the Brandy-ball iron for the barrow (price 4*l.*), which cost me a few guineas, and carries a supply of fuel, and may at all times be placed close to the work.

An architectural screen separates the dress ground from the kitchen garden, and forms an entrance to it. On the left wing of this screen is a conservatory, and although of considerable dimensions (60 feet by 60 feet), plants cannot possibly present a prettier aspect. The New Holland plants and Orange trees, which were turned out into the beds, were in vigorous health. The climbers which were trained up the pillars were kept within bounds, and such as Mandevilla suaveolens, and some of the Passifloras, were complete garlands of flowers. In this house, also, there were a great number of Indian Azaleas, whose appearance indicated that the greatest care had been paid to their culture; some of them were grown in a conical form, 5 or 6 feet above the soil, and were covered with luxuriant foliage from top to bottom. Chinese Azaleas are cultivated at Trentham in great quantities, and in every possible variety, principally in pots, for the purpose of keeping up a blaze of bloom in the immense conservatory attached to the mansion, as well as in the one under consideration; and, although we are annually in the habit of seeing those magnificent productions, which are the admiration of all who visit the London exhibitions, we may safely say that we have seen nothing among them superior to the plants cultivated at Trentham. The roof of this conservatory is a series of spans 9 feet wide, and rising 3 feet to the centre of the span, all glazed, and with ample ventilation. The sides are also glazed to the ground. The walks have a very agreeable effect, being merely laid with fine gravel. Few large conservatories completely answer the end for which they were constructed; that certainly is not the case with this one; for, taking into account the simplicity of the structure itself, and the undeniable healthiness of the plants, a more satisfactory result could hardly have been anticipated.

The kitchen garden at Trentham is an old one modernised, and there must in consequence exist numerous disadvantages which the garden architect of the present day would obviate. Notwithstanding this, it has lately undergone many alterations, which have vastly improved both its convenience and utility; and the system of gardening pursued here has put at defiance all these inconveniences, as well as indifferent soil and a cold drizzling climate. For such an immense establishment, the kitchen garden is extremely limited, not exceeding 5 acres within the walls, and a portion of this is covered with forcing houses and Melon pits. It has therefore become imperative to resort to every expedient to economise to the utmost every inch of this ground. Although the garden here is in every sense of the word a kitchen garden, it may nevertheless be traversed by ladies in any weather, so perfectly hard and impervious are the walks. The alleys inside the borders from the principal walks are all edged and gravelled, which adds much to the general appearance, and enables the workman to pass to and fro in a cleanly manner; scrapers are also placed at every opening. These things, however trifling they may appear, are perfectly necessary to good gardening. One of the many expedients which Mr. Fleming has adopted with the view of economising room, and which has an excellent effect, is that of throwing an arched iron trellis over the principal walks, upon which are trained all the best kinds of Pears, which when we saw them were literally loaded with fruit. Independently of the saving of room, these arched walks afford a most delightful retreat in hot and scorching sunshine. Some of the walks that are not arched over have the Pears in the borders trained to bell-shaped iron trellises, which look very handsome. Many of the largest and best kinds of Pears require some such support, for when planted out simply as standards, a heavy gale of wind frequently shakes off the fruit long before it is ripe for gathering. The best sorts of Apples also are trained to trellises in the form of a cylinder, 4 feet wide and 4 feet high; and such is the nature of the soil at Trentham, that these trees scarcely ever produced half a crop until they were taken up bodily and the whole of the borders concreted; the few fruit that were produced previously were generally hard and gritty, and destitute of flavour; now, such is not the case; every tree, whether Apple, Pear, or Gooseberry, is as much under control at Trentham as a Pine-apple or a Pumpkin, and were such not the case, vexation, disappointment, and labour wasted would be the result. The wetness of the subsoil, and the proverbial moisture of the locality, have compelled Mr. Fleming to adopt every means that could possibly be suggested to keep all the trees of a fruit bearing kind as limited in their growth as possible, consistently with the production of a crop. They never suffer from drought. As soon as the Peaches and Apricots against the walls have their fruit gathered, they immediately have their roots examined and shortened back. This checks their growth and facilitates the ripening of the wood. Were this not done every autumn they would continue growing until the frost checked them; the latter generally destroyed half the young wood. The great enemy to contend with in gardening here, as has been previously stated, is the superabundance of moisture both in the atmosphere and in the soil; to cure the latter a main drain is placed under every walk and alley. This receives the innumerable tributaries which intersect the garden in all directions.

The Gooseberry bushes, as well as the red, white, and Black Currants, are trained as standards, some having stems 4 feet high, and round bushy heads. This allows the sun and air to get to the fruit, and makes much more readily to the fruit, by which means [illegible] much improved; besides it keeps the fruit from being spashed with dirt and soil in heavy rains. No [illegible] is ever suffered on the fruit trees under any pretence or circumstance. The [illegible] bounded with a three-railed fence, but these [illegible] repeated frequently, to admit of [illegible] Raspberries and Strawberries are [illegible] with a decomposed compost of rotten [illegible] tree leaves, &c., which appears to [illegible] very much. Some years ago the [illegible] garden was never [illegible] for flower [illegible] the [illegible]. Mr. Fleming [illegible] to salt, which he applies in spring when [illegible] be [illegible] dressed. [illegible] square yard, and [illegible] is used in a diluted [illegible] such a difference, both in [illegible] Asparagus now [illegible] is a great advocate for [illegible] all over the vegetable [illegible] soil will admit of being [illegible] immediately looked over. [illegible] which costs 12*s.* 6*d.* per [illegible] and it is applied at the rate of [illegible] square yard. This [illegible] besides it keeps down [illegible] would devour every green leaf.

Miscellaneous.

School Gardens.—In the [illegible] of Nottingham are an [illegible] occupied and cultivated by [illegible] with a most laudable and praiseworthy [illegible] friends connected with the [illegible] Sunday School have purchased two of these inclosures, in each of which is a [illegible] One of these gardens is cultivated by the elder boys, the other by the juniors. Each garden is [illegible] smaller allotments, which are [illegible] tive tenants, boys from 10 to 14 years [illegible] and crop them according to their own fancy, a small portion of each being devoted to flowers. The diligence and ability displayed by these young [illegible] really astonishing. We have inspected their crops during several past autumns, and with truth can say we were highly delighted with them. The [illegible] Lettuce, Celery, Carrots, Potatoes, &c., were excellent, and would vie with the productions of older and more experienced cultivators. Prize Gooseberries are also grown, and this year the crops of London, Companion, Gunner, Eagle, &c., were amongst the best we have ever seen, either at Nottingham or elsewhere; in fact, these boys always endeavour to obtain either of seeds or plants, the best varieties possible. In connexion with these gardens, and to excite emulation, a [illegible] and flower show is instituted. This is held in the school-rooms, at Nottingham, and prizes are given for the best productions in vegetables, as well as for stands of Pansies, Verbenas, collections of annual and perennial flowers and nosegays, or bouquets, as they are called by some. These exhibitions of youthful zeal and industry are well attended: *Manchester Friend.*

Index of the H[illegible] Society.—At a Meeting held in the [illegible] unanimously resolved: 1. That the [illegible] to be called The Hawkhurst Cottage Gardeners' Library. 2. Each member shall subscribe [illegible] a quarter. 3. That the officers of the [illegible] a Treasurer, Librarian, and Secretary. 4. That the meeting shall be held from 8 till 9 o'clock, [illegible] Lady-day, Midsummer, and from 7 till 9 o'clock, from Michaelmas to Lady-day, on the last Wednesday evening in every calendar month; and that an annual meeting shall be held on [illegible] day in the purpose of electing [illegible] officers. 5. That any person not a gardener shall become a member if approved of by the society at a monthly meeting, by [illegible] to the funds according to rule. 6. That a [illegible] shall be provided with two locks and two keys; and these keys to be kept by the librarian and secretary. 7. That this society shall be entitled to Horticultural and Agricultural [illegible]. And that such books shall be sold to the members of the society, [illegible] shall be considered proper so to [illegible] by the society. 8. That no member shall hold any new book [illegible] three weeks, and [illegible] shall have been round to all the members; and any member keeping a book longer than specified shall be fined [illegible] member lending [illegible] of whose [illegible] shall be fined accordingly. 9. That any member [illegible] the subscription at the end of three months, shall be fined [illegible] and not paid at the expiration of six months [illegible] shall be excluded from the society. Signed in behalf and by order of the Society, [illegible] Treasurer [illegible] Librarian: [illegible] Secretary. N.B. Any [illegible] books, will be thankfully received by the Society.

Calendar of Operations.

(For the ensuing Week.

CONSERVATORY AND GREENHOUSE.

One of the chief evils we have to contend against at this season of the year is humidity: while we are anxious to afford our plants the advantages of a continuous supply of fresh air by the ordinary contrivances in our plant structures, the admission of the grand essential is the introduction of the cause unwholesome fogs of November, so fatal to many genera: the remedy lies in an improved system of ventilation, by which the air could be rarified prior to its entrance into the conservatory; a series of small orifices below the hot-water pipes and ventilators at the back of the house, is a ready method, would secure a constant supply of fresh air, and cause a desirable activity in its circulation. Restrict water to all plants which have perfected their growth; withhold it entirely from bulbous plants,

from which nothing further is required this season. Hybrid Roses and Chrysanthemums may receive manure-water occasionally; they may be associated in treatment with Cinerarias and Chinese Primroses, which require protection rather than a forced temperature at this period of the year. Many denizens of the stove will now be in action, elaborating their gay blossoms. The Euphorbias, Begonias, Gesnera zebrina, Plumbago rosea, &c., &c., require an assured temperature of 60°, with a proportionate increase in fine weather, and from 45° to 50° night temperature. *Pits.*—Harden off Verbenas and other massing plants. Stop all those making growth. Water as little as possible, and use every opportunity of fine weather to give abundance of air. Moisture is more destructive than cold; use every precaution against its effects.

FRUIT FORCING.

Vineries.—To save more valuable Vines the exhaustion attendant on very early forcing, a stock of young plants should be secured in pots every season, to be put in action and precede the established plants perhaps a month. A small house adapted to the season by its appropriate inclination, glazing, and heating apparatus, should be secured for the purpose, and would well repay the outlay required for it. Although Vines might primarily be considered, the same structure would be found of eminent service for starting Cucumber seeds, forwarding French Beans, and ripening the first crop of Strawberries. Under present circumstances we may reiterate our recommendations regarding Vine borders. The chill communicated by the autumnal torrents which now deluge the ground, will not easily be counteracted if precautions are not used to intercept them. A good supply of stable litter both for border covering and lining should be amassed progressively. The supply of Alpine Strawberries may be prolonged by covering a portion of the border with lights. Moisture more than cold affects them at this season. Attend to the formation of Mushroom-beds.

FLOWER GARDEN AND SHRUBBERIES.

Recent storms have sadly, and for this season irrecoverably, destroyed the fair grace of the flower-garden. The removal of Heliotropes and other tender things should immediately follow their destruction by frost, to allow the introduction of bulbs, Wallflowers, or other hardy biennials. Shrubberies require yearly revision. The growth of the common Laurel in rich land is insidious and destructive to all lesser plants. Transplant both evergreen and deciduous shrubs and trees. Rhododendrons in bleak situations are better transplanted in the spring. The destruction of the small fibres often ensues from winter planting. Proceed with new arrangements actively, particularly if they involve the removal and planting of trees. Lay turf; collect leaves. Protect tender shrubs. Stake and tie wherever it is required.

FLORISTS' FLOWERS.

Continuous and heavy rain during the early part of the week has prevented much work being done in the flower garden; especial care must be taken of the Auricula frame, to prevent drip. If the glazing is not perfect, it must be made so. The plants should be exposed to a south-eastern aspect, and have very little water: once a week will be ample. Every precaution must be taken against damp; a free circulation of air at this season being absolutely indispensable. Tulip beds must be made up the first opportunity, and, as soon as the soil is dry, plant. It is absurd attempting to keep one particular day, for the weather may be fine for a month previously to the day of intended planting, and at this uncertain period, wet may set in, and the soil be wholly unfit for a long time, to the great injury of the bulbs. Never plant with a dibble when the soil is moist; we do not like the system at the best of times. But when the soil is wet, it is absolute destruction to them. We well recollect losing the greater part of a fine collection by adopting this plan: the dibble compressed the soil, and the bulbs, during a wet season, were completely rotted. The last day of this month is the latest period at which we would advise any one to procure Carnations and Picotees. They do not get established well before winter; and when that is the case, we find the foliage withers, and is more susceptible of mildew, spot, &c., than when the roots were performing their proper functions. The late heavy rains are much against recently potted layers, and by all means every protection should be given. The lights from Cucumber frames afford excellent shelter, as it is advisable that they should have all the air, &c., possible for some time to come. There is no greater error committed in the cultivation of these flowers than stewing them up in frames too early.

KITCHEN GARDEN AND ORCHARD.

The recent heavy rains have somewhat impeded spade operations. The necessity of an examination of all drains and water-courses will be readily suggested by the now frequent recurrence of wet weather; in the course of the season weeds and rubbish accumulate in quantities sufficient to impair the efficiency of the common water conduits; every facility should be given at this season for the passage of the water from the garden. A sowing of an early sort of Pea may be made the first favourable opportunity the ensuing month; a warm, dry south border should be appropriated for the purpose; a fair proportion of which should also be reserved for a similar crop, to be raised in the spring in frames for transplanting. Clear all decaying matter from Seakale, and give the plants a preliminary earthing, to make up for the usual waste of soil about them. Top dress seedling Asparagus with well-rotted dung or light rich mould; make up Asparagus beds rather with the addition of fresh matter than the sour stuff from the alleys. Earthing Celery should be attended to wherever the soil is in a condition to admit the operation. Employ lime or soot about young Cabbage and Lettuce plants, and repair ravages from slugs without delay; protect Tomatoes with spare lights or mats at night; and secure the heads of late Artichokes with handfuls of dry Fern. Commence pruning Currants and Gooseberries, and plant, if necessary, at the same time. The planting of fruit trees generally should be proceeded with when leisure and facilities permit.

COTTAGERS' GARDENS.

Potatoes which have been taken up and stored in pits should be looked over and sorted—one rotten Potato will infect half a dozen; others not yet taken up may now be dug, and only the really sound tubers stored. If the natural disposition of the land affords the opportunity, a cave scooped in a hill side or bank, and well drained in front, and of course provided with a door or shutter, will be found highly suitable, and preferable to heaping Potatoes together in holes in exposed, undrained situations. A turf or sod-built store, when the above plan cannot be practised, would be found of much value, particularly if extended to receive the various crops of Turnips, Parsnips, Carrots, and Mangold Wurzel, the due preservation of which often embarrasses those cultivators unprovided with sheds or other places of security. These roots may be stored away at once, if opportunities exist at this season of working the land, which would not occur at a busier period of the year. In favourable situations Potatoes may be planted; avoid the use of strong manures. Sow a few rows of early Peas; protect Cabbage and Lettuces recently planted with frequent dustings of soot; prune Gooseberry and Currant bushes as soon as the leaf falls—in small gardens it is a good plan to trellise both Currant and Gooseberry trees; the double-bearing Raspberry should be in every garden, great or small.

State of the weather near London, for the week ending Oct. 26, 1848, as observed at the Horticultural Garden, Chiswick.

October.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 20	23	29.789	29.747	50	41	45.5	N.E.	.34
Satur.. 21	24	29.857	29.789	50	29	39.5	N.E.	.10
Sun. .. 22	25	29.720	29.594	58	36	47.0	S.	.12
Mon... 23	26	29.624	29.487	56	44	50.0	S.W.	.56
Tues... 24	27	29.536	29.493	60	47	53.5	S.W.	.15
Wed... 25	28	29.682	29.163	56	31	43.5	W.	.02
Thurs. 26	29	29.861	29.812	61	38	49.5	S.	.08
Average...		29.724	29.636	55.8	38.0	46.8		1.37

Oct. 20—Slight rain; cold wind and rain; overcast.
— 21—Rain; clear, with slight frost at night.
— 22—Rain; slight rain; clear.
— 23—Overcast; heavy rain throughout.
— 24—Very clear; fine; overcast.
— 25—Boisterous with rain; wind variable; clear at night.
— 26—Frosty early A.M.; slight fog; fine.
Mean temperature of the week, 2 deg. below the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending Nov. 4, 1848.

Oct. and Nov.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 29	54.0	35.9	44.9	9	0.42 in.	3	3	3	1	5	6	1	1
Mon. 30	54.5	39.8	47.1	9	0.50	3	1	3	2	8	1	1	1
Tues. 31	53.2	39.2	46.2	13	0.88	2	2	2	1	8	2	2	3
Wed. 1	54.5	36.9	45.7	12	0.38	1	3	1	3	4	7	2	2
Thurs. 2	53.4	39.7	46.5	9	0.49	1	1	2	2	8	2	2	2
Fri 3	53.2	38.9	46.0	11	0.82	1	2	1	3	5	6	1	2
Satur. 4	51.6	37.0	44.3	11	0.44	1	3	2	3	5	3	2	2

The highest temperature during the above period occurred on the 29th and 30th Oct., 1833; and the lowest on the 4th, 1845—therm. 22 deg.

Notices to Correspondents.

To our Correspondents—May we beg it to be understood that *we cannot answer inquiries privately through the post.* We are ready to give any reasonable information in our power through our columns; but we cannot consent to the labour of writing letters.

Books: *W W.* Lindley's "School Botany," to begin with. See Agricultural side.

Cacti: *D Scadding.* The chief point in managing these plants is to allow them an alternate period of growth and rest. They should be grown in a mixture of lime rubbish and loam, with a little cow-dung, and in well drained pots. In summer they should be fully exposed to the sun and well watered; but from October till March they should be kept almost it not quite dry.‡

Heating: *C S.* If you do not want to force your plants, keep them as cold as you can at night, without actually admitting frost. If you do force, the temperature should be, at night, not higher than 49°, *on any account*; in fact as low as the growing plants will permit.

Insects: *C W M.* The larvæ are evidently those of Psila Rosæ, which we will endeavour to rear. See Mr. Curtis's article in the last Part of the "Journal of the Royal Agricultural Society," from which the suggestions given last week for its destruction are taken. *W.*

Landscape Gardening: *R S H.* Mr. Glendinning, Turnhamgreen.

Mangold Wurzel: *A Devonian.* You are right in saying that the root and its sugar are formed by the agency of the leaves; but in the winter their office is over and their power nearly gone; at that time there is no reason why such worn-out organs should not be removed

Names of Fruits: *T T.* You may rest assured that the cutting which produced the fruit and leaves you sent had been taken from below the Ribston Pippin graft; for the fruit, small and codlin-shaped, has not a single trace of the Ribston Pippin character belonging to it, and the leaves are also different. The Greengage is sometimes almost perfectly reproduced from stones, and in this case suckers from the roots will all produce like the tree; or suckers may have sprung from above the graft, if the tree has been deeply planted.‖—*J B, a Subscriber.* 1, 2, Glout Morceau; 3, Beurré Diel; 4, Buchanan's Spring Beurré; 5, Spanish Bon Chrétien; 7, St. Germain; 9, Scarlet Nonpareil; 10, Colville Blanche d'Hiver.‖—*A C.* We found your seedling Grape too acid.‖—*J B K.* The drawing last received represents the Glout Morceau; the other, probably the Poire Figue.‖—*J A T.* 1, Beurré Rance; 2, Glout Morceau; 3, Marie Louise.‖—*B H.* 1, Lamb Abbey Pearmain; 2, Bedfordshire Foundling; 3, Forelle; 4, Beurré Rance; 5, Doyenné Gris; 6, Belle et Bonne; 7, Crassane.‖—*Pyrus.* 1, Jean de Witte; 2, Beurré Rance; 3, false and wortniess; 4, appears to be Knight' Monarch; 5, Buchanan's Spring Beurré.‖—*J J.* Not known.‖—*Hayes.* The leaves should be compared with those of the Brown Beurré.

Names of Plants: *T Dryden.* Argyreia speciosa.—*Derwent.* Cymbidium aloifolium.—*J Ingram.* 1, Chionanthus maritima; 2, Ch. virginica angustifolia; 3, Fothergilla alnifolia; 4, Shepherdia argentea; 5, Laurus Benzoin; 6, Variety of ditto; 7, Rhamnus Frangula. ¶

Pansies: *R H C.* Youell's Supreme, Hall's Rainbow, Gosset's Lord Hardinge, Turner's Optimus, Thompson's Zabdi, Horc's Superb, Hooper's Lady Sale, Thompson's Duchess of Rutland, Bragg's Goliah, Brown's Arethusa, Hooper's Lady Sale, and Mrs. Turner.*

Pears: *A B.* Pears are best kept in a dry, cool, steady temperature, in the dark. Some of the finest late kinds may be laid in wooden drawers. If any prove not so melting as they ought to be, keep them in a temperature of 60°.‖

Pelargoniums: *A C.* The following are the best show flowers in the list you have sent. Beck's Aurora and Hebe's Lip, Hoyle's Mount Etna and Sunset, Cox's Hector, Garth's Magog, Gaines' Milo, and Foster's Orion.*—*R H C.* From your list we select the following. Beck's Cruenta, Centurion, Cavalier, Cassandra, Gulielma, Gustavus, Rosamond, Honora, Hebe's Lip, Aurora, Gaines' Duchess of Leinster, and Foster's Pericles.*—*W T.* Part of the following are from your list. Gaines' Duchess of Leinster, Foster's Matilda, Catleugh's Pearl, Cocks' Hector, Beck's Cavalier, Rosamond, Cassandra, Gulielma, Centurion, Competitor, Cruenta, and Bacchus.

Potatoes: *Sigma.* You are mistaken about the habit of the wild Potato. Its history is given by Dr. Lindley, in the "Journal of the Horticultural Society," Vol. III., Part I.

Pyrus Japonica: *H S.* The fruit of this plant makes an exquisite preserve, superior to the common Quince—of higher flavour, more spirited, and not so mawkish. It requires more stewing than the common Quince, to make it tender.

Roses: *Const. Reader.* All Roses are susceptible of increase by cuttings; the tender families under glass in spring, the rest in the open air in autumn, under a north wall.‡—*Fenella.* Boursault gracilia, a good rose-coloured climbing Rose, will probably answer your purpose.‡—*Inquirer.* In pruning, the shoots of strong-growing Roses should be left rather long—say six or seven eyes. If cut in too closely you will have all wood and no bloom. The Rose du Roi is a Perpetual, and blooms in autumn; it is also known by the name of Lee's Crimson ‡

Thrips: *C S* requests some kind correspondent to answer from his own knowledge whether the fumes of bruised Laurel leaves (which kill thrips) are harmless to Orchids and stove plants or not.‡

Tortoises: *Burnham.* We are not aware that tortoises do any harm in a garden. They nibble the flowers of weeds, especially Dandelions.

Tropæolums: *Dorking.* We have no experience with T. speciosum, but it looks as if it were little more permanent than T. canariense.—*M S.* T. tricolorum should be wintered dry. Take the bulbs out of the earth if you wish it, after the tops have died down, and replant them when they show signs of growth. Water sparingly at first; but after they have fairly started, more liberally. A globe or egg-shaped wire trellis will perhaps suit you best. As to size of pots, use your own discretion: one man likes one size; another, another. ‡

Verbenas: *A C.* Procure the following varieties: Robinson's Defiance, Sarah Margaret, Smith's Gem, St. Margaret, Mountain of Snow, Excelsa superb, Ivery's Emperor of China, Smith's Gem, Excelsa superb, and Desirable; Ruby superb, and Amethystina.*

Vines: *O P.* Your Vines may be pruned any time before they start into growth; nevertheless the sooner the operation is performed now the better.‡—*Hampton.* Some account of the Crawshay mode of pruning Vines has been given at p. 718, 1847.‡—*Paul Pry.* Yes, if you can introduce a little portable stove into your greenhouse, it will of course assist in finishing the ripening of the remainder of your Grapes. Cobæa scandens is a perennial. Soot is a good manure. To what do you intend to apply it?‡

Vipers: *T T.* Much obliged; your testimony is an addition to that of others; but is not different from that of others. Why not have a viper caught as soon as its young are swallowed, its mouth tied up, or sewed up, and then sent to the College of Surgeons for examination—as we have recommended? The question cannot be settled in any other way. It is now a case of belief, not of distinct proof. A casual observer may be deceived; a skilful anatomist cannot be. A correspondent tells us that it is asserted of the black snake in America that the young take refuge in their mother's mouth, and that it is also generally believed.

Walks: *M Croley.* Asphalte walks properly made are excellent. Their blackness, however, makes them objectionable to some persons. Of course they are impervious to water, and therefore unless you have the means of carrying off rain from their sides you cannot employ them. When asphalte walks give way it arises from their having been made too thin, and of materials not properly put together. We do not advise you to apply asphalte in connection with a stone-coloured edging.

Weeds: *F, Berks.* There are only two ways of removing them; either by pulling them up or by destroying them. The latter purpose can only be effected by poisons; and of these corrosive sublimate is the best and cheapest. As the water will only take up a certain quantity, the ready way of preparing it is to throw an ounce or two into a vessel of water, to stir it up well, and then to employ the supernatant fluid when clear. More water may then be added to the sublimate, and so on till all is dissolved. Remember, however, that this agent is very dangerous in incautious hands, and that the vessels in which it is used must be very carefully cleaned afterwards.

Misc.: *B B.* Platycodon grandiflorum is a greenhouse plant. It should be wintered dry or nearly so, and repotted in spring in peat and loam. It may be propagated by cuttings made of the young shoots.‡—*Inquirer.* For a list of annuals for autumn sowing, see p. 624. To make walks of lime and ashes, see p. 685. Sorrel may be destroyed in pasture by *persevering* in cutting the heads of the plants the moment they make their appearance. This is a slow but sure remedy.‡—*Henry.* Your large Deodar may be removed by the application of skill and care. Now is as good a time as any for the operation. ‡—*M D P.* Sollya linearis can be propagated by layers, or by cuttings struck in silver sand under a bell-glass. Kennedya Marryattæ is a greenhouse climber. Peat mixed with a little loam suits it best. Your white Datura may be pruned "hard in" now, or perhaps better in spring.‡—*H F K.* Laurus nobilis is the botanical name of the Roman Laurel.‡

SEEDLING FLOWERS.

Gloxinia: *Ebor.* Your specimen was too much bruised and decayed to allow of an opinion being given; tender flowers require the protection of a tin box.*

Pansies: *A Subscriber.* We were not able to distinguish the peculiarity in the upper petals which you allude to, probably it is more apparent earlier in the season.*

Pelargoniums: *J H S.* Great progress has been made since flowers similar to your seedling were thought much of; the liny character of the upper petals is a great defect, and the flower altogether wants substanc

*** As usual, many communications have been received to late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those numerous correspondents, the insertion of whose interesting contributions is still delayed,

SEED WHEAT.—The Red Straw White Wheat may be had here or at Chatfield Station, on the Bristol and Birmingham Railway for 8s. 6d. per bush l.
JOHN MORTON Whitfield Farm, Berkeley, Gloucestershire.

SEEDS.—CORNER OF HALF-MOON STREET.
THOMAS GIBBS AND Co.,
(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND,"
Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF MOON-STREET, PICCADILLY, London, as for the last Fifty Years.
Priced Lists of Agricultural Seeds are always ready, and may be had on application.

FARM TO BE LET, in the parish of HOLBEACH, Lincolnshire, to be entered upon at Lady-day next.
FORTHERINGHAM FARM is to consist of about 519 acres, of which 77 acres are in summer, 115 acres in pasture, and 357 acres arable; part of this Farm is in the occupation of Mr. Thomas Edward Savage, and the remainder in the possession of Mr. John Pearson Savage.
The soil of this Farm consists of alluvial deposit of very rich quality, producing large crops of every kind of grain, of Turnips, and of other roots.
This Farm is to be let on Lease for 14 or 21 years, at a corn rent, to vary as the average price of Wheat for the three preceding years varies. To view the Farm, apply to Mr. GEORGE MARTIN, Holbeach Marsh, who has a plan and particulars of it; and for further particulars apply to Mr. JOHN MORTON, Whitfield Farm, Berkeley, Gloucestershire.

WHEAT SOWING.
MARK FOTHERGILL 201a, Upper Thames-street, London, offers the following MANURES for the Wheat crop, and warrants the quality to be genuine, viz.:
SUPERPHOSPHATE OF LIME (prepared from Bone only).
WHEAT MANURE (containing a large amount of Silicates, with rich Phosphates).
DRIED NIGHT-SOIL (obtained from a large public institution).
PERUVIAN GUANO (direct from import warehouse).
BRITISH GUANO (rich in all the Salts of Ammonia, Phosphates of Soda and Potash, &c., contained in the foregoing, at a considerably lower price).
Also, Soda Ash (Wireworm destroyer), Gypsum, Urate, Nitrates Soda and Potash, Salt, Bone dust, and all other manures of known value.—Apply for prices current as above.

WHEAT SOWING.
THE LONDON MANURE COMPANY beg to offer as under:—
LONDON MANURE COMPANY'S CORN MANURE.
" " " URATE. [LIME.
" " " SUPER-PHOSPHATE OF
Peruvian Guano, direct from Importers' stores.—Fish, dry and Agricultural Salt.—Gypsum for Clover.—Soda Ash for destroying wireworm, and every other Artificial Manure.
The London Manure Company would call particular attention to their Corn Manure and Urate the former containing a large amount of Ammonia, Phosphates, and Silicates, all so essential for corn crops, while the Urate is richer in Phosphates and other mineral substances required for roots.
Full particulars and prices forwarded on application.
EDWARD PURSER, Sec., 40, Bridge-street, Blackfriars.

The Agricultural Gazette.
SATURDAY, OCTOBER 28, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

WEDNESDAY, Nov.	1—	Highland and Agricultural Society.
THURSDAY,	—	2—Agricultural Improvement Society of Ireland.
TUESDAY,	—	7—Agricultural Society of England.
THURSDAY,	—	9—Agricultural Improvement Society of Ireland.

FARMERS' CLUBS.—Nov 4: Newcastle, Durham, Melrose.—Nov. 6: London, Oxford, Claydon, Great Oakley.—Nov. 8: Tavistock, Harleston.—Nov. 9: Carlton on-Trent.—Nov. 10: Baleswor.h, Hadleigh, St. Austell.—Nov. 11: East Kent.

A CORRESPONDENT reports it as a frequent complaint, that to no section of our Paper, excepting the Leading Articles, can readers turn for what he calls "RESPONSIBLE ADVICE." Now, we have to remark that those who seek advice at our hands receive it from competent authorities on the several subjects of their inquiry, not in the leading section of the Paper, but in the Notices to Correspondents at the close of it; and, certainly, the advice there given lays the same responsibility upon our Journal as it incurs by the character of its Leading Articles.

We imagine, however, that those by whom this complaint is made mean much more than lies in matters of mere arrangement or detail. They, no doubt, object to what we consider the best feature of our pages—their discussional character. Disregarding the *progress* of opinion, as an index to truth, they say of a debate that it is as likely to lead the spectator one way as the other, as probably into error as not. Discussion implies variety of opinion, and variety of opinion is incompatible with the possession of truth, and truth is what they want. Yes; but their desire for truth is not sufficiently strong—it does not lead to personal effort; the debater in the discussions to which they object is seeking after it with far greater earnestness. They wish for truth without the labour of a search; but they may rest assured that no source of it exists at which mental thirst is to be slaked by a process of mere drinking. Truth is a precious metal which each for himself must extract with labour from one that has been laboriously obtained: it has been compared to living water for purity and excellence, but no spring exists at which this water is attainable without exertion. There is no such source of easy access—no oracle—no standard of infallibility—now-a-days for the assistance of the weak minded or the lazy; and, certainly, we do not intend to assume, in any degree, a character which can have no real existence, however agreeable its dogmatism or its despotism might be to those who seek for an easy solution of their doubts and indecision.

Of the two principles on which an agricultural periodical may be conducted, we greatly prefer that which admits to its columns contributions of fact and arguments from all quarters. By the other the leading ideas of its editor might be *taught* and insisted on—ideas, however, of which there is no infallibility to ensure the justice. In this way might be effectually taught that which is already known; but, by the former, *additions* to our stores of knowledge are made as well. In the latter, readers are simply scholars: in the former they may also be teachers: and so greatly is this to the advantage of an agricultural journal that men of the best judgment have objected altogether to a "leading" section in such a case—preferring that all contributions should have equal standing, and exert an influence in simple proportion to their merit. The readers of such a Paper are, and, to ensure its greatest usefulness, should consider themselves to be, the members of one farmers' club: each having an opportunity of contributing to the instruction of the others, a security in the freedom of debate that he shall not mislead them, and a source whence he may draw to almost any extent experienced advice for himself: while the whole body, by discussion and publication, are adding to the general sum of agricultural knowledge. We retain the leading section, just as in such clubs the plan is retained of a formal and studied introduction of subjects for more familiar illustration by subsequent speakers. But the responsibility which attaches to us on this account, so far from relieving our readers from the duty of personal investigation and experiment, cannot be greater than that incurred by any of our correspondents who may venture the statement of his experience.

WE desire that subjects relating to the condition of the labouring class should have frequent discussion in our columns. The usefulness of SAVINGS' BANKS, for instance, as important means to social improvement, certainly deserves the attention of our correspondents; and, what is more important, it deserves the hearty and earnest approval and assistance of every one possessing sufficient influence—each in his own locality.

It may stimulate the benevolent to exertion, if we relate the tale of another's efforts in the establishment of these institutions, and of the beneficial results which followed them.

None ever laboured more to promote savings' banks than the late Dr. DUNCAN, minister of Ruthwell, in Dumfriesshire. He was the founder of these institutions. A memoir of his life, lately published by his son, furnishes many interesting particulars in relation to the origin and extension of the whole system. In 1810 Dr. DUNCAN'S thoughts on the subject first took a practical shape, owing to particular circumstances connected with the state of the poor of Dumfries and its neighbourhood, and especially in consequence of a desire to avert the introduction of poor rates, which then seemed to be impending. On reading the account of an ingenious scheme proposed for gradually abolishing poor rates in England, he observed a subordinate provision which struck him as worthy of attention. This was the proposed erection of an economical bank for the savings of the industrious, which he believed might be attended with the most important results to the labouring classes. He saw here in prospect a means of improvement and amelioration not dependent on degrading Poor-law subsidies, nor even on the Christian charities of the rich and benevolent, but on the prudent forethought and economy of the people themselves. He resolved the scheme should have a trial, and accordingly, as a sequel to the discussion respecting a provision for the poor, published a paper, in which he proposed to the gentlemen of the county the establishment of banks for savings in the different parishes of the district; and he determined to bring his plan to the test of experiment by the formation of one in his own parish, to which he gave the name of "The Parish Bank Friendly Society of Ruthwell." Difficulties, however, had to be surmounted: the majority of his neighbours, though poor villagers and cottagers, such as are usually to be found in a remote country parish, were already in general connected with friendly societies within the bounds of the parish, to which his efforts had before been directed; and he well knew that the greater number of them were obliged to strain every nerve for a bare subsistence, and found at times extreme difficulty in fulfilling their engagements to the established societies: but this did not deter him from making a trial of the projected scheme. He had to deal with a sober, industrious, and well-informed population, and was aware that in almost every family, even the poorest, there are odds and ends of income, which are too apt to be frittered away in the ordinary expenses, sometimes in intemperance. Could he secure the mind of the people to comprehend the value of the savings which might, by a regular economy, be gathered from this source, and could he supply the means of investing these savings, encouraging them, at the same time, the prospect of a moderate interest, he was confident the hopes he cherished would be realized, and he was not disappointed. The scheme was put in operation in May 1810, the amount deposited in the bank at the close of the first year was 151*l.*, and this rose to 1151*l.* in 1815, when the maximum was reached.

Just at the time when the experiment could be considered as completely successful, [illegible] began to attract attention. In 1813 the Edinburgh Society for the suppression of Beggary conceived the idea of adopting a system of banks as one other project for the good of the [illegible], and banks for savings now began to be established on all sides, and a very general interest was excited in favour of the system. This was [illegible] by the publication of an essay by Dr. Duncan, "On the Nature and Advantages of Parish Banks, with the Rules and Regulations of the Parish Institution in Ruthwell," of "The Report of the [illegible] Society," and of "A Statement of the Advantages of Banks for Savings," emanating from the Highland Society of Scotland. Dr. Duncan was fully gratified by the universal adoption, long before his decease, of the measure which he had originated.

These remarks may, perhaps, fall under the eye of some to whom they may be personally interesting, and certainly they will be seen by those to whom they should be interesting on account of others; and we shall therefore subjoin, to illustrate the tendency of the savings' bank system, one or two instances from the records of Dr. Duncan's original institution at Ruthwell.

A. B., a female servant, began to deposit the surplus of her wages, and at the ninth year found herself possessed of 15*l.* 18*s.*, the fruits of economy. She ultimately married respectably in her own station, bringing not only a portion of 5*l.* to assist in stocking the small farm, but what was of more value, the habits of economy on which so much of the comfort of a humble home depends.—C. D., when a ploughboy, opened an account with the bank by a deposit of 2*l.* 1*s.* This he augmented yearly by additions chiefly saved from his wages, till in the course of seven years he possessed of 58*l.* He married, and his fund thus saved added greatly to the comforts of his cottage, though family expenses somewhat curtailed its amount. After various fluctuations, however, his account again increased, and by-and-by showed a sum of 61*l.* with which he was enabled to enter into partnership in a thriving country business. On his death, his widow and family were left possessed of a fund which has kept them above poverty, and will probably suffice to educate and support his children as long as they need assistance.—E. F., a farm-servant, deposited 2*l.* 1*s.*, and having resources besides his labour, accumulated in four years about 40*l.*, which he then drew for the purpose of enabling him to enter on a small farm. Two years after, he was in circumstances to resume his deposits, which gradually increased, affording him many facilities, and enabling him at length to engage in farming on a much more extensive scale than at first, and to occupy a sphere, in which he has been long established, as a thriving, industrious, and respectable member of society.

We have stated that Dr. DUNCAN'S efforts were directed to friendly societies, either in forming or improving them. His biographer truly observes, "Few institutions have been so valuable to the working classes as friendly societies. Besides the substantial relief in cases of accident, disease, and bereavement which they provide, the consciousness that this benefit is derived from their own forethought tends to elevate the character of subscribers, and inspire them with confidence in their own resources. And it is impossible to doubt that a people accustomed, voluntarily, to submit to the moral restraint which, among the labouring classes, are necessary to the success of a friendly society, must have thus acquired qualities greatly superior to those which prevail in communities where the legal provisions for the poor supersede in a great measure the necessity of prudence and self-denial. Such results were unquestionably, to a certain extent, realised in Ruthwell."

We referred, some weeks ago (p. [illegible]), to a little tract—an "Address" on savings' banks: it justly remarks that although they are now extensively known, there are tens of thousands who think but little about these institutions, and that it is most desirable the subject should be pressed upon the attention of all the industrious (and improvident) classes. The example of the Royal East Berks Agricultural Association in awarding at its late anniversary meeting two premiums to agricultural labourers who have deposited money in the local savings' bank, or other provident institution, deserves to be followed by all similar associations.

EMPLOYMENT FOR THE UNEMPLOYED.

Your correspondent, "Spade," being desirous of seeing my scheme for the amelioration of the working classes, I have taken the liberty of sending you the first principles of a plan by which I conceive the working population of this country might be partially, if not universally, rescued from increasing poverty and destitution. The knowledge that the means of production are so great, and the numbers who consume so limited, naturally raises an inquiry as to what can be done for the unemployed. Every attempt to relieve them ought to be made. Hence, though humble in myself, I have attempted with others to form and carry out to the utmost of our limited means a system which has employed some of our unemployed members, and which, if rightly directed, would employ a far greater number. I conceive that the working men, under the auspices of intelligent and benevolent individuals of their own class, might employ themselves when otherwise unemployed; but before I go further, let it be understood that I do not profess, nor could I in the longest space I could hope to have allowed me in this journal, enter into minute details of a subject so lengthy. I can only, on the present occasion, throw out the main points, and if any who read wish to know or to aid us, I shall be most happy to communicate with them. The society might be commenced by any number, from five to as many thousands, but it would be best to commence with a moderate number, as they would then be able to guide the association more efficiently. As soon as the first subscription was paid, they might commence operations—1. By renting a piece of land. Then having selected an individual competent to the task, let him be sent upon the land at the wages of from 20*s.* to 30*s.* per week, according to the number of members. Thus, 150 members at 3*d.* per week, 37*s.* 6*d.* Wages, 20*s.*; rent of land, 10*s.*; leaving 7*s.* 6*d.* for other expenses. But, to carry out the ultimate idea, all wages should be paid as far as possible in labour or goods purchased in "wholesale" by the association, for it would be often easier to pay 30*s.* in goods than 20*s.* in money; thus the person on the land, when in want of boots, shoes, &c., would order them of the association, and they would supply them in payment of wages.

2. They would separate into trades, each to his profession, and in a body adjust the prices of labour in their respective trades, which should be at a fair remunerative value. They should then nominate a trades director and secretary. These persons each sent from his own trade would, when assembled, form a council, who would elect from themselves a president, two vice-presidents, a general secretary, and treasurer. The two vice-presidents would have the overlooking and management of the two great branches of industry, the land and the mechanical.

3. Each member would be provided with a book, in which would be kept a debtor and creditor account with the association; this book would have to be audited once a week or fortnight, and the balance entered into the society's books. The body thus organised would work in this manner: A, a tailor, orders of the association a pair of boots, value 14*s.*; the association gives the order to the shoemaker, B, who makes them; B does not require any tailor's work in exchange, but he orders a hat of C, a hatter, who makes a hat, value 14*s.*, and supplying the association with it; B, the shoemaker, is paid, and the association becomes debtor to C; C orders a table—D makes a table for him, value 14*s.*, and gives an order to the association for a pair of trousers, value 14*s.*; A makes them and the debt is liquidated. It will be here seen that A wanting a pair of shoes has given an impulse to the trade of the little body, and as there is no restriction upon labour, they mutually employ each other, and all are mutually benefited. I think it will be plain to all that an immediate trade of this kind might be opened, for hundreds of men could give labour for labour where they could never give money. But the grand object is the producing the raw material for these men to work upon; so we must return to the land. The first object here is the production of food. Let us see how this could be done in the easiest manner, after a sufficient quantity of seed had been purchased and a crop had been raised upon the land by the person located, and the unemployed labour of the members under his direction; they might purchase a cow, a pig or two, and some fowls; these would turn in an income to the association; this would pay off the debts of members, and these debts would turn in to support others on the land. Thus the produce would be sold to the 150 members, or a portion of them; for instance, A orders a pair of shoes — B makes them, and takes 8*s.* worth of produce from the land, which pays for the shoes. B is paid, and the association is creditor to A. He pays part of the wages of the agriculturist in a pair of trousers, and has 8*s.* worth of produce from the land. By this means a ready and steady market, at a fair price, would be always insured, and each member would have a ready payment for his work. The amount of work to be done would be regulated by the wants of members, and only supplied when all had that which they wanted. In time, sufficient land could be taken to grow food for all the members, and those who were employed elsewhere at a money wage would pay money for their food, and, in many cases, for their clothing, &c. By this means an immense sum would be annually coming in, augmenting the wealth of the society, and enabling them to purchase land of their own. Besides the subscription of members, capital could be raised by establishing a depôt for the sale of the produce of the society, particularly in clothing. Also by the donation of individuals having a desire to benefit the society and carry out the objects. I ought, before concluding, to mention something about the property of the association, and I conceive it ought to be held by trustees, who should be the oldest members. That all produce on the land and all raw material should be entrusted to them, and that no one should be entitled to any portion of it individually until he had purchased it by his labour, or, in other words, had added a value to something else in the society's possession, which would be of the two more valuable than that which he took away. In conclusion, I will trace a linen shirt produced by the association from the land to the consumer. The cultivator of the Flax would be paid by the labour of the other members; the dressers would be paid in like manner, and the Flax would be placed in the storehouse of the association; the spinner then would spin it, and, after being paid, return the Flax, which would be next handed over to the weaver, who, after doing his part, would be paid, and then it would be given to the bleacher, who would receive his payment, and in like manner would return it. It would then be given out to make up, and, after being returned to the store, would be handed over to the consumer, who would give in return the amount of labour it had taken to produce, including rent of land, salaries of non-producers, tools of workmen, and machinery employed, and a per centage to the association for any losses it might sustain. I am afraid I have been too long in my explication, but if you conceive this subject of importance, I shall be happy to enter more into detail at another opportunity; *James Benny*.

[What is a nation but a community already formed to your hand, bound together by natural instincts and affinities, far more powerful than any artificial ties you could substitute for them?]

CHEAP MANURING.—No. II.

Having put together the best directions for the enlargement and improvement of the dunghill that I have been able to collect, both from practice and science, let me again request those who try them to take especial care of the urine and drainage from the heap, which are the spirit and essence of the manure: and to be also careful not to let water, whether rain or stream, get into it, more than is required to keep it properly damp; keeping it covered from the rain, and turning the streams away from it. And after two years' trial, with these precautions, they will hardly need further recommendation to continue it. We may now proceed with suggestions for Cheap Manuring.

The farmer well knows that the art of economical manuring does not consist in using the lowest priced dressing, in the smallest quantities; but little farmers are not always aware of what it does consist in; namely, in appropriating the dressings to the course and crop, so that each crop shall have just what it wants, and not that which better suits another product. We must feed our plants as we would our animals, with what nourishes them best. Give your dog bones, and your cow Clover; not waste bones upon your cow, and Clover upon your dog. So if you are dressing for Wheat give it what Wheat requires, and for Mangold Wurzel or Carrots, vary the dressing accordingly.

Now it is just in learning what each plant requires, that the art of manuring has made the greatest progress of late years. And this I must first endeavour to make clear to the class of farmers for whom I am writing. To know how to feed up our plants, so as to get the heaviest produce, we must first know what they consist of. If we burn a handful of Wheat (or any other vegetable) we have, first, flame; and when this is burnt out, there remains a skeleton of charcoal; and if we keep this red hot in the air, the charcoal itself burns away and ashes only remain; but these are fire proof, and may be kept red hot for hours without loss. Thus the Wheat seems to have been first reduced to flame and charcoal, and at last to ashes, the charcoal also having burnt away into the air. The quantity of ashes is very small, not perhaps two hundredths of the plant burnt. But all the burnt part dissolves in the air, from which plants can get it again: while the small quantity of ashes will not dissolve in the air, and the plant can get them only from the soil. But they are quite essential to the plant's thriving, though in such small quantity; and it is chiefly in the proper supply of this small quantity, that lies the art of Cheap Manuring. The combustible ingredients are, as will be immediately shown, the same in all plants; but the incombustible ashes differ between one and another, so that whilst they cost little and are easily portable, it is of the first importance that each crop and course should have its right supply, as well in proportion as in quantity. It is right however that the farmer should have plain notions of the nature and distinctions of all these ingredients.

Although the combustible ingredients constitute the bulk of the plant (the ashes averaging not more than two hundredth parts of it, as before said), yet they are the less numerous, consisting of only four in all, named Hydrogen, Carbon, Oxygen, and Nitrogen. The flame, which first appears, is due to the hydrogen, or inflammable air; the charcoal is called in chemistry carbon; and the other two, oxygen and nitrogen, are the ingredients of the air we breathe. Of these, oxygen may be called the spirit of the air; as it alone supports our breathing and the burning of our fire and candles. Although it is only one-fifth of the air (the other four-fifths being nitrogen) yet if we extract the oxygen, a candle can no more burn, nor a man breathe, in the nitrogen, than under water. Thus, then, we have carbon the charcoal; hydrogen the inflammable air; oxygen not inflammable itself, but the necessary supporter of fire and of animal breathing; and nitrogen, which will neither burn itself, nor suffer anything else to burn or breathe in it; and which seems to be mixed in the air (like water with brandy) because the oxygen alone would render fire so fierce as to be unmanageable, and would inflame our blood in breathing it. Yet it will be seen, by and bye, that this inert nitrogen plays a very active part in exciting vegetation.

It must be added that these four substances combine one with another, producing compounds of great interest in the growth of plants. Carbon, in burning, unites with the oxygen of the air, forming carbonic acid; which spreads through the air and gives back its carbon to the leaves of the plants. Hydrogen, in burning, also unites with oxygen, and forms water; falling again upon the plants in rain and dew. And nitrogen, though it will not burn, can yet unite with oxygen by other means, forming nitric acid; or with hydrogen to form ammonia; both of great importance in cheap manuring. But whilst the constituents of the bulk of the plant are only four in number; those of the little residue of the ashes number no less than 11.

2 alkalies, Potass and Soda;
2 alkaline earths, Lime and Magnesia; all which are pretty well known to the farmer, the magnesia chiefly as a medicine;
3 acids, Sulphuric, or vitriol; muriatic, or spirits of salt; and Phosphoric, the acid of bones;
2 earths—Silica, fine sand or flint; Alumina, the soft element of clay;
And 2 metals, Iron and Manganese.

These also generally exist in the soil in combination with each other. The acids are sour; the alkalies and lime nauseous and biting; but having the power of neutralising the acids, and allaying the sharpness of both. Thus muriatic acid and soda, either of which would take the skin off our tongue, united form common salt; sulphuric acid, still more destructive than muriatic, forms with magnesia, Epsom salt—disagreeable enough, but not dangerous; and phosphoric acid, also sharper than muriatic, forms with lime, the insipid white earth of bones. Silica constitutes the fine sandy part of most soils; and their clayey portion consists of silica combined with alumina. Iron and manganese are united with oxygen, as earthy powders, whenever found in the ashes of plants, or in the soil.

We will conclude this with the remark, that whilst the number of these incombustible ingredients is so great, their quantity in the plant is small (as before observed), and their influence upon its growth and products important and characteristic: hence their especial suitability for Cheap Manuring, as will more distinctly appear in our No. III.; *J. Prideaux*.

Home Correspondence.

Rural Occupations. — My case strongly resembles that of your correspondent, "S.;" so much so indeed that my family on reading his first communication rallied me at the tea-table the same evening as being the author of it. I also have retired from the service with a limited income, and have resolved that a small farm, managed with persevering energy, is the thing by which a man of education may make the best use of his time and his money. Having so decided in my own mind, I purchased a pretty little estate of upwards of 30 acres, half meadow, half arable, in the county of Herts, and not more than 16 miles from town. The land has been well done by; soil rather varying, but of good staple; situation sheltered from the N. and N.E. winds; aspect gently sloping to the W.S.W., with an excellent trout stream at the bottom. Now, my farming experience is scarcely six months old, and it suffices already to show me the fallacy of such schemes and calculations as "S." had evidently made up his mind to adopt, when he called upon the good nature of your correspondents to assist him with useful advice. From the finishing paragraph of his last letter it may be doubted if his "knowledge as well as inclination" continue "to lead him to the safe pursuits of rural life." Be this as it may, I should advise "the retired Captain S.," if pigs, poultry, cows, or Cabbages are absent at roll call, or unwilling to drill into line, to read your late article on the subject, and take its sober reasoning as the guide of his farming operations. Now, for a jot or two of my experience of "the safe pursuits of a rural life." I purchased, as I before said, a pretty little *bijou* of an estate. It is situated on the high road, at the end of a village, 2½ miles from a principal market town. The parish is large, containing 9000 acres and 2000 inhabitants. Besides the parish church, there is a chapel of ease. The living is worth 700*l.* a year. There is sometimes a curate, but very often an interregnum, as the duties are excessive, and the pay less than is gained by a common mechanic. My property is entirely surrounded by estates in trust. I obtained these and many other facts before purchasing, most of them tending to show the advantages of the situation. It delighted me at first sight—

> And I said, if there's peace to be found in this world,
> The heart that is humble might hope for it here.

The very day I took possession the postman came with the *Times* newspaper and a charge of fourpence! The next day I had to pay the like sum for the *Agricultural Gazette*. In a word, every letter or newspaper I receive costs me fourpence, though I live within 2½ miles of the post-office, and a London coach passes my gates morning and evening. I have given up the *Times* and must do the same by the *Gazette* at the end of the

year, as I cannot afford to pay the postage. I shall thus be deprived of two sources of innocent amusement and necessary information. You will admit, and no will "S.," that this is an immense drawback from the "pursuits of a rural life." My neighbours, honest creatures, in the rural simplicity of their hearts, imagine that every man not bred to the intellectual occupation of a ploughman, is of course and of necessity a fool, and a fit subject for annoyance and plunder. Do you want a gallon of milk? you are served with sky-blue, and charged a shilling. Do you want a servant? the merest dirty drab of a wench demands double wages, and "ale twice a day." "We are all'is allowed ale in this country." Have you an orchard? it is robbed every moonlight night. Do you keep poultry? the dogs of the village worry and carry them off. If you follow the delinquent home, you are told with canine curtness, "It's no dog of mine." If you threaten, the reply is cool and positive insolence. These are trifles in detail, if you will, but in the aggregate they amount to an inconvenient drawback from the "safe pursuits of a rural life." I have lived among Turks, Druses, Arabs, and heathens, but not until I was led to a rural life did I ever witness sin, blasphemy, and shame in all its naked ugliness. God only knows what vices and crimes might not be encircled by a radius of 200 yards around this centre. No policeman to awe them, no one to hold up the fear of God before their eyes. The very children imprecate in their games. The poor wretches are sunk into a state of brutality; they live without God in the world and die like the dog whose soul goeth downwards. If I did not hope that something may yet be done to ameliorate such a frightful state of things, I would at once fly back to "the corrupt and pestilential city" as infinitely more wholesome both for body and soul. I used to dream of finding simplicity of manners and guilelessness of purpose in the clean, neat, happy cottages of our virtuous peasantry. I imagined sobriety and thrift, a sense of religion and a humble observance of its plainest duties; parents blessing and blessed in their children; children vieing with each other for pre-eminence in love and reverence of their parent. Sad illusion! This is a discouraging picture of rural life, but I vouch for it as truthful of the society by which I am surrounded. Want of religious instruction is one cause; a very low class of cultivators, who care nothing for the character or habits of a labourer, is another. To those who, like "S." and myself, are led by "knowledge as well as inclination to the safe pursuits of a rural life," I earnestly recommend great circumspection in the choice of a locality. The details I have given will serve as hints for the nature of the inquiries they ought particularly to have answered; *S. S.* [A locality such as yours, in the neighbourhood of a road by which every tramp and rogue who cannot pay a third class fare must pass on his way from London to Birmingham, Liverpool, &c., is necessarily faulty beyond most other places.]

Eggs.—In a very admirable series of papers in the *Lancet*, "On the Structure and Hatching of the Egg of the Common Fowl," commencing April 4th, 1846, Mr. Tod, after describing the manner in which an egg is produced, says, "It is impossible to discover the length of time required to pass a yolk through the oviduct to the uterus; but when it reaches the uterus the egg is complete in all its structures, except the shell, which is an uterine secretion. This uterine secretion seems to owe its production to the presence of the yolk, for when a blasted ovum is laid it has no shell." Hens, however, occasionally lay eggs containing only glaire or albumen. In spring last I had a hen which laid almost regularly, on alternate days, an egg containing a yolk and another containing only white, the latter much smaller than the former, but both furnished with a perfect shell; perfect, I mean, as being quite firm all round, and of sufficient thickness, for in all these smaller eggs there was near the narrow end a depression and cicatrix, as if something had been cut out from the cavity, and the part had healed over again. I mention this as an illustration of the appearance presented, and as a curious instance of the way in which Nature, in the deficiencies and deformities of organised beings, still retains some indications of their perfect condition, and not by any means as corroborative of another opinion contained in the essay referred to, respecting the cause of "blasted" ova. "Sometimes," says Mr. Tod, "the egg, instead of entering the oviduct, escapes into the cavity of the abdomen, becomes adherent to the peritoneal covering of the intestines, and forms an extraneous body, and when this event occurs, the hen lays a blasted ovum, *i. e.*, an egg minus the yolk and shell. This extraneous body in the abdominal cavity does not produce any constitutional disturbance, for the bird recommences laying a few days afterwards, as if nothing had occurred to it." To this I have to observe, 1st, that as the hen above spoken of laid habitually, day after day, seldom missing one, eggs with and without the yolk, but always with the shell, it can scarcely be believed that the yolk in every instance escaped into the cavity; and 2d, that, having killed the hen the day after she had laid a yolkless egg, there was nothing to indicate that the yolk had escaped into the cavity of the belly. This event is not universal, therefore, and I should think not usual. The ovary, fallopian tube, and uterus were all healthy, a large full formed egg, with yolk, white, and shell, occupied the uterus, a large yolk was in the oviduct, and the ova appeared in regular and beautiful gradation down to the size of a Millet seed. The hen was loaded with fat, and the laying of wind eggs and yolkless eggs is commonly ascribed by the country people to this condition of their fowls; but as this hen was lean enough before she came into my hands, and had, as I learnt, been disposed of by a lady young poultry fancier on account of this defect, this, too, cannot be the invariable cause. The fact that the albumen lies next the uterus in all perfect eggs, and that the albumen is much more important to the development of the fœtus during the first part of its existence than the yolk, would lead one, *a priori*, to think that it is the presence of the former rather than the latter which induces the formation of the shell, for a yolk may be looked on as a magazine of food and firing for the chick on its obtaining respiratory life, whereas the albumen supplies the wants of the fœtus in its first stages of existence, and hence while no one ever, I believe, found the yolk alone surrounded by a shell, the white alone is frequently so protected. A production I saw the other day corroborates this view. In a monstrosity, the yolk and the albumen lay in their membranes in separate globular masses attached by a narrow pedicel, and while the membrane of the yolk was smooth and clean, the chorion around the white was covered with a thin coating of carbonate of lime, like whitewash—evidently the shell forming; and had not the irritation caused by the unusual shape of the body caused the fowl to discharge it prematurely, there can be little doubt that a firm shell would have been speedily deposited upon the membrane. "Wind" eggs dropped by hens from fright, internal irritation, or being run down before the shell is perfectly formed, very commonly present the same appearance of the shell. That the yolk indeed does not, in perfect eggs, come in contact with the uterus at all, is stated by Mr. Tod: "When the yolk is ready to burst its formative capsule; the oviduct begins to secrete a glairy fluid, and when the yolk is passing through the oviduct the chalaze and chorion are secreted." I think, therefore, it is clear that the formation of the shell is independent of the presence or absence of the yolk. In the same admirable paper Mr. Tod states that one visit of the male bird fecundates all the eggs of a season. Different opinions have been expressed in your columns on this subject; and it is one, in a practical point of view, if in no other, worthy of being cleared up. The breeders of game cocks usually consider that the next four eggs only after the cock is removed may be depended on. That the whole of the eggs of a season are not fecundated by one or a few visits of the male bird in spring I am sure, for this year I had a cock removed in May from a number of hens at an isolated cottage, with a view of getting half-bred pheasants from the cock pheasant of the wood, and almost the whole of the eggs tried from the hens were unfertile. Various hatchings of eggs taken in June and July from hens which at the commencement of the spring had laid fruitful eggs, eggs which were hatched, failed altogether; and as these eggs were from "everlasting" layers, there had been no interval of clucking to "break the line." The cock pheasant had been capricious in his choice of mates. Many country breeders believe that if a laying hen be taken away from the cock, all the eggs, until she has "laid out her line," that is until she clucks, will be fertile. The above experiment proved that this is not so either, in every instance, but that in the case of "everlasting" layers, at least, as these hens (bred from the pheasant and game hen) were called, a period, not distant from the separation, arrives when the eggs cease to be fertile; *L., Valley Rock, October.*

Education (No. 3).—In my previous letters I confined myself to a general view of the subject. Education I look upon as the tool that is to be used through life, and that it is valuable in proportion to its adaptation to all the wants, and its fitness to promote the general happiness of society. To educate a people merely in letters, without aiming at instruction in all useful knowledge, and without adding training and moral government, is comparatively useless; all children cannot have parents qualified or disposed, or who know how to instruct. Few parents in any class are familiar with the nature of the human mind, or how it is best acted upon. Fewer still can add to that knowledge the patience and perseverance requisite for instruction, and the discoveries of science are comparatively unknown. Vulgar notions generally prevail, and the mind is enchained by bad habits, prejudice, and ignorance. Could the youth be placed under cultivated, well informed, and well regulated minds who love truth, and who will lead those who are placed under them straight towards it, they would imbibe their principles, and by degrees society would become more intelligent and reasonable. The education commonly taught is reading and writing. The mere faculty of performing them is too generally considered sufficient, but reading and writing are nothing of themselves. If reading does not lead to knowledge it is of no use; we commend a child for performing the mechanical part well, we should rather inquire what useful ideas he has learnt from it; to those who have to live by doing, is it not of paramount importance to teach them how to do everything properly that concerns the necessary business of life. What girl is fit to enter upon a life who does not know everything about the making, repairing, and cleaning of her clothes; the varieties of food, its preparation and preservation, its various qualities and comparative value, and the art of making it palatable with due regard to economy. Is it not the essential duty of the female head of a family to promote the health, comfort, and pleasure of every branch of it? Black bread or pudding may contain the same elements of nutrition as the whitest; but food given in a coarse and repulsive form neither excites appetite nor delight; the hand that offers the unattractive meal is not hailed with the smiles and thanks of the circle made happy by the acquired taste or nicety pa... The home of the peasant should be made delightful [illegible] through the wider channel of [illegible] Besides, you will [illegible] that the [illegible] a child. Her [illegible] not to [illegible] the house; her garden [illegible] of [illegible] mind. She will adorn [illegible] flowers as well as [illegible] cook roast [illegible]; and her neat and [illegible] and the cleanliness of her person, will [illegible] [illegible] these important points are usually [illegible] [illegible] of the lower class. Habits of [illegible] education, will lead to [illegible] [illegible] habits early implanted will be [illegible] habits of perfect cleanliness will be [illegible] and will be considered to [illegible] happiness. Why is not the [illegible] things to be learnt [illegible] why they should be [illegible] disease, and how [illegible] Man is not [illegible] animals, to [illegible] the oval and round [illegible] fold them round the [illegible] the rotten tree, and deposit the [illegible] for the sustenance of the young [illegible] carelessly laid there, [illegible] helplessly into life, and [illegible] untaught; his [illegible] the development of [illegible] the office of the parent to awaken, [illegible] but how can the mother or the father [illegible] do not know? Once make them [illegible] the business of education is accomplished. [illegible] slumber at our post, allow the [illegible] education in this country to continue, and not help the people to get what they cannot [illegible]; No; let us teach the young [illegible], and how to preserve and increase it, by leading them (when [illegible] done his part) constantly to look to their Heavenly Father for fresh stores from His own [illegible] inexhaustible fountain. In my next I will endeavour to point out some peculiarities in the education and training of boys: *T. C. Brown, Circncester.*

Foul Condition of the River Thames.—The necessity to provide some means to relieve the river Thames of the polluting matter so abundantly poured into it from the drains of London is becoming so great, that I am in hopes the time is arriving when not only may the health of the metropolis be benefited by the interception of the foul matter, but agriculture derive the advantage from the immense provision of the most valuable manure that the sewerage of all large towns is so capable of affording to the surrounding districts. About 12 years ago, a plan of mine for intercepting the foul matter was matured, and a company formed to make it available for agricultural purposes. I proposed, at the mouth of every sewer, to sink three cesspools or tanks, with means to alternately divert the stream from one to the other, so as constantly to have a receiving reservoir, a subsiding one, and an emptying one. I, Granville had ascertained that, by the introduction of a simple matter, the whole of the foul matter could be immediately precipitated, and all smell prevented. Our intention was, at low tide to let off the water, which would have become so purified as to hold no perceptible matter; the solid matter we intended to dispose of into waggons and barges to applicants on the spot, or to carry it away to convenient situations. You will see by the enclosed prospectus who were the supporters of the plan. The present Duke of Grafton, as Chairman, for the best of motives was most active in endeavouring to get over the numerous difficulties in the way of obtaining the necessary powers; 12,000*l.* were raised and spent in Parliamentary expenses, in a mission to France, Wirtemberg, Bavaria, Austria, Bohemia, Saxony, Prussia, Holland, and Belgium; in all of which countries, particularly the two last, it was found that considerable gains are yearly realised from such sources: 1st, by the Government or local authorities, who sell the right of emptying the drains; 2d, by the contractors, who purchase that right; 3d, by the agriculturists, who, through the application of this kind of compost, vastly increase the ordinary produce of their lands. Strange as it may appear, England is almost the only nation in Europe which suffers the manure in question to be wasted; other nations make it an object of extensive culture. No object can well be imagined more patriotic or deserving the confidence and assistance of Englishmen, than that entertained by the Thames Improvement Company, but after giving much time, and spending their subscriptions, the directors found they were going to be powerfully opposed by the City, and by the Commissioners of Sewers, which would have involved them in a doubtful and expensive contest, so that they gave up the undertaking, and the inhabitants of London have continued to use the water of the Thames mixed with the outpourings of the metropolitan sewers, and thus the manure from the consumption of the richest produce of the globe has continued to be lost to the country. If you will take into consideration the simplicity and easy execution of the plan I proposed, its little interference with public or vested rights, and the convenience for getting rid of the manure to farmers by means of back carriage, that the many depots of the proposed plan would afford, I think you will agree with me that, but for the powerful opposition threatened, the river Thames would long since have ceased to be the public sewer, and the public would have had the advantages that the manure would render to agriculture, and a valuable ex-

ample would have been set to all large cities ; *Hewitt Davis*, 3, *Frederick's-place, Old Jewry, London.*

Thin Sowing, &c.—I have long wished, and almost made up my mind, never again to be drawn into controvertial writing on the subject of agriculture ; but the letter of my old antagonist, in your last week's *Agricultural Gazette*, contains so many grave insinuations against my integrity, that I should be wanting in regard to my own character, and in respect to the public, were I not at once to set the matter right, and enable others to judge between us. This, I observe, I consider to be due to my own character ; but especially do I deem it due to those gentlemen of science and practice as farmers and others, who I know, from the many proofs I have received from them, take a warm interest in my success, and with no ordinary anxiety are watching my doings. Whether my practice in the growing of corn be founded on true science or not, for the information of all who are interested in its success, I here record that it has never yet failed, though I have now practised it for very many years. I rejoice, also, to be able to state that it has gained for me the esteemed friendship of many scientific gentlemen, not only in my own country, but in many other parts of the civilised world. On the contrary, also, it has brought upon me, I am bound in fairness to admit, much obloquy, and very unhandsome misrepresentations ; but the pleasure and consolation I derive from the approbation and esteem of the candid, wise, and scientific more than compensates me for the attempts made to ruin my character by the prejudiced, unwise, and ignorant. Amongst my first and bitterest opponents was my antagonist, Mr. R. Baker ; but why a man of his commanding influence and fancied superiority should labour so incessantly to crush so humble and harmless an individual as myself, I have never been able to find out, and am even at a loss to conjecture ; and what is my crime ? how have I offended ? I cultivate a few acres of land, as I believe, on the principles of science, and I publish the results ; I have had three crops of Wheat in succession on those principles on one field, which have averaged more than 10½ coombs per acre, whilst my seed for the whole three crops has not exceeded 2 bushels, and that for my last crop was only 4, 8, and 12 quarts per acre. I have produced on an average more than 60 fold, whilst the general average of England is not 10 fold ; and I have gone still further, and published in the *Agricultural Gazette*, a few weeks since, that I will do the same upon other people's lands, as well as upon my own. Why, then, has not Mr. Baker rather refuted my statements, or accepted my challenge, than have published envious and unhandsome insinuations against my veracity and the integrity of my publications ? If he had done either of those things, I should have esteemed him for his doings ; but as he has, on the contrary, attacked my character, it is due to it, as I have stated, that I rise up in its defence. With this exordium I now turn to Mr. Baker's letter, to which I have alluded, and published in the *Gazette* Oct. 14th. The letter opens thus : "I have read with satisfaction the Rev. Mr. Wilkins's communication upon thin seeding, and I now begin to have some hopes that facts may be brought to bear upon the question." This, if Mr. Wilkins had never before communicated facts, would have been a fair and legitimate commencement ; but as it evidently refers to other communications from Mr. Wilkins, it contains a broad insinuation, that all communications made by him before were gratuitous inventions, and not facts. But Mr. Baker writes, he has read the communication with satisfaction. But is that a fact ? Does not he immediately go on to dispute the truth of every word in the communication which gave him the satisfaction, and broadly to insinuate, that every word in it was, as he himself writes, "not correct," or at least "equivocal ?" Nay, he proceeds and asks, "Now, what is there in all this statement but mere supposition ? and what has there been otherwise in all other statements from the same source ?" *i. e.*, from Mr. Wilkins. But to return to his letter : "I think I dare venture," he writes, full of fear and caution, as if walking over a mine of gunpowder, "to assert, that no portion of the crop would produce 7 or even 5 quarters an acre. On one piece only that was considered the best, none of the practical farmers present estimated it at 5 quarters per acre ; whilst the majority supposed it would fall below that quantity." Thus writes this public censor. He who publicly accuses me of wilful deception, first writes that none estimated a piece of Wheat at 5 quarters an acre, whilst the majority supposed it was below that quantity. Then, Mr. Baker, if the majority only supposed it to be below 5 quarters, the minority must have estimated it at more than 5 quarters : yet you, who publicly accuse me of dealing in untrue statements, write that none estimated it at 5 quarters. Do reconcile those your own statements, Sir, if you can ; for I cannot. But after this exhibition of consistency, Mr. Baker halts in his narrative to explain and apologise to the world for not having regularly enlightened it with his pen as the God of day does by his beams. I have withheld writing, he states, upon this subject for some time, &c. &c., but I should be dealing unfairly if I did not contradict statements which I felt were "not correct," &c. &c. He should be dealing unfairly ! Why ? Who constituted Mr. Baker a judge ? by what authority is Mr. R. Baker driven before the public to "contradict" the "statements" of any man whatever ? But it is time I state the enormity of the crime which has aroused this indignation. Mr. Wilkins states, quoth he, that he saw Wheat on his friend Mechi's farm, which he would take at 7 quarters an acre, and that Mr. Piper informed him, that he had 6 quarters an acre. These 2½ lines contain, it seems, the gravamen—the weight of my offending. But wherein was the mighty crime ? in which of the few words did it exist ? or was it in either of the two figures, the 7 or the 6, or in both ? That my friend Mechi had Wheat, all admit ; and that he had a right to sell it, and that I had a right to buy it, all but the public censor will admit. But what can we think of a judge who voluntarily condemns another for a crime which he never committed, whilst the judge himself perpetrated nothing else ? I entreat all the readers of the *Agricultural Gazette* to turn to Mr. Robert Baker's letter, and discover, if they shall be able, anything else but "mere suppositions" from the beginning to the end of it ; for example, all his figures in reference to Mr. Mechi's crops, all, every one, are mere suppositions and nothing else ; they were mere guesses—estimations, without proofs, made whilst the crops were growing in the fields, when no man in the world could exactly tell what they would yield. The 7 quarters, the 5 quarters, the 3 quarters, the 2½ quarters, could by no possibility be anything more than guesses, suppositions, and random estimations. But, continues the ex-officio, "Mr. Wilkins, in a former statement, in reply to my letter, stated, &c. ; but such," he continues, "is not the impression of his neighbours, and perhaps he will set the matter right." I will set the matter right ; but first I call upon Mr. Baker to publish the letter, and that letter he is bound in the first place to produce. But he is arrived, he records, from "practical experience," to be able "now" to "speak with positiveness." He had previously felt himself called upon "to contradict." Now it is much easier to contradict than to refute statements ; and it is easier still to arrive at a state of "positiveness." I would never contradict, if I could not refute or prove ; and as to being in a state of "positiveness," I hope and trust, by the Divine favour, I am some years yet from that ; at present I follow the rule laid down by one of the best historians and first of philosophers the world ever produced, contained, not in the word "positiveness," but in the word "consulto." In conclusion, and in answer to "Beta," I must state that my meaning has been altogether mistaken. I wrote that "I saw Wheat on Mr. Mechi's farm, which I would take at 7 quarters an acre." To refute this, "B." asserts that the yield of Wheat on Mr. Mechi's farm is less than one-half of the amount here stated. Now, did I even hint at the yield of Wheat on Mr. Mechi's farm ? No ; but I guarded my statement, as far as I could, against any such meaning being put upon it. I never estimated the "yield" of Mr. Mechi's Wheat crops this year at much more than "B." himself has admitted it to be. I used the word "Wheat" only ; "I saw Wheat," purposely omitting the article "the" which "B." has supplied, and that little word comprehends in it all the difference between us. I might write, that I saw land worth 7*l.* an acre, but surely that would not imply that all land is worth 7*l.* an acre, or even 7*s.* Last week I saw a magnificent church (at Cirencester), but "B.," on that account, must not assert that I have published that all churches are magnificent, and then call upon me, for the credit of the journal in which I published, and my own also, to substantiate my statement or admit my error. For wherein would lie the error ? But "B.," as I wish to indulge his humour, shall have the explanation, and it is this : some time before harvest there met at Mr. Mechi's a party of agriculturists, known throughout all England, and much farther, for their enterprise, science, practice, and respectability. I had the honour to be of their company, and those gentlemen estimated the small part of Mr. Mechi's Wheat crop, to which I alluded in my letter, at 7 quarters an acre. And, again, although Mr. Baker, the censor, publishes that none of the practical farmers at Mr. Mechi's great annual feast, estimated his best piece of Wheat at 5 quarters an acre, I record, also, that there were some practical farmers, and most respectable and extensive farmers also, present at that gathering, who estimated the same piece of Wheat, and also at the same quantity of 7 quarters an acre. On the judgment, therefore, of all those practical agriculturists, and not on my own, I wrote and sent off my letter ; but from a want of space, I conclude, it was not published till some weeks afterwards. It is easy to rail against that statement, now that the harvest is over, and the crops have deceived and disappointed through all Essex all estimations of them made whilst they were standing, and before they were threshed. All estimations of them were certainly full 2, if not 3, coombs too much ; making, therefore, this allowance, which every candid man will, and relying on the impartial judgments of so many respectable men, I am still prepared to take the same Wheat, which I said I saw, even now at 6 quarters an acre ; *George Wilkins, Wix, Oct.* 18.

Specific Manures.—The discovery of the usefulness and economy of specific manures is not so recent, I believe, as we are accustomed to think it. I have before me a little work entitled "A New Theory of Agriculture," by W. Grisenthwaite, Wells, 1819, from which I send you some extracts on this subject. A more minute analysis of vegetables might have corrected our author's views in some particulars, but he seems to be entitled to the credit of the discovery of a leading principle in agriculture. "Until within these few years the elements of bodies have not been discovered ; as the term implies, they cannot be changed into each other—hence when sugar is to be transmuted into alcohol, or manure into grain, the elements of the second must necessarily be contained in the first. A knowledge, then, of the constituents of bodies to be changed into each other should be previously possessed, to ensure success. We are therefore led to inquire into the nature of certain crops, and to consider whether their peculiar elements be provided for in the manure as it is now prepared by agriculturists. If they be not, it is but reasonable to infer that the failure of many crops may be referred to the deficiency of certain elements in the manure. If all crops were composed of the same elements, this discrimination would not be needed ; and upon such a supposition the practices of husbandry have been uniformly conducted, and are now conducted. If we examine the straw of Wheat, we shall find it composed of what may be considered common vegetable matter — oxygen, hydrogen, and carbon, with a small quantity of carbonate of lime ; so, also, if we examine the constituents of the grain, we shall find them distinguished into starch and gluten ; the elements of the starch are the same with those of common vegetable matters ; but the elements of gluten will be found analogous to those of animals, or in addition to oxygen, hydrogen, and carbon, there will be found nitrogen. The production of this nitrogen cannot be effected by common vegetable matter, and the manure employed in the production of the straw and starch could not produce the gluten also. That the operations of husbandry, as regards Wheat, should be conducted without any reference to this peculiar substance is very remarkable. That the failure of crops has never been ascribed to its deficiency is wonderful. That the gluten of Wheat flour may always be present, it is necessary that a quantity of animal substance should exist in the manure to be applied to the Wheat crop. If we pursue our investigations a step farther we shall find that phosphate of lime is as constant a constituent of Wheat as gluten. That Wheat always takes up phosphate of lime is a proof that it answers some useful and indispensable purpose in the grain. If we turn our attention to the Barley crop, we shall find fresh evidence of specific saline substances being present in particular plants. In Barley, instead of phosphate of lime, there is found a small quantity of either nitrate of soda or nitrate of potassa (saltpetre), whence may be concluded that those salts should be present in the soil where Barley is to be grown. Bean straw always yields on incineration a large quantity of subcarbonate of potash. Can prejudice so far operate on the mind as to make it discountenance the belief that some particular salt may assist the growth of the Bean ? Then the same prejudice may reject the belief that soda is necessary to the bile, and sulphur to the hair, and iron to the blood of animals. The quantities are alike minute, and their presence probably alike indispensable. In the Pea crop has been discovered a considerable quantity of superoxalate of lime, and thus, as we pursue our researches, we shall find discrimination keeping an equal pace. Saintfoin, Clover, and Lucerne contain a notable quantity of gypsum, and in the Turnip we shall always find a considerable quantity of a hydrosulphuret or a hydroguretted sulphuret substance, not discoverable in any of the crops heretofore considererd, and therefore constituting the specific saline substance of the Turnip. It is highly probable that if our inquiries were directed to other vegetables that we should discover the same discrimination. The acquisition of such knowledge would not only gratify the curious, but would be extremely useful to the practical farmer" ; *A Subscriber.* [Mr. Grisenthwaite's work was reviewed at p. 93, 1845.]

Milk, &c.—I have lately noticed one or two very obvious blunders made by well meaning and kind correspondents. First, R. Pigott writes on small farms, October 7th, respecting milk, that he finds 120 lbs. of milk produce just 60 oz. of butter, which is 1 oz. to every 2 lbs. of milk. He then says that milk at 1*d.* per pint is equal to butter at 1*s.* per lb., and that one quart of milk will produce 1$\frac{1}{16}$ oz. of butter ; thus it must take 17 quarts of milk to make 17 oz. of butter, and if milk is worth 1*d.* per pint, 16 quarts must be worth 2*s.* 8*d.*, and the 17 oz. of butter which it would make would be only worth 12¾*d.* ; the skim milk would of course be worth something, but not 1*s.* 8*d.*, which it must do to be equal to milk at 1*d.* per pint. Another correspondent says that blue lias flooring for pigsties would cost 7*d.* per foot. Now, I do not know where the party resides ; I am not very far from the quarries, and can get the very best worked blue lias floor put down for that money, and have within the last few weeks had some pigsties paved complete for less than 1½*d.* per square foot, including stone, hauling, and laying ; *Street.*

Mr. Nolan's Cochin China Fowls.—I regret that your correspondent, at p. 693, should have stated that he had bought from me, in consequence of a paragraph in your Paper, a pair of Cochin China fowls, as no such occurrence took place, having sold in the time but one lot of five to the brother of an Irish nobleman to bring to Wales, and he, on the occasion, stated they were the finest lot of poultry he had ever seen ; *James Joseph Nolan, Bachelor's Walk, Dublin.* [There must be some mistake in the matter.]

Flooring.—You ask for information as to a flooring of gas tar, &c., in both the last *Gazettes*. I was induced by a newspaper paragraph about four years ago to floor a cowhouse, and also the yard attached to a pigsty, with a composition of gas tar, lime, and gravel. I forget the proportions, but I adhered very closely to the directions given. The results were these : the cows stuck to the floor whenever their bedding was scanty, and left their

hair in it when they rose up; the pigs soon made holes in their yard, and getting their snouts under the flooring, made short work of it; indeed, as if in derision, they were more than once detected munching the large cakes of composition they turned up. I took up the flooring in both places, and have since had an asphalte floor laid by a company in Glasgow, which cost twice as much, but has answered admirably for both byre and pigsty; *J. F., Dunach, Argyleshire.*

Potato Grater.—In the "Encyclopædia Britannica," under the article "Starch," there are six pictures of a mill for grating Potatoes, which could be readily executed, from the pictures, in any market town where resides a machine maker. But what I strongly recommend is the washing and sorting the Potatoes, and the boiling of all the diseased, and beating them down in air-tight casks, with some salt. If the air has access they will not keep, but grow sour and become mouldy. I can confidently recommend this plan, having adopted it every year since the disease began, except in 1847, when one boiling for my pigs of injured Potatoes was sufficient. I had not enough bad ones to fill one cask in that year. My labourers have also practised this plan of boiling with complete success. Had this plan been adopted on a large scale in Ireland, thousands of lives would have been saved from famine. I do not know how long Potatoes will keep in this way, but I am quite sure they will keep good for a great many months. One of my labourers kept some till the following August, and they were then quite as good as when put into the cask. *Charring Weeds.*—I wish some information upon this point, as I cannot make charcoal without good Grass clods. If I attempt to do without them I have only ashes. I wish to build an oven for this purpose, but am in want of information how to make it, never having seen anything of the kind. As Mr. Whitmore represents this manure to be so good, farmers should know the best way to procure it. It is ruin to the pastures to cut Grass clods. I mean to try an experiment in a small oven; *C. A. A. Lloyd, Whittington, Oswestry.*

Small Farm.—I should like to encourage your correspondent "S.," and only wish he could visit my small spot for an hour; he should, with his own eyes, see what can be done with less than four acres of land. I can assure him that with the exception of straw and Indian Corn (I use no other corn), I keep two horses, a cow, and on an average five pigs all the year round, and have more than two years' hay on hand. My Grass and other green herbage are as luxuriant now, 13th Oct., as are generally to be seen in June and July, and I am now cutting for the ninth time, in two years, Italian Rye-grass and Clover. My root crops, consisting of Skirving's Purple-topped Swede, Orange Globe Mangold Wurzel, and Carrots, will, I believe, average each 35 tons per acre. My cow has calved five months, and now gives 7 lbs. of butter a week, and upwards of 3 gallons of milk per day; but for weeks after calving she yielded 5 gallons of milk per day and 10 lbs. of butter a week. She constantly remains in the shippon, and is fed there. I took a hive the other day weighing, wet as the season has been, comb and honey, above 40 lbs. I give you these facts to encourage "S.," for if the foregoing can be accomplished in this hyperborean clime, amidst the mountains 400 feet above the level of the sea, what may not be done in a southern and more congenial clime? *Ullswater.*

The Prospects of Farming.—The high prices that corn has realised during the last three years, in consequence of the failure of Potatoes, have afforded to British landowners and farmers three years' grace to build up a surer foundation than "protection" for continuing the successful cultivation of their land; and pleasing to witness are the improvements making by many landlords to render the positions of their farms more advantageous for cultivation, and the efforts so general to enlighten the tenants and to introduce a better practice. The importance of effectual drainage, the necessity for open cultivation, the benefit from keeping more live stock, the occasion for a larger provision of manure, and its more economical preservation and use, and the advantages of deeper and cleaner cultivation, are principles that are becoming generally understood. Much, too, has been done to assist the better and cheaper working of the land by the introduction of improvements in the machinery and implements the farmer uses. By these means the returns are being increased, at the same time that their cost is being reduced. These are helps that the provident are largely availing themselves of to maintain rents, and to keep their farms profitable; still I fear many landlords and tenants will be found to have ill prepared for the coming changes which free-trade will effect, and it is to these I would speak. If the tenant farmers of Britain could be divided into three classes, namely—into those who have made money, those who have barely existed, and those who have lost money by the cultivation of their farms in the last seven years, there is little doubt that the two latter classes would form a large proportion of the entire number. This being the case, and it being certain that a fall of 10 per cent. in the price of grain is more than equal to an addition of 1*l.* per acre to the rent of arable land, let me ask what prospect in times to come, when a permanent reduction to this extent at least must be looked for, is there for those who have lately been doing so indifferently, and yet are not preparing for when prices will be so much lower? In too many instances landlords are doing nothing to improve their estates, and the tenants are blindly struggling with difficulties that must overwhelm them. These observations are induced by an intimate knowledge of the farming of England, and arise from a painful consideration of the declining condition of many of the small clay and hill farmers. In too many instances I trace the ill doing of these tenants to causes that might easily be remedied, namely to the too small enclosures of their fields, to the injurious shade of trees and large hedgerows, to the neglect of proper drainage, to the deficiency, ill arrangement, or bad adaption of their buildings, and in some cases to a destructive preservation of the game. It will ever be hopeless to look for an improved practice from tenants so situate; their future well doing is not a question of reduction of rent, for times are coming when land in this state must be worthless. It is one of improvement of farms and their cultivation, which landlords must begin, by first putting their farms into the condition to be made the most of, and then the increased returns will soon lead the tenants to a better cultivation and happier results. In my transit between Croydon and London, my attention is continually attracted by the high order and beautiful appearance of the market gardens near to New-cross, through which the railway runs. I see there the cultivation of ground carried out to great perfection, and how much vegetation is benefited by good tillage, order, and attention. Here the preliminary proceedings necessary to bring ground into the highest fertility have strongly been exemplified. This land seven years ago was occupied as Grass for ordinary purposes; it was very wet, cut into small pieces which were surrounded by trees, hedges, and large open drains; its annual gross returns were under 10*l.* an acre, and the rents paid were about 50*s.* to 60*s.* It is now principally market garden, most of the trees have been thrown, the hedges grubbed, the land has been drained and deeply trenched, and many of the open drains covered in; its annual gross returns are 60*l.* and upwards, and the rents paid are 7*l.* and 8*l.* an acre. My earliest and best lessons on farming came from a gardener, and I have yet to learn in what respects the principles of gardening do not apply to agriculture. A close observer will gather from what has been doing in these grounds as follows, viz.: 1st. To make the most rent of land, it is necessary it should be given to the tenant cleared from all impediments to its perfect and most economical cultivation, and with no obstacle to the free growth of the most valuable produce. 2d. The tenant, to afford the utmost rent, must cultivate his land most perfectly, and ever keep it free from weeds, highly enriched, and always producing. 3d. Had the owner of this ground continued his trees, hedges, and wasteful subdivisions, he must have remained contented with the former rent, and the country would have been without the present more valuable returns, and labourers without the additional employment that its present high cultivation now affords. I cannot close this article better than by relating the following anecdote with respect to this ground: An agriculturist and large landowner in passing through these grounds expressed aloud, in the railway carriage, his admiration of the fine order and beautiful appearance of the crops, and his surprise at the entire absence of weeds. An opposite passenger, who had entered at New-cross, broke in upon him by saying, "Weeds, sir, of course you cannot see any, there are none; I pay 8*l.* an acre a year for some of that ground, and it costs me as much more for manure, and do you think I could afford this and grow weeds?" As this will probably meet the narrator's eye, I must not omit to add, that when he tells the tale, he never fails to say he doubts it the land would be so free of weeds were the rent only that which ordinary farmers pay; *Hewitt Davis, 3, Frederick's-place, Old Jewry, London, Oct. 22.*

Scottish Farming.—The great difference betwixt the rents paid in certain parts of Scotland and on land of a similar quality in England, is a matter for important consideration, both as regards agriculture in general and also the interests of the landowner and tenant farmer. This difference may be chiefly accounted for from difference of culture. In the one the arable system is universal, and skilfully carried out; in the other are to be seen large quantities of Grass land, which have been left to Nature and chance after having been thoroughly worn out with the plough, and which, in many cases, will scarcely pay the outgoings inseparable from all farming concerns. Having visited Scotland this last year, and examined, with an eminent agriculturist, the state of farming in that country, I beg to send you the results of our inspection. In travelling from Edinburgh to Berwick, and from thence round by Coldstream and Dunse, a distance of about 100 miles, these exhibited a picture of good husbandry which would excite the admiration of every true lover of agriculture; and on inquiry into the effects of this system, it was found that the amount of rent paid there was scarcely such a thing as a weed to be seen, and this was the case generally, not partially, as a great equality of farming seems to prevail throughout the whole extensive country mentioned. Why, then, is this land made so much more profitable than most of our own? 1. Because the system itself is more productive; and 2. Because that system is properly and beneficially carried out. Wheat and artificial Grasses, when good, will be generally allowed to be a more valuable crop, acre for acre, than the best pasture can possibly be; and if capital, intelligence, and enterprise are alike combined to raise superior arable crops, there can be no question that these three necessary qualifications may be made the means of enriching landlords and tenant. I have seen and to these remarks I see by observing, in your late Number, that my work "The New Husbandry" contains certain errors, derived from other publications. These I conceive to proceed more particularly from the publication of Mr. Grey. I am far from wishing to speak disrespectfully of the farming of this or the adjoining county, and am satisfied that immense improvements have taken place since Mr. Grey wrote; but I cannot help saying that the [illegible] I obtained in my farming tour here on the occasion of the comparative high rents that were paid there. The occupier of the Last Banner Farm himself stated that the rent paid on his farm, being 120 acres statute, was 2250*l.* a year; he paying 5*l.* in taxes, the tax was 60*l.* This farm many years ago paid 6*l.* an acre, but it was taken by Mr. Mitchel Innes, the owner, into his own hands, and had been considerably deteriorated. Corn rents are there the usual custom. One field of Wheat was shown which paid this year 6*l.* 10*s.* the acre, an Oat field adjoining, 5*l.* 15*s.* the acre. When facts like these are stated beyond contradiction, it is a subject most important to the interests of agriculture to have this matter placed before the public in its proper light. The first step to an improvement is to be aware of our own deficiencies. Until this is done, antiquated prejudices will continue growing weeds and light corn, and stifling truth. But if the question be properly canvassed, it will be ascertained which is the most profitable culture, Grass or arable land; it will be proved to a certainty that larger rents are paid on the latter, we might then take a lesson from our more enlightened neighbours, and approach by degrees to a system which will be alike beneficial to the landowner, the tenant, and the labourer; *Law. Hawstone, Penwortham, Preston.*

Calendar of Operations.

OCTOBER.

Berwickshire Mersе Farm, Oct. [illegible].—Since last report we have carried the remainder of our wheat [illegible] and have been ploughing stubble land for Turnips [illegible] &c. The workers have been employed in [illegible] ploughing, assisting in threshing and [illegible] and Oats for the horses, &c. [illegible] the sowing drills and [illegible] the other [illegible]. The weather is still unfavourable for the grass. *J. P.*

East Lothian Farm, Oct. 21.—The weather for the past fortnight has been rather unsettled. We have had frequent showers of rain and hail, and at times very severe. We have been employed preparing part of our land for Turnips next season, in lifting up drains, [illegible] and ploughing in the drills, and covering the [illegible] to carry our Beans to the barn-yard, which [illegible] harvest operations. Likewise carting Turnips for cattle, now just into the coarts to feed; *M.*

Galloway Farm, Oct. [illegible].—During the last week we have had a strong east wind, very cold and dry, with hard frost during the night. The whole of our [illegible] been sown, and ready for the harrows, we could have done, and have the ground sown with Wheat. We have made considerable progress in sowing Wheat after Beans, which is this season rather a difficult matter to get, the wet weather in the latter part of summer, the ground [illegible] stiff. The soil is thoroughly drained cause hard, on which [illegible] in all seasons to secure a favourable seed bed for Wheat after a full green crop. Each added year's experience confirms me in the opinion that on this description of soil a full green crop cannot be depended on as a [illegible] rare failure. Much depends on the seasons, and as long as more or less favourable the judicious farmer will [illegible] the proportion in late fallow. The year of [illegible] when it has been too wet for [illegible] it necessary to have fallow the whole of it the next time the [illegible] round. Last year the Bean land was well cleaned and [illegible] and now, after the Wheat crop, we have [illegible] a full green crop with [illegible]. We put yesterday [illegible] a step to Wheat sowing, and to-day we [illegible] Wheat stubbles in preparation for [illegible]. In selecting Wheat for seed (for which there is an unusual demand this year), we find the grain of excellent quality, but the straw [illegible] as compared with the bulk of straw. Carrots [illegible] and are of good quality. The fattening cattle, which have been [illegible] for the last fortnight, are now receiving a full allowance of Turnips, &c.; *J. C.*

Mid-Lothian, Oct. 24.—Since our last report the weather has been very unsteady: however, there was a sufficient period of dry weather to enable the farmers of the West district to [illegible] in all the remains of the Bean and [illegible] in tolerable condition. The new grass [illegible] our [illegible] pastures and is [illegible] a [illegible] condition. The turnip on the [illegible] is [illegible] tory. The Potato [illegible] yet [illegible] we cannot estimate the amount of [illegible] formerly noticed, viz. [illegible] are now housed or [illegible] [illegible] the matter. The Turnip is vastly [illegible] [illegible] and may be safely [illegible] a fresh life for [illegible] [illegible] of them for the remainder of the season. The [illegible] Wheat after Potato and [illegible] the large quantity [illegible] which is [illegible] in good condition for the [illegible] Other farm work is as forward as is usual at this season of the year. We are sorry to perceive that we have [illegible] of "R. E. L.," of Fife-shire, by the [illegible] the crops of his county among [illegible] [illegible] carefully examine the [illegible] with be [illegible] are not far in the truth in our [illegible] bear in mind that our remarks were [illegible] Wheat districts, and that they scarcely [illegible] cultivation [illegible] to perceive [illegible] railway at 40 miles per hour, but [illegible] traversing the Wheat districts in every [illegible] the crops both in stack and field, [illegible] friends and their servants, [illegible] our own opinion, which is based [illegible] true, we did not confine our remarks [illegible] whether the crops on them were [illegible] result that we omitted reporting [illegible] agricultural knowledge that any [illegible] much would have come to the same conclusion [illegible].

North Essex Farm, Oct. 17.—A [illegible] quantity of rain has taken [illegible] the last five days. We have carried on all the manure intended for the Wheat crop, and are now ploughing the [illegible] the seed as fast as possible; should the weather [illegible] we shall [illegible] cutting immediately, at the rate of 3 pecks per acre, increasing the quantity of seed to

8 and 9 pecks as the season advances. Our odd hands are employed in spreading manure, threshing seed Wheat, stripping and stacking Hop-poles, &c. &c. We have now sold the greater part of the store pigs, and our breeding sows are getting the greater part of their livelihood in the Clover fields at present. Our bullocks are still upon the pastures, having dry food in the yard at night; we shall soon get them to Turnips; *T. B.*

South Hampshire Farm, *Oct.* 16.—Since our last report the weather has been highly favourable for farm work, and all the root crops seem to be making rapid progress, more particularly the Carrot crop. Our horses have been employed chiefly in carting dung to the Clover leas and fallow land in preparation for the Wheat crop, which preparation seems to be unusually late this season, on account of the wet weather in the summer months having driven much of the summer work on to the autumn; in consequence, a good deal of land intended for Wheat cannot be sown at all, unless the weather should prove very fine during five or six weeks from this time; the horses have also been working at the threshing machine, threshing out a rick of Morton's red strawed Wheat for seed, which we find yields quite equal to our expectations, viz., upwards of 40 bushels per acre; we have disposed of all we grew for seed, which proves the advantages of this sort of Wheat are beginning to be appreciated in this county. We continue to employ an odd horse in carting away hedg trimmings and border cuttings, carting hurdles for the removal of sheep, carting Swedes for pigs, &c., carting Clover for soiling horses, cows, &c. This crop seems to flourish in a very unusual manner this season, as we are still cutting a good swathe of Clover, w ich has sprung up after the Wheat crop. Our labourers have been employed at the threshing machine, filling dung carts, trimming hedges, cutting borders, and mowing over the salt marshes, which afford a great deal of useful bedding for the cattle yards, &c. Our shepherds have now plenty of employment with their flocks, as we have, since our last report, bought a great portion of our stock of ewes for the present season, viz., 180 Southdown ewes to lamb in December, and 180 horned Somerset ewes to lamb in October and November; the cost price being 1s. to 2s. over last year's prices. The women have been engaged picking off Grass, &c., from land sown with Tares, also weeding Swede Turnips, collecting hedge trimmings, &c.; *J. B.*

Stirlingshire Carse Farm, *Oct.* 21.—During part of this week we have been engaged in threshing Wheat, which we have sold for seed, and also in sending away hay and straw to Stirling. To-day having been somewhat less stormy than the earlier part of the week, we have been employed in thatching and finishing off our Bean stacks, and these, as well as all other kind of grain, we build of an oblong shape. For white grain crops we have permanent styles and kilns erected, about 33 yards long, the styles being about three yards wide; and in building we put up the grain in six divisions of about 5½ yards long, so that the whole six "huts" or compartments form one long stack; the kilns forming a sufficient opening for a current of air to pass freely from end to end. The advantages arising from this method we think are a saving of one-third time and labour in building, and also one-third thatch and time in putting on; *W. F.*

Notices to Correspondents.

Bacon: *An Old Subscriber* says that he would be glad of information how to preserve bacon from roasting, and he wishes the question put so as to elicit the principles upon which such a result may be obtained, independently of the accident of success resting upon unexplained casualties of location, &c. He is acquainted with numerous instances of success and of failure; of the former, attended with little attention to produce the result; of the latter, where great attention was paid to prevent the result. As the bacon season is approaching, the present is not an unsuitable time for asking this question.

Books: *W. W.* Stephens' "Book of the Farm" is a first-rate work; but we recommend you to wait for the appearance of the Cyclopædia to which we alluded.

Broom: *L. O.* Sheep will eat it unharmed; it is excessively bitter and diuretic, and will not serve for food by itself.

Chabring Peat and Sawdust: *Ullswater.* The first may be done in heaps by continually laying on the fuel, so as to check any "burning through." See vol. viii. Eng. Ag. Journ. Can any one tell us how to char a small quantity of sawdust?

Cow: *Subscriber in Wilts.* If you have a full bite of succulent Grass, the short-horned will probably suit you best; if only a poor short herbage, the Alderney or Kerry. The Dorking breed will give you the best poultry, and the Spanish the best eggs. The best work you will probably find to be one about to be published by the writer of the articles on Ornamental Poultry in past numbers of the *Agricultural Gazette.*

Drainage: *J L.* We are now in the middle of the work; and would not on any account wait till the spring before commencing it.

Grass: *Tyro.* Sow, along with a thin seeding of Barley, the following seeds per acre: Alopecurus pratensis, 2 lbs.; Arrhenatherum avenaceum, 1 lb.; Dactylis glomerata, 2 lbs.; Festuca duriuscula, 3½ lbs.; F. heterophylla, 1 lb.; F. loliacea, 1 lb.; F. pratensis, 2½ lbs.; Lolium italicum, 3 lbs.; L. perenne, 5 lbs.; Phleum pratense, 1 lb.; Poa nemoralis, 3 lbs.; P. trivialis, 1 lb.; Trifolium pratense perenne, 3 lbs.; T. repens, 4 lbs.; total, 33 lbs.

Kohl Rabi: *Two Subscribers.* It is a species of Cabbage, the stalk of which swells out into the form of a Turnip. We never heard of "Nohl Rabi."

Manures: *J Abell.* Do you merely aim at destroying a noxious smell, or have you any view to preserving or making valuable manure? Sulphate of iron is much cheaper than sulphate of copper, but it is said to form an insoluble compound with phosphoric acid, which is the most valuable ingredient your manure contains, and which would by the use of the green copperas be rendered as useless as if it did not exist.

Measures: *W H.* Rod, or perch, or pole is a generally recognised term in "long measure," signifying 5½ yards, the fortieth part of a furlong.

Poland Fowl: *An Amateur* should apply to the dealers, some of whom advertise in our columns.

Rams: *Tyro.* They should be at least one-shear sheep, *i. e.*, 18 months old.

Soot *v.* Guano: *D M'Kie.* The answer must depend upon the condition of the land. If it had already received a dressing of bones, we should prefer the soot at the prices you mention.

Stable Smells: *An Old Subscriber* will probably remove the ammonia by strewing the stalls morning and evening with two or three handfuls of powdered gypsum, which can be had for 30*s.* a ton.

Markets.

POTATOES.—Southwark, Waterside, Oct. 23.

The Committee report that the very wet weather during the last three weeks has done considerable injury to the Potato crop in Yorkshire and Scotland, and has also prevented shipping to any extent for the London market. The arrivals from the Continent are extensive, being upwards of 1800 tons since our last report, all of which have met with a ready sale. The following are this day's quotations:—York Regents, 50s to 140s; Wisbeach do., 100s to 110s; Scotch do., 100s to 120s; Scotch Reds, 70s to 90s; French Whites, 85s to 95s; Belgian do., 80s to 90s.

HOPS, Friday, Oct. 27.

Messrs. Pattenden and Smith report that the market continues firm at late prices for all Hops with colour and quality. The duty is estimated at 210,000*l.*, and is divided as follows:—Kent, 110,000*l.*; Sussex, 66,500*l.*; Worcester, 17,000*l.*; Farnham, 12,500*l.*; and Kingdom, 4000*l.* Some of the districts are expected to be published in a few days.

Mid. & East Kents, p. cwt. 90s to 112s		Yearling Kents, p. cwt. ..	42s to 52s
Weald of Kents	45 — 70	Yearling Sussex	40 — 50
Sussex	40 — 65	Old Hops	20 — 35
Farnhams	80 — 112		

COVENT GARDEN, Oct. 28.

The market continues to be well supplied with Vegetables and most kinds of Fruit. Pine-apples are plentiful; hothouse Grapes sufficient for the demand; they are ticketed at 2*s.* 6*d.* per pound. Ribstone Pippins and other dessert Apples are ticketed 6 and 8 for 1*d.* Among Pears we remarked good specimens of Brown Beurré, Williams' Bon Chretien, Marie Louise, Crassane, Glout Morceau, Beurre Diel, Passe Colmar, &c. Nuts in general are sufficient for the demand; Filberts and Cobs, however, continue to be scarce, and fetch high prices. Oranges are scarce, Lemons moderately plentiful. Amongst Vegetables, Carrots and Turnips are abundant and good; Cauliflowers, Broccoli, &c., sufficient for the demand. French Beans plentiful. Potatoes are ticketed, 6*s.* and 8*s.* per cwt. Tomatoes, Lettuces and other salading are sufficient for the demand. Mushrooms are plentiful. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Fuchsias, Carnations, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 3*s* to 5*s*	Lemons, per 100, 7*s* to 14*s*
Grapes, hothouse, per lb. 1*s* 6*d* to 4*s*	Almonds, per peck, 6*s*
— foreign, per lb., 9*d* to 1*s* 6*d*	— sweet, per lb., 2*s* to 3*s*
Plums, per punnet, 1*s* 6*d* to 2*s* 6*d*	Walnuts, per 100, 1*s* 6*d* to 2*s*
Apples, dessert, per bush., 4*s* to 7*s*	— per bush., 16*s* to 21*s*
— kitchen, p. bush., 3*s* to 5*s*	Nuts, Barcelona, per bush., 20*s* to 22*s*
Pears, per doz., 2*s* to 6*s*	— Filberts, per 100 lbs., 60*s* to 100*s*
— per half sieve, 6*s* to 10*s*	— Cob, per 100 lbs., 60*s* to 120*s*
Oranges, per doz., 2*s* to 3*s*	— Brazil, per bush., 12*s* to 16*s*
Lemons, per doz., 1*s* to 2*s*	

VEGETABLES.

Cabbages, per doz., 3*d* to 1*s*	Onions, pickling, p. half sieve, 1*s* 6*d* to 3*s*
Cauliflowers, per doz., 6*d* to 2*s*	Tomatoes, per punnet, 6*d* to 1*s* 3*d*
Broccoli, per doz., 4*s* to 9*s*	— per half sieve, 3*s* to 5*s*
Sorrel, per half sieve, 6*d* to 9*d*	Shallots, per lb., 4*d* to 8*d*
Potatoes, per ton, 60*s* to 160*s*	Garlic, per lb., 8*d* to 1*s*
— per cwt., 5*s* to 8*s*	Radishes, per doz. bands, 6*d* to 1*s*
— per bush., 2*s* 6*d* to 4*s*	— Turnip, do., 9*d* to 1*s*
Turnips, per doz. bunches, 9*d* to 2*s*	Artichokes, per doz., 1*s* 6*d* to 3*s*
Red Beet, per doz., 6*d* to 1*s*	— Jerusalem, p. half sieve, 1*s* to 1*s* 6*d*
Horse Radish, per bundle, 1*s* to 6*s*	Vegetable Marrow, per doz., 6*d* to 1*s*
French Beans, per half sieve, 1*s* to 1*s* 6*d*	Lettuce, Cab., per score, 4*d* to 1*s*
Cucumbers, each, 2*d* to 8*d*	— Cos, do., 9*d* to 1*s* 3*d*
Leeks, per bunch, 1*d*	Endive, per score, 9*d* to 1*s*
Celery, per bundle, 6*d* to 1*s* 3*d*	Mushrooms, per pottle, 1*s* to 1*s* 9*d*
Carrots, per doz. bunches, 2*s* to 4*s*	— per bushel, 4*s* to 6*s*
Spinach, per sieve, 1*s* to 1*s* 6*d*	Small Salads, per punnet, 2*d* to 3*d*
Peas, per sieve, 3*s* to 5*s*	Fennel, per bunch, 2*d* to 3*d*
Marjoram, per bunch, 2*d*	Savory, per bunch, 2*d* to 3*d*
Mint, green, per bunch, 2*d*	Thyme, per bunch, 3*d* to 4*d*
Onions, per bunch, 3*d* to 4*d*	Watercress, p. 12 small bun., 6*d* to 9*d*
— per bushel, 2*s* to 3*s* 6*d*	Parsley, per doz. bunches, 1*s* 6*d* to 2*s*
— Spanish, per doz., 1*s* to 4*s*	— Roots, per bundle, 1*s* to 1*s* 6*d*

HAY.—Per Load of 36 Trusses.

Smithfield, Oct. 26.

Prime Mead. Hay	68*s* to 75*s*	New Hay ..	—*s* to —*s*	Straw ..	24*s* to 28*s*
Inferior ditto ..	50 60	Clover ..	60 91		
Rowen	40 50	New Clover ..	— —	J. Cooper.	

Cumberland Market, Oct. 26.

Prime Mead. Hay	70*s* to 76*s*	Old Clover .	95*s* to 100*s*	Straw ..	28*s* to 33*s*
Inferior	50 75	Inferior ..	60 86		
New Hay	— —	New Clover ..	— —	Joshua Baker.	

Whitechapel, Oct. 23.

Fine Old Hay ..	65*s* to 70*s*	Old Clover ..	95*s* to 105*s*	Straw ..	26*s* to 30*s*
Inferior Hay ..	50 55	Inferior ..	50 63		
New Hay.. ..	60 66	New Clover ..	88 95		

SMITHFIELD, Monday, Oct. 23.

The supply of Beasts to-day is very large, and the weather unfavourable. Buyers are scarce, and prices rather lower. The average quality of the supply being but middling, the choicest descriptions pretty readily make 4*s.*, but many second rate Beasts remain unsold. The number of Sheep is not large, but the demand is so limited that late prices are barely maintained, except for a few choicest Downs. There are not many good Calves on offer; late quotations are fully maintained. From Holland and Germany we have 291 Beasts, 340 Sheep, and 33 Calves; from Portugal, 102 Beasts; France, 12; Denmark, 91; Leicester and Northampton, 3500; and Lincoln, 200.

Per stone of 8 lbs.—	*s*	*d*	*s*	*d*	Per stone of 8 lbs.—	*s*	*d*	*s*	*d*
Best Scots, Herefords, &c.	3	8 to 4	0		Best Long Wools	4	0 —	4	4
Best Short Horns	3	6 — 3	10		Ditto Shorn		....		
Second quality Beasts ..	2	8 — 3	4		Ewes and second quality	3	4 —	3	8
Calves	3	4 — 4	4		Ditto Shorn..		....		
Best Downs & Half-breds	4	6 — 5	0		Lambs.....		....		
Ditto Shorn		....			Pigs	4	4 —	5	4

Beasts—4352. Sheep and Lambs—24,990. Calves—183. Pigs—395.

Friday, Oct. 27.

The supply of Beasts is again very large, and but very few are wanted. The dead markets are quite full, and the weather unfavourable; prices remain nominally the same—very little business is, however, done. The extreme price of a choice Scot is 4*s.*, and scarcely 3*s.* 10*d.* is made of the most selling Short-horn. The number of Sheep is considerably larger than the demand; a large majority of the supply remain unsold, and what few sales are effected may be quoted fully 2*d.* per 8 lbs. lower on the average. Calves meet with a very dull sale, at a reduction of fully 4*d.* per 8 lbs. From Holland and Germany there are about 400 Beasts, nearly 2000 Sheep, and 115 Calves; from Spain, 150 Beasts; France, 19; and 190 Milch Cows from the home counties.

Per stone of 8 lbs.—	*s*	*d*	*s*	*d*	Per stone of 8 lbs.—	*s*	*d*	*s*	*d*
Best Scots, Herefords, &c.	3	8 to 4	0		Best Long Wools.....	4	0 —	4	2
Best Short Horns	3	6 — 3	10		Ditto Shorn		....		
Second quality Beasts ..	2	8 — 3	4		Ewes and second quality	3	4 —	3	8
Calves	3	0 — 4	0		Ditto Shorn		....		
Best Downs & Half-breds	4	4 — 4	8		Lambs.....		....		
Ditto Shorn		....			Pigs	4	0 —	5	0

Beasts—1294. Sheep and Lambs—6810. Calves—325. Pigs—390.

MARK LANE, Monday, Oct. 23.

Messrs. Kingsford and Lay report that the arrivals of foreign Corn continue to be large, but having only a small show of Wheat from the neighbouring counties this morning, factors were enabled to realise fully the quotations of this day se'nnight. The weather continuing very wet, foreign met rather an improved demand, but at no better prices than were obtainable last week, and sales were chiefly in retail.—Fine malting Barley is the turn dearer, but ordinary descriptions sell slowly at former rates.—White Peas barely maintain our quotations; other sorts and Beans are unaltered in value. —Fine Oats are fully as dear; the trade for low qualities is dull.—The top price of Flour is reduced 2*s.* per sack.

British per Imperial Quarter.	*s*	*s*		*s*	*s*
Wheat, Essex, Kent, and Suffolk ..... White	46	58	Red.....	42	54
Lincolnshire, and Yorkshire	40	56	White	50	58
Barley, Malting and distilling, 29*s* to 31*s*	Chevalier	30	34	Grinding	26	30
Oats, Lincolnshire and Yorkshire.....	Polands	20	26	Feed	18	23
Northumberland and Scotch	Feed	21	24	Potato ..	23	26
Irish	Feed	19	23	Potato ..	22	25
Malt, pale, ship.....		—	—			
Hertford and Essex		—	—			
Rye.....		30	32			
Beans, Mazagan, old and new ..25*s* to 34*s*....	Tick..	30	38	Harrow..	28	40
Pigeon, Heligoland	50	44	....	Winds	34	40	Longpod	26	30
Peas, White.....	36	39	....	Maple	38	40	Grey	34	36

Friday, Oct. 27.

The attendance at market this morning was small; nevertheless millers evinced more disposition to purchase, and the Wheat trade, both English and foreign, was firm at Monday's prices.—We observe no alteration in the value of Barley, Beans, or Peas.—Fine Oats command our extreme quotations; secondary qualities are unaltered.—We believe the quantity of Wheat upon which the duty was paid yesterday to have been about 80,000 qrs., and 30,000 cwt. of Flour.

[During the last eight days we have had very stormy weather, with a continuance of much rain, from which the Oats and Beans which are still in the fields in the late districts of the north of England and north of Scotland have sustained considerable damage. The Wheat trade throughout the kingdom has been firm, and in some markets the increased inquiry has enabled sellers to establish a slight advance. We observe also a considerable diminution in the arrivals from abroad. Spring corn has not undergone any material change in value, or Maize. Flour—the top price has been reduced 2*s.* per sack. In the Baltic, Wheat continues to have rather a downward tendency; good red, 62 lbs., is purchaseable at 41*s.*, and Dantzic, 62 lbs., at 46*s.* f. o. b. In Holland and Belgium prices are rather in favour of the buyer. New York letters of the 11th inst. quote Flour rather lower, owing to large supplies and dull accounts from this side; good brands of Genesee quoted 5¾ dollars, equal to 24*s.* f. o. b; White Genesee Wheat, 48*s.* f. o. b. Freights 2*s.* 3*d.* to 2*s.* 6*d.* for Flour, and 8*d.* to 8½*d.* for corn and Wheat respectively. Montreal, 5th—Flour was dull, at 24*s.* Wheat, 5*s.* 10*d.* to 6*s.* per 60 lbs.]

Imperial Averages.	Wheat.	Barley.	Oats.	Rye	Beans.	Peas.
Sept. 16	53*s* 8*d*	33*s* 3*d*	2*s* 2*d*	33*s* 5*d*	38*s* 10*d*	40*s* 2*d*
— 23	52 4	33 7	21 11	32 0	37 11	37 11
— 30	52 9	33 3	21 1	31 9	36 1	39 8
Oct. 7	52 5	32 6	20 8	32 1	35 3	38 0
— 14	51 11	32 0	20 0	30 4	35 2	39 2
— 21	51 7	32 3	19 11	32 4	39 9	39 7
Aggregate Average	52 5	32 10	21 1	32 0	36 6	39 1
Duties on Foreign Grain	5 0	2 0	2 0	2 0	2 0	2 0

Arrivals in the port of London this week.

	Wheat. Qrs.	Barley. Qrs.	Oats. Qrs.	Flour.
English.....	1430	490	50	1290 sacks.
Irish	—	—	4780	
Foreign.....	11410	940	1270	— barrels.

Fluctuations in the last six weeks' Corn Averages.

Price.	Sept. 16.	Sept. 23.	Sept. 30.	Oct. 7.	Oct. 14.	Oct. 21.
53*s* 8*d*		...	...	...	...	...
52 9	...	...	...	...	...	...
52 5	...	...	...	...	...	...
52 4	...	...	...	...	...	...
51 11	...	...	...	...	...	...
51 7	...	...	...	...	...	...

BAKER'S PHEASANTRY, Beaufort-street, King's-road, Chelsea, by special appointment to her Majesty and H.R.H. Prince Albert. — ORNAMENTAL WATER FOWL, consisting of black and white swans, Egyptian, Canada, China, bernacle, brent, and laughing geese, sheildrakes, pintail, widgeon, summer and winter teal, gadwall, Labrador, shovellers, gold-eyed and dun divers, Carolina ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking fowls; white Japan, pied, and common pea-fowl, and pure China pigs; and at 3, Half-moon-passage, Gracechurch-street.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible prices, for cash.—250, Oxford-street, near Hyde-park.

GLASS FOR CONSERVATORIES, &c.

HETLEY and CO. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2*d.* to 3*d.* per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices, and estimates forwarded, on application for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to James Hetley and Co., 35, Soho-square, London.

See the *Gardeners' Chronicle*, first Saturday in each month.

SMITHFIELD CLUB.—CHRISTMAS SHOW.—The Annual Show of Fat Stock, &c., will take place at the Horse Bazaar, King-street, Baker-street, Portman-square, London, on the 6th, 7th, 8th, and 9th of December, 1848.

The separate PRINTED FORMS OF CERTIFICATE required for each Class must be obtained from the Hon. Secretary; and all Certificates filled up on the Forms above named, both for Stock and Implements, must be lodged with the Hon. Secretary on or before the 11th of November, 1848.

B. T. Brandreth Gibbs, Hon. Secretary, corner of Half Moon-street, Piccadilly, London.

N.B. Lists of the Prizes can be had on application as above. Exhibitors in applying for Printed Forms are required to state the Number of the Class or Classes in which they intend to exhibit.

The Anniversary Dinner of the Club will take place at the Freemasons' Tavern, Great Queen-street, on Friday, the 8th of December, at 5 o'clock precisely.

MR. LAWES has prepared a MANURE for WHEAT, the composition of which is—Salts of Ammonia, yielding 20 to 22 per cent. of ammonia—70 to 80 per cent.; Precipitated Phosphate and Sulphate of Lime, with a small quantity of water and silicious matter—20 to 30 per cent. Price 9*l.* 10*s.* per ton.

Office, 69, King William-street, City, London.

PERUVIAN AND BOLIVIAN GUANO ON SALE,

By the only Importers,
ANTONY GIBBS and SONS, LONDON;
Wm. JOSEPH MYERS and Co., LIVERPOOL;
And by their Agents,
GIBBS, BRIGHT, and Co., LIVERPOOL and BRISTOL;
COTESWORTH, POWELL, and PRYOR, LONDON.

To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

HOT WATER WARMING APPARATUS, with the latest improvements, adapted for Hothouses, Greenhouses, Pits, &c., continue to be supplied and erected by SPILLER and TAYLER, Battersea; also Improved Warm-Air Apparatus for Churches, and other buildings requiring to be warmed only occasionally. N.B.—The parts being always ready, promptitude may be relied on.

STEPHENSON and CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

THE CONICAL BOILERS, invented by John Rogers, Esq., are sold by John Shewen, Ironmonger, Sevenoaks. They are in use at the gardens of Messrs. Loddiges, Hackney; S. Rucker, Jun., Esq., Wandsworth; Sir C. Lemon, Bart., M.P., Cornwall; the Prince's-park, Liverpool, and numerous other places.

Also, AN IMPROVED CORRUGATED BOILER, adapted for any kind of fuel. May be seen at the hothouses of Mrs. Lawrence, Ealing Park, and in several other gardens of note.

John Shewen, Sevenoaks, Kent. Estimates furnished for heating all kinds of buildings.

IMPORTANT TO LANDOWNERS.—An Act of Incorporation having been obtained by "THE LANDOWNERS' WEST OF ENGLAND AND SOUTH WALES LAND DRAINAGE AND INCLOSURE COMPANY," affording Owners of limited Interests in Land the means of Draining, Irrigating, Enclosing, Erecting Buildings of a permanent nature on, and otherwise improving their Lands, and giving such Landowners of limited Interests the power to charge the inheritance with the value of the outlay in either of the following ways, viz.:—By charging the value on the Inheritance absolutely, or to be repayable by 25 Annual Instalments of 6*l.* 10*s.* per cent. per annum. This Company is now ready to receive applications for work to be performed under any of the provisions of their Act of Parliament, or on contracts heretofore; and from the extensive operations already in hand, they request parties wishing to avail themselves of the benefits of the Act to make early application. For all further particulars, apply to Thomas May, Secretary, 9, Bedford Circus, Exeter.

Sales by Auction.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will sell by Auction, at the Mart, Bartholomew-lane, on THURSDAY, November 2, a first class collection of DUTCH BULBS, comprising very fine double and single Hyacinths, Tulips, Narcissus, Jonquils, Crocus, Anemone, Amaryllis, Gladiolus, Alium, &c.; also a splendid assortment of Standard and Dwarf Roses, consisting of Noisettes, Hybrids, Bourbons, Perpetuals, Chinas, &c. May be viewed the morning of sale. Catalogues had at the Mart, and of the Auctioneers, Leytonstone, Essex.

WANDSWORTH COMMON.

To Noblemen, Gentlemen, Nurserymen, Builders, Railway Contractors, and Public Companies engaged in Planting.

MESSRS. PROTHEROE AND MORRIS are instructed to sell by Auction, on the premises, Wandsworth Common, about the middle of November, by order of the assignees of Mr. R. Neno, a bankrupt, the whole of the valuable NURSERY STOCK, consisting of a considerable quantity of very fine Evergreen, Fruit, and Forest Trees, New Ornamental Trees and Deciduous Shrubs, and a large and rich assortment of American Plants; together with the Greenhouse Plants, several Pits, 2 and 3-light Boxes, utensils in trade, &c. — Further particulars will be given in future Advertisements.

STOKE NEWINGTON, NEAR THE CHURCH.

TO GENTLEMEN, NURSERYMEN, AND OTHERS ENGAGED IN PLANTING.

MR. B. ANDREWS (successor to the late Mr. JOHN KING), will sell by Auction, on MONDAY, the 6th November, at 12 o'clock, without reserve, on the premises of Mr. Tyler, the valuable NURSERY STOCK, consisting of Ornamental and Fruit Trees, Deciduous and Evergreen Shrubs, a large quantity of Moss and other Roses, Sweet-scented Clematis, Irish Ivies, fine mixed Tulips, about 20 bushels of Ash-leaved Kidney Potatoes, &c.; also some fine Store Pigs, a strong Spring Cart, and other effects.—Catalogues may be had of Messrs. Clarke and Co., Seedsmen, Borough; of Mr. Wm. Clark, Seedsman, Bishopsgate-street; and of the Auctioneer, South-grove, Peckham, Surrey.

B. A. begs leave to announce that he has the Lease of a small NURSERY to dispose of, within 2 miles of London-bridge, on the Surrey side, to which is attached a most profitable Fruit Trade. The neighbourhood is highly respectable, and the rent extremely moderate.

SALTHILL, BUCKS.—TO NOBLEMEN AND GENTLEMEN'S GARDENERS, NURSERYMEN, AND OTHERS.

MR. TEBBOTT will Sell by Auction, upon the Premises, on TUESDAY, November 14th, 1848, and following day, at 12 for 1 o'clock precisely, in convenient Lots, a SPLENDID COLLECTION OF VALUABLE PLANTS, the property of the Rev. E. T. Champneys, at his late Pleasure Grounds, Salthill, collected totally regardless of expense during the last four years; consisting of fine specimens of Hybrid and other Rhododendrons, splendid Ghent Azaleas and American ditto, a choice collection of Perpetual and other Roses, ditto of Ixia, Sparaxis, and Gladiola, Herbaceous Plants, &c., &c.; large Compactum Geraniums for cones, from 3 to 9 feet, with a variety of other Geraniums, Greenhouse Plants, Cape Heaths, Liliums, &c., &c.; garden tools, water engine, about 200 yards of wire fencing, with posts, &c., complete; quantity of iron hurdles, Melon frames and lights, a small greenhouse, nearly new; rick of superior meadow hay, about eight loads, &c., &c. To be viewed two days prior to the Sale, by application to Mr. Butler, upon the Premises, where Catalogues may be had; also at the Windmill Inn, Salthill; Bear Hotels, Reading and Maidenhead; Crown, Slough; Castle Hotel, Brentford; Chequers, Uxbridge; Swan, Chertsey; at the Auctioneer's office, Windsor; or forwarded by post, upon application, to any part of the country.

HACKNEY.

Stock in Trade of a Nurseryman and Florist, 2 Greenhouses about 120 feet long each, Fittings of Seed-shop and Conservatory, 150 pairs of Sliding Lights, 250 feet of 2½-inch Slate Shelving, 1000 feet of Iron Hot-water Piping, 4 Boilers and Furnaces, a 4-wheel Van, Spring Cart, &c.

MR. PRICE has received instructions from the assignees of F., T., and A. Smith, bankrupts, to sell by Auction, on the premises, Cambridge-heath Nursery, Hackney, on WEDNESDAY, 15th November, and following day, at 12 for 1 o'clock each day, the whole of the STOCK IN TRADE, among which may be mentioned 15,000 Geraniums (comprising the best varieties adapted for market business), 700 Camellia japonicas, 2000 Cacti, 800 Verbenas, 300 Heliotropes, 250 Heaths, 1200 Fuchsias, 2000 Azalea indica, 400 Acacias, 1500 Roses, 2000 Cape Jasmines, 2500 Hydrangeas, 2000 Dahlias, 140 rows of fine Tulips, together with the erection of Greenhouses, Hand-lights, Frames, Pots, and utensils.—The property may be viewed, and Catalogues obtained, at 6d. each (returnable to purchasers), on the premises; of W. Pennell, Esq., Official Assignee, Guildhall Chambers, Basinghall-street; of R. Russell, Esq., Solicitor, 23, Martin's-lane, Cannon-street, City; of Mr. W. Clark, Bishopsgate-street; of Messrs. Noble, 156, Fleet-street; of Messrs. Clark and Co., High-street, Borough; of Messrs. Hurst and M'Mullen, Seedsmen, Leadenhall-street, City; and at Mr. PRICE's Offices, 48, Chancery-lane.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, LAND AGENTS, RAILROAD CONTRACTORS, AND THE PUBLIC GENERALLY.

IMPORTANT and EXTENSIVE SALE of NURSERY STOCK.

MESSRS. BENTLEY AND SAUNDERS are instructed by Mr. ARCHIBALD WOOD to offer for sale, by public Auction, on the premises, on MONDAY, November 6th, 1848, and following days, the whole of the very VALUABLE AND EXTENSIVE STOCK AT BARBOURNE NURSERY, near Worcester, comprising upwards of FIFTEEN ACRES OF GENERAL STOCK of the best description, together with an extensive variety of GREENHOUSE and STOVE PLANTS. The Stock comprises

1 Million	Fine Hawthorn Quick,	from 12 to 36 inches.	
35,000	Evergreen Privet	24 ,, 48	,,
30,000	Laurels	12 ,, 48	,,
100,000	Mahonia aquifolia		
15,000	Green Hollies	6 ,, 30	,,
4000	Rhododendrons		
4500	Choice Stove and Greenhouse Plants.		

An Immense Assortment of Scotch, Spruce, and Larch Firs, Oak, Elm, Ash, Beech, and other Forest trees. A fine collection of Standard and Dwarf-trained Fruit Trees of the choicest description, together with a great variety of Miscellaneous Stock too considerable to particularize. The above Stock being offered for sale in consequence of the decease of a Partner, will be sold without the slightest reserve, and 21 days will be allowed to purchasers to clear their lots from the premises.

The whole may be viewed, and every information obtained previous to the Sale, by application to Mr. WOOD on the premises; or to the Auctioneers, 63, Foregate-street, Worcester, of whom, and the following, Catalogues may be obtained immediately. Midland Counties Herald, and Journal Offices, Birmingham; Times Office, Hereford; and at the Office of the Gardeners' Chronicle and Agricultural Gazette, 5, Upper Wellington-street, Strand, London.

CRYPTOMERIA JAPONICA AND OTHER CONIFEROUS PLANTS.

MR. J. C. STEVENS is instructed to sell by Auction, at his Great Room, 38, King-street, Covent-garden, on Tuesday, Nov 7, at 11 for 12 o'clock precisely, FORTY noble specimens of the beautiful and hardy CRYPTOMERIA JAPONICA, or Japan Cedar, from 5 to upwards of 7 feet high, and furnished with branches. These, being one of the last introduced plants, afford a rare opportunity to persons wishing to possess them. Also a number of Cedrus Atlantica, or Silver Cedar of Mount Atlas, which is quite hardy, together with the true Pinus Montezumæ of Lambert, and other new hardy Conifers, all raised from seed. May be viewed the day previous and morning of sale, and Catalogues had of Mr. J. C. STEVENS, 38, King-street, Covent-garden.

TO NURSERYMEN.

TO BE LET immediately, a capital NURSERY, SEED, AND FLORIST BUSINESS, beautifully situated near a fashionable town in Devonshire. The ground consists of 3½ acres with a stream of water running through them. There is about 2000 feet of Glass, Seed Shop, Packing, Potting, and other Sheds; Stock (to be taken at a valuation) about 100l. No premium will be required, the principal object being to obtain a respectable tenant.—For particulars, apply to Mr. JOHN HEWITT, Tortfield, Sidmouth, Devon.

TO BE LET, A FARM, at Greenfield, near Alford, In the county of Lincoln, containing 62 acres, with House and Offices, either from year to year, or on Lease, as may be agreed on. Much of the old Grass land will be allowed to be ploughed up. Entry at Lady-day next. Apply to H. WILKES, Esq., Solicitor, Alford, Lincolnshire.

PARTNER.—A Partner wanted in a Nursery, situate near a large town in Lancashire, doing a good business, and which might be much extended at a small cost. To an active person acquainted with gardening, who can command from 300l. to 500l., this will be found an excellent opportunity of entering into a safe and profitable business, which will be satisfactorily proved on application to B. B., at the Office of this Paper.

SILVER PHEASANTS FOR SALE, at 25s. each. Three fine Cock Birds of last year, in full plumage.—Apply to Mr. JOHN WEBB, Royal Southern Yacht Club, Southampton.

AGRICULTURAL REPOSITORY, Clarke-street, Bristol. (Established, A.D. 1750.) Sept. 29, 1848.

In retiring from a business which I have conducted in this City during the space of 40 years, I feel the obligation of returning my very sincere thanks for the kind and liberal encouragement I have received. I have now the satisfaction of announcing as my successors my Son BENJAMIN STRATTON, who has been thoroughly educated in the business, and for the last 12 years has assisted me in the management thereof, in conjunction with Mr. SAMUEL HUGHES, a Civil Engineer from London, whose practical experience in the improvement of Estates by Drainage, &c &c., will supply a desideratum which has been long felt in connection with this establishment. I trust, therefore, that a firm so constituted will lose none of that support and encouragement which has been so kindly and extensively accorded to myself. RICHARD STRATTON.

P.S.—R. STRATTON will continue his attendance at the Office in Clarke-street, where he will pay all accounts due to the 29th September last, and where he solicits an early settlement of all accounts due to him previous to that date.

STRATTON, HUGHES, and Co. having succeeded to the business of Mr. RICHARD STRATTON, as Patentees and Manufacturers of Wheels, Carts, Waggons, and Agricultural Implements, and general Agricultural Engineers, venture to request a continuance of those favours which have been so liberally bestowed on their predecessor. Their system of carrying on business will be essentially the same, their attention will be incessantly devoted to the improvement of every kind of Agricultural Implement, and they trust that their Repository will always contain an unrivalled collection, including the best Implements of other Makers as well as those of their own Manufacture. The present stock, comprising upwards of [illegible] articles, all with prices affixed, and ready for immediate use, is well worthy of attention.

STRATTON, HUGHES, and Co., beg to call attention to their Patented Hollow Iron, and its application to the beams of Ploughs, and Shafts of Carts, the Spokes of Wheels, and the Tilt Hoops of Railway Goods, Waggons, and a variety of other purposes where strength and lightness are essential. This Iron was first introduced to public notice at the Shrewsbury Meeting of the Royal Agricultural Society of England, where the prize of 10l., offered for the best subsoil Plough, was awarded to Read's Subpulverizer, manufactured by Mr. RICHARD STRATTON, with the Patent Hollow Iron Beam.

They also invite attention to their Norwegian HARROW, an implement of great power, for the purpose of pulverising and disintegrating the surface of heavy ploughed lands; to their Patent TUMBLER CART for Night-soil, and their Patent CYLINDER CART for Liquid Manure, &c.

STRATTON, HUGHES, & Co. have extended their business to Agricultural Engineering, and undertake the Survey of Lands for the purposes of Draining and Irrigation, and the erection of Farm Buildings, under the personal superintendence of Mr. HUGHES, C.E., F.G.S. They beg to assure their customers and friends in the neighbourhood of Bristol, that the same attention as ever will be paid to the business of repairs; that they purpose always to keep in hand a large and well-assorted stock of choice and well-seasoned timber; to use none but the best materials, and to employ only the most skilled and careful workmen. They hope thus to execute all orders entrusted to them with such punctuality, exactness, and economy, as to give satisfaction to their employers.

DR. NEWINGTON'S PATENT HAND SEED DIBBLE FOR ALL GRAIN.

"Unquestionably the best hitherto invented, and more than any other able to contend against untoward circumstances; and a great recommendation is its cheapness."—*Agricultural Gazette and Gardeners' Chronicle.*

"One of the most valuable inventions of the present inventive age."—*Maidstone Journal.*

"It accomplishes its work with simplicity and certainty, and does away with the bad effects which dibbling machines hitherto invented have been found to produce."—*Essex Standard.*

"The crops grown in this neighbourhood from Dr. Newington's Dibble are certainly most astonishing; Beans being [illegible] days more forward, the plants stronger, more healthy, and in greater abundance from 1 bushel of seed than from [illegible] bushels sown broadcast on the same day in the same field."—*[illegible] Journal*, June 15.

During the summer most important improvements have been made. Machines, with 6 depositors, [illegible]; with [illegible] ditto, [illegible]l. 6s.; with 10 ditto, 4l. 6s.; with 12 ditto, [illegible] 6s. Direct to M. D., Knole Park, Frant, near Tunbridge Wells, when a prospectus, together with Dr. Newington's last lecture on the seeding of grain, will be forwarded gratis. The Implements may be seen at Messrs. NEWINGTON'S, 44, Lincoln's-inn-fields, London.

ENGLAND A SELF-SUPPORTING COUNTRY. Price 1s.

"This pamphlet brings more ingenuity to bear on the dibbling of corn than any publication we have read, and we strongly recommend it to the attention of our readers."—*Agricultural Gazette and Gardeners' Chronicle.*

Sold by RIDGWAY, Piccadilly, and all Booksellers.

FOR THE PUBLIC GOOD.

DR. ROBERTS'S CELEBRATED OINTMENT, called the POOR MAN'S FRIEND, [illegible]

[illegible]

Taunton, Nov. 17, 1847. [illegible]

Sold Wholesale by the Proprietors, [illegible]

[illegible] affixed to each package.

PARR'S LIFE PILLS are acknowledged to be the best Medicine in the world.—[illegible]

[illegible]

BEWARE OF SPURIOUS IMITATIONS.—[illegible] the words "PARR'S LIFE PILLS" [illegible] on a Red Ground, on the Government Stamp, [illegible] each box; also the fac-simile of the signature of the proprietors, "T. ROBERTS and Co., [illegible] London," on the Directions.

Sold in boxes at 1s. 1½d., 2s. 9d., and family packets at 11s. each, by all respectable medicine vendors throughout the world. Full directions are given with each box.

METCALFE AND CO.'S NEW PATTERN TOOTH-BRUSH and SMYRNA SPONGES.—[illegible]

[illegible]

CAUTION.—Beware of the words "[illegible]" adopted by some houses.

EMIGRATION AND COLONIZATION.—EMIGRANTS [illegible] AUSTRALIA, NEW ZEALAND, &c., [illegible] S. W. SILVER & Co., CLOTHIERS, OUTFITTERS, [illegible]

[illegible] London Tavern, where [illegible]

S. W. S. & Co. [illegible] in all the Outfits they supply, and as one of their objects is to promote Emigration, they neither receive from Agents nor pay the [illegible]

Naval and Military, [illegible] Cadets, Civilians, Ladies, &c., are [illegible] Liverpool.

CARSON'S ORIGINAL ANTI-CORROSION PAINT, [illegible]

[illegible] to WALTER CARSON, [illegible] Yard, [illegible] Bank of England, London. No Agents. All orders to be sent direct.

BEST SEASON FOR PLANTING.—In consequence of a large portion of the Ground occupied by W. Dennis and Co., Florists and Nurserymen, of the King's-road, Chelsea, having been required for building, the stock of Fruit-trees, Flowering-shrubs, Roses, Evergreens, &c. &c., has become too large for the portion of Ground retained, and as Public Sale by Auction is a great interruption to general business, W. D. would be happy to treat with Gentlemen or Nurserymen, on the most moderate terms. The stock of Mulberry-trees, the finest in the kingdom, from 2s. 6d. to 3l. each; smaller plants well established in pots, from 1s. each; a large stock of that most desirable fruit the Gooseberry, comprising 300 varieties, of the best new and old kinds, from 20s. per 100. All the best kinds of Strawberries, Raspberries, Currants, &c. Aucuba japonica, from 1 to 4 or 6 feet, price from 15s. per 100 to 10s. each; Euonymus japonica, and other Evergreens, and General Nursery Stock.

THE PERPETUAL TREE VIOLET (true), or VIOLA ARBOREA.—In answer to the numerous enquiries for the above, and the great satisfaction given by the plants sent out last season by EDWARD TILEY, he begs to state that he has this year a fine stock of the above beautiful DOUBLE VIOLET now to dispose of, which he can highly recommend, this being the proper time for making beds or potting. They are beautifully scented, the blooms are as large as the double blue Hepatica, they bloom freely from August till the end of May, and are perfectly hardy. 12 of these plants grown in pots will scent a large greenhouse, and a small bed 9 feet long by 3 feet wide will be sufficient to furnish a family with bouquets the whole of the winter and the spring. They should be planted in rather a dry situation, and in loose soil, as the Violet will thrive and bloom finer than in wet or clay borders.

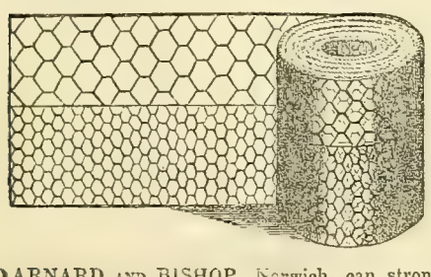
E. T. has been informed by the gentleman that introduced it into this country, that he has seen them growing in the thickets of Persia to the height of 4 feet, with a large bushy head to it, and hundreds of blooms on them at the same time.

Large bushy plants 6s. per dozen, smaller ditto 3s. per dozen, or 1l. per 100, postage and package free to any part. A remittance in cash, or postage stamps, must accompany the order.

Nurseryman, Seedsman, & Florist, 16, Pulteney-bridge, Bath.

DOUBLE ROMAN AND PAPER WHITE NARCISSUS, 4s. per dozen.—The above Bulbs, the former of which is so justly esteemed for its early blooming and excessive fragrance, and the latter for its purity and elegance, have been just received at A. Cobbett's Italian and Foreign Warehouse, 18, Pall-mall, near Waterloo-place. Also Dutch Hyacinths, Crocus, Tulips, Anemones, Ranunculus, &c.; priced Catalogues of which may be had per post.

IMPROVED DOUBLE-MESH WIRE GAME NET.



BARNARD AND BISHOP, Norwich, can strongly recommend the above NET to the notice of the Nobility and Gentry, as being the cheapest yet introduced: it has met with general approbation, and has been found most efficient in the preservation of young Trees, Gardens, &c., from the depredations of game. The extra strong 2-inch is the same strength as the stoutest article in the market. On inspection, it will be found better manufactured than anything else of the kind, and 20 per cent. cheaper. It is sent out in rolls of 50 yards, or any other length, at prices as under.

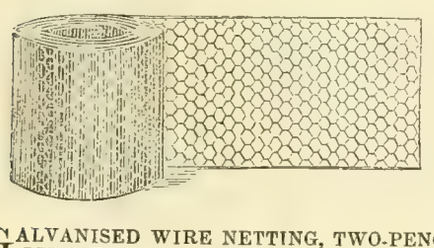
					per yard—s.	d.
Double Mesh Net 24 ins. wide,			1⅝ & 3¼-in. mesh,	strong	0	6¾
...	...	...	...	extra strong	0	9
...	...	...	2 & 4 ...	strong	0	5¾
...	...	...	..	extra strong	0	7½
Single Mesh	...	...	1⅝ ...	light	0	7
...	...	...	...	strong	0	9
...	...	...	...	extra strong	1	0
...	...	...	2 ...	light	0	6
...	...	...	...	strong	0	7½
...	...	...	...	extra strong	0	10

The prices quoted for double net are for equal proportions of each mesh, which may be varied if required, thus, three parts fine to one of coarse, or *vice versa*, at prices accordingly; and it can be made any mesh and width to 7 feet.

A finer description for Aviaries, Pheasantries, &c., sparrow proof, 3d. per square foot; or, if made in copper, at 5d. per square foot. The Iron Wire Net is twice dipped in anti-corrosive composition, and sent free to London or Hull.

Patterns forwarded per post, free of expence.

WIRE NETTING ONE PENNY PER SQUARE FOOT.



GALVANISED WIRE NETTING, TWO-PENCE PER SQUARE FOOT.—This article requires no painting, the atmosphere not having the slightest action on it. It has the appearance of silver, and maintains its lustre for many years, and is acknowledged to be the cheapest article ever brought into the market. It forms a cheap, light and durable fence for the protection of Gardens and Shrubberies against the depredations of hares, rabbits, and cats; for Aviaries, Pheasantries, and to prevent poultry from straying, as well as for training creeping plants, it answers admirably.

Large quantities of the Netting always kept in Stock, samples of which can be forwarded (free of expense) to any part of the United Kingdom. Prices as follows:

12 inches wide	3d.	per yard	30 inches wide	7½d.	per yard		
18	,,	,,	4½d.	,,	,,	36	,,	,,	9d.	,,	,,
24	,,	,,	6d.	,,	,,	48	,,	,,	1s.	,,	,,

Galvanised do. 1d. per foot extra.

Also Fenders, Fireguards, Fly-proof Dish Covers, Meat Safes, Wire Blinds, Garden bordering and arches, Flower Stands, and every description of Wire Work.

Thomas Henry Fox, 63, Snow-hill, London.

THE FLORIST.

No. XII., COMPLETING VOLUME I.

The Editor will feel himself particularly obliged to those Correspondents who intend favouring the concluding number of the year with their communications, if they will forward their Papers as soon as convenient, as the Proprietors are desirous of having the Work bound up as early as possible in December. It is hoped that the Volume will be found satisfactory to all those who have so kindly contributed to its pages, and that they will not regret having lent their aid to a Work which has found an increasing sale with every succeeding number. As the sale of the Work in Volumes will very much assist the revenue of THE FLORIST, it is suggested that it might be recommended as a suitable New-year's Gift, for which its Beautiful Illustrations render it peculiarly adapted.

*** No. XI. WILL BE READY AS USUAL ON THE FIRST OF THE MONTH.

NEARLY READY, NEAT CLOTH,

ORNAMENTAL AND DOMESTIC POULTRY,

THEIR HISTORY AND MANAGEMENT.

By the Rev. EDMUND SAUL DIXON, M.A., Rector of Intwood with Keswick.

THE BIRDS TREATED OF ARE,

The Mute Swan
The Canada Goose
The Egyptian or Cape Goose
The Musk Duck
The Grey China Goose
The White Fronted or Laughing Goose
The Wigeon
The Teal, and its congeners
The White China Goose
The Tame Duck
The Domestic Goose
The Barnacle Goose
The Brent Goose
The Turkey
The Pea Fowl
Domestic Fowl in general
The Guinea Fowl
The Spanish Fowl
The Speckled Dorkings
The Cochin-China Fowl
The Malay Fowl
The Pheasant Malay Fowl
The Game Fowl
The Golden and Silver Hamburgh Fowls
The Cuckoo Fowl
The Blue Dun Fowl
The Lark-crested Fowl
The Poland Fowl
Bantam Fowls
The Rumpless Fowl
The Silky and Negro Fowls
The Frizzled or Friesland Fowls.

Published by James Matthews, at the Office of the Gardeners' Chronicle and Agricultural Gazette, 5, Upper Wellington-street, Covent-garden; and may be ordered of any Bookseller.

NEW EDITION OF

PROF. LINDLEY'S INTRODUCTION TO BOTANY.

Recently published, in 2 vols. 8vo, with Six Copper-plates and numerous Wood Engravings, price 24s. cloth,

INTRODUCTION TO BOTANY. By Professor Lindley, Ph.D. F.R.S. Professor of Botany in University College, London, &c. Fourth Edition, with Corrections and numerous Additions.

Extract from Preface.

In this new and enlarged Edition, the Author has followed very nearly the method recommended by the celebrated Professor De Candolle, than whom no man is entitled to more deference, whether we consider the soundness of his judgment in all that relates to order and arrangement, or the great experience which a long and most successful career of public instruction has necessarily given him.

The Author has begun with what is called Organography (Book I.); or an explanation of the exact structure of plants; a branch of the subject comprehending what relates either to the various forms of tissue of which vegetables are constructed, or to the external appearance their elementary organs assume in a state of combination. It is exceedingly desirable that these topics should be well understood, because they form the basis of all other parts of the science. In physiology, every function is executed through the agency of the organs: systematic arrangements depend upon characters arising out of their consideration; and descriptive Botany can have no logical precision until the principles of Organography are exactly settled. A difference of opinion exists among the most distinguished botanists, upon some points connected with this subject, so that it has been found expedient to enter occasionally into much detail, for the purpose of satisfying the student of the accuracy of the facts and reasonings upon which he is expected to rely.

To this succeeds Vegetable Physiology (Book II.); or the history of the vital phenomena that have been observed both in plants in general, and in particular species, and also in each of their organs taken separately. It is that part of the science which has the most direct bearing upon practical objects. Its laws, however, are either unintelligible, or susceptible of no exact appreciation, without a previous acquaintance with the more important details of Organography. Much of the subject is at present involved in doubt, and the accuracy of some of the conclusions of physiologists is inferred rather than demonstrated; so that it has been found essential that the grounds of the more popularly received opinions, whether admitted as true or rejected as erroneous, should be given at length.

Next follows Glossology (Book III.); or, as it was formerly called, Terminology; restricted to the definition of the adjective terms, which are either used exclusively in Botany, or which are employed in that science in some particular and unusual sense. The key to this book, as also to the substantive terms explained in Organography, will be found in a copious Index at the end of the volume.

It has been the Author's wish to bring every subject that he has introduced down, as nearly as possible, to the state in which it is found at the present day. In doing so, he has added so very considerable a quantity of new matter, especially in what relates to Vegetable Anatomy and Physiology, that the present Edition may be considered, in those respects, a new work.

By the same Author,

THE THEORY OF HORTICULTURE. 8vo, 12s.
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London: Longman, Brown, Green, and Longmans.

SUPPLEMENT ENGLISH BOTANY, No. 74, just out, price 4s. 6d., continued quarterly.

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This day is published, in fcap. 8vo, price 6s.

THE FIFTH EDITION OF

ELEMENTS OF AGRICULTURAL CHEMISTRY AND GEOLOGY.

By James F. W. Johnston, M.A.F.R.SS.L.&E., Honorary Member of the Royal Agricultural Society of England, and Author of "Lectures on Agricultural Chemistry and Geology," &c.

William Blackwood and Sons, Edinburgh and London.

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JOHNSON AND SHAW'S FARMERS' ALMANAC for 1849; price, sewed, 1s.; bound in cloth and interleaved, 2s., containing 216 pages, and numerous engravings of the most approved Agricultural Implements by the best makers.

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JOHNSON'S READER, in continuation of the Rural Spelling Book: containing Useful Facts in Early Themes for Children; price 1s. 6d. bound in cloth.

NEW CHRISTMAS BOOK BY MR. CHARLES DICKENS.

Early in December will be published, in 1 vol., small 8vo, price Five Shillings,

THE HAUNTED MAN AND THE GHOST'S BARGAIN.

A Fancy for Christmas Time.

BY CHARLES DICKENS.

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MODERN DOMESTIC MEDICINE: a Popular Treatise, exhibiting the Symptoms, Causes, and most efficacious Treatment of Disease; with a Collection of approved Prescriptions, Management of Children, Doses of Medicines &c. Forming a comprehensive Medical Guide for the Clergy, Families, and Invalids, in the absence of their Medical Adviser. By T. J. Graham, M.D., &c.

"It is evidently the result of great professional talent, experience, and judgment; the author everywhere appears conscientious and candid. One object is prominently evident—a sincere desire to benefit his suffering fellow creatures. To recommend a work like the present to our readers is only to manifest a proper regard for their welfare."—*Literary Journal, Feb.*, 1848.

"It is altogether deserving of permanent popularity."—*London Weekly Review.*

London: Simpkin and Co., Paternoster-row; Hatchards, 187, Piccadilly; and Fegg, 73, Cheapside. Sold by all Booksellers.

PYRAMIDAL FRUIT TREES.—Now Ready,

THE MINIATURE FRUIT GARDEN; or, the Culture of Pyramidal Fruit Trees, adapted for Large or Small Gardens. By Thomas Rivers, of the Nurseries, Sawbridgeworth, Herts. With One Copper-plate and Nine Wood Engravings. Third Edition, entirely re-written, with an Appendix, containing a New Method of Cultivating Peaches and Nectarines, in a letter from H. B. Ker, Esq. Price 2s. Sold by Longman and Co. Sent also for 2s., post free, from Sawbridgeworth.

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Wm. Wood and Son have the pleasure of informing their friends that copies of the above will be sent, gratis, on application.—Woodlands Nursery, Maresfield, near Uckfield, Sussex.

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Printed for the Stationers' Company, and Published at their Hall, Ludgate-street, London, by George Greenhill; to whom Advertisements for insertion must be sent before November 1.

Printed by William Bradbury, of No. 6, York-place, Stoke Newington, and Frederick Mullett Evans, of No. 7, Church-row, Stoke Newington, both in the county of Middlesex, Printers, at their office in Lombard-street, in the Precinct of Whitefriars, in the city of London; and published by them at the Office, No. 5, Charles-street, in the parish of St. Paul's, Covent Garden, in the said county, where all Advertisements and Communications are to be addressed to the Editor.—Saturday, Oct. 28, 1848.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No 45.—1848.] SATURDAY, NOVEMBER 4. [Price 6d.

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UNBLOOMED SEEDLING GERANIUMS.—Now sending out, plants raised from Seed, carefully selected and hybridized from the choicest flowers, free by post, for 7*s.* 6*d.* per dozen; or 3 dozen for 20*s.* Prepayment only.
JOHN HINE, Providence Nursery, Ramsgate, Kent.

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W. P. AYRES having devoted nearly 20 years to the study of the above Sciences, both in theory and practice, and also had the honour of being consulted by the Nobility and Gentry, especially in relation to modern cultural improvements and high decorative art in the designing, laying out, and improvement of Gardens, Lawns, Pleasure Grounds, Horticultural Buildings, &c., begs to offer his services to superintend such works in every part of the country.
Designs, Specifications, and Estimates for Greenhouses, Conservatories, Flower-gardens, &c., furnished, and Flower-gardens arranged or modernised upon moderate terms.
Blackheath Park, near London, Nov. 4.

DOUBLE ROMAN AND PAPER WHITE NARCISSUS, 4*s.* per dozen.—The above Bulbs, the former of which is so justly esteemed for its early blooming and excessive fragrance, and the latter for its purity and elegance, have been just received at A. CORBETT'S Italian and Foreign Warehouse, 18, Pall-mall, near Waterloo-place. Also Dutch Hyacinths, Crocus, Tulips, Anemones, Ranunculus, &c.; priced Catalogues of which may be had per post.

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DICKSONS AND CO. beg to inform their Friends and the Floricultural Public generally that their unrivalled collection of CALCEOLARIAS, with those superb and much admired NEW PRIZE SEEDLINGS, raised by Mr. Weir, Gardener, Castle Craig, strong plants of which will be sent out in collections, as under, the first week in November, viz:

Six finest and most distinct varieties			£2	2	0
Twelve ditto	ditto	ditto	3	3	0
Eighteen ditto	ditto	ditto	4	4	0
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Finest varieties of collection 1847, price from 18*s.* to 42*s.* per dozen. Older ditto 12*s.* per dozen.
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*** Noblemen and Gentlemen supplied with Practical Gardeners, Land Stewards, and Foresters, whose character and abilities may be relied upon.
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Myatt's Victoria Rhubarb, large roots, per 100 60*s.*
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N.B.—Prices of Seeds can be had on application.

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Mount Pleasant Nursery, Green-street, near Sittingbourne.

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FINEST STOCK OF CEDRUS DEODARA IN ENGLAND.
WM. MAULE AND SONS beg to inform the Nobility and the Trade in particular that they intend disposing of the saleable portion of their fine Stock of CEDRUS DEODARA by public competition, and they have given Mr. J. C. Stevens instructions to offer the same at his Great Room, 38, King-street, Covent-garden, London, on Friday, Nov. 17.
*** See Auction Advertisement.
Stapleton-road Nurseries, Bristol, Nov. 4.

THE PERPETUAL TREE VIOLET (true), or VIOLA ARBOREA.—In answer to the numerous enquiries for the above, and the great satisfaction given by the plants sent out last season by EDWARD TILEY, he begs to state that he has this year a fine stock of the above beautiful DOUBLE VIOLET now to dispose of, which he can highly recommend, this being the proper time for making beds or potting. They are beautifully scented, the blooms are as large as the double blue Hepatica, they bloom freely from August till the end of May, and are perfectly hardy. 12 of these plants grown in pots will scent a large greenhouse, and a small bed 9 feet long by 3 feet wide will be sufficient to furnish a family with bouquets the whole of the winter and the spring. They should be planted in rather a dry situation, and in loose soil, as the Violet will thrive and bloom finer than in wet or clay borders.
E. T. has been informed by the gentleman that introduced it into this country, that he has seen them growing in the thickets of Persia to the height of 4 feet, with a large bushy head to it, and hundreds of blooms on them at the same time.
Large bushy plants 6*s.* per dozen, smaller ditto 3*s.* per dozen, or 1*l.* per 100, postage and package free to any part. A remittance in cash, or postage stamps, must accompany the order.
Nurseryman, Seedsman, & Florist, 16, Pulteney-bridge, Bath.

V. SCHERTZER AND SONS, FLORISTS AND SEEDSMEN, Haarlem, in Holland, beg to inform old and new customers in England, Scotland, and Ireland, that they have now sent out their CATALOGUE of VEGETABLE SEEDS for 1848. This and their List of Flower Seeds will be delivered gratis on prepaid application.

CAMELLIA STOCKS.
RENÉ LANGELIER begs to inform the public that he has several thousand fine plants of the above, all in pots, fit for grafting, at from 6*s.* to 7*s.* per 100. Also, a very extensive collection of the choicest sorts, some are to be put out in Conservatories. None but the best are kept by R. L. A remittance or reference is required from unknown correspondents. Clarendon Nurseries, St. Helier, Jersey.

MYATT'S LINNÆUS RHUBARB.—Messrs. J. MYATT and SONS have a stock of one-year planted roots of this superior variety, which has been the leading feature in the London Markets for several years, and which they confidently recommend as the best in cultivation—being far superior in point of produce and a fortnight earlier than their well-known Victoria. It is also peculiarly adapted for preserving and all culinary purposes, and for richness of flavour cannot be surpassed; price 2*s.* 6*d.* per root. Also Mitchell's Royal Albert, 2*s.* 6*d.*; and MYATT'S Victoria, 2*d.* The usual allowance to the Trade.
Post-office orders made payable to JOSEPH MYATT, Deptford.

ZAUSCHNERIA CALIFORNICA.—A Drawing of this fine new Hardy Plant appeared in Paxton's Magazine of Botany for October. The Editor says: "It must certainly be classed amongst our very best Herbaceous Plants, and when it has become sufficiently increased to admit of general distribution throughout the country, there will be few gardens where this fine ornament will not be grown." It forms a bushy perennial, about 3 feet high, and every branch emits from the axils of all the upper leaves a bright scarlet flower about an inch and a half long. As a bedding plant this promises to be very superior to either of the Cupheas: and grown as a specimen plant for exhibition it may be rendered a fine object.
The advertiser begs to offer three well rooted young plants free by post, in a tin case, on receipt of a post-office order for 1*s.*
H. SILVERLOCK, Nursery, Chichester, Sussex.

PLANTING SEASON. — Nursery Grounds, Red Lodge, North Stoneham, near Southampton. An unlimited supply of every description of FOREST, FRUIT, and ORNAMENTAL TREES, EVERGREENS, and AMERICAN PLANTS, FLOWERING SHRUBS, QUICKSETS, &c., &c., may be procured from these extensive grounds at the most reasonable prices. Catalogues of which may be had of the Proprietor, W. ROGERS, NURSERYMAN and CONTRACTING PLANTER.
Planting contracted for to any extent from 5*l.* to 20*l.* per acre.

SEEDLING FOREST TREES.

	Years.		*s.*	*d.*	*s.*	*d.*
Ash, 1 to 3 feet	1 2 3	per 1000	1	6	3	6
Beech, 1 to 3 feet	0 2 3	,,	2	6	5	0
Spanish Chestnut, 1 & 2 ft. (fine)	1 2 0	,,	7	0	10	0
Fir, Larch	0 0	,,	1	6	—	
,, Scotch (fine)	1 2 0	,,	1	0	2	0
,, Pineaster	1 0	,,	2	6	3	6
,, Sea Pine	1 3	,,	6	5	8	0
Mahonia (for cover)	1 — 0	,,	15	—	25	0
Furze (for cover)	0 2 0	,,	10	0	—	
Hazel (fine) 2 feet	0 2 0	,,	10	0	—	
Oak, English, 1 to 3 feet	1 2 3	,, 3*s.* 6*d.*	3	0	7	
Thorn, Quicksets	1 2 0	,,	2	0	3	

TRANSPLANTED FOREST TREES, 1 to 3 feet, adapted for extensive Forest or Coppice planting; for plants of a larger size, from 3 to 12 feet, for Ornamental Planting, the price varies from 25*s.* to 5*l.* per 100.

		s.	*s.*	*s.*
Ash ...	per 1000	15	20	30
Beech	... ...	15	20	30
Birch	... ...	15	20	40
Chestnut, Spanish		20	30	40
Elm ...	... ...	15	20	40
Fir, Larch ...	...	10	20	30
,, Scotch	...	10	15	20
,, Pineaster	...	10	15	20
,, Sea Pine— (Pinus maritima)		15	25	40
,, Spruce	...	20	40	80

		s.	*s.*	*s.*
Fir, Silver, p. 1000		40	60	80
,, Austrian (P. austriaca)	...	40	60	80
Hazel	... ...	15	25	30
Oak (true English Durmast)	...	40	...	60
Poplar, Black Canada	... ...	40	...	60
Sycamore	...	20	40	60
Willow, Common		40	80	80
Quicksets, 5*s.*.. 7*s.* 6*d.*, 12*s.* 6*d.*				

ORNAMENTAL TREES AND SHRUBS, &c.
Rhododendrons, bedded, 2 to 6 in., 2*s.*, 4*s.*, 8*s.* per 100
,, very fine, 1 to 2 feet, transplanted, 1*s.*, 20*s.* per 100
,, 3 to 5 feet, straight and handsome, for standards, 40*s.*, 5*s.* per 100
,, scarlet, 1 and 2 feet, 1*s.*, 3*s.* per dozen
,, roseum, 2 feet, 40*s.* per 100
,, hybrid Catawbiense, 1 foot, 20*s.* per 100
Kalmia latifolia, bedded, 12*s.* 6*d.* to 20*s.* per 100
,, ,, 1 to 2 feet, 40*s.*, 5*s.* per 100
Arbutus, bedded, 40*s.* per 100
,, 1 and 2 feet, 25*s.* and 40*s.* per 100
Laurel, 1 to 4 feet, 4*s.* to 25*s.* per 100
Portugal Laurel, 1 to 3 feet, 12*s.* 6*d.* to 30*s.* per 100
Sweet Bay, 1 to 2 feet, 25*s.* to 30*s.* per 100
Laurestine, bedded (small), 8*s.* per 100
,, 3 sorts, 1 to 1½ feet, 30*s.* to 40*s.* per 100
Holly, variegated, 1 to 2 feet, 25*s.* to 40*s.* per 100
Rose Stocks, 1 foot (Boursault) fit for budding or grafting, 4*s.* per 100
Single Camellia Stocks, from pots, 4*s.* per 100
Clematis azurea grandiflora, 6*s.* per 100
Weeping Willow, 3 to 4 feet, 20*s.* per 100
Deutzia scabra, 1 to 2 feet, 20*s.* per 100
Pinus maritima, from pots, 4*s.* per 100
Roses, Standards and Dwarfs, a most superb collection, 12*s.* to 18*s.* per dozen
Hollyhocks, from double flowers, 8*s.* per 100
China Roses, 12*s.* 6*d.* per 100 Irish Ivy, 5*s.* per 100
Pinus sylvestris (Scotch), on their own roots (from seed), in pots, 2 to 3 inches, 4*s.* per dozen, or 25*s.* per 100. This is the hardiest and most ornamental of the Pines.
The prices throughout are wholesale; if ordered in less quantity, a proportionately higher charge will be made.

FIRST-CLASS GERANIUMS.

JOHN HINE is now sending out his NEW VARIETIES of this autumn, viz.:

Delight	...	... 15s. 0d	Brilliant	...	... 15s. 0d
Rodolphus	...	... 21 0	Saffrano	...	... 10 6
Nobilissima	...	... 10 6	Magnibonum	...	7 6
Bellus	...	... 10 6	Childe Harold	...	15 0
Surprize	...	... 10 6	Venusta	...	... 15 0

Or the set of 10 for 5l. 5s.—For description of these, apply for Catalogue.

MILLER'S beautiful set of Eight, sent out for the first time last year, namely:

SCARLET DEFIANCE,	ADMIRATION,
ROSA MUNDI,	VALGIUS,
QUEEN OF KENT,	CONSPICABUNDUS,
DISTINCTUS,	FLORA'S FLAG,

Now only 1l. 5s.; or the two sets together for 6l.

Purchaser's selection from the following, at 25s. per doz.; or if taken with either of the above sets at 20s., namely: Snowball, Fireblaze, Garland, Salamander, Duke Constantine, Feu de Joie, Marion, Black Prince, Rosamond, Mount Etna, Voyager, Star of the West, Cruenta, Aurora, Brenhilda, Jenny Lind, Centurion, Isabella, Surpass, Admiral Napier, Blanche, Jet, Helena, Hebe's Lip, Competitor, Bacchus, Lord Hardinge, Princess Olga, Mary Queen of Scots, Orion, Pearl, Pickwick, Rosy Circle, Desdemona, Pelida, Aurantia, Florence, Melpome, Superb, Speciosa, Turban, Zenobia, Mustee, Milo, Attraction, Magnet, Venosa, Miss Sebright, Paragon, Samye, Arabella, Negress, Mars, Sultan (Arden's), Avalanche, Favorita, Margaretta, Marc Antony, La Polka, Merry Monarch, Empress, Purpurea, Pilot, Imperialis, Vugil, Delicata, Simouche, Meteor Superb, Eclipse, Telegraph Beauty Surpass, Sanguinea, Antagonist, Virgilius, Fairy, Tippoo Saib, and Formosa.

Also, a number of second-rate sorts, at from 10s. to 15s. per dozen, the selection left to J. G. H., and parties ordering may rely upon receiving fine and distinct varieties; but it would be well for them to send the names of those they possess, to prevent having duplicates. One or two plants will be put in gratis, to defray the expense of carriage. Cash to accompany all orders from unknown correspondents. Post-office orders to be made payable to the name of JOHN HINE, Providence Nursery, Ramsgate.

CHARLES DALY AND SON beg to inform the Trade and the Public that they are determined to sell out their large stock of THORNS and QUICKS, at the following prices: 2 year seedling, 1s. 6d. per 1000; 3 year do., 2s.; 2 year fine, 3s.; 1 year transplanted, 3s.; 2 year do., 4s. SPRUCE FIR, 2 year, 1s. 6d. per 1000; 2 year seedling do., 2 year transplanted, 5s. LARCH, 1 year, 1s. 6d.; 2 year do., 3s.; 3 year do., 4s. per 1000. BEECH, 1 year, fine, 1s. 6d. SYCAMORE, 1 year, 1s. 6d. SCOTCH FIR, 2 year, 1s. 6d. ASH, 2 year, 1s.; 3 year do., 1s. 6d. BIRCH and ELM, 1 year, 1s. 6d. per 1000. Common LAUREL, 1 to 2 feet, 9s. per 1000; Portugal do., 1 to 1½ feet, 6s. per 100. Broad-leaved Irish IVY, 2s. 6d. per 100. Irish YEWS, 1 to 1½ feet, 24s. per 100; 2 to 2½ feet, 50s. per 100; large furnished plants, 1s. each. Free to Liverpool or Glasgow.

Large Beech for hedges, 3s. per 100; 2 and 3 year transplanted Forest Trees put on board a steamer, free, for Liverpool or Glasgow, at 10s. per 1000. Large Ash, Mountain Ash, Poplars, Limes, and Horse Chestnuts, &c., sold cheap; 12 months' credit will be given from this date, by naming any respectable seed merchant whom they will pay to, as value may be taken in seeds for the amount. Messrs. Clarke and Co., 84, High-street, Borough, is our agent, where samples of Thorns, &c., may be seen. Five per cent. for cash allowed. We should be much obliged to our friends by paying their last year's account as soon as convenient.—Coleraine, Nov. 4.

SELECT PLANTS AND CHOICE FLOWER ROOTS, now sending out.

	s.	d.
GERANIUMS, 12 (Beck's, Lyne's, &c.) new varieties ...	50	0
,, 12 superb vars. of 1846, 25s.; 12 fine vars., 10s. 6d.; 25 vars., 10s.; other good vars., per doz., 6s. to	9	0
CHRYSANTHEMUMS, 12 superb vars., fine blooming plants	10	0
CARNATIONS, 12 pair superb show varieties	20	0
PICOTEES, 12 pair do. do.	20	0
STANDARD ROSES, 12 beautiful named vars.	20	0
DWARFS, do, per dozen, 9s. and 12s.; mixed dwarfs, without names, per 100	30	0
CLIMBING ROSES, 12 fine varieties	9	0
HARDY HERBACEOUS PLANTS, 100 select and showy vars....	50	0
,, 50 do., 30s.; 25 do.	17	6
ROCK PLANTS, 25 fine vars., 12s.; 12 vars.	7	6
GREENHOUSE PLANTS, 50 fine and select vars. ...	50	0
,, 25 do., 28s.; 12 do.	15	0
DO. and STOVE PLANTS, 12 fine vars. for winter and spring flowering	18	0
HOLLYHOCKS, 36 fine double vars., proved	20	0
,, 24 do., 15s.; 12 do.	9	0
ANTIRRHINUMS, 12 fine vars., 6s.; 12 superb new ...	10	0
SWEET WILLIAMS, 12 fine double varieties	6	0
RHUBARB, Mitchell's Royal Albert, 2s. 6d. each; Myatt's Victoria, 9s. per doz.; Tobolsk and Radford's Giant, per doz.	5	0
GOOSEBERRIES, 20 named prize varieties	15	0
,, 12 do., 9s.; 12 fine named vars.	4	6

CHOICE FLOWER ROOTS.

IMPORTED DUTCH HYACINTHS (with instructions for beds, pots, and glasses), 12 fine vars., 6s.; 12 superb vars., 9s.; 24 fine vars., 12s.; 24 superb vars., 15s.; fine mixed do., of all colours, per doz.	3	0
EARLY TULIPS, 20 fine vars., 8s.; 12 vars.	5	0
DOUBLE TULIPS, 10 fine vars., 4s. 6d.; 3 roots each ...	12	0
NARCISSUS, 6 best vars., 3s.; 3 of each 6 vars.	8	6
CROCUS, David Rizzio, and new large white, per 100 ...	5	0
,, 200 roots in 6 distinct varieties	5	0
ANEMONES, 12 fine named double vars., best colours ...	3	6
,, best mixed double, 2s.; fine mixed, per doz. ...	1	3
ENGLISH IRIS, 12 splendid vars., 7s. 6d.; 24 vars., 10s. 6d.; fine mixed, 2s. per doz., per 100	15	0
SPANISH IRIS, 1s. 6d. doz., per 100	9	0
GERMAN IRIS, Salter's vars., superb mixed, per dozen	6	0
GLADIOLUS, 12 splendid named early vars., free by post	15	0
,, splendid mixed early hybrids, 3s. 6d. per doz., free by post for 4s. 3d.; Floribundus, large roots, 2s. 6d. per doz.; Cardinalis, 4s. per doz.; Psittacinus, 1s. 6d. per doz.; Psittacinus sanguineus, 1s. each; Gandavensis, large roots, 1s. 6d. each; Insignis, fine, 2s. 6d. each; Rex Rubrorum, rich dark, new, 5s. each; Splendens, fine, each	5	0
LILIUM LANCIFOLIUM ALBUM, 1s. to 3s. 6d. each; punctatum, 5s. each; rubrum or speciosum, each ...	7	6
RANUNCULUS (with printed instructions for culture), superb new vars., selected from an immense number of seedlings (free by post), 50 vars., 40s.; 25 vars., 22s. 6d.; 50 fine older vars., 15s.; 25 vars., 8s.; best mixed, 10s. per 100; fine	5	0

A DESCRIPTIVE PRICED CATALOGUE of choice Flower Roots, select Roses and Shrubs, hardy Herbaceous and Climbing Plants, &c., sent free by post on application. Goods free to London, and, for long carriage, extra articles presented. Remittances requested from unknown correspondents. Post-office orders payable to STEPHEN BROWN, or to BASS and BROWN, Seed and Horticultural Establishment, Sudbury, Suffolk.

THE TRUE FASTOLFF RASPBERRY.—This valuable and highly esteemed Raspberry, unequalled for its size and richness of flavour, and originally sent out by YOUELL and CO., can now be supplied by them of the same stock they had the honour of furnishing Her Majesty's Gardens at Windsor, and most of the Nobility, as well as having the Certificates of Merit awarded them for it by the London Horticultural Society. Packages containing 100 canes, 15s.; ditto, 50 ditto, 7s. 6d.

NOW READY FOR EARLY FORCING.

YOUELL'S TOBOLSK RHUBARB (the earliest known), producing fine stalks of a bright transparent pink. Roots planted in a cellar or dark closet NOW, will be fit for cutting the latter end of December. Extra strong roots, 9s. to 12s. per dozen; smaller, 6s. per dozen. STRONG GIANT ASPARAGUS, 2s. 6d. per 100; and SEAKALE, 2s. per dozen.

FRUIT TREES,

Comprising the finest sorts of Peaches, Nectarines, Apricots, Plums, Cherries, Pears, Apples, Gooseberries, and Currants, warranted correct to name, as obtained from the London Horticultural Society.

WHITETHORN.

Several millions of fine Whitethorn, suitable for Planters and Contractors, at 3s. 6d. per 1000.

STANDARD ROSES of the finest sorts, 12s. to 18s. per doz.

For particulars of their extensive collection of the finest CARNATIONS, PICOTEES, PINKS, CEDRUS DEODARA and other rare Coniferæ, see their Advertisement of Sept. 9, Oct. 21, and Oct. 28.—Great Yarmouth Nursery.

ROYAL ALBERT RHUBARB.

WM. MITCHELL begs to call attention to the above excellent variety, which still retains its supremacy over all other sorts hitherto produced, being from two to three weeks earlier than any kind now grown. It has other qualities eminently entitled to notice; it is most delicious in flavour, of a bright red colour, a most prolific bearer and free grower, with large fleshy stalks, and for early forcing is more suitable than any other variety. Specimens of this splendid vegetable have been inspected and highly approved of by her Majesty, by whose commands it has been introduced into the Royal Gardens, Windsor. Also Mons. Soyer, of the Reform Club, and other eminent judges, have declared this Rhubarb to surpass anything of the kind ever eaten, and all the principal growers attending the London markets have pronounced it to be by far the best in cultivation. In addition, W. M. begs leave to observe that this Rhubarb is the same as was sold so early last season in Manchester, Birmingham, Liverpool, Cambridge, Brighton, and other large provincial towns, where it gave universal satisfaction by its extreme earliness, quality, and beauty.

Strong one year planted roots will be sent out at the end of October, at 2s. 6d. each. Also, Myatt's Linnæus, 2s. 6d., and Victoria, 9d. each. The usual trade allowances.

Remittances requested from unknown correspondents by post-office order, made payable to WILLIAM MITCHELL, Enfield Highway, Middlesex, Post office, Enfield.—Nov. 4.

MR. GORDON'S FINE WHITE SPINE CUCUMBER is now offered to the horticultural world at 2s. 6d. per packet, containing 10 seeds, post free.

W. G., late gardener to His Grace the Duke of Manchester for 30 years, can with safety recommend this fine variety without fear, having grown the same for 10 years with the greatest success, both as to early and late work. The habit of the plant, when well grown, is strong and robust, and a very prolific bearer. The fruit, of a dark green colour, of great beauty and symmetry, with a fine bloom, without rib or blemish, and will run from 16 to 24 inches in length. This variety is well known in the counties of Cambridge and Huntingdon; when exhibited at the horticultural shows, second to none. The true and genuine Seed can only be obtained from W. GORDON, Kimbolton, Hunts.

SUPERB NEW SEEDLING CINERARIAS, which have merited the following descriptions and opinions.

ROGERS'S LADY COTTON SHEPPARD.—Strong plants, 10s. 6d. each.

THE FLORIST, July 1848.—"G. R. Your seedling, Lady C. Sheppard, is a good flower, petals broad, well rounded at the points, and equally divided between white and bright crimson colour, disk dark and the flower a good size."

FLORICULTURAL CABINET, July 1848.—"G. R. Your seedling, Lady C. Sheppard, is a very striking flower, the colours being bright and distinctly defined, and the form excellent; if of a good habit it will be one of the best."

THE GARDENERS' CHRONICLE, June 10, 1848.—"G. R. Your seedling is a good variety." And then describes the colour, as above.

ROGERS'S LADY TAMWORTH.—Strong plants, 7s. 6d. each.

THE FLORIST, June 1848.—"G. R. Your seedling, Lady Tamworth, is a very pretty variety, the dark disk is surrounded by a narrow ring of white, the remainder of the petals being a bright crimson; the petals are short and the flower a good shape."

FLORICULTURAL CABINET, June 1848.—"Lady Tamworth, good form and petal, better than many kinds recently sent out."

THE GARDENERS' CHRONICLE, April 29, 1848.—"Lady Tamworth is a good variety." And then describes the colours, as above.

ROGERS'S BEAUTY OF UTTOXETER.—Strong plants, 7s. 6d. each.

FLORICULTURAL CABINET, June 1848.—"G. R. Beauty of Uttoxeter, disk dark, next a white circle, and the rest a brilliant blue; petal and form excellent, 1 inch across."

GEORGE ROGERS, SEEDSMAN AND FLORIST, has great pleasure in offering the above beautiful CINERARIAS, and begs to add to the above description, that they are of a good habit and form, broad and compact heads of bloom, and will prove decided acquisitions to this beautiful tribe of plants.

SELECT PLANTS.

Puja Altensteinii ...	5s. 0d.	Weigela rosea ...	1s. 6d.
Pitcarnia punicea ...	2 6	Forsythia viridissima	2 6
Plumbago Larpentæ 2s. 6d. to	5 0	Myosotis azoricus ...	1 6
Zauschneria Californica	3 6	Polygala Dalmasiana	2 6
Salvia Mexicanum ...	1 6	Calceolaria amplexicaule	1 6
,, coccinea splendens	1 6	Phlox imbricata ...	3 6
		The 12 plants for	25 0

12 Superior Show PANSIES, 20s., the names can be supplied where required.
12 Fine CINERARIAS, including the above 3 seedlings, 32s.
12 Superior Show GERANIUMS, 30s.
True FASTOLFF RASPBERRY, strong canes, 7s. 6d. per 100.
BERBERIS AQUIFOLIA, strong bushy plants, 1 to 2 feet, 20s. per 100.

G. R. begs to state that in consequence of the North Staffordshire Railway being opened, and a first class station having been erected at Uttoxeter, an easy and speedy transit is now offered for all goods sent from here to any part of the kingdom. All orders containing a remittance will be exempt from charge for hampers or packages.

The above are now ready to send out. Agents, Messrs. Hurst and M'Mullen, 6, Leadenhall-street, London.

Uttoxeter, Staffordshire.

GERANIUMS, CARNATIONS, PICOTEES, PINKS, POLYANTHUSES, AURICULAS, &c.

JAMES WALKER most respectfully begs to call the attention of the Public to his CATALOGUE of the above-named popular Florists' Flowers, which is now ready, and may be had gratis on prepaid application.

Rhodes, Middleton, near Manchester.

YARMOUTH BLOATERS.—GENUINE AND OF THE FINEST QUALITY.

Yarmouth has for centuries been justly celebrated for its well-known "Yarmouth Bloaters," the delicacy of which, when obtained in their genuine state, requires no comment. Such an opportunity is now offered; and they can be forwarded to any part of the kingdom, or for exportation (on receipt of a post-office order) at 12s. per 100, package included.—All orders to be addressed to Mr. FREDERICK BROUGHTON YOUELL, Church-square, Great Yarmouth.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND Co., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS FOR CONSERVATORIES.

CUT TO SIZE UP TO 40 INCHES LONG. 16 oz. from 3d. to 3½d. per foot.	PRICES OF SMALL SHEET SQUARES, In boxes of 100 feet.	s.	d.
21 ,, 3½ 5 ,,	Under .. .. 6 by 4	.12	6
26 ,, 3¼ 7½ ,,	6 by 4 and under 7 by 5	.16	6
32 ,, 4 9½ ,,	7 by 5 ,, 8 by 6	.18	6
	8 by 6 ,, 10 by 8	.20	6

GLASS MILK PANS, PROPAGATING GLASSES, AND BEE GLASSES. GLASS TILES AND SLATES.

CREAM POTS, from 3 to 24 quarts, at 6d. per quart.

CUCUMBER GLASSES, from 12 to 26 inches long, 1d. p. inch.

LACTOMETERS for trying the quality of Milk, 4 tubes 7s. 6d., 6 tubes, 10s.; Peach Glasses 10d. each; Fish Globes from 1s. 6d. each; Wasp and Fly Traps 3s. 6d. per dozen; Plate and Window Glass; Lamp Shades and Chimneys.

METAL HAND-FRAMES.

HARTLEY'S PATENT ROUGH PLATE, AND PATENT DOUBLE CROWN GLASS.

HYACINTH GLASSES, GARDEN FRAMES, &c.

JAMES PHILLIPS AND CO. have a large assortment of ROOT GLASSES of every variety of colour. Usual shape, 4s. per dozen, or 42s. per gross; improved shape, 7s. per dozen, or 9d. each. Hyacinth Dishes, to hold from 3 to 12 varieties, from 1s. to 3s. each. Wire Supporters, 6d. each.

METAL HAND FRAMES.

12 inch.....	3	0	Glazed	6s.	0d.
14 ,, ...	3	6	,, ...	7	0
16 ,, ...	4	0	,, ...	8	0
18 ,, ...	4	6	,, ...	9	0
20 ,, ...	5	0	,, ...	10	0
24 ,, ...	6	0	,, ...	12	0

To open at top, 1s. each extra.

Address, 116, Bishopsgate-street Without, London.

*** See preceding Advertisement for Sheet Glass.

GLASS FOR HORTICULTURAL PURPOSES.

HARTLEY'S PATENT ROUGH PLATE AND PATENT DOUBLE CROWN GLASS is admitted by Practical Men to be the greatest Improvement yet discovered in the Manufacture of Glass for the above uses; the extraordinarily low prices must continue to ensure for it an extensive sale. Sold, strictly at the Manufacturer's prices, by WILLIAM PATTEN and Co., Lead, Glass, and Colour Merchants, 20, Old Fish-street, London; sole Manufacturers of Anti-Corrosion and Mineral Paint for all kinds of Out-houses, Farm-buildings, Park-fencing, &c.

GLASS FOR CONSERVATORIES, GREENHOUSES, PIT FRAMES, &c.

HETLEY AND CO. are supplying 16-oz. Sheet Glass, of British Manufacture, packed in boxes containing 100 square feet each, at the following REDUCED PRICES for cash. A reduction made on 1000 feet.

Sizes. Inches.	Inches.	Per foot.	Per 100 feet.
	Under 6 by 4 at	1½d. is	£0 12 6
From 6 ,, 4 ,,	7 ,, 5 ,,	2d. ,,	0 16 8
7 ,, 5 ,,	8 ,, 6 ,,	2¼d. ,,	0 18 9
8 ,, 6 ,,	10 ,, 8 ,,	2¾d. ,,	1 0 10
10 ,, 8 ,,	12 ,, 9 ,,	2¾d. ,,	1 2 11

Larger sizes, not exceeding 40 inches long.

16 oz. from 3d. to 3½d. per square foot, according to size.				
21 oz. ,, 3½d.	5d.	,,	,,	,,
26 oz. ,, 3¾d.	7½d.	,,	,,	,,

PATENT ROUGH PLATE, THICK CROWN GLASS, and PATENT PLATE GLASS for Horticultural purposes, at reduced prices, by the 100 square feet.

GLASS TILES AND SLATES made to any size or pattern, either in Sheet or Rough Plate Glass.

Propagating Glasses, Bee-hive Glasses, Cucumber Tubes, Glass Milk Pans, Glass Water Pipes, and various other articles not hitherto manufactured in glass.

PATENT PLATE GLASS.—The present extremely moderate price of this superior article should cause it to supersede all other inferior window glass in a gentleman's residence. No alteration connected with the sash is required.

GLASS SHADES, as ornamental to, and for the preservation of every description of goods susceptible of injury by exposure. Prices, since the removal of the Excise duty, reduced one-half. List of Prices and Estimates forwarded on application to JAMES HETLEY and Co., 35, Soho-square, London.

GLASS FOR GREENHOUSES, CONSERVATORIES, GARDEN FRAMES, &c.

Hothouse Builders, Nurserymen, and others, supplied with every description of Sheet and Crown Glass, Rough Plate, &c. Glass Tiles, Propagating, Cucumber, and all other Garden Glasses.—Address, T. COGAN, 48, Leicester-square, London.

PRICES OF SMALL SQUARES IN BOXES OF 100 FEET.

	Crown.	Sheet.
Squares under 6 by 4	10s. 6d.	£0 12s. 6d.
6 by 4 and under 7 by 5	14 0	0 16 6
7 by 5 ,, 8 by 6	15 0	0 18 6
8 by 6 ,, 10 by 8	16 0	1 0 6

Larger sizes, of all qualities and substances, equally low.

PAINTS.—LITHIC AND OTHER DURABLE PAINTS, ready for use for FARM Buildings, Agricultural Implements, Park Fences, Outhouses, &c., &c. Genuine White-lead, Colours, Brushes, &c., best quality, and lowest prices.

GLASS MILK PANS FOR THE DAIRY.

Cream Pots, Lactometers, Glass Rolling Pins, Pastry Pans, Shades for Ornaments, Lamp Shades, &c., as usual. For Lists, (priced) direct to T. COGAN, Glass, Colour, and Lead Warehouse, 48, Leicester-square, London.

NOLAN, of the Noah's Ark, 33, Bachelor's-walk, Dublin, has for sale some magnificent Specimens of the following varieties of POULTRY, viz.:—Cochin China, Malay, Dorking, Sussex, Spanish, Spangled Hamburgh, Polish Pheasant Fowl, with Gold, Silver, White, and Pied Pheasants, American and Norfolk Turkeys, Pea Fowl, Swans, Ornamental Water Fowl, &c. &c.

TULIPS, RANUNCULUSES, ANEMONES, HYACINTHS, AURICULAS, AND LILIUM LANCIFOLIUM.

HENRY GROOM, Clapham-rise, near London, by Appointment Florist to Her Majesty the Queen, and to His Majesty the King of Saxony, begs to recommend to the attention of the Nobility, Gentry, and Amateurs, his extensive assortment of the above Flowers, which he can supply of the best quality. He begs to state that this is a good season of the year to make a selection of the various kinds.

100 TULIPS, in 100 very fine sorts, named ...	£7	7	0
100 do. in 50 do. do. ...	5	5	0
Superfine mixtures, per 100, from 7s. 6d. to ...	1	1	0
100 RANUNCULUSES, in 100 superfine sorts, named...	2	10	0
Superfine mixtures, per 100, from 5s. to	1	1	0
100 ANEMONES, in 50 superfine sorts, named, new collection	2	2	0
Superfine mixtures, per 100, from 6s. to	0	10	6
12 HYACINTHS, in 12 fine sorts, named... ...	0	9	0
25 AURICULAS, in 25 superfine sorts, named ...	2	10	0
12 do. in 12 good kinds, do.	0	18	0
LILIUM LANCIFOLIUM ALBUM, good bulbs, each, from 1s. to...	0	2	6
Do. do. PUNCTATUM, each, from 3s. 6d. to ...	0	7	6
Do. do. RUBRUM or SPECIOSUM, ea., from 5s. to	1	1	0
Do. do. ROSEUM, each, from 5s. to...	0	15	0
A new collection of Hybrid Seedling LILIES, 6 sorts for	0	18	0

A Catalogue of Tulips, &c., may be had on application.

The Gardeners' Chronicle.

SATURDAY, NOVEMBER 4, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

Monday,	Nov.	6	Entomological ..... 8 P.M.
Tuesday,	—	7	Horticultural ..... 2 P.M. Linnean ..... 8 P.M.
Saturday,	—	11	Royal Botanic ..... 3½ P.M.
Wednesday,	—	15	Geological ..... 8½ P.M.

It will be in the recollection of some of the readers of the *Gardeners' Chronicle*, that, at p. 685 of the volume for last year, we published a letter from Dr. Jamieson, of Quito, giving an account of an Eatable Root, called *Melloca tuberosa*. We have now to state that this plant has been introduced to Europe by the French, and been successfully cultivated by M. de Jonghe, a Belgian gentleman, who has, with much liberality, favoured us with a few of the tubers, which have been transferred to the Garden of the Horticultural Society, where they will be propagated. They resemble small Kidney Potatoes, especially a little German variety used for garnishing, and called, if we remember right, *die Kleine Mäuschen*. The following are extracts from M. de Jonghe's letter:

"A rooted cutting of this plant was sent to me the 14th of last April, by M. Vilmorin, junior, of Paris, described as having come originally from Peru. It was nursed for the first eight days in a frame; and on the 3d of May it was planted out in a border of light rich soil in my garden. It emitted a great number of branches, which were successively covered with soil, the extremities only being left exposed. This operation was frequently repeated up to the 20th of July. Having then remarked an appearance of flowers in the axils of the leaves, the earthing-up was discontinued. The flower buds did not, however, expand, owing, probably, to the coldness of the season. The appearance of the buds made me think the plant might be a Dioscorea. All at once the name *Olluco*, under which I received it, put me in trace of its true name, *Ullucus tuberosus*, a plant described by Lozane, and inserted in vol. iii., p. 360, of De Candolle's 'Prodromus.' On inspecting the plant on the 10th of September, in order to put some of its branches in a large pot, to be sent to the great Agricultural and Horticultural Exhibition, I discovered below each of the branches, and attached to the roots, 6 or 8 tubers.

"The other part of this plant still remains in the ground, and is yet as green as an Olive. As many as 50 tubers have been already obtained, and it may be stated that a single plant, struck from a cutting in spring, and occupying only a surface of 2 feet square, has furnished 56 strong tubers, and 62 of smaller dimensions. If a frame were to be placed over the plant, it would probably continue to vegetate and form a succession of young tubers throughout the winter; for, in the high Cordilleras, its native habitat, it is said to be a perennial evergreen.

"This experiment of its cultivation, and the results I have obtained, have been witnessed by thousands of visitors; and I conclude that this new tuberous alimentary plant merits as much the attention of English agriculturists as it does of those of Belgium.

"In the month of June I sacrificed some branches for the purpose of making a culinary preparation; but the trial did not answer my expectation, owing to the stems having become too woody. Other branches given to a cow, stall-fed in the summer, were eagerly swallowed. The herbage afforded by the plant is abundant, and forms excellent food, especially for cows; for it is full of mucilaginous juice.

"As my sole desire is that this eminently useful plant, so available in all its parts, may be rapidly propagated in our climate, I have distributed it *gratuitously* to many Belgian agriculturists. Mr. MacKenzie, of Eileanach, had one of the largest when over at the Agricultural Meeting at Brussels."

As we have already said, these tubers look like little Kidney Potatoes. We have not ascertained their quality as food, nor does M. de Jonghe speak of it; but this, at least, is certain that they belong to a perfectly harmless family, and that they have a great reputation in Peru, as will be seen by referring to Dr. Jamieson's letter in the place above quoted.

We learn that the attempt to which we referred some weeks ago as about to be made by a part of the Council of the Royal Dublin Horticultural Society, to procure a revision of the rules, has been altogether abandoned.

It has long been known that the Council has been divided into two parties. Of these one was resolutely opposed to all change, believing no doubt that what the world called self-seeking, jobbing, and perverse hostility to gardeners as a body, was only a legitimate exercise of power for the benefit of horticulture. The other party thought that funds subscribed for the promotion of gardening should be made beneficial to gardeners, that it was not desirable for members of any governing body to manage matters as if the chief object was to suit their own private ends, and that, admitting no real injustice to have been thus committed, the practice had, at least, so bad an appearance that gentlemen having a regard for their reputation could not acquiesce in it. At last the dispute has been brought to an issue by a recent determination of the acting members of the Council to persevere in confirming a prize to one of themselves, under the very questionable circumstances noticed at the time. The particulars of this injudicious proceeding have been already given (see pp. 470, 509), and need not be now repeated.

We should have been much surprised had this decision had any other result than that which has attended it. The act of the Council showed in a manner not to be mistaken that it was hopeless to propose improvements in the management of the Royal Dublin Horticultural Society. At the best it could not but be felt that the spirit of this resolution was entirely at variance with any sound rules that could be proposed, so that if amendments were to be carried it could only be done by causing such a degree of disunion in the Council as would in itself be fatal to the Society.

Under such circumstances the staunch friends of horticulture had but one course open to them—that of constituting another Society upon sounder principles. This has been done, as we are informed, in the most gratifying manner; and already the nucleus has been formed of The Dublin Horticultural Association, among the members of which we venture to predict will speedily be found enrolled the names of all that are most powerful and useful in the Sister Kingdom. We trust that with this new body will be immediately incorporated the Practical Society of Horticulture, whose motives for originally separating from the parent Society no longer exist, who know what weakness is, even although associated with good intentions, and who must have discovered long ago that to have strength there must be union. The most important members of the Practical Society are too disinterested not to give their aid to an association which will have the means to promote the objects which they have themselves at heart, but which they are not likely to attain of themselves, because of the fatal consequences of their own early injudicious proceedings, if for no other reason.

The pressure of other matter prevents our doing more this week than announcing the gratifying fact that Horticulture may now be really expected to become in Ireland what it is in England. The importance of such an event in such a country cannot be over-estimated, and demands at our hands a degree of notice for which we shall provide adequate space another week.

In pointing out the great importance to gardeners of the observations on Night Temperature, made in New Holland by Sir Thomas Mitchell (p. 683), we did so for the purpose of once more drawing attention, by means of a very startling case, to one of the great natural laws which influence vegetation all over the world—except in forcing-houses, where it is often neglected or counteracted.

In all countries it is colder by night than by day, and during the greater part of the year so much colder that the progress of vegetation in the dark hours is greatly diminished or wholly stayed. Thus plants are provided with diurnal rest, which is as necessary to them as to animals. We are too apt to forget this—that plants are *living* things, that they possess the principle of *life*, or vitality, like animals, and that they are affected by similar causes. We fail to recognise in them the living principle; we treat them as if they were stones or minerals; and yet there is nothing more certain than that they, although destitute of sensation, demand in many respects the same conditions as animals, if their health is to be maintained. The principle of life is everywhere the same; it is only different in its manifestations; and therefore, since animals, in order to maintain their health, demand, because of their vitality, a daily cessation from action, so do plants.

Thus far plants and animals differ, that whereas daily repose is generally sufficient for the latter, the former, live certain reptiles, demand a long periodical slumber as well; and which Nature furnishes them by means of winter in some countries, and a dry season in others.

When plants grow under natural conditions, they make little progress at night: in our forcing houses they are incessantly driven onwards by heat and moisture night and day. Some observations made in the Garden of the Horticultural Society a few years since place this in a very striking light. Certain plants were placed for several weeks in a stove, with a high night temperature—supposed to average 69°, the following were the rates of growth in inches:

	Night.	Day.
Fig ...	7.09	9.92
Willow ...	19.04	27.—
Pelargonium ...	8.20	9.25
Vine	24.15	27.—
	59.03	101.77

That is to say, they grew as fast by night as by day, for the apparent difference is obviously unimportant. But when these and other plants were grown in the open air, exposed to the low night temperature of England, the result was wholly different, as will be seen by the following table:

	Night.	Day.
Fig	1.—	6.93
Willow	2.77	9.44
Hop	42.02	166.56
Vine	2.54	8.29
Scarlet Runner ...	24.11	86.72
Jerusalem Artichoke ...	9.25	22.25
Gourd	21.25	49.05
	102.53	351.49

The last experiment being carried still further, by observations continued during a part of another month, the result remained the same, the total growth by night being 119.07, and by day 387.16. Thus we see that plants exposed to natural circumstances only made 1 inch of growth by night, while they made 3 by day; but that, on the contrary, under bad artificial treatment, they grew equally day and night.

The inevitable consequence of this inversion of natural growth is immature or unripe wood, with imperfect ill-constructed buds, and a feeble constitution, entirely incapable of bearing the shock of great falls in temperature. More especially, water accumulates in the system, and is never decomposed or removed by perspiration in the requisite degree. In short, plants growing fast by night can neither ripen their wood nor form their inner structure well. And before they are incapable of developing their natural beauty, or of resisting those extremes of temperature which are natural to them.

This is in part the reason why our greenhouse plants would perish under the night temperature to which they are exposed in New Holland. They are in the condition of a Peach tree kept growing fast in a forcing-house, and turned out for the winter without having ripened its wood: when that is done it dies, and yet the Peach-tree, when properly ripened, is capable of resisting much severer winters than England ever knows. An Oak tree, treated in the same way would be as tender.

This, we say, is the reason in part—but not the whole reason, why southern plants will bear at home a rigour of climate that would be fatal to them here. There are, however, circumstances in their natural climate which greatly assist in hardening them, and which gardeners cannot command. They are exposed to long dry bright days, which rapidly dispose of the moisture that plants obtain by their surface, and which enable them to digest their food completely as it is absorbed. Hence wild New Holland plants are short-jointed and firm-leaved, so unlike our ill cultivated bushes that the Botanist can distinguish in the Herbarium wild from garden species, by the flabbiness and spindling condition of the one, as compared with the hardness and stiffness of the other.

It is also to be remembered that these natural functions which tend to the most complete organization of plants are greatly promoted by a high temperature. Digestion, perspiration, assimilation, &c., *are so many chemical changes set in action and controlled by vitality*—not mere chemical changes as materialists assert. Now all chemical changes are facilitated and augmented by heat: while on the other hand they are stopped, suspended, or diminished by cold. But the organization of the interior of plants being dependent upon chemical changes in their fluid and gaseous contents, it will be more or less perfect in proportion to the temperature to which they are exposed—of course within certain limits. It is solar light, and the high temperature attendant on it, which gardeners cannot

command; and so far they are placed at a great disadvantage.

If, however, the English gardener cannot command an Italian or Australian sun, if he cannot expose his plants for days together to a temperature of 100°—115°, and if, therefore, he cannot harden their tissues and strengthen their constitution so as to enable them to bear the rudeness of their native land, there are other things which he can do. He can keep down their growth at night, he can maintain among them continual currents of air, he can cease to coddle and caress them as if they were so many consumptive children, and having done this skilfully he will have done all that the circumstances of his position render possible.

It will be apparent from these remarks that we do not recommend gardeners to freeze their greenhouse and stove plants, because they are frozen habitually in Australia, and occasionally in Bengal. He cannot possibly do artificially all that is requisite to enable plants to bear such extremes. But that is no reason why he should not approach the operations of Nature as near as the different circumstances will permit, and why he should not so treat his plants as will enable them to bear a degree of cold to which, when mismanaged, he dare not expose them.

That greenhouses ought not to be heated at night more than is sufficient to exclude frost is certain; that, if properly prepared, plants will bear frost is also indisputable, as indeed is proved by the Camellias, Chinese Azaleas, and similar plants which are kept in cold frames through our hardest winters, and where they thrive far better than in greenhouses.

With stove plants it is different: experiments are needed to determine how much cold they will bear at night. For ourselves we strongly recommend that question to the attention of gardeners, being well assured that the colder they can be safely kept the better for the plants. We must not forget that Mr. Barnes fruited admirable Pines in the open air, and that where Cymbidium canaliculatum was found by Sir Thomas Mitchell in full flower, the thermometer fell at night to 33° and 34°. It is probable that a minimum night temperature of 40° or 45° will be found sufficient, as Mr. Beaton long since asserted; especially if the soil can be maintained at 60° or 65°.

This is not a mere gardening question: it is one to which coal merchants' bills give another, but by no means unimportant, aspect.

The hardiness of the Cryptomeria japonica having now been ascertained to be equal to its beauty, we are glad to draw attention to a sale of very fine plants, from 3 to 7 feet high, which will take place at Stevens's on Tuesday. They are admirable specimens of cultivation, we believe not to be rivalled in the trade, and are accompanied by some other rare and hardy Conifers.

NOTES on INSECTS INJURIOUS to VEGETATION

THAT HAVE APPEARED IN BERWICKSHIRE DURING 1848.

Sitona lineata.— One of the most hurtful insects during the season was Sitona lineata, one of the weevils or Curculionidæ. It survived the winter, and the mild and dry spring favoured it greatly, so that it appeared in immense numbers. It frequents the Leguminosæ, and caused great damage to late-sown Beans, Peas, and Tares, by eating the young leaves before the rains came and enabled the plants to throw out additional foliage to repair the damage occasioned by the loss of the organs that supplied their earliest sustenance. In the gardens many of the crops of Peas had to be sown a second time. Sometimes five or six individuals were found on a single plant. In cold weather they hid themselves beneath the clods and stones, but a hot day put the whole race in a ferment; and they might then be seen crawling over the fields in all directions. The farmers imputed the effects to slugs, but the Sitonæ were the real depredators. Their attacks are not limited to the spring, but the insects go on increasing in numbers till the crops are cut. The luxuriance of the plants prevents their presence, at a later period, from being felt; but where the crop is poor, it often suffers in being deprived of the support of the foliage, which they have devoured or shattered. I am inclined to believe that this is not the only damage they inflict, but that the worm so injurious to the Pea crop, while in the pod, is their larva. In this district we have no Bruchi to which this can be attributed. I observe that the seeds of the Furze are destroyed in a similar manner by large larvæ, which I consider to belong to S. regentsteinensis, S. sulcifrons, and S. hispidula, species that frequent that shrub. Oxystoma ulicis, a much more minute insect, with a long thin snout, also attacks the seed of the Furze in its larva state, and is reared within the pod; but these larvæ are too large to be assigned to it. Towards the latter part of the season, the Sitona was joined by the Aphis ulmariæ or Viciæ, as it is sometimes called, in considerable numbers, a plump, green, or pink coloured species, almost exclusively attached to the Leguminosæ. But the Sitona was still the principal assailant.

It is an insect less than a grain of Oats, broader behind than in front, and gradually narrower from the thorax forward. It is sandy-coloured or fuscous above, with some silvery or coppery tinted scales intermixed; the throat, the sides of the breast, and the belly beneath, are thickly covered with whitish or ashy grey scales. The head, but for the eyes, would be an irregular oblong; the eyes are rather large and projecting; before them the head is produced into a short snout, which narrows a little anteriorly, and is cut across obtusely, so as to leave the tip still broad; a furrow runs down the centre of the head, and the nose at its tip is slightly cut out. The scales on the head are rather more coppery on the crown, near the margins of the eyes, and at the tip of the rostrum. The antennæ spring from near the apex of the snout, and are of considerable length; when at rest they lie along an oblique groove, situated before the eyes, into which part of the basal joint fits. The first joint is thin and club-shaped, and the rest of the joints are given off from it, in the manner of an elbow; they are short, and taken together are longer than the basal one; the external ones form a longish cone-shaped club; their colour is reddish. The thorax is not much broader than the hind part of the head, and its sides are rounded; it is slightly contracted behind, but not so much as in front; there is a narrowish stripe down its centre, and two other broader arched bands on the sides, whose colour is whitish, or they are ornamented with brownish coppery shining scales. The base of the elytra is considerably broader than the thorax, and their entire shape is that of an elongated cone, being gradually narrowed at the apex, which is obtuse, and slightly rounded; they are considerably convex above, and are nearly uniformly fuscous, or sandy coloured, punctate striate, with a stripe at the base of the suture, and one on each shoulder, whitish or coppery. The thighs are dusky and scaly nearly like the rest of the body, their lips being rusty; the shanks are rusty red, and the joints of the feet are rather dusky; the third joint consists of two strong lobes, which lie something like a V; and the next apparent joint lying between these, is linear, and is terminated by two hooked claws. These joints confer a considerable power in grasping objects.

Provincially these insects are called "cuddies," *i.e.* asses, their colour, and a certain remote resemblance, having provoked popular comparison. They usually survive the winter in moss, within the shelter of stone walls, or in the hay or corn ricks; and in the first genial days of spring, they may be seen issuing forth, and ascending stone walls, and other eminences, in which they evince great perseverance, and appear to have considerable enjoyment, as place them as low as possible, they still show a propensity to mount upwards. This rambling *penchant* enables the Sitonæ to compensate for their sometimes imperfect wings (although these are often complete, and sufficient for purposes of transport), and it is their habit whenever met by a gust of wind, to allow themselves to be carried onwards by it. Owing to this, we find this species, along with others, assembled in vast numbers in spring upon sandy sea coasts, the wind having drifted them into the hollows, whence they attempt to rise by struggling up, with long continued toil, and often fruitless effort, the slippery ascent of the sand-banks. At the close of evening they seek shelter under rubbish, heaps of sea-weed, or whatever immediate covert is offered; there most of the insects seen in this condition probably perish, and the fields are thus freed from a part of their last year's ravagers. The insects may be taken in great numbers by the sweeping net, though from their habit, when disturbed, of dropping in a pretended lifeless state, this may miss as many as it takes; *James Hardy, Penmanshiel, by Cockburnspath, Berwickshire, Oct.* 23.

(To be continued.)

HIBISCUS MUTABILIS.

If it were possible to blot from memory and record the existence of certain plants, lying neglected in dark corners and under old stages in antiquated stores and greenhouses, and if under such circumstances they could be introduced, what a *furor* would be raised in the floricultural world! Superlative adjectives would be lavished in their praise; and every species of illustration, from the bedaubed caricature to the highest poetical representation, would disfigure or adorn the pages of the floricultural press. There are many old plants which only require to be seen by the true lover of the beautiful, to be raised to the highest rank of favour; but the rage after novelty, so prevalent in the present day, induces them to be neglected or entirely overlooked. Amongst those alluded to is the plant whose name stands at the head of this paper; and, in respect to its claim to notice as a beautiful stove flower, I do not think there can be two opinions. Its flowers are large and conspicuously placed at the termination of the branches, and it blossoms at a season peculiarly valuable. The changeable tints of the flowers, too, render it the more attractive. To-day you have a large cream-coloured rose; to-morrow, a delicate pink has dyed the petals; and, again, they change to a rich rose. Thus three days the same flower is in perfection, each day rearing a different colour on its petals. The effect of several flowers on the same plant in their different shades of colours is peculiarly attractive. It is now but justice to speak of its demerits. It is apt to grow straggling, and to cast its leaves if not kept constantly moist. If allowed to become dry at root but for once the injurious effect is immediately perceptible by several of its lower leaves assuming a yellow tint, and ultimately dropping off. This occurring once or twice has the effect of rendering its branches naked and unsightly.

From the little experience I have had in growing this plant, the following is the course of culture I would recommend, not as being the best, but such as will at least bring a considerable amount of satisfaction in the results. Supposing you to possess a plant in February which has made considerable growth the preceding year, if not yet pruned, immediately head each shoot back to within an eye or two of the base. The lower buds are obsolete, peculiarly so, as to be scarcely perceptible, but close examination will guide the direction of the knife. Having headed back your plant, give it a good soaking of water, and place it in a warm shady situation; if you can afford a little bottom-heat so much the better. As soon as the young shoots are developed sufficiently to warrant the conclusion that the vital energies of the plant are in full action, turn it out of its pot, and liberally disroot it. Shake away the greater part of the old soil and separate the mass of roots remaining. Repot in a suitable size in a light soil, one in which leaf-mould in minute divisions predominates. Young roots will quickly be protruded, and as soon as the plant is making good growth, and a healthy action of root secured (do not let it become pot-bound), remove it into its flowering pot; the latter will of course be regulated by the size of the plant. A good compost to grow it in is equal parts fibrous loam and peat in a rough porous state. In this compost you must grow it rapidly during the summer months, by supplying it liberally with water and shading it in bright sunshine. It is a gross feeder, and relishes manure water amazingly. Its leaves are of a nature to lose moisture abundantly by simple evaporation—hence the precaution of shading. If the latter is not attended to, as its pot becomes filled with roots serious drawbacks on the health of the plant will be the result. Its pot should be well filled with roots by September.

To flower it well it should be cramped at root by employing a small pot in proportion to the size of the plant, and when this is the case, great difficulty is occasioned to prevent it casting its leaves; if its roots are not constantly supplied with water, such a result is inevitable. If the pot is not of too large dimensions, the difficulty may be obviated by placing it in a pan of water. As soon as three or four flowers are fairly developed, remove the plant to the conservatory, in which situation it will continue to blossom. As soon as its beauty is over, remove it to a cool part of the stove, or in a warm greenhouse, keeping it dry till the return of spring. Young plants may be raised from seeds, which it perfects abundantly; *G.*

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

Pelargoniums.—During the past week I received a box of Pelargoniums from that indefatigable raiser of new varieties, Mr. Beck, of Isleworth, and was highly gratified at the masterly way in which they were packed up. Although the plants had been a whole day incarcerated in very narrow limits, when I released them from bondage every leaf assumed its natural attitude, and looked as fresh as if the box had never taken the place of the greenhouse. By means of little wicker baskets, made in the neighbourhood of Isleworth, the plants travel without the least injury, and the mode of conveyance should be adopted by nurserymen. The extra expence and trouble will be more than compensated for by the satisfaction given to the purchaser.

Having set this little collection of flowers at liberty, I looked at them with great interest, and began to inquire in what way I could best keep them in health during the winter. They had evidently enjoyed every advantage, and exhibited robust health; the fresh green of the foliage and its freedom from spots indicating the former possession of proper light and temperature. Not possessing a greenhouse myself, I knew that the change would be felt by my newly acquired plants, unless I considered their wants, and employed a little petting, to accustom them to their more humble home. Two plans suggested themselves; one, to keep them in a pit out of doors, the other to place them in the window of the sitting-room. A pit is a most eligible place for Pelargoniums, if properly defended from frosts. I have kept a large number in health during a long winter in a garden frame, protected as described in former papers. In long frosts no air must be admitted, except in the middle of the day, if the atmosphere is not lower than the freezing point; but on all occasions, when there is no danger of frosts attacking the plants, air and light must be plentifully supplied.

But this little collection of Beck's Pelargoniums I intend to attend to myself in-doors, and several particulars will require to be observed. First, no more water must ever be given than is requisite to keep them in health, and in cold weather a very small portion indeed will fulfil that condition. Secondly, they must be kept as close to the glass as possible, and be turned round frequently to preserve uniformity of growth. Thirdly, as the atmosphere of a sitting-room is dry, and unlike that of the open air or a well-regulated greenhouse, the window must be opened frequently. Fourthly, to prevent the dust which is unavoidable in window gardening from stopping up the pores of the leaves, the plants should be put out of doors in genial and mild rains. By observing these rules, I hope to find my plants in good order when the spring comes round, when I shall put them into blooming pots, and bring them on in a frame. Perhaps this relation of my own intended mode

of procedure may be useful to some amateurs who are now in possession of young Pelargoniums, in circumstances similar to my own.

The intrinsic beauties of this favourite plant, both as to its leaves and flowers, will prevent it ever being thrown aside, and the kindliness with which it yields new varieties to the art of the florist, will continue to invest it with fresh charms. Amateurs who practise hybridising should study deeply the principles of the process, that every defect may be gradually obliterated, and the excellent qualities scattered among various kinds be collected together in one. The masterpieces of Grecian sculpture are said to be not fac-similes, or the representation of any figure *in rerum naturâ*, but a combination of all the graces which the artist could conceive of. It results from this, that forms as beautiful as came from those ancient chisels can never be found among men. But what human nature cannot yield, Flora grants to her votaries. We may imagine perfection of form and colour in a flower, and by patient skill may at last produce one which shall quite equal the beau-ideal; *H. B.*

ON THE ADVANTAGE AND PROFIT OF BEE KEEPING.

Observing, at p. 673, some doubts expressed respecting the profits of bees, and a request for some details concerning them, I send you the following paper in reply.

The opinions as well as the practice of many ancient authors have been handed down to us on this subject, either by tradition or by their identical writings still extant. Many learned fathers of the Church, many celebrated physicians, many poets of never-dying fame, many scientific as well as laborious tillers of the soil, and some among the latter who, notwithstanding the great progress in agriculture made by the moderns, would be, were they living now, considered as ornaments of the age, wrote at large on the subject of bees.

St. Ambrose, a venerable prelate of Milan, who lived in the fourth century, being born about the year 340, to whom we are indebted for the original composition of that most excellent "Te Deum Laudamus" universally adopted in our churches, and which has been recently so beautifully anew set to music by a native of the city of Canterbury, was the author of various pious works, and in his "Hexameron," lib. v., c. 21, observes upon the advantage of bees, thus:—"Fructus apum ab omnibus desideratus et quæritur; nec pro personarum diversitate discernitur, sed indiscreta sui gratia regibus pariter ac mediocribus æquali suavitate dulcescit: nec solùm voluptati, sed etiam saluti est."

Varro, an indefatigable and laborious agriculturist, who wrote three books on farming as practised by the ancient Romans, and who was acknowledged by Cicero as his friend and companion in similar pursuits, lived about 60 years before the birth of our Saviour, and was, at the time he wrote, according to his own statement, then about 80 years of age. In these three books he set down the profits which ought to be derived from the keeping of bees, and in proof thereof he reported that "two soldiers in Spain, who were brothers, possessing a small villa left them by their father, and a small spot of ground, not more than half an acre, made an apiary, encircling their said villa, and formed a garden, and planted the rest of their land with sweet smelling Thyme and the beauteous Cytisus, and Balm; and, moreover, that they received no less than 10,000 sesterces for their honey," which (according to Hartlib) being in the time of the Consuls (before the Cæsars), makes of our money 83*l.* 6*s.* 8*d.*, the sestertius being reckoned at about 2*d.* sterling; thus producing a very fair yearly revenue to be got out of one acre of ground.

Virgil, the far-famed Mantuan bard, who lived about 38 years before the birth of our Saviour, although he was not a practical apiarian, appears to have been an acute observer of the times in which he lived. He reports, in the 4th book of his celebrated "Georgics," in beautiful hexameters. "I remember under the high turrets of Æbalia, where black Galæsus moistens the yellow fields, to have seen an old Corycean who held a few acres of abandoned land, the soil of which was not rich enough for the labour of oxen, nor fit for cattle to feed on, nor convenient for the growth of Vines. Yet here, within a fence of thorns, planting a few edibles and white Lilies, and Vervain, and the small grained Poppy all around, he, in his mind, equalled the richest of kings; and returning home late at night he was enabled to load his tables with unbought cheer. He was the first to pluck the (blushing) Rose in spring, and gather the (golden) fruits in autumn; and even now, when gloomy winter rived the rocks with cold, and bridled up the waters with its icy fetters, he had already cropped the lock of the scented Violet, chiding the late summer and the tardy zephyrs. Therefore he was the first to abound in prolific bees and magnificent swarms; and to squeeze frothing honey from the new pressed combs."

There are many other ancient authors whose writings I have not at hand at this instant, but the one which occurs to me as appropriate in succession, is a worthy old Justice of the Common Pleas, *Sir Anthony Fitzherbert, Knt.*, possibly a kinsman of Archdeacon Herbryt, whose name is recorded on a curious cross, yet preserved in the Protestant Church of St. Martyn, near Canterbury, who, in his "Book of Husbandry," dated 1532, printed in black letter, observes: "It is an old saying, 'he that hath both sheep, and swine, and bees—sleep he, wake he, he may thrive.' And that saying is, because they be those things that most profit riseth from in the shortest space, with the least cost. Of bees there is little charge, but good attendance at the time they shall cast their swarms."

William Lawson, who wrote his first edition of a "Country Housewife's Garden," in 1597 (which has already been noticed lately in your pages), stated, "it is worth regard, that bees properly used, if you have but 40 good stocks, shall yield you more commodity than 40 acres of good ground."

Olivier de Serres, a noted French author, in his "Theatre of Agriculture," dated 1600, remarks, "Bees, like rabbits and fish, are maintained at little expense; that is to say, for the little one gives them; one may be under little concern for their food, and what one does give them may be accounted rather as medicine or even as pastime. In a lodging, and in care, consist all the requisites for bees. A small garden may contain a great number of hives, and one person alone may reap enjoyment in the management of a great quantity: and from these there is no doubt that a great revenue may be derived."

Samuel Hartlib, in his "Legacy of Husbandry," dated 1645, woefully exclaims against the paucity of bees in this country, and observes, "It is a great deficiency here in England, without question, that we have no more bees, considering that they are so little chargeable, requiring only a few straws (to protect them), and but little trouble. This island might maintain 10 times as many; for although a place might be overstocked with these as with greater animals, yet I know no part of this land that is so; and I know many places which would maintain many hundred hives, and yet scarcely one is to be seen;" *Edward Scudamore, M. D., St. George's-place, Canterbury.*

(To be continued.)

STATE OF THE IRISH POTATO CROP.

COMPILED FROM OFFICIAL DOCUMENTS.

Cork County, *Fermoy Union, Oct.* 21, *Major Bolton.*—The disease has reached its climax as the Potatoes generally can scarcely be worse.

Clare County, *Kilrush Union, Oct.* 22, *Capt. Kennedy.*—Where Potatoes have been planted in arable land the crop is valueless, and daily getting worse. Those in boggy land have a greater portion sound, but are very small. They do not appear to be getting worse. The quantity exposed for sale is diminishing and the quality is inferior. Much corn in the fields and some still uncut. The yield of Oats good. Barley deficient.

Scariff Union, Oct. 22, *Capt. Spark.*—Ten times as much land under Potato tillage this year as last year, yet there was at least one-third more Potatoes this time last year than at present; owing to the late sowing, "the general crop" is lost. Wheat is one-sixth below the average. Barley equal to the average produce per acre of last year. Oats a sixth or an eighth below the average. Turnips which were last year abundant are (except in a few instances) as great a failure as the Potato.

Wexford County, *Enniscorthy, Oct.* 21, *Mr. J. Burke.*—Digging of Potato crop very generally proceeding. From all he learns one-half will be available for human food; the other half for pigs, &c., and will thus assist in providing means for purchasing other food.

Leitrim County, *Mohill Union, Oct.* 21, *Major Haliday.*—The portion remaining sound and fit for use somewhat more than one-third of the crop. Disease does not progress. No actual scarcity from this cause before Christmas.

Mayo County, *Ballina Union, Oct.* 21, *Captain Hamilton.*—Nothing new to report.

Longford County: *Granard Union, Oct.* 21, *Capt. Lang.*—Corn, a fair average crop. Attempts made to arouse the small farmers to increased exertion in preparing land for Wheat sowing, and early spring crops. Succeeded with a few only.

Longford Union, Oct. 22, *Mr. Downman.*—Nearly impossible to give any opinion as to the quantity of sound Potatoes that remain; people beginning to save them for seed. Markets continue to be well supplied from 6*d.* to 8*d.* per stone.

Donegal County, *Glenties Union, Oct.* 21, *Capt. O'Neill.*—Disease not increasing; not more than one-third of the crop will be deficient. Heavy clay ground has suffered most. Moss or mountain land has generally escaped in all cases. The crop not so productive as in former years. Corn a fair average crop.

Milford Union, Oct. 21, *Mr. Samuel Horsley.*—In many instances half the crop lost. In others two-thirds are gone, and in a few cases nearly the whole crop is unfit for use. There are but few samples of really sound Potatoes in the local markets.

Home Correspondence.

Arboriculture.—In Brown's "Forester," p. 119, the following information is given: "The plantation was 12 years planted, the average height of Oaks was from 5 to 8 feet, the bark of the trees was clean and fleshy, and, generally speaking, they were in good health. In the pruning of these trees I first had all the small branches, not exceeding two-thirds of an inch of diameter at the base, cut from the trunk and close to the bark, to the height of about one-third the height of the tree in each case; next all the branches which grew upon the same part, with a diameter at base exceeding that last-mentioned, I cut off to within about 4 inches of the stem or trunk from which they proceeded, leaving the stems in the meantime; and all large top branches which appear to be gaining strength upon the leading top shoot, I shorten down to nearly one-half of their whole length; but in all cases where two top shoots appear, I cut one of them closely away, leaving the one which appeared to be the most healthy and strong, and which appeared, at the same time, to come most directly from the centre of the system of the tree." I understand that the trees here referred to were well sheltered, and at no great height above the level of the sea, and in the county of Mid-Lothian; on which account, I think, their growth was by no means rapid. On the estate of G. T. Goodart, Esq., in Tweeddale, at 960 feet of altitude, there are Oaks, only seven years planted, 10 feet high. This superiority I attribute to the effect of management. The branches of these have only been shortened, none of them cut close; and the advancement made by this method, when compared with the plan of cutting close, is greater than one could, without experience, believe. Undoubtedly the author referred to supposes that by taking away the branches more ascending sap is thrown into those that remain; but, on the other hand, the quantity of descending sap is thereby diminished, though, were this the only loss, much might be said on both sides. I have to state, moreover, on ample observation, that young trees pruned close, on Mr. Brown's plan, will be found unsound, if dissected at an after period, at the parts where the branches are cut off close to the stem. The end of the branch dries back and carries rot into the pith, the distance being so short, only half the diameter of the stem of a young tree. When so great a proportion as one-third of the height of the tree is pruned close, the ends of the branches which have dried and afterwards decayed, must obstruct the flow of the sap; on the contrary, when trees are only shortened till they are 24 feet in height, they can safely bear close pruning, gradually performed from the ground upwards. The decay induced by the close pruning practised by Mr. Brown engenders diseased sap, which mixes with the ascending sap, part of which, not carried off by evaporation, mixes in turn with the descending sap, and in proportion to the quantity of unsound sap, the quality of the wood will be found deteriorated, and if fully examined into, this would appear to be one of the causes whereby timber oftentimes becomes so early unsound. These evils may all be avoided by shortening the branches, instead of cutting close on young trees; and by this means, too, the timber is raised much more rapidly, and is of stronger texture. In cutting close and shortening the branches of young trees the design is to augment the ascending sap for the remainder. Cutting close, however, deprives the tree of the full benefit of the descending sap which shortening secures. The advantages of these saps are fully realised. I think, by the process of shortening. It may be compared to the steam engine in its former and present efficiency. At first the steam raised the piston, when a vacuum was made, and the piston was forced down by atmospheric pressure. Now the steam is made to act both ways, and with such rapid movement as was not at one time contemplated. I am convinced that Oaks may reach as great magnitude in 100 years, if properly managed, as they have done in 300, and with no more expense in shortening, and so on, than is commonly expended on them. The older writers were ever devising means to raise crooked timber, as if they knew whether it would ever suit the desired bend in ship or boat, but straight timber is of more value in ship-building than members of the crooked family. There will always be found a good deal of crooked timber in the tops of Oak trees, and I would have proprietors shake off their lethargy and betake themselves to the application of an improved system of managing their woods, and thereby have in England trees with stems of 50 or 60 feet in length, and in Scotland of 30 or 40, instead of from 5 to 15; *Gavin Cree, Biggar.*

Board of Health v. Vegetable Diet.—Nothing could be more judicious and opportune than the remarks and comments in your Leading Articles for the last two weeks, and the attempt to add weight thereto would, at least, be supererogatory. Evidence and example, however, which substantiate, by proof, previous reasoning and deductions, must ever be alike acceptable and authoritative. It having been pointed out, in the articles alluded to, how eminently mischievous to the bodily health (as well as ruinously oppressive to the market gardener) would prove the recommendation of the Central Board of Health, in respect to the extreme limitations to the use of vegetables and of fruit, I am happy to corroborate, by observation, the truth of your positions advanced. Six or eight cases of Asiatic cholera having some weeks ago been brought by the shipping to Hull, great alarm was created in the minds of the nervous and timid, and the regulations of the Board of Health, in respect to the abstaining from vegetables and fruit, were by not a few rigidly adopted. The result has been, that examples have fallen under my own professional observation of the occurrence of the very effects which the individuals were so diligently assaying to ward off, namely, disorder of the digestive functions. In all these instances the recommendations to return to their accustomed diet and regular mode of living was speedily effective, without the aid of other remediable means. Further comment appears unnecessary: and, permit me to add, that I wholly concur in the justness and truth of your observations, which cannot fail to convince the understandings of all, and to avert and guard from sufferance and loss the labour and the interests of others. The recommendations issued by the Central Board of Health are generally most important; and all may rest assured that they will act the most prudently who give the most heed thereto.

With the exception alluded to, they are admirable. Yet so it is, that "Interdum dormitat bonus Homerus"—sometimes the great Homer himself may be caught napping; *F. R. Horner, M.D., Hull, Oct.* 30.

Walks.—On an old gravel walk, carefully swept, spread with a watering pot as much tar as will barely cover the surface; lay new gravel about 3 inches thick over it: roll down. No worm will touch it, and the drainage, when once dry below the top casing, is perfect. If too much tar is used it rises to the surface and makes a black mark; cinders may be used with gas tar where gravel cannot be got; *J. P. B.*

Tenacity of Life in the Scarlet Pelargonium.—In October, 1847, when preparing the old plants for storing (those bloomed out of doors during the summer), I placed a handful, devoid of earth or foliage, under a plant stage in a remote part of an old Orange-house; 12 months have elapsed, and they are still alive, and bid fair to survive a second year. This house is protected only by shutters, closed in extreme frosty weather. The Pelargoniums were merely laid on a floor of old lime mortar and sand in a dry loose state; they received no other attention whatever; *H. Bowers, Busbridge.*

Cultivation of Potatoes.—About the beginning of November I commence planting, trenching the ground to the depth of 18 inches as the operation proceeds. When the first trench is filled within 6 inches of the surface, I plant a line of Potatoes, and sprinkle on the tubers equal portions of quicklime and soot (this is done to prevent slugs and other insects eating the Potatoes), covering them with a layer of unfermented horse-dung, and then the soil; taking care not to tread on the fresh-planted ground. In the following March, as soon as the surface becomes dry, I have it either forked or hoed, and this operation is repeated as often as required. With respect to saving seed, my practice is to dig a sufficient quantity as soon as the skins are set firm, preferring the middle size for planting whole. Previously to the disease in 1845, I used to leave those intended for seed in the open air to green, but by so doing in that year I lost half my seed; since that time I have them carried into the fruit-room or some other convenient situation, being careful to exclude the atmosphere as much as possible. The varieties I cultivate are Ash-leaved Kidneys, Early Frame, Early Manly, and Fox's Seedling; but I believe any other sort would answer equally well, provided they were as early and dwarf in habit. The counties I have grown Potatoes in are Staffordshire, Hertfordshire, and Surrey; and whenever I have planted according to the above practice, the crop has always equalled my expectations, being ripe early and free from disease; *John Toy, Oatlands Garden, Nov.* 1.

Manures.—May I ask some of your correspondents to give me their experience and information on the use of lime and the artificial manures (stating them particularly), in the cultivation of the kitchen garden. I mean with reference to fruit trees of all kinds, vegetables, and frame plants, such as Melons, Cucumbers, &c; *J. Z.*

Bee-boxes.—I should be obliged if "A. K." would give the extract from the "Edinburgh Journal of Agriculture" for making bee-boxes; and also if he would inform me whether he ever keeps bees through the winter in his deep straw hives; what are the advantages of the flat wooden hoop at the bottom, and whether he generally destroys the bees when the honey is taken? Though very sorry to come to such a conclusion, I cannot help thinking that the old plan of burning bees is the most profitable plan of management in a climate like that of England. The prices "A. K." mentions seem to me to be very low. Here honey is 1*s.* per lb., and plain straw hives, 10 inches high and 14 inches in diameter, are 2*s.* 6*d.* each; *M. W. R., Oct.* 28.

Profits of Bee-keeping (see p. 702.)—I made a mistake in the number of my hives; I ought to have said seven, not eight. The honey certainly ought not to be divided among the seven hives, because there were but four hives from which any honey could, with reason, be expected—from the three old hives and from a strong swarm of last summer. Two of the remaining three hives are very weak swarms of this July, which, unless well fed, will barely live through the winter; the third is a very weak cast or colt of last year, which was kept alive by feeding, and which has had as much as it could do to fill its hive this summer. The feeding does not deteriorate the honey; on the contrary, it renders it so thick and luscious that people praise it highly; and I could have sold much more than I did if I had had it. Feeding renders the comb too dark to be sold as honey-comb in London; *A. B. C.*

Autumn or Winter Planting and Manuring of Potatoes.—The present wet weather is unfavourable to autumn or winter planting. We are shy in recommending the plan until a more favourable opportunity offers, viz., dry weather, when the land should be well forked over, and the earliest kinds planted whole in drills, 4 or 5 inches deep, 9 inches distant, and 27 inches apart; and we advise about a teacupful of coal ashes and soot to be put over each set, to keep off intruding insects and penetrating frosts. Dibbling should be avoided in winter; it is a bad practice. The land should be trenched or ridged in such a manner as to cause the drill to form the centre of the ridge exactly; thus secured from wet, frost, and insects, no further care will be necessary till March, when the whole should be forked level, and afterwards treated in the ordinary way. Manuring only produces quantity and not quality. It is a well-known fact, founded on 30 years' experience, that Potatoes cultivated on poor soils are more mealy, and better in quality, than those grown on maiden or richly manured land, which tends to produce them waxy, and, moreover, retards their early propensities, a circumstance which should not be overlooked. Potatoes also unquestionably ripen sooner in proportion as they are planted early or late; and this is a matter which should be borne in mind, being of no small importance; *Hardy and Son, Maldon, Oct.* 31.

Potato Disease(?) in the East Indies.—"Este" sends the following extract from a letter dated Nagpore, East Indies, Sept. 9, 1848: "I am sorry to see that you have the Potato disease again in England. There was something like it in this part of the country last season. The Potatoes were very good in appearance, but when cut open, they were full of black spots and quite sweet to the taste." The officer who wrote this has a garden at Nagpore.

Production of Fungi.—Dr. Barry, in the Edinburgh new Philosophical Journal for October, 1843, page 219, asks the question—"How do vegetable productions arise in the infusions of organic matter? I venture to believe," he adds, "that they may have their origin in those particles which I have called the true cell germs. These cell germs, as part of the animal or vegetable organisms, for instance in the elaborated *liquor sanguinis* or the descending sap, would have been developed according to the stimulus received within that organism; but now set free, each becomes developed into an independent organism capable of propagating itself and producing a like form, which it does in a variety of ways;" and he adds, "It is known that the various organisms and even organs have their peculiar parasites; and if the view just mentioned be admitted, this is no other than what we should expect from specific peculiarities of the organisms." Again, Mr. Carpenter expresses an opinion that fungi may be produced by the degeneration of the tissue of plants more elevated in the scale. The two following experiments seem to throw some light on this abstruse subject, and show that the views of Dr. Barry and Mr. Carpenter come in some degree near to, though they do not quite express the manner in which fungi are formed. The first experiment shows the forms of the tissue of a plant when nearly separated from each other, the second experiment points out the manner in which parasitic fungi are formed. 1*st Experiment.*—

Having taken a fresh leaf from a green and vigorous Potato plant, I placed the end of the petiole in a little caustic ammonia, in a watch glass, and having covered it with a glass jar, allowed it to remain in this position for three days. In the course of that time the ammonia had extracted a greenish fluid from the petiole and leaf, the latter of which had by this time fallen down, so that part of the leaf was also in contact wih the ammonia. On removing the leaf, I found in the watch-glass, in addition to the greenish liquid, a quantity of the tissue of the plant, which had mostly separated into individual cells, although a few of them still remained united together. When the ammonia had nearly evaporated, the greenish liquid assumed a thickish appearance, like gum, having in it the separated tissue of the plant. 2*d Experiment.*—Having taken a piece of vegetable substance of about 1-16th of an inch square, which I had cut out of a green and fresh plant, I placed it betwixt two transparent bodies, after which it was folded in paper, and being subjected to gentle pressure, was allowed to remain there undisturbed, for some months. At the end of that time, the piece of greenish vegetable substance was found to be surrounded at its edges with a white mouldiness, consisting in some places of long, slender, white threads, and at other places having the fibres matted together as in the annexed figure, while small bodies like the fructification of fungi appeared here and there through the mass. On examining this substance with a compound microscope, I found that at its base, where it began to rise up, or separate from the body out of which it grew, it was formed like to the tissue found in the greenish liquid referred to in the first experiment. Having again examined this mouldiness more minutely, I found it was produced by what I may term an exfoliation * of the tissue of the plant. I was able by the microscope to trace the tissue exfoliating and elongating into long, slender, white threads, having here and there through it a few cells adhering together, which the threads had carried along with them, the structure of the whole mass showing the fungous thready substance to be an elongation and modification of the tissue of the plant. If these views be correct, we may see how fungi may be produced by any cause either external or internal, visible or invisible, which produces an abnormal structure, or morbid condition of a plant, and sets the tissue in part free. Again, having added a drop of rain water to the dried gummy matter mentioned in the first experiment, the colour of it nearly disappeared, the tissue becoming almost transparent. As the water evaporated, the greenish colour returned again, giving a striking, and probably true representation of the manner in which much of the greenish slimy matter is formed and becomes visible, which is found at at the bottom of any vessel in which water has been kept for a considerable time. Lastly, the foregoing remarks may be the means of suggesting new modes of manipulation to those who are interested in the subject, and who are searching into the origin of parasitic fungi; *Observator, Elgin.*

* I use the term exfoliation in reference to the exfoliating of the bark of a Birch tree, as it seems to me to convey more distinctly than any other term I can use, the manner in which the tissue seems to rise up, although it is not altogether correct.

Royal Horticultural Improvement Society of Ireland.—In your observations upon my letter, which appeared in the *Chronicle* of the 21st ult., you alluded to a "letter" which you say "I would receive in a few days," confirmatory of some errors in the management of this Society. I beg to say that up to the present moment I have received no such letter. As you must, however, possess some information upon which you grounded that hint, I would feel obliged if you would at once give it publicity, that I may have a fair opportunity of meeting the charge, whatever it may be. I request this the more particularly, as many friends of the Society may have been led to expect some great and important revelation. You seem also of opinion that because there cannot be a formal union of the two societies, that this Society should also be dissolved, and then that a new one should be formed. I do not see upon what grounds you can fairly urge such an unreasonable proposition. You have as yet shown no case of mismanagement or impropriety upon the part of the Improvement Society, neither have you even attempted to show that its rules were not perfectly consistent with every principle of fairness and justice to all parties. Besides, all sensible men must think that any body, or society, that could thus deliberately throw away an unsullied character for the mere purpose of combining to sustain another divided and discontented body from impending dissolution, to say nothing of imputations cast upon the fair fame of that body, or at least a part of them, at the mere bidding of any man, however well intentioned he might be, would be an act of wanton folly. I now inclose a copy of the rules of the Improvement Society, by which you will at once see their simplicity and brevity, and yet their perfect applicability to the purposes intended. I am, besides, fully convinced from long experience in these matters, that this Society, with proper support, will accomplish more for the true interests of horticultural science than ever the other society was calculated to do, because it combines in its management the most eminent horticulturists in the country, whose knowledge of the profession in every relation so well qualifies them to assist in directing and carrying out the objects of the Society with effect; besides, this system of mixed direction brings into contact men of high and refined education with those of great practical knowledge, thus forming a combination of the two elements of social improvement, equally to the advantage of horticultural science and the two classes thus brought into friendly combination. But it may be objected by some that gardeners have no right to expect the honour of being permitted to sit in council with their betters. To such objectors I would simply say—You, gentlemen, would be the more honoured of the two. For talent, or greatness of soul, belongs to no rank exclusively, as every age and country can testify. And indeed the mind capable of urging such an objection is too narrow and puerile to entertain one grand or noble sentiment. Well has one of our great poets said, that

"An honest man is the noblest work of God."

I am happy to say that I have received within the last few days numerous communications offering the most cordial support, and also from many of my gardening friends, who have left the other society, similar communications, offering their adhesion, and desiring to be enrolled members of our society. Under such flattering circumstances my best exertions shall be used to accomplish the wishes of all, and ere another year rolls over, you shall have cause to congratulate the friends of horticulture in Ireland; *John C. Humphreys, Hon. Sec., Oct.* 20. [We do not think fit to give the matter we referred to publicity. If Mr. Humphreys' impatience were less, his discretion would be greater. We have nothing to do with the personal feelings of A. or B., but we have much to do with the public good: and the public good demands the fusion of the Practical Society with the new Dublin Association.]

Reviews.

An Introduction to Botany. By John Lindley, Ph.D., F.R.S. 2 vols, 8vo. Longmans, London. (The 4th edition, with corrections and numerous additions.)

Botany, being a science of observation, must necessarily be in a state of constant progress, each day adding something to the knowledge of the day before. Of late this progress has been unusually rapid from two causes, viz., the improvement of the microscope and the study of gradual development. The one has thrown quite a new light upon the nature of vegetable tissues, and on the manner in which they are evolved and consolidated; the other has been a fertile source of facts which prove conclusively not only that many supposed truths have been errors, but also that opinions condemned by the unobservant crowd as errors have been beautiful truths.

The author of the work before us has endeavoured to arrange these matters in a consistent whole, giving ample details, on the authority of each observer, where details are needed, and relating summarily the substance of theories and speculations where no greater minuteness appears to be required by them.

The present edition is an attempt to give a complete view of modern botanical discovery up to the time of its publication; in doing which it has expanded from one volume into two, although some of the matter in the previous editions has been omitted. To what extent this augmentation has been carried is shown by the following comparison between the third and present edition:

	Third Edition.		Present Edition.
Book I. Chapter 1	47 pages	...	131 pages.
,, ,, 2	209 ,,	...	341 ,,
,, ,, 3	19 ,,	...	62 ,,
,, II. General Considerations	11 ,,	...	12 ,,
,, Chapter 1	6 ,,	...	18 ,,
,, ,, 2	6 ,,	...	9 ,,

And so on.

From this it will be seen that the reader has before him a new work, enriched with the invaluable discoveries of all the great modern observers, especially of Brown, Duchartre, Griffith, Giraud, Mohl, Karl Müller, Nägeli, Planchon, Quekett, Schleiden, and Thwaites.

It will also be found that the matter is much more clearly arranged than formerly, thanks to the taste and great typographical skill of Messrs. Bradbury and Evans.

The Flora of Forfarshire. By William Gardiner. Messrs. Longmans, London. 1848. Small 8vo; pp. xxiv. and 308, tab. 2.

This is an extremely pretty and pleasing volume by a very amiable and deserving man. It consists of a very nicely written introduction, pointing out the peculiar objects of interest in the district which the work comprises, the most important, perhaps, in a botanical point of

view, of any in Scotland, and one which has been most keenly investigated, yielding to few in magnificence and variety of scenery. This is followed by a table of the principal agricultural weeds of Forfarshire; after which comes a list of the Phanogamous and Cryptogamic plants of the county, arranged according to the natural orders, with full details as to the localities of the rarer or more interesting species, and interspersed with various matters which will be read with pleasure by most botanists, especially those who do not despise what the Germans call the æsthetics of the science; those, in short, to whom the reproach of our great poet will not attach:

"A Primrose by the river's brim
A yellow Primrose was to him,
And it was nothing more."

The value of the work is farther enhanced by a collection of 150 of the rarer species, especially of the Mosses and Jungermannie, which accompanies subscribers' copies, at the very low price of 1*l*, including the work itself. Two very pretty prints, the one of Gannachy-bridge (North Esk), the other of Reekie Linn, adorn the work, making one long to put the knapsack on the back and secure a share of the rich harvest with our own hands. The claims of Mr. G. Don, who did so much for Scottish botany, are not omitted in the introduction. We cannot forbear extracting a portion relative to this worthy man.

"These mountains have been rendered almost classic ground by the researches of Mr. G. Don and the numerous eminent botanists who have subsequently explored them. Mr. Don, we are informed, was a very athletic man, and possessed of such a constitution that neither fatigue nor privation could easily break it down; and these qualities, combined with perseverance and an ardent enthusiasm for his favourite study, rendered him peculiarly adapted for a good field naturalist, and such, by the result of his researches, he proved himself to be.

"In Forfar he served an apprenticeship to a watchmaker, and after that was out, in order probably to acquire more knowledge of his trade, removed to Glasgow. While in this city his unbounded love for botanical pursuits began to show itself so prominently that he obtained the situation of assistant to the professor of botany in the university. After remaining for some time in this place, he went to Edinburgh, where he soon became acquainted with the Messrs. Dicksons, and these gentlemen introduced him to the notice of other votaries of the science, both Scotch and English; more particularly to Sir J. E. Smith, who took a great interest in him, and warmly patronised his efforts to extend the knowledge of British botany. On his return to his native town, Forfar, he obtained a piece of ground, and established a small botanic garden, to which he gave the name of Dove-hill, where he cultivated many rare plants, especially those indigenous to Scotland. To procure these he made excursions among the mountains; and as the ground had hitherto been almost unexplored, he could not have failed to make numerous and important discoveries. The roots and seeds he collected were propagated in the garden, and plants sent out to various parts of the United Kingdom, and the specimens dried and distributed in like manner. Frequently he would spend weeks in these mountain explorations; and there being then no comfortable inns to bivouac in after the fatiguing labours of the day, he had just to munch his cheese and bread for supper and lay himself down under the shelter of a rock for the night, with his knapsack and wallets as companions. How Mr. Don managed to dry his specimens during these excursions, and keep them in good condition under such circumstances, is matter of surprise, especially as he must frequently have been overloaded with his collections of living plants."

Several species rewarded his researches which have not been found by more recent botanists, and consequently he has been sometimes charged with want of good faith, a charge easily made, but unjustifiable, except on positive proof. It must be remembered, not only to what an extent he worked the country, but also how extremely local many plants are, and how singularly species sometimes spring up in a district, and as singularly vanish.

In the neighbourhood in which we write, a single plant of Cynoglossum sylvaticum, otherwise unknown to the district, sprang up a few years ago from the hollow of a tree which had been felled in the midst of a wild forest. We have seen a plant of Ligusticum peloponnesiacum which was dug up near the ruins of an old castle in Kinross shire, and many similar instances will occur to botanists. Some of the species first selected by Mr. Don will probably reward the researches of future botanists, while others were perhaps mere casual visitants, and are not likely to occur again.

Garden Memoranda.

Mr. Beck's, Worton Cottage, Isleworth.—This neat little villa is now brought within an easy distance of town, as far as time is concerned, compared with a 2 or 2½ hours' ride by omnibus. Half an hour's ride by rail from the Waterloo Station to Twickenham on the Richmond and Staines line, brings the visitor within 20 minutes' walk of the finest collection of Pelargonium plants, whether stock, two-years-old seedlings, or seedlings of the present season, we have yet seen. Without a flower amongst them, their foliage and condition forms quite a treat. Mr. Dobson certainly deserves much praise for the health and cleanliness of his plants, as well as for the tasteful manner in which everything under his care is kept. The plants for the May exhibition are already in the pots they are to bloom in, with strong vigorous shoots, wanting nothing but dry weather and sun to ripen their wood. The specimens intended for exhibition in June and July are in smaller sizes. The two-year-old seedling bottoms are particularly good, and are trained out into something of the form they will assume previous to exhibition. Of seedlings of this year, about 2500 are potted off, the greater portion well-established, in 4 and 5 inch pots, exhibiting the most vigorous health. The plants from which purchasers' selections are made are equally good, well established in 4-inch pots, and only requiring proper treatment to make specimens for exhibition in 1849.

The tank system of heating is employed here. Mr. Beck being the first to introduce it into this part of the country, our readers will be pleased to learn that it stands as highly in favour with him as ever, and no other mode of using bottom-heat is ever resorted to. In fact, the tanks which heat the houses in winter, form the propagating beds in the summer and autumn. It is a subject of regret that slate cannot be used in their construction, as from its imperishability, cleanliness, and its requiring no paint, no material would be so valuable for the purpose. Mr. Beck has one tank, 50 feet long, so constructed; but it is formed by doubling the slate, with a water-proofing between the parts; thus ensuring tightness even after the slate has split from the expansion consequent on the heat of the water. Mr. Beck has a small but select collection of Orchids. We noticed in bloom Epidendrum Skinneri and vitellinum; Cattleya labiata and Perrinii; Zygopetalum crinitum, rostratum, and Mackayi; Dendrobium sanguineum (two vars.), nobile, and moniliforme; Miltonia Clowesii and candida; Phalænopsis amabilis, and a piece of the same, purchased at Mr. Veitch's late sale, coming into flower and rooting well; Oncidium Suttoni, papilio, and one or two imported pieces; with Sobralia macrantha. Others were also throwing up their flower-stalks, and amongst them Lælia autumnalis and acuminata, and numerous Oncidiums. Those interested in the application of slate to horticultural purposes will find here everything in use which is recommended by Mr. Beck, such as tanks for rain and manure-water, shelves, tubs, and boxes for plants, edging for borders, hot-water tank covers, floors for frames, on which half-hardy things are placed for the winter, &c. We had nearly forgotten to mention that Mr. Dobson has a nice collection of the varieties of Anæctochilus and Physurus, with a pretty specimen of the New Holland Pitcher plant.

Miscellaneous.

On Forcing Seakale and Rhubarb Blanching Winter Salads, and Protecting Late Vegetables.—The cumbersome and unsightly mode by which Seakale and Rhubarb are usually produced, viz, under masses of fermenting material in the open ground, has long appeared to me an anomaly in gardening which not only involves a very serious expense in the production of these articles, but, from the changeable nature of our atmosphere during the winter months, the produce itself is rendered very uncertain, more especially during periods of continued wet or stormy weather. It also often occurs that over heating is a source of much mischief, considerably damaging the leaves, and not unfrequently destroying them altogether. Many years since, whilst undergardener in a large establishment, at my suggestion a close dark shed at the back of a fruiting Pine stove, and which derived a borrowed heat from that structure, was appropriated to the purpose of forcing Seakale and blanching winter salads, and it answered the purpose tolerably well, although in severe weather an excess of heat was sometimes unavoidable, and of a more drying nature than was favourable to a healthy development of the leaves of those esculents. The roots were removed from the open ground and planted in a bed of mould some 8 or 9 inches in thickness on the floor of the shed, and no further care was required than occasionally to sprinkle the walls and floor of the building, so as in some measure to counteract the drying nature of the heat proceeding through the wall of the Pine stove. Since then I have resorted to many expedients in the production of Seakale and Rhubarb, such as forcing in dark frames, on the floors of Vineries, and the Mushroom house, and occasionally potting the roots and forcing them in the Pine stove—preferring, in short, almost any mode of cultivation to the antiquated one of forcing with pots and manure in the open ground during the depth of winter: the only conditions necessary in these operations being to secure a sufficiency of heat and complete darkness, so as at once to insure a vigorous growth, perfectly blanched. The system, however, which I have practised for a series of years is at once so economical and well suited for the purpose alike of forcing Rhubarb and Seakale, or the blanching of Endive or other salads, as at once to do away with (at least in my case) all other plans or expedients by which these vegetables had hitherto been produced. In a quadruple range of forcing pits, the pits are situated 2 feet apart from each other, and were formerly heated by dung linings in the intervening spaces, which were closely covered over with wooden shutters: the latter rested on cast-iron bearers, and formed at once a walk between the pits and a means of preventing the escape of heat from the dung underneath; they also kept it from being chilled by the action of the weather. But as this system has been given up for the more modern and ready one of applying the heat in chambers underneath the beds, these lining pits have been rendered useless for their original purpose, and I have since then applied them very successfully to the forcing of winter vegetables. They do not require any special heating, for a sufficiency of warmth is generated through the walls of the adjacent chambers. A covering of straw during periods of severe frosts is added; but this is more a precautionary measure than one of necessity. These pits are 4½ feet in depth. In the bottom of them a layer of brushwood is placed, so as to enable the heat to penetrate more readily under the roots, and to allow any excess of moisture to drain off effectually; the roots are then removed from the open ground with the usual care, and planted on a bed of mould which had been used in the previous season in the growth of Melons, and which had since been stored from the inclemency of the weather, to prevent it from being over saturated with moisture. No care is required further than to attend to keeping up a proper succession, and to remove the roots which have ceased producing. If strong roots have been employed, two crops may be readily obtained from them. No watering is required, the genial warmth proceeding from the chambers supplying a sufficiency of moisture. The only attention necessary for carrying this plan to full operation are the supply of a sufficient quantity of the roots of the articles to be forced. The roots of Seakale I usually replant and force again in the second season. A considerable number are, however, annually destroyed; but a proper succession is kept up by making a bed of seedlings both of Kale and Rhubarb on well-prepared ground every season. In January or February or early in October, or as leaves fall when growing in the open ground commences, the blanching of which has been effected under a covering of leaves, in a semi-decayed state. These pits are also well adapted for the protection of late vegetables, such as Lettuces, Cauliflowers, and Endive, when taken from the ground in a state ready for use. When employed for that purpose the roots are removed, and they are only partially replaced when severe frost is apprehended: *J. Duncan, in the Journal of the Horticultural Society.*

Poisonous properties of the Parsnip.—Dr. Pfeffer of Giessen, states, that at the latter end of March, 1847, seven children were poisoned in consequence of eating some boiled roots of the Pastinaca sativa growing wild. The symptoms were blushes, loss of consciousness, quiet delirium, giddiness, staring look, change of the colour of the face, breathing somewhat quicker and slow, suppressed [*unterdrückter*] beating of the heart and pulse, and almost unintelligible attempts to get out of bed. The illusions were confined to vision, and the patients stared and grasped at imaginary objects in the air, &c. Some of them did not speak at all; others only indistinctly or incoherently. Two of them uttered articulate sounds. The irritability of the motor nerves appeared in all of them to be much suppressed, for inactive in double the usual dose had no effect. But after repeated doses of a concentrated aqueous solution of sulphate of zinc, vomiting was excited, and a perfect reconvalescence followed in a few days.* This is a new proof that a poisonous constituent, perhaps an alkaloid, is developed during the spring of the second year, on the approach of the flowering season, in the root of the Parsnip, which in the autumn and winter of the first year is sweet and harmless. Comparative chemico-physiological experiments on this point would be very interesting. At the same time the seeds should be examined: *Buchner's Report., No. 147, p. 363, in the Pharmaceutical Journal.*

Pot Culture of the Genus Gladiolus.—Few plants are more beautiful or better adapted for ornamenting the drawing-room and conservatory for a long-continued period than some of the varieties of the genus Gladiolus. I have for several years cultivated many of the sorts, but more especially the G. insignis, byzantinus, and cardinalis; and, certainly, the triumph of any of flowers they produce with ample compensate for any trouble that may be taken in their cultivation. The last week in September is the time I usually repot them, using pots of various sizes from 5 inches to a foot in diameter, in order the more readily to adapt them to ornamental pots, vases, or stands, as future circumstances may require. The soil I have found well suited to their growth is composed of yellow fibrous loam and turfy peat of equal quantities, with the addition of a little silver sand and leaf mould, using it in a tolerably rough condition over a thorough drainage. The number of bulbs placed in each pot is regulated by their size, the largest pots usually producing from 15 to 20 spikes of the most fascinating colours; and whether placed on stands amongst the foliage of the conservatory plants, or plunged in vases or baskets of moss and soil, the effect is gorgeous and pleasing. Liquid manure is frequently administered during the period of growth, and when the plants have done flowering they are removed to the open air for the purpose of perfecting the process of vegetation. So soon as the foliage shows symptoms of decay water is gradually withheld, and the pots are finally laid on their sides in a shady situation, in order to moderate the action of light and moisture on the roots whilst in a state of repose: *J. Duncan, in the Journal of the Horticultural Society.*

Calendar of Operations.

(For the ensuing Week.)

CONSERVATORY AND GREENHOUSE.

In a notice of a visit to Linnaston, Mr. Thompson, of the Horticultural Gardens, speaks in commendation of a plan in operation, which secures by a simple pro-

* The symptoms here described as being produced by the common Parsnip greatly resemble those caused by belladonna.—*Ed. Pharm. Journ.*

cess the advantages of the comparatively warm air inclosed in an adjoining building. The difficulty in ordinary cases of securing ventilation during winter makes any suggestion that bears on the subject of value. The situation of the house is thus described :—"The back wall forms a partition between the Vinery and coach-room. This room is 10 feet wide (of the same length as the Vinery), and has a warm ceiled roof, but the wall between it and the Vinery has openings at top and also near the ground, for the intercommunication of air between the two compartments. By this arrangement, superfluous heat, which must otherwise be dissipated in the open air, is economised to a considerable amount, &c." Now, we are of opinion that, in many cases, similar circumstances might be applied with the utmost advantage, particularly in the case of conservatories, which are most frequently associated with other buildings. Could air be secured from underground recesses of any depth, ventilation might proceed constantly, as its temperature, like that of spring water, would be always uniform. Mr. Thompson shows that at least 10° would be gained by a similar plan.

FRUIT FORCING.

Pines.—Those who are obliged to depend exclusively on fermenting material for the required amount of bottom-heat, should amass, with as little delay as possible, the requisite quantity of leaves, which should be heaped and turned over once or twice before their introduction to the Pine pits. It is of course desirable to get this operation completed as early as possible, that the requisite rearrangement of the plants may be effected before the severe weather sets in. In addition to the necessary store of leaves, a quantity of stable dung should be collected, and a large reserve held for Pine and Cucumber linings, Mushroom houses, Vine borders, &c. Where internal pits exist in early Vineries they should be filled with leaves or tan ; an early action of the Vines would be induced by the gentle and genial heat thus produced. Mere protecting materials on Vine borders must be supplanted at a period preceding the use of fires by a thick body of fermenting matter (leaves and dung), capable of producing and sustaining a heat of 90° to 100°. Prune Vines directly the leaves decay and fall ; go over late houses frequently, and remove decaying berries. Protect the roots of Peaches, Vines, Cherries, &c., in pots with sawdust, tan, or other plunging material. Strawberries for early forcing should be protected from the action of severe frosts ; the general stock should be plunged in ashes.

FLOWER GARDEN AND SHRUBBERIES.

During the present month more than common attention is required to preserve the garden from the desolating effects of the weather ; all traces of the sedulous care and cleansing of one day may be effaced by the storms of the next. Flat or ill-drained and constructed gravel walks will suffer from depositions of mud from pools which such walks are liable to, which if not removed immediately will destroy the appearance and value of the gravel. Examine all gratings, drains, and water-courses, and prevent as far as possible the evil above alluded to. The value of a well drained exposed walk, free from the influence of trees, their shade, and moisture, will be appreciated by those who recognise the importance of exercise and fresh air in all weathers and seasons. Walks subject to moss had better be raked and left rough and loose during the winter. The protection of half hardy plants, established out of doors, will shortly call for attention ; mats and Fern should be duly prepared for the purpose. Collect Hollyhock and other seeds. Proceed with planting ; the present is the best time for removing large evergreens. Roll and cleanse lawns from worm-casts ; lime-water may be employed to destroy worms, if too numerous. Transplant Sweet Williams and single Wallflowers into borders, to replace the gay but tender beauties, which fade on the approach of winter ; plant bulbs, and examine those previously set ; mice are particulary prone to destroy them.

KITCHEN GARDEN AND ORCHARD.

The large amount of rain which has fallen recently has, in most lands, interfered considerably with the progress of out of door operations. Every fine day should now be turned to account and held of value, under the uncertainty of their recurrence. Whatever remains of Celery earthing should on such occasion be attended to. Digging, trenching, the formation of fruit tree borders, and any necessary working on the soil should be proceeded with as early as circumstances will permit. Any kitchen gardener without a tank to receive the drainages of the dung-heap, or for the mixture of manure water, should speedily remedy the omission. The weather has favoured the slugs, if nothing else, lately ; they must be closely looked after, or the destruction of the young and tender Cabbages and Lettuces will infallibly be the consequence. Protect Rhubarb intended for forcing from the frost, and remove all dead and decaying matter from both the Rhubarb and Seakale beds. Kidney and Haricot Beans not sufficiently matured for preservation for seed, may nevertheless be supplied to the table. They will form an excellent and wholesome dish.

FORESTING.

The preparation of land for planting should be now complete, and that operation proceeded with as soon as the yellow tint on the leaf tells of the quietude of the sap. Felling, pruning, and thinning, will in many localities be necessary works. The wet season has retained the leaves longer than usual, but the next frost may be expected to check the lingering excitement of the trees, and these works may be general. Hedges and fences should be attended to, either in regard to repairs or planting. Holly and Quick may be planted directly. Cuttings of the Willow and Poplar should be got in during the present month. Water-courses and drains must receive attention, and seeds of the various forest trees, acorns, mast, &c., collected and stored.

State of the weather near London, for the week ending Nov. 2, 1848, as observed at the Horticultural Garden, Chiswick.

October. and Nov.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 27	●	29.488	29.280	56	43	49.5	S.	.39
Satur.. 28	1	29.594	29.488	54	37	45.5	S.W.	.34
Sun. .. 29	2	29 511	29.494	53	31	42.0	S.W.	.01
Mon... 30	3	29.528	29.498	56	32	44.0	S.W.	.07
Tues... 31	4	29.566	29.545	50	38	44.0	S.W.	.12
Wed... 1	5	29.602	29.505	49	32	40.5	E.	.03
Thurs. 2	6	29.765	29.697	54	33	43.5	N.W.	.00
Average ...		29.579	29.501	53.1	35.1	44.1		0.96

Oct. 27—Heavy rain; clear at night.
— 28—Fine; sunshine and heavy showers alternately; clear.
— 29—Low clouds; overcast; foggy at night.
— 30—Fine; rain; overcast; dense fog.
— 31—Foggy throughout; rain at night.
Nov. 1—Rain and fog; showery; densely overcast at night.
— 2—Fine; very fine in forenoon; cloudy.
Mean temperature of the week, 2 deg. below the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending Nov. 11, 1848.

Nov.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 5	57.8	37.0	44.4	10	0.23 in.	3	2	—	4	4	6	1	1
Mon. 6	58.9	39.4	44.2	12	0.76	1	2	1	2	5	9	1	1
Tues. 7	52.0	38.1	45.1	13	1.02	—	1	2	3	4	7	3	2
Wed. 8	50.5	35.6	43.1	11	0.38	1	2	1	2	2	8	3	3
Thurs. 9	46.3	34.5	40.4	10	0.24	1	1	3	1	4	6	3	3
Fri 10	46.5	36.9	41.7	10	0.23	1	2	1	3	5	7	1	2
Satur. 11	50.9	37.4	44.2	12	0.76	1	2	4	—	5	7	2	1

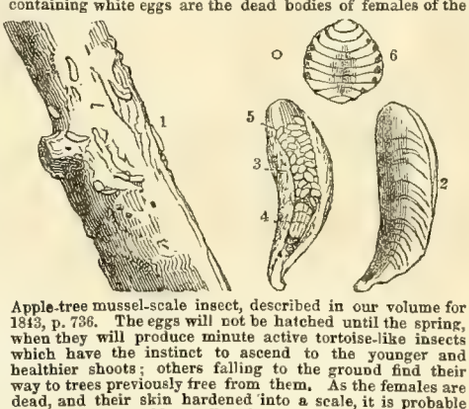
The highest temperature during the above period occurred on the 6th 1834, therm. 63 deg.; and the lowest on the 11th, 1823—therm. 21 deg.

Notices to Correspondents.

To our Correspondents—May we beg it to be understood that *we cannot answer inquiries privately through the post.* We are ready to give any reasonable information in our power through our columns ; but we cannot consent to the labour of writing letters.

Acorns : *H A.* Pack them in river or pit sand, made into a cone, in the open air, and sow them in March. If the cone is under a north wall so much the better. Acorns not perfectly ripe will grow.

Insects : *Constant Reader.* The capsules on the Apple trees containing white eggs are the dead bodies of females of the



Apple-tree mussel-scale insect, described in our volume for 1843, p. 736. The eggs will not be hatched until the spring, when they will produce minute active tortoise-like insects which have the instinct to ascend to the younger and healthier shoots ; others falling to the ground find their way to trees previously free from them. As the females are dead, and their skin hardened into a scale, it is probable that hot water would not affect the eggs, but as it is important to destroy as many eggs as possible before spring comes, we would recommend the trees to be scraped, the parings being carefully collected and burnt. If operations be delayed till spring, hot water applied with a syringe would certainly kill the young larvæ. Trees badly infested had better be rooted up ; *W.*

Auriculas : *S K B.* We did not understand the number you required, but you can choose from the following lists. We cannot assist you as to price, as that will depend upon the size and condition of the plants. *Green-edged* : Booth's Freedom, Leigh's Colonel Taylor, Oliver's Lovely Ann, Page's Champion, Pearson's Badajoz, Stretch's Alexander, Hepworth's Robin Hood, Buckley's Jolly Tar, Pollit's Standard of England, Barlow's King, Ollier's Lady Ann Wilbraham, Pollit's Ruler of England. *Grey-edged :* Grimes' Privateer, Fletcher's Mary Ann, Waterhouse's Conqueror of Europe, Taylor's Ploughboy, Kenyon's Ringleader, Page's Lord Hill, Fletcher's Ne Plus Ultra, Warris's Union, Thomson's Bang-up, Pearson's Liberty, Syke's Complete, Simpson's Lord of Hallamshire. *White-edged :* Taylor's Glory, Leigh's Bright Venus and Pillar of Beauty, Popplewell's Conqueror, Cheetham's Countess of Wilton, Leigh's Earl Grosvenor, Kenyon's Lord Chancellor, Ashton's Bonny Bess, Taylor's Incomparable, Ashworth's Regular, Taylor's Favourite, and Wood's Delight. *Selfs:* Redman's Metropolitan, Netherwood's Othello, Berry's Lord Primate, Grimes' Flora's Flag, Whittaker's True Blue, and Clegg's Blue Bonnet.*

Balsamina latifolia : *Viola.* This may be perpetuated by cuttings, which strike readily, or it may be treated as an annual. A warm greenhouse or stove suits it best in winter.‡

Books : *X X X.* There is no one book that embraces the subjects you inquire about. Such information is only to be found in Cyclopædias and books of travels. Perhaps Porter's "Tropical Agriculturist," Royle on the "Productive Resources of India," Evans and Wray's "Sugar Planter's Manual," Ball's "Cultivation of Tea," and Royle's "Botany of the Himalayas," may afford the data you seek.—*A regular Subscriber* will find this last an answer to his enquiry also.—*G.* We fear that you will only work your market garden to a loss if you require a book for the purpose. There is science in all gardening no doubt, but the practice of gardening, and market gardening especially, is science reduced to rules. Perhaps the "Manse Garden" or Tower's "Domestic Gardener" may suit you. There is no book separately on market gardening.

Carnations, Picotees, and Pinks : *M P.* As you limit the price of the flowers you require, your better plan is to apply to the nurseryman with whom you deal, stating the particular coloured varieties you require, and leave the selection to him ; he will be able to meet your wishes as regards price and sorts, by selecting from his own stock such flowers as will suit your taste, and he can best spare.*

Cements : *A Subscriber* asks for the best mode of cementing glass pipes, for the purpose of conveying beer from the coolers in a brewhouse into the casks in the cellar ? We presume that plaster of Paris or some of the chemical lutes will answer.

Cucumbers : *J H.* Cuthill's Black Spine is one of the best sorts for early work ‡

Emigrants : *New Zealander.* Cotton may possibly succeed in the northern island, but it is uncertain. Don't try to take out plants of fruit trees, but provide yourself with their seeds, and put them into your sea-chest with your linen and other articles which are in common use. The *Gardeners' Chronicle.* can be forwarded anywhere by the newsmen.

Emigration : We cannot, as we have often stated, take upon ourselves the responsibility of recommending colonies to our correspondents. They must judge for themselves ; for which purpose they must read the books on Emigration now published at a very low price, and the Colonization Circular and Commissioners' Report of the Government Board of Emigration, at No. 15, Park-street, Westminster ; to be had of all booksellers.

Gardeners' Speculations : *T H.* We are sorry to hear of the losses you and others have sustained ; but you can hardly ask us to extricate you. Men should never speculate in matters they do not understand and cannot control. If they do they must bear the consequence, which is invariably the loss of their hard-earned savings. Good intentions do not exempt men from misfortunes. The loss will probably be total.

Greenhouses : *A Q.* There is no difficulty about putting up a greenhouse that will not be a fixture. The nearest builder will do it for you ; or, if you prefer it, an architect will give you plans for such a house.

Names of Fruits : *M C* having given no post town in his address, the Secretary of the Horticultural Society is obliged to answer him thus : 1, Passe Colmar ; 2, Easter Beurré ; 3, Beurré Diel ; 4, Glout Morceau ; 5, Marie Louise ; 6, Knight's Monarch ; 7, White Doyenné ; 8, Chaumontel ; 9, Buchanan's Spring Beurré ; 10, Catillac ; 11, Easter Beurré ; 12, Glout Morceau ; 13, Beurré Diel ; 14, Autumn Bergamot ; 15, Napoléon ; 16, Easter Beurré.‖—*D Judd.* 7, Dumelow's Seedling ; 60, King of the Pippins ; 61, Hall Door ; 62, Cockle Pippin ; 65, Reinette du Canada ; 70, St. Germain ; 72, Worthless ; 73, Crassane ; 74, 89, Beurré Diel ; 78, 79, Moorfowl Egg ; 80, Doyenné Blanc ; 81, Passe Colmar ; 82, 90, Glout Morceau ; 85, Swan's Egg ; 86, Duchesse d'Angoulême.‖—*W D M.* Not known ; does not appear to be any recorded variety ; is not of first-rate quality.‖—*E Pike.* 1, Newtown Spitzemberg ; 2, Quince Apple ; 4, Hollandbury ; 5, Reinette Blanche d'Espagne ; 6, Alexander ; 7, Cluster Golden Pippin ; 8, Golden Reinette ; 9, White Crofton ; 10, London Pippin ; 11, Kentish Fillbasket ; 12, Nonsuch ; 13, Carlisle Codling : 14, French Russet ; 16, Bellidge Pippin ; 17, Margil ; 18, Scarlet Nonpareil ; 19, Scarlet Crofton.‖—*Lancasterensis.* 1, Gansel's Bergamot ; 2, Calebasse ; 4, Aston Town.‖—*Sub.* The Alexander.‖

Names of Plants : *Count.* It is not possible to name Asters from little fragments.—*K B.* Asterotrichion sidöides.—*S.* A Casuarina ; apparently C. equisetifolia.—*Young Gardener, J M, &c.* Plants out of flower cannot be named.—*L B.* No. 1 Houlletia Brocklehurstiana ; 2, Oncidium crispum.—*A Gerrie.* Why on earth *will* you put flowers in contact with cotton wool? 1, Oncidium unguiculatum ; 2, Onc. oblongatum ; 3, Epidendrum, probably crassifolium.—*J M L.* Verea crenata.—*J M L.* Cystopteris fragilis, see Hooker's "Species Filicum," p. 197. *S.* —*John Cuthill.* Your specimens all belong to Asplenium Adiantum nigrum.—*J M L.* Such a specimen is not in a state for determination. It appears to be a Bryony.—*J R.* Some Achillea, perhaps tomentosa, not to be determined by a few flowers without leaves.—*A B C.* Veronica salicifolia. Propagate Anemone japonica by cuttings of its roots (see p. 3, 1848). —*A B.* Oxalis rosea and O. Bowiei are totally different plants. Cereus truncatus will do well enough in a good greenhouse : it is a mountain plant ; for the prickly Pear it is the only proper place. The plant enclosed is Torenia asiatica, which is about as much like Manettia bicolor as a tabby cat to a flamingo.—*De Jonghe.* 686, Myanthus cernuus ; 611, Oncidium varicosum, a fine thing, of the yellow race, never flowered in Europe before ; 1072, Alstromeria plantagenia, new to gardens.—*C J D.* If the flowers are clustered at the end of a long scape, it may be P. amœna ; if they are scapeless, like a Primrose, then it may belong to P. altaica : but we anticipate the former.—*Derwent.* You now see why we so constantly complain of morsels of plants, which are so many riddles, being sent. We *cannot* be right with certainty if evidence is withheld. Cestrum aurantiacum is a hardy greenhouse plant, from Guatemala, introduced five or six years ago.

Oxalis : *H G S.* Judging from the account you give of your Oxalis, we should think they are too luxuriant to flower. You have probably too many bulbs in a pot. Do not overcrowd them, drain your pots well, give them light soil, plenty of air, and a sufficient season of rest, and they will not fail to yield you flowers. ‡

Pelargoniums : *An Old Subscriber.* We would recommend you to purchase the following sorts : Foster's Matilda, Gaines' Duchess of Leinster, Catleugh's Pearl, Beck's Rosamond, Cruenta, Cavalier, Gulielma, Cox's Hector, Beck's Rosy Circle, Centurion, Foster's Sir P. Peel, and Lyne's Duke of Cornwall.*—*J M.* The following sorts, if well grown, will supply your wants : Foster's Matilda, Beck's Rosamond, Gulielma, Lyne's Duke of Cornwall, Catleugh's Pearl, and Gaines' Duchess of Leinster.*—*Tyro.* You have acted wisely. Scarlet Pelargoniums should be wintered dry or nearly so. If you keep them too wet they will rot.‡

Potatoes : *J Davis.* Your plants are no doubt attacked by the disease ; you thus see that seedlings are as liable to it as others. But as for fungus we can find none.

The Sea Serpent : *L M—n.* It is giving us a power which we do not possess to say that we can solve this mystery. What strikes us is that Capt. M'Quhae should explain—1. Why he did not bear down on the creature ? or 2, why a boat was not lowered to look after it ? or 3, why a gun was not brought to bear upon it ? He could not have been ignorant of the great interest of the question.

Misc. : *Northwood.* This is the proper time to strew soot on a lawn. You can only eradicate large patches of Daisies by digging them out by the root.‡—*Z A.* Peat or peat and a little loam, will suit your Cape Jasmine.‡—*A B.* The late Mayduke Cherry was described very lately in our columns. It is an excellent variety. You will not preserve Ageratum cœlestinum. Swainsona makes a pretty enough bed in summer, but its colour is not striking ; Sutherlandia frutescens makes a better. What is Lucea rosea ?—*W D.* Yours are hothouse plants, and cannot be cultivated in the open air in this climate. They are natives of the tropics, where they are used like Potatoes, and very indifferent they are.—*J Napier.* Mr. Kendall's address is Queen Elizabeth's-walk, Stoke Newington, near London.‡—*Inquirer.* Your question about walks was answered at page 720. Myrtles in such a situation as yours should be but sparingly watered during winter. Do not, however, let them suffer from drought. "Lime gravel" is well known in some parts of Ireland, as in Fermanagh.‡—*Sylvestris.* Now is as good a time as any for removing plants of Hemlock Spruce. Plant them 60 feet apart ; Deodars the same distance as Cedars of Lebanon.‡—*Sub.* Nothing that we know of, except time, will remedy the bad smell of asphalte walks. They always smell badly for a long time after they are made. For improving their appearance, see an article in another column, or perhaps the plan given at page 685 will suit you.‡—*Gallicus.* See an article on "School Gardens" at p. 719 of our volume for the present year.‡

SEEDLING FLOWERS.

Fuchsias : *J M S.* Your seedling is a pretty variety, but it wants novelty ; it too much resembles sorts already out.*

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those numerous correspondents, the insertion of whose interesting contributions is still delayed.

SEED WHEAT.—The Red Straw White Wheat may be had here or at Churfield Station, on the Bristol and Birmingham Railway for 8s. 6d. per bushel.
JOHN MORTON, Whitfield Farm, Berkeley, Gloucestershire.

CHEAP AND DURABLE ROOFING.—Houses of all descriptions can be roofed at less than one-half the ordinary cost, by using the
PATENT ASPHALTED ROOFING FELT,
Manufactured by
FRANCIS RITCHIE AND SONS, BELFAST,
Who also make INDESTRUCTIBLE FELT for lining damp walls under paper in place of lead. Samples, directions, and all necessary information sent free, on application to the Manufacturers, or any of the following Agents:—
Bristol—Tratman, Brothers.
Carlisle—Edward Jobling.
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PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as building and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.
Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

The Agricultural Gazette.
SATURDAY, NOVEMBER 4, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

TUESDAY, Nov. 7—Agricultural Society of England.
THURSDAY, — 9—Agricultural Imp. Society of Ireland.

FARMERS' CLUBS.—Nov. 6: London, Yoxford, Croydon, Great Oakley.—Nov. 8: Tavistock, Harleston.—Nov. 9: Carlton-on-Trent.—Nov. 10: Hinkesworth, Hadleigh, St. Austell.—Nov. 11: East Kent.—Nov. 13: W. Hereford, W. Market.—Nov. 17: Wadebridge.

THERE are two subjects, frequently referred to in our columns, which ought not to escape a notice at this season of the year. The present is the time to arrange and execute the details of experiments in THIN-SEEDING: and the present is the time when additional experience is to be obtained on the relative merits of STALL AND BOX FEEDING.

These subjects are connected by the pen of an earnest writer on both of them, as well as by the month which calls our attention to each. And although unfortunately we cannot agree with Mr. WILKINS, either in his unconditional praise of the former or in his unqualified condemnation of the latter, yet we most willingly accord to him the merit of having heartily laboured to impress on our readers his views of both; so that we imagine the one can hardly be named without their thinking, through him, of the other.

Nothing can be fairer than the conditions which he has lately suggested for an experiment on the subject of thin seeding. He proposes that each experimenter shall select three acres; those who are thin seeders to use not more than two pecks of seed on each, and those on the other side to use not less than ten; the seed in all cases to be taken from the same heap; the acres on which it is to be sown to be selected in different localities, and on different soils; and the result at harvest to determine the question. Our only objection to this proposal is that it gives rather too partizan an aspect to the matter. Would it not be better that each should put both sides of the alternative? Nature will be more likely to answer intelligibly if questioned thus, than if her examiners act as the advocates of rival theories, and bias her answers by partial questioning. We should prefer that every experiment be a complete case for decision: that, for instance, on each farm 3 or 4 acres be devoted, one to be sown with two, another with four, a third with six, and a fourth with eight pecks of seed; that the seed in every case be distributed uniformly, the distance (say 9 inches) between the rows being the same in all; that the expenses of cultivation as well as of seed be taken into the account; and that the *quality* as well as quantity of produce be recorded as affecting the result. If we could induce 20 or 30 gentlemen in England and Scotland to put the question in this form, the average of their answers would be far nearer the truth on this subject than anything that has yet been seen. Perfect faith may be placed in the ability of numbers to neutralize error. Induction from a sufficiently extensive series of facts *must* furnish a credible result. It is only thus that accident and circumstance which so continually hide agricultural truth can be neutralised. It is impossible rightly to learn the lesson of an isolated fact in farming; for the tendency of its circumstances will be estimated variously by different readers. This is nowhere so marked as in the case of thin seeding; one rich-land farmer will say that the advantage must lie on the side of abundant seed in his case, for "it is only reasonable to proportion the number of plants to the abundance of their food;" and another will decide on the directly opposite side because "thin-seeding will never answer if not where the distant plants are in circumstances so favourable to their tillering." It needs, then, an average of many facts from soils of all sorts, to silence questioning. It would indeed be a *occasion* on this subject if we could induce many to record and compare the results of their experiments.

The other subject to which we have alluded is equally worthy the attention of agriculturists. But we recommend the adoption rather than the *trial* of box-feeding; as we have no doubt here of the side on which the truth resides. The expense of additional roofing which the practice involves is, we are convinced, amply repaid by the better condition consequent upon the greater *comfort* of the cattle under it, and by the superiority of the manure made from them. But want of room forbids our at present entering on the details of this subject. We must defer them till another opportunity.

THE SMALL FARM SYSTEM.—While the Communists of France, and their kindred spirits, the Chartists of England, are demanding a partition of land-property into portions sufficiently numerous, and, therefore, very minute, to afford every peasant family what such agrarians may be pleased to consider a competent share, it may not be *mal apropos* to compare the condition of the rural population of France, under the prevalent system of small farms, with that of the farm *labourers* in England, and to inquire whether the progress of agriculture generally is promoted by such subdivision of land. If it should appear out of order to institute such comparison between the *farmers* of one country and the farm *labourers* of another, our reply is, that in the case before us those two classes are in much closer parallel than the farmers of France are to the farmers of England; *these* are so much above the former in gradation, that no just comparison can be instituted between them.

The farming class in France is a compound body, which must in some measure be separated into its simple elements before we can place it in the proposed juxtaposition with that of the labourers of England. It is chiefly composed of small proprietors, as appears at one glance from some statistic computations embodied in the able and interesting work of Messrs. MOUNIER and RUBICHON, "On the Agriculture of France." That kingdom, whose area comprises about 110 million acres of cultivable land, exclusively of 3,000,000 acres of forest, has a population of at least 7,000,000 families, of which nearly 5,000,000 are land-proprietors. The *landes* or heaths, though waste, are included in the gross amount of cultivable land. We give the classification in detail, as M. LULLIN DE CHATEAUVIEUX has arranged it.

Families.			Cultivable Hectares.
8,000	possessing	each	355
15,000	,,	,,	180
67,000	,,	,,	84
110,000	,,	,,	56
220,000	,,	,,	35
480,000	,,	,,	14
3,900,000	,,	,,	3.64 ares.
4,800,000			

The large proprietors let their lands on leases to middlemen, or directly to tenants, or on the *métairie* system, or partially cultivate their estates themselves. The 3,900,000 families, averaging about 8 acres to each, already possess a fourth of the soil, and, it is expected, will gradually acquire a third, a moiety or more, if a change of the laws relating to property in land should not be effected. A great proportion of this class is very poor, from various causes. "This class particularly experience that calamity which was unknown until our times—the want of work; for, possessing in many parts of the kingdom almost the entire land, and being only able to raise from it 50 days' subsistence in the year, they have no proprietors in their neighbourhood to give them employment: attached as they are to certain localities by their *morsels* of land, they cannot go in search of work for their subsistence to any distance from it."* The rated annual income derivable from their *estates* by a large proportion of this small proprietary class does not exceed 60 francs for each family. This, however, is no criterion of the standard of income, because a considerable reduction must be made from the gross number, of professional men, shopkeepers, mechanics, gardeners, and other owners of Lilliputian lots (many of them under an acre in extent), who derive their chief incomes from other sources; and also because one individual may have 20 acres in as many different places, in which case, if the lots be in different communes, his name will appear among the small proprietors in each of them. If, however, his different patches be in the same commune, he will, on the contrary, be considered as the proprietor of them in the aggregate. It would, indeed, be very difficult, if not impossible, under the present habits of that kingdom, to ascertain the actual number of landowners in this class more especially, because a constant partition, exchange, or sale of lands is in progress. Unless, then, the movements of property in the social machine were stopped, for the purpose of examining into details, estates would be flying about from hand to hand, while the commissioners of inquiry were ruling a column for entries, or rubbing their pens. The rapidity with which properties (so easily transferable by reason of their insignificance, and the laudable facilities which the law gives for establishing titles, &c.) pass from family to family, is proved by the fact that, in the course of 10 years, more than half of the rental changed hands; of which transfers 40 per cent. were changes by inheritance, and 50 per cent. by sales.

Even after a very ample deduction from the small holder class of professional men and of others deriving their subsistence from sources independent of their allotment of land, it is clear that the greater portion of the residue is more analogous to that of the labourers of England, especially if those possess gardens, than to that of her farmers, who are giants in comparison. Having sufficiently established this point, we are now to enter into the question, "Which of the two classes, viz., the *petits propriétaires* of France and the farm labourers of England, has the lesser occasion for complaint, or, analytically, which of them enjoys the greater degree of comfort?"

As to food:—In the grand items of bread and meat, it has been estimated that the consumption of *wheaten* bread per head is 2½ per cent. less in France than in England, and that the ratio of meat consumed in the latter kingdom is to that consumed in the other as 6 oz. to 1½ oz.; the quality of the bread used by our labourers is much better, though the quantity be less.

Butcher's meat is consumed almost entirely in the towns of France; it is in England not altogether so: our labourers taste it. Sheeps' heads and other inferior cheap parts, converted into broth and stews, regale our nostrils occasionally as we pass their cottage doors. But this is not the case in France with the little farmers. A very small bit of pork or bacon in their Cabbage soup is the utmost of their indulgence in a flesh diet. Their soup, however, is more wholesome and nutritive than the sort of tea which the English labourer too often from necessity substitutes for milk, and, on the other hand, the extract of malted Barley, when he can afford the luxury, is far better than the extract of Apples (well watered, too, in the process, or of inferior Grapes.

A great proportion of the peasantry of the departments of the south and south-eastern provinces subsist upon very coarse bread—Chestnuts, dry Pulse, and Indian corn. In Brittany, bread of Buckwheat and Rye, and Buckwheat *galettes*, and a kind of *bouilli* of the same flour, are the principal auxiliaries to the never-failing grease soup. In Normandy, and a great portion of the north-east, where the soil, the productions, and the farming are best, and the condition of the proprietary peasants the most favourable, the dietary is excellent, and the meals so frequent as to leave no void in the stomach. The quality of the food, too, is substantial, almost the same as that which the *farmers* of Brittany consume, but generally with more pork added to the soup than is usual in the latter province. In Lower Brittany there is much poverty amidst a reasonable share of independence and comfort in the farming classes, though the *labourers* in many parts are in extreme wretchedness, unless they take their meals in a farmer's kitchen, which indeed is the general French habit. But the unemployed members of their families are fed and clothed most miserably, as must be the case when the head of the family receives but six or eight sous a day in money wages.

The clothing of the French class under our immediate enquiry being home-made, with the exception of sabots, is more stout and comfortable and durable than that of our labourers generally—decidedly so as regards female dress, whose outer garments are of drugget, or some other substantial and warm material, instead of flimsy and cold cotton. Flannel is an article indispensable to them, and they all have, even the poorest, an abundant supply of sheets and other household linen. As to fuel, they usually have a sufficiency of faggots for their purpose, but being warmly clad in winter they are more indifferent to external cold than our people are. In the coal counties of England, however, the labourers have more enjoyment from the warmth of a fire, which costs them so little, while the others (in our comparison) are obliged to economise their fuel. Yet on an average of both kingdoms the peasantry of well wooded France suffer less inconvenience from want of sufficient fuel than the labourers of England experience.

In the Côtes du Nord, where, from its mountainous character and inferiority of soil, larger farms are found than where land is devoted to Vines or other valuable productions of the more southern

* Agriculture de France, par MM. MOUNIER et RUBICHON.

zones of France, the average size of the small farms is about 22 acres. If we had to decide between the relative conditions of the *petit propriétaire*, even of but 6 or 8 acres of land in fertile Normandy for example (though the case would be equally strong in other parts of northern France, too), and of the English labourer without an allotment of land, there would be no room for any hesitation. The French peasant, in such case, is in a far better state; he is well fed, well housed, warmly clad, independent of everybody, and if his field of Wheat or Sarrasin (Buckwheat) yields a fair crop, he is in no danger of want; his garden, and his pig and cow supply the rest of his food. But we are not to judge merely by the circumstances of this class of people in favoured departments, any more than we should be justified in supposing the condition of our farm labouring classes is generally good, because philanthropical farmers and gentry in certain localities pay them 14*s.* a-week, and supply cottages and gardens. We know that the bulk of rural labourers only earn full wages when the weather permits them to work out of doors, and that when disease, or the infirmities of old age affect them, the poor-house is often their only resource. In how many instances are the labourers' wages insufficient for his wants? has he not been reduced by a gradation of poverty from bread to Potatoes, the lowest article in the scale of food among us, though at *present* he is reverting, from the failure of his Potatoes and the cheapness of a loaf of bread, to his diet of former days. It is a very remarkable fact that meat and butter, and until recent times, bread, are nearly double the price at which they were sold when ARTHUR YOUNG made his tour through England three-fourths of a century ago; the wages of the labourer generally have risen only one-fourth or fifth. The average prices of provisions in 1771, according to YOUNG's tables were:—

Meat	3½*d.* per lb.
Cheese	3½ „
Butter	6½ „
Bread	1¼ „

Average rates of labour at the same period:—

At harvest, a man per week	13*s.* 1*d.*
Hay-making, do.	9 11
In winter, do.	7 10½
At harvest, a woman do.	7 3
At haymaking do.	4 9
In winter do.	3 3

In the districts where wages are high, as in the counties surrounding London, provisions are dear, and though a labourer in constant employment can frequently live as well as the French *petit propriétaire*, on his farm, sickness and other causes may arrest his labour and stop his earnings. There is a charm, too, in the consciousness of proprietorship, however insignificant the scale may be, and of *independence*. This feeling great numbers of the French peasantry enjoy, either as actual owners of the soil they till, or as tenants pretty sure of continuing in occupation of their farms. Such men can attend their fêtes and holidays when they please to do so, choose their own hours for work—and to do them justice, they are both industrious and domestic—ride their horse to market, with a sack of corn on the croupe, or lead a cart if they have sufficient loading, and draw a *chopine* of cider from a huge *tonneau*, whenever they feel disposed to drink; and if the land rates be not increased (as they have been in the recent financial wants of France) they rarely trouble themselves about politics, even of the gravest character. On the whole, we must conclude in favour of the French peasantry as to their physical comforts, taken and compared with our labourers as a class. They have an interest in the soil, a stake in the hedge, and such as neither sickness nor any ordinary calamity can deprive them of; whereas men who live from hand to mouth, and whose daily food depends upon their daily bread, are always in a precarious state of comfort, and may be reduced to extreme want, and in the decline of years to the union alms-house, which, from necessity, is a kind of prison in discipline and restraint—a melancholy close to a life of toil and honest industry.

But in arriving at this conclusion, it is to be distinctly understood, that we have limited the comparison between the labourers of England in steady employment, and with average wages, and decent domestic accommodation, and the *owners* or *occupiers* of *land* in France. The common day labourers in that country are in a much poorer condition than ours even in their worst estate. The pathetic ballads of the labourer, in the Celtic parts of Brittany more especially, evince a keen sense of wretchedness; and extreme poverty, with its concomitants, is experienced in other parts of France, too, in a degree which, thank God, is unknown to the labourers in any part of this kingdom.

WHAT CAN BE DONE TO IMPROVE IRELAND?

THIS question has been so often asked, and appears so constantly to have baffled the consideration of the wisest heads, that I feel a diffidence in offering a new suggestion; and it is only the strong need of something being done, and the absence of any other being proposed, that induces me to offer the following to the public.

The position and natural advantages of Ireland and its capability of supplying the wants of Britain, at once direct us to seek means for its amelioration in more highly cultivating its agricultural resources; this I am aware has often been attempted, but as the efforts that have been made have been to little purpose, I would suggest another mode for bringing about this most desirable object.

I have more immediately in view the improvement of its husbandry, and the amendment of the morals, habits, and condition of its agricultural labourers; and I would attempt this, not by introducing Scotch and English farmers as examples to the natives, as has frequently been done, for this has signally failed. They will not learn from foreign examples. Their prejudices, settled habits, and customs are obstacles that a stranger cannot overcome, but much I think might be done by making British-taught Irishmen their teachers and fellow labourers—showing them the improvement they are capable of—bringing home to them masters against whom they would have no Irish prejudices, and making managers of natives who understanding their feelings and humours would not be prevented by them from leading them into new ways. This is the only mode by which I believe experience shows improvement may be grafted on to a native stock.

Most persons are well acquainted with the parochial practice pursued in England of apprenticing out to mechanical trades and services of the pauper boys as they attain sufficient maturity. Of the advantages of this system the public are generally sensible; I allude not so much to the relief from their charge that results from thus providing for them, but rather to the conversion into useful members that takes place of those who otherwise would prove an increasing clog, and a fruitful source of mischief. Many important improvements have originated, and high civic honours have been attained, by means of the education thus given; and I would suggest that a similar practice, modified and extended to the sons of small farmers might readily be adopted in Ireland, and with this advantage to the youths, that their masters being found in England or Scotland, their education should be superior to that to be found at home.

By the assistance of Government a general system of apprenticing to this country might be easily arranged. For the sake of having their services gratis, and a small premium, farming and other masters might readily be found to accept for 3 or 4 years, lads of the age of 16 and upwards; my idea is that youths so domesticated and trained would get accustomed to a higher order of comforts, and readily and permanently acquire knowledge and habits that they afterwards would take back to Ireland, returning with the improved feelings that higher civilization generates, freed of their own prejudices, and without the impediment of that of the natives to work against them.

The obstacles to this plan appear to me only these, viz., 1st, the expense; 2d, the possibility that many would not return to Ireland.

"*With Respect to the Expense.*"—A premium of 25*l.*, and an outfit of 10*l.*, would be sufficient to secure for them masters, who in return for their labour would teach and maintain them for three or four years; and looking to the advantages that would ultimately result to both countries from an outlay of 35,000*l.* a year, in thus annually providing 1000 disciples for Ireland's improvement, the expense does not appear a consideration, to prevent a design of so much promise from being tried.

"*As to the possibility that many would not return.*"—This I should meet by proposing that persons thus qualified and duly recommended should be made preferentially eligible for certain government posts and official situations; besides this, their value in Ireland as farmers, bailiffs, overseers, gardeners, and the like, would be certain of becoming so highly appreciated by private individuals, as to ensure them valuable engagements.

The wisdom of the Pasha of Egypt has been shown in the similar steps he has taken to improve his dominions. He has for some years past been annually sending native youths to the best schools in Europe, and in this way he is creating a supply of the surest instructors for the renovation of the country, and thus has entailed an advance of knowledge and a triumph over native barbarity and ignorance that in no other way could have been effected.

The difficulty to improve a native population by foreign examples brought home to them by strangers, I think is very evident from general history. Wherever colonies have been established, the original race appear to have either retreated or remained for ages a distinct people, scarcely borrowing any improvement from their more enlightened neighbours; and further, the extinction of the colony has generally left the original race to quickly return to its original barbarity. How little have the natives of any country ever borrowed of the customs or habits brought home to them by their conquerors! *Hewitt Davis, 3, Frederick's-place, Old Jewry, London, Oct. 30, 1848.*

NATIONAL AGRICULTURAL INSTRUCTION.

"The National Assembly adopted on Tuesday the project of decree on agricultural instruction by a majority of 579 to 100." *Times, Oct. 5, 1848.*

A PERUSAL of the foregoing paragraph suggests many serious and painful considerations. Where are our institutions for national agricultural instruction? Where the senatorial or ministerial orations in favour of so worthy an object? Where the grant of public money for its establishment? Is the condition of our agriculture perfection? Is food produced in such superabundance that we need no improved scientific practice? Does no convulsive struggle of nervous susceptibility agitate our monetary system, our ministry, and our exchanges on the eve of a doubtful harvest? Are rents so punctually paid that the prosperity of our agriculturists is unquestionable? Is there no superabundance of willing but unemployed labour, no consequent misery, crime, and discontent? Are there no uncultivated or half cultivated acres almost imploring the application of skill, labour, and capital? Is it possible that amidst the crash and turmoil of fierce political elements, our Gallic neighbours should deem this a question of paramount necessity, which we in tranquil security so utterly neglect? Alas! it is too true that the science and practice of agriculture do not occupy their proper position socially or politically. Everything is left to chance, or to individual exertion and experiment; no order, no system, no uniformity; nothing but agricultural discrepancy. We have colleges and schools in connection with the arts and sciences, the army, the navy, the clergy, and the bar; but the production of our daily bread, our very existence, is too common-place and contemptible an object to be fashionable.

If this is doubted, look at the position of the only public institution of this kind, the Royal Agricultural College at Cirencester. Perfect in its instructional and practical arrangements, well supplied with students, yet a considerable portion of its shares are not yet taken up. This noble and national undertaking is unaided by our Government or by the Royal Agricultural Society of England, who have both been solicited, but in vain. The frigid indifference of our landed proprietors to this institution is of itself sufficient and painful evidence of the little value attached to agricultural instruction. If knowledge is power, ignorance must be weakness, agriculturally as in other matters. The time is approaching when the surplus capital of trade, commerce, and manufactures must find its way to agriculture and to agricultural improvement. Already have railways and foreign loans absorbed their share. To employ capital in agriculture without practical and scientific knowledge would be ruin. It behoves, then, capitalists of all classes to take an interest in national agricultural instruction.

The necessity for employing and feeding our daily increasing population is an obvious and fearful proposition. The acres do not multiply; capital and skill must therefore unite to employ more labour and raise more food from our present limited area. I call therefore on our Legislature, and on the patriotic and wealthy, to lend a willing aid in so good a cause. Our manufacturers and traders have as deep an interest in this question as our landed aristocracy. Our Government can only expect order and good feeling when the able and willing are employed and fed. I entreat you, Sir, to exercise your powerful pen in aid and to the attainment of "National Agricultural Education;" *I. J. Mechi, Tiptree-hall Farm, Kelvedon, Essex, Oct. 24.*

ON THE GROWTH OF HEDGEROW TIMBER.

MUCH has been said on the cause and the extent of the injury inflicted on annual crops by the overgrowth of hedgerow timber. One prominent reason, however, of a neglect of principles seems to be this: We are too apt to look upon a tree as one individual plant; in the same manner, in fact, in which we speak and think of a Turnip plant, a Carrot, or any other annual. But is it so? I think not. All plants, as is well known, consist of cells. In the strictest sense of the word only the separate, existent, and self-enlarging cell can be considered an individual. But if we extend the use of the term individual, and by it signify a body which cannot be divided into two or more similar ones without losing our sense of its entireness, and whose vital process has a fixed point of beginning and ending within a definite period, then of necessity we rightly and judiciously limit the class of individual plants. Then only annuals (or such as germinate, foliate, flower, seed, and die) and biennials (or such as germinate and foliate in the first year, and which blossom, seed, and die within the second) can be considered individuals. For you will perceive that the idea of individual life necessarily requires that individual death should be a condition of the organisation itself.

In a tree, we can only look upon the woody stem, branches, and roots as purely accidental organs; in fact, as an organised soil, upon every part of which young herbaceous individual annuals may spring; for it belongs to the very notion of a plant that it produce leaves on its stem. Every botanist knows that no lignified or woody part of a plant is capable of producing a leaf, although he forgets the natural inference that the woody stem cannot therefore come under the idea of a plant.

It may be thought that this has no connection with the subject; but I must beg to differ from such an opinion. Let us cease to look upon the tree as one plant—as one individual! Look upon it as an organised soil bearing a number of plants. Take, for example, a fine Ash tree as the representative of the most injurious of hedgerow timber, cut it down, and plant the individual buds, at the same distance as you set your Turnips, and am I not strictly within the bounds of truth in saying that

you might plant one-eighth of an acre with them? The thousand shoots or individuals on the stem of an Ash must be furnished from the soil and the air. If I were to tell any one that two bodies cannot at the same time occupy the same space, he would tell me that was a self-evident proposition. But does not it apply? The stem of the tree may be considered as the quintessence of the soil and the air. This living soil, then, which spreads itself into the air, instead of occupying as much more space as the so-called roots do in the soil, supports thousands of individuals, at the expense of both soil and air. The soil contains naturally a supply of certain saline matters; these matters, according to the greater or smaller quantities present, render the soil more or less fertile. The most important of them, and the most expensive to furnish, have been originally contained in a soluble form. By the long-continued action of the atmosphere and of water they are rendered soluble, and, in such form, support vegetable life. In virgin soil, where exposure to atmospheric agencies has been constant for centuries, such amounts of soluble salts of potash, lime, and magnesia have been stored up as to produce rich crops of grain for a hundred years without addition of manure. In soil long cultivated the amount of these is not so great, and yet upon these natural stores, as well as upon those which the farmer is compelled to add, in form of manures, the different trees live. And if it were only that the timber exhausts the land upon which immediately it stood, the injury would be less. But the roots which feed the individual plants extend near the surface far beyond the spot, and to some extent prevent the tillage of such soils upon which timber in hedgerows abounds. And as is the increase in the size of the tree, so nearly proportionately is the increase in the ground.

The air, laden with those gases which minister so materially to the increase in bulk, is greatly robbed by the growth of timber, and especially where it abounds in small enclosures, much to the injury of the annuals. But even this is not all. It may be said to be but a small part of the injury which is inflicted. Who can calculate that produced by the shade of these trees? The sun is necessary to the proper circulation of the sap, for we find it circulating in those sides of trees which are exposed to the sun, while it remains sensibly stagnant on the other. Wherever, then, such impediments stand in the way of the sun, there must a corresponding injury result to the crops below and beyond. Not only does every diminution of temperature affect the luxuriance of vegetation, but the harvest must likewise of necessity be later under the shade of trees.

In favour, too, of the necessity of all the lights which can be obtained, I might refer to many physiologists. But it is needless; for we need only use our eyes to be convinced of this. Much more might be said on this subject, and it might easily be proved that the best timber cannot be grown in hedgerows. Taking, however, into consideration many excellent articles that have appeared in this Paper, it may not be necessary now to enlarge upon them. At the same time, I must be permitted to express a hope that this important subject will soon meet with that attention which this crying evil deserves; *A. J. Bernays, Derby.*

TABLE TEACHING HOW TO SOW GUANO.

Cwts. to the English acre	Weight of Guano per bushel.	Breadth of Drill.				
	lbs.	inches				
2	56	27	1 gallon[a] should sow	201	yards	along 1 drill.
3	,,	,,	1	do.	134⅓	do.
4	,,	,,	1	do.	100½	do.
2	58	27	1	do.	208	do.
3	,,	,,	1	do.	140	do.
4	,,	,,	1	do.	104	do.
2	60	27	1	do.	215	do.
3	,,	,,	1	do.	143⅓	do.
4	,,	,,	1	do.	107½	do.
2	62	27	1	do.	222⅔	do.
3	,,	,,	1	do.	148	do.
4	,,	,,	1	do.	111	do.
2	64	27	1	do.	230⅔	do.
3	,,	,,	1	do.	153⅔	do.
4	,,	,,	1	do.	115	do.
2	66	27	1	do.	238	do.
3	,,	,,	1	do.	159	do.
4	,,	,,	1	do.	119	do.
2	68	27	1	do.	245	do.
3	,,	,,	1	do.	163⅓	do.
4	,,	,,	1	do.	123	do.
2	70	27	1	do.	250½	do.
3	,,	,,	1	do.	167⅓	do.
4	,,	,,	1	do.	125	do.

[a] Eight gallons to the bushel.

Home Correspondence.

Education for the Children of Agricultural Labourers—Under this head, in a late number of your Paper, are some remarks by T. C. Brown, in the general spirit of which I quite concur; but I fear it will be yet some time before Parliament can frame any legislative measure for the purpose of national instruction, on a broad scale, which will not be opposed by sectarian disaffection on one side or the other; such at least has been the fate of every bill yet proposed by Government, and unhappily it appears most probable that it will still take some years to convince the public mind that rudimentary education does not necessarily include abstruse points of theology. If my view of the matter be correct, many of the present race of children will, in the mean time, become adults as ignorant as their parents; and my motive in addressing you is to show how, in the absence of national education, this evil may be partially remedied, by at least preparing children now for superior opportunities which may hereafter be afforded them. In education, as well as in other affairs of life, the first step is the most difficult; the edge of the wedge once introduced the obstacle is half removed, so in that part of our population which is most ignorant, were the children, before they are old enough to work, to be sent to infant schools, they might, at any rate, be taught their letters and to spell easy sentences; having acquired only thus much, the natural emulation and restlessness of youth would impel them onward, even under the most disadvantageous circumstances. I am aware that in most towns, and even villages, there are generally dame schools, in which, for a few pence per week, the children of the better class of mechanics and labourers can be sent; but there are still many whose income and expenditure are so nearly balanced, that even these few pence cannot be spared, and consequently those precious hours which, properly employed, would give a different colouring to their whole future life, are wasted, or worse than wasted, in acquiring habits which indirectly tempt them hereafter to that course of vacant recklessness which causes our jails to exhibit at every assize so large a proportion of prisoners, classed as "not able to read or write." There are, however, some small villages in thinly populated districts where there is no school at all; and the uncertainty of what pecuniary responsibilities may be incurred, or how to establish an infant school in such localities, may perhaps determine many kind-hearted individuals from engaging in attempting to remove from their neighbourhood what they are well aware is not only a local but a national evil. To such the following statement may be interesting and encouraging. A village in Gloucestershire was a few years since in this position. The men and women were, many of them, entirely unacquainted even with the alphabet, and the children growing up in the same state of "blissful ignorance," as it has been called. The first step towards improvement was the establishment of a Sunday school, in which I attended as a teacher. The duties of the day were instructive to those scholars who read well enough to join the Testament class, pleasing and satisfactory also to their teacher; but those only who have tried it can know the wearisome and disheartening task of teaching the younger children their letters, who never looked on the alphabet again till the next Sunday, when the last lesson needs to be again learnt. At last an attempt was made to establish an infant school. A good-natured farmer gave the use of an unoccupied cottage, containing one room only, having formerly been a hovel. A woman of the village, who had seen better days but was reduced to out-door labour, was glad to exchange it for the office of mistress, at the same wages (4*s.* per week!) As there was no person in the parish who would undertake the financial department, I solicited subscriptions from a few of the landlords of the neighbourhood, which request was cheerfully responded to; and, with this auxiliary fund so raised (5*l.* 15*s.*), the schoolmistress was engaged for a year, and the school opened, each child paying 1*d.* per week. In a few weeks the parents, becoming aware of the advantage offered them, began to send their children of from three to seven years of age, and during the year from 18 to 20 regularly attended. At the end of the year I balanced accounts, and was not disheartened by the result of the first year's trial, although a trifling balance was on the wrong side, but a plain unvarnished copy of accounts for the three years now past will, I think, be most satisfactory.

From June 1845 to 1846.

Subscriptions	... £5	15	0	Schoolmistress, 52 weeks at 4*s.*	... £10	8	0
Scholars at 1*d.* p. week	4	1	0	Receipts ...	... 9	16	0
	£9	16	0				
Donation of 12 cwt. of coals.				Deficient ...	... £0	12	0

June 1846 to Jan. 1847.

Six months ...	... £4	15	0	Subscriptions	.. £5	11	0
Do. expenses...	... 4	11	5	Scholars at 1*d.* p. week	4	1	7
					£12	12	7
Balance in hand	... £0	3	7	Expenses ...	... 11	8	0
				Balance in hand	... £1	4	7

Jan. 1847 to 1848.

The last account includes coals and books, so it appears that in a village where from 18 to 20 children would attend, the moderate subscriptions of about 8*l.* per annum would pay all expenses. Of course the primary object in this matter is to have the children taught to read and sew, but there are other results which should have their weight with those who look on everything in a £ *s. d.* light only. Employment of a schoolmistress who in many cases would be otherwise chargeable to the parish, salary 10*l.* 8*s.* At a moderate calculation, these 20 children would belong to 12 families, the mothers of whom, by their children being out, would be enabled to work 8 months in the year for farmers, &c., which otherwise they could not do; 12 women at 4*s.* per week for 8 months, 76*l.* 16*s.*, to be expended every year in necessaries for their families. The advantage to the village shops in the expenditure of this money, and the benefit to the farmer in having 12 additional hands at busy seasons of the year. Should there be no vacant cottage to be obtained, such a building as the one here in use may be erected for about 20*l.*, independent of materials, which may be of a rough description. Suitable books of instruction are now exceedingly cheap, and a black board with a piece of chalk furnishes an excellent medium for tuition. In giving this account, my object is to show that a good deal may be done with a small sum of money judiciously expended, and that, during the interval which will probably elapse before any settled plan of national education is fixed on, the lower grade of the rising generation may be preparing to take advantage of opportunities which would otherwise come too late for their benefit. I by no means hold up this "hedge school" as a model of what should be done; doubtless a well ventilated, comfortable room, with a superior mistress, at a more liberal salary, would be preferable; but in places where these are not attainable, the rough plan I have pointed out is better than complete hereditary ignorance in the parish. There are, it is hoped, few neighbourhoods where funds equal to £*s. d.* per child per annum could not be raised by subscription. It is not, I think, desirable to expose the penny payment from the parents. How small a sacrifice of how much a luxury to a wealthy family would furnish the means of teaching 20 children to read, each of which would, in the next generation, form the nucleus of education at home; and what pleasure could be bought so cheaply as the reflection of being an instrument in the exchange of intelligence for ignorance in the countenance of our humble neighbour. "There is no object so pleasant to the eye as the sight of a man we have obliged, no music to sweet to the ear as the voice of one who owns us for his benefactor." Should you consider this subject suitable to the objects of your paper, I shall be tempted on some future occasion to show how adults, having mastered the preliminary difficulties of learning to read, may be repaid (besides obtaining other more solid advantages), by the privilege of access to a library of 200 volumes on a self-supporting subscription of less than the penny per week paid for infants. Of such an one I am now myself a member; *J. F. Peacey, Prescott, near Winchcomb.*

The true Principles of Farming.—I have been much entertained by the short essays under the above title from your correspondent Mr. Grossmith, and whether his principles are or are not the true ones, it is right that certain principles, based on scientific and practical investigations, should be laid down, and well determinated amongst our agriculturists, who should learn to understand them and gradually bring them into their practice as opportunities present themselves. This I am afraid, in regard to the minor practices, would be a difficult thing to agree upon; but with the first grand principles I think it is feasible. Mr. G. writes in a very spirited manner, but is hardly sufficiently explanatory, which perhaps is occasioned by so great a subject compressed in so small a space; therefore I hope we shall see more essays from him, elucidating the several point; for instance, he says, "that if a crop is rotted and then applied to the land, the soil would not be in a better condition than before." If this is true, what becomes of the practice of ploughing in green crops? and he also says the same if the crop is consumed by cattle in a store state; if so, where is the gain by feeding off Turnips, Clover, &c.? Again, he recommends the exchanging of the Cereals for Beans, but he does not enter into sufficient particulars to prove the efficacy of the practice. It is true that he states that they contain better feeding properties, but as he only proposes to return half the quantity of Beans for the quantity of Barley and Oats, I do not see where the gain would be either to the cattle or the soil, and consequently to the pocket. I dare say that he can give us some further explanation on this point, which, if he will so far oblige us, will tend to improve a principle in farming that at present seems to be but little understood, although it is one of almost vital importance, as we should all like to discover how we can "eat the cake and have it too;" *An Apron Farmer.*

Education (No. 4).—In my last I attempted to give a sketch of the kind of education an enlightened and powerful nation ought to give to its people. These remarks were general; the details could only be worked out in practice. I am, notwithstanding, desirous of alluding to a few particulars respecting the education of boys. Hitherto there has been no proper education for boys of the labouring classes; a little learning by rote is all that has been given: no well digested system of education and training has been at work. The cleverness of some boys is attributable to mother wit, or the influence of intelligent parents or masters: whereas I believe there are not two persons in a hundred whose faculties would not sooner or later expand under the influence of judicious instruction. If the ordinary teaching of reading, writing, and arithmetic does not effect it, practice in the garden, the workshop, and the field, combined with book-learning, may. A second master will therefore be required to teach practical science, mechanics, and political and social economy; these all have relation more or less to the common wants of man, and therefore should form part of a national education. Boys who have had the benefit of this instruction and training will be ready to enter on any kind of employment in rural districts; they might in the last year of schooling, under a monitor, undertake the lighter works on a farm, begin to earn wages—the real stimulus to exertion, and thereby be prepared to work for themselves. At present there is comparatively little work done by boys on the land, where a great deal might be done: no education can be considered complete that does not qualify them for it. Something of the kind has been attempted recently by Mr. Batson, at Kynaston, near Ross, as detailed in an interesting paper in the *Gazette* a short time since. Much praise is due to that gentleman for his attempt; but it is obvious, however successful he may have been, we cannot expect to find individuals possessing the same means, talents, and disposition to do it generally. It is an example we should imitate in any national plan. Mr. Batson and other individuals, who so meritoriously devote themselves to perfect some plan of their own,

and apply it in one locality, would then have a wider field in which to apply their talents and benevolence. I have only referred particularly to the way in which boys might be employed in agriculture; but in addition to general education, they might be taught to adapt themselves to local circumstances; and the industrial schools may be modified to suit manufacturing or mining, commercial or naval districts. In my next I purpose to consider the question of the school-houses, &c.; *Thomas C. Brown, Cirencester.*

Mr. Nolan's Poultry.—Having read the statement signed "C. K." in your Paper of the 14th wherein I am somewhat reflected upon as having recommended Cochin China fowls of an inferior breed, I must, in justice to myself, reiterate my former assertion, and declare that having Cochin China fowls now in my possession, both from the London and Dublin dealers referred to, I repeat that the latter are infinitely superior in every respect, and should "C. K." feel so disposed, I am ready and willing to show my Dublin Cochin China fowls (2 pullets and a cock), against his, obtained from the London dealer. I am merely an amateur in poultry, and have no motive in recommending any dealer, beyond that of wishing to call attention to the breed I conceive the best worth having; *S. E.*

Rural Occupations.—I hope "S." is a man of courage; if not he stands a fair chance of being deterred from his "rural occupations" by some of your correspondents. While I would discourage sanguine estimates of the profits to be derived from a "small farm," it is in the highest degree wicked to infer that no man ought to place reliance upon what Providence has given to man as a first and rarely failing means of support. A friend of mine, in remarking upon the ease with which even a tailor can adapt himself to spade husbandry, said "God made man a tiller of the ground, but man made himself a tailor. Spades and ploughs were made before leather breeches were thought of." But of all your correspondents "S. S." seems to me to be the most outrageous in his arguments. What do they amount to but that because a cheat of a postman charges him 4*d.* for delivering a newspaper, and a curate gets less pay than the vicar; because his district is anything but Arcadia, and the servants get (what they are great fools to do without) ale or beer twice a day; therefore a small farm will not pay; therefore the hens will not lay eggs at 1*s.* a dozen, the pigs eat more than they are worth, cows give chalk and water at 1*s.* a gallon; and all these evils and his own unpopularity (leading to robbing of hen roosts and orchards) combined, are intended to deter "S." from living anywhere but in a London garret! I, too, occupy some land (25 acres) 16 miles from town, and although I have only held it some months, I have every confidence, from what I have already learnt, that I shall keep my family more comfortably, more cheaply, with greater enjoyment, better food, and therefore better health, than I could have if I lived in the finest house in Eaton-square. I have only about 4½ acres broken up (with the fork), and have lost at least 100*l.* by the Potato disease; but what of that? I have learnt a lesson which will be of use to me all my life, and I am more enamoured than ever of my pursuit. I have got the finest Globe Mangold Wurzel and Sugar-loaf Cabbages for miles round; the best Stone Turnips (which but for the Board of Health I should have cleared 25*l.* per acre by), and my autumn crops are safely in, and look full of promise for next year. I keep two cows in full milk (stall fed), a pig of 25 or 30 stone is just put up to fatten for Christmas; another for which I paid 35*s.* four weeks since, was killed yesterday for home use and sale, weighing nearly 12 stone, worth 5*s.* per stone, and I have 17 others eating off my bad Potatoes and picking up Acorns and thriving upon them famously. When I took possession last spring, I had 10 hens and 2 cocks; I have had more eggs than I could use all the summer, and my stock is now increased to about 70 of all sorts—a good prospect for the spring. Unlike Mr. ——, an ex-Poor-law Commissioner, who said solemnly before the House of Commons' Committee on Mr. O'Connor's Land Company, that it took 40 quarts of milk to make a pound of butter, and that the plough improved the land while the spade made it worse, I have such extraordinary cows that they oblige me with nearly 5 lbs. of butter from the same quantity of milk, and I have done with a spade this wet October what no plough and no horses in the universe could have accomplished, and at certainly a less cost per acre, having the state of cultivation duly in view. As a general rule I should advise "S." to cultivate such green crops as he can convert into flesh, and to sell the latter instead of the former, except under very favourable conditions of the market for vegetables; to grow his own grain for bread, and for poultry and pigs; to give up the plan of a mill, except for crushing for his own use; to keep a well bred boar and a good bull, if in a suitable neighbourhood, and to let them out at very moderate prices; to use Sillet's forks in place of a spade, and the Vernon hoe instead of the common one; and finally, to follow his own judgment in selecting his own mode of life. Advice is never agreeable even to the most amiable. Experience alone will wed him to, or wean him from, rural occupations. I see no reason to apprehend the latter, if he does not go too fast at starting. Pigs, butter (not milk), and eggs (not fowls), will, in my opinion, best "suit his book;" *Pretium.*

"*S.'s*" *Small Farm.*—In the *Gazette* of the 14th ult., "R. G.," under this head, states that 30 or 35 per cent., or 5*l.*, as the average profit per annum of a good cow; will he be good enough, in another Number, to give the particulars of keep, produce, &c., to show how he makes out that amount. As to the best breed of cows for the dairy, I should say, from some experience, that a good Alderney will equal, if not surpass, any other breed; I have two, mother and daughter (the latter I bred, and is a beautiful animal and has now her second calf); they produce together upwards of 400 lbs. of good yellow butter in 12 months, and the skim milk is as good as new from some cows; generally, the cream churns sooner, and the butter is primer than from most other breeds. I have a six months' old calf from the old Alderney by a thorough-bred short-horned bull, which promises to make a fine cow; it has most of the properties of a good dairy cow, with a touch equal to a thorough-bred short-horn. I think, for quantity and quality, there is no kind of cattle that will surpass a good Alderney (not even an Ayrshire), or a cross with a good thorough-bred short-horned bull, for dairy purposes; this cross will also be found to feed well when done with for the dairy. I do not breed from my heifers until they are about two years old, and they are kept well, but not expensively. I know nothing of the Kerry breed, but should imagine they are more suitable to their poor native soil than good, rich grazing land; at least, I think they would not pay either for dairy or butcher for the extra good keep. A good sow or two are indispensable where cows are kept; they have been very profitable the last few years; *T. Q. W. R., York.*

Carrot and Parsnip Seed.—The quantity of both these seeds grown varies so much I feel rather diffident in giving the quantity, but at the same time I can state what has been the average raised under my inspection. Of Parsnip from 1½ lb. to 4 lbs. per rod, entirely depending upon the season, though this seed is not so much affected by a wet season as Carrot seed, for I have never seen the plants better loaded with seed than this last season, nor of a better quality; it is a plant less subject to injury by insects or mildew, or any other of the thousand mischances that almost all other vegetable productions are subject to. The only insect that I have ever seen injure it is a black one similar to the bug on the top of Beans, and when it is thus affected (it was the case in 1846), the seed is worth little. The birds will not do it much injury; the chief thing to look to is to see that seed is gathered as it ripens, as it is easily dispersed by the wind. Carrot seed may be generally calculated to produce about one-fifth more seed than Parsnip, but is at the same time more liable to mildew (which is the case this season), and the attacks of sundry insects. From the nature of the head it holds wet so much that it is a much more precarious crop than Parsnips; but when a good crop it pays the best of all seeds, and does not require that attention in gathering that Parsnip seed does; yet the colour and plumpness are best preserved by gathering it as it ripens. This, like the former seed, is not subject to the depredations of birds, and requires little attention beyond keeping the ground free from weeds during the spring and summer, and is benefited much by stirring the ground between the rows, either with a three-pronged fork or a horse-hoe, moving it at least 5 or 6 inches deep. *Turnip Seed.*—The produce of this is from 1 quart to 3 quarts per rod (of 16½ feet); this seed produces the greatest quantity on light land, and should never be raised on any other; the bulbs should be planted about 1 foot apart and 1½ foot between the rows, to be put in about the latter end of March, if you have got a piece that has stood the winter, and are tolerably good shaped roots and a pretty regular plant; if not, you may easily fill them up, they will produce more seed than those transplanted, yet the advantage in transplanting is great as regards the quality of the seed, as you may then feel satisfied that it is a true stock, and by picking out none but good shaped and sound and healthy bulbs, you may as reasonably expect that their progeny will be as superior to those not so picked out as the breed of horned cattle or the horse. This seed is liked by birds more than any other, and consequently wants incessant watching. The way here practised is to have a boy go as soon as day-break with a rattle or bell, and continue making as much noise as possible all day. Where there is much one is not sufficient, as the birds will almost settle down within a yard of you. No doubt nets would be a good thing if practicable, but on any extent I think it would not be so, and the expence of a boy or two is not much, as it does not want them till it is getting ripe. It is generally cut with hooks and harvested in the usual way. Some persons put a cloth down in the field and thresh it there, and if it is fine weather it is a good plan. The seed requires to be spread on a barn or other floor, and well dried before stowing away. I have now given you a short account of my own experience in growing these seeds, and if there is anything that will make it more useful, I shall be happy to give it; *E. X., Braintree.*

Farmers' Clubs.

YORK, *Oct.* 26: *The Anniversary.—Drainage and its Influences.*—Mr. CHARNOCK introduced the subject by saying,

I have often thought, had my means been equal to the will, that, to hold out an additional inducement (could any be needed) for drainage being more generally adopted, I would undertake it at my own cost, and do it effectively and permanently too, on being paid the extra produce per acre of the two succeeding crops after the work was done, and when those crops came to maturity. There would, I am aware, be some difficulties in such an arrangement, and some little trouble possibly; but, you will comprehend from it, that I conceive I should make a very good bargain by such a mode of reimbursement. Well, then, says the owner, if this be so, why does not my tenant make an agreement with you, or himself do the work, seeing how soon it will pay for the outlay? Yes, sir, rejoins the occupier, that may be all very true; but you must not, on your part, forget that if I drain this land in the permanent and effective manner you would desire to see, I am departing from the ordinary routine of my cultivation, by making, for a time, a considerable additional outlay, which my capital will not admit of without a disarrangement of my customary proceedings; and, besides, I shall be improving in permanent value the fee simple of your property, which is not my province, any more than as a tenant of a house I am obliged to make additions to it, whereby its value and comfort are enhanced to my successor. Such is the position of the two parties—a mine of wealth between them for the digging, and yet neither attempting to realise it! Is there no remedy for such a state of things? no mode of compromising the matter, and dividing the spoil? Is there no such thing as the owner opening the mine and the tenant working it on the payment of a per centage on its cost of opening, as additional rent? Or is there, in case of necessity, no middle man with suitable skill and means to say to the owner—"If you will permit me, sir, to exercise my experience and ability to the systematic drainage of your property, I will undertake to execute the entire work in a complete manner, and you shall reimburse me by a charge of 6½ per cent. on the outlay for 25 years." "With all my heart, Mr. Drainer, if you can ensure me that the land will be worth so much more to my tenant, and that he, in fact, will undertake to pay that additional rent." Now, were I the occupier of such land, I would most readily pay 10 per cent. to have it well done—it is but 10*s.* per acre more—assuming a cost of 5*l.*—and what is that if I can realise 8 or 10 bushels per acre additional produce—and that, too, without taking into the calculation the amount of saving in horse flesh, &c. Why, the very gripping per acre for the Wheat crop in the undrained state would almost cover the charge!

[We regret our inability to find room for the whole of Mr. Charnock's long and excellent address as it is reported in the *York Herald.*]

READING, *Sept.* 16: *The Management of the Wheat Crop.*—The subject for discussion was opened by Mr. J. CANE, of Basing, who gave particulars of his practice upon heavy wet land, having a clay subsoil. The heavy nature of the soil precluded the practice of growing root crops, as it would not carry sheep to feed off the roots, although it had been well drained; and, if they were carried off the land, he believed the succeeding crop of Wheat would be so far deteriorated as to more than outweigh the value of the Mangold Wurzel or Swedes grown. Therefore, he continued the practice of introducing a summer fallow, after any kind of crop, as soon as he observed that the land required it. He always made the fallow to extend over a whole year, and commenced by ploughing very deep in autumn, turning up a little clay to the surface, which being left thus through the winter, became pulverised and incorporated with the soil when the second ploughing was given in the spring, which should be as deep a ploughing as the first, after which a good coating of farm-yard manure was spread over and turned slightly in, in which state he left it until about Old Michaelmas, when he ploughed the land and sowed his Wheat, which was invariably his first crop after a fallow. The quantity of seed he sowed was about 2 bushels per acre. Mr. Cane strongly recommended wet-land farmers to consume all their summer corn rather than sell any portion of it, as the increase in the quantity and quality of the manure was highly important to them, as their land would not carry sheep, and they would find that they would thereby be enabled to grow a much greater quantity of Wheat, which should always be looked to as the main crop wherewith to meet the annual expenditure. For this reason he always reserved his best manure for the Wheat land. The land being thus prepared, and the seed got in well, little else was required than hoeing and hand-weeding in the spring. He would not offer an opinion upon the management of Wheat on lighter soils; but was convinced, after many years' experience, that this was the plan most suitable for wet and heavy land like his own.—Captain BROWN, holding some land at Strathfieldsaye very similar to that of Mr. Cane's, confirmed his remarks as to the impracticability of feeding off the root crops, and the injurious effects of carrying them off the land.—Mr. DICKSON thought he knew some land in the Weald of Kent quite as heavy as any in Hampshire, which, having been drained at 2 feet 6 inches deep and 18 feet apart, now produces fine crops of roots, which are fed off by sheep, though such would have been quite impossible previous to the draining.—A discussion then arose as to the propriety of spreading the dung over the land so long before sowing the Wheat, when it was agreed that, if it were fallow land, the manure should be ploughed in as soon as spread, to prevent evaporation, but this was not necessary when it was spread upon Clover leys, as the leaves of the Clover would imbibe the ammonia, and, as it grew, would soon cover the manure.

Reviews.

Education; or, the Georgics of the Mind, in especial relation to Agricultural Improvement. By Professor Donaldson, &c. R. Baldwin, 47, Paternoster-row.

AGRICULTURAL education is a subject far too extensive for more than mere notice in a newspaper paragraph—too extensive, indeed, it probably is for full discussion even within such limits as those of the volume before us. At all events, Professor Donaldson will not have satisfied those of his readers who have opened his pages thinking to find not only the method but the matter of the instructions recommended for the farmer. This, however, would be an unreasonable expectation, and one which no man of any intelligence could entertain. But we must confess to have anticipated from the preface and title a more particular reference in this work to the subject of agriculture than its contents possess. A man thoroughly educated upon its model will doubtless be admirably fitted to commence the study of farming, but it cannot be said that he will be a farmer.

The thorough general instruction of the mind is no doubt of vastly greater importance than its mere apprenticeship to any particular art; but both are necessary in order to its perfect professional education. We readily admit that Mr. Donaldson has admirably discussed the subject of general education, and vindicated the claim of his work to the first few words of its title: and if all agriculturists were to undergo the educational processes which he recommends, there can be no doubt that the agricultural improvement of this country would be amazingly accelerated—his students would ultimately make good farmers, but so also would they make good practitioners in any other profession they might adopt. These remarks, of course, cannot be taken as any condemnation of this volume: to speak thus of its contents might rather be taken as praise: but they *are* to be taken as condemning whatever exclusively agricultural is promised in its title page. Agriculturists, for it is to them we write, will find this little work to sketch, in interesting detail, the progress of a mind from childhood upwards through the different branches of education, intellectual and moral, which fit it for any profession, agricultural or otherwise, that it may select.

Farther than that the volume well illustrates the education which the author's own well stored mind has received, we have to add only two remarks: one is on the passage in which he speaks of religious education, where we should have used the indicative rather than the conditional mood; surely, in the case of a subject for the demonstration of which such abundant evidence exists, it would have been better to refer to what theology *is* rather than to what it "should be:" and the other, applying chiefly to the concluding chapters of the work, hinges on the superabundance of the extracts from Latin and Greek authors employed to illustrate them, which is of a piece with the undue importance, as we consider it, ascribed to the classical branches of education throughout.

Miscellaneous.

Stoppage of Furrow Drains.—In several fields on a farm near Mid-Calder, Linlithgowshire, the drains were found, in March last, to have become choked; and in several places the water in leading drains, though 3½ feet deep, was gushing up to the surface, and overflowing the land. On opening his drains, the tenant discovered the tiles to be filled with a slimy, mucilaginous substance, of a dirty grey colour, and having an offensive putrid smell. The drains were opened out in two fields for a considerable distance, and were found to be more or less filled with this substance. Its nature was at first a mystery to Mr. M'Lagan, the tenant, though it appeared to be in some way connected with two dunghills in the fields, and which were so situated that liquid matter could flow from them into the drains. Portions of this injurious substance having been sent to the laboratory of the Association, an investigation was immediately instituted, the result of which was the discovery that the substance consisted of a plant, produced or encouraged, as the analysis of it showed, by the nitrogenous liquor which oozed from the dunghills. The plant was submitted to Dr. Greville, a member of our Association, and whose botanical knowledge has often proved most serviceable in cases of this description. He recognised it to be a species of Alga, and known to botanists under the name of Conferva Bombycina. But it is believed that no attempt had previously been made to ascertain its chemical composition. This subject suggests the following remarks:—1. That means should always be taken to prevent the escape of liquid from dunghills, not only because of the valuable uses to which it may be applied, but because of the evils to which the waste of it may give rise. 2. That, as Mr. M'Lagan remarked, if we make an improvement in one department of husbandry, we must also make an improvement in others to suit it. If we thorough-drain our fields, we must not lay down our dunghills on the top of drains, to have the essence of the former carried off, and the usefulness of the latter destroyed. 3. That, for aiding the practical farmer, it has now become as desirable to have the knowledge of an experienced botanist as the skill of an accomplished chemist; *Report of Agricultural Chemistry Association.*

Bones or Saldanha Bay Guano.—The comparative values of bones and guano do not depend merely upon the relative composition of the two. Something of the value of the phosphates contained in guano is to be ascribed to the minute state of division in which they exist in it. The various modes of dissolving bones derive part of their value from the division of the particles of the bones which they cause. It is possible, also, that the organic matter in guano may be in a condition to act more immediately than that of bones, though this point, especially in regard to Saldanha Bay guano, is doubtful. Bones, in the form in which they are usually sold as manure, contain 10 to 16, say 12 per cent of water; this Saldanha Bay guano contains 36 per cent, or, while the one contains 88, the other contains 64 per cent. of solid dry manure. Considering the dry matter of equal value only in each, if bones are worth 6*l.* a ton, this guano should be worth 4*l.* 7*s.* 3*d.* per ton. I am unwilling to give a very decided opinion upon the relative value of the solid matter of the two manures; but if we consider that this guano contains 45½ per cent. of phosphates—nearly as much as bones do—and that upon these phosphates the fertilising action of bones, in a great measure at least, depends, there is reason for believing that the dry solid matter of this guano should not be far from equal to that of bones. If equal, it is worth 4*l.* 7*s.*, while the cost is 3*l.* 6*s.*—a difference which leaves a large margin for the admixture of so large a proportion of dry Peruvian guano as shall make up any supposed deficiency of ammoniacal organic matter which this Saldanha Bay guano, when it is to be applied alone, may be supposed to exhibit; *Report of Agricultural Chemistry Association.*

Calendar of Operations.

OCTOBER.

Berwickshire Merse Farm, *Oct.* 27.—Since last report we have been employed ploughing stubble land for Turnips and Grass land, with three horses, for Beans, threshing and delivering Barley, leading tiles for drains, and Turnips for the cattle and ewes. The workers have been assisting at threshing and dressing, pulling Turnips and digging Potatoes, in which the disease is progressing, the red ones are nearly all sound, the earliest are partially diseased, and we have some white ones that came from South America some years since, which are also very bad; *J. B.*

East Lothian Farm, *Oct.* 28. We have experienced another week of unsettled weather. Work upon the farm has been ploughing part of a field of old lea, having stopped ploughing our Bean land from the frequent showers of rain. We have also prepared and sown a small part of a field with Tares and Rye; likewise threshing Oats for horses and for straw for bed and litter for cattle, &c., and carting Turnips for cattle; *M.*

South Hampshire Farm, *Oct.* 28.—We have to report a continuation of unfavourable weather for preparing the land for Wheat sowing, and also for all kinds of farm work; in this part of the county but a small portion of land intended for Wheat has yet been sown, we fortunately put in the Wheat upon a field of our coldest land in good order on the 20th inst. Our horses have been employed chiefly in carting manure on to the lea ground, also one day sowing fallow land, since which they have been ploughing and pressing the lea ground for Wheat, and although it is a dry sandy loam soil, such has been the quantity of rain fallen that we consider the land in poor condition for ploughing, but as the season is now so far advanced the work must be proceeded with. An odd horse is kept employed by carting Swedes for pigs, cows, &c., carting hurdles for the removal of sheep, and carting Clover for soiling horses and cows; we have this day finished cutting Clover for horses, and shall now allow them hay, with a good allowance of Beans and Oats for the remainder of the sowing season. Labourers have been winnowing Wheat, spreading manure on the Wheat land, filling dung carts, trussing straw, trenching the flood meadows, and cutting bedding from the salt marshes; our shepherds are now fully employed with the sheep; we have just begun feeding 100 dry ewes with Swede Turnips upon land intended for the Wheat crop; we give them a good allowance of Beans and oilcake, but the weather being wet they do not make mutton fast; our in-lamb down ewes are changed twice a day from dry pastures to lea ground. Our horned ewes are now lambing fast, having between 60 and 70 fallen within the past fortnight, and are all doing well, the ewes bring many twins, and are free from lameness as compared with several past seasons; as fast as the ewes lamb they are put into young seeds, and changed into the Wheat stubbles, which are now full of Italian Rye-grass of the most luxuriant growth, which is the best kind of food we know of for suckling ewes, we having in past seasons sold lambs at 8 to 10 weeks old, to the butcher at Christmas, the ewes and lambs having been grazed upon Italian Rye-grass and Clover seeds, without corn or oilcake. We cannot help here alluding to the plan of autumn preparation of the Wheat stubbles for the succeeding Turnip crop, and we should very much like the advocates of that system to see our ewes and lambs at present feeding on the Italian Rye-grass upon land intended for Swede Turnips next year, which practice has been uniformly successful for many years past, and we feel satisfied they would exclaim, autumn preparation must be wrong where crops of this value can intervene. Our women have been picking Grass and weeds from fallow land, sorting Potatoes in house, and picking up acorns, for which we pay them 9*d.* per bushel; *J. B.*

Stirlingshire Carse Farm, *Oct.* 28.—We have commenced this week to spread manure on Wheat stubble, and to cross-plough or rib it down for Beans. We have also threshed some Oats and Beans, which have turned out a fair average crop. Turnips we have begun to pull for boiling to give the horses; they are somewhat about an average crop, though considerably short of last year. To-day we have been engaged in cleaning the stack-yard and carting it into the dung-heap; *W. F.*

Sussex Farm, *Oct.* 30.—We have had very wet weather, and it still continues so; there is very little Wheat sown in this neighbourhood as yet; the fallows are now in a very bad state, and if the weather is not more favourable, there will be a great deal of Wheat left unsown. Our teams are engaged during fine weather in ploughing for Wheat and Tares, in carting Mangold Wurzel and Swedes, and in storing them for the cattle. When wet, carting faggots to burn drain tiles, stones to roads, and litter to yards. Men are engaged pulling Mangold Wurzel Swedes, and Carrots; mowing litter, repairing roads, and draining. We have now tied up part of cattle to rat; we feed with Swedes, cut chaff, and boiled Linseed. We expect to have some ready by Christmas for market, and we shall fill their places with others not so forward. Our young stock are now getting an allowance of Swede tops daily; *J. B.*

Notices to Correspondents.

Agricultural Gazette: *Our Friend.* Thanks. We shall go as far as we can in some of the routes you indicate.

Allotments: *A Subscriber* will find the whole subject—rules and all—discussed at pages 689, 705, and 737 of last volume. If you cannot refer to them we will, for you.

Bone-mills: *Clericus* says, "A Young Farmer" consults you, in your last number, on the subject of "a small bone-mill," and you question the policy of such an acquisition. There is, however, another measure which might perhaps be more prudently adopted. You will remember that some two years ago that the Dorchester Union-house inmates were employed in crushing bones; and that the practice was put a stop to because it was found unwholesome, and more particularly because some of the poor creatures had actually devoured portions of flesh adhering to the bones. But it does not, therefore, follow that the labour should be unwholesome on a small scale, and in a better atmosphere. Will you, therefore, inquire the precise mode adopted in crushing bones by a hammer, its weight and shape, the quantity which a labourer could crush in a day, and the difference of price between the raw and the manufactured article; from which data it will appear whether the practice would be profitable.

Drains stopped: *T. E.* The only remedy is to drain deep. The roots swell like those of Turnips, and we know of many such cases—some of them in our own experience. See the miscellaneous section.

Flax: *G D.* Sow, in April, 10 pecks broadcast, on well tilled and manured soil, of an adhesive loamy character. Pull the weeds in May and June, and the crop towards the end of July, before the seed is hardened in the bolls. Ripple these bolls off when the Flax is dry, and afterwards steep the stalks till the "bone" of the stem is somewhat rotted, and the glutinous cement of the fibrous part dissolved; spread it out to dry on the Grass, and afterwards stow it away till you are able to get it scutched. You may calculate on a crop of 16 bushels of seed per acre, and 32 or 34 stones of Flax. We do not think it would pay to build the shed you propose. You have the other alternative of box-feeding, in which case the liquid is all absorbed by the straw.

Kohl Rabi: *A B.* Will Mr. Alexander, who has furnished some remarks on the culture of Kohl Rabi, please say if he recommends the leaves to be stripped as ordered to do in the case of Mangold Wurzel? and at what period (the latest) may Kohl Rabi be transplanted as a field crop?

Mangold Wurzel: *Inverclyde.* Pull them, cut off their leaves, throw them into carts—all of each can be done for 7*s.* 6*d.* an acre—and then put them in heaps between rows of hurdles, and thatch them over.

Manures: *A B C.* "Hannam on Waste Manures" is just the thing for you.

Poultry: *S H K.* The fowls took eggs. Rats, mice, stoats, and two-legged animals do so. Those that hold and watch the latter particularly. And one hen in a hundred eats her eggs. If one do so, it is only to rid the nest of an incumbrance, a china-stocked cracked egg. And when they do so habitually, though that habit is very rare. It is owing to the over presence of throwing out the refuse egg shells in an open place, instead of buried, as recommended by Professor Gregory.

Rules for a Farmers' Club: *W Comerwell.* 1. That the object of this Society is the benefit of its members by the improvement of their agricultural practice. (It is not we, we think, to say anything about tobacco, or about rewarding them with cash—we had some of money for good behaviour during a number of years' standing—one do heartily agree with Mr. Carman in making this worse. We may depend upon it that the interest of the labourer will be better served by the Society, the end it be influential in inducing a better system of farming, than ever they would be by such means as money rewards. A ploughing match, however, seems to be a very fair means of expending a portion of the Society's funds, and one which is perfectly consistent with this rule.) 2. That the officers of this Club shall consist of a Chairman, Secretary, and Committee of seven members, all to be elected annually. Three of the Committee, including the Secretary, to be a quorum. 3. That the authority of the Chairman shall enforce to preserve order during discussions; that the Secretary shall read the correspondence, keep accounts, keep the minutes of the meetings, and have the care of the library. 4. In the absence of the Chairman, the Committee shall provide a President for the evening, whose care it shall be to preserve order, and to see that at each meeting a subject is named for discussion at the ensuing one. 5. That any person wishing to be elected a member of this Club must be proposed by one member, seconded by another, and elected by a show of hands. 6. That the annual subscription of a member shall be 5*s.* (?) to be paid in advance, on or from the annual meeting preceding his election. 7. The Club shall meet monthly on the market day, or some day near the full moon. And that an annual meeting shall be held for transacting the annual business of the Society. 8. That all matters of a party, political, or religious nature shall be ineligible for discussion. 9. That the management of the library shall be in the hands of the Secretary and Committee; but that books of an agricultural or horticultural character may be ordered by the Society on the so-called motion of a member. 10. That strangers may be admitted by members; but, if resident within [ ] miles of [ ], not more than once as a non-subscriber; they may take part in the debate, but not vote. That the sons of members intended for the farming business, who are under 21 years of age, shall have free admittance to the Club-room. 11. That no smoking or drinking be allowed during the meetings of this Society. 12. That any member wishing to alter any of the above rules must give notice in writing to the secretary at one meeting, and propose it at the next, when it shall be determined by vote.

Small Farms: *S S* would see his article next week.

Swede Tops: *A B.* They will produce flower and seed next year, if transplanted now.

Transmutation of Grain: *Constant Reader.* See past numbers of the Paper. Have you not the indices to past volumes? The idea, we imagine, is erroneous.

Unbranning Machine: *Anon.* Thanks for the paragraph. The mills which "unbran" our Parleys—Pearl Barley mills, as they are called—would probably be equally efficient in the case of Wheat.

Wheat Seed: *L.* It is certainly a mistake to say that 2 bushels of seed per acre are needed, when the grains are dropped at intervals of 15 or 18 inches. In one case we found 57 lbs to serve 2 acres and 4 perches, the holes being 6 inches apart every way.

Wireworm: *Leyton.* We would apply 100 bushels of caustic lime per acre, and then turn the land up to the winter's frost.

Young Stock: *A B C.* Will any of our correspondents say what is the expence per annum of the keep of young stock from the time they are weaned. Keeping them on Grass during the summer months, and feeding them on straw and Turnips during the winter months.

Errata: In the leading article at page 721, 3 lines from the bottom of col. a., for "Truth is a precious metal which each for himself must extract from ore that has been laboriously obtained," it should read "Truth is one that has been laboriously obtained." At p. 725, lines 8 and 11 from top of col. c, for "Mr. Grey," read "Mr. Greg."

*** Communications reaching town after Wednesday cannot be answered the same week.

Markets.

POTATOES.—Southwark, Waterside, Oct. 30.

The Committee report that the supply continues to be very limited, which deficiency is not felt, as the Continental supply is more than was ever yet known, and quite equal to the demand. The following are this day's quotations:—York Regents, 60s to 70s; Whitecaps ditto, 50s to 60s; Scotch Reds, 70s to 90s; French Whites, 90s to 100s; Belgian ditto, 80s to 95s.

SMITHFIELD, Monday, Oct. 30.

The supply of Beasts is very large and the demand small, consequently trade is very dull at reduced prices, a large number remain unsold. Wild Sheep also were in abundance supplied, and but very few are wanted. Prices are much lower, and many are unsold. Trade is extremely dull for Calves. A considerable reduction is submitted to. From Holstein and Germany we have 700 Beasts, 2,200 Sheep, and 200 Calves; from Flanders, 40 Beasts, France, 18; Leicester and Northampton, 300, and Lincoln, 200.

Per stone of 8lbs	s	d	s	d		s	d	s	d
Best Scots, Herefords, &c.	3	8	to 4	1	Best Long Woolsd	4	6	—	4
Best Short Horns	3	6	—	3	Ditto Shorn	....			
Second quality Beasts ..	2	—	—	3	Ewes and second quality	3	4	—	3
Calves	3	10	—	5	Ditto Shorn	....			
Best Downs & Half-breds	4	6	—	4	Lambs	....			
Ditto Shorn	....				Pigs	4	4	—	5

Beasts—4727. Sheep and Lambs—25,000. Calves—262. Pigs—384.

FRIDAY, Nov. 3.

The number of Beasts is large, however, the quality being on the average but middling, there is a most essential trade for the best descriptions, but at no quotable advance. The supply of Sheep is not small, a great many left from Monday are not brought on to-day; the demand is so very limited that those on offer are with extreme difficulty disposed of at Monday's prices. Trade is more cheering for Calves, a fair clearance of the supply. From Holstein and Germany there are 310 Beasts, 1,700 Sheep and 17 Calves, from Spain 54 Beasts, France, 16; Ireland, 100, and the Midland Counties from the home countries.

Best Scots, Herefords, &c.	3	8	to 4	0	Best Long Woolsd	4	4	—	4
Best Short Horns	3	6	—	3	Ditto Shorn	....			
Second quality Beasts ..	3	0	—	3	Ewes and second quality	3	4	—	3
Calves	3	10	—	5	Ditto Shorn	....			
Best Downs & Half-breds	4	6	—	4	Lambs	....			
Ditto Shorn	....				Pigs	4	4	—	5

Beasts—1272. Sheep and Lambs—2800. Calves—76. Pigs—850.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Nov. 2.

Prime Mead. Hay	65s to 75s	New Hay	—s to —s	Straw	24s to 30s
Inferior ditto	50 60	Clover	60 84		
Rowen	40 58	New Clover	— —	J. Cooper.	

CUMBERLAND MARKET, Nov. 2.

Prime Mead. Hay	72s to 78s	Old Clover	88s to 94s	Straw	28s to 32s
Inferior	50 68	Inferior	58 82		
New Hay	— —	New Clover	— —	Joseph Baker.	

WHITECHAPEL, Nov. 2.

Fine Old Hay	68s to 78s	Old Clover	88s to 94s	Straw	24s to 28s
Inferior Hay	45 56	Inferior	50 58		
New Hay	60 68	New Clover	80 90		

COVENT GARDEN, Nov. 4.

The market continues to be well supplied with Vegetables and most kind of Fruit. Pine-apples are plentiful; hothouse Grapes sufficient for the demand; Ribstone Pippins and other dessert Apples are ticketed 6 and 8 to 6d. Among Pears we remarked good specimens of Brown Beurré, Chaumontelle, Marie Louise, Crassane, Glout Morceau, Beurré Diel, Passe Colmar, &c. Nuts in general are sufficient for the demand; Filberts and Cobs, however, continue to be scarce, and fetch high prices. Some new Oranges have just made their appearance. Lemons are scarce. Amongst Vegetables, Carrots and Turnips are abundant and good; Cauliflowers Broccoli, &c., sufficient for the demand. Supplies of Potatoes—good, though not free from disease—have been received during the week from France, Holland, and Prussia. Lettuces and other salading are sufficient for the demand. Mushrooms are plentiful. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Fuchsias, Carnations, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 3s to 5s
Grapes, hothouse, per lb. 2s to 4s
— foreign, per lb., 9d to 1s 6d
Plums, per punnet, 1s 6d to 2s 6d
Apples, dessert, per bush., 4s to 7s
— kitchen, p. bush., 3s to 5s
Pears, per doz., 2s to 6s
— per half sieve, 6s to 10s
Oranges, per doz., 2s to 3s
Lemons, per doz., 1s to 2s
Lemons, per 100, 10s to 18s
Almonds, per peck, 6s
— sweet, per lb., 2s to 3s
Walnuts, per bush., 1s 6d to 2s
— per bush. 16s to 24s
Chestnuts, per peck, 4s to 7s
Nuts, Barcelona, per bush., 20s to 22s
— Filberts, per 100 lbs., 60s to 100s
— Cob, per 100 lbs., 90s to 150s
— Brazil, per bush., 12s to 16s

VEGETABLES.

Cabbages, per doz., 3d to 1s
Cauliflowers, per doz., 6d to 2s
Broccoli, per doz., 4s to 9s
Sorrel, per half sieve, 6d to 9d
Potatoes, per ton, 60s to 130s
— per cwt., 3s to 9s
— per bush., 2s 6d to 5s
Turnips, per doz. bunches, 9d to 2s
Red Beet, per doz., 6d to 1s
Horse Radish, per bundle, 1s to 6s
Cucumbers, each, 2d to 8d
Leeks, per bunch, 1d
Celery, per bundle, 6d to 1s 3d
Carrots, per doz. bunches, 2s to 4s
Spinach, per sieve, 1s to 1s 6d
Marjoram, per bunch, 2d
Mint, green, per bunch, 2d
Onions, per bunch, 3d to 4d
— per bushel, 2s to 3s 6d
— Spanish, per doz., 1s 6d to 4s
— pickling, p half sieve, 1s 6d to 3s
Tomatoes, per punnet, 9d to 1s 3d
— per half sieve, 3s to 5s
Shallots, per lb., 4d to 8d
Garlic, per lb., 3d to 1s
Radishes, per doz. bands, 6d to 1s
— Turnip, do., 9d to 1s
Art chokes, per doz., 1s 6d to 3s
— Jerusalem, p. h. sieve, 1s to 1s 6d
Lettuce, Cab., per score, 4d to 1s
— Cos, do., 9d to 1s 3d
Endive, per score, 9d to 1s
Mushrooms, per pottle, 1s to 1s 9d
— per bushel, 4s to 6s
Small Salads per punnet, 2d to 3d
Fennel, per bunch, 2d to 3d
Savory, per bunch, 2d to 3d
Thyme, per bunch, 3d to 4d
Watercress, p. 12 small bun., 6d to 9d
Parsley, per doz. bunches, 1s 6d to 2s
— Roots, per bundle, 1s to 1s 6d

HOPS, FRIDAY, Nov. 3.

Messrs. PATTENDEN and SMITH report that the market continues firm for all fine Hops. Inferior ones are very dull at late prices. The duty for Worcester has been officially declared at 16*s.* 5*s.* 6*d.* No other whole district as yet made public. Duty still estimated from 215,000*l.* to 220,000*l.*, as under:

Rochester	£72,000	to	£74,000
Canterbury	41,500	—	42,500
Sussex	70,000	—	72,000
Farnham	12,500	—	13,000
Kingdom	2,500	—	3,000
	£198,500		£203,500
Worcester	16,505		16,505
	£215,005		£220,005

MARK LANE, MONDAY, Oct. 30.

Messrs. KINGSFORD and LAY report that the supply of English Wheat by land carriage samples this morning was small, and sold freely at an advance of fully 1s. per qr. Foreign met a better inquiry at a similar improvement.—Fine malting Barley is a ready sale at 1s. per qr. over our quotations of last week; but other descriptions, as also Beans and Peas, are unaltered in value. The arrivals of Oats are small, and prices must be noted 6d. per qr. higher.

BRITISH PER IMPERIAL QUARTER.	*s*	*s*		*s*	*s*
Wheat, Essex, Kent, and Suffolk .....White	46	58	Red.....	42	54
Norfolk, Lincolnshire, and Yorkshire	50	56	White ..	50	58
Barley, Malting and distilling, 29s to 32s	Chevalier	32	36	Grinding	26	30
Oats, Lincolnshire and Yorkshire.....Polands	20	26	Feed	18	23
Northumberland and Scotch .....Feed	21	24	Potato ..	23	26
Irish .....Feed	19	23	Potato ..	22	25
Malt, pale, ship.....	—	—			
Hertford and Essex	—	—			
Rye.....	30	32			
Beans, Mazagan, old and new ..25s to 34s....Tick..	26	38	Harrow..	28	40
Pigeon, Heligoland 30	44	....Winds	34	40	Longpod	26	30
Peas, White.....	36	39	....Maple	38	40	Grey	34	36

ARRIVALS IN THE PORT OF LONDON LAST WEEK.

	Wheat.	Barley.	Malt.	Oats.	Rye.	Beans.	Peas.
Flour, 17442 sks — 1500 bls	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.
English.....	2078	1222	479	114	12	610	444
Irish	—	—	84	6637	—	—	17
Foreign.....	15260	1618	—	1878	1880	947	518

FRIDAY, Nov. 3.

The arrivals of grain, either English or foreign, this week have been moderate, but the attendance at market both on Wednesday and to-day was thin, and business in consequence limited. Prices of Wheat were firmly maintained.—Fine Malting Barley is the turn dearer. In other articles we observe no alteration.

[Much rain has fallen throughout the country since the 27th ult., and floods are very general. This must endanger the Wheat sown, and greatly protract the sowing where not yet done. The trade has worn a healthy appearance, and notwithstanding the recent large arrivals, the quantity offered on sale is far from large, a considerable proportion having already found its way to the consumers. Flour remains as last week. Malting Barley has advanced 1*s.* to 2*s.* per qr., and continues in good request. Beans have not undergone any variation in value, excepting Egyptian afloat, which met an improved inquiry at rather more money. Peas also show a slight tendency to improve, and Oats are the turn dearer. Indian Corn, Galatz, has been freely offered at 33*s* afloat. The Dantzic market by the last accounts is 1*s.* per qr. dearer for Wheat, prices for good qualities varying from 46*s.* to 50*s.* per qr. In the lower Baltic no alteration has occurred, excepting in Rostock. A report has been circulated that prices had declined 10*s.* per qr. there, which will prove a mistake. Wheat of inferior quality may perhaps be obtainable 10*s.* below the top price of fine 62 lbs., which is still worth 44*s.* to 45*s.* The Dutch and Belgian markets are firmer for Wheat. In Leghorn prices were expected to be well maintained. In Odessa prices were firm, and the stock reduced to 250,000 qrs. of soft, which is comparatively very small for the season. The exports from New York to the United Kingdom since the 3d ult., up to the 17th ult., are as follow:—Wheat, 83,198 bushels; Flour, 45,224 barrels; Indian Corn, 346,813 bushels; Corn Meal, 1679 barrels. The price of Flour had declined 12½ to 18¾ cents. per barrel; it would now stand in 26*s.* 9*d.* per barrel, including freight to Liverpool. Genesee Wheat, 7*s.* 2*d.* per 70 lbs., cost and freight.]

IMPERIAL AVERAGES.	Wheat.	Barley.	Oats.	Rye	Beans.	Peas.
Sept. 23	52s 4d	33s 7d	21s11d	32s 0d	37s11d	37s11d
— 30	52 9	33 3	21 1	31 9	35 1	39 8
Oct. 7	52 5	32 6	20 8	32 4	35 2	38 0
— 14	51 11	32 0	20 0	30 4	35 2	39 2
— 21	51 7	32 3	19 11	32 4	39 9	39 7
— 28	51 0	32 7	20 4	28 9	37 3	40 1
Aggregate Average	52 0	32 8	20 9	31 2	36 3	39 1
Duties on Foreign Grain	5 0	2 0	2 6	2 0	2 0	2 0

ARRIVALS IN THE PORT OF LONDON THIS WEEK.

	Wheat.	Barley.	Oats.	Flour.
	Qrs.	Qrs.	Qrs.	
English.....	2610	1090	790	3170 sacks.
Irish	—	—	1110	
Foreign.....	8510	3620	4060	— barrels.

Fluctuations in the last six weeks' Corn Averages.

PRICE.	Sept. 23.	Sept. 30.	Oct. 7.	Oct. 14.	Oct. 21.	Oct. 28.
52s 9d	...	...	...	...	...	...
52 5	...	...	...	...	...	...
52 4	...	...	...	...	...	...
51 11	...	...	...	...	...	...
51 7	...	...	...	...	...	...
51 0	...	...	...	...	...	...

SEEDS, Oct. 30.

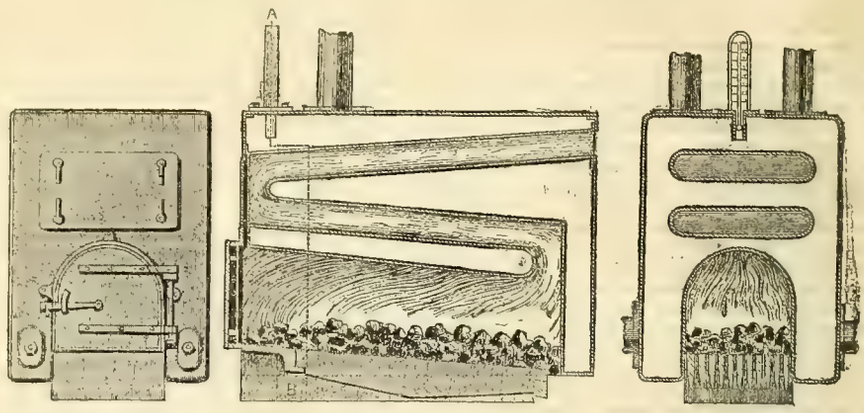
Canary.....per qr.	84s	to 100s	Linseed-cakes, Foreign, p. ton,	7*l*	to 9*l*
Caraway .....per cwt.	27	29	Mustard, White, p. bush.,	4s	to 9s
Clover, Red, English	35	44	Superfine, p. bush.,	9	10
— Foreign	35	40	Brown, per bush.,	6	12
White, English	38	44	Rapeseed, Eng., per last.....	28*l*	30*l*
— Foreign	38	42	Rape-cakes ....per ton	4*l* 10s	to 5*l*
Coriander.....	12	16	Sainfoin	—	—
Hempseed .....per qr.	34	36	Tares, Eng., winter, p. bsh.,	10s 0	12s 0
Linseed.....	38	40	Foreign, per bush.,	3s 0	4s 0
— Baltic.....	33	38	Trefoil	17s 0	20s
— Cakes, Eng. p. 1000,	11*l* 10s	to 12*l*	Turnip—too variable for quotation.		

WILLIAM HILL'S

IMPROVED FLUE BOILER AND FURNACE,

FOR WARMING CHURCHES, CHAPELS, MUSEUMS, MANSIONS, MANUFACTORIES, HORTICULTURAL ERECTIONS, &c.

Registered pursuant to Act of Parliament, 6 and 7 Vic., c. 65.



FRONT ELEVATION. LONGITUDINAL SECTION. SECTION.

The enormous waste of fuel which attends the use of many of the Boilers now applied to Warming Apparatus, and the complicated construction of others, having led the Inventor to consider the importance of the subject, he now lays the result before the Public, and respectfully invites their attention to the accompanying Drawings and Particulars.

The peculiar excellencies claimed by W. HILL for his improved FLUE BOILER are three, viz. SIMPLICITY, ECONOMY, and EFFICIENCY. Its simplicity of construction renders all its surfaces most easy of access to clean, and which operation can be performed at any time in the space of a few minutes. Of this, too much can hardly be said, as the efficiency of all Boilers greatly depends upon their being kept perfectly free from soot or other deposit, the neglect of which (in most cases unavoidable from the great difficulty of access) destroys their conducting power, and is a primary cause of waste in fuel; often, it is believed, to an extent of 50 per cent. The large amount of surface exposed to the actual contact and influence of the fire, so that no Heat can possibly escape until it has traversed through the Boiler three times, economises the consumption of Fuel to a very great extent.

The conducting power of Wrought Iron as superior to Cast Iron, needs no comment, and this principle as applied in the construction of the improved FLUE BOILER is found to raise the temperature of the water in about one-half the time which it requires for any of the larger Boilers now in use of cast iron. The sediment from the water in many instances is a fertile source of Injury to Boilers; facilities are here offered for the frequent cleansing of the interior and removal of deposit without the least interference with the brick-work or disturbance of any portion of the apparatus. The advantage of the Thermometer is considerable, enabling the attendant to ascertain at a glance the temperature of the water in the apparatus, and which, upon observation, will soon become a tolerably accurate index for regulation, and a criterion by which the supply of fuel may be determined. The mode of setting the Boiler is exceedingly simple, care being taken to protect it from close contact with the brickwork by a suitable material, to prevent corrosion, a cause of premature destruction considerably greater than the wear and tear of actual work.

Twenty-five years' experience in Building and Surveying enables W. HILL to furnish accurate Plans and Estimates for the adapting his improved method of Warming and Ventilating by means of the circulation of Hot Water, to Buildings of every description, as Churches, Mansions, large Conservatories, and ranges of Horticultural erections, Railway Stations, Manufactories, Carriage Depositories, &c., for all kinds of which his improved FLUE BOILER is especially adapted.

TESTIMONIALS.

Holland House, Kensington, July 25, 1848.

Sir,—I have much pleasure in giving my testimony to the excellent working of your improved Hot Water Apparatus. It far exceeds my expectations, both as regards its simplicity of action and its perfect efficiency, and, lastly (though by no means the least important feature), the consumption of fuel is exceedingly moderate, and the attention required very limited.

To Mr. Hill. (Signed) HOLLAND.

Holland Estate Office, Addison-road, July 25, 1848.

Sir,—The Warming Apparatus fixed by you at Lord Holland's, under my direction, gives me the greatest satisfaction. Your IMPROVED FLUE BOILER AND FURNACE are the best of their kind I have seen. I shall feel a pleasure in recommending you. (Signed) J. H. BROWNE.

Brooklands, Blackheath, August 14, 1848.

Sir,—I have much pleasure in certifying to the excellence of the Horticultural Buildings, erected here by you five years back, and also to the completeness of the arrangements for heating the same by hot water. It has not required any repairs, and the consumption of fuel has been very moderate indeed. (Signed) JAMES COOK.

Brooklands Nursery, Blackheath, August 14, 1848.

Sir,—Your IMPROVED FLUE BOILER AND FURNACE is a decided improvement. The facility given for cleaning the flues is of immense advantage, and (if used) will preserve its efficacy and power. From my long experience of the old plans I am quite sure your IMPROVED FLUE BOILER will be found economical in the consumption of fuel, and very powerful in effect. Had I occasion to fix a boiler to heat a range of houses, I should select yours in preference to any I have ever seen. (Signed) W. P. AYRES.

Haddo House Gardens, Aberdeen, August 15, 1848.

Sir,—It gives me great pleasure to see by the drawings sent that your IMPROVED FLUE BOILER AND FURNACE, is really an improvement upon those you fitted up at Ealing Park in 1844 and 1845, although at that time I considered them perfect, and they certainly were the most powerful I have yet had any experience of (and I have seen much of the working of several, each of which was said to be "the best.") The rapidity with which your FLUE BOILERS get heated is the best testimony to their economy. I always succeeded in getting a sufficient heat in ONE HOUR after lighting; the fire might then be banked-up and left with the most perfect safety, the thermometer in the boiler indicating 168°, and repeated observation has shown the diminution in temperature of the water in the boiler, seven hours after banking-up, to be 5° only. The whole apparatus is indeed most efficient, and I heartily wish you the demand for them which they deserve. (Signed) J. ROBERTSON.

Nursery, Lea-bridge-road, Leyton, Sept. 7, 1848.

Sir,—Many years' experience and observation of the several means of heating by hot water apparatus, and of the improvements which from time to time have been introduced, I have no hesitation in saying that I regard yours as the most efficient, and in conjunction with your IMPROVED FLUE BOILER will prove most economical. I request that you will supply me with one of your IMPROVED FLUE BOILERS at your earliest opportunity. (Signed) FINLAY FRAZER.

Charlton, Sept. 12, 1848.

The Countess of Buckinghamshire bears her testimony to the very satisfactory working of the Hot Water Apparatus; and also to the excellence of the neatly designed and well arranged Conservatory erected for her some years since by Mr. HILL.

CONSERVATORIES, HOTHOUSES, PINERIES, AND EVERY OTHER DESCRIPTION OF BUILDING USED FOR HORTICULTURAL PURPOSES, CONSTRUCTED, WARMED, AND VENTILATED ON SCIENTIFIC PRINCIPLES.

Mr. HILL'S system of Bottom-heat is guaranteed by him to be superior to any other mode, as it affords the most perfect control over excess of evaporation, and is admirably adapted for the successful growth of the Cucumber in the winter season.

Glazing with the best selected Sheet Glass, of British Manufacture, warranted not to scorch in any instance where common crown glass would not do the same.

Worn-out or inefficient Boilers removed, and the Improved FLUE BOILER connected to existing Apparatus.

IMPROVED SUN SHADES MADE TO ANY DIMENSIONS.

*** Communications addressed to W. HILL, Horticultural Works, Greenwich, will meet with prompt attention.

Sales by Auction.

CRYPTOMERIA JAPONICA AND OTHER CONIFEROUS PLANTS.

MR. J. C. STEVENS is instructed to sell by Auction, at his Great Room, 38, King-street, Covent-garden, on Tuesday, Nov 7, at 11 for 12 o'clock precisely, FORTY noble specimens of the beautiful and hardy CRYPTOMERIA JAPONICA, or Japan Cedar, from 3 to upwards of 7 feet high, well furnished with branches. These, being some of the first introduced plants, afford a rare opportunity to persons wishing to possess them. Also a number of Cedrus Africanus, or Silver Cedar of Mount Atlas, which is quite hardy; together with the true Pinus Montezumæ of Lambert, and other new hardy Conifers, all raised from seed. May be viewed the day previous and morning of sale, and Catalogues had of Mr. J. C. STEVENS, 38, King-street, Covent-garden.

TO NOBLEMEN, GENTLEMEN, AND THE TRADE IN PARTICULAR.

MOST IMPORTANT SALE OF CEDRUS DEODARA.

MR. J. C. STEVENS has received instructions from Messrs. Maule and Sons, Bristol, to sell by Auction, at his Great Room 38, King-street, Covent-garden, on FRIDAY, November 17th, at 12 o'clock, about 4000 CEDRUS DEODARA, from seed, from 1½ to 2 feet, remarkably bushy and well grown, and being the saleable portion of their stock of this elegant hardy Himalaya Cedar. They will be offered in lots of 25, 50, and 100, as per Catalogue, which may be had on application to Messrs. MAULE and SONS, Stapleton-road Nurseries, Bristol; and of Mr. J. C. STEVENS, 38, King-street, Covent-garden. May be viewed the day previous to the Sale.

WOOLWICH.—IMPORTANT SALE.
TO NOBLEMEN, GENTLEMEN, NURSERYMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will submit to public competition by Auction, on the premises, Burrage-house, Plumstead-road, Woolwich, on WEDNESDAY, November 15, at 11 o'clock (by order of Thomas Bickerdike, Esq., in consequence of the premises being immediately required by the South-Eastern Railway Company), the valuable STOCK, consisting of fine Evergreens, Shrubs, and Fruit Trees, very fine Standard and Dwarf Roses, about 1500 yards of excellent Box edging; also a collection of choice Greenhouse Plants, together with two capital Greenhouses, Brickwork, Furnaces, a quantity of Rockwork, &c.—May be viewed prior to the sale, and Catalogues had, on the premises, of the principal Seedsmen, and of the Auctioneers, American Nursery, Leytonstone.

WANDSWORTH COMMON.

To Noblemen, Gentlemen, Nurserymen, Builders, Railway Contractors, and Public Companies engaged in Planting.

MESSRS. PROTHEROE AND MORRIS are instructed to sell by Auction, on the premises, Wandsworth Common, about the middle of November, by order of the assignees of Mr. R. Neal, a bankrupt, the whole of the valuable NURSERY STOCK, consisting of a considerable quantity of very fine Evergreens, Fruit and Forest Trees, New Ornamental Trees and Deciduous Shrubs, and a large and rich assortment of American Plants; together with the Greenhouse Plants, several Pits, 2 and 3-light Boxes, utensils in trade, &c.—Further particulars will be given in future Advertisements.

WORTH, SUSSEX.

IMPORTANT SALE OF VALUABLE FOREST, FRUIT, AND ORNAMENTAL TREES AND SHRUBS.

MESSRS. NASH are instructed by Mr. Wm. West, who is desirous to clear a large portion of his extensive Nurseries, to sell by Auction, upon the premises, on WEDNESDAY, THURSDAY, and FRIDAY, the 8 h, 9th, and 10th days of November, commencing each day punctually at 11 o'clock, a portion of the highly valuable STOCK comprised in the Home Nursery, that at Pound-hill, the Forest Nursery, and the Nursery at Copthorne, consisting of upwards of 20,000 Oak, 40,000 fine healthy Chestnuts, 30,000 Alder, 100,000 Larch, 4000 Spruce, 4000 Plum-leaf Willow, Limes, Turkey Oak, and Irish Yews, and many thousand Ornamental Trees and Shrubs of the most approved varieties, together with a large and well selected assortment of Trained Fruit Trees, and about 300,000 of strong bedded Quick. Six weeks will be allowed each purchaser from the days of sale to clear his purchases.—Catalogues are preparing, and may be obtained shortly, at the Nurseries, of the principal Seedsmen in London, and at the inns in the neighbourhood; or they will be forwarded per post on application, enclosing six stamps, to Messrs. NASH, Land-agents and Surveyors, Reigate.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, LAND AGENTS, RAILROAD CONTRACTORS, AND THE PUBLIC GENERALLY.

IMPORTANT and EXTENSIVE SALE of NURSERY STOCK.

MESSRS. BENTLEY AND SAUNDERS are instructed by Mr. ARCHIBALD WOOD to offer for sale, by public Auction, on the premises, on MONDAY, November 6th, 1848, and following days, the whole of the very VALUABLE AND EXTENSIVE STOCK at BARBOURNE NURSERY near Worcester, comprising upwards of FIFTEEN ACRES OF GENERAL STOCK of the best description, together with an extensive variety of GREENHOUSE and STOVE PLANTS.

The Stock comprises

1 Million Fine Hawthorn Quick,	from 12 to 36	inches.	
35,000 Evergreen Privet	 24	,, 48	,,
30,000 Laurels	 12	,, 48	,,
100,000 Mahonia aquifolia			
15,000 Green Hollies	 6	,, 30	,,
4000 Rhododendrons			
4500 Choice Stove and Greenhouse Plants.			

An Immense Assortment of Scotch, Spruce, and Larch Firs, Oak, Elm, Ash, Beech, and other Forest trees. A fine collection of Standard and Dwarf-trained Fruit Trees of the choicest description, together with a great variety of Miscellaneous Stock too considerable to particularize. The above Stock being offered for sale in consequence of the decease of a Partner, will be sold without the slightest reserve, and 21 days will be allowed to purchasers to clear their lots from the premises.

The whole may be viewed, and every information obtained previous to the Sale, by application to Mr. WOOD on the premises; or to the Auctioneers, 63, Foregate-street, Worcester, of whom, and the following, Catalogues may be obtained immediately. Midland Counties Herald, and Journal Offices, Birmingham; Times Office, Hereford; and at the Office of the Gardeners' Chronicle and Agricultural Gazette, 5, Upper Wellington-street, Strand, London.

TO MARKET GARDENERS, GENTLEMEN'S GARDENERS, AND OTHERS.

TO BE DISPOSED OF, with immediate possession, a seven years' LEASE of an old-established FRUIT GARDEN, situated within five miles of the bridges, containing Three Acres of Ground, planted with Strawberries and Standard Fruit Trees; 6 Vineries, 430 feet in length, planted with choice Vines in healthy bearing condition; a brick Pit, 54 Lights, various Frames, &c.; the whole heated with hot water. A fine wall of Peach and Nectarine Trees, a substantial brick-built Dwelling-house, packing and other Sheds, Stabling, &c. This eligible property would be found admirably adapted for any one about to commence business. A standing in the best part of Covent Garden Market to be had with it. Coming-in moderate; Rent 55*l.* per annum.—For full particulars apply to J. G. WAITE, Seed-merchant, 181, High Holborn, London.

HACKNEY.

Stock in Trade of a Nurseryman and Florist, 2 Greenhouses about 120 feet long each, Fittings of Seed shop and Conservatory, 150 pairs of Sliding Lights, 250 feet of 2-inch Slate Shelving, 1000 feet of Iron Hot-water Piping, 4 Boilers and Furnaces, a 1-wheel Van, Spring Cart, &c.

MR. PRICE has received instructions from the assignees of T., T., and A. Smith, bankrupts, to sell by Auction, on the premises, Cambridge heath Nurseries, Hackney, on WEDNESDAY, 15th November, and following days, at 12 for 1 o'clock each day, the whole of the STOCK IN TRADE, among which may be mentioned 15,000 Geraniums (comprising the best varieties adapted for market business), 700 Camellias (doubles), 2000 Cacti, 800 Verbenas, 400 Heliotropes, 250 Heaths, 1200 Fuchsias, 2000 Azaleas (indica), 400 Acacias, 1500 Roses, 2000 Cape Jasmines, 2500 Hydrangeas, 2000 Dahlias, 110 rows of fine Tulips, together with the erection of Greenhouses, Hand-lights, Frames, Pots, and utensils. The property may be viewed, and Catalogues obtained at 6*d.* each, on turnable to purchasers, on the premises; of W. Pennell, Esq., Official Assignee, Guildhall Chambers, Basinghall-street; of R. Russell, Esq., Solicitor, 23, Martin's-lane, Cannon-street, City; of Mr. W. Clark, Bishopsgate-street; of Messrs. Sadler, 156, Fleet-street; of Messrs. Clark and Co., High-street, Borough; of Messrs. Burt and M'Mullen, Seedsmen, London-hall-street, City; and at Mr. PRICE'S Offices, 16, Chancery-lane.

IMPROVED SHORT-HORNED BULL.

TO BE SOLD, a very fine and remarkably well-bred SHORT-HORNED BULL, aged just 17 months, calculated to make 8 cwt. if fattened now. His pedigree is in the "Herd Book," and his breeder, who is one of the first in the Kingdom, can be referred to in proof of his being one of the best Bulls he ever bred. His own brother won the first prize at Bristol when a yearling, and his sire and dam have both been excellent winners of prizes. He himself has never been shown the owner living too far from the places where prizes for Shorthorns are given to send him. For price, which is moderate, and all other particulars, apply to Mr. REES, Shaldon, near Teignmouth, Devon.

TO BE LET, with possession on Lady-day next, a small NURSERY of about three acres with comfortable Dwelling-house and a Vinery attached, situated within a short distance eastward of Bath, and near to the Great Western Railway Station. The present occupier is leaving on account of age, having occupied it these last 60 years; the remaining Stock is very small, to be taken at a valuation. Apply to Mr. TILEY, Pulteney-bridge, Bath, or Mr. G. Bishop, Chippenham.

FARM TO LET.

TO BE LET, an ARABLE FARM, of 500 acres, nearly all Turnip Land. It is about 30 miles from London, and two from a principal market town, from which will shortly be railway communication to London. The Homestead is most perfect, and stands in the centre of about 30 acres of Meadow, with a modern-built Lodge at the entrance, as residence for Bailiff or Shepherd. The house, of agreeable elevation, although not too large for a person solely devoted to business, is so beautifully situated as to be worth the attention of any gentleman attached to agriculture and field sports, being midway between two kennels of fox hounds; abundant spring water, and capital roads. The privilege of Shooting, and 14 or 21 years' Lease will be granted. Rent and rates moderate. —For particulars, direct to J. C., Messrs. Harrison's, 2, George-yard, Lombard-street, London.

TO NURSERYMEN.

TO BE LET immediately, a capital NURSERY, SEED, AND FLORIST BUSINESS, beautifully situated near a fashionable town in Devonshire. The grounds consist of 3¾ acres with a stream of water running through them. There is about 2000 feet of Glass, Seed Shop, Packing, Potting, and other Sheds; Stock (to be taken at a valuation) about 400*l.* No premium will be required, the principal object being to obtain a respectable tenant.—For particulars, apply to Mr. JOHN HEWETT, Tortfield, Sidmouth, Devon.

TO BE LET, A FARM, at Greenfield, near Alford, in the county of Lincoln, containing 62 acres, with House and Offices, either from year to year, or on Lease, as may be agreed on. Much of the old Grass land will be allowed to be ploughed up. Entry at Lady-day next. Apply to H. WILSON, Esq., Solicitor, Alford, Lincolnshire.

WANTED TO RENT, OR PURCHASE, A HOUSE with three or four rooms on the ground floor, of good dimensions and height, bed and dressing rooms, servants' rooms, and suitable offices. Land from 12 to 20 acres. Distance from London not less than 30 miles.—Address, with full particulars, to A. B., Mr. Bagshaw's, 31, Brydges-street, Covent-garden.

SEEDS.—CORNER OF HALF-MOON STREET.
THOMAS GIBBS AND Co.,
(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND."
Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF MOON-STREET, PICCADILLY, London, as for the last Fifty Years.
Priced Lists of Agricultural Seeds are always ready, and may be had on application.

NEW HYACINTH GLASS, with brass fittings, designed by R. REDGRAVE, A.R.A., for SUMMERLY'S ART MANUFACTURES, and sold by all first-class retailers. The late novelties in Summerly's Art Manufactures are The Shrimp Salt-cellar, and a Tea-caddy Spoon in plated metal, the Camellia Teapot, Clarinda, a Wooden Bread Platter and Knife, Glass Flower Vase, &c. A Catalogue, with 24 designs, sent on receipt of three postage stamps, from CUNDALL'S, 12, Old Bond-street, London.

BAKER'S PHEASANTRY, Beaufort-street, King's-road, Chelsea, by special appointment to her Majesty and H.R.H. Prince Albert. — ORNAMENTAL WATER FOWL, consisting of black and white swans, Egyptian, Canada, China, bernacle, brent, and laughing geese, sheldrakes, pintail, widgeon, summer and winter teal, gadwall, Labrador, shovellers, gold-eyed and dun divers, Carolina ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking fowls; white Japan, pied, and common pea-fowl, and pure China pigs; and at 8, Half-moon-passage, Gracechurch-street.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

GARDEN ORNAMENTS.—Having a permanent establishment of workmen to maintain through the winter, AUSTIN AND SEELEY are now desirous of lightening their stock; and they are prepared to make a sacrifice on a considerable portion of the Ornaments at present in their show-yard. Any gentleman intending to make such purchases in the next year will find it very advantageous to choose the Ornaments now; and patterns will be forwarded by post to any one requesting it.—New-road, Regent's-park, Nov. 2.

PERUVIAN AND BOLIVIAN GUANO ON SALE,
BY THE ONLY IMPORTERS,
ANTONY GIBBS AND SONS, LONDON;
WM. JOSEPH STEER AND CO., LIVERPOOL;
And by their Agents,
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To prevent the mistakes that have occurred in the purchase of this valuable manure, it is recommended to apply only to the above-named firms, or to their authorized agents, who will supply it in any quantities, at their fixed prices, direct from the Import Warehouses.

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THE LONDON MANURE COMPANY beg to offer as under—

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Peruvian Guano, direct from Import Warehouses, Agra and Masulipatam Guano, &c., &c.

The London Manure Company, in addition to their extensive Guano Manure, have a large stock of Nitrate of Soda and Potash, Salt, Lime, Gypsum, &c., &c., which they will supply in any quantities, and mix to any required analysis, at their Manure Works, Bow, Middlesex, and other manufactories.

Full particulars and prices forwarded on application.
EDWARD PRICE, Secretary.

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MARK FOTHERGILL, 91*A*, Upper Thames-street, London, offers the following MANURES for the Wheat crop, and warrants the quality to be genuine:—

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WHEAT MANURE, containing a large per centage of Ammonia, with rich Phosphates.
FIELD SHORT-SOIL obtained from a large public institution).
PERUVIAN GUANO direct from Import Warehouses.
BRITISH GUANO as imported from the Coast. Phosphates of Soda and Potash, &c., combined in the finest, at a considerably lower price.
Also, Soda Ash (Wire-worm destroyer), Gypsum, Nitrates Soda and Potash, Salt, Lime, Soot, and other manures of known value.—Apply for prices current as above.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the IMPROVED CONICAL and TUBULAR CYLINDRICAL BOILERS, respectfully request the attention of scientific Horticulturists to their method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom heat is secured to any required degree, without the aid of pipes. S. and Co. have also to state that at the request of numerous friends they are now making the Boilers of Iron as well as Copper, by which the cost is reduced. The Boilers, which are now so well known, scarcely require description to those who have not seen them in operation; prospectuses will be forwarded, as well as references to parties using them, or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required in the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood, erected upon the most ornamental designs. Balconies, Parapets, Lodge and Garden Fences, Wire-work, &c.

CLARK'S METALLIC HOTHOUSE WORKS, 35, Lionel-street, Birmingham. Proprietor, Mr. THOMAS CLARK; Manager, Mr. JOHN JONES.

Mr. CLARK presents his grateful thanks to the Nobility and Gentry for their liberal patronage of the above Establishment, during a period of thirty years, and begs to state that the repeal of the duty on Glass enables him to offer his METALLIC HOTHOUSES at a greatly reduced price. These Houses are glazed with British Sheet Glass in panes of from 24 to 30 inches in length, and of such thickness as to preclude all danger of accidental breakage, whilst that which arises from the action of frost is effectually prevented by the peculiar mode of glazing adopted. As a sample of his Metallic Hothouses, in which all the most recent improvements are happily combined, Mr. CLARK refers to the magnificent range erected by him in the new Royal Gardens at Windsor, admitted by competent judges to be the most complete of its kind in the world.

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ESTABLISHED TEN YEARS.

GREEN AND HOTHOUSES made by Machinery for one-half their usual cost. Hothouse Greenhouse Lights, made of best material, glazed with 21-oz. sheet glass, painted three coats, and delivered to the railroads or wharfs in London, at 11½*d.* per foot; 2 inch do., 1*s.*
J. LEWIS, Hothouse Works, Stamford-hill, Middlesex.

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HOT WATER PIPES, &c.

J. JONES, IRON-BRIDGE WHARF, No. 6, Bankside, Southwark, keeps a large STOCK of HOT-WATER PIPES, with Elbows, Syphons, Tee Pieces, Collars, Valves, &c., &c., for HEATING Buildings and Hothouses; also SOCKET and FLANGE PIPES, with the usual connections; LAMP COLUMNS, Rain-water Pipes, Gutters, Sash Weights, Railing Bars, Art Pikes, Spearheads, HARROW WHEELS, Tire Lights, &c. The above CASTINGS at very low prices, at JONES'S, 6, Bankside, Southwark, London.

NOTT'S PATENT STOVES FOR CHURCHES HALLS, WAREHOUSES, &c.—The Stock of STOVES is now REMOVED to BENHAM AND SON'S, 24, Wells-street, Cavendish-square, by whom all orders will be executed in the usual Terms.—N.B. The prices have been reduced 25 per cent.

SMITHFIELD CLUB.—CHRISTMAS SHOW.—The Annual Show of Fat Stock, &c., will take place at the Horse Bazaar, King-street, Baker-street, Portman-square, London, on the 6th, 7th, 8th, and 9th of December, 1848.

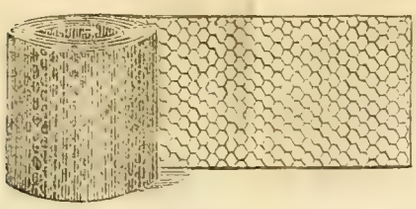
The separate PRINTED FORMS OF IDENTIFICATE required for each Class must be examined from the Secretary; and all Certificates filled up on the Forms above named both for Stock and Implements, must be lodged with the Hon. Secretary on or before the 11th of NOVEMBER, 1848.

B. T. BRANDRETH GIBBS, Esq., Secretary, corner of Hart-street, Piccadilly, London.

N.B. Lists of the Prizes can be had on application as above. Exhibitors in applying for Printed Forms are required to state the Number of the Class or Classes in which they intend to exhibit.

The Anniversary Dinner of the Club will take place at the Freemasons' Tavern, Great Queen-street, on Friday, the 8th of December, at 5 o'clock precisely.

WIRE NETTING, ONE PENNY PER SQUARE FOOT.



GALVANISED WIRE NETTING, TWO-PENCE PER SQUARE FOOT.—This article requires no painting, the atmosphere not having the slightest action on it. It has the appearance of silver, and maintains its lustre for many years, and is acknowledged to be the cheapest article ever brought into the market. It forms a cheap, light, and durable fence for the protection of Gardens and Shrubberies against the depredations of hares, rabbits, and cats; for Aviaries, Pheasantries, and to prevent poultry from straying, as well as for training creeping plants, it answers admirably.

Large quantities of the Netting always kept in Stock, samples of which can be forwarded (free of expense) to any part of the United Kingdom. Prices as follows:

12 inches wide	3*d.*	per yard	30 inches wide	7½*d.*	per yard
18 "	4½*d.*	" "	36 "	9*d.*	" "
24 "	6*d.*	" "	48 "	1*s.*	" "

Galvanised do. 1*d.* per foot extra.

Also Fenders, Fireguards, Fly-proof Dish Covers, Meat Safes, Wire Blinds, Garden bordering and arches, Flower Stands, and every description of Wire Work.

THOMAS HENRY FOX, 63, Snow-hill, London.

PARIAN CEMENT used as a Stucco, cannot easily be distinguished from statuary or Parian marble. It is fit for all the purposes of that beautiful material, and does not crack, warp, or effloresce in any degree. The fine quality will incorporate with the most delicate colours; it is adapted to encaustic work, fresco, imitation of marble, and the most elaborate embellishment. So perfect are its setting or crystallising properties, that the coarse quality when applied to newly built or damp walls, may be immediately polished, painted, or papered, and rooms rendered habitable before the materials ordinarily used would begin to dry. Manufactured by CHARLES FRANCIS and SONS, Roman Cement Works, Nine Elms, London

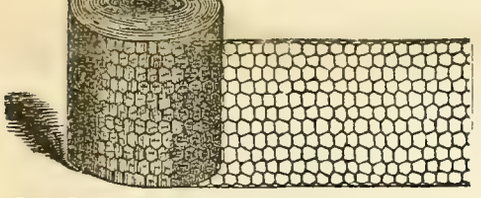
PATENT FLEXIBLE INDIA RUBBER PIPES AND TUBING FOR RAILWAY COMPANIES, BREWERS, DISTILLERS, FIRE-ENGINES, GAS COMPANIES, GARDENING AND AGRICULTURAL PURPOSES, &c.

THE PATENT VULCANISED INDIA-RUBBER HOSE PIPES are made to stand Hot Liquor and Acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible), and as they require no application of oil or dressing, are particularly adapted for Fire-engines, Pumps, Gas, Beer-engines, Gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes from ¼ inch bore upwards, and of any length to order.

Vulcanised India-rubber Garden Hose, fitted with brass taps, copper branch, and roses complete, ready to be attached to Pumps, Water-butts, or Cisterns.—Sole Manufacturer, JAMES LYNE HANCOCK, Goswell Mews, Goswell-road, London.

N.B.—Vulcanised India-rubber Washers of all sizes for Joints of Hot-water and Steam Pipes, and Vulcanised sheet Rubber, any thickness, for all kinds of Joints, and other purposes.

STRONG PREMIUM HARE AND RABBIT PROOF WIRE NETTING.



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MANUFACTURERS OF IRON AND WIRE WORK, &c., CASTLE-BUILDINGS, DERBY-SQUARE, LIVERPOOL; 128, HIGH-STREET, EDINBURGH; and 32, ST. ENOCH-SQUARE, GLASGOW, Beg respectfully to call the attention of Landed Proprietors and others to their strong Wire-Net Fence, for excluding Hares and Rabbits from Gardens, young Plantations, Nurseries, &c.

This Net was exhibited at the Show of the Highland and Agricultural Society of Scotland, held lately at Inverness, where its Efficiency, Great Strength, and Exceeding Cheapness attracted general attention, and had awarded from the Judges the Society's Silver Medals, with high commendations.

The immense damage done by Hares and Rabbits in Gardens and Young Plantations, is often so great, that in the course of a year or two it will amount to more than the entire cost of protecting them with this Net. It is so durable, that when Plantations are sufficiently advanced to be independent of its protection, it can be removed to other exposed situations with the greatest facility, by any labourer. As a Fence against Hares and Rabbits, it is of itself quite sufficient, having only to be unrolled and attached, with small wire sent for that purpose, to wooden stakes driven into the ground, about every six or seven feet apart. It is, besides, peculiarly adapted for rendering Hedges, Paling, or other existing Fences, *completely impervious* to such vermin: and by being cut up into small pieces of three or more feet, as required, it forms a most efficient guard, at little expense, for individual Plants and Shrubs.

PRICES.—18 ins. high, 9*d.*; 24 ins., 1*s.*; 30 ins., 1*s.* 3*d.*; and 36 ins., 1*s.* 6*d.* per lineal yard.

Or a web of 100 yards, 18 ins. wide, will cost	...	...	£3	15 0
Do. of 100 yards, 24 ins. wide	...	...	5	0 0
Do. of 100 yards, 30 ins. wide	...	...	6	5 0
Do. of 100 yards, 36 ins. wide	...	...	7	10 0

If more or less than a web is required, it would be charged at the same rate per yard.

This Netting is also admirably adapted for Pheasantries and Poultry-yards, and is charged at the same rate. As carriage has, in many instances, been an obstacle to parties at a distance requiring this Net, C. D. Y. and Co. have made arrangements by which they will undertake to deliver it at any of the principal ports of Scotland, England, and Ireland, for One Halfpenny per lineal yard.

C. D. YOUNG and Co. cannot give a better idea of the great strength of their Premium Wire Netting than by stating that the weight of one yard of their 24-inch at 1*s.* is equal to 2¼ yards of another article in the market, the same width, at 9*d.* per yard. Samples for inspection sent free of expense.

C. D. YOUNG & Co. manufacture every description of IRON and WIRE WORK required for this and foreign countries.

Workmen sent to all parts of Scotland, England, and Ireland.

THE IMPROVED HYDRAULIC RAM, fixed by FREEMAN ROE, Fountain Maker, 70, Strand, London, can be worked by a small stream of half-an-inch, where a fall of 2 feet can be obtained. The same RAM, without the aid of a Tank or Cistern, arranged to throw a Jet of Water constituting a Fountain with the head of water beneath.

Engines for deep wells of all kinds, Douche and other Baths Buildings heated by hot water. Water wheels to work small pumps, from 15*l.* Estimates given for the supply of towns, &c.

A newly-invented Portable Vapour Bath, all complete for 4*l.*

HYDRAULIC ENGINES.

J. LEGG begs to return thanks to his patrons and friends, and also to inform them that he continues to erect his improved Hydraulic Engines, Water Ram, &c., suitable for all situations where a fall can be obtained, also Engines for Deep Wells. J. L. also begs to inform his friends that he has made several improvements on his Hydraulic Machines, and flatters himself that he is able to compete with any parties of the present day in the construction of the above machines.

Apply to JOHN LEGG, Cheltenham.

WIRE-WORK, HOT-WATER APPARATUS, GREENHOUSES, &c.

ST. THOMAS BAKER, MANOR-HOUSE, MANOR-PLACE, KING'S-ROAD, CHELSEA, Manufacturer of INVISIBLE WIRE FENCE, to resist Grazing Stock, and rendered Rabbit-proof. WIRE-WORK in Trainers, Arches for Walks, Bordering, Flower Stands, Pheasantries, &c. HORTICULTURAL BUILDINGS, Green and Hothouses, Conservatories, &c. The same heated by HOT-WATER APPARATUS on improved and economical principles.

Parties waited on in Town and Country, and Drawings and Estimates free. Work for the Trade as usual.

Ward's Cases, or Domestic Greenhouses.

CARSON'S ORIGINAL ANTI-CORROSION PAINT, specially patronised by the British and other Governments, the Hon. East India Company, the principal Dock Companies, most public bodies, and by the Nobility, Gentry, and Clergy, for out-door work at their country seats. The Anti-Corrosion is particularly recommended as the most durable out-door Paint ever invented, for the preservation of every description of Iron, Wood, Stone, Brick, Compo, Cement, &c., work, as has been proved by the practical test of upwards of 60 years, and by the numerous testimonials (between 300 and 400) in its favour, and which, from the rank and station in society of those who have given them, have perhaps never yet been equalled by anything of the kind hitherto brought before the public notice. A copy of the Testimonials, together with a List of Prices, Colours, &c., will be forwarded on application to WALTER CARSON, 15, Tokenhouse Yard, back of the Bank of England, London. No Agents. All orders to be sent direct.

IMPORTANT TO LANDOWNERS.—An Act of Incorporation having been obtained by "THE LANDOWNERS' WEST OF ENGLAND AND SOUTH WALES LAND DRAINAGE AND INCLOSURE COMPANY," affording Owners of limited Interests in Land the means of Draining, Irrigating, Enclosing, Erecting Buildings of a permanent nature on, and otherwise improving their Lands, and giving such Landowners of limited Interests the power to charge the inheritance with the value of the outlay in either of the following ways, viz.:—By charging the value on the Inheritance absolutely, or to be repayable by 25 Annual Instalments of 6*l.* 10*s.* per cent. per annum. This Company is now ready to receive applications for work to be performed under any of the provisions of their Act of Parliament, or on contract as heretofore; and from the extensive operations already in hand, they request parties wishing to avail themselves of the benefits of the Act to make early application. For all further particulars, apply to THOMAS MAY, Secretary, 9, Bedford Circus, Exeter.

AGRICULTURAL REPOSITORY, Clarke street, Bristol. (Established, A.D. 1750.) Sept 29, 1848.

In retiring from a business which I have conducted in this City during the space of 40 years, I feel the obligation of returning my very sincere thanks for the kind and liberal encouragement I have received. I have now the satisfaction of announcing as my successors—my Son BENJAMIN STRATTON, who has been thoroughly educated in the business, and for the last 12 years has assisted me in the management thereof, in conjunction with Mr. SAMUEL HUGHES, a Civil Engineer from London, whose practical experience in the improvement of Estates by Drainage, &c. &c., will supply a desideratum which has been long felt in connection with this establishment. I trust, therefore, that a firm so constituted will lose none of that support and encouragement which has been so kindly and extensively accorded to myself. RICHARD STRATTON.

P.S.—R. STRATTON will continue his attendance at the Office in Clarke-street, where he will pay all accounts due to the 29th September last, and where he solicits an early settlement of all accounts due to him previous to that date.

STRATTON, HUGHES, and Co. having succeeded to the business of Mr. RICHARD STRATTON, as Patentees and Manufacturers of Wheels, Carts, Waggons, and Agricultural Implements, and general Agricultural Engineers, venture to request a continuance of those favours which have been so liberally bestowed on their predecessor. Their system of carrying on business will be essentially the same, their attention will be incessantly devoted to the improvement of every kind of Agricultural Implement, and they trust that their Repository will always contain an unrivalled collection, including the best Implements of other Makers as well as those of their own Manufacture. The present stock, comprising upwards of 2200 articles, all with prices affixed, and ready for immediate use, is well worthy of attention.

STRATTON, HUGHES, and Co., beg to call attention to their Patented Hollow Iron, and its application to the beams of Ploughs, and Shafts of Carts, the Spokes of Wheels, and the Tilt Hoops of Railway Goods, Waggons, and a variety of other purposes where strength and lightness are essential. This Iron was first introduced to public notice at the Shrewsbury Meeting of the Royal Agricultural Society of England, where the prize of 10*l.*, offered for the best Subsoil Plough, was awarded to Read's Subpulverizer, manufactured by Mr. RICHARD STRATTON, with the Patent Hollow Iron Beam.

They also invite attention to their Norwegian HARROW, an implement of great power, for the purpose of pulverising and disintegrating the surface of heavy ploughed lands; to their Patent TUMBLER CART for Night-soil, and their Patent CYLINDER CART for Liquid Manure, &c.

STRATTON, HUGHES, & Co. have extended their business to Agricultural Engineering, and undertake the Survey of Lands for the purposes of Draining and Irrigation, and the erection of Farm Buildings, under the personal superintendence of Mr. HUGHES, C.E., F.G.S. They beg to assure their customers and friends in the neighbourhood of Bristol, that the same attention as ever will be paid to the business of repairs; that they purpose always to keep in hand a large and well-assorted stock of choice and well-seasoned timber; to use none but the best materials, and to employ only the most skilled and careful workmen. They hope thus to execute all orders entrusted to them with such punctuality, exactness, and economy, as to give satisfaction to their employers.

MR. HENRY LITTLE, NURSERYMAN, SEEDSMAN, and FLORIST TO THE QUEEN, King's-road, Chelsea, begs to inform Gentlemen, Market Gardeners, and others engaged in Planting, that he has about Five Acres of capital NURSERY STOCK, in good moving condition and great variety, to be positively sold to clear the ground. This stock will be found to contain all the usual varieties, with a considerable quantity of large plants, capable of producing immediate effect, standard and dwarf trained Apricots, Peaches, Nectarines, Cherries, and Plums, in fruit bearing condition, a selection of the choicest and most profitable Pears, Apples, Plums, and Cherries, as standard or pyramids, from 50*s.* to 5*l.* per 100, a large stock of dwarf and standard Roses, the whole of which must be cleared; fine dwarf trained Apricots, Peaches, Nectarines, Gages, Plums, and Cherries, in any quantity from one dozen, and any proportion of sorts, at 30*s.* per dozen; dwarf Roses, in 20 varieties, 20*s* per 100; a limited stock of the true old Golden Pippin Apple, at 2*s.* 6*d.* each. A large importation of superfine Dutch Flower Roots, selling at a great reduction in price. See Advertisement of last week. N.B. Goods delivered free within 10 miles of the Nursery.

MESSRS. NESBIT'S CHEMICAL AND AGRICULTURAL SCHOOL, 38, Kennington-lane, London.—A sound practical knowledge of Analytical and Agricultural Chemistry, Geology, Surveying, Levelling, Railway Engineering, &c., may be obtained in Messrs. NESBIT'S Academy, in addition to a good modern education.

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The terms of the School can be had on application either personally or by letter.

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THE GARDENERS' CHRONICLE AND AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No 46.—1848.] SATURDAY, NOVEMBER 11. [Price 6d.

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Farms, small	753 b	Tulip bulb aphis	750 b
Farming profits	747 a	Vine-culture on open walls	749 a
Farming, Irish	745 c	Vine question	750 b
Flax steeping	751 c	Walks, garden	750 a
Forest trees	749 c	Wheat, on planting	756 a
Fruit trees, list of	752 b	— guano on	756 a
Gooseberry caterpillar, to kill	749 c	— sowing	757 c
Guano	747 c	— to sell by weight	754 a
— on Wheat	756 a	Wounds, plant	750 b
Hares	756 b		

FOREST TREES FOR FORMING AVENUES, GROUPS IN PARKS, OR FOR PLANTING SEPARATE.

HUGH RONALDS AND SONS beg to inform Noblemen, Gentlemen, and Nurserymen, they have a fine Stock of the above, from 6 to 10 feet, three times transplanted, well-shaped, and rooted. Likewise a fine stock of Thorns, of sorts, 8 feet, particularly the new Scarlets, single and double flowering. Lists may be obtained, with prices, by applying at the Brentford Nurseries.

MOSS ROSE, "LANEI."—This has been exhibited and well proved. In colour, it is a beautiful shaded carmine; very large and double, with very sweet foliage. Price 7s. 6d each.

The new CATALOGUE may be had by enclosing a twopenny stamp; the prices are much reduced, and it contains notes of those best suited for pot culture, training on walls, trellis and grouping. Also a List of those established in large pots for early forcing, the plants of which are very strong.

H. LANE and SON, Great Berkhampstead.

FIRST CLASS GERANIUMS.

J. HINE'S AUTUMNAL CATALOGUE can be obtained on application, enclosing one postage stamp. It contains descriptions of his newly-selected varieties of this year, viz., Ten first-rate sorts for 5l. 5s. Also, Miller's Set of Eight of last year's for 2s. 6d.; and the names of most of the best kinds in cultivation at 2s. per doz. Purchaser's selection.

J. H. is also now sending out UNBLOOMED SEEDLINGS at 7s. 6d. per dozen, or 3 dozen for 20s.

Providence Nursery, Ramsgate.

TO CUCUMBER GROWERS AND OTHERS.

THE GREAT BROTTON CUCUMBER, 31 inches long, new this season. Persons desirous of growing a good Cucumber should make no delay in buying the seed of the great "Brotton," as it is a prolific bearer, of very fine habit, well ribbed, and a black spine; it is very hardy, and its length is 2 feet in the open border. Sold in packets of six seeds for 5s., to be had of the grower, W. HARRIS, Strawberry Cottage, Brook-street, Upper Clapton; or the Stock may be sold, and if any reference should be required as to the sort, apply to Mr. MARNOCK, of the Royal Botanic Gardens, Regent's-park.

ARAUCARIA IMBRICATA AND CEDRUS DEODARA.—On Sale, at Walton Nursery, Liverpool, at a great reduction in former years' prices, upwards of 50,000 ARAUCARIA IMBRICATA AND CEDRUS DEODARA, of various sizes, from 1 to 4 feet high, all grown from seed and transplanted into pots or beds in the Nursery. Orders for any quantity, from a single plant to a thousand or upwards, will have immediate attention, by applying to the proprietor. Priced Catalogues of the above, and all other Trees and Shrubs for general planting (of which the advertiser holds the largest stock in England), may be had on application to the proprietor, WILLIAM SKIRVING, Liverpool.—Nov. 11.

EDWARD DENYER begs to inform his friends that his new CATALOGUE OF ROSES is ready for circulation, including Fruit and Forest Trees, Evergreens, Deciduous Shrubs, &c., which can be had by inclosing a two-penny stamp. The Plants are all of a first-rate quality, and the charges will be found to be very moderate. Orders to the amount of 3l. sent carriage free 50 miles, and to the amount of 5l., 100 miles.—Loughborough-road, Brixton, near London.

E. D. respectfully informs his friends that he has no other place of business in London or elsewhere but the above.

THE JEFFERSON PLUM.

MR. DANCER, NURSERYMAN, Fulham, Middlesex, begs to inform the Public he has an excellent stock of this superior new PLUM, which he can warrant correct, the variety having fruited in his own grounds this season, and he can fully corroborate the account given of it in the "Journal of the Horticultural Society," vol. i., p. 117, where the description is accompanied with a coloured plate. The following are extracts from the above-mentioned reference: "Fruit large, roundish oval; skin dark yellow, remarkably speckled with purple and brownish red; flesh deep orange, exceedingly rich and sugary."—"Will afford a later supply than the Greengage, for it has the property of hanging for a considerable time on the tree after being ripe. In the past unfavourable season the 'Jefferson' was found decidedly superior to the Greengage," with the merit of being an abundant bearer. Standards, 7s. 6d.; Dwarfs, 5s. each.

SELECT PLANTS AND CHOICE FLOWER ROOTS.

BASS AND BROWN beg to refer to their Advertisement of selections of the above in the *Gardeners' Chronicle* of Oct. 21, page 697, and Nov. 4, page 730.

Our Autumn descriptive priced Catalogue of Choice Flower Roots, &c., embracing collections of Superb New Ranunculus, Early and Double Tulips, English Iris, Anemones, Gladiolus (upwards of 40 varieties), Lilium, and a general assortment of Imported Dutch Hyacinths, and other bulbs; also Select Roses and Shrubs, Hardy Climbers, Hardy Herbaceous plants, &c., will be forwarded on application.

Seed and Horticultural Establishment, Sudbury, Suffolk.

GLADIOLUS, &c.

WILLIAM DENYER, SEEDSMAN and FLORIST, 82, Gracechurch street, London (near the Spread Eagle), begs to offer strong flowering roots of the following.

GLADIOLUS GANDAVENSIS	each	1s. 6d.
ROSAMUNDI		1 0
FLORIBUNDUS SUPERBUS	p. doz.	1 6
Persian IRIS, for pots, highly scented		2 0
Early TULIPS, for pots, or the open ground, in 12 distinct varieties	per doz.	2 6

Also a great variety of other Choice Bulbs, &c., a Catalogue of which may be had on application.

DANECROFT EARLY GREEN PEAS.—This superior early PEA being quite hardy, and of a most distinct habit to all other early Peas, as well as of a superior flavour, can be had of FREDERICK WARNER, Seedsman, Wholesale and Retail, 28, Cornhill, and 3, Laurence Pountney-lane, Cannon-street, London.

WARNER'S EARLY EMPEROR PEAS.—These early PEAS, so justly entitled to their name, being great bearers, long podded, quite hardy, and fit for gathering a fortnight before the Warwick Early, can be had Wholesale and Retail of FREDERICK WARNER, Seedsman, 28, Cornhill, and 3, Laurence Pountney-lane, Cannon-street, London; also the Champion of England Peas, Early Surprise do., British Queen do., and all the new varieties worthy of notice.

EARLY POTATOES FOR PLANTING.

RÈNE LANGELIER, Clarendon Nursery, Saint Helier, Jersey, begs to offer the following, which he guarantees free from disease, and well worth the attention of the public, or they would not be advertised by R. L.

No. 1. ROYAL EARLY QUEEN DWARF.—This is the earliest and most productive round Potato known, fit for frame or early forcing; 10s. per bushel of 56 lbs.

No. 2. AXBRIDGE KIDNEY, also early, and one of the greatest bearers; dwarf habit; 7s. 6d. per bushel.

No. 3. Very true ASH-LEAVED KIDNEY; 7s. 6d. per bushel.

No. 4. TAN STRUNE, also early round; 5s. per bushel.

No. 5. A Pink Round, for a general crop; 3s. per bushel.

All unknown correspondents are requested to send a post-office order. The stock of each kind is not very great.

R. L. has now ready to send out PEAR-TREES from his well known collection.

SILKWORMS AND WHITE MULBERRY PLANTS.—To meet the growing taste for cultivating British Silk, the advertiser has on sale a most healthy stock at the following low prices.

Plants, per 100—1 year, 10s.; 2 years, 15s.; and 3 years, 25s.

Silkworms' Eggs of the best kind, 1s. 6d. per 1000. Orders punctually executed, inclosing a post-office order, addressed to GEORGE BALCHIN, Gardener, Spring-place, Godalming, Surrey.

MESSRS. J. AND H. BROWN have to offer the following, which they will forward to any part of the United Kingdom or the Continent.

		s.	d.
	Andromeda floribunda per dozen	20	0
25	Azaleas, new hardy Belgian varieties, on their own roots, with flower buds, one of a sort, by name	20	0
25	American Azaleas, ditto ditto	15	0
25	Hardy flowering shrubs, one of a sort, by name	10	0
12	Rhododendrons, including scarlet, white, and rose, hardy varieties	12	0
	New hardy yellow Rhododendrons each 7s. 6d. to	10	6
6	Fine hardy Magnolias, one of a sort	10	0
50	Dwarf Roses, on their own roots, by name	16	0
12*	Tea-scented Roses, superior sorts, by name, in pots	9	0
	Standard and half-standard Roses, per doz., 12s. and	15	0
	Strong Moss Roses, per 100	25	0
	New crimson Moss Roses, per dozen	6	0
*	Bourbon Roses, superior sorts, and Rose La Reine, per dozen	10	6
12	Greenhouse Azaleas, one of a sort, blooming plants	25	0
12	Choice Camellias, by name, ditto, ditto	30	0
50	Choice Flowering Greenhouse plants, one of a sort	45	0
24	Choice Ericas, one of a sort, by name	18	0
	Chrysanthemums, of newest and best kinds, per doz.	6	0
*	Fine Perennial Phloxes, Belgian varieties, per dozen	8	0
*	Fine Yellow Picotees and Carnations, of best sorts, per pair	2	6
*	Cinerarias, Calceolarias, and Geraniums, new varieties, per dozen	9	0
*6	Bulbs of the following beautiful Lilies: lancifolium album, punctatum, rubrum, speciosum, venustum, eximium, superbum, candensa belladonna, and longiflora	12	0
	Fine Standard and Dwarf trained Peaches, Nectarines, Apricots, Plums, Pears, and Cherries. The best and most approved sorts of these respective kinds, true to name, 2s. 6d. each, or, per dozen	24	0
	Untrained or Maiden ditto, 1s. 6d. each, or per dozen	15	0
	Fine Gooseberries, Currants, and Raspberries, per doz.	3	0
	Strong Vines, Figs, and Apples per doz.	15	0
	Filberts, new thin shell and red skin per doz.	3	0
	Sea Kale, Asparagus, and Rhubarb, strong plants of all the best sorts.		

Those marked thus *, can be sent by post, if desired.

Albion Nursery, Stoke Newington, London, Nov. 11.

TULIPS, &c. [illegible]

HENRY GROOM, Clapham-rise, near London, by Appointment [illegible] and Florist to [illegible], begs to offer the following, which are [illegible] and strong flowering roots.

100	TULIPS, [illegible]	£.	7 0
100	do. do.		5 0
	Superior named sorts, per [illegible]		1 0
100	HYACINTHS [illegible]		5 0
	Superior named sorts, per [illegible]		1 0
100	ANEMONES, [illegible] selection		2 0
	Superfine mixtures, per [illegible]		0
12	HYACINTHS [illegible]		0
25	AURICULAS [illegible]		0
12	do. do. [illegible]		0
	LILIUM LANCIFOLIUM ALBUM, [illegible]		6
	Do. do. PUNCTATUM [illegible]		0
	Do. do. RUBRUM [illegible]		0
	Do. do. ROSEUM [illegible]		0
	A new Collection of [illegible]		0

A Catalogue of Tulips, &c., may be had on application.

DOUBLE ROMAN AND PAPER WHITE NARCISSUS, 4s. per doz.—The [illegible] which is [illegible] fragrance, [illegible] just received at A. [illegible] 18, Pall-mall, [illegible] Crocus, Tulip, [illegible] logues of which may be had per post.

ROYAL ALBERT RHUBARB.

WM. MITCHELL [illegible] to the above excellent variety, which [illegible] all others [illegible] earlier than any [illegible] bright red colour, [illegible] large fleshy stalks, [illegible] any other variety. [illegible] been [illegible] commands at [illegible] Wind or. Also [illegible] eminent judges [illegible] thing of the kind [illegible] attending the London market [illegible] the best in cultivation. In [illegible] serve. Last [illegible] season in March [illegible] Brighton, [illegible] several [illegible] Strawberry [illegible] October [illegible] Victoria, [illegible]

Remittances [illegible] Gardens by post-office order [illegible] Highway, Middlesex, [illegible].—Nov. 11.

GARDEN ORNAMENTS.—Having a permanent establishment [illegible] AUSTIN AND SEELEY are now [illegible] stock; and they are [illegible] able [illegible] any [illegible] year will find it very [illegible] now; and patterns [illegible] requesting it.—Newman-st., Oxford-st., Nov. 11.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 31, Oxford-street, respectfully announces that [illegible] above articles in [illegible] tion. Every description [illegible] EARTHENWARE at the [illegible] 250, Oxford-street, near Hyde-park.

SEEDS.—CORNER OF HALF-MOON STREET.

THOMAS [illegible] (By Official Appointment) [illegible] to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND." Beg to remind the [illegible] in general, that their [illegible] house is at the corner of [illegible] DILLY, London, as [illegible]

Priced Lists of [illegible] and Seeds are always ready, and may be had on application.

NEW HYACINTH GLASS, with brass fittings, designed by R. [illegible], A.R.S., for STEVENS'S ART MANUFACTORY [illegible] The late increase in [illegible] Shrimp Sauce-can, and [illegible] the Cabinet [illegible] Knife, Glass [illegible] sent on receipt of [illegible] Old Bond-street [illegible]

GLASS FOR HORTICULTURAL PURPOSES.

HARTLEY'S PATENT ROUGH PLATE AND PATENT [illegible] GLASS is admitted by Practical [illegible] to be the [illegible] yet discovered in the Manufacture of [illegible] extraordinary [illegible] and [illegible] sale. Sold strictly at the Manufacturer's prices, by WILLIAM PATTEN and Co., Lead, Glass, and Colour Merchants, 49, Old Fish-street, London; the Manufacturers of Anti-Corrosive and Mineral Paints [illegible] Conservatories, Forcing-houses, Hot-beds, Parks-fencing, &c.

TO PLANT EXHIBITORS.

FOR SALE, a number of the finest specimens of ERICAS, GREENHOUSE, and STOVE PLANTS, in the highest state of health, very bushy and compact, consisting of the newest and rarest varieties in cultivation.
Bower Nursery, Maidstone.

ROOTS FOR SALE, in quantities of not less than a ton, taken from the fields.—About 100 Tons of White CARROTS, at 2*s.*; 30 of Red, at 40*s* ; and 100 Tons of MANGOLD WURZEL, at 17*s*. The roots are near a wharf on the River Medway.—Apply to Mr. ABBOTT, Aylestord, near Maidstone.—Nov. 11.

GLASS FOR CONSERVATORIES, &c.

HETLEY AND CO. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2*d.* to 3*d.* per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices, and estimates forwarded, on application for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY and Co., 35, Soho-square, London.
See the *Gardeners' Chronicle*, first Saturday in each month.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND Co., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS CUT TO SIZE UP TO 40 INCHES LONG.

16 oz. from 3*d.* to 3½*d.* per foot.

21	,,	3½ 5	,,
26	,,	3¼ 7½	,,
32	,,	4 9½	,,

PRICES OF SMALL SHEET SQUARES,

In boxes of 100 feet.

	s.	*d.*
Under .. .. 6 by 4	12	6
6 by 4 and under 7 by 5	16	6
7 by 5 ,, 8 by 6	18	6
8 by 6 ,, 10 by 8	20	6

GLASS MILK PANS, PROPAGATING GLASSES, AND BEE GLASSES. GLASS TILES AND SLATES.
CREAM POTS, from 3 to 24 quarts, at 6*d.* per quart.
CUCUMBER GLASSES, from 12 to 26 inches long, 1*d.* p. inch.
LACTOMETERS for trying the quality of Milk, 4 tubes 7*s.*6*d.*, 6 tubes, 10*s.*; Peach Glasses 10*d.* each; Fish Globes from 1*s.*6*d.* each; Wasp and Fly Traps 3*s.* 6*d.* per dozen; Plate and Window Glass; Lamp Shades and Chimneys.
METAL HAND-FRAMES.
HARTLEY'S PATENT ROUGH PLATE, AND PATENT DOUBLE CROWN GLASS.

HYACINTH GLASSES, GARDEN FRAMES, &c.

JAMES PHILLIPS AND CO. have a large assortment of ROOT GLASSES of every variety of colour. Usual shape, 4*s.*per dozen, or 42*s.* per gross; improved shape, 7*s* per dozen, or 9*d.* each. Hyacinth Dishes, to hold from 3 to 12 varieties, from 1*s.* to 3*s.* each. Wire Supporters, 6*d.* each.

METAL HAND FRAMES.

12 inch	3	0	Glazed	6*s.*	0*d.*
14 ,,	3	6	,,	7	0
16 ,,	4	0	,,	8	0
18 ,,	4	6	,,	9	0
20 ,,	5	0	,,	10	0
24 ,,	6	0	,,	12	0

To open at top, 1*s.* each extra.
Address, 116, Bishopsgate-street Without, London.
*** See preceding Advertisement for Sheet Glass.

GLASS FOR GREENHOUSES, CONSERVATORIES, GARDEN FRAMES, &c.

Hothouse Builders, Nurserymen, and others, supplied with every description of Sheet and Crown Glass, Rough Plate, &c. Glass Tiles, Propagating, Cucumber, and all other Garden Glasses.—Address, T. COGAN, 48, Leicester-square, London.

PRICES OF SMALL SQUARES IN BOXES OF 100 FEET.

	Crown.	Sheet.
Squares under 6 by 4	10*s.* 6*d.* ... £0	12*s.* 6*d.*
6 by 4 and under 7 by 5	14 0 0	16 6
7 by 5 ,, 8 by 6	15 0 0	18 6
8 by 6 ,, 10 by 8	16 0 1	0 6

Larger sizes, of all qualities and substances, equally low.

PAINTS.—LITHIC AND OTHER DURABLE PAINTS, ready for use for FARM Buildings, Agricultural Implements, Park Fences, Outhouses, &c , &c. Genuine Whitelead, Colours, Brushes, &c., best quality, and lowest prices.
GLASS MILK PANS FOR THE DAIRY.
Cream Pots, Lactometers, Glass Rolling Pins, Pastry Pans, Shades for Ornaments, Lamp Shades, &c., as usual. For Lists, (priced) direct to T. COGAN, Glass, Colour, and Lead Warehouse, 48, Leicester-square, London.

STEPHENSON AND CO., 61, Gracechurch-street London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.
S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.
Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

THE CONICAL BOILERS, invented by JOHN ROGERS, Esq., are sold by JOHN SHEWEN, Ironmonger, Sevenoaks. They are in use at the gardens of Messrs. Loddiges, Hackney; S. Rucker, Jun., Esq., Wandsworth; Sir C. Lemon, Bart., M.P., Cornwall; the Prince's-park, Liverpool, and numerous other places.
Also, AN IMPROVED CORRUGATED BOILER, adapted for any kind of fuel. May be seen at the hothouses of Mrs. Lawrence, Ealing Park, and in several other gardens of note.
JOHN SHEWEN, Sevenoaks, Kent. Estimates furnished for heating all kinds of buildings.

TO HOTHOUSE BUILDERS, FLORISTS, AND OTHERS.
HOT WATER PIPES, &c.

J. JONES, IRON-BRIDGE WHARF, No. 6, Bankside, Southwark, keeps a large STOCK of HOT-WATER PIPES, with Elbows, Syphons, Tee Pieces, Collars, Valves, &c., &c., for HEATING Buildings and Hothouses; also SOCKET and FLANGE PIPES, with the usual connections; LAMP COLUMNS, Rain-water Pipes, Gutters, Sash Weights, Railing Bars, Air Bricks, Scrapers, BARROW WHEELS, Tile Lights, &c. The above CASTINGS at very low prices, at JONES's, 6, Bankside, Southwark, London.

PATRONISED BY H. R. H. PRINCE ALBERT.

BLUNDELL'S AGRICULTURAL DRAINAGE LEVEL, for which a Prize of A SILVER MEDAL was awarded by the Royal Agricultural Society of England at the York Show, 1848.
To be had of WM. BISHOP and Co., 66, Cheapside, London, Agents to the Inventor. Price, 1*l* 4*s*. A printed description of the instrument may be had on application.

GRAND CHRISTMAS PRIZE CATTLE SHOW, FOR 1848. THREE HUNDRED PRIZES.

THE WESTERN AGRICULTURAL ASSOCIATION. Office, 6, King William-street, Strand. The Shares in this eligible Investment are fast filling, and consist of a certain number of Subscribers. The drawing will be upon the strict principle of the Art Union, of which due notice will be given, whereby a fortune may be realised by the advance of a trifling sum.
Prospectuses and further particulars may be obtained by enclosing a postage stamp directed to
WILLIAM STEEVENS, Secretary, 6, King William-street, Strand.
N.B. No connection with any Derby Sweeps or racing establishment of any kind.

TO FARMERS AND OTHERS.

AGRICULTURAL SALT, containing a portion of Saltpetre, Sulphates of Soda and Potash, may be always obtained at a low price by applying at Mr. HILLS' Chemical Works, Creek-street, Deptford.

DR. NEWINGTON'S PATENT HAND SEED-DIBBLE, for all Grain, Pulse, Mangold Wurzel, Carrots, Turnips, &c.—The 6 depositors, 2*l.* 10*s.*; the 8 ditto, 3*l.* 6*s.* The public are cautioned against imperfect implements; the inventor has not as yet seen any equal to those manufactured by PENFOLD, Ticehurst, Sussex; and WEDLAKE and THOMPSON, Hornchurch, Essex, whose names are stamped on each machine. In future Dr. N.'s crest will be sent with each machine, to show that he has approved of it. There has been great difficulty in getting these machines properly manufactured; 50 were to have been sent off this week, 10 only of the number could be selected. Each manufacturer shall have his name published as he is enabled to make these machines perfect; till then, in justice to the public, he cannot recommend. Dr. Newington's "Lecture on Seeding," forwarded gratis, by applying to M. D., Keede-park, Frant, near Tunbridge Wells. The machines may be seen at Messrs. NEWINGTON'S, 44, Lincoln's-Inn-Fields, London.

TWO TURNIP-CUTTERS AT THE PRICE OF ONE.

MARY WEDLAKE AND CO.'S NEW TURNIP CUTTER for Beasts and Sheep, price 5*l.* Linseed Crusher, 6*l.* 15*s.*; ditto, doing Beans, Linseed, and Oats, 10*l.* 10*s.* THRESHING MACHINES, doing upwards of 25 loads of Wheat straw per day, 60 guineas. MARY WEDLAKE and Co.'s CHAFF-CUTTING MACHINE, 100 to 200 bushels a day, price 7*l.* 7*s.* and 5*l.* 5*s.* Horse-hoe, Dressing Machine, Turnip Drill, Oil-cake Breakers, Bean and Oat Crushers, Subsoil Plough, Double Field Roller, &c.—MARY WEDLAKE & Co., 118, Fenchurch-street, (opposite Mark-lane) London.

VINGOE'S IMPROVED PATENT SEED PLANTING AND MANURING MACHINE.
Manufactured by the Patentee, Penzance.
UNIVERSALLY allowed to be the best, simplest, and most accurate and effective Seed Depositor ever made. It combines all the properties of the DRILL, DIBBLER, and PRESSER, depositing any given quantity of seed, however small, to the acre. It is adapted to large or small enclosures, any kind of soil, over ridge or furrow, on level or hilly lands, and is also highly approved of for gardens. Particulars, with prospectuses, prices, testimonials, &c., sent free, on the receipt of two penny stamps to cover postage, by applying to the Patentee. Freight and carriage paid to any Railway Station within 50 miles of London, Bristol, or Southampton. Any further carriage, 1*l.* to 1*l.* 10*s.* extra.—Penzance, Nov. 11.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as building and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.
Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

CHEAP AND DURABLE ROOFING.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

F. M'NEILL AND Co., of Lamb's-buildings, Bunhill-row, London, the Manufacturers and only Patentees of THE ASPHALTED FELT FOR ROOFING Houses, Farm Buildings, Shedding, Workshops, and for Garden purposes, to protect Plants from Frost.
At the Great National Agricultural Shows, it is this Felt which has been exhibited and obtained TWO SILVER MEDAL PRIZES, and is the Felt SOLELY patronized and adopted by

HER MAJESTY'S WOODS AND FORESTS,
HONOURABLE BOARD OF ORDNANCE,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE COMMISSIONERS OF CUSTOMS,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANIC GARDENS, REGENT'S PARK,

And on the Estates of the Dukes of Sutherland, Norfolk, Rutland, Newcastle, Northumberland, Buccleuch (at Richmond), the late Earl Spencer, and most of the Nobility and Gentry; and *at the Royal Agricultural Society's House, Hanover-square.*
It is half the price of any other description of Roofing, and effects a great saving of Timber in the construction of Roofs. Made to any length by 32 inches wide.
PRICE ONE PENNY PER SQUARE FOOT.
*** Samples, with Directions for its Use, and Testimonials of seven years' experience, with references to Noblemen, Gentlemen, Architects, and Builders, sent free to any part of the town or country, and orders by post executed.
☞ The Public is cautioned that the only Works in London or Great Britain where the above Roofing is made, are
F. M'NEILL AND CO.'S
Patent Felt Manufactory, Lamb's-buildings, Bunhill-row, London, where roofs covered with the Felt may be seen.
The new Vice-Chancellor's Courts, at the entrance to Westminster Hall, were roofed with F. M'NEILL and Co.'s Felt about two years since, under the Surveyorship of Chas. Barry, Esq., R.A. Her Majesty's Commissioners of Woods and Forests are so satisfied with the result that they have ordered the Committee Rooms at the Houses of Parliament to be roofed with their Felt. Quantity altogether used, 24,000 feet.
Note.—Consumers sending direct to the Factory can be supplied in lengths best suited to their Roofs, so that they pay for no more than they require.
Every information afforded on the construction of Roofs, or any proposed particular application of the Felt.

PARIAN CEMENT used as a Stucco, cannot easily be distinguished from statuary or Parian marble. It is fit for all the purposes of that beautiful material, and does not crack, warp, or effloresce in any degree. The fine quality will incorporate with the most delicate colours; it is adapted to encaustic work, fresco, imitation of marble, and the most elaborate embellishment. So perfect are its setting or crystallising properties, that the coarse quality when applied to newly built or damp walls, may be immediately polished, painted, or papered, and rooms rendered habitable before the materials ordinarily used would begin to dry. Manufactured by CHARLES FRANCIS and SONS, Roman Cement Works, Nine Elms, London.

CARSON'S ORIGINAL ANTI-CORROSION PAINT, specially patronised by the British and other Governments, the Hon. East India Company, the principal Dock Companies, most public bodies, and by the Nobility, Gentry, and Clergy, for out-door work at their country seats. The Anti-Corrosion is particularly recommended as the most durable out-door Paint ever invented, for the preservation of every description of Iron, Wood, Stone, Brick, Compo, Cement, &c., work, as has been proved by the practical test of upwards of 60 years, and by the numerous testimonials (between 300 and 400) in its favour, and which, from the rank and station in society of those who have given them, have perhaps never yet been equalled by anything of the kind hitherto brought before the public notice. A copy of the Testimonials, together with a List of Prices, Colours, &c., will be forwarded on application to WALTER CARSON, 15, Tokenhouse Yard, back of the Bank of England, London. No Agents. All orders to be sent direct.

IMPORTANT TO LANDOWNERS.—An Act of Incorporation having been obtained by "THE LANDOWNERS' WEST OF ENGLAND AND SOUTH WALES LAND DRAINAGE AND INCLOSURE COMPANY," affording Owners of limited Interests in Land the means of Draining, Irrigating, Enclosing, Erecting Buildings of a permanent nature on, and otherwise improving their Lands, and giving such Landowners of limited Interests the power to charge the inheritance with the value of the outlay in either of the following ways, viz.:—By charging the value on the Inheritance absolutely, or to be repayable by 25 Annual Instalments of 6*l.* 10*s.* per cent. per annum. This Company is now ready to receive applications for work to be performed under any of the provisions of their Act of Parliament, or on contract as heretofore; and from the extensive operations already in hand, they request parties wishing to avail themselves of the benefits of the Act to make early application. For all further particulars, apply to THOMAS MAY, Secretary, 9, Bedford Circus, Exeter.

NOTT'S PATENT STOVES FOR CHURCHES, HALLS, WAREHOUSES, &c.—The Stock of STOVES is now REMOVED to BENHAM AND SON'S, 19, Wigmore-street, Cavendish-square, by whom all orders will be executed in the usual Terms.—N.B. The prices have been reduced 25 per cent.

PATENT FLEXIBLE INDIA RUBBER PIPES AND TUBING FOR RAILWAY COMPANIES, BREWERS, DISTILLERS, FIRE-ENGINES, GAS COMPANIES, GARDENING AND AGRICULTURAL PURPOSES, &c.

THE PATENT VULCANISED INDIA-RUBBER HOSE PIPES are made to stand Hot Liquor and Acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible), and as they require no application of oil or dressing, are particularly adapted for Fire-engines, Pumps, Gas, Beer-engines, Gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes from ¼ inch bore upwards, and of any length to order.
Vulcanised India-rubber Garden Hose, fitted with brass taps, copper branch, and roses complete, ready to be attached to Pumps, Water-butts, or Cisterns.—Sole Manufacturer, JAMES LYNE HANCOCK, Goswell Mews, Goswell-road, London.
N.B.—Vulcanised India-rubber Washers of all sizes for Joints of Hot-water and Steam Pipes, and Vulcanised sheet Rubber, any thickness, for all kinds of Joints, and other purposes.

AGRICULTURAL REPOSITORY, Clarke-street, Bristol. (Established, A.D. 1750.) Sept. 29, 1848.
In retiring from a business which I have conducted in this City during the space of 40 years, I feel the obligation of returning my very sincere thanks for the kind and liberal encouragement I have received. I have now the satisfaction of announcing as my successors—my Son BENJAMIN STRATTON, who has been thoroughly educated in the business, and for the last 12 years has assisted me in the management thereof, in conjunction with Mr. SAMUEL HUGHES, a Civil Engineer from London, whose practical experience in the improvement of Estates by Drainage, &c. &c., will supply a desideratum which has been long felt in connection with this establishment. I trust, therefore, that a firm so constituted will lose none of that support and encouragement which has been so kindly and extensively accorded to myself. RICHARD STRATTON.
P.S.—R. STRATTON will continue his attendance at the Office in Clarke-street, where he will pay all accounts due to the 29th September last, and where he solicits an early settlement of all accounts due to him previous to that date.
STRATTON, HUGHES, and Co. having succeeded to the business of Mr. RICHARD STRATTON, as Patentees and Manufacturers of Wheels, Carts, Waggons, and Agricultural Implements, and general Agricultural Engineers, venture to request a continuance of those favours which have been so liberally bestowed on their predecessor. Their system of carrying on business will be essentially the same, their attention will be incessantly devoted to the improvement of every kind of Agricultural Implement, and they trust that their Repository will always contain an unrivalled collection, including the best Implements of other Makers as well as those of their own Manufacture. The present stock, comprising upwards of 2200 articles, all with prices affixed, and ready for immediate use, is well worthy of attention.
STRATTON, HUGHES, and Co., beg to call attention to their Patented Hollow Iron, and its application to the beams of Ploughs, and Shafts of Carts, the Spokes of Wheels, and the Tilt Hoops of Railway Goods, Waggons, and a variety of other purposes where strength and lightness are essential. This Iron was first introduced to public notice at the Shrewsbury Meeting of the Royal Agricultural Society of England, where the prize of 10*l.*, offered for the best subsoil Plough, was awarded to Read's Subpulverizer, manufactured by Mr. RICHARD STRATTON, with the Patent Hollow Iron Beam.
They also invite attention to their Norwegian HARROW, an implement of great power, for the purpose of pulverising and disintegrating the surface of heavy ploughed lands; to their Patent TUMBLER CART for Night-soil, and their Patent CYLINDER CART for Liquid Manure, &c.
STRATTON, HUGHES, & Co. have extended their business to Agricultural Engineering, and undertake the Survey of Lands for the purposes of Draining and Irrigation, and the erection of Farm Buildings, under the personal superintendence of Mr. HUGHES, C.E., F.G.S. They beg to assure their customers and friends in the neighbourhood of Bristol, that the same attention as ever will be paid to the business of repairs; that they purpose always to keep in hand a large and well-assorted stock of choice and well-seasoned timber; to use none but the best materials, and to employ only the most skilled and careful workmen. They hope thus to execute all orders entrusted to them with such punctuality, exactness, and economy, as to give satisfaction to their employers.

MYATT'S LINNÆUS RHUBARB.—Messrs. J. MYATT and SONS have a stock of one year planted roots of this superior variety, which has been the leading feature in the London Markets for several years, and which they confidently recommend as the best in cultivation—being far superior in point of produce and a fortnight earlier than their well known Victoria. It is also peculiarly adapted for preserving and all culinary purposes, and for richness of flavour cannot be surpassed; price 2s. 6d. per root. Also Mitchell's Royal Albert, 2s. 6d.; and MYATT'S Victoria, 1s. The usual allowance to the Trade.

Post-office orders made payable to JOSEPH MYATT, Deptford.

FAIRBEARD'S "CHAMPION OF ENGLAND," AND "EARLY SURPRISE" PEAS.

WILLIAM FAIRBEARD begs to offer the public generally the above two sorts of PEAS, which are good Peas for field as well as garden culture. The "Champion of England," a large blue wrinkle marrow, and nearly as early as the Double Blossom Prame Pea, great cropper, and fine flavour, considered to surpass all other Peas in cultivation. "Early Surprise," a large blue round marrow, equal in quality to the other; this Pea I can confidently recommend for field culture, and a good Pea for autumn planting. See Dr. LINDLEY'S report in the *Gardeners' Chronicle*, and Mr. Dickson in the Land Stewards' Journal in June last.

Mount Pleasant Nursery, Green-street, near Sittingbourne.

The Gardeners' Chronicle.

SATURDAY, NOVEMBER 11, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

MONDAY,	Nov.	13	Medical	1 P.M.
			Geographical	8½ P.M.
TUESDAY,	—	14	Medico Chirurgical	8½ P.M.
			Zoological	9 P.M.
WEDNESDAY,	—	15	Society of Arts	8 P.M.
			Geological	8 P.M.
THURSDAY,	—	16	Royal	8½ P.M.
			Antiquarian	8½ P.M.
SATURDAY,	—	18	Artists	2 P.M.
MONDAY,	—	20	Statistical	8 P.M.
			British Architects	8 P.M.
			Pathological	8 P.M.
			Chemical	8 P.M.
TUESDAY,	—	21	Linnæan	8 P.M.
WEDNESDAY,	—	22	Microscopical	8 P.M.
THURSDAY,	—	23	Numismatic	7 P.M.

Sir ROBERT KANE, in an able pamphlet which all who are interested in Ireland should read, has endeavoured to show that the only mode of escape from the evils which belong to that country consists in covering the land with small farms. We will not presume to offer an opinion upon the justness of this view, which is that of a man of acknowledged talent, who has devoted himself for a long time to the study of the social condition of the country. As an Irishman and a Roman Catholic, he must be presumed to understand it, and certainly demands a respectful hearing; and, whether all his opinions meet approval or not, he must at least be supposed to express the truth to a great extent.

If Sir ROBERT KANE is right, the most urgent want of Ireland is a system of small farms. But he is met on the threshold by this difficulty, that the great mass of his countrymen do not understand the art of cultivation, and are incapable of turning to the necessary profit such land as they may occupy. Hence it was that Lord CLARENDON'S plan of Practical Instructors met with an amount of success which Englishmen could not comprehend; and hence also the readiness with which it received pecuniary assistance from the most intelligent part of the Irish population, including 10 local farming societies, each of which subscribed its 25*l*.

Yet this is but an imperfect system, and one which can only effect a small amount of good. To tell a man how to do a thing is something; but to get him to do it, to support him under his inevitable failures, to cheer him on to renewed exertion, and finally to give him habits which in time become so fixed that their origin is forgotten, this can only be done by the well directed exertions of great numbers of associations, conducted by men who not only have no personal interests to serve, but who are willing to make personal sacrifices in working out the ends which they believe to be beneficial to the public. It is only when the dictates of science have so long fallen into a mere routine that the science is lost sight of, as it is in England, that the mass of the rural population will acquire the character of skilful cultivators.

One of the most powerful of all agents in teaching agriculture to a nation of small farmers is a central Society of Horticulture, provided it is established on sound principles, and conducted in their spirit. Horticulture is the parent of Agriculture. Gardens existed before farms. Gardening is in truth but farming on a small scale, and *vice versa*. It is in the garden that the minute facts necessary to successful cultivation can be best examined and understood; it is there that the causes of failure or success can be best investigated, and that are tried, accidentally or intentionally, those small experiments which lead to the more important experiments in fields. The best of all little farmers are experienced gardeners; the best of all agricultural instructors are intelligent gardeners.

In a garden the advantage of digging, over scratching the ground, as is now done in wild countries, was ascertained; the plough was then invented to do the same work in the fields. The gardener finds that deep digging is far better than shallow; and then come improvements in the mechanical power of the plough. The gardener finds that his crops are late, or unhealthy, or unproductive, in cold wet land—that his fruit trees canker, his Grapes mildew and his flower run all to leaf; he cut drains and removes the water, restores health and fruitfulness to his crops, and finds that frost is no longer so great an enemy; this is the prelude to agricultural draining. The gardener find that weeds ruin his vegetable, and he therefore keeps his land clean; his vegetables are no longer ruined, and the farmer follow his example. The gardener learns that his finest crops are obtained by planting wood; a year of experience, under all circumstances, teaches this indisputable; and at last the farmer believes him that what does in the garden should also do to the field, and thin sowing is the result. In short it would be difficult to show any one move in the art of cultivation in the field which has not derived its origin from the garden.

Some persons indeed think that the man who can grow Cabbage is by no means able to grow Wheat and hay, and that to get the finest Celery is no guarantee of the success of a crop of Turnips. They are unable to perceive any connection whatever between agriculture and the labours of the florist who grows Auriculas and Picotees, or the high cultivation of the rich man's gardener, who rears his plants in glass-houses with an artificial climate. That there should be a connection between the refined skill which produces the gorgeous Epiphytes in the hothouses of the Duke of DEVONSHIRE, and the rough labour of JOHN COONAN'S Potato-field in Cork-street, Dublin, is a thing incredible.

And yet the difference is of the same nature as that which would be found between the grooms who tend the racing stud in Lord FITZWILLIAM'S stables, and the rude peasant who feeds a stumbling cart-horse with Furze from a Welch common. The groom could manage the cart-horse and bring him into condition, but the peasant could do nothing with the thorough bred racer.

It is for this reason that Horticultural Societies may be of so much importance; they are, or should be, centres from which spreads a knowledge of the art of cultivation; but they are, or should be, much more: they should be the high schools of principles, either in themselves, or in the encouragement which they afford to art, and the support which they thus extend to the prosecution of principles. It is true that this is generally and of necessity done indirectly, but it is not the less done, or the worse done, on that account. A prize is offered for a Cabbage: a solitary competitor appears, and produces a Cabbage, but much inferior to what was hoped for; nevertheless, he receives the reward of his exertion. A stander-by says, "Why, I could have done better than that myself;" and he, too, becomes a competitor on the next occasion. Emulation having been excited, we now have two or three competitors, but still their Cabbages are poor affairs; nevertheless, they receive their prizes: A is No. 1, B No. 2, and C No. 3. But C means to be No. 1, and now applies himself in earnest; he examines, he inquires, he exerts his skill to win, and after a year's care and we will even say study, he succeeds. He has only produced a Cabbage, it is true: but it is a much better one than he could have produced before he set about trying for a prize—he will never again *be able* to grow Cabbages ill, and, what is more, he will in future grow every other thing better. Thus a step is gained; the snowball begins to roll, and we all know what happens then, if there be but snow on which to revolve. Experience tells us that human nature will always produce enough of the food required.

Here, then, are worthy objects for the new DUBLIN HORTICULTURAL ASSOCIATION, who have an excellent example set them by the ROYAL AGRICULTURAL SOCIETY of that city. It has occupied a high position in the country of its birth, and we much mistake the character and energy of its founders if it does not become worthy of it. It has the opportunity of giving, through the means of horticulture, a most powerful impulse to the advancement of agriculture, and thus in assisting effectually in that regeneration of industry which must be secured in Ireland, if the rights of property are to be maintained, and the country is not to fall back into utter barbarism.

This is not to be done by setting great lords and gentlemen to scramble for sixpences, not by fostering trifles and neglecting essentials, not by placing the lowest kind of gardening in the same rank as the highest, not by giving high prizes for such fancies as an additional bar on the petal of a Carnation, or a new tint in the colour of a Heartsease, while cottage gardening, important as it is to Ireland, is utterly neglected; but by conferring honours on those who win them, by limiting prizes to examples of good cultivation, to the exclusion of *mere* botanical and floricultural curiosities, and, above all things, by exciting a generous emulation in all these branches of gardening [illegible] most contribute to the society prosperity [illegible]

If the Dublin Horticultural [illegible] will do this [illegible] it is completely [illegible] rest of Ireland. [illegible] supply the funds [illegible] prizes [illegible] the exhibitions [illegible] Dublin would [illegible] the Association by [illegible] accommodation [illegible] the possession of [illegible] gardens; [illegible] support; for it [illegible] medium between [illegible] labourers, whose [illegible] depend upon [illegible] [illegible] Horticultural Association will [illegible] and towards the [illegible] Agricultural Society, [illegible]

In experience of the last few years has taught us one thing more certainly than another it is the unfailing excellence of Guano for every [illegible] *which requires manure*. We do not [illegible] include in this opinion Saldanha Bay Guano, or any other imported kind except the Peruvian and Bolivian. The former is never good, and often bad, or worthless; the latter [illegible] uniform quality that, practically [illegible] may be taken to be the same as any other cargo: and the high character of the [illegible] public completely against [illegible] directly from their recognised agents.

That the public thinks as we do is sufficiently proved by the sales, which [illegible] from July 1846 to July 1847, and [illegible] the next 12 months. This increase of [illegible] may be taken to represent [illegible] more acres manured with Peruvian Guano in 1848 than in 1847. Such an increase of consumption is the more surprising considering the notorious frauds which, what we must be permitted to call, the [illegible] purchasers still permits unprincipled persons to practise. Loam, coloured gypsum, coloured chalk, and other rubbish, continue [illegible] certain class of dealers, in spite of [illegible] done by ourselves and others to expose them. The high price of the article, and the dullness of buyers, together constitute a temptation which [illegible] *cannot* resist.

Hence it is that amidst the most unquestionable success which attends the use of pure Guano we are continually hearing people assert that "there is no goodness in it." Of course there is no "goodness" in loam or chalk: and those who use Guano should not mistake them for it. One thing is certain that *all samples sold below the market price must be adulterated*; and this is of itself a convincing reason why those who employ it should turn their backs on the peripatetic agents who haunt country towns; for if such persons offer it for less than the market price they offer a spurious article; and if they demand the full market price there is no advantage in dealing with them. Cheap Peruvian Guano must either be stolen or adulterated: it is too bulky to steal, and therefore the inference is obvious.

While, however, we thus point out a means of escaping fraud, we are not insensible of the difficulty which some may experience in telling where to avoid making purchases. We, therefore, wish it to be known that although we have long, perhaps too long, been silent, we still have no hope to spare for detecting Guano cheats, and we invite the readers of our columns to assist us in their discovery and exposure. Gardeners more especially are interested in this matter, because they are rarely able to make purchases [illegible] worth the notice of the principal agents: and to them we look with confidence for information. This is certain, that if the proper application of Peruvian Guano fails to produce the desired effect there is a grave cause for suspicion, which all concerned should endeavour to investigate.

THE SUGAR CANE.

A Paper read by Mr. W. [illegible] at a meeting of the Council of the Royal Society of Arts and Sciences of the Mauritius, June 6, 1848, and communicated by the author.

THE phenomenon which has lately manifested itself in the Sugar Canes, particularly in the Savane and Grand Port, has produced so great an

anxiety in the minds of the planters, by leading them to fancy that the disease existing at Bourbon for several years was now about to inflict its ravages upon their plantations, that I was induced to study it and investigate its causes. I, therefore, beg to submit to you today my observations on the condition of the Canes in the Savane, and the probable cause of the alteration they have experienced; a phenomenon which I now attempt to elucidate for you, in some manner fully persuaded that you will not hesitate (should my remarks appear satisfactory to you) to communicate them in the promptest manner to the public and the planters, who are so deeply interested in the question.

Observing in the first place that not knowing, or rather being only imperfectly acquainted with the symptoms of the disease which developed itself in the Canes of the neighbouring island, I am consequently unable to specify whether the effects presented in the Canes which I examined in the Savane, are identical; I must therefore limit my observations here to what I have actually seen and observed. I do not admit, as I have heard say, that this phenomenon is attributable to the manures employed in the district. Nor can I attribute it to the carelessness or ignorance of the planters, to the exhaustion of the soil, or, still less, to the weakening of the shoots, for the simple reason that this phenomenon made itself apparent at the same time in Canes manured with guano and *à Jauffret*, in those grown in new land which had never been manured, in virgin Canes, in those from the *repousse*, and in those even newly planted in December last. On the other hand, this pretended disease having exercised but feeble influence on Canes which were abandoned, we should conclude, were exhaustion of soil the specific cause, that such Canes, on the contrary, should have been attacked the first and most extensively.

The general appearance of the fields exhibited partial spots on the edges and in the interior of the squares, where the Cane leaves were marked longitudinally with light yellow lines, and in such a manner as to give them a ribbon-like appearance. This peculiarity was remarkable sometimes at the extremity of the leaf, sometimes at the base, though the leaf most frequently seemed scorched as if it had been subjected to the action of an atmospheric current which had violently traversed the squares of Canes. I moreover remarked that the finest Canes, those springing from the soil, containing a greater proportion of organic matters, consequently rich in nitrogen, and particularly those situated to the windward of the squares, were much more severely attacked than the Canes that grew in the vicinity of the forests, and above all, in the lines most approximative to the forest. Had the disease been produced by the immediate effects of manures, the roots and the shoots would have been the first attacked, and it would necessarily have developed itself at the base of the Cane, where its further progress might have been either hindered or altogether arrested; the phenomenon, however, was remarked rather on the upper parts of the plant, at the end and towards the middle of the leaves, whilst the body of the Cane was perfectly untouched. It was everywhere observable when the top of the Cane had been destroyed, that the stem vigorously pushed forth new and perfectly healthy shoots.

The direction assumed by the marks on the leaves of the diseased plant led me to attribute the phenomena of their origin to highly intense electric currents, which have acted on entire lines of Canes in the direction of the winds. This opinion was also confirmed by the proprietor of one of the estates I visited, for he informed me that the storms accompanied with lightning had burst with great violence over that portion of the district he inhabited, and that they had been more frequent and violent than usual. It is recognised in theory that, in a spot of ground abounding in animal and vegetable matters in a state of decomposition, the nitrogen therein contained escapes ultimately in the form of ammoniacal gas. It is also recognised that ammoniacal gas, in this state, is capable of burning in the oxygen of the atmosphere in the presence of electricity, and the decomposition of the elements of the ammoniacal gas takes places; so that the oxygen of the atmosphere, combining with the hydrogen of the ammonia, will form water, thus leaving the nitrogen free.

Thus, to suppose a given volume of ammoniacal gas, composed of one part nitrogen, and three parts hydrogen; then one part of ammonia $N H_3$, combined with three parts of oxygen (O_3), the result will be $N H_3 + O_3 = 3 H O + N$; or, in other terms, if a portion of ammonia diffused in the atmosphere be decomposed by electricity, three parts of hydrogen combining with three parts of oxygen will form three parts of aqueous vapour ($O_3 + H_3$), whilst the nitrogen ($+N$) being free, may combine with the air in the elementary form; I use the term "elementary form" because under favourable circumstances the nitrogen could combine *de novo* with five parts of oxygen (O_5), and produce nitric acid ($N O_5$). Dr. Ure says, "that nitric acid is readily generated when a mixture of oxygen and nitrogen gases (confined over water or an alkaline solution), has a series of electrical explosions passed through it. In this way the salubrious atmosphere may be converted into corrosive aquafortis; when a little hydrogen is introduced into the mixed gases, standing over water, the chemical agency of electricity becomes more intense, and the nitric acid is more rapidly formed from its elements."

Again, Bischof explains himself on the point in this manner: "If an electric spark be passed through a mixture of ammonia and oxygen, a quantity of nitric acid is formed, though the oxygen be not sufficient to oxydise all the ammonia." Hence we can suppose, that in the air the ammonia disengaged from animal matter in decomposition from any other source, must be decomposed by atmospheric electricity, and that at the same moment a large amount of nitric acid must necessarily be generated, at the expense of the nitrogen, from the ammonia itself.

"When electric sparks are passed in succession through common air, nitric acid is slowly, though sensibly, generated. The electric current, which in nature traverses the atmosphere, must produce the same effect, and the passage of each flash of lightning through the air must generate some portion of this acid." Liebig has thus noticed, that during 17 storms he has invariably found nitric acid combined with ammonia and lime in the rain water; that in 60 other circumstances of rain without storms, he only twice discovered this acid. He observes further on, that it is difficult to determine a small quantity of nitric acid. How much nitric acid must then necessarily be formed in cold climates during storms to enable one to appreciate its quantity in every shower of rain. The same author hence concludes how great must be the quantity of the same acid evolved in warm climates, where storms are so frequent and so frightful.

During the rain-storms occurring in the Savane, the same effect must obviously take place by the great quantity of the electric fluid, which, meeting in its passage with ammoniacal gas (disengaged from the soil to a rich azotised matter), must have produced a notable proportion of nitric acid, which descended with the rain and passed upon the leaves of the Cane, and, under the influence of the high temperature and the light, scorched them, leaving after it those yellow longitudinal marks which give the leaves a ribbon-like appearance. To produce a similar effect, I mixed one drop of common nitric acid with 200 drops of water, allowing the mixture to fall drop by drop from a capillary tube upon Cane-leaves placed in an oblique position; in the space of 24 hours after, wherever the liquid had glided down, it left the same trace of colours as those I had observed in the field of Canes, that is, a whitish tint which turned yellow when brought in contact with the luminous rays.

It is easy to understand that the action of such acid, so mixed with the rain water, could do but little mischief to the Cane itself, merely scorching portions of the leaves; but it might have been otherwise mischievous, if the rain-drop impregnated with this acid, after having glided over the leaves, had united themselves at the upper part, that is, at the heart of the Cane, whence the acid would have had no means of escape. This portion of the plant, in which the leaves are still tender, offers a larger scope for the deleterious action of the liquid; I have consequently remarked the young leaves which surround the flower wrinkled in a state of destruction, and being unable to offer any protection to the flower, which was forced to effect for itself a lateral passage. It can be thus understood that, if a greater amount of acid were concentred in the rain, and it had remained in this part of the plant, this liquid might be absorbed into the tissue of the plant itself, mingle with the descending sap, and being thus impelled into the body of the Cane, might, by its presence, disorganise the cellular tissue, and consequently kill it. Thus I observed that all those Canes which had a tendency to wither, were dried up at their upper extremity.

I am therefore of opinion that this phenomenon must be attributed to the formation of a notable portion of nitric acid produced by the combination already mentioned; an acid which, in a fitting proportion, is advantageous to the growth of plants, but the excess of which becomes highly injurious.

I am happy at the same time to be able to inform you, that in my opinion, no reduction in the amount of the produce will probably be felt by the accidental fact I have brought under your notice. The Canes in question have already resumed their usual appearance; the young plants also, which were attacked, have regained all their vigour, and seem to have experienced no injury.

I have, however, an important recommendation to suggest to the planters of these districts, viz., to avoid using as cuttings the heads of Cane which, in my opinion, have been affected by the nitric acid; and I again and more urgently engage the planters to procure from other parts of the island the Canes requisite for their future plantations.

I cannot conclude this article without calling the attention of the planters to the danger they run, in using the sulphate of iron for the remedy of the disease they fancied to be chlorosis, and which, they thought, had attacked the Canes. I have seen the effect of the employment of sulphate of iron on a square of canes, the result of which was to make the leaves of the plants as black as ink; and such must be the case, for the soil of the square in question probably contained a large amount of tannin, which, combining with the sulphate of iron, would at once form ink, which was absorbed by the plant. Besides, if ferruginous salts could effect the cure of chlorosis, our plantations ought to be entirely preserved from this disease, inasmuch as it is known that the soil of our island contains a great quantity of ferruginous substances.

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

DAHLIAS.—If not done already, the roots should be taken up and stored away until the time for starting them arrives. Flowers, however valuable, are apt to be neglected when their beauty is over; and cold, dreary autumnal days induce the amateur gardener to remain in-doors; this is particularly the case with Dahlias, which are allowed to remain very late before any care is bestowed upon them. They thus become the victims of hard frosts, which injure the crowns, and prevent them from shooting in the spring. In October the crowns should be protected, either by hoeing the soil round the stems, or placing litter about them. Before the flowers are all faded, the names should be examined, for sometimes damp obliterates them, or the tally may be lost. It is vexatious to find on taking up a root that no name is attached to it; obliging you either to throw it away, or run the risk of carefully tending a variety not worth growing, or having more of one sort than you wish to grow next year. An inspection of the plants before their beauty is all fled will prevent this, for if the name is gone you will be able to keep a description of the flower.

The proper mode of preserving the tubers during the winter does not seem to be generally understood, since amateurs are continually complaining that their stock is partly or wholly lost at the time for propagating. Where there is a greenhouse, the roots are generally safe under the stage, placed in a heap, and covered with a mat or some straw. They have also been kept in a sound state in a stable, or any outbuilding secured from frost. Others have found that when left in the ground, and properly covered up, Dahlias are generally in a healthy state in the spring. Last year I pitted mine, like Potatoes, and found them in good order, except that some slugs had got in and feasted gloriously on the tubers, crowns and all. This catastrophe might have been prevented by filling up the interstices with dry ashes. I have no doubt that if the stems were cut off to within 3 inches of the ground, and some ashes placed around them in a conical form, and then some litter spread on the surface, the roots would be found in fine condition in the spring. But this is an objectionable practice in many respects. It leaves the garden in an untidy condition, and takes up room which might be properly occupied with spring bulbs.

It is doubtless the case that the roots of Dahlias are less dependent on the place they occupy in the winter than on certain conditions in which they are stored away. I believe they are more frequently injured by early frosts than is imagined, for the effects of such injury do not manifest themselves immediately; all appears sound at first, but the results become evident in a general rottenness before the winter is past. If the tubers are quite sound when taken from the soil, and have not been allowed to become glutted with heavy and continued rains, it will require but little care to protect them. The mould should not be shaken off; all external moisture should be dried off by exposure to the sun and wind, and the tubers in this state may be piled together with the crowns upward. The collection should be looked over once or twice during the winter, lest slugs or other vermin should be slyly committing ravages. Be sure you consult the "Calendar" of the *Chronicle* in the early spring, for there is a tendency in gardeners not professional to delay striking their Dahlias too long. In our climate, where frosts sometimes occur in September of sufficient severity to destroy the Dahlia, this flower should be in a strong and advanced state for planting out as early as can safely be done. *H. B.*

STATE OF THE IRISH POTATO CROP.

COMPILED FROM OFFICIAL DOCUMENTS.

CORK COUNTY, *Skibbereen Union, Oct.* 28, *John J. Marshall.*—No change has taken place since the last report. A large part of the crops remain in the house, and no complaints of an increase in the disease.

CLARE COUNTY, *Kilrush Union, Oct.* 29, *Capt. Kennedy.*—Almost all the Potatoes worth saving have been dug, they are disappearing from the markets, and in some districts are altogether consumed, except small quantities reserved by speculators for seed. A considerable quantity of corn is still in the fields, some still uncut. Barley and Wheat do not average much more than half a crop.

WATERFORD COUNTY, *Lismore, Oct.* 28, *Mr. J. Burke.*—Digging of Potato crop proceeding. Opinion that one-half of crop will be fit for use confirmed.

MAYO COUNTY, *Ballina Union, Oct.* 28, *Mr. Hamilton.*—Inability of the poor to obtain employment. More land will be uncultivated in the ensuing year than this year, arising from the want of means to cultivate it.

ROSCOMMON COUNTY, *Boyle and Carrick-on-Shannon Unions, Oct.* 28, *Capt. Wynne.*—Produce of Potatoes 35 per cent. under the average, 32 per cent. sound, but no really good Potatoes in the district. Corn is of average quality, but deficient in quantity, especially Wheat. Markets low and well supplied.

LONGFORD COUNTY, *Longford Union, Oct.* 29, *J. T. Downman, Esq.*—One-third of the Potato crop sound at the time it was dug. Very few diseased in bog land.

GALWAY COUNTY, *Clifden Union, Oct.* 28, *Mr. Deane.*—Not rotting in the sandy ground so quickly as in other soils, though every field has been more or less affected. Apprehension of future reliance on the Potato.

DONEGAL COUNTY, *Glenties Union, Oct.* 28, *Capt. O'Neill.*—Disease not increased; the people are now digging Potatoes, and not more than one-third have failed; in some districts not even that quantity. The corn crop got in, and is a full average. The small farmers are paying up their rates well.

Milford Union, Oct. 28, Mr. Horsley. — Farmers are generally occupied with their grain crop, and until that is saved Potato digging will not be entered on generally, and it will be difficult to say with certainty what average proportion of the crop remains sound.

MANAGEMENT OF VINES ON OPEN WALLS.

I have been much pleased to see the remarks of your correspondent "H. B." on open wall Vines. I should, however, have been still better pleased had he given instructions for their cultivation. I will use my endeavours to that effect, not that I have any original idea to offer; my only merit is having strictly followed the system laid down by Clement Hoare in his admirable work on the "Cultivation of the Vine on Open Walls," a work which I much regret is not published in some cheap form, so that cottagers and others might become possessed of it. It is incalculable the quantity of Grapes which might annually be ripened on the walls of cottages.

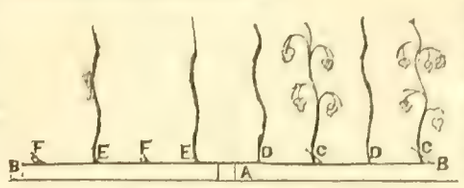
It would appear that the produce from "H. B.'s" Vine is not in any way to be attributed to management, but rather to situation, soil, &c. Now, although a Vine could scarcely be grown in cold clay, yet it can be cultivated with excellent success in most common garden ground, if a little pains be taken to dig in bones or other animal refuse, and to administer occasional doses of liquid manure, such as soap-suds, pot liquor, decomposed urine, &c., which costs nothing but the trouble of collection. Unquestionably it would be better to lay down a border expressly, and even this may be done at much less trouble and expense than is generally supposed. An excellent one may be made by taking out the mould to the depth of 3 feet, laying down at the bottom of the trench so formed about a foot in depth of brick rubbish, and incorporating with the soil taken out a good quantity of brick rubbish, whole bones, charcoal, stable litter, &c. This makes a border through which rain runs freely, and into which the roots of a Vine glory in rioting. If it be well drained, it is perfect; but I have seen Vines grow most luxuriantly in a soil without any preparation, and where the border has been constantly cropped. I will not therefore insist too strongly on the formation of a border if, as I have said, care be taken to supply the existing one with all the liquid manure which the house makes; but I must strongly oppose the system of spur pruning, which it would appear is followed by "H. B." The spur system is an excellent one for Vines under glass, but totally unfit for open walls. These require the long-rod system, which will be very readily understood by amateurs if I call their attention to the growth of the Raspberry, which throws up its canes one year, these bear their fruit during the following, and then die to the ground. Now what Nature does for the Raspberry man must do for the Vine.

I train a shoot horizontally from each side of a Vine, letting it run along the bottom of the wall, say 2 inches from the surface of the border. These are never removed. From them I train upwards in a serpentine direction (in order that when the sap rises it may not rush too quickly past the buds to the extremities) two, three, or four shoots, according to the age of the Vine. The following year these shoots will bear fruit at every bud except the bottom three, and, whilst thus performing their duty, train others between them in a similar way, to bear during the succeeding year. At the end of the season, when the Grapes have been all removed, cut out the branches which bore them to the lowest bud, and so go on year after year. The annexed sketch will help to illustrate my meaning.

As the bunches of Grapes develop themselves, pinch off the ends of the shoots bearing them, leaving one bud beyond each bunch. Pinch off all laterals, and be careful to do so upon the newly growing shoots; but always leave a bud above that, at the base of the lateral, for it is this lower bud which bears the fruit, and if a bud be not left above it, it will break and produce nothing. I would call particular attention to this, because Clement Hoare does not write upon it at all clearly; and I know a brother amateur who, after studying closely his work, after cutting down his Vines to stumps, that he might begin fairly, and who, having thus lost two years' crops, saw with intense mortification that he was doomed to lose a third, from having pinched off the laterals just above the bud at the base; of course every fruit-bud broke.

There is also another thing which cannot be too particularly borne in mind, viz., never to remove the leaf that grows on the opposite side of a bunch. This will delay, if not absolutely prevent, that bunch from ripening. If these particulars be attended to, the result will be a fine body of very large leaves, which will entirely cover the surface of the wall, so that a spectator looking on it from the walk would not see a single bunch of fruit. The barbarism of removing the leaves, in order to expose the fruit to the sun, I deem it unnecessary to mention.

But I have not yet done. The bunches themselves require our care. As soon as the berries are the size of Peas, they should be thinned with a pair of finely pointed scissors. I can give no directions as to the extent of this; it must depend entirely on the thickness of the berries. I have occasionally cut four out of every five berries, but plenty of room must be allowed to every berry; they should not press in any way upon each other, and to avoid this they should be looked over every 10 or 15 days. Any large bunches having heavy handsome shoulders should have these latter tied up, lifted from the bunch with a thin strip of Cuba bast; and when any bunch is discovered to be hanging too close to the wall, pressing against it, it should be kept off by a small piece of wood, cut with a hollow at one end, to prevent the stalk from slipping. The result of all this will be a well ripened crop of Grapes in most seasons; at all events this year, on four Vines of Black Hamburgh, planted against a wall only 5 feet high, I have ripened 200 bunches of handsome looking Grapes, which would not disgrace any table.



Description of the Woodcut.

The right hand of the Vine presents its autumn appearance; the left its winter. A, the stump, or main stem. B, the permanent horizontal branches. C, the fruit bearing branches, showing where the cut is made to remove them after having borne fruit. D, the shoots which have been growing during the summer, and which are destined to bear the succeeding year's fruit. E, the shoots, as kept during winter. F, the buds in winter, from whence spring the summer shoots.

Two years ago I sent you a few bunches of my Grapes, which pleased you; should you wish again to see some more, pray say so. I have still some few on the Vines, although the principal part has been cut, a good many having been used by my family for making wine, which they tell me is quite equal to Champagne. It may be so, but I am sorry to say my bad taste does not permit me to coincide in their ideas; I much prefer the real to the sham. I suppose it is generally known that wine made now and bottled in the spring effervesces, whereas if kept in the barrel until next autumn, it is a still wine. *H. S. Watson, Tollington Park, Oct.* 30.

PROPAGATING HOUSE.

Among the structures necessary to successful plant cultivation, this stands pre-eminent; yet how few gardens in the country possess one.

The metropolitan nurseryman must be highly amused in looking over the plant structures commonly met with in gardens in the country, especially when he finds propagation matters carried on in front of an old Cucumber frame, or on the shelf of a Vinery or Peach-house, where in many cases the essentials necessary to the propagation art, if properly carried out, would be fatal to the welfare of those matters for which the house or frame was originally intended. A small propagating house, therefore (be it ever so small), is certainly one of the essentials of good plant culture. We are not, however, to suppose the gardener to be propagating all the year with the assiduity of the nurseryman, who keeps a person for this purpose. No; one of the great uses of such a house, as applied to ordinary gardening affairs, would be not only to propagate but to rear in the most expeditious manner stock of all kinds, intended to keep up a display through the desired seasons, for the drawing-room, the conservatory, or other dress house.

It is an established fact with regard to the cultivation of many plants, that profuse as well as precocious flowering depends in some degree on the cutting or seedling being grown with rapidity in its earlier stages. We find it thus with some fruit trees. I have known Pears, planted on sterile soil and in unfavourable situations, stand for many years without producing fruit. I have also known the same kinds, placed under a high degree of cultivation for a period, and then subjected to a check, speedily become studded with fruit. This, then, is one of the advantages of a propagating-house, setting aside for a moment the great importance in gardening, as in other matters, of attaining the desired end by the very shortest route.

As it is, we commonly find young stock, after being propagated by a tardy process in some out of the way corner of a house or frame, placed, when potted off, in the front of a Peach-house or Vinery at work. Here it is subjected to sudden and intense sunshine, and a parching atmosphere occasionally, at the very period when it requires nursing. The necessary consequence is that the plants become stunted betimes; and after this it requires double the time to make them into fine specimens, if ever that be accomplished. The kind of house which would appear most desirable for these purposes is a span-roofed one. Whether it runs north and south, or east and west, must depend in some degree whether any other objects are to be combined with propagation and rearing. Now this, although by no means desirable, is frequently compulsory. Men of experience in their profession know pretty well that nothing is in reality gained by mixing up matters thus; the Fates, however, sometimes will it; and the gardener must endeavour to make the best he can of it. The arrangement I should consider most complete would be a north and south span roof, the northern part of the span wider than the southern one, if possible. The roof might rise from a perpendicular side sash, of nearly a couple of feet all round; and I would have little besides this side sash above the ground level. There should be a walk down the centre only, two feet wide; this, with a bed or pit on each side (breast high), of some 30 inches in width, would only require a house of about 7 or 8 feet in width. Each of these beds should be over a hollow chamber, and filled about 6 or 8 inches deep with ashes, clean sand, or some such plunging material. Of course piping, or rather a tank, would be necessary under the propagation side, at least; and sliders, capable of gradation, in the wall-facing of each pit, would regulate the admission of both heat and atmospheric moisture to the interior area of the house. Shading to be on the south or propagating front, would, if rightly contrived, throw the necessary amount of shade over the growing stock; the side sashes on the south would need a light screen also; this I would nail down permanently; the roof shading of course on a roller, like an Orchid house. Young stock when potted off would be placed or plunged under the northern slope, and would be found to make as much progress there in one month as it would do in six months on the shelves of Vineries or Peach-houses.

Now, where a very rigid course of economy must be practised, and where expediency goes before principle, a gardener must set his wits to work to see what would best combine with the propagation affair. I can think of nothing better than Cucumbers; and if the gardener cannot get a little Cucumber-house (which is even as necessary as the propagating-house), why, it would not be impossible to combine the two. In this case I would turn the house (span-roofed still) north and south, and train Cucumbers thinly up the centre of each light, on both sides of the house. In this case, the canvas screen should be of much lighter texture. It would certainly be easy to arrange the interior of the house in a variety of ways. I should, however, keep my eye fixed on the plant cultivation; the rest would come in tolerably well as a subordinate affair.

When it is duly considered that the crowding of the shelves of Vineries with stock of a miscellaneous character has a continual tendency to breed aphides and red spider, more especially when the climate of the house is not conducive to quick growth, it will not, I think, be considered that a little propagating-house or pit of this kind is altogether an unnecessary appendage of the garden establishment, or that any ultimate loss will accrue from its adoption. The demands on the general gardener in these days are so numerous, compared with those of his predecessors of a quarter of a century ago, that no wonder the old machinery should be found inefficient in many respects to compass the object in view. How many houses of Grapes and other fruits have been spoiled, or placed below mediocrity, by an unworthy mixture of objects, which the gardener has by no means adopted, in many cases, as a matter of choice. Let us hope that true economy in these things will one day be better understood. *Robert Errington, Oulton Park.*

Home Correspondence.

Quick-Lime v. Insects.—Some four or five years ago one of your correspondents stated that a small quantity of unslaked lime put round the stems and roots of Gooseberry bushes was a remedy for the caterpillar. This remedy I have found to be perfectly effective, and I am now desirous of trying the effect of quick-lime on garden vermin in general—on the whole length and breadth of my garden, lawn, and shrubbery, as a sort of universal war against all depredators with whom it may disagree. But before doing this, I should feel obliged to any of your correspondents who have experience in the use of lime, to give me a little information on the following points: May I use quick-lime without danger of injury to the various garden vegetables, fruit trees, evergreen shrubs, flowers, box edgings, &c.? How thick a coating may I safely lay on? For the Gooseberry caterpillar, February or March was recommended and found to answer; would that be the proper time to make this universal onslaught? Is there any other substance that might be inoffensively mixed with the lime to make it more efficacious for the intended purpose? *Subscriber, Stoke Newington.*

Hollyhock Fund.—I am happy to state, by way of preface to the following remarks on showing Hollyhocks, that the proposed sum of 20*l.* and upwards, for the above purpose, is likely to be raised, as more than half that amount is already subscribed. In preparing Hollyhocks for exhibition, a first-class flower must have its centre the form of a half globe, composed of smooth-edged petals; the guard petals should be circular and smooth, and should extend beyond the base of the centre florets one-eighth of its whole diameter; the colour should be clear and distinct. However attractive cut blooms of this flower may be, the mode of showing them in spikes is much to be preferred. In showing spikes, the upper portion, which is composed of flower-buds, should be removed; and if this be cut off where the buds are just beginning to expand, six or eight days before the spike is required to be exhibited, the flowers, when open, will close over the cut part of the stem, and thus form a unique spike. The length of spike thus prepared varies in different kinds; some are not above 10 inches, whilst others will support perfect flowers for upwards of 2 feet. As a medium, I think they look best when they are about 3 diameters in height. I have measured many spikes of good varieties, and have generally found them from 5 to 6 inches through: hence I think from 15 to 18 inches in height will become the most approved standard. It should be borne in mind that, as decay begins at the bottom of the spike, those last the longest which produce flowers of the thickest texture. Spikes, well arranged on a stand about a foot apart, produce a splendid effect. *R. B. Burcham, Helmham Rosary, Norfolk.*

Arboriculture.—In some criticisms upon Brown's "Forester," Mr. Cree remarks that "an average height of from 5 to 8 feet is not much for Oaks 12 years old."

In this Mr. Cree is right, and nobody knows that better than Mr. Brown himself, who, at the page referred to, does not quote it as an instance of rapid growth, but merely to show when the particular treatment mentioned in the "Forester" began. As to the trees being well sheltered, and at no great height above the sea, their only shelter consisted in what was afforded by their own growth, and their low lying situation was from 500 to 600 feet above the sea. Mr. Cree's arguments look well on paper, but in this instance are not borne out by the facts of the case, the plantations under Mr. Brown's care being remarkably healthy and thriving. It would puzzle Mr. Cree to find branches drying back and carrying rot into the pith in any of them. In a better climate instances of more rapid growth might easily be found, but it would be difficult to find trees in a more healthy state. They are at different altitudes from 500 to 800 feet above the sea, on a naturally ungenial soil, sloping to the north, and are exposed to cutting winds from the Lammermuir hills, but they show no signs of the bad consequences predicted by Mr. Cree. *H.*

Cape Bulbs.—In the *Chronicle* of the 10th Oct., 1846, "Micklewell" gave an account of some experiments he was making with Cape Amaryllids, and in a former communication on the cultivation of the Brunsvigia Josephinæ, he promised some further information on the subject. I should be obliged if he would now give the result of his experiments. *W. H. C.*

Production of Eels.—I have repeatedly inquired of old expert fishermen, and also fishmongers who skin eels alive in our markets, how they are bred, but I can learn nothing satisfactory on this point. This very interesting question did not only puzzle the ancients, but has ever remained a mystery to the leading naturalists of our day. Buffon, in pointing out the absurd notions of old writers that eels are either bred from mud, or from parts of their skins left on stones, fell into error himself in stating that they are viviparous; at least if our best naturalists are correct, that eels are oviparous, the Count must be wrong. I think Mr. Yarrell mentions that he has found roe in eels, though that does not prove them to be oviparous. The same may be said of the viper, if examined before the female has basked in the sun, in order to hatch the roe or eggs within her body. The fact that eels at the end of the season, sooner or later, according to the increase of water, descend rivers in vast numbers gave rise to the general belief that they migrate to the mouths of rivers in order to deposit their roe in brackish water. It does not appear, however, very clear whether they are compelled by the force of the flood, or by instinct, to increase their species there. If the latter, since so many are caught during their descent, it is strange that no roe is found in them, when it so much abounds in other fishes, while on such a mission. Besides, that eels should choose deep water for that purpose, is perhaps contrary to the law that governs both salt and fresh-water fishes, all of which leave the deep to lay their roe or eggs at the bottom of shallow water, in order that they may be hatched by the heat of the sun. It is owing to this very thing that we are indebted for the vast shoals of herrings and all other sorts of the finny race that frequent our coasts and that enter rivers from the deep sea. But supposing that the roe in eels is not formed until after they are awhile in brackish water, their numbers congregated in the estuaries of rivers must be great indeed, nay, enough to attract more attention than it seems to do; and some eels caught there would of course have roe within them, a discovery which we have yet to learn. It is also worthy of remark that all animals which migrate, whether for food or to increase their species, when permitted, do return to their former haunts; and there is no reason to doubt but the same law governs fishes also; indeed, there are proofs enough of it, needless to mention. We never, however, hear of shoals of large eels again ascending rivers after having deposited their spawn; but the small fry from them appears in May in vast numbers, about the size of darning needles, making their way up into every little nook and creek. This migrating of young eels is called, I believe, eel fair at Richmond, and is the occasion of much fun to children in pursuit of them. It is surprising to see how fast these fry wriggle up sluices, waterfalls, and all sorts of impediments in the way of their ascent. I have often been amused at seeing them so occupied in small streams, connected with the river Yare, about 30 miles from the sea, or the supposed placed where they were bred. Some writers assert that there are no eels in rivers and lakes above great waterfalls, which favours the belief that they are bred in salt or brackish water. But I believe that more recent authors deny the assertion. Supposing, however, that the latter are right, and that, in general, eels descend rivers to deposit their spawn, still, for aught we know, when they are confined in ponds, &c., they may have the power of depositing it there also. Be that as it may, however, it is strange indeed that no one has been able to say how eels are bred, even from the days of Pliny to our own enlightened times. *J. Wighton.*

Potato Disease.—A week before Midsummer I planted eight sacks of Potatoes in a field; they all came up, and looked beautifully green and healthy, but, on examining the roots, every root was diseased from or near the time when the haulm was only 3 or 4 inches high. The whole crop continued apparently to flourish luxuriantly long after the roots were thus diseased, until at length, in the space of about a week, the haulm became affected throughout the whole field. The crop was a complete failure; I believe from the eight sacks of seed I shall not have one sack of produce. I also examined many other plots and fields of Potatoes in this and other counties, and I universally found the roots to be first affected, and that the haulm remained green until the sap was nearly or quite destroyed in the roots; I am therefore, from those careful observations, decidedly of opinion that, in all cases, the roots are the first attacked, and that the decay of the haulm is the consequence of the previous destruction of the roots. *G. Wilkins.*

The Viper Question.—Once, on board a vessel, I saw a kind of beetle, nearly round in shape, of a light green colour, and having a horny coat, moving slowly about the deck; it was about 1½ inch across the back. I caught it and broke its horny shell, and out ran from its belly 6, 8, or 10 smaller ones, all apparently as perfect as the larger one; they ran about the deck as if used to do so, and very soon got all away. Now, it appeared to me that all the smaller ones were concealed in the body of the larger one, but how I do not know; or they were under a large shield of their own shape and substance, and were moving about with it. Should they deem it worth the trouble, perhaps some of your correspondents will explain this mystery. *G. Wilkins.*

Cultivation of the Potato.—Towards the end of February and beginning of March, I planted Potatoes 5 or 6 inches deep, digging the ground from trench to trench as I went on. The sorts were the Ash-leaved Kidney and the Early Shaw. At the above depth it was not requisite to mould them up, the only attention they required was to keep them clear from weeds. In this way they produced a full crop, free from disease or blemish, and were found to be most excellent when dressed. Subsequently I planted the same sorts and others in the same site, but I did not insert the sets half so deep as those mentioned above, and the produce was not a third of that of the above in weight, and so diseased as to be almost unfit for use. The Ash-leaved Kidney and Early Shaws in frames on beds prepared with Oak and Beech leaves also proved sound. *T. Torbron.*

Bees.—I would willingly have given the extract relative to bee boxes from the Edinburgh Journal of Agriculture, but on consideration I find, that as the article is written entirely with reference to a plan given, it would be impossible for me to make it intelligible without the plan. The whole of the essay in the Journal for March 1847, is well worth perusal. As to the inquiry about straw hives, I have kept a deep straw hive through the winter, I think with advantage, and two of my labourers who keep bees have done the same, and say they prefer them to any other hives. The hoop coming down about half an inch or so below the straw wall of the hive, allows it to be placed perfectly close to and level on the board or stool; and without those little inequalities which are between the board and the straw skip; and also, instead of one large entrance in the straw, you can cut three holes or more in the wood, just sufficiently large for a single bee to pass, thus completely excluding mice; and any of those holes are easily stopped before winter. I have tried to take six or seven hives with ether, but except in two instances I have completely failed; in those two the bees, in spite of regular feeding, died before winter. Except in those cases I have always used sulphur, but in the Journal above-mentioned is a plan which appears good for taking bees without destroying them. The price I have stated for honey is very low; but it is the highest I could get without retailing by single pounds; the price of the hives was what I actually paid. Perhaps your correspondent lives near London, or a large or manufacturing town; I reside far from London or a large town, which may account for the difference in the price; *A. K.*—"A. K." and "A. B. C." have been more fortunate with their bees this season than any one I know of in this locality. I think their information would have been more satisfactory if they had stated where they reside. I had six hives last spring; from them I have only had six swarms: the first I got on the 26th May; the last on the 21st June. Four of them died a month ago; the other two are very weak and very light. I killed a three-year-old hive this autumn; there was only 7½ lbs. of honey in it. *W. S. W., Manchester.*

Burning Bees (see p. 734).—Your correspondent who says "he cannot help thinking that the old plan of burning bees is the most profitable plan of management in a climate like that of England," may be satisfactorily convinced to the contrary by the perusal of the means of taking the honey without destroying the bees, referred to in the third column of p. 488 in your Number for July last. He may be thereby informed that there is no more necessity for burning his bees to take their honey, than for killing his sheep to shear their fleece. *Apiarius.*

Bleeding of Plants.—Strong succulent growing Pelargoniums may be prevented from bleeding too much by laying the pots on their sides as soon as the cuttings are taken off, and by ceasing to water until the wounds are perfectly healed and young shoots emitted. They may then be placed in a frame or on a bed until autumn. I have known many plants lost during a wet season when headed down and not kept dry afterwards. *N. S. H., Bury St. Edmund's.*

Aphis on Tulip Bulbs.—I was astonished yesterday to find nearly all my Tulip roots, which were stowed in a deal box, affected with aphides. They were green and apterous, covering the tender beaks of the sprouting bulbs, or congregating beneath the old dry skins. I cannot at present ascertain the species; but the fact is so novel to me, that I shall feel obliged by any Tulip grower informing me if he has ever met with a similar occurrence. There were at least a peck of bulbs thus affected, and when I stowed them away the beginning of last month, not an aphis was to be seen upon them. They were kept in the hay loft, where no living plants were; indeed, there was nothing near them but clean straw and Apples, I am therefore confident the aphides were generated on the bulbs. *J. Curtis, Hayes.*

Garden Walks.—Mix a bushel of quick-lime with a barrel of gas tar; boil the mixture, and pour it hot on the path to be made, sifting over it sufficient gravel to conceal the tar. When it is nearly cold it should be rolled to give it a smooth surface. The tar should be poured on about half an inch thick. This I have used and found to answer admirably. *P., Camberwell.*

Societies.

Horticultural, *Nov.* 7.—J. J. Blandy, Esq., Vice President, in the chair. Of subjects of exhibition by far the most remarkable was Calanthe vestita, a new Moulmein species sent by Messrs. Veitch. Among the many Orchids imported of late years which our gardens possess, this is one of the handsomest. Its truly fine spikes of large white flowers, which are stained in the centre with crimson, render it at once striking and beautiful. A large Silver Medal was awarded it. The same nurserymen also sent the brilliant Æschynanthus speciosus.—Mr. Beck, of Isleworth, showed Solenidium racemosum, a plant bought at Mr. Linden's sale—not handsome, but useful, on account of the length of time it remains in flower; and a sweet-scented Burlingtonia, perhaps cumanensis.—Lælia furfuracea, and two other Orchids from Mrs. Lawrence came too late to be noticed by the Society.

Of Fruit, Mr. Henderson, gr. to Sir G. Beaumont, Bart., sent two Queen Pine-apples—one not ripe, weighing 6 lbs. 1 oz., the other well formed and ripe, weighing 5 lbs. 14 oz. A Banksian Medal was awarded to the latter.—Two Queens also came from Mr. Jones, gr. to E. J. Hutchins, Esq., of Dowlais House, Glamorganshire—one weighed 4 lbs. 8 oz., the other, to which a Certificate was awarded, 5 lbs. 2 oz.—Four Queen Pines, all of them good fruit, were produced by Mr. Davis, of Oakhill, East Barnet. These weighed respectively 3 lbs. 13 oz., 4 lbs. 7 oz., 4 lbs. 12 oz., and 5 lbs. A Certificate was awarded to the latter, and a similar award to the same grower for beautifully ripened Muscat of Alexandria Grapes.—Mr. Bray, gr. to E. Lousada, Esq., of Sidmouth, Devon, sent a Providence Pine-apple, weighing 6 lbs. 15 oz.; and a Queen, to which a Certificate was awarded, weighing 5 lbs. 2 oz.—In addition to the Grapes already mentioned, J. G. Nash, Esq., exhibited beautiful samples of Black Hamburgh, Cannon Hall Muscat, and Muscat of Alexandria, from his Vinery at Bishop's Stortford, in which there was such a heavy and fine crop last year, and concerning which some account has been given at page 683 of our volume for 1847: a Banksian Medal was awarded.—Among miscellaneous subjects were specimens of Brussels Sprouts from Mr. Appleby, market gardener, Burton-upon-Trent, and a large ripe Vegetable Marrow, from Mr. Cuthill, of Camberwell.—The plants from the Garden of the Society consisted of Epidendrum ceratistes, a rather uncommon species; the small neat Oncidium Suttoni, and other Orchids; three species of Cape Heath, Abutilon striatum, two varieties of Correæa, Justicia speciosa, and a beautifully blossomed plant of Selago distans, a very pretty hardy greenhouse Cape shrub, which no amateur should be without. Of fruit the same establishment produced some handsome Beurré Diel Pears from a wall, and of Apples Mére de Ménage, a kitchen fruit which attains in rich soils as much as 14 inches in circumference. It is an excellent keeping Apple, and, the tree being a great bearer, it deserves extensive cultivation; Claygate Pearmain, a rich desert Apple; Traveller, a tender-fleshed variety, which, like the preceding, has a Ribston Pippin flavour; Syke House Russet; Coe's Golden Drop, a small brisk, rich, dessert variety, worthy of being grown where quality and not quantity is the object; Court of Wick, one of the best dessert Apples; and Hubbard's Pearmain, a capital dessert variety, which, this season, is thickly russeted, but which, in fine summers, comes almost quite smooth. Some alterations in the bye-laws were brought under the notice of the meeting, by order of the Council, and read for the first time.

Reviews.

Blepharophora Nymphææ. Ein Beispiel automatischer Wimperbewegung im Pflanzenreiche. Von Dr. Maximilien Perty. Bern. 1848. 4to; pp. iv. and 36, tab. 3.

We purchased this work in the hope of finding something new and interesting relative to the ciliary motion which has been discovered in different parts of the vegetable world, as is expressed in the title. A single glance, however, at the figures was enough to convince us that no vegetable substance was in question, but one of those fresh-water vaginiform Polypes which have been long since illustrated by Roesel, Schœffer, and Vaucher, and referred by Lamark to the genus Plumatella, as indeed is pointed out by Harting in a letter to the editor of "Botanische Zeitung," Aug. 18, 1848.

We should not have considered this worth noticing in our journal did we not think that the hallucination of which the Professor has been the subject is a good warning to scientific students of every kind, to gain at least a general acquaintance with neighbouring branches of science, without which they will be sure to commit

errors. A leech's egg will be described as a new sponge, galls and the ova of insects will figure as new genera of fungi, the spawn of the several species of Tipulæ will be so many species of Algæ, and so on of numerous errors which might be brought forward. The description of the genus Blepharophora might indeed excite wonder as it stands.

"Body of Alga, thread-shaped, branched, with lateral nodose swellings, consisting of a medullary body of gelatinous cells, which inclose fasciculs of vitreous, delicate jointed threads (antheridia?), and stouter bodies, composed of molecules, covered with vibrating cilia, and of a gelatinoso-coriaceous cuticle, containing Bacillariæ. Spores inclosed, arising freely in the gelatine, with a distinctly cellular integument, without any further covering, and containing a molecular mass; brown when ripe."

The Professor considers the Bacillariæ (which he describes as a new species of Humantidium) to be an integral portion of the plant, and other species to be accessory. All this mystery vanishes at once before the knowledge that he has an animal all the while before his eyes. We will give the solution of the riddle in the words of Harting:

1. The axis is the general polypidom. 2. The bark, partly consisting of Bacillariæ, is the horny skin. The presence of Bacillariæ finds its solution in the contents of the stomach and the intestinal canal. Naviculæ, Fragillariæ, Gomphonemata, &c., form part of its food, and their empty cases are rejected by the anus close to the mouth; and, as the animal grows, serve to incrust the soft parts. 3. The tubercles are the cups of the individual polypes. 4. The ciliated bodies are the broken tentacula. 5. The articulate and inarticulate threads are the muscles and ligaments by which the soft parts are attached to the horny skin. 6. The spores are the eggs of the animal in different stages of development!

In other respects, the work contains many good observations, and shows much research in a certain direction. The author, however, appears not to be acquainted with the important discovery of Mr. Thwaites, which demonstrates the vegetable nature of the Bacillariæ.

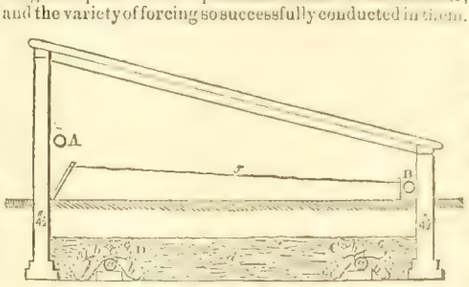
Opuscula Omnia Botanica Thomæ Johnsoni, Pharmaceuticæ Societatis Londinensis Soc. Nuperrimè Edita à T. S. Ralph, M.R.C.S., F.L.S. W. Pamplin, London, 1847. 4to.

This is a textual reprint of several extremely rare tracts, which are of considerable interest as illustrating the manner of the times, and being the first accounts extant of any herborising expeditions in this country. They commenced with certain excursions in Kent and the neighbourhood of London, which were extended afterwards to the western and southern counties, and finally into Wales. There is an admirable tone of feeling through the whole, which is written in a very simple, unassuming style, and shames us of the present day with all our appliances, when we see the zeal with which men followed their favourite pursuit under such a mass of difficulties and confusion as would utterly discourage many modern collectors, who have not only excellent manuals always ready, but a host of admirable figures, which make the road as easy now as it was arduous and almost insurmountable before. One thing which strikes us forcibly is the ready hospitality with which they were everywhere received, and that not only by men of their own craft, but by the great men of the land, who, in those days, were removed from the general herd of men by a distance which we can at present scarcely conceive. It is painful, on reading of the good-will thus exhibited to a mere handful of travelling apothecaries, recommended only by their talents and pursuits, to think of the selfishness which, in the present day, debars all access to some of the most interesting geological and botanical ground in our island—a selfishness which, if it were general, would recoil most fearfully on those who seem not to know the right use of the privileges of their rank and station. We shall probably, in some future Number, give a specimen of one or more of these excursions. The work itself is well worth possessing, and reflects great credit on the publisher and editor. We regret only that the modern names of the plants, whose localities are recorded, were not given in an appendix, which would have added much to the value of the work.

Garden Memoranda.

Trentham Hall.—(*Continued from p.* 719).—The culture of the Pine-apple at Trentham forms an important branch of gardening, in which Mr. Fleming excels. He does not think with some cultivators that 6 lbs. is the maximum weight to which a Queen may be brought, nor does he believe that because a Pine-apple is large, it must, of necessity, be deficient in flavour. On the contrary, we saw Queens at Trentham which weighed, when cut, 6 lbs. 14½ oz., and Enviles, 9½ lbs., quite as rich in subacid saccharine juice as those little knobby gentlemen which our ancient brethren used to take comfortably in their pockets to the exhibitions of by-gone days, and that too with no small delight; never for a moment dreaming of the violence which the little urchins around them were doomed to inflict upon their hereditary maxims and their portfolio of recipes, husbanded with care and secrecy since the days of Miller. [We bear personal testimony to the excellence of the Trentham Pines.]

The system pursued in Pine culture at Trentham is a modification of that long adopted at Meudon. The whole of the Pines in all their stages of growth are planted out into light peaty sandy soil. Mr. Fleming says that he finds them sustain neither injury nor check from being transplanted, which he does when it is found necessary to economise space. By this mode of culture he cuts a much greater amount of fruit in the same pits, and much finer than by the old plan of potting and repotting. As cutting proceeds, others are transplanted into their places with some fresh soil, and by this system of consecutive removal, fruits continue to come up at all times of the year, so that the family is never without Pines. Fermenting stable litter, whether for bottom-heat or otherwise, is not used in the culture of Cucumbers, Melons, or Pines; in fact, it is banished entirely from the garden, so that this hitherto littery department is now as clean and tidy as a conservatory. The Pine pits are warmed beneath the bed with hot-water pipes; one pipe runs along near the front and another near the back of the bed. Some rubble and rough gravel are placed around and over them, then 4 inches of leaves, and upon them 12 inches of soil, in which the Pines are planted. The top heat is supplied by a 4 inch hot-water pipe, which is carried all round the pit. Mr. Fleming does not find tanks or gutters to answer better than pipes for bottom-heat, and his testimony is not to be lightly regarded, when we consider the vast ranges of pits which he possesses heated in this manner, and the variety of forcing so successfully conducted in them.



Section of Melon Pit, heated without Tanks.

a, hot water pipe; *b*, bar stones laid over the pipes; *c*, gravel covering bar stones; *d*, leaves; *e*, soil; *f*, wire trellis. The hot water pipe enters at one end, traverses the whole length of the pit at the height A, returns along the front at B, descends below the level of the soil, and goes along the pit at C, and returns at D upon the same level.

Mr. Fleming is alike celebrated for his hybrid Ispahan Melons and for his skill in their cultivation. The Trentham hybrid is a Melon known and esteemed not only for its flavour but also for its productiveness, one planting being sufficient to yield fruit enough for the season. The above woodcut will show that the pit in which they are grown is comparatively an inexpensive structure, and at the same time an exceedingly simple one. It however answers every purpose admirably. It suits early forcing, as may be evident, for there is no damping, and for late culture this observation is equally applicable. The first cutting of ripe fruits in this pit was on the 28th April, and the last on the 21st October, a period of nearly six months, during which the same plants were in constant bearing, and that most abundantly. They were destroyed at last in consequence of the pit being wanted for another purpose. It will be seen that by the mode of heating employed a vast economy of labour is the result, as compared with that arising from the use of hot stable litter, independent of its filth and offensiveness, and it cannot be denied that this litter can be applied much more efficiently as a manure when not permitted to undergo violent fermentation, alternate exposure to washing rains, and a desiccating sun. This separation of the forcing ground from the muck-heap we consider one of the greatest triumphs of modern gardening.

We could not but admire the high condition in which the Peach trees under glass were in. Of course the crop had long since been gathered, still there was the absence of our old enemy the red spider, which generally finds a resting-place when the syringe is suspended towards the ripening of the fruit. There was not, however, the slightest appearance of its existence in these gardens. Whenever any of the trees in the houses exhibited any appearance of decay or exhaustion, from having been kept a number of years in a highly excited atmosphere, such tree is immediately removed, and another sufficient to cover the space substituted from the open walls, so that no blank is ever seen on the trellis in the houses. The trees on the open walls, as has been stated in a former article, are kept so much under control at the roots, that they can be moveable at any time during autumn or winter. This operation with a tree, the roots of which are annually pruned, is an exceedingly safe and simple process, so much so that Mr. Fleming as securely calculates on a crop from the transplanted trees as he does from these longer established. Trees are therefore cultivated on the garden walls expressly for removal, which is an excellent plan where Peaches are forced so extensively as at Trentham. The accuracy of the variety is also previously ascertained, and this prevents disappointment, which is sufficiently disagreeable on the open walls, but much more so in a Peach house. *G.*

Miscellaneous.

Charcoal a Deodorant.—Several parties interested in sanitary reform, attended, Oct. 18, at the residence of Mr. H. Giles, of Stourbridge, to witness experiments with various deodorants. The fluids prepared by Messrs. Ellerman, and by Sir W. Burnett, both pure and diluted with water, and also charcoal prepared from [illegible] W. Burnett's liquid [illegible] with the [illegible] of peat in that neighbourhood [illegible]

Seed Cones.—[illegible] and other Conifers announced at p. [illegible] Mr. Sweet's on Tuesday [illegible] realised for Cryptomeria [illegible] high: two others, from [illegible] the rest from [illegible] from 1*l.* to [illegible] per [illegible] prices were realised for similar lots of [illegible] Ulidcana; but the latter [illegible] whereas the former were [illegible] height. Pinus pinea, the [illegible] high, fetched from 1*l.* to 1*l.* [illegible] Irelies, three years from [illegible] 1*l.* 5*s.* to 1*l.* [illegible]; and P. [illegible] 1*l.* 8*s.* per lot. The sale consisted [illegible]

Calendar of Operations.

(For the ensuing Week.)

CONSERVATORY AND [illegible]

In the introduction of the larger [illegible] such as Chrysanthemums, [illegible] displacement and crowding of the [illegible] be better to restrict their [illegible] Crowding, at all times injurious, [illegible] almost fatal to the appearance [illegible] for, what injury they sustain [illegible] vigour immediately to [illegible] main. Be not afraid [illegible] face soil of large pots [illegible] necessity; its destruction [illegible] fatal error amongst amateur [illegible] ment of the stock in pits and [illegible] careful ones must be [illegible] mated plants, with [illegible] although under ordinary [illegible] ceptible of frost, will be found to [illegible] We have plants [illegible] very exposed situation, [illegible] effects of a frost of 5°; [illegible] limitation of water previously. [illegible] tion they occupied. Others of [illegible] in a more sheltered position, [illegible] from chance circumstances of this kind we may glean valuable hints.

FRUIT [illegible]

We are disposed to think [illegible] gained by encouraging activity in Vines [illegible] in November. The word "[illegible]" [illegible] particularly appropriate than it [illegible] under such circumstances. The [illegible] the preparation of the [illegible] the following month. [illegible] materially injuring the [illegible] such treatment. Although fires may [illegible] in the early Vineries prepared [illegible] they should be secured from the influence of [illegible] otherwise a much longer period will [illegible] the sap to activity. Bottom [illegible] and merely protective, should be [illegible] warm days, but it is quite [illegible] into the border of the first house. [illegible] the preparation of the [illegible] completed, the rafters painted, [illegible] used wherever a brick surface is [illegible] which possibly have been kept dry for the last few months, gradually prepared for a sympathetic movement by applications of warm water. Fires.—As a further supply of fruit can scarcely be expected, and as a period of rest is of value to Figs, a temperature of [illegible] with a reduced temperature will gradually bring them into a quiescent state. The first opportunity should be taken of completing all necessary works of cleaning before the arrival of severe weather, when exposure could not be permitted. A gentle bottom heat, abundance of light, and an active atmospheric heat, will keep Cucumber plants in health.

FLOWER GARDEN AND SHRUBBERIES.

The late frosts have given the final stroke to the declining beauty of the flower-garden. Accustomed to the gay embellishment of the summer's flowers, we are naturally offended by the barren appearance presented by the stricken beds. If the endeavour be made to repair, in a degree, the lately-tarnished effect, the utmost

caution should be used in selecting subjects for the purpose. Any attempt at "make believe" cannot fail to prove offensive to the discriminating eye of taste. We have seen coloured glass and painted stones duly set in box-edged beds, and lamented over mutilated evergreens shorn of their fair proportions, for the same ill-judged purpose. A little protection occasionally afforded to the Russian Violets will ensure a constant supply. Protect the roots of the Tea and Perpetual Roses with a coating of wood ashes or moss. Fuchsias may be preserved in the same manner. Regularly clear away fallen leaves from walks and lawns. Proceed actively with planting, and any necessary rearrangements. In the disposal of the various shrubs let their natural and peculiar dispositions and character be duly considered; thus the Rhododendron is seen with the greatest advantage at the base of a lofty tree, the dwarf evergreen of the mountains on a hill-side, while low and swampy ground should be characterised by such plants as Heracleum giganteum, and some of the aquatic Grasses and reeds. Amongst tall trees the common Honeysuckle, Wild Hop, and Bramble, may be introduced with excellent effect, or supported by stakes. Some excellent effects may be managed by these creepers.

FLORISTS' FLOWERS.

There have been few seasons of late years so inauspicious to the Tulip fancier. In every part of the country there is the same complant—"we cannot plant." The late frosts, however, have rather altered matters, and we are looking forward to a good planting time, though rather late. Amateurs, of course, have made up their beds, and are merely biding their time, to commit their favourites to the earth. Amongst novelties which have excited considerable interest this season, we may mention a few which are certainly splendid flowers; we allude to Dixon's Monument, a very fine deep-feathered rose, pure as purity itself; Dixon's Geraldine, flamed rose, first rate, and a great acquisition to a scarce class; Isabella, raised and broken in the neighbourhood of Chesterfield, Derbyshire, a beautiful and chaste flamed rose; as for the Chellaston seedlings, though a beautiful class of flowers, still, from the circumstance of the raiser letting them out by wholesale, without number or name, such immense numbers are named, or in fact renamed, throughout the country, that amateurs hardly dare venture; like Clarke's seedlings, they are in everybody's hands, and the utmost confusion exists with regard to them. We would advise all growers to take the first opportunity, and plant; every day that they are out of the ground the bulbs suffer. Carnations, as a matter of course, are in their winter quarters. Look over the seedling beds, and with a small hand-hoe, keep the ground stirred, whenever the weather permits it being worked. Turn over Ranunculus beds, and expose every part to the action of frost. As for Pinks and Pansies, those in pots must have all air possible; never close the frame except in excessive wet, or hard frost. Dahlias have got their *quietus* for the season; cut off the stems about a foot from the bulb, and turn them upside down, so that the sap may fairly exude. Allow them to get quite dry, and then stow away in a moderately dry place, secure from frost.

KITCHEN GARDEN AND ORCHARD.

The occurrence of several frosts, severe for the season, will urge, more effectually than arguments here, the necessity of the speedy adoption of precaution for the protection of vegetables liable to be injured by their severity. Cauliflowers already headed should be carefully taken up and stacked in a dry pit, or within the protection of a wall where a thatched shutter may be employed in unfavourable weather to ward off the wet. As many Lettuces and Endive as possible should be transplanted into frames, where they may be at least protected from rain. Sudden frost succeeding the late heavy rains will more injuriously affect advancing Salads than any other possible circumstances of weather. Clear away all decaying matter from globe Artichokes, and protect them with a covering of leaves. As soon as the leaves can be removed from Seakale plants, cover the crowns with wood ashes or sand. Dig Potatoes; those which are taken up at this period sound may be considered secure. Sow Peas and Beans in rich soil on a warm border. A sowing of short-top Radish may be made in a similar situation. Plant Shallots and Garlick. Shutters thatched with reeds or straw should be prepared for the protection of Endive, Parsley, &c., in snowy weather. Gooseberry, Currant, and Raspberry pruning and planting should be in progress. An adequate quantity of cuttings of the two first should be put in every season, to provide for possible losses. The due preparation of borders for the reception of fruit trees should be completed, and the trees planted in the course of the month. Pruning and nailing may be commenced; a judicious system of stopping in the growing season renders the first-named operation a comparatively light and easy task.

COTTAGERS' GARDENS.

Clear away decaying and unnecessary leaves from winter greens, and raise the earth about the stems. Remove all leaves and rubbish from the surface of the land which might prevent evaporation and assist to keep the soil cold and damp. All sorts of refuse matter, of which leaves should form a large proportion, from the garden, should be collected and added to the dung heap. Let proper channels be kept to carry off quickly the water from suddenly melting snows or heavy showers, and see to the efficiency of drains connected with the garden. Inattention to this matter is not unfrequently the cause of ill success in vegetable culture. Raise Potatoes, if any have been allowed to remain. Take up and stack Carrots and Beet; Parsnips may continue in the ground. A few Peas and Beans may be sown, if a favourable situation is at command. Keep young Cabbage and Lettuce plants dusted with lime and soot. Plant fruit trees; in the preparation of the soil avoid the use of manures. Trellised and pyramidal Pear and Apple trees occupy less room and produce finer fruit. Plant and prune Gooseberry, Currant, and Raspberry bushes; manure may be used in planting the last named trees.

State of the weather near London, for the week ending Nov. 9, 1848, as observed at the Horticultural Garden, Chiswick.

Nov.		Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. ..	3	7	29.614	29.446	55	32	43.5	S.W.	.00
Satur..	4	)	29.737	29.496	39	23	31.0	N.	.00
Sun. ..	5	9	29.808	29.589	47	39	43.0	S.W.	.01
Mon...	6	10	29.645	29.538	50	38	44.0	W.	.00
Tues...	7	11	29.879	29.518	46	22	34.0	N.W.	.00
Wed..	8	12	30.081	29.983	45	22	33.5	N.W.	.00
Thurs.	9	13	30.319	30.169	43	28	35.5	N.W.	.00
Average...			29.869	29.677	46.4	29.1	37.7		0.01

Nov. 3—Overcast; cloudy and fine; cloudy.
— 4—Overcast and cold; clear, with sharp frost at night.
— 5—Clear and frosty; overcast and cold; cloudy; slight rain.
— 6—Overcast; fine; cloudy at night.
— 7—Very clear and cold; sharp frost at night.
— 8—Frosty; bright sunshine; clear and frosty.
— 9—Clear and frosty; fine, clear and frosty.

Mean temperature of the week, 6 deg. below the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending Nov. 18, 1848.

Nov.		Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun.	12	51.8	35.8	43.8	10	0.40 in.	1	2	3	1	3	5	6	1
Mon.	13	51.2	36.9	44.0	14	0.66	2	5	3	1	3	2	3	1
Tues.	14	49.0	36.5	42.8	12	0.67	3	2	2	4	2	4	3	2
Wed.	15	49.6	37.5	43.6	11	0.52	1	4	3	2	4	6	1	1
Thurs.	16	49.3	34.6	41.9	9	0.41	4	3	1	2	4	5	2	1
Fri.	17	49.4	36.4	42.9	11	0.40	3	4	1	1	6	4	2	1
Satur.	18	48.9	35.9	42.0	14	0.41	1	4	1	1	3	6	3	3

The highest temperature during the above period occurred on the 13th 1841, therm. 63 deg.; and the lowest on the 16th, 1841—therm. 15 deg.

Notices to Correspondents.

American Border Plants: *A Z W.* Plant the following:—Andromeda floribunda, speciosa, axillaris, and mariana; Azalea ovata and sinensis, A. calendulacea rubicunda, A. c. grandiflora, A. c. splendens, A. coccinea major, A. c. serotina, A. nudiflora flore-pleno, A. n. versicolor, A. pontica ignescens, A. p. pallida, A. viscosa vittata, A. v. alba, A. hybrida thyrsiflora, and A. h. regalis; Rhododendron Nobleanum and its varieties; catawbiense and hybrids; dauricum atrovirens; ferrugineum, red and white; ponticum pleno and dark varieties; Lowii, venustum, aureum, Smithii and varieties, campanulatum, and robustum; Kalmia latifolia, glauca, and angustifolia; Vaccinium ovatum.‡

Bees: *Industry.* The exact time at which the queen bee begins to lay her eggs in spring is not known; much depends on the strength of the hives and the state of the weather. During mild winters, the queens in strong colonies seem not to cease laying, at least we have found plenty of eggs and larvæ in the heart of hives about the middle of February. This shows the necessity of bees storing up pollen to feed their brood. *W.*

Books: *Z.* There is no such work as a complete botanical and geographical description of Orchideæ, together with a practical method of their cultivation.

Chemical Works: *A Constant Subscriber.* They are very likely to have done the mischief. You have no remedy except an action at law, unless the owner will make you compensation, which he ought to do if you are right, and which an action would compel him to do.

Chrysanthemums: *A Kentish Novice.* The general properties to be looked for in this flower are the circular outline, the petals broad, even, and well rounded at the points, centre well elevated, and well filled with petals, without confusion, and showing no disk.*

Cottage Gardens: *A Ross.* Adapt the prizes to their wants and means. Decide them by competent impartial judges who cannot even be suspected; it is best to take a stranger. Permit no departure from the award under any circumstances whatever. Pay promptly. If you err, do so on the side of liberality.

Emigration: We cannot, as we have often stated, take upon ourselves the responsibility of recommending colonies to our correspondents. They must judge for themselves; for which purpose they must read the books on Emigration now published at a very low price, and the Colonization Circular and Commissioners' Report of the Government Board of Emigration, at No. 9, Park-street, Westminster; to be had of all booksellers.

Exhibitions at Chiswick: *An Exhibitor* has very odd ideas of what is right or wrong, and would have done better to say why he complains. We have not the least intention of giving currency to the grumbling of nobody knows whom. According to our notions there would be little "justice" in doing so; but it is evident that our correspondent's justice is all on one side.

Fruit Trees: *Anon.* You may plant in your orchard, as dessert Apples, the Early Red Margaret, Early Harvest, Wormsley Pippin, Golden Reinette, Court of Wick, Claygate Pearmain, Scarlet Nonpareil, Ribston Pippin, Boston Russet, Court Pendu Plat, Reinette du Canada, and Sturmer Pippin. For Kitchen Apples, the Hawthornden, Mère de Ménage, Bedfordshire Foundling, Alfriston, Dumelow's Seedling, Rymer, Dutch Codlin, Royal Russet, Beauty of Kent, Blenheim Pippin, and Northern Greening. Intended to be on Paradise stocks, the trees may be planted 15 feet apart.‖—*M A.* Pears for use in Shropshire in September, October, and November may consist of Williams' Bon Chretien, Fondante d'Automne, Jersey Gratioli, Aston Town, Seckel, Louise Bonne of Jersey, Marie Louise, Beurré Bosc, Althorp Crassane, Eyewood, and Beurré Diel.‖—*Sub.* Six Dessert Pears for an east wall, to form a succession: Beurré d'Amanlis, Marie Louise, Thompson's, Glout Morceau, Knight's Monarch, Ne plus Meuris. These will ripen from September till February or March.‖

Insects: *Sub.* It has been stated that thrips may be killed by the use of tobacco water, to which a little sulphur has been added, or by a decoction of Elder leaves; or the infested plants, when wet, may be dusted over with flowers of sulphur, which should be allowed to remain on for three or four days, when it may be washed off. Perhaps the most certain, however, of all remedies is the odour from bruised Laurel leaves.‡

Irish Horticultural Improvement Society. We have received some letters from the secretary to this society, and are obliged to decline inserting them. There is no public interest in what they touch upon, and a public journal is not a desirable vehicle for such matters. We must beg to be excused from all interference which circumstances do not render inevitable upon high public grounds.

Names of Fruits: *R B.* 2, St. Germain; 3, 4, Easter Beurré; 5, Glout Morceau; 6, Black Worcester; 7, Beurré Rance; 9, St. Julian; 10, Easter Pippin, or French Crab: 11, Foxley Pippin.‖—*M, Reigate.* The Gravenstein.‖—*W B.* Black Prince. We do not know any better late variety than the St. Peter's (Oldaker's).‖—*S F W.* The Lombardy. It is best to prune Vines soon after the leaves drop. It is not necessary to turn them out of a house where there is only heat enough to keep off damp.‖—*J L M.* 1, Crassane; 2, Easter Beurré; 3, White Doyenné; 4, Old Colmar; 5, St. Germain; 22, Blenheim Pippin; 25, Minchall Crab.‖—*S L.* 1, Beurré Diel; 2, Hollandbury; 3, Mank's Codlin; 4, Cornish Gilliflower; 5, Blenheim Pippin; 6, Round Winter Nonsuch; 7, Ross Nonpareil; 8, Wormsley Pippin ‖—*A Young Gardener.* 1, Napoleon; 2, St. Germain; 3, bruised, probably Brown Beurré; 4, Hollandbury; 5, Blenheim Pippin; 6, Scarlet Nonpareil; 7, Old Nonpareil.‖—*J W.* Beurré Knox.‖—*C A.* Autumn Pearmain; 2, Blenheim Pippin; 3, King of the Pippins.‖

Names of Plants: *G T.* Both appear to be Festuca pratensis. —*J B.* Such wretched specimens *cannot* be named.—*Cerniwaidd.* A, too poor a specimen for determining it by with certainty, but we believe it to be Asplenium Adiantum-nigrum. The same remark applies to B, but we believe it to be Lastrea Filix-mas. C, Cystopteris fragilis; D, Lastrea Filix-mas; E, Polystichum lobatum. Mr. Low, of Clapton. *S.* —*Y Z.* Oncidium unguiculatum, Ipomœa chryseides, a horrid specimen.—*Diss.* Polygonum divaricatum.

Passifloras: *Sub.* For your stove take Middletoniana, Loudoni, racemosa, and quadrangularis; and for your greenhouse, cærulea-racemosa, Bonapartei, palmata, and Colvillii.‡

Planting; *Dunmow.* Plant in your heavy land, Oaks, Ashes, Elms, Hazel, Beech, Mountain Ash, Scotch Firs, and Larch. Drain the land well; you may employ deep open ditches, provided you get a good fall. Never plant Fir-trees 8 or 10 feet high; 2 to 3 feet are as much as it is wise to think of. Deodars and Araucarias will do well enough if your drainage is good.

Potatoes: *W P.* We regret that our remarks should have affronted you; but really if men will write nonsense they ought not to complain if it is called by its proper name.—*G G.* Pray make no apology; there is plenty of time yet before you for sending in the returns; they are, however, now arriving very fast.—*G W.* Your specimens, though in appearance excellent, when cooked did not prove very good in quality.

Roses: *Chirurgicus.* The present is a good time for removing Dog Roses from the woods to the gardens, for the purpose of budding next autumn. It is immaterial of what age they are, provided the stems are clean and sufficiently stout for the purpose. Shorten to the required height at the time of planting or early in spring.‡—*P M.* The following are 6 of the best and most distinct Chinese Roses suited for bedding, viz.: Archduke Charles, Augustine Hersent, Belle Emilie, Cels multiflora, Fabvier, and Madame Breon. Six Hybrid Perpetuals for the same purpose: Baronne Prevost, Dr. Marx, Duchess of Sutherland, Edouard Jesse, Madame Laffay, and Marquise Boccella. Six Tea-scented for do.: Bride of Abydos, Clara Sylvain, Bougère, Buret, Nitida, and Safranot. Six Bourbons for do.: Armosa, Comice de Seine et Marne, George Cuvier, Madame Nerard, Queen, and Souchet. Six Noisettes for creepers: Du Luxembourg, Grandiflora, Langevine, Cerise, Fellenberg, and Pourpre de Tyre. ‡

Scale Insect: *R G.* We do not know how steam would act; probably not at all. Why not let well alone, and be contented with hot water?

Screens: *P G.* What you require cannot be done very quickly. Trees are years before they get 30 feet high. You had better cover your wall with the Virginian Creeper and Irish Ivy, trenching the border well, so as to encourage them to grow fast. In front plant Poplars, Lime-trees, and Cœrulean Willows, to get up fast: and among them introduce Spruce Firs, Scotch Firs, Evergreen Oaks, and the like, in favour of which the fast-growing deciduous trees should be cut away as occasion offers.‡

The Sea Serpent: *G g.* We understand that this marvel has been pronounced by our highest zoological authority to be nothing more than an antarctic seal that had drifted out to sea, and has been seen wandering in warmer latitudes, where it did not know its way.

Vines: *Acrs.* The white transparent globules which appear on the shoots and under the leaves of the young shoots of Vines are a natural secretion of fluid from the plant. He must be a very wise man indeed who describes them as being the eggs of the red spider!—*F W P.* In all probability the wood for next year is much injured; all you can do is to cut hard back, to burn the cuttings, to sulphur the branches well, and to watch the house carefully next year, so as to apply a remedy in time.—*L C K.* Fix your sashes in front of your Vine as you propose, in the manner of a lean-to, with a brick support at bottom, excepting as regards the middle sash, and this you should adapt to slide down for air. If you send a berry and leaf, the variety of Grape will probably be known.‖—*H C Z.* The distance of 12 inches from the glass is sufficient for Vines in frames, and likewise for Peaches.‖

Violets: *R S.* Your seedling is highly scented, and appears to be an improvement on the Russian. Will you favour us with your mode of growing them.‡

Misc: *Veritas.* Write with your own name and address, and repeat your request; we will then see what can be done.—*John Mooney.* Young Heath tops will answer the purpose of leaf-mould, *if you can not them*—there is the difficulty.—*A Lady.* There is no advantage in colour over P. Bonapartei; P. alata is very tender. We are unacquainted with Rubus nobilis. Peruvian guano is the best artificial manure. Do not use quicklime, but employ sulphate of iron or gypsum or small charcoal.—*A Subscriber, Wirksworth.* When properly folded, the *Newspaper* should be in the *middle* of the paper; this part is paged and headed distinct from the other, so that subscribers who do not wish to bind it with the horticultural part may detach it.—*Young Gardener.* You can only be admitted into the Horticultural Society's garden through the recommendation of a Fellow.‡—*H H.* If you will forward 5*s.* 6*d.* to our office it will be sent you.—*T P.* It will not be advisable to shift your Gardenia Stanleyana at this late season, more especially in its present condition. Wait till spring and shift it after it has flowered. If the soil is too poor to flower it well, give a little weak liquid manure occasionally.‡—*Old Sub.* No benefit whatever can be derived from cutting down your Lemon-scented Verbena (Alloysia citrodora) now; for should the frost injure it it can be cut down with equal advantage in spring. We imagine, however, that if the roots are protected with litter, and the top thatched with Spruce branches, or covered with mats, it will winter safely.‡—*P, Camberwell.* Any of the dealers in netting can supply you if they choose. ‡

SEEDLING FLOWERS.

Petunia: *T D and Co.* Your seedling is a specimen of morphology. Where the anthers are changed or elongated into florets, which fill the tube, the flower is pretty, but would be prettier without these additions, as the tube being dark, the florets conceal this important feature in the flower. We should not think the change permanent.*

Scarlet Geranium: *P C.* The seedling you propose to name "Rosy Mord" is somewhat similar to Lucia Rosea, but the colour is more brilliant, having a dash of scarlet in the rose colour; it is, however, rather too late in the season to form a correct opinion of its qualities; it promises to be a distinct variety.*

WHEAT SOWING.

THE LONDON MANURE COMPANY beg to offer as under :—

LONDON MANURE COMPANY'S CORN MANURE.
" " " URATE. [LIME.
" " " SUPER-PHOSPHATE OF

Peruvian Guano, direct from Importers' stores—Fishery and Agricultural Salt—Gypsum for Clover—Soda Ash for destroying wireworm, and every other Artificial Manure.

The London Manure Company would call particular attention to their Corn Manure and Urate, the former containing a large amount of Ammonia, Phosphates, and Silicates, all so essential for corn crops, while the Urate is richer in Phosphates and other mineral substances required for roots.

Full particulars and prices forwarded on application.

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MARK FOTHERGILL, 201a, Upper Thames-street, London, offers the following MANURES for the Wheat crop, and warrants the quality to be genuine, viz. :

SUPERPHOSPHATE OF LIME (prepared from Bone only).

WHEAT MANURE (containing a large amount of Silicates, with rich Phosphates).

DRIED NIGHT-SOIL (obtained from a large public institution).

PERUVIAN GUANO (direct from import warehouse).

BRITISH GUANO (rich in all the Salts of Ammonia, Phosphates of Soda and Potash, &c., contained in the foreign, at a considerably lower price).

Also, Soda Ash (Wireworm destroyer), Gypsum, Urate, Nitrates Soda and Potash, Salt, Bone-dust, and all other manures of known value.—Apply for prices current as above.

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BY THE ONLY IMPORTERS,

ANTONY GIBBS AND SONS, LONDON;

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To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

The Agricultural Gazette.

SATURDAY, NOVEMBER 11, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

THURSDAY, Nov. 16—Agricultural Imp. Society of Ireland.
THURSDAY, — 23—Agricultural Imp. Society of Ireland.

FARMERS' CLUBS.—Nov. 13: West Hereford, West Market.—Nov. 17: Wadebrige.—Nov. 21: Straurner.—Nov. 23: Hereford.

We must add a few words to our last week's remarks on thin seeding, if only to refer once more (see page 193) to Dr. NEWINGTON'S SEED DIBBLE, which appears to be admirably adapted for carrying the proposed experiments into execution. But we must also allude to a letter on this subject received since last week, and published in another column. We readily acknowledge Mr. WILKINS to have exonerated himself from the charge of being an "unconditional" advocate of thin seeding: and we regret having used the word, which, nevertheless, was not intended at the time to bear the meaning now attached to it. The difference of opinion between us, if any still exist, must now be expressed somewhat otherwise. It is admitted by all that it is only under certain circumstances that the very small quantity of seed recommended will produce a fair crop; and the main result of the experiments we recommend will be an answer to the question as to what these circumstances are. We believe them to be far more than can be supplied after the seed is in the land. It is not so much a peculiar management of the crop as a peculiar condition of the soil that is wanted. It must be fertile land, so our experience teaches us, that will admit of so thin a seeding; and fertility is not a thing to be conferred by an extra hoeing during the growth of the crop. Ultimately, no doubt, thin seeding will be a common practice: but, over three-fourths of the arable land of this country, we do not believe that the conditions necessary to its success at present exist. Ultimately, no doubt, Mr. WILKINS will carry the day over all his opponents, but it will not be by their defeat, but by the gradual attainment of the circumstances to which they attach so great an importance.

Meanwhile, let us by experiment endeavour to ascertain what these circumstances are; and what their influence on this particular point of agricultural practice. To this end we recommend the use of Dr. NEWINGTON'S hand dibbling machine, a singularly ingenious instrument, which has been greatly improved since its first appearance in the past spring. It may be used to sow any of the quantities suggested for the trial; and though particularly intended for the smaller rates of seeding, the substitution of different sized seed-cups will enable the deposit of any quantity within reasonable limits. It is particularly useful in this case, for the uniformity which it will confer on all the circumstances of depth and position of seed; variation in which, under ordinary methods of sowing, is such a fruitful source of error in a comparison of results.

As regards the subject of BOX-FEEDING, on which Mr. WILKINS comments so severely, we can at present only remark that the *cases* which he describes no doubt deserved all his reprobation: but that the system, if he blames *it*, is not responsible for the mismanagement which some may have exhibited in attempting to carry it out. These "dungeons" need not be 2 feet deep; these "living cattle graves" may be the healthiest of stalls: the pestiferous holes which he has seen are no part of the scheme advocated by Mr. WARREN: and that cattle may be comfortable and cleanly on bedding suffered continually to accumulate under them, our own experience, and that of fifty other farmers, is ready to testify.

THE SMALL FARM SYSTEM.—The second point of our inquiry remains to be considered—"IS THE PROGRESS OF AGRICULTURE GENERALLY PROMOTED BY THE MINUTE DIVISION OF LAND?" Adverting only to France, we must glance at the results of the subdivision of land in that country, as we have often witnessed them in many parts, and collected them from intelligent writers among the French themselves. The state of agriculture is represented by some of their ablest men as extremely deficient and wasteful in a *national* point of view. However, the individuals composing the agricultural body may be happier than they would be under a system which would promote the consolidation of farms. The majority of Frenchmen, indeed, are in favour of a minute partition of land (which has followed from the abolition of the laws of primogeniture) because the majority of votes are against the elder sons; but what do the thinking part of the community say? M. MOLINARI, in the "Revue Encyclopédique," observes: "Unquestionably the principle of primogeniture is unjust and odious, but is not the *privilege* which supplies food preferable to the equality which starves? Is not the slavery of hunger and of miserable condition the worst of all slavery? Let us reduce the question to the simplest terms, in order to comprehend it rightly. Is it better to have a flourishing state of agriculture with an imposition paid to a privileged class, than to have a poor agriculture without paying that tax? If we compare the subsistence of the people of England with that of the same class in France, the answer will not remain doubtful for a moment; privilege will surely be the winner."

If we examine the returns of agricultural produce, either in the whole kingdom or the best cultivated and corn growing provinces, we shall find that the average produce per acre is considerably less than it is in England. Take Wheat for an example. France with its superior climate and fine soil (we will say in Normandy), yields less per acre than our land does, from deficiency of tillage or exhaustion of the soil, in consequence of the ignorance as to rotations, &c., the stupidity, and the want of capital in the agriculturists. It is computed that there are annually under Wheat 13,710,000 acres, and that the average produce is only 23,800,000 quarters; and the yield relatively with the seed is not so high as 7 to 1.

A ministerial report of Government inspectors, published by authority, states of the department of Isére, after lamenting the deficiency of artificial Grasses in proportion to the extent of the farms, that "the consequent want of manure experienced by many cultivators causes a regret at the suppression of fallows as a means of renovating the exhausted soil. The following facts are a proof of a truth but little recognised in France, that petty culture, instead of promoting the improvement of the land, tends directly to its exhaustion, when the capital of the cultivator does not correspond with his industry."

Of the department of Tarn it says: "The proprietor often lends the seed, supplies the cattle; the success of the *métayer* depends entirely on his chances from the crop." Of the Haute Garonne: "With few exceptions the farmers, after six or nine years' possession, abandon the land in a wretched state, and the proprietor is often glad to cancel the lease from which he received no benefit." Of the Côtes du Nord: "The exclusive advocates of subdivision of land say that the position of the cultivator is nowhere so good as where the division of farms is extreme. The actual state of this department completely refutes this Utopian notion. Wherever the lands are much subdivided there is a miserable deficiency of capital, and the culture can only be carried on by spade labour."

A variety of similar reports might be adduced to the same effect, but those which we have quoted are sufficient for the purpose at issue.

A recent writer of a very able review of the agricultural statistics of France, quotes a curious argument addressed by M. VASSY, formerly a peer and a minister of France, to prove what is a manifest paradox, namely that the large farms can coexist with a general minute subdivision of the land. "Aware that the whole range of statistical facts by no means indicates agricultural prosperity in France, he endeavours to apologise for it with the reflection that land on the whole will fall into the hands of those who turn it to the best account. The competition is so great that it will not remain in the hands of those who do not thrive upon it. The owners of these parcels, after erecting [illegible] for some years, are compelled by necessity to sell them, and the poor cottager [illegible] such wild theory is too absurd to be treated with a serious comment.

Among the numerous impediments which the small proprietor has [illegible] of agriculture in France, the paucity of cattle and sheep for the supply of butcher meat and the *accumulation of manure*, is [illegible]. The cultivation of land necessarily destroys [illegible] small holder requires a horse or two, or one or oxen, for draught, not counting asses, of [illegible] the southern moiety of the kingdom, there are about 250,000, each, of these being estimated equal to the labour of one man. France imports 37,000 [illegible] annually for the cavalry, from the want of large grazing farms; and from the same cause the number of sheep in France does not exceed 30 millions, with an average weight of 35 lbs. [illegible] England, under the large farm system, there are 50 millions of sheep averaging 70 lbs each. The implements of husbandry are bad, and from the imperfect construction of ploughs, teams of four and five horses, or oxen, are used where a single pair, with a Scotch plough, would execute the work equally well. All costly labour, such as that of draining, is unpractised. Small proprietors are powerless; they have no capital: no money; no speculative industry. They *cannot* do what the English landlords—what our aristocracy do every year in the way of encouragement and example; and from self-interest.

Small holdings are the ruin of agriculture, especially to landlords; because the [illegible] required for the support of their petty tenantry must often absorb the produce of the [illegible]; and, looking to the question in a national point of view, large farms, since their produce [illegible] market instead of going into the [illegible] occupiers, must necessarily add to the wealth of the nation. Small farms cannot employ [illegible]; large ones must, and therefore they are very useful in relieving a community of those who otherwise would be a burden to it. And for the same reason large properties are better than small ones. It would be well for France if her population could be brought to think so.

A poor man, whether as landlord or cultivator, cannot afford to lay out money in improvements; a man with a large income can. The gigantic scale of improvements passed by many of our great aristocratic proprietors, would astonish Frenchmen, as it often surprises ourselves: and the princely generosity of many of our landowners to their tenantry on necessary occasions is unparalleled in other countries. Yet we are not advocates for farms of vast dimensions; there are too many of these; especially when kept disproportionately under the grazing system. We would subdivide them somewhat, to suit the wants of lesser capitalists, and to increase the demand for labour. The average number of labourers in England is, we believe, three men to 100 acres. This is too low, but in France it exceeds eight for 100 acres; this is not too high.

We conclude with a remark made by the reviewer to whom we adverted at the commencement—but from memory. Though the bulk of produce raised from the soil by a great number of small farmers on a given area may be much greater than that which a large farmer will raise, it may amount to 25*l.* or 30*l.* an acre, though the farmer will not average more than 4*l.* or 5*l.* per acre: but it costs the farmer, with his machinery, but 1*l.* or 1*l.* 10*s.* per acre in labour, whereas the other spends three-fourths of his time in labour, which at 10*s.* per week would be 20*l.* a year. Here then is a decided loss. It depends, however, on this: can the man who expends this amount of labour on his field obtain 10*s.* a week for his labour? Here is the question. In France he certainly could not. The same may be said respecting Ireland. Therefore the system which we deprecate for England, and which would be the destruction of her agricultural prosperity, may do very well for France and Ireland, under the special circumstances affecting them.

The remarks we have thus made are to be understood as entirely irrespective of Ireland—the consolidation of farms there, in any degree commensurate with the size of those in England, is impracticable under the peculiar state of land tenancy in Ireland, and the want of money capital. It would be barbarous and injurious to attempt it: but a landowner who has well sized farms, suited to the capital of the country, will act wisely in not subdividing them: and fortunately our laws do not, as in France, necessarily lead to the extremely minute partition of land, which has acted as an insuperable bar to the advancement of agriculture in France. How true is the maxim, "Est modus in rebus." &c.

ON SELLING WHEAT BY WEIGHT.

An important meeting of gentlemen connected with agriculture took place at Liskeard, on the 14th ult., to take into consideration the propriety of selling corn by measure, and not by weight. Although no public notification of the intended meeting was made, yet most of the leading agriculturists of the neighbourhood were present.

Mr. Sobey of Tencreek having taken the chair, said he more readily accepted the present prominent position, as he had long wished to direct the attention of the agriculturists of the neighbourhood to the present system of taking the averages, as well as to the common practice of selling corn by weight. The standard of weight varied in almost every neighbourhood. In the western part of this county, the standard for Wheat is 9 scores and 6lbs. for a Cornish bushel, or 3 imperial bushels. At Tavistock they sold 7 scores, and called it a bushel, meaning 2 imperial bushels. At Plymouth 6 scores and 5lbs. for a bushel, intending the same measure. Now, gentlemen, said Mr. Sobey, it is a matter of great consequence to know how those various weights are returned in respect of the averages. I am told, in the west they return 62lbs. to the bushel, and call it the imperial measure. At Plymouth and neighbourhood, the custom is to buy 62½ lbs. to the bushel, and return it as imperial measure. Now, I need not tell you, gentlemen, that the averages taken of British grown corn in the 290 different towns in the kingdom, regulate the duty paid on foreign corn imported into this country. However, we are so near the end of that chapter, that it is not now worth considering. But there is another money payment which is also regulated by the averages; I mean the rent-charge in lieu of tithes. We all know that we have just emerged from the worst harvest we have had for the last 32 years. Our Wheats are much injured and very light. Will it not be the height of folly on our parts to go on selling 62½ lbs. to the bushel, and have it returned as the imperial bushel? I will venture to state that the average weight of Wheat grown in this neighbourhood is less than 60 lbs. per imperial bushel, consequently we shall have to add a 16th part of a bushel to make it the 62½ lbs., and then have it returned for the purpose of the averages as an imperial bushel to regulate our payments in lieu of tithes. I am not asking you to do injustice to any man, but what I want is, to direct your attention a little more to your own interests, and at once resolve to add nothing to the bushel for the purpose of making it weight, but sell the lawful bushel for what it is worth, and see the returns fairly made. I think, in fairness to the purchaser, the weight of what he buys should be stated and guaranteed. It would at once disarm the miller from stating that he cannot depend on purchasing by samples, because the bulk is scarcely ever so dry. The miller surely must be judge enough to know that if 8 gallons is worth 8*s.*, 7 gallons must be worth 7*s.* I have no hesitation in saying that the 16th part of all the Wheat grown in this part of the county is entirely unfit for human food, consequently we have sustained a very heavy loss in respect of our returns—another 16th in the shape of after corn is to be deducted as fit only to be eaten by the grower or consumed in his family, because the miller buys nothing but the best, and that 62½ lbs. to the bushel. If we were to see clearly our own interest in this matter, every grain of corn should be sold, and proper returns made, in order to keep the averages in their proper position. Now after seeing we have lost a 16th of our Wheat by the wetness of the season, and deducting another 16th as after-corn, that no return is made of, I ask you whether you are prepared to add a 16th more to the bushel for the purpose of making it weight, and having the greater price, and the less bushels, or selling the imperial bushel for the less price, and having the more bushels. There is no earthly reason that I can see for your doing so, but that you may have the more money to pay in the shape of rent-charge in lieu of tithes. Can you tell me which you gain most by? By selling 17 gallons to the 2 bushels for 17*s.*, or 16 gallons for 16*s.*, evidently the latter, because the returns are not properly made.

I have heard some of the largest purchasers of grain in Plymouth state they always buy 125 lbs. of Wheat to the 2 bushels, and make the returns for the averages as they buy it. Now surely we cannot submit to this; we not only wrong ourselves as growers of corn but do an injustice to those who do not grow corn at all, I mean those who farm grazing estates and pay tithes according to the averages returned of the corn we grow; and how much greater wrong do we do those who are farming at corn rent? The averages, as at present taken, bear heavily on the needy farmer, the bulk of whose corn must be sent to market and sold within two or three months after harvest in order to meet his expenses. It often happens in the spring of the year, when corn is fetching a better price, he has little to sell, and probably before another harvest himself a purchaser; having to pay his tithes on the then averages founded upon prices far beyond anything he has realised. I have myself grown and sold as much corn in the last 20 years as probably any person that hears me, and I can state, without fear of contradiction, that I have never, during that period, sold a single bushel of corn by weight; I mean I have never added to the 4 pecks to make it any given weight, and have experienced no difficulty in finding purchasers. I am not quite sure we are not offending the law, by selling more than the imperial measure; be this as it may, we certainly do a great injustice to ourselves by following such a course.

It is truly said that there is no class of persons so negligent of their own interest as the farmers, none so difficult to persuade to alter old customs. If such an anomaly existed in any other branch of industry, there would be meetings held in every town in the kingdom, subscriptions entered into for the purpose of agitating the whole country. Surely, gentlemen, it needs no further argument to convince you that it is our interest to adopt a different course. If I have succeeded in convincing you that we are wrong in following the present system of selling by weight, let us pledge ourselves, from this day, to sell the imperial measure and nothing else; and make our resolve known by publication or otherwise, as the meeting think proper, to the other parts of the country, that they may imitate our example, till at length we may see the intention of the law carried out in the whole length and breadth of the land.

Resolutions in accordance with the above remarks were then passed, and the meeting separated. *Cornwall Royal Gazette.*

CHEAP MANURING.—No. III.

It was said in our last that the combustible ingredients dissolve away in the air, from whence the plant gets them again. The farmer must then bear in mind that plants feed both by the leaves and roots; the leaves drawing carbon from the air, whilst the roots draw water (consisting of hydrogen and oxygen) from the soil. Our business, in manuring, is with the roots: but it must be here observed, that although the leaves will draw carbon from the air, enough for the natural produce, yet to get up a cultivated crop, of 10 or 20 times more than nature could produce, we must help the carbon by the roots also, which is a main purpose of dung dressing; the dung containing much carbon, which dissolves in the sap that is taken up by the roots. Our cheap manures will strengthen the plant, and thus help it to draw more from the air than it could without them; but the greatest crops are to be expected when we feed from below as well as from above, as carbon constitutes near one-half of the solid substance of the plant. And here we may pause to remark, that green vegetables may contain, upon the average, ¾ of their weight of water; 400 lbs. leaving only 100 when thoroughly dried. And of that 100 we may average

Carbon	48		
Oxygen	38	Ashes	5
Hydrogen	6		
Nitrogen	3		

Thus the incombustible ashes are only about one-twentieth of the plant when dry (or one-eightieth when green and fresh); and as the four combustible elements constitute the substance and form of the plant, they are generally called its organic elements; whilst the ashes, thus slightly distributed through them, are commonly termed inorganic. This the farmer is to remember when he hears of inorganic manures, &c., which he will frequently find in agricultural publications and advertisements.

The (combustible or) organic elements then (carbon, oxygen, hydrogen, and nitrogen) are all found in every plant, and do not differ very widely in proportions; but the inorganic are much more variable. What their duty is, in such small quantity, is not satisfactorily ascertained; but careful experience has proved their absolute necessity to the plants' thriving and maturing their seeds; that for this purpose, some plants require different constituents and different proportions from others; and that where the land is deficient in, or exhausted of, those which the plant requires, the languishing plant quickly recovers its vigour when they are (properly) supplied as manure. And when we are aware that they constitute only one-twentieth of the dry, or one-eightieth of the fresh green produce; and that even of this small proportion, the soil generally contains the greater part, and that much of the remainder is of very low price; we shall begin to understand why materials of such light carriage and little cost should form the basis of Cheap Manuring.

Of the 11 inorganic constituents enumerated in our last, four, Silica, Alumina, Iron, and Manganese, are generally present in the soil (except in mere sand or chalk); and lime is used as a digestive manure, in much larger quantities than the plant consumes. Soda and muriatic acid are both supplied in common salt, worth 1*s.* to 1*s.* 6*d.* per cwt.; but as much more of the soda is required than of the acid, the additional quantity may be supplied, cheap, in soda ash, at 12*s.* to 16*s.* per cwt., or still cheaper in crude sulphate of soda, at 6*s.*, which supplies sulphuric acid at the same time. And sulphuric acid may be supplied still cheaper, in gypsum, worth about 2*s.* per cwt. The only inorganic constituents of serious cost are magnesia (of which so very little serves, that crude sulphate of magnesia, 1 cwt. at 10*s.* to 15*s.*, is enough for 3 or 4 acres), and potass and phosphoric acid, which are of the utmost importance, required in larger quantity, and of not inconsiderable price. Potass, however, exists in all vegetable matters, and phosphoric acid in all animal excrements; and both are therefore present in the dung heap, unless it is drained and water soaked (when that is the case, there is no knowing what it contains; its character and quality are lost). But the direct supply of potass is in vegetable ashes, or weeds, roots, hedge clippings, &c., unburnt, but composted with earth and lime (not rotted in water, which washes all the potass away). But our green crops carry off so much potass, that with all good economy, many crops, and even entire estates, would be the better for a further supply: and as wood ashes are costly in the quantity required, a cheaper supply is very desirable. Such an one we have at hand and inexhaustible, though hitherto quite neglected. Our granite will probably contain 5 per cent. of potass; which may be rendered available by heating, crushing, and working with lime; for which I hope to give detailed instructions in a future letter.

For phosphoric acid, the most direct source is bones; of which great quantities are lately discovered in a fossil state. They are softened and rendered more active by acid, either sulphuric or muriatic. A cheaper supply would be in night soil and town sewerage if properly saved, which is more and more attended to every year. Potash and phosphoric acid are, then, the chief subjects of care in inorganic manuring. In our next we will see what each crop carries off, and the cheapest means of supplying them. *J. Prideaux.*

PATENTED SYSTEM FOR STEEPING FLAX.

About 18 months ago, partial trials of its efficiency were made, on a small scale, in Belfast, the Secretary to the Irish Flax Society and Mr. Haslett, one of the Society's agriculturists, having superintended the operations. The result satisfactorily established the truth of the patentee's declaration, that Flax could be as thoroughly retted in 60 hours, by steeping in vats in which the water was maintained at a temperature of 90° Fahrenheit, as it is generally, on the usual system, in from 7 to 21 days. Subsequent comparisons of the two modes, by a man of Mr. Davison's, County Monaghan, confirmed this fact, and established the further important point, that the yield of fibre from the straw is greater by the patent process than by the ordinary method; the amount of Flax from 112 lbs. of straw being by the former 20 lbs., by the latter 24 lbs.—a difference of 20 per cent. in favour of the American system. From experiments made by Messrs. W. Renshaw and Co., of Manchester, it further appeared, that of those two samples, the former spun to 101 lea yarn, the latter to 96 lea. But it was desirable to ascertain the practicability of conducting the operations of steeping and drying on a more extended basis, in an establishment specially erected for the purpose, where the efficiency and cost of the process could alike be determined, in operating on a large quantity of the material. Mr. Schenck, the agent of the patentee, having entered into arrangements with Sir Richard A. O'Donnell, Bart., of Newport, Mayo, and being associated with Mr. Bernard, of Manchester, and other parties, an establishment for working out the system was set on foot, in that locality, within the last few months.

The premises in which the process is carried on are situated on the Newport River, about half a mile from the village, and a short distance from a fine scutch mill, of 12 stands, driven by water power, which has been rented by the Company from Sir Richard O'Donnell. The tenements, containing the vats and drying shelves, are simple wooden sheds of cheap construction. In one end of the building are four vats, set parallel to each other, the length of the house. They are made of inch deal, in the form of a parallelogram, 50 feet long, 6 broad, and 4 deep. There are false bottoms, perforated with holes. Underneath these are introduced the steam pipes, crossing the vats, and having stop-cocks at their entrance, by which the steam can be let on from the main pipe, as required. The steam is generated in a small boiler, which also serves to turn two hydro-extractors, a patent apparatus used to drive off a portion of the water with which the Flax is saturated, on being taken from the vats. The Flax is packed into the empty vats, on the butt ends, in a half sloping position, precisely as in the case of a steep-pool, only one layer being the depth. The water is then let in, and a frame fastened over the top of the Flax, answering the end of stones and straw, or sods, in the steep-pools—the prevention of the rising of the Flax in the course of fermentation.

The steam is then let into the pipes by turning the stop-cocks, and the water is some 18 or 20 hours in becoming heated to the required point, 85° to 90°. The fermentation then commences, and no further steam is required, the action going on until the Flax is thoroughly retted, which is in 40 hours afterwards, being 60 from the time of the admission of the water. It is worthy of remark, that if the water be heated before the Flax is put in the vat, or if the heat be raised above 90°, the process is not in the least hastened, but, on the contrary, the fermentation is rather retarded. The footsteps of Nature must be followed, and the heat gradually communicated to the water; otherwise the uniformity of watering, and the preservation of quality and colour, cannot be fully realised. At the end of the 60 hours, the Flax is taken out, the water allowed to run off, and the vat permitted to cool. The same process is then repeated, with fresh water and fresh Flax. When taken from the water the Flax is packed in the hydro-extractor, which is a round vessel of iron, made to revolve by steam power, with great velocity, the water being driven out of the Flax by the principle of centrifugal force. Thirty beats are placed in this machine at a time, and about 20 lbs. of water are extracted in 3 to 5 minutes. A few hours suffice for the contents of a vat, each vat containing two tons of Flax straw. The hydro-extractor only separates a portion of the water; the Flax now remains to be thoroughly dried. In summer, or, indeed, for six months in the year, this can be accomplished as usual, by spreading on Grass land, in the open air. During winter, however, it is necessary to find other means of drying. A shed has, therefore, been erected, communicating by doors with the vat-house, filled with ranges of shelves, composed simply of railings of lath wood, in five or six tiers. The Flax is spread lightly along these shelves by women, and the house is heated by steam-pipes.

When the shelves are filled, the doors are closed, and the steam let into the pipes. This house is capable of drying the full of one vat per diem. The Flax, when dried, is made up in small beats or handfuls, of a size suited for feeding into the breaking rollers of the mill.

About 10 vats per week can be steeped in this establishment—say 20 tons weight of straw, and producing say 2½ to 3 tons of fibre. Thus, in one year, such an establishment would be capable of turning out 120 to 150 tons of Flax for market, being the produce of 400 to 500 statute acres. The fuel used for the boilers is principally shoves, with a small quantity of turf. Mr. Bernard estimates the cost of steeping, drying, heating, and scutching the Flax at 10*l.* to 11*l.* per ton, which is 3*l.* per statute acre. Subtracting, say 10*l.* per stone, or 6*s.* per cwt., for scutching, the cost of steeping and drying would thus appear to be about 24*s.* per acre—a sum certainly less than the usual estimates of these operations, as commonly performed by farm labour. The number of persons employed in the steeping and drying-houses, and generally about the establishment, is 40—10 men and 30 women. The scutch mill contains 12 stands, and the usual turn-out is 3½ stones to each stand per diem, or 42 stones for the whole. Thus, this mill would be barely sufficient to scutch all the Flax that could be steeped in the other establishment; it would require about 18 stands to do so effectually. In the mill, 12 men and 11 women are employed; making, in all, 22 men and 41 women, or 63 hands, as a total employed in both branches of the establishment. About 1500*l.* of wages is distributed per annum.

At the time of my visit, the Company were chiefly occupied in retting and scutching some Flax which had been already steeped, in the usual way, last year; but, owing to the lateness of the harvest, had not been sufficiently done, and was now being re-steeped in the vats. The quality was inferior, as regards coarseness, but very strong, and with a good deal of nature. Of this year's crop, dried on the Courtrai system, a small quantity had been steeped and scutched. The samples produced are of excellent quality, some of them apparently equal to the very finest specimens of Irish growth. Hackles are kept at the establishment, that the Flax may be tried after scutching. A small quantity has already been shipped to England. The Flax is brought into the precincts by the farmers, just as pulled and dried in the field, on the Courtrai system, or a rude imitation of it. The seed remains on it, and it is stacked in long ricks, thatched with inferior Flax, and tied down with coarse ropes twisted out of the scutching tow. A bottom of stones keeps the rick dry, and a small channel is cut round each, to let away the rain. When a stack is taken down, the seed is beaten off and cleaned, the best of it reserved for sowing, and the rest available for feeding or crushing, for the former of which purposes the husks and chaff are also valuable. Mr. Bernard estimates the average produce of good seed as 7 bushels per statute acre, besides light seeds and chaff. It is worthy of remark, that the Flax dried on the Courtrai mode, and steeped on the patent system, produces a fibre of more than average excellence of quality, while, on the same system, almost invariably here, when treated in the usual way of steeping, whether in the autumn of the same year, or the summer of the subsequent one, the quality of the fibre has been deteriorated, and scarcely an instance of a fine sample has been known. I shall now allude to the advantages of this method of steeping:—

1. The objections which have been made to saving the seed by rippling, from unfavourable weather for drying the bolls, scarcity of hands to ripple and steep in one day, careless labourers at the combs, by which the ends of the Flax have been injured, expense of drying the bolls, &c., &c., are all obviated; since the simple drying of the entire plant, as pulled, and the after threshing out of the seed, is all that is required. Hence, were this mode of steeping generally adopted, the seed of the entire Irish Flax crop could be saved, with the greatest ease, every year. The value of this may be estimated, by considering the entire produce of an average crop of seed. Taking 75,000 acres as the average breadth of Flax sown, and Mr. Bernard's estimate of 7 bushels good seed per acre, we have, for the whole crop, 525,000 bushels—of this quantity would be required to sow the same breadth next year, 187,500 bushels, leaving available for feeding or crushing, 337,500 bushels. The value of 187,500 bushels for sowing, at 10*s.*, would be 93,750*l.*; the value of 337,500 bushels for feeding or crushing, at 5*s.*, would be 84,375*l.*; the value of the light seeds and chaff of 75,000 acres, at 10*s.*, 37,500*l.*; being, per annum, a total realisation of 215,625*l.*

The value of the American mode of steeping, or its equality, in point of efficiency and economy, to the usual mode, once admitted, I conceive the above facts of the most extreme importance to the country, as realising such a large addition of natural wealth, now, to a great extent, neglected and destroyed.

2. The reducing to a certainty an operation hitherto attended with risk, owing to the fluctuations of temperature in the air and water, and the comparative skill of farmers, and attention of their labourers. It is well known to every one who has managed Flax, that one sultry night, while it is in the steep, and nearly retted sufficiently, is enough to carry the fermentation beyond the safe point, and to weaken the fibre, so as to cause after loss in the scutching. So much is this feared by farmers, that almost all Flax is under-watered; and, although much of it is afterwards mannered on the Grass, so as to obviate this fault, yet a great proportion is brought to market, with the shoves still unseparated, in bits, on the fibres. The uniform temperature of the water, as heated by steam, ensures the uniform retting of the Flax, while the hands become skilful in knowing the exact point at which the process should be arrested. In all they have steeped, the Company have never had any but one vat-full which was not done with precision.

3. A uniformity of the quality, and a neatness of handling, is much more likely to be obtained, from a set of persons constantly engaged in working with Flax, throughout the year, than from farm labourers, taking up the steeping and grassing of Flax once in every twelvemonth, and reducing a critical and semi-chemical operation to a mere item in the usual work of the farm. This is very evident, and requires no demonstration.

4. It has been frequently acknowledged that Flax would be much more generally grown if a market could be offered for it as pulled; farmers often objecting to the trouble and risk entailed in the subsequent manipulations. In recognition of this, the Society, five years ago, encouraged the establishment of Flax factories in Ireland. This branch of it has been given up, owing to the difficulties that attended the enterprise experienced, of managing a large quantity of steeped straw. The same object is now attained in the case of the American system, since the Flax, when dried as pulled, and stacked, can be kept in this state without deterioration of quality, until it be convenient to ret it. There is now no inducement except for capitalists to embark in such a business, from the indestructible nature of the material on which they have to operate.

5. Where steam exists, as a motive power for our land or machinery, vats can be erected at small cost, and the spare steam used to heat them, without the expense of an additional boiler and apparatus. Hence the easy application of this system, in almost all parts of the country, and at small adaptation, when a scutch mill is driven by steam, the best being the shoves produced in the scutching operation. The mill would then work up the Flax produced in the vats; and the steam generated by the shove fuel would equally drive the engine, to scutch the Flax and heat the water to ret the next.

These are the chief points on which I would found an estimate of the advantages likely to be derived from the general adoption of this system of steeping. There are other minor points, of considerable interest, such as the employment of a number of hands throughout the year permanently, where hitherto the management of Flax has only formed an item of the usual field labour of the agricultural population; the training of these in a semi-manufacturing occupation, inducing habits of system and industry in remote districts, where the desultory character of farm work has not this desirable effect; the uniformity and superiority of handling which must raise the character of Irish Flax, and induce its consumption by the continental spinners. These are a few of the good effects which might be expected to arise.

It may appear that I have taken a rather sanguine view of the merits of this system; but I simply speak from the conviction induced by personal observation. In my opinion, the only points now necessary to determine are, whether this process exerts any weakening effect on the fibre, and whether the linen made from it is as readily and purely bleached as on the ordinary process; but if, after spinning, weaving, and bleaching, the linen made from it be pronounced, by competent judges, as equal to that made from Flax steeped in the ordinary way, I shall have no further hesitation in recommending the committee to pronounce in its favour, believing, as I do, that it is calculated to effect a complete revolution in the cultivation and preparation of Flax in Ireland; *James MacAdam, jun., Sec.* (Report to the Committee of the Royal Society for the Promotion and Improvement of the growth of Flax in Ireland). *Abridged from the Northern Whig of 28th Oct.*, 1848.

THIN SEEDING AND BOX FEEDING.

Among your numerous controversial correspondents, and many of them are most valuable ones, it is not likely that you can pay much attention to the communications of so humble an individual as myself; but your known candour and urbanity will not permit you to do an act of injustice to any individual, however insignificant he may be in your own or the opinion of any portion of the subscribers to the *Agricultural Gazette*. I make these remarks in reference to your Leading Article of last week; in that you represent me as advocating thin-seeding alone, as if I were weak enough to suppose, and especially to publish to the world, that the bare seeding of land with a proper quantity of seed, and no more, would be an antidote against all the absurdities, and, I may add, monstrosities which now exist in enlightened England in agricultural practice. I have written several letters on purpose to show that I never entertained, nor advocated, nor published such an absurd opinion. I will challenge the world to show that my language has not been just the reverse. I have spoken and written of a system of agriculture founded on the improved knowledge of the sciences with which it is connected, and, adopting the language of Liebig, I have called this a system of "rational agriculture," a system of agriculture founded on scientific principles, &c., but I have never been weak-minded enough to contend that such a system exists in thin seeding alone. On the contrary, thin seeding, I have stated, is a mere link in the chain of agricultural improvements, but very far from being the chain itself.

The nearest I ever approached to such an absurdity as this, was in my challenge to Mr. Matson; but, even in that, there is a line of demarcation which I did not pass over. I allowed the portion of the lands, on which the trials were to be made, to be cultivated by the owners or occupiers of them, exactly as the other parts of the fields were, until the seeds were to be put into them; but there I stopped all farther interference by any one except by myself. I reserved the right of seeding the land myself and by my own system, confining myself to one-fifth of the quantity of seed only which Mr. Matson contended was the minimum quantity for a full crop of corn. I am aware that this would have been a rather dangerous trial on my side of it; but as experiments of this kind can be made only once a year, and as a year is no trifle in what remains now of my earthly existence, I was anxious to make the trial (unfavourable to me as it would have been) whilst I had an opportunity, not knowing what another year may bring forth. In the system I have always contended for, as much depends upon the manner in which the seed is put into the ground as upon the quantity of it; I have neither advocated a uniform quantity of seed per acre, nor a uniform depth at which I should deposit it in the earth; but I should never exceed 2 pecks per acre of any kind of Wheat, but what my minimum quantity would be I have not at present exactly determined. With this explanation of this subject, for what I know the hundredth time, I observe that I shall not consider any trial of this sort a satisfactory one unless every grain of corn is [illegible] ground at the proper depth, and [illegible] planted at a proper [illegible]

And with reference to [illegible] a my wife I have adopted [illegible] and consequently all [illegible] me, or rooting your pet [illegible] armed than a steam. I [illegible] have found a system that [illegible] pain of treating cattle [illegible] manure and [illegible] I became a [illegible] and [illegible] each had [illegible] to crawl out. These modern inhuman abominations I have strongly [illegible] abominable, [illegible] graces," as my [illegible] tamed them [illegible] human beings [illegible] their own [illegible] each had [illegible] But in this view of these [illegible] science and [illegible] more on this account, the [illegible] gases in them are [illegible] over and [illegible] But in this view of these [illegible] science and Christian world, I [illegible] will give the advocates of these [illegible] noxious vapours permission to [illegible] of scientific men, to exclude any one or the whole of them, and then, if their [illegible] them, I will [illegible] or be cast into Nebuchadnezzar's burning fiery furnace. *George Wilkins.*

Home Correspondence.

Agriculture and Commerce.—[illegible] I was in the creet, in my communication "On Irish Farming," of the 9th Sept., in saying "It [illegible] frequently told, that there [illegible] between the cultivation, habits, and [illegible] Catholic and Protestant [illegible] and if so, what is the real cause or [illegible] line of demarcation is palpable everywhere." And perhaps it was as discreet or careful [illegible] it; but your Wexford correspondent [illegible] I think, in his boiling wrath and [illegible] vengeance, and it not amply gratified, [illegible] his person, and all others [illegible] thereby. The truth (either way) [illegible] be brought out by investigation and [illegible] I would by your permission just observe, that I [illegible] will give no such offence to any person, [illegible] that cleanliness, industry, and [illegible] next to godliness, it has always struck me that, [illegible] connected, they ought to be specially taught and enforced by all religious teachers: and that everything tending to weaken or separate them should be shunned. I am inclined to go further than this, and [illegible] every university (of all sects) should have a [illegible] for clerical students to observe, [illegible] and recreate themselves in this interesting and important science, so that in a few years they might be exerting their beneficial influence in every parish of the United Kingdom; they have their boat clubs, &c., why not their agricultural clubs? Why not annual competitive [illegible] between Oxford, Cambridge, London, Edinburgh, Glasgow, Maynooth, Trinity? Now I do not believe any Englishman will be offended at my expressing my opinion [illegible] that the Scotch, for some time to come, will beat the English, as the Scotch farmers are [illegible] of late generally. But what I am [illegible], and what I have, I know, is "a poor test." Well then, I [illegible] what I have seen with my own eyes, whether credit is [illegible] after the viper discussion. I have seen in a district a dozen of Quaker farmers to some hundreds of others, and that the Quakers are vastly superior farmers, keeping a good household table, care of their live stock, and making more profit by their superior culture. So also the difference has been manifest in "my own eyes" between the farming and cottage [illegible] of parishes with a sporting parson (which is [illegible]), and those wherein the clergyman has been [illegible] the spiritual and temporal welfare of his flock. I will say nothing of the superior cultivation, peaceful habits of the Moravians, in which society industrious cultivation is taught and encouraged under the same principles. The conclusion which I have come to on the subject is that religious teachers should be imbued with the importance as well as some knowledge of the subject. That the beer and whiskey shops should be got rid of; superstitious revels and perilous sporting be abolished as inimical: and the higher and more pleasurable pursuits of the peasantry universally encouraged—such as cottage plot culture and cottage dressing exhibitions, the delightful results of which begin now to appear in many parts of Great Britain. And in keeping with this, I believe Lord Ashley, Father Mathew, and the Lord Lieutenant of Ireland, who has sent agricultural missionaries over a great part of Ireland, to be great benefactors, notwithstanding all the opposition and reprobation they have met with. With regard to the viper controversy, to which your Wexford correspondent refers, although long, tedious, and sometimes ridiculous, I have learnt to believe a little on both sides, but the whole of neither; but what is of more conse-

quence, the inquiry and search excited must ere long bring a solution. As my Wexford friend pities my credulity in believing respectable eye-witnesses, and proffers to enlighten me and the public in Irish verities, will he say whether there are or are not vipers in Ireland. If not, what is the cause or agency of their exclusion or expulsion, in order to apply the remedy in England, after the controversy about them be settled. I may have been too credulous, like many others, on report on this subject, but would avoid a second rebuke. *A. B.*

Reaping high or low.—At a recent meeting of agriculturists the following question was proposed by the chairman for discussion, Whether the Scotch method of reaping Wheat close to the ground, or the more prevalent custom in England of leaving stubble, was most beneficial to agriculturists? It was argued on the one hand, that Wheat straw being more valuable than stubble, the additional quantity gained by the Scotch method, taking also into consideration that the expense of an additional cutting was saved, rendered the mode adopted by the Scotch agriculturists the preferable one; and on the other hand, that the stubble was so necessary for thatching and for litter as to render it almost indispensable for the purposes of agriculture. The instances of mowing Wheat in some of our counties was also alluded to, when it was objected that it would be more likely to shed under such process than by reaping, and it was answered that the expediency of letting Wheat stand until thoroughly ripe had been much questioned, inasmuch as it had been found by experience that prior to its attaining that stage it ceases to derive nourishment from its mother earth, and produces a better sample and more flour than it does when allowed to remain until fully ripe. If some of your correspondents who have tested these methods will have the kindness to give us the benefit of their experience, they will promote one of the objects of your journal. *A Constant Reader.*

On Planting Wheat.—The improvements which we see daily going forward in the agriculture of this country, and the duty which I conceive every one owes to society to contribute towards those improvements by any means in his power, induce me to transmit to you, for the information of the readers of your journal, the result of an experiment made on my farm in the planting of Wheat in the past year. From the quantities of seed sown you will perceive that I am a disciple of Mr. Hewitt Davis. I am also strongly inclined to think that dibbling Wheat is the most advantageous mode of planting, where the land is clean and in good condition, and the Wheat can be got in very early. The land upon which the experiment was made was part of a Clover lea which came round for Wheat last year in the usual four-field rotation, viz., Turnips, Barley, Clover, and Wheat; it is a lightish loam; no additional manure was used except that in the spring; the whole was dressed with a top-dressing of soot and salt mixed, there was, therefore, not the slightest difference in the cultivation of the land experimented upon, and the three different plants adjoined each other. The three modes resorted to for planting were, 1st, broadcast and pressed; 2d, drilled 12 inches apart; and 3d, drilled with Mr. Newberry's patent dibble, an instrument which I consider as near perfection as possible; its only fault which I can at present discover being that the cups deposit too large a number of seed corns. Between the drilled and dibbled, there was but little difference, but what there was was in favour of the latter, the straw being longer and stronger, and the ears and berry bolder than the drilled. 1. *Broadcast and pressed:* Seed sown, 1 bush. 3 pecks per acre; produce, 3 qrs. 7 bush. 1 gall. per acre; weight, 62 lbs. the bushel. 2. *Drilled* 12 *inches apart:* Seed sown, 1 bush. 2 pecks per acre; produce, 4 qrs. 3 bush. 1 gall. per acre; weight, 63 lbs. the bushel. 3. *Dibbled with Newberry's patent dibble:* Seed sown, 1 bushel per acre; produce, 4 qrs. 3 bush.; weight, 63½ lbs. the bushel. *Kenyon S. Parker.*

Guano on Wheat.—I beg leave to inform you that in the spring of this year one-sixth of an acre of three different descriptions of Wheat was dressed with guano on a damp morning, at the rate of 2 cwt. per acre. At harvest they were each carried to separate barns, with the produce of a like portion of the fields to which no guano had been applied. I have every reason to believe the following statement to be a faithful account of the transaction:

White Rough Chaff. Produce per acre—bsh. pk. qt.

Guano	21	1	4
Nil	18	1	4
Increase	3	0	0

And 17 trusses of straw.

Red Spalding.

Guano	24	2	0
Nil	18	3	2
Increase	5	6	6

And 17 trusses of straw.

Essex Red.

Guano	36	2	5
Nil	32	0	2
Increase	4	2	3

And 15 trusses of straw.

The portions of land selected formed parts of three very large fields of Wheat. *J. N. B.*

Reasty Bacon.—In answer to one of your correspondents enquiring how to avoid this evil, I beg to state that I have had the experience of many years; that we used to have reasty bacon at our house, although home cured, and that we have none now; and that the secret is simply this—dry it thoroughly and keep it dry. The best place for a flitch is on a rack immediately over the kitchen fire, but above the immediate influence of its heat; but I have insisted upon my bacon when dry being cut into pieces, and packed in sand dried in the oven, or dried bran, or dried fowl Barley, or, in fact, anything which will keep it dry and unexposed to atmospheric changes, which are the cause of the evil. We have long eschewed smoke drying. I know an excellent farmer who makes his own malt and keeps his hams (capital eating they are) in the malt; *H., Oxford.*

Stable Smells.—Another correspondent enquires how to correct stable smells, and he is rightly answered, by gypsum; but allow me to suggest whether it may not be got in a cheaper form from gas lime, the use of which is little known. In its caustic state, it is positively the best thing for destruction of slugs, snails, and weeds ever known. If you put salt upon a slug, he crawls out of it, and it takes a second dose to kill him; but once touch the largest slug or snail with fresh gas lime, and he never moves afterwards; it is therefore excellent for broadcast work, or for ditches, and if exposed to the air and mixed with dry sand or earth, I should think it equally good in the stable, but of course not in a caustic state. *H., Oxford.*

Hares.—Pray exert all your influence to "put down" the hares in this country. I have for some years been a silent witness of the ruin which they are continually bringing upon steady and industrious men. This day I have been witness to that which has induced me to beg of you to do all you possibly can, through your influential journal, to put an end to this terrible state of affairs. No man who has not witnessed these things, can form any idea of the extent of injury done by these greatest of vermin. *Anonymous.*

Mr. Mechi's Crops.—I have received a note from Mr. Mechi in reference to the letter of Mr. Baker published in the *Agricultural Gazette* of the 14th Oct. Mr. Mechi writes that prior to harvest it was the opinion of himself and of his labourers that his piece of Wheat to which I alluded in my letter would be near 7 quarters an acre; and that now it is their opinion that it will be 6 quarters an acre. Mr. Mechi likewise adds, that I may make what use I please with this communication; therefore I should be obliged if you would give it a space in the columns of your valuable journal. I also beg to add that I have received three letters from gentlemen who visited Mr. Mechi's farm before harvest, the writers of which observe, that they also estimated that portion of Mr. Mechi's Wheat at about the same; and one of them adds, that it was remarked, when he saw Tiptree Hall Farm, that if there were not 7 quarters on that particular part of it, 7 quarters had never grown on any land. And to these testimonies let me again observe, that there were gentlemen, both landowners and tenants, at Mr. Mechi's on his grand day, who returned home impressed with the conviction that Mr. Mechi had Wheat which would yield 7 quarters an acre; I add, too, that each of them farms very extensively. Of course, all may be deceived as to the precise quantity, since this season has deceived very many excellent judges; but on the judgments of so many practical men, I again publish, that I will take the same portion of Mr. Mechi's crop off his hands at 6 quarters an acre, which in my letter I said I saw. *George Wilkins, Wix, October* 31.

Education of Labourers.—If the United Kingdom cannot, in 1848, support the population, what is to become of the country in 1858? When a nation is suffering under any real or imaginary distress, it is the paramount duty of her sons and daughters to investigate the cause of the evil, and endeavour either to apply a remedy or suggest plans to obviate a calamity which, if not alleviated, must gradually increase in force till it overwhelms all classes in ruin and confusion. It is a lame excuse to allege inability to advance to the rescue from want of influence, poverty, or a thousand other reasons too ready to rise up in favour of idleness, and a disinclination to engage in rather a troublesome occupation, which seldom repays those who enter upon it, in anticipation of receiving an overflowing cup of gratitude. The tardy adoption of a particular plan should never deter the philanthropist from engaging in a work which has for its object the benefit of mankind. How many men have devoted time, health, and fortune to perfecting an invention which has brought poverty to their own doors, but afterwards enriched thousands. Because we are not certain of reaping the harvest from the grain we sow, are we to allow our fields to remain uncultivated? In like manner, because we are not sure of being able to carry out measures to insure the immediate relief of the whole unemployed inhabitants of the country, are we to sit by our firesides, and dose away our existence rather than offer suggestions, though they may be somewhat theoretic, and refuse to give our mite because it is not a million? There is no man or woman in independent circumstances (yet far removed from affluence) who cannot aid, without making any great personal sacrifice, in improving the condition of the distressed labourers and artisans, by contributing to the support of working societies and inculcating habits of industry and economy amongst those with whom they have intercourse. Often a word of warning kindly given is worth a purse of gold. What an individual cannot accomplish may be safely undertaken by a society based on sound principles, and the advantage of a body of men joining together to carry out a particular project is, that they act as agents for those who could not do anything themselves, their incomes and position in society not affording them sufficient weight to guide the many, but the small donations united, and in the hands of responsible men, become most powerful in furthering the happiness of our fellow creatures. Whilst fighting the battles of the labourers, it will be necessary to offer a little advice which, if acted upon, will gain them increased respect and consideration from their employers. Where the streets and roads are daily thronged with noisy and impudent boys, varying in age from 10 to 16 years, able to do something to support themselves, yet unwilling to gain an honest livelihood, the question naturally arises, "How can the parents of these children allow them to become such nuisances?" If the youths had been properly instructed in the common duties of life, they would surely not be obstructing the thoroughfares, and using language which makes any decent person shudder; it is dreadful to contemplate the after life of these children, thus early conversant with vice and immorality, a disinclination to work, a progressive state from bad to worse, till all hopes of amendment are lost in the committal of some crime, for which liberty is forfeited. When such facts meet the eye, or are related to the ear, the parents are blamed for not using their authority, and compelling a better observance of the common duties due to society. But alas! when the head of a family spends the great part of his time in a beer-shop, squandering away the money he should share with his family, and returning from that sink of iniquity with the sense his Maker has bestowed upon him so darkened, and his bad passions so inflamed, as to bring terror and confusion to his home, it is not to be wondered at if his children are easily led astray, having such an example before them. If men did but consider how inferior they are, even to the meaner animals, when drunk, there would be less of this disgusting and degrading practice. A toper is not fit to live, and he certainly is not in a state to die. What a scene for the younger members of a family to witness: cursing and swearing, instead of finishing the day in simple prayer and thanksgiving for mercies daily vouchsafed. It is the custom in most counties to allow large quantities of drink during harvest time, to an amount almost incredible, keeping the men and women in a state far from sober after 11 A.M. This filthy custom of swallowing quarts of liquid does not afford strength, but merely temporary excitement, leaving a lassitude which, on following days, again requires the consumption of enough sour cider or hard beer to float a gun boat before the man is primed for his task. Would it not be a step towards a better state of things, if farmers would pay higher wages, instead of drenching their men with intoxicating liquor? Agriculturists should set their faces against anything like inebriety, furnishing a good meat supper after extra toil, with a moderate allowance of drink, instead of encouraging a course which must tend to demoralise the labourers and undermine their constitutions. Let a trial be made of who can stand work best, those who have two gallons of cider or beer per day each, or those who have one quart and 1 lb. of meat cooked for them. However poor a man may be, he can teach his children obedience, and instruct them in what is right and wrong. There may be an excuse for a ragged garment and scanty food, but nothing can palliate a depraved mind leading to profligacy and dissipation. The poorer classes must not leave everything to be accomplished in charity schools to save themselves trouble; the most useful part of education should be inculcated at home; morality, submission, industry, civility, &c. Impressions may be made on youth which more mature age will spurn at; early days neglected can never be recovered, and parents, whatever may be their station in life, should use their utmost exertions to bring up their children with care and attention, recollecting that they must one day be left to provide for themselves, and the more sound their principles, the better able they will be to overcome the temptations and trials of the world. *Falcon.*

Education (No. 5).—Having before slightly alluded to the kind of school-houses my system would require, I purpose now to enter more fully into that question. A school-house is to hold the youth of both sexes at that period of life when the human frame is growing, when it is essential to health that a pure air should be breathed. When the nation sets to work to build school-houses, it must act on sound principles. The site must be dry and elevated; there must be no water in the foundations. The superstructure must be strong and plain, divided into such apartments as are requisite for the school-rooms. A cottage will be required for the master and mistress, gardener and housekeeper. It may be economical in some rural districts, where the population is small, to convert some existing building. There must be a garden for flowers, fruit, and vegetables, and also a farm-garden; the size must bear proportion to the number of scholars and the locality. I am not sure that several acres of land may not be profitably cultivated, enough perhaps to defray the expense of a mid-day meal, which would be a reward to the scholars for the labour they have bestowed upon it. It will never do for children to go home in the middle of the day; their parents would not know what to do with them, and it would greatly interfere with their education. Some workshops will also be required, not only for the scholars in wet days, but also for experimentally teaching the elements of mechanics and science. Rabbits, pigs, and poultry, must also be accommodated. Plans and estimates will be obtained in abundance by offering a premium. The two errors of the voluntary system must be avoided—of lavish and stinted expenditure. Money raised by taxation must be economically expended. There must be a power to obtain sites under the act, it being absolutely essential to have good ones and room enough. In the metropolis and very large towns, I am not sure the children must not be taken

the country to school by railway. Many persons imagine a very large fund will be required for all purposes, and that the country will not bear it; uld be a fatal error on that account to reject a n calculated to make a people intelligent, indus-, and moral. We cannot off-hand estimate the l it would require; but are there not two sources might be made auxiliary to a public tax, viz., many existing endowments for the benefit of the and especially for education (now misapplied or ective), and that stream of charity which now builds ol-houses? It would be a good fashion for those give away money, to apply it in aid of a public tution of so great utility as education. *Thomas C. en, Cirencester.*

tatement of Produce, &c., of a field of 5 acres of land and clay subsoil, principally under spade cul-ion.

oduce already sold	£16	13s.	0d.
ots and seeds fit for sale, at average market prices	71	5	0
hand, Mangold, Turnips, &c., sufficient to keep hree cows, for five months at least, producing ilk averaging 20s. per week	20	0	0
Outgoings	£ 140	18	0
bour and horse-hire to Nov. 5th ..	£19	0	0
ots for seed and seeds bought ..	16	0	0
nt to Lady-day, 1849	15	0	0
terest, rates, and taxes	5	0	0
nure	10	0	0—95 0 0
Balance	£45	18	0

With the exception of 26s. paid for hay, I have kept ows 7 weeks each, a pony 4 weeks, a donkey 8 ks, and 8 pigs 16 weeks, entirely on the leaves and nings of Mangold Wurzel and Carrots, and have ugh yet standing for two weeks more; this is almost rely wasted by most farmers. Of the food for cows hand, I have 1 acre of excellent white Turnips sown r Potatoes, and 1 acre middling ones sown after eat, about ¾ acre of Cabbages, and about 15 tons of ngold Wurzel, part of which I shall exchange for e hay, which I cut up with double its bulk of sweet eat straw. On this food my cows, which are always l up, give on the average about 3 gallons of milk each day, which I sell to a retailer at 6d. per gallon. ave all weeds pulled or hoed and raked up and ried by a boy into my pig-sties, part of which they our, and the remainder tread into excellent manure. ind that the most profitable method of keeping pigs is buy them in (if you do not breed) at about 12s. to s. each, and keep them as above, buying a little bran them, which I give twice a day and sell them out at m 20s. to 30s. each; but I never was convinced of ch profit accruing from them; mine, for the 16 weeks, ve only left me 30s., after paying for all bought food, t then I have the manure. I have tried fatting em repeatedly, but never but once saved a farthing by

Poultry I used to keep, but found they did so much ischief in my ground when loose, and when shut up t their heads off, that for some time I have not kept y of them. I find cows by far the most profitable nd of stock. As I fancy I am in a similar situation that in which your correspondent wishes to be who ked advice as to the best means of cultivating a small rm, I will just state the plan I have adopted this ear, which has been the most unpropitious that could ell be for crops generally, except roots. I have 5 cres cultivable; 1¼ acre I had of Wheat, ¾ acre of hich I afterwards sowed with stubble Turnips, and ½ cre with Rye for cows in spring. I had 43½ ushels of Wheat only, which being laid flat on the round a month before harvest, was a very thin sample, nd only fetched 6s. 6d. per bushel. Two acres I lanted with early Potatoes, the land being ploughed in ⅓ feet drills; the Potatoes planted in the hollow and Mangold Wurzel on the ridges, between; but, owing to he wet, the Potatoes grew so rank that most of the Mangold Wurzel was smothered. The Potatoes were ug up in July, and one acre, where all Mangold Wurzel issed, was sown with white Stone Turnips. One cre I sowed with Carrots and Parsnips in rows bout 12 inches apart, substituting a row every 4 feet or a double row of early Long Pod or Broad Windsor Beans; but these again, owing to the wet, were almost estroyed, the pods rotting on the stalks, not having fficient air to dry them after showers amongst the arrots. I have often grown Beans and Mangold Wurzel, and found them do well, but do not intend to y Carrots in future. One-quarter of an acre I lways plant with early Cabbages, which come off in May and June, and this I sow with Carrots, which constitutes part of the former acre; the Cabbage mostly ells wholesale for about 4*l.*, and three-fourths of an acre appropriate to growing seeds, vegetables, and plants of arious kinds for sale and transplanting. I never deiate more than possible from the following rules: Not to dig the ground unless with a fork when wet; ever to let an inch of ground lie idle, but as soon as ne crop is off sow or plant another immediately; never llow weeds to seed, but pull all up; and also every ind of refuse, and carry to the pig-sty. About August begin to pull off the under leaves of Mangold Wurzel, hich I am convinced makes them grow faster; also of Carrots, and thin them—these, with a little hay, keep ny three cows and other stock. Will you, or any one, e so kind as to tell me if white Turnip roots will keep f stored away as Swedes, &c.? also, if Italian Rye-rass would grow if sown now? *Practice.* [Turnip oots will keep; but you had better defer your Italian Rye-grass sowing till March.]

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

THE FIRST MONTHLY COUNCIL after the autumn recess, was held at the Society's house in Hanover-square, on Tuesday last, the 7th November.—Present: the Earl of CHICHESTER, President, in the chair; Hon. Captain Dudley Pelham, R.N.; Hon. Colonel A. Nelson Hood, Colonel Austen, Mr. Raymond Barker, Mr. Barnett, Mr. S. Bennett, Mr. Blanchard, Mr. Brandreth, Mr. Burke, Colonel Challoner, Mr. F. Cherry, Mr. Garrett, Mr. Brandreth Gibbs, Mr. Fisher Hobbs, Mr. Hudson (Castleacre), Mr. Kinder, Mr. Milward, Prof. Sewell, Mr. Shaw (Northampton), and Prof. Way.

The following new members were elected:

Wood, William, Gopsall House, Twycross, Leicestershire
Hugill, John, Whitby, Yorkshire
Steel, George, jun., Depden Elms, Bury St. Edmund's
Sowerby, Francis, Aylesby, Great Grimsby, Lincolnshire
Kirkby, Thomas, Cuxwold, Caistor, Lincolnshire
Noel, Charles, Perkham House, Hinckley, Leicestershire
Crosse, William, One-house Hall, Stowmarket, Suffolk
Postle, Rev. Edward, Yelverton Rectory, Norwich
Bond, Barnabas, Alburgh, Harleston, Norfolk
Goddard, Thomas, St. Fagon's, Cardiff, Glamorganshire
Dowson, Henry G., Geldeston, Norfolk
Coulson, John, jun., Kenning Hall, Barling, Norfolk
Shiffner, Sir Henry, Bart., Combe-place, Lewes, Sussex
Tompson, Henry Kett, Burgh-Apton Cottage, Brooke, Norfolk
Blake, Francis John, Norwich
Howlett, John, Bowthorpe Hall, Norwich

The names of 34 candidates for election at the next meeting were then read.

FINANCES.—Mr. RAYMOND BARKER, Chairman of the Finance Committee, presented to the Council the Report of that Committee to the end of the preceding month; along with the quarterly statement of the general and funded accounts of the Society, and a report on the progress made in the getting in of the arrears of subscription. These reports and statements were unanimously adopted and confirmed.—Mr. Shelley had leave granted him for the postponement of his motion (on the transmission of the Journal to members in arrear, and the posting of their names in the Council Room of the Society) to the December Monthly Council.

MEMBER OF COUNCIL.—Lord PORTMAN gave notice that he should move, at the next monthly Council, the election of Mr. Foley, M.P. (President of the Stewponey Agricultural Society), as a Member of Council, to supply the vacancy occasioned by the lamented decease of Mr. Harvey.

DAY OF MEETING.—Mr. HILLYARD gave notice that he should move, at the same date, that the meetings of the Council be thenceforward held on Mondays, at 1 o'clock.

GENERAL MEETING AND LECTURES.—The Council decided, that the hour for the general meeting of the members on Saturday, the 9th of December next, should be 11 o'clock in the forenoon, and that on the evenings of the Wednesday and Thursday preceding that date, lectures should be delivered in the rooms of the Society before the members at 9 o'clock, on such subject, and by such party or parties as the Journal Committee in communication with the President may decide.

YORK MEETING.—The preliminary balance-sheet of the York Meeting was submitted to the Council by the Chairman of the Finance Committee, from which it appeared that up to that time the excess of payments over receipts at that meeting amounted to upwards of 1100*l.*, such excess being chargeable on the general funds of the Society, independently of 1775*l.* as the amount of prizes for live stock and agricultural implements offered by the Society and awarded on that occasion, and the essays for the current year. The Council decided, in reference to Mr. Eddison's claim for the prize in the local classes, awarded at York to Mr. Stainsby, for the best sow of a small breed, "That it having been proved to the satisfaction of the Council, by the statement of a majority of the judges of pigs at the York meeting, that the award made to Mr. Stainsby was made under the mistake on their part that Mr. Eddison's sow (that had gained the prize in the Society's classes) was not competing for the local prize, it is, unanimously resolved that the local prize awarded to Mr. Stainsby be paid to Mr. Eddison the winner of the Society's prize."—Mr. Brandreth Gibbs having reported the steps he had felt it his duty, as Director of the Yard, to take at York to repress a meeting attempted to be held within the enclosure of the Society's Show-yard, by some of the exhibitors in reference to the limited concessions granted to them by the Railway Companies, the Council fully confirmed the propriety of Mr. Gibbs's interference, and passed a vote of thanks to him for the steps he had so judiciously taken on the occasion referred to in his report.—Communications were received from Mr. Quartly in reference to the enforcement of the fine in his case for non-exhibition, and from Mr. Bell claiming the return of non-members' entrance fee in reference to stock found, after entry, to be disqualified for exhibition. The Council did not admit Mr. Quartly's plea, but ordered Mr. Bell's entrance money to be returned to him under the circumstances stated.

NORWICH MEETING.—Various documents were received from Mr. Staff, the town-clerk of Norwich, in reference to the land for the trial of implements at the country meeting of the Society, to be held next year in that city.—In the absence of Mr. Thompson, who had given notice of the motion, it was moved by Mr. Milward, seconded by Colonel Challoner, and carried unanimously, that the Hon. Captain Dudley Pelham, R.N., be requested to accept the office of Steward of Implements at the country meetings of the Society, in the place of Mr. Shelley, who retires by rotation.—Mr. Thompson had leave to put on his motion on the time at which implements are in future to be brought into the show-yard, and Mr. Hammond to postpone his motion on local prizes at the country meetings of the Society until the next monthly Council.

COUNTRY MEETINGS OF 1850.—The Mayor of Exeter transmitted various documents connected with the meeting of the Society to be held in the western county in the year 1850. These documents, along with others on the same subject from the authorities of Bridgewater, Salisbury, and Taunton, were ordered to be referred for consideration at the proper time appointed by the Council, namely on the last Tuesday in April 1849.

MISCELLANEOUS COMMUNICATIONS.—From the East India Company, through Dr. Royle, a supply of samples of Wheat from India, with a request that the progress made of the experimentation in England, and a copy of the resulting report forwarded to Dr. Royle. From Sir John Lubbock, Bart., the results of his comparative trials of various artificial manures in affecting the growth of grain crops and their produce. From Mr. Fothergill, specimen of Wheat from land infected with wireworm destroyed by sea-salt. From Mr. C. O'Connor, an offer of Oats of a peculiar variety. From Mr. Nichols, a copy of Mr. M'Adam's report of his tour of inspection in reference to Flax culture in Ireland. From Dr. Jones, an offer of a new manure. From M. von Pappelendam, an offer to the same purpose (both of which were declined with thanks). From Mr. Derby Griffiths, soil from the Nile. Papers on Potato disease from Messrs. Quigley, Doyle, and Beaton. From Capt. Stanley Carr, a supply of small-pox ovine lymph, of a mild character, for experiments in inoculation, with a proper needle for performing the operation; and a letter on small-pox in sheep: all of which were received with the best thanks of the Council, and referred to Professor Simonds. From Mr. Davies, V.S., a remedy for red and black water in cattle, and from Mrs. Holloway a plan of cure for distemper in pigs, of both which communications copies were ordered to be sent to any members applying for them. From Mr. Spooner, suggestions respecting prizes for horses; and from Mr. Pawlett, suggestions on competition for prizes for Leicester sheep. From Mr. Bannerman, remarks on competition for prizes in short-horned cattle. From Mr. R. B. Grantham, C.E., a copy of his work on Slaughter-houses. From Mr. H. Roberts, a set of seven lithographed drawings, being a series of designs for cottages and a lodging-house adapted for agricultural labourers. From Mr. T. H. Leighton, plan and model connected with the drying of hay and corn. From Mr. W. Knight, a model of pen for fattening sheep to protect cattle from the effects of bad weather in the middle of fields. From Mr. A. Moore, a communication connected with the late Mr. Bell. From Mr. Longbottom, Secretary of the Royal Polytechnic Institution, specimens of the Syngelo-Flax, manufactured by the Epithene Company, for stopping horses' feet, and for other veterinary purposes. From Mr. Brown, a specimen for trial of his anti-friction compound, for cart-wheels and other mechanical purposes. From the East India Company, a copy of Meteorological Observations made by Mr. F. G. Taylor, at the Meteorological Bungalow on Dodabetta, 8,000 feet above the level of the sea. From Mr. Shaw and Mr. Cuthbert Johnson, the "Farmers' Almanac" for the ensuing year. From Mr. B. E. Kelly, specimen of agricultural chart. From M. Guérin-Meneville, a series of Treatises, "On the Anatomy, Habits, and Mode of Destruction of Insects Injurious to Crops," "On the Rearing and Diseases of the Silkworm," and on other branches of agricultural zoology. From Mr. Colman, a copy of his work on "The Agriculture of France, Belgium, Holland, and Switzerland." Transactions of the Royal Academies of Lille and Lyons. Journals of the Royal Agricultural Improvement Society of Ireland, the Highland and Agricultural Society of Scotland, the Geological Society, the Statistical Society, the Horticultural Society, and the "Farmer's Magazine": for which, and other presents and communications made to the Society, the Council ordered their best thanks.

The Council then adjourned to the 5th of December.

Farmers' Clubs.

DARLINGTON, *September: Wheat Sowing, and the management of Short Horned Cattle.*—Mr. PEASE said:

The immense quantity of seed grain which was sown this season in proportion to the produce, as was stated during the discussion, was certainly a subject which required some consideration. It was not only an unprofitable cultivation, but the country was ruined by it. It was a subject which the cultivators must endeavour to put an end to. A farmer might take a small piece of land and put it apart for that purpose, and sow part of it broadcast, another part drilled at a moderate distance for the ease of cultivation, and another part dibbled, and then he would soon find out which answered best; provided the land was properly cultivated. It would be necessary in each case that the surface should be even, and the land must be in such a state that the drill would work properly, in order to sow the seed at a proper and equal depth. These modes of seeding was advocated by a number of intelligent and practical gentlemen. Mr. Newby Davis had farmed successfully for a number of years, and from his report it was determined that on visiting Mr. Davis's farms, which for the last six months had been under the plough, and the land was naturally very far under the average quality, and rather of a barren description, but the fallowing and subsequent crops growing thereon showed what could be accomplished by energy and perseverance in the way of cultivation and cropping. He practised the three-course system and had excellent crops, and had also carried the system a couple more than any other man. The reason appeared pretty obvious. Mr. Davis was a land agent. He was agent for an extensive landowner; and his farm was looked to as a model farm, and others were encouraged to imitate it. If the system had anything in it that was good they might be sure that neither his employer nor the community would encourage him: he would, in fact, have been

put down long ago. There was no question, from the simple circumstance of this single individual, but what the system was worthy of countenance, and if so, it was worthy of being experimented upon.—The CHAIRMAN said it was calculated that a million quarters of food would be saved annually by thin sowing without injury to the farmers at all; and if this were correct, he thought it was worthy their consideration at the present time, when we did not grow as much grain as we consumed.—Mr. BROWN thought the season had a good deal to do with the relative advantages of thick and thin sowing. Three years ago he reaped one field which yielded 30 stooks, and another 50 stooks an acre, which had been sown at the rate of five pecks an acre; and this year on the same grounds he had not reaped 25 stooks an acre, though the land had double the advantage it had had the previous year, when he reaped 30 and 50 stooks.—Mr. THORNTON then introduced the second subject of discussion. He said for more than 20 years I have taken great delight in the breeding and management of short-horns, and as every man has a right to praise the bridge he has got safe over, I may also say that I have every reason to be satisfied, for my cattle have always left me a good profit. I have always been careful in selecting bulls bred from cows that make a good show for milking, having a good shaped udder, with the paps hanging well: as I have always found in the sale of cows and heifers that this is a great advantage. I have at present a cow which my hind has had for the last three years; the same hind also had her dam for two years before. He says that he never milked two better cows anywhere, the last one, more particularly, milked uncommonly well for the first year, but the second year not quite so well, on account of her having twins, two bull calves, which I sold for 75*l.* This year she produced a heifer calf, and is now in calf again, and is also milking well, as the hind informs me; and this is more, I believe, than many of the short-horn breeders can say, for their cows are not always milkers. I have now had this breed for more than 20 years. Now, as to the management of my short-horned cattle generally, some of my calves I put to nurses, but not to cows having too much milk. I have seven calves sucking at this time. In November I take them from the nurses and put them into a fold yard (not too close), and give them Turnips, hay, and straw. They come out in the spring with plenty of hair and robust constitutions, and do better when turned out to Grass in the spring, than if they had been kept close in a warm house in the winter, and indulged with meal and oil cake.—Mr. EMMERSON said, with all deference to Mr. Thornton, I am quite satisfied that I could not bring out a real good animal, either bull or heifer, at a year old, if I were to confine them to the keep which Mr. Thornton tells you answers. Turnips and straw are only poor feed, and I only consider Turnips as Lentils, and Greens require something along with them to qualify them; it would be much the same to set us farmers down to Greens without any beef; we might live upon vegetables certainly, but we should only thrive badly without the beef. I have had some experience in the management of short-horns, although not so much as Mr. Thornton, yet in order to produce first-rate animals, I find it requisite for them to suck the nurse from three to five months; I then give them oil-cake and meal, or anything that they can eat. In giving them Bean-meal, I however give it in very small quantities at first, and gradually increase it; otherwise it is too binding and would injure them. I of course give Turnips and hay along with other things, but I am quite sure that in order to bring out a first-rate bull at a year old, he must have oil-cake and corn, as well as Turnips, hay, and straw.—Mr. THORNTON in reply said, that in describing his general management of short-horns, he did not mean to say that higher keeping was not sometimes resorted to in the case of prize animals.—Mr. GOLDSBROUGH said, that generally speaking, his year olds, with good keeping, were as big as most of his neighbours' two year olds. He kept his for about two months on new milk. After that he gave them meal and Beans, and hay and pottage. He gave them no green food, except occasionally a few Tares or anything of that sort. He kept them in the fold both winter and summer; he considered he lost nothing by keeping them well; he had not lost one since he commenced keeping them well; when he kept them badly it was quite the reverse. He thought the best method of breeding a great matter. Many of the farmers were debarred from putting their cows to good bulls for breeding purposes, in consequence of the high prices charged for them; two guineas always, but if a calf were kept for a bull, then five or ten guineas being generally charged. If gentlemen in the neighbourhood would buy a good bull for the use of their tenants, it would not be easy to calculate the amount of good which would be done.

Miscellaneous.

French and English Labourers.—Few things have struck me more forcibly than the difference in the condition of the agricultural population of France and that of Great Britain—a subject to which I have already referred. I have never seen a more healthy, a better-clad, or a happier population than the French peasantry. Something may be ascribed to their naturally cheerful temperament, and something to that extraordinary sobriety, which everywhere in a remarkable degree characterizes the French people; but much more, I think, to the favourable condition in which this law, which renders attainable the possession of a freehold in the soil, places them. I am extremely averse to making any unfavourable comparisons; and I am quite aware that my judgment may be at fault; but I shall offend no candid mind by the calm expression of my honest opinion. The very poor condition of a large portion of the English agricultural labouring population must be acknowledged. The acquisition of property is, in most cases, all but impossible. The great difficulty, where there is a family, is to subsist; in sickness they have no resource but private charity or parish assistance; and they have in most cases nothing to which they can look forward when the power to labour fails them, but the almshouse; *Colman's European Agriculture.*

Calendar of Operations.

NOVEMBER.

BEDFORDSHIRE FARM, *Nov.* 7.—The excessively wet weather of late has, in a great measure, ruled all out-of-doors occupations. When moderately fine, the horses have been employed ploughing Clover lea for Wheat, drilling, and harrowing, &c.; when wet, the team has been engaged with the carriage of manures—solid, liquid, and artificial: carting Turnips and hay for stock, &c. All our Turnips are cut in slices for both cattle and sheep, and no hay is given but in the form of chaff. We calculate that our stock consume from 8 to 10 tons of Turnips, and from 1 to 2 tons of hay per day. A number of our sheep are now fed under cover, in consequence of the wetness of the land; the animals thrive faster with less food, and the land is less injured by carting off the Turnips at proper times than consuming them where they grow. The fatting beasts are fed on prepared food—a mixture of boiled Linseed, Lentil, and Barley-meal, steamed Turnips and hay chaff. The expence of the food is from 7*s.* to 8*s.* per head per week. The milk cows have Grass through the day, and hay night and morning. Our horses live on Oats, Beans, hay and corn chaff, &c. The manual labour of the farm has been, and is, attending the stock, attending the threshing machine, dressing corn, getting up Turnips, filling dung, picking and weighing Potatoes for market, planting Wheat, &c. The boys have been setting Wheat when fine, and doing odd jobs in wet weather. All the wet land upon the farm has been drained, but there are still about the same number of hands employed as formerly. Day wages run from 10*s.* to 12*s.* per week. There are a great number of labourers in the neighbourhood out of employment. *R. V.*

BERWICKSHIRE MERSE FARM, *Nov.* 3.—Since last report we have been employed in ploughing Grass land for Beans, stubble land for Turnips; carrying tiles for drains; threshing Wheat and Barley; two men with a pair each at the coals; the workers assisting with the threshing and dressing, digging Potatoes, pulling Turnips, &c.; one man dressing hedges. The weather is still wet and unfavourable for the corn. *J. B.*

EAST LOTHIAN FARM, *Nov.* 4.—Owing to repeated falls of rain in the course of the week, we have been prevented doing anything on the land till to-day, when hard frost set in, which enabled us to cart off the Turnips for the cattle. We have also been threshing, carting coals, and repairing the roads. *M.*

PEMBROKESHIRE FARM, *Nov.* 1.—Since our last report we have sown two fields of Wheat, the one after pasture, the other after Beans, at 2½ bushels per acre. We have got the most of our light land ploughed, intended for green crop, but the weather still continuing very wet, has retarded operations on our heavy land, such as carting manure for Beans and Tares, before giving it the winter furrow. The early sown Wheat has brairded regularly, and in the meantime looks healthy. We lifted our Potatoes two weeks ago, they are very much diseased; the best of them we have housed and mixed with dry sand. Our Turnips have improved very much this last month, they are a better crop than was expected. Our cattle intended for fattening are now taken in, and all our young cattle will be taken in next week, the pastures being now eaten down and the weather wet and cold. Labourers repairing hedges and roads. *J. H.*

SOMERSETSHIRE FARM, *Nov.* 6.—For some time past we have had very unfavourable weather for preparing the land for Wheat sowing; the consequence is that we have very little done to it, but proceeding as fast as the weather will permit. We have been engaged this last week in ploughing for and sowing Vetches and Rye, ploughing for Wheat, hauling Turnips for fatting cattle and sheep, the sheep being folded on stubble ground intended for green crop, hauling straw for litter for cattle yards. Labourers draining and threshing Wheat. *R. C.*

STIRLINGSHIRE CARSE FARM, *Nov.* 4.—The weather during the past week has been somewhat stormy, and winter seems fairly set in. We have finished Wheat stubbie, and commenced to plough Bean stubble land for Barley, but the frost to-day has been so severe as to prevent further progress; we have in consequence been engaged threshing Barley, of which the yield is tolerable, the quality fair, but somewhat discoloured with the rain which fell in the earlier part of harvest. We have also been sending off Wheat to Glasgow, putting up new boiler, &c. *W. F.*

Notices to Correspondents.

A COOMB: *M C Y.* It is four imperial bushels.

ARABLE LAND: *B H.* You had better level the ridges by ploughing *across* them, and employing men on the top of each ridge to dig below the plough furrow *there*, and fill up the plough furrow in the hollows. One or two ploughings, thus, in successive years, would soon bring the land to a level.

BERKSHIRE BREED: *Julius.* E. W. Moore, Esq., Coleshill, Farringdon, Berks.

CHAFF-CUTTERS: *W M J.* We give our cattle cut straw chaff with hot and salt Linseed soup poured over it; and they eat much of it with relish. The straw should be cut, and very little hot salt water or hot soup, as above, will go a great way in inducing its ready consumption. About foals next week.

CHARRING WEEDS AND SAWDUST: *A Correspondent* complains, at page 725, col. *a*, that he cannot char weeds without good grass turf, and another enquires (page 726, col. *a*,) how to char small quantities of sawdust. I believe either may be charred with clods of clay subsoil, to make the heat firm and manageable, according to the instructions given by me two or three months since, for "Sawdust charring and clay burning:" the subsoil used being brought into fertile condition by the same operation; *J. Pridcaux.*

COWS: *Northwood* will have purchased a dear cow three years hence if he feeds his calf to that age on bought food. Stall feeding is of course unnatural: but so also is the extraordinary yield of milk which we obtain by means of it. The cows will be more healthy for a walk out two or three hours a day either in a paddock or yard.

DAIRY MANAGEMENT: *Northwood* says:—I want to know what experience proves about milk-pans, after all the discussions; are glass proved to be better than white crockers such as the Queen has at Frogmore—tin, as I saw in a large Devonshire Farm, or the old-fashioned red ware in common use?

GAME FOWL: *Z A.* They are very pugnacious: but we did not know that they attacked females of their own or other breeds.

LINSEED: *Landed Proprietor.* Two lbs. daily to each bullock is enough. A meal of Turnips the first thing in the morning; straw chaff *ad lib.* always accessible—a meal of chaff and 2 lbs. of Linseed and 2 or 3 lbs. of Bean-meal—all in a hot porridge, together, at 11 A.M.; a meal of Turnips at 2 P.M., and a meal of Turnips the last thing at night. Cows will eat as much as oxen—say 20 lbs. of hay each daily, 6 of them soaked with 2 lbs. of linseed in a hot and salt soup.

MANURES: *J Smyth, jun.* Johnson on Fertilisers, and Hannam on Waste Manures.

OILCAKE: *B H.* Oilcake crushed and boiled is better than oil-cake crushed alone; but it is not so good for fatting cattle as *Linseed* boiled.

PICOTIANE: *A H.* We do not know it; but we know enough to perceive that it is extravagantly praised.

POULTRY: *Northwood's* "Farming for Ladies" is a good book. —*W X.* Can you say where eggs can be had of the sort named by you Oct. 14.

ULLSWATER: *H H.* We have his address, but you must furnish us yours also before it can be of any use to you.

Markets.

SMITHFIELD, MONDAY, Nov. 6.

We have a much smaller supply of Beasts, and trade is cheerful at rather more money. In some instances a few best Scots have made 4*s.* 2*d.* The number of Sheep is also smaller, and consists principally of those left over from Monday and second rate; the choicest kinds are therefore dearer, but it is difficult to make a clearance. Calves are rather dearer. From Holland and Germany we have 816 Beasts, 3840 Sheep, and 15 Calves; from Spain, 2 Beasts; from Ireland, 240; from Denmark, 165; and from Leicester and Northampton, 2700.

Per stone of 8 lbs.—	s	d	s	d	Per stone of 8 lbs.—	s	d	s	d
Best Scots, Herefords, &c.	3	10	to 4	0	Best Long Wools	4	2	— 4	6
Best Short Horns	3	6	— 3	8	Ditto Shorn	....		....	
Second quality Beasts	2	8	— 3	4	Ewes and second quality	3	6	— 4	0
Calves	3	4	— 4	0	Ditto Shorn	....		....	
Best Downs & Half-breds	4	8	— 5	0	Lambs	....		....	
Ditto Shorn	....				Pigs	4	8	— 5	4

Beasts—3982. Sheep and Lambs—23,030. Calves—99. Pigs—378.

FRIDAY, Nov. 10.

We have a good supply of Beasts, but the demand is small, and it is difficult to realise Monday's quotations; 4*s.* 1*d.* is quite the top price for choicest kinds. The number of Sheep also exceeds the demand. The trade is exceedingly dull at about Monday's prices; however, a clearance cannot be effected. Good Calves are not plentiful; they are dearer, but second rate are still a heavy trade. A choice Calf makes nearly 5*s.* Pigs are about 2*d.* per 8 lbs. dearer. From Holland there are 273 Beasts, 1560 Sheep, and 27 Calves; from France, 3 Beasts; and 150 Milch Cows from the home counties.

Per stone of 8 lbs.—	s	d	s	d	Per stone of 8 lbs.—	s	d	s	d
Best Scots, Herefords, &c.	3	10	to 4	0	Best Long Wools	4	2	— 4	6
Best Short Horns	3	6	— 3	10	Ditto Shorn	....		....	
Second quality Beasts	2	8	— 3	4	Ewes and second quality	3	4	— 3	10
Calves	4	0	— 5	0	Ditto Shorn	....		....	
Best Downs & Half-breds	4	8	— 5	0	Lambs	....		....	
Ditto Shorn	....				Pigs	4	8	— 5	6

Beasts—1057. Sheep and Lambs—5410. Calves—194. Figs—250.

COVENT GARDEN, Nov. 11.

The market is well supplied with Vegetables and most kinds of Pine-apples are plentiful; and hothouse Grapes sufficient for the de Ribston Pippins and other dessert Apples are ticketed 6 and 8 for 6d. A Pears we remarked good specimens of Brown Beurré, Chaumontelle, Louise, Crassane, Glout Morceau, Beurré Diel, Passe Colmar, &c. In general are sufficient for the demand, except Filberts and Cobs, are scarce. Some new Oranges have made their appearance. Lemon scarce. Amongst Vegetables, Carrots and Turnips are abundant and Cauliflowers, Broccoli, &c., sufficient for the demand. Some Asparagus made its appearance. Supplies of Potatoes—good, though not free from ease—have been received from France, Holland, and Prussia. Lettuces other salading are sufficient for the demand. Mushrooms are plentiful. Flowers consist of Heaths, Pelargoniums, Gardenias, Fuchsias, Carnat Moss and other Roses.

FRUITS.

Pine Apple, per lb., 3*s* to 5*s*		Lemons, per 100, 10*s* to 18*s*	
Grapes, hothouse, per lb. 2*s* to 4*s*		Almonds, per peck, 6*s*	
— foreign, per lb., 9*d* to 1*s* 6*d*		— sweet, per lb., 2*s* to 3*s*	
Plums, per punnet, 1*s* 6*d* to 2*s* 6*d*		Walnuts, per 100, 1*s* 6*d* to 2*s*	
Apples, dessert, per bush., 4*s* to 7*s*		— per bush., 16*s* to 24*s*	
— kitchen, p. bush., 3*s* to 5*s*		Chestnuts, per peck, 4*s* to 7*s*	
Pears, per doz., 2*s* to 6*s*		Nuts, Barcelona, per bush., 20*s* to	
— per half sieve, 6*s* to 10*s*		— Filberts, per 100 lbs., 70*s* to	
Oranges, per doz., 2*s* to 3*s*		— Cob, per 100 lbs., 90*s* to 150*s*	
Lemons, per doz., 1*s* to 2*s*		— Brazil, per bush., 12*s* to 16*s*	

VEGETABLES.

Cabbages, per doz., 3*d* to 1*s*	Tomatoes, per punnet, 9*d* to 1*s* 3*d*
— red, per doz., 1*s* to 4*s*	— per half sieve, 3*s* to 5*s*
Cauliflowers, per doz., 6*d* to 2*s*	Shallots, per lb., 4*d* to 8*d*
Broccoli, white, per doz., 3*s* to 4*s*	Garlic, per lb., 4*d* to 8*d*
— brown, per bunch, 6*d* to 1*s* 3*d*	Radishes, per doz. bands, 6*d* to 1*s*
Sorrel, per half sieve, 6*d* to 9*d*	— Turnip, do., 9*d* to 1*s*
Potatoes, per ton, 60*s* to 180*s*	Artichokes, per doz., 1*s* 6*d* to 2*s*
— per cwt., 5*s* to 9*s*	— Jerusalem, p. half sieve, 1*s* to 1*s*
— per bush., 2*s* 6*d* to 5*s*	Lettuce, Cab., per score, 4*d* to 6*d*
Turnips, per doz. bunches, 9*d* to 2*s*	— Cos, do., 9*d* to 1*s*
Red Beet, per doz., 6*d* to 1*s*	Endive, per score, 9*d* to 1*s*
Horse Radish, per bundle, 1*s* to 6*s*	Mushrooms, per pottle, 6*d* to 1*s*
Asparagus, per 100, 4*s* to 6*s*	— per bushel, 1*s* to 6*s*
Cucumbers, each, 4*d* to 1*s*	Small Salads, per punnet, 2*d* to 3*d*
Leeks, per bunch, 1*d*	Fennel, per bunch, 2*d* to 3*d*
Celery, per bundle, 6*d* to 1*s* 3*d*	Savory, per bunch, 2*d* to 3*d*
Carrots, per doz. bunches, 3*s* to 5*s*	Thyme, per bunch, 3*d* to 4*d*
Spinach, per sieve, 9*d* to 1*s*	Watercress, p. 12 small bun., 6*d* to
Onions, per bunch, 3*d* to 4*d*	Parsley, per doz. bunches, 1*s* 6*d* to
— per bushel, 1*s* 6*d* to 2*s* 6*d*	— Roots, per bundle, 1*s* to 1*s* 6*d*
— Spanish, per doz., 1*s* 6*d* to 4*s*	Marjoram, per bunch, 2*d*
— pickling, p. half sieve, 1*s* 6*d* to 3*s*	Mint, green, per bunch, 2*d*

HOPS, FRIDAY, Nov. 10.

MESSRS. PATTENDEN AND SMITH report that all Hops with colour as quality are in good demand, but brown samples are unsaleable. A portion the duty is declared as under:—Rochester, 73,424*l.* 10*s* 4*d.*; Worcest 16,530*l.* 5*s.* 6*d.*; Farnham, 12,900*l.* 0*s.* 1½*d.*; North Clays, 1179*l.* 0*s.* 6½*d.*; East 1104*l.* 11*s.* 7½*d.* The Sussex and Canterbury districts are not yet declared.

Mid. & East Kents, p. cwt. 50*s* to 112*s*		Yearling Kents, p. cwt.	42*s* to 5
Weald of Kents	45 — 70	Yearling Sussex	40 — 5
Sussex	40 — 65	Old Hops	20 — 3
Farnhams	80 — 112		

POTATOES.—SOUTHWARK, WATERSIDE, Nov. 6.

The Committee report that our market continues to be well supplied fro the Continent, nearly all of which come in good condition, but are selling rather lower prices than last week. Owing to the continued wet weathe many of our Potatoes coastwise come to market in very bad order, and a obliged to be sold at a low figure. Prime sound Regents met a ready sal The following are this day's quotations:—York Regents, 60*s* to 140*s*; Wh beach do., 100*s* to 110*s*; Scotch do., 100*s* to 120*s*; Scotch Reds, 60*s* to 90*s* French Whites, 80*s* to 95*s*; Belgian do., 80*s* to 95*s*.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Nov. 9.

Prime Mead. Hay	68*s* to 75*s*	New Hay	—*s* to —*s*	Straw	23*s* to 28*s*
Inferior ditto	50 63	Clover	60 95		
Rowen	40 53	New Clover	— —		

Rather a better trade for good Meadow Hay, but very heavy for Clove and Straw. J. COOPER.

CUMBERLAND MARKET, Nov. 9.

Prime Mead. Hay	72*s* to 77*s*	Old Clover	90*s* to 96*s*	Straw	28*s* to 32*s*
Inferior	50 65	Inferior	60 80		
New Hay	— —	New Clover	— —	JOSHUA BAKER.	

WHITECHAPEL, Nov. 9.

Fine Old Hay	65*s* to 72*s*	Old Clover	95*s* to 105*s*	Straw	26*s* to 30*s*
Inferior Hay	45 55	Inferior	55 65		
New Hay	60 65	New Clover	80 95		

MARK LANE, MONDAY, Nov. 6.

MESSRS. KINGSFORD AND LAY report that the supply of English Wheat by land carriage samples this morning was unusually small. A few parcels were taken early in the day at an advance of 1*s.* per qr., but this improvement was not generally established. Foreign met a retail inquiry, and late prices were fully supported.—Malting Barley sells slowly on the terms of this day se'nnight.—Beans and Peas maintain our quotations.—The Oat trade is heavy except for the finest qualities. Inferior and Irish must be written 6*d.* per qr. cheaper.

BRITISH PER IMPERIAL QUARTER.	*s*	*s*		*s*	*s*
Wheat, Essex, Kent, and Suffolk.....White	46	58	Red.....	42	54
Norfolk, Lincolnshire, and Yorkshire	50	56	White ..	50	58
Barley, Malting and distilling, 29*s* to 32*s*	Chevalier	32	36	Grinding	26	30
Oats, Lincolnshire and Yorkshire.....	Polands	20	26	Feed	18	23
Northumberland and Scotch	Feed	21	24	Potato ..	23	26
Irish	Feed	19	23	Potato ..	22	25
Malt, pale, ship.....		—	—			
Hertford and Essex		—	—			
Rye.....		30	32			
Beans, Mazagan, old and new ..25*s* to 34*s*....	Tick..	36	38	Harrow..	28	40
Pigeon, Heligoland 30	44	Winds	34	40	Longpod	26	30
Peas, White.....36	39	Maple	38	40	Grey	34	36

FRIDAY, Nov. 10.

The arrivals of foreign Wheat during the week amount to 19,810 qrs.; those of other grain are also large, and having but a thin attendance at market, the business transacted was limited and quite in retail. We observe no alteration in the value of Wheat.—Fine malting Barley must be written 1*s.* and ordinary 1*s.* to 2*s.* per qr. cheaper. Grinding is unaltered.—The quantity of White Peas offering is large, and some forced sales having been made at very irregular prices, we reduce our quotatons 3*s.* per qr.—Beans are unaltered in value.—Oats meet an improved demand at a slight reduction.

[During the week the country markets of England have been better supplied with Wheat, and good conditioned parcels have been easily disposed of at fully former rates; here, business has been inactive; and in Liverpool, Leeth, and Glasgow, prices were barely maintained. Spring corn has also shown a tendency to decline. Flour is also 1*s.* per barrel at former rates. The quotations of Galatz and Ibraila Indian Corn are nominally 35*s.* and 34*s.* respectively, but holders are unwilling to sell, owing to the latest letters bringing accounts of the prohibition of the export from Galatz. In Dantzic and Konigsberg no material alteration has occurred in the value of Wheat; Barley in the latter port has declined, the large being quoted 17*s.* 6*d.* and the small 15*s.*; Tares 19*s.*, Peas 25*s.*, all f. o. b. In Stettin, Rostock, and the lower ports, prices of Wheat are 1*s.* to 2*s.* cheaper, but it is probable the Baltic will soon close, should they have similar weather to ours. In Hamburgh Wheat remains unaltered. Saale Barley 28*s.* 6*d.* to 29*s.* 6*d* for the average qualities. The Belgian and Dutch Markets are heavy. In Leghorn on the 30th Wheat prices were dull, and expected to give way a little. Odessa letters of the 27th report the market firm. Wheat was quoted at 29*s.* to 35*s.*]

IMPERIAL AVERAGES.	Wheat.	Barley.	Oats.	Rye	Beans.	Peas.
Sept. 30	52*s* 9*d*	33*s* 3*d*	21*s* 1*d*	31*s* 9*d*	35*s* 1*d*	39*s* 5*d*
Oct. 7	52 5	32 6	20 8	32 1	38 0	39 2
— 14	51 11	32 0	20 0	30 4	35 2	39 2
— 21	51 7	32 3	19 11	32 4	39 9	39 7
— 28	51 0	32 7	20 4	28 9	37 3	40 1
Nov. 4	51 2	32 10	20 7	31 1	37 1	39 7
Aggregate Average	51 10	32 7	20 7	31 1	36 1	39 4
Duties on Foreign Grain	6 0	2 0	2 6	2 0	2 0	2 0

ARRIVALS IN THE PORT OF LONDON THIS WEEK.

	Wheat.	Barley.	Oats.	Flour.
	Qrs.	Qrs.	Qrs.	
English.....	2120	5480	1670	2150 sacks.
Irish	—	—.	3320	
Foreign.....	19810	8670	19980	— barrels.

Fluctuations in the last six weeks' Corn Averages.

PRICE.	Sept. 30.	Oct. 7.	Oct. 14.	Oct. 21.	Oct. 28.	Nov. 4.
52s 9d	—	...	...	...	...	...
52 5	...	—	...	...	...	...
51 11	...	...	—	...	...	...
51 7	...	...	...	—	...	...
51 2	...	...	...	...	—	...
51 0	...	...	...	...	...	—

SEEDS, Nov. 6.

Canary .....per qr.	84*s* to 100*s*	Linseed-cakes, Foreign, p. ton, 77*s* to 9			
Caraway .....per cwt.	27	29	Mustard, White, p. bush.,	4*s* to 9	
Clover, Red, English	35	44	Superfine, p. bush.,	9	10
— Foreign	35	40	Brown, per bush.,	6	12
White, English	38	44	Rapeseed, Eng., per last,.....	28*l*	30*l*
— Foreign	38	42	Rape-cakes ....per ton	4*l* 10*s* to 5	
Coriander.....	12	16	Sainfoin	—	
Hempseed .....per qr.	34	36	Tares, Eng., winter, p. bush.,	10*s*	0 12*s* 0
Linseed.....	38	40	— Foreign, per bush.,	3*s* 0	6*s* 0
— Baltic.....	33	38	Trefoil	17*s* 0	20*s*
— Cakes, Eng. p. 1000,	11*l* 10*s* to 12*l*	Turnip—too variable for quotation.			

Sales by Auction.

TO NOBLEMEN, GENTLEMEN, AND THE TRADE IN PARTICULAR.

MOST IMPORTANT SALE OF CEDRUS DEODARA.

MR. J. C. STEVENS has received instructions from Messrs. Maule and Sons, Bristol, to sell by Auction, at his Great Room 38, King-street, Covent-garden on FRIDAY, November 17th, at 12 o'clock, about 1000 CEDRUS DEODARA, from seed, from 15 to 2 feet remarkably bushy and well grown, and being the saleable portion of their stock of this elegant hardy Himalaya Cedar. They will be offered in lots of 25, 50 and 100, as per Catalogue, which may be had on application to Messrs. MAULE and SONS, Stapleton-road Nurseries, Bristol and of Mr. J. C. STEVENS, 38, King-street, Covent-garden. May be viewed the day previous to the Sale.

WOOLWICH.—IMPORTANT SALE.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will submit to public competition by Auction, on the premises, Burrage-hill use, Plumstead-road, Woolwich, on WEDNESDAY, November 15, at 11 o'clock by order of Thomas Birkenhead, Esq., in consequence of the premises being immediately required by the South Eastern Railway Company, the valuable STOCK, consisting of fine Evergreens, Shrubs, and Fruit Trees, very fine Standard and Dwarf Roses, about 15 0 yards of excellent Box edging; also a collection of choice Greenhouse Plants, together with two capital Greenhouses, Brickwork, Furnaces, a quantity of Rockwork, &c. May be viewed prior to the sale, and Catalogues had, on the premises, of the principal Seedsmen, and of the Auctioneers, American Nursery, Leytonstone.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will Sell by Auction, at the Mart, Bartholomew-lane, on THURSDAY, 16th November, 1848, and following day, at 12 o'clock, a first-class collection of DUTCH BULBS, comprising very fine double and single Hyacinths, Tulips, Narcissus, Jonquils, Crocus, Anemone, Iris, Amaryllis, Gladiolus, Alium, &c. Also, a splendid assortment of standard and dwarf Roses, together with 600 strong bulbs of Lilium lancifolium rubrum, and a quantity of Gladiolus Gandavensis, consigned from Mons. A. Von Geert, for absolute sale.—May be viewed the morning of sale. Catalogues had at the Mart, and of the Auctioneers, Leytonstone

WANDSWORTH COMMON.

To Noblemen, Gentlemen, Nurserymen, Builders, Railway Contractors, Timber Merchants, and Public Companies engaged in Planting.

MESSRS. PROTHEROE AND MORRIS are instructed to sell by Public Auction, on the Premises, Wandsworth Common, on WEDNESDAY, November 22d, 1848, and following days, at 11 o'clock precisely each day, in consequence of the number of Lots (by order of the assignees of Mr. Robert Neal, a bankrupt), the whole of the valuable NURSERY STOCK, particularly worthy the attention of Noblemen and Gentlemen laying out their Grounds, as well as the Trade, from its excellence, consisting of a considerable quantity of very fine Evergreens, New Ornamental and Deciduous Shrubs, very large Green and Variegated Hollies, Arborvitæ, Arbutus, Bays, Laurestinus, Aucuba, Box, Phillyrea, Euonymus, Berberis of sorts, common and Portugal Laurels, Evergreen Oak, Chinese and common Privet, Lilac, double blossom Furze, large Fan Yews, Cotoneaster, Crataegus glabra, Irish Yews, Red Cedar, Junipers and Pines of sorts, Spruce, Scotch, and Balm of Gilead Fir, large Cedar of Lebanon, Pinus excelsa and Araucaria imbricata, &c., Standard and Dwarf, Trained and Untrained, Peach, Nectarine, Apricot, Cherry, Apple, Pear, Plum, Quince, Gooseberries, and Currants, Standard Mulberries, Walnuts, &c., fine worked Lime, Ash, Elm, Poplar, Acacia, Willow, Copper Beech, Birch, Mespilus, Thorns of sorts, Standard Cytisus, Sycamore, Laburnum, common and Variegated Spanish Chestnut, Deciduous Cypress, &c. A rich assortment of American Plants, comprising many thousand Scarlet and other Rhododendrons, Azaleas of sorts, very fine Magnolias, Kalmias, Hardy Heaths, Standard and Dwarf Roses, Virginian Creepers, Wisterias, Pyrus, Clematis, Vines and Ivies in pots, Box edging, Quick, &c. Also the whole of the Greenhouse Plants, a quantity of useful Timber, a capital stone waggon, 2-horse iron roller, a theodolite, drain pipes and tiles, firewood, silver sand, garden pots, a light spring cart, three stands of bees, barrows, sieves, a quantity of tools, and other utensils.—May be viewed prior to the Sale. Catalogues (1s. each, returnable to purchasers) may be had on the Premises; of the principal Seedsmen; of Messrs. FLETCHER and ROBERTS, Solicitors, Wandsworth; of EDWARD EDWARDS, Esq., Official Assignee, 7, Frederick's place, Old Jewry; and of the Auctioneers, American Nursery, Leytonstone.

NURSERY PLANTS FOR SALE AT NORWICH.

MESSRS. HOWLETT AND LENNY, of Wissett, near Halesworth, Suffolk, will sell by Auction, between the 13th and 18th of November, the WHOLE STOCK OF PLANTS in the Nursery, Newmarket-road, Norwich, which belonged to the late Mr. James Grigor.

The day of sale, and full particulars of the Stock, may be obtained of the Auctioneers, and of Mr. Henry Francis, Norfolk Registry, Surrey-street, Norwich. The Stock consists of a great number and variety of Seedling and Transplanted Forest Trees, Hardy Shrubs, Fruit Trees, Roses, &c.; all healthy and of a very superior description. The following are some of the leading kinds. From 200,000 to 300,000 Seedling Larch; a large quantity of 2-year old ditto; about 37,000 2-year old transplanted ditto; 200,000 native Highland Scotch Pine; about 10,000 Pinasters, 1-year transplanted; about 80,000 transplanted Whitethorn; about 30,000 Oaks, transplanted, 2 to 3 feet; about 7000 Gooseberry and Currant, different sorts; about 10,000 Birch, 1 to 2 feet; about 2000 Standard Roses, good sorts. A quantity of Barberry, Black Italian, Spanish Chestnut, Beech and other transplanted trees and shrubs.

MESSRS. HOWLETT AND LENNY will sell by Auction, on the Ground, Town Close, Newmarket-road, Norwich, on FRIDAY, the 17th November, at 10 o'clock precisely, the NURSERY STOCK which belonged to the late Mr. James Grigor, and will be sold without reserve in convenient lots to suit small purchasers. It consists of a good assortment of very fine Seedling and Transplanted Forest Trees, Firs, Shrubs, Evergreens, and other hardy plants. Also about 10 kinds of very fine Seed POTATOES, most of a very rare sort, which will be sold in small quantities; amongst them "Grigor's Prolific," which has been selling at 18s. per bushel for seed. A Catalogue may be obtained of the Auctioneers, Wissett, near Halesworth, Suffolk; of Mr. Henry Francis, Norfolk Registry, Surrey-street, Norwich; and of Messrs. John Cavell and Son, No. 7, Gray's Inn-place, Holborn, London. Herbert Morse, on the Nursery Grounds, will show the lots during the week of sale.

TO BE SOLD, A SHORT-HORN BULL, bred by the late Lord Spencer, "MOZART," by Wizard; dam Sackbut. Calved Jan. 1844. Also, a well-bred young Short-horn Bull, "EMILEUS," from one of the best herds, with a pedigree.—Address, Mr. G. ELLIOTT, High Elms, Farnborough, Kent.

GREEN ROAD, SOUTHSEA, NEAR PORTSMOUTH.

TO BE SOLD, by Private Contract, about an Acre and a Half of excellent FREEHOLD LAND, which has been cultivated upwards of 20 years as a nursery, and is well stocked with a choice collection of large standard trees, fruit trees, and plants bearing also a Greenhouse, with Pits and a Well of excellent water. The Land is now let to a tenant in good health, but part of it could be taken at a fair valuation. For further particulars apply to [illegible] the Solicitor, [illegible] Portsea, or to the Proprietor, [illegible] Green-road, Southsea.

TO NURSERYMEN, PLANTERS, AND OTHERS.

TO BE SOLD, a Bargain 100,000 of 2 year old Quick; 50,000 of Peach [illegible] Laurel, &c. &c. Apply to J. Fairclough and Sons, [illegible] Bath-road, Taunton-plain.

TO BE DISPOSED OF, near Peasemarsh, Surrey, a small NURSERY and FLORIST'S BUSINESS. The Nursery consists of three quarters of an acre of Ground, Greenhouse, and Dwelling House, with a good supply of Water, and convenient for Early Coverage. Rent, £25 per annum. Stock and Connection about £60 to £70. Particulars may be had of Mr. CUTHILL, Florist, Dorset-rise, Camberwell.

FARM TO LET.

TO BE LET, an ARABLE FARM, of 500 acres, nearly all Turnip Land. Dunstable 29 miles from London, and two from a principal market town, from which there is a railway communication to London. The Homestead is most perfect, and stands in the centre of about 40 acres of the best, with a modern built Lodge at the entrance, as residence for Bailiff or shepherd. The house, of agreeable elevation, although not too large for a person solely devoted to business, is so beautifully situated as to be worthy the attention of any gentleman attached to agriculture and field sports, being midway between two kennels of fox hounds; abundant spring water, and capital road. The privilege of Shooting, and 14 or 21 years' Lease will be granted. Rent and rates moderate. —For particulars, direct to J. C., Messrs. Harrison's, 2, George-yard, Lombard-street, London.

TO NURSERYMEN.

TO BE LET immediately, a capital NURSERY, SEED, AND FLORIST BUSINESS, beautifully situated near a fashionable town in Devonshire. The grounds consist of 3½ acres with a stream of water running through them. There is about 2000 feet of Glass, Seed Shop, Packing, Potting, and other Sheds; Stock (to be taken at a valuation) about £600. No premium will be required, the principal object being to obtain a respectable tenant.—For particulars, apply to Mr. JOHN HEWETT, Tortheld, Sidmouth, Devon.

AYLESBURY DUCKS.—Wanted, half a dozen of the above—3 ducks, 1 drake.—Address, with price, D., Post-office, Bampton, Devon.

PARR'S LIFE PILLS are acknowledged to be the best Medicine in the world.—This Medicine has been before the British public only a few years, and perhaps in the annals of the world was never seen success equal to their progress; the virtues of this Medicine were at once acknowledged wherever tried, and recommendation followed recommendation; hundreds had soon to acknowledge that PARR'S LIFE PILLS had saved them, and were loud in their praise. The startling facts that were continually brought before the public at once removed any prejudice which some may have felt; the continual good which resulted from their use spread their fame far and wide, at this moment there is scarcely a country on the face of the globe which has not heard of their benefits and have sought for supplies, whatever might be the cost and have sought for supplies, whatever might be the cost of transmission. The United States, Canada, India, and even China, have had immense quantities shipped to their respective countries, with the same results as in England—universal good.

The sale of PARR'S LIFE PILLS amounts to upwards of 5,000 boxes weekly, more than all other patent medicines put together. This simple fact needs no further comment; it tells plainly that the Pills of Old Parr are the best medicine in the world.

BEWARE OF SPURIOUS IMITATIONS.—None are genuine unless the words "PARR'S LIFE PILLS" are in White Letters on a Red Ground, on the Government stamp, pasted round each box; also the fac-simile of the signature of the proprietors, "T. ROBERTS and Co., Crane-court, Fleet-street, London," on the Directions.

Sold in boxes at 1s. 1½d., 2s. 9d., and family packets at 11s. each, by all respectable medicine vendors throughout the world. Full directions are given with each box.

ONLY TO BE KNOWN TO BE VALUED.

DR. ROBERTS'S CELEBRATED OINTMENT, called the POOR MAN'S FRIEND, is confidently recommended to the public as an unfailing remedy for wounds of every description; a certain cure for Ulcerated Sore Legs, if of 20 years' standing; Cuts, Burns, Scalds, Bruises, Chilblains, Scorbutic Eruptions, and Pimples in the Face, Sore and Inflamed Eyes, Sore Heads, Sore Breasts, Piles, Fistula, Cancerous Humours, and is a specific for those ailments following Eruptions that sometimes follow Vaccination. Sold in pots at 1s. 1½d. and 2s. 9d. each. Also, his PILULÆ ANTISCROPHULÆ confirmed by more than 40 years' experience, to be, without exception, one of the best Alterative Medicines ever compounded for purifying the blood, and assisting Nature in all her operations; hence it is useful in Scrofula, Scorbutic Complaints, Glandular Swellings, particularly those of the neck, &c. They are efficacious also in Rheumatism, and form a mild and superior Family Aperient, that may be taken at all times without confinement or change of diet. Sold in boxes at 1s. 1½, 2s. 9d., 4s. 6d., 11s., and 22s. each.

To Messrs. BEACH and BARNICOTT, Successors and Executers to the late Dr. ROBERTS.

Gentlemen,—About 17 years ago I had the misfortune of knocking my leg while felling some timber, which broke the skin, and my scratching brought it to a wound. I applied many remedies, to no purpose; it continued to get worse. I became an out-patient of Taunton and West Somerset Hospital, in which I continued three months, and I went as out-patient to the Bridgewater Infirmary; but it continued to get worse. At length I was advised, by my uncle, to get the Poor Man's Friend, which he said would cure me; I continued the application, and after using three pots of the Ointment, and two boxes of the Pills I am happy to inform you that I am now perfectly cured, and have been so for 12 months, after suffering for 17 years. Knowing the misery of a bad leg, I send you this for the benefit of those suffering in like manner.

I remain, your obedient servant,

Taunton, Nov. 17, 1847. SIMON STONE MITCHELL.

Sold Wholesale by the Proprietors, BEACH and BARNICOTT, at their Dispensary, Bridport; by the London Houses; Retail by all respectable Medicine Vendors in the United Kingdom.

OBSERVE.—No Medicines sold under the above names can possibly be genuine unless "BEACH and BARNICOTT, late Dr. ROBERTS, Bridport," is engraved and printed on the stamp affixed to each package.

BY [illegible] CHEMICAL MANURE.

[illegible] and Co., [illegible]

[illegible]

MESSRS. SKELTON, HAYWARD [illegible]

[illegible]

RYLAND'S [illegible] GREENHOUSE [illegible]

[illegible]

METCALFE AND CO.'S NEW PATTERN TOOTHBRUSH AND SAPONA [illegible]

[illegible] direct importations, [illegible]

CAUTION.—Beware of the words [illegible] by some hoaxers.

SMOKY CHIMNEYS CAUSED BY WIND [illegible] guaranteed [illegible] NEWLY INVENTED SMOKE PILLS [illegible] the following [illegible] Day's Patent [illegible] lity. Impossibility [illegible] the Present of Six [illegible] varied [illegible] and tested at Mr. [illegible] sell-street, St. [illegible] Country Letters [illegible]

ADVERTISEMENTS [illegible] DECEMBER [illegible] the MIDLAND [illegible] TURIST must [illegible] insertion.

NOTICE.—For the [illegible] districts, a Stamp [illegible] Third Volume, to [illegible] Edition will be sent [illegible] Orders for Four Shillings [illegible] RICHARD SUTTON, Nottingham.

Vol. I., price 4s. [illegible] First Volume, and all the back [illegible] LONDON: SIMPKIN and MARSHALL [illegible]

THE GROWTH AND PRESERVATION OF THE HAIR.

ROWLANDS' MACASSAR OIL [illegible] balsamic properties into the [illegible] the hair in its every stage, [illegible] it from Scurf and Dandruff [illegible] times its possessor of [illegible] luxurious redundancy, to the [illegible] In the growth of Whiskers, [illegible] also tending in its stimulating [illegible] especially recommended [illegible] head of hair, and rendering [illegible] unnecessary. A single [illegible] ROWLANDS' MACASSAR OIL [illegible] advice will be found on the Outside [illegible] and in its preservation and beauty [illegible] of human life. Price [illegible] 6d.—Family [illegible] four small [illegible] Each bottle of the genuine article [illegible] MACASSAR OIL," engraved [illegible] on the back of the Wrapper [illegible] 20,000 letters.—Sold by [illegible] and by all Chemists and Perfumers.

ANOTHER CURE OF ASTHMA OF 14 YEARS STANDING BY DR. LOCOCK'S [illegible] —Dated Hobbins-road, [illegible] When I received the first box [illegible] I was labouring under a [illegible] I have been subject now [illegible] years. [illegible] so very difficult that I expected every [illegible] last. As I stay, that was [illegible] several weeks. The first dose [illegible] the great relief; the second [illegible] the grandmarks for the cure. [illegible] effected, and I am now quite well. Signed [illegible] Witness, Mr. F. C. LANGLEY, [illegible] public speakers they are invaluable for strengthening and clearing the voice. They have a pleasant taste. Price [illegible] 2s. 9d., and 11s. per box. Agents, [illegible] lane, Fleet-street, London. Sold by all [illegible]

JUST PUBLISHED, NEAT CLOTH, Price 5s. 6d.,

ORNAMENTAL AND DOMESTIC POULTRY.

THEIR HISTORY AND MANAGEMENT.

By the Rev. EDMUND SAUL DIXON, M.A., Rector of Intwood with Keswick.

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Domestic Fowl in general
The Guinea Fowl
The Spanish Fowl
The Speckled Dorkings
The Cochin-China Fowl
The Malay Fowl
The Pheasant Malay Fowl
The Game Fowl
The Cuckoo Fowl
The Golden and Silver Hamburgh Fowls
The Mute Swan
The Canada Goose
The Egyptian or Cape Goose
The Musk Duck
The Grey China Goose
The White Fronted or Laughing Goose
The Wigeon
The Teal, and its congeners
The White China Goose
The Tame Duck
The Domestic Goose
The Barnacle Goose
The Brent Goose
The Turkey
The Pea Fowl
The Blue Dun Fowl
The Lark-crested Fowl
The Poland Fowl
Bantam Fowls
The Rumpless Fowl
The Silky and Negro Fowls
The Frizzled or Friesland Fowls.

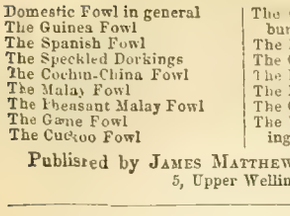
Published by JAMES MATTHEWS, at the Office of the GARDENERS' CHRONICLE AND AGRICULTURAL GAZETTE, 5, Upper Wellington-street Covent-garden; and may be ordered of any Bookseller

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

The GENERAL MEETING will be held at the Society's House in Hanover-square, on SATURDAY, the 9th of December, at 11 o'clock in the forenoon. Lectures will be delivered before the Members in the Rooms of the Society on the evenings of the previous Wednesday and Thursday, of which (when the arrangements are completed) further information will be given.

By order of the Council,
London, Nov 7. JAMES HUDSON, Secretary.

IMPROVED DOUBLE-MESH WIRE GAME NET.



BARNARD AND BISHOP, Norwich, can strongly recommend the above NET to the notice of the Nobility and Gentry, as being the cheapest yet introduced: it has met with general approbation, and has been found most efficient in the preservation of young Trees, Gardens, &c., from the depredations of game. The extra strong 2-inch is the same strength as the stoutest article in the market. On inspection, it will be found better manufactured than anything else of the kind, and 20 per cent. cheaper. It is sent out in rolls of 50 yards, or any other length, at prices as under.

				per yard—s.	d.
Double Mesh Net 24 ins. wide, 1⅝ & 3¼-in. mesh,			strong	0	6¾
...	...	...	extra strong	0	9
...	...	2 & 4 ...	strong	0	5¾
...	...	...	extra strong	0	7½
Single Mesh ...	...	1⅝ ...	light	0	7
...	...	...	strong	0	9
...	...	...	extra strong	1	0
...	...	2 ...	light	0	6
...	...	...	strong	0	7½
...	...	...	extra strong	0	10

The prices quoted for double net are for equal proportions of each mesh, which may be varied if required, thus, three parts fine to one of coarse, or *vice versa*, at prices accordingly; and it can be made any mesh and width to 7 feet.

A finer description for Aviaries, Pheasantries, &c., sparrow proof, 3d. per square foot; or, if made in copper, at 5d. per square foot. The Iron Wire Net is twice dipped in anti-corrosive composition, and sent free to London or Hull.

Patterns forwarded per post, free of expence.

PROVIDENT LIFE OFFICE, 50, Regent-street, and 2, Royal Exchange-buildings, London.

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Policy No.	Date of Policy.	Sum insured.	Bonuses added.	Increase on original Insurance.	Total Sum payable, to which future Bonuses will be added.
		£	£ s. d.		£ s. d.
21	1806	500	415 10 2	83·10 per cent.	915 10 2
521	1807	900	982 12 1	109.17 ,,	1882 12 1
1174	1810	1200	1160 5 6	96.68 ,,	2360 5 6
1395	1811	1600	1328 8 6	83.02 ,,	2928 8 6
3286	1820	2000	1906 13 5	95.33 ,,	3906 13 5
3392	1820	5000	3558 17 8	71.17 ,,	8558 17 8
4356	1822	3000	2541 3 6	84.7 ,,	5541 3 6

Prospectuses and full particulars may be obtained upon application to the Agents of the Office in all the principal towns of the United Kingdom; and the head Office, No. 50, Regent-st.

GLOBE INSURANCE, PALL-MALL AND CORNHILL, LONDON.

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The whole paid up and invested, and entirely independent of the amount of premiums received.

Insurances may be effected on Single Lives, on Joint Lives, and on the contingency of one life surviving another.

Insurances for short or limited periods may be effected at reduced rates, and with the least practicable delay.

(By order of the Board)
London, Nov. 11. JOHN CHARLES DENHAM, Secretary.

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Empowered by Special Act of Parliament, 4 & 5 Vic. cap. 92.
Subscribed Capital, £1,000,000.
(A list of the Proprietors enrolled in the High Court of Chancery)

FIRE.—The Receipts for the Renewal premiums, due at Michaelmas, are ready for delivery at the Head Office in Town, and at the respective Agencies throughout the country.

LIFE.—This Institution adopts both the PROPRIETARY and MUTUAL systems of Life Assurance, and the Policy Holders under both systems are fully protected by the large subscribed Capital of the Company.

At the recent Division of Profits, the Reversionary BONUS amounted to 56 per cent. on the Premiums paid; and the equivalent Reduction varied from 25 to 40 per cent. on the Premiums payable until the next Division of Profits.

Tables of Rates and full Particulars may be had on application at the office in London, or of any of the Agents of the Company. WILLIAM EMMENS, Secretary.

GARDENING FOR COTTAGERS. — The most perfect system of Cottage Gardening, comprising very plain instructions for every operation required in out-door Gardening, and a calendar of work to be done for every month in the year, is just published, in Part XL. of the HORTICULTURAL MAGAZINE, price 1s., or post-free by enclosing 18 postage stamps.

A complete List of the TREATISES published in the Horticultural Magazine may be had through any bookseller.
C. Cox, 12, King William-street, Strand, London.

NEW EDITION OF
PROF. LINDLEY'S INTRODUCTION TO BOTANY.
Recently published, in 2 vols. 8vo, with Six Copper-plates and numerous Wood Engravings, price 24s. cloth,

INTRODUCTION TO BOTANY.
By Professor LINDLEY, Ph.D F.R.S. Professor of Botany in University College, London, &c. Fourth Edition, with Corrections and numerous Additions.

EXTRACT FROM PREFACE.

In this new and enlarged Edition, the Author has followed very nearly the method recommended by the celebrated Professor De Candolle, than whom no man is entitled to more deference, whether we consider the soundness of his judgment in all that relates to order and arrangement, or the great experience which a long and most successful career of public instruction has necessarily given him.

The Author has begun with what is called ORGANOGRAPHY (Book I.); or an explanation of the exact structure of plants; a branch of the subject comprehending what relates either to the various forms of tissue of which vegetables are constructed, or to the external appearance their elementary organs assume in a state of combination. It is exceedingly desirable that these topics should be well understood, because they form the basis of all other parts of the science. In physiology, every function is executed through the agency of the organs: systematic arrangements depend upon characters arising out of their consideration; and descriptive Botany can have no logical precision until the principles of Organography are exactly settled. A difference of opinion exists among the most distinguished botanists, upon some points connected with this subject, so that it has been found expedient to enter occasionally into much detail, for the purpose of satisfying the student of the accuracy of the facts and reasonings upon which he is expected to rely.

To this succeeds VEGETABLE PHYSIOLOGY (Book II.); or the history of the vital phenomena that have been observed both in plants in general, and in particular species, and also in each of their organs taken separately. It is that part of the science which has the most direct bearing upon practical objects. Its laws, however, are either unintelligible, or susceptible of no exact appreciation, without a previous acquaintance with the more important details of Organography. Much of the subject is at present involved in doubt, and the accuracy of some of the conclusions of physiologists is inferred rather than demonstrated; so that it has been found essential that the grounds of the more popularly received opinions, whether admitted as true or rejected as erroneous, should be given at length.

Next follows GLOSSOLOGY (Book III.); or, as it was formerly called, TERMINOLOGY; restricted to the definition of the adjective terms, which are either used exclusively in Botany, or which are employed in that science in someparticular and unusual sense. The key to this book, as also to the substantive terms explained in Organography, will be found in a copious Index at the end of the volume.

It has been the Author's wish to bring every subject that he has introduced down, as nearly as possible, to the state in which it is found at the present day. In doing so he has added so very considerable a quantity of new matter especially in what relates to Vegetable Anatomy and Physiology, that the present Edition may be considered, in those respects, a new work.

By the same Author,
THE THEORY OF HORTICULTURE. 8vo, 12s.
SYNOPSIS OF THE BRITISH FLORA. 2mo, 10s. 6d.
FLORA MEDICA. 8vo, 18s.
London: LONGMAN, BROWN, GREEN, and LONGMANS.

TO PEAR GROWERS.

A SUPPLEMENT TO DESCRIPTIVE CATALOGUE OF FRUITS (published Jan. 1848), by THOMAS RIVERS, is now ready for delivery, containing lists of Pyramidal Pear Trees on Quince Stocks, root-pruned and full of blossom-buds. Dwarf trained Pears for espaliers or walls, on Quince stocks; ditto on Pear stocks. The Supplement sent gratis on application. The Catalogue for four postage stamps.
Sawbridgeworth, Herts.

On November 11 will be published, THE CHEMICAL TIMES, and Journal of Pharmacy, Manufactures, Agriculture, and the Industrial Arts. This journal is intended to fill a recognised void in the literature of Britain, and to be a literary organ to all that numerous class who are connected with chemical science either directly or remotely. To the Manufacturer, the Miner, the Physician, the Pharmacologist—to the Agriculturist, the Metallurgist, or the abstract Closet Chemist—its pages will be alike adapted. In order to obtain a literary supply of undoubted excellence, the Editor has been fortunate in securing the co-operation of gentlemen whose names are the fullest guarantee of the character of the journal. The subject of Chemical Patents, which will be fully criticised in the CHEMICAL TIMES, is in itself a matter of sufficient importance to enhance the general utility of the journal. In order that this review of chemical patents may be efficiently conducted, the Editor has secured the co-operation of the largest patent agent in Britain.—All communications to be addressed to the Editor, at 320, Strand.

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THE GARDENERS' CHRONICLE, from its commencement to the end of 1847, without the Newspaper. Six vols., bound in green cloth, vol. 7 unbound; price 7*l.* The work is in good condition.—Apply to M. H., Post-office, Brompton-row, London.

Now ready, price 1s.
AN ENQUIRY INTO THE PRESENT STATE OF SMITHFIELD CATTLE MARKET, and the Dead Meat Markets of the Metropolis. Showing the tendency of the present system to reduce the Profits of the Graziers, cause unnecessary Cruelty to Animals, Poison the Food of the Poor, and give rise to the most disgraceful Desecration of the Sabbath. By JOHN BULL.
London: JAMES RIDGWAY, Piccadilly, and all Booksellers.

ROSE CATALOGUE.—NEW EDITION FOR 1848-9.
NURSERIES, CHESHUNT, HERTS.

ADAM PAUL AND SON beg to inform their Friends and the Public in general, that their new ROSE CATALOGUE may now be had gratis, on enclosing two stamps for postage. The prices are low as possible, and they ensure the supply of well-cultivated plants.

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THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No 47.—1848.] SATURDAY, NOVEMBER 18. [PRICE 6*d*.

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ERRATUM.—In Mr. Harris's Advertisement, inserted 11th Nov. headed "To Cucumber Growers and others, for "Urea Brotton Cucumber," read "Great Britain."

THE OLDEST CANDIDATE ON THE LIST.
TO THE SUBSCRIBERS TO THE
GARDENERS' BENEVOLENT INSTITUTION.

The favour of your Votes and Interest is earnestly and respectfully solicited in behalf of CHARLES AINSLIE, aged 84 years, who has subscribed three years to the Charity, but now from his advanced age, and other infirmities, is incapable of obtaining a livelihood.

WOODLANDS NURSERY, MARESFIELD, NEAR UCKFIELD, SUSSEX.

WILLIAM WOOD AND SON'S DESCRIPTIVE CATALOGUE OF FRUITS is now published, and may be had GRATIS on application.

CRYPTOMERIA JAPONICA, in pots, 6 to 7 feet, 7*s*.
TAXODIUM SEMPERVIRENS, in pots, 6 feet 2*l*.

THE CRYPTOMERIAS are the first plants imported by the Horticultural Society into this country; small sizes of each down to 2*s*. 6*d*. Araucaria Imbricatas, Cedrus Deodaras, Abies Douglasii, &c., &c., can be supplied in good plants.

H. LANE and SON, Nurseries, Great Berkhampstead, Herts.

MR. GORDON'S FINE WHITE SPINE CUCUMBER is now offered to the horticultural world at 2*s*. 6*d*. per packet, containing 10 seeds, post free.

W. G., late gardener to His Grace the Duke of Manchester for 30 years, can with safety recommend this fine variety without fear, having grown the same for 10 years with the greatest success, both as to early and late work. The habit of the plant, when well grown, is strong and robust, and a very prolific bearer. The fruit, of a dark green colour, of great beauty and symmetry, with a fine bloom, without rib or blemish, and will run from 16 to 24 inches in length. This variety is well known in the counties of Cambridge and Huntingdon; when exhibited at the horticultural shows, second to none. The true and genuine Seed can only be obtained from W. GORDON, Kimbolton, Hunts.

THURSTON'S "RELIANCE" PEA.

G. AND J. THURSTON have the pleasure of offering the above as the most magnificent PEA in cultivation; it is very prolific, bearing its numerous pods in pairs, from 4 to 5½ inches long, with from 6 to 10 fine Peas in a pod, of the most delicious flavour and good colour. Being perfectly hardy it may be planted at any time, and although tall it succeeds remarkably well dibbled the same distance as Beans. It has been favourably noticed by Mr. Glenny in his Garden Almanack and other works; by Dr. LINDLEY, in the *Gardeners' Chronicle* of July 1st; and by Mr. Neville, in the Gardener, &c., July 8th. Mr. Barnes also can testify to its superior merits, having grown it in the Dancroft Nurseries, where it has been seen by many of the leading amateurs and gardeners in the county, as also by several of the London seedsmen, who can speak to its excellence. It will be sent out in sealed quart bags, at 4*s*. each. Also their "CONQUEROR" POTATO, at 2*s*. 6*d*. per peck, which was sparingly sent out last year, is allowed to be the best Kidney Potato grown. Agents in London, Mr. CHARLWOOD, Covent-garden; HURST and Co., 6, Leadenhall-street. Prices for wholesale orders will be furnished by letter.

Money orders are respectfully solicited from unknown correspondents, made payable to GEORGE THURSTON, Stowmarket.

EARLY POTATOES FOR PLANTING.

RÉNE LANGELIER, Clarendon Nursery, Saint Helier, Jersey, begs to offer the following, which he guarantees free from disease, and well worth the attention of the public, or they would not be advertised by R. L.

No. 1. ROYAL EARLY QUEEN DWARF.—This is the earliest and most productive round Potato known, fit for frame or early forcing; 10*s*. per bushel of 56 lbs.

No. 2. AXBRIDGE KIDNEY, also early, and one of the greatest bearers; dwarf habit; 7*s*. 6*d*. per bushel.

No. 3. Very true ASH-LEAVED KIDNEY; 7*s*. 6*d*. per bushel.

No. 4. TANSPRUNE, also early round; 5*s*. per bushel.

No. 5. A Pink Round, for a general crop; 5*s*. per bushel.

All unknown correspondents are requested to send a post-office order. The stock of each kind is not very great.

R. L. has now ready to send out PEAR-TREES from his well-known collection.

UNDER THE ESPECIAL PATRONAGE OF

HER MAJESTY. THE QUEEN.

THE TRUE FASTOLFF RASPBERRY.—This valuable and highly esteemed Raspberry, unequalled for its size and richness of flavour, and a long continuance of bearing, as originally sent out by YOUELL and Co., can now be supplied by them of the same stock they had the honour of furnishing Her Majesty's Gardens at Windsor, and most of the Nobility, as well as having Certificates of Merit awarded them for it by the London Horticultural Society. Packages containing 100 canes, 15*s*.; 50 ditto, 7*s*. 6*d*.

Large White Raspberry, 3*s*. per dozen.

"TOBOLSK RHUBARB."

A Letter, of which the following is a copy, has been received from the Honourable William Ashley, Treasurer to the Queen.

"Pavilion.

"Sir,—I am commanded by the Queen to acknowledge the receipt of a basket of Tobolsk Rhubarb, sent by you for her Majesty's acceptance, and to say that its excellent qualities fully justify the high character you had previously given it.

"I remain, Sir, your obedient humble servant,
(Signed.) "WILLIAM ASHLEY."

YOUELL'S TOBOLSK RHUBARB (the earliest known), producing fine stalks of a bright transparent pink. Roots planted in a cellar or dark closet now, will be fit for cutting the latter end of December. Extra strong roots, 3*s*. to 12*s*. per dozen; smaller, 6*s*. per dozen. STRONG GIANT ASPARAGUS, 2*s*. 6*d*. per 100; and SEAKALE, 2*s*. per dozen.

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Comprising the finest sorts of Peaches, Nectarines, Apricots, Plums, Cherries, Pears, Apples, Gooseberries, and Currants, warranted correct to name, as obtained from the London Horticultural Society.

The True Large Black Naples Currant, 5*s*. per dozen.
Improved Large White Dutch Ditto, 6*s*. per dozen.

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Several millions of fine Whitethorn, suitable for Planters and Contractors, at 3*s*. 6*d*. per 1000.

STANDARD ROSES of the finest sorts, 12*s*. to 18*s*. per doz.

Great Yarmouth Nursery.

EDWARD DENYER begs to inform his friends that his new CATALOGUE OF ROSES is ready for circulation, including Fruit and Forest Trees, Evergreens, Deciduous Shrubs, &c., which can be had by inclosing a two-penny stamp. The Plants are all of a first-rate quality, and the charges will be found to be very moderate. Orders to the amount of 3*l*. sent carriage free 50 miles, and to the amount of 5*l*., 100 miles.—Loughborough-road, Brixton, near London.

E. D. respectfully informs his friends that he has no other place of business in London or elsewhere but the above.

AMERICAN NURSERY, BAGSHOT, SURREY.

Near the Farnborough Station, on the South Western Railway.

JOHN WATERER begs to state that he is prepared to execute orders for the following Splendid Hardy RHODODENDRONS. Good strong bushy plants, the colours of which consist of clear and spotted Whites, Scarlet, deep Rose, Dark Purple, Rose-edged, &c., from 30*s*. to 42*s*. per dozen.

Album elegans	Nealii	Lyonense
,, speciosum	Pellucidum	Victoria regina
Atrorubra purpureum	Perspicuum	Multimaculatum
	Pictum	Guttatum
Catawbiense bicolor	Purpureum elegans	Hyacinthæflorum
,, flora pleno	Cœlestinum	Formosum
,, splendens	Bellonum	Glennyanum
Campanulatum	Roseum elegans	Gloriosum
Caudentissimum	,, album	Macranthum
Cyaneum	Leopardii	Marginatum
Delicatissimum	Variabilis	Maculatum novum
Eburneum	Splendidum	Mirandum
Everestianum	Russellianum	Maculosum
Nivaticum		

Standard Rhododendrons, 7*s*. 6*d*., 15*s*., and 21*s*. each and upwards.

Azaleas, good mixed sorts, 18*s*. to 21*s*. per dozen. The very best kinds in cultivation, 24*s*. to 30*s*. per dozen.

Kalmia latifolia, handsome bushy plants, 1 to 1½ foot, 5*l*. per 100. Larger ditto, 1*s*. 6*d*. to 2*s*. 6*d*. each. Fine specimens for lawns, 10*s*. 6*d*. to 63*s*. each.

To the above, J. W. invites particular attention, and being the largest grower of American plants, has induced him to offer them at the low prices quoted. Also the following, for GAME PRESERVES.

RHODODENDRON PONTICUM, the very best Evergreen for cover, being free from attacks of hares and rabbits, bushy healthy plants, 10*s*. 6*d*. per 100. Larger ditto, 15*s*. to 21*s*. p. 100.

BERBERIS AQUIFOLIUM, bushy, 5*s*. per 100. Larger ditto, 60*s*. per 1000.

COMMON LAURELS, good bushy stuff, 10*s*. per 100. Larger 15*s*. to 25*s*. per 100. Very large, 4 to 6 feet.

PRIVET EVERGREEN, 8*s*. to 12*s*. 6*d*. per 100.

CEDARS OF LEBANON, 3 to 5 feet, very bushy and handsome, very suitable for avenues, 3*s*. 6*d*., to 5*s*., and 7*s*. 6*d*. each.

CHESNUT, Spanish,	2	to	3 feet	31*s*. 6*d*.	per 1000.
,, ,,	3		4	42 0	,,
BIRCH	2		3	25 0	,,
,,	3		4	30 0	,,
ALDER	2		2½	21 0	,,
ASH	3		5	30 0	,,
BEECH	2		3	30 0	,,
HAZEL	2		3	27 6	,,
OAK, English	2		3	30 0	,,
POPLAR, Black	5		6	42 0	,,
WITHY, Strong				16*s*. to 21 0	,,

Planting to any extent done by contract.

J. W. begs to observe that all plants sent out by him are well rooted. Catalogues forwarded upon application.

BERBERIS AQUIFOLIUM and THORNS of all [illegible] JAMES [illegible] application. [illegible] country.

LANDSCAPE GARDENING, GARDEN ARCHITECTURE, AND RURAL IMPROVEMENT.

W. P. AYRES [illegible] practice, and also [illegible] Scotland [illegible] ing out, and [illegible] to ascertain [illegible] Business, [illegible] arranged or [illegible] Blackheath Park, [illegible]

WARNER'S EARLY EMPEROR PEAS.—These [illegible] PEAS, [illegible] bearer, [illegible] Royal of Farmers' Wonder, [illegible] Laurence Pountney, [illegible] Champion of England Peas, [illegible] do., and all their [illegible]

DANCROFT EARLY GREEN PEAS.—This [illegible] PEAS [illegible] tinct hard [illegible] flavour, [illegible] sale at [illegible] Cannon-street, London.

SELECT PLANTS AND [illegible] BULBS.

BASS AND BROWN [illegible] Advertisement of [illegible] of Oct. 21, page 687, and [illegible]

Our Autumn [illegible] Catalogue of [illegible] Flower Roots, &c., containing [illegible] Early and Double [illegible] (upwards of 4 years [illegible] Importen Dutch [illegible] and Shrubs, Hardy [illegible] &c., will be forward [illegible] Seed and Plant [illegible] Sudbury, Suffolk.

WELLS'S [illegible] ESTABLISHED [illegible]

G. LOWE [illegible] G. [illegible] sincere thanks [illegible] he has received during the [illegible] and begs to call their attention [illegible] FOREST TREES, SHRUBS, &c., which are unusually fine this year.

G. E. has a great number of PORTUGAL LAURELS, YEWS, and CEDARS OF LEBANON, which he can strongly recommend as being particularly large and handsome.

N.B.—Dutch Bulbs, Kitchen Garden, Flower and Agricultural Seeds, Mats, &c. Forest and Ornamental Plantings.

NEW FRUITS.—The following are all of first-rate quality, and [illegible] recommended.

DESSERT PEARS.

Jefferson, September	2*s*. 6*d*.
Fedenberg, October	1 6
Early Favourite (Rivers), July	2 6
Imperiale de Mons, October	1 6
St. Martin's Zaetschi, October	1 6
Reine Claude de Bavay, September	2 6
Reine Claude d'Octobre (October Green-gage)	1 6
Smith's Orleans, August	1 6
Peach (Pêche Pêche), August	2 6

The above prices are for [illegible] Pyramids. Of the [illegible] marked thus *, trained trees for walls can be supplied at [illegible] each.

PEARS.

Beurré Frotonneau (Esperen), March	2*s*. 6*d*.
Beurré d'Aremberg, August	1 6
Beurre Langelier, December	1 6
Crassane d'Hiver Brancas, March	1 6
Duchesse d'Orleans, September and October	1 6
Grosse Calebasse, November	1 6
Josephine de Malines, February to May	1 6
Nouveau Sin, à Queue (Van Mons), March	1 6
Beurre Incomparable, February	1 6
Saint Hurouard (Rivers), April and May	1 6
Soldat d'Esperen, January	1 6
Susette de Bavay (Esperen), March to May	1 6
Triomphe de Jodoigne (Jodoigne Abbey), Dec.	1 6

These marked thus [illegible] Pear or Quince Pyramids, the former [illegible] bearing state, the others as Dwarfs, either on the Pear or Quince.

APPLES.

New Hawthornden, very large, December	2*s*. 6*d*.
Spring Ribstone Pippin, March to June	1 6
Hammond's Jersey Pippin, April	1 6
Ashmead's Kernel, November to May	1 6
Sturmer Pippin, February to July	1 6

The above are Dwarfs on Paradise stocks.

CHERRIES.

Belle d'Orleans, very early	2*s*. 6*d*.
Holland Bizarreau	5 0
Downer's Late Red	2 0
Reine Hortense, late	1 6
Buttner's Black-heart	1 6
Jeffrey's Duke	6 6
Late Duke	6 6
Early Amber-heart (Rivers'), early and rich	1 6

The above are dwarf bushes on the Mahaleb stock.

For full description of the above see Descriptive Catalogue of Fruits published January, 1848, and sent, with supplement, for four postage stamps.

THOMAS RIVERS, the Nurseries, Sawbridgeworth, Herts.

GERANIUMS FOR FORCING.

WM. CATLEUGH begs to offer his Customers a large stock of the above, now ready for sending out. His List of Geraniums, Azaleas, Chrysanthemums, Dahlias, Fuchsias, Carnations, Picotees, and other Florists' Flowers, will be printed in February.

A large stock of Strawberries of the best kinds, Rhubarb roots, Raspberry plants, &c.

Hans'-place, Sloane-street, Chelsea.

MOSS ROSE, "LANEI."—This has been exhibited and well proved. In colour, it is a beautiful shaded carmine; very large and double, with very sweet foliage. Price 7*s.* 6*d.* each.

The new CATALOGUE may be had by enclosing a twopenny stamp; the prices are much reduced, and it contains notes of those best suited for pot culture, training on walls, trellis and grouping. Also a List of those established in large pots for early forcing, the plants of which are very strong.

H. LANE and SON, Great Berkhampstead.

FIRST CLASS GERANIUMS.

J. HINE'S AUTUMNAL CATALOGUE can be obtained on application, enclosing one postage stamp. It contains descriptions of his newly-selected varieties of this year, viz., Ten first-rate sorts for 5*l.* 5*s.* Also, Miller's Set of Eight of last year's for 2*l.*5*s.*; and the names of most of the best kinds in cultivation at 2*s.* per doz. Purchaser's selection.

J. H. is also now sending out UNBLOOMED SEEDLINGS at 7*s.* 6*d.* per dozen, or 3 dozen for 20*s.*

Providence Nursery, Ramsgate.

ARAUCARIA IMBRICATA, AND CEDRUS DEODARA.

ON SALE, at Walton Nursery, Liverpool, at a great reduction on the prices of former years, upwards of 50,000 of those two new and highly interesting hardy Trees, of various ages, and of sizes from 1 to 4 feet high, all grown from Seed in the open ground, and Transplanted into beds or pots in the Nursery. Orders for any quantity, from a single plant to 1000 or upwards, will have immediate attention. Priced Catalogues of the above, and all other Trees and Shrubs for general planting (of which the advertiser holds the largest stock in England), may be had on application to the proprietor, WILLIAM SKIRVING, Liverpool.—Nov. 18.

MYATT'S LINNÆUS RHUBARB.—Messrs. J. MYATT and SONS have a stock of one-year planted roots of this superior variety, which has been the leading feature in the London Markets for several years, and which they confidently recommend as the best in cultivation—being far superior in point of produce and a fortnight earlier than their well known Victoria. It is also peculiarly adapted for preserving and all culinary purposes, and for richness of flavour cannot be surpassed; price 2*s.* 6*d.* per root. Also Mitchell's Royal Albert, 2*s.* 6*d.*; and MYATT'S Victoria, 9*d.* The usual allowance to the Trade.

Post-office orders made payable to JOSEPH MYATT, Deptford.

FAIRBEARD'S "CHAMPION OF ENGLAND," AND "EARLY SURPRISE" PEAS.

WILLIAM FAIRBEARD begs to offer the public generally the above two sorts of PEAS, which are good Peas for field as well as garden culture. The "Champion of England," a large blue wrinkle marrow, and nearly as early as the Double Blossom Frame Pea, great cropper, and fine flavour, considered to surpass all other Peas in cultivation. "Early Surprise," a large blue round marrow, equal in quality to the other; this Pea I can confidently recommend for field culture, and a good Pea for autumn planting. See Dr. LINDLEY'S report in the *Gardeners' Chronicle*, and Mr. Dickson in the Land Stewards' Journal in June last.

Mount Pleasant Nursery, Green-street, near Sittingbourne.

ROYAL ALBERT RHUBARB.

WM. MITCHELL begs to call attention to the above excellent variety, which still retains its supremacy over all other sorts hitherto produced, being from two to three weeks earlier than any kind now grown. It has other qualities eminently entitled to notice; it is most delicious in flavour, of a bright red colour, a most prolific bearer and free grower, with large fleshy stalks, and for early forcing is more suitable than any other variety. Specimens of this splendid vegetable have been inspected and highly approved of by her Majesty, by whose commands it has been introduced into the Royal Gardens, Windsor. Also Mons. Soyer, of the Reform Club, and other eminent judges, have declared this Rhubarb to surpass anything of the kind ever eaten, and all the principal growers attending the London markets have pronounced it to be by far the best in cultivation. In addition, W. M. begs leave to observe that this Rhubarb is the same as was sold so early last season in Manchester, Birmingham, Liverpool, Cambridge, Brighton, and other large provincial towns, where it gave universal satisfaction by its extreme earliness, quality, and beauty.

Strong one year planted roots will be sent out at the end of October, at 2*s.* 6*d.* each. Also, Myatt's Linnæus, 2*s.* 6*d.*, and Victoria, 9*d.* each. The usual trade allowances.

Remittances requested from unknown correspondents by post-office order, made payable to WILLIAM MITCHELL, Enfield Highway, Middlesex, Post office, Enfield.—Nov. 18.

THE JEFFERSON PLUM.

MR. DANCER, NURSERYMAN, Fulham, Middlesex, begs to inform the Public he has an excellent stock of this superior new PLUM, which he can warrant correct, the variety having fruited in his own grounds this season; and he can fully corroborate the account given of it in the "Journal of the Horticultural Society," vol. i., p. 117, where the description is accompanied with a coloured plate. The following are extracts from the above-mentioned reference: "Fruit large, roundish oval; skin dark yellow, remarkably speckled with purple and brownish red; flesh deep orange, exceedingly rich and sugary."—"Will afford a later supply than the Greengage, for it has the property of hanging for a considerable time on the tree after being ripe. In the past unfavourable season the 'Jefferson' was found decidedly superior to the Greengage," with the merit of being an abundant bearer. Standards, 7*s.* 6*d.*; Dwarfs, 5*s.* each.

SHETLAND PONIES AND MILCH COWS.—Just landed, a few very handsome small SHETLAND COWS and HEIFERS, to calve in two and three months. The Milk is equal in quantity and quality to the Alderney. A large choice of SHETLAND and SCOTCH PONIES, of all sizes, from 8½ to 12 hands, some very handsome ones, broken, and very quiet, for harness and children; some well matched pairs. —To be seen at THOMAS ORTON'S, Salesman, 69, Wapping.

YARMOUTH BLOATERS—GENUINE AND OF THE FINEST QUALITY.

Yarmouth has for centuries been justly celebrated for its well-known "Yarmouth Bloaters," the delicacy of which, when obtained in their genuine state, requires no comment. Such an opportunity is now offered; and they can be forwarded to any part of the kingdom, or for exportation on receipt of a post-office order) at 12*s.* per 100, package included.—All orders to be addressed to Mr. FREDERICK BROUGHTON YOUELL, Church-Square, Great Yarmouth.

TO PEAR GROWERS.

RENÉ LANGELIER, Clarendon Nursery, Saint Helier, Jersey, begs to draw the attention of the public to the following new sorts, which he vouches will correspond with the following description:

BEURRE LEON LE CLERC.—Ripe in the latter part of November, large and fine shape, one of the most melting fruit possible; it ripens before the common Leon Le Clerc, equal in flavour, great bearer, both on wall and standard. No collection should be without it. Drawings may be had at 1*s.* 6*d.* each. R. L. is the sole possessor. It was obtained from M. Le Clerc, raiser of Von Mon Leon Le Clerc. Price 10*s.* 6*d.*

BLANC PER NE.—Also a large fruit, Beurre Duhaume shape, but much larger; also melting, and will keep till May. Drawings may be had at 1*s.* 6*d.* each. Price 7*s.* 6*d.* each.

The above two sorts are well worthy the attention of the public. R. L. also strongly recommends, as before (being superior fruit):

BEURRE DUHAUME	3*s.* 6*d.*
GROSSE CALEBASH	3 6
LANGELIER'S BEURRE	3 6

R. L. has still a number of winter specimen fruit that he can send out, on the receipt of a post-office order for 25*s.* from unknown correspondents. His trees this year are of superior growth, and well worthy the attention of the public.

TO PLANT EXHIBITORS.

FOR SALE, a number of the finest specimens of ERICAS, GREENHOUSE, and STOVE PLANTS, in the highest state of health, very bushy and compact, consisting of the newest and rarest varieties in cultivation.

Bower Nursery, Maidstone.

SEEDS.—CORNER OF HALF-MOON STREET, THOMAS GIBBS AND Co.,

(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND," Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

Priced Lists of Agricultural Seeds are always ready, and may be had on application.

BAKER'S PHEASANTRY, Beaufort-street, King's-road, Chelsea, by special appointment to her Majesty and H.R.H. Prince Albert.—ORNAMENTAL WATER FOWL, consisting of black and white swans, Egyptian, Canada, China, bernacle, brent, and laughing geese, sheildrakes, pintail, widgeon, summer and winter teal, gadwall, Labrador, shovellers, gold-eyed and dun divers, Carolina ducks, &c., domesticated and pinioned; also Spanish, Cochin China, Malay, Poland, Surrey, and Dorking fowls; white Japan, pied, and common pea-fowl, and pure China pigs; and at 3, Half-moon-passage, Gracechurch-street.

GLASS FOR CONSERVATORIES, &c.

HETLEY AND CO. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2*d.* to 3*d.* per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices, and estimates forwarded, on application for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY and Co., 35, Soho-square, London.

See the *Gardeners' Chronicle*, first Saturday in each month.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND CO., 116, Bishopsgate-street Without, London, are supplying 16-oz Sheet Glass, at prices varying from 1¼*d.* to 3½*d.* per foot; also Patent Rough Plate, Double Crown, Patent and British Plate, and Ornamental Glass; Glass Milk Pans, Propagating, and Bee Glasses; Cucumber Tubes, Cream Pots, Peach Glasses, Wasp and Fly Traps. Glass Shades for Ornaments, Lamp Shades, Metal Stand Frames, and a well selected stock of Hyacinth Glasses. List of Prices and Estimates forwarded on application.

LACTOMETERS for trying the quality of Milk, 4 tubes 7*s.* 6*d.*, 6 tubes 10*s.*; Hyacinth Glasses and Hyacinth Dishes; Crocus Glasses; Shades for Ornaments; Fish Globes; Plate and Window Glass; Lamp Shades and Chimneys; and every article in the trade.

GLASS FOR HORTICULTURAL PURPOSES.

HARTLEY'S PATENT ROUGH PLATE GLASS, so strongly recommended for Greenhouses, &c., is supplied wholesale and retail at the manufacturer's prices by JAMES PHILLIPS and Co., 116, Bishopsgate-st. Without, London.

GLASS FOR GREENHOUSES, CONSERVATORIES, GARDEN FRAMES, &c.

Hothouse Builders, Nurserymen, and others, supplied with every description of Sheet and Crown Glass, Rough Plate, &c. Glass Tiles, Propagating, Cucumber, and all other Garden Glasses.—Address, T. COGAN, 48, Leicester-square, London.

PRICES OF SMALL SQUARES IN BOXES OF 100 FEET.

	Crown.	Sheet.
Squares under 6 by 4.....	10*s.* 6*d.* £0	12*s.* 6*d.*
6 by 4 and under 7 by 5.....	14 0 0	16 6
7 by 5 ,, 8 by 6.....	15 0 0	18 6
8 by 6 ,, 10 by 8.....	16 0 1	0 6

Larger sizes, of all qualities and substances, equally low.

PAINTS.—LITHIC AND OTHER DURABLE PAINTS, ready for use for FARM Buildings, Agricultural Implements, Park Fences, Outhouses, &c, &c. Genuine White-lead, Colours, Brushes, &c., best quality, and lowest prices.

GLASS MILK PANS FOR THE DAIRY.

Cream Pots, Lactometers, Glass Rolling Pins, Pastry Pans, Shades for Ornaments, Lamp Shades, &c., as usual. For Lists, (priced) direct to T. COGAN, Glass, Colour, and Lead Warehouse, 48, Leicester-square, London.

HOTHOUSES, & HEATING BY HOT WATER, BEST MATERIALS AND WORKMANSHIP, AT SMITH'S, GLEBE-PLACE, KING'S ROAD, CHELSEA, LONDON. ESTABLISHED TEN YEARS.

TO HOTHOUSE BUILDERS, FLORISTS, AND OTHERS. HOT WATER PIPES, &c.

J. JONES, IRON-BRIDGE WHARF, No. 6, Bankside, Southwark, keeps a large STOCK of HOT-WATER PIPES, with Elbows, Syphons, Tee Pieces, Collars, Valves, &c., &c., for HEATING Buildings and Hothouses; also SOCKET and FLANGE PIPES, with the usual connections; LAMP COLUMNS, Rain-water Pipes, Gutters, Sash Weights, Railing Bars, Air Bricks, Scrapers, BARROW WHEELS, Tile Lights, &c. The above CASTINGS at very low prices, at JONES'S, 6, Bankside, Southwark, London.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

WHEAT SOWING.

THE LONDON MANURE COMPANY beg to offer as under:—

LONDON MANURE COMPANY'S CORN MANURE.

" " " URATE. [LIME.

" " " SUPER-PHOSPHATE OF

Peruvian Guano, direct from Importers' stores—Fishery and Agricultural Salt—Gypsum for Clover—Soda Ash for destroying wireworm, and every other Artificial Manure.

The London Manure Company would call particular attention to their Corn Manure and Urate, the former containing a large amount of Ammonia, Phosphates, and Silicates, all so essential for corn crops, while the Urate is richer in Phosphates and other mineral substances required for roots.

Full particulars and prices forwarded on application.

EDWARD PURSER, Sec., 40, Bridge-street, Blackfriars.

WHEAT SOWING.

MARK FOTHERGILL, 201A, Upper Thames-street, London, offers the following MANURES for the Wheat crop, and warrants the quality to be genuine, viz.:

SUPERPHOSPHATE OF LIME (prepared from Bone only).

WHEAT MANURE (containing a large amount of Silicates, with rich Phosphates).

DRIED NIGHT-SOIL (obtained from a large public institution).

PERUVIAN GUANO (direct from import warehouse).

BRITISH GUANO (rich in all the Salts of Ammonia, Phosphates of Soda and Potash, &c., contained in the foreign, at a considerably lower price).

Also, Soda Ash (Wireworm destroyer), Gypsum, Urate, Nitrates Soda and Potash, Salt, Bone-dust, and all other manures of known value.—Apply for prices current as above.

PERUVIAN AND BOLIVIAN GUANO ON SALE,

BY THE ONLY IMPORTERS,

ANTONY GIBBS AND SONS, LONDON;

WM. JOSEPH MYERS AND Co., LIVERPOOL;

And by their Agents,

GIBBS, BRIGHT, AND Co., LIVERPOOL and BRISTOL;

COTESWORTH, POWELL, AND FRYOR, LONDON.

To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

POLMAISE HEATING.

J. LEWIS'S REGISTERED STOVES are made of different sizes, to suit Churches, Schools, Halls, Hothouses, and Pits, from Prices of 3*l.* 10*s.* to 10*l.* 10*s.*, including Plans for fixing. To be seen at J. LEWIS'S Hothouse Works, Stamford-hill, Middlesex.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as building and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

THE IMPROVED HYDRAULIC RAM, fixed by FREEMAN ROE, Fountain Maker, 70, Strand London, can be worked by a small stream of half-an-inch, where a fall of 2 feet can be obtained. The same RAM, without the aid of a Tank or Cistern, arranged to throw a Jet of Water constituting a Fountain with the head of water beneath.

Engines for deep wells of all kinds, Douche and other Baths. Buildings heated by hot water. Water wheels to work small pumps, from 15*l.* Estimates given for the supply of towns, &c.

A newly-invented Portable Vapour Bath, all complete for 4*l.*

HYDRAULIC ENGINES.

J. LEGG begs to return thanks to his patrons and friends, and also to inform them that he continues to erect his improved Hydraulic Engines, Water Ram, &c., suitable for all situations where a fall can be obtained, also Engines for Deep Wells. J. L. also begs to inform his friends that he has made several improvements on his Hydraulic Machines, and flatters himself that he is able to compete with any parties of the present day in the construction of the above machines.

Apply to JOHN LEGG, Cheltenham.

NOTT'S PATENT STOVES FOR CHURCHES, HALLS, WAREHOUSES, &c.—The Stock of STOVES is now REMOVED to BENHAM AND SON'S, 19, Wigmore-street, Cavendish-square, by whom all orders will be executed in the usual Terms.—N.B. The prices have been reduced 25 per cent.

CARSON'S ORIGINAL ANTI-CORROSION PAINT, specially patronised by the British and other Governments, the Hon. East India Company, the principal Dock Companies, most public bodies, and by the Nobility, Gentry, and Clergy, for out-door work at their country seats. The Anti-Corrosion is particularly recommended as the most durable out-door Paint ever invented, for the preservation of every description of Iron, Wood, Stone, Brick, Compo, Cement, &c., work, as has been proved by the practical test of upwards of 60 years, and by the numerous testimonials (between 300 and 400) in its favour, and which, from the rank and station in society of those who have given them, have perhaps never yet been equalled by anything of the kind hitherto brought before the public notice. A copy of the Testimonials, together with a List of Prices, Colours, &c., will be forwarded on application to WALTER CARSON, 15, Tokenhouse Yard, back of the Bank of England, London. No Agents. All orders to be sent direct.

NEW PICOTEE, "THE GEM," 10*s.* 6*d.* per pair. YOUELL & Co. have much pleasure in offering this flower as being one of the finest and most perfect red-edged Picotees yet raised. The petals are large and well formed, perfectly smooth on the edge, the white pure and free from the slightest spot, and is indispensable to any collection. Price 10*s.* 6*d.* per pair, per post free. It has been successfully exhibited in the 1st Class Prize Stands at Chiswick, and the Royal Botanic Society's Exhibition, and is highly spoken of in the last number of the "Florist." The following opinion has been pronounced in the *Gardeners' Chronicle*: "A first-rate flower: the petals are smooth on the edge, large, and well formed; of good substance, and diminishing gradually to the centre, forming a fine crown, without confusion; white good, red edge."

The "Midland Florist" of November 1st, speaks of it in the following terms: "This we have grown in first-rate style this season. It is, or nearly, No. 1."

THE FINEST SHOW CARNATIONS, PICOTEES, AND PINKS.

12 pairs of very fine show flowers, by name, 17*s.* and			£1	10 0
25	ditto	ditto	ditto 2*l.* 10*s.* and	3 0 0
12 pairs of newest and finest first class show flowers			2	10 0
25	ditto	ditto	ditto ditto	5 0 0

Fine mixed border Carnations, 12*s.* per dozen pairs.

For particulars of their Advertisement of rare and hardy Coniferæ, Camellias, Dutch Hyacinths, Pansies, Strawberries, Anemone Seed, &c., see *Gardeners' Chronicle*, Sept. 19.

Great Yarmouth Nursery.

The Gardeners' Chronicle.

SATURDAY, NOVEMBER 18, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

MONDAY,	Nov.	20	Pathological	8 P.M.
			Chemical	8 P.M.
			Statistical	8 P.M.
			British Architects	8 P.M.
			Medical	8 P.M.
TUESDAY,	—	21	Linnean	8 P.M.
WEDNESDAY,	—	22	Microscopical	8 P.M.
			Society of Arts	8 P.M.
THURSDAY,	—	23	Numismatic	7 P.M.
			Antiquaries	8 P.M.
			Royal	8½ P.M.
SATURDAY,	—	25	Royal Botanic	11 A.M.
MONDAY,	—	27	Geographical	8½ P.M.
TUESDAY,	—	28	Medical and Chirurgical	8½ P.M.
			Zoological	9 P.M.
WEDNESDAY,	—	29	Geological	8½ P.M.
			Botanical (Anniversary)	8 P.M.

Is the CAMELLIA a greenhouse plant? This is a question which may very properly be asked now that the nature of plants is better understood than it was 20 years ago. The majority of our readers will of course answer the question in the affirmative: let us see whether the evidence justifies their opinion.

In many parts of England—near London for example—the Camellia lives out of doors without protection through very severe winters, and retains the most robust health. In the hard winter of 1837-8 it bore without shelter a temperature of 0° Fahr., or 32 degrees of frost; and in several places it passed through a cold of 6°, 9°, 12°, 14° Fahr. without damage. In that winter Camellias lived in the Horticultural Garden in 4-inch brick pits covered with mats, through a cold of 4½° *below* zero; in other words they sustained 36½° of frost with only such a shelter as thin brick walls, a glass sash, and a few mats could give them. One of them was *Camellia reticulata*, which still retains the place it occupied in 1837-8, and no plant can possibly be in higher health, or flower more gloriously.

If we look at the climate in which the Camellia grows wild, and becomes a large tree, we find that it is placed by Nature in the midst of rigorous winters. Japan is its fatherland. In Japan THUNBERG assures us that the cold is intense, snow falling, water freezing, and the thermometer dropping to many degrees below the freezing point even in the warmest provinces. (*Sic etiam frigus hiemale, ad plures gradus infra punctum congelationis, intensum admodum est, imprimis cum ventibus e borea et orienti venientibus. Hieme et aqua congelatur in glaciem et nix cadit, etiam in regionibus meridionalibus.*)

The Camellia bush is also cultivated all over those parts of China which Europeans have visited. The climate of Shanghai, N. lat. 31° 24′, may be taken to represent that of the south of Japan, rendered however a little more rigorous by its continental position; at that place we learn from Mr. BALL that "in the winter of 1845-6 the Woosung River was sufficiently frozen to afford the English an opportunity of indulging in the amusement of skating." It further appears that "snow will occasionally lie on the extensive alluvial plain of Shanghai for 10 days together, and more than a foot deep." It is not an inference, then, but a fact that "a remarkable agreement exists between the temperature of Shanghai and the port of Nagasaki, in Japan." We may take this to show the winter climate of the birthplace of the Camellia, and of the adjoining countries; but the whole district in China in which the shrub is cultivated for ornament is far more rigorous than gardeners suppose, who look upon China as a country much more temperate than Great Britain, seeing that Rice is grown in the fields, and stove plants in some sheltered valleys. Extracts from Mr. BALL's valuable work* tell a very different tale.

At Canton "it is not exaggeration to say that every year the Rice fields in the neighbourhood are frozen for a few days, and that ice the thickness of a crown piece is occasionally seen carried through the streets for sale. From the middle of December to the end of March, Europeans are clad in their winter garments, and their houses are furnished with carpets, curtains, and fires. Nor is the thermometer a correct index of the intensity of the cold, as regards our sensations, owing to the force and dryness of the wind."

"In the green Tea country, situated in the district of Whey chew-fu, N. L. 29° 58′ 30″ in the province of Kiang-nan, the northern winds begin to prevail, the Chinese say, in September. In October persons in easy circumstances begin to clothe themselves in their fur dresses; and in November the winter (or rather, perhaps, the N. L. monsoon) regularly sets in; when the young Tea shrubs are said to be bound round with wisps of straw, to prevent them from being broken or injured by the wind and snow which falls in the winter season. The severity of winter, however, is not felt before December. From this time until March the weather continues cold; frost frequently prevails, and snow occasionally: water freezes in the house: but the Chinese houses are badly put together; windows and doors are roughly fitted; in fact, they are built for hot weather, not for cold. The Chinese defend themselves against cold by an additional quantity and different quality of clothing: their houses being thus much exposed to every change of temperature, a little tea accidentally left in a tea-cup over night in any of the rooms will occasionally be found frozen in the morning."

"The Bohea country, in Fokien, differs little from the Hyson district in point of temperature. The Tea men describe the cold as less severe; and the fall of snow, as well as the thickness of the ice, as somewhat less. Indeed it is a mountainous district, with sheltered valleys, fenced in and protected from cold north-easterly and north-westerly winds by the lofty and continuous range of mountains which forms the barrier between this province and those of Chekiang and Kiangsee. December and January are considered the coldest months. It is said that the Kieu-kio-kee, a shallow stream which winds about the Bohea mountains, is annually frozen over. Here vagrants are seen ranging themselves along the most frequented parts, begging alms, and exciting the compassion of passengers by strewing paddy-husk on the ice, to prevent slipping."

In the east of Fokien, Father CARPINA, long resident there, assured Mr. BALL that "the Tea shrubs were neither injured nor the harvest retarded by the cold of 1815, notwithstanding there fell in the month of February four spans (about 33 inches English) of snow in Fo-gan, lat. 27° 4′ 48″, and six spans (49 inches) in Ning-te; so that the covers to the Indigo plants, strongly fixed to protect them from the frost, sun, and wind, gave way under the weight of snow. At the close of the same year, about the middle of December, some days of severe cold and frost occurred. Upon one occasion, about 3 o'clock in the afternoon, on a beautiful sunshiny day," he observes, "I saw two boys, each with a piece of ice the size of a coach window, and an inch in thickness, which they had taken out of the fields in the neighbourhood. I also observed, on the 24th January of the present year (1816) the surface of the water in the river Mo-yang was frozen, breaking and flying about like glass to the stroke of the oar. The volume of water in this river is equal to that of the Guadalquiver, at the passage of Cordova. It freezes in these parts very often."

Many other statements to the same effect might be quoted, but these suffice. They show conclusively that the Camellia is found wild in a country with rigorous winters, and is cultivated in another in which the severity of the seasons is greater rather than less.

If we look at the plants which we have in our gardens from the country of the Camellia, they will be found to be among the most hardy exotics which we possess. Cydonia (*alias* Pyrus) japonica, Wistaria (*alias* Glycine) sinensis, Cryptomeria, the Moutan, Weigela, Forsythia, Chimonanthus—who has seen them hurt by English frosts? Thus it appears that the companions of the Camellia in its own woods have no such tenderness of constitution as to demand a greenhouse.

Is the Camellia, then, a greenhouse plant? We shall endeavour to find an answer to the question in our next week's publication.

* "An Account of the Cultivation and Manufacture of Tea in China," 8vo, Longmans.

WHAT shall I do with my LEAVES? Are they good for anything? asks a correspondent. Do with them! good for anything! Why treasure them to be sure, as if they were coin of the realm; they are good for everything which a gardener has to do. They are the best of all shelter, the best of all materials for bottom-heat, the best of all soil, the best of all drainage, the best of all manure. It is true they contain little or no nitrogen, but they rot quickly, are full of saline matters, on which everything that bears the name of plant will feed gluttonously, and from their porous structure allow air to pass in and water to pass out with perfect freedom.

If we want to know what leaves are good for we have only to burn them and see the ash they leave behind. All that [illegible] food for other plants [illegible] It is the mineral that [illegible] returning to the soil in order to compensate for the waste which is produced by the [illegible] In wild land, trees are [illegible] were it otherwise a wood would [illegible] over-hedging a host of death. If we [illegible] the best from our pasture [illegible] of the annual increase of the [illegible] grow. This obviously [illegible] leaves, which are in truth hardly less important in their death than they were in their life, [illegible] different way.

WE learn from the *Wakefield Journal* that another case of injury committed [illegible] other property, by the acid vapours [illegible] the air by Alkali Works, has been [illegible] by the award of the arbitrator. In the [illegible] neighbourhood of Wakefield was exposed [illegible] of devastation, among gardens, but [illegible] richly wooded property. As in other [illegible] hedgerows, thriving young plantations [illegible] trees, inestimable for their beauty [illegible] associations, as well as valuable for their timber, were scorched, dried up, and killed, [illegible] Midsummer they looked as if they had been exposed all night to a January frost. Of course a perpetrator of all this mischief found witnesses who swore that there was nothing in the appearance of the damaged trees beyond what might be ascribed to "natural causes," and of course their testimony found no belief. The world possesses more common sense than such persons suppose.

We find the award to be as follows: "In the actions tried at York for the two parcels on behalf of Sir WM. PILKINGTON and Mr. WATERHOUSE, for damages—which, of course, carry the costs of the two actions: 1000*l.* damages for Mr. Waterhouse to his trees; 100*l.* damages to his [illegible] and vapour; and some other small damages. Also damages to Sir WM. PILKINGTON for his [illegible] and to the tenants of both these gentlemen for damages to their crops. The arbitrator also directs the discontinuance of the manufacture of salt cake. The defendant has also to pay all his own costs of the actions and of the reference: half the [illegible] costs of the reference; and three-fourths of the other costs of the reference, and of the arbitrator's award."

Let us advise all those who possess timber in the neighbourhood of alkali works to proceed against them with the same determination as has been shown by the plaintiffs in the actions tried within the last few years; conceding nothing, compromising nothing, but forcing the offenders into court. Thus, and thus only, will they save their property from destruction: for it is certain that all the timber near such places must perish sooner or later, and that no reliance can be placed upon promises to [illegible] which, in fact, cannot be acted, except at a cost that renders the works unprofitable.

POTATOES IN WESTMORELAND.

SINCE the receipt of your letter of the 14th August, I have paid attention to the Potato crops in this neighbourhood, but more particularly to those growing on peat moss. Those growing upon hard land [illegible] considered as nearly half diseased: but it is difficult to ascertain the proportion affected with any degree of accuracy, although the most part are now taken out of the ground. Nearly all agree that the crop has been a heavy one, so that what sound Potatoes are left are supposed to be more than an average half crop: how they will keep cannot yet be known. The only sound parcels which I have seen or heard of are those grown upon peat moss (or pure sea-sand), not peaty moss but peat moss, from which peats for fuel have been, or may be, dug out. By the operation of peat-getting the ground is generally reduced 4, 5, and sometimes [illegible] to 12 feet, and the new ground is afterwards generally clayed and sown with Oats, being first made dry by under-draining. But it is not upon the clayed land that I have found sound crops of Potatoes: on the contrary, every crop which I have seen growing upon the clayed ground is diseased; and the more liberally it is clayed the worse the disease: indeed, in some cases, the Potatoes are more diseased than any crop I have seen upon hard land, or ever heard of in this neighbourhood. It is upon the ground from which peats have been dug out, and afterwards made dry by draining, but free of clay, sea sand, or soil, that I have found the crops nearly all sound.

I shall annex you lists of 17 different parcels, with the estimated quantity of ground to each—16 of which are peat moss and one sea-sand. I have adopted this

plan because I cannot give you the names of the Potatoes growing upon them, nor can I give the kinds or quantity of manure used; the kinds of Potatoes are various and of several colours, and the manure of different sorts—horse, pig, cow, and guano. These lots are situated four or five miles west of this place, in several townships, but all in the parishes of Kendal and Heversham, and are on the flat ground running north 7 to 8 miles from the head of Moorcamb Bay.

	A.	R.		A.	R.
No. 1	0	1	No. 5	0	1
„ 2	0	1	„ 6	0	1
„ 3	0	1	„ 7	2	0
„ 4	0	1	„ 8	1	1

These are all in the township of Levens and parish of Heversham. Nos. 4, 5, and 6 have been clayed, the others have not.

The first six of these parcels are, as it were, in one field, and belong to cottagers; 1, 2, and 3 I examined on the 16th August, and though the tops were then brown, I could not find a diseased tuber at any root I pulled up; the crops have been taken up since, and turn out all sound. No. 4 had been clayed for previous crops; and on pulling up the tops, the same day, I found several diseased Potatoes. No. 5 had been but slightly clayed, and a few only of the tubers were affected; the tops of these two lots were also brown. No. 6 had a crop of transplanted Swedes upon it when I examined the other lots; but the cottager's wife told me they had taken a crop of early Potatoes from it previous to transplanting the Swedes; a part of this had been clayed, and on this part she told me not one in ten was free from the disease, but upon the unclayed part every Potato was sound.

Before describing any other lots, I beg to say that the fields in this district are generally separated by ditches, which are often made so deep as to be cut into the clay, and in cleaning them out the clay is frequently mixed with the mud. Wherever this mixture is thrown, and Potatoes planted amongst it, I find part of the produce diseased; therefore though I may say the crop in a field is all sound, it must be understood that part may be diseased where clay has been thrown upon any part of the land; a single spadeful will affect the Potatoes if they grow amongst it. Nos. 7 and 8 belong to farmers; the former was cropped with Potatoes in 1847, and the produce was sound that year, and they have turned out so this year. The crop in No. 8 is also sound. The tops of these two lots were brown on the 16th August, and the Potatoes are small.

No. 9: Two acres.—This lot is in the township of Underbarrow and parish of Kendal, and has never been clayed. It was planted with Potatoes in 1846, 1847, and the present year, and every crop has been free from disease. The tops were brown early in August, but the tubers turn out quite sound.

	A.	R.		A.	R.
No. 10	6	0	No. 13	5	0
„ 11	4	2	„ 14	7	2
„ 12	4	0			

These parcels are in the township of Helsington and parish of Kendal, and have never been clayed. The first four are only separated by ditches.

I examined the first four on the 24th August, and found the tops brown, but what Potatoes I pulled up were quite sound. Part of No. 10 was planted with Potatoes in 1847, and the tubers were free from disease, and the Potatoes this year are sound, but a great many small ones. The whole of No. 11 was cropped with Potatoes in 1846 and 1847, and has had a crop of Potatoes upon it this year also. Every crop has turned out sound, but this year there are a great many small ones. The crop in No. 12 is quite free from disease, and is a good one. No. 13 is an excellent crop, and the owner tells me he has not 3 stones of diseased ones in the whole field, notwithstanding the slight quantity of clay thrown amongst them by cleaning out the ditches; he estimates his crop at 37½ tons. No. 14 was not so soon affected in its top as the other four parcels, but the Potatoes turn out small though numerous, and quite free from disease.

No. 17, 2½ acres, is in the township of Hyth and parish of Heversham; most part of the field is pure sea-sand. It adjoins the mouth of a river at the head of Moorcamb Bay, and a part of it has been cropped with Potatoes in 1845, 1846, and 1847, and not a diseased Potato was found in it in any one of these years. This year the whole of it is planted with three different sorts—Ash-leaf Kidneys and two other kinds, names unknown. I examined it on the 19th August, the tops were brown, but I could not find a diseased Potato, though I pulled up many roots. The owner has now taken up his crop, and with the exception of a few stones, growing at the furthest part of the field from the river, where the soil is stronger, his crop is free from disease again this year.

I have yet two other parcels to describe to you, Nos. 15 and 16; to the latter I wish more particularly to draw your attention, because I believe many thousand acres of similar ground may be found in the United Kingdom, which by draining and proper cultivation I am convinced, from my own experience, may be made to grow excellent crops of sound Potatoes, and at a trifling expence. We have, however, many hundred acres, on the same flat I have mentioned before at the head of Moorcamb Bay, now almost useless, except for the purpose of feeding grouse or growing Cranberries. I have a few acres of this kind of ground under my own care. Previous to the spring of 1847 it grew nothing but Heath, a part of it had been made tolerably dry by draining, for the purpose of spreading upon it peats for fuel. By way of experiment I trenched a few perches late in April 16 or 18 inches deep, and planted second early Potatoes whole in rows 3 feet apart, being first manured with common farm-yard manure; the produce of my crop was quite sound, but the tubers were small and numerous; they ought to have been planted in February or March. These were taken up in autumn, and the ground was turned over again in April last, manured, and planted with Ash-leaf Kidneys. It turned out that a few of the previous crop had been left in the soil all winter, and these took possession of the ground and produced tops 4 or 5 feet long the last summer; the Ash-leaf Kidney tops also made their appearance, but they were very small, and none of their produce was an ounce in weight, but though small they were free from disease; the others were a very good crop and sound also. One top I pulled up on the 1st September had 60 Potatoes at it, but 22 only were fit for house use, the remainder being small ones; all were sound. Another top pulled at the same time had 38 tubers, which weighed 6¾ lbs., all sound. Another top had 40 sound ones at it, which then weighed 7 lbs.; these last I have taken the liberty of sending to you, to show you that Potatoes planted upon peat moss ground (when made dry), will produce sound and good crops, and such as will keep. The whole produce of my experiment is now taken up, and out of about 6 cwt. my workmen found only one diseased Potato. If the bogs in Ireland are anything like those in England, the Irish another year need not want crops of sound Potatoes, if they will make the peat moss dry, trench it 16 or 18 inches deep, and after manuring plant whole Potatoes 8 or 10 inches into the ground. I mention the depth because I found some Potatoes which have been lightly covered produce tubers on the surface, and in that case many were diseased, although the root was growing in pure moss; this was the case with some of my early Ash-leaf Kidneys, which I found the most delicate Potato of any I have planted. No. 15 is a field which, a few years ago, grew nothing but Heath, Sphagnum, and such like rubbish, and was then so wet that one could scarcely walk upon it; I have drained it more than once, and have spread more than 300 cubic yards of clay per acre upon it at two dressings; it has had three crops of Oats taken off it, a crop of Potatoes, and two crops of Italian Rye-grass, the first cutting for seed; and it is now in green crop, with Swedes, Carrots, &c. I have mentioned these particulars to show you that the clay must be pretty well mixed with surface decomposed peat. I have had two parcels of Potatoes upon it this year, one of which is taken up, and they are full half diseased; the other is mostly in the ground, but from what I have seen of them I do not expect to find one in ten sound. These two numbers, 15 and 16, are separated only by a fence and an occupation road; two crops of Potatoes are within less than 8 yards of each other—the one is perfectly free from the disease, and the other is more diseased than any other crop I have seen this year; the good crop growing amongst peat moss trenched and not clayed; the bad crop upon peat moss ploughed and liberally mixed with clay.

I think I mentioned in a former letter that I had taken up about a couple of tons of early Ash-leaf Kidneys, and that from what I had seen of them I feared they would not keep. I am sorry to say more than half of them have become diseased, many being entirely decayed away. I have about 18 cwt. left; these Kidneys were grown in No. 15, in the clayed land. Those Kidneys planted on the other side of the fence, at the same time and from the same heap of seed, were all good (except those peeping out of the ground), and are keeping well.

Should any of your friends try the experiment of raising Potatoes upon, at present, worthless peat moss, let them commence immediately by cutting open grips about 14 inches wide and 2 feet deep, leaving a space between of not more than 6 feet; this should be trenched 16 or 18 inches deep; this will make the ground tolerably dry by spring, when they may, perhaps, make the grips a little deeper. Two rows upon each bed will be plenty to plant upon them, and if whole ones are planted 16 inches asunder, I think will produce a heavier crop than if put in at a less distance. Guano, I have no doubt, will answer for manure. Perhaps straw or rushes put in with it would be an improvement. *Daniel Harrison, Kendal, November 9.*

P.S. I find I have omitted giving you the result of Potatoes planted in peat-moss mixed with a portion of sea-sand. A few years ago I had a temporary road made of sea-sand, 9 inches or a foot thick, across a moss. In planting some Potatoes this year, I directed my workmen to throw a quantity of this sand amongst the peat in digging it over. Potatoes were planted in this mixed soil, and some amongst the pure sand; the former were partly diseased, but the latter all sound. Those planted in the peat alone were sound also. *D. H.*

[Our readers will agree with us that this is one of the most important letters yet published on the Potato disease.]

NOTES ON INSECTS INJURIOUS TO VEGETATION

THAT HAVE APPEARED IN BERWICKSHIRE DURING 1848.

(*Continued from p. 732.*)

Haltica nemorum.—The Turnip crops suffered considerably in the braird from this insect, the Turnip flea, and, in several instances, had to be two or three times sown. The garden Turnips were the first attacked, and when these failed the Radishes were resorted to. Haltica (Macroenema) Spergulæ, Gyll. (= picicornis, Kirby), a larger, light brassy green insect of the same family, accompanied it; but it is a less numerous species, though widely distributed. H. nemorum appears to subsist throughout the winter in the Turnip fields; in the autumn I perceive it in numbers basking on the stone walls surrounding the fields. The patches of Turnips kept for seed in the spring still farther protract its existence. These are often kept in gardens, or near fields that form the next season's Turnip-break, and thus the bane is propagated unchecked. In marshy situations, Cardamine amara (Bitter Lady's-smock), an early plant, is particularly relished by it. The insect generally swarms on it, and its leaves are often reduced to little more than tatters, as the result of its frequent repasts. The wild Mustard (Sinapis arvensis), and the Runch or jointed Charlock (Raphanus raphanistrum), belonging, like the Cardamine, to the same natural order as the Turnip (Cruciferæ), likewise keep up a supply of tender food till the period when its abundance becomes pernicious, and its unsuspected presence felt, in its rapid dispersion over the Turnip fields.

Nedyus contractus.—This minute weevil attended the Turnip flea in its attacks on the Turnip. It is one of the species to which the disease called fingers and toes is attributed, and that complaint is far from uncommon on moory soils. I have never been able to find the larvæ in any specimens of Turnips I have examined, although some intelligent farmers inform me they have noticed it there. The disease in those I saw was too far advanced, and the fantastic distortions of the radicles, appeared to be the result of vitiated vitality, rather than of any internal irritant. They had acquired a noisome smell, and were fast advancing to a state of putridity, being attacked by dipterous and other larvæ, as well as by Omalium rivulare, and Aleochara nitida, insects attached to substances in a state of corruption. The little insect which sows, as it were, the seeds of this fatal disease, survives the winter, in moss, or at the roots of the Nettle, a plant on which it feeds, and appears abroad as early as February, when it may be swept off Grass in great numbers. Like the Sitoniæ it is frequently borne off in thousands to the sea-side, where it blackens portions of the sands, as if they had been strewed with gunpowder. Along with N. assimilis, whose larvæ produces the knobs at the roots of Raphanus raphanistrum, it is very abundant on the flowers of Turnips kept for seed, and there the sexes couple. The knobs on the roots of Cabbages, which prevent their growth, have probably a similar origin; and gardeners who have their Cabbage or Turnip plots in the vicinity of Turnips kept for seed, or near fields where the Raphanus abounds, may reasonably anticipate their attacks.

Apion flavipes.—This small yellow-legged weevil peoples the pasture fields throughout Berwickshire, feeding upon the white Clover. Towards August when its sustenance begins to fail, it shows a migratory tendency, and begins to disperse itself through the woods, where it attacks the foliage of the Hazel, Birch, and perhaps other trees. When the autumnal rains commence to fall, the survivors in the fields resort for protection to moss, or to the thick herbage at the roots of fences. They are particularly numerous at the base of stone walls; and in spring, even when the snow is unmelted, may be seen coming forth to the sunshine in hundreds. The surface of the snow, in these situations, is often spotted with the dead bodies of those that perish from exposure to the evening colds.

Smynthurus baulastinus, nov. sp.—A small species of Smynthurus was very abundant upon the leaves of Potatoes and other plants in gardens, deriving its sustenance from their sap. The leaves, apparently in consequence, had numerous minute black spots dispersed over their surface, and to it, while the aphis theory raged, was ascribed, in a provincial paper, the blackening of the Potato leaves which accompanies the Potato disease, and forms its external symptoms. It is a minute insect, about the size of a small pin-head; the head is small and rounded; the body, consisting of the thorax and abdomen confounded in a single mass, oval or subquadrate, broadest behind, and looking as if the insect wore a cloak. The head, the general colour of the body above, and its apex are light yellow, and there is an orange cloud or some irregular maculæ of that colour posteriorly; the body is very pale beneath, as are the legs and antennæ; and there are six white spots (or fewer), three on each side behind the posterior legs; the head is slightly dusky in front, and the eyes are black. It is furnished beneath with a leaping-fork, of a pellucid white, which is fastened behind, and lies along the belly in a state of repose; but, by projecting it backwards at will, the insect is propelled forwards with a rapid jerk. It usually falls on its back, and takes some time to recover its upright position, which, after a struggle, it often does by seizing some adjacent object with its legs. It runs rather quickly.

Pontia Rapæ.—The leaves of the Swedish Turnip have been eaten by the caterpillar of this butterfly, but not to any great extent. Like the white Cabbage butterfly, it is the prey of a small ichneumonideous parasite, a species of Microgaster.

Aphides.—The Aphides or plant lice have been very scarce throughout the season; even in the autumn, their favourite time, they needed to be sought after rather than presented themselves to notice.

Aphis Fagi.—This species occurred on the leaves of the Beech, in the woods near Milne Graden. It is remarkable for the abundance of cottony filaments with which it is invested. It does not occur, so far as I am aware, in the upland woods.

Aphis Avenæ.—In some districts this was rather plentiful on the Wheat crop after earing, and some of the heads I examined had a row of grains on each side rendered abortive from the Aphides having imbibed the

sap. They were attended by swarms of Thrips cerealium. Here only a few individuals presented themselves on the Oats and Barley. As soon as the crops began to ripen it had recourse to the Grasses, of which Poa trivialis and P. annua are great favourites. I observed a small colony which had established itself on the Holcus lanatus in a wood; and it was only extirpated during the past week by the rigour of two days, in which we had showers of hail and snow. In this position, it had acquired a new enemy, Hylophila nemorum, a hemipterous insect noticed by Messrs. Kirby and Spence for the uneasiness its bite occasions, which, with its long beak, had tapped the Aphis through the skin, and was drinking it empty, little to the comfort of the possessor of the coveted sweet.

Aphis Quercus.—This small species showed itself in the end of August; at present only a few trees under the shade of Firs have their foliage infected with it. The oviparous wingless female is of a green, or yellowish green colour, with the tips of the joints of the antennæ, each as with a short line, and the feet black. The winged male is smaller and darker, especially on the thorax. The foliage under which it resides has a sickly cast, much the same as if the leaves had been held in the smoke of a fire, and acquired its impurities, along with its condensed moisture.

Aphis Coryli.—A minute bristly species, much, but for a near inspection, resembling the preceding, has also been very scarce. Only a few insects in their yellow, or autumnal dress, now survive. They are oviparous females. It is most abundant in deep shady glens, "where the morning dew lies longest," and that calm, moist atmosphere prevails, so congenial to the development of the race.

Aphis Betulæ.—This has been a more abundant species than either of the two last. It now appears in its final stage as an oviparous, wingless female, and the winged male; the former is of a dirty, waxen yellow, or brown colour, with banded segments; the latter blacker, with a white bloom or hoary powder. There are also a few individuals in the pupæ state, of a yellowish green, with stains of darker green interspersed, rapidly advancing to acquire wings. All these are crowded upon the few withering leaves that still adhere to the stripped branches of young trees, and will soon disappear. They remind one of the state of a draught-board in the last stage of the game, when we perceive only a few crowned men, or those that the players are using efforts to make so. Mr. Walker states that the female continues to sit, even on the "leafless bough."

Aphis Laricis.—This species appeared in April, about the same period as the Aphis Juniperi, and has continued during the season. It has now deserted its own tree, of which the foliage is at its fall, and partly distracted by this, by the rains, and the increasing coldness, it is migrating in search of a more comfortable residence. Parties of squatters have settled on the Silver Fir, which they have attacked about the axils of the branches, endeavouring to reach its sap by penetrating the bark with their long beaks.

Aphis Pinetí and *A. agilis.*—The former of these species still survives on the Pinus sylvestris, and is still producing viviparous young. It lies in all its different generations and various states of advancement, along the needle-shaped leaves. It is always covered with a greyish dusty exudation. The greater body of the insects have now disappeared, leaving their eggs, small oval black bodies, fixed upon the foliage, which may be seen throughout the winter and greater part of spring. A. agilis likewise frequents the Pine. For descriptions of it, and most of the other Aphides here mentioned, I beg to refer to Mr. Walker's interesting papers in "The Annals and Magazine of Natural History," for the present year. *James Hardy, Penmanshiel, by Cockburnspath, Berwickshire, Oct.* 23.

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

MANURES.—Although it is as vain to attempt to keep a garden in good heart without manure as it is to try to preserve a good state of bodily health without a sufficiency of food, there are parties to be found every day who think the experiment worth trying. Because they keep neither horses nor pigs, they will not go to the expense of buying those substances by which the exhausted energies of the earth are restored. The starved ground, through this ungenerous treatment, is unable to repay the toil expended on it, and dwarfish and unhealthy productions are the result. Although the subject is one not very proper to be presented to ears polite, it is nevertheless of the utmost importance, and a few lines devoted to it will not be very badly spent. The question of manures may be called a national one, intimately connected with our wealth and happiness, and any one who points out the most economical modes of fertilising the land confers a benefit on his fellow-creatures. Our observations now refer to small gardens, but a principle will pervade them applicable in some degree to the largest farms. In the spirit of a Leading Article in last week's *Chronicle*, respecting the Dublin Horticultural Society, we believe that what is calculated to benefit the amateur gardener may have important bearings on the pursuits of the farmer.

The resources of an ordinary house and garden, if properly husbanded, will go far towards manuring a good-sized piece of ground. All vegetable refuse, leaves, stalks, &c., should be collected into a heap, and when thoroughly rotted, will make the very best manure for flower beds or for plants in pots. The flower-garden will never require a dressing more powerful than good leaf-mould, some special things, Roses for instance, excepted. If the sweepings of paths and of sitting-rooms, or of the house generally, which contain a good deal of sand, are mixed with this vegetable refuse, in a year a good compost will be ready for use. Wood ashes are highly beneficial for any purposes, but cinders are not desirable things except in heavy clayey soils. The fine soft ashes arising from coal, thoroughly burnt, may be always used with advantage. Bones, old rags, cuttings of hair, &c., are all useful; and the amount of these things in a year from a small family is very great. Those who live in country places may often have road scrapings for the trouble of fetching, and these are great improvers of a manure heap. All these matters should be turned occasionally, and used when thoroughly rotten and incorporated.

But the cloaca is the grand source of manure when properly managed, which is not the case in one instance in ten. In most houses there is a common receptacle, into which all substances liquid and solid are thrown, becoming in the process of accumulation a great nuisance, and a still more formidable one when removal becomes necessary. Now a little management will prevent the nuisance, and turn the affair to the best account. The cloaca and the dust-hole should always be adjoining, that the dust and ashes from the house may be spread over the surface of the former *every day*. Bad odours are thus neutralised, and the whole contents are removed without any unpleasantness. One thing, however, must be sedulously attended to in connection with this arrangement: no slops must be allowed to find their way into this receptacle, or the object will be defeated. All liquids brought out of the house in the morning must be disposed of in another way. If you have no kitchen garden, or no meadow land, get rid of these slops by the common sewer. If you have a larger garden, or land, have some heaps of hungry soil always ready, and saturate them with the contents of the slop-pail. By removing these heaps and placing others, everything will be saved, and a most efficient manure provided at small expense. When the cloaca is emptied, the mixture must stand for a year, and be turned over two or three times before it is used. If these regulations are observed, more comfort will be secured in domestic arrangements, and everything will be available for the land. *H. B.*

DEATH OF SIR GEORGE MACKENZIE, BART.

Royal Caledonian Horticultural Society's Experimental Garden, Edinburgh, November 4, 1848.

Excerpt from Minutes of Meeting of Council and Committees, held 4th November, 1848, Professor Dunbar in the chair.

"THE Meeting directed the Secretary to record in this day's Minutes the deep regret with which they had learned the death, on the 26th ult., of Sir George Stewart Mackenzie, Bart., one of the Vice-Presidents of the Society. Sir George was one of the earliest members of the Society, and took at all times a deep interest in its prosperity, and was always ready to promote its success by his advice and influence. He ranked high both in the literary and scientific world, and held an eminent place among British Horticulturists. The loss of such a man cannot but be severely felt by this Society, of which he was so distinguished a member; and the meeting feel themselves called upon, on the melancholy occasion, to record this tribute to his talents and worth."

Home Correspondence.

Cheap Heating Contrivance.—I had a furnace erected outside the back wall of my greenhouse, and over the fire I placed a common metal baker, such as is used for baking meat and Potatoes. This baker, which is laid over the fire on brickwork, is quite round, about 18 inches in diameter, and about 8 inches deep; in the hollow of this I placed a common cooking pot filled with water to keep up a moist heat, and over the whole an arch built, having a hole at the further end to allow the hot air to escape into the house. Two cold air drains at two corners of the house conduct the cold air into the chamber or arch, where it is again heated in passing over the baker. The smoke escapes at one side of the furnace up the chimney. Now, in very severe nights, when the fire (a turf one) is made up at 10 o'clock, it will not keep in more than five or six hours, and I am afraid the cold will overcome the heat, and that all will be destroyed, for the apparatus will not raise the house above 45°. My house is about 36 feet long and 12 feet wide. Much heat passes up the chimney, and to prevent this I used a damper, but then the fire would not burn. I therefore know not what to do with it; for my part, if I had an old smoke flue, I would gladly make a present of the apparatus in question to the nearest cook-shop. But some of your readers may be able to put me right. *John Clay, Clover Hill Gardens, Cavan, Ireland.*

Growing Grapes in Frames.—Black Hamburghs are best for this purpose. In the month of March or April I make up a good strong bed of horse manure, as for Cucumbers, full 4 feet high, within a foot of the wall on which the Vines are. I put slates all over the top of the bed, on which I place the frame (a common Cucumber frame will do). On the top of each partition I put a trellis, with hinges at the back, so that it may be raised for convenience of thinning the berries; I bring the wood down from the wall, and lay it on the trellis. Immediately the bed is made, in order that it may have the benefit of all the heat over the trellis, I put a temporary shallow frame, 1 foot deep, to allow room for the Vine leaves; on this I put the lights, and give plenty of air night and day, while the strong heat lasts, covering the glass every night with mats. By the above method, I grow as fine Grapes as can be produced in houses built at great expense. The bed so served a double purpose, for it warms the roots as well as the tops. My Vines are trained on a south wall; the rod system is that which I pursue. *J. Rodgers.*

Vines Out of Doors.—It would be more interesting if those who grow Vines upon open walls, and with success, would state the latitude in which they live, and their elevation above the sea. Clement Hoare fixes the latitude at 54° north, beyond which Vines will not ripen their fruit upon open walls except in very favourable years. I have two of his Vine prints on which the Vines have flourished this year. In reference to having a publication for cottagers on Vines, as he has recommended, I would propose a short tract to be pasted on the walls of cottages, teaching labourers to grow Vines in a proper manner. In the autumn of last year I gave a labourer a Vine cutting (Sweetwater) several feet long, which he planted near his house. The cutting has grown during the past summer 10 feet 6 inches. Last winter I had a number of small Vines from Mr. Clement Hoare; one of these (Miller's Burgundy), about ½ of an inch thick, I planted near a wall. During the past summer it grew 8 feet. It is now cut down, and made me eight good cuttings, which I have planted. None of the other Vines grew more than a few inches. The roots of all were very good when planted. The blackbirds have been very troublesome this year to my Grapes, so I have it in contemplation to defend my wall with the wire net advertised in your Paper. But my friend says, "your best defence is glass." I do not remember that my Grapes were ever devoured by vermin until this year. None that Clement Hoare mentions ever injured my Grapes. If unripe Grapes make better wine than what are ripe, as it is well known that Gooseberries do, then the Grapes may be gathered before the vermin attack them. I think I shall try this next year if I am spared. Mr. Watson says that Grape wine is not equal to champagne. That is true, but green Gooseberry wine is much better than what is sold for champagne very frequently. I greatly prefer Mr. W. H. Roberts's wines to what wine merchants impose on their customers as foreign wine. I knew nothing of Mr. Roberts's wines until Mr. Hester, of Oxford, mentioned them in speaking of his vineyard in the *Gardeners' Chronicle. C. A. A. Lloyd, Oswestry.*

Vipers.—At page 290 of a work about 10 years old, called a "Summer in Germany," the author mentions seeing a person with some vipers in a bucket along with several small white eggs laid by one of the vipers, whose body showed by the lumps or knots on the abdomen that several more eggs were to be laid. I should not have minded these bumps, but as I understood vipers were viviparous, I was surprised at the egg part of the story, and hope, as the author is anonymous, you may be able to find out the truth of the matter. *J. Mackenzie, M. D., Inverness.* [We presume that the author mistook the common snake for a viper.]

Lime v. *Insects.*—I beg to assure your correspondent that lime may be applied with the most perfect safety to his trees, shrubs, &c.; and will also prove certain destruction to the slug tribe. With respect to the quantity, that must depend on the nature of the soil. In April last, having then recently obtained possession of a garden, &c., that had been greatly neglected, and was overrun with slugs, I spread quicklime over the whole (vegetables, shrubs, Grass, and orchard), at the rate of about 80 bushels to the acre, so that although that month we appeared to be in the midst of winter, with the ground covered with snow, even the evergreens being white. The result was, that not a slug was seen till the recent rains of October, and but very few then. The vegetables have been pretty good, and the growth and vigour of the evergreens have been quite remarkable. The soil is clay. February would be a very good time to lay on the lime. *E. S.*

Potatoes.—It is currently observed in this place that the finest and largest Potatoes are much more infected and perishable than the smaller ones. Also, that the process of greening, which all Potatoes undergo when exposed to air and light, is much more easily excited this year than usual. *N. Y., Malvern Wells, Nov.* 16.

Tulip Bulb Aphis.—Some five or six years ago, when living in Surrey, my Tulip bulbs were attacked by aphides, precisely as described by Mr. Curtis. They did not appear to differ from the species infesting the Rose, but were in good condition. I pinched them off from time to time, and am not aware that the bulbs were injured. This year my Tulip bulbs, when first taken up, had a great tendency to get mouldy, and required constant attention for two or three weeks. Being obliged to leave them for nearly two months, I put them in a common wicker 2 gallon basket well ventilated) in a dry spare bedroom, and I never found the bulbs in so good order for planting as they were that morning, only one was spoilt in more than one hundred stript of their brown coats. *Subscriber, Bath, Nov.* 13.—I am not aware that I ever planted my Tulips without discovering the tender points of some covered with aphides, especially if planted late. *F. Davies, Pershore, Nov.* 18.

Pond Weeds.—Can you inform me how I can get rid of duck weeds from a pond? I have a piece of water which I intended to have been ornamental, but it is so covered with green weed that no appearance of water can be seen. The bed of the pond is very shallow. The water is derived from three small springs running into the pond, and out through an iron grating. We cannot get the weeds off with the water, they would stop the pipe. I used at one time to have

it skimmed off, but it came on again so rapidly that I gave it up. I then tried ducks, but it grew faster than they ate it—the same applied to a swan. Now, unless I can find some means of destroying or getting rid of this weed, I must give up my pond and lay it down with Grass. *A Constant Reader, Maidstone, Nov.* 13. [We know of no remedy except keeping the water in more rapid motion ; that will do it.]

Night Temperature of Pine Stoves.—I wish your correspondent "G." would state at what heat (top and bottom) Mr. Fleming keeps his Pine stoves during winter. I am induced to ask this question, for I find that much difference of opinion exists among gardeners about the heat necessary to produce good Pines, and I think that Mr. Fleming's practice would materially assist in settling the point. I have more than once been called "a young fool, who knows more about reading a newspaper than about gardening," because I have ventured to assert in the presence of older and therefore more experienced men, that Pines were better at a lower night temperature than 65° in the winter. I may be wrong ; [You are quite right.] if so, my opponents will gain the advantage ; but I have presumption enough to think that Mr. Fleming's practice will substantiate my assertions. I do not overlook the necessity of good management in other respects, but my present inquiry is about the heat alone. It is no use to say to our opponents that Mr. Barnes has fruited good Pines in the open air. If one do say so, the response is generally, "Would you have us believe any one's tales?" *J. L. M., Tolmers.* [Your opponents are far more formidable to themselves than to others. They evidently belong to the race with which "ignorance is bliss."]

Close Pruning productive of unsound Timber.—Mr. Cree, of Biggar, states that young Oaks and Larches which are pruned close on Mr. Brown's plan will be found unsound, if dissected at an after period, where the branches are cut off close to the stem. I have purchased many hundred Larch poles (for which I have paid above 650*l.*), of Dr. Thackeray, which grew near Corwen, and also in Denbighshire and Flintshire, and which have been split for posts and rails, and I can positively deny the above statement. All the branches have been regularly pruned, from the top downwards, cutting out the large and strong ones either with a sharp knife or a chisel and mallet, and I could scarce trace where the branch was ; and I never found that part disposed to rot, nor has the growth of the Larch been impeded. On the contrary, the growth has been accelerated, as may be proved by many who have either gone purposely to inspect the woods or the timber when put down as fences. This method of pruning has been adopted every year, and at all seasons of the year since 1814, and with the greatest success, by the above mentioned gentleman. *Lewis Jones, Nov.* 10. [We know the trees here alluded to ; we have seen them when converted ; we know them to have been much pruned ; and we can state in the most positive manner that there are no knots, flaws, or dead wood whatever in their timber.]

Planting.—Your correspondents, upon the economy of planting, omit, I think, one very important consideration, viz., whether or not the land proposed to be planted is already provided or not with the proper farm buildings. Suppose 200 acres of land, of medium quality, to be unprovided with cottages, sheds, farmyard, &c., you cannot supply them under a cost, say, of 1000*l.* or more. If they exist already, and you plant, they are wasted ; if you do not plant, you must, to do the land justice, begin by laying out a great deal of money. Mr. Mechi would probably lay the cost much higher than I have done. Another most important item in planting is the mode of raising the young trees, and the age at which they should be taken from the nursery, which, as far as my experience goes, is very different for different plants and for different counties. When the soil is light they may be planted small ; where stiff, they may with advantage be much larger. I look upon trenching or subsoiling (in general planting) to be money thrown away, as I know, to my cost. The question of planting is now different to what it was some years back, for two reasons : 1st. The very low price of all wood, whether timber (except Oak and Larch) or underwood. 2. The commutation of tithe obliges the landlord to pay a heavy rate, whether the land be under cultivation or not ; whereas, formerly, when on poor land, like mine, the price of Wheat fell too low to make it profitable to grow corn, it could be filled with trees. Thus the commutation of great tithes injures the landlord, while the commutation of the small tithe benefits him ; but the first benefits the holder of the tithes, and the latter injures the parson. *J. W. L.*

Gardeners' Benevolent Institution.—May it not be desirable to suggest to the committee of this institution, that the obligation imposed by custom on persons offering themselves as candidates for a pension, of sending round printed circulars, postage prepaid, to the subscribers, is both unjust and useless ? It is unjust because the more destitute and friendless a man is the more incapable he is of becoming a candidate at such an expense, requiring to be repeated several times over, and at last of doubtful success. It is useless, because probably no one gets a vote by it, more than he would have obtained without it through the influence of private friends and connections, and the merits of his case, as stated by the committee themselves. The remedy would be to interdict the use of printed circulars altogether. *S. L.*

Bees.—"A. B. C." is correct in the opinion that no produce could be expected from the weak swarms mentioned at p. 734 ; but when profits are to be calculated, it is only fair to estimate the quantity of honey obtained according to the number of hives, and also to take into account the expense of feeding the weak ones. It would have been more profitable to have united the latter to the parent stocks. You may save the other two hives by feeding ; but if the bees are short of pollen (which they, most likely, are), they cannot rear any young to fill the places of the old ones as the latter die off ; and both colonies may, in consequence, gradually perish, when you least expect it, at the end of spring. I cannot allow that feeding bees with dark sugar improves the quality of their honey. Keeping bees on a large scale, and supplying them with cheap sugar (say 4½*d.* per lb.), would, indeed, be a profitable speculation, if they had the power of converting it into honey. Sugar and water, however, does sometimes find its way into honey-pots ; but bees have nothing to do with its introduction there. *W.*

Tarring Iron-work.—As our method of tarring noticed in your columns has given rise to numerous enquiries, I beg to hand you the following additional particulars connected with the process : the tar should be applied boiling hot, and in warm dry weather, when the iron is quite dry, as its pores are then open, and the hot tar and the iron are enabled to form a more intimate union. To perform the work properly, the fire should be kept close to the work. By using the tar boiling hot, the workmen are enabled to spread it thinner, thereby causing it to dry much quicker, and to present a harder and smoother surface to the eye. *G. Fleming, Trentham Hall Gardens, Nov.* 15.

Mesmerism.—"Somne quies rerum, placidissime Somne Deorum." I have attended three lectures by a priest of this modern god of slumbers. I applaud the man who can collect our humbler classes at nightfall, and make them merry for an hour or two after a day of weary labour. This was lately done by a clever mesmeriser in full perfection. His gibes and his jokes, and his mysterious passes with the hands were amusing enough, and I enjoyed them as a diverting and a frivolous pastime. But, when he stood in wrath, and bundled all physicians overboard from Galen downwards, and pronounced their drugs to be powerless in ailments, I thought he acted wrongly, and it struck me that such a declaration would lead his hearers into error, and would be sadly to their disadvantage should it please Heaven to visit them with sickness. We learned from his story that the faculty had anathematised his darling art, and had trodden it under foot. He was determined, he said, to pay them off in their own coin to the last farthing ; hence his acrimony. He began with him of the "Lancet," and having cut this unfortunate son of Hippocrates to pieces, he fell foul of the whole order, and recommended his audience to put no confidence whatever in its nostrums. He then deprecated the use of medicinal drugs, and he told us that doctors in general only advocated the use of them in order to secure their patients from worse doses at the hands of such as Morrison and Holloway. He next cordially advised his audience to trust solely to mesmerism in cases of infirmity. This displeased me. Had I been allowed to interrupt his hallucinations I would have gently asked him if his finger-passes, and his mystic breathings, would stop the fierce attack of fever, or reduce a red and angry swelling, or recal life's energies when at their lowest ebb ? for I myself, whilst wandering up and down the world, had laboured under such disorders, and was fully convinced in my own mind that the timely use of medicine, and of the laucet, and of restoratives, had brought me round, when to all appearance my "last day's march was over." Let me persuade the lowly and confiding advocates of mesmerism that, although it be a pastime of merriment and laughter, as it was when I attended, still it is dangerous, and may be fatal, when resorted to in cases of disease. I assure them that a few minutes of advice from the physician, an operation by the surgeon, a trifle of medicine from the shelves of pharmacy, would be of ten times more avail to suffering humanity than all the finger-passes, face-starings, and hollow breathings of mesmerism put together, from the day that the unsound, uncertain, and unsatisfactory exhibition of mesmerism first came into notice. *Charles Waterton, Walton-hall, Nov.* 13.

Societies.

Botanical of London, *Nov.* 3.—The President in the chair. T. C. Hunt, Esq., her Majesty's Consul at St. Michael's, presented a box of Azorean specimens, including four species not previously known to occur in those isles, one of them being a remarkably handsome Vicia, but whether a new species or one already described has not yet been satisfactorily ascertained. Various other donations were also announced. Mr. W. B. Booth exhibited a specimen of Erica Watsonii, one of the intermediate forms between E. ciliaris and E. tetralix referred to the former species by Mr. Bentham in De Candolle's "Prodromus," but to the latter species by Mr. Watson, its first discoverer, many years ago. The specimen presented by Mr. Booth resembled both E. tetralix and E. Mackaii more closely than it resembled E. ciliaris, although still inclining partially to the last of these three by its ventricose corolla. Though apparently a hybrid between the two with intermediate characters, the aristate anthers assign it to E. tetralix in preference to E. ciliaris. [We are obliged to omit from these proceedings matters of no public interest.]

Reviews.

Gardening for Children. Edited by the Rev. C. A. Johns. 12mo. Cox. pp. 168.

A good idea, well carried out. We have seen nothing so likely to give children an interest in a garden, and to teach them small matters, which may be the foundation of large pleasures in after life. The subject was worthy of the care of the reverend editor, who has wisely secured the assistance of artists capable of representing skilfully as well as truly the subjects to be illustrated. We have grown out of the foolish notion that "anything is good enough for a child's book," and Mr. Johns has shown that he understands the importance of the contrary.

New Garden Plants.

THE GLAUCOUS SPIDERWORT.

(*Tradescantia glauca*, Lindl.)

Sp. Char.— Smooth, glaucous, ascending. Leaves oblong, acuminate, amplexicaul. Flowers small, somewhat umbellate ; the principal rays very long, the partial very short. Sepals 3, purple at the point, green at the base, and covered with small glandular hairs. Petals small, concave, white, occasionally stained. Stamens 6, with beardless filaments ; those opposite the petals longest. Ovules 2 in each cell of the ovary.

A pretty little stove herbaceous plant, raised in Sir Philip Egerton's Orchidaceous-house, on the stump of an Epidendrum, probably from Guatemala. The glaucous stem-clasping leaves, and little umbellate flowers are peculiar.

Garden Memoranda.

Beningborough-hall, near York, seat of the Hon. Payan Dawnay.—The vegetable and fruit gardens here are about 4 acres in extent, which, together with the flower gardens and pleasure grounds, make over 12 acres of garden, which is proverbial for its general good order. The principal forcing department is within a walled inclosure to the right of a capacious entrance, which divides the gardens from the coach and farm offices on the right. The first structure that meets you is a Peach-house, 36 feet in length, in which was a select collection of Chrysanthemums, which had been placed here preparatory to their autumnal position in the greenhouse. In the same line lies a fruiting Pine-house of similar dimensions, in which the plants have been grown on the Hamiltonian system for these last eight years. This system has been found to work well ; in many instances fruit from the succession crowns have been, and continue to be, produced superior to those from the parent plants, which from the Enville, Montserrat, and Antigua varieties have averaged from 4½ to 5½ lbs. each. The Enville to which the first premium was awarded at the last July exhibition in York was from a succession crown only 12 months old, the parent crown having produced fruit one year previously.

The main features of the above mode of culture may be briefly described by stating, that the pit, which under the old system would have been occupied with tan or fermenting material, in which the potted plants would have been plunged, is in the present instance occupied by a bed of soil (in which the plants are grown), placed over gutters or tanks 12 inches wide by 6 inches deep, upon which an open air-chamber is formed between the gutters and the superincumbent soil. To regulate the bottom-heat, Mr. Foster has inserted six earthenware tubes or chimneys through the bed of soil into the chamber below. These tubes have top plugs, the removal of which permits the escape of excessive bottom-heat, and thus raises the top heat. A division of the inner side of the pit, adjoining the back path, is adapted for the growth of Cucumbers, and affords a uniform supply from the beginning of March until December. On the back wall were two fine plants of the tropical fruit Cherimoyer (Anona Cherimolia), each covering nearly 12 feet of wall. Hitherto they have not produced fruit, which probably arises from the temperature being uniformly too high. A store of fine Gesnera zebrina plants for winter and spring succession was observed in this house.

Within the same enclosure, 10 feet in advance, to the right, is a second range of houses, the two first of which is devoted to the growth of ornamental hothouse plants, the third, a Pinery, 66 feet in length, Vines being in each house. These houses are built at a considerable elevation from the ground-level, which admits of the Vines being planted at a higher inclination on the border in front than is usually practised—a precaution which has answered well, for the Vines have borne uniform and average crops for years. Pines were formerly cultivated in this range, and therefore the pits have a considerable rise from front to back, a circumstance which, in the first house, has been turned to good account, and offers an interesting illustration of the adaptation of circumstances to the growth of Vines. The two first divisions of this range, as already mentioned, are occupied with hothouse plants ; the pits are filled with soil, and upon this the plants are placed. In the first house the pit is formed into a Vine-border, the Vines being planted at its highest elevation adjoining the back wall. These Vines are directed upwards, and then trained down the rafters to the front of the house. By this method the growth is found to be more uniform and fertile than in those grown in the ordinary way. The Vines planted externally for this house are trained upwards in the centre of each light. In consequence of the success which has attended the plan, it is in contemplation to follow out the same object in the adjoining houses. It must

not, however, be forgotten, that the system now detailed is unfavourable to the highest objects of cultivation in ornamental flowering plants, especially during their period of after-growth, which should be well ripened to ensure a good display of bloom. Cultivators who exclude light in the growth of plants, must be proportionately willing to accept leaves for flowers. There is no exception to the rule that plants can only ripen their growth, and elaborate the secretions necessary for bloom, in proportion to the amount of light which acts upon their surfaces, other conditions being equal.

Amongst the miscellaneous hothouse plants in these houses, including the Pinery, were many brilliantly-flowered specimens of Gesnera zebrina; also Aphelandra aurantiaca, with very large crested racemes of orange-scarlet tubes; the beautiful Achimenes venusta, and others; Torenia asiatica; Balsamina latifolia; the small pale purple flowered Cuphea decandra, seldom seen; Vallota purpurea, with its large, flame-coloured crimson flower-cups; and the Chinese Hibiscus (Parkerii). These and numerous others formed a rich and varied display, which was much aided by the stately Clerodendron squamatum, whose pyramid of crimson blossoms appeared pre-eminently beautiful. Remarkably fine specimens of Epiphyllum truncatum and violaceum, of dwarf and standard growth, were about to expand their blossoms; also plants of Eranthemum pulchellum, Begonia insignis, Justicia speciosa, and J. flaviscoma, Poinsettia pulcherrima, Cypripedium insigne, &c. In the third large division (a Pinery) was a very promising seedling black Grape, with oval berries, pulpy flesh, and rich vinous flavour. It is a hybrid between the blue Morocco and the Chasselas, differing from the first in being an uniform setter, and in remaining in perfect condition and bloom upon the Vine from June till March. Being an excellent keeper, and retaining its properties and appearance beyond, perhaps, any other known kind, it will, ere long, prove a desideratum in all collections.

In addition to the above, there is a Vinery in the kitchen or vegetable garden, 54 feet long, with Figs planted against the back wall and trained on trellis-work. In the flower garden are two greenhouses, about 80 feet long, the west end division being partly occupied as an Orangery, their house being undergoing repair. The flower garden is not extensive, but richly furnished—in fact, a *multum in parvo*. Though seen after unfavourable and chilling weather, its remains "plead haughtily for glories gone." The finest remaining flower-beds were two of Ageratum grandiflorum, in one of which the growth had been pegged down, by which the bloom is displayed to much greater advantage; Cuphea platycentra was here equal, if not superior, to all that has been reported of its worth, forming a rich and uniform sheet of green verdure, ornamented with thousands of its bright, vermilion-coloured flower-tubes, and is one of the most valuable plants for late autumn decoration; Oxalis Bowiei, with its large, bright, rose-coloured blossoms, had answered well as a group; and the neat dwarf varieties of Verbena pulchella were still retained, on account of their compact, dwarf habits. The elegant little annual, Cistus, or Helianthemum guttatum, with yellow flowers, and dark velvety spots, had produced itself abundantly from self-sown seeds, where it had bloomed in summer; *W. W.*

Miscellaneous.

Sale of Deodars.—About 4000 plants, from seed, of this fine Conifer, were sold by Mr. Stevens yesterday. They fetched, on an average, 7*l.* per 100 plants, of from 1½ to 2 feet in height.

South Australia.—The following statements respect this colony exclusively: The superficies of the country contains about 300,000 square miles, or 192 millions of acres, being about three times as large as Great Britain. The present settlements, however, occupy only a very small portion of these vast limits, and are bounded (with the exception of a few settlements) by Gulf St. Vincent on the west, the noble stream of the Murray on the east, the sea coast on the south, and extending northward about 150 miles towards the bend of the Murray, in the direction of the back settlements of the colony of New South Wales. The capital of South Australia is Adelaide, and the principal harbour, Port Adelaide, about seven miles from the capital. The sales of waste lands are effected by public auction, 1*l.* per acre being the lowest upset price; a payment is made at the time of sale, in ready money, of not less than one-tenth of the whole price, and the residue within one calendar month: all waste lands which have been put up to public auction and not sold, may be purchased by private contract at the upset price, the purchase-money being paid at the signing of such contract. Persons will be at liberty to make payments for colonial lands, to the Colonial Land and Emigration Commissioners, No. 9, Park-street, Westminster, for which payment they will receive an order for credit to the same amount in any purchase of land they may effect in the colony, and will have the privilege of naming four properly qualified emigrants for a free passage for every 100*l.* so paid, but neither the purchaser nor his family can receive a free passage under this privilege. From the official returns of the disposal of Crown lands, it appears that by the end of 1847 there had been received nearly 500,000*l.* for land in South Australia, a dependency of the British crown, situate on the very opposite side of the globe, and which, 12 years ago, was altogether unknown, the country of the kangaroo, and traversed by them and by a very small number of poor pitiable aboriginal inhabitants. Of 36,410¼ acres under cultivation in 1847, there were very nearly 20,000 in Wheat. The quality of Australian Wheat is admitted to be the finest in the world. This was stated by Lord Lyttelton, in the House of Peers, when Under Secretary of State for the Colonies, and has been most satisfactorily confirmed by actual sales in Mark-lane. The price of South Australian Wheat regularly exceeds the average of English Wheat, by 10*s.* or 12*s.* per quarter. The quality will at once be understood by farmers from the fact that freight to England has been paid, on some parcels, at the rate of 64 lbs. per bushel. An agricultural and horticultural society has been established in Adelaide, by which prizes were awarded at the last exhibition for the best specimens of Wheat, Barley, Oats, Potatoes, Onions, Grapes, Oranges, Citrons, Lemons, Nectarines, Apricots, Peaches, Apples, Pears, Plums, Green Figs, Melons, Raisins, Dried Figs, Jordan Almonds, and other dried fruits; Vegetables, Vegetable seeds, Bouquets, Wine, Butter, Cheese, honey, silk, and various other articles. As regards wages, for day labourers the Government give 3*s.* 6*d.* per day, without victuals; private individuals give from 4*s.* to 5*s.*; for ordinary ploughmen the farmers give from 26*l.* to 30*l.* per annum, and rations, &c. As a proof of the extreme scarcity of ordinary labour, the Government cannot get one-tenth of the men they could employ, and they have had, for upwards of a year, 20,000*l.* voted by the legislature to be expended for repairs of roads and bridges, and for public works, which it is impossible to execute for want of hands. Ordinary shepherds, men who frequently have imperfect knowledge of their business, get from 10*s.* to 12*s.* per week and rations. The usual weekly rations for farm labourers, shepherds, and hutkeepers are 10 lbs. flour, 10 lbs. butcher's meat, ¼ lb. tea, and 2 lbs. sugar per man, besides which, they are provided with a cottage, firewood, &c., free. The great increase of the flocks causes a constant demand for shepherds. Mowers are offered 4*s.* 6*d.* per acre; reapers, 12*s.* per acre; sheep-shearers, 12*s.* to 15*s.* per 100 sheep; bullock drivers, 24*s.* to 30*s.* per week. Of artizans, the following are the ordinary wages: Bakers, 20*s.* to 30*s.* per week; blacksmiths, 30*s.* to 35*s.* per week; bricklayers and masons, 7*s.* to 8*s.* per day; brickmakers, 10*s.* per day; carpenters and joiners, 6*s.* to 8*s.* per day; cabinet-makers—very superior hands will meet with much encouragement on piecework, and will earn a large advance on the above; compositors, 8*d.* to 9*d.* per 1000, or 30*s.* a week and 9*d.* an hour overtime; gardeners, 50*l.* per annum, with cottage; saddlers, 6*s.* to 10*s.* per day; sempstresses, much wanted; sawyers, 8*s.* to 10*s.* per day; shoemakers (if wife is a good binder), can earn 42*s.* per week; tailors, 7*d.* per hour. Vegetables are generally dearer in Adelaide than in Britain, although they grow better. It may be remarked that, in consequence of the cheapness of food, and the great usefulness of children for country work, men with large families are now as much wanted as formerly they were objected to. Active boys of 12 years can earn from 5*s.* to 8*s.* per week, with rations. Retail prices of provisions: Bread, 5*d.* to 6*d.* the 4 lb leaf; butter, 10*d.* to 1*s.* per lb.; cheese, 7*d.* to 10*d.* per lb.; Potatoes, ¾*d.* to 1½*d.* per lb.; Cabbages, 1*d.* to 3*d.* each; Peas, 1*s.* to 1*s.* 2*d.* per peck; Wheat, 4*s.* to 5*s.* per bushel; beef, 2*d.* to 3*d.* per lb.; mutton, 1*d.* to 2*d.* per lb. The whole of the above are to be had here, of the finest quality, at the prices named. Clothing can generally be got at a very small advance on home prices. All sorts of tools are often very scarce and dear. The persons most required in the colony, and who are eligible for a free passage, are agricultural labourers, shepherds, miners, a few mechanics, and single female domestics, and farm-house servants. An urgent demand exists for all these classes, especially the two last. The usual length of the voyage is about four months; in some cases it has been made in little more than three months. The necessary outfit for an adult can be procured for 3*l.* or 4*l.* It is not advisable to take any bulky implements; these can be obtained in the colony at moderate prices. In the Colonisation Circular it is stated that the expense of erecting a dwelling in South Australia, suitable for an agricultural labourer, is from 10*l.* to 15*l.* The rates of passage to South Australia, charged by merchant vessels, are from 15*l.* to 20*l.* for steerage; 30*l.* to 35*l.* for intermediate; and 50*l.* to 70*l.* for the first cabin. It is deserving of notice, that no serious accident or shipwreck, attended with loss of life, has occurred to any vessel bound from Great Britain or Ireland to Port Adelaide. As the population returns show the number of the settlers at the end of 1847 to have been 33,587, it follows that on an average they are consumers of import articles to the extent of 1[illegible] a head, every man, woman, and child, besides their expenditure for bread, butchers' meat, and dairy produce. What a comment does this single fact furnish, as to the comfortable circumstances of the entire community! There are no poor in South Australia. A very gratifying proof of the general prosperity of the colony, and of the generous feelings of our countrymen there, was lately afforded. On their hearing of the Irish destitution occasioned by the failure of the Potato crop in 1846, and of the distress which prevailed at the same time, in some parts of the Highlands and islands of Scotland, the colonists of South Australia [illegible] public meeting [illegible] upwards of [illegible] the whole [illegible] immediately remitted to England, to the relief committee. By the recent accounts from the colony, it appears that the balance, about 1000*l.*, was immediately to be remitted, of which [illegible] H. M. Colonial Land [illegible] for the purpose [illegible] [illegible] and red are produced. [illegible] years, from 1839 to 1845, inclusive:

In 18[illegible]	[illegible]	[illegible]	[illegible]
18[illegible]	[illegible]	[illegible]	[illegible]
1841	„	[illegible]	[illegible]
18[illegible]	„	[illegible]	[illegible]
18[illegible]	„	[illegible]	[illegible]
1844	„	[illegible]	[illegible]
1845	„	[illegible]	[illegible]

[illegible] *of South Au*[illegible] street, L[illegible]

Calendar of Operations.

(For the ensuing Week.)

CONSERVATORY AND GREENHOUSE.

Sunshine and clear skies are not the traditional enjoyments of November in England. The advantages attending such favourable circumstances will advantageously affect those fragile exotics which usually suffer from the diminished light and dominant mist and gloom of this commonly ill-favoured month. The frosty nights will render a recourse to fires absolutely necessary, while the frequently recurring bright days will allow the advantage of a free circulation of fresh and wholesome air. Regularly remove all dead leaves, and prevent the spread of Moss in any situation. Creepers should be closely tied, that they may interfere as little as possible with the fall of light on the house. Place Mignonette, Primulas, and tree Violets in a light warm situation. Pot bulbs, if the operation has been neglected. The interior bed of fermenting materials in Gardenia pits should be finally turned over and restored.

FRUIT FORCING.

The system of employing young Vines in pots, for the production of early Grapes, in preference to forcing established Vineries, is frequently and economically put in practice. A similar plan may be followed with Cherries, Peaches, and Plums; a few of which may be advanced in like manner, to precede the main crops. Trees of the above description in pots, intended for forcing, should either be placed within the protection of the houses usually appropriated to them, or secured from the effects of the weather. Frost is readily conducted by the wet, porous parts, and roots once paralysed by its effects rarely regain perfect vigour and health. For the same reason, Strawberries for forcing should be securely plunged in ashes; the British Queen is less hardy than the old sorts; those for forcing should be kept in cold frames, and guarded from excessive frost. The early-nursing-box for Cucumber plants should be well supplied with linings, and the glass kept scrupulously clean and in good repair; the chief range should be prepared by a thorough cleansing, painting, and whitewashing, for early ridging. Collect droppings, and make succession Mushroom beds; collect leaves for various protective purposes. Cover Vine borders. Employ fires in late Vineries, but provide for the constant admission of air, otherwise the Grapes will shrivel.

FLOWER GARDEN AND SHRUBBERIES.

A fortnight's really fine weather in November while it seems to prolong the autumn, by permitting us the enjoyment of the fading glories of vegetation, affords the always appreciable opportunity of proceeding with the various important operations connected with the garden; finer weather could not be desired for planting Evergreens, &c., than we have had lately. This sort of work should be in active progress; the clearance of all decaying matters from the beds and borders should be unremittingly followed up, the remaining leaves will soon be down, when a final clearing may be made throughout the shrubberies for the season. It is rather soon, generally speaking, for Rose pruning, but the operation may be performed on some; transplanting may be done with safety; protect the roots of all transplanted Rose trees with sawdust or wood-ashes. A little care may preserve Chrysanthemums (particularly those trained against a wall) for some time; the simple protection of a mat will turn aside the excess of frost likely to injure them. Take up and store Marvel of Peru, Dahlias, Salvia patens, if not already done, and finish planting bulbs and Anemones.

FLORISTS' FLOWERS.

Dahlias must by this time be all out of the ground; the best place to keep them is under the stage in the greenhouse. Where this convenience is not to be had, perhaps the next best way to preserve the tubers is in a cool cellar; at all events they must be kept from damp. *Carnations and Picotees* will require little care, beyond giving those in frames a free circulation of air during the winter months, and water as they need it. *Ranunculus* beds must be turned, and any fresh compost or soil will be better added now. *Auriculas and Polyanthuses.*—By no means water too much, air and exposure is indispensable to these hardy Alpine plants. Any blooms which the plants put up must be carefully removed. *Tulips.*—We have seen several collections, as well as our own, which have been seriously attacked with green fly, clustering on the spike which the bulbs have protruded; in many cases florists have experienced unnecessary alarm, for no sooner are the bulbs in the ground, than the attack is checked. *Verbenas* placed in the greenhouses must be put near the glass, and moderately supplied with water.

KITCHEN GARDEN AND ORCHARD.

The heavy autumn rains probably retarded the progress of trenching and other ground operations; the present weather offers abundant opportunity for continuing such works. The garden by this time should be freed from all unnecessary and exhausted vegetable matter, and put generally in a clean and orderly state. Asparagus beds, if not already attended to, should be manured and dressed for the winter, and a portion taken up for forcing purposes. Globe Artichokes must be protected with a coating of leaves; a very considerable store of the same material should be collected for lining hotbeds, Seakale covering, &c &c. That portion of the last-named vegetable intended for early forcing should be protected sufficiently to exclude frost. See that early sown Peas are not destroyed by mice. Adopt precautions to ensure an unfailing supply of the tender salads. Prune Apple and Pear trees, particularly those of failing vigour: spring pruning, in such a case, sometimes causes an unnecessary waste of sap otherwise valuable to the tree. In planting in the position occupied by other trees, remove the old earth entirely and substitute fresh soil. Proceed with fruit tree planting, and carefully mulch all transplanted trees.

FORESTING.

There are few operations that more satisfactorily evince the advantages of superior care and attention than that of planting; it is one which should never be intrusted to careless or indifferent hands, whose boast and pride might be the quantity they had thrust into the soil in one day. The nature of the soil and state of the weather should be allowed to control the moment of planting. The opportunity afforded by the fine open weather we are at present enjoying should be vigorously employed in completing all sorts of planting. Last year plantations should be looked over, deficiencies made good, and trees exposed to the attacks of rabbits bushed with Whitethorn branches, or rubbed with diluted tar. Felling and thinning should now be commenced. This is the best season for effecting the removal of large trees, such as Lime, Elm, &c., where an immediate effect is required. A limitation of the branches corresponding to the estimated loss of roots is essential. A wide trench should be got out in the first instance, and as it is narrowed towards the trunk the roots can be picked out and pinned to the remaining ball of earth. We find a timber gig valuable for the removal of large specimens.

State of the weather near London, for the week ending Nov. 16, 1848, as observed at the Horticultural Garden, Chiswick.

Nov.		Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. ..	10	14	30.357	30.306	44	30	37.0	N.	.01
Satur..	11	0	30.334	30.295	46	39	42.5	N.E.	.01
Sun. ..	12	16	30.419	30.357	46	35	40.5	N.E.	.04
Mon...	13	17	30.429	30.323	49	27	38.0	N.W.	.00
Tues..	14	18	30.351	30.281	43	24	36.0	N.	.00
Wed. ..	15	19	30.435	30.421	43	18	30.5	N.	.00
Thurs.	16	20	30.316	30.235	45	38	41.5	W.	.00
Average...			30.377	30.317	45.8	30.1	38.0		0.06

Nov. 10—Clear throughout; slight frost at night.
— 11—Overcast; slight rain in the evening.
— 12—Slight rain; cloudy; rain at night.
— 13—Fine; very fine; overcast; frosty.
— 14—Very fine with bright sun; frosty at night.
— 15—Fine; clear; sharp frost.
— 16—Severe frost early A.M., clear and fine; uniformly overcast.

Mean temperature of the week, 5 deg. below the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending Nov. 25, 1848.

Nov.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 19	49.1	36.6	42.8	12	0.87 in.	1	3	2	1	2	3	2	2
Mon. 20	49.3	36.4	42.8	7	0.34	1	5	1	1	4	3	1	3
Tues. 21	49.1	37.5	43.8	15	0.37	4	3	3	2	1	4	4	1
Wed. 22	49.3	36.5	42.9	15	0.62	2	2	4	1	2	5	5	1
Thurs. 23	49.4	35.6	42.5	8	0.18	1	4	3	1	1	6	3	3
Fri 24	49.4	33.8	41.6	7	0.30	3	4	2	1	2	5	3	2
Satur. 25	46.2	34.0	40.1	11	0.27	5	3	3	2	2	5	2	2

The highest temperature during the above period occurred on the 21st 18:3, therm. 59 deg.; and the lowest on the 25th, 1836—therm. 21 deg.

Notices to Correspondents.

To our Correspondents—May we beg it to be understood that *we cannot answer inquiries privately through the post.* We are ready to give reasonable information through our columns; but we cannot consent to the labour of writing letters.

Anemones: *P G.* We grow the single Anemone very fine, in a friable loam; preparing the beds by digging deeply, and burying some two-years-old cow-dung between the period of taking up and resetting. The beds ought to be repeatedly turned over and exposed to the action of the atmosphere. We plant our first division about the latter end of October, and continue the end of each month (weather permitting) till the end of February; by this means we have a succession of blooms during great part of the summer. We put the bulbs triangularly, in order that they may be removed in clumps when in bloom. The sale of these beautiful spring flowers is very great, and if the above plan is adopted, simple as it may appear, you may grow them successfully.‡

Ashes: *A Novice.* You have excellent manure in wood-ashes (fine charcoal burnt to an ash in manufacturing steel); it is useful for flowers in a garden in a light soil, but it is not strong enough for Roses, and will not be a substitute for guano.

Books: *W C.* M'Intosh's "Greenhouse, Hothouse, and Stove."‡ —*M M M.* The Supplement to Paxton's "Botanical Dictionary" is in the press, and will be published soon.‡

Emigration: We cannot, as we have often stated, take upon ourselves the responsibility of recommending colonies to our correspondents. They must judge for themselves; for which purpose they must read the books on Emigration now published at a very low price, and the Colonization Circular and Commissioners' Report of the Government Board of Emigration, at No. 9, Park-street, Westminster; to be had of all booksellers.

Ferns: *A T Z.* Hymenophyllum Wilsoni or Tunbridgense are the best suited to your purpose. They may be had of the sellers of Ferns. In their absence you might take any Trichomanes or Hymenophyllum, or Cystea fragilis. After all, perhaps the simplest way would be to ask your nurseryman for some species which answers to the description you have given to us.

Fruit-trees: *M D, Salop.* For your south aspect, the Acton Scot and Bellegarde Peaches; Impératrice and Violette Hâtive Nectarines; and the Moorpark Apricot. East aspect, Thompson's and Knight's Monarch Pears, and Greengage Plum.‖

Gladioli: *C Y.* As a general rule Gladioli should be taken up when the foliage has begun to decay, and planted in the following spring. Most of the sorts like sandy peat, but they will succeed very well in any light garden soil.‡

Gooseberries and Currants: *A Constant Sub* The following are six good varieties of Gooseberries, flavour being the principal consideration: Red Champagne, Woodward's Whitesmith, Pitmaston Greengage, Keens' Seedling Warrington, Yellow Champagne, and Red Turkey. With regard to Currants, you may be very well satisfied with the Red Dutch and White Dutch. Half your plantation of Red Currants may, however, consist of Red Dutch, and the other half of Knight's Large Red.‖—*A Subscriber.* We are not aware of any White Currant superior to the White Dutch.‖

Heating: *G T H.* The only objection to gas as a source of heat is the difficulty of preventing its escape into the house among plants. If it escapes it does infinite mischief; if you *can* prevent such an accident, it is as good as any other fuel.

Insects: *F L T.* Spirits of tar will kill mealy bug and American blight, and will not injure hard-wooded plants.—*J L.* The grubs which have committed such ravages among the Camellia stocks are those of the weevil Otiorhynchus sulcatus (see *Gardeners' Chronicle*, 1841, p. 292). A strong solution of tobacco, aloes, and quassia, poured at the base of the stocks, and repeated several days running, would doubtless destroy or drive them away. *W.*—*H.* Your Pear tree is infested with the mussel scale. See last week's answers to queries. The plan of painting the shoots all over with a mixture of clay, soft soap, and sulphur, would be of service if applied to those parts of the tree where the scales are now found to be filled with eggs, but it would be useless to apply it to the parts infested with last year's scales. *W.*

Names of Fruits: *Norman.* 3, Crimson Queening; 4 or 7, Court-pendu Plat, flattest sent; 7 or 4, Blenheim Pippin, yellow; 8, 9, Dumelow's Seedling, your Normanton Wonder; 10, Rymer or Caldwell; 15, Lamb Abbey Pearmain.‖—*Bennes Woods.* Your second crop, Early Red Margarets, are curious enough. They possess some distant traces of the seasonable productions of the variety. We shall see how long these secondary fruits will keep.‖—*Anon.* Four sorts of Pears, numbered on parchment labels, tied with red and white thread: 1, Ne plus Meuris; 2, Beurré de Capiaumont; 3, Passe Colmar; 4, Gilogil, stewing.‖—*C R D.* A, Beurré d'Aremberg; B, Winter Nelis.‖

Names of Plants: *H S P.* We are unable to name plants after descriptions. The Echites will ripen its pods without any other care than that of keeping it warm and not too damp.—*M M M.* The Aquilegia leptoceras of Dr. Fischer is that figured in the "Botanical Register." The late figure in the "Botanical Magazine" represents quite a different species from N. America called leptoceras by Nuttall. Oncidium onustum has been described years ago; Miltonia Karwinskii will be mentioned in the Hort. Society's Journal, which we do not feel ourselves at liberty to anticipate. Perhaps we may describe them hereafter.—*A G.* See the consequence of asking for the names of single flowers in large and difficult genera. If the manner of growth and other particulars, which we cannot see, agree with O. Barkeri, why in that case it is it.—*Flora.* Lathyrus sylvestris.—*J A.* The large one is Oncidium curtum; the other is not determinable; it may be a miserable specimen of Oncidium barbatum.—*E S A.* 1, Adiantum cuneatum; 2, Cassebeera hastata; 3, 4, Lycopodium denticulatum and apodum; 5, Adiantum assimile; 6, Begonia parviflora. *S.*—*A B.* Polystichum aculeatum, Lastrea dilatata. *S.*—*H W Barnard.* The barren shoot of a Moss belonging to the genus Bryum.—*K S I.* Received; but too much shrivelled up to be named.

Oranges: *W R* enquires why Oranges are always packed in boxes with "round tops." It seems to him that so much stowage room must be lost on board ship.

Pines: *L.* The lowest night temperature which they will bear must be subject of experiment. They would probably take no harm at 45°; undoubtedly 50° is high enough in winter. —*H G.* You can only retard the ripening of your Pine-apples by keeping them cool.‡

Rough Plate Glass: *N B.* As we have repeatedly stated, our *opinion* is decidedly in favour of rough plate glass for all gardening purposes; but that opinion still requires the confirmation of experience. As far as trials have yet gone, they are perfectly satisfactory. Early forcing is forcing from November to March.

The Mango: *Alpha.* It is a stove plant; your greenhouse will do well enough for the night perhaps, but you will not have the day-heat which is required, unless you keep your heating apparatus going all summer, and by day. It is a difficult plant to manage, and insists upon plenty of air.

Vines: *M D, Salop.* Your Vines, you state, are 20 years old, and have extended their roots beyond a 12 feet border into a gravel walk. Were you to cut back the roots, the Vines would have scarcely recovered from the effects before the fresh roots would be, like their predecessors, in contact with the gravel. You must therefore take up the walk and extend the border; the walk can be relaid over the good soil and be dry enough, provided you curve its surface sufficiently. Or, manure the border without moving the walk; keep it well mulched with rotten cow-dung; you will soon have it filled with abundance of roots; and if a portion should still prefer penetrating the gravel, let them take their choice.‖ —*R C, Dorsetshire.* If you can manage to dispose of your Vines so as to afford them the proper temperature for breaking their buds, without interfering with the climate necessary for the stove plants, you will do well. We think your plan may succeed.‖—*R B.* If you wish to retain the young shoot only, then by all means remove the old wood. The Muscat of Alexandria likes more heat than the Black Hamburgh. Shading will retard the ripening of the wood.‡

Wall Plants: *H C.* Plant the following, alternately. *Deciduous:* Clematis azurea, C. montana, C. Hendersonii, Magnolia conspicua, Chimonanthus grandiflorus, Pyrus japonica (red and white), Glycine sinensis, Caprifolium gratum, Jasminum nudiflorum, Weigela rosea, Noisette and China Roses, &c. *Evergreen:* Berberis aquifolium, B. fascicularis, B. dulcis, Magnolia grandiflora, Cotoneaster microphylla, C. marginata, Pyracantha, Laurustinus, Garrya macrophylla, Ceanothus thyrsiflorus, Buddleya Lindleyana, and Spiræa Reevesiana.¶

Weeds: *E A.* Try blue vitriol and water or corrosive sublimate, but hand labour is the best mode of destroying Grass and Weeds on gravel walks.‡

Wines: *Bath.* We have not altered our opinion about British Grape wine. No doubt you may make a strong, palatable wine simply with Grapes, sugar, and more or less water; but it would not be a wine that we should esteem.—*H F T.* You will find the following a good receipt for making still Grape wine:—To 3 pecks of Grapes, picked and heaped, put 3 stones of moist sugar and 9 gallons of water. Bruise your Grapes carefully before you mix them with the sugar and water. Put the whole into a large open vessel, and stir them daily for ten days or a fortnight. When the fermentation ceases, pass the whole through a fine sieve and put it into your cask; be sure that it is quite filled; then bung it down and keep it twelve months before you bottle it.‡

Misc: *G F.* Chaptal "sur le Vin," three vols., 8vo, is the book for you to study. We are unable to answer your question, such enquiries being rarely made in England. The information is not to be found in any book on which we can lay our hands.—*J E B.* We are unacquainted with the rules of the Royal Botanic Society. Those of the Horticultural Society are sent you; there is no difficulty in obtaining them if an application in writing is made to the secretary. The Horticultural Society only refuses its lists upon special occasions, when the exhibition of them to every curious person would result in an annoyance to the Fellows of the Society.—*C P, of York.* The Kerguelen Cabbage has not been introduced. If any of the Auckland Island plants exist in England it is at Kew, where you should enquire for them of Sir Wm. Hooker.—*Alpha.* Rubbing with sand-paper is the only plan, that we know of, by which ink can be removed from zinc labels ‡—*Sub.* Any soil not over rich suits Pinus Douglasii, which will succeed in either of the situations you mention. Nurses, except in very exposed places, are not needed. We do not know whether the Deodar and Araucaria imbricata will succeed near the sea; perhaps some of our sea-side readers will be kind enough to say.‡

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those correspondents, the insertion of whose contributions is still delayed.

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The Agricultural Gazette.

SATURDAY, NOVEMBER 18, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.
THURSDAY, Nov. 23—Agricultural Imp. Society of Ireland.
THURSDAY, — 30—Agricultural Imp. Society of Ireland.
FARMERS' CLUBS.—Nov. 21: Stranraer.—Nov. 23: Hereford.

THERE is not a more useful or kindly connection between trade and agriculture than is exhibited when the methods adopted by the former for her PROTECTION AGAINST FRAUD AND ROGUERY are seen to be readily available for the assistance of agriculturists.

It is proper that the existence of societies in our large towns for the protection of honest men should be more widely known, in order that their influence may be increased both by a wider scope, and by larger means being afforded them. The usefulness of these associations is far from being confined to what are commonly called the trading branches of the community. The farmer himself often engages in trade, disposing of his produce at a distance to parties personally unknown, and purchasing at a distance from persons in whose honour he must trust. The practice, for instance, of changing seed Wheat involves transactions at this season of the year which in the aggregate are of really national importance; and as there is this in the rationale of the practice, that the benefit of it—a better habit of growth in the crop—is derived not so much from the use of seed grown on a different soil, as from the use of seed grown under a different climate; so there is this in the conditions thus imposed on it, that the purchases and the sales must be made at a distance from the land on which the seed has been raised or is to be sown. The parties to these transactions are thus generally strangers to each other: and that, in doubtful cases, these guardian societies are most useful organs of inquiry, our own experience during the past week is amply sufficient to show.

Orders for three, eight, and nine sacks of seed Wheat respectively, from different parties, dated from the neighbourhood of Liverpool and Manchester, and written with what, under the circumstances, we were willing to take for an *agricultural* indifference to the rules of Dr. JOHNSON and LINDLEY MURRAY arrived, and were in due time executed. The Wheat was despatched to Broadgreen station, as directed; and the receipt of some of it was acknowledged, with an approval of its quality, and order for more. Mr. REAY, however, of the Liverpool Guardian Society, came to our rescue. We could mention the names of our correspondents, but that they would be no evidence of individuality: they would not enable the identification of a scoundrel, for he might use one or all of them.

In our own instance the attempt of this rascal has failed; none of the Wheat, notwithstanding his falsehoods on that as on other points, had arrived—Mr. REAY had noticed the address on our sacks, and had promptly interfered to prevent their delivery. This gentleman informs us that he has been instrumental, within the last few weeks, in rescuing 300*l.* worth of goods, *chiefly agricultural implements*, from the grasp of this spoiler. Now, all this advantage is conferred upon us gratuitously by means in the pay and the employment of a trading and manufacturing community. Such societies surely deserve agricultural support also: and we heartily hope that this notice of their efficiency may result in increasing it, both by extending the knowledge of their existence, and by adding to the number of their supporters.

We add a list of the societies known to us, and should be glad to publish the names and addresses of others, if they will favour us with the information.

Guardian Society, Liverpool: Secretary, Mr. JAMES REAY, Commerce-court, Lord-street.

Guardian Society, Birmingham: Secretary, Mr. S. HEMMING, 20, Temple-row.

Guardian Society, Manchester: Address, Secretary of the Society for the Protection of Trade.

We venture to express the hope that our contemporaries of the agricultural press may be induced to assist in making known the existence of this roguery, and, at the same time, of the means which in many towns exist for suppressing it.

THREE methods of feeding cattle are in common practice. HEMEL-FEEDING, which is adopted in the best cultivated districts of Scotland, consists in placing the animals two and two in small yards, each with a shed capable of accommodating two with comfort; the sheds are littered three or four times a week, and the dung and wet straw are thrown out and suffered to accumulate in the yards. In STALL-FEEDING, a common practice under circumstances of limited room, every ox is tied by the neck to one spot or to one division of a food-trough along the side of a shed; each is allowed a width of 4 or 4½ feet, and where the system is best carried out, they have a gangway ahead of them, a space 4 or 5 feet wide behind them, and a high roof overhead; the stalls are littered every morning, the dung and wet litter being removed to the yard; and the bedding is again examined in the evening, and the driest parts of it are shifted towards the middle of the lair. And there is the practice of BOX-FEEDING, in which the cattle are placed in a railed division of the roofed floor, each being allowed a space of about 9 feet by 10 feet in which to move at liberty; they are littered every morning, and the corners of the bedding, where it remains the driest, are every evening pulled into the middle. The soiled litter accumulates under the cattle, and their troughs, supported by pins at either end, are raised as the flooring rises from which the animals feed. The trough, it may be mentioned, is most conveniently supported on two pins at each end: when both are *in*, its position is fixed; when the upper ones are withdrawn, it turns over and hangs bottom upwards till the next meal, in a position that will ensure its cleanness.

Now, as to the relative merits of these several schemes:—Shall we inquire into the subject theoretically and consider what is to be *expected* from each? or shall we determine the matter practically, and ascertain what has been *experienced* of each? The latter, surely, is the better plan, if there be no way of combining the two. And, beyond a doubt, the *best* method of searching for the truth here, as in all other cases, is to examine the results of individual experience, assisted by that digest of a wider experience, which we call Science, and which will enable us to reject whatever in them is due to the peculiar circumstances of each.

The wider experience to which we allude—the truth in Chemistry and in Physiology of which it consists—indicates most unequivocally the benefit of a dry bed, of pure air, of sufficient warmth, and of moderate exercise. These, together, unite health and economy of food in the most profitable proportion: warmth and restricted exercise diminish the consumption of food, and comfort with moderate exercise ward off disease. Now the results of what we have called *individual* experience—the truth in agriculture, or at all events in cattle feeding—just as clearly indicates box-feeding to be a good method of manufacturing meat and manure: and it is the alleged difficulty of reconciling the wider with the more limited experience—the theory with the practice of the matter—that has raised the discussion of this subject. That they are reconcilable we are satisfied, for truth exists in both: a rightly read experience cannot be set aside by reasoning, it is a thing to which erroneous theory must accomodate itself, and to which a perfect theory *cannot* oppose itself; for by it these truths are presented of which true theory is simply the accurate expression.

That all the circumstances which chemistry and physiology point out as necessary to the perfect health and the economical growth of an animal, are compatible with a strict development of the "Box" method of feeding there is ample experience to show. No complaint is likely to be made of it as regards warmth: 16 or 20 pounds of straw daily will keep an animal comfortable on an accumulating lair so far as regards dryness: and on the score of pure air this is more easily ensured in box than in stall-feeding; a fact which one who has tried both will at once acknowledge, and which an unexperienced man might expect from the consideration that a box-fed animal has at least twice the room of one that is tied by the neck, and that his litter is trodden down so hard as effectually to hinder the fermentation by which alone the noxious gases are produced.

There is a good deal of baseless objection laid against box-feeding, on account of the common practice of lowering the floor a foot below the surface of the ground. There is no necessity of forcing the animals into pits: for, after the first week a thickness of litter will soon accumulate sufficient to absorb all their urine, and raise the floor per month is the rate at which it should be raised, a very few inches of depth will be necessary at first with many feet in the entire process of feeding. At the same time we think these pits are not only objectionable because of the increased labour of removing the manure from them: our cattle are not deepened to stand a few inches lower, so that the health of the cattle is concerned in the difference between a floor and a pit. In the former, and one on the latter, surrounded by walls a foot high: the latter is a common and perfectly unobjectionable sale of boxes, and no blame can justly be laid on the former.

As regards the mode of feeding cattle, whether in summer or winter, we cannot pass the list of the methods alluded to—that of soiling. To the process of feeding beasts, which may be carried under any of these methods, we must take another opportunity of referring.

THE SMALL FARMERS AND AGRICULTURAL LABOURERS OF IRELAND.

"In the report that I have had the pleasure of reading to the Society, I saw a great many names of persons who have shown much sympathy and interest for that class of society which has most of the toil and least of the enjoyments of this world. [illegible] classes are identical, and [illegible] their making for each other's assistance. [illegible] every philanthropic person [illegible] those who, under the [illegible] station, wealth, and [illegible] to avoid any obstruction [illegible] ment, when brightened [illegible] thought and intelligence [illegible] one if he is to work out his own [illegible] confidence under which [illegible] are possible." *His Royal Highness Prince Albert, in the Chair at the Fourth Meeting of the Society for the Improvement of the Labouring Classes, Jan. 24, 1844.*

The illustrious person who uttered these sentiments can well appreciate that "dignity of the working man." "In the multitude of the people is the honour of the prince." (Prov. xiv., 28.) A numerous and contented people are the great capital of England and the pride of her ascendancy; and the true princes of the earth are those who lay the foundation of power in a good stewardship of its uses, inviting the co-operation of enlightened public opinion to diffuse prosperity among that class "which has most of the toil and least of the enjoyments of this world." For it has been the triumph and seal of intellectual power, sympathy, warning, and love, to be the exponent of that wider and stronger combination which applies the results of knowledge, and provides their application for the benefit of man. Neglect of the labouring classes is the chief ostensible cause of incendence and revolution in modern states; and the corroding mischief which even in prosperous communities leavens with bitterness all civil and social relations, is the dissociation of classes—population and capital both multiplying in opposite directions, widening the chasm between the very rich and the very poor. Blessed is the land whose nobles bridge that gulf with the chain of Christian regard, estimating wealth and privilege chiefly as endowing life with opportunity to serve their humbler brethren. Happy is that kingdom whose Queen declares herself "deeply and warmly interested" for the happiness of the labourer.

The Society to which the sentences at the head of this article allude, was established in 1844 under the patronage of her Majesty and the presidency of his Royal Highness Prince Albert. Its principal object was to establish the custom of letting to the labourer, at the farmer's rent, an allotment (a rood to an acre) to occupy his after hours and unemployed days. And that this object has been extensively and beneficially accomplished, appears from the fourth Annual Report of the Society, and from the statements of Lord Ashley, one of the vice presidents, at the meeting to which we referred to. His lordship states "that the Society possesses in 11 different parishes 117 acres, which have been let to 553 tenants, and that the example has been followed in nearly 2000 parishes, and that, with great encouragement, great industry, and great desire to improve their condition, not one of the allotment tenants owes a single farthing of debt. An association on a similar plan, designated "The Scottish Patriotic Society," was formed in Scotland in 1846, under the royal patronage. This Society, among other objects, seeks to aid the small fishing crofts, and to improve the culture of small farms and the cottages of the peasantry.

The results already manifest promise ample success to future labours. Mr. Bond, the secretary, wrote me last June, stating that there were then 6 small farms on the west coast of Ross-shire, progressing favourably under the superintendence of Dr. M'Neile, the honorary secretary. The societies each publish a monthly magazine, as an indicator of progress and medium of instruction. The publication of the Scottish society is entitled the "Industrial Magazine," that of the English society is entitled the "Labourers' Friend," published at No. 21, Exeter Hall. The Number for June (price 6*d.* stamped), detailing the report and speeches at the annual meeting, is replete with information, delivered

in strains of the most exalted eloquence in the holiest of causes — the cause of the poor. And why should not a similar patriotic experiment be successful in Ireland, where the physical and social condition of the small farmers and labourers cause such anxious solicitude, such ruinous taxation; for the poor-rate, by absorbing the funds of employers, actually increases the pauperism which it is intended to relieve. The legitimate application of a Poor-law to adult labour is to afford aid in sickness or seasonal fluctuation; but the only safe method of protecting labour is employment. Captain Kennedy, secretary to Lord Devon's Land Commission, in his useful Digest of the Evidence, observes (Vol. i., p. 452) that "evicted tenants ought to be permanently located in some other locality, either at home or abroad, in a way which will secure to them a future means of livelihood. To throw them into a glutted labour market, with a few pounds in their pocket, is, in fact, no provision—it is but deferring for a very short period the inevitable destitution which their removal must create when these funds are exhausted." The combined effects of consolidation of farms and eviction of cottiers have poured over the kingdom a vast floating mass of pauperism, alternating between apathy and despair, demoralised and spreading demoralisation, kindling the flames of murder from the embers of distrust, crowding the workhouses, fever hospitals, and jails. It is a perilous and costly experiment to sever the agriculturist from the soil; for the possession of land and the idea of a home are the firmest bulwarks against civil discontent. Dark imaginations supervene the loss of these. The inalienable claim of existence is viewed in vindictive contrast with the conventional right of property. Freedom is a vain shadow to the doomed of poverty, and—except a deeply reflective capacity unusual to his condition prevents—the pauper will hate that social polity under which he starves. Such unfortunates are first the willing tools, then the unwept victims of revolutions. It is absurd to speak of a surplus population in Ireland, with unexplored fishing banks, land imperfectly cultured and undrained, and vast reclaimable tracts, presenting facilities for settlement at home, superior to those which the emigrant seeks beyond the seas. The colonial system was indeed the chief, stable, and renovating support of ancient empire, as it is now of that unrivalled maritime dominion whose children are grouped on the shores of all the great waters which her commerce cleaves, whose colonies are scattered over all the earth as mottled clouds upon a summer's sky.

Britannicæ majestas, porrecta ad ortum Solis ab hesperio Cubili.

The English-speaking race has best fulfilled the primitive mandate (Genesis ix., 1); but emigration in Ireland is not the overflowing enterprise of a prospering people, but the expatriation of that very industry which is essential for our social regeneration, while pauperism remains behind to increase and multiply. The population in England, in proportion to the square mile, is more dense than in Ireland, yet the sister island experiences not our extremity of misery; for over population consists rather in the disproportion between numbers and remunerative employment than between the former and quantity of produce, and the more equable distribution of wealth among the lower classes is a firmer security for national prosperity and peace than its accumulation in the hands of a few capitalists and absentee proprietors. Corn sufficient to feed double the population of the kingdom is raised in Ireland, but the labourer has no money to purchase, therefore his share is exported. The sudden cessation of the conacre lettings has also been deeply injurious; for that was a system of pure barter, a payment of land for labour; and its discontinuance, consequent on the Potato failure, was equivalent to an immediate withdrawal of its money value from the circulation. The millions wastefully expended in the non-productive public works, supplied the deficiency only for a brief period, being again exported in payment for foreign grain. But if we cannot create a supplement to the currency, or introduce capital in large masses into the country, every employer may create capital itself, by the concentration of labour on some small portion of land; while increasing productive results will practically solve that problem, which puzzles the sciolism of the Malthusian economist; for the Irish soil, as well as the Irish heart, teems with latent capabilities, which a generous culture can alone educe. An industrial development, on the plan of the "Labourers' Friend" Society, applied directly to the welfare of our labourers a generation since, would have obviated the disease and starvation which silently sweep away every year multitudes of our agricultural population, and occasionally become so overwhelming as to cause the civilised world to exclaim in amazement, that an integral portion of the richest of empires should bear such a shadow on her fame, such a grievous sore upon the face of her glory. A contented labouring class in Ireland would reduce the expense of an accumulating public debt and a standing army; for eventually the state and the landlord must pay for workhouse and fever hospital and jail—for all distress, disease, and crime. This fact has been projected in many startling aspects before the public mind in the debates on the sanitary question in England, where the physical and social condition of the working classes have assumed latterly a paramount importance. In 1845, according to a return of the Poor-law Commissioners, there were in Ireland 367,273 farms between 1 and 10 acres. Cases there may be, and are, in which eviction is unavoidable; but under these circumstances, can the consolidation of farms be safely carried out, as a system? or, rather, is it not the more prudent and (ultimately) the more economical course, to introduce a portion of commercial freedom into the management of landed property, and suffer the same gradation in agriculture as in all other manufactures,* from the lot of 3 to the tract of 300 acres? To work example from the humbler to the wider sphere, by teaching the small farmer and even the labourer the practical application of the proposition in agricultural chemistry—that decay and reproduction are equal, and that the art of agriculture consists in bringing these principles together with economy and judgment; to show him how the sweepings and sewage of his cottage and land (now the prolific source of disease) may be converted into the most nutritious food—that his rent is but a trifling moiety of the product of a properly worked soil, and that where no waste is want can never enter. The prosperous state of Down county, where there are 14,000 farms under 5 acres, proves that extreme subdivision does not necessarily imply pauperism; and as a particular instance of the success and comparatively greater produce of small farms, the Gosford estate, under the management of the late agent, Mr. Blacker, may be adduced; see also the account of John Sillett's 2 acre farm at Kelsall, in the "Industrial Magazine" of the Scottish Patriotic Society (May 1847). The comparative produce of labourers' allotments, cultivated in after-hours, may be seen on reference to the "Labourers' Friend" Magazine. The number for January, 1848, gives a detailed account of one of the allotments (44 statute perches), at Tolworth, which yielded a profit of 19*l.* 8*s.*, or 83*l.* 12*s.* 8*d.* per acre.

Property has its duties, its rights, sometimes its prejudices also; and the most dangerous of these prejudices is a jealous fear lest the humbler classes should acquire land. Agriculture is the purest of all temporal occupations; and the desire to obtain land, regulated, of course, by the institutions of law and usage, is the healthiest of those ambitions which He who is the only absolute owner of the soil has implanted in the heart of his creatures. We cannot ensure increased produce without the appliance of additional labour; but the consolidation of farms diminishes labour, substituting machine for manual culture—the horse for the man. Nor has it had the effect in this country of introducing green crops, except in few instances; for farmers who become tenants of the dispossessed lands seldom possess the capital, skill, or even inclination, to adopt an improved system; while the displacement of the small holders enforces a reluctant provision for their unproductive support from the farmer's pocket.

Indeed the working of our Poor-law has been most disastrous in its effects upon the industry of the country. During the preceding summer nearly one-fourth of the population of this union (Newcastle, co. Limerick), were receiving relief; and that proportion at 4*d.* per day would absorb the total annual value of the union. Nor is the amount of destitution likely to diminish during the ensuing winter, for Potatoes are a total failure, green crops scanty, and corn deficient in produce. The cash now current in our agricultural districts does not suffice to conduct the ordinary exchanges of the country, and consequently there is stagnation of business and ruinous depreciation in prices. And these evils press in accumulating ratio, as the emigration of solvent farmers (even at this late season), abstracts capital and industrial energy, and reduces the proportion of rate-payers in comparison with the number of paupers. It appears scarcely possible to avert total ruin, except by some system of loans to proprietors and occupiers, to enable them to substitute reproductive employment for the present unproductive tax in support of the able-bodied. Employment is the only charity Irish labourers require.

The central positions of our workhouses, and the agricultural character of the occasional inmates, suggest the utility of attaching model farms, cultivated by the spade, to each—of such a size (say 40 Irish acres), and conducted in such a manner as not to glut the food market, nor injure the farmer by withdrawing a permanent staff of labour from his employment. Spade culture is peculiarly adapted to the greatest agricultural invention of modern times; for while the plough in cleaving the surface depresses and hardens the underlying clay, the spade tends to subsoil or deepen and loosen it. To the spade, also, we owe the culture of kitchen vegetables, which, since the second Henry established English sway in Ireland, has multiplied at least thirty-fold the productive power of man for creation of the means of subsistence. As examples of the superiority of spade husbandry may be adduced the joint stock farm of 40 acres in the parish of Crayford, Kent, which has reduced the poor-rates in that parish from nearly 12*s.* to 2*s.* 9*d.* ("Labourers' Friend," March, 1846), and the joint stock farm of 28 acres at Saxmundham, Suffolk, which cleared the very first year the sum of 40*l.*, or 16*l.* per cent. on the capital (250*l.*, in five shares of 50*l.* each).

The sewage and refuse of the workhouse would afford ample manure; and 40 Irish acres of land of medium quality would yield annually, for an indefinite period, 2000 tons of green crop produce (see a communication of my own experience in "Labourers' Friend" for July, 1846). Taking into account the mixed character of the produce (Potatoes, Onions, Peas, and Beans, the tap roots, and the Brassica tribe), and making ample allowance for the greater amount of nourishment in an unequal weight of the cereals, the alimental ratio of the green to the white crop on the same measure of ground would be at least eight to one; and green crops would also afford more continuous occupation.

The economy of manure in connection with the sanitary state of the cottage; the saving of seed, and improvement of the quality of the cereals by the dibbling system (*Irish Farmers' Journal*, March 24, 1847); the comparative nutrition of other vegetables to supply Potato failure; the growth and management of Flax in every stage, up to the manufacture of coarse fabrics; in short, the moral and material results which are capable of development under the guidance of agricultural skill and economic industry, may be taught and practically exemplified under workhouse discipline, and the young instructed in the elements of industrial education. Nor would the system be liable to the errors of the centralised labour shops of Paris. The French statesman sought to remedy the imperfections of civil and social polity, as affecting the conditions of labour, by mere external organisation, rejecting, in his frenzied dream of human perfectibility, the testimony of experience, which is, indeed, the teaching of Providence; and he actually increased destitution, and precipitated servile discontent by the very plan devised for their prevention. The bloody failure of the ateliers is an awful warning of the danger of interference with the freedom of the labour market.

But, apart from all legally organised schemes, philanthropy builds up its own special systems of benevolent purpose. The English allotment plan has added a large figure (the product of many small results) to the statistics of food. Held from the proprietor, or under the society, at a moderate rent, on fair conditions, and filling up the intervals of hired labour by industrial occupation, associated with ownership and home, the allotments tend both to elevate the physical comfort and self-respect of the labourer, and to train his children in habits of industry and economy; thus remedying, in part, the mischievous consequences of fluctuation of employment. In many parishes the system has reduced both the poor-rate and the criminal calendar; proving that kindness is stronger than coercion to control the working man, and that it is feasible to raise the condition of a class, without raising the individual above his sphere in life. And why should we not hope for the success of an Irish Patriotic Society also, not too ambitious at the outset, but merely establishing in the southern and western counties a few small farms, allotments, and cheap cottages, as models; and extending a supervision, according to the plan of the English and Scottish Associations over the efforts of individual proprietors. The Poor-law has increased pauperism and demoralisation in Ireland, which requires practical and social more than political measures for the cure of social evils. And let us not anticipate failure from the indolence or ingratitude of the Irish labourer, who sometimes perhaps suspects unjustly the motives of a sympathy to which he has been little accustomed. But his sweat is more precious than gold—his worth, as a man endowed with immortal hopes, infinitely greater than all the green acres within Ireland's bound. He is worthy of a fair trial before final consignment to the servile dole of pauperism. You have worked your society well and economically in England; and it is in the power of Irish proprietors to follow in your path. The times, indeed, are not propitious, but the cheerful of bounty, and the earnest of purpose, always find means of effecting their plans, which to the indolent appear incredible, to the timid impossible. The "Labourers' Friend" for June furnishes ample suggestions on this subject, especially the illustrious president's address, characterised as it is throughout by those sentiments of manly candour, sound sense, and Christian benevolence, which have added to the loyal respect due to princely station, the love and esteem of all who can appreciate moral worth. *John Locke, Newcastle, County Limerick.*

* Agriculture is the greatest of all manufactures.—*Montesquieu.*

LAND DRAINAGE.

I BEG it may not be inferred from my last communication that I am an advocate for shallow draining. I would be so only when the peculiar circumstances of the case require it. On the contrary, draining is in most instances, I consider, not done sufficiently deep. All appearance of water may be removed from the surface, yet the ground may continue quite sour below, and a greater depth is found necessary to take away the cause of this here than from the mere upper portion of the soil. Besides, by putting in drains deep, there are advantages accruing therefrom that greatly more than balance the little temporary inferiority in their present action compared with more shallow drains; they are much more enduring, more efficient in their working ultimately, and they render the soil more susceptible of improvement, resulting from deep working, to the requirements of which they are essential and peculiarly adapted—all of which are circumstances of the first importance. These observations apply to the drainage of lands in general; but there exist certain descriptions of soil that, however close together the surface drains are cut, yet remain damp and sour, not only below, but to the very top. Such are kept moist and chilled by their property of sucking up or imbibing water from below by capillary attraction, and cannot be cured unless by sinking the drains to a depth and removing the water to such a distance under the surface as may be sufficient to overcome possession of that power.

The description of material used in the filling of drains will depend somewhat on the abundance and cost of the several articles, together with their accessibility and distance of carriage. In general it will be found

that the most proper are tiles or pipes, even when stones can be had on the spot, and could be applied at fully a cheaper rate. Tiles or pipes, if properly put in, form, in my opinion, a much more efficient duct than stones or other materials, and will give us a drain of much greater durability. They may be objected to in strong clays as being not so well calculated to draw or admit of the percolation of the water as the more open composition of a stone drain; but experience now shows that the grounds for such objection scarcely exist in point of fact, while any little drawback to their employment in this particular is more than counterbalanced by their superiority over stones in all other respects. Stones, nevertheless, do very well when used in strong tenacious subsoils, provided sufficient care is observed in the construction, more especially should the drains be made roomy, put in deep, and possess some amount of fall. Indeed in one case—that of land of the nature just described, and lying in a declivity or possessing considerable slope—I give a decided preference to stones over every other material. The shape in which they should be applied is, broken small, and, after having been well sifted, put in as rubble, which will here form a most efficient and durable drain, the slope of the ground facilitating and giving such force to the current as prevents the deposition or accumulation of silt. But stones, unless indeed in the case of clays or other hard subsoils situated as described, where the current is lively and the risk of being closed up with earthy matter is comparatively small, are not to be approved of. Where stones are to be made use of in hard clay subsoils having little declivity, they should be made to form a properly constructed conduit, with square well-set cheeks and flat close-jointed covers. If the conduit is thus constructed and carefully pinned up, so as to be rendered as close as possible, the common practice of adding a quantity of broken stones is, in my opinion, not only unnecessary, but is even positively injurious to the lasting efficiency of the drain, as it increases the means of the ingress of earthy matter, and can be of little use for a conveyance away of the water, seeing that if once the duct itself is insufficient for this purpose, the usefulness of the drain is at an end. Conduits for drains of the description now mentioned should be constructed with great care, and by workmen at day's wages in preference to piece work; particular attention is required that the sides or cheeks should be made to stand on broad flat edges, and not on those of a narrow wedge-like shape, as the latter are sure to sink or become displaced, and the covers should be flat and not too thick, as such are more apt to crush down the cheeks, and if they thus get into the conduit their thickness presents the more serious a bar to the current of the water. In all stone drains the stiffest of the clay should be placed immediately over the stones, and firmly and closely tramped or beaten down, which is most easily done if applied before it has had time to become dry and hard. Never put straw, Furze, &c., over the stones, with perhaps the exception of spent bark or old sods, as such soon become decayed, changes into a soft black mould, and eventually increases the very evil it was intended to prevent. In all soils of a loose soltish description, and particularly if flat lying, stones ought never to be used, if other material can possibly be obtained.

Of all the various materials employed in the filling of drains none are equal to the tile pipe, provided in practice it can be properly applied, as then it forms a duct for the water secure from injury, and consequently of the most durable description. In the employment of pipes, therefore, drainers are called upon to use their utmost efforts that they may be properly applied. That such may be the case is indeed worth being at some pains about. If the pipes are round or cylindrical the cutting of the drain ought to be finished with the narrow spade, and the bottom well smoothed and cleaned out with the scoop. When this can be neatly done collars may be dispensed with, at least where the bottom of the drain is of firm soil. When, however, the bottom is dug out too wide, is left uneven, or consists of soft soil, the application of the collar is indispensable to ensure a continuous and an efficient channel for the water. Collars should be short and wide, so that while they connect sufficiently close the ends of the pipes, they may not become too readily filled up in the joints with silt. In a conversation I had with Mr. Smith of Deanston on these subjects, that gentleman expressed an objection to the use of collars, from the idea he entertained that the joints would be very apt to get silted up, and thus prevent the water from entering the pipes; but in my opinion, and from what I have observed, by proper attention to the particulars above mentioned, I do not think there is much danger to be apprehended in this respect. Flat-sided pipes are more easily laid than round ones, and are better adapted when the drain has been dug out wide, or square in the bottom. Yet I have no great partiality for them, as little puts them wrong, and they cannot, from their shape, have the use of the collars to keep them right. Besides, as all pipes are much bent in the firing, the flat side allows of less liberty to a choice of position than what is afforded by the rounded pipe. To facilitate the successful laying down of pipes in the drain, the operator should be employed at day's wages, be a steady, careful person, and he should be provided with a small instrument, having a head fitted as a hammer at the one end, for driving down small stones, and at the other for cutting or paring off any pieces of soil that may have been left too high. Where pipes are used with collars a much smaller size of material will suffice; indeed $1\frac{1}{2}$ inch pipes collared I should consider equal to, or better than 2 inch pipes without the collaring; and this size of pipe is enough for the parallel drains in all ordinary circumstances. It matters not though they barely contain the water in great falls of rain, if they do not cause it to stagnate for any length of time when over. It is the better they run choke full occasionally, as such flushes them, and clears out any deposition of silt or rubbish that may have formed a lodgment in the duct. Pipe tile drains possess advantages in this respect over all others, which is one reason of their greater durability. *John Duncan, Thornbank, St. Andrew's, Oct. 30.*

EDUCATION FOR AGRICULTURAL LABOURERS.

It was with much pleasure I read in your *Gazette* of Nov. 4th some very excellent articles on the subject of national education, connected with agriculture, and I trust the subject may be thoroughly discussed, and some measures taken to adopt a good system of education for the children of the agricultural population. In these days of agricultural improvement, there is a great want, generally speaking, of a better description of labourer. Agricultural societies certainly have done something, by rewarding the labourer for his skill in the different branches of his business, and for his good conduct; but this is, I think, but an imperfect remedy, it is beginning at the wrong end—it is like putting manure to grow good crops on wet land before it is drained. The different parish schools throughout the kingdom are also giving some impetus to the great wheel of improvement; but here, again, there are many obstacles and some defects, for it is of little use to attempt to carry out a system of education at a day school with children who are living at home, and are there constant witnesses of the grossest immorality, dissipation, and crime. And if we suppose children to remain at a parish school a sufficient time to receive a fair education, the farmer then complains that they have no idea of manual labour. It would therefore seem necessary that a system should be adopted, which, while it gave sufficient mental education for the station the children are intended to fill, should at the same time afford instruction in labour to enable them to get their living in after life, and to become a more skilful and better conducted class of men. It was with this impression that I first commenced the system which has been before alluded to in your Paper, and which I hope to see more generally adopted.

To make a scheme of education a subject of importance, and to bring it into general use, it will be necessary, in the first place, that the outlay of capital should be as little as possible, and in the next, that the system should be self-remunerating; and in this I think I shall be able to show that I have perfectly succeeded. Having had very numerous applications for information on this subject, I have purposed making a few remarks further to endeavour to show that such a system might be adopted by most extensive farmers, and with the most advantageous results.

When I first determined to keep boys entirely on the farm, I intended to erect a suitable building for the purpose, and applied to my landlord for some assistance, who expressed himself satisfied that such a system would be of great advantage to the neighbourhood, and proposed to allow me 14*l.* towards the erection of a building, half at the end of the first four years of my lease, the remainder at the end of eight; but afterwards when I had shown that such a sum would be but little assistance to enable me to do what I proposed, he withdrew his offer entirely. I was therefore obliged to relinquish my intention of building, and having converted a saddle room 16 feet by 10 feet into a tolerably comfortable sitting and school-room, with a granary above it 46 feet by 10 feet (which was little used) into a bed room, I found a very decent accommodation for 20 boys, at the following expense:

Day Room.	£	s.	d.
Carpenters' and sawyers' work putting down floor (the rough material for this being found by the landlord) ...	1	10	0
Materials and carpenters' work for tables, benches, cupboards and bookshelves ...	4	1	0
Window frame, casement, and glazing ...	1	6	8
Plastering, whitewashing, &c. ...	0	10	0
	£7	7	8
Bed Room.			
Two windows, glazing, and casements ...	1	13	11
Ten bedsteads, screws, and sacking ...	5	5	0
Stairs, ladder, ventilating windows, whitewashing, and 800 nails ...	1	18	4
Erecting out-house (rough timber and slate found by landlord ...	5	0	0
Paving, extra carpenters' work, and nails (making passage) ...	1	3	0
Ten beds (millpuff), and bolsters ...	8	5	9
Blankets, sheets, and quilts ...	7	13	8
	£38	8	7

I have not mentioned in this estimate anything of earthenware, knives, forks, spoons, &c., which are of trifling value; also a small stove which burns cinders from the house. These items I consider may be covered by an addition of 7*l.*, which will make the whole outlay rather more than 45*l.*

The accompanying estimate of expense of clothes, keep, &c., made nearly 12 months since, will show the cost of each boy per week at that time.

Calculation of Clothes, Making [illegible] [illegible]

	£	s.	d.
24½ yards of moleskin, at 1s. 2½d. per yard	[illegible]	1	8½
44½ yards of cord, at 11d. per yard	[illegible]	[illegible]	[illegible]
8 yards of canvas, at 7d. per yard	[illegible]	[illegible]	[illegible]
3 gross of buttons, at 1s. [illegible] per gross	[illegible]	[illegible]	[illegible]
2½ lbs. of thread, at 2s. [illegible] per lb.	[illegible]	[illegible]	[illegible]
160 yards of calico, at [illegible] per yard	[illegible]	[illegible]	[illegible]
[illegible] dozen pairs of stockings, at [illegible] per dozen	1	[illegible]	[illegible]
Shoes and mending, per contract	[illegible]	[illegible]	[illegible]
Carried forward	£18	2	[illegible]

	£	s.	d.
Brought forward	£18	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
Attendance	[illegible]	[illegible]	[illegible]

Being [illegible] per boy, per year; or [illegible] per week. This estimate does not include the person who works with the boys.

[illegible]

	£	s.	d.
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible] lb.	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

Total expense [illegible] per week [illegible]

Owing to the decrease in the value of provisions, that estimate may be somewhat reduced; but not to overrate the value of the boys' labour, I have made my calculations as per that estimate, viz. [illegible] per boy per day.

[illegible]

	Boys.	Men.
Wheat [illegible] (one-eighth [illegible]), hand [illegible]	[illegible]	Not done per acre.
[illegible]	1 11	[illegible] per acre.
Mangold Wurzel planting	[illegible]	[illegible]
Wheat hoeing	[illegible]	[illegible]

Comparative value of Boys' [illegible].

	Boys.	Men.
Turnip hoeing [illegible]	[illegible]	[illegible] per acre.
Pulling, topping, and [illegible] Mangold Wurzel, [illegible] from [illegible]	[illegible] 1	
[illegible]	[illegible]	[illegible]
[illegible] when worked	12 [illegible]	[illegible] to be worth [illegible] per [illegible].

In working for a small prize I give for Wheat hoeing (one-eighth of an acre to be hoed, shortest time and best work, the boys who finished their work first, worked at the rate of [illegible] per boy per day. For a like prize for Turnip hoeing (the hoeing in this instance was very difficult, the plants being too big), the first boys hoed at the rate of 2s. 10d. per acre; these, of course, are extreme cases, and the boys could not work at the rate for any great time together.

At this moment I do not remember any particular work that I can add to this estimate, but I believe that all work to which we put the boys will bear a like favourable comparison with common labour, and we always find plenty of employment for them throughout the year. With respect to their mental education, I am endeavouring to make it as entertaining as possible, by explanation and illustration as opportunity occurs, with the impression that their attention is not so easily attracted, when continually learning by rote things that they do not perfectly understand. I also endeavour to let them have certain opportunities of amusement, and in the summer time they have two evenings each week for cricket, which I consider is not thrown away upon them. I am happy to say that I do not frequently find punishment necessary; but when there is occasion, our usual remedy in minor cases is the curtailing of amusements, and bread and water diet; whilst, in rare cases, we adopt the system of corporal chastisement; but, as a rule, I consider an appeal to the better feelings a more satisfactory and efficient mode. In concluding these remarks, I must apologise for having trespassed somewhat largely on your columns, and I trust that a desire to serve a good cause may be taken as my excuse. *Thomas B[illegible], K[illegible] House, near Ross, Herefordshire, Nov. [illegible].*

Home Correspondence.

"*The New Husbandry.*"—In your late review of my new work, "The New Husbandry," you were pleased to assign various reasons for its assuming the title given to it. Many discoveries, no doubt, have been made in modern days, which have greatly advanced the progress of agriculture; but, in addition to these noticed by yourself, you will perhaps allow me to say that there is one which is of the greatest importance both to the proprietors and occupiers of land, namely, the change which may be effected in strong clay soils by the thorough draining and deep working of them. This great change is of a recent date, and may be principally attributed to Mr. Smith of Deanston, who for the discovery and for bringing it into the notice of the public is entitled to every praise. One principal object of "The New Husbandry" has been to spread this information generally, amongst the farming classes, [illegible] these two [illegible] processes. What, it may be asked, is the [illegible] the kingdom? It is [illegible] it may be [illegible] a person who takes a strong clay farm, without its having been first drained by the landlord, must be a perfect

madman; and, certainly, if we were to examine fairly and impartially the net profits upon such a farm—if we were to reckon the rent and taxes that were to be paid upon it (two years, if in fallow)—also the uncertain working of the land in a wet season—the waste of manure, with various other drawbacks—and compare these with the scanty and abortive returns proceeding from it, we should not be far from the truth in the preceding statement. The common management upon such a farm is: 1st, a fallow; 2d, Wheat; 3d, Beans, frequently broadcast. The Wheat will probably not give more, but perhaps less, than 20 bushels per acre; it is often so late in being harvested that it loses half its value. The Beans, if broadcast, being choked with weeds, hide their diminished heads; and the weeds going a head course, a succeeding fallow is an indispensable contingency. In this triennial absence of production, a loss of 33 per cent. is regularly sustained. The farmer then begins to feel that a further continuance in this deteriorating proceeding must end in his certain ruin; and he therefore resolves to leave to chance what his own art cannot restore. The land is abandoned to neglect, and thus lies a lamentable instance of ill-directed efforts. Now, the whole of this land (so hideous, so unsightly, so unprofitable), under judicious management, may be made just as good and as profitable as most parts of the kingdom. These strong clays, so difficult to work when undrained, after being laid dry, become mellow and friable; after being well worked and stirred to a depth of from 12 to 16 inches, they not only allow the water to sink deep into the drains instead of its lodging on the surface, but they afford a freedom and a looseness of the particles in which the roots of plants can extend themselves and luxuriate at their pleasure. What should be the precise mode of ulterior proceeding, by which this great end is to be attained, of raising the largest produce upon a given piece of ground? What should be the superstructure for that which is the foundation of all good husbandry—draining—is a subject so copious that it would be needless to give it a place in these cursory remarks. I would conclude, then, with a paragraph, appropriate to the present purpose, from the "Quarterly Journal of Agriculture:"—"The thorough or Deanston mode of draining, of so great benefit, not for Scotland only, but for the whole kingdom, is as yet in its infancy. Already the fame and utility of it is spreading over the island; and we have no doubt, in a short time, there will not be found a spot where improvements are carried on that has not been 'made anew' by means of this simple, yet powerful and efficient system of draining." *Law. Rawstorne, Penwortham, Preston.*

Scotch Farming and Scotch Rents.—A good answer to Colonel Rawstorne's statements on these subjects may be found in the fact, that but few Scotchmen come to locate amongst us as farmers. The people of Scotland are proverbially noted for their enterprise, which leads them to migrate whithersoever there is a chance of a fortune being made; and the trade of Lancashire has been selected by many of them, as a field for the exercise of their patient perseverance and exertion; but as yet very few indeed have come down from the "land of the mountain," lured by the glittering agricultural prospects which the Colonel has disclosed. Had there been a mine of gold to be found by deep ploughing the land in the northern division of Lancashire, some farmers beyond the Tweed would most certainly have long since come down to reap a golden harvest from the fields of their noble countryman, the Duke of Hamilton; yet there is only one tenant on his estate, said to produce 16,000*l.* a year, who is a Scotchman. And though this gentleman only pays a rent of about 30*s.* per statute acre, I am certain his two years' experience will not enable him to speak in glowing terms of the advantage in farming land of medium quality, even at such a seemingly low rent as that; but the fact might be easily come at, as the gentleman is a friend of the Colonel's. Such accounts as the Colonel has put forth about the high rents of Scotland are mischievous, though not designedly so, because it is left to be understood that those high rents are altogether attributable to a superior system, carried out with superior management, whilst there is every reason to believe that low taxes, thrifty habits, and women's and boys' assistance in farming operations, have much to do in the matter. I constantly read the reports of what is going on upon the farms of your Scotch correspondents, and have remarked what a number of women have been employed in work which no female in this neighbourhood could be found to perform; indeed, hereabouts, there is scarcely a woman or boy to be had who is useful in out-door work, on account of the want of a proper training. You have another correspondent "Falcon" by assumption, who is constantly carping about the bad farming of England, and the short-sightedness of her farmers. I would advise both him and the Colonel to be hush on the subject, so that they and their immediate friends may gather the golden fruit from the garden of England, whilst her farmers are asleep, and thus provide for themselves handsomely, while at the same time they were accomplishing the desired aim of "Falcon," namely, the producing of food for the population of 1858, about which he seems to be so uneasy. For a purpose so coveted and excellent as this, it would not be amiss if patriots were to go recruiting into the north and endeavour to spread abroad on our green fields whole troops from the "Land of brown heath and shaggy wood." *Richard Tongue, Forton Cottage.*

Education.—I was much pleased by many of the hints and suggestions proposed by your correspondent, Mr. J. C. Brown, of Cirencester, with regard to this most important subject: and fully do I concur with him on the benefit to accrue from teaching the children of the labourer some of the general principles (very general and superficial they must necessarily be), of physiology. I will now endeavour in a few words to explain my reasons for believing a knowledge of this branch of science so valuable. Farmers may probably pass them over with ridicule, considering the subject foreign to the agricultural interest. But I would say, that did their labourers understand how to keep their bodies in a state of health—what substances to avoid as food, and what to take, and above all, the vital importance of thorough and frequent cleansing of the outer man; and, knowing, should act thereupon, the value of their labour would be much increased, and they would obtain at length for fair wages a fair day's work. Let it be granted that a farmer cannot be with his men all the day long. Let it be granted, that for a man to labour diligently and honestly when his master's eyes are off him, he must carry with him a healthy frame and an honest well regulated mind. Then, I say, the two are intimately connected both with one another and with the possession of a sound knowledge of the facts of physiology. Could a branch of that subject be taught to youth; could they be taught the intimate connection, to take a common example, between the skin and the lining membrane of the stomach and other viscera, that the one is only a continuation of the other, modified according to the office it has to perform, and that directly one is affected, the others suffer through the medium of some unknown principle (explained probably by nervous action), to which the name sympathetic has been given. That therefore if the skin is injured from any external cause, in the performance of its normal functions, the stomach immediately sympathises; in other words, is affected. This latter organ is in direct communication with the brain by a set of nerves, and consequently the latter organ (the seat of the reasoning powers), is disordered, and the result is depressed spirits, morbid sentiments, dulness, and bad temper, combined with bodily languor; and therefore, such an individual could not do that which a healthy one can. If they are taught that to keep the skin healthy, the most necessary point is a thorough circulation of the blood through its pores, explaining the perspiratory apparatus, &c.; and that to accomplish this, constant and thorough ablutions are absolutely indispensable, bringing, as example, the much more rosy hue of the face and hands than the other parts of the body. If, I say, they could be brought to understand the value of considering this subject, what an object would be gained! What a foundation would be laid for future honesty, sobriety, and happiness! I have chosen the skin as an example, from its intimate connection with the internal organs; so intimate, indeed, that many have been the fatal cases of consumption, whose cause could be traced to wet feet, not dried immediately. Many other examples might be found to bear out what I have said. Now I want to know why the children of the poor are to grow up totally ignorant of these and a hundred other subjects, all of immense importance both to the preservation of their lives, health, and happiness. How much less need for the doctor when people shall learn to take care of themselves! Would Government take the subject into consideration, how easily might the matter be accomplished, by selecting masters and mistresses of a superior stamp in every respect, to those who at present sway the rod and teach the A B C in our national schools. *J. Coleman, Hermitage, Berks*

Cottage Farms.—One of the best practical farming lessons that I have ever heard, was given me while travelling in Wales last February twelvemonth by the mail between — and —. I had travelled direct from London, and was becoming very tired, from being so long shut up, when told I should find amusement, and the distance shortened, by taking a seat for a few stages on the box. The afternoon being fine, I was thus induced to leave the inside and place myself by the coachman, of whose farming I had been hearing wonderful accounts. We had not proceeded far when some remarks of mine, commenting on finding the cattle shivering in the fields at that inclement season, opened the conversation. "Ah, sir!" said the coachman, "you may well make these remarks—these Welchmen see no farther than their pigs there, that carry their ears over their eyes; and when I holloa to them to get out of the way, are sure to bolt between the leaders' legs. Such a thing as a dry farm-yard, well littered down, with the stock half hid in the straw, you will not see in all Wales. They have no idea here of making their animals comfortable, or of providing manure for Turnips by wintering them in their yards. No; their poor cows and beasts are all exposed at this season; starving in their fields, dropping their manure under hedges and trees, where it does no good, and half the summer is lost in recovering the flesh they lose in the winter. A field of Turnips is a rare sight in this country. Vegetables for man or beast at this time are scarcely to be had; but then it's an ill wind that blows no one any good. This neglect does me no harm. I drive the mail four stages out and in every day, and this gives me four hours a day to work in my garden. My home is in —, where I have a good cottage and nearly an acre of garden for 12*l.* a year; gardens in this country are not thought much of, except to grow Potatoes. They here don't know what may be made from a small piece of well done land—so I get mine cheap. There! I could as soon live without bread as without green stuff; I wish I could show you the fine Broccoli and Brussels Sprouts I am selling to those who have gardens of their own and are getting nothing out of them. I have made 18*l.* in the last 12 months of its produce, besides what we have ourselves consumed. All this is done with what these people take no account of; they will go crawling all day on the roads to pick up the dung they find there, and yet let all their soil at home run waste into holes or ditches or be carried away by their rivers. When a lad, I was always more ready to help hang a gate, or mend a fence, and fonder of working at the wheeler's shop than going to school, so I am quite handy with tools. I have knocked up a carriage on wheels, and sink tubs in my cesspools, into which everything from my house, cow-stalls, and pig-sties is drained, and when one is full, it is raised on my carriage; and with little labour, and no dirt, I and my boy am able to draw it about and apply it where it is wanted. By this means my garden has been made so rich it now does not take all these cesspools provide, the remainder is carried out to a little meadow I hired for a cow, but finding she could not keep down the Grass which by this dressing has rapidly increased, I took to buying weaning calves, and as these grew to near calving, I found small farmers to take and rent them of me at a pound a year a piece. I have now 20 cows so let, and I have also 40 sheep which I have thus raised and put out; besides, I must not omit a sow and her pigs, which are kept principally on the waste from my garden and the milk we have to spare. I get from her two litters a year, and generally 9 or 10 pigs at a time; these come in March and September, and find me in bacon and pork and pay most of the rent. They tell me in a few years we shall have railways everywhere, and there will be no coaches to drive; I shall then be fit for nothing, unless I again turn farmer. I was born a farmer, as was my father and his father before me, and at 20 I came to one of the best little farms at the rent in Buckinghamshire, but at that age nothing would do for me but driving a coach, and in five years I had given up my farm, and was on the 'Tally-ho!' and so I have continued driving ever since; but 'what is bred in the bone will come out in the flesh,' so now I want again to be a farmer, and you see I am getting together the stock to begin with. Won't I some day show the natives how to raise corn, grow roots, well dressing and keeping the land clean! The gentry come to see the coachman's farm, as they call my garden and field. Sir John ——'s agent came a few weeks ago and offered to let me one of Sir John's farms, but I told him I was not yet ready to take one. What do you think he said in reply? Why, that the want of a couple of hundred should not be a hindrance, for he wished to have me to set an example to the tenants, who were always complaining of the times, and who, he feared, in times to come, with free trade and low prices, would not be able to pay rent at all; but I told him, 'No, no, I would wait a little longer.' I can manage to keep laying by a few pounds as I am now doing, and I am sure nothing is to be done in farming without plenty of capital. Do you think, sir, I could drive this mail 10 miles an hour over these hills if the horses had not plenty of corn? Nothing does well that is done by halves; when I go farming I will have a hundred to spare and no double rent to pay, from the want of capital." *Hewitt Davis, 3, Frederick's-place, Old Jewry, London, Nov. 9.*

Education (No. 6).—We now come to consider what officers the institution will require. All national establishments must be effective, yet economical. True economy does not consist in working with deficient hands. The monitorial system affords immense aid in carrying out instruction to large numbers. The proposed plan cannot be worked out with only one head, combining as it does the teaching of out-door work and practical science. There must at least be two to each school of boys and girls, a master and a mistress, a gardener and a housekeeper. To suppose that any man or woman who having failed in other employments is just fitted to fill the office of master or mistress of a school, is an opinion so much at variance with common sense that it must have arisen from ignorance of the important duties required of them, or from the necessities of the voluntary system, which seldom has funds sufficient to offer an adequate remuneration to persons qualified to undertake the post. There are physical as well as mental qualifications essential for persons to fill these offices, and the selection of proper individuals will be an important business, and must be entrusted to discriminating agents, whose knowledge of character and of the constitution of the mind and body qualifies them to make a proper selection. There should be strength of mind and body, mildness of disposition, good judgment, quickness of intellect, sound morality, and Christian principles. There will not be much difficulty in procuring persons answering this description; there is a large field to select from in the middle class, from which at least at the outset we shall principally have to make the selection; but it is essentially necessary that a sufficient inducement should be held out to them to undertake the task. The reward of masters and mistresses under the voluntary system is inadequate and precarious. This will never answer, a sufficient salary must be paid to keep them in comfort whilst in service, and after a certain period of work, they must be entitled to a pension. These are moral soldiers, to whom we look for improvement in the intelligence and moral of the people, and if they do their duty they will be richly entitled to their reward: the evening of their days must not be spent in penury and neglect, but in sufficiency, in honour, and in happiness. It is proposed that the business of the master and

mistress shall be very much the same as that those employed under the British system, viz. in teaching reading, writing, arithmetic, and needlework. The gardener will have to teach the practical sciences and mechanics, political and rural economy, garden and field work; on the housekeeper will devolve the duties of training girls in all those female acquirements which are required in every well ordered family. To prepare these officers to fill their several situations, a college for their instruction must be founded. The success of the plan will greatly depend upon this institution, which must be well considered and planned by persons of experience, thoroughly informed in the arts and sciences, and well acquainted with rural and domestic affairs, and political and social economy. Here these officers will be trained and taught the art of imparting knowledge; we should then be in a fair way of obtaining a staff qualified to carry out the whole system successfully, and have grounds for hope of ultimately regenerating the great bulk of the people of this country; *Thomas C. Brown, Cirencester.*

Gas Tar.—Two years ago you published a receipt which I had used, which answered well then, and has continued to answer well to this time. I have a stable, a pig-sty, a granary, a chicken-house, and a neighbour has a cow-house, all treated by my receipt, and all as sound as the first day, after several years' use. I repeat it, with some improvements, as several of your correspondents ask for directions, and some who have used gas tar seem to have misused it. Take 5 or 6 bushels of broken flints, about ½ inch size. If 5 bushels, add 1 bushel of gravel stones, all the dirt carefully sifted out; spread on a wooden board with side ledges, pour gas tar on little by little, turning over the stones with a shovel until every stone is wet with tar, but leaving no surplus tar. It cannot be too often turned. Add 1 bushel sharp sand, or enough to make the mixture of the consistence of thick pudding, turning it over as before. Lime may be mixed with the sand if thoroughly slaked and powdered, but not otherwise. The ground on which the mixture is to be laid should be carefully levelled; then lay on the mixture from 3 to 6 inches thick; spread a little sand over it, to prevent it sticking to the roller, and roll it down with a heavy iron roller. Where tar may ooze up to the surface, spread a little sand to absorb it. If too much sand is used, or any not wetted by tar, a hole is the consequence. It should not be used for a month, and should be rolled every day until hard. It is impenetrable, and costs at most 1*s.* per yard square, tar being 6*s.* or 7*s.* per barrel of 15 gallons, and broken flints 1½*d.* or 2*d.* per bushel. *J.P.B.*

A Rural Life.—I assure you it never was my wish to "deter 'S.' from living anywhere but in a London garret." If such was the abode of "Pretium" he did well to leave it, though he did not wisely to change attic associations, if he ever possessed any, for such vulgarities, as "spades and ploughs were made before leather breeches," &c. &c. What I really did intend was to warn a man of honour, the father of a numerous family, not to let go his anchor, as I have done, in a cesspool of moral filth. Some people may not be disgusted, perhaps, in the society of drunkards and thieves, but "S." for himself and children would be horror-stricken at the sin and shame which "Pretium" treats with such levity. A few facts will justify my dislike of some of the "occupations of rural life." In less than a tithe of the parish, and within 500 yards of my dwelling, there have been within the last six months:

1. One inhabitant transported for breaking into his benefactor's granary, an old offender.
2. One ditto, ditto, for sheep stealing, ditto.
3. Two ditto, ditto, for stealing fowls, ditto.
4. One ditto, now in prison for rabbit stealing, ditto.
5. Two ditto (brothers), now in prison for housebreaking, ditto.
6. Two ditto, just released from prison for theft, ditto.

Will not this revolting catalogue of rural crime suffice? I should not, however, have noticed the observations of "Pretium" but for the serious charge he brings against the postman, whom he calls "a cheat." If this be true, the man daily commits a transportable offence, but I am persuaded of his perfect innocence, and consequently that "Pretium" is guilty of wanton calumny. I wrote to the Postmaster-General months since complaining of this extra legal charge on letters and newspapers, stating other facts besides, which ought to have awakened attention, but have gained nothing by my pains except a printed reply signed Col. Maberly, to say that my letter was received. This is one presumption, but not the strongest in my possession, that the postman is not a cheat, and it surprises me greatly that such barefaced assertions should obtain ready insertion in your respectable paper. *S. S.* [We are persuaded the charge was meant any how but seriously. The circumstances of the case described were simply criticised with such a degree of good-natured raillery as we think, have passed unchallenged. And for the subject of small farms, so far as the particular case which raised the discussion, we submit that it has now been carried to its utmost. We will add that the description of his position, by our correspondent "S. S.," has certainly thrown a beacon light on the subject which may be of great use to any who would follow his steps.]

Farmers' Clubs.

NEWCASTLE, *October: On the Breeding, Rearing, and Working of Farm Horses.*—Mr. RAMSAY introduced this subject as follows:

The subject I am about to bring before the Club is one of vast importance, as it involves a great outlay in farming affairs, the useful cart horse being at all seasons and at all times in requisition; particularly in these times, when such great exertions are being made to place the various kinds of seed in the ground in good season, as well as in securing the crops when at maturity. Indeed, the horse is so necessary a portion of farming stock, on the good or bad quality of which so much depends, that I hope I need not apologise for endeavouring to show how necessary it is for every farmer to possess a good breed of useful animals of this description. I shall therefore attempt to lay down a few useful hints for the breeding, rearing, and working of farm horses. First, as to the breeding of useful cart horses. The first principle and best rule is to select proper animals to breed from. It is said, "like generally produces like;" and if that is not always accomplished, it will, in most cases, prove true. It is therefore necessary to begin breeding with well formed animals; and although every one almost thinks himself a good judge of horses, yet it does not follow that he is so. I will therefore venture to lay down a few rules to go by, which I trust may be of use, particularly to the inexperienced breeder. The different breeds of work horses may be said to be comprised under the heads of Clydesdale, Cleveland, Suffolk, and the large black horse of Lincolnshire and the midland counties. The first is useful and hardy, and may truly be said to be a good sort of horse for farming purposes; but they are heavy-headed, and sluggish in their movements, deficient in their loins and back ribs, and too long in the back: the feet and legs are generally strong and sinewy, and they are good feeders. The Cleveland horse has long been noted for being a good traveller, and an excellent plough horse, and crosses from this breed often produce excellent carriage horses. The Suffolk horse is little known in this district. He bears a good character for hardiness of constitution, sound pulling, and great activity. He has borne away many prizes at the Royal Agricultural and other shows, and I believe might be crossed with advantage with our Northumberland and Durham breeds. The Lincolnshire and midland counties horse is often of great weight and strength, and suitable for London drays, and those occupations where great loads and slow draught are required; yet many of those want action for farming purposes. The horses bred in Northumberland and Durham are of an excellent breed; and if proper pains were taken in breeding them, they are equal to any kind of work, and I believe they may fairly be allowed to stand high as active and useful cart horses. To improve our native breed, I will therefore endeavour to point out the most desirable animal to breed from, and mention a few points necessary for that purpose, as far as that can be accomplished. Mares for the purpose of breeding should be well shaped in their different parts; gentle, but spirited; have a large, well-formed carcase; good middle, strong sinewy limbs, not too high (say 15½ hands), broad, well-formed chest, which is of the greatest importance; neck not too long, but well set on; a large clear eye; head not too large, and well set on; ears erect; free from natural blemishes of any kind; one colour is to be preferred, with good action in all her paces; head well elevated, which generally induces spirit; and not too much hair on the legs. The proper age for breeding is neither too young nor too old, which will impart vigour to her offspring. The horse should be of good colour, bold and spirited, well made, and of kindly disposition, constitution strong and healthy, and as much as possible of the same description of animal as the mare. I believe most of the mongrels we see result from crossing with an expectation of improvement, without either sire or dam having the requisite qualifications for breeding; hence so many failures. One thing should not be forgotten, viz., to have both parents of a sound, good, pulling race; there is no doubt of this qualification being hereditary in different breeds. A stallion should have good action. Action is strength in many cases; and when horses have to go through excessive labour in busy times of the year, they fail in performance if they have not great activity. The breeding of good cart horses will pay the farmer best; they go early to work, are generally healthy, need less pampering than the blood horses; and as they begin to work for their meat when young, may be said to cost a farmer little or nothing at the age of 6 or 7 years, when they may be sold, if thought advisable, and be replaced in the farmer's stock by a younger generation, and the money placed in the farmer's pocket for useful purposes. The proper season for having foals dropped is so well understood that I need not name it in this paper; but there is nothing like having an early foal. Next as to the rearing of cart horses. As soon as the foal is weaned, which is in the autumn, it ought to be well fed with Grass of a nutritious kind, have corn given it daily, and handled as often as convenient, to make it docile and tractable. In winter it ought to have hay and corn; and if the hay is cut and steamed, so much the better. Bran mashes are also excellent food for young horses, and should occasionally be given. If treated in this way they will easily be trained to work. Kind treatment should always be made use of: harsh measures should always be avoided. When the horse attains the age of two years, he may be worked gently in seed time, and turned off again till a year older. After that he may go on with regular farm work, such as ploughing, harrowing, &c.; but I would advise good feeding, and not too hard work, at this tender age; as, be assured, the better he is treated when young, the longer he will wear. Many diseases are brought on by ill usage when young, and before the limbs and body are perfectly manured. I now come to the working of cart horses, and to show how I think they ought to be treated, in order that the food they eat may lead to economy, at the same time that they are kept in high condition, and fit for great exertions in busy times. I will therefore need to trespass a little longer on your time. First, as to food. I will commence with the winter season. Supposing a farmer to have obtained, by breeding or buying, a useful set of farm horses, and his judgment leads him to keep no greater number than is really required, it will at once strike the mind of every practical farmer of what consequence it is to the success of his business, that he should feed his horses on proper food, to have them in health, and at all times in proper condition for work; for it is certain a farm horse cannot go through excessively hard labour, unless he is kept up to the mark in condition. No person ever expects great performances from the racer, the hunter, the hack, or poster, unless he is in first-rate condition; and although the exertions of the work horse are not called out to such extremes, yet his labour is long and continuous, and he ought to be well supported. Having provided good hay (not the miserable stuff often called hay—no better, if so good, as straw, owing to want of care in making it, and keeping all the worst for home use), the winter feeding should commence as the weather turns bad: at which time the horse should not be left out in the fields, to stand under hedges or eat Grass, which engenders disease and fills him full of grease. The hay should be given in moderate quantities at a time, and the corn should be dry, as nothing is more injurious than soft Oats. No farmer need have wet corn, as a very small kiln, which would not cost 20*s.*, would dry all the corn needed. Hay and Oats, and occasionally straw, is the food generally used; but I would recommend the Oats to be bruised, and mixed with cut hay, and with a slight mixture (if much Clover is in the hay) of clean Wheat straw, either dried, steamed, or boiled; if the latter, a mash should be given in the evening. I am certain, from experience, that the cooking of food will be much more generally the practice than at present. An addition of Linseed-meal is of great use. Turnips and Potatoes may also be cooked, and given to horses that plough, &c.; but they are rather of too laxative a nature to sustain a horse that has to work very hard. This may be said to be high feeding; and I expect, at least, the supply is a generous one. I hold it impossible to get great performances without proper support; and I condemn the false economy of half-starving farm horses in the winter, and having their condition to make up by excessive quantities of corn in the spring, when they are so much wanted. Like other horses, I have never found that farm horses can be kept in good condition for work without always being well fed. It may be said, Where was so much hay to get? I think it can be grown [illegible]

[illegible]

—Mr. [illegible] said: Young stock [illegible] too bare. It [illegible] furnish them with [illegible] as well as [illegible], and they had only the run of a poor pasture which afforded them little sustenance. [illegible] horses at [illegible] [illegible] the hay was [illegible] by the breath of the horses, and became distasteful to them, and was wasted. When farmers were advised to keep their horses in high condition, they asked where the hay was to [illegible]; but if they would weigh out their hay, instead of [illegible] an unlimited quantity, they would find that [illegible] lbs. or [illegible] lbs. a day would be enough for a horse, with about [illegible] of corn in the week. If more were given it would be wasted. The farmer should also insist on the stable being kept perfectly clean. It should not be, as it too often was, in such a condition that the ammonia almost took away your eyes when you went in; it should be kept like a gentleman's stable. The horses would then be in a better condition for their work. As to ventilation, it was a common mistake to provide an aperture for the egress of the vitiated air, and to make no provision for the ingress of fresh air to supply its place. He threw out these hints for the consideration of the members, and would again, and particularly, impress upon them the importance of weighing out their hay. Mr. Matthews said: Mr. Lawson [illegible] lbs. or [illegible] lbs. of hay per day to be enough for a horse. Now the cavalry horse had [illegible], and he was [illegible] up his [illegible] straw into the bargain [illegible]; and if that was not too much for an idle horse, surely a working horse should not have less.—The CHAIRMAN [illegible] that he had found [illegible] lbs. a day to be more than a working horse could eat.

Miscellaneous.

Dr. Yellowly on Spade Husbandry.—There is a valuable publication by John Yellowly, M.D., F.R.S., in which the merits of spade husbandry are ably advocated and fully detailed. He does not endeavour to demonstrate its advantages by theoretical reasonings, but by practical experiments made upon the farm of John Mitchell, Esq., at Waterfield, in the parish of Wymondham, in Norfolk. The farm consists of 317 acres, of which 207 are arable, and 110 in pasture and plantation. It is a mixed soil, but rather disposed to be heavy. A great number of able-bodied labourers being in an almost constant dependence on parochial relief for the whole, or a considerable part of their support, Mr. Mitchell was desirous of having spade husbandry introduced into the district, from a belief that much of that superabundant labour would be employed in conducting it, and that the increased expense which would thus be occasioned, would be fully compensated by the augmented produce. The process was begun with the spade, but it was found that a strong three-pronged fork of 14 inches deep, and 7½ inches wide, was more manageable and less expensive than the spade. It cost 4*s.* 6*d.* instead of 6*s.* 6*d.*, weighing 8 lbs., and when worked down could be relaid at a trifling expense. The digging is effected by taking in about 4 inches of earth at a time, passing perpendicularly,

and getting to a proper depth at two thrusts. The earth is not, however, turned out of the trench to a greater depth than 10 inches, though the fork may get down as far as 13 or 14 ; but that which remains at the bottom, in the state of what is called crumbs, answers the purpose equally wi h the earth which is thrown out, of forming a permeable medium for the roots of the plant which is to grow in it. The men receive, for the ordinary digging, after a white crop, from 2*d.* to 2½*d.* per rod of 30 square yards ; the price varying according to the tenacity of the soil, and whether manure is to be dug in. When the land is to have a fallow crop, that is, Turnips, Mangold Wurzel, or Cabbages (for no part of the farm has ever a naked fallow) there is first a ploughing, which is done at the season when the horses can be best spared, and afterwards a digging at from 1½*d.* to 2*d.* per rod. Though digging is the principal occupation of the men, yet they are employed in all the common operations of husbandry at the common rates of payment ; and all the work of the farm is paid for as much as possible by the piece. The ordinary earnings in digging are from 11*s.* to 12*s.* per week, according as the rates of wages may be high or low. A 7 years' course of crops seems preferable to the usual one of four in spade husbandry, which would be according to the following :

Year.		Acres.
1	Fallow crop, Turnips, Cabbages, &c.	30
2	Barley	30
3	Clover or artificial Grasses)	
4	Do. do. do.)	58
5	Oats	29
6	Beans	30
7	Wheat	30
	Total of arable land	267

It is to be observed, however, that the Clover layer has always been ploughed for the succeeding crop, and not dug ; the horses, when not wanted for other purposes, are employed in assisting the diggers in preparing the land for seed. Spade husbandry can hardly be expected altogether to exclude the plough ; for as a certain number of horses are necessary for various operations on a farm, they will naturally be employed in ploughing rather than kept idle. Twenty labourers, besides a bailiff, are kept upon the farm, instead of 13, who would be necessary under the ordinary system ; and 5 or 6 horses instead of 12. With so small a number of horses it is clear they would not be equal to all the demands of the hay and corn harvest, and hence a good deal of the hay and corn are stacked in the field where they are grown. *The New Husbandry, by Law. Rawstorne.*

Calendar of Operations.

NOVEMBER.

BERWICKSHIRE MERSE FARM, *Nov.* 10.—Since last report we have carried our Beans and got them all covered : the men have been ploughing stubble land for Turnips, delivering corn at Berwick, and bringing home coals and lime ; the workers have been assisting in threshing and dressing, pulling Turnips, gathering Beans, &c. *J. B.*

EAST LOTHIAN FARM, *Nov.* 11.—We have experienced a very favourable change of weather for farm operations. We have been busily employed during the week in ploughing the Potato and part of the Turnip land, and sowed the same with Wheat in fine condition ; the quantity of seed to the Scotch acre, 2 bushels 2 pecks, is put in with the drill machine. We have likewise been threshing Wheat and carting Turnips (purple-top yellow) for the feeding cattle, also Swedes for storing. The growth of Turnips has been considerably checked, from the sharp frosts during the previous week. *M.*

GALLOWAY FARM, *Nov.* 13.—During the last week the principal operation on the farm has been carting out dung and laying it on the stubbles, in preparation for green crop. By the process adopted of mixing all the different kinds as they come from the byres and stables in the dung court, and regularly pumping over all the liquid from the tank, we find the manure so well made that it can be applied at once to the land without any farther mixing or turning (with all the attendant expense of a second filling and carting). On frosty mornings advantage is taken of the state of the ground to cart home Swedish Turnips, a supply of which, ready topped and tailed, we endeavour to keep provided for this purpose. The ploughing of stubble is proceeded with, that portion intended for Beans being trench ploughed. The outlets of all the drains have been inspected, and where necessary, freed from all accumulation or deposit. Besides occasional inspection during the year, we make a rule of going round the whole of the open cuts on the farm before the commencement of winter, and carefully examining the outlets of every main drain ; this is a very necessary duty, and one which is too often neglected. *J. C.*

NORTH LINCOLNSHIRE, *Nov.* 10.—Since last report, we have had almost constant rain, with very short intervals of dry weather, which has retarded the sowing of Wheat very much. I am sorry to say what has been got in has been done anything but well, and there still remains a very large breadth to sow even upon the Wolds : upon clay soils, and when summer fallowed, very little is done, that I am afraid our prospects for the next crop are not very flattering. In a season like the present, with so many interruptions, farm work of all descriptions progresses slowly. The wet weather has prevented us commencing to store Swedish Turnips, and should the weather take up, we fear the land is so wet and roads so bad, we must despair of using our usual quantity of Turnips in our cattle-yards, as we consider that pulling Turnips and going upon the land in a wet state, does incalculable harm. We are in consequence giving our store cattle, for the present, an allowance of 3 lbs. of oil-cake, with straw ; we are likewise giving our lamb hogs half a pound of cake upon Turnips. Cart-horses kept upon bruised Oats, with an allowance of 2 lbs. of oil-cake per day. Our horses, when not sowing Wheat have been employed ploughing stubble land for Turnips next year, leading drain-pipes, threshing, &c. Labourers threshing, dressing, &c. ; three men draining with oval pipe tiles, 3 feet 3 inches deep, and 25 feet apart. *S.*

SOUTH HAMPSHIRE FARM, *Nov.* 11.—Since our last report the ather has been for the most part favourable for the sowing season, and during the last week a great breadth of land has been sown with Wheat, in what may be termed good season, for we consider that the first and second week in November, when the weather is favourable, is the best period for sowing Wheat in South Hampshire upon all soils which are in good tillage and well manured. Our horses have been employed ploughing and pressing lea ground upon the sand loam land for Wheat ; upon the clay loam land we plough the lea ground without pressing, and we have found in past seasons our Wheat land well upon this land without using the presser ; the horses have also been employed harrowing in the Wheat upon lea ground, the sowing of which we have almost completed ; we invariably use the iron harrows, and find them much more efficient than the old wooden harrows ; we have had four sets of iron harrows at work for some days past, two sets of Howard's Patent, and two sets of Sanders and Williams', we prefer the work of the latter, as they cut the land with greater regularity, and leave the work with a better finish. Upon the fallow land we sow the Wheat as fast as the land is ploughed, and plough no more land than we can sow the same day, the advantages of which plan are great at this advanced period of the year, in case of change of weather either to frost or rain ; we sow 3 bushels of Wheat per acre, which we do not consider too much, as most of our seed Wheat has a few sprouted corns in the sample. Our labourers have been employed spreading manure upon lea ground and fallow land before ploughing for Wheat, also filling dung carts, cutting water furrows in the land sown with Wheat, and planting young quicks to fill up vacancies in the fences. Our shepherds now find full employment in tending their flocks, our down ewes for fatting are receiving cut Swedes, with oil-cake and Beans ; the down ewes in lamb, are hurdled upon the Wheat stubbles, and changed once a day to dry pasture. The horned ewes which have now 160 lambs suckling, are still feeding upon young Clover seeds and Italian Rye-grass in the Wheat stubbles, upon which food they are thriving remarkably well. The women have been employed preparing and stacking Swedes in readiness for the cutter, gathering acorns for the pigs, assisting the men spreading manure, and forking out Grass from the fallows. *J. B.*

STIRLINGSHIRE CARSE FARM, *Nov.* 11.—Since last report we have been engaged ploughing bean stubble and threshing Barley. The weather has been on the whole highly favourable for field operations, and throughout the district a good many have been employed in taking up Turnips, and storing them in pits, covered with straw, in order to get Wheat sown, the tilth being all that could be desired for that purpose. *W. F.*

SUSSEX FARM, *Nov.* 14.—The weather being more favourable, we have got about 25 acres of Wheat sown, and have still about the same quantity to sow. We are clearing the land of the Swedes as fast as possible, and storing them in the same field, not to lose time in carting home ; we are ploughing the same, and sowing Wheat ; we find the land work best when the sowing is kept up to the ploughs. Labourers are threshing with water power, mowing brakes, grubbing trees out of fields, and draining, &c. *J. B.*

Notices to Correspondents.

BONES : *Constant Sub.* They ought to answer on a light soil. Lime has no chemical effect on the earthy matter of bones. It is better to give the meal, linseed, and chaff in two meals to your cattle. Excepting to very large cattle, Swedes night and morning, and this meal and pudding at 10 and 2 o'clock, will suffice.

CARAWAY : *E X, Braintree,* has given an account of the quantity of Carrot, Parsnip, and Turnip seed, grown on a rod of ground, together with some remarks as to the mode of cultivation ; will he or any other correspondent inform us as to manner of growing Caraway seed ; as to the soil, time of sowing, manner of preparing the ground, quantity of seed required per rod, time of ripening, harvesting, and any other particulars, so as to ensure a fair crop.

CIDER : *Juvenis Agricola's* request to be informed concerning the best method of keeping cider, can only with safety be responded to by asserting that all depends upon the previous strength of the apple juice, the perfect management of the fermentation, and the cool equable temperature of the cellar. If the juice has been pressed in rather cold weather from sound apples, its specific gravity may correspond to that of a solution of 5 oz. of loaf sugar in one pint of water ; that will be sufficient, otherwise some sugar should be added. Fermentation ought to leave the fluid bright, full of flavour, and perfectly free from any taint or odour of acetic acid ; the practised skill of the operator must effect such fermentation. The cellar temperature ought not to exceed 45° to 50° Fah. winter or summer. Strong and sweet casks or hogsheads well hooped, carefully bunged and sealed, are requisite ; the better full-bodied ciders ought to be bottled off in cold still weather. Draught ciders of weaker body, and harsher flavour, must be particularly well closed, and the vent peg of the cask made secure after every drawing for use. *J. T.*

FIRE-BARROW : *L.* Brierly-hill Iron Works, near Dudley.

FOALS : *W M J.* If you are a grower of white Carrots you cannot employ a portion more advantageously than by giving a moderate quantity to the foals daily ; a small allowance of Oats may be added, and a larger quantity if there are no Carrots. In the latter case 2 pecks of Oats per week will not be too much for a strong foal, with hay ; an occasional bran-mash should be given to keep the bowels sufficiently relaxed, and space should be afforded for the proper exercise of the limbs. *W C S.*

ITALIAN RYE-GRASS : *J G.* Sow 2 bushels per acre the last thing you do to your young Wheat plant in May and hoe it in.

KERRY COWS : *Epsilon.* We cannot help you except by advising you to advertise.

PARK PALING : *A Kent Subscriber.* Will any one give give details of their experience as to expenses, &c.

SALT : *R S.* We do not know if it is efficient in the destruction of wireworms in pasture or indeed elsewhere : but some people say so. Try 4 or 2 cwt. per acre, according as the soil is sandy or clayey.

SHEEP FENCE : *W J Garnett.* What is the most efficient fence to be used when no timber can be had, and when stone walls are too expensive ?

SMELLS AND MANURES : *H P.* The chloride of manganese obtainable from chemical works is a good fixer of ammonia : and you might try it with probability of success. Lime will dissipate not *fix* ammonia.

SPADE HUSBANDRY : *J S.* To do it thoroughly will probably cost you 3*l.* 10*s.* to 4*l.* per acre for labour. One man can attend to 24 oxen and two or three breeding sows and their produce, provided their food be brought to him, and he have merely to clean and cut it, litter the animals, and boil such food as is needed. If he could have assistance at milking time he could in like manner take care of 20 cows, &c. There is a work by Dr. Yellowly on the subject of spade husbandry, but there is no book on market gardening.

TO WATER CATTLE : *A B.* The roof water will no doubt suit the cattle very well : let it settle before use.

YELLOWLY'S FORKS : *Clitheroe.* See our Miscellaneous section. The pamphlet referred to will give you the information.

*** Communications reaching town after Wednesday cannot be answered the same week.

Markets.

HOPS, FRIDAY, Nov. 17.

Messrs. PATTENDEN and SMITH report that there is a steady demand for all descriptions of Hops, both for consumption and speculation.

Mid. & East Kents, p. cwt.	80s to 112s	Yearling Kents, p. cwt. ..	42s to 52s
Weald of Kents	45 — 70	Yearling Sussex	40 — 50
Sussex	40 — 65	Old Hops	20 — 35
Farnhams	80 — 112		

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Nov. 16.

Prime Mead. Hay	70s to 75s	New Hay	.. —s to —s	Straw	.. 24s to 28s
Inferior ditto ..	50 60	Clover ..	.. 60 90		
Rowen	45 60	New Clover ..	.. — —	J. COOPER.	

CUMBERLAND MARKET, Nov. 16.

Prime Mead. Hay	72s to 77s	Old Clover .	90s to 96s	Straw	.. 28s to 32s
Inferior	50 65	Inferior ..	60 80		
New Hay	— —	New Clover ..	— —	JOSHUA BAKER.	

WHITECHAPEL, Nov. 16.

Fine Old Hay ..	65s to 70s	Old Clover ..	95s to 100s	Straw	.. 24s to 28s
Inferior Hay ..	45 50	Inferior ..	50 60		
New Hay.. ..	60 66	New Clover ..	88 95		

COVENT GARDEN, Nov. 18.

The market is well supplied with Vegetables and most kinds of Fruit. Pine-apples are very plentiful ; and hothouse Grapes sufficient for the demand. Ribston Pippins and other dessert Apples are tickered 6 and 8 for 6*d.* Among Pears we remarked good specimens of Chaumontelle, Crassane, Bon Chrétien, Beurre Diel, Passe Colmar, &c. Nuts in general are sufficient for the demand, except Filberts and Cobs, which continue scarce. Some new Oranges have made their appearance. Lemons are scarce. Amongst Vegetables, Carrots and Turnips are abundant and good ; Cauliflowers, Broccoli, &c., sufficient for the demand. Some Asparagus and French Beans have made their appearance. Supplies of Potatoes—good, though not free from disease—have been received from France, Holland, and Prussia. Lettuces and other salading are sufficient for the demand. Mushrooms are plentiful. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Fuchsias, Carnations, Moss and other Roses.

FRUITS.

Pine Apple, per lb., 3s to 5s	Almonds, per peck, 6s
Grapes, hothouse, per lb. 2s to 5s	— sweet, per lb., 2s to 3s
— foreign, per lb., 9d to 1s	Walnuts, per 100, 1s 6d to 2s
Apples, dessert, per bush., 4s to 7s	— per bush., 10s to 24s
— kitchen, p. bush., 3s to 5s	Chestnuts, per peck, 4s to 7s
Pears, per doz., 2s to 6s	Nuts, Barcelona, per bush., 20s to 22s
— per half sieve, 6s to 10s	— Filberts, per 100 lbs., 60s to 100s
Oranges, per doz., 2s to 3s	— Cob, per 100 lbs., 90s to 150s
Lemons, per doz., 1s to 2s8s	— Brazil, per bush., 12s to 16s
— per 100, 10s to 18s	

VEGETABLES.

Cabbages, per doz., 3d to 1s	Tomatoes, per punnet, 9d to 1s 3d
— red, per doz., 1s to 4s	— per half sieve, 3s to 5s
Cauliflowers, per doz., 6d to 2s	Shallots, per lb., 4d to 8d
Broccoli, white, per doz., 3s to 4s	Garlic, per lb., 4d to 8d
— brown, per bunch, 6d to 1s 3d	Radishes, per doz. bunds, 6d to 1s
Sorrel, per half sieve, 6d to 9d	— Turnip, do., 9d to 1s
Potatoes, per ton, 60s to 180s	Artichokes, per doz., 1s 6d to 2s
— per cwt., 2s to 3s	— Jerusalem, p. h sieve, 1s to 1s 6d
— per bush., 2s 6d to 5s	Lettuce, Cab., per score, 4d to 6d
Turnips, per doz. bunches, 9d to 2s	— Cos, do., 9d to 1s
Red Beet, per doz., 6d to 1s	Endive, per score, 9d to 1s
Horse Radish, per bundle, 1s to 6s	Mushrooms, per pottle, 6d to 1s
Asparagus, per 100, 4s to 6s	— per bushel, 4s to 6s
Cucumbers, each, 4d to 1s	Small Salads, per punnet, 2d to 3d
Leeks, per bunch, 1d	Fennel, per bunch, 2d to 3d
Celery, per bundle, 6d to 1s 3d	Savory, per bunch, 2d to 3d
Carrots, per doz. bunches, 3s to 5s	Thyme, per bunch, 3d to 4d
Spinach, per sieve, 9d to 1s	Watercress, p. 12 small bun., 6d to 9d
Onions, per bund. 3d to 4d	Parsley, per doz. bunches, 1s 6d to 2s
— per bushel, 1s 6d to 2s 6d	— Roots, per bundle, 1s to 1s 6d
— Spanish, per doz., 1s 6d to 4s	Marjoram, per bunch, 2d
— picking, p h sieve, 1s6d to 3s	Mint, green, per bunch, 2d

POTATOES.—SOUTHWARK, WATERSIDE, Nov. 18.

The Committee report that our market continues to be well supplied with French Potatoes, which, with an increased supply coastwise, has caused lower prices to be submitted to with nearly all sorts, except a few very choice lots of Yorkshire Regents, which still command a high price. We have had several cargoes from the north arrive in bad condition, selling at a very low figure. The large importations of good useful French Potatoes has caused all second-rate English to sell very heavily. The following are this day's quotations :—York Regents, 60s to 140s; Wisbeach do., 90s to 100s; Scotch do., 100s to 120s; Scotch Reds, 70s to 90s; Scotch Cups, 80s to 90s; Scotch whites, 80s; French Whites, 70s to 90s; Belgian do., 70s to 90s.

Per stone of 8 lbs.—s d s d		Per stone of 8 lbs.—s d s d	
Best Scots, Herefords, &c. 3 10 to 4 2		Best Long Wools ..... 4 0 — 4 4	
Best Short Horns ..... 3 8 — 4 0		Ditto Shorn	
Second quality Beasts .. 2 10 — 3 4		Ewes and second quality 3 4 — 3 8	
Calves ..... 4 0 — 4 8		Ditto Shorn..	
Best Downs & Half-breds 4 6 — 5 0		Lambs.....	
Ditto Shorn		Pigs ..... 4 8 — 5 6	

Beasts—3964. Sheep and Lambs—23,100. Calves—118. Pigs—260.

FRIDAY, Nov. 17.

The supply both of Beasts and Sheep is not large, but more than equal to the demand Owing to the general depression in the trade there is very little business done, especially in the Sheep markets. The weather being favourable, some choice Scots have made 4*s.* 2*d.*, but this is an extreme quotation. Indeed, the quotations for Beasts remain nominally the same, although several remain unsold. The best Downs, of which there are but few, make about 4*s.* 10*d.*, a few Long-wools about 4*s.* 4*d.*, and some good Ewes 3*s.* 8*d.* ; otherwise there is nothing doing. Several remain unsold. Pigs are rather lower. From Holland and Germany there are 222 Beasts, 650 Sheep, and 53 Calves; and 120 Milch Cows from the home counties.

Best Scots, Herefords, &c. 3 10 to 4 2		Best Long Wools..... 4 0 — 4 4	
Best Short Horns ..... 3 8 — 4 0		Ditto Shorn	
Second quality Beasts .. 2 10 — 3 4		Ewes and second quality 3 4 — 3 8	
Calves ..... 3 4 — 4 4		Ditto Shorn	
Best Downs & Half-breds 4 4 — 4 10		Lambs.....	
Ditto Shorn		Pigs ..... 4 4 — 5 4	

Beasts—969. Sheep and Lambs—4490. Calves—238. Pigs—278.

MARK LANE, MONDAY, Nov. 13.

Messrs. KINGSFORD and LAY report that the arrivals during the past week amounted to 31,998 qrs. of foreign Wheat, 7328 barrels and 4285 sacks of Flour ; that, notwithstanding the supply of English Wheat by land carriage samples this morning was extremely small, it could only be disposed of at a decline of 1*s.* to 2*s.* per qr., some proportion remaining unsold late in the day. Buyers of foreign acted with great caution, and sales were confined to retail purchases at a similar reduction.—Malting Barley met a slow sale, and must be noted 1*s.* to 2*s.* per qr. lower ; grinding sorts are unaltered —Beans maintain our quotations.—Peas of all descriptions are 2*s.* per qr. cheaper.—The Oat trade is heavy, and all but the best qualities declined 6*d.* to 1*s.* per qr.

BRITISH PER IMPERIAL QUARTER,	*s*	*s*		*s*	*s*
Wheat, Essex, Kent, and Suffolk ..... White	46	56	Red.....	42	50
Norfolk, Lincolnshire, and Yorkshire	48	54	White ..	48	56
Barley, Malting and distilling, 28s to 30s Chevalier	30	34	Grinding	26	30
Oats, Lincolnshire and Yorkshire..... Polands	20	26	Feed	18	23
Northumberland and Scotch ..... Feed	22	24	Potato ..	24	28
Irish ..... Feed	17	23	Potato ..	20	25
Malt, pale, ship	—	—			
Hertford and Essex	—	—			
Rye	28	30			
Beans, Mazagan, old and new ..25s to 34s.... Tick..	26	38	Harrow..	28	40
Pigeon, Heligoland 30	44	....Winds	34	40	Longpod	26	30
Peas, White.....	35	38	....Maple	36	38	Grey	34	36

FRIDAY, Nov. 17.

The arrivals of foreign grain continue good, and having but a thin attendance at market this morning the trade for all articles was extremely slow, and where it was necessary to force sales a decline of 1*s.* to 2*s.* per qr. was submitted to on Wheat, 1*s.* on Barley and Peas, and 6*d.* on Oats.

[The corn markets held this week have been generally very languid, and at most of them a decline of 1*s.* to 2*s.* per qr. was submitted to on Wheat, buyers purchasing with great caution and only in retail, which, at this particular season of the year is not uncommon. Holders of Polish Odessa cargoes afloat are showing more disposition to sell, and purchases might probably be made a trifle under the last quotations of 47*s.* to 46*s.* f. o. b., freight and insurance included. With the exception of Egyptian Beans, spring corn of all kinds has also shown a tendency to recede in value. Flour is a dull sale, and the large arrivals from France tend to depress both this and the Wheat trades. Indian Corn has given way a little, and Galatz has been disposed of afloat as low as 34*s.* 6*d.* No alteration of moment has occurred in the value of Wheat on the Continent, but prices are gradually following ours. Barley 51—52 lbs in the Mecklenburg and Pomeranian ports is quoted 19*s.* to 20*s.* f. o. b., in East Prussia, 18*s.* ; small 48—49 lbs. 15*s.* f. o. b.]

IMPERIAL AVERAGES.	Wheat.	Barley.	Oats.	Rye	Beans.	Peas.
Oct. 7	52*s* 6*d*	32*s* 6*d*	20*s* 8*d*	32*s* 1*d*	35*s* 3*d*	38*s* 0*d*
— 14	51 11	32 0	20 0	30 4	35 2	39 2
— 21	51 7	32 3	19 11	32 4	39 9	39 7
— 28	51 0	32 7	20 4	28 9	37 10	40 1
Nov. 4	51 2	32 10	20 7	31 1	37 1	39 7
— 11	52 0	33 7	20 10	30 5	37 2	40 2
Aggregate Average	51 8	32 7	20 6	30 10	36 3	39 5
Duties on Foreign Grain	6 0	2 0	2 6	2 0	2 0	2 0

Fluctuations in the last six weeks' Corn Averages.

PRICE.	Oct. 7.	Oct. 14.	Oct. 21.	Oct. 28.	Nov. 4.	Nov. 11.
52*s* 5*d*						
52 0						
51 11						
51 7						
51 2						
51 0						

SEEDS, Nov. 13.

Canary .....per qr.	84s to 100s	Linseed-cakes, Foreign, p. ton, 7*l* to 9*l*	
Caraway .....per cwt.	27 29	Mustard, White, p. bush., 4*s* to 9*s*	
Clover, Red, English	35 44	Superfine, p. bush.,	9 10
— Foreign	35 40	Brown, per bush.,	6 12
White, English	38 44	Rapeseed, Eng., per last.....	28*l* 30*l*
— Foreign	38 42	Rape-cakes ....per ton	4*l* 10*s* to 5*l*
Coriander.....	12 16	Sainfoin	— —
Hempseed .....per qr.	34 36	Tares, Eng., winter, p. bsh.,	10*s* 0 12*s* 0
Linseed.....	38 40	Foreign, per bush.,	3*s* 0 6*s* 0
— Baltic.....	33 38	Trefoil	17*s* 0 20*s*
— Cakes, Eng., p. 1000,	11*l* 10*s* to 12*l*	Turnip—too variable for quotation.	

Sales by Auction.

TO NOBLEMEN, GENTLEMEN, FLORISTS, and Others.

MESSRS. PROTHEROE AND MORRIS will submit to public competition, at the Auction Mart, Bartholomew-lane, on TUESDAY, Nov. 28th, at 12 o'clock, about 500 fine BULBS of Lilium lancifolium rubrum, and about 200 Gladiolus Gandavensis, imported from Messrs. A. Van Geert for absolute sale; also a first-rate collection of Dutch Bulbs, comprising very fine double and single Hyacinths, Narcissus, Tulips, Crocus, and Anemones; together with a splendid assortment of Roses, &c.—May be viewed the morning of sale, and Catalogues had, at the Mart, and of the Auctioneers, American Nursery, Leytonstone.

WANDSWORTH COMMON.

To Noblemen, Gentlemen, Nurserymen, Builders, Railway Contractors, and Public Companies engaged in Planting.

MESSRS. PROTHEROE AND MORRIS are instructed to sell by Auction, on the Premises, Wandsworth Common, on WEDNESDAY, November 22d, 1848, at 11 for 12 o'clock precisely, by order of the assignees of Mr. R. Noel, a bankrupt), the whole of the valuable NURSERY STOCK, consisting of a considerable quantity of very fine Evergreens, Fruit and Forest Trees, New Ornamental Trees, and Deciduous Shrubs, and a large and rich assortment of American Plants, together with the Greenhouse Plants, several pits, 2 and 3-light boxes, a large quantity of Timber, consisting of Elm, Ash, Fir poles, &c, a capital stone waggon, a 2-horse iron roller, spring cart, utensils in trade, &c.—May be viewed prior to the Sale. Catalogues may be had, 1s. each (returnable to purchasers), on the Premises; of the principal Seedsmen; Messrs. J. Fletcher and Roberts, Solicitors, Wandsworth; Edward Edwards, Esq., Official Assignee, 17, Frederick's place, Old Jewry; and of the Auctioneers, American Nursery, Leytonstone.

TO BE LET, on Lease, to be entered on at Lady-day next, the extensive and valuable DANECROFT NURSERY, at STOWMARKET, comprising an excellent Dwelling-house, Barn, Stable, Greenhouses, Stoves, Pits, and every convenience for carrying on an extensive trade. The premises contain about 15 acres of Nursery and Garden Ground, and about 1¼ acre of Meadow Land.

The Danecroft Nursery, under the management of the late Mr. Samuel Girling, has attained a very high reputation throughout England and on the Continent. It has the advantage of a southern aspect, and has long been celebrated for its Dahlias, Pansies, and Roses, and is now well stocked with a choice selection of them and of Florists' Flowers in general, as well as with a fine collection of the best kinds of Fruit Trees for the wall and for standards, and with Ornamental and Evergreen Shrubs of all varieties.—The Nursery and premises may be seen on application to J. Bayly Ransom, Esq., of Stowmarket; and proposals for taking them may be sent to Messrs. Clayton and Cookson, 6, Lincoln's-inn, London.

HOTHOUSES, PITS, &c.

TO BE SOLD, a LEAN-TO GREENHOUSE, 21 feet by 11 feet, for 35l.; a Span-roofed do., 20 feet by 9 feet 6, 28l.; a 4-light full-sized Pit, 4l. 10s.; full-sized 2-light Boxes, 2l. 15s.; full-sized 1-light Boxes, 1l. 8s., all best materials, and new glazed with 16 oz. sheet glass of a large size. To be seen at J. Lewis's Hothouse Works, Stamford-hill, Middlesex.

TO BE SOLD, A SHORT-HORN BULL, bred by the late Lord Spencer, "MOZART," by Wizard, dam Sackbut. Calved Jan. 1844. Also, a well-bred young Short-horn Bull, "EMILEUS," from one of the best herds, with a pedigree.—Address, Mr. G. Elliott, High Elms, near Farnborough, Kent.

ARTIFICIAL INCUBATION.

TO BE SOLD, the INVENTION of the new INCUBATOR, for Hatching all kinds of Eggs, and Rearing Poultry at all times of the year, at a small expense and little trouble. This new Incubator has just been tested, and has again succeeded admirably in hatching a brood of Chickens and Ducks, which are doing well, feeding themselves, and being strong and happy under their warm, artificial mother.—Any person or persons desirous of purchasing this invention for their own profit are directed to apply to R. S. T., Mr. Dobson's, St. Gregory's, Norwich, where necessary information may be had; and on good reference and security being given, the apparatus, with chickens, &c., may be seen. The inventor not being in any business, is anxious to dispose of the whole invention as soon as possible; or else would not object to share the profit of the sale of Incubator (when secured) with any person or party who would conscientiously take the trouble of bringing this valuable discovery before the public. For a full description of the utility of this apparatus the inventor refers the reader to two advertisements in the Gardeners' Gazette of August 9th and 26th, and also in the Agricultural Magazine for September, and the Farmers' Journal of Sept. 18, 1848.—All letters to be addressed, post paid, to R. S. T., Mr. Dobson's, St. Gregory's, Norwich.

TO NURSERYMEN.

TO BE LET immediately, a capital NURSERY, SEED, AND FLORIST BUSINESS, beautifully situated near a fashionable town in Devonshire. The grounds consist of 3¾ acres with a stream of water running through them. There is about 2000 feet of Glass, Seed Shop, Packing, Potting, and other Sheds; Stock (to be taken at a valuation) about 400l. No premium will be required, the principal object being to obtain a respectable tenant.—For particulars, apply to Mr. John Hewett, Tortfield, Sidmouth, Devon.

FARM TO LET.

TO BE LET, an ARABLE FARM, of 500 acres, nearly all Turnip Land. It is about 30 miles from London, and two from a principal market town, from which will shortly be railway communication to London. The Homestead is most perfect, and stands in the centre of about 30 acres of Meadow, with a modern-built Lodge at the entrance, as residence for Bailiff or Shepherd. The house, of agreeable elevation, although not too large for a person solely devoted to business, is so beautifully situated as to be worth the attention of any gentleman attached to agriculture and field sports, being midway between two kennels of fox hounds; abundant spring water, and capital roads. The privilege of Shooting, and 14 or 21 years' Lease will be granted. Rent and rates moderate. —For particulars, direct to J. C., Messrs. Harrison's, 2, George-yard, Lombard-street, London.

SMOKY CHIMNEYS CAUSED BY WIND, are guaranteed to be cured by the application of DAY'S NEWLY INVENTED SIMPLEX WIND-GUARDS, which offer the following advantages over the tried invention known as Day's Patent Windguard, viz. Greater Cheapness and Durability, Impossibility of Clogging with Soot, and the Prevention of the Descent of Smoke down adjoining Chimneys. Price, in Galvanized Iron, 25s.; Size for Kitchen Chimneys, 10s. To be seen and tested at Mr. Jeakes', the Sole Proprietor, 51, Great Russell-street, Bloomsbury. Prospectuses forwarded on application. Country Licenses for Manufacturers granted.

IMPORTANT TO LANDOWNERS.—An Act of Incorporation having been obtained by "THE LANDOWNERS' WEST OF ENGLAND AND SOUTH WALES LAND DRAINAGE AND ENCLOSURE COMPANY," enabling Owners of limited Interests in Land the means of Draining, Irrigating, Embanking, Inclosing, Fencing, Planting, Building on, and otherwise improving their Lands, under a certain Landowners of limited Interest, the Capital necessary to be charged with the value of the outlay in order of the following ways, viz.:—By charging the value on the Inheritance absolutely, or to be repayable by 25 Annual Instalments of 6l. 15s. per cent. per annum. This Company is now ready to receive applications for work to be performed under and by the provisions of their Act of Parliament, on estates in Devonshire and from the extensive operations already in hand, they respectfully wish to avail themselves of the benefits of the Act to make early application. For all further particulars, apply to Thomas May, Secretary, 7, Pelton Crescent, Exeter.

AGRICULTURAL REPOSITORY, Clarke-street, Bristol. (Established, A.D. 1750.)

In retiring from a business which I have conducted in this City during the space of 30 years, I beg the obliged attention of, during my very sincere thanks for the liberal and kind encouragement I have received. I have now the satisfaction of announcing as my successor my son Richard Stratton, who has been thoroughly educated in the business, and for the last 12 years has assisted me in the management thereof, in conjunction with Mr. Samuel Hughes, a Civil Engineer from London, whose practical experience in the improvement of Estates by Drainage, &c. &c., will supply a deficiency which has been long felt in connection with this establishment. I trust, therefore, that a firm so constructed will have some of that support and encouragement which has been so kindly and extensively accorded to myself. Richard Stratton.

P.S.—R. Stratton will continue his attendance at the Office in Clarke-street, where he will pay all accounts due to the 29th September last, and where he solicits an early settlement of all accounts due to him previous to that date.

STRATTON, HUGHES, and Co. having succeeded to the business of Mr. RICHARD STRATTON, as Patentees and Manufacturers of Wheels, Carts, Waggons, and Agricultural Implements, and general Agricultural Engineers, venture to request a continuance of those favours which have been so liberally bestowed on their predecessor. Their system of carrying on business will be essentially the same, their attention will be incessantly devoted to the improvement of every kind of Agricultural Implement, and they trust that their Repository will always contain an unrivalled collection, including the best Implements of other Makers as well as those of their own Manufacture. The present stock, comprising upwards of 2200 articles, all with prices affixed, and ready for immediate use, is well worthy of attention.

Stratton, Hughes, and Co., beg to call attention to their Patented Hollow Iron, and its application to the beams of Ploughs, and Shafts of Carts, the Spokes of Wheels, and the Tilt Hoops of Railway Goods, Waggons, and a variety of other purposes where strength and lightness are essential. This Iron was first introduced to public notice at the Shrewsbury Meeting of the Royal Agricultural Society of England, where the prize of 10l., offered for the best subsoil Plough, was awarded to Read's Subpulverizer, manufactured by Mr. Richard Stratton, with the Patent Hollow Iron Beam.

They also invite attention to their Norwegian HARROW, an implement of great power, for the purpose of pulverising and disintegrating the surface of heavy ploughed lands; to their Patent TUMBLER CART for Night-soil, and their Patent CYLINDER CART for Liquid Manure, &c.

Stratton, Hughes, & Co. have extended their business to Agricultural Engineering, and undertake the Survey of Lands for the purposes of Draining and Irrigation, and the erection of Farm Buildings, under the personal superintendence of Mr. Hughes, C.E., F.G.S. They beg to assure their customers and friends in the neighbourhood of Bristol, that the same attention as ever will be paid to the business of repairs; that they purpose always to keep in hand a large and well-assorted stock of choice and well-seasoned timber; to use none but the best materials, and to employ only the most skilled and careful workmen. They hope thus to execute all orders entrusted to them with such punctuality, exactness, and economy, as to give satisfaction to their employers.

STRAINED WIRE FENCING.

RYLANDS AND GREENING, Ornamental Wire-workers, Nos. 2 and 4, Cateaton-street, Manchester, beg to direct the attention of noblemen and gentlemen to their superior system of WIRE FENCING, for Parks, Fields Pleasure Grounds, or Gardens, which is the strongest and cheapest that can be erected as a Cattle or Deer Fence.

R. and G. fix up a permanent Fence, finding all requisites, at 1s. 3d. or 1s. 6d. per yard, samples of which can be referred to in the neighbourhood. Parties finding their own foot logs and straining posts, 1s. per yard.

Wire Espalier, for standard fruit trees, of a neat and durable construction; Iron Hurdling, and Iron Field Gates, made to any pattern, at the lowest prices and at the shortest notice. Wire Netting for rabbit fencing always on hand, at prices from 6½d. to 1s. per yard according to strength.

PATENT FLEXIBLE INDIA RUBBER PIPES AND TUBING FOR RAILWAY COMPANIES, BREWERS, DISTILLERS, FIRE-ENGINES, GAS COMPANIES, GARDENING AND AGRICULTURAL PURPOSES, &c.

THE PATENT VULCANISED INDIA-RUBBER HOSE PIPES are made to stand Hot Liquor and Acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible), and as they require no application of oil or dressing, are particularly adapted for Fire-engines, Pumps, Gas, Beer-engines, Gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes from ¼ inch bore upwards, and of any length to order.

Vulcanised India-rubber Garden Hose, fitted with brass taps, copper branch, and roses complete, ready to be attached to Pumps, Water-butts, or Cisterns. Sole Manufacturer, James Lyne Hancock, Goswell Mews, Goswell-road, London.

N.B.—Vulcanised India rubber Washers of all sizes for Joints of Hot-water and Steam Pipes, and Vulcanised sheet Rubber, any thickness, for all kinds of Joints, and other purposes.

COMFORT FOR TENDER FEET, AND A CERTAIN CURE FOR CORNS AND BUNIONS.

PAUL'S EVERY MAN'S FRIEND,
Patronised by the Royal Family, Nobility, &c.

PAUL'S EVERY MAN'S FRIEND which gives relief on the first application. Paul's Every Man's Friend (Corn Plaister) is generally admitted to be the best emollient application for Corns and Bunions, and is worthy of a trial on the part of those who are afflicted with such unpleasant companions.

Prepared by John Fox, in boxes at 1s. 1½d., or three small boxes in one for 2s. 9d.; and to be had, with full directions for use, of C. King, 34, Naper-street, Hoxton New-town, London; and all wholesale and retail Medicine Venders in Town and Country. The genuine has the name of "John Fox" on the Government Stamp. A 2s. 9d. box cures the most obdurate corns. Ask for "Paul's Every Man's Friend."

Sold also by Barclay and Sons, Farringdon-street; Edwards, 67, St. Paul's Church-yard; Butler and Harding, 4, Cheapside; Newbery, St. Paul's; Sutton, Bow Churchyard, Johnston, 98, Cornhill; Sanger, 150, Oxford-st.; Williams, by and Co., 6, Lisle-street, Without; Prout, 229, Strand; Hannay and Co., 63, Oxford-st.; retail by all respectable Chemists and Medicine Venders in every town in England.

DR. LEWINGTON'S HAND DIBBLE.

[illegible]

HEAL AND SON'S

[illegible]

THE GROWTH AND PRESERVATION OF THE HAIR.

ROWLANDS' MACASSAR OIL [illegible] balsamic properties [illegible] the Hair in its [illegible] it from Scurf and [illegible] times the possession of [illegible] luxurious redundancy. [illegible] In the growth of Whiskers [illegible] also unfailing in the [illegible] especially recommended [illegible] head of hair, and [illegible] necessary. A most [illegible] Rowlands' Macassar Oil, [illegible] advice will be [illegible] on the [illegible] and on its preservation and [illegible] of human life. Price [illegible] four small), 10s. 6d.; and [illegible] Each bottle of the genuine [illegible] Macassar Oil," engraved [illegible] on the back of the [illegible] 20,925 letters. [illegible] and by all Chemists and Perfumers.

POLICE CAPES, see illustrated, from Punch, 15s. per dozen, for farm [illegible] new Capes to protect [illegible] down, 3s. each; Waterproof [illegible] Dog-cart Aprons, 6 feet [illegible] proof Cart Covers, 2s. [illegible] dressed Coats, 7s. to [illegible] each.—R. [illegible] place, New-Road, London.

SUBSTITUTE FOR GARDEN MATS.—Transparent Sheeting, nearly 2 yards wide, [illegible] per yard; Waterproof Canvas Tarpaulings, [illegible] per yard; Sheeting Tarpaulings, [illegible] per yard. The above are recommended [illegible] Frame, &c., from frost, and [illegible] —R. Richardson, [illegible], Tarpaulin Manufacturer, Bow, Gardeners' Waterproof [illegible]

WIRE FENCING, 1d. per square foot, less than 2-inch mesh, painted [illegible] and 6 feet wide; the 6 feet wide [illegible] 1 yard wide. The Wire [illegible] and is little more than [illegible] the kind in the market. It is [illegible] not to rust, or require [illegible] work. Also on Sale, Rabbit-proof [illegible] 5s. to 6s. 6d. each. The Wire-work [illegible] Ardson, 21, Tenbridge-place, New-road, London. N.B.—[illegible] New Year wreaths from [illegible] painted, 2s. 7d. the lot, or 4s. 6d. each.

HAIR RESTORED.—Further confirmation of the unfailing virtues of OLDRIDGE'S BALM [illegible] The wonderful efficacy of this [illegible] restoring the hair to [illegible] which its conservative agency [illegible] received, as might be expected, [illegible] from the grateful testimonials [illegible]

To Messrs. C. and A. [illegible]

[illegible]

"Gentlemen,—I [illegible] able Balm of Columbia, [illegible] effected by it. Towards [illegible] hair falling off especially [illegible] recollection of the [illegible] a few years back, I was induced [illegible] happy to attest that after using [illegible] served a great change, and the [illegible] ration and strengthening of my hair. Yours [illegible]"

C. and A. Oldridge's Balm [illegible] prevents the Hair from turning grey, [illegible] causes it to curl naturally, [illegible] from falling off. Price [illegible] and 10s. 6d.; other prices are genuine.

Oldridge's Balm, 1, Wellington-street, the second house from the Strand.

*** Never let the [illegible] persuade you that [illegible] any other article as a substitute for Oldridge's.

A RESPECTED MEMBER OF THE SOCIETY OF FRIENDS CURED OF ASTHMA AND DROPSY BY HOLLOWAY'S CONTINENT AND [illegible]—Extract of a letter from Mr. Benjamin Bailey, of [illegible] dated Greetland, near Halifax, Sept. [illegible] Friend,—I feel it my duty [illegible] have perfectly experienced the benefit of your [illegible] and Ointment in the cure of [illegible] which afflicted me for three years [illegible] I was obliged to walk [illegible] I went to bed. I [illegible] and passed [illegible] Yours truly, [illegible] —To Mr. [illegible] Vendor [illegible] Holloway's Establishment, 244, Strand, London.

JUST PUBLISHED, NEAT CLOTH, Price 5s. 6d.,

ORNAMENTAL AND DOMESTIC POULTRY.

THEIR HISTORY AND MANAGEMENT.

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THE BIRDS TREATED OF ARE,

Domestic Fowl in general
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The Cochin-China Fowl
The Malay Fowl
The Pheasant Malay Fowl
The Game Fowl
The Cuckoo Fowl
The · ·aver Hamburgh Fowls
The Mute Swan
The Canada Goose
The Egyptian or Cape Goose
The Musk Duck
The Grey China Goose
The White Fronted or Laughing Goose
The Wigeon
The Teal, and its congeners
The White China Goose
The Tame Duck
The Domestic Goose
The Barnacle Goose
The Brent Goose
The Turkey
The Pea Fowl
The Blue Dun Fowl
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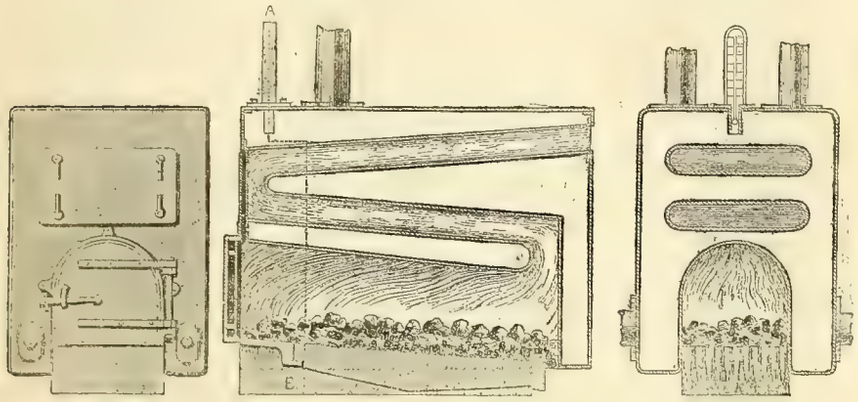

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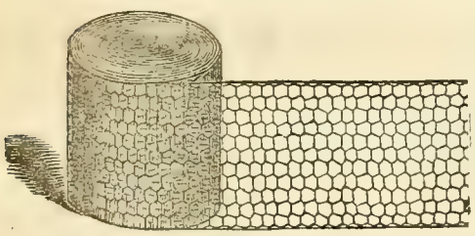
For Testimonials, &c., see *Gardeners' Chronicle* of November 4.

*** Communications addressed to W. HILL, Horticultural Works, Greenwich, will meet with prompt attention.

STRONG PREMIUM HARE AND RABBIT PROOF WIRE NETTING.



CHARLES D. YOUNG AND COMPANY (LATE W. AND C. YOUNG),

MANUFACTURERS OF IRON AND WIRE WORK, &c., CASTLE-BUILDINGS, DERBY-SQUARE, LIVERPOOL; 128, HIGH-STREET, EDINBURGH; and 32, ST. ENOCH-SQUARE, GLASGOW, Beg respectfully to call the attention of Landed Proprietors and others to their strong Wire-Net Fence, for excluding Hares and Rabbits from Gardens, young Plantations, Nurseries, &c.

This Net was exhibited at the Show of the Highland and Agricultural Society of Scotland, held lately at Inverness, where its Efficiency, Great Strength, and Exceeding Cheapness attracted general attention, and had awarded from the Judges the Society's Silver Medals, with high commendations.

The immense damage done by Hares and Rabbits in Gardens and Young Plantations, is often so great, that in the course of a year or two it will amount to more than the entire cost of protecting them with this Net. It is so durable, that when Plantations are sufficiently advanced to be independent of its protection, it can be removed to other exposed situations with the greatest facility, by any labourer. As a Fence against Hares and Rabbits, it is of itself quite sufficient, having only to be unrolled and attached, with small wire sent for that purpose, to wooden stakes driven into the ground, about every six or seven feet apart. It is, besides, peculiarly adapted for rendering Hedges, Paling, or other existing Fences, *completely impervious* to such vermin: and by being cut up into small pieces of three or more feet, as required, it forms a most efficient guard, at little expense, for individual Plants and Shrubs.

PRICES.—18 ins. high, 9d.; 24 ins., 1s.; 30 ins., 1s. 3d.; and 36 ins., 1s. 6d. per lineal yard.

Or a web of 100 yards, 18 ins. wide, will cost	...	...	£3 15 0
Do. of 100 yards, 24 ins. wide	...	...	5 0 0
Do. of 100 yards, 30 ins. wide	...	...	6 5 0
Do. of 100 yards, 36 ins. wide	...	...	7 10 0

If more or less than a web is required, it would be charged at the same rate per yard.

This Netting is also admirably adapted for Pheasantries and Poultry-yards, and is charged at the same rate. As carriage has, in many instances, been an obstacle to parties at a distance requiring this Net, C. D. Y. and Co. have made arrangements by which they will undertake to deliver it at any of the principal ports of Scotland, England, and Ireland, for One Halfpenny per lineal yard.

C. D. YOUNG and Co. cannot give a better idea of the great strength of their Premium Wire Netting than by stating that the weight of one yard of their 24-inch at 1s. is equal to 2¼ yards of another article in the market, the same width, at 9d. per yard. Samples for inspection sent free of expense.

C. D. YOUNG & Co. manufacture every description of IRON and WIRE WORK required for this and foreign countries.

Workmen sent to all parts of Scotland, England, and Ireland.

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JOSEPH C. BRETTELL, Secretary.

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The following are examples of the additions made to Policies which have become claims subsequent to the 20th Aug., 1847, and entitled to the septennial bonus of that date:

Number of Policy.	Sum Assured.	Amount of Bonus.	Total Amount paid.
500	£500	£641 1s. 8d.	£1141 1s. 8d.
637	1000	1225 0 0	2225 0 0
1067	3000	3675 0 0	6675 0 0
1396	2500	2919 11 8	5419 11 8
1854	2000	2107 0 0	4107 0 0

Proposals received daily at the Office, and through Solicitors and Agents, to whom the usual commission is allowed.

By order of the Directors, JOHN GODDARD, Actuary.

TEMPERANCE AND GENERAL PROVIDENT INSTITUTION, for Mutual Life Assurance, Immediate, Deferred, and Reversionary Annuities, Endowments for Children, &c.

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THE BENEFITS ASSURED in this Office are exempt from Probate and Legacy Duty.

THE PREMIUMS are moderate, and may be paid by quarterly instalments, and the whole of the SURPLUS ACCUMULATIONS are divided among the assured.

Prospectuses of the Benefits, with the rates of payment, will be forwarded free to any address, and may be had at the Office, or of any of the agents. THEODORE COMPTON, Secretary.

JOURNAL OF THE HORTICULTURAL SOCIETY.

Contributors to this Journal are requested to forward, as soon as possible, the communications they propose to make to the next Number, which is about to go to press. Authors of papers receive gratis the Volume for the year in which their communications appear: and are otherwise remunerated, when the length of their papers renders it necessary.

Vols. I. II. III. are now on sale, price 20*s.* each; from which Fellows of the Society are allowed a deduction of 5*s.* in the pound, for any number of copies.

21, Regent-street, Nov. 16, 1848.

PROFESSOR LINDLEY'S INTRODUCTION TO BOTANY, 4th Edition, with Corrections and Additions, now ready in 2 vols. 8vo, with Six Copper-plates and numerous Wood Engravings, price 24*s.* cloth.

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THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No 48.—1848.] SATURDAY, NOVEMBER 25. [PRICE 6d.

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Remittances requested from unknown correspondents by post-office order, made payable to William Mitchell, Enfield Highway, Middlesex, Post office, Enfield.—Nov. 25.

THE BADDOW PIPPIN APPLE.
JOHN HARRIS, Nurseryman, Broomfield, near Chelmsford, Essex, has great pleasure in recommending this APPLE to the notice of his Friends and the Public, it having proved the best late table fruit in cultivation, being in perfection from December to June, and in flavour much resembles the Ribston Pippin. It is also a free bearer. It is figured and fully described in Mr. Maund's "Botanic Garden and Fruitist" for April, 1848, from which the following extract is made:—"The Baddow Pippin will never increase its friends by its exterior qualities; no one, however, can taste it without at once declaring it to be of first-rate merit. Never have we met with an Apple so unattractive in appearance, and at the same time so excellent in quality."
Plants of this Apple can be obtained—Standards, 5s. each; Dwarfs, 2s. 6d. each; and Scions, 6d each, by application as above, or to Messrs. J. A. Henderson and Co., Nurserymen, &c., Pine-apple-place, Edgeware-road, London.
Remittances expected from unknown correspondents. One or two Apples can be sent with each order, if required.

SEEDS.—CORNER OF HALF-MOON STREET,
THOMAS GIBBS and Co.,
(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND,"
Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF MOON-STREET, PICCADILLY, London, as for the last Fifty Years.
Priced Lists of Agricultural Seeds are always ready, and may be had on application.

FLOWER-POTS AND GARDEN SEATS.
JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

SHETLAND PONIES AND MILCH COWS.—Just landed, a few very handsome small SHETLAND COWS and HEIFERS, to calve in two and three months. The Milk is equal in quantity and quality to the Alderney. A large choice of SHETLAND and SCOTCH PONIES, of all sizes, from 8½ to 12 hands, some very handsome ones, broken, and very quiet, for harness and children; some well matched pairs.—To be seen at Thomas Orton's, Salesman, 69, Wapping.

GLASS FOR CONSERVATORIES, &c.
HETLEY and CO. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2d. to 3d. per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices, and estimates forwarded, on application for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to James Hetley and Co., 35, Soho-square, London.
See the *Gardeners' Chronicle*, first Saturday in each month.

GLASS FOR HORTICULTURAL PURPOSES.
HARTLEY'S PATENT ROUGH PLATE GLASS, so strongly recommended for Greenhouses, &c., is supplied wholesale and retail at the manufacturer's prices by James Phillips and Co., 116, Bishopsgate-st. Without, London.

GLASS FOR GREENHOUSES, CONSERVATORIES, GARDEN FRAMES, &c.
Hothouse Builders, Nurserymen, and others, supplied with every description of Sheet and Crown Glass, Rough Plate, &c. Glass Tiles, Propagating, Cucumber, and all other Garden Glasses.—Address, T. Cogan, 48, Leicester-square, London.
PRICES OF SMALL SQUARES IN BOXES OF 100 FEET.

	Crown.	Sheet.
Squares under 6 by 4	10s. 6d.	£0 12s. 6d.
6 by 4 and under 7 by 5	14 0	0 16 6
7 by 5 ,, 8 by 6	15 0	0 18 6
8 by 6 ,, 10 by 8	16 0	1 0 6

Larger sizes, of all qualities and substances, equally low.

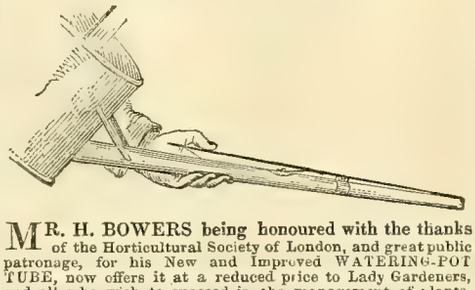
PAINTS.—LITHIC AND OTHER DURABLE PAINTS, ready for use for FARM Buildings, Agricultural Implements, Park Fences, Outhouses, &c, &c. Genuine White-lead, Colours, Brushes, &c., best quality, and lowest prices.
GLASS MILK PANS FOR THE DAIRY.
Cream Pots, Lactometers, Glass Rolling Pins, Pastry Pans, Shades for Ornaments, Lamp Shades, &c., as usual. For Lists, (priced) direct to T. Cogan, Glass, Colour, and Lead Warehouse, 48, Leicester square, London.

GLASS FOR CONSERVATORIES.
JAMES PHILLIPS and CO., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.
HORTICULTURAL GLASS FOR CONSERVATORIES.

CUT TO SIZE UP TO 40 INCHES LONG.			PRICES OF SMALL SHEET SQUARES.	
16 oz. from 3d. to 3½d. per foot.			In boxes of 100 feet.	s. d.
21 ,,	8½	5 ,,	Under	6 by 4..12 6
26 ,,	8½	7½ ,,	6 by 4 and under 7 by 5	..16 6
32 ,,	4	9½ ,,	7 by 5 ,, 8 by 6	..18 6
			8 by 6 ,, 10 by 8	..20 6

GLASS MILK-PANS, PROPAGATING GLASSES, and BEE GLASSES. GLASS TILES AND SLATES.
CREAM POTS, from 3 to 24 quarts, at 6d. per quart.
CUCUMBER GLASSES, from 12 to 26 inches long, 1d p. inch.
LACTOMETERS for trying the quality of Milk, 4 tubes 7s. 6d., 6 tubes 10s.; Hyacinth Glasses and Hyacinth Dishes; Crocus Glasses; Shades for Ornaments; Fish Globes; Plate and Window Glass; Lamp Shades and Chimneys; and every article in the trade.
METAL HAND FRAMES.
HARTLEY'S PATENT ROUGH PLATE, AND PATENT DOUBLE CROWN GLASS.

HORTICULTURAL NOVELTY.



MR. H. BOWERS being honoured with the thanks of the Horticultural Society of London, and great public patronage, for his New and Improved WATERING-POT TUBE, now offers it at a reduced price to Lady Gardeners, and all who wish to succeed in the management of plants. It is invaluable. Please to observe, by holding the Can in both hands, the fore-finger of the left on the spring (key) of the tube, the flow of water is regulated to a nicety, saving your plants from disfigurement, mildew, and decay. Small Pot and Tube 10s., a Tube only 6s.—May be seen at the London Agents, and supplied, by addressing H. B., Godalming, Surrey.

WHEAT SOWING.
MARK FOTHERGILL, 201a, Upper Thames-street, London, offers the following MANURES for the Wheat crop, and warrants the quality to be genuine, viz.:
SUPERPHOSPHATE OF LIME (prepared from Bone only).
WHEAT MANURE (containing a large amount of Silicates, with rich Phosphates).
DRIED NIGHT-SOIL (obtained from a large public institution).
PERUVIAN GUANO (direct from import warehouse).
BRITISH GUANO (rich in all the Salts of Ammonia, Phosphates of Soda and Potash, &c., contained in the foreign, at a considerably lower price).
Also, Soda Ash (Wireworm destroyer), Gypsum, Urate, Nitrates Soda and Potash, Salt, Bone-dust, and all other manures of known value.—Apply for prices current as above.

WHEAT SOWING.
THE LONDON MANURE COMPANY beg to offer as under:—
LONDON MANURE COMPANY'S CORN MANURE.
,, ,, ,, URATE. [LIME.
,, ,, ,, SUPER-PHOSPHATE OF
Peruvian Guano, direct from Importers' stores—Fishery and Agricultural Salt—Gypsum for Clover—Soda Ash for destroying wireworm, and every other Artificial Manure.
The London Manure Company would call particular attention to their Corn Manure and Urate, the former containing a large amount of Ammonia, Phosphates, and Silicates, all so essential for corn crops, while the Urate is richer in Phosphates and other mineral substances required for roots.
Full particulars and prices forwarded on application.
Edward Pursee, Sec., 40, Bridge-street, Blackfriars.

PERUVIAN AND BOLIVIAN GUANO ON SALE,
By the only Importers,
ANTONY GIBBS and SONS, LONDON;
Wm. JOSEPH MYERS and Co., LIVERPOOL;
And by their Agents,
GIBBS, BRIGHT, and Co., LIVERPOOL and BRISTOL;
COTESWORTH, POWELL, and PRYOR, LONDON.
To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

TO HOTHOUSE BUILDERS, FLORISTS, AND OTHERS.
HOT WATER PIPES, &c.
JONES, IRON-BRIDGE WHARF, No. 6, Bankside, Southwark, keeps a large STOCK of HOT-WATER PIPES, with Elbows, Syphons, Tee Pieces, Collars, Valves, &c., &c., for HEATING Buildings and Hothouses; also SOCKET and FLANGE PIPES, with the usual connections; LAMP COLUMNS, Rain-water Pipes, Gutters, Sash Weights, Railing Bars, Air Bricks, Scrapers, BARROW WHEELS, Tile Lights, &c. The above CASTINGS at very low prices, at Jones's, 6, Bankside, Southwark, London.

DR. RYAN'S CHEMICAL MANURES,
Manufactured solely by Messrs. Stretton, Hayward and Co.,
GENERAL AGRICULTURAL AGENTS.
Offices, 7, Chandos-street, Cavendish-square, London.
Under Distinguished Patronage.
MESSRS. STRETTON, HAYWARD and Co., have entered into an arrangement with Dr. Ryan, Professor of Chemistry at the Royal Polytechnic Institution, London, whose exclusive services are retained to superintend the manufacture of Chemical Manures, upon entirely new and scientific principles, based upon the analysis of soils and the production of fertilizing agents suited to their various properties and the nature of the desired crops. In submitting Dr. Ryan's latest discoveries to agriculturists, Messrs. Stretton, Hayward, and Co. can with the utmost confidence state, that their Manures will, after the severest test, be found to possess far greater fertilizing powers than any hitherto offered to the public, which, together with their cheapness (being 40 per cent. under the price of Peruvian Guano) must entirely supersede all other Manures. By the use of these fertilizers those crops which so frequently suffer from the ravages of the fly and other insects are in a great measure protected. Horticulturists are particularly recommended to use "Dr. Ryan's Garden Manures" for general purposes. Sent, carriage free, to any part of the kingdom, at

For top dressings	.. £5	10 0 per ton.
For Wheat, Barley, Oats, Hops, or any grain or seed	6	10 0 ,,
Dr. Ryan's genuine Superphosphate of Lime	7	0 0 ,,

Nitrate of Soda, Gypsum, Rough Bones, Sulphuric Acid, &c., tested by their Chemist at lowest market prices.
English and Foreign Oilcake.

HOT-WATER APPARATUS for Heating Horticultural Buildings, Dwelling-houses, Churches, and Manufactories, upon the most improved principles, at the very lowest charges, supplied and fixed.
WM. WITHAM, 8, George-street, Camberwell-green, having heated a considerable number of horticultural and other buildings, and having had many years' experience, begs leave to inform the Gentry and Nurserymen that he can supply and fix any kind of HOT-WATER APPARATUS on the most liberal terms, in any part of the Kingdom, together with Conical and other Boilers, of all sizes; the largest consumes but a small quantity of fuel, only requiring attention once in 10 or 12 hours, and will heat a range of Forcing-houses 200 feet in length. He also begs leave to recommend his improved TANK, which can be made of wood, iron, or cement, for bottom heat for Propagating-houses, Pineries, Pits, &c.
Reference may be had from Gentlemen and Nurserymen, and Apparatus seen in use at his own place. Gentlemen waited upon with Plans, Estimates, &c.

STEPHENSON and CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.
S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.
Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

THE CONICAL BOILERS, invented by John Rogers, Esq., are sold by John Shewen, Ironmonger, Sevenoaks. They are in use at the gardens of Messrs. Loddiges, Hackney; S. Rucker, Jun., Esq., Wandsworth; Sir C. Lemon, Bart., M.P., Cornwall; the Prince's-park, Liverpool, and numerous other places.
Also, AN IMPROVED CORRUGATED BOILER, adapted for any kind of fuel. May be seen at the hothouses of Mrs. Lawrence, Ealing Park, and in several other gardens of note.
John Shewen, Sevenoaks, Kent. Estimates furnished for heating all kinds of buildings.

TWO TURNIP-CUTTERS AT THE PRICE OF ONE.
MARY WEDLAKE AND CO.'S NEW TURNIP CUTTER for Beasts and Sheep, price 5l. Linseed Crusher, 6l. 15s.; ditto, going Beans, Linseed, and Oats, 10l. 10s. Threshing Machines, doing upwards of 25 loads of Wheat straw per day, 60 guineas. Mary Wedlake and Co.'s Chaff-cutting Machine, 100 to 200 bushels a day, price 7l. 7s. and 5l. 5s. Horse-hoe, Dressing Machine, Turnip Drill, Oil-cake Breakers, Bean and Oat Crushers, Subsoil Plough, Double Field Roller, &c.—Mary Wedlake & Co., 118, Fenchurch-street, (opposite Mark-lane) London.

PATENT FLEXIBLE INDIA RUBBER PIPES AND TUBING FOR RAILWAY COMPANIES, BREWERS, DISTILLERS, FIRE-ENGINES, GAS COMPANIES, GARDENING AND AGRICULTURAL PURPOSES, &c.
THE PATENT VULCANISED INDIA-RUBBER HOSE PIPES are made to stand Hot Liquor and Acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible), and as they require no application of oil or dressing, are particularly adapted for Fire-engines, Pumps, Gas, Beer-engines, Gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes from ¼ inch bore upwards, and of any length to order.
Vulcanised India-rubber Garden Hose, fitted with brass taps, copper branch, and roses complete, ready to be attached to Pumps, Water-butts, or Cisterns.—Sole Manufacturer, James Lyne Hancock, Goswell Mews, Goswell-road, London.
N.B.—Vulcanised India-rubber Washers of all sizes for Joints of Hot-water and Steam Pipes, and Vulcanised sheet Rubber, any thickness, for all kinds of Joints, and other purposes.

BY HER MAJESTY'S ROYAL LETTERS PATENT.
G. E. WATERTON'S ALKALINE FEEDING POWDER, for effecting a Saving in the ordinary Food of all kinds of Cattle. This important discovery in the economical preparation of their food is recommended to the notice of Breeders, Feeders, and Keepers of all kinds of stock, and parties interested in farming operations. The Powder, by its action on grain of all sorts, dissolves the gluten and albumen, and thereby renders it digestible in all its constituents. A series of experiments has satisfied the Patentee that the Powder may be used not only with advantage but with perfect safety, and may justly be termed a national benefit. The Patentee has much pleasure in referring the public to a few of the highly satisfactory testimonials he has received from parties who have tested the merits of his patent Powders, which may be seen at the office of Edward Tatham, 5, American-square, Minories, sole London Agent, where they may be had in any quantity in 2 lb. packets, at 13s. per doz., with full directions for use.
N.B. A few active young men required as Sub-agents; particulars may be known between the hours of 10 and 12 A.M. on Tuesdays and Thursdays.

TO PEAR GROWERS.

RENÉ LANGELIER, Charendon Nursery, Saint Helier, Jersey, begs to draw the attention of the public to the following new sorts, which he vouches will correspond with the following description:

BEURRE LEON LE CLERC.—Ripe in the latter part of November, large and fine shape, one of the most melting fruit possible; it ripens before the common Leon Le Clerc, equal in flavour, great bearer, both on wall and standard. No collection should be without it. Drawings may be had at 1s. 6d. each. R. L. is the sole possessor. It was obtained from M. Le Clerc, raiser of Von Mons Leon Le Clerc. Price 10s. 6d.

BLANC PER NE.—Also a large fruit, Beurre Duhaume shape, but much larger; also melting, and will keep till May. Drawings may be had at 1s. 6d. each. Price 7s. 6d. each.

The above two sorts are well worthy the attention of the public. R. L. also strongly recommends, as before (being superior fruit):

BEURRE DUHAUME	3s. 6d.
GROSSE CALEBASH	3 6
LANGELIER'S BEURRE	3 6

R. L. has still a number of winter specimen fruit that he can send out, on the receipt of a post-office order for 25s. from unknown correspondents. His trees this year are of superior growth, and well worthy the attention of the public.

The Gardeners' Chronicle.

SATURDAY, NOVEMBER 25, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

MONDAY,	Nov.	27	Medical ..... 8 P.M. Geographical ..... 8½ P.M.
TUESDAY,	—	28	Medical and Chirurgical ..... 8 P.M. Zoological ..... 9 P.M.
WEDNESDAY,	—	29	Botanical (Anniversary) ..... 8 P.M. Society of Arts ..... 8 P.M. Geological ..... 8½ P.M.
THURSDAY,	—	30	Royal (Anniversary) ..... 4 P.M. Antiquarian ..... 8 P.M.
SATURDAY,	Dec.	2	Asiatic ..... 2 P.M.
MONDAY,	—	4	Entomological ..... 8 P.M. Pathological ..... 8 P.M. Chemical ..... 8 P.M. British Architects ..... 8 P.M.
TUESDAY,	—	5	Horticultural ..... 2 P.M. Linnean ..... 8 P.M.
FRIDAY,	—	8	Astronomical ..... 8 P.M.

THAT the CAMELLIA is not a greenhouse plant, although universally so regarded, would appear certain from the facts relating to it which we last week adverted to. There is proof that it comes from a climate as severe in winter as our own. There is proof that in its native woods it is associated with species which our experience teaches us to regard as hardy. There is the further proof that even with us it has survived a winter when FAHRENHEIT'S thermometer fell to zero. From this it may be inferred that the Camellia is not a greenhouse plant, and that the practice of gardeners is wrong.

But there are two sides to this as to most questions; and we have only examined one of them. The hardiness of a plant is not determined by its abstract power of resisting cold, when properly prepared to do so, but by the means which cultivators possess of preparing it. In its own country the Camellia feels, and is invigorated and hardened by, as fierce a sun as is known where vegetation flourishes. At Pekin it is said that the summer is accompanied by the heat of Bengal, and the winter by the cold of Moscow. Near Lantao, MEYEN found the water in the rice fields heated up to 113°, and the black sides of his boat raised the thermometer to 142½°. According to THUNBERG, the heat of Nagasaki is often 100°, and would be intolerable were it not for the breezes. We learn from Mr. BALL that at Canton the thermometer *averages* 82° at noon, during the summer; at Fogan, N. lat. 27° the *mean* of July is 86½°; in another place the mean of July and August is 83½°; at Chusan, 81½° in August.

A very high summer temperature, such as is unknown in cloudy Britain, is therefore provided by Nature in order to prepare the Camellia to bear the severity of the winters to which it is exposed. We can employ no means of maintaining such a temperature except by glass houses. Therefore the Camellia would seem to be a greenhouse plant; for if it requires the aid of a glass roof in summer, in order to bear the winter without one, it still remains a greenhouse plant, the difference only consisting in a reversal of the seasons of protection.

But some plants have a great power of resisting cold, whatever be the circumstances under which they are placed; and it does not always follow that it is necessary to expose them to certain conditions of climate because they are exposed to them naturally. Plants, like animals, have to some extent the power of adapting themselves to circumstances. The Lascars of Bengal do not perish during winter in the streets of London, notwithstanding that they continue to wear their thin linen dresses while we are wrapped in wool; they are merely miserable. Neither do the Camellias of Japan necessarily die beneath the infliction of an English winter, even although they may not have been roasted by a torrid sun; on the contrary we see that they exist, and even flourish. It is probable indeed that they will always ripen their wood well enough to resist our English winter, provided we attend to certain important conditions.

The conditions which appear necessary to enable the Camellia to resist a winter's cold are, firstly, that it shall cease to grow at the very beginning of autumn; and, secondly, that it shall not begin to grow till the very end of spring; the growth must be rigorously limited to our period of summer. The reason of this is that if it grows early it is certain to be cut off by our late frosts, and if it continues to grow late it will be impossible to ripen the wood at all, whereas if it ceases growth in the beginning of August it has the heat and dryness of that month, and perhaps of September, to complete the ripening process. Camellias thus become short jointed and dwarf, instead of being long jointed and gigantic, which for gardening is an advantage. The best way to secure this is to plant them under a low north wall, where they may be screened from the sun, which excites them in spring time to their ruin, and which prolongs their growth in our damp and lingering summers till the temperature has fallen too low for the ripening process to make way. In such a situation they receive all the light that is indispensable to their wants, but in a diffused instead of a direct condition.

Under these circumstances it is known that the Camellia becomes hardy; but there is no unmixed good in gardening any more than in other matters, and to adapt this plant to our climate without protection has its disadvantages. We grow Camellias for their flowers, not their foliage; as to the latter the plant is no better than a Laurel or a smooth-leaved Holly. Now it happens that in spite of all precautions the Camellia *will* flower in the early spring; we cannot prevent it: and unfortunately its flowers, so beautiful and so strong in appearance, are among the frailest of all things when exposed to wet and cold; their reds and whites, and crimsons and rosy tints, all turn brown, and rapidly assume the livery of death. To secure them an artificial shelter of some sort is indispensable; and this we believe to be the only reason why the Camellia must be called a greenhouse plant.

We leave these facts to the consideration of cultivators; they teach them a great lesson, and are among the clearest indications of the errors committed in common gardening. We do not mean that they are to be interpreted as proof that the Camellia is best grown like a Laurel; that will depend upon many considerations. If indeed the question concerned the Camellia alone, and merely affected the treatment of that particular plant, the facts which have been produced would have been more appropriately transferred to another part of this Paper. But they have a far higher application; for what is true of the Camellia is true of hundreds of other plants; and they furnish conclusive evidence of this great truth, that a low (even a very low) winter temperature is what is natural to vegetation, and what the good gardener will teach his plants to sustain. In time we shall find that the test of skilful gardening will be the ability to keep plants in health, not by a dexterous application of high temperature, but by enabling them to bear a low one.

IN former articles we have endeavoured to extract some principles as applicable to the successful culture of AMERICAN COTTON. The chemical constituents of the soil did not, upon the whole, appear to be of greater importance than its physical state. A high degree of summer temperature seemed essential, with, at the same time, considerable though not excessive moisture. The practices of agriculture seemed indeed to be varied chiefly in reference to the more or less moist state of the atmosphere. The quantity of Cotton required by our manufacturers being so immense, it is not extraordinary that they should wish to be supplied from a variety of sources. India has generally been looked to as the country most likely to supply a greatly increased quantity in a short space of time; chiefly because it already produces largely not only for the consumption of its millions of inhabitants, but also for export both to this country and to China. But the quality of Indian Cotton not being generally approved of by our spinners, it has been thought that careful culture might improve its nature, and also that where one species was so extensively cultivated, another might be successfully introduced, especially into a country which is so frequently described as including every variety of soil and climate.

It would be extraordinary if no attempts had been made to attain so desirable an object as the production of an article greatly in demand in Europe, and which would appear to be of benefit to the country producing it as an article of export. On enquiry, indeed, we find that a vast number of experiments have been made by the East India Company for a long series of years, indeed from the year 1788 to the present period, and in spite of failures enough to have deterred most other Governments from persevering in what appeared a hopeless undertaking. These experiments commenced with inquiries, and were followed up with the distribution of seeds to cultivators, and the establishment of Government farms; the dispatch of planters from America for growing the Cotton in India, as well as of machines for cleaning it, and of presses for packing it. These were followed by a repetition of the same measures at various times, and in new localities, and, it is to be hoped, very recent ones, all without any great effects having been permanently produced. The efforts of the Government have been aided by the co-operation of Agricultural Societies, as well as of individuals in different parts of India, and all with no better success, and this in a country where the same efforts have established the manufacture of indigo and of sugar, and improved the preparation of silk, and the collection of opium.

India is, as a country, and its different parts vary so much from each other, that it is difficult to make any observations which are equally applicable to all; we shall therefore devote our enquiries into these experiments, and our observations on them, into certain great divisions of the country, where there is some general uniformity of soil and of climate, without paying any great attention to a chronological series. First of all we shall notice the province of Bengal, not that it is peculiarly a Cotton country, or that its Cotton is of a superior quality, though Dacca, one of its districts, was long celebrated for its muslins. We must premise, however, that the province of Bengal has nothing to do with what is commonly called Bengal Cotton, which is produced, we believe, entirely in the distant and dry north west provinces, and exported from Calcutta, the capital of Bengal. But we select Bengal because it affords the requisite temperature, is near the sea, and is conspicuous for moisture of climate. Numerous experiments, moreover, on the culture of Cotton, have been made, by individuals, by the Agricultural Society of India, and by two of the American planters, within its limits. A notice of its climate may prove interesting to horticulturists, as the Botanic Garden of Calcutta, from which so many plants are received in this country, is situated in and is under the influence of the climate of Bengal.*

The province of Bengal, now divided into several districts, lies between 21° and 27° of N. latitude, and is about 350 miles in length, with an average breadth of about 300 miles. It is throughout a flat champaign country, bounded to the S. by the Bay of Bengal, and the dense forests, intersected by numerous rivers, called the Sunderbunds. The northern frontier, which runs westward from Assam, is formed by a belt of from 10 to 20 miles in breadth of a tall grass and tree jungle, which runs along the foot of the lower Himalayas. On the east it is bounded by the Cossya hills and other low ranges in Tipperah and Chittagong, while the west is confined by the low hills which stretch from Rajmahl towards Birbhoom and the Jungle Mehals. This wide expanse of plain is intersected by the mighty Ganges, the wide spreading Burrampooter, and by numerous other navigable streams, which, however, often change their course, washing away an estate in one place, covering another with sand, and leaving some intermediate part a stagnant marsh. These rivers, moreover, overflow their banks about the month of August, and inundate the country to a great extent. In autumn they drain off, but as the agriculturist wishes to retain a supply of moisture, embankments are made to retain the water even over extensive fields. Besides these, there are numerous tanks and jeels, *i. e.*, "shallow lakes or deep morasses," so that everything tends to increase the moisture of the climate. But the effects of a raging sun with drought are occasionally felt, when "the earth is iron and the sky brass."

The seasons are divided, as over a great part of India, into three: that is, the hot, the rainy, and the cold. The hot weather begins with March, and steadily increases until the rains come on early in June. But occasional storms, with rain, occur, which

* Calcutta, the capital of Bengal, in lat. 22° 33' N., and long. 88° 25' E., and situated only a little above the level of the tides, has a mean temperature of about 79°.

Jan.	Feb.	March.	April.	May.	June.
66.2	69.8	80.0	85.4	85.7	80.7

July.	August.	Sept.	Oct.	Nov.	Dec.
81.8	82.0	82.8	79.2	74.2	66.6

The thermometer ranges from about 45° to 75° in the cold season, when a dry wind blows from the N.E. in the day; but at night there is dampness with cold. In the hot season, or from the beginning of March to the middle of June, the temperature rises gradually from 80° to about 90°—95° in the shade, and reaches to 100°—110° in the open air. Though no rains falls, the wind blowing from the S.W. is loaded with moisture in its course over the Bay of Bengal. In the rainy season the temperature is high and equable, but the Orchid-house-like climate, is oppressive, from the combination of heat with moisture, and still more exhausting when, towards the latter half, the wind veers to the S.E.

relieve the intensity of the heat. During the first two months of the rains, the falls are incessant, but during the two following months intermissions are frequent. On an average, 60 inches of rain are said to fall in Calcutta, but Prinsep gives 59.83 as the average for three years. If the rains cease early in September, intense heat is experienced, men become sickly, and plants languish. As the weather becomes colder, the moisture which is evaporated during the day is deposited during the night, and fogs obscure the sun till late in the morning. The cold being combined with moisture is felt as severe but not invigorating, and though the thermometer does not fall to the freezing point, ice is obtained by exposing shallow vessels to the effects of the free radiation which takes place in the more open parts. In the more eastern districts showers are more frequent during the dry months of the year, but the moisture of the climate is still greater, and increased by the exuberant vegetation and clumps of trees in even the cultivated parts, while on the frontiers this is still more the case; the dense forests and jungle of grass, often 20 feet high, not only add aqueous vapour to that already in the atmosphere, but prevent the free evaporation of water from the undrained surface.

In such a climate we may expect that wild animals will abound and insect life be rife. The farmer, indeed, complains that tigers and leopards carry off his cattle, wild hogs crunch his Sugar-cane, and birds destroy his seed when sown, and his grain when in the ear. But from the peculiarity of climate he can easily obtain two crops off the same field, one being Rice or other cereal, the other some one of the numerous Millets, Pulses, or Oil seeds. He also cultivates the Sugar-cane, Indigo, Mulberry, Tobacco, Safflower, &c.; but prides himself especially on his clumps of Mangoes and of Bamboos, or his plantations of Cocoa-nut, Areca, or wild Date, the last valuable only as yielding sugar, while the Bassia affords saccharine matter in its flowers for an intoxicating liquor, and a valuable oil in its seeds. In such a climate the culture of a plant like American Cotton, which requires heat and moisture, does not appear to be impracticable.

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

Bulbs.—It is not too late to speculate in these attractive productions, so admirable for adorning the interior of a dwelling-house during the winter, and for giving to the garden the gaiety of summer, to a season not generally propitious to flowers. Hyacinths may still be planted in pots, and put into glasses; and those which have been brought forward, according to previous directions, should be brought in-doors for forcing. These bulbs can be grown in baskets of moss with excellent effect. The baskets may be varied in shape and size, according to the taste of the amateur; they must have the lower parts impervious to water, either by being made of metal, or having a china vessel put in of the right size. This must be filled with sand, covered with a layer of moss, on which the bulbs are to be placed. If rooted before put in, the plants will be more sure of a regular advancement. The whole should be covered with the best specimens of moss which can be procured, and a moderate degree of moisture kept up in the whole mass. If the colours are properly varied, these baskets will prove very beautiful objects. Hyacinths which have been in the ground a month or two may be removed for forcing, either in pots or glasses, care being taken not to injure the roots in taking up. I like much the plan of planting five or six Hyacinths in one large pot: the combinations of form and colour are always pleasing, and each flower is set off to better advantage.

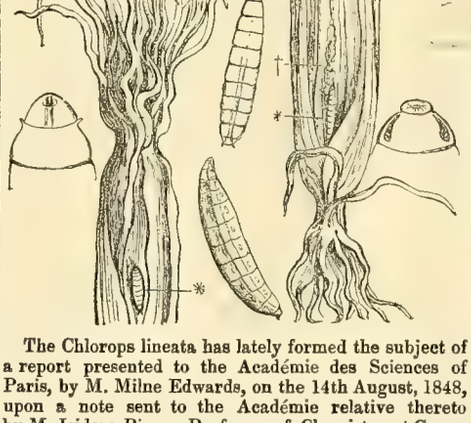
Tulip fanciers plant about this time, although the physiology of the flower demands an earlier treatment. The communications in the *Chronicle* of late respecting the green-fly attacking the young shoots of Tulips, tell their own tale. By right, there should be no such shoots until the bulbs have commenced the process of forming roots. However, plant now all you can get of Hyacinths, Tulips, Crocuses, Snowdrops, Fritillarias, Narcissi, &c, &c. Visit the florists' shops before it is too late, and you will rejoice in the possession of a spring garden, the beauty of which all must admire. *H. B.*

ENTOMOLOGY.

Wheat Flies.

The accompanying woodcut represents the state and appearance of several plants of Barley, forwarded to us at the beginning of last July by Sir Walter Trevelyan, attacked by a disease which was at that period very prevalent in the neighbourhood of Taunton, where it was locally termed "the gout," and which was supposed in the country to be the effect of a check in the vegetation from cold, but which is caused by the attack of an insect in the shape of a small white worm at the heart of the plant. The portion of the plant represented in the right hand figure exhibits the lower part opened, showing its swollen state, and inclosing a small larva (*) which is seen feeding upon the rudimental ear (†), which was in consequence thereof shrivelled up and destroyed. The plant had increased in diameter considerably beyond its normal state, most probably in consequence of an action analogous to that which causes the formation of galls. These plants thus attacked were 4 or 5 inches high, the upper part of one of them being represented in the left hand figure, which exhibits the manner in which the sheath-leaves had thrown out a great number of slender leaflets. This figure also exhibits at * a pupa of a pale yellowish brown colour, into which one of the larvæ had changed, having previously ascended towards the upper part of the plant. The larva is represented magnified in the upper middle figure, and the fore part of its body still more highly magnified in the small left hand figure, showing the two black horny points which it uses to wound the soft part of the plant upon which it feeds. The pupa is represented magnified, and seen sideways in the middle lower figure, and its head more highly magnified in the small right hand figure. The tail terminates in two small horny obtuse points.

The perfect insect was developed from the pupa at the end of July, and does not appear to us to differ from the Chlorops reared from Wheat infested in the manner described by Mr. Markwick, illustrated in our entomological article upon that insect. We therefore consider that the eggs of the specimens of Chlorops were deposited in the young Barley plants, by the parent fly hatched at the end of the spring, as described in our article above alluded to.



The Chlorops lineata has lately formed the subject of a report presented to the Académie des Sciences of Paris, by M. Milne Edwards, on the 14th August, 1848, upon a note sent to the Académie relative thereto by M. Isidore Pierre, Professor of Chemistry at Caen; the environs of which city had suffered from its attacks upon the Wheat. The report contains some valuable suggestions, as well as a summary history of the insect in question, which generally appears at the end of May or beginning of June, when the female deposits her eggs, one by one, upon Wheat or Rye, at the lower part of the ear. From these eggs small vermiform larvæ are soon produced, which gnaw the surface of the stem, forming a longitudinal channel, the width of which increases with the growth of the insect and its distance from the place where it was hatched. When arrived close to the upper knot of the stem the larva ceases eating, and, protected by the terminal leaf, it fixes itself in its burrow, in order to undergo its transformations. Here it is first changed into a nymph, resembling a small semi-corneous, boat-shaped cocoon, and subsequently, having completed its development, and acquired its wings, the perfect insect escapes from the sheath and flies away. The life of the Chlorops may be prolonged during several weeks, and the females of this second generation deposit their eggs upon Wheat and Rye recently sown. The plants thus attacked late in the season suffer more than the Wheat infested by the larvæ of the preceding generation; the stem does not acquire its proper height, and does not arrive at maturity at the same time as the sound stems; the ear is either wanting or remains small, with but few grains, of small size.

The report then proceeds to mention the memoirs published by Olivier, Phillippar, Dagonet, Herpin, and Guérin upon this insect, and to set forth the extent of its attacks during the present season in different parts of France, where the perfect insect has appeared in much greater numbers than ordinary, although the injury to the crop has not been such as to excite any alarm. The report then proceeds to make some suggestions, in the hope of preventing the future increase of the injury, which we consider very worthy of the attention of our English agriculturists.

The Chlorops, it is true, are subject to the attacks of several species of ichneumon flies, which deposit their eggs in the interior of the body of these dipterous insects, upon which they subsist during their larva state, and in general these parasites, with other ordinary means of destruction, are sufficient to keep these obnoxious insects in check; but in seasons and situations in which the perfect flies have, as in the present autumn, appeared in greater numbers than ordinary, it is to be feared that their natural enemies have failed, and that these diptera may, in the ensuing season, increase to such an extent as to become as great a scourge to the agriculturist as the Hessian fly in the United States. Among the means suggested for the destruction of the Chlorops, the most efficient appears to be the pulling up of the infected plants when the fields are weeded. By burning the stubble immediately after the crop has been got in, we may destroy a great number of the Chlorops which have not yet undergone their transformations, and which may have fallen to the ground at the time of reaping. But by a general weeding in April, and by pulling up every infested plant, a greater number of the enemy may be destroyed, which having already injured the winter Wheat, will soon give birth to a fresh generation, whose ravages will be extended to the following crop. The Belgian mode of weeding is moreover very advantageous for the growth of the Wheat, and it is to be regretted that it is not adopted in France. If the increase of the Chlorops is not sufficiently checked by the means above mentioned, the fields must be again examined in a fortnight or three weeks before harvest time, and such diseased plants as still remain must be pulled up and burnt. It is, however, necessary that these measures should be generally adopted throughout the infected districts, since the carelessness of a few cultivators will neutralise the labours of all their neighbours. It would in such case be advisable to extend to the present case the regulations of the rural police relative to destruction of caterpillars (échenillage).

As the Chlorops subsists both on Rye and Wheat, it is useless to suggest that the fields should lie fallow during the winter, and spring corn be sown instead of autumn; neither does it seem advisable to suggest a change of crops, since unless the growth of various kinds of Wheat was restricted over large districts, nothing would prevent the winged female Chlorops from seeking a proper nidus for her eggs in the growing crops in some part or other of the locality. *J. O. W.*

CULTIVATION OF CAPE HEATHS.

In the following statement I shall endeavour to give the best method of cultivating these delightful plants, which no greenhouse should be without, for even in a very limited collection one or other may be had in flower the whole year round. Many are of opinion that Heaths will not thrive intermixed with other plants; but this is a mistake: I know from experience that Heaths will thrive as well in a greenhouse among other plants as they would do in a Heathery; in fact, some of the woolly-leaved kinds are the better for being kept a trifle closer than others; such are ferruginea, gemmifera major, splendens, Massoni, Templeæ, and others. I have at present specimens of ferruginea, ampullacea, Parmentieri rosea, and others, mixed with Pelargoniums, Fuchsias, Azaleas, and other greenhouse stock, doing much better than I ever saw them do in the Heathery, where air was more freely admitted. They, however, should be placed at the coolest end of the greenhouse.

The soil which I have found Cape Heaths to thrive best in (and I have tried several soils) is a mixture of Wimbledon peat, and a much lighter kind of peat from Croydon; when I cannot get the last mentioned peat, I find well decomposed leaf mould to be an excellent substitute. Wimbledon peat 2 parts; lighter peat, or leaf-mould, 1; and 1 part of silver sand, is what I use: if silver sand cannot be obtained, coarse river sand will answer: the whole should be well knocked to pieces, and run through a 1½ inch meshed sieve. I use the soil fresh from the common, where it is dug 2 inches deep, paring off the subsoil and the rough top. For shifting, any time from the beginning of February to the latter end of August will do. I have shifted them even as late as the beginning of October, and have found them to do equally well with those shifted earlier. This, however, is only mentioned to show that no danger is to be apprehended from late shifting in cases where such is found to be necessary.

I use plenty of drainage in all cases, especially for large plants, this being a *sine qua non* in Heath culture. For the largest second and third sized pots I use from 3 to 4 inches of clean drainage. In shifting, place the "collar" of the plant a little above the fresh soil, in order that no water may ledge round that part. I never touch the old ball except to rub off a little of the surface soil, and to remove such of the crocks as do not interfere with the roots. After putting the crocks in the fresh pot I place a layer of coarse siftings over them, and then I fill up to the required height with the above-mentioned compost, pressing it firmly with the hand as I proceed. The ball being placed as near the centre of the pot as possible, I then fill up with the compost, pressing it in firmly all round with my hands, for it is a bad practice to use a stick for this purpose; the latter injures the young fibres. I fill up to within an inch of the rim of the pot for small plants, and 2 or 3 inches for larger plants, smoothing down the surface so as to cause it to slope gently to the side of the pot; this being done, I give the plant a good soaking with soft water, in order to wet the ball through, and then I place it in some shady situation (if shifted in summer) for a few days, being careful not to over-water it. Indeed Heaths require little water after shifting until they push fresh roots, when they may be more fully exposed.

All the free growing kinds of Cape Heaths succeed best out of doors in a not over-shaded place during summer; the slow growing sorts, as Massoni, Templeæ, pulcherrima, ferruginea, mutabilis, metulæflora, the tricolor varieties, &c., are best kept in the house or in pits, always, however, bearing in mind that the Heath tribe requires plenty of air and little shade, except when fresh shifted. Should the ball prove dry when taken out of the pot in shifting, the best plan is to place it in a vessel of water until it is soaked through, being careful to let the water drain thoroughly off before placing it in its fresh quarters. I always give a liberal shift if the plants are well rooted, say from an 8-inch pot to a 12 or 13-inch pot, according to the nature of the variety. I prefer the "West Kent

Pot" for Heath culture, for its bottom being movable there is no occasion to break the pot in shifting, which is unavoidable when the common pot is employed. As soon as the plants are shifted, it is a good plan to peg down some of the lowermost branches, in order to hide as much of the soil as possible, and to keep the plant bushy. In hot and dry weather I take a watering-pot with a coarse rose, and well water the ground between the pots, a practice which I find to be better than wetting the plants overhead, which is apt to induce mildew, and what is still worse, it causes the plants to loose all their inner foliage.

For mildew, the remedy experience has taught me to be the best is to dust the parts affected with sulphur, and to place the plants in a dry airy situation. The sulphur may remain one, two, or three days; it may then be brushed or blown off. When large specimens have done blooming, I take a pair of shears and clip them all over. The free growing sorts are then placed out of doors to make their growth and set their bloom; the slow growers are kept in doors, and are given plenty of air night and day. In housing the plants in autumn, they should never be allowed to touch one another, and if possible they should be elevated on pots or blocks so that there may be a free ventilation of air among them.

Heaths require little water in winter; I make it a practice to rap the side of the pot, and if it sounds hollow I give water carefully, however; for to give much water to such varieties as aristata, Hartnelli, Massoni, &c., would be sudden death to them; but on the other hand, perspicua nana, Westphalingia, the ventricosas, &c., require it often, always giving enough at each watering to soak the whole mass of soil. I water early in the morning in winter, in order that the house may get dry before night. If the weather prove dull and cloudy (which it often does at this season), I fire gently during the day time, giving air, at the same time, at back and front. I, however, allow the pipes to cool before I close the house; for nothing is more injurious to Heaths, or, indeed, any other plant, than a high night temperature. I never fire at night, unless there are 12° or 14° of frost; 8° or 9° of frost will not injure Cape Heaths, if the wood has been properly ripened in autumn. I have frequently had Heaths frozen so hard that a knife would not penetrate the soil, and they have not received the least injury therefrom. Damp will do more mischief among Heaths than frost. By following the above rules, I am satisfied that Heaths may be grown from cuttings large enough for any exhibition, in less than three years.

The following varieties of Cape Heath will keep a small Heathery or greenhouse gay throughout the whole year:

Name.	Time of Flowering.	Name.	Time of Flowering.
Mutabilis	All the Year.	Ventricosa Bothwelliana	July.
M'Nabiana	February.	Tricolor major	
Trossula	March.	Parmentieri rosea	
Vernix coccinea		Neillii	
M'Nabiana rosea	April.	Jasminiflora alba	August.
Intermedia	May.	Pulcherrima	
Cavendishii		Tricolor coronata	
Ventricosa alba		Mammosa rubra	Sept.
Perspicua nana		Bowieana	
Ventricosa hirsuta		Clewsiana	
Tricolor	June.	Lamberti	Oct., Nov., and Dec.
„ Wilsonii		„ rosea	

The following are 50 of the best varieties: Mundula, physodes, splendens, Massoni, Easonii (Jackson's), taxifolia, aristata major, inflata rubra, Bandonii, Aitoni turgida, Devoniana, Dulcinea; propendens tubiflora, ventricosa grandiflora, fasciculata superb, Jacksonii, retorta major; vestita rosea, alba, coccinea; Templæa, princeps carnea, obbata (Pamplin), obbata (Veitch) tricolor Dunbariana, metulæflora, m. bicolor, Parmentieri rosea, ampullacea major, a. rubra, glauca, elegans, Sprengelii, tortiflora, Hartnelli virens, ferruginea, Vernonii, gemmifera major, Savileana, togata, rubella, odorata, Lawrenceana, Swainsonii inflata, Julyana, delecta, aristata vittata, pulcherrima, tricolor Wilsonii, t. M'Nabiana; *W. P. Leach, S. Rucker's, Esq., Wandsworth, Surrey.* [We are greatly obliged to Mr. Leach for this paper. He is one of the best Heath growers in England, and states his practice fully.]

Home Correspondence.

Vipers.—There appears to be some difference of opinion among your correspondents as to the fact of young vipers running into their mother's œsophagus for refuge. On one side I find a number of persons who positively assert their having seen this done, and on the other, a few very intelligent and incredulous individuals who, not happening to fall in the way of snakes, or if they did were even more anxious to provide for their own safety than the juvenile vipers themselves, deny that such is the case. It is these gentlemen who argue that the fact is not authenticated because it has not been seen by one of themselves; 2. That it is a vulgar fancy; 3. That if the young could enter the mother's throat they would be either digested or killed; 4. That if they run into the body at all it is into the oviduct. To begin at the first, a man is not entitled to contradict what another positively asserts to have been seen unless he can prove the reverse. 2. I admit that it is a vulgar idea, but is it less true for that? Are country people less observant of minute facts than we? Ask a ploughman and he will tell you the difference between a field, a shrew, and an in-door mouse; ask the difference between a Turnip and a house fly, between an earth and a wireworm, between Couch and Rye-grass, and you will find him better acquainted with the subject than most gentlemen. 3. I maintain that vipers can live a certain time within their mother's throat, and for these reasons:—Reptiles, from the paleness of their blood and the small amount of exercise they undergo, respire very slowly, require very little air, and can remain a long time without renewing their supply of oxygen. Again, the gastric fluid is incapable of acting on a living animal or texture, but the moment death intervenes from some other cause, then its office begins. This is well seen in the human stomach, which, only a few hours after life is extinct, loses a great part of its lining membrane from this cause. There is also at present before me an authentic account of two vipers by M. Audry, a physician of Paris, who caused them to be thrown up by a country girl, down whose throat they had passed while sleeping on the Grass; they were about 9 inches long. When vomited, one was dead, but the other came out alive, and was creeping across the floor when the child's mother killed it, by cutting it in two, and bruising its head with a fire-shovel. The figures of the vipers are given, so that there can be no mistake about their identity. 4. No one acquainted with sphincter muscles, and the contraction of the oviducts after parturition, could entertain the idea for a moment. Let every one therefore judge for himself which view is correct, and not give way to preconceptions or prejudices. It is stated of the rattle-snake, in Hunter's "Memoirs of a Captivity among the North American Indians," that "when alarmed, the young ones, which are eight or ten in number, retreat into the mouth of the parent, and re-appear on its giving a contractile muscular token that the danger is past." I really see nothing so very strange in this provision for the safety of the young viper. Cuckoos carry their eggs in their mouths, in order to drop them without delay on discovering a suitable nest. The Surinam toad hatches its eggs in little pits in the skin of its back, and the young remain there till they are fully formed and able to shift for themselves. Merian's opossum carries its young ones on its back, with their tails twisted round that of the mother, which she curls over her body on purpose. And the young kangaroo springs into the maternal pouch for nourishment, repose, or security. *Medicus.* [With due deference to "Medicus," we must say that he does not state the question correctly; nor does he adduce the slightest *proof* that vipers swallow their young.]

Fruit Trees.—The soil of the most productive part of Kent is locally called hassock, or stone-shatter; the surface of this is a mixture of sandy loam, largely intermixed with small pieces of light-coloured Kentish ragstone; it is from 6 inches to 2 feet deep on solid stone rock. This land produces great quantities of Hops, Apples, Cherries, Filberts, and likewise good Turnips, Potatoes, seeds, and corn; also much excellent hay on old Grass lands. Fruit trees of all sorts flourish and produce abundantly, even Peach and Pear trees of the most delicate kinds grow with the greatest luxuriance, and are free from disease. To what are we to attribute such results? not to the climate, for localities enjoying a higher degree of temperature than the neighbourhood of Maidstone do not produce such fruit. The answer then resolves itself into the fact, that the quantity and superior quality of the fruits are due to the soil, being naturally in that state best suited for their healthy growth. This fact should induce us to apply the same principles to our practice in each and every other situation. Fruit trees growing in the kind of soil just described produce short-jointed wood; when the roots are stimulated by rich manures, rampant luxuriant branches are produced; when they descend to a distance beyond the genial influences of the atmosphere, they absorb a large quantity of water, which the leaves are unable to get rid of by perspiration, and the inevitable result is gum, canker, and a whole host of diseases; such trees continue to grow to a late period, when the lowness of temperature, and the absence of sunlight, render it impossible for them to give off their superabundant water by perspiration, the only means by which all trees and plants are enabled to part with it. Trees in the above-mentioned soil grow slowly; their tissues become perfectly organised as they proceed, and are not liable to be acted upon by accumulated moisture. As the days become short, and the power of the sun declines, the motion of the fluids and the action of the cell gradually cease, when the whole system is in unison with the course of nature; in winter the roots are almost dormant, the branches are short-jointed, and well ripened, and all are prepared to withstand the severity of the weather, and to awaken in the spring full of life and blossom. *William Keane, Gardener to George Tomline, Esq., Orwell Park, Ipswich, Nov.* 14.

Profits of Bee keeping.—Will any of your apiarian correspondents, who never destroy their bees, give an account of the whole expenses of bee keeping, as well as the profits arising from them. I have been recommended to keep the hives on separate stands; and with straw cap, &c., I think they will cost full 10*s.* each. Though as "Apiarius" says, there is no necessity for burning the bees in order to take their honey, it by no means follows that it is not the cheapest plan in the end. Cottagers, who must make them answer in the long run, invariably pursue that plan, and I very much doubt whether amateurs do not pay rather highly for their amusement. However, I beg to assure "Apiarius" that I am much too fond of my own bees to think of burning them. *M. W. R., Nov.* 18.

The Hamiltonian and Meudon Systems of Pine Growing.—It is an undisputed fact that Pines can be grown larger and probably of better quality without pots than with them. Of this we have already been furnished with ample testimony. I am, however, desirous of ascertaining what advantage the Meudon or transplanting system has over the Hamiltonian or permanent system. The point I would first draw attention to is this: Does a Pine-apple produce, in consequence of being transplanted, larger fruit? Should this be answered in the affirmative, then I should say where size is the only object the plan ought to be practised. On the other hand, if results (of which we have sufficient), bear out the fact that recent removal impedes the swelling of the fruit, then of course (leaving out of the question the necessity of the two departments in the Meudon system), we ought to hold to the permanent or Hamiltonian plan. The latter, or what I term the unmangling system, is successfully adopted by the best Pine growers round Manchester, and is fully carried out at this place; and I am persuaded that nothing can equal the plan, particularly where economy and quantity of fruit is aimed at. My employer has three times the number of fruit, and of better quality, out of the same space by this plan than by the old system. Our plants are all planted out, and treated precisely as Mr. Hamilton has directed in the second edition of his book. Those plants which produced two fruits last year have fruited again, and are stronger and healthier than ever they were. The size of the fruit, too, is not exceeded by that raised on any other system in the neighbourhood of Manchester. I am satisfied that plants treated on the Hamiltonian system may remain undisturbed for 10 or 12 years. Our stove is span-roofed; the pipes which supply both bottom and top heat are all underneath the chamber, which has openings at each side, to allow the heat to escape, and which can be closed in summer when bottom-heat only is wanted. Mr. Hamilton has but one Queen Pine-apple, and from this he has stated, and called Pine growers to witness, that he will cut two fruits every 12 months from this one plant for a period of 10 years, or 20 fruits in succession, weighing at least 80 lbs., and this without ever disturbing the plant. The first fruit was cut in August, 1846, and weighed 4 lbs. In 1847, June 20th, one 4 lbs. 8 oz.; ditto, on July 30th, one 4 lbs. 4 oz. In 1848, July 23d, one 4 lbs.; ditto, on Aug. 9th, one 5 lbs. 8 oz. Thus in two years the plant has produced five fruits, whose combined weight was 22 lbs. 4 oz., and the plant is well prepared to produce three fruit in 1849. Can a similar result be obtained by any other system? *John Hoole, Cheadle Heath, Nov.* 14.

Bees.—If your correspondent, "W." had read with more attention what I said at p. 734, he would have seen that it is the comb and not the honey which feeding deteriorates as to colour; and this I stated in answer to a remark made at p. 702. I reside in Kent, 10 miles from London, not at all in a good locality for bees. *A. B. C.*

Viviparous Beetles!!!—Mr. Wilkins' note (p. 750), relative to the little beetles, and the support thereby supposed to be given to the viper theory, is another instance of the mischief resulting from inaccurate observation in natural history. To have any bearing upon the question in dispute, it is necessary that the little beetles should be the young of the large one; but the young of all species of beetles are grubs, and when they appear in the beetle form they are of the full size of their parents. The probability is, that the little animals were parasitic acari, which had been dislodged from the beetle, and were endeavouring to regain their hold on their victim. *J. O. W.*—Permit me to ask Mr. Wilkins, 1. What we are to understand by round, whether globular or cylindrical? 2, What size the little beetles might be? 3, Whether he used his fingers or his walking-stick for crackers? 4, When he saw this remarkable phenomenon, before or after the great sea serpent? I would also beg to remind Mr. W. that a beetle is not composed of a single shell like an egg, but of many horny plates; thus there are those belonging to the head, the thorax, the abdomen, and lastly the wing-cases. Hence it becomes necessary to know what part he cracked, and what he found inside. My own supposition is, that the small ones were either parasitic insects, which are known to swarm on the lower part of the thorax, and round the necks of beetles; or ants carrying off the beetle for food, and which dropped their load and took to their heels, much in the same frame of mind as a porter here did the other day on the accidental explosion of a pair of loaded pistols contained in a portmanteau he had on his back. If, on the other hand, it should be proved that the little ones came out alive from the inside of the larger one, it will certainly merit a place with the fact contained in the juvenile rhyme of "Four-and-twenty blackbirds." *Medicus.*

Pond Weeds (see p. 765).—A pond near my house being covered with weeds, it occurred to me that if an iron chain was dragged along the bottom I should pull the weeds up, which would be better than cutting them. In June last I accordingly put this into practice, by means of an iron chain with ropes at each end, for an chain would have been too heavy. A man carried out the chain in a brewing cooler, and the men on shore pulled the ropes, as if drawing a net. This was repeated until the whole was finished, and to this day there has not been seen a single weed upon the pool. The pool is part of the castle moat, having a strong beautiful stream of water running through it. The ropes were weighted at various places like the bottom of a fishing net. *C. A. A. Lloyd, Whittington, near Oswestry.*—I have two ponds that are much subject to small green weeds, and the only remedy (a sure one)

that I have found is to encourage the moor hen. *John Stoveld, Stedham Hall, near Midhurst, Nov.* 20.—If by Duckweeds your correspondent means any of the Lemnæ merely, he is advised to make another trial of ducks in larger numbers. This summer I had a small pond skimmed perfectly clean by them, though its surface was completely covered by a green floating stratum of Lemnæ. To do the work effectually the pond should be, for a time, overstocked with ducks. It is probable that they eat the weed more greedily in summer, when it abounds with minute living creatures than they would now, when such things are mostly torpid or deep in the mud. Growing birds, too, will devour it more voraciously than old ducks that are kept for stock. A large number of ducklings about six weeks old, purchased in the spring, and turned into forage, will be found very effectual cleansers of the surface impurities of the pond. *D.*—The only plan I can find to keep Lemna or Duckweed down is, twice or thrice in the summer to sweep the surface of the pond with a long cart-rope. Long pieces of wood are fastened to the rope to keep it from sinking; it is then drawn by two men slowly at each end to one corner of the pond, and the weed taken out with forks. If the surface of the pond is at all exposed to the action of a strong wind, the weed will be driven to the lee side of the pond, and may be raked or forked out. I can find no other way of ridding my pond of weeds so effectual. *H.*

For Ridding Gravel Walks of Grass.—I have found the following plan very effectual:—I have a water-tight chest on wheels, holding about 50 gallons; a large bucketful of salt is put into the box, and it is filled up three parts with boiling water, wheeled into the garden, and applied hot from a watering can with a rose, giving a liberal dose; 24 hours will tell a tale. *H.* [Yes; but what happens the next year, or the year after? Are not the weeds stronger than ever?]

Potato Disease.—In an outer garden, lying under the shade and shelter of a south-east wall, I planted (last spring) Potatoes; at the southern end 12 rows of Buffs, all the rest being late earlies, and all were put in whole. The southern end was composed of a rich stiffish soil, lately reclaimed from a natural bog; the other half, or rather more, was a gravelly soil, which had been cultivated for several years. The whole crop got a good supply of well-rotted manure, and most of it, upon the gravelly end, the Potatoes on which, being nearest the gate, were first used, and were indeed excellent. On the morning of Monday, the 4th September, I inspected the crop at several points, in the presence of an intelligent farmer, and finding not the slightest trace of disease, I congratulated myself on escaping from it, nor had those used at table shown any sign of it. On the following morning, between 2 and 3 o'clock, I had to ride to the country in the exercise of my profession, and was surprised at the peculiar purple hue which the whole heavens displayed. There was also an immense quantity of that form of lightning termed wildfire, an evidence of great atmospheric electric disturbance, and appearing, from information afterwards got from the daily papers, to be "the tail of the storm," which was said to be so severe in London on the Monday evening; we had not the slightest wind here either on Monday or Tuesday. On the Tuesday morning (within 24 hours from a minute inspection of the crop), when the dinner dish was dug up, half-a-dozen or so were easily seen to be diseased, and whenever an examination was made, the same thing was found, except among the Buffs, which from over luxuriance were a scanty crop. I then determined to have the crop taken up, except the Buffs, and found about a sixth part of the whole diseased; the small ones also, from those previously used, being left on the surface, for seed, were found on examination to have a proportion diseased, although they were quite healthy when taken up. This, I think, goes far to prove the atmospheric origin of the disease, when circumstances exist to favour its development. The Buffs were only taken up two or three weeks ago, after the shaws were completely frosted down, and showed a considerable proportion of diseased tubers. Having stored up the late earlies, according to the plan suggested at page 158, of the current year's *Chronicle*, I have succeeded in saving all which were taken sound from the ground, although the disease was fast spreading at the time; during that same week I examined many plots of Potatoes, and found several, but not all, diseased—some in gardens others in the open fields. The difficulty of arriving at conclusive evidence as to the origin of the disease I think is increased from the very nature of the plant itself. Being propagated as a slip it does not afford that evidence of the origin of disease which is to be seen in the Turnip at its life-knot, when labouring under the same putrefactive influence. This I examined minutely in the autumn of 1846, when several fields in this district were affected, and traced the gradual development of the disease from the smallest point in the very centre of the life-knot to the most perfect putrefaction; I felt satisfied that the disease was similar in its nature to that of the Potato, and proceeded from loss of balance between the terrestrial and atmospheric electricities; a fact which, from close observation of natural phenomena, I conceive to be explicable on physical grounds. It would be interesting to know if a great increase of disease took place in other districts during the week alluded to. *J. B. Weir, Galashiels.*

Silkworms.—In a country like this, renowned in almost every useful art and science, it is surprising that the cultivation of silk has made so little progress, although Evelyn, in his memorable work, named "Silva," places the Mulberry tree in the first rank. I was much interested in viewing, about a mile from this place, a fine plantation of white Mulberry trees and plants (the true Morus alba), of entire English growth, for the express purpose of furnishing food for silkworms. I was also shown samples of silk, which was pronounced by competent judges to equal that from foreign countries. The great obstacle to the production of silk in this country is thus removed; for amateurs who may have been induced to try the experiment have been frequently defeated through the difficulty they have experienced in obtaining food sufficient to supply the wants of the silkworm. *A Silk Manufacturer, Godalming, Oct.* 31.

Cydonia (Pyrus) japonica.—There is now growing, in a garden in the neighbourhood of Truro, a Cydonia japonica as a standard, on which there was a fruit this year weighing 5 oz., and measuring in circumference $8\frac{3}{10}$ inches. It has no protection whatever in the severest winters, except what it derives from the surrounding shrubs; and it has flourished thus for, at least, these last 12 years, fastened to an iron stake. *Trehane, near Truro, Nov.* 9.

Papaver somniferum.—The value of this plant as an article of food seems to be little known or appreciated in this country. At the present time, when disease has robbed us of one esculent and seriously threatened others, I would beg leave to call attention to the culture of this Poppy, on account of its own intrinsic value as an article of food, and also on account of its being the least likely to become diseased of any plant with which I am acquainted, and thus more to be relied upon than most other esculents. There is no corn land or other reasonable situation in Great Britain or Ireland where it could not be grown in great abundance. This plant is notorious for yielding poisonous juice, the opium of commerce being obtained from its wounded capsule. The seeds are not only wholesome and nutritious, but peculiarly agreeable to the taste, very much resembling in this respect the kernel of the Walnut. The quantity of seed yielded per acre is considerably above that obtained from ordinary bread corn, being upon rich land above 1 ton, and in poor soils about 11 cwt. In regard to disease, I do not recollect any instance of a plant of this kind being seriously injured either by disease or insects. I have seen red gum occasionally on the leaves, but never to such an extent as to hinder the plant from perfecting its seeds. One perfect seed will reproduce itself ten thousand fold. I counted one capsule out of six that grew upon the same plant, and that one contained upwards of 2000 seeds. The seed for an acre of this crop could be had for something less than 1*s.*, whereas seed Wheat for an acre, sowed in the ordinary way, would cost from 10*s.* to 20*s.*; and sets for an acre of Potatoes would cost 5*l.* at the present time. To those who cling to the Potato plant on account of its being easily cultivated, and when grown easily prepared for food, this Poppy will especially recommend itself, being a robust weed, much hardier than the Potato, and when grown the seeds are eatable in their raw state, and this is not the case with ordinary esculents, for the seeds of Grasses require complicated manipulation, and even the "lazy root" requires boiling, roasting, or the like. The culture of this Poppy must not be looked upon as anything new or speculative or impracticable, thousands of acres of the finest land are now employed in its culture, and have been for ages past, to supply the deadly drug opium, and the oil expressed from the seed is similar in purity and wholesomeness to the best olive oil. France and the Netherlands export this oil and constantly use it. We read of the seed being made into cakes for human food, and the seed is said to be sold in the public markets in Hindostan, like any other esculent. Some ripe seeds of it were given me to eat by a botanist in 1827, and from that time to the present I have repeatedly used them, and find them wholesome and agreeable to the taste. I have for years past cultivated the plant, to produce a display of gaudy flowers upon Dahlia ground, before the Dahlias come into bloom. In all gardens it frequently appears as a troublesome weed, and most gardeners are doubtless familiar with its vices as such, and also with its virtues as an agreeably tasted seed; and as the oil and the seed are articles of commerce, any one may easily give them a trial for the outlay of a few pence at the nearest market town; and if various individuals would send you their unbiassed opinions of the seed as an article of food, and the results of their experience in growing the plant, its culture and economy might be got into good working order by the time the season arrives for sowing the seeds. The first question that naturally presents itself in the enquiry is, upon what authority do we rely that these seeds are wholesome and nutritious, even if we could obtain them in abundance? Cage birds, as canaries, &c., are very fond of them, and fatten on them rapidly; still the evidence of bird-fanciers would go for little more than this—that the seeds are not poisonous to birds, and that none of the symptoms produced by opium are occasioned by eating them. The evidence of gardeners who may have eaten small quantities of the seed on account of its pleasant taste, would be still less to be relied upon, since the deadliest poisons may be taken in homœopathic doses with safety; fortunately, however, this affair has occupied the attention of scientific men and competent judges repeatedly, and "if ancestors can be in aught believed," these seeds are sound and good food for men. In looking for information upon this point, it is necessary to enquire in the countries where it has been used as food, for we find little or no information in gardening books published in our own country on this subject. So far back as two centuries ago the French instituted inquiries to ascertain if oil obtained from the plant was wholesome or not, and the question has been often revived in France and elsewhere; still the same answer seems to have been elicited by all authorities, and evidence adduced from all countries where the plant is cultivated, prove that the seeds are wholesome and nutritive, and also the oil expressed from them. I need scarcely state that seeds containing oil fatten animals much faster than those which contain only starch. Thus, Flax seed, weight for weight, will fatten cattle faster than Oats or Barley; and consequently, for such a purpose, the oily seed is more valuable than the starchy one. Not only does this argument hold good in regard to cattle, &c., but we find that in all the cold and even temperate regions of the earth, oil or fat of some kind is constantly required as food for man. A familiar example of the proportions of oil, or fat and starch, in common use, may be given in the penny rolls and pats of butter in a coffee-room. The penny roll should be about 8 oz., and the pat of butter should be 1 oz., in weight, and $\frac{3}{4}d.$ in value; consequently, upon this calculation, two quartern loaves, or 8 lbs. of bread, will require 1 lb. of oil or fat, to make it ordinary food. Now see the relative value of starch and oil. Starch is under 2*d.* a lb., fat costs 1*s.*; therefore, whilst 9 lbs. of dry bread cost 1*s.* 3*d.*, 9 lbs. of bread and butter cost 2*s.* 1*d.* If, therefore, an oily seed could be procured as strong and as fat as ordinary bread and butter, its value would be, compared with corn, as 25 to 15, or as 5 to 3; and as 15 cwt. of Wheat per acre is a reasonable crop, if 15 cwt. of Poppy seed could be grown on an acre, its value would be equal to 25 cwt. of Wheat. Neither the vegetables in common use, nor grain, roots, &c., contain oil in any appreciable quantity; hence I would argue the necessity of adding this esculent to our list as an article of food for general use, admirably suited to our climate, and particularly adapted to districts stricken with poverty from the loss of the Potato crop. This plant admits of being sowed during autumn and winter, and starts into bloom upon the first heat; consequently it ripens early, and would be off in time for late Turnips. Whoever makes the experiment of growing garden Poppies in the field will not go unrewarded, for the display of flowers, when the field of Poppies is in bloom, will be such as never farmer made in field before. *Alex. Forsyth, St. Mary's Church, Torquay, Devon.*

Alkali Works v. *Vegetation.*—I am a regular subscriber to your very useful Journal, and derive great pleasure and instruction from the weekly perusal of its pages. Besides being an amateur farmer and gardener, I am a manufacturer, from which occupation I, as well as hundreds of the best friends and customers of both farmer and gardener, derive their means of subsistence and their ability to enjoy the pleasures and employment of country life, about which you often so eloquently discourse. I observe with great regret an article in your Paper of last week against alkali manufactories, conceived and penned in a spirit of the grossest injustice, and with a malevolence unworthy the pages of your respectable periodical. It is often the case that when a man advocates his cause by violence and abuse, he substitutes such aid for the all powerful and irresistible calmness of truth and fair dealing. Now it so happens that there are no acrid vapours poured forth by alkali works that can damage timber or crops. The deleterious gas that is evolved in one of the preliminary processes of the manufacture of alkali is muriatic acid gas, which I admit is very injurious to all kinds of vegetable life. If the party you refer to, near Wakefield, chose to establish his works in such a paradise as you describe, and took no pains to neutralise this acid gas, then the punishment that has fallen upon him is deservedly merited; but because this individual has by his imprudence in selecting his site, or perhaps by his carelessness or ignorance in conducting his operations, rendered himself liable to a prosecution for damages, which an action at law could alone get him to pay, it is not proved whether his conduct was the rule or the exception; this you should have ascertained before you included all such manufactories in your sweeping condemnation. Is it just or right that because this man may have done great and perhaps wilful damage which he either could or would not pay for, that you find it needful to advise the public to "concede nothing, compromise nothing, but force into court" every other person who has the misfortune to be an alkali maker, and therefore beyond the pale of justice or right? Now allow me to inform you that the direct opposite of this course has been the practice for many years in the north of England, where the largest quantity of alkali is produced in the kingdom. I will venture to assert that among the manufactories of that district, employing as they do some thousands of men, and spreading about them the means of a comfortable subsistence to hundreds of families, there has not been for a very long time a single real case of damage that was fairly claimed for, that was not as fairly and fully compensated. True it is that on the banks of the Tyne we have no baronet's foliage to scorch, or naturalist's shrubbery to shrivel, but we have as valuable agricultural land in the immediate vicinity of our works as there is to be found anywhere; that the farms close to the factories let most readily, often at improved rentals; and before the recent improvements, whereby all damage is now absolutely prevented, it used to be a saying among the farmers that "the smoke crop was the best crop." The manufactory with which I happen to be connected has for the last 20 years invariably met every real claim to the full; and for the last two years we have used a process now very generally adopted, by which every particle of acid vapour is destroyed, and our works are as innocuous as an iron work or a cotton mill. We have of course been liable to the demands of the extortionate and the swindler, and many a good sum we have paid for crops that had never been sown, for cows that had never been ill, and for all sorts of careless or wilful bad husbandry, rather than let it be said that we oppressed our neighbours by refusing to pay for damage we had caused them. I do not speak thus of ourselves as an exception, but as an instance of what I believe to be the general practice in the trade; and I cannot permit you or anyone to publish so unjust and erroneous a statement without giving it my most unqualified opposition and contradiction. *An Alkali Manufacturer in the North of England.* [Our correspondent has given himself needless trouble. We have said nothing about farm crops; our remarks applied to timber and such vegetation. Does our correspondent mean to say that muriatic acid gas is *not* acrid? We abide by our opinion that where such nuisances as alkali works are established in wooded districts, they ought to be put down with all the speed which the law permits. Their proper place is on moors and in treeless wastes.]

Societies.

LINNEAN *Nov.* 22.—E. FORSTER, Esq., in the Chair. A long list of books presented to the Society during the vacation was read. A collection of Acacias, made by Allan Cunningham, Esq., was presented by Robert Heward, Esq. W. W. Saunders, Esq., presented a collection of New Holland Ranunculaceæ, Euphorbiaceæ, &c., made by Messrs. Drummond and Gilbert. J. Clarke, Esq., exhibited specimens of Filago Jussiæi and Melilotus arvensis, found near Saffron Walden, Essex Dr. Arnott presented a specimen of Pladera fastigiata, from Ceylon. Mr. Adams exhibited specimens of the houses of spiders, collected by Sir Edward Belcher; they were obtained on the sea-coast, where the wind constantly blowing hard prevented the spiders from building an ordinary house, and consisted of portions of sand glued together, which were hung by a thread upon bushes or the branches of trees, and by this means the spider was enabled to rest and rear her young in safety amidst the constant storms to which it was exposed. J. Hogg, Esq., exhibited a specimen of what he supposed to be a double variety of the Matricaria Chamomilla. A paper was read from W. Huxley, Esq., on the anatomy, physiology, and zoological relations of Physalia, a genus of Jelly fishes, to which the Portuguese Man-of-war belongs.

Reviews.

Untersuchungen über den Bestand und die Wirkungen der Explosiven Baumwolle mit besonderer Berücksichtigung des microskopisch Nachweisbaren vor, während und nach der Explosion. Von Dr. T. Hartig. Braunschweig. 1847. 8vo; pp. 40, t. 1.

THIS curious treatise contains, as the title imports, an account of a microscopic examination of gun-cotton before, after, and during the explosion, and it is accompanied by a beautifully-executed plate, which, if the author has not drawn at all on his imagination, or dreamed over his microscope, should seem to prove that the fibres of cotton are far more complicated organisms than is generally imagined. The common notion of these fibres is, that they are more or less twisted strap-shaped bodies, with a slightly raised border on either side, containing in the centre a slight cavity, and consisting either of a single membrane or of many concentric closely-compacted strata. Dr. Hartig figures four constituent parts; an outer membrane, within which is a spiral thread sometimes broken up into rings; then the main substance of the filament, consisting at first of concentric coats, but swelling on the application of slightly-attenuated nitric acid, so as to rupture the two outer integuments above mentioned, and compress the internal membrane by which it is limited within. This substance exhibits a delicate fibroso-membranous structure, and is denominated by the author *astathe*; the inner membrane, from its liability to become twisted, he names ptychode. The astathe, it should be observed, forms a broad spiral band; and, according to Dr. Hartig, the threads of which it is composed are themselves made of globular molecules, a view which was maintained by the author several years since (1833), in a treatise on a supposed change of the tissues of vascular plants into fungi, and the consequent decay of the wood, but which has, we believe, met with few supporters.

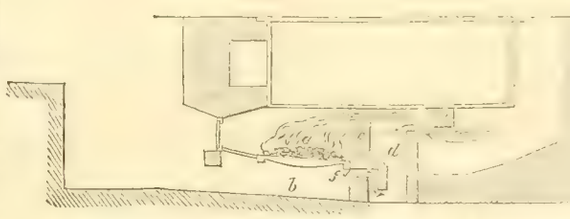
The subject of gun-cotton has a further botanical interest, as having led Dr. Thomas to recognise the species of fossil Conifers, which in all probability produced amber. It was considered previously as conclusive evidence against certain fossil species having been the source from which this curious mineral was originally derived, though found in the amber beds, that when burnt the fragments of wood exhibited no smell of amber. Portions were submitted to the process which is employed in the preparation of gun-cotton, and as might readily be suspected, yielded no explosive matter; during the process, however, crystals of succinic acid were produced in almost every fragment that came under examination, thus unexpectedly throwing light upon a point of great interest, which had long baffled the most attentive observers.

The pamphlet, like all that has been published by Dr. Hartig, is well worth perusal. It may, however, be remarked in general of his observations, that at the same time he sees more than other observers, while he does not see all that they see, a circumstance which always suggests caution, though it ought not necessarily to excite distrust.

Garden Memoranda.

Trentham Hall (*concluded from p.* 767).—Numerous attempts have been made during these last 20 years to burn the smoke which arises from the combustion of fuel, but they have nearly all proved total failures. Those interested in this matter will therefore be glad to learn that an exceedingly simple invention for this purpose (see annexed woodcut) has been applied most successfully to one of the furnaces at Trentham. Unlike many of the contrivances to burn smoke, this one is not only simple, as most useful appliances are, but it is also cheap, and bids fair to be brought into general use.

If Peaches and Pines are cultivated extensively at Trentham, so also are Grapes, and with no less success. Mr. Fleming has, we believe, exhibited perfectly swelled and beautifully coloured black Grapes earlier than any other person, at the meetings of the Horticultural Society in Regent-street. Those Vines which ripen their fruit as early as March, begin their work naturally with the declining autumn, without requiring any stimulus from fire heat until they are nearly in blossom, when a higher temperature is gradually and progressively given them until they are ripened off. By midsummer the young wood is perfectly matured, the foliage drops, and the Vines are pruned. These early Vines are never allowed to bear upon the old wood; a young shoot is brought up from nearly the bottom of the bearing branch and is carefully trained, being the source from whence next year's crop is to be obtained. In some of his Graperies, Mr. Fleming has adopted a new mode of pruning; some of our best Grape growers do not spur, but prune close to the stem, leaving one permanent Vine to a light. This mode of close pruning has answered admirably for late crops, but we have not heard of its being equally successful in early forced Vineries. Mr. Fleming's system is this: When a Vine has reached the top of the house, and is of sufficient age and strength to maintain a crop, it is allowed to throw out a lateral shoot at every 10 inches, or nearly so; every alternate lateral is allowed to bear the first season; the non-bearing shoots are only permitted to ripen their wood, which is stopped on the spur system. At the pruning season those laterals which have produced the crop are cut clean back, while those which have produced no fruit are cut back to a spur, having about two eyes on it. These spurs are designed to produce the following year's crop, whereas the shoots which are thrown out from the preceding year's bearing spurs are permitted to form well ripened spurs only, and which are destined to produce the crop of the succeeding year; and as this plan of alternate fruitful and barren shoots is followed up, and found to answer better than any other system of pruning, either for moderately early or late culture, and judging from the remarkably abundant and beautifully coloured late crops which we saw, no doubts as to the merits of the system can be entertained. In Grape culture Mr. Fleming is not desirous of obtaining extremely large bunches; he rather aims at the production of large highly-coloured berries, and to this end he reduces the size of the bunches—a plan which is practised by Mr. Wilmot, of Isleworth, and others who grow Grapes largely for Covent-garden Market. There exists in an old house here a Vine of great age; it is planted against the back wall, and is trained towards the front.



BEDINGTON'S PATENT SMOKE CONSUMER.

Reference to Plan—*a*, fire; *b*, ash-pit; *c*, bridge; *d*, air-chamber; *e*, hanging bridge; *f*, air-valve.

A limited quantity of atmospheric air is admitted through the air-valve *f* at the back of the ash-pit into chamber *d*, which meets the smoke at the top of second bridge, the current of smoke being diverted from the boiler at that point by means of the hanging bridge *e*, when ignition takes place and the smoke becomes a clear flame. The hanging bridge has a further very important advantage, as it prevents the possibility of the air coming in contact with the boiler, as, without this bridge, the air would be productive of serious injury by the great variation of temperature acting upon so small a portion of the boiler.

This Vine, for old acquaintance sake, has been permitted to remain undisturbed; but the appearance of the fruit clearly proving that the roots were not where they should have been (doubtless they had got under the walls of the house, and were luxuriating in the impure and wet subsoil which characterises the whole garden), Mr. Fleming formed a proper border in front of the house, and by tying moss to the large limbs, induced young roots to break out from them, which he conducted down to the border new made and prepared for them; some of these roots are 3 inches in circumference. The old stem, which is wrapped round with moss, is also a mass of roots, which during the forcing season are kept well moistened with guano water, and thus this old and apparently diseased Vine now not only produces excellent crops, but the desire to retain it has increased in consequence of the interesting experiments to which it has been subjected.

Stove and greenhouse plants are cultivated extensively at Trentham. One large span-roofed pit is exclusively devoted to Cape Heaths, of which Mr. Fleming has a very extensive collection in fine condition. A minute detail of the plant houses would, however, occupy too much room for our limited space.

We cannot conclude our account of these gardens without drawing attention to one of the grandest features about Trentham, viz. the forest, which, a few years ago, was an open, unplanted down, partly covered with Ferns, Heaths, and similar plants; it is situated 3 or 4 miles south of the hall, and occupies an extent of 400 acres. The surface is diversified by bold and beautiful swells, from the summits of some of which are magnificent views of the surrounding country. This ground was brought under the notice of the late Mr. Gilpin: and than this extensive tract of wild upland country nothing could have been better calculated to display to advantage his peculiar yet natural style, which he brought to bear here with singular vigour and effect. Carriage-drives lead in various directions, so as to bring into view the most imposing features of the district. A great portion of this ground is planted, but not as is usual with such extensive tracts where no object is attempted beyond that of a mere wood. The sides of the hills are occasionally clothed with bold irregular plantations, the eye roaming up nearly to the summit without interruption. Again, the outlines of these large masses of wood exhibit bold and sweeping curves, whose extensive projections and recesses embrace and show off to effect all that is lovely in the landscape. Indeed over this whole region of broken undulating country the most splendid combinations of natural scenery are displayed forth, and Mr. Gilpin must evidently have had the principles which he has left for our guidance, and with which we coincide, entirely in view in the execution of this great undertaking. "The beauty of a wood depends mainly on the beauty of its outline, and that outline requires a variety which can never be found in an insipid sweep, but which arises from the contrast of projection and recess, remembering that small variations will not correct the monotony, and that the effect will be good in proportion to the boldness of the contrast. These recesses again should vary from each other both in size and character, but in all an irregular abruptness should be preferred to a smoother form, and, above all, the connection of the several parts into one harmonious whole should be ever kept in view." *G.*

Bishopthorpe Palace Gardens, near York, the Seat of the Archbishop of York.—In passing through these gardens, I observed in one of the Vineries an unusually well grown plant of Ipomœa fistulosa, covering, with uniform growth, a balloon-shaped trellis, perhaps 6 feet in circumference, and unfolding a portion of its numerous rich purplish coloured flowers. This is certainly one of the best of late blooming greenhouse or conservatory climbers. Begonia insignis and Plumbago capensis (the latter receiving hothouse treatment) were also fine in bloom. The richly-coloured nodding pink racemes of the former, and the delicate clear light blue or dove-coloured masses of the latter, produced a pleasing effect. *W. W.*

Miscellaneous.

Collectors.—We understand that Mr. G. J. Bögh, of Copenhagen, has determined in the spring of 1848 to visit New Zealand, with the view of collecting objects of Natural History, more especially living and dried plants, seeds, stuffed birds, skins, &c. Mr. Bögh, it appears, has been employed in the nursery of Mr. Booth, of Hamburgh, and has been 2½ years foreman to Messrs. Emmerich Klauzal and Co., of Vienna, from whom, as well as from Mr. Booth, certificates of character and ability can be obtained. He will be glad, when in New Zealand, to execute orders for English gentlemen; but such orders must be made before the end of January, and half the amount of the value of the goods required must be paid in advance. Address G. J. Bögh, Royal Botanic Garden, Copenhagen.

Culture of Lisianthus Russellianus.—This beautiful and much esteemed plant was introduced into this country in 1835, from Mexico. Being found to be capable of producing ripe seed in abundance, a large stock of plants was soon diffused among our best cultivators, who hailed it with delight. Nevertheless, strange to say, its successful cultivation, except in a few instances, still remains a desideratum—a fact amply proved by the paucity of really well cultivated plants produced at our great metropolitan exhibitions. Having been somewhat more successful than some of my neighbours in growing and flowering this plant, truly magnificent when well managed, I will give my plan, which is as follows:—I sow early in spring: I first fill a 6 inch pot half full of potsherds, over which I place 1 inch of sphagnum moss; I then fill the pot within 1 inch of the top with rich light sandy soil. When all is pressed down equal and firm, and a smooth surface made with the bottom of a small pot, I sow the seed, and cover it very slightly with dry white sand. I cover the pots with bell glasses, and place them on a shelf in a shady part of an early Vinery, keeping the surface constantly moist by pouring water on the outside of the glasses. As soon as the plants have come up, air is admitted, and increased as they advance in growth. When sufficiently strong they are pricked out into small pots, having the same drainage, moss and manure as the seed pots, and are again shaded with hand or bell glasses until the plants become established. In three weeks or a month they require to be potted off singly into small pots; and I encourage their growth as much as possible by placing them in a shady part of either a Vinery or a Melon pit, whichever is kept at the highest temperature, with a humid atmosphere. As soon as they begin to fill their pots with roots, I give them once a week a little clarified manure water. I repot into winter pots

about the middle of August, using pots to suit the size of the plants, and replacing them in the same growing temperature as before, till their pots are filled with roots. After this I begin to prepare them for winter by giving them less moisture, more air, and a cooler temperature; and finally they are placed on a shelf near the glass, in the coolest part of the stove, and wintered rather dry. Early in February I begin to increase the heat and moisture; and as soon as they begin to grow freely, I repot them, which is generally about the second week in March. They receive another shift in April, and those that are intended for large specimens a third in May (using 18 or 20-inch pots), and a mixture consisting of equal quantities of good strong maiden loam, peat or bog mould, burnt clay, leaf mould, and cow manure, with a little white sand. These materials are well mixed together, and if dry are moistened, to prevent their running too close in the pots. In potting I use a large quantity of drainage, and plenty of rubble stones, small potsherds, and coarse river sand amongst the mixture. I make the mixture just firm, but am very careful to leave it quite porous. I give very little water till the roots reach the sides of the pots: it is increased as the plants and the season advance, giving heat and moisture in proportion. Too much stress cannot be put upon making a proper mechanical arrangement of rich, porous, and well drained soils, which are essential for the healthy development of plants of the nature of the Lisianthus. When the young shoots are sufficiently advanced, I stop them immediately above the second joint; each shoot will then produce four; they require stopping about three times. The last stopping for plants required to bloom early should take place in the first week in June, and for plants required to bloom later in the first week in July. As they advance in growth the branches will require to be tied out with sticks, to make round and well formed plants. When the plants are growing freely, they are sometimes attacked with a disease at the base, which is produced by the moist and confined atmosphere that is required for their fine growth. To prevent this I allow the surface to become quite dry once a week, during which the plants are supplied with moisture from feeders or pans in which the pots are placed for a few hours, being careful not to allow any stagnant water to remain about them. As soon as the blooms begin to expand, I keep a drier atmosphere, and expose them to more air and light, which much improves their colour. As to the result of the above practice, I may mention, in conclusion, that I grew some seedling plants in 1844, one of which I exhibited at the Horticultural Society's Garden in July, 1845, which was awarded a silver Knightian medal, accompanied with this note by the judges:—"Had this been exhibited in its proper place, it would have received a higher medal." In July, 1846, a second plant received a large silver medal; and to a third the same award was made in July, 1847. Another plant was also shown in the same year at the Royal Botanic Society's Garden, Regent's Park, and was awarded the first prize as a single specimen of superior cultivation. The plant that I exhibited at the Horticultural Society in July, 1847, had 500 blooms expanded at once, 10 days after the exhibition; *John Green, in the Journal of the Horticultural Society.*

Calendar of Operations.

(For the ensuing Week.)

CONSERVATORY AND GREENHOUSE.

Included in the management of plants, if there is one care that should exceed others (at this season more particularly), it is that of regulating the temperature—governing, in fact, judiciously the amount of fire-heat. The very variable nature of the weather lately has made the exact fulfilment of this duty sufficiently difficult; but as no great good is ever gained without some expenditure of labour, the additional trouble should be cheerfully undertaken with the belief that the reward will be commensurate. The supposed necessity of resorting to fires in greenhouses may often be obviated, with real advantage to plants, by the use of night coverings. Double mats, or whatever may be devised for the purpose, will, except in extreme cases, maintain a night temperature of from 35° to 40°, which is an amount of night heat sufficient for the ordinary occupants of our mixed greenhouses during the winter months.

FRUIT FORCING.

The progress of the various works of preparation—amongst others, that of collecting leaves and distributing them throughout the different pits—has scarcely received interruption from the weather; as much activity as is compatible with circumstances should prevail while the weather allows the opportunity, and as long as aught of the kind remains to be done. In commencing Vineries, try to produce simultaneous action in the roots and stems; perhaps the primary impulse, under the peculiar circumstances of the season, should be contributed by the roots. The occasional employment of tepid water will be found advantageous and even necessary to all things submitted to forcing. The wisdom of our ancestors has not been remarkably evidenced in gardening matters. The following extract, written by Bradley upwards of a century since, in his "Philosophical Account of the Works of Nature," bears pretty much and accurately on the matter in hand: "All our senses are witnesses of these gradations in Nature, by which we are taught to act with gentleness and deliberation in such things as are to be durable; for whatever is too hastily gone about, or is forced to a greater speed than Nature appointed, must inevitably perish before its due time; and it is from a just observance of such progressive methods as Nature takes in the ordering and directing her works that our reason is guided truly to our advantage."

FLOWER GARDEN AND SHRUBBERIES.

Beds devoted to massing plants should receive a dressing of manure yearly, proportionate to their supposed exhaustion, which manure should be dug in, and the under spit of soil thrown up and left unbroken on the surface. In carrying materials to and from the flower garden, barrows are frequently objectionable: it is a matter of remark to foreigners that so much as the *hotte* is employed on the Continent, and as foreign customs are so much pursued in this country, that this fashion, really worthy of imitation, should not have been more generally introduced. The *hotte* is simply a basket, with a flat side for the back, and a couple of straps for the shoulders; its use is general in French gardens. Proceed with the planting of evergreens, and mulch and stake those recently planted; secure shrubs and young trees from the effect of boisterous winds by stakes; plant climbers, as Ivy, Clematis, &c., and train and support creepers against walls generally.

FLORISTS' FLOWERS.

We are now approaching a season when little can be done in this department. *Auriculas, Carnations, Pinks,* and *Pansies* are in their winter quarters, and *Tulips* ought to be safely deposited in their beds. A systematic attention must be paid to the former; the labour, however, is by no means serious; regular and careful watering, with an unbounded supply of air in all reasonable weather, are the chief requisites; not forgetting a sharp eye on all traces of snails or other noxious insects, which must be immediately discovered, or entrapped, and destroyed. The past season has not been remarkable for any very superlative display of Tulips, as far as their exhibition was concerned, except in the southern counties. In the north, owing to the extreme hot weather in the early part and during the month of May, the exhibitors were wholly at fault; and few shows were at all satisfactory. The three crack exhibitions, Derby, Belle Vue Manchester, and York, were comparative failures. At the two first the flowers were past their best, by a great deal, and the latter show was given up altogether; the policy of which step appears to us somewhat questionable. We are glad to find that the floricultural spirit throughout the kingdom appears to be rapidly increasing; and we confidently predict an improvement in a corresponding ratio. If little can be done, except attending to the minutiæ of winter cultivation, still every florist must bear in mind, that now is the season to prepare composts, to have turf and lay it in heaps, collect leaves, and in fact, to lay in a store of food adapted to the different wants and necessities of his various favourites; without which all attention and care are comparatively useless. To this department of his labours we earnestly direct the amateur; for on its adoption rests the great secret of his future success.

KITCHEN GARDEN AND ORCHARD.

Every opportunity of favourable weather should be promptly employed in carrying out whatever digging, trenching, and draining, have been marked out for completion during the winter months; deferred until a later period, severe weather may set in, and thus the operations may be retarded, to the manifest loss of many advantages. Land intended for Potato culture should be rough dug and exposed to the action of the weather as much as possible; and manure, if employed at all, should be most sparingly applied. That portion of our Potato crop allowed to remain in the ground until late in the autumn most fully and favourably confirmed the propriety of our previously expressed opinions on the subject. If hitherto delayed, Strawberry beds should be dressed with short, rich manure; we are not partial to the practice of digging between the rows; the manure can remain on the surface until the spring, when it can be slightly pricked in with a fork. Remove all unnecessary runners, if they have been neglectfully allowed to remain. Finish pruning Currants; some of the larger kinds will repay the attention of superior culture; trained to a wall, and spurred as Vines, they approach some of the varieties of the last-named tree in the size and weight of their branches.

COTTAGERS' GARDENS.

Preserve with most scrupulous care all the wood-ashes and soot which the cottage affords, both are valuable as manures. As the labour can possibly be better spared at this than at the spring season, and as an advantage attends the practice, wheel on the store of manure to the land and dig it in; throw up the unbroken spits of soil to be pulverised by the frost; the land which should be manured most particularly is that intended for Peas, Beans, Cabbage, Onions, and Carrots; do not manure the division intended for Potatoes, unless the soil be extremely poor, when wood-ashes, decomposed leaves, or road-sand would be the best substances. All Potato growers agree in condemning rich soils for the cultivation of the root: the only case of exemption we are acquainted with occurred in soil extremely impoverished.

State of the weather near London, for the week ending Nov. 23, 1848, as observed at the Horticultural Garden, Chiswick.

Nov.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 17	☾	30.073	29.808	49	38	43.5	S.W.	.04
Satur.. 18	22	29.729	29.513	50	34	42.0	S.W.	.03
Sun. .. 19	23	30.060	29.791	50	34	42.0	N.W.	.00
Mon... 20	24	29.874	29.581	55	40	47.5	S.W.	.09
Tues... 21	25	29.662	29.523	54	33	43.5	S.W.	.03
Wed... 22	26	29.238	29.168	55	43	49.0	S.W.	.01
Thurs. 23	27	29.207	29.151	52	39	45.5	S.	.04
Average...		29.550	29.505	52.1	35.3	44.0		0.24

Nov. 17—Densely clouded; uniformly overcast; rain; in the evening a peculiar reddish luminosity in the sky.
— 18—Densely clouded throughout; slight rain at night.
— 19—Fine; very fine; clear and frosty at night.
— 20—Densely clouded; rain commenced 1 P.M.; overcast; boisterous.
— 21—Clear; sudden rise of temperature; clear and fine; red illuminated sky in the evening.
— 22—Overcast throughout; slight rain.
— 23—Rain; very fine; heavy cloud; rain at night.
Mean temperature of the week, 1 deg. above the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending Dec. 2, 1848.

Nov. and Dec.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 26	47.6	23.4	40.5	10	0.54 in.	1	1	6	1	3	8	1	2
Mon. 27	47.5	36.2	41.8	11	0.88		2	4	1	4	8	2	1
Tues. 28	48.9	37.8	43.3	13	1.21	2	1	2	2	7	3	4	
Wed. 29	48.9	36.0	42.4	12	0.56	2	1	3	3	2	8	2	1
Thurs. 30	49.8	37.9	43.8	13	0.31	1	1	1	2	3	7	5	8
Fri 1	49.3	37.7	43.7	8	0.25	1	2	2	2	2	6	6	2
Satur. 2	46.4	36.5	41.4	11	0.51	1	2	1	1	2	8	2	2

The highest temperature during the above period occurred on the 28th 1823, therm. 60 deg.; and the lowest on the 29th, 1846—therm. 16 deg.

Notices to Correspondents.

Books: *Quæstor.* The last volume of Smith's "English Flora," containing the Fungi, was written by the Rev. Mr. Berkeley.—*R Green.* Sweet's "Hothouse and Greenhouse Cultivator," or Neill's "Fruit, Flower, and Kitchen Garden." We cannot give prices. ‡

Campanula pyramidalis: *Const. Reader.* To ensure a good bloom, you must keep up a constant succession of young plants, those which have once flowered in pots being only fit for planting out in borders. They may be increased by dividing their roots; pot them in rich soil, and water them plentifully with manure water. Plumbago Larpentæ is hardy; Ceanothus azureus not quite hardy. ‡

Conservative Wall: *A Subscriber.* We shall be happy to give you the desired information, if you will say in what part of the United Kingdom the wall is situated. Your note does not even mention the county in which it is written.

Emigrants: *Flint.* Mr. Sidney's advice is good. You can no more learn wine making and vineyard management than shoemaking by mere reading. You must gain personal experience. We think that Spain is a better country for an Australian emigrant than France. Go to Cadiz or Malaga. Whether or not you would obtain employment is more than we can say. Take out with you as a gardener the "Theory of Horticulture," which is indispensable. There is no book in English fit for you, if you want the practical details of wine making and Vine growing in wine countries.

Emigration: We cannot, as we have often stated, take upon ourselves the responsibility of recommending colonies to our correspondents. They must judge for themselves; for which purpose they must read the books on Emigration now published at a very low price, and the Colonization Circular and Commissioners' Report of the Government Board of Emigration, at No. 9, Park-street, Westminster; to be had of all Booksellers.

Fuchsias: *W R.* Your window Fuchsias should receive but little water in winter, and that in the morning. When they begin to grow in spring they may be watered more freely, but gradually till they have somewhat advanced in growth. ‡

Gladioli: *Amicus.* These may be protected from frost by covering them; but they are apt to be injured by wet. The best way is to take them up in autumn and to replant them in spring. ‡

Heating: *G.* Our opinion is unchanged, provided the work is skilfully done. It is, however, evident that errors are made in working out the details by persons who we should have thought could have been trusted. We are unacquainted with the neighbourhood of Exeter.—*Sheffield.* We see no reason why Polmaise should not be applied to your house. In a few weeks we will renew the subject; and you had better wait till then.

Insects: *J R M.* For some account of the Rose-leaf insects see p. 524 of the current year's volume. ‡—*G S W.* The insects sent, found in the large corn warehouses, are four species of beetles. The small ones, with long antennæ, are Cucujus testaceus; the larger ones, with short antennæ, are a species of Stene, closely allied to, but smaller than, St. ferruginea. The few, with notched edges to the thorax, are Silvanus surinamensis; and the two or three with snouts are Calandra oryzæ. *W.*—*S F.* The larva sent is not a wireworm, but that of a species of ground-beetle, which feeds on worms and other vermin, and therefore ought to be protected. *W.*

Moss on Trees: *H S.* The best remedy you can try for removing the moss from your fruit trees is a mixture of soap-suds, quick-lime, wood-ashes, and cow-dung; washing your trees over in winter with it after having scraped the roughest of the moss from them. The root of the evil is bad drainage. ‡

Names of Fruits: *W Elliott.* 8, Beurré Bosc; 9, Louise Bonne of Jersey; 10, Flemish Beauty; 11, Appears to be Easter Bergamot; 14, Beurré Diel; 15, Hacon's Incomparable; 25, Winter Crassane; 29, Knight's Monarch, true and delicious, proving to be well adapted for a Shropshire climate; 70, Althorp Crassane; 2 is perhaps Fondante d'Automne.‖—*Tom.* 1, Vicar of Winkfield; 2, 4, Beurré Diel; 3, Winter Nelis; 5, 6, Glout Morceau.‖

Names of Plants: *W M.* Dendrobium longicornu. The leaf cannot be named; how do you know it to be a Holly?—*Truro.* It is not possible to name Bindweeds by their withered flowers alone.—*J D.* An unpublished Lycaste not to be found among Mr. Linden's dried plants.—*W P.* Apparently a crushed flower of Vallota purpurea.—*T P.* Apparently a bit of Ipomœa Horsfalliæ; but who can tell from such a morsel?—*Masham.* It is Asplenium Trichomanes; not at all like Maiden-hair, which is an Adiantum. The large gnats called Daddy-long-legs do *not* "breed slugs or snails." The "very intelligent!" farmer who told you that they do is a blockhead; that is the plain truth.

New Forest: *X Y Z.* We have received other letters to the same effect, but we cannot open the question, which is foreign to the objects of this Journal. We will, however, take this opportunity of stating that you are much misinformed, and that nothing has been done by the Commissioners to call for the animadversions you make upon their conduct. Quite the contrary.

Night Temperature: *J R.* Thanks. We shall use the information soon.

Passionflowers: *A Constant Sub.* A Passionflower is set or impregnated (the words have the same meaning) by applying the pollen of the flower to the stigma. Prune all such plants when they are at rest, and before they begin to grow. P. onychina is rich violet. P. Kermesina will do in a well managed greenhouse.

Pine-apples: *L.* We should think 60° or 65° quite enough for the bottom-heat of Pine-apples not in a state of growth.

Plantations: *Inquirer.* You may clip the Spruce Fir like a Yew; Larch is not suited to the operation. The latter will, however, grow among evergreens better than the former, because of its thin foliage. It is not possible to advise you further without seeing the ground. Probably you might dispense with the Privets.

Roses: *W R.* Lamarque succeeds best against a wall. ‡

Vipers: *G W.* Enough and more than enough has been said to show that numbers of credible witnesses *believe* that they have seen young vipers take refuge in their parent's mouth. What we wait for, and what no one seems able to furnish, is *proof* that the belief was well founded. The nature of that proof we have already explained.

Misc: *R B.* Next week. ‡—*E H.* You will find a list of American border plants at p. 192 of our current year's volume. Ranunculus roots, taken up last spring, provided they are sound, will grow if planted next spring. ‡

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as building and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

SMITHFIELD CLUB, 1848, CATTLE SHOW.—THE ANNUAL EXHIBITION OF PRIZE CATTLE, Seeds, Roots, Implements, &c., 6th, 7th, 8th, and 9th of December, Bazaar, King-street, Portman-square. The arrangements are marked by the usual attention to the general comfort of visitors, thereby enabling Ladies to view this National Exhibition with perfect facility. Open from daylight till 9 o'clock in the evening. Admittance, 1s.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.—PROFESSOR SIMONDS, Lecturer on Cattle Pathology in the Royal Veterinary College, has kindly consented to deliver TWO LECTURES before the Members of the Society, at their Rooms in Hanover square, on the occasion of their ensuing December General Meeting, on the following subjects:

I. On the anatomical structure, physiology, and functions of the skin in domesticated animals: on Wednesday, the 6th of December, at 9 o'clock in the evening.

II. On the diseases of the skin in domesticated animals, with particular reference to the nature and treatment of the small-pox in sheep: on Thursday, the 7th of December, at 9 o'clock in the evening.

These Lectures will be illustrated by diagrams and coloured drawings on a large scale, and by anatomical preparations exhibited under the power of the microscope.

The General Meeting of the Members will be held on Saturday, the 9th of December, at 11 o'clock in the forenoon.

By order of the Council,
London, Nov. 25. JAMES HUDSON, Secretary.

The Agricultural Gazette.

SATURDAY, NOVEMBER 25, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

THURSDAY, Nov. 30—Agricultural Imp. Society of Ireland.
TUESDAY, Dec. 5—Agricultural Society of England.
THURSDAY, — 7—Agricultural Imp. Society of Ireland.
FARMERS' CLUBS.—Nov. 25: Hereford.—Dec. 2: Newcastle, Durham, Melrose.—Dec. 4: Yoxford, Claydon.—Dec. 6: St Austell, London, Tavistock.—Dec. 7: Carlton-on-Trent.—Dec. 8: Hadesworth, Wakefield.—Dec. 9: Reading, East Kent.

WE have referred more than once to the subject of FRAUDS ON FARMERS, and in illustration of the fact that in the cheap and ready justice obtainable at our County Courts—in the energy and industry of our local Guardian Societies, and in the analytic skill of the practical chemist, the means exist for their detection and defeat, we lay the following details of a case in point before our readers, abridged from the *Manchester Guardian*.

"At the sitting of the Manchester County Court on Wednesday last, before ROBERT BRANDT, Esq., judge, the following case was tried. BROWN *v.* HOLAHAN and DARCY. Mr. MYERS, who appeared for the plaintiff, stated that in the month of July last his client, Mr. BROWN, attended a sale of guano, advertised as 'Ichaboe guano,' and there purchased a quantity, for which he gave 10*l.* 8*s.* Subsequently, however, he discovered that the stuff which had been delivered to him as guano, and for which he had paid 10*l.* 8*s.* and had incurred other expenses, amounting in all to about 12*l.*, was not guano at all, but merely a lot of rubbish, without the slightest fertilising quality. The present plaint was, therefore, brought for the recovery of the sum so paid for the 'guano' and expenses.—Dr. ROBERT A. SMITH stated that he had examined the material brought to him by Mr. GEORGE BROWN, and that it contained 70 per cent. of silica, and a good deal of alumina and sand. It was an ordinary sample of sand, and had not a trace of guano in it; nor was it possessed of any fertilising qualities.—On cross-examination, Dr. SMITH stated that there was a slight trace of ammonia in the material; but this was the case with all soils. There was not more than 1 per cent. of excrementitious matter in it, while in good guano there was 95 per cent.—JAMES BATHO stated that he was a manufacturing chemist, and lived opposite the defendants' premises, where they carried on the business of manufacturers of manure. They carted thither refuse from starch works, spent wood from dye works, logwood, and shumac.—Mr. RIGGE then addressed the court on behalf of the defendants, stating, that he should adduce evidence to show that the guano was sold at the sale, subject to all faults and errors of description, and that the stuff delivered to the defendant was really composed of materials of a fertilising quality.—The defendant, HOLAHAN, was then called, who described himself as a 'guano grinder,' and said *that he made guano*. The guano sold at the sale to the plaintiff belonged to him (witness), and the auctioneer, in putting it up, stated that it was not that which was advertised; and that it was sold subject to all faults. A good deal of real guano was mixed with the stuff sold to the plaintiff, and there was also in it the refuse of starch works, which was considered a very fertilising article. The refuse from starch was a kind of *mineral* powder, but he did not know what. There was also some spent wood in the mixture, which he was told was very fertilising too. He had his receipt for making guano from Mr. EVANS, of Liverpool, who has made some hundred tons for a merchant there. He put in these articles 'according to fancy.'—In answer to the judge, he said that he used ochre and spent wood to colour his 'guano.'—DARCY, the other defendant, was then called, and after eulogising the fertilising power of starch refuse, which he stated 'was considered' to be a vegetable substance, he stated that he was present at the sale, and corroborated the account given by HOLAHAN of the conditions on which the guano was sold.—Mr. MYERS having then briefly replied on behalf of the plaintiff, the learned judge, in delivering judgment, said, that there was no proof that the stuff delivered differed from the sample, and he could not, therefore, assume that it did. Still, if the goods were sold under the name of guano, and what was delivered was not guano, that would alter the case. Guano meant, he conceived, *primâ facie*, a foreign substance, the excrements of birds. There was, however, it was true, a kind of compound manure called 'British guano,' and supposing the stuff delivered to the plaintiff had turned out to be, not foreign guano, but 'British guano,' possessing a fertilising quality almost equal to that imported, he thought the defendants would not have been liable; but taking the evidence of Dr. SMITH to be correct, that it was merely worthless stuff, and had no fertilising qualities whatever, it became necessary to inquire whether this was sold under the name of guano, and he was of opinion that it was, and that the plaintiff was therefore entitled to recover 10*l.*, which he gave for the guano.—His honour, on the application of Mr. MYERS, allowed the costs."

Here, then, are the details of an actual case, such as has been often asserted to be possible by writers, showing the risks to which some agriculturists subject themselves on entering the 'guano' market. The "mineral powder"—the starch refuse—the colour "according to fancy," are here no hypothetical phraseology; they are accurately expressive of a real history, such an one as, we are persuaded, though seldom published, is of frequent occurrence, and will continue to be of frequent occurrence as long as, in the hope of cheap bargains, people prefer business with these anonymous "guano grinders" to dealing on their fixed terms with men of acknowledged character.

In connection with this subject we publish the following from Mr. COTTAM, Secretary to the Guardian Society of Manchester, to whose kind attention we owe the above particulars.

"You allude to the Wheat stopped by Mr. REAY; perhaps the annexed paragraph will interest your readers. I send you also a specimen letter of one of these scoundrels in reply to one of our correspondents. There is rather a numerous gang of these swindlers in this city, who are continually victimising agricultural implement makers, who do not use sufficient caution, and make sufficient inquiry, before their orders are executed. Not long ago a dibbling machine came for one of these people; it cost 80*l.*, but was sold by auction for 15*l.*, being, however, bought in at my advice for the benefit of the maker. A large London waggon, Yorkshire make, arrived a short time ago, value 85*l.*, which happened to be deposited in a member's yard, so we managed to take possession of it *vi et armis*, and returned it to the maker. I could relate many other facts of a similar character, showing the great utility of these Societies to every class of traders, and the desirableness of their being established in every large town in the kingdom, so as to form a well organised preventive police."

WE have omitted too long the notice deserved by the last Number of the JOURNAL OF THE ENGLISH AGRICULTURAL SOCIETY. The index, now published, to the preceding volumes of this periodical, confers a value upon the series which, in the former inaccessibility of their contents, they did not possess. None but those who have gone through these volumes in laborious detail could previously have imagined what a mine of agricultural wealth they contain; but this is now made both visible and useful. Thus as regards the cultivation of crops, the index refers us to the following:

Barley, Beans, Beans and Cabbages, Cabbage, Canary seed, Caraway, Carrots, Chiccory, Clover, Cow-pastures, Colza, Coriander, Down land, Flax, Gorse, Italian Rye-grass, Lucerne, Mangold Wurzel, Oats, Parsnips, Peas, Potatoes, Rape, Rye, Sainfoin, Spurry, Vetches, Wheat.

The cultivation of all these has been described. Again, on the cost of different operations in agriculture—a most important and practical subject—we are referred to the following:

Analysis, Barley culture, Bean culture, Bone manure, Breaking up Grass lands, Bricks, Burning clay, &c., Carting, Carts and waggons, Claying land, Cottages, Deanstonising, Dibbling, Digging, Ditching, Drainage, Drain tiles, Fallowing, Farming, Fences, Flax culture, Food for cattle, Game, Gypsum; Harvesting Barley, Mangold Wurzel, Wheat, &c.; Harvest work, Hawthorn fences, Hoeing; Hoeing Turnips, Wheat, &c.; Holly fences, Hop culture, Horse-keep, Inoculating Grass, Irrigation, Italian Rye-grass, Keep for sheep, Kiln for tiles, Labour, Larch plantations, Liquid manure tanks; Manure for Carrots, Turnips, Wheat, &c.; Mangold Wurzel culture, on Labour, Paring and burning, Pea culture, Plantations, Ploughing, Potato culture, Power drainage, Reaping; Reclaiming bog, heath, &c.; Rye culture, Scutching Flax, Steaming apparatus, Subsoil ploughing, Task-work, Thatching, Threshing, Turf-draining, Turnip culture, Warping, Water meadows.

There is detail here enough to satisfy the best appetite for farm facts; and other instances could be given, showing in the large and multifarious information they contain, the need of this index to these volumes, to render it accessible. A periodical rarely attains the status of a systematic work, its highest standing is reached when system is conferred upon all that it has published, by a well-arranged index to its contents. And when, as in the case before us, the ablest men have contributed to its pages, and all the departments of its subject have been discussed by writers of various experience, there are many respects in which the result thus systemised is preferable to the best arranged comprehensive treatise.

The Number of the Journal last published is evidence that the series is not to decline in either interest or utility. It contains the usual variety in both the instructive and the descriptive styles, by both practical and scientific men, on both the crops and the animals which the former cultivates. And we may add that its contents keep the former well up to the mark of existing agricultural knowledge.

IMPROVEMENT OF IRISH AGRICULTURE.

Mr. HEWITT DAVIS, in his article on "What can be done to improve Ireland," in your Paper of Nov. 4, observes, "I have more immediately in view the improvement of its husbandry and the amendment of the morals, habits, and condition of its agricultural labourers, and I would attempt this not by introducing Scotch and English farmers as examples to the natives, as has frequently been done, for this has signally failed." For the benefit of those like myself vitally interested in Ireland, I wish to call on Mr. Davis for some proof of the very strong assertion with which the passage I have quoted ends, and am curious to learn whether he has made it on the testimony of others or as the result of his own observation.

My own view, founded on nearly 10 years' experience, and a pretty constant watching of the various schemes of Irish improvement, and intercourse with Mr. Blacker and others practically engaged in them, is, that the very contrary of Mr. Davis's assertion is the fact, and the introduction of Scotch and English farmers, either as examples to the natives or more directly sent among them as teachers (and best where both are united), has uniformly been attended with the best results. As I do not mean to put my name to this letter (though it is at Mr Davis's service), I will mention some details of my own property. It is situated in a very poor district, and 10 years ago was quite neglected, the rent very ill paid though low, yet the tenants poor and with little and bad stock; the land not so much subdivided as elsewhere, many tenants holding 25 acres and some more, but wretchedly exhausted by corn and Potatoes: not a Turnip was grown, and no one had above a quarter of an acre of Clover for soiling. A Scotch farmer was then procured to farm about 60 acres, on my account, as an example, and also to go among the tenants and teach them to grow Turnips, &c. After two years (during which every device was practised to defeat the plan), the good results began fully to appear. Clover was largely sown, thus at once cutting off the second white crop; Turnips not so largely, yet with great success, sometimes even beating those of the Scotchman. The man having one cow soon had three, and other stock in proportion; the horses on the estate, which before were a by-word, became the best in condition of the district; the very appearance of the land changed. Yet all this while the rent was most strictly enforced, and paid readily almost to a shilling. Very few tenants were dispossessed, and those chiefly as examples, their land being added to the farms of others. Things went on improving till the famine. Then instead of being burdened with starving tenants, those who were unable to meet the times (and these were many), had yet means to sell, with the aid of a small sum from me, sufficient to carry them to America, while the larger number have gone on hitherto, paying their rent regularly, with a trifling reduction, doubtless having suffered from the bad times, but still in circumstances very few of their neighbours can boast of. Some have this year from 1-10th to 1-12th of their land under Turnips, and excellent crops—better than my own. The Scotchman's advice is now doubly sought for and prized.

Nor has the example been lost on the district. Clover long ago became common in it, and when the famine forced on the growth of Turnips, the neighbouring farmers having seen the practice, at once struck into it largely and successfully, and more Turnips are, I believe, grown than in any similar district in the county. I should occupy too much space were I to detail other particulars, as draining, stock, &c., in which I have seen the Scotch example produce good effects. So far as my knowledge extends, in every case in Ireland in which similar means, either of example or teaching, have been fairly tried, similar results have followed.

No mistake is more common among persons not practically acquainted with Ireland, than that it had not improved of late years. The very reverse is the fact. In the 20 years previous to the famine, the improvement was very great and rapid. Exports, imports, stock, crops, condition and dress of the people, all were fast improving. The cause of the mistake is,

people in England cannot realise the exceeding backwardness of our condition 20 years ago. True, we have been struck down and thrown back by the late calamity; but consider that the crop which failed was the exclusive food of three-fourths of eight millions of people; that we have had a partial failure in 1845, total failure and partial failure of corn in 1846, partial failure in 1847, and again a partial failure both of Potatoes and corn in 1848, and see if history records another instance of so repeated a destruction of the food of such a population. Yet many districts have been saved from ruin by the very means Mr. Davis condemns. The evil was that Scotch and English examples, though numerous (as he admits), were not half numerous enough. In my own neighbourhood, since the famine, they have nearly doubled; some proof of what is thought in Ireland of their effect. It must be remembered, however, that one distressed district attracts more attention from England than 10 in which extreme distress has been thus warded off. And whenever it pleases God again to give us the blessing of plentiful harvests, let no one doubt but that the work of improvement in Ireland will again go on more quickly than ever. The great decrease of small holdings, as shown by the official report of Captain Larcom, proves that things are getting on a sounder foundation; the million and a half actually now spending on thorough drainage cannot fail to bring forth fruits. Let only common sense and exertion be used in carrying out the common means of improvement, instruction, and example; whether by Lord Clarendon's practical instructors, or the Scotch and English examples Mr. Davis condemns, or even by the teaching of Irish lads as he suggests; and though there will still be difficulties, and no doubt the Irish are great fools and sadly perverse, yet they will be found at last not so totally to differ from human nature elsewhere, as to resist the evidence of their own eyes and senses. *W. B. J.*

THE PROSPECTS OF FARMING.

The Tithe Commutation Tables show that since the passing of the Tithe Act in 1835, and notwithstanding the alteration of the Corn-laws in 1842 and 1846, the prices of grain, made up each year on the averages of the preceding seven years, have kept remarkably uniform, proving that we have long been farming at much lower rates than has been generally supposed. Although the year's prices in this period may have greatly varied, yet have the averages of every seven years been within 5 per cent. of those taken for the Tithe Commutation. The highest were the seven years ending Christmas, 1842, when the Commutation rent charge for 100*l.* reached 105*l.* 12*s.* 2*d.*, and the lowest in 1838, when it fell to 95*l.* 7*s.* 9*d.* Of the 12 septennial averages, from 1836 to 1848, seven have exceeded the commutation's and five have fallen below; and, further, if we go back and take in the eight years prior to 1828, when the Commutation Tables commence, we shall still find the averages no higher. The farmers may therefore be said to have been cultivating their farms ever since 1820 upon the prices of the Tithe Commutation, namely—

Wheat	at 56*s.* 3*d.*	per quarter.
Barley	31 9	,,
Oats	22 0	,,

And as during this period not only have rents been maintained, and the old cultivated land continued occupied, but large additions have been made to the quantity which was in tillage, I am justified in saying farming as a business has been successful whilst realising these prices. Could the prospect of farming in 1820 have been known, what alarm would not the prices that were going to be realised the next 28 years have then occasioned, and how little our ability to support the great reduction (a third) that was about to ensue would have been foreseen. The average price of Wheat for the 21 years preceding 1820 was 84*s.* 6*d.* per quarter, and for the following 28 years has been only 56*s.* 6*d.* The experience of the last 28 years proves that the protection of the Corn-laws has secured as an average the price of 56*s.* 6*d.* per quarter for Wheat, and no more; and careful consideration of all circumstances connected with free trade leads me to think that of this price the protection has amounted to about 8*s.* per quarter. In February next the duty falls to 1*s.*, and in future all calculations of profit from farming will therefore have to be based at most upon an average of 49*s.* 6*d.*, that is to say, on a reduction of 12½ per cent. from the price of the last 28 years. When we take into consideration that the cost to the farmer of growing grain has been about seven-eighths of the market value, and the remaining eighth has comprised his profit, the loss of this eighth would seem fatal to his future exertions; but the example that the year 1820 affords of a far greater decline without permanent injury to the farming interest, gives fair room for better expectation. The pressure of difficulty, if it be not so great as to overwhelm or paralyze, is sure to lead to increased exertion; and in a pursuit so capable of improvement as is farming, we may rationally expect will induce a better practice and greater returns. It is a happy circumstance that the change takes place at a time when science has come to the farmer's assistance, and when the progress of knowledge is aiding in cheapening production. The intelligent cultivator will in time take advantage of this prescience, and be seeking for means to meet the reduction in price, in improving his practice and adapting his land to higher cultivation and larger returns, so as to find in greater quantity of produce an equivalent to the decline in price. In my former paper I endeavoured to show the occasion on the part of the landlord to aid his tenants; my object here is to point out the necessity for the farmers reciprocating. The alteration in price that I have mentioned is surely coming, and as surely in this way must means be sought to make farming continue profitable. That there is room for all this may be readily seen by inspecting the different farming and the variety of condition of the land in England. I believe few agriculturists can go 10 miles from home seeking information without discovering some practice or implement that he may take back with advantage, and I am certain there are modern works on agriculture that may be made, by the information they afford, a source of profit to nine-tenths of those for whom they are written. *Hewitt Davis*, 3, *Frederick's-place, Old Jewry, London.*

NAMES OF POULTRY.

Pheasant Breeds.—The fowls spoken of by "Chanticleer" (p. 293, characterised by dark, glossy, pheasant-like plumage, and usually low rose-combs) as being a favourite and common breed in the mountains of Cumberland, are a more or less pure race of the "pheasant breed," some of which can be traced back to the blood of the cock pheasant of the wood. Near Melfell (misspelt Metfell in "B.'s" paragraph of inquiry) there may be seen a few of the birds spoken of, but the name of Bolton bays is unknown.

The confusion in the names of the various breeds, and the impossibility of discriminating many of them from written, and even drawn and coloured descriptions, is indeed much to be regretted; until the purer and more profitable breeds, however, are better understood, and more exclusively cultivated, is it not probable that this source of obscurity must remain? The types of the distinct breeds become confused and intermingled by indiscriminate and endless crossing, and in none more perhaps than the widely disseminated pheasant breeds. How many fowls of different hues of plumage and legs, and varieties of comb, crest, and tail, may be seen, all of which still retain so much of the unmistakable shape as to justify the common description of their rustic owners, "ours is the pheasant sort." The cross with the game cock (the most common of all in a county which is still disgraced by cock-fighting) gives the high crest and lighter form, while from other crosses endless varieties arise. The same remark extends, more or less, to other breeds; and in some cases, as in the Hamburgh, Poland, and others, the real types appear at length to be lost in the confusion.

Until these indiscriminate crosses are avoided, a correct nomenclature is rather a thing to be desired than expected. The rapid spread of intelligence, and the increasing facilities of intercourse, may be expected, however, very soon to lead to the general adoption of good breeds of poultry, among other things, throughout the country; and attempts to improve the nomenclature of domestic fowls may perhaps be more successful than heretofore. Of course, the first object would be to try to get the scientific metropolitan breeders to agree to some uniform system of names. Until this is done, it is vain to expect any improvement among less informed amateurs. Yet, among authors and intelligent breeders the most discordant opinions exist on the subject. Nothing short of a parliament of poultry fanciers, sitting in London, will ever, I fear, establish a uniform nomenclature even of noted breeds. To take, for example, a race lately spoken of, in reference to this subject, in the columns of the *Agricultural Gazette*, the Hamburgh, Dickson and Richardson differ, *toto cælo*, from each other respecting this old familiar breed, and now Mr. Dixon also, whose authority all your readers will consider a high one, denies the correctness of Richardson's description. Yet the latter writer explicitly states, "I am this moment writing my description of the Hamburgh fowl from two beautiful specimens, as they stand before me on the table in the house of their owner, Mr. Nolan, of Dublin. These fowl gained the prizes at the last show of the Royal Agricultural Improvement Society of Ireland, from a host of very worthy, but still far inferior, competitors; consequently, in my case, no blunder can possibly occur." All tufted fowls, it appears, are called Polish by the metropolitan breeders; yet the common bird, with which we have all been familiar from boyhood, the Hamburgh, or Hammy, possesses some shapes by which I have always understood it might be distinguished from the Polish breed. The neck and shoulders of the latter, quite as much as the shape of the tuft, seem to distinguish them.

Then, regarding the Dorkings, some writers, and multitudes of breeders, insist on calling them the five-toed fowl (a most convenient name), while others maintain that this singular mark is by no means essential to the purity of the race. I have just now a very fine young silver Dorking cock, of the purest type apparently; yet he was the only one, in a family of nine or ten, with five toes. His father and all his brothers and sisters were as pure-looking Dorkings as he in every other respect but this of the supernumerary toe, and this is no uncommon circumstance. On the other hand, of two survivors of a clutch of a fine, pure race of Spaniards, one is a hen with five toes; so that here is a five-toed fowl not a Dorking, and very pure Dorkings not five-toed. Nevertheless, I should be sorry to pay the price of true Dorkings for any but five-toed fowl, believing this mark, if not an essential, to be a very desirable proof of the purity of the race. These silver grey fowls, as Chanticleer said in a former paragraph, are, among the Cumberland hills, called "the Jew kind;" for what reason I cannot learn, and only fancy that this wise people—perhaps in the old Norman times even—cultivated the breed as profitable. They are, doubtless, the descendants of those Dorkings of which Richardson speaks as the originators of the breed in England. By the way, I observe, "A Correspondent" calls in question the statement of Richardson that "the Dorkings were first noticed and the variety adopted by the Cumberland breeders, whence they were soon brought into Lancashire and Westmoreland, and gradually spread over all England,"—leaning to the common opinion that the birds originated in the town whence they derive their modern name.

This Jew kind, however, is said to be very ancient in Cumberland, and it is still a very common thing for the Lancashire men to carry off any fine birds of the kind they see among the mountains. However, it would be a vain attempt to trace the origin of a breed which was as accurately described 2000 years ago by a Roman writer as it can be to-day; and as Roman stations abound in Cumberland, it is quite possible that a poultry fancying Prætor, 1500 years ago, might send or carry the first couple of Dorking fowls to the banks of the Thames, and to the old fort at Ambleside (or Castle Hill, near Keswick, in the same year.

Even the Malay and the Spanish breeds, though possessing such distinguishing characteristics, present specimens which differ very greatly from each other, and the Cochin China fowl, so recently imported, and so remarkable, seems likely to fall into the general confusion. Nothing, therefore, would be more desirable than that an attempt should now be made to obtain descriptions of the pure races, which should be approved of by the chief metropolitan breeders and fanciers; but unless this is done by a committee deputed by various poultry clubs, or appointed by the Royal Agricultural Society, so as to obtain general assent, I am afraid it will be difficult to effect the purpose in view.

If it were to be decided that only five-toed fowls were to be considered pure Dorkings, and that all tufted fowls were to be called Polands, the difficulty in the way of a uniform nomenclature would indeed be greatly simplified; many persons, however, would think this rather cutting than untying the Gordian knot. But with this help, and the reduction of the endless varieties of "dunghill," "barn-door," and "domestic" fowls into one category, previous to their speedy and final dismissal from books and perches, some ray of light would break in upon bewildered amateurs. For, after all, the Spanish, Malay, and real old fashioned pheasant breeds, have marks distinctive enough. Until we possess accurate descriptions of the valuable breeds from some such metropolitan authority as that alluded to, and until these breeds are pretty generally cultivated, I am afraid it will be hopeless to expect an uniform nomenclature throughout the country. Still, much obscurity may be cleared away, and no one seems better fitted for the task than the author of the work on "Ornamental Poultry."

Before concluding these imperfect hints in aid of this desirable object, I would refer to the obscurity at present existing respecting the pheasant breeds, which, with great respect for the writer just spoken of, I am still very much disposed to believe have originally descended from the pheasant cock of the wood. If this could be proved, it would very much aid in the desired simplification of our nomenclature. In one or two previous paragraphs I expressed this opinion; and it is in reference to these apparently that Mr. Dixon says, the pheasant breed is, "to state it once for all in these columns, no more a mule between the pheasant and the domestic hen than the cameleopard is a mule between the leopard and the camel."

As the object, however, is to learn how it is in Nature, rather than in these columns, I should be greatly obliged by being directed to any conclusive experiments by which this opinion as to the origin of the pheasant breeds, and, above all, of the old, established race of common poultry, called, *par excellence*, the "pheasant breed," is shown to be erroneous. It is not stated that this pheasant breed is a "mule" between the pheasant and domestic hen, but that the well-marked peculiarities of the race are derived from the pheasant of the wood. The phrase "mule" can scarcely be correct, for birds of the half breed are unproductive. I have not, it is true, seen the progeny of two birds known to be accurately of the half blood, directly crossed, though I believe that some I can produce are of this direct cross; and I have had many clutches containing varying amounts of the wood pheasant's blood this summer, all the chicks of which possessed the characteristic marks of the pheasant breed chicks, and indeed were not to be distinguished from some of the old established breed brought from Warwickshire and the Highlands of Scotland and Cumberland, and corresponded exactly with the descriptions of the breed given in the *Gazette* for April 1, of specimens found in Norfolk and Somersetshire. A neighbour of mine has a cock of the true half blood three years old; he has had many broods by him, one especial hen of which race cannot be distinguished from a hen of the old pheasant breed. I had hoped this autumn to have one or two couples of the half-blood fowls, bred at a lone cottage by a wood, to give away; but, after much trouble, have succeeded in getting only two hens and two cocks, one of each of which has been killed, so that only a pair remain. These were precisely like the others, for the first few weeks, yellow heads, fawn-coloured wings, willow legs (from the pheasant) and one or two black stripes down the back. Many other clutches were tried from hens brought from a distance of 200 miles, to avoid all

chance of breeding in, in pursuing the cross, and not down at the wood side, but all failed, simply I believe because the eggs had never been impregnated; for the pheasant cock is not only as shy a bird as the guinea fowl, but exercises great favouritism in his choice of mates, and, usually speaking, in a coop, will not attend to any hen placed near him. One of those indeed placed with a cock pheasant in a coop this year was nearly brained by him, the whole of the back of her head being scalped. Another was totally neglected, while some of the eggs of a hen of his own blood confined with him were hatched out. Are we not to find in the circumstances hinted at, the cause of very many of the failures in attempting to rear the cross? Meantime that poultry with one, two, or more strains of the wood pheasant blood in them, breed, are good layers, and many of them very handsome, I can produce numerous specimens to show; and as all the chicks of the race possessed the very remarkable characteristics of those of the old established pheasant breed—characteristics which distinguish this breed from every other race, I believe that their origin is, and may be soon proved to be similar. As they grow up the plumage often alters, but the remarkable shape remains. From all that I can see, I believe that of those reared this season a sufficient number of the proper plumage may be selected to reproduce in another season or two the true "old established" pheasant breed; *Constant Reader.*

LAND DRAINAGE.

It has been already remarked (p. 691), that the system of drainage proposed to be adopted is subject to be affected considerably by the nature of the outfalls and, it might have been added, also by the condition of the ground as to levels. It frequently happens that a system of deep draining is the most applicable to the land, but that the insufficiency of the outfalls and levels forbids its application. In every instance where the levels are unfavourable or difficult, the depth of drainage adopted must be so limited as to preserve the necessary degree of fall. Considerable attention and art is often required under such circumstances, to determine on and lay down the plan of the drainage. If such be not bestowed, the neglect will be fatal to the success of the operation. A practised eye and the use of the spirit level are the chief means in the attainment of this object. Apart from these difficulties, the modern or improved system of draining is a very plain affair, in comparison with the science and tact required under the old or Elkington method; in the one, simple examination of the subsoil and understrata is found to be enough, and then the ground being riddled with drains, neither under nor surface water can escape; but in the other, as comparatively few drains are employed, and these so laid out and cut as to intercept the springs, great skill is often required so as to render it successful. The latter method fails in that thoroughly laying dry of the soil which is accomplished by the former, but it effects much by small means, and to enable it to do so requires far greater knowledge and ability than is necessary in the other.

When the proposed drainage is uninfluenced by the state of the outfalls and levels, the system to be adopted in regard to depth and distance apart, the materials to be used, and every other particular, depends entirely on the nature of the circumstances of the case. Durability in execution and efficiency in action should be studied, so far as is consistent with a proper economy, that the operation may be rendered to the highest degree beneficial; and this is attained neither by the greatest return of interest upon a limited outlay, nor by the fullest amount of profit upon a large expenditure, but from the judicious application of money up to that point beyond which it would cease to be remunerative. The system to be adopted in regard to depth and distance apart resting wholly on circumstances, there can be no real difference of opinion among all intelligent drainers on that head; it, in fact, admits of none, and never would be heard of if parties would divest their minds of all bias, and meet each other with honest candour, and in a language which each other understand. The only difficulty in the matter is to be able to effect the improvement with due regard to what has been laid down above in respect to the attainment of the utmost amount of benefit, all things considered.

Whenever the subsoil and understrata are of a nature to admit freely of the passage of water through them, or contain veins of porous materials disposed in continuous sheets nearly in the plane of the land, then we must have recourse to what may be termed deep-draining. The degree of depth will depend much on the drawing powers of the under strata, and on the breadth of land on either side it is found to render sufficiently dry; and, if practicable (as might have been previously stated), the bottom should be formed in clay, or other stratum of sufficient firmness, for the support and due preservation of the duct. Again, on the other hand, when the subsoil is found to be little pervious to water, and contains within an accessible depth no open strata, these are the circumstances calling for the application of shallow, and, it may be added, frequent draining. In such cases, to cut deep is just to incur a useless expenditure of money; sometimes even positive injury is thereby entailed, though I am of opinion that this is less the fault than that the additional benefit does not keep pace with the increase in expense. The drains must be placed at a small distance apart, be the depth what it may, otherwise the land will be but partially dried; and whenever we find such to be the case, there is no need to incur the expense of going deep. However, I say, nevertheless, go deep if you will; there is generally no great harm in going down, farther than the sinking of your money, but you must not also go wide. I have found, and have laid it down as a maxim, that there is far greater chance of error being committed in respect to width than in respect to depth; yet as great depth (on such soils) is unnecessary, and that as almost any land can be thoroughly laid dry by drains of a moderate depth placed at narrow intervals, it is only incurring an expense which might well be saved, and in all likelihood rendering the improvement, in point of remuneration, no improvement at all.

The drainage of such soils is expensive at the best, and if it is to be injudiciously gone about—as incurring the cost of deep cutting must be considered—little of it I am afraid, would be attempted. I may conclude this portion of the subject by remarking that the modern or improved system of thorough draining consists chiefly in the employment of drains moderate in depth and placed at narrow intervals apart; and that whenever these means are departed from, by extending the width and cutting down to the springs, it is just going back to the old or Elkington system, and applying it to every description of subsoil, whether adapted for its application or otherwise. Elkington's method is excellent in its proper place, but it must only be adopted in conjunction with thorough drainage; it never can wholly take its place; *John Duncan, Thornbank, St. Andrew's.*

PROSPECTS OF FARMING.

In your *Gazette* of the 28th ult., Mr. Hewitt Davis states, in a letter with this heading, "there is little doubt that a large proportion of the farmers of Britain have barely existed, or lost money, during the last seven years." That "a permanent reduction of 10 per cent. in the price of grain—more than equal to the addition of 1*l.* per acre to the rent of land—must be looked for;" and argues that we are to meet that reduction by drainage, enlarging our enclosures, erecting more suitable farm-buildings, and by a system of farm management involving the employment of more capital and skill, rather than by "a reduction of rent." Now there is much truth in these statements, and I thank Mr. Davis for publishing them; they are, however, but little calculated to induce parties to incur the expense suggested.

Capital is seldom invested deliberately in what is seen to be unprofitable; and as the number of money-making farmers is now so small, according to Mr. Davis's own showing, I am at a loss to know who are likely to act upon his recommendations, with the prospects he puts before them. The majority of present occupiers, it will be evident, must relinquish their holdings, under such unfavourable circumstances as we are told will occur. Parties who have been "losing money for the last seven years," can have but little chance of gaining any for the next, under reduced prices, and probably increased taxation; and those who have "barely existed" during that period, can scarcely hope to thrive henceforth. It will be strange indeed, therefore, if many do not, of necessity, relinquish so undesirable a calling, or remove to another country to pursue it, in a more genial climate, and with more cheering prospects, than are here afforded him.

But can it be that with our vast colonial possessions, and with the many advantages they give us, and we otherwise enjoy, that such a sacrifice must needs be made? Is it true, as stated by Mr. Muntz the other day at Birmingham, on the opening of the Corn Exchange, that "the agricultural interest is the greatest of all interests," if it must thus be perilled for the very questionable advantage of the manufacturing and commercial interests? Is it by thus depreciating home produce, and consequently, home industry, that this nation is henceforth to flourish?

What then is to be done? I answer, make the best of our own possessions, at home and abroad; and herein there is work enough, and abundant scope for every one's exertion (independently of our one-sided free foreign trade), whatever may be his talents, occupation, or pursuit. What we should thus acquire would tend to our mutual benefit; and the disadvantages occasioned by admitting the produce of America and other countries into competition with our own (which I am sure might be sufficiently increased to meet our largest wants), and giving in exchange our gold, which is so essential to our circulation at home, would be entirely obviated.

If we are committed to free-trade, and we are to persevere with the system, let fair play be given to us under it. We know that at present all local burdens, amounting to about nine millions of pounds yearly, are imposed upon rental. It will be inferred from the forementioned statements of Mr. Davis, and daily experience too abundantly shows, that rental affords no criterion of profits or income, and consequently of ability to bear these burdens. We also know that it is not in the country, amongst our agricultural and rural population, but chiefly in the towns, that the necessity arises for that large expenditure. And yet the farmer, who is unable, from the smaller returns of his occupation, to compete in the labour market with the manufacturer and others in the towns, and suffers inconvenience and loss in consequence, by having to employ unskilful hands (and who be it remembered can neither close his works, nor stop his mills with impunity), is called upon to contribute to every rate on the same basis as they are assessed upon; which certainly can neither be just nor equitable under our new system, whatever it might have been under the old. Let us then have our local as well as general taxation so levied as that it shall press equally upon all. But it is not in mere rating only that the farmer is unfairly dealt with; in an educational point of view, his position is far from equal to that of other classes and interests. Government seems making provision for these, but disregards him entirely; whether because he is considered to require education less or to have simpler means of obtaining it, I know not. This, however, I do know; the farmers of this country must receive a very superior education to what has yet been given them, or the impediments to improvement will never be satisfactorily removed. Let justice be done to the agricultural interest, in the above and other respects, and we shall be entitled to have free trade, if all other interests continue to clamour it; but otherwise we cannot reasonably be expected to do so. With a fair prospect of remuneration, and the aid to be derived from science, extensive estate improvements, and high farming, would, I doubt not, become as universal as they are now unfrequent; and no one would rejoice more to see that than myself.

I believe that our national, no less than our individual welfare, demands such a change; and it would be a happy day for Britain were we to unite our efforts to effect it, by every wholesome stimulus and friendly encouragement. But whilst it is more to appear that we might do well if we would, that all necessary means of relief are immediately within our reach, but we culpably neglect to avail ourselves of them; whereas the experience of thousands, yea and many of them men of education, skill, and fortune too, show us that farming is, and has been for many years past, at best unprofitable), we have but little hope of either sympathy or help.

The intention of Mr. Davis was excellent, I doubt not, but the effect of his letter is not likely, I think, to be what he desired, unless he can acquaint us with capitalists who are prepared to advance the necessary funds, taking for interest a fair proportion of the profits which may be made, at present rents; and prove to us by his own, or others' experience, that the profits of farming, when it is properly conducted, are greater considerably than we are accustomed to consider them. *A. L. A., Nov. 4.*

Home Correspondence.

Mummy Wheat.—A great deal has been lately heard of Mummy Wheat, said to have been grown from grains found in an urn or urns at Egyptian Thebes some eight or ten years ago. I do not venture to report any of the statements connected with the original discovery of the grains, as many versions of it are given: and what is remarkable is, that several distinct kinds of grain are now being grown in England, each of them claiming a genuine descent from that originally discovered. I should, however, be very glad to see any statement authenticated, with full details, under the name of any gentleman of established character for scientific research. I cannot myself comprehend the possibility of the preservation of any farinaceous grain for many years without decay, or at least destruction of its germinating power. We all know that there are seeds of certain descriptions which may be preserved in the soil at depths too great for germination for a long course of years; but all such seeds are of peculiar construction, and are protected by husks or shells of durable character, and are all of the very minutest kinds. I believe that no seeds of the farinaceous character possess this quality. All such, whether in or under the ground, would immediately vegetate or rot. Then we all know that with respect to Wheat, the seed of the year is always preferred for sowing; that the seed of the year before would never be equally productive, and that if seed five or six years old were sown, not half of it would come up. But besides this *primâ facie* evidence against the story of Wheat 2000 or 3000 years old having grown and produced corn, it is the conviction entertained by the most eminent antiquarians and naturalists that all the grain found in urns at Egyptian Thebes had been calcined. No doubt they who professed to have tried the first experiments conducted them and published the results in perfect good faith. But if the opinion of naturalists is, that the constitution of the grain of Wheat is not calculated to ensure to it vitality for a long period, and if no farmer can produce an instance of growth from any very aged Wheat in this country, we may, I think, without offence to any Egyptian traveller or British experimentalist, suspect that he has been led into some error in supposing that he has resuscitated the grain of the days of Pharaoh. *An Old Farmer.*

Boat-feeding. — I am too fully occupied to often notice the remarks of your contributors, but the communication which appears in the last Number of your *Gazette*, from the Rev. Geo. Wilkins, I must briefly allude to. I will not attempt to imitate his extravagant and not very elegant expressions. Suffice it to say the unqualified abuse he heaps on the box-feeding system, it allowed to go with no comment, may deter some from adopting this system in localities where they will answer most admirably: for I am fully convinced that in all districts where much grain is grown, box-feeding is an excellent method, giving great comfort to the animal and also insuring a large amount of very valuable manure; but it is quite certain that the system is an injudicious one wherever straw is not abundant, as the animal cannot be kept clean and comfortable without a greater quantity of bedding, and more frequently given than is requisite in a stall where the floor has an incline. At this time I have in the decried "pits" 16 head of stock, including cattle, horses, colts, pigs, and

two rams, and if the rev. gentleman had been with me this evening at 8 o'clock (at which hour I always inspect my boxes), to see that comfort reigns, I do not think, after witnessing the luxurious repose the occupants of the boxes were enjoying, he would have written so furiously against a system which is so worthy of adoption and so certain to be most satisfactory and remunerative wherever straw is abundant, but not without. *Geo. William Fowler, Prince Hall, Dartmoor, Nov.* 15.

Small Farms.—I have read with much interest your excellent remarks on small farms for Ireland, showing very plainly that, in the present low state of farming in that country, any general division of land, with all its concomitant expenses, from new buildings and enclosures, must be a wild and dangerous experiment. Small farms, if properly conducted, might, doubtless be of the greatest use there, in creating what is so much wanted, an increased supply of labour. If managed upon the plan you so well describe, the market gardening system, they might be made infinitely productive, and might rescue from want and degradation a large part of a suffering population. Mr. Blacker, in his invaluable little treatise on small farms, gives most minute details as to the management upon which such farms should be conducted; but he at the same time finds the difficulty so great in carrying this into effect, that he considers it absolutely necessary that instruction should be given to each holder of such farm according to his nature and condition, and accordingly provides for the purpose the assistance of an experienced farmer, who superintends not only the rotation of crops, but also the mode of preparing the ground for them, and putting them in, which accurate information, he is of opinion, nothing but personal inspection will supply. Under the efficient superintendence of a Scotchman obtained for the purpose, the effects have been so beneficial, that many of the tenants of Lord Gosforth have not only paid off arrears of rents, but have actually arrived at affluence under their improved practice. Yet, however plausible the plan may appear, however beneficially it may have acted in this instance, it can never be supposed that such a large mass of indigent poor as are reckoned to amount to more than two millions, without intelligence, education, or industrial habits, can all at once be moulded into the right form, so as to enable them to conduct a difficult operation, requiring skill and perseverance; nor even, if they could, would this be a cure for existing evils. The number of agricultural labourers being 5 to 2, on the same extent of ground, compared with England, an entirely new field of labour must be opened, before wages can be raised to such a rate as to enable the poor cottagers to purchase their corn, which is now carried away, before their eyes, to obtain a higher price in a better market. It has been stated, by a high authority, that the redundancy of population in that country may be attributed to improvident marriages; but there is no reason to suppose this to be the case more than in England. Human nature is much the same in all countries; it is everywhere distinguished by the same passions, the same feelings, the same propensities. Ireland is now precisely in the condition in which England would be if all her factories were swept away; there is no outlet for her surplus population, as there is in England. From this it is clear that even if the whole agriculture of Ireland were improved to a degree equal to that in this country, the same difficulty would remain—more hands to work than work for the number wanted. The only effectual remedy is to be found in the improvement of the waste lands. Difficulties are no doubt to be met with, in the way of its becoming a Government undertaking; but where it is the only sure resource, a trial should be made. If the principal part of the work, such as the arterial drainings, were done by the piece, and that at a reduced rate, there would be no fear of Ireland being brought into a vast mass of pauperism, as has been stated. Without it Ireland may continue the prey and victim of rebellion, murder, and crime. It has been said that England cannot have a little war—Ireland cannot be saved by little measures. *Law. Rawstorne, Penwortham, Preston.*

Reasty Bacon.—A lady of considerable experience in a farm house had, for many years, reasty bacon, until the cause was pointed out by a friend. Until that time the bacon was salted and kept in tubs, the brine not being able to escape. The advice was to salt it and lay it on stone shelves, packed one flitch upon another, and the brine running away and falling into a basin under the shelf. When the bacon is sufficiently salted, it is hung up in the kitchen to dry, and when dry washed over with lime water the consistency of cream. When this is dry it is packed in the corner of a cool room, boarded off, laying first a layer of lime then a layer of bacon, and so on till the bin is full. When bacon is wanted, cut off as much as you require, but be careful to cover the flitch up again. If this is attended to you may keep your bacon free from reast for many years. *G. S, Notts.*—Last winter I packed mine with malt dust, in alternate layers, in a large deal chest. In three or four months afterwards it was discovered (on taking out some of it for use), that it had fermented, and the whole was one heated mass; the bacon was quite soft and warm through, but was still sweet when cooked, but in a bad state for further keeping. Any information will be gladly received by your original subscriber. *J. S. P. M.*

Experiments with Indian Corn.—About the second week in April last, I prepared half a gallon of the Giant and the same quantity of Cobbett's corn, by putting it into a sack and watering it till the whole was sprouted. My land being in readiness to receive the sprouted grain, on the 1st of May, having previously drawn out rows 2 feet apart, in which farm-yard manure was placed, I had two corns, almost close together, deposited in the rows at 15 inches from plant to plant, one of the plants being afterwards hoed out. Furrows about 3 inches long were opened for the seed, one being placed at each end 1½ inch below the surface. The ground being moist, the blades appeared in three or four days, at least three weeks sooner than if the seed had been sown on the 1st of May in an unprepared state. This time I think equal to six weeks in autumn; the plants did not suffer in the least from the frosts of last May. I had the ground stirred five times with my newly-invented hand cultivator, stirring at the rate of two acres a day; this was done, not only between the rows, but between plant and plant, so that the ground became quite pulverised, and every weed was destroyed. The result of all this was, that the grain of Cobbett's corn was perfectly ripe and harvested by the end of September, some part not till the beginning of October, but it all turned out much better than any one expected in this wet and cold season; the produce was 81 bushels to the acre, the corn as hard as flint, and the ears quite equal to any foreign of the dwarf variety that I have seen. I am convinced, from the experience I have had in growing these crops, that 100 bushels to the acre might be obtained in warm seasons in the south of England. The Giant corn produced very fine ears, well filled with grain, but not hard; in a warm season it would have thoroughly ripened, and the yield would have been greater than the dwarf, but it is an uncertain crop. I also sowed about half a gallon of Cobbett's corn on the 1st of May without preparing it; the ears became full of corn towards the end of October, but did not ripen, and required drying by artificial heat. The Giant unprepared corn did not produce a single grain. Indian corn is a potash plant, and does not receive from the soil half as much silica as a Potato crop. Taking weight for weight, it is well known to be one of the best preparatives for Wheat. *S. Newington, Knole, Frant.*

Education.—Observing that the education of agricultural labourers has formed a prominent feature in your columns, and a letter from Mr. Peacey, on the 4th inst., having pointed out what good can be done at a very small cost, I am induced to call the attention of your readers to another plan, whereby much really useful information may be imparted to the unlettered portion of our community, by any one possessing a moderate education, and willing to undertake the task. The expenses are not much, and the benefit to those anxious to obtain them is so obvious, that there are but few who would not make some little sacrifice in the matter. My plan is easiest described by reporting on a case in which I took the prominent part. A few years ago I lived in a rural district where the population almost entirely depended on farming work, excepting those immediately depending on the large landed proprietors, and of these the greatest part were engaged in some way or other in agricultural pursuits; and in accordance with the custom of the country, as well as the necessities of the parents, the boys were generally put to work at a very early age, and consequently had not had time to make much proficiency in scholarship, even supposing they or their parents had been anxious of their doing so, which I am sorry to say is not always the case. The result was that many young men of 20 or more could barely read little words, and lads of from 12 to 20 were in much the same plight, and as attendance at a day school on their part was out of the question, I suggested to my worthy employer the utility of starting an evening school, in which view he cordially concurred, and we went to work immediately. A suitable room having been obtained, and a table and forms contrived out of some old materials, and some books, copy-books, slates, &c., procured, we opened (early in November) with a flowing house. The novelty of the thing doubtless attracted some to come at first, who ceased to attend afterwards, and a few, perhaps disappointed at finding the tree of knowledge a more difficult object to climb than they expected, also gave up the task; but the majority attended very regularly, and applied themselves with much assiduity the whole of the season; so much so, that some young men, who at entering, could not even form a letter on paper, at the conclusion were able to write a fair, decent hand; and some who could just write a little at first, were able to master the first rules of arithmetic, and even to make up accounts. But, as Mr. Peacey justly observes, the first step is the most difficult and irksome. I felt it so with one or two who did not know their letters, and it requires some little persuasion to cheer on a young man in his teens, struggling on to make out what sort of a word three simple letters ought to make, while he sees (and not without envy), some boys many years his junior in a class above him; yet very much may be done, and the object is one of which no one will deny the utility, and there are but few wealthy individuals but who would assist in carrying the matter out. The greatest want is of competent individuals, having leisure and inclination to undertake such a task. As an encouragement to well-meaning persons, I may remark, that there are few events in my life that I can look back upon with greater satisfaction, and had I remained another season in the same situation, I would have commenced the same thing again; it is a vain excuse in many persons to say that they cannot find time to devote to such a cause, everyone can find time and means too, to indulge in what may be called their hobby, and surely no great sacrifice can be made in devoting a few hours, three or four evenings in the week, to an object so useful to your fellow creatures. Various untoward events have prevented my starting a similar scheme in the neighbourhood I have been since living in; but should such an opportunity again offer, I should gladly avail myself of such a chance of assisting my unlettered brethren. In the case alluded to, the school was held three or four evenings in the week, between 6 and 9 o'clock, and was confined to males; it was also held every Sunday evening, but for reading only, and girls living on the spot were admitted. But I sometimes opened the school for girls on some intermediate nights in the week, which was well attended; but other duties prevented my carrying that plan out to any extent, and I had quite enough to do at spare times to arrange the writing, copy-books, &c., for the boys; however, things went on very satisfactorily, until the return of long days in March compelled me and my grateful pupils to discontinue our labours. There was not accommodation for more than 25, and I think we averaged upwards of 20 throughout, quite as many as one individual can do well by, and I can assure your readers who may be inclined to give the plan a trial, that I found no difficulty whatever in maintaining order, which in such cases is indispensable. We charged 1*d.* per week, more by way of giving the thing more value in the eyes of those benefited, than for forming a fund for expenses, and at the end of the season, when the aggregate weekly pence were deducted from the expenditure, there remained only about 2*l.* to account for, which was cheerfully paid by the worthy individuals before alluded to; and when I add that we were well supplied with firing, candles, books, and other materials, it does not follow that expense need prevent any one attempting a like object. I may remark, that all who did write (and most of them did so), were allowed to retain their books; and a fresh one was presented to each at leaving, in which I afterwards heard they occupied themselves on Sundays and other spare times. I may add, that some of the most forward I instructed to write letters in a homely way; it is useless in such cases to insist on grammar, &c., being first learnt, it is better if instruction can be made agreeable as well as useful, and all pedantic abstract notions laid aside; it is therefore advisable to omit many things which are taught at ordinary schools by way of founding a correct system, in order that your pupils may derive the greatest benefit in the shortest given time. Having already intruded too far upon your columns, I cannot conclude without expressing a hope of hearing of my plan being carried out by some philanthropic individual; a very homely way may do some good, the back kitchen of some farm-house might easily be converted into an excellent school, and I trust some kind-hearted persons will be found to give the necessary instructions. *H. T. S.*

[We have had an experience precisely similar to your own as regards both methods and results.]

Box-feeding.—On opening the *Gazette* this morning, my eye alighted on an article entitled "Thin Seeding and Box-feeding," but I soon laid down the Paper with dismay on perceiving the dreadful fate to which the writer appeared to be resolved on submitting himself; the being "roasted on Cobbett's gridiron," or "cast into Nebuchadnezzar's furnace," unless a jury of scientific men should agree with him as to box-feeding. Now I do trust that, as a man of humanity, you will interpose to prevent either of these dreadful alternatives being carried into execution, for, having a little smattering in science myself, I have thought that I might possibly be empanelled on the jury in question; and my conscientious opinion being opposed to that of the reverend gentleman, it is most lamentable to think of the possible consequences of my verdict. The word box-feeding appears susceptible of two significations, though originally intended merely to imply that the animals were to enjoy the same liberty as a horse in a loose box; yet it may very justly be considered likewise to mean that the manure is safely packed away and firmly compressed as in a box, for on this fact, indeed, lies the secret of its success. If our object be to preserve a quantity of dung free from waste or deterioration, we cannot do better than put it into an hydraulic press, similar to that used for pressing out the oil from Linseed in order to convert it into cake; by so doing we effectually keep out the atmosphere. This, however, is a very expensive affair, more particularly when we have an animal weighing half a ton that will do it for us for nothing. If box-fed cattle were never supplied with litter, but their excrements alone allowed to accumulate under them, the observations of Mr. Wilkins would be just, but the dry litter daily supplied effectually absorbs the moisture from the dung and urine, and the weight of the moving animal effectually compresses the whole, and prevents the access of the oxygen of the air, and the consequent fermentation of the dung and loss of the gases. Mr. Wilkins says "he has always advocated a dry and well littered farm-yard for young and growing cattle." Now, in such a yard the cattle are necessarily running about, lying down and sleeping at night on their own excrements, and this dry and well littered yard is exposed to all the rain that may fall in this rainy climate during the wettest portion of the year; sometimes the young animal is lying on a hotbed caused by a quantity of horse-dung in a state of fermentation, and at another time on the damp layer of straw drenched with continual rain. Now surely a loose box, in which the animal is always dry, the temperature pretty much the same, and the dung compressed and secured from decomposition,

must be vastly preferable to this open yard. But perhaps, after all, I have been needlessly alarming myself, and Mr. Wilkins may have no real intention of immolating himself; after all, peradventure, he possesses the secret of Chabert the fire-king, and knows how to escape scatheless from the fiery furnace; or should the verdict be given against him, he may adopt the defence of Portia, "A pound of flesh but not one drop of blood." "I am ready to be scorched or roasted, but where is Nebuchadnezzar's furnace or Cobbett's gridiron;" neither of them may be forthcoming. I perceive, on further perusing the *Gazette*, that you say you can produce 50 farmers who can attest the merits of box-feeding. This, sir, I consider, goes for nothing, for though each of these farmers might have thus fatted their 50 beasts, yet if it can be shown that these animals, though practically thriving and comfortable, ought to have been scientifically poor and uncomfortable, why, of course, science ought to have it. I once heard of a very positive man, who used to say that, unless he proved what he said to be true, he would jump down his own throat, and the habit grew so strong upon him that he contented himself after every assertion with opening his mouth and pointing his thumb down its passage. The man never once attempted to put his threat into execution; and so we may find that I have been needlessly alarming myself, and that, instead of Mr. Wilkins being roasted on a gridiron, he will only have suffered what he cannot justly complain of—a little harmless roasting in the columns of your *Gazette*. *W. C. S.*

Education (No. 7).—Although it has not been attempted in the foregoing letters exactly to define what the course of education should be, a few remarks may be allowed on an important branch of it little understood by the labouring classes—political economy, whose principles have a direct bearing on all those arrangements which promote the happiness of a poor man in his family. It is a practical science which should be understood by all, but especially studied by those whose means are limited, from its teaching how to economise labour, time, and money. We naturally look for a frugal expenditure of hard earned wages, but there is reason to believe that the middle class make their money go farther than the poor when necessity requires economy. To marry without provision from savings is a common thing with those who have nothing but their hands to work with; the uncertainty of health or of a supply of labour is little thought of; if these fail with the able-bodied, destitution is the consequence, or relief from the parish is indispensable in case of illness. In either, degradation follows, the spirit of independence is broken, and hope is extinguished. Would not much of this be prevented by giving a knowledge of how the savings before marriage tend to prevent these disastrous consequences, and hold out a prospect of competency and a home of comforts and delights? The dwelling of a man cannot be constructed, like the nest of a bird, in a few days; his family cannot be reared to independence in a few weeks; man's is a long minority of nakedness and helplessness; it is impossible to enter on the duties of married life conscientiously without forethought and saving, therefore the principle of accumulation, another branch of political economy, should be understood; but inquire of any young man earning 1*s*. 6*d*. per day, at the age of 18, what 6*d*. a day at 4 per cent. interest would come to in five years, or any young woman what 3*d*. a day would come to in the same period, would one in a thousand know that it would amount to 65*l*.—a sum sufficient to buy a cottage and a garden, or pay the rent of one for life. At any rate, properly applied, it would be a valuable fund for a young couple to begin life upon. The industry and self denial that led to this accumulation, if continued, would secure independence and greatly promote their happiness, and yet nothing is systematically done to fix these principles on the mind and bring them into operation. Political economy like wise teaches the advantages of division of labour; it destroys the false notions about the clashing of interests in different ranks in society and inequality of happiness, by proving that it is our own fault if individually our happiness is not equal, and showing the necessity and use of a dependence of one class on another—how labourer, tenant, and landlord may co-exist and mutually flourish by combining labour, skill, and capital. Good work brings good wages to the labourer, great produce to the tenant, large rent to the landlord; it tells in all the ramifications of society, it benefits all trades and professions, our own and foreign countries, and our colonies. We have been confining our view very much to the useful, but man is a compound being and can appreciate the beautiful; no education is complete that neglects this also. In the outward world utility is combined with beauty; forms and colours give grace to productions that supply our animal wants; there is intelligence and melody in sounds; God manifests himself in his works, they are revelations of his power, wisdom, goodness, and beauty; our faculties are made to study, enjoy, and comprehend them. Education should therefore embrace natural history, drawing, singing, and music. We must bring into the cottages of England more innocent and cheap delight, by imparting a love of the beautiful, as well as by gratifying the natural longing for abundance and variety of food. *Thomas C. Brown.*

Societies.

AGRICULTURAL OF IRELAND, *Nov.* 16.—The Duke of LEINSTER in the chair. After considerable discussion on the subject, the council then agreed to the following resolutions, to be distributed in the form of circulars, for the guidance and direction of all parties applying for the purpose, viz.:

"Rules and Regulations for the Appointment and Direction of Practical Instructors in Husbandry, under Lord Clarendon's Letter, for the ensuing year.

"Dublin, November, 1848.

"The success that attended the appointment of Practical Instructors in Farming, under Lord Clarendon's letter last season, and the general testimony in favour of the system from the districts where they were located, have induced the Council to appeal again to the landed proprietors and public bodies in Ireland to recommence the project during the ensuing year, with that increased energy and effect which the emergency of the present times so urgently demands. With this object in view, his Excellency, Lord Clarendon, has been graciously pleased to place a further sum of 1000*l*. at the disposal of the Council, to aid in sending out efficient Instructors. The principle upon which the Council propose to apply that fund is mainly that of mutual contribution in aid of such localities as shall subscribe for the purpose; and they trust to the liberality of the public for such unconditional contributions as will also enable them to supply competent persons to poor and remote districts, which cannot afford to contribute as liberally as others. Accordingly, where any defined and recognised district, such as a Poor-law Union or local farming society, with an acknowledged managing body and responsible officer attached thereto, shall guarantee and subscribe the sum of 45*l* for the purpose, during the month of November, the Council will add a similar sum, and provide and send down a competent person to act as a practical Instructor, for a period not exceeding 12 months. After the month of December, each locality making such an application will be required to contribute a sum less in proportion by each month that shall have elapsed since that date, the Council adding a similar reduced sum, so as to establish a uniform period of engagement for all. Except in the case of certain poor and remote districts, no Instructor will be sent to any locality, unless a specific application shall be made by some local body for the purpose, nor unless that body shall lodge the proportionate sum required to the credit of the Society in Dublin, and undertake to superintend and direct the Instructor's movements pursuant to the wishes of the Council. No applications for particular estates will be received, nor will Instructors be appointed, unless the limits of the district are comprised within some recognised and clearly defined boundary, with a responsible officer and managing body attached thereto, by whom the duties of the Instructor may be controlled and directed, and their services made available, without exception, equally to all farmers resident in the district. It is also desirable that the extent of each district should not exceed the limits of a Poor-law Union. Candidates for Instructorships will be required to attend at the Society's rooms in Dublin, to be examined in person as to their qualifications, and to bring their testimonials with them, having first lodged copies and particulars of their claim with the Secretary. Each Instructor, on being appointed to any such district as shall contribute as above, shall be paid at the rate of 7*l*. per calendar month for his services, the same to be due and payable to him by regular instalments, on the last day of every month during his engagement, which may be determined at such period, upon a fortnight's notice. He shall be bound to report to the Council in Dublin, on his arrival in his district, and afterwards to furnish regular and accurate reports of his proceedings at stated periods as required; to circulate and distribute such publications as may be supplied to him for the purpose, and to make such inquiries, and supply such returns as the Council may, from time to time, call for and direct. It is earnestly requested that the local secretary (in case the Instructors be appointed on the application of a local farming society) or the Chairman of the Board (if he be applied for by a board of guardians) will from time to time bring before the committee of the local body which he represents the reports to be furnished to the Council by the Instructors, and examine and certify the same, in authentication of their truth and accuracy: and that they will exercise a suitable degree of superintendence over the operations of the Instructors generally; as, without some local check of the kind, the central body have no means of testing the accuracy of the statements made to them by the Instructors respecting their proceedings. The co-operation and assistance of the nobility and proprietors in the different districts are earnestly solicited, as affording the chief means of rendering the system practically useful and effective.

(Signed) LEINSTER, Chairman.

"Edward Bullen, Secretary,
"Society's Rooms, 41, Upper Sackville-street."

From the Dublin Farmers' Gazette.

Reviews.

On the Cultivation and Management of Flax, and the best Method of consuming the Seed. By Thomas Keir Short. Groombridge and Sons, London.

A SIXPENCE will purchase in this pamphlet all the information a man requires to cultivate and dress this crop, and use its produce. Mr. Short has written trustworthy directions for the processes involved in the management of the Flax crop; useful tables of the expense and profit attending its cultivation under different circumstances; and excellent information on the use of Linseed as food for cattle. To this last point we have referred in another section of our Paper.

We have only to add, that we regret the writer should have left the path of simple instruction which he seemed to have chosen, in order to make the coarse personal attack in his 17th page on gentlemen who happen to differ from him on the subject. And we would also say, that it is very desirable that writers on the cultivation of those strongly advocated crops, should enter more fully into the grounds on which the very different opinions that exist of their merits must be based. More stress ought to be laid on the need of extraordinary skill in order to the attainment of extraordinary profit; whether it be in the growth of Flax or in the cultivation of any other crop.

Miscellaneous.

TABLE OF ROTATIONS IN A POOR SANDY SOIL.

First	Second	Third	Fourth	Fifth	Sixth	Seventh	Eighth	Ninth	Tenth
[illegible]	[illegible]	[illegible]	Buckwheat	Carrots	Potatoes	Barley and Turnips	Flax and Carrots		
			Oats	Clover	Barley and Turnips	Potatoes	Rye and Turnips		
Flax and Carrots	Rye and Turnips	Rye and Turnips	Potatoes, Peas, and Carrots	Oats, Rye	Clover	Rye, or Barley and Turnips	Ditto Oats and Potatoes	Flax and Carrots	Rye and Turnips
			Spurrey and Turnips	Buckwheat	Potatoes	Oats	Flax and Carrots		
Flax	Rye	Clover	Rye and Turnips	Rye and Turnips	Oats or Buckwheat	Potatoes	Rye and Turnips	Flax	Clover
						Carrots	Rye and Turnips		
Flax and Clover	Clover	Oats, or Spurrey, or Peas	Rye and Turnips	Rye and Turnips	Buckwheat, or Potatoes, or Carrots	Barley and Turnips	Oats	Rye and Turnips	Flax
						Rye and Turnips	Rye and Turnips	Flax	

St. Marylebone Bank for Savings, 76, Welbeck-street. Established July 5th, 1830.

COMPARATIVE STATEMENT OF PROGRESS AT SPECIFIED PERIODS, DURING THE LAST SEVEN YEARS.

	Open Deposit Accounts.	Sums invested with National Debt Commissioners.
		£
On 20th November 1842	13,2[illegible]	[illegible]
" " 1843	14,1[illegible]	[illegible]
" " 1844	15,1[illegible]4	[illegible]
" " 1845	16,[illegible]1	[illegible]4
" " 1846	17,[illegible]	[illegible]43
" " 1847	18,11[illegible]	[illegible]
" " 1848	19,12[illegible]	[illegible]

Report on Root Crops.—In making their Report, the Judges beg to state, in reference to manures applied to various root crops, that they are fully convinced of the value and efficacy of good farm-yard manure in raising that kind of produce, in preference to all others: and while they approve of the judicious use of artificial manures in conjunction therewith, as a stimulus, they by no means feel warranted in recommending a reliance upon them. They also consider it their duty to point out to the committee the immense amount of injury sustained by the root-crops from the deteriorating influence of hedgerow timber, which in many cases inflicts greater injury upon the growing crops, in a few years, than the whole pecuniary value of such timber. In illustration of this, in one particular instance that came under their observation, they found that a tree (worth perhaps 20 shillings) materially injured a growing crop of Swedes from a space of 20 yards, allowing for its influence upon the crops on the other side. The Judges have no hesitation in stating that this tree has actually caused the tenant an amount of injury many times greater than its present value. *Hertfordshire Agricultural Society.*

Electric Telegraph.—The utility of the electric telegraph was finely exemplified a few days ago, under the following circumstances: it appears that information had been given to Mr. Reay, the active and intelligent Secretary of the Liverpool Protection of Trade Society, that a quantity of Wheat had been fraudulently obtained, and was then on its way to Stockport, a town about 40 miles distant. He promptly sent a message by the electric telegraph to Mr. Cottam, the Secretary of the Manchester Guardian Society, and in a few minutes after the receipt, his son was on his way to Stockport,

where the Wheat was fortunately stopped *in transitu*, and a message returned to Liverpool that the Wheat was all safe. Thus an important transaction was managed between these two towns in about an hour's time, which only a few years ago would have occupied a whole day, besides the fatigue and expenses of the journey.

Calendar of Operations.

NOVEMBER.

BERWICKSHIRE MERSE FARM, *Nov.* 17.—Since last report we have been employed ploughing Grass land for Beans with three horses; threshing and delivering Wheat—the quality good and the yield large per acre; one pair at the coals, one carrying tiles and flats for the drains; leading Turnips for the cattle, &c.; the workers assisting at the threshing and dressing, gathering Beans, pulling Turnips, &c.; one man cutting hedges, cleaning the stack-yard, &c. *J. B.*

DORSET FARM, *Nov.* 14.—Since last report we have been ploughing Wheat stubbles and sowing Wheat, for which the weather has been very favourable for about a week; carting out dung to be ready for next year's root crops, threshing and winnowing Barley, pulling and storing Mangold Wurzel, and ploughing part of the land after them, which we are to sow with Wheat, also grubbing out old fences and making new ones, pulling and driving Turnips for fatting beasts. There is still a good deal of Wheat to sow, and a great deal of it is being put into the ground without its being thoroughly cleaned; for the summer has been very favourable to the growth of weeds, and the autumn has not admitted of their being got easily out. But notwithstanding the foul state of the Turnip crops, they have done better than might have been expected, and in most instances are a fair crop. *G. S.*

EAST LOTHIAN FARM, *Nov.* 18.—Except a shower of rain on Thursday and to-day, we have experienced a week of splendid weather for the season. Work upon the farm during the week has been carting off Turnips and ploughing the land and sowing the same with Wheat; likewise threshing Oats for meal, for corn for horses, and straw for litter, also carting coals for the family. *M.*

EAST LINCOLNSHIRE FARM, *Nov.* 15.—When the weather permits we are engaged sowing Wheat, ploughing stubble for Turnips, and Mustard for Wheat. We are sowing broadcast, and on Grass land, 3 bushels to the acre. The greater part that is sown went in badly, owing to the wet, and there is a great deal of land to sow yet. We have folded the lambs on the Turnips, and they are with us a good crop. We gathered our harvest two months back, in good condition, and what has been threshed has yielded as well as we expected. We have got the beasts up, and are allowing them 4 lbs. of oil cake in the day, with Barley straw. The milch cows have Grass during the day and cut hay morning and night, with an allowance of cake. The horses live on Oats and Beans, straw and all, cut into chaff. Day wages with us are 2*s.* to 2*s.* 3*d.* per diem. We took our Potatoes up a short time since; the greater part were diseased. Our pigs are feeding on small Wheat and Barley waste. The manual labour is attending to the sheep and beasts, ridding thorns, trimming hedges and plantations, leading litter into the yards, &c. *G. W.*

STIRLINGSHIRE CARSE FARM, *Nov.* 18.—This week, up till Tuesday, having been very fine, we were allowed thereby to get on with out-door labour; such as winter ploughing, carting away hay, &c. Tuesday being stormy, we were engaged in preparing Wheat for the market. *W. F.*

SUSSEX FARM, *Nov.* 20.—With fine weather we shall finish Wheat sowing by the end of the week. We find a great advantage in using a long pole to reach over the ridge, with four harrows attached; by the horses walking in the furrows there is no treading on the ridge, in this way we have sown part too wet for drill, otherwise it would have been still unsown. Labourers cleaning out furrows, storing Swedes, threshing Wheat, Oats, and cleaning the same, and draining. *J. B.*

Notices to Correspondents.

AUSTRALIAN AGRICULTURE: *Ecta* says. "I have just returned from Australia, where I have been some years, having rented of Government 'a run' of some miles in extent. I breed horses and sheep, the former for the Indian market principally; the latter, I am sorry to say, I am obliged to sacrifice in a sad manner, *i. e.*, to boil down as many as 2000 and 3000 at a time, until all the fat is extracted, which I barrel and export. The wool I of course clip and also export; but the meat and bones, after boiling, become a mass of matter which is cast away as useless. The skins are of no use, and are also cast away, curing them being of no profit, for they do not pay their freight on exportation. Can you do me the kindness to give me a hint as to a better appropriation of these useful things in any other part of the world. Do you think that mutton could be pickled, or what is termed potted with herbs and spices—or any other way, so as to arrive at any distant port in a fit state for eating, after six or more months' keeping on voyage; and would it sell in England? Scotch mutton hams are much esteemed in the north, but I find they are not so in London. Can you inform me how long they will keep, and if they will bear a voyage of some months; also the mode of curing them. Surely the skins ought to be turned to some account, yet no one has been able yet to do so." [Preserved meats have been imported to England from Australia to some extent—with what profit we do not know.]

BONE-DUST: *Anon.* It is sold by the *strike*, not by heaped measure.

BOOKS: *Philippine.* The books of the Society for the Diffusion of Useful Knowledge on the Horse and the Sheep are the most complete for your purpose. "Blacklock's Treatise on Sheep," or "Spooner on the Sheep," are cheaper books on the latter subject.

BOX-FEEDING: *Inquirer.* We have abundance of straw, and supply the cattle with a large bundle apiece, weighing about 20 lbs., daily. The dung is thoroughly wet with the urine of the animals, and we never saw box made manure that was dry. The urine will not run from the straw after the first week of the accumulation; the thickness of lair is then sufficient to preserve it.

CYCLOPÆDIA OF THE PRACTICE AND THEORY OF AGRICULTURE: *S G M.* It has not yet appeared; a few of its early numbers are in type; the first will soon be published. We frankly state as the grounds of our recommendation to wait—that the writers engaged on it have most of them long been correspondents of the *Agricultural Gazette*, and that the plan of the work under which each subject is discussed by one who is practically acquainted with it, is far preferable to that of a compilation under the superintendence of but one man, however high his qualifications may be.

DISEASE IN CATTLE: *X Y Z.* You do not mention the most important part of the case, viz., the post-mortem appearances, although, there having been many deaths, there must have been plenty of opportunities for observation. If the lungs, after death, were found to be heavy and solid, and sometimes attached to the side, with occasional water in the chest, then the disease is, as we suspect it is, the pleuro-pneumonia, for the treatment of which, see No. 12, 1848, p. 198, col. *a. W C S.*

DISEASES OF POULTRY: *J S C* is referred to "D S E's" series, No. 25, page 408, June 17; and further, in answer to his enquiry respecting "a favourite hen, that for the last three days has entirely lost the use of its legs, the toes appearing drawn up, as if by cramp," that it is cramp, which often proves fatal, degenerating into paralysis, particularly with young chicks, if not taken in time. It is caused by wet Grass, damp ground, or cold boards. House the patient in a warm room, in a hamper, upon flannel or soft wadding; straw cut rather short and bruised soft should be used in preference to hay, which breeds vermin. Bathe its feet in moderately hot water, or vinegar and water, by standing it for a short while up to the feathers in a basin, three or four times a day, afterwards each time washing the feet with a little moderately hot vinegar. The fowl had better have food and water after each bath, making one trouble, and should be taken out to stretch and shake itself often during the day, also the first thing in the morning and the last thing at night, placing it in flannel or matting, and it will seldom dirty the nest. A small piece of raw meat occasionally at an early meal will do great service. A dose of castor oil sometimes would do good; or, what is preferable, Clater's Mixture, one part syrup of ginger, one part syrup of white poppies, and two parts castor oil, two or three teaspoonsful a dose.

DUCKS: *J Yowell.* The birds about which you inquire are the black East Indian Duck, a variety or sub-species of the tame duck. They are the same as those advertised by the Messrs. Baker, under the name of Labrador ducks. Some account of them is given in the vol. on "Ornamental and Domestic Poultry" just published. If your birds are without any sprinkling of light feathers whatever, they are worth taking care of as good specimens of a handsome and useful breed. *D.*

FARM HORSES: *D W.* 10 lbs. of hay and 10 lbs. of corn daily will suffice, with straw *ad lib* Carrots would be a useful addition to such dry food. If you cut straw and hay half and half, together with chaff, 10 lbs. of the chaff and 1 cwt. of Swedes or Mangold Wurzel will keep a cow in good order.

HATCHING CHICKENS: *G Wilson.* The difficulty is not in this, but in rearing them after they are hatched. The Egyptian method is described in Reaumur's work on Poultry, published in Paris, 1749. The "Penny Magazine" contains an account of it; but we cannot lay hands on the number.

ITALIAN RYE-GRASS: *Inquirer.* We have done as our South Hants correspondent recommends. We sowed about 2 bushels per acre, just before the last hoeing in May that we could give our Wheat crop.

LARGE PRODUCE: In our number for Feb. 14, 1846, at page 108, there is an account of the produce of an acre of "good rich light loam," which had lain 60 years in pasture, and was then (1838-34) dug up two spits deep the first year, and one spit deep every succeeding year; the land "never dressed with manure," yet affording in six successive years, during which it was cropped with Wheat, on an average "carefully taken," 6 qrs. 4 bushels. Is there no mistake in this statement? If not, it is a remarkable instance of the superiority of deep free cultivation without manuring, over the customary modes of tillage. The cultivator, Thomas French, says, indeed, that in the last of the eleven years reported, "on two or three rods on which he had used manure, the yield was the least; the Wheat having been beaten down." Those who advocate open, clean, and deep cultivation, in preference to heavy manuring, might find this statement worthy of enquiry, and similar statistics, if attainable, calculated to advance their views. *L.*

LEA-SHARE LAND: *Anon.* If your soil be really a "blowing sand," you should get it laid down to Grass. See pp. 60, 107, 121, 158, 215, 230, 263, in 1845. But if it be merely a light sandy soil, capable of arable culture, you may follow a rotation of 5 or 6 years, similar to the Norfolk, but with two or three years of Grass instead of one only, and you should apply clay if it be accessible with reasonable labour. Carrots are a good crop for light land. Guano may be applied a fortnight before the seed; 3 cwt. per acre, sown broadcast, and harrowed in.

MR. HOXTABLE'S FARM: *X Y Z.* Will you be good enough to give your authority for the statement about this enormous outlay? We believe you are in error on that point, and therefore delay the publication of your letter.

NEW MANURE: *Sine nomine nihilum.* We quite approve of the Society's rule, and must act up to it in our own case by declining to publish what, so long as the composition of this manure is secret, would not benefit our readers. We are, however, willing to publish the results of any experiments.

PIGS: *Somersetshire Farmer.* The muscle of the snout may be weakened by cutting it through on each side; but this is as cruel as ringing, and not so effectual.

RETURNS FROM DRAINAGE: Increased produce of crops previously grown; capability of cultivating crops that could not be previously grown; earlier and easier cultivation of the soil. All these in sufficient degree amply, in ordinary cases, repay the cost of the operation. How is it possible that without an examination of your particular case we can answer your question in less general terms than the above?

SHELTER: *A H.* Beyond a doubt your tenant will benefit by the proposed shelter. The idea of the cattle being better unsheltered, because they would otherwise "run to shade to escape the fly, and so feed less steadily" is absurd.

TILE MACHINE: *A Tile Manufacturer* would be glad if some of our correspondents could inform him which is really the cheapest, best, and easiest worked machine for making pipe tiles, worked by hand. In his work, which is on a small scale, he has at present two machines, viz, one of Ainslie's and one of Young's, of Ayr. The former produces capital tiles and pipes, but it is so hard to work that he intends giving up using it. He feels confident that no pipes can be made with it if worked by the hand, so as to be sold at a moderate price, and the quantity produced is so small that it will not keep even a small work going. For making tiles alone, Young's is a first-rate machine; it is very easily worked, and turns out a large number of well-made tiles in a day. What he wants is, to have a machine as moderate in price as possible, which can be easily worked, to take the place of Ainslie's machine.

WHITE TARES: *W B.* They may be sown now, but they will be no earlier than the first sowing of Spring Tares.

ERRATUM: For "heat," in Mr. Prideaux's Notice, at page 758, on Charring Weeds, read "heap."

*** Communications reaching town after Wednesday cannot be answered the same week.

Markets.

SMITHFIELD, MONDAY, NOV. 20.

We have a good supply of Beasts, and the demand small, except for choicest qualities, which are more cheerfully purchased. Trade is slow for second-rate, and several remain unsold. The number of Sheep is smaller—quite adequate, however, to the demand; indeed, they are not all sold, and last Monday's prices are barely maintained. Although there are but few Calves on offer trade is dull, and higher rates cannot on an average be realised. From Holland and Germany we have 212 Beasts, 980 Sheep, and 50 Calves; from Ireland, 200 Beasts; from Spain, 10; from Denmark, 131; from Leicester and Northampton, 2700; and from Lincolnshire, 300.

Per stone of 8 lbs.—s	d	s	d	Per stone of 8 lbs.—s	d	s	d
Best Scots, Herefords, &c. 4	0	to 4	4	Best Long Wools 4	0	— 4	4
Best Short Horns 3	8	— 4	0	Ditto Shorn		....	
Second quality Beasts .. 2	8	— 3	4	Ewes and second quality 3	4	— 3	8
Calves 3	4	— 4	4	Ditto Shorn..		....	
Best Downs & Half-breds 4	6	— 4	10	Lambs.....		....	
Ditto Shorn		....		Pigs 4	6	— 5	4

Beasts—3338. Sheep and Lambs—21,360. Calves—119. Pigs—240.

FRIDAY, NOV. 24.

The number of Beasts is small, the time of year considered; trade is, however, slow, but Monday's prices are well maintained. We have but few Sheep at market; the demand, however, is very limited, and we cannot discover any alteration from the quotations of Monday last. Trade is heavy for Calves at about 2*d.* per 8 lbs. reduction. From Holland and Germany there are 321 Beasts, 870 Sheep, and 50 Calves; from Scotland 40 Beasts; Ireland, 50; and about 130 Milch Cows from the home counties.

Best Scots, Herefords, &c. 4	0	to 4	4	Best Long Wools..... 4	0	— 4	4
Best Short Horns 3	8	— 4	0	Ditto Shorn		....	
Second quality Beasts .. 2	8	— 3	4	Ewes and second quality 3	4	— 3	8
Calves 3	0	— 4	2	Ditto Shorn		....	
Best Downs & Half-breds 4	6	— 4	10	Lambs.....		....	
Ditto Shorn		....		Pigs 4	6	— 5	4

Beasts—971. Sheep and Lambs—3450. Calves—237. Pigs—290.

COVENT GARDEN, NOV. 25.

The market continues to be well supplied with Vegetables and most kinds of Fruit. Pine-apples are very plentiful; and bothouse Grapes sufficient for the demand. Ribston Pippins and other dessert Apples are cleared 6 and 8 for 6*d.* Among Pears we remarked good specimens of Chaumontelle, Crassane, Glout Morceau, Beurré Diel, Passe Colmar, &c. Nuts in general are sufficient for the demand, except Filberts and Cobs, which continue scarce. Some new Oranges have made their appearance. Lemons are scarce. Amongst Vegetables, Carrots and Turnips are abundant and good; Cauliflowers, Broccoli, &c., sufficient for the demand. Some Asparagus and French Beans have made their appearance. Potatoes continue to be plentifully supplied. Lettuces and other salading are sufficient for the demand. Mushrooms are plentiful. Cut Flowers consist of Heaths, Pelargoniums, Gardenias, Fuchsias, Carnations, Moss and other Roses.

FRUITS.

Fine Apple, per lb., 3*s* to 5*s*	Almonds, per peck, 6*s*
Grapes, hothouse, per lb. 2*s* to 5*s*	— sweet, per lb., 2*s* to 3*s*
— foreign, per lb., 9*d* to 1*s*	Walnuts, per 100, 1*s* 6*d* to 2*s*
Apples, dessert, sieve, 1*s* to 7*s*	— per bush. 16*s* to 24*s*
— kitchen, p. bush., 3*s* to 5*s*	Chestnuts, per peck, 4*s* to 7*s*
Pears, per doz., 2*s* to 6*s*	Nuts, Barcelona, per bush., 20*s* to 22*s*
— per half sieve, 6*s* to 10*s*	— Filberts, per 100 lbs., 60*s* to 100*s*
Oranges, per doz., 2*s* to 3*s*	— Cob, per 100 lbs., 90*s* to 150*s*
Lemons, per doz., 1*s* to 2*s* 8*s*	— Brazil, per bush., 12*s* to 16*s*
— per 100, 10*s* to 18*s*	

VEGETABLES.

Cabbages, per doz., 3*d* to 1*s*	Tomatoes, per punnet, 9*d* to 1*s* 3*d*
— red, per doz., 1*s* to 4*s*	— per half sieve, 3*s* to 5*s*
Cauliflowers, per doz., 6*d* to 2*s*	Shallots, per lb., 4*d* to 8*d*
Broccoli, white, per doz., 3*s* to 4*s*	Garlic, per lb., 4*d* to 8*d*
— brown, per bunch, 6*d* to 1*s* 3*d*	Radishes, per doz. bands, 6*d* to 1*s*
Sorrel, per half sieve, 6*d* to 9*d*	— Turnip, do., 9*d* to 1*s*
Potatoes, per ton, 60*s* to 180*s*	Artichokes, per doz., 1*s* 6*d* to 2*s*
— per cwt., 5*s* to 9*s*	— Jerusalem, p. h. sieve, 1*s* to 1*s* 6*d*
— per bush., 2*s* 6*d* to 5*s*	Lettuce, Cab., per score, 4*d* to 6*d*
Turnips, per doz. bunches, 9*d* to 2*s*	— Cos, do., 9*d* to 1*s*
Red Beet, per doz., 6*d* to 1*s*	Endive, per score, 9*d* to 1*s*
Horse Radish, per bundle, 1*s* to 6*s*	Mushrooms, per pottle, 6*d* to 1*s*
Asparagus, per 100, 4*s* to 6*s*	— per bushel, 3*s* to 6*s*
Cucumbers, each, 4*d* to 1*s*	Small Salads, per punnet, 2*d* to 3*d*
Leeks, per bunch, 1*d*	Fennel, per bunch, 2*d* to 3*d*
Celery, per bundle, 6*d* to 1*s* 3*d*	Savory, per bunch, 2*d* to 3*d*
Carrots, per doz. bunches, 3*s* to 5*s*	Thyme, per bunch, 3*d* to 4*d*
Spinach, per sieve, 9*d* to 1*s*	Watercress, p. 12 small bun., 6*d* to 9*d*
Onions, per bunch, 3*d* to 4*d*	Parsley, per doz. bunches, 1*s* 6*d* to 2*s*
— per bushel, 1*s* 6*d* to 2*s* 6*d*	— Roots, per bundle, 1*s* to 1*s* 6*d*
— Spanish, per doz., 1*s* 6*d* to 4*s*	Marjoram, per bunch, 2*d*
— pickling, p. h. sieve, 1*s* 6*d* to 3*s*	Mint, green, per bunch, 2*d*

POTATOES.—SOUTHWARK, WATERSIDE, NOV. 20.

The Committee report that the arrivals during the past week have been quite equal to the demand. Many of the Scotch arrive in bad condition, and have to be sold at a very low figure. A few very superior York Regents are making a higher price. The following are this day's quotations:—Yorkshire Regents, 80*s* to 140*s*; Scotch do., 100*s* to 120*s*; Scotch Reds, 40*s* to 90*s*; Scotch Cups, 70*s* to 90*s*; Scotch whites, 70*s* to 80*s*; French Whites, 70*s* to 90*s*; Belgian do., 70*s* to 90*s*.

HOPS, FRIDAY, NOV. 24.

MESSRS. PATTENDEN and SMITH report that the demand for fine Hops continues brisk, whilst inferior ones are very difficult to dispose of.

Mid. & East Kents, p. cwt.	50*s* to 130*s*	Yearling Kents, p. cwt. ..	38*s* to 52*s*
Weald of Kents	42 — 75	Yearling Sussex	38 — 52
Sussex	30 — 70	Old Hops	20 — 85
Farnhams	80 — 120		

HAY.—Per Load of 36 Trusses.

SMITHFIELD, NOV. 23.					
Prime Mead. Hay	66*s* to 72*s*	New Hay ..	—*s* to —*s*	Straw ..	23*s* to 28*s*
Inferior ditto ..	55 60	Clover	60 92		
Rowen	40 52	New Clover	— —		
		The trade very heavy.			J. COOPER.

CUMBERLAND MARKET, NOV. 23.					
Prime Mead. Hay	72*s* to 77*s*	Old Clover .	90*s* to 95*s*	Straw ..	28*s* to 33*s*
Inferior	48 65	Inferior ..	50 84		
New Hay	— —	New Clover ..	— —		JOSHUA BAKER.

WHITECHAPEL, NOV. 23.					
Fine Old Hay ..	65*s* to 70*s*	Old Clover ..	95*s* to 100*s*	Straw ..	24*s* to 28*s*
Inferior Hay ..	50 55	Inferior	50 60		
New Hay.. ..	60 65	New Clover ..	84 90		

MARK LANE, MONDAY, NOV. 20.

MESSRS. KINGSFORD and LAY report that the supply of Wheat by land carriage samples from Essex, Kent, and Suffolk this morning was again very small, but nevertheless met a slow sale at a decline of 1*s.* to 2*s.* per qr. upon the prices of this day se'nnight. A similar reduction must be noted on foreign, of which sales were limited only.—Barley of all descriptions is 1*s.* per qr. cheaper.—Beans are the turn lower, and we reduce our quotations for White Peas 2*s.* per qr.—The Oat trade is very heavy, and all but the finest qualities is per qr. lower.—Indian Corn meets an improved inquiry for Ireland, and is held for 1*s.* per qr. advance.

BRITISH PER IMPERIAL QUARTER.	*s*	*s*		*s*	*s*
Wheat, Essex, Kent, and Suffolk ..... White	46	55	Red.....	42	48
Norfolk, Lincolnshire, and Yorkshire	43	52	White ..	48	54
Barley, Malting and distilling, 28*s* to 30*s*	28	34	Grinding	24	30
Oats, Lincolnshire and Yorkshire..... Polands	20	26	Feed	18	23
Northumberland and Scotch ..... Feed	22	24	Potato ..	24	27
Irish ..... Feed	17	23	Potato ..	20	25
Malt, pale, ship.....	—	—			
Hertford and Essex	—	—			
Rye.....	28	30			
Beans, Mazagan, old and new .. 28*s* to 34*s*.... Tick..	36	38	Harrow..	28	40
Pigeon, Heligoland .... 30 44 .... White 34		40	Longpod	26	30
Peas, White..... 34 36 .... Maple 36		38	Grey	34	36

ARRIVALS IN THE PORT OF LONDON LAST WEEK.						
Flour, 12261 sks	Wheat.	Barley.	Malt.	Oats.	Rye.	Beans.	Peas.
— — bls	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.
English.....	1720	5291	2628	698	—	415	792
Irish	—	—	288	5621	—	—	—
Foreign.....	11505	6649	—	23314	480	959	2399

FRIDAY, NOV. 24.

The arrivals of corn fresh up for this morning's market are small, but having a very thin attendance, scarcely any business was transacted.—Wheat, Beans, and Peas barely maintain our quotations of Monday.—Barley excepting the finest malting, must be written 1*s.* cheaper; and Oats are also 1*s.* per qr. lower.

[The weather during the past week has been exceedingly wet and stormy, and in many districts of the kingdom Wheat sowing is again interrupted. Prices of Wheat, both in England and Scotland, have undergone a further depression of 1*s.* to 2*s.* per qr., and a growing disposition to force sales is apparent, which is the more remarkable when the very large importations of the last two months, the nevertheless comparative smallness of our present stocks, the certain large deficiency both in the yield and weight of the last crop, together with the near approach of winter and consequent closing of the Baltic and Black Sea ports, are considered. In Ireland prices of Wheat are supported, and Maize meets an improved sale. Barley and Peas have declined 1*s.* to 2*s.* per qr.; Beans and Oats, 1*s.* Flour is difficult of disposal, but late rates maintained, except 2*s* in Liverpool, where a slight decline has been submitted to. In Danzic all business is suspended by political events. In Pomerania and Mecklenburg good 61 lbs. Wheat is still quoted at 40*s.*, Barley 20*s.*, and Peas 26*s.* to 28*s.*, all f. o. b. In the Belgian and Dutch markets Wheat is obtainable at 1*s.* per qr. decline. Good 61—62 lbs. at 42*s.* 6*d.* to 45*s.* f. o. b. In the Mediterranean and Black Seas, prices of Wheat are much higher in proportion than ours.]

ARRIVALS IN THE PORT OF LONDON THIS WEEK.						
	Wheat.	Barley.	Oats.	Flour.		
	Qrs.	Qrs.	Qrs.			
English.....	1850	1650	1470	3030 sacks.		
Irish	—	210	13180			
Foreign.....	11220	1460	4650	— barrels.		
IMPERIAL AVERAGES.	Wheat.	Barley.	Oats.	Rye	Beans.	Peas.
Oct. 14	51*s* 1*d*	32*s* 0*d*	20*s* 8*d*	30*s* 4*d*	35*s* 2*d*	39*s* 2*d*
— 21	51 7	32 3	19 11	32 4	39 9	39 7
— 28	51 0	32 7	20 4	28 9	37 3	40 1
Nov. 4	51 2	32 10	20 7	31 1	37 1	39 7
— 11	52 0	33 7	20 10	30 5	37 2	40 2
— 18	52 3	34 1	20 5	30 10	38 1	40 6
Aggregate Average	51 8	32 11	20 6	30 7	36 9	39 10
Duties on Foreign Grain	6 0	2 0	2 6	2 0	2 0	2 0

Fluctuations in the last six weeks' Corn Averages.

PRICE.	Oct. 14.	Oct. 21.	Oct. 28.	Nov. 4.	Nov. 11.	Nov. 18.
52*s* 3*d*	...	...	...	...	...	...
52 0	...	...	...	...	...	...
51 11	...	...	...	...	...	...
51 7	...	...	...	...	...	...
51 2	...	...	...	...	...	...
51 0	...	...	...	...	...	...

SEEDS, NOV. 20.

Canary ..... per qr.	88*s* to 100*s*		Linseed-cakes, Foreign, p. ton, 7*l* to 9*l*			
Caraway ..... per cwt.	27	29	Mustard, White, p. bush.,	4*s* to 9*s*		
Clover, Red, English	35	44	Superfine, p. bush.,	9	10	
— Foreign	35	40	Brown, per bush.,	6	12	
White, English	38	44	Rapeseed, Eng., per last.....	28*l*	30*l*	
— Foreign	38	42	Rape-cakes .... per ton	4*l* 10*s*	to 5*l*	
Coriander.....	12	16	Sanfoin	—	—	
Hempseed ..... per qr.	34	36	Tares, Eng., winter, p. bsh.,	10*s*	0	12*s* 0
Linseed.....	38	40	Foreign, per bush.,	3*s* 0	6*s* 0	
— Baltic.....	33	38	Trefoil	17*s* 0	20*s*	
— Cakes, Eng. p. 1000,	11*l* 10*s*	to 12*l*	Turnip—too variable for quotation.			

Sales by Auction.

IMPORTANT SALE OF NURSERY STOCK.

MESSRS. PROTHEROE AND MORRIS beg to announce they will continue to sell by Auction on the Premises, Wandsworth Common, on MONDAY, Nov. 27, 1848, and five following days, at half-past 11 o'clock precisely, by order of the Assignees of Mr. R. Neal, a Bankrupt, the whole of the VALUABLE NURSERY STOCK, consisting of a considerable quantity of very fine Evergreens, Fruit and Forest Trees, new Ornamental Trees and Deciduous Shrubs, and a large and rich assortment of American Plants, several Pits, two and three Light Boxes; a large quantity of Timber, consisting of Elm, Ash, Fir, Poles, &c.; a capital Stone-Waggon, a 2-horse Roller, Timber-carriage, Spring cart, Theodolite, Utensils in Trade, &c.—Catalogues may be had, 1s. each (returnable to purchasers), on the premises, of the principal Seedsmen; Messrs. FLETCHER and ROBERTS, Solicitors, Wandsworth; EDWARD EDWARDS, Esq., Official Assignee, 17, Frederick's Place, Old Jewry; and of the Auctioneers, American Nursery, Leytonstone, Essex.—Leytonstone, Nov. 25.

TO GENTLEMEN, NURSERYMEN, MARKET GARDENERS, AND OTHERS.

MR. C. FURBER will sell by Auction, on the Premises of Mr. Chapman, Barrack-lane, Hounslow-heath, on TUESDAY, Nov. 28, at 11 for 12 o'clock precisely, by order of the Sheriff of Middlesex, the extensive STOCK of a NURSERYMAN, consisting of a large variety of Evergreens, Ornamental Shrubs, Fruit and Forest Trees, &c. &c.; part of a Stack of Hay, Waggon, Utensils, and numerous effects. Catalogues may be had on the Premises; at the King's Arms Inn, Hounslow; the Castle, Brentford; the Star and Garter, Kew-bridge; and at the Auction-offices, in Warwick-court, Gray's-inn.

VALUABLE FARM AND LANDS, BARTON GRANGE; and Reversions with Reserved Rents of Farms and Lands adjoining; all situate in the parish of Eccles, near Manchester. By Order of the Trustees and Executors of the late EDWARD BAINES, Esq., of Leeds.

MESSRS T. WINSTANLEY AND SONS, of Liverpool, will sell by Auction, on THURSDAY, the 30th of November instant, at half-past 2 for 3 o'clock precisely in the afternoon, at the Palatine Hotel, in the City of Manchester, BARTON GRANGE FARM, and Parcels of LAND; also a Villa Residence, and a Bailiff's House and Farm Buildings, and 25 Acres of thriving Plantations of Larch, Scotch Fir, and Mixed Timber, of 25 years' growth, in Barton upon-Irwell, near Manchester. The whole contains about 262 Statute Acres. The Property is situated in an increasingly populous District, is in a high and improving state of Cultivation, and presents an eligible opportunity for Investment. The Estate lies distant less than a mile from the Barton Station of the Liverpool and Manchester Railway, with which it is connected by a private tram road. It is only a quarter of a mile from the turnpike road leading from Manchester to Liverpool, and a quarter of a mile from the navigable river Irwell; and there is a privilege of carrying manure on that river free of toll. The private tram road also extends the whole distance between the railway station, the turnpike road, and the River Irwell, and passes through the centre of the Estate. The Estate is Tithe-free, and is held under Lease from Sir Thomas Joseph de Trafford, for a term, of which 49 years are still unexpired. Also, the REVERSION, with RENTS reserved thereon, of other Lands adjoining the above Farm, comprising about 798 acres, held under the same lease, and sub-leased to four parties. These total rents amount to 285*l.* 11*s.* The whole Estate, including the above subleased portions, is subject to an entire reserved rent of 116*l.* 15*s.* Printed particulars, with lithographed plans, may be had on application to Mr. THOMAS BAINES, at Barton Grange Farm, or Mr. JOHN BELL, the Resident Bailiff; to Mr. EDWARD BAINES, Leeds; to Mr. HENRY WHITE, Land Agent, Warrington; and to Messrs. HARVEY and FALCON, Solicitors, 12, Castle-street, Liverpool.

TO GRAPE GROWERS, NURSERYMEN, FLORISTS, AND OTHERS.

TO BE SOLD OR LET, with immediate possession, AN ESTABLISHED BUSINESS in the above line, situate in one of the best localities for such a purpose in the town of Brighton; laying fully open to the south, and completely sheltered from the north and west. The whole of the premises are walled in, and comprise a series of 12 Forcing and Succession Graperies, Peach, Stove, Propagating and Plant-houses, besides Pits, &c.; covered by upwards of 10,000 feet of glass. The whole of the external and sectional walls are clothed with full-bearing Fruit Trees of the finest sorts; and water from the Company's main is laid on to various fish pools and ornamental tanks, conveniently placed for the use of every part of the premises. If sold, a large portion of the purchase money may remain on Mortgage, if required.—Apply to Mr. PARSONS, Auctioneer and Estate Agent, 30, Marine Parade, Brighton.

FARM TO LET.

TO BE LET, an ARABLE FARM, of 500 acres, nearly all Turnip Land. It is about 30 miles from London, and two from a principal market town, from which will shortly be railway communication to London. The Homestead is most perfect, and stands in the centre of about 30 acres of Meadow, with a modern-built Lodge at the entrance, as residence for Bailiff or Shepherd. The house, of agreeable elevation, although not too large for a person solely devoted to business, is so beautifully situated as to be worth the attention of any gentleman attached to agriculture and field sports, being midway between two kennels of fox hounds; abundant spring water, and capital roads. The privilege of Shooting, and 14 or 21 years' Lease will be granted. Rent and rates moderate. —For particulars, direct to J. C., Messrs. Harrison's, 2, George-yard, Lombard-street, London.

TO BE LET, a NURSERY and SEED BUSINESS, a compact concern, doing a good business, and well stocked with Roses and Evergreen and Deciduous Shrubs; also a general Collection of Greenhouse Plants. The Nursery is situate in a fashionable and improving neighbourhood near London, containing about Five Acres of Land, with Dwelling-house, several Greenhouses, Seed-shop, Stabling, and Sheds, with extensive walls; held on Lease at a moderate rent. Any one wishing to enter upon such a business will find this a rare opportunity of doing so, but none need apply except they can command 1100*l.*—Direct to A. B., at Messrs. Mitchell's, 39, Charing-cross, London.

IMPORTANT TO LANDED PROPRIETORS.

TO BE SOLD, by Private Contract, in large or small Lots, upwards of 400,000 well-rooted OAKS, grown in a private Nursery, on poor land, and there being more than is required on the estate, are offered at the following reduced prices, delivered free at Thetford Station: 5 years old plants, 2 years transplanted, from 15 to 30 inches high, 17*s.* per 1000; 5 years old plants, 3 years transplanted, from 24 to 36 inches high, 24*s.* per 1000.—Apply to Mr. HENRY WOODS, Merton, Thetford, Norfolk.—Nov. 25.

NOTT'S PATENT STOVES FOR CHURCHES, HALLS, WAREHOUSES, &c.—The Stock of STOVES is now REMOVED to BENHAM AND SON'S, 19, Wigmore-street, Cavendish-square, by whom all orders will be executed in the usual Terms.—N.B. The prices have been reduced 25 per cent.

PROPOSED TESTIMONIAL TO WILLIAM SHAW, Esq., Editor of the *Mark Lane Express*, and "Farmers' Magazine," for his exertions in the cause of Tenant Right. At a Meeting of the Provisional Committee, held at the Farmers' Club House, on Tuesday, November 14, James Dean Esq., in the Chair, it was resolved—

"That a General Meeting of Agriculturists and others favourable to the cause of Tenant Right, and appreciating Mr. Shaw's indefatigable energy and great ability in the cause, be held at the Farmers' Club House, [illegible] Bridge-street, Blackfriars, London, on Monday, December [illegible] o'clock, P.M."

Being the Monday in the Smithfield Cattle Show week.

HENRY CORBET, Honorary Secretary.

Farmers' Club House.

GORSE-BRUISING MACHINE, for Neat Cattle, for water power, wanted. A full description of the Machine, with price, and a sample of bruised Gorse, to be sent, post paid, to T. W. LAWFORD, Tirydail, Llandilo.

NEAPOLITAN PIGS.—To be SOLD, a PAIR of PIGS, boar and sow, of purest breed, recently imported from Naples, three months old. Price [illegible] each. Apply to Mr. LIDDIARD, Kirkby Mallory, Hinckley.

CHEAP AND DURABLE ROOFING.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

F. M'NEILL AND Co., of Lamb's-buildings, Bunhill-row, London, the Manufacturers and only Patentees of THE ASPHALTED FELT FOR ROOFING Houses, Farm Buildings, Shedding, Workshops, and for Garden purposes, to protect Plants from Frost.

At the Great National Agricultural Shows, it is this Felt which has been exhibited and obtained TWO SILVER MEDAL PRIZES, and is the Felt solely patronized and adopted by

HER MAJESTY'S WOODS AND FORESTS,
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HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANIC GARDENS, REGENT'S PARK,

And on the Estates of the Dukes of Sutherland, Norfolk, Rutland, Newcastle, Northumberland, Buccleuch (at Richmond), the late Earl Spencer, and most of the Nobility and Gentry; and *at the Royal Agricultural Society's House, Hanover-square.*

It is half the price of any other description of Roofing, and effects a great saving of Timber in the construction of Roofs. Made to any length by 32 inches wide.

PRICE ONE PENNY PER SQUARE FOOT.

*** Samples, with Directions for its Use, and Testimonials of seven years' experience, with references to Noblemen, Gentlemen, Architects, and Builders, sent free to any part of the town or country, and orders by post executed.

☞ The Public is cautioned that the only Works in London or Great Britain where the above Roofing is made, are

F. M'NEILL AND CO.'S
Patent Felt Manufactory, Lamb's-buildings, Bunhill-row, London, where roofs covered with the Felt may be seen.

The new Vice-Chancellor's Courts, at the entrance to Westminster Hall, were roofed with F. M'NEILL and Co.'s Felt about two years since, under the Surveyorship of Chas. Barry, Esq., R.A. Her Majesty's Commissioners of Woods and Forests are so satisfied with the result that they have ordered the Committee Rooms at the Houses of Parliament to be roofed with their Felt. Quantity altogether used, 24,000 feet.

Note.—Consumers sending direct to the Factory can be supplied in lengths best suited to their Roofs, so that they pay for no more than they require.

Every information afforded on the construction of Roofs, or any proposed particular application of the Felt.

AGRICULTURAL REPOSITORY, Clarke-street, Bristol. (Established, A.D. 1750.) Sept 29, 1848.

In retiring from a business which I have conducted in this City during the space of 40 years, I feel the obligation of returning my very sincere thanks for the kind and liberal encouragement I have received. I have now the satisfaction of announcing as my successors—my Son BENJAMIN STRATTON, who has been thoroughly educated in the business, and for the last 12 years has assisted me in the management thereof, in conjunction with Mr. SAMUEL HUGHES, a Civil Engineer from London, whose practical experience in the improvement of Estates by Drainage, &c. &c., will supply a desideratum which has been long felt in connection with this establishment. I trust, therefore, that a firm so constituted will lose none of that support and encouragement which has been so kindly and extensively accorded to myself. RICHARD STRATTON.

P.S.—R. STRATTON will continue his attendance at the Office in Clarke-street, where he will pay all accounts due to the 29th September last, and where he solicits an early settlement of all accounts due to him previous to that date.

STRATTON, HUGHES, and Co. having succeeded to the business of Mr. RICHARD STRATTON, as Patentees and Manufacturers of Wheels, Carts, Waggons, and Agricultural Implements, and general Agricultural Engineers, venture to request a continuance of those favours which have been so liberally bestowed on their predecessor. Their system of carrying on business will be essentially the same, their attention will be incessantly devoted to the improvement of every kind of Agricultural Implement, and they trust that their Repository will always contain an unrivalled collection, including the best Implements of other Makers as well as those of their own Manufacture. The present stock, comprising upwards of 2200 articles, all with prices affixed, and ready for immediate use, is well worthy of attention.

STRATTON, HUGHES, and Co., beg to call attention to their Patented Hollow Iron, and its application to the beams of Ploughs, and Shafts of Carts, the Spokes of Wheels, and the Tilt Hoops of Railway Goods, Waggons, and a variety of other purposes where strength and lightness are essential. This Iron was first introduced to public notice at the Shrewsbury Meeting of the Royal Agricultural Society of England, where the prize of 10*l.*, offered for the best subsoil Plough, was awarded to Read's Subpulverizer, manufactured by Mr. RICHARD STRATTON, with the Patent Hollow Iron Beam.

They also invite attention to their Norwegian HARROW, an implement of great power, for the purpose of pulverising and disintegrating the surface of heavy ploughed lands; to their Patent TUMBLER CART for Night-soil, and their Patent CYLINDER CART for Liquid Manure, &c.

STRATTON, HUGHES, & Co. have extended their business to Agricultural Engineering, and undertake the Survey of Lands for the purposes of Draining and Irrigation, and the erection of Farm Buildings, under the personal superintendence of Mr. HUGHES, C.E., F.G.S. They beg to assure their customers and friends in the neighbourhood of Bristol, that the same attention as ever will be paid to the business of repairs; that they purpose always to keep in hand a large and well-assorted stock of choice and well-seasoned timber; to use none but the best materials, and to employ only the most skilled and careful workmen. They hope thus to execute all orders entrusted to them with such punctuality, exactness, and economy, as to give satisfaction to their employers.

CHEAP AND DURABLE ROOFING.—Houses of all descriptions can be roofed at less than one-half the ordinary cost [illegible]

PATENT [illegible] ROOFING FELT,

[illegible]

[illegible]

Who also make [illegible] paper in pieces of [illegible] [illegible] of the [illegible]

[illegible]

CARSON'S ORIGINAL ANTI-CORROSION [illegible] the [illegible] Company [illegible] to WALTER CARSON, 15, Tokenhouse Yard, back of the Bank of England, London. [illegible]

IMPORTANT TO LANDOWNERS.—An Act of Incorporation having been obtained by "THE LANDOWNERS' WEST OF [illegible] LAND DRAINAGE AND [illegible]," [illegible] Owners of limited Interests [illegible] Irrigating, Enclosing, [illegible] on, and Others [illegible] owners of limited Interests [illegible] with the value of the [illegible] viz.:—By charging [illegible] to be repayable by 25 Annual Instalments [illegible] per cent. per annum. This Company [illegible] tions for works [illegible] of their Act of Parliament [illegible] the extensive operations [illegible] wishing to avail themselves of the benefits [illegible] early application. For all further particulars, apply to THOMAS MAY, Secretary, [illegible]

SMOKY CHIMNEYS CAUSED BY WIND, are guaranteed to be cured by the [illegible] DAY'S NEWLY INVENTED SUPERIOR [illegible] the following advantages over [illegible] Day's Patent Windguard, viz. Greater [illegible] lity, Impossibility of Clogging [illegible] the Descent of Smoke [illegible] vanized Iron, &c.; Size [illegible] and tested at Mr. JENKINS' [illegible] sell-street, Bloomsbury. Prospectuses [illegible] application. Country Licenses for Manufacturers granted.

BEAUTIFUL TEETH.

ROWLANDS' ODONTO or PEARL DENTIFRICE, a WHITE POWDER FOR THE TEETH, [illegible] of the choicest and most recherché ingredients of the Oriental Herbal, of inestimable virtue in [illegible] the Teeth, strengthening the Gums [illegible] and perfume to the breath. It extirpates all tartar [illegible] to the Teeth, and ensures [illegible] to the enamelled surface. Its [illegible] properties exercise a highly beneficial [illegible]; they arrest the further progress of decay of the Teeth [illegible] a healthy action of the Gums, and by [illegible] to the Teeth, perpetuate [illegible] the Breath also, from the [illegible] of the Odonto, attains a [illegible] sweetness and fragrance. The proprietors of this Dentifrice [illegible] efficacy in preserving and embellishing the Teeth far [illegible] anything of the kind ever [illegible] and has, in consequence, obtained [illegible] by Her Majesty the QUEEN, the Court, and Royal Family of Great Britain, and the Sovereigns and Nobility throughout Europe. Price [illegible] per box.

CAUTION.—To protect the public [illegible] the Hon. Commissioners have directed the proprietors' name and address, thus—"A. ROWLAND and SON, [illegible] HATTON GARDEN," to be engraved on the Government Stamp, which is affixed to each box. Sold by the Proprietors, and by Chemists and Perfumers.

HEALTH MORE PRECIOUS THAN GOLD.

DR. ROBERTS'S CELEBRATED OINTMENT, called the POOR MAN'S FRIEND, is confidently recommended to the public as an unfailing remedy for wounds of every description; a certain cure for Ulcerated Sore Legs, if of 20 years' standing; Cuts, Burns, Scalds, Bruises, Chilblains, Scorbutic Eruptions, and Pimples in the Face, Sore and Inflamed Eyes, Sore Heads, Sore Breasts, Piles, Fistula, Cancerous Humours, and is a specific for those afflicting Eruptions that sometimes follow Vaccination. Sold in pots at 1*s.* 1½*d.* and 2*s.* 9*d.* each. Also his PILULÆ ANTI-SCROPHULÆ, confirmed by more than [illegible] years' experience, to be, without exception, one of the best Alterative Medicines ever compounded for purifying the blood, and assisting Nature in all her operations; hence it is useful in Scrofula, Scorbutic Complaints, Glandular Swellings, particularly those of the neck, &c. They are efficacious also in Rheumatism, and form a mild and superior Family Aperient, that may be taken at all times without confinement or change of diet. Sold in boxes at 1*s.* 1½*d.*, [illegible] 11*s.*, and [illegible] each.

To Messrs. BEACH and BARNICOTT, Successors and Executors to the late Dr. ROBERTS.

Gentlemen.—About 17 years ago I had the misfortune of knocking my leg while felling some timber, which broke the skin, and my scratching brought it to a wound. I applied many remedies, to no purpose; it continued to get worse. I became an out-patient of Taunton and West Somerset Hospital, in which I continued three months, and I went as out-patient to the Bridgewater Infirmary; but it continued to get worse. At length I was advised by my uncle to get the Poor Man's Friend, which he said would cure me; I continued the application, and after using three pots of the Ointment, and two boxes of the Pills, I am happy to inform you that I am now perfectly cured, and have been so for [illegible] months, after suffering for 17 years. Knowing the misery of a bad leg, I send you this for the benefit of those suffering in like manner.

I remain, your obedient servant,

Taunton, Nov. 17, 1847. SIMON STONE MITCHELL.

Sold Wholesale by the Proprietors, BEACH and BARNICOTT, at their Dispensary, Bridport; by the London Houses; Retail by all respectable Medicine Venders in the United Kingdom.

OBSERVE.—No Medicines sold under the above names can possibly be genuine unless "BEACH and BARNICOTT, late Dr. ROBERTS, Bridport," is engraved and printed on the stamp affixed to each package.

NEW CHRISTMAS BOOK BY MR. CHARLES DICKENS.

Early in December will be publish d, Price Five Shillings, with Illustrations by CLARKSON STANFIELD, R. A., FRANK STONE, JOHN LEECH, and JOHN TENNIEL,

THE HAUNTED MAN AND THE GHOST'S BARGAIN.

A FANCY FOR CHRISTMAS-TIME.

BY CHARLES DICKENS.

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Early in December will be published, in 1 volume, cloth, containing 15 beautifully coloured plates, price 13*s*.,

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CONDUCTED BY E. BECK, OF ISLEWORTH.

Also, on the 1st of December, price 1*s*., containing two beautifully coloured plates of

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No. XII. OF THE FLORIST,

COMPLETING THE VOLUME FOR 1848.

*** The January Number will be published under the title of

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A PRACTICAL TREATISE ON WARMING BUILDINGS by HOT WATER; on Ventilation and the various methods of Distributing Artificial Heat, and their Effects on Animal and Vegetable Physiology. To which are added, an Inquiry into the Laws of Radiant and Conducted Heat, the Chemical Constitution of Coal, and the Combustion of Smoke. By CHARLES HOOD, F.R.S., F.R.A.S., &c.

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THE HISTORY OF THE UNITED STATES OF AMERICA. By JOHN FROST of Philadelphia.

Handsomely bound in cloth, with 36 Wood Engravings, Price 6*s*. 6*d*.,

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It is the purpose of this Work to furnish a Series of Elementary Treatises on Mathematical Science, adapted to the wants of the public at large. To youth of either sex at public and private schools ; to persons whose education has been neglected, or whose attention has not been directed in early life to such studies ; and to Artists and Mechanics, these little works will be found particularly suited. The principles of the various Sciences are rendered as familiar, and brought as near to our commonest ideas, as possible ; the demonstrations of propositions are made plain for the mind, and brief for the memory ; and the Elements of each Science are reduced not only to their simplest but to their shortest form.

A SYSTEM OF POPULAR GEOMETRY ; containing in a few lessons so much of the Elements of Euclid as is necessary and sufficient for a right understanding of every Art and Science in its leading Truths and general Principles. By GEORGE DARLEY, A.B. 5th Edition (now ready). 4*s*. 6*d*. cloth.

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A MAN MADE OF MONEY. By DOUGLAS JERROLD. This desirable Individual will make his appearance every succeeding Month, until completed in six Pieces.

N.B. The Man will every Month hold TWO PLATES (to be supplied by LEECH), for a Shilling.

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Now ready, price 2*s*. 6*d*., illustrated with 50 Engravings,

GARDENING FOR CHILDREN. — Edited by the author of "Botanic Rambles," "Forest Trees of Britain," &c.

"A good idea well carried out. We have seen nothing so likely to give children an interest in a garden, and to teach them small matters which may be the foundation of large pleasures in after life."—*Gardeners' Chronicle*.

Published by C. COX, 12, King William-street, Strand ; and sold by all Booksellers.

GARDEN LIBRARY FOR SALE.—Noblemen and Gentlemen's attention is called to the following select and useful Books. Any person wishing to contribute to the improvement and information of the young men employed in their gardens and glass structures can have this small and good collection at a very cheap rate, considerably under half price. Some of the Works are as good as new, and but few much soiled.

Don's Gardener's Dictionary, 4 vols. 4to, last edition, as good as new ; *Gardeners' Chronicle* for 1843, 4, 5, and 6, half bound, and 1847 in sheets, 5 vols. ; Annals of Horticulture, 1845 and 1846 half bound, and 1847 in numbers, 3 vols. ; Harrison's Floricultural Cabinet, 1844, 5, and 6 half bound, 1847-8 in numbers, 5 vols. ; Midland Florist, 1847 bound, 1848 in numbers, 2 vols ; Florist's Journal for 1844, bound ; Johnson's Kitchen Garden, bound ; Beck's and Miller's Works on Pelargoniums, coloured plates ; Greenhouse, by C. M'Intosh, half bound, coloured plates, 1 vol. ; Gardeners' Dictionary, by Johnson, half bound, new work ; Loudon's Suburban Horticulture, half bound, 1 vol. ; Mrs. Loudon's Lady's Gardener, half bound, 1 vol. ; Miller's Gardeners' Dictionary, 3 vols., 4th vol. wanting ; Aiton's Hort. Kewensis, epitome, 2d edition, 1814, bound ; a Work on Planting and Gardening ; and 2 vols. of Pamphlets on practical subjects ; a collection of all the Gardening and Farming Almanacks from 1844 to 1848, full of the most useful information, some of them bound up ; some odd numbers of Horticultural Works, and a few months of the *Chronicle* for 1848. All engaged perfect for 10*l*., package included. The purchaser can have also, in addition, the following entertaining Magazines, for 50*s*., all unbound in numbers :—Thorp's Magazine, 6 vols., to Oct., 1848 ; People's Journal, 4 vols., to Jan., 1848 ; Howitt's Journal, 1 vol., to 1847 ; a number of the best of the old Penny Journals, several Reviews and Magazines, and about 3 years' *Athenæums*, all in good order.—Application, by letter, to A. B. C., Office of this Paper.

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ZADKIEL'S ALMANAC for 1849 ; enlarged to 72 pages, containing the usual Calendar, &c.; Predictions of the Weather, Voice of the Stars, the Eclipses, &c.; a Hieroglyphic ; Predictions of the Fate of England ; and of many other Striking Events ; List of Fortunate Days and Fulfilled Predictions of the Fate of Louis Philippe, &c.

London : SHERWOOD, GILBERT, and PIPER, Paternoster Row.

In the press, and to be published the 1st of January, 1849 ; price, to subscribers 21*s*., non-subscribers 25*s*. (the subscribers' list will be closed on and after the 11th of Dec. inst.)

HINTS ON COTTAGE ARCHITECTURE ; being a Selection of Designs for Labourers' Cottages, Singly, in Pairs, and in Groups, with detailed Plans and Estimates. Dedicated, by express permission, to the Most Noble the Marquis of Lansdowne, K.G., Lord President of the Council, Lord Lieutenant of the County of Wilts, &c. By HENRY WEAVER, Architect and Estate Agent. In submitting these plans to the public, the author has to remark that most of the buildings for which they were drawn have been actually erected under his own immediate superintendence ; and that his attention was entirely directed to design such dwellings for labourers as would combine all the necessary practical requirements of a family, together with distinct and separate sleeping accommodation for the parents and children of either sex ; not omitting such picturesque effect as might be attainable at the most moderate cost compatible with stability. The plans and elevations are drawn to a scale of one-eighth of an inch to a foot, and are accompanied with a description of the materials and cost for which they were contracted or estimated.

Bath : Published by JOSEPH HOLLWAY, Milsom-street. London : HENRY POPE, 22, Budge-row, Watling-street.

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GRAND CHRISTMAS PRIZE CATTLE SHOW, FOR 1848. THREE HUNDRED PRIZES.

THE WESTERN AGRICULTURAL ASSOCIATION, Office, 9, King William-street, Strand. The Shares in this eligible Investment are fast filling, and consist of a certain number of Subscribers. The drawing will be upon the strict principle of the Art Union, of which due notice will be given, whereby a fortune may be realised by the advance of a trifling sum.

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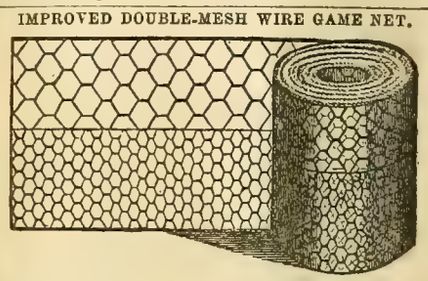
WILLIAM STEEVENS, Secretary, 9, King William-street, Strand.

N.B. No connection with any Derby Sweeps or racing establishment of any kind.

IMPROVED DOUBLE-MESH WIRE GAME NET.



BARNARD AND BISHOP, Norwich, can strongly recommend the above NET to the notice of the Nobility and Gentry, as being the cheapest yet introduced : it has met with general approbation, and has been found most efficient in the preservation of young Trees, Gardens, &c., from the depredations of game. The extra strong 2-inch is the same strength as the stoutest article in the market. On inspection, it will be found better manufactured than anything else of the kind, and 20 per cent. cheaper. It is sent out in rolls of 50 yards, or any other length, at prices as under.

				per yard—*s*.	*d*.
Double Mesh Net 24 ins. wide,	1⅝ & 3½-in. mesh,		strong	0	6½
...	...	...	extra strong	0	9
...	...	2 & 4 ...	strong	0	5½
...	...	...	extra strong	0	7½
Single Mesh ...	...	1⅝ ...	light	0	7
...	...	...	strong	0	9
...	...	...	extra strong	1	0
...	...	2 ...	light	0	6
...	...	...	strong	0	7½
...	...	...	extra strong	0	10

The prices quoted for double net are for equal proportions of each mesh, which may be varied if required, thus, three parts fine to one of coarse, or *vice versa*, at prices accordingly ; and it can be made any mesh and width to 7 feet.

A finer description for Aviaries, Pheasantries, &c., sparrow proof, 3*d*. per square foot ; or, if made in copper, at 5*d*. per square foot. The Iron Wire Net is twice dipped in anti-corrosive composition, and sent free to London or Hull.

Patterns forwarded per post, free of expence.

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RYLANDS AND GREENING, ORNAMENTAL WIREWORKERS, Nos. 2 and 4, Cateaton-street, Manchester, beg to direct the attention of noblemen and gentlemen to their superior system of WIRE FENCING, for Parks, Fields, Pleasure Grounds, or Gardens, which is the strongest and cheapest that can be erected as a Cattle or Deer Fence.

R. and G. fix up a permanent Fence, finding all requisites, at 1*s*. 3*d*. or 1*s*. 6*d*. per yard, samples of which can be referred to in the neighbourhood. Parties finding their own foot logs and straining posts, 1*s*. per yard.

Wire Espalier, for standard fruit trees, of a neat and durable construction ; Iron Hurdling, and Iron Field Gates, made to any pattern, at the lowest prices and at the shortest notice. Wire Netting for rabbit fencing always on hand, at prices from 6*d*. to 1*s*. per yard, according to strength.

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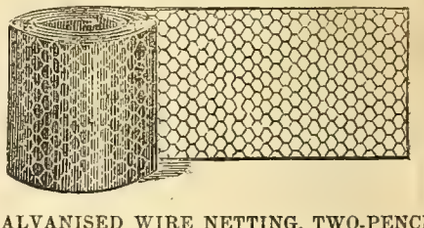

GALVANISED WIRE NETTING, TWO-PENCE PER SQUARE FOOT.—This article requires no painting, the atmosphere not having the slightest action on it. It has the appearance of silver, and maintains its lustre for many years, and is acknowledged to be the cheapest article ever brought into the market. It forms a cheap, light, and durable fence for the protection of Gardens and Shrubberies against the depredations of hares, rabbits, and cats ; for Aviaries, Pheasantries, and to prevent poultry from straying, as well as for training creeping plants, it answers admirably.

Large quantities of the Netting always kept in Stock, samples of which can be forwarded (free of expense) to any part of the United Kingdom. Prices as follows :

12 inches wide	3*d*. per yard			30 inches wide	7½*d*. per yard		
18	„	„	4½*d*.	„ „	36	„	„	9*d*.	„ „
24	„	„	6*d*.	„ „	48	„	„	1*s*.	„ „

Galvanised do. 1*d*. per foot extra.

Also Fenders, Fireguards, Fly-proof Dish Covers, Meat Safes, Wire Blinds, Garden bordering and arches, Flower Stands, and every description of Wire Work.

THOMAS HENRY FOX, 63, Snow-hill, London.

BILIOUS COMPLAINTS, INDIGESTION, FLATULENCY, AND AFFECTIONS OF THE LIVER MAY BE CURED BY HOLLOWAY'S PILLS.— Symptoms indicative of these disorders are a feeling of nausea, distention and spasmodic pain in the stomach, sense of oppression and sinking after eating, want of appetite, heartburn, langour, dejection of spirits, and general debility. The removal of the cause of complaint is the most important step, for which purpose have recourse to Holloway's Pills, as they possess such cleansing and renovating properties, that the action of the liver is speedily corrected, the redundancy of bile carried off, the stomach strengthened, the spirits revived, and the patient is restored to perfect health.—Sold by all Druggists, and at Professor HOLLOWAY'S Establishment, 244, Strand, London.

Printed by WILLIAM BRADBURY, of No. 6, York-place, Stoke Newington, and FREDERICK MULLETT EVANS, of No. 7, Church-row, Stoke Newington, both in the county of Middlesex, Printers, at their office in Lombard-street, in the Precinct of Whitefriars, in the city of London; and published by them at the Office, No. 5, Charles-street in the parish of St. Paul's, Covent Garden, in the said county, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR,—SATURDAY, Nov. 25, 1848.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No 49.—1848.] SATURDAY, DECEMBER 2. [Price 6*d*.

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4TH APPLICATION.—TO THE SUBSCRIBERS OF THE GARDENERS' BENEVOLENT INSTITUTION.—The favour of your Votes and Interest is earnestly solicited in behalf of MARTIN MILLER, who is much afflicted with Rheumatism, and his eye-sight is very bad. He lost all the money he had saved, by the failure of a Bank, and has no regular means of supporting himself, except by casual contributions from persons who are acquainted with his distressed condition. He is in his 79th year, and resides in Exeter. This case is strongly recommended as one of real distress by the following, who will be happy to receive Proxies in his behalf for the ensuing Election in January, 1849.

Mr. Barnes gardener to the Right Hon. Lady Rolle, Bicton, Sidmouth; Mr. Bray, gr. to E. B. Lousada, Esq., Sidmouth; Mr. Booth, gr. to J. W. Buller, Esq., Exeter; Mr. Elmes, gr. to H. Porter, Esq., Winslade, near Exeter; Mr. Kimp, gr. to J. Porter, Esq., Rockbeare, near Exeter; Mr. Mason, gr. to Sir John Kennaway, Bart., Escot, near Honiton; Messrs. Henderson, Pine-apple-place, Edgeware-road, Paddington; Mr. Alexander Pontey, Plymouth; Messrs. Lucombe, Pince, and Co., Exeter; and Messrs. Veitch and Son, Exeter.

SCOTTISH FLORICULTURAL SOCIETY.—A General Meeting of this Society is appointed to be held at Mr. James Robertson's, Milne-square, Edinburgh, on Wednesday, Dec. 13, at 4 o'clock, P.M., when it is specially requested that those concurring in the object of this Society will attend.
ROBERT B. LAIRD, Interim Secretary.—Edinburgh, Dec. 2.

WOODLANDS NURSERY, MARESFIELD, NEAR UCKFIELD, SUSSEX.
WILLIAM WOOD AND SON'S DESCRIPTIVE CATALOGUE OF FRUITS is now published, and may be had GRATIS on application.

BECK'S SEEDLING PELARGONIUMS.—Several of the above are figured in the 1st Volume of "The Florist," published by CHAPMAN and HALL, Strand. This work may be had of all respectable Booksellers, price 13*s*. in boards. It contains 15 Coloured Plates, numerous Woodcuts, and much information on the Pelargonium in its 320 pages of letter-press.
Isleworth, Dec. 2, 1848.

BECK'S SEEDLING PELARGONIUMS.—Of the Varieties, 1847, but three entire sets now remain; and but four entire sets of the Varieties of 1846. A descriptive catalogue may be had on application to Mr. DOBSON, Worton Cottage, Isleworth, enclosing one postage stamp.—Dec 2, 1848.

WHITETHORN.—A Million of very excellent two-year old WHITETHORN SPRING for Sale, at per rod, or 5*s*. per 1000. Orders for any of the above will meet with attention.—Address by letter, post-paid, to Mr. E. DURTON Claxton, Castle Inn, Norwich.

W. P. AYRES, NURSERYMAN and LANDSCAPE GARDENER, Blackheath, begs to intimate to his Friends and the Public that he has a very choice collection of strong young VINES, all from eyes taken from fruiting plants upon his own premises, and therefore warranted true to name. Among other scarce kinds, he can offer a few plants of the Welbeck Black Tripoli, true; Barnes's Muscat of Alexandria, quite distinct, and sets as freely as a Black Hamburgh; and also a very superior variety of the Cannon Hall Muscat. The last three kinds, 5*s*. each; other kinds, 3*s*. 6*d*. each.
Post-office orders upon Greenwich, made payable to WILLIAM POST AYRES. A remittance indispensable from unknown correspondents.

CORNWELL'S VICTORIA RASPBERRIES.—G. C. can confidently recommend the above as superior to any sort ever offered. Prizes were awarded to them at the Hort. Society's Gardens, Royal Botanic Society's Gardens, and the Surrey Zoological Gardens, as being the best shown for size, colour, and flavour. The fruit in Covent Garden was sold at a higher price than any other. Strong canes to be had at E. CHARLWOOD'S, Covent Garden; W. and J. NOBLE'S, 152, Fleet-street; also of GEORGE CORNWELL, Market Gardener, Barnet, Herts, at 1*l*. 10*s*. per 100, or 4*s*. per doz. The usual allowance to the trade.

GLADIOLUS BRENCHLIENSIS.—Flowering roots of this splendid new GLADIOLUS are now for sale, and may be had by sending a Post-office order to Mr. HOOKER, Brenchley, Kent; or to Mr. CHARLWOOD, Covent-garden. Price 5*s*. per root. The usual deduction to the Trade when three or more are taken.
"21, Regent-street, August 7, 1847.—A most beautiful Gladiolus, named Brenchliensis, was produced by Mr. Hooker, of Brenchley. It was stated to be a hybrid between Psittacinus and floribundus; it, however, exhibited a striking improvement on both parents, the flowers being large and of brilliant scarlet."—See *Gardeners' Chronicle*, August 11, 1847.
Strong roots of LILIUM LANCIFOLIUM ALBUM, 2*s*. 6*d*. each; FUNCTATUM, 7*s*. 6*d*. each; SPECIOSUM, 15*s*. each.

NEW AND GENUINE SEEDS.
WILLIAM E. RENDLE & Co. have made arrangements this season with some of the principal Seed growers in the country, for an excellent supply of all the most valuable Seeds. Their CATALOGUE will be ready in a few days, and may be obtained GRATIS, and should be read by every one who purchases seed, either for the Farm, the Kitchen Garden, or the Flower Garden.
Apply to WILLIAM E. RENDLE and Co., Seed Merchant, Plymouth.

WM. JACKSON and CO., NURSERYMEN, beg to call the attention of all who are interested in improving and beautifying their estates, to their Advertisement in this Paper, page 715, Oct. 28. The Stock is most extensive, and of the best quality, with great reductions in the prices.
Bedale Nurseries, Yorkshire.

LILIUM LANCIFOLIUM, AURICULAS, TULIPS, RANUNCULUSES, AND ANEMONES.
HENRY GROOM, Clapham Rise, near London, by Appointment FLORIST TO HER MAJESTY THE QUEEN, and to HIS MAJESTY THE KING OF SAXONY, begs to recommend to the Nobility and Gentry his assortment of the above Flowers, and to call their attention to the advantage of planting the varieties of Lilium lancifolium in their Gardens and Shrubberies, as they are quite hardy and continue in flower during the autumnal months, furnishing a beautiful display of bloom at a period when the Nobility and Gentry are at their country seats. He begs to say that wherever they have been planted they have given great satisfaction. From the success he has had in their cultivation he is able to send 100 good flowering roots of LILIUM LANCIFOLIUM ALBUM for 5*l*., package included. For the prices of the other bulbs and plants he begs to refer to his advertisement in this Paper of Nov. 11.

CEDRUS DEODARA.
WM. MAULE AND SONS beg to inform Noblemen and Gentlemen that they can supply any quantity of superior plants from seed of the above magnificent hardy Himalayan CEDAR. Any Nobleman or Gentleman furnishing mountains for planting by the acre will be supplied on moderate terms.
☞ WM. MAULE and SONS' Pamphlet on the Natural Habits and Quality of the Wood of the Cedrus Deodara (which they have published, will be sent gratuitous on the receipt of two postage stamps.—Stapleton-road Nurseries, Bristol.

DOUBLE HOLLYHOCKS.
ROBERT GRIEVE, FLORIST, begs to state to his friends and the public that he will be prepared to send out in December and following months his splendid and choice collection of the above flowers, which he has taken great pains in selecting for the last two years. The Stock consists of none but the leading, and most superb varieties of the day, warranted true to name and colour, from 18*s*. to 21*s*. per dozen. They received an Honorary Award at the Edinburgh Caledonian Horticultural Society's Meeting in September, and were also exhibited at the various competitions in and around Edinburgh with great success. R. G. also begs to state that he is at present preparing to send out seed raised from the above at 3*s*. per packet, delivered post free. Also a large and choice collection of Pansies, consisting of most of the leading sorts. The plants are strong, healthy, and well established in pots. Catalogues of which may be had on application. Plants sent to compensate for long carriage.
N. B. A remittance or reference must accompany all orders from unknown correspondents.
ROBERT GRIEVE, Kaimes Cottage, Liberton, Edinburgh.

AMERICAN NURSERY, BAGSHOT, SURREY.
Near the Farnborough Station, on the South Western Railway.
JOHN WATERER begs to state that he is prepared to execute orders for the following Splendid Hardy RHODODENDRONS. Good strong bushy plants, the colours of which consist of clear and spotted Whites, Scarlet, deep Rose, Dark Purple, Rose-edged, &c., from 3*s*. to 42*s*. per dozen.

Album elegans	Nealii	Lyonense
,, speciosum	Pallucidum	Victoria regina
Atrorubrum purpureum	Perspicuum	Mactinæ-flatum
	Pictum	Guttatum
Catawbiense bicolor	Purpureum elegans	Hyacinthiflorum
,, flora pleno	Cœlestinum	Formosum
,, splendens	Berryanum	Glenyanum
Campanulatum	Roseum elegans	Gloriosum
Candentissimum	,, album	Macranthum
Cyaneum	Leopardii	Marginatum
Delicatissimum	Variabile	Maculatum novum
Eburneum	Splendidum	Mirandum
Everestianum	Russellianum	Maculosum
Nivaticum		

Standard Rhododendrons, 7*s*. 6*d*., 15*s*., and 21*s*. each and upwards.
Azaleas, good mixed sorts, 18*s*. to 21*s*. per dozen. The very best kinds in cultivation, 24*s*. to 30*s*. per dozen.
Kalmia latifolia, handsome bushy plants, 1 to 1½ feet, 5*l*. per 100. Larger ditto, 1*s*. 6*d*. to 2*s*. 6*d*. each. Fine specimens for lawns, 10*s*. 6*d*. to 63*s*. each.
To the above, J. W. invites particular attention, and being the largest grower of American plants, has induced him to offer them at the low prices quoted. Also the following, for GAME PRESERVES.
RHODODENDRON PONTICUM, the very best Evergreen for cover, being free from attacks of hares and rabbits, bushy healthy plants, 10*s*. 6*d*. per 100. Larger ditto, 15*s*. to 21*s*. p. 100.
BERBERIS AQUIFOLIUM, bushy, 5*s*. per 100. Larger ditto, 60*s*. per 1000.
COMMON LAURELS, good bushy stuff, 10*s*. per 100. Larger 15*s*. to 25*s*. per 100. Very large, 4 to 6 feet.
PRIVET EVERGREEN, 8*s*. to 12*s*. 6*d*. per 100.
CEDARS OF LEBANON, 3 to 5 feet, very bushy and handsome, very suitable for avenues, 3*s*. 6*d*., to 5*s*., and 7*s*. 6*d*. each.

CHESNUT, Spanish,	2	to	3 feet	84*s*. 6*d*. per 1000.	
,, ,,	3		4	42 0	,,
BIRCH	2		3	25 0	,,
,,	3		4	30 0	,,
ALDER	2		2½	21 0	,,
ASH	3		5	30 0	,,
BEECH	2		3	30 0	,,
HAZEL	2		3	27 6	,,
OAK, English	2		3	30 0	,,
POPLAR, Black	5		6	42 0	,,
WITHY, Strong			16*s*. to 21	0	,,

Planting to any extent done by contract.
J. W. begs to observe that all plants sent out by him are well rooted. Catalogues forwarded upon application.

PLEASURE [illegible]

FOR SALE, [illegible]

BLACK JAMAICA PINE [illegible]
WHALLEY, [illegible]

TO GET [illegible] RAILWAY
A. NEILSON [illegible] MAY [illegible]

KITCHEN GARDEN SEEDS.—[illegible]

GRIFFIN'S AQUATICA GLADIOLUS.—[illegible]
LISTERS, [illegible]

MESSRS. J. AND H. BROWN offer to the [illegible]

Albion Nursery, Stoke Newington, London, Dec. 2.

D. FERGUSON, Landscape Gardener, &c., offers to Planters a large quantity of large Evergreen and Deciduous SHRUBS, TREES, STANDARD ROSES, &c., at very low prices. Where present effect is required, they are well worth notice, as they will remove well.

Aylesbury Nurseries, Dec. 2.

THE BADDOW PIPPIN APPLE.

JOHN HARRIS, Nurseryman, Broomfield, near Chelmsford, Essex, has great pleasure in recommending this APPLE to the notice of his Friends and the Public, it having proved the best late table fruit in cultivation, being in perfection from December to June, and in flavour much resembles the Ribston Pippin. It is also a free bearer. It is figured and fully described in Mr. Maund's "Botanic Garden and Fruitist" for April, 1848, from which the following extract is made:—"The Baddow Pippin will never increase its friends by its exterior qualities; no one, however, can taste it without at once declaring it to be of first-rate merit. Never have we met with an Apple so unattractive in appearance, and at the same time so excellent in quality."

Plants of this Apple can be obtained—Standards, 5s. each; Dwarfs, 2s. 6d. each; and Scions, 6d each, by application as above, or to Messrs. J. A. Henderson and Co., Nurserymen, &c., Pine-apple-place, Edgeware-road, London.

Remittances expected from unknown correspondents. One or two Apples can be sent with each order, if required.

ROYAL ALBERT RHUBARB.

WM. MITCHELL begs to call attention to the above excellent variety, which still retains its supremacy over all other sorts hitherto produced, being from two to three weeks earlier than any kind now grown. It has other qualities eminently entitled to notice; it is most delicious in flavour, of a bright red colour, a most prolific bearer and free grower, with large fleshy stalks, and for early forcing is more suitable than any other variety. Specimens of this splendid vegetable have been inspected and highly approved of by her Majesty, by whose commands it has been introduced into the Royal Gardens, Windsor. Also Mons. Soyer, of the Reform Club, and other eminent judges, have declared this Rhubarb to surpass anything of the kind ever eaten, and all the principal growers attending the London markets have pronounced it to be by far the best in cultivation. In addition, W. M. begs leave to observe that this Rhubarb is the same as was sold so early last season in Manchester, Birmingham, Liverpool, Cambridge, Brighton, and other large provincial towns, where it gave universal satisfaction by its extreme earliness, quality, and beauty.

Strong one year planted roots will be sent out at the end of October, at 2s. 6d. each. Also, Myatt's Linnæus, 2s. 6d., and Victoria, 9d. each. The usual trade allowances.

Remittances requested from unknown correspondents by post-office order, made payable to William Mitchell, Enfield Highway, Middlesex, Post office, Enfield.—Dec. 2.

NEW NURSERY AND SEED ESTABLISHMENT,
No. 17, SOUTH FREDERICK STREET, EDINBURGH.

DOWNIE and LAIRD beg leave respectfully to intimate that they have commenced business as Nurserymen, Seedsmen, and Florists, and trust by strict attention to the various departments of their profession, to receive a share of public patronage and support. They will at all times have on hand a complete assortment of the newest and most approved sorts of GARDEN, AGRICULTURAL, and FLOWER SEEDS, GARDEN IMPLEMENTS, &c

D. and L. beg leave also to inform Florists and Amateurs generally, that the cultivation of FLORISTS' FLOWERS will form a principal part of their business, J. Downie having been eminently successful as a grower and competitor, while gardener at South Bank, Canaan. Parties favouring D. and L. with their orders may rest assured that they will recommend nothing but what really possesses all the properties of competition flowers. A full and descriptive List of Pansies, Hollyhocks, Calceolarias, Cinerarias, Pelargoniums, Fuchsias, &c., will shortly be published, and may be had on application.

Nursery, West Coates, near the Haymarket Station of the Edinburgh and Glasgow Railway.—Edinburgh, Dec. 2.

IMPORTANT TO CUCUMBER GROWERS.

EDWARD TILEY begs to inform the Nobility, Gentry, and such as wish to have a continual supply the whole of the winter, that he has this season been very successful in saving a large stock of the seed of that well-known CUCUMBER, "Lord Kenyon's Favourite," or the Syon Free Bearer, much superior to the old Syon House. It bears an abundant crop, and grows from 10 to 13 in. in length. It has a very handsome appearance on the table, and grows to one general size from the stem to the point. The flavour is good, and eats very crisp. Twelve plants of the above are sufficient to supply a family the whole of the winter, as it is a free setter and never shanks off. E. T. has always found it do best in heat from 65° to 70°, and should be grown upon trellis, or against the rafters of the house. Applications having been frequently seen for obtaining the above Cucumber true, E. T. begs to state that any party wishing it may depend on its being so, as it was this reason alone that prompted him to turn his attention to it this season. Sold in packets of 10 Seeds, 2s. 6d.

GORDON'S FINE WHITE SPINE CUCUMBER, warranted true, will bear out the full description given of it by him in the *Gardeners' Chronicle* of Nov. 18th; obtained direct from Mr. Gordon in 1846. Packets of 10 seeds, 1s. 6d. The trade supplied with this Cucumber, 10s. per 100 for cash.

VICTORY OF BATH CUCUMBER.—The properties of this Cucumber, being so well known as a First Prize Cucumber for exhibitions for the last four years, require no comment. Sold in packets, containing 10 seeds, 2s., or a packet of each of the three varieties, 5s.—The true old Syon House can be supplied, if required, in packets of 10 seeds, 1s. 6d.

A remittance must accompany the order, either in cash or penny postage stamps to the amount.

Sold at Edward Tiley's General Seed Shop, 16, Pulteney Bridge, Bath.

LARCH PLANTS.

PETER BOOTH, Nurseryman, Falkirk, has for Sale a large stock, from Two to Three Millions of Transplanted LARCH PLANTS, of various sizes, at the following prices per 1000, 1 foot, 5s. 6d; 1½ foot, 6s 6d.; 2 feet, 7s. 6d.; 2½ feet, 8s.; 3 feet, 10s. Of the 2½ feet and 3 feet sizes there are above a Million of them, which are well suited for both the Scotch and English markets, and as it is now well known that strong Larch plants are scarce in the country, early application is necessary. This extensive stock of transplanted Larches are well grown, well rooted, and of the very best quality, and can be seen at P. B.'s various Nursery Grounds at Falkirk. Of the great variety of plants in these Nursery Grounds a few more may be noted, to show the low price at which they can be obtained, viz., Transplanted Scotch Firs, from 6 to 10 inches, 3s 6d. and 4s. 6d.; do., 1 foot, 1½ foot, and 2 feet, 5s. 6d. Spruce Fir, 9 inches, 1 foot, 1½ foot, and 2 feet, 3s. 6d. to 4s. 6d. Oaks, 2½ feet, 8s. 6d. Plane, Elm, Alder, and Beech, 3 feet, 8s 6d. Ash, 2 feet to 4 feet, 4s. to 5s. Seedling Spruce Fir, 2 and 3 years, 1s. to 1s 3d. Seedling Pinus Austriaca, 2 years, 3s. Transplanted Thorns, from 4s. to 7s. 6d. If required, samples will be forwarded.—Falkirk, Dec. 2.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

A CATALOGUE OF FRUIT TREES, &c.
CULTIVATED FOR SALE BY

R. GLENDINNING, Chiswick Nursery, near London. 1848 9.

In the following Catalogue the nomenclature of the Horticultural Society of London has been strictly adhered to, and all the sorts may be relied upon as being correct to name.

APPLES.

Alfriston
Alexander
Ashmead's Kernel
Autumn Pearmain
Astrachan, White
Astrachan, Red
Beauty of Kent
Blenheim Pippin
Broad-eye Pippin
Bedfordshire Foundling
Belle Fleur, Brabant
Burr Knott
Beachamwell
Borovitsky
Breedon Pippin
Boston Russet
Belle Bonne
Byson Wood
Burn's Seedling
Baldwin
Betsy
Brickly Seedling
Beaufinette
Carlisle Codlin
Court-pendu Plat
Claygate Pearmain
Court of Wick
Cornish Aromatic
Cockle Pippin
Cornish Gilliflower
Cobham
Coe's Golden Drop
Caroline
Cambusnethan
Catshead
Cley Pippin
Col. Harbord's Pippin
Dutch Mignonne
Dutch Codlin
Dumelow's Seedling
Devonshire Quarrenden
" Buckland
Downton Pippin
Dutch Fulwood
De St. Julien [don
Deux Ans, Hamble-
Early Red Margaret
Early Harvest
Eldon Pippin
Fallawater
Pearn's Pippin
Farleigh Pippin
Fletcher's Kernel
Fenouillet Rouge
Golden Reinette
Golden Harvey
Golden Pippin (old)
" " Summer
" " Screveton
" " Hughes'
Golden Russet
Gloria Mundii
Gooseberry
Gravenstein [main
Herefordshire Pear-
Hollandbury [ted
Hutchinson's Spot-
Hawthornden
Irish Peach Apple
Isle of Wight Pippin
Juneating, Red
" White
Kerry Pippin
King of the Pippins
Kilkenny Codlin
Kentish Fillbasket
Keswick Codlin
Leyden Pippin
London Pippin
Lemon Pippin [main
Lamb Abbey Pear-
Large Yellow Bough
Lucombe's Seedling
Mère de Ménage
Margil
Manx Codlin
Maclean's Favourite
Northern Greening
Nonpareil, Old
" Scarlet
Norfolk Beaufin
Nonesuch
Newtown Pippin
Oslin
Ord's Apple
Old English Codlin
Pearson's Plate
Pennington's Seedling
Reinette du Canada
" du Nord
" du Caux
" du Trianon
Royal Russet
Round Catshead
Rymer
Ribston Pippin
Sturmer Pippin
Syke House Russet
Summer Gilliflower
Sam Young
Tower of Glammis
Waltham Abbey Seedling
Wormsley Pippin
Wyken Pippin
Yorkshire Greening
Yellow Ingestre

PEARS.

Aston Town
Ambrosia
*Beurré d'Amanlis
" d'Aremberg
" *de Capiaumont
" *Bosc
" Easter
" *Van Mons
" Brown
" *Spence
" Rance
Beurré, Langelier's
" Diel
" Giffart
" Picquery
" Gris d'Hiver nouveau
" Starkmann
Broom Park
Bon Chrétien Fondante
" " Williams's
Bonne des Zées
Belle Epine Dumas
Parron de Millo
Burgermeester
*Bergamot Autumn
*Gansel's
Colmar, Old
" Neill
" *Passe
" *Autumn
" d'Aremberg
" du Lot
" Blanc d'Hiver
Crassane, Althorpe
" *Winter
" *Old
*Chaumontel
*Comte de Lamy
Calebasse
*Citron des Carmes
Calliot Rosat English
*Duchesse d'Angoulême
Dunmore [lême
*Doyenne, Gris
" White
" d'Eté
" d'Hiver
" Borysock
Délices d'Hardenpont
*Eyewood [pont
Esperen
Flemish Beauty
*Figue de Naples
*Forelle
Forme de Délices
Fondante du Bois
Fondante de Malines
Fondante d'Automne
*Glout Morceau
Gendeheim
Hepworth
*Henri Quatre
*Hacon's Incomparable
Jarg nelle [able
Jean de Witte
Josephine de Malines
*Knight's Monarch
King Edward's
Lewis [Jersey]
Louis Bonne (of
Leon Le Clerc
Louise de Boulogne
*Marie Louise
Moorfowl Egg
Mansuette
*Napoleon
Ne plus Meuris
Poire de St. Jean Baptiste
*Passe Madeline
Rousselet de Rheims
Rondelet
Suffolk Thorn
Seckel
Summer Rose
*Shobden Court
Summer St. Germain
Triumph de Jadoigne
Thompson's [main
Uvedale's St. Ger-
Virgouleuse
Winter Nelis
Windsor

Those marked thus * may be had on Quince Stocks.

PLUMS.

Azure Hâtive
Blue Perdrigon
Blue Imperatrice
Coe's Golden drop
" fine late Red
Common Damson
Drap d'Or
Denyer's Victoria
D'Agen [trice
Downton Imperatrice
Dunmore
Fotheringham
Green Gage
Golden Gage
Gisborne's
Goliah [trice
Ickworth Imperatrice
Jefferson [ing
Knight's Green Drying
Kirke's
Morocco
Nectarine
Orleans, Early
" Old [tive
Perdrigon Violet Hâtive
Pond's Seedling
Quetsche, St. Martin
" St. James's
" Austrian
Queen Mother
Red Magnum Bonum
Reine Claude Violette
" Monstrueuse de Bavay
" Diaphane
Royale de Tours
" Hâtive
St. Katherine
Shropshire Damson
Virgin
White Perdrigon
White Magnum Bonum
Wine Sour [num
Washington

CHERRIES.

Biggareau
" Napoleon
Black Eagle
Belle de Choisey
Downton
Florence
Early Purple Guigne
Knight's Early Black
May Duke
Royal Duke
Tartarian, Black
Werder's Early Heart
Reine Hortense

APRICOTS.

Breda
Brussels
Moorpark
Royal Orange

MEDLARS.

Dutch
Nottingham

GOOSEBERRIES.

A Collection of

CURRANTS.

Black Naples
Red Dutch
White ditto
Knight's Large Red

PEACHES.

Acton Scott
Barrington
Bellegarde
Early Admirable
Grosse Mignonne
George IV.
Late Admirable
Noblesse
Red Magdalen
Royal George
Royal Charlotte
Violet Hâtive

NECTARINES.

Elruge
Boston
Hunt's Early Tawny
Imperatrice
Murrey
Newington, Early
Pitmaston Orange
Red Roman
Violet Hâtive
White

GRAPE VINES,

All raised from eyes, with well ripened wood, 5 to 6 feet.

Black Hamburgh, Wilmot's
" Prince
" Cluster
" Damascus
Chasselas Musqué
" de Fontainbleau
" Variegated
Cannon Hall Muscat
Esperione
Frontignan Black
" White
" Grizzly
Grove-end Sweetwater
Large White do. do.
Old Sweetwater
Queen Muscatelle
Raisan de Calabre
West, St. Peter's (Oldaker's)
Welbeck Tripoli
White or Royal Muscadine
White Muscat of Alexandria

RASPBERRIES.

Red Antwerp
Yellow ditto
Victoria

STRAWBERRIES.

Princess Alice Maude Mary
Princess Royal
Elton
Keens' Seedling
Myatt's Eliza
" British Queen
" Victoria
Old Pine
Myatt's ditto
Old Scarlet
Roseberry

RHUBARB.

Mitchell's Royal Albert
Myatt's Linnæus
" Victoria
Caspicum
Barnes's Early
Buck's Seedling
Undulatum præcox
Compactum

FIGS.

Angelique Blanche
Brown Turkey
Brunswick
White Marseilles
White Ischia
Nerrii
La Bourjasotte
Pregussata

Seakale, Seedling
" Strong, for forcing
Asparagus, Seedling
" Strong, for forcing

Mr. Glendinning's Advertisement—*continued.*

ABRIDGED SELECT LIST OF ROSES.

PERPETUALS AND THEIR HYBRIDS.

Augustine Mouchelet
Aubernon
Aricie
Baronne Prevost
Duchess of Sutherland
Duc d'Aumale
Dr. Marx
Earl Talbot
Flower Girl
Four Seasons
Gloire de Perpétuelles
Julia Dupont
Lady Sefton
Lee's Crimson
Lady Alice Peel
Louis Buonaparte
Lady Fordwick
La Reine
Madame Laffay
Melanie Cornu
Mrs. Elliot
Marquis of Ailsa
Prince Albert
Portland Blanc
William Jesse
Edward Jesse

BOURBONS AND THEIR HYBRIDS.

Acidalie
Augustine Lelieure
" Marget
Belle de St. Cyr
Celimene
Coupe de Hebe
Charles Duval
Gloire de Rosamène
Great Western
Hortense Leroy
Latifolia
Laseases
L'Ile de Bourbon
Madame Desprez
Paul Joseph
Proserpine
Pierre de St. Cyr
Pourpre de Fafait
Souvenir de la Malmaison
Theresita
Queen

TEA-SCENTED.

Caroline
Devoniensis
Elise Sauvage
Goubault
Hemon
Jeannie Deans
Mangais
Silene
Sir Walter Scott
Saffrano [burgh
Princesse Mechlen-
Triomphe du Luxembourg

CHINA AND THEIR HYBRIDS.

Mrs. Bosanquet
Cramoisie supe-
Fabvier [rieure
Henry V.
Grand China [caise
Odorata Belle Flau-
Colbert
Duke of Devonshire
Brennus [pède
Comtesse de Lacé-
Fimbriata
Madame Plantier
George IV.
Ataline de Bourbon
Princess Augusta
Cœline
Blanchefleur
Felicita

MOSS.

Celina
Mosseuse Partout
Scarlet
Common
Crested

NOISETTE.

Aimée Vibert
Bougainville
Cadot
Cerise
Cloth of Gold
Comtesse de Odessa
General Lafayette
Elizabeth
Lamarque
Jaune Desprez

DAMASK.

Aurelie Lemare
Boula de Nanteuil
Bizarre marbre
Beaute Vive
Duke of Cambridge
Madame Hardy
Madame Dubarry
La Volupte
Latirie
Village Maid.

Dutch Bulbs and other Flower Roots annually direct imported. Fruit Trees of all kinds, trained and untrained. Mushroom Spawn. Russian Mats. A choice collection of Hothouse and Greenhouse Plants, some of which are new and scarce (See separate Catalogue). A superb collection of Cape Heaths; specimens may be had of 100 kinds. New Camellias and Geraniums, Cinerarias, Fuchsias, Verbenas, Phloxes, and Herbaceous Plants. Evergreen and Flowering Shrubs. Dwarf and Standard Roses. Forest Trees of all kinds, &c.

*** Experienced Gardeners recommended.

UNDER THE ESPECIAL PATRONAGE OF

HER MAJESTY THE QUEEN.

THE TRUE FASTOLFF RASPBERRY.—This valuable and highly esteemed Raspberry, unequalled for its size and richness of flavour, and a long continuance of bearing, as originally sent out by Youell and Co, can now be supplied by them of the same stock they had the honour of furnishing Her Majesty's Gardens at Windsor, and most of the Nobility, as well as having Certificates of Merit awarded them for it by the London Horticultural Society. Packages containing 100 canes, 15s.; 50 ditto, 7s. 6d.

Large White Raspberry, 3s. per dozen.

"TOBOLSK RHUBARB."

A Letter, of which the following is a copy, has been received from the Honourable William Ashley, Treasurer to the Queen.

"Pavilion.

"Sir,—I am commanded by the Queen to acknowledge the receipt of a basket of Tobolsk Rhubarb, sent by you for her Majesty's acceptance, and to say that its excellent qualities fully justify the high character you had previously given it.

"I remain, Sir, your obedient humble Servant,
(Signed.) "William Ashley."

YOUELL'S TOBOLSK RHUBARB (the earliest known), producing fine stalks of a bright transparent pink. Roots planted in a cellar or dark closet now, will be fit for cutting the latter end of December. Extra strong roots, 9s. to 12s. per dozen; smaller, 6s. per dozen. STRONG GIANT ASPARAGUS, 2s. 6d. per 100; and SEAKALE, 2s. per dozen.

FRUIT TREES,

Comprising the finest sorts of Peaches, Nectarines, Apricots, Plums, Cherries, Pears, Apples, Gooseberries, and Currants, warranted correct to name, as obtained from the London Horticultural Society.

The True Large Black Naples Currant, 5s. per dozen.
Improved Large White Dutch Ditto, 5s. per dozen.

WHITETHORN.

Several millions of fine Whitethorn, suitable for Planters and Contractors, at 3s. 6d. per 1000.

STANDARD ROSES of the finest sorts, 12s. to 18s. per doz.

Great Yarmouth Nursery.

WINDLESHAM NURSERY, BAGSHOT, SURREY, NEAR THE STAINES STATION, SOUTH-WESTERN RAILWAY.

GEORGE BAKER begs to offer to the Nobility, Gentry, and Public, his extensive collection of American Plants, &c., consisting of RHODODENDRONS, from 30s. to 42s. per dozen. Atropurpurea, alta-clerense, do. splendens, catawbiense splendens, caucasicum, campanulatum, caucasoides, hyacinthiflora, kalmoides, multimaculatum, nivaticum, Nobleanum, odoratum, pictum, Russellianum, Smithii. Very fine standard Rhododendrons, 7s. 6d., 10s. 6d., 15s., 21s. each.

AZALEAS, good mixed varieties, from 12s. to 18s. per dozen.

KALMIA LATIFOLIA, from 75s. to 100s. per 100. Good bushy plants from 1s. 6d., 2s. 6d, 3s. 6d., very fine. Specimen plants, 5s. each, well set with flower buds.

MAGNOLIA PURPUREA, 75s. to 100s. per 100.

G. B. begs to call particular attention to his unrivalled stock of ABIES CANADENSIS, being one of the most ornamental trees for the lawn, shrubbery, and plantation, 10s. 6d., 15s., 21s., 30s. per 100.

RHODODENRON PONTICUM, 10s. 6d, 15s.; large and bushy plants, 21s. to 25s. per 100; R. ponticum roseum and album, 75s. per 100.

COMMON LAUREL, 7s. 6d., 10s. 6d., 15s., 21s. per 100.

CEDAR OF LEBANON, from 1 to 4 feet, 1s., 2s. 6d., 3s. 6d., and 5s. each.

PICEA BALSAMEA, 2½ feet, 10s.; 3 to 5 feet, 20s. per 100.

	Feet.	Per 1000.
Alder	1½ to 2	21s.
Ash	3 to 5	30s.
Beech	3 to 3½	25s.
Birch	2 to 3½	21s. to 25s.
Chestnut, Spanish	1½ to 2	25s.

	Feet.	Per 1000.
Firs, Spruce	3 to 4 ft. p.	100, 35s.
"	1½ to 2	40s.
" Scotch	1 to 1½	20s.
" Larch	1 to 1½	16s.
Oaks, English	3 to 4	25s. to 30s.
Sycamore	3 to 4	25s.

Quicks, fine transplanted, from 7s. 6d. per 1000.

The above are all fine healthy plants, and remove well. Catalogues had on application.

JACKSON'S IMPROVED ASH-LEAVED KIDNEY POTATO.—This is the most prolific and best Early Kidney Potato grown. Good sound sets 15*s.* per bushel, from the undersigned.—THOMAS JACKSON and SON, Nurseries, Kingston, Surrey.

MYATT'S LINNÆUS RHUBARB.—Messrs. J. MYATT and SONS have a stock of one-year planted roots of this superior variety, which has been the leading feature in the London Markets for several years, and which they confidently recommend as the best in cultivation—being far superior in point of produce and a fortnight earlier than their well known Victoria. It is also peculiarly adapted for preserving and all culinary purposes, and for richness of flavour cannot be surpassed; price 2*s.* 6*d.* per root. Also Mitchell's Royal Albert, 2*s.* 6*d.*; and MYATT'S Victoria, 9*d.* The usual allowance to the Trade.

Post-office orders made payable to JOSEPH MYATT, Deptford.

FIRST CLASS GERANIUMS.

J. HINE'S AUTUMNAL CATALOGUE can be obtained on application, enclosing one postage stamp. It contains descriptions of his newly-selected varieties of this year, viz., Ten first-rate sorts for 5*l.* 5*s.* Also, Miller's Set of Eight of last year's for 25*s.*; and the names of most of the best kinds in cultivation at 25*s.* per doz. Purchaser's selection.

J. H. is also now sending out UNBLOOMED SEEDLINGS at 7*s.* 6*d.* per dozen, or 3 dozen for 20*s.*

Providence Nursery, Ramsgate.

SELECT PLANTS AND CHOICE FLOWER ROOTS.

BASS AND BROWN beg to refer to their Advertisement of selections of the above in the *Gardeners' Chronicle* of Oct. 21, page 697, and Nov. 4, page 730.

Our Autumn descriptive priced Catalogue of Choice Flower Roots, &c., embracing collections of Superb New Ranunculuses, Early and Double Tulips, English Iris, Anemones, Gladiolus (upwards of 40 vars.), Lilium, and a general assortment of Imported Dutch Hyacinths, and other bulbs; also Select Roses and Shrubs, Hardy Climbers, Hardy Herbaceous plants, &c., will be forwarded on application.

Seed and Horticultural Establishment, Sudbury, Suffolk.

The Gardeners' Chronicle.

SATURDAY, DECEMBER 2, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

MONDAY,	Dec.	4	Entomological ..... 8 P.M. Chemical ..... 8 P.M. Pathological ..... 8 P.M. Medical ..... 8 P.M. British Architects ..... 8 P.M.
TUESDAY,	—	5	Horticultural ..... 2 P.M. Linnean ..... 8 P.M.
WEDNESDAY,	—	6	Society of Arts ..... 8 P.M.
THURSDAY,	—	7	Zoological ..... 3 P.M. Antiquarian ..... 8 P.M. Royal ..... 8½ P.M.
FRIDAY,	—	8	Astronomical ..... 8 P.M.
SATURDAY,	—	9	Royal Botanic ..... 3½ P.M.
MONDAY,	—	11	Geographical ..... 8½ P.M.
TUESDAY,	—	12	Medical and Chirurgical ..... 8½ P.M.
WEDNESDAY,	—	13	Literary Fund ..... 3 P.M. Graphic ..... 8 P.M. Geological ..... 8½ P.M. Pharmaceutical ..... 9 P.M.
FRIDAY,	—	15	Philological ..... 8 P.M.
SATURDAY,	—	16	Asiatic ..... 2 P.M.

THE Council of the ROYAL HORTICULTURAL SOCIETY OF IRELAND have announced by a public advertisement that the Society is not declining; that there is no disunion among them, *except* so far as the resignation of one of their members has created it; that they are popular, unanimous, and strong. This they undertake to prove to the satisfaction of the public at a meeting to be held some time or other in January next; when also they will show that they have been misrepresented by the *Gardiners' Chronicle*, notwithstanding their "full and explicit statement in reply and refutation" of "several unfounded attacks" which said *Chronicle* has published to the world. On the interesting occasion now dimly announced they invite *ample* discussion and inquiry.

We congratulate the Council upon the resolution they have come to. They must recollect that the complaints which have been made proceed from their own friends and neighbours; and that if it has been found necessary to raise up a new Society to supersede them, it is because, in the opinion of many most capable of forming a correct judgment, they have been weighed in the balance and found wanting. We shall be anxious to hear the case which the Council will lay before the world some time in January next: and therefore it is that we humbly presume to guard them against a possible error, which well meaning people often commit, of mistaking a reply for an answer. We will further suggest that it would greatly help their cause, if a good one, were they to accompany the statements about to be brought forth—1, by *a detailed return of the value of prizes awarded at their Exhibitions during the last seven years, distinguishing those* which have been gained by members of the Council; and 2, by an *explanation of the principles which guided them in determining the value of their prizes* for the year 1848. To ordinary minds it does seem very odd that 5*l.* 8*s.* should be offered for eight Auriculas, while only 2*l.* 5*s.* can be found for Orchidaceous epiphytes or stove and greenhouse plants; and 17*s.* is the utmost that can be given for Pelargoniums, or Chinese Azaleas, or Camellias, or for all the vegetables that can be produced in the Cottage Gardens of all Ireland!! Surprize does not diminish when it is found that Apples and Pears are placed in the same rank as forced Peaches and forced Grapes in the month of April, 17*s.* being liberally offered for each. But surprize is exchanged for admiration when it is finally discovered that out of 5*l.* contributed by the Lord Lieutenant 1*l.* is again devoted to the Council's favourite Auriculas. What prodigies the Dublin Auriculas must be!

The Council will no doubt be extremely gratified by attention being drawn to these little peculiarities, and will be most anxious to explain the public grounds on which their classification of prizes has been settled. We therefore recommend those who propose to take part in the coming discussion to analyze for themselves the schedule of prizes offered by the Royal Horticultural Society of Ireland for the advancement of the art of cultivation during the year 1848. Unless our power of calculation have altogether failed us, we should say that the results that must come out will very considerably enlighten those who imagine that they subscribe their money for some great public purpose.

As we have already stated, the Council complain that what they term our "unfounded attacks" upon their management, have been repeated, "notwithstanding the full and explicit statement in reply, and refutation forwarded" to us.

Now it so happens, that, since it reached us, we have discussed none of the charges made against the Council, except those fully and explicitly admitted by the statement. So much for the correctness of the present appeal, as it relates to our supposed repetition of charges which were disproved or even denied. But we have yet to learn that, because a reply is both full and explicit, it is therefore necessarily a refutation. Why, some men have been transported on their own full and explicit confession! and we contend that the Council, in the present case, instead of refuting have actually admitted the more important of the charges urged against them. This will appear incidentally as we compare their present with their former statements.

The Council say that it is their determination to manage the Society "in strict conformity with the rules and principles *on which it was established*, bearing in mind that it was by adhering to those rules and principles that the Royal Horticultural Society rose, in the course of a few years, to a state of prosperity and popularity unexampled in the annals of similar institutions in this country, and has been enabled to retain that position notwithstanding, &c." This promise may sound well for the future, though evidently extracted by the pressure of the new Association. But is the retrospect true? Our Irish readers best know whether the past circumstances of the Society justify so glowing an account of either its early or recent successes. The allusion to attempts made "at various times and in various ways to injure it," indicates anything but unexampled popularity. We suspect, too, that the Council mistake the countenance of those who frequent any fashionable assemblage for the support of those who can alone appreciate the progress of horticulture and the improvement of horticulturists, and in whose eyes the Society has not, most certainly, for a long time, been either popular or prosperous.

But is it true that the Council really *has* adhered to the rules on which the Society was established? A few facts will answer this question.

The published reports of the Society show that, for the first four years of its existence—the period of its alleged rapid rise to "unexampled prosperity"—the prizes were awarded to the *gardeners*. In 1834 they appear still to have been similarly awarded, except in the case of *two* individuals, then and now in the Council. This we take to be the transition state of the affair. Thus it appears that the *original* rule was to award the prize to the gardener, not to the employer. The Council have admitted that the contrary is the present practice. Which then are we to believe, the former statement or the present appeal?

Again, there is a bye-law that "no person *whatever* will be permitted during the adjudication to remain in the room but the judges, the assistant-secretary, and his assistants." The statement acknowledged that the Council make a further exception in their own favour, though it is notorious that they are in great part exhibitors! Was this adhering to the rules of the Society? Are the members of the Council "no persons whatever?" Have they no interests at stake between them and the less favoured exhibitors who are excluded?

Lastly, there is another bye law that "three judges shall be appointed for each class, who shall not be candidates in that class, nor enter the Rotunda on the days of exhibition, until all the specimens shall have been arranged for adjudication." Yet it is not denied that the judges have been in the habit of mixing with the individuals engaged in arranging the specimens. The Council have also confessed that on a late occasion a judge was appointed for a particular class, who was nevertheless a candidate in that class! It may be true that he did not act in his own case. But either the Council violated the letter of the above rule, if they knew that he was a candidate when he was appointed a judge, or they allowed him to violate its spirit, by sanctioning his claim to the prize, the duty of awarding which he should have renounced—especially as he was a member of the Council.

We have not space to follow these remarks further. But we have said enough to justify our readers that we were right "to enlarge on the plain and candid statement of facts" as an exposition of the Council in these particular matters. And yet these are the very matters which decide the character and efficiency of such a Society.

Surely a body which in one instance admits their departure from three cardinal points of the Society on such essential points, and in their next statement profess to have acted up to them, cannot have the confidence of the public. It does not manifest that nice sense of the delicate interests entrusted to it which is necessary for the purposes of its existence.

With personal allusion we have of course nothing to do. We do not criticise the Council individually. We know that it contains some for whom we have the highest respect. But we have now to do with them as a public body, claiming to manage the interests of horticulture in Ireland. We, therefore, give our opinion freely. We think that that Society can do little for the promotion of its objects, in which the Council who fix the prizes are themselves both exhibitors and judges, in which some of the former are admitted to privileges, denied to their competitors, of gratifying their curiosity or love of interference, or which does not openly confer its rewards upon those who have openly work out its purposes, though, as the Council state, *most* of them may obtain them in the end from their employers. The prizes are in such case mere pounds, shillings, and pence—private wages, not a public recompense.

We are far from asserting that any act of injustice *has* been done to any individual competitor. But we do say that there is the appearance that such *might* be done, and that thus injustice is done to the competitors as a body. Those who are not behind the scenes can never distinguish the fidelity with which, no doubt, each distinct member of the Council may thread his way through such an intricate maze, particularly when they know what scrupulous attention is paid to such matters in other societies of the kind. Total loss of confidence must be, and has been, the result.

It is for these reasons that we adhere to our decided opinion, that the Royal Horticultural Society ought to be dissolved. We have already recommended the same course to the Horticultural Improvement Society, though for different reasons. We think that all parties would best consult the interests of horticulture by uniting to form one strong body, upon the basis proposed by the HORTICULTURAL ASSOCIATION.

THE GUANO CASE mentioned last week is a happy illustration of the effects of buying such an article of unknown persons at a low price. A purchaser being greedy, and eager to make a capital bargain, found a seller who, being needy, had the same anxiety as himself, and who favoured him with what was called "British guano," at less than a quarter the price of the genuine substance. But the fortunate man, when he had come into possession of his British guano, discovered it to be only earth. He thought he had bought a jewel, and he found it to be a stone. His guano was like poor SUSAN's pearl necklace—

> "Da riss entzwey mein Perlenband,
> Und eh' ich's mich versah,
> Entrollten all' in Erd' und Sand,
> And keine war mehr da."

No sooner had he paid his good coin away, than *presto* his pearls crumbled into earth and sand, and then, as the German said, "Nothing was there."

We would beg the Cambridge Professor of Casuistry to decide which was the worse, the cheater or the cheatee; and how far a court of justice is morally called upon to redress the grievances of a man who runs about the world seeking to be defrauded. The cheatee in this case must, when he made his bargain, have supposed one of two things, either that the article was not what it purported to be, or that it was stolen: for the price at which he bought it would not pay the freight of real guano. He can only be compared to the simpleton who gave 5*s.* a piece for a lot of 5*l.* notes, and when he found himself in jail as an accessory to forgery, roared out at the hardship which innocent men are made to bear in a free and enlightened country.

Let us trust that the case of Mr. GEORGE BROWN will have an effect beyond that of compelling a rogue to disgorge his plunder. It shows conclusively the soundness of the advice which we have so often given, not to buy such a substance as guano of any but persons of known character and honour; and it also proves that we were also right in recommend-

ing the public not to buy, in the present state of the market, any guano at all that is not either Peruvian or Bolivian. About the latter there can be no serious mistake; with the others there is no security. The defence in the case now under notice was that the stuff was sold as "British Guano," and if the seller had not been over-greedy he would certainly have choused Mr. George Brown out of his "twelve pound five," in spite of Mr. Brandt and the Manchester County Court. Had there been any fertilising matter introduced into the sand a favourable verdict could hardly have been obtained; but luckily the honest man who favoured Mr. Brown with his bargain could not prove that he had done anything to fertilise it; and so he was caught in the meshes of the law.

Of this we feel persuaded, that if buyers of guano are not warned by this example the low sellers will be. Mr. Brandt will not catch them again; they will prove that *some* fertilising material is added to the sand; and then, not having called it Peruvian or Bolivian Guano, but "Jones's patent guano," or "Smith's improved Peruvian," or "the new guano," or by some such name, they will satisfy the law, to the infinite dissatisfaction of the cheatees. For ourselves we fully expect to hear that loam, sand, starch refuse, spent wood, logwood, sumac, gypsum, pounded limestone, and all the farrago that belongs to the business of a "guano grinder" will rise in price, in consequence of the increased demand for "new" guanoes. It will, therefore, be as well for the farmer and gardener to look to it. It is clear that instructions for the preparation of such commodities, so as to deceive the unwary, are in the market; if we are to believe the defendant in the late cause, he had his receipt "from Mr. Evans, of Liverpool, *who has made some hundred tons for a merchant there*," a pleasant announcement for the Cheshire and Lancashire farmers; and we may depend upon it there are plenty of other receipts in the hands of men willing to use them.

We have seen a sample of the rubbish in question, and how any but the greatest blindness could have been taken in by it we cannot conceive. It is more like a mixture of mortar dust and coal ashes than anything else. These 'guano grinders,' however, meet with cases of such simplicity that their boldness outgrows their prudence. Most of them in Liverpool and Manchester are well known to the Guardian Societies of those towns. We could give the history of bankrupts (1841), still without their certificates, who have been active ever since in the fraudulent practices which drove them then from the society of honest tradesmen, men who still preserve a connection with the business which once they followed, and *manufacture* the substances called 'chemical,' which their simple customers use in the mistaken idea that they are thus among the foremost in the modern practice of manuring.

ENTOMOLOGY.

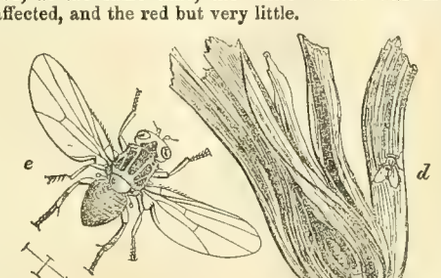
The Wheat Fly (Chlorops lineata).

In Mr. Curtis's excellent series of articles upon the insects which attack the corn crops, published in the Journal of the Royal Agricultural Society of England, vols. v., vi., and vii., that gentleman, speaking of an insect (described by Mr. Markwick in the 2d volume of the Transactions of the Linnæan Society), under the name of Musca Pumilionis of Bierkander, as injurious to the corn crops, observes that unfortunately there is no description of Mr. Markwick's species, and the figures in his plate are not sufficiently accurate to determine if it be Bierkander's insect (with which it was confounded by Sir Joseph Banks*); but he is inclined to think not.

As it is important in our investigations of the various species of insects which attack such necessary articles of our food as Wheat and Barley not to confound two different species which possess distinct habits, I am happy to be able to clear up the difficulty respecting Mr. Markwick's insect, having recently reared it under circumstances precisely similar to those detailed in his paper.

Bierkander's insect, described in the Transactions of the Royal Academy of Sciences at Stockholm, for 1778, infests the young shoots of Rye in the month of May at the lowermost joint, which stops the growth of those shoots, and makes them appear as dwarfs (whence the specific name given to the insect). The larva is white, two lines long, ten-jointed, the head pointed at the end, black, and resembling a V. It assumes the pupa state towards the end of May, when it is yellow, shining, rather more than a line long, and ringed. The flies appear at the middle of June. Bierkander did not ascertain at what time the eggs are deposited in the Rye. The larvæ are small on the 23d of April, and full grown on the 25th of May. On the sides of the stems were seen no holes, from whence he conjectured that the eggs or larvæ must enter at the top of the leaves. The infested stems began to grow yellow and decay on the 14th June, and were in such abundance that in some fields 8, 12, or 14 were found in a square of 2 feet, from whence he concluded that great injury is done to the Rye, and strongly recommended that the stems should be pulled up and burnt whilst the insect is in the larva or pupa state, and by this means one or two persons might destroy many thousands of them in a day, he having picked as many as 350 stems in a few hours.* The perfect insect is a little more than a line long, the head yellow, with a black triangle at the nape; eyes black, antennæ black, thorax yellow beneath, black upon the back and marked with two slender yellow lines the whole length; below and near the abdomen is a yellow crescent-formed spot (scutellum), fore legs with two black-spots, abdomen black above, yellow beneath, and composed of four segments, poisers white, wings iridescent, legs greyish at base, black at the extremities.

Mr. Markwick's insect infests young plants of Wheat in the early spring, the larva lodging in the centre or very heart of the stem just above the root. At the latter end of March the larva was found in some plants, but in others was already changed to a pupa, being thus a month earlier in its habits than Bierkander's species. Having planted some of the infested plants in a flower pot, the perfect insects were developed at the middle of May, being also a month earlier than the former species. The larva is always found within the principal stem just above the root. This stem is invariably destroyed [the insect devouring the embryo ear in its earliest state]. This gives the crop a most disastrous appearance, so that at first sight there appears scarcely a hope of any produce, but after the larva has changed into its pupa state the mischief ceases, and the root is not so much injured as to prevent its throwing out fresh shoots on each side, or *stocking* itself, as the farmers term it. In short, at harvest time, Mr. Markwick states that he was agreeably surprised to find a good crop of Wheat, and the ears large and fine throughout the whole field, and which proved the best crop on his friend's farm, yielding about 3½ quarters of threshed corn for each acre. None but what was sown early, about the latter end of September or the beginning of October, was affected by this insect; and in one field, where a part was early sown with white Wheat, and the other with red, at the same time, the white Wheat was much affected, and the red but very little.



In the beginning of last April we received from a correspondent who adopts the signature "Dyn-o-Gwent," some Wheat plants infested precisely in the same manner as those described by Mr. Markwick. They were swollen laterally (fig. *a*) but the heart was entirely consumed, and in the interior was found a brown and shining pupa (fig. *c*), from which, in the following month, was produced the fly represented in the accompanying woodcut (fig. *e*), the natural size of which is indicated by the cross lines, and by the small figure *d*.

The insect before us has the head yellow, with the eyes blackish, a large triangular black spot at the hind part, bearing the ocelli; thorax yellow, with a rather broad black central stripe extending from the front nearly to the scutellum; on each side (separated by a slender yellow line) is an elongated wedge-shaped black spot, preceded by a minute black dot, and between this and the base of the wings (also separated by a fine yellow line) is a short black stroke. The breast bears a black dot on each side; the scutellum is yellow; the abdomen is yellowish black; the legs are yellow; the fore tibiæ black at the tips (the fore tarsi are unfortunately broken off in the only specimen which I reared), the two last joints in the four posterior tarsi are black, and the two posterior tibiæ have a dark ring in the middle.

This species is distinct from the one which I figured in Mr. Loudon's "Gardener's Magazine," vol. xiii., p. 289, being rather larger and not so glossy. It is probably the Chlorops lineata of Fabricius, and I should also regard it as the insect described by Mr. Curtis under the name of C. tæniopus of Meigen, except that the dark rings of the hind tibiæ are not noticed by Mr. Curtis. *J. O. W.*

THE PINE-APPLE.†

There can be no question that, in these days of inquiry, gardeners are investigating the matters under their care with an earnestness entirely unknown to the patriarchs of the art. Things which proved insurmountable difficulties to them are no longer so to the men of the present day, who take nothing for granted, but who apply the talents with which they are endowed with a vigour and a resolution unknown to our forefathers. True, some are yet content to linger in the rear, cavilling and doubting, and faithfully adhering to the old system of stooking and steaming night and day, summer and winter; because they have heard somehow, it matters little where, that, to fruit a Pine plant, it must have a desperate heat, as it comes from the tropics, where the thermometer not unfrequently indicates 100° in the shade. They have, besides, read and practised, but never questioned the propriety of the statement, that "the bark bed is obliged to be stirred, turned, refreshed, or even renewed several times a year, so as to produce and retain at all times a bottom-heat of from 75° to 85° in each of the three departments of Pine culture." Such directions as these remind us of the books on physic which instruct us to take so many doses annually, and to double the quantity in spring and autumn, as if a man in health required either the one or the other.

The men above alluded to are incapable of believing, because, in their easy bliss, they think the thing impossible, that, at Meudon, Mr. Pelvilain has (in a small pit that barely holds them) 44 plants, which, planted in March and cut in August, produce in round numbers 350 lbs. avoirdupois, or fruit averaging 8 lbs. each! The plants which produce this result have, during winter, an atmosphere just a little above greenhouse temperature. They are protected by coverings from frost and sudden variations of climate, and are kept rather than forced.

Mr. Fleming's success also results entirely from his practice being in accordance with the laws of Nature. He keeps his Pines in fruit during night in fine weather at 65°, but in frosty weather he allows the night temperature to recede to 57°. His younger plants enjoy an atmosphere during winter of 55°. Air is admitted to all of them night and day continually; of course the quantity is reduced in severe weather, but it is never wholly taken off. The leaves of the Trentham Pines are not a yard and a half long, and an inch broad, with a stake to keep them upright, scabby, fœtid with sulphur, or the colour of ripe Cucumbers, appearances common enough. The very reverse of this is the case, as all who have visited Trentham can testify. Cultivators of plants like those just mentioned will not of course credit that Pines of the size of those produced at Trentham can be grown at all in such an atmosphere, and with the bottom temperature little and sometimes none above the top heat; such is, however, the fact, and such the results, and not at Trentham only, but at other places where gardeners are determined to swim and not sink, and to distinguish themselves from the potter's clay which exists in the gardening world about them.

It is well known to intelligent cultivators that the Pine-apple has been more frequently roasted to death in this country than killed by cold; and though we do not believe it can be grown successfully, generally speaking, in the open air, in the climate of England, we nevertheless contend that its successful cultivation can be satisfactorily attained in a lower night temperature than has hitherto generally been applied to it. *G.*

ON THE ADVANTAGE AND PROFIT OF BEE KEEPING.

(*Continued from page* 733.)

John Worlidge, an agriculturist, who wrote on "Cider and Bees," in 1668, observed, "Bees are kept and maintained almost throughout the world, for the delicate food, the pleasant drink, and the wholesome physic they yield. Barbary, and other hot countries abound with them, so that wax, the least part of the profit arising from them is there a great mercantile commodity. Russia and Tartary, too, make their principal drinks out of the labours of these industrious insects." The same author, subsequently, in his folio work, intituled "Systema Agriculturæ, or Mystery of Husbandry Discovered," dated 1668, under the head of Fruit and Profit of Bees, thus agreeably varies his remarks: "The principal aim of most bee-masters is advantage; and it has been the general design of experimenters to discover which way these most industrious and profitable creatures may be multiplied and maintained with the least expense, care, and trouble, and also to the greatest advantage; for they require no more than a house of straw, unless you can afford them a better; their food they seek where it will never advantage you nor any one else if they have it not. Your circumspection and care only is required to order and preserve them, which also is but little if you understand their nature and temper, and will seem much less if you make it one of your exercises of delight and pleasure. Yet do they return you an extraordinary recompense and reward for whatever you bestow on them, as before observed. But that which hath been principally designed is to find out some way or means how, or after what manner, the fruit and profit of bees may be taken without the loss of their lives; it being a seeming act of cruelty to destroy the lives of these most industrious creatures to rob them of their goods."

This author speaks of some "Travels into Germany," written by Mr. Thomas Babington, who probably lived in the beginning of the same century, as the following extract may be found at page 56 of the "Commonwealth of Bees," by the aforesaid Thomas Hartlib. "In Kempenland, in Germany, I have seen about 40 great beehives, which contained when full about 70 lbs. weight of honey, placed near a great field sown with Buckwheat, and it was related to me of truth by the inhabitants that the bees did suck such plenty of honey out of it, that in a fortnight's time the said hives were all filled therewith." I must here caution my young apiarian friends in particular against the use of Buckwheat as a pasturage for bees; the honey produced by it is of a most disagreeable flavour and colour, very dark, and otherwise objectionable. The best honey is obtained from white Clover.

* Annals of Agriculture, No. 91.

* This plan, which at first sight appears so feasible, is by no means to be adopted, since the numerous parasites which keep the obnoxious species in check would thereby be destroyed.

† This paper will afford an answer to our correspondents "J. L. M." and Mr. John Hooly.

Dr. Warder, a physician of the last century, published a work in 1707, called "Amazons, or True Monarchy of Bees," and thus directed how to raise a great number of hives. "Suppose you begin your apiary with 10 good stocks, which in some parts of the kingdom may be bought for 10 half-crowns; in others for as many crowns; but in this county they are 10*s.* per hive; the first year you will, by doubling your casts, be able to have about 25 good stocks, and the next year about 60, and the third year about 150, barring casualties, and they prove good years. So that when you have raised this stock you are rich enough, if not over covetous; and in three years time you may, from 10 hives, if good weather comes, have bees enough to take the fourth year 160, more or less according as the goodness of the weather is, which, setting them all at 5*s.* per stock, comes to 40*l.* sterling; and I think whoever attains half this profit will suppose themselves very well rewarded for the care they have taken about them."

Mons. Noel Chomel, in his "Dictionaire Economique," dated 1710, says, "Bees cost nothing for their food, neither for their pasturage in summer nor for their provision in winter. A hive of straw for their lodging is all they require; straw is the most convenient; it costs only 3*d.* or 4*d.*, and will last four or five years, if one protects it from rain with a straw cap, which will only cost ½*d.* or 1*d.* more."

The *Rev. John Laurence*, a prebendary of Salisbury cathedral, in his "System of Agriculture and Gardening," folio, dated 1726, says, "Bees are greatly profitable, and highly deserving the care, the love, and the assiduous attention of every painful farmer, studious and inquisitive after everything that may make returns of profit, and fetch in an honest and commendable gain; they deriving their support and riches from vegetables."

The *Rev. Mr. Cotton*, who, within the last few years, has written an interesting book concerning bees, says, in a "Letter to Cottagers," "Few cottagers keep enough bees. There is hardly more trouble in taking care of 20 stocks than two. In Germany I saw a man who had 200 hives; and I wish to show you how to make the most of a good year. Get a fair quantity in a middling year, and do not lose all your bees in a bad one. 290 lbs. have been taken from a good stock without hurting the bees, whilst the weight of the heaviest cottage hive I have ever heard of was under 160 lbs."

I will now add what occurred to myself, or rather to my own bees, about 20 years ago. Two hives, for the purchase of which I had engaged, were brought to me from a considerable distance in the country. Sufficient care had not been taken with them on the journey, so that when they arrived, the greater part of the combs of both hives was broken down; the honey escaped in considerable quantity from the cells; the bees of each hive were fairly suffocated in their own sweets; and the remainder were put into the greatest confusion and dismay. I placed them in a quiet, cool, and dark room for the night, turning them upside down, in some steady vessel, as a bracket. On the following evening, after sunset, I loosened the cloth or wrapper of each hive; and after having put the two hives together, mouth to mouth, without disturbing either party, I set them thus united in my garden. In the ensuing spring this double hive threw a good swarm, and in the succeeding autumn weighed 75 lbs. I then separated the two hives by means of a wire, and after taking away the inferior hive, I placed the upper hive on a common stand. The one I removed weighed 40 lbs., and the other, which I left for the next year, weighed 35 lbs. It is well known to every one who is familiar with the interior construction of a bee-hive that the direction of all the honied cells is not exactly similar to that of a number of wine bottles ranged in rows on a shelf, horizontal; but an oblique direction has been given by the bees to every cell, to prevent the possibility of the nectareous liquor escaping from them as fast as placed therein. Now, when, through necessity or urgency of the misfortune just described, I placed one of the hives topsy turvy, and consequently inverted the honied cells, these expert, ingenious, and wonderful creatures had instantly all their inimitable architectural science and foresight put to the severest test and trial. Yet even here the invisible hand of Providence did not fail them; He whose ways are justly called inscrutable and past finding out; Hé who taught the spider to weave its web, the bird to build its nest, and the bee to construct her cell, at the beginning of the world, in like manner as they have done through a long succession of ages, and continue to do at this very day, gave that instinct and prescience to these insects on the present emergency, directly to apply a most efficient and effectual remedy. They set to work with one accord and the same avowed object in view, and laboured night and day to extend all the cells; and by forming an angle at the mouth or entrance of each, to turn every one up again. These now, again, served as so many store-rooms for their golden sweets, and the somewhat extraordinary amount of the collection of honey treasured up at the autumn was the result as above described; *Edward Scudamore, M.D., St. George's-place, Canterbury.*

POND WEEDS.

Permit me to advise your correspondents who are so anxious to clear their ponds of living weeds to let them alone. Weeds and living animals, fish, larvæ, beetles, animalculæ, &c., are the means provided by Nature to purify stagnant water. They live upon the products of decomposition. If we remove them the organic matter resolves into the elements of disease, and the water, although it may look better, conceals within its dark still surface one of the messengers of death.

Whenever we run counter to the great design so beautifully illustrated in every page of Nature, we are sure to be the sufferers. If we kill rooks or poison tomtits, then the caterpillars of our lepidoptera, or the larvæ of our coleoptera, feed upon the produce of the soil. If we murder the poor, inoffensive, useful mole, or hunt to death with dogs that equally harmless insectiverous mammal the hedgehog, under some ridiculous popular error that it sucks our milch cows, we fall into the same category of blunders as when we destroy the natural purifiers of our water. If people wish for ornamental water—and nothing, I grant, if properly managed, is more beautiful—let them encourage by every means in their power vegetable growth. Where there is food for the plant there will the sporule or the seed vegetate, or the ova of animalcules bring forth its nascent young. Now this food of the plant or the animalcule is death to the human being. In the form of miasma it produces typhus or yellow fever, or ague, or cholera. The nature of this miasma is unknown. It is an element too subtle and impalpable to yield any result to the analytical chemist. We only know that it exists from its uniform and too often deadly effects.

Being beyond human control, then, why should we interfere with the wise and beautiful law of the Creator? That law by which the just balance of species would be so admirably preserved but for our bungling efforts to destroy it, the law by which the living thing derives support from the decomposing elements of the dead? Did your correspondents, who are so anxious to banish the Duckweed from their stagnant pools, ever examine the stem of this little plant under the microscope? If not, I promise them a treat which will both astonish and delight them. In warm weather, and examined with a good light, they will find the beautiful campanularia or bell-shaped animalcula attached to the stem of the Duckweed in great abundance. This compound creature consists of a stem, branching in every direction like a bunch of Grapes, the end of each branch terminating in a bell-shaped, living, and distinctly organised being. The edge of the bell is fringed with most delicate ciliæ, by which a current is kept up around the animalcules, and small particles of decomposing vegetable matter brought constantly within reach of its mouth. Do you doubt its life? Just touch the stand of your microscope never so gently, and in an instant, quicker than thought, every bell will shrink and collapse upon the stem of the Duckweed; and, again, when the motion ceases, spread out their delicate and beautiful bells, to perform their destined duty—the purification of stagnant water, the preservation of human life.

But I have only mentioned one species. In every drop of stagnant water there are different genera and orders, and thousands, nay myriads, of species. Do they die and putrify, and thus reproduce miasma? No such thing. The order of Nature is not here disturbed. They perform their destined office, and then become the prey of larger beings—the larvæ principally of insects undergoing their metamorphosis. What is done by the animalcule is equally well performed by the plant. How we are apt to look with horror upon the dark green slime which denotes too truly the presence of decomposition! But take this slime, and place it under your microscope, and you will find all the delicate and beautiful organisation of a plant. Not a dead putrifying mass, but a living thing feeding upon the elements of the dead. So with your Duckweed, your Water Lilies, your Water Ranunculuses, and your Sedges; they are all great purifiers of Nature; they are the means of Omnipotent design—of saving from a loathsome death the creature formed in his own image. *C. R. Bree, Stowmarket, Nov. 27.*

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

Importance of First Principles.—Every reader of the *Chronicle*, especially of its Leading Articles, must be aware of the anxious desire of its conductors to diffuse sound scientific information on the subject of vegetable physiology. They evidently desire to make gardeners thoughtful as to the principles on which all successful operations depend, and thus to take their pursuits as much as possible out of the domain of chance. Many first-rate minds are constantly occupied in investigating the modes in which vegetable growth proceeds, and the conditions on which its full development depend; but the bulk of gardeners neglect altogether this interesting study. As successful practice is all that is contemplated by the knowledge of the abstract principles of an art, we are not disposed to find fault with those useful men who are satisfied when they can produce fine flowers and fruits and vegetables by experience only. At the same time we can see no reason why every one who takes pleasure in horticulture, should not while working with his hands exercise his mind at the same time on the phenomena presented to him.

In the province of gardening alone, much has yet to be discovered, to enable us to possess all that bountiful Nature is willing to yield; and fruits and vegetables yet admit of indefinite improvement. With flowers, successful experiments are continually being tried, which add to the fame of such men as Beck, Lightbody, and Tyso. The most beautiful Pelargoniums and Ranunculuses are those which art has been exercised upon, and an extensive field is yet before the amateur in this department alone. Let every one enter on it although his exertions may be very limited, and the general stock of floral beauty must be increased. In reference also to every kind of gardening operations, experiments should be carefully conducted, and the results fairly shown. No day passes without presenting to the observer some new facts, or some fresh combinations of facts already known; and if the eye and the mind are both on the alert, beneficial results must accrue from their being recorded. The present practice of gardening is, of course, the consequence of the united experiences of those who have gone before us: let us contribute all we can to hand it down in a more effective state to those who will come after us.

But the most acute observer of natural phenomena in horticulture will pursue his investigations under great disadvantage, unless he avails himself of that scientific knowledge which it is the honour of the present age to possess. Chemistry should be studied to some extent; structural and physiological botany of course cannot be neglected with impunity, if we are to observe in the most expeditious and profitable way. Perhaps we cannot do better than recommend the careful reading of Lindley's "Theory of Horticulture," as exhibiting what kind of knowledge we wish all gardeners to have. The reason why such and such modes of proceeding issue in certain results is there investigated, and the mode of studying these subjects is pointed out. What Bacon's "Novum Organon" is to general science, Dr. Lindley's "Theory" is to horticulture. While abounding in practical wisdom, its greatest value is its pointing out the method in which we should operate. Such a work cannot be read by amateurs generally without an immense progress being at once made in the practice of gardening.

While these remarks are intended to add to the pleasure of the amateur in attending to gardening duties, we confess we have a higher object in making them. As has often been said in this Paper, gardening is farming on a small scale, and the holder of a few poles of ground has the opportunity of making experiments which may tell on national industry and wealth. Let not supineness, or the "let-well alone" system, prevent that mental exertion, which so highly adorns corporeal labour, from achieving its triumphs. A sensible man should be inaccessible to ridicule, and if by daily observation of the habits of his Parsnips or his Turnips he can elicit an unobserved fact bearing on our great crops, by which the nation is fed, he ought to consider himself an honour to his country, and the friend of man. *H. B.*

Home Correspondence.

The Claims of Nature and of Alkali.—The tone which the "Alkali Manufacturer in the North of England" has been pleased to adopt in reference to your advice of the previous week is such as can hardly be passed over in silence by a lover of justice or an admirer of the works of Nature. If it were not that self-interest so generally blinds a man to the plainest truths, one would be surprised as well as indignant at the tone of injured innocence which the author of the paragraph assumes. You advise proprietors of "gardens, fair meadows, and richly wooded property," "thriving young plantations and ancient trees inestimable for their beauty and historical associations," to preserve them by the only possible means, still to cheer the eye with beauty and the heart with freshness, instead of being converted into objects of sorrow and disgust; and you are answered by one of the very spoilers with the cry of "grossest injustice!" You know very well that thousands read your remarks with very different sentiments, and thank you heartily for them. It would doubtless be in vain—to this correspondent, who rejoices with the true glee of an "old salt," that "on the banks of the Tyne there is no baronet's foliage to scorch, or naturalist's shrubbery to shrivel"—to speak of the elevating, soothing, and purifying influences of Nature upon the minds and hearts of a population or to hint that man does not live by alkali alone, and that while a noble tree or a fair scene will fill the souls of a hundred generations with perennial peace and delight, the tallest chimney on the Tyne has perhaps never once raised the thoughts of one of its inhabitants to heaven. Nevertheless there are many who think this is something: who can enjoy this, and have it freely to enjoy while it exists: thousands, not one of whom shares in the profits of the alkali. For a man to date from the banks of the Tyne an assertion that the making of alkali is not injurious to vegetation, both to timber and crops, is one of the most extraordinary things ever manufactured on the coaly river. Five-and-twenty or thirty years ago, in spite of ballast heaps, colliery spouts, and coal smoke, there were a few picturesque spots even below Newcastle bridge, such as Berwick loved; a few pretty sprinklings and scatterings of wood and a shrubby coppice here and there along the margin of the old stream, now "scorched dried up, and killed." Your correspondent has, no doubt, many a time seen them at midsummer, when passing up in the steam-boat, as if they had been "exposed to a January frost," and all this owing, as the popular local song has long recorded,

"To that cursed alkali."

Though the manufacturer "cannot" permit you to publish, without his unqualified opposition and contradiction, that the owners of alkali works cannot, except by making their operations unprofitable, prevent injury to trees, and will not pay for the damage till they are compelled, the inhabitants of Newcastle, Walker, and Shields know it well, many of them to their cost. Many a tough law-suit there has been about it: heart-burnings innumerable: popular disturbances even, in so much that a large factory at the mouth of the Tyn

(your correspondent will perfectly understand me), was about to be abandoned; a tremendous sacrifice, such as would never have been contemplated except under extraordinary opposition, and this where there was no fine timber to be injured, only the crops by a seaport town and a bare country around. If your correspondent willingly pays all reasonable demands for damage, he must, though he modestly disclaims it, really be "an exception;" else why the heavy protracted law-suits, rejected claims, and continual dissatisfaction among the neighbours of similar works? Is there an owner of an Apple tree within two miles of his chimney who does not know that the alkali fumes have shrivelled it up into the poor miserable barren Crab that it is now? And yet how many of these have received, or even sought for, compensation for the damage which they sustained and sustain? Ask the owners of the gardens across the river, or even a mile and more distant from the factory chimney, whether within an hour or two of the time when a change of wind brings the vapour down upon their flowers, they have not seen them lose their freshness and smoothness, and shortly shrivel up? If "within these two years" these injurious effects have been abolished in the case of your correspondent's factory, it is a grand fact accomplished; but there were previously so many effectual cures which left the disease untouched, that one must be pardoned for remaining a little sceptical. The fact is, alkali manufacturers have always laboured under difficulties in the case of their own chimneys, probably from their occupations below; people at a distance feel and see better. At all events, if the late ingenious method of absorbing and neutralising the gas is so effectual, the Wakefield verdict must have been justly inflicted! If your correspondent has been victimised by "extortionate" farmers and "swindling" cowkeepers, all one can say is, he is one of those innocent wolves whom ferocious lambs will injure, as wealthy alkali manufacturers usually are injured by the small cultivators of the soil. Few persons living near alkali works, especially those who love the fields and gardens, but have suffered from the desolation and deformity they produce; and this it is, in part, which induces me to resent the tone of your correspondent. He knows well that thousands around such works are annoyed, more or less, by the operations; and though they submit to the evil which seems necessarily to accompany the good (the great good effected), still they can scarcely bear to see him rise up as the injured party. That his operations supply many with subsistence is most true, and is the reason why his neighbours submit to the nuisance; but as no "manufacturer" will pretend that he built his chimney from benevolence, or that it belches out muriatic acid and chlorine as a mark of good-will, and as many suffer from him who are not benefited by him, it surely does not become him to take the tone of injured innocence. This is not, however, the chief reason for my troubling you with these remarks. Tyneside, below bridge, is blackened and burnt up beyond all redress, the river green and treeless.

"Labitur et labetur in omne volubilis ævum."

But many a fairer spot will shortly be reduced to the same dreary aspect, unless efforts are made to prevent it. In this utilitarian age the sweetest scenes of Nature are ruthlessly desolated, and her most beautiful children sacrificed on the shrine of Mammon. This intrusion of unsightly and pestilential factories among the sylvan scenes which still remain in "merrie England," is often uncalled for, and ought vigorously to be resisted. The moral value of fine scenery is little understood by the busy man of the world; it becomes those who, like yourself, can estimate its value, to prevent, as such remarks as yours of the 18th ult. are calculated to do, its needless sacrifice. *L.*

Orchids which Flower during Autumn and Winter.—The first I shall name is the large variety of Epidendrum Skinneri, a profuse flowerer, producing spikes 3 feet long, with 35 or more flowers on each; the flowers measure 2 inches across, bright in colour, and continue for three months in blossom. I grow it on a dry block without moss. I have tried it in a pot in peat, but it did not succeed; the roots seemed to prefer the moist atmosphere of the house; it likes plenty of water when growing, but when at rest the quantity must be very much reduced and it must be kept cooler then, say from 55° to 60°; when growing, the temperature should be from 65° to 75°. E. Skinneri is a most useful Orchid, having the same colour as the former, but its flowers are much smaller. E. vitellinum produces its beautiful orange blossoms contemporary with those of E. Skinneri, the colour of the one forming a striking contrast with that of the other. It remains six weeks or two months in flower in a house from 55° to 65°, but when growing it should have a higher temperature, say from 75° to 85°, with plenty of water. I grow this also on a bare block, which the roots prefer to being buried in peat or moss. Zygopetalum rostratum is a good winter flowerer; we have a plant now with 25 showy white flowers on it. This is the third time it has flowered in 12 months, and it has had from 25 to 30 blossoms on it each time; it keeps in bloom for two months, but to effect this the flowers must be kept dry, for if a drop of water is allowed to lodge on them, they spot and die off much sooner. I keep this species always in a high temperature, in a pot half filled with crocks and the remainder with sphagnum, giving it plenty of water while growing, and keeping it in the shade, but not far from the glass. Oncidium unguiculatum is a useful Orchid, which flowers all the winter. It stands cutting for bouquets well. When it is cut it will branch out again, and flower as freely as before; it is apt to grow tall and straggling, but if the leading shoots are stopped when about 3 or 4 feet high, they will become bushy. It does well in a pot in peat and crocks. Phalænopsis amabilis is too well known to need description. It remains long in flower if the blossoms are kept dry; it should be grown on a large block, in order to give room for the roots. It likes shade with plenty of water at the roots when growing. Oncidium papilio and its large variety are beautiful things, which are nearly always in flower; the blossoms last two or three weeks in perfection. I grow them in pots three parts filled with crocks, the remainder with peat; and in a temperature of from 70° to 85°. Oncidium roseum keeps in flower for about six weeks; the little ornithorhynchum will scent a whole house, and O. incurvum is pretty and curious. Among Cattleyas, labiata is one of the best, and if kept cool while in flower, it will last for three or four weeks; guttata is prettily spotted, and lasts a fortnight in flower; candida lasts a long time in blossom. Cypripedium insigne is a nice winter flower, which keeps long in beauty. Zygopetalum Mackayi and crinitum and crinitum cœruleum are sweet-scented and showy; Lycaste Skinneri is a good winter plant, and keeps in flower a long time; Isochilus carnosiflora is neat and showy—we have a plant with 30 spikes of flowers on it; and the yellow Dendrobium chrysanthum is one of the most beautiful of Dendrobes. The above are all in flower here at the present time. *J. Williams, gr. to C. B. Warner, Esq, Hoddesdon.*

Sea Serpents and Water Spouts in the Azores.—During a trip through these beautiful islands, and that of St. Michael's, I witnessed an illusion in the shape of a sea serpent, which, but for accidental circumstances, might have deluded my senses till this very hour; at the same time I experienced what I had long desired—the phenomena attendant on an earthquake. Accustomed to rise early (about 4 o'clock in the morning), just as I was thinking to leave my pillow, I suddenly felt my bed rock to and fro, and perceived it to recede a few inches from the wall. This occurred during the shortest possible interval. There was at the time a booming distant sound, like that of cannon from a ship at a distance. Getting out of bed quickly, I went to the window, which looked on the wide expanse of the Atlantic Ocean, over which there reigned a dead calm, the surface appeared as smooth as glass; a death-like stillness filled the air, which was as motionless as the waters, and the usual noisy din of the waves lashing against the strand, was completely lulled. A single dense, dark cloud, or collection of clouds, was suspended in the atmosphere, as if acted upon by several currents. These proved to be water-spouts of different sizes; and whilst examining them, suddenly in the midst a Leviathan, which I could have sworn at the moment to be no other than the great sea serpent, reared its head out of the deep, appearing as it skimmed along the surface to be a wake of prodigious length. Whilst contemplating these wonders, which bewildered my imagination, the delusion quickly vanished; what to my eyesight seemed to be an enormous living animal, suddenly dispersed itself into sheets of water, falling in the midst of foam. The neighbouring waterspouts were broken by the concussion and disappeared; in a few minutes not a vestige of these phenomena remained. What I saw was a large waterspout, the falling spray at the summit creating the appearance of a head of a serpent. Sometimes these waterspouts glide along quickly, sometimes slowly; some rise up perpendicularly, while others take a corkscrew form. In the present case, the column of water attracted upwards was too heavy for the electric fluid to sustain higher than a certain point; and, moving in a lateral course, it bent so as to resemble the curve out of the water which would be assumed by an animal of like dimensions, keeping up the illusion until it dissolved itself into its native element. *D. S. E.*

Slate for Gardening Purposes.—I have no hesitation in saying that slate is the best material that can be used for gardening purposes, such as for plant stages, slabs for Mushroom-houses, hothouse floors, &c., in place of flags or bricks. Its chief recommendations are durability, neatness, efficiency, exemption from fungi, and from the accumulation of filth. It is a well known fact, that in houses where much humidity is required, bricks and flags often get covered with a species of fungus, the latter particularly, and to get rid of it is almost impossible, even though washing be practised every day. No such unsightly appearances occur in houses where slates are used; a rinse over now and then is all that is required, and they are clean. I am told that slate is in use at one of the principal London bridges for steps, where it has stood for more than three years without scarcely any apparent sign of wearing, even although thousands of people weekly pass over it. Nothing has been brought forward better adapted for tanks for holding water. In this point it deserves the highest praise, and will prove a lasting benefit to those who use it. It is also valuable for tubs for large Orange trees or Rhododendrons. In the conservatory here are four beautiful specimens of Rhododendron arboreum, which are upwards of 30 years of age, two of them are nearly as many feet in height, and are said to be the original seedlings from the Himalayas; they are flourishing luxuriantly in slate tubs. Slate is also extensively used in aquariums, and with good effects. It deserves the attention of every lover of horticulture. *Robert Cox, Exotic Nursery, Nov. 27.*

Burning Bees.—I have kept bees on the new plan during these last 10 years, and never wilfully destroyed one, nor do I know what would be gained by so doing. My object in keeping bees is to obtain good honey, which can only be had in boxes or glasses where the queen has no inducement to lay her eggs. The bees, when ready to swarm, are generally (I will not say always) prevented from doing so by giving them easy access to an empty glass or box in which they make the purest and best honey without any mixture of eggs, grubs, or bee bread, all of which are of course necessary in the parent hive. In these glasses or boxes I get generally as much honey from each hive as I probably should have from the hive if taken in the old way, and the bees destroyed. I find it necessary to take the boxes or glasses early, that time may be given the bees to make up their winter store, and I always give them as much food as they will take in autumn. I have no wonders to relate about the success of this plan; I have had many disappointments in bad seasons, but I do recommend it to those who prefer pure honey, as well as to the humane, who may feel unwilling to destroy the little busy workers unnecessarily. *L. C. K., Nov. 24.*

Profits of Bee Keeping (see p. 781).—The hives I use certainly do not cost anything like 10*s.* each. In good seasons they yield a fair profit without disturbing the bees, and in bad ones they pay their expenses, and cast early next spring. My plan is to have a hive 7 inches deep and a foot in diameter, with a flat wooden inch-thick top nailed on, with one or two holes cut, and covered with a piece of tin, which may be removed as soon as the hive is full, and a cap of straw or bell glass put on—an old hive does to put over the glass; or if you want them to look very neat, get a set made and nail a hoop on to the wood for the top to fit into; the cost of each hive would then be about 3*s.* 6*d.* complete. At the end of the season take off what honey may be in the cap, and if there is not enough to satisfy you, take the swarm by fumigating with the large fungus; slightly fumigate the old stock the swarm originally came from; take away one queen and put the bees altogether, there will then be no fighting, and the hives, treated in that manner, will eat less honey than a single old stock, and be earlier in swarming the following spring. Should you fancy that the bees require feeding, there will be plenty of offal honey in the discoloured parts of the comb for that purpose. Several of the cottagers have adopted my plan, and seem to approve of it. I may add ours is a very bad, late country for bees. μελισσευς.

Glazed Pots.—In consequence of the natural tendency of the rootlets of most plants to radiate from the direction of the stem, their mouths are, as is well known, found in the greatest abundance in close contact with the sides of the pots in which they are grown. The texture of garden pots is perhaps of all others the most highly conducive to the rapid evaporation of water, and we accordingly find that in a dry and warm state of the atmosphere the portion of earth nearest the sides of the pot (and that in which the spongioles of the roots are most abundant) is frequently quite dry very soon after a due application of water. Can it be desirable that the most delicate organs of nutrition should be subjected to such sudden and extreme alternations of drought and moisture, which alternations moreover involve corresponding changes of temperature? A more equable state, both as regards the temperature and moisture of the roots of potted plants might certainly be obtained by means of pots with one or both of their surfaces glazed. As regards repotting, and the facility of turning out the ball, it would perhaps be best that the glazing should be inside, and as a matter of taste I should certainly prefer the quiet unobtrusive appearance of the unglazed exterior. *J. H. Maw, Hastings.* [Why cannot double-sided pots be used?]

Wintering Salvia patens and similar plants—Let a dry day be chosen to take up the plants, and let the tops be cut off and the soil shaken from their roots. Lay them for a few days in a shed to dry, and having procured a box or old tub sufficiently large to hold the roots when packed closely, get some dry sandy peat, finely broken: a layer of the roughest of this, about an inch thick, should be laid at the bottom of the box; the roots may then be packed as closely as possible in layers, and the spaces between each filled with peat. When the box is full, give it a good shaking, and press it well down with the hands, to stop up all the cavities; finally covering the whole about 2 inches thick with the rough part of the peat. The box may then be removed to a cellar or other convenient place, secure from frost, where it may remain without any further care until the following spring. In the same manner, Fuchsias, scarlet Pelargoniums, weakly Dahlia roots, and similar plants, may be preserved through the winter. It must, however, be observed that scarlet Pelargoniums, Fuchsias, &c., will require to be taken out of the boxes much sooner in the spring than Salvia patens. *J. H.*

Heath Culture.—I have read with interest Mr. Leach's paper on this subject. Being a warm admirer of this elegant tribe of plants, I feel anxious to have the best data to successfully grow them for exhibition at our great Chiswick shows. It appears to me that Mr. Leach proposes too large a shift, and I should much like to have the opinion of some of our old growers thereon. There is also another point that I am quite at a loss to account for, viz., the rapidity of the growth of Mr. Leach's plants. He says plants raised from cuttings, with proper treatment, will make exhibition plants in three years. Now, I have only had the gratification of seeing Mr. Rucker's plants in collection once, and I must say that I did not observe a plant that Mr. Leach would think of showing at Chiswick that was not much older. At least such is

my impression, and I should like to know if such is the case; for if it is, I have certainly been treating my plants wrongly, and I know my friends must plead guilty in the same way. He certainly must be joking when he says, "After a plant has done flowering I take a pair of shears and clip it over." *A Grower.*

Weeds on Gravel Walks.—It is true that an application of salt and water, as recommended by "H" (page 782), will destroy weeds for the time, but it will be found that we have been applying an excellent stimulant for the production of a beautifully healthy future crop. This I have learned from experience. No doubt we could keep them down by frequently applying salt and water, but the question is, would this be better than at once pulling them up by the roots? For my part I prefer the latter plan, because when once walks are thoroughly clean very little labour will keep them so. *J. L. M. Tolmers, Nov. 28.* [So do we.]

Grafting Pelargoniums.—When I was cutting down my Pelargoniums this season, it occurred to me that they might be grafted on each other, and that I might have a variety of flowers on one plant; accordingly I selected a young plant of Alexandrina with an upright stem breaking into two branches, one of which I cut off and put a cutting of Duchess of Leinster in its place; and although my first attempt at grafting, I have been most successful. I think the white and scarlet flowers on the same plant must be very pretty. Is it anything new? *R. W. R.* [No; grafted Pelargoniums were shown by Mr. Ansell at a meeting of the Horticultural Society many years ago.]

Arboriculture (*Criticism on Brown's "Forester," page* 119).—The plantation was 12 years planted; the average height of Oaks from 5 to 8 feet, on an estate in Mid-Lothian; and on the estate of G. S. Stodart, Esq., in Tweeddale, Oaks, only seven years planted, are 10 feet high. This superiority Mr. Cree attributes to the effect of management. I am of opinion a more genial climate and soil have more to do with the matter than management, as it appears nothing had been done in the plantation mentioned in the "Forester," and little could have been done in the other. I practise the system of pruning close to the stem, beginning with trees from 5 to 8 feet high, and I have as healthy trees at 24 feet in height as Mr. Cree's, with shortening the branches previous to pruning at the same height; and it is more judicious to prune while you have the Firs for shelter; for Oaks, at 24 feet in height, must be nearly deprived of shelter except from themselves. To have Oaks, with clean stems from 40 to 60 feet in height, pruning must be carried on for a long time. The amputation of large branches is, I consider, detrimental to the health of trees. I can assure Mr. Cree that members of the crooked family are not the least valuable trees. *John Blackhall, The Burn.*

British Wine Making.—Allow me to protest against your *dictum*, to the effect that no British wine can be made worthy of esteem. I admit, however, that if no better directions can be given than those of using moist sugar (instead of lump), and after only a fortnight's fermentation putting the strained must into a cask, and keeping it there bunged down for a twelvemonth, that the result would be pretty much what you indicate. I have already given in your Paper my notion of how British wine worthy of esteem may be made, and so long as foreign wine cannot be bought under from 2*s.* to 5*s.*, or more, per bottle, and British wine can be made for 6*d.*, in addition to the labour, so long will persons of small means try to produce a palatable, wholesome wine. I believe that the great difference between British and foreign wine arises from this, that the latter is made and kept in very large quantities; a large capital is thus at stake, and receives great attention. British wine will be well made if a moderate degree of science and readiness in the use of the thermometer and saccharometer be brought in aid of the process. Allow me to recommend your correspondent to read in the following order, "Cyrus Redding's Description of Wine," his "Every Man his own Butler," "M'Culloch on Wine making," and lastly, as a text book, the last edition of "Roberts on Wine-making," which he must buy and keep by him. But if his cellar will not maintain a temperature under 60° all the year round, he will have no easy matter to attenuate the wine sufficiently in the winter to prevent an excessive and injurious secondary fermentation in the summer. *George P. Hester, Oxford, Nov. 20.*

Clematis montana.—A plant of great extent covers part of the abbey wall which encloses the south side of the botanic garden at Bury St. Edmund's. It flowers abundantly, but has hitherto not produced seed; at Thurston, within five miles of Bury, I have collected a quantity of seed, which vegetates freely. In this, the usual way of increasing, this desirable climber might be introduced with Clematis Vitalba (the Traveller's Joy), which at this season adds so much to the beauty of our sylvan scenery. *N. S. H.*

Pond Weeds.—Last summer my employer was annoyed by a large pond in the park becoming covered with Duckweed, and desired me to get rid of it. I first tried garden rakes, then long Birch brooms, but to no purpose. I then procured an old duck with eight young ones, and put them in the pond; gave them nothing to eat, and in about six weeks the pond was clear of weeds, and not one has been seen on it since. Of course, the ducks are allowed to remain in the pond, and food given them to eat. *A. S., Sussex.*

The Viper Question.—I am induced to relate a fact which came under my observation a few years since. Being much annoyed by what are called asks or newts, I one day observed something protruding from the mouth of a large one in a shed, and disturbing it I found it to be the tail of a small one, which it immediately ejected out of its mouth. *T.*—You were quite right in stating that "Medicus" had not put this question correctly. I am not aware that any of your correspondents stated that the young viper might enter the oviduct of the mother. When I proposed, in a former communication on this subject, that the female viper should be examined, to discover whether the young were in the stomach or the oviduct, it was under the supposition that observers might have been mistaken in assuming that the young had gone down the throat, because they had found unborn reptiles in the body, and had not distinguished whether they were in the oviduct or the stomach. If live vipers are found in the stomach, then this really interesting question in natural history is set at rest. No proof has yet been adduced that such is the case, and therefore naturalists may be permitted, I presume, to remain sceptical, and doubt, as they do, whether the sea-serpent is a reptile, a fish, or a mammal. No one denies that Captain M'Quhae saw what he has described: naturalists merely hesitate to accept the correctness of his classification, and I think it is a very reasonable thing to doubt the existence of a land-breathing animal in the deep sea. It may be an eel, or, as Mr. Owen has suggested, a seal; it is not very likely to have been a reptile, and it is somewhat singular that "Medicus," who in his first communication criticises the doubts of naturalists who do not believe all that is said to have been seen, should in his second, in his answer to Mr. Wilkins, have ridiculed the supposed seen sea-serpent. "Medicus" has also, I think assumed too much, when he asserts that the gastric juice of the stomach will not act upon living animals. It certainly would have been a strange anomaly in nature if the living secreting organ should have destroyed itself, but not at all strange that it should, as it undoubtedly would very speedily, destroy a living animal introduced into the stomach.* Then again, what have cuckoos carrying their eggs, or toads hatching their young, or kangaroos concealing their young in a pouch external to the body, to do with the question of a young viper running for protection down its mother's throat? Mr. Newman, in that excellent periodical the "Zoologist," for October, has remarked that the observers of this supposed fact were not naturalists. The observers again have retorted that the sceptics are fireside naturalists, and have applied this remark to one of the most industrious and zealous naturalists, and one of the most amiable and eminent scientific men of the present day—Prof. Henslow! Now, whichever party is right, we ought in the best possible humour to endeavour to prove the fact. Mr. Owen says it is possible; Mr. Newman says such a thing has been observed in a lizard by Mr. Doubleday, who is a first-rate naturalist. Pennant and Goldsmith believed it, and many observers are quite confident they have seen it. The argument, I grant, is rather against the sceptics; but notwithstanding, until a veritable live viper has been taken out of its mother's stomach, I for one must consider the fact as "not proven." *C. R. Bree, Stowmarket.*

Hedgehogs.—I would be glad of some information respecting the habits of the hedgehog. I bait traps with meat for jackdaws and have caught five hedgehogs, which leads me to imagine these animals are partly carnivorous. As we have many of them here I would like to find out whether they do much damage, or any, to gardens, as being much plagued with rabbits it is impossible for me to ascertain. *A Subscriber, Lefton.*

Vinegar.—Several of the poor in this neighbourhood are in the habit of making excellent vinegar from refuse tea-leaves. I can get at no definite receipts. It appears that the leaves, every morning after use, are put into a mug kept for the purpose, and hot water added. After a certain period they are taken out and squeezed, and the infusion or decoction is mixed with weak sugar and water and then fermented. The vinegar is excellent, and I should recommend any of your subscribers who have the time and means to experimentalise on the leaves. An immense saving would accrue to the poor could a good vinegar be manufactured from what is apparently an useless article, at as a cheap a rate as I have every reason to think it might. *H.*

Alkali Works.—"Peor es meneallo." I venture to put an "Alkali Manufacturer" in mind of this old but apposite saying of Cervantes. The manufacturer informs us "that there are no acrid vapours poured forth by alkali works that can damage timber or crops." Here he must be napping; for shortly after he tells us "that there has not been for a very long time a single real case of damage that was fairly claimed for, that was not as fairly and fully compensated." Here then, he acknowledges both damage and reparation. Again, further on he says, "we have, of course, been liable to [illegible]

* Living matter, or a live animal, will undoubtedly resist the action of the gastric juice longer than the same thing when dead; but the gastric juice or the vital action of the stomach will be certain of accomplishing its end. Frogs will live for a year or more excluded from all air, but they are frequently swallowed alive by birds and fish. If the stomach did not digest them they would pass through the intestinal canal alive, for the mere exclusion of air in the alimentary tube would not destroy them. The Greenland whale has no teeth, and lives entirely upon small mollusks and medusæ, which it swallows alive, and the whale has no mechanical means, like the gizzard of the bird, to crush its food. The fact that living things, which would remain alive for a long time in a simple cavity like the stomach, excluded from all air, are digested, is sufficient proof that the vital action of the organ is quite sufficient for the immediate destruction of life. I would not give two hours' purchase for the life of a viper in the stomach of its maternity.

without pain. Among the medical cases, amounting to 46, we find cures of palsy, chronic rheumatism, lock-jaw ("after the most active medical treatment had been of no use"), convulsions, acute inflammation of the eye ("after the second trance the inflammation was extinguished"), lumbago, sciatica, tic doloureux. The Government mesmeric hospital at Calcutta was opened for a year as an experiment, and by the entreaty of my brother. The advantages conferred by it have been so many that the natives petitioned for its continuance, and it is now supported by their contributions, and the patronage of the Government. I have said enough to make reasonable men anxious to know something of mesmerism; and however absurdly it may be advocated by itinerant lecturers, I trust Mr. Waterton will now acknowledge that it is something more than "an unsound, uncertain, unsatisfactory exhibition." *David Esdaile, Manse of Roseisle, Forfar.* [We could not in either courtesy or justice refuse insertion to this letter; but as mesmerism is not within our province, we must here bid it farewell.]

Review.

The Florist. Vol. I. 8vo. Chapman and Hall.

A PRETTIER Christmas present than this could hardly be made to those who are fond of gardens. It is beautifully got up, and contains capital papers upon florists' matters. We have always mentioned it with praise, and we can only now add, that whatever claim it had in the beginning to public favour is much increased by the continued excellence of its contents.

Calendar of Operations.

(For the ensuing Week.)

CONSERVATORY AND GREENHOUSE.

"MAINTAIN a circulation of air if possible" is a trite recommendation, but still one that is worth keeping in mind and putting in force on all occasions. The fragile things in blossom at this season of the year are more injured by moist stagnant air than by a cold dry atmosphere; in short, in this climate, at this season of the year, one of the most essential points of practice is to combat the all pervading, all influencing atmospheric humidity; that structure is imperfect which is unprovided with means of admitting air continuously day and night without detriment to the plants, and that system is assuredly injudicious which would habitually and nightly confine a number of breathing active plants within the limited space of a greenhouse almost hermetically closed. Blossoming plants, such as Cytisus, Plumbago rosea, Euphorbia, should have a little stimulating assistance from weak guano-water, but unless decidedly active, plants should be very carefully watered at this season.

FRUIT FORCING.

Pines.—The arrangements of the stock of succession Pines should be effected as soon as an adequate quantity of leaves have been supplied to the pit after the completion of the beds of plunging and fermenting materials, the temperature should be closely watched. The excitement of excessive heat would prove highly injurious to the young stock. Abundance of air for the first few weeks will be essential to carry off the unwholesome humidity generated by the recently introduced fermenting materials. Water will only be required by fruiting plants, and that in a limited degree.

Vineries.—The gentle and equable temperature contributed by a body of leaves in the pits of the early houses, may be considered as entirely suitable for producing the primary excitement in the Vines. The congenial humidity constantly evaporated supplies that essential agency to the healthy development of the buds in an adequate, but not excessive degree. The atmosphere of a Mushroom-house is not required by Vines in an early stage of their growth. Atmospheric moisture requires a good deal of management throughout the period of the forcing season. Clear away old rotten linings from Melon and Cucumber pits, and expose the haunts of woodlice. If very numerous and obnoxious, employ boiling water for their extirpation, and for those which escape two or three resident toads. Point the brickwork, and clean and whitewash internally.

FLOWER GARDEN AND SHRUBBERIES.

At this season of the year a little labour will secure a valuable supply of material for enriching the flower beds and borders. Leaves are everywhere at hand; they should be sedulously collected and stacked in some out-of-the-way place, with a mixture of road sand or light soil, rotten sticks, and decaying vegetable matter, and left to ferment; in a season or two a most valuable compost will be the result, especially suitable for many of the shrubs and plants which decorate our gardens, whose original position was probably near some primeval forest, the ever accumulating leaves of which would naturally give a character to the surrounding soil, and encourage the propagation of Rhododendrons, Azaleas, Magnolias, &c. If one tribe of plants more than another deserve attention and care, surely Roses should claim that distinction. We have now in the open garden Bourbon, Perpetual, and China Roses in blossom; and should mild weather ensue, the promise of buds will enable us to cull a bouquet at Christmas! The roots of these Roses so determinedly active being excited, must be liable to injury from frost; ensure their safety by a covering of moss or ashes.

FLORISTS' FLOWERS.

Preparatory to severe weather it will ve very desirable to go carefully over the stock of Carnations and Picotees; they ought now to be fairly established, and as it will be very likely that some of the lower leaves of those last potted may be withered or mildewed, and as these do no good either to the plants themselves or to the collection with which they may be associated, it will be necessary that they should be removed. This is best done with a small pair of sharp-pointed scissors, after which should any dirt or other extraneous substance be lodged in the axils of the other leaves, it must also be carefully cleaned away. The surface soil should be stirred, and a constant circulation of air kept up amongst the plants, in all weather, except severe frosts. To accomplish this, the frames ought to have sliding doors at the back and front, by which means a current of air can always be obtained, even with the lights closed; damp, and an excess of rain are to be especially guarded against. As for Pinks, they are more robust than the Carnation; those on beds will require but little attention if well established. Where rabbits are likely to attack them give a top-dressing of soot: this is a great preventative. Auriculas and Polyanthuses in frames require but very little water, with the simple attention of removing decayed leaves, &c. Store away Dahlia roots; do not attach the name or number with string or bast mat; use metallic wire if the proper tally is expected to be retained to each root.

KITCHEN GARDEN AND ORCHARD.

The occupation of the ground by crops suitable as food for a variety of insects, in the course of a series of years, brings a vast amount of such depredators into a garden. The invention of methods for their extirpation often taxes the ingenuity of a gardener to a considerable extent. The analogy existing between insect and vegetable life restricts the choice of means; for that substance which may be provided for the destruction of one may injuriously affect the health of the other: hence the necessity of caution in the use of materials. There is, however, one substance not open to any objection, which may now be used with advantage in land from whence the crop has been removed, viz., lime. Ground cropped the preceding season with Carrots, Parsnips, or Potatoes, and found (as is frequently the case at this time) infested with insects, should have a good dressing of lime dug in; or, if that cannot be afforded, the soil should be turned up in ridges for the winter. Such an exposure will benefit the land, if at all stiff, and cause the destruction of many insects. Birds are the natural enemies of grubs: the services of a few rooks, or sea-gulls, where they can be secured, would be found of no inconsiderable value. Take the opportunity of dry days to tie advancing Endive, to bleach; examine young Lettuces frequently, and dust with lime or soot, to check the devastation of slugs. the stock of leaves should be variously distributed amongst those things requiring protection. Globe Artichokes especially should be thought of; a reserve of leaves should be held still for Seakale covering, linings, &c.; in fact, a good heap of leaves is one of the requisites of a kitchen garden. The various operations of trenching, repairing fruit borders by the addition of new soil, draining, and general digging, should all be in progress. As this is the season alterations in estates are generally in progress, the opportunity of collecting soil or material suitable for storing for the garden may be offered. Turf, road sand, brick rubbish, are each valuable, and the chance of making a reserve of such things should be eagerly taken. Proceed with the planting and pruning of fruit trees, that is to say, Currant, Gooseberry, Raspberry, Apple, some Pears, Peaches, and Plums.

State of the weather near London, for the week ending Nov. 30, 1848, as observed at the Horticultural Garden, Chiswick.

Nov.		Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. ..	24	28	29.763	29.391	45	22	33.5	N.	.00
Satur..	25	0	30.084	29.925	48	40	44.0	S.	.65
Sun. ..	26	1	29.869	24.806	55	43	49.0	S.W.	.28
Mon..	27	2	30.078	29.772	51	41	46.0	W.	.00
Tues..	28	3	30.090	29.962	54	46	50.0	S.W.	.10
Wed..	29	4	29.919	29.743	55	38	46.5	S.W.	.12
Thurs.	30	5	29.893	29.713	48	30	39.0	S.W.	.01
Average.			29.956	29.761	50.3	37.1	44.0		0.56

Nov. 24—Cloudy; clear and very fine; frosty at night.
— 25—Frosty; overcast; rain at night.
— 26—Overcast; cloudy; rain.
— 27—Overcast; very fine; overcast.
— 28—Overcast; cloudy; overcast, and boisterous at night.
— 29—Densely overcast; boisterous, with rain at night.
— 30—Clear; densely clouded; overcast.
Mean temperature of the week, 2 deg. above the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending Dec. 9, 1848.

Dec.		Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun.	3	48.6	37.0	42.8	10	0.17 in.	1	2	2	1	2	7	7	1
Mon.	4	49.7	36.8	42.7	10	0.23	3	2	—	2	3	7	4	1
Tues.	5	46.3	35.1	40.7	11	0.12	—	1	1	1	1	7	7	4
Wed.	6	46.3	35.2	40.7	14	0.17	1	1	1	1	3	9	5	1
Thurs.	7	46.8	36.4	41.6	14	0.01	2	1	2	1	4	4	5	3
Fri	8	45.1	34.1	39.6	12	0.16	1	3	2	—	2	6	7	1
Satur.	9	46.6	35.9	41.2	10	0.03	2	4	1	1	1	8	4	1

The highest temperature during the above period occurred on the 3d and 4th, 1847, therm. 57 deg.; and the lowest on the 5th and 6th, 1844—therm. 14 deg.

Notices to Correspondents.

APPLES: *P J H D* wishes to know the names of varieties of Apples that, "when cooked, will retain their form and become transparent." Good cooks or confectioners will be the best authorities to consult on this point; and, subject to their decision, we shall merely propose the Nonsuch, Dumelow's Seedling, Northern Greening, Rymer, and Easter Pippin.‖

BEES: Will *Cella* favour us with his address, as we cannot understand the statement he has favoured us with.

BOOKS: *Clericus.* Lyon's book "On the Management of Orchids," will perhaps suit you. Our limited space, we regret to state, precludes us from giving such long lists as you require. We understand that a descriptive list of 50 Orchids will be given in the next number of the Horticultural Society's Journal, which will be published on the 1st of January.‡

BURIED ALIVE TWO THOUSAND YEARS: *Lady C.* "Lord Lindsay, in his Travels, writes, that while wandering amid the pyramids of Egypt, he stumbled on a mummy, proved by its hieroglyphics to be at least 2000 years of age. In examining the mummy after it was unwrapped, he found in one of its closed hands a tuberous or bulbous root. He was interested in the question how long vegetable life could last, and he therefore took that tuberous root from the mummy's hand, planted it in a sunny soil, allowed the rains and dews of heaven to descend upon it, and in the course of a few weeks, to his astonishment and joy, the root burst forth and bloomed into a beautiful Dahlia." Thus is it written in a London newspaper!! We do not dispute the fact—very likely the root produced a Dahlia; but as the Dahlia comes from Mexico, and as Mexico has not been known to Europeans *quite* 2000 years, we would humbly suggest that there may be some small doubt whether the Dahlia was put into the mummy's hand when it was embalmed, or when it was unpacked.

CONSERVATIVE WALL: *A Sub.* Next week.—*X Y.* Magnolia grandiflora, Ceanothus thyrsiflorus, Pyracantha, and Spiræa Reevesiana, will perhaps suit you.‡

ESPALIERS FOR GOOSEBERRIES AND CURRANTS: *R P.* Having stout posts at each end, and Ash stakes at every 6 feet, horizontal wires, well strained, at 9 inches apart, will be sufficient. We should recommend galvanised iron wire of one-eighth of an inch. The cost will be trifling; you may ascertain exactly by applying to Mr. Fox, 63, Snow-hill, who, it appears by his advertisement, employs galvanised wire for wire-work netting.‖—*Amicus.* For fruit trees, espaliers 7 feet high will better resist the wind than those of greater height. Iron would last longest, and might perhaps be cheapest in end; but wood is better for the health of the trees. Therefore you would best get wooden posts, felled in autumn; deprive them of their bark, heat their lower ends as much as you possibly can without actually charring them, and in that state plunge them in boiling pitch. Fix these, and strips of deal will answer for training upon. The volumes of the *Chronicle*, and descriptive fruit catalogues, will enable you to select proper sorts for planting.‖

FRUIT-TREES: *Cortmel.* The London nurserymen can supply the true Oldaker's St. Peter's Grape. If correct, the leaves will die off purple. If you paint your fruit trees over with a mixture of lime and soot in winter, it will greatly tend to render them free from insects next season.‖

GLAZING: *H B.* All such prices are the subject of private bargain, and depend upon special circumstances. Probably 1½*d.* a foot would be fair. No good instrument of real value can be had for the price you name. For 3*l.* or 4*l.* you may obtain an excellent Ellis. At your price you must be contented with a pocket lens. Guinea microscopes are toys, and nothing more.

GRAPES IN POTS: *A Sub* asks some of our readers to oblige him with the result of their experience of growing Vines in pots, as compared with the old system of planting them in borders outside the house. 1. Are they as productive in quantity and size? 2. Are they equal in quality? 3. What size of pots should be used for the purpose? 4. What is the best treatise on the subject? "I have it in contemplation," he adds, "to erect a house which is intended for Pines and general forcing; the situation is rather unfavourable for planting Vines outside (being much exposed), and I wish to ascertain if I could with advantage include the cultivation of Vines in pots in the same house?"

INSECTS: *E K.* There is no other relation between crickets and cockroaches than results from both species taking up their abode in the same place, where they can obtain warmth and food. See Gilbert White's "History of Selborne." *W.*

KITCHEN GARDEN: *E G.* Much obliged for the suggestion, which will be adopted next week.

LAW QUESTIONS: *W G.* We never answer such enquiries; if, however, there is nothing special in the case, B has a right to cut off A's branches, and to gather the fruit which grows upon them.

NAMES OF FRUITS: *M.* 4, Moorfowl Egg; 5, Beurré d' Aremberg; 6, Colmar; 7, Beurré Rance; 8, Aston Town; 9, 23, St. Germain; 12, 36, Brown Beurré; 13, 37, Glout Morceau; 14, Uvedale's St Germain; 15, Duchesse d'Angoulême; 16, Crassane; 17, Seckel; 18, Chaumontel; 19, Brown Beurré; 21, White Doyenné; 24, Virgouleuse; 30, Grey Doyenné; 33, 45, Easter Beurré; 41, Marie Louise; 35, Marmalade Pippin; 97, London Pippin; 50, Keswick Codlin.‖—*Pyrus.* No. 1 appears to be Knight's Monarch, delicious; 2, Ormskirk Bergamot ‖—*T M W.* No. 3, Burr Knot; the others are not known.—*G D.* Your seedling Apple is only fit for kitchen use ‖

NAMES OF PLANTS; *J de J.* Plants received, damaged in carriage; will mention them next week. Both parcels have come.—*S E N.* 4, Verbena officinalis; 1, Plantago Psyllium, is this really British? 3, Conyza squarrosa; 5, Lotus angustissimus; 2, Illecebrum verticillatum.—*Liboralis.* The New Zealand name of Clianthus puniceus is said to be Kowaingutukaka. The Tree Rose is the Rosa villosa of Linnæus. It is not so good a stock as the strong shoots of R. canina and its varieties.—*R M W.* Your pretty dove-coloured Mushroom is Agaricus nudus.—*J N.* Apparently a bit of Pleroma heteromalla.—*J D.* The leaf has no more resemblance to a Dracophyllum than a horse to a magpie. It cannot be named, further than that it is some Endogen.—*Anon.* Euonymus europæus.—*M D.* Thunbergia coccinea.—*W V.* A Dodonæa, the ugliest of shrubs—tender, and of no kind of value.—*Zeta.* Polygala Chamæbuxus.

POTATOES: *T J and Sons.* We will answer you when we have tasted them.

PRUNING: *Inquirer.* When small branches die or begin to die it is better to remove them with the knife, so as to have a clean wound rather than a ragged one. We see no use in shortening Larch branches, unless it is done very moderately, in order to keep them within compass; then, and if done skilfully, it enables the trees to make timber quicker than they would if the branches were removed. It is true that roots must, to some extent, be injured in transplanting, unless they have been confined in a pot; and it is also true that where they are extensively injured the head of a tree must be also reduced; but it requires experience to know when this becomes necessary. When trees are young it never need be done, if the trees are carefully taken out of the ground.

SAND: *J M R.* Gardeners always prefer *white* sand; but we know not why. Red sand, washed till all the colouring matter that will dissolve is removed, will, we presume, answer the same purpose. In general, sand is chiefly useful as a loosener of soil. Red sand is coloured by iron.

STRAWBERRIES: *G F.* You must not force your Strawberries too fast, or they will come what is termed "blind," and you will have no fruit. The Strawberry will not submit to much forcing, especially in its early state, without failure. Cold nights, a free circulation of air, plenty of light, and a gradually increasing temperature, beginning as low as a day in the beginning of April, will alone insure success. But to understand the matter perfectly, you should read the article at p. 235 of our volume for 1847.‡

VINES: *X Y.* You may grow in your greenhouse the Black Hamburgh, Black Prince, White Sweetwater, and Royal Muscadine.‡

WORMS: *Grass.* Your receipt for killing worms on lawns, &c. (2 oz. of corrosive sublimate dissolved in a large quantity of water), is efficacious, and will not kill the Grass, but it will kill other things and injure the Grass, although not permanently. Why not use lime water, which does just as well and does no harm.

MISC: *S N.* We could not give the Registrar General's meteorological tables without occupying space demanded by other things; nor is it necessary, seeing that we give our own returns of weather every week.—*X Y.* Read Solly's "Rural Chemistry" and Thomson's "School Chemistry," and buy a little cheap apparatus to study them by; any chemical apparatus maker will set you up. Botany can ill be pursued in the winter, excepting the part called vegetable physiology. Study the "Theory of Horticulture," which is in fact a physiological treatise.—*W D.* Raise your Rhododendron and Conifer seeds in shallow pans in gentle heat. Lay down your composition walks in spring, after all danger is over of their being uplifted by frost, before they are set.‡—*J C X.* Salix alba cærulea may be had of all nurserymen.—*Anon.* The waterproof material prepared by Mr. Yexley, of Merton Surrey, will possibly suit you.‡

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.—PROFESSOR SIMONDS, Lecturer on Cattle Pathology in the Royal Veterinary College, has kindly consented to deliver TWO LECTURES before the Members of the Society, at their Rooms in Hanover-square, on the occasion of their ensuing December General Meeting, on the following subjects:

I. On the anatomical structure and functions of the skin in domesticated animals: on Wednesday, the 6th of December, at 9 o'clock in the evening.

II. On the diseases of the skin in domesticated animals, with particular reference to the nature and treatment of the small-pox in sheep: on Thursday, the 7th of December, at 9 o'clock in the evening.

These Lectures will be illustrated by diagrams and coloured drawings on a large scale, and by anatomical preparations exhibited under the power of the microscope.

The General Meeting of the Members will be held on Saturday, the 9th of December, at 11 o'clock in the forenoon.

By order of the Council,

London, Dec. 2. JAMES HUDSON, Secretary.

SMITHFIELD CLUB, 1848, CATTLE SHOW.—THE ANNUAL EXHIBITION OF PRIZE CATTLE, Seeds, Roots, Implements, &c., 6th, 7th, 8th, and 9th of December, Bazaar, King-street, Portman-square. The arrangements are marked by the usual attention to the general comfort of visitors, thereby enabling Ladies to view this National Exhibition with perfect facility. Open from daylight till 9 o'clock in the evening. Admittance, 1s.

IMPORTANT TO LANDOWNERS.—An Act of Incorporation having been obtained by "THE LANDOWNERS' WEST OF ENGLAND AND SOUTH WALES LAND DRAINAGE AND INCLOSURE COMPANY," affording Owners of limited Interests in Land the means of Draining, Irrigating, Enclosing, Erecting Buildings of a permanent nature on, and otherwise improving their Lands, and giving such Landowners of limited Interests the power to charge the inheritance with the value of the outlay in either of the following ways, viz.: By charging the value on the Inheritance absolutely, or to be repayable by 25 Annual Instalments of 6l. 10s. per cent. per annum. This Company is now ready to receive applications for work to be performed under any of the provisions of their Act of Parliament, or on contract as heretofore; and from the extensive operations already in hand, they request parties wishing to avail themselves of the benefits of the Act to make early application. For all further particulars, apply to THOMAS MAY, Secretary, 9, Bedford Circus, Exeter.

HYDRAULIC ENGINES.

J. LEGG begs to return thanks to his patrons and friends, and also to inform them that he continues to erect his improved Hydraulic Engines, Water Ram, &c., suitable for all situations where a fall can be obtained, also Engines for Deep Wells. J. L. also begs to inform his friends that he has made several improvements on his Hydraulic Machines, and flatters himself that he is able to complete with any parties of the present day in the construction of the above machines.

Apply to JOHN LEGG, Cheltenham.

The Agricultural Gazette.

SATURDAY, DECEMBER, 2, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

TUESDAY,	Dec.	5—Agricultural Society of England.
WEDNESDAY,	—	6—Smithfield Club Cattle Show.
THURSDAY,	—	7—Agricultural Inst. Society of Ireland.
TUESDAY,	—	12—Agricultural Society of England.
THURSDAY,	—	14—Agricultural Inst. Society of Ireland.

FARMERS' CLUBS.—Dec. 2: Newcastle, Durham, Melrose.—Dec. 4: Yoxford, Claydon.—Dec. 6: St. Austell, London, Tavistock.—Dec. 7: Carlton-on-Trent.—Dec. 8: Hailesworth, Wakefield.—Dec. 9: Reading, E. Kent.—Dec. 11 W. Market, W. Hereford.—Dec. 13: Harleston.

AGRICULTURAL IMPLEMENT MAKERS, Corn, Hop, Malt, and Seed Merchants, would do well to be cautious how they execute orders received from certain parties in Liverpool, Manchester, and their neighbourhoods. We know of two or three organised gangs in these places, composed of a set of lazy, penniless fellows, living upon their wits, who order goods of the above kinds; they refer to each other, and when they succeed in making a victim, they immediately sacrifice the goods at an auction, or hand them over to the pawnbroker. One of the fellows we know has used four different names and four different addresses; another has used six or seven names and as many addresses. We shall shortly, we hope, be able to give further particulars of their doings, and for the present would advise our friends receiving suspicious orders to communicate immediately with some of the Guardian Societies whose names we insert below.

The City of London Trade Protection Society, Charlotte-row, Mansion-house, London, E. J. LEWIS, Esq. Secretary.

The London Merchants and Traders' Association, 101, Wood-street, Cheapside, London, T. S. MORGAN Esq., Secretary.

Society of Mutual Communication for Protection of Trade, 32, Sackville-street, London, J. T. SLYMOUR, Esq., Secretary.

Liverpool Guardian Society, J. READ, Esq., Secretary.

Birmingham Guardian Society, S. HEMMING, Esq, Secretary.

Manchester Guardian Society, S. E. COTTAM, Esq, Secretary.

Bristol Guardian Society, Messrs. BARNARD and THOMAS, Secretaries.

Greenwich Tradesmen's Protection Society, C. M. TALMAGE, Esq, Secretary.

Hastings Guardian Society, C. J. WOMERSLEY, Esq., Secretary.

Brighton Society of Guardians, E. EVERSHED, Esq., Secretary.

Hull Guardian Society, ROBERT WELLS, Esq, Secretary.

Preston Guardian Society, Mr. JAMES CARR, Secretary.

Bath Guardian Society, C. G. MAYLER, Esq, Secretary.

Leed Merchants and Traders' Association for the Protection of Trade, 8, Park-row, Leeds, Mr. M. JOHNSON, Secretary

Dublin Guardian Society, THEODORE CRONHELMN, Esq., Secretary.

Glasgow Guardian Society, 24, Gordon-street, Glasgow, ROBERT BAIRD, jun, Esq., Secretary.

These Societies are willing to assist the business of the farmer as well as that of the tradesman, and we hope that they will be supported and *made use* of by agriculturists more generally than they now are. Every one knows that there is need enough for assistance of this kind. No business is more liable to mischief by rogues than theirs. There is opportunity enough and simplicity enough on the one side, and there is dexterity enough and unscrupulousness enough on the other for an extensive trade in knavery; and we hope that this notice may induce greater caution by farmers in their dealings with unknown correspondents.

THE METHODS OF FEEDING CATTLE are at least as important as those of housing them. If the latter determine the profit of the process negotively by limiting the waste from cold and disease, the former will determine it positively by furnishing the material in which all the particles of the future beef or mutton exist, and out of which the frame of the ox or sheep must be constructed.

The great advantage of the practice more lately in general adoption is its ability to bring the dry fodder of the farm into a more nourishing, digestible, and savoury form. At a very little expense an ox may be kept during the winter in excellent "store," and even improving, condition, on very little more than straw. To steam the chaff into which it has been cut, or, what is better, to scald it with salt hot water confers a freshness and savour which will induce its consumption in quantity sufficient to nourish. And if, as should be done, about half a pound of Linseed be boiled in every bucketful of the water the food will be greatly improved by a very slight addition of expense.

The use of Linseed thus, or in the larger quantities required along with other food for fattening cattle, has been chiefly owing the exertions of Mr. WARNES, of Trimingham, Norfolk, who, at a period of considerable politico-agricultural excitement, adroitly made use of the feeling in favour of "British produce," to induce the really useful exchange of the home-grown Linseed and other meal for the imported oilcake. We do not know that less oilcake is imported now than formerly, but we are very sure that more of other cattle food grown at home is in use, and that the demand for, and price of the imported oilcake would have been greatly increased now, had it not been for the labour of Mr. WARNES and others then. They showed the superiority of the whole and genuine seed to the mere husks of all the rubbish that passes through the foreign oil mills, and they had the merit also of devising convenient methods of using the food which they recommended.

As an instance of the mode in which Linseed to furnish the fat, and Bean or other meal to furnish the flesh giving parts of food, may be used in cattle-feeding, we may refer to our own experience. We are now using about 1½ cwt. of Bean-meal and half a cwt. of Linseed meal daily in feeding 42 head of cattle. This quantity of Linseed is boiled in salt-water sufficient to thoroughly wet about 100 bushels of straw chaff. It forms a thin somewhat mucilaginous soup. After the chaff has been thus wetted, the Bean-meal is dusted over it, and the whole is thrown into a heap and beaten down in order to become well sodden in the nutritive liquor that has been used. The cattle receive about half a cwt. of cut Swedish Turnips as the first thing in the morning—a bushel basket full of the compound at 10 A.M., another half cwt. of the Swedes in the afternoon, and another bushel of the chaff at night; and they are thriving well.

And we may refer to the experience of others on this point. Mr. T. K. SHORT, in the pamphlet on Flax referred to last week, mentions many methods of using the seed. We extract the following:

"*For Cattle.*—1. Boil 150 lbs. of water in a copper; stir in 21 lbs. of Linseed meal; then add 63 lbs. of crushed Barley or Wheat (stir it well); take out the compound, and mix it in tubs, pressing it down solid; it is then ready for use. Beans and Peas require double the quantity of water.

"2. Place eight pails of Potatoes in a copper, and one pail of water; the steam will speedily cook them; crush them in a trough with a portion of Linseed meal; then beat them down in a tub. This will be found one of the cheapest and best compounds that can be made.

"3. Into a copper place six pails of water, and let it boil; sprinkle into the water one pail of Linseed meal, another person stirring the mucilage. In five minutes, the mucilage being formed, a tub is placed near the copper; throw into the tub a bushel of Turnip tops, chaff, or cut straw, upon which pour three or four quarts of mucilage—stir with a manure fork—other Turnip tops and mucilage are then added, and well incorporated. It is then pressed down as firmly as possible, and covered with a thick cloth or cover. In three hours the straw will have absorbed the mucilage, and the Turnip tops become partially cooked. The compound is then ready for use.

"In some seasons it is more profitable to use Wheat for cattle, particularly the small corn, than to offer it for sale. Mr. WARNES, of Trimingham, to whom the public are indebted for the system of compound and box feeding, prepares his Wheat in the following manner: Steep the Wheat 24 hours, then take it out of the steep, and allow it to sprout, which it will do in two or three days, it is then put through the crushing mill. Three pails of Wheat are put into the boiling cauldron, containing seven pails of water, it is then well stirred, and one pail of crushed Linseed sprinkled into the cauldron. A layer of cut chaff or Cavers is put into a half hogshead, and three or four quarts of boiling mucilage poured over it; it is then well stirred and pressed down, and the same repeated until the cauldron is emptied.

"*For Sheep.*—Let a quantity of Linseed be reduced to fine meal, and Barley to the consistency of a water, in the crushing mill, put the proper quantity of water into the cauldron, and as soon as it boils, *not before*, stir in 21 lbs. of Linseed meal; continue to stir it for about five minutes, then let 63 lbs. of crushed Barley be sprinkled by the hand of one person upon the boiling mucilage, while another rapidly stirs and frames it in. After the whole has been carefully incorporated, which will not occupy more than five or ten minutes, cover it down and throw on the furnace door; then proceed to fresh fire, put it out. The mess will continue to steam from the heat of the cauldron till the Barley has absorbed the mucilage, when the kernels will have assumed nearly their original shape, and may easily be compared to little oil cakes, which, when cold, will be devoured with great avidity."

We do not like these plans whose object it is merely to "dress" these nutritive seeds as food: the object should be by means of them to increase the consumption of the less savoury descriptions of cattle food provided on the farm: and the former, therefore, taken from among those referred to in Mr. HARKNESS's pamphlet* on this subject is far preferable.

"The following is the compound used by Mr. MARSHALL for each beast per day, which is prepared in the following way and proportions:—2 lbs. of bruised Linseed is boiled in 3 gallons of water upwards of two hours, and 5 lbs. of Oats, Beans, or Barley, ground fine, is mixed up with 10 lbs. of chaff or cut straw. The straw or chaff, 10 lbs. weight to each beast, is laid upon a clean floor, and 5 lbs. of the Bean, Barley, or Oat meal is mixed well with it, when the Linseed liquor is equally poured upon the mixed straw and meal, while the whole compound is kept stirring about with a two-pronged fork, till the cut straw and meal become properly saturated with the Linseed mucilage. It is then shovelled up, of course in its warm state, into a heap, beat close with a spade, and left thus standing or lying a considerable time before it is cool enough to be used. Two hours after being so mixed, the mass will be cool enough for the cattle. It will do more good when given warm than cold.

"The quantity and proportions of Linseed-meal and chaff now specified are given by the Yorkshire feeders to each beast per day; and the mess is divided into two equal parts, so that the animal must have at each feed 1 lb. of Linseed, 2½ lbs. of Bean, Barley, Oat, or Linseed meal, and 5 lbs. of chaff, cut straw, or hay. The general feeding of the cattle is managed by giving raw Turnip and the compound cooked food alternately. At 6 o'clock A.M. the feeder gives each beast from 35 to 40 lbs. of Swede Turnip sliced: at 10 o'clock a feed of the cooked food mixture is given in the proportions above specified, viz., 1 lb. of Linseed, 2½ lbs. of meal, and 5 lbs. of cut straw; at 1 o'clock, the same weight of Turnip is given; and at 5 afternoon, a similar feed of the compound is repeated to each beast: and finally, when the feeder leaves the cattle for the night, he puts a little uncut straw or hay into the rack of each.

"Thus, supposing a farmer to feed 20 cattle according to this new plan, he would prepare his cooked food twice a-day. This is necessary to make the mixture fresh and palatable, and the feeding-troughs or portable boxes ought to be cleaned out with water after the animal has taken his food. Each time the feeder makes cooked food for the 20 cattle, he will use 30 gallons of water, 20 lbs. of Linseed bruised, and 50 lbs. of ground Beans, Barley, or Oats, or proportions of each, the aggregate amounting to 5 lbs. The Linseed, when boiled for 2 hours, must be poured on the 100 lbs. (or 5 lbs. for each beast) of chaff or cut straw, previously mixed thoroughly with the crushed grain, which being all well stirred, as before directed, and covered up into a heap, would, when cool, be divided among the 20 cattle by filling 20 equal-sized feeding-boxes or troughs. This process would require to be gone through twice a-day, morning and afternoon, the two Turnip feeds being given, as before explained, alternately with the cooked feeds."

Mr. MARSHALL's method, it will be seen, does not differ materially from our own.

There are two other points we may merely mention in reference to this subject. One is that sheep may be treated as regards this food just as the cattle are, and with equal advantage. Mr. FISHER, of Waughton, in his communication to the Highland Society, stated as the result of his experience that the mixed Linseed and Bean-meals possessed the same superiority here as they do in feeding oxen.

The other point refers to the state in which the

* Blackwood, Edinburgh.

seed should be used. It should be ground to meal: the most thorough boiling of the whole seed is not so efficient as boiling for a few minutes only the seed reduced to flour. It is a remarkable thing that even in the case of animals chewing the cud there should be such a difference in the ultimate digestion of food that has been thoroughly or only partially prepared in this way, as has been proved to exist.

ENGLISH AND SCOTCH FARMING.

I have lately been looking over some of the far-famed East Lothian farming, and as you doubtless have many Scotch readers, I may perhaps from some of them obtain an explanation of some few peculiarities in their management that strike the eye of an English farmer; and I may perhaps also at the same time gain some information respecting that vast difference that cannot but be observed just now in the relative positions of the Scotch and English farmer. Taken as a whole, I suppose East Lothian must be admitted to exceed in height of cultivation and luxuriance of produce almost any district of equal extent in the three kingdoms; and I have no doubt there are very few English farmers but would receive considerable accessions to their agricultural knowledge by a sojourn amongst these enterprising Scotchmen, who, by some extraordinary means or other, are contriving to pay nearly double the rents paid on lands of similar value in England, and that too in a climate far less favourable to agricultural pursuits than ours. Whether this is attributable to their 19 years' leases, and their corn-rents, which give them confidence in carrying out more extended plans of improvement, and a system of culture embracing a more lengthened period than is ever calculated upon by our yearly tenants, or whether it is that their manual labour is cheaper, and their machinery more extensive and more perfect than ours, I am scarcely able to judge, after the brief survey which I have yet been able to give to this most interesting district. Certainly, in all the particulars just mentioned, the Scotch do possess a vast superiority over us. The 19 years' lease which is so common amongst them, undoubtedly is one of the main grounds of that stability of action and far-sighted policy for which they are so famous. The corn-rents too must be admitted to give great advantages over our limited tenures, though, as far as I could ascertain, even under a corn-rent, and in years of the lowest prices, their rents much exceed ours, on land of similar value. And here I must remark, that I was particularly struck with the universal readiness on the part of those farmers to whom I was introduced, to communicate information on all those matters connected with their farms, which, with us, are so commonly made great secrets of. Indeed it is all but considered to be a piece of prying rudeness to try and learn a man's rent in England; and if you enquire into the average yield of any particular crop on his farm, he looks almost as much astonished as though you had asked for a sight of his banking-book! This unpleasant reserve is only the natural result of yearly tenancies, and destroys inevitably not only that healthy mutual confidence that should ever exist between landlord and tenant, but also that free communion and interchange of experimental knowledge that should be cultivated amongst all classes of farmers. Very different indeed is it in Scotland. There every man is ready and anxious to give you the details and results of any experiment—its advantages and profits, however excessive, and however much it may tend to enhance the value of his landlord's estate in the eyes of others.

I know it has been very much the fashion here to attribute the thriving condition of the Scotch farmers mainly to their system of corn-rents; but seeing that even in the lowest-priced years they pay higher rents than we do, I must look to other grounds of advantage than this. Their cheapness of manual labour, to be accounted for partly from the extremely frugal habits of their labourers, must be one of their great sources of advantage over us. A few pints of Oatmeal porridge, a pound of bread, and a bottle of beer per day, with 1*s.* in money, are frequently considered ample pay even in harvest time. This, together with the vast saving from the employment of steam-engines for threshing and dressing, must reduce the item of labour to a low amount when compared with that in some of our best cultivated districts. I omitted to enquire how much per acre is considered to be a fair expenditure for labour on one of their best managed farms. This is a piece of information I should much like to gain, as it would give us some means of judging whether English farmers, as compared with the Scotch, are generally deficient in their outlay in this most important branch of their business. As far as my own experience goes, from 30*s.* to 50*s.* per acre, and sometimes 60*s.*, is the average amount on our best managed districts.

But after all, the two things which make the greatest distinction between Scotch and English farms, and which most strike the eye of an English traveller, are the immense quantities of Turnips over the whole face of the country, and the tall chimney, proclaiming the presence of those beautifully contrived steam-engines, driving their very ingeniously arranged threshing and dressing machines, which are to be found on almost every farm of any extent in East Lothian, where I believe hundreds are already erected. So universal are they, that a stranger would imagine himself in some extensive manufacturing district. I was told of one somewhat juvenile landlord, who on coming into possession of his estates some few years back, replied to one of his tenants, when soliciting for permission to erect a steam-engine on one of his farms, "I shall permit none on my lands—they give the country a vulgar manufacturing air, and I shall set my face against them!" Doubtless this young Scotch laird had been educated in England, and had become imbued with some of the English high-flown aristocratic contempt of factories and trading—notions so extremely diverse from the usual Scotch thrift and love of money-making; or, perchance he might be influenced by a genuine romantic love of his sweet Scotch hills, which he could not endure to see defaced by such city-looking objects as steam-engine chimneys. However, I hear that this said landlord is not now without tall chimneys ornamenting his fields, like his neighbours. This fact, I think, goes far to prove that I am right in pointing to the steam engine as one of the great means of enabling the tenants to pay those enormous rents that are common over nearly the whole of East Lothian. I saw many of these steam-mills so constructed, that with half a ton of coals and six or seven hands 40 qrs. per day of Wheat could be threshed and dressed into sacks ready for market. This same quantity, with one of our 6-horse threshing machines, would require at least nine horses (in order to exchange three at intervals), and 14 hands, to thresh it only, besides five or six hands to winnow and dress it ready for market in one day. The total cost of one of their steam-engines and whole apparatus is, I believe, not much above 200*l.*—very little more than double the cost of one of our 6 horse threshing machines. The conviction of the vast superiority of steam over manual labour in farm operations is fast gaining ground even in England, and amongst our best Lincolnshire farmers the portable steam-thresher is becoming quite common.

It would be impossible, in the short compass of the present letter, to draw anything like a full or fair comparison between the Scotch and English routine of cropping. But there is one great point of difference that must not escape notice—one in which the Scotch, I suppose, excel all Christendom—and that is their Turnip culture. This is, indeed, the characteristic feature of Scotch farming—90 to 150 and 200 acres of Turnips without a weed being sometimes observable on one farm, and of such luxuriant growth and size as astonishes an unpractised eye. However, this surprise is somewhat moderated on being told that 6 or 8 cwt. of guano per acre is no unusual dressing for this crop, and even more is sometimes applied, together with a quantity of farm-yard manure, quite equal to that which is here applied as the sole dressing for Turnips. This enormous growth of roots, it will be readily seen, enables the Lothian farmers to feed such increased quantities of cattle, and thus by extra manure so far increase the richness of their lands, that they can much more frequently repeat their corn crops than was formerly done. The practice of laying down to Grass three, four, and five years, is nearly abandoned, and now one-year seeds on Barley after Turnips is frequently followed by Oats, Beans, and Wheat; or sometimes the following rotation is adopted:—1, Turnips; 2, Barley or Wheat; 3, Clover, mown; 4, pasture; 5, Oats. But this system could not be successfully carried out except on land perfectly drained, as most of it is, and by the application of Rape dust (16 to 20 bushels per English acre), and guano, together with the ridge system of growing Turnips. Indeed, a broadcast piece of Turnips in the Lothians would be a *rara avis*.

But amidst all these many excellencies, that it is quite impossible to give more than a faint idea of by description, but which could not fail on inspection to excite the emulation of any enterprising English farmer—after all these advances in the more important branches of business, there are still some few little antiquated peculiarities that I was somewhat surprised to see still remaining amongst these "princes of farmers." One is their bigoted attachment to the straw ropes, both for fastening their thatch and for binding their Beans, even when they are grown to the length of 4 or 5 feet; and even their Pea crop, too, is sometimes tied with the "straw whippers," as they are called. I could but lament that so many splendid stack-yards, containing from 50 to 80 and 100 well-built stacks, should be utterly spoiled in appearance, as many of them are, for want of the neatly raked thatch and tar cord binding, that are so commonly seen in England. A fair estimate of the comparative cost of the two modes would show that they are so nearly equal, that the superiority in appearance of the neatly close-thatched roofs over the roughly laid on straw, bound down with 20 or 30 straw ropes, should decide in favour of the adoption of the English method. And more especially in a northern climate, so subject to heavy snows, should I have thought these straw ropes, crossed over each other at such narrow intervals, so as to form squares every few feet, would be objectionable, inasmuch as they must prevent the snow sliding off till all melted. Whereas, from our smooth neatly raked roofs, a few gleams of sunshine make the snow glide off like so many mimic avalanches. But still more extravagant an expenditure of labour does it seem to an English farmer, to see thousands of "straw whippies" manufactured and carted into a fine field of Peas or Beans, wherewith to bind the crop, which in our country would be tied with a band of its own material. I vainly tried to convince many farmers that there could not be any peculiarity in the physiological structure of their Bean stalk that rendered it unfit for bands. And even when I took a single Bean stalk and broke the brittle woody part, leaving only the hemp-like fibres on the outside, and with that pulled a stout friend some yards across the field in trying to break it, I still could not convince him that Scotch Beans could be tied without "whippies."

The selection of so trifling a matter as this little prejudice in favour of straw ropes, as the only subject of fault-finding, is perhaps, after all, the greatest compliment I could have paid my northern brethren. But there is yet one other matter of some surprise to me, and that is to find so much corn sown broadcast instead of drilled. We have in England had such repeated proofs of the superiority of the drill system over the broadcast, that it is now a universally admitted system, when not prevented by some peculiarities of situation or season. It is quite unnecessary here to enter into the oft-repeated discussion on the superior regularity of depth at which the seed is deposited—the power of cleaning the land by hoeing, &c. I can only express my surprise that so much undrilled corn should be found in East Lothian, as is observable a few miles from Haddington, at the foot of the Lammermuir hills. I could never get any good reason given for it.

Did I not fear to trespass longer on your columns, I could give some very valuable hints to English farmers on the improved stable management of the Scotch, and their admirable system of wintering cattle; but I know that they are enabled to excel us in these respects, through the liberal provisions made in the shape of buildings by their landlords. It is evident that the Scotch landlords have speculated on securing a set of first-class tenants, and to this end they have erected buildings that any man of business might be proud of, and houses that any proprietor might be content to reside in. In fact, the East Lothian tenants reside in as good houses, and live in as good style, as English proprietors of as many acres as these occupy; and I can speak from experience, that a more business-like and a more hospitable set of men are not to be found. I invite my brother farmers to go and see for themselves, and verify all I have said of this favoured district. A visit will convince them that the day is already come when skill and talent and education is brought to bear with advantage on the hitherto humble and much despised occupation of "tilling the soil." The Lothian men have led the van in the march of improvement, let us profit by their example. *J. F.*

CHEAP MANURING.—No. IV.

We have now to show the actual quantities of these cheap, but essential, inorganic constituents, withdrawn from the soil by average crops of our respective cultivated plants. But of the eleven enumerated, we may trust four, Silica, Alumina, Iron, and Magnesia, to the natural contents of the soil (except mere peat, sand, or chalk), and a fifth, Lime, to the general practice of good husbandry; leaving only six (in the table below) to be provided for the particular crop or course. The form of table will be the clearest as well as the shortest.

INORGANIC INGREDIENTS CARRIED OFF BY AN ACRE OF PRODUCE, AND TO BE RESTORED BY THE CHEAP MANURES.

	Potass	Soda	Magnesia	Phosphoric Acid	Sulphuric Acid	Chlorine
Wheat Grain 25 bshls.	7,15	2,73	3,63	15,02	0,07	
Straw 3000 lbs.	22,44	0,29	6,89	5,54	10,49	1,97
Total	29,59	3,02	10,52	20,56	10,56	1,97
Barley Grain 40 bshls.	7,24	4,32	3,97	20,74	0,05	0,02
Straw 2650 lbs.	10,29	0,92	5,25	5,02	2,66	1,58
Total	17,53	5,24	9,22	25,76	2,71	1,60
Oats Grain 50 bushels	10,88		3,52	14,48	5,28	0,35
Straw 3800 lbs.	64,78		8,95	5,38	9,95	8,51
Total	75,66		12,47	19,85	15,23	8,86
Beans Grain 25 bshls.	13,60	4,80	3,15	15,20	0,40	0,30
Straw 2800 lbs.	90,21	2,72	11,38	12,32	1,85	4,35
Total	103,81	7,02	14,53	27,52	2,25	4,65
Red Clover	26,70	7,07	4,45	8,80	5,98	4,86
Potatoes 8 tons	222,56	7,44	21,08	50,20	54,48	17,04
Tops 1000 lbs.	50,44	29,27	12,76	13,72	12,38	22,19
Total	273,00	36,71	33,84	63,92	66,86	39,23
Turnips 20 tons	142,66	17,31	18,16	25,77	46,24	12,24
Tops 1850 lbs.	88,82	16,76	9,58	28,80	38,81	49,75
Total	231,48	34,07	27,74	54,57	85,05	61,99
Cabbage 20 tons 900 lbs	105	184	54	112	192	52

These, then, we have to restore to the land, after each of the crops specified. The straw, it is true, ought not to be carried off; but it is better not to reckon too close.

The best supply of phosphoric acid for the farmer will be bone dust; because the fossil phosphates, though cheaper, are so uncertain in strength that he would never know how much he was using. Genuine bone dust will contain about 25 per cent. of phosphoric acid; and will require one-half its weight of salt, and one-third its weight of strong sulphuric acid to soften and render it soluble; and these will also more than supply the sulphuric acid, soda, and chlorine. Brown sulphuric acid of specific gravity 1750, is to be preferred where it can be had, as cheaper, although it requires one-half instead of one-third the weight of the bone dust. The little portion of magnesia will often be more than supplied in the lime used about the land; or if the limestone does not contain it, may be put in at very small cost, either in crude sulphate of magnesia, or in the bittern residual liquor of the salt works.

The potass in the most difficult. Foreign pearl-ash contains about 50 per cent., and is rather dear.

Foreign potass is a little cheaper and stronger (say 60 per cent.), but not so readily procurable dry. Wood and vegetable ashes of the farm, when clean, may contain 25 per cent., but are often so full of earth, &c., that they may be not half this strength. Wood ashes (if we average their potass at 3 per cent.) vary, also, and are not easy to get sound and genuine; and green vegetables, unburnt, must be rotted in compost before they can be mixed with the other ingredients. Crushed granite, (averaging 7 per cent. potass) digested with lime, although the materials are inexhaustible, is not yet in the market; and must be used, when it does come, in increased proportion, from its slow solubility; but will still be much cheaper and more certain, as well as far more durable, than any other potass manure. The method of preparing it, and that of working the bones with salt and acid, may form the subject of our next.

Our Wheat crop then will require, including the straw, phosphoric acid, 20½lbs., which will take bone dust, 80lbs. with 40lbs. salt and 10 of the cheap (or 27lbs. of the strong) sulphuric acid—which will also more than supply the soda, sulphuric acid, and chlorine. The 10½lbs. of magnesia (if not contained in the lime of the usual course) may be supplied by ¼ cwt. of crude sulphate of magnesia, or 10 gallons bittern liquor from the salt-house; and the 29½lbs. of potass (of which ¾ is in the straw) by 50lbs. potass, or 60lbs. pearl-ash, or by about 120lbs. common weed ashes (clean); or 5 to 10 cwt. common weed ashes; or in about 4 cwt. granite, of which, however, 3 or 4 times that quanity should be used, as above explained. In short, for every pound of phosphoric acid, we have to take 4lbs. bone dust, 2 of salt, and 2 of acid, which clears, also, the sulphuric acid, soda, and chlorine. For every pound of potass, nearly 2lbs. of foreign pot-ashes, or full 2 lbs. of pearl-ash, or 4 lbs. (or more, according to its dirtiness, of weed ashes, or 40 to 50lbs. of crushed granite (but this will last 3 or 4 crops); and for each pound of magnesia, 5lbs. of crude Epsom salts, or a gallon of salt-works bittern.

This gives us, by simple calculation, the following table of dressings per acre, for the crops above estimated; heavier crops, of course, requiring more, in due proportion.

TABLE II.

Dressings per acre	Bone	Salt	Acid	Sulphate Magnesia	Pearl Ash
Wheat	80	40	40	50	60
Barley	100	50	50	40	35
Oats	80	40	40	60	100
Beans	110	55	55	70	208
Red Clover	36	18	18	22	54
Potatoes	256	128	128	170	546
Turnips	220	110	110	140	462
Cabbage	448	224	224	270	210

These dressings will save many crops which now occasionally fail, for want of one or more of these ingredients; since they are, as before said, essential to the thriving of the plant; and their low cost may be estimated from the following London prices; which a demand would soon extend to most large towns and populous agricultural districts.

PRICES CURRENT.

Bone Dust ..... 18s. 6d. per qr.
Salt ..... 25s. to 30s. per ton.
Sulphuric Acid, strong, 1½d. per lb.
S G 1750, 6¾d. do.
Pearl-ash ..... 36s. per cwt.
Potash ..... 34s. do.

By so small an outlay, the farmer may have more confidence in the regularity of his crops, from year to year, still dependent, of course, more or less, on the seasons, &c.; but not so subject to failure without apparent cause. To obtain heavy crops, however, something more is needed, as mentioned in treating of the dunghcap. Dung, as there said, contains all these ingredients; and where good dung is plentiful, they need seldom be added. But to force heavy crops, a good supply of carbon is requisite to give them solidity, and of ammonia, or its basis nitrogen, to excite growth, and to form their most strengthening constituent as food for animals. Of this element (nitrogen), dung (and more especially urine) contains a sufficient proportion; but where dung is wanting, there are other means of supplying it, though at not so cheap a rate as the inorganic elements above stated.

Wheat and Grass seem to require most nitrogen; Wheat appearing to require five times more than it contains. With deficient supply of this element, Wheat yields poorly, both in quantity and quality. With plenty of it (in liquid manure) Rye-grass has produced surprising crops; up to 50 or 60 tons per acre in a year.

But a more convenient time for going into this may be in our next but one, when I hope to give the results of the most successful experiments, and compare them with our tables, to deduce the surest and safest, as well as the cheapest guides for the small farmer's practice.

Prideaux.

DISEASES OF POULTRY.

(*Continued from p. 705.*)

THEORIES.—The inquiring and subtle minds of the ancient philosophers prompted them to invent numberless ingenious theories, in order to account for cause and effect, many of which have been blindly adopted—often pilfered or plagiarised—by some of our moderns, naturalists and others. Several of these are made disputed points at the present day, but these plausible theories can only be corrected by closely observing the habits of animals in the wild state of nature in particular, as well as in the artificial domestic state. Mr. Bell most truly says, "we live in times when nothing ought to be taken for granted, untested by science;" that is without the reason or demonstration being given. Pliny, Aristotle, &c., have handed down numberless fables, which have been retailed by Aldrovandus and others. One is the fanciful notion that larks send out scouts or sentinels; as well might it be said that rooks are regularly drilled because they form in regular figures when flying, &c.: all of these appearances may be, however, accounted for by instinct, not reason. Carrion crows, &c., are said to smell powder when they hear a gun; the fact is, that birds learn from infancy in populous neighbourhoods to be always on their guard—the *qui vive*. It is the effect of instinct, habit, imitation, and memory; the two latter organs of the brain being very large in birds: the same birds may be reclaimed quite tame by the proper means. As a proof of all this, I have often, gun in hand, returning from shooting late in the dusk of the evening, found myself in the midst of a ploughed field full of crows, rooks, and ravens, busy in pulling up the worms that always come out at an evening, which would not have been the case in the daytime, when they could see me. This to me is conclusive, and I have often found them as much scared at a wand or stick as a gun.

I recollect visiting the once famed convent of Nossa Senhora d'Arrabida (in the mountain chain), near St. Ubes, in Portugal, said to have been founded by the vow of an Englishman who was shipwrecked near the spot, where perhaps a bird's nest had not been disturbed, or a poor bird maliciously hurt, during a century and more. The monastery and hospice are situated midst cold, bleak, almost inaccessible, densely wooded rocky peaks and declivities. In the inmost recesses of these glens, scattered here and there, each of the inmates of this cloister occupies in the day time his little cell or oratory, hewn out of the solid rock, in the most secluded nooks, with its bell to chime the canonical hours, and for alarm in need. They were friars of the most rigid order of St. Francis (Trappists), vowing perpetual silence and abstinence from meat, except by order of the superior, subsisting entirely upon vegetables, and retiring for the sake of more easy silence and contemplation of heaven to come. In this spot I was surprised at the extraordinary familiarity of the birds, that seemed rather to court than shun our presence. This was the case in some other similar places which I visited. At Montserrat, in Spain, there is a stupendous monastery, seated in the bosom of still more remarkable, if possible, wild and inaccessible mountains, with a most curious collection of high peaks touching the clouds, on the sides, near the summits of which are suspended hermits' cells, each inhabited during the day time by a monk. This extraordinary hospice for the wearied traveller, with its perpetual scenes of charity, piety, and learning, has likewise been swept away by the too general abuse of the sacred name of liberty. One of the monks of this most verdant spot (abounding in the peninsula), was famed for being always, in his hours of exercise, accompanied by a choir—flocks of little birds flying about and resting on him every now and again. In such a retirement as this he could the more easily act on the same principle as cage-birds or other animals are tamed in a more confined space or room, by accustoming them to his presence, and feeding them constantly, from nestlings upwards; they looked to him for food and water, always at hand in his cell at all hours. Habit taught them security, instinct and memory when to obtain food. This familiarity of birds is instanced by Sir Joseph Banks, on arriving at some of the uninhabited islands in the south seas, where man had not set foot before; the cruelty of the sportsman and heedless destroyer had not taught them fear.

Animal Economy.—Before proceeding to the diseases next in rotation, I will premise, it is with shame I avow, that the foundation of most of these painful complaints with which birds are afflicted in the domestic state, originate in the careless treatment and cruel neglect of man, who holds them in slavery for his amusement or benefit. They are generally acquired very early, when the little chicks of all species are heedlessly kept out in the rain, or not confined with their mothers in a dry yard or pen under proper cover or sheds, particularly when negligently suffered to be dragged out too early in the morning or too late in the evening, before or when the sun's rays have not absorbed the heavy dews on the Grass. Whole broods of chicks, ducklings, goslings, turkeys, &c., I have known to be destroyed in this way. The poor captive mother, eager for liberty, will drag them after her through the wet sward, when their rails become soddened and chilled—the dew being much colder and much more penetrating by far than pond water, securing from the chilled intestines comes on, and death inevitably follows; or, if they survive, morbid derangements spoil their growth, health, and future productiveness. Therefore to afford protection to our domestic animals (which they can find for themselves in their natural state), care, warmth, shelter, and proper diet, are as much sources of profit as a duty we owe to humanity and to the "giver of all good gifts," "who gave dominion to man over creation" for his own use and benefit. Ignorance of their natural habits and wants is no more an excuse than that heedlessness and neglect are not cruel, inhuman, and wicked. Parents should early repress in the most tender infancy of children the earliest tendencies to cruelty to animals, and not foolishly smile at any cruel conduct towards the brute creation, in the silly vain hope that after age and maturity can or ever will, soften or alter morbid dispositions once formed. Let parents, on the contrary, punish every infraction, and encourage whenever possible, kindness and tenderness to animals, for the earliest impression in the mind, whether for good or for bad, upon the human kind, acting upon certain organs of the tender brain as it grows to perfection, has often much character for the future. That man who has been permitted to grow up heedlessly cruel to animals, will seldom make a kind father, good husband, or a respected citizen.

5. *Asthma.*—On this disease, the next in order, much ingenious matter might be collected, more curious than useful. There appear to be, say 31 lungs, two larynx; "let simple minds, when [illegible] to take up the argument, peruse [illegible] and then make to themselves the natural quantity of air, inspired often times of one only at each breath," that is, breathing quicker and more frequently than in the healthy condition. "The usual capacity of two lungs to one human [illegible] when [illegible] of these parts [illegible] and [illegible] by rupture of any of the air-cells or blood-vessels of the lungs, fever, curable; then a patient may continue living while with care and treatment. The cause of the first, catarrh; of the second, any sudden fright, and passion; and when blood is observed in the mouth, death is seldom far off."

Cure.—Extra warmth and shelter from cold; garlic in pills of barley meal is often beneficial. Birds usually in a state of health breathe through the nostrils; they should, therefore, always be kept dry and clean. Any means devised which could get rid of continued irritation, and restore the mucous membrane, would probably effect a cure in many cases.

6. *Phthisis.*—Of consumption, the like may be affirmed as of the former, but more curable in these animals than in others, as man and in particular. The causes are as obvious as the symptoms; and when the lungs are in a state of consumption, cure would be very difficult, unless any ulcer could be made to slough off and heal up. The only cure is as in the last. The curious will find many interesting details scattered in the writings of our great comparative-anatomists, Hunter, Home, Bell, Owen, &c.; and numberless foreign experimentalists, Reaumur, Flourens, Majendie, &c.

What a glass house warmed with fires might accomplish in the first stage of the attack, kept at a day temperature and night temperature, may be inferred from some successful experiments made by M. Flourens. See extracts in W. B. Dixon on Poultry, London; and P. Boswell's "Poultry Yard," Glasgow. The results of these experiments are most decided, proved from the most careful examination of the lungs of several which had been most perfectly cured, and lived some time after, finding all the traces of old changes more or less marked, but perfectly healed. If so much success attended the researches and labour of M. Flourens in curing birds, chiefly by the aid of temperature, is it not reasonable to infer that a great deal might be accomplished for humanity by the establishment of hospitals for incurables as well as the curables (the former being now generally doomed to exclusions), and Maisons de Sante in the warmer localities of our variable climate, kept at proper night and day temperatures, with all the additional known aids by medicines, antispasmodics, expectorants, &c., and counter irritants. Let any one who has a cough try the great difference between going into a warmed bed (not hot) and a cold one; *D. S. L.*

LAND DRAINAGE.

RESUMING the portion of the subject left off in last article, viz., on the materials used in the filling of drains, I would recommend that in the case of tiles they should be soled whenever the bottom is in the least degree soft, or subject to be abraded by the current of the water; indeed, I may observe, in all cases except on hard gravelly bottoms with moderate slope. In soft treacherous subsoils common tile soles are, however, insufficient, and either channel pipes should be used or tiles on wooden soles possessing some length of bearing; or in some circumstances it may be necessary to use both pipes and wooden soles. Theoretically considered, I would prefer to employ a small tile with sole to a larger tile of equal cost without the sole; but then as tiles and soles practically are more apt to be mismanaged and deranged by carelessness or accident than the mere naked tile, which tends much to lessen the actual superiority of the former, I am not sure but in the case of an extensive drainage, where the subsoil was moderately hard and no considerable degree of slope existed, but that were I myself to bear the cost, and had no better means of ensuring efficient execution than is ordinarily possessed by individuals in general carrying out such operations, I should be almost inclined to adopt the more common and less perfect mode, that of using the simple tile. In fact, from the loose manner in which drainage works are very commonly conducted, the operation, by means of plain unsoled tiles is the only one in any considerable degree to be depended on. This, I must confess, is saying little for the practical part of the art, yet it is nevertheless true.

The materials should be placed in the drain with as little delay after cutting as possible; but this should be performed by a different party from the person who did the cutting. The layer should be a trusty conscientious individual, who will not pass what he finds not right, and who will not have materials in the drain without being satisfied of its efficiency for the purpose to which it is applied. He should be allowed to exercise

a control over the other workmen, and have it in his power to bring them back to complete or correct every existing deficiency or mistake, either in depth of cutting or execution. It suits best when the person who acts as superintendent of the work can act also in the capacity now spoken of.

A machine for making pipes with serrated ends has recently been patented by Mr. Smith of Deanston and Mr. Solly. I am not aware if any so manufactured have yet been brought out, at least have seen none, so can form no just opinion of their practical working. My own notion is that the invention would be invaluable, provided, at same time, some method could be devised to preserve the pipes straight and free from being twisted in the burning; but that with pipes crooked as we in general at present find them, I cannot help entertaining some doubts of its answering. A short time, however, must prove. The principal advantages the proposed methods would possess are—1. The keeping the pipes in their places, with the ends properly fitted to each other, so that the duct or channel may be preserved uninterrupted; and 2d, the doing away with the necessity for collars, which are a somewhat clumsy accompaniment at the best, add considerably to the expense, and, in the opinion of some (Mr. Smith among others), apt to get silted and closed up in the joint formed between them and the pipes. Although in ordinary circumstances the improvement proposed might be brought to answer, in the case of very soft shifting bottoms the use of a collar must still have a preference, as it binds the pipes together in one continuous chain, like the hose of a fire-engine, which I consider the serrated ends would be incapable of doing.

For main drains and ducts intended for the transmission of large quantities of water, I give a decided preference to the tile pipe over every other material used in the formation of a conduit. The expense might be a little higher, but there is no question about its superiority in point either of durability or efficiency. If properly laid down at the first the channel ever afterwards remains uninjured and entire, neither allowing rubbish to get in from without nor being subject to damage from the action of the water within itself. Indeed one immense advantage such a drain possesses over others is, that the duct can be flushed and swept out in heavy floods; whereas, with drains of a different construction, either damage accrues from flushing or a quantity of silt is left, and allowed to accumulate, for want of its sweeping effects. The application of pipes, in the case of mains, is much easier than in that of the smaller drains. Here the pipe fills the full size of the excavation, and cannot get displaced, so that the channel is formed regular and effective.

In the construction both of main drains and common ones, but more especially in mains, there is a very frequent practice adopted by most people, which I cannot allow to pass without the most unqualified condemnation: this is the practice of placing quantities of broken stone over the duct. Such is altogether unnecessary; it not only can do no good, but it is even calculated to endanger the safety of the drain, and may lead to positive mischief. If it is intended to enable the drain to hold or convey away more water than the duct itself can contain, or if it is to afford a channel or passage to the water when obstructions have got lodged in the duct, the evil certain to result therefrom is manifest and the same; the water finding a passage above, sediment lodges more and more in the duct below, till, becoming much clogged or altogether obstructed, the proper channel is never afterwards fully regained, and the current continuing to percolate its way among the rubble stones above, allows the duct to become closed eventually altogether. If the duct has been properly constructed and of a suitable size, it is going the backward way to attempt to better it by heaping over it quantities of useless stones, saying nothing of the heavy expense thereof, as the greatest service to its efficiency and durability that such a duct can receive is to have the current of the water confined to it, by packing it over with clay and the most impervious substances that can possibly be found, for the purpose not of allowing free egress or ingress to the water, but of preventing both, and compelling it to perform its proper functions. In the case of common drains or hard subsoils, if a covering of broken stone over the tile duct is considered to be necessary as a percolator for the water, so far well, but in all cases where the object sought is more a duct than a drain, they ought never to be applied. Yet nothing is more common; hence my being led into expressing my mind so fully, and, it may be felt by certain parties, so severely on the subject.

In the formation of stone drains it is, I should think, superfluous to mention that, if of rubble, the stones should be broken so as to allow of no large pieces to enter the drain; they should be well screened, and in putting them in care should be taken lest loose earth be allowed to enter along with them from the sides of the cutting; and on no account ought stones to be broken with the hammer after being placed in the drain. Before throwing in and tramping down the clay over the stones, they should be carefully levelled and pressed close with the beater, which will tend to exclude soil, whether entering by the force of gravity, or from the working of moles and other vermin. *John Duncan, Thornbank, St. Andrew's, Nov.* 14.

Home Correspondence.

Irrigation.—Amongst the many modern improvements and systems of agriculture, I cannot but feel surprised that irrigation has occupied, as it seems to me, so small a share of general attraction. I was myself little aware of the results to be accomplished by it until I visited the Duke of Portland's meadows, near Clipstone. Whilst writing, however, I have not so much in view low lying lands irrigated by existing streams and rivers (of which I have reason to believe that advantage has been taken to a considerable extent), as the possibility of profitably applying steam power to raise water in any unwatered district, and so to irrigate some gently sloping district of land at a suitable level. I am aware that many circumstances must unite to favour such a plan: water found not too much below the surface; cheapness of coal as fuel; a passage for the water running off, and many others. But after seeing what has been accomplished at Clipstone, I cannot but think that an engine might be erected and used, all necessary canals and levels made, and if applied to poor and cheaply purchased land, and to a sufficient extent, a very handsome profit might be made. May I venture to hope that what I have so imperfectly ventured to suggest, may be submitted to those able to consider the practicability of such a scheme. *J. Harvey, Walmer, near Deal.*

Thin Sowing.—Having read several letters lately in your *Gazette* on thin sowing, some of which I fancy have rather a misleading tendency, and having tried it myself on a small scale for several years past, and which in every case has proved a failure, I am induced to give you the result of my last experiment. The plots of ground selected were two equal parts of an acre of good Clover ley, sown with Wheat about the beginning of November; one part at the rate of 6 pecks, the other at the rate of 10 pecks to the acre, the ground being treated the same in every particular. I found after carefully measuring and weighing the corn and straw of each part separately at harvest, the thinner sown yielded at the rate of 5 quarters, the thicker sown yielded at the rate of 6 quarters to the acre, being also 4lbs. heavier the sack, and giving more than half a ton of straw to the acre more than the thinner sown corn. Having proved by experience the absurdity of using seed corn too sparingly, I feel confident, after taking some of the most important things into consideration, such as the uncertainty of the seasons, the loss of plant likely to arise from the destruction of the seed by wireworms, grubs, &c.; the uncertainty of being able to work the horse-hoe, &c., in the spring, which is so much advocated by the disciples of thin sowing; the certainty of having the ground filled with all sorts of weeds (which is generally the case in thin plants of corn), more especially when the hoe cannot be used effectually, as in such seasons as the last; and many other inconveniences, over which we have no control; that it is not safe to use less than 7 or 8 pecks of good seed to the acre. *B. Hunt, Basingstoke.*

Disastrous Disease in the Potatoes on a newly broken-up Meadow.—A reference to page 689 of the *Agricultural Gazette*, 16th October, 1847, will point out a statement of a plan I adopted which produced a most excellent and abundant crop of Potatoes, and hardly a bad one among them. They kept well throughout the winter, and afforded me a good profit. But, alas! the uncertainty of the farmer's reward, from unseen causes, and the vicissitudes of the seasons. Old Oak Farm consists of about 300 acres, and there is permission to break up some of the old pasture. Having a field of 13 acres of worn-out Grass, I thought I could not do better than pare and burn it, and plant Potatoes, having succeeded so well with them the previous year. The operation of paring went on, but the spring proving so wet the turf never dried sufficiently to be fit to burn, so therefore as it lay turned over it became partly rotted, and was ploughed in, the furrows being well turned over upon it. Here was then a field of virgin mould, which had not been broken up from time immemorial, and what could promise better for a good crop of Potatoes? When the whole was well ploughed over, the harrows were made to perform their duty, both before and after the dibble had been used to plant the Potatoes. They were planted in rows 24 inches apart, and each small Albert red Kidney set 15 inches distant from the other, in the month of March last. In April, before the plants appeared, and afterwards, the harrows were run over the ground to break the clods and smooth the surface; and in May the horse-hoe was sent up between the rows, 3 inches deep, to loosen the soil for the expansion of the propagating shoots. In June as promising a plant appeared as could be desired, regular and healthy, which was stock-hoed in the first week of the month, and afterwards followed up with Mrs. Wedlake's earthing plough. (The mode of culture it will be observed differs from that described in p. 689 (1847), but no manure was deemed requisite on the old meadow land.) In July the haulm at intervals appeared blighted, which continued to increase in August, and vegetation ceased, which ought to have continued to the end of September. On digging up some of the roots from time to time, to ascertain the state of the crop, the produce was discovered to be scanty and small. A few of the Potatoes were worm eaten, and three-fourths of the others were dreadfully infected with the disease, which by all accounts seems universally to prevail. It is no use storing Potatoes in heaps after they have been seized with the disease, for it only increases in them, and would rot the whole. The value of the produce of this fine virgin field will barely pay for the labour, so that the seed and rent of the land must go to the account of loss in the ledger, without remission of the tithe. Unfortunately some other portions of my fields, which I had cropped with Potatoes, are quite as bad. Some were planted in good well mellowed ground, and after stubble, but all have shared the same fate, and the cause to me is quite incomprehensible. I had 4 or 5 acres of Regents and Shaws which escaped slightly, having fortunately been dug up early. All sold at Covent Garden, both market and other days, to prevent loss, which was acted upon I may say by all sensible owners. I never heard since the disease first showed itself, growers so bitterly complain as this season at Covent Garden Market, which I attend through the summer months 3 and 5 times a week, many declaring it to be their last trial. I can only compare it to the ravages of a fire, reducing our produce to worthless dust. I can form no opinion as to the cause, only in wet weather it is much worse. By inserting this in your columns, you will show to the world the risk a farmer and gardener of the present day is liable to. *Robert Pain, jun., Old Oak Farm, Shepherd's Bush, Nov.* 6.

Education (No. 8).—A general outline has now been given of the proposed scheme of national education. I cannot conclude the subject without referring to the elements of opposition it may possibly meet with. I have endeavoured to point out the importance of real education to the poor, I now wish to show that it is incumbent on all to advance it. I apprehend the chief difficulty in carrying it out arises from the tenacity with which the various religious bodies hold to their sectional opinions, and object to meet and act on a common ground. I provide for this difficulty by placing the executive power in the state, and making the education secular, at the same time providing for specific religious instruction by devoting the Saturday and Sunday to that purpose. I have, therefore, now to appeal to the several religious bodies on behalf of the project, by showing how each is interested in supporting it; and first the Church of England. This church has no fund specifically provided for the education of the working classes. Supposing it enters on the work on its own ground, from what source will it derive funds, and who shall be its agents to carry it on? Tithes are the only source of revenue; and is not this, particular cases excepted, already fully required for the support of the parochial clergy? Can we ask a clergyman to devote from his annuity a sufficient sum for the purpose of paying the cost of the parish schools? Clearly not. Can the Church hope to derive it from voluntary contributions? It is so fully sensible of the disadvantages of any voluntary system, that I need not urge how futile the attempt would be by such means to provide for a large outlay such as would be required for the education of all the people of the lower class, and it is clear the poor cannot pay the cost themselves. I therefore contend that the Church is interested in having an establishment for education supported by the state, and that to effect it it is worth its while to sacrifice the imaginary benefits of an exclusive system. Founded as the Church is in numbers, in endowment, in talents, and acquirements, has it anything to fear from placing the secular education of the people in the hands of the state? Will not religion gain by any system that promotes good order in society, that increases the industry and the intelligence of the people? Will it not form a bond of union for our common Christianity? I must now appeal to the Dissenters of various denominations. Truth requires me to admit that you have ever been ready, nay devoted to promote the education of the working classes; you have always advocated the support of it by voluntary subscriptions. Let me ask you calmly to reconsider the case, and your own position. Dependent yourselves mainly on voluntary support for your ministers, deriving it in a considerable degree from the poorer classes, is it wise to draw upon the same source to defray the cost of education? What do you gain by leaving out the chief property of the kingdom, which would be taxed to pay for the education of the state on the proposed plan? Many of your ministers keep schools; can you reasonably expect them to do the duties of their sacred office, attend to their own private schools, and oversee the schools of the poor also? overwork is slavery in every case; it is by attempting more than the powers of man can accomplish, or the necessity of the case requires, that a breaking down comes; all such ill founded schemes ultimately fail, and the whole community suffers for it. I cannot see that the Dissenters will lose by the establishment of a secular education by the state, which would know nothing about sects in the matter. I do not reproach Dissenters for opposition to the plan of education recently brought forward by the Government, and mainly defeated by that opposition, because I believe they have seen their error. Neither is it to be regretted. The time was not come. It is better not to act at all, than to act ill. It has afforded time to review the question of education from the very foundation, in order that the future steps may be taken in a right direction. I therefore earnestly call upon the Dissenting bodies to consider the subject impartially, and then I think they cannot fail of coming to the conclusion, that the nation, and the nation alone, is capable of establishing, and rendering effectual and permanent, education for all classes of religious professors; and that no education that is not strictly secular will secure an uniform system, or prevent the influence of doctrinal partialities either in the Church or amongst Dissenters, from worming its way into schools and blasting the hopes we may reasonably entertain of great good to be derived from an educated and well trained people. *Thomas C. Brown.*

Draining with Stones.—Having seen in your Paper of the 21st ult. an article on draining, as it was exclu-

sively on tile draining, and having had some experience in draining with stones, I beg to offer a few remarks on the mode of procedure, which (if you think worthy of insertion) may be useful to some person who may be (as I have often been) seeking in vain for something to help them on at the commencement. There are, it is true, many excellent works on the subject in the hands of almost every person they concern, but I always found them better suited for the experienced than the tyro, and for my own part had to make out by practice what I in vain sought for through theory. The first thing when you enter a field or farm which you are to drain, is to see whether there is a good fall to the outlet; if not, this must be obtained by sinking the stream or ditch, as the case may be; if the former, the fall would require to be considerable, to prevent the flooding of the drains by the swell of the river after heavy rains but if the former a foot will suffice. The next point is to lay off the main or submain drains, which must run at the lowest part of the land, and not within 20 feet of the fence; then comes the most important part, the laying off of minor drains. As it is generally agreed that these should run up and down the greatest declivity, the surest way to obtain the right direction is to strike a level line right across the declivity (which may be done readily with a spirit level); the direction of this line being had, a line at right angles to it will be up and down the greatest declivity. It is most important that this should be attended to, for suppose the drains were to run across the fall, every drain would have to dry, on the side above it, more than half the distance between the drains, a circumstance the effects of which would soon be perceptible in retentive soils, but perhaps not so much where there is an open bottom. As there is a great diversity of opinion about the proper depth of drains, I will only say that I have found deep drains to answer better than shallow ones, and had an opportunity of seeing the operations of both in two adjacent fields, of the same soil and subsoil; the one was done with 3 feet drains, 20 feet apart, and the other with 4 feet and 35 feet apart; the latter I did last spring, and, notwithstanding the wet weather that then prevailed, the ground all round cracked, a sure sign of the good effects of the work. The subsoil was a retentive admixture of stiff clay and sand, of a whitish colour, and very apt to fall in in wet weather, whilst in the other field, which was done with the 3 feet drains the summer before, neither horse, cow, nor man could walk on it with impunity, thus demonstrating as clear as noon day the superiority of the former. As to the distance between them, I would have it vary from 30 to 50 feet—35 feet is a good mean, and what I generally use; but for a loose stony bottom it might be 50 feet or more. Having decided the distance, the next thing is to lay them off perfectly straight and parallel to one another; for this purpose it is necessary to have a few poles and two long lines, which a handy man may set up straight, when the men who are to open the drains may mark them off for minor drains; 18 inches wide is sufficient, and for the sub main 2 feet. When there is any danger of the drains falling in, it is best to get out the stones first; these should be as clean as can be obtained. The next thing is to proceed to open the sub mains, which may be sunk to the proper depth at once, that is 4½ feet, and 1 foot wide at bottom; then proceed to open the parallel or minor drains, but these should not be sunk more than 3 feet till the stones are broken, for fear of a break down. The breaking of the stones requires the greatest attention. The rule that I have laid down is to have the largest pass through a ring 3 in. diameter, for if broken smaller there will be nearly half of them so small as to be unfit to be put into the drain, and if larger would be apt to choke up the bottom of the drain. The stones being broken, the drains may be sunk the other foot, and when finished should be from 4 to 6 inches wide at bottom. Before the stones are put in, care should be taken that no water or mud is lodged in any part of the drain, when they should be carefully hand-picked and thrown into the bottom of the drain, taking care not to let them strike against the sides, as by it a great quantity of dirt is sure to fall among the stones, and also that there be an uniform height of them in the drain; a foot will be sufficient for any minor drain. The loading should next be proceeded with, placing the grassy side down and treading them well, so as to have them lie flat on the stones, and in filling in the clay be careful to keep the active soil on the top, and also to tread the first foot of earth well over the sod to prevent mud or dirt being carried down among the stones by surface water. The filling of the sub mains is the next thing to be done: for this purpose I use flags about 1 foot or 14 inches high, placed one against the other, and kept firmly in their places by a good large stone placed at each side between the flags and the bank; if this is done well a man might walk on them without disturbing them. The whole should then be filled up to about the height of 18 inches, covering the top with broken stones and sods. Where there is a great quantity of water and a great fall, it will be necessary to pave the bottom of the drain, which may be done by simply sinking flags on edge across the bottom of the drain, within from 3 to 6 feet of each other, according as the fall is great or small, then finishing the mouth with mason work and a grate, to prevent the entrance of rats, foxes, or any other vermin that might injure the drains. I intended at the commencement of this to have given you some account of the profits arising from draining turf bog, but as it has extended to such a tedious length, I will defer it to some future time. *Moorhill.*

Farmers' Clubs.

SAFFRON WALDEN: *Annual Meeting.*—Lord SONDES proposed as a toast "Prosperity to the United States of America, with the health of Mr. Colman."

Mr. COLMAN said—In all human probability this will be the last occasion on which I shall have it in my power to address an assemblage of English agriculturists, and therefore I must crave your indulgence if on this occasion I extend my remarks on the subject of your agricultural system. The Flemish have a proverb which involves the whole system of agriculture—"Without forage, no cattle; without cattle, no manure; without manure, no crop." Now I take on myself, in the first place, to say that you are deficient in the saving of manure, and in the second, your crops are not near so large as they might be. I need not say that those gentlemen who have thought on the subject of liquid manure affirm that it is of the greatest importance to the farmers of this kingdom; but oh how few farms compared with the number is there any preparation made for the proper application of liquid manure. Here it is that the great waste is committed; and there is an immense draft made on your profits; for instead of sending out vessels to the far-off Pacific to fetch mat rial to enrich your farms, you have within yourselves the means of enriching your land to an infinitely greater extent than it is now. Then let me say that your crops are not so large as they ought to be. And what, I will ask, is the probable average crop of Wheat throughout Great Britain? I do not believe it is 20 bushels an acre. I doubt if it is 25, taking the whole of England together. It should be 60. (Cries of "No, no.") You may say so, but I know farms in this country which produce an average of 60 bushels an acre; I know several which produce 50 or 55 in this county. And what has been done by one man may be done by another; and I despise the man who will fall short of his ambition to reach the very ultimatum of perfectibility. If I had the spurs which you put in to your race-horses I would prick him up. How are these great crops produced? I have quoted the Flemish proverb—"Without forage, no cattle; without cattle, no manure; and without manure, no crop." Now the Flemish farmer keeps twice as much cattle, I may say three times as much, as the English farmer; not of so improved a race, but they keep good cattle. Why is this? Are you behind them in intelligence or in the desire to better your condition? Have you not the means? Is there any reason under heaven why you could not do that? Manure is the life blood, the foundation of agriculture. (Applause.) We hear of agricultural schools and the researches of learned chemists, which are to turn everything into gold. Why, chemistry has long been well understood, at least to this extent, that we have not to learn the value of manures. Allow me to say that one of the greatest things the English farmer could introduce would be by soiling his cattle.—Mr. MECHI spoke in the course of the evening, and said: I have a great affection for the agriculturists of this important county; they are an honest and kind-hearted race of men, but, almost as a natural consequence of that firmness and honesty, they are prejudiced—and while I esteem the former qualities I shall never cease to war against the latter. My remarks will be essentially practical. In the first place I consider the waggon question as one of prejudice; and to enable you to cure yourselves of it, I shall be happy, under the inspection of your President, to send one or two of my harvest carts into this neighbourhood during the next season, to be employed in carting corn to market, bringing coals in return, and also in harvest time; and when their merits are fully tested, in competition with your ugly, awkward, heavy waggons; if they should be found superior, both in economy of cost and facility of transit, the question in the county of Essex must be considered a settled one, and that the best mode, as circumstances may permit, be adopted. I speak firmly on this subject, because one disputed point—that of drainage—has been already set at rest; and if you agree with me the question of carts shall be settled, not by talking, but by facts. As to the drainage question, I remember at first that even the most eminent agriculturists had an impression that deep draining with small pipes on very strong clay would not be permanently useful. Mr. William Hutley challenged me at a meeting last year to drain his land. I told Lord Rayleigh, who was chairman, that I accepted the challenge, and that he should prove me wrong or admit that I was right. I drained it 4 feet deep and 30 feet apart; the drains have run constantly, and Mr. Hutley, in his evidence before the House of Commons' committee, said they answered the purpose, but omitted to say that Mr. Mechi drained it. (Laughter.) Again, a collection of 1 quid sunder as an important subject, and I have been extremely gratified, as I travel from farm to farm in this district, to see a number of fresh-looking troughing, which proves that although Mr. Mechi is considered to have his crotchets, at least some of them have been practised. It is also gratifying to me to find that landlords are becoming foremost in advocating the removal of old scrubby timber, and the tenants are not so fond of growing their own wood, instead of using coals, as they formerly were; because I am convinced that there has heretofore been as much affection on the part of the tenantry in growing wood at four times the price it would cost to buy, as on the part of the landlords for the timber. Sir John Tyrrell says I am a good natured man; but whether I am so or not, I never moved in the world without figures. I am strictly a man of figures, and as you are so often referred to the balance sheet, I devoted three whole days during the last wet week to examine into the proceedings of the last year, to see where they were satisfactory, that is, profitable, and where they were unprofitable. I found that I had sold 50*l.* worth of pork within the year; that deducting the food purchased for them they repaid me a small increase, and that I had all their manure for nothing. Those pigs were all bred on the farm, and so well does the operation suit my pockets, that next year, if I can breed enough, I hope to sell 100*l.* worth of them. My corn was satisfactory, but the labour was very high, and part of that labour was perhaps unduly charged because the bailiff was occupied pretty well half his time in showing my visitors round the farm, instead of watching the operations of the labourers. On looking further, I found there was something wrong and unprofitable somewhere, and as I keep a minute account of every farthing paid and received, I was not long in finding out where the shoe pinched. (Laughter.) I found that I had had 20 acres of very fine roots, which I could have sold for 10*s.* per ton, or 1*l.* per acre, to draw off; but after I had taken the trouble to draw, cut, and hand them to the bullocks, I found, with what I paid for oilcake, Linseed, and corn they consumed, that instead of these 20 acres bringing to me their worth of 200*l.*, I had absolutely lost the whole in exchange for the pleasure of feeding the beasts. I consider that when we can we ought to feed off every acre of roots with sheep upon the land, giving them oilcake too, since to grow root crops to cart off for bullocks is a most unprofitable occupation. Why this is the case I will endeavour to explain: I find I can always sell my mutton at 1*s.* per stone, or 1*d.* per lb. more than beef, while I find it costs me just as much, perhaps rather more, to make a pound of beef than it does a pound of mutton; therefore, if I sell 500*l.* worth of beef, instead of mutton, I have really lost one-fifth, or just 100*l.* A voice: "But you get more manure.") No we do not, and therefore I say let us feed off all we can upon the land with oilcake, and do not imagine that will make it too rich for corn. I hold that it could never be too rich for a corn crop if you put in the proper quantity of seed to suit the land. (Yes, yes.) I have seen growing this year, in one of the richest gardens in England, a crop of Wheat, from something like three quarts of seed, the produce of which was estimated at 12 quarters per acre. (Hear, and laughter.) That was at Mr. Hudson's, at Newby. I do not believe that the yield was so much as that, but in a rich garden, with a small quantity of seed, you may expect a great increase; and it has been found that open lands which have been under cultivation as gardens, if you get a standing crop of Wheat, it is more productive than with ordinary cultivation. I never go into any country where the idea that land can ever be, I was going to say, rich enough for Wheat; certainly it can never be too rich. If you have roots home, the expense for carting and carting manure is less than a penny per quarter; and even if you carry home a proportion of 30 parts rotted compost to 1 part of lime, I agree with me that you cannot do better than to do so. But mind, for if you take it away, you must supply manure to the land, or it never will enrich the land. Where it is not possible to feed, we must not grow Mangold Wurzel, it must be a crop of Turnips or Cabbages for the sheep to eat on the land, and that we shall suffer less. I mention where I have lost, and where I have been the weakest part of my farming. I have [illegible] the question, how I intend to manage [illegible] A gentleman who does keep horses, and he gives [illegible] and for roots. I think we are [illegible] a very [illegible] pence in a £. s. d. point of view, and, supposing the [illegible] I think will pay you good interest for your capital. [illegible] connected with drainage. I have [illegible] [illegible] implements with which [illegible] [illegible] "Why do you [illegible] [illegible] some extent indeed I [illegible] having [illegible] found out, whether [illegible] [illegible] we are more [illegible] [illegible] drains more than the [illegible] [illegible] and therefore I [illegible] [illegible] and harrows on [illegible] [illegible] water furrows in [illegible] [illegible] they pay for that [illegible] [illegible] times take place in very [illegible] [illegible] running like pumps. [illegible] three experiments. [illegible] per acre good, and more [illegible] one case two bushels and three pecks per acre more [illegible] less than a bushel, and in the third the [illegible] advantage of about and a peck per acre. [illegible] year I have tried the sowing—one half [illegible] almost invariably certainly the greatest [illegible] —has been in favour of thin sowing. I am speaking [illegible] moderately friable soils; and I must guard myself by saying that you ought to look to the condition of your land. Various things have a bearing upon it, and a man must [illegible] narrowly and not pass an opinion upon what he sees [illegible] out the test of the bushel. In my own case I [illegible] glad to see such of you as may like to come and look at the experiments as they go on. The next [illegible] steam-engine, which I find by experience very [illegible] I use it very much for myself, and [illegible] neighbours avail themselves of it, so that it [illegible] as well as all day. I find that the [illegible] estimated, costs 5*d.* per hour, and [illegible] and as it will grind 5 bushels of [illegible] sundry other things, such as pump water, [illegible] cut chaff at the same time, I think it pays [illegible] return of profit over and above the [illegible] taking horses from plough at particular times when they are wanted upon the land. Altogether it is a great [illegible] a farm, and I shall be happy to give any information [illegible] it which may be desired, but you must [illegible] a six-horse power engine with grinding [illegible] would cost less than 70*l.*, though I [illegible] but the same sum invested in [illegible] cent [illegible] profit as you might certainly [illegible] I agree with Mr. Colman that we [illegible] upon the land; it is the last [illegible] that manure [illegible] can make manure enough upon the farm, and [illegible] the year, because I omitted to [illegible] my land for Wheat [illegible] cut rather a sorry figure. I think the omission [illegible] for the 50 acres has lost me [illegible] in produce, when the [illegible] might have saved me sundry [illegible] of the land, which would have been [illegible] acres. Another point [illegible] in this county is deep cultivation. I [illegible] [illegible] disturbance of the subsoil when [illegible] [illegible] ploughed up for a number of years. I have [illegible] Clover growing upon [illegible] that would [illegible] [illegible] it for it. I think that the bringing [illegible] the top would be injurious, but there [illegible] advantageous. With regard to [illegible] [illegible] they are being distributed; but [illegible] in this respect, having [illegible] [illegible] of high fences and waste [illegible] [illegible] to be thicker than a man's [illegible] [illegible] per acre: and I do not [illegible] [illegible] slovenly. These are points which [illegible] and the neglect of which is not only [illegible] I think farming to be a [illegible] and among many [illegible] [illegible] beneficial. I beg to thank you [illegible] [illegible] have heard me, and I hope you will accept my [illegible] to the carts: and if we can [illegible] [illegible] annually, I think we shall achieve a [illegible]

Calendar of Operations.

NOVEMBER.

BERWICKSHIRE MERSE FARM. *Nov. 24.*—Since last report we have been employed in ploughing Grass land with three horses for Beans, fallow land for Wheat, storing Turnips for the cattle, &c., but had to stop for the wet; the workers have been pulling Turnips and filling them into the carts, assisting in threshing Barley for the market, &c.: the men cutting roots for two feeding the cattle. *J. B.*

EAST LOTHIAN FARM. *Nov. 25.*—With rather unsettled weather, we have been employed during the week [illegible] off Swede Turnips when weather permit [illegible] Barley and carting the same to market. We are [illegible] giving Swedes to the feeding cattle, the Purple-top Yellow Turnip being gone. *M.*

HOLWELL'S FARM, DEVON. *Nov. 20.*—During the past week we have been engaged [illegible] planting our last [illegible] Wheat, but have delayed sowing the [illegible] a few days to enable us to secure the Mangold Wurzel. This crop is now all stored, and may be considered a very fair [illegible] the late unfavourable weather for our heavy land. We have stored them away in large heaps, covering them well with straw and afterwards with turf, at the back of the homestead. Our feeding bullocks have also been taken into houses, 21 in number, and appear to be doing very well. Carting a few common Turnips for bullocks, and threshing Wheat for seed. *J. M.*

Notices to Correspondents.

ANIMAL MATTER AS MANURE: *J. W. K.* Chop it up and mix it with horse-dung in a state of high fermentation and cover the heap with plenty of vegetable mould and soil.

BOOKS: *L.* That by Grainger and Kennedy is a compilation of "cost me" between outgoing and incoming tenant prevalent in different localities—as stated in the reports to the Board of Agriculture. Baylden on Rents and Tillages is probably the best work for you.

CARROTS, &c., FOR SEED: *Fredric.* Plant the roots just deep enough to see their tops, now—in rows 30 inches apart and 2 feet from plant to plant. Seeds for use as seed should be allowed to ripen as nearly as possible before separation from the plant; but they may be dried artificially.

EDUCATION: *C. J. R.* A residence with a farmer near Edinburgh

would be most useful; you would see good farming and be near enough the town to attend the lectures of Professors Low, Gregory, Balfour, &c., on agriculture, chemistry, and botany.

FEEDING PIGS: *B—s.* To soak the Barley long enough in cold water would probably prepare the grain as well as boiling. We have fed a 12-score hog on 6 lbs. of Barley-meal mashed up with 28 lbs. of steamed Potatoes daily. Our horses receive a peck of Oats and Carrots *ad lib.*, and straw *ad. lib.* daily.

FENCE: *T A.* We should fear the efficiency of your fence against cattle on the bank side.

FOOD OF CATTLE: *C W T.* Your question, strange to say, cannot be answered. We do not believe that the truth has ever been sought for on the subject. And there is this excuse to be said, that the difference of advantage, though probably on the whole range of experience palpable enough, might be overbalanced by the greater influence of constitutional difference between the animals fed—in the limited trials which individual farmers can be expected to give it. You ought not to be satisfied with the only answer we can give—viz, that we believe the general experience to be that to cut straw and hay into chaff is advantageous in feeding, beyond the cost of the process. Lime and earth can be mixed for 1*d.* per cubic yard, measured after the mixture. Drains of the depth you name in such soil as you describe will cost probably 1*s.* per 8 yards to dig, place the tiles, and fill in. On food see our Leader to-day.

HORSE-FEED: *C E F.* A quarter of a cwt. of Carrots would be an equivalent for 4 lbs. of Oats; and you may displace any required quantity of Carrots by one quarter their weight of hay.

LIME: *A Subscriber.* If your sheep take the rot it will not be because of the lime.

LUCERNE: *S B.* Sow in April about 6 or 8 lbs. of seed in rows 18 in. apart, on a well tilled and deeply cultivated loamy soil.

PLOUGHING: *Burslem* Now rather than spring; but you are aware that few farmers approve of Oats after Wheat.

POULTRY: *W X* may have eggs of the sort he enquires after by giving us his address.

PROSPECTS OF FARMING: *A L A.* Last week.

MANGOLD WURZEL: *E A O.* Has any one found it injurious to cattle or pigs with young? We know that given *ad. lib.* it is commonly held to be injurious; but will any one kindly give us the history of a case? Mangold Wurzel should not be used till spring.

PEATY SOIL: *Sussex* had better "clay" it now, or cover it with the mould he speaks of. Sow Rape next summer, feed it off with sheep, and sow Oats (a thin seeding) with Grass seeds in the following spring.

BEASTY BACON: Will "S. G., Notts," be kind enough to say in what state the lime is used, *i, e.*, quick or slacked, and whether slacked by water or exposed to the air? *T. F., Ledbury.*

RENT OF COW: *A Sub.* Under favourable circumstances it should be from 8*l.* to 10*l.* per annum. We know of no record of the cheese markets.

RICE: *Jungfrau.* It cannot now be purchased at 12*s.* a cwt. The wholesale grocers of London are the people to apply to. The seeds of the annual Sunflower are good for all sorts of poultry.—Are the field mice michievous to any serious extent?

SMALL PROPRIETORS IN FRANCE: *M W R.* There is no misprint in the paragraph referred to. It is an extract from the work of Messrs. Mourrier and Rubichon, on the Agriculture of France, published in 1846. The paragraph follows a table compiled from official documents. The following is an extract nearly in full: "The statistic returns agree in this, that France contains 46 millions of cultivable hectares, of which 3 millions are under forests, leaving 43 millions divided thus:

	Hectares.
3,000,000 families cultivating their estates of a little more than 3 hects., possessing altogether	10,000,000
800,000 do. cultivating little more than 13 hects. each, say	10,000,000
1,000,000 do. cultivating their land, through tenants, on the conditions following:	
By métayers, at half produce, about ...	15,000,000
By general leases to middlemen, with privilege of sub-letting	3,000,000
By special do. to tenants, without privilege of do.	5,000,000
	43,000,000

"We have first to notice in the order of the above table the 3 million families, who pay a property-tax of from 25 centimes to 25 francs. They constitute nearly half the population of the kingdom, and occupy nearly a fourth of the cultivable soil. By the action of the civil code, their number increases daily, and they will yet occupy the third, the half, and at last the entire of the soil at some period. There are two evils inherent in the condition of these families—those which they themselves experience, and those which they occasion to others. First, the inability to pay taxes obliges them alone to abandon their land, in order to save their furniture and stock; they are principally families whom the law is obliged to follow for the payment of the taxes; at the death of the head of those families, they suffer most from the expenses of registration and the subdivision of the paternal farm, and it is upon them that the registration taxes and expenses press most heavily, &c. But above all, it is this class which experiences most severely that calamity unknown until our times—the want of work; for these 3 millions of families, possessing in certain parts of France almost the whole of the land, and being able only to extract 50 days' subsistence from it in the year, have no longer in their neighbourhood proprietors who can supply them; fixed as they are to a prescribed location by their strips of land, they can no longer go to a distance in search of the work which would afford them the means of living. No; the sufferings, the degradation of these 3 millions of families, are not more severely felt by the Irish peasantry in their utmost privations. These, at least, know how to resist and die. What most astonishes observers, is the patience as well as the fortitude with which Providence has endowed the French in adversity."—*Vol. I., p. 296.*

*** Communications reaching town after Wednesday cannot be answered the same week.

Markets.

POTATOES.—Southwark, Waterside, Nov. 27.

The Committee report that the arrivals from Yorkshire up to the present time have been less than for many seasons, which has not been much felt, as our market continues to be well supplied both from Scotland and the Continent, the supply of the latter continues to be so liberal, that prices have but little chance of advancing. The following are this day's quotations:—York Regents, 100s to 160s; Scotch do., 110s to 160s; Scotch Reds, 60s to 90s; Scotch Cups, 60s to 90s; Scotch whites, 60s to 85s; French Whites, 70s to 95s, Belgian do., 70s to 95s; Dutch whites, 60s to 80s.

HAY.—Per Load of 36 Trusses.

Smithfield, Nov. 30.

Prime Mead. Hay	65s to 70s	New Hay ..	—s to —s	Straw ..	23s to 28s
Inferior ditto ..	50 60	Clover	60 90		
Rowen	40 52	New Clover ..	— —		

The trade very heavy. J. Cooper.

Cumberland Market, Nov. 30.

Prime Mead. Hay	70s to 76s	Old Clover .	90s to 95s	Straw ..	28s to 30s
Inferior	48 63	Inferior ..	50 78		
New Hay	— —	New Clover ..	— —		

Joshua Baker.

Whitechapel, Nov. 30.

Fine Old Hay ..	65s to 70s	Old Clover ..	90s to 105s	Straw ..	24s to 28s
Inferior Hay ..	45 50	Inferior ..	45 65		
New Hay.. ..	60 65	New Clover ..	80 90		

COVENT GARDEN, Dec. 2.

The market continues to be well supplied with Vegetables and most kinds of Fruit. Pine-apples are plentiful; and hothouse Grapes sufficient for the demand. Ribston Pippins and other dessert Apples are still ticketed 6 and 8 for 1*d.* On some of the stalls we remarked nice specimens of the beautiful little Ame ican Lady Apple. Among Pears were good specimens of Chaumontelle, Crassane, Gilout Morceau, Beurré Diel, Passe Colmar, &c. Nuts in general are sufficient for the demand, except Filberts and Cobs, which continue scarce. Some Tangerine Oranges have made their appearance; other Oranges are becoming more plentiful. Lemons are scarce. Amongst Vegetables, Carrots and Turnips are abundant and good; Cauliflowers, Broccoli, &c, sufficient for the demand. Some Asparagus and French Beans have made their appearance. Potatoes continue to be plentifully supplied. Lettuces and other salading are sufficient for the demand. Mushrooms are plentiful. Cut Flowers consist of Heaths, Pelargoniums, Camellias, Gardenias, Fuchsias, and Roses.

FRUITS.

Pine Apple, per lb., 3s to 5s	Almonds, per peck, 6s
Grapes, hothouse, per lb. 2s to 5s	— sweet, per lb., 2s to 3s
— foreign, per lb., 9d to 1s	Walnuts, per bag, 1s 6d to 2s
Apples, dessert, per bush., 4s to 7s	— per bush., 10s to 24s
— kitchen, p. bush., 3s to 5s	Chestnuts, per peck, 1s to 2s
Pears, per doz., 2s to 6s	Nuts, Barcelona, per bush., 20s to 22s
— per half sieve, 6s to 10s	— Filberts, per 100 lbs., 60s to 100s
Oranges, per doz., 1s to 2s	— Cob, per 100 lbs., 90s to 150s
Lemons, per doz., 1s to 2s	— Brazil, per bush., 12s to 16s
— per 100, 10s to 18s	

VEGETABLES.

Cabbages, per doz., 3d to 1s	Tomatoes, per punnet, 9d to 1s 3d
— red, per doz., 1s to 4s	— per half sieve, 3s to 5s
Cauliflowers, per doz., 6d to 2s	Shallots, per lb., 4d to 8d
Broccoli, white, per doz., 3s to 4s	Garlic, per lb., 4d to 8d
— brown, per bunch, 6d to 1s 3d	Radishes, per doz. bands, 6d to 1s
Sorrel, per half sieve, 6d to 9d	— Turnip, do., 9d to 2s
Potatoes, per ton, 60s to 130s	Artichokes, per doz., 1s 6d to 2s
— per cwt., 5s to 9s	— Jerusalem, p. half sieve, 1s to 1s 6d
— per bush., 2s 6d to 5s	Lettuce, Cab., per score, 4d to 6d
Turnips, per doz. bunches, 9d to 2s	— Cos, do., 9d to 1s
Red Beet, per doz., 6d to 1s	Endive, per score, 9d to 1s
Horse Radish, per bundle, 1s to 6s	Mushrooms, per pottle, 6d to 1s
Asparagus, per 100, 4s to 6s	— per bushel, 4s to 6s
Cucumbers, each, 4d to 1s	Small Salads, per punnet, 2d to 3d
Leeks, per bunch, 1d	Fennel, per bunch, 2d to 3d
Celery, per bundle, 6d to 1s 3d	Savory, per bunch, 2d to 3d
Carrots, per doz. bunches, 3s to 5s	Thyme, per bunch, 3d to 4d
Spinach, per sieve, 9d to 1s	Watercress, p. 12 small bun., 6d to 9d
Onions, per bunch, 3d to 4d	Parsley, per doz. bunches, 1s 6d to 2s
— per bushel, 1s 6d to 2s 6d	— Roots, per bundle, 1s to 1s 6d
— Spanish, per doz., 1s 6d to 4s	Marjoram, per bunch, 2d
— pickling, p. hi sieve, 1s 6d to 3s	Mint, green, per bunch, 2d

HOPS, Friday, Dec. 1.

Messrs. Pattenden and Smith report that there is a steady trade for all Hops possessing a fair share of colour, but low samples are very unsaleable.

Mid. & East Kents, p. cwt.	50s to 130s	Yearling Kents, p. cwt. ..	38s to 52s
Weald of Kents	42 — 79	Yearling Sussex	38 — 52
Sussex	30 — 120	Old Hops	20 — 35
Farnhams	80 — 120		

SMITHFIELD, Monday, Nov. 27.

We have a large supply of Beasts and of fair average quality. Trade is cheerful, but prices cannot be quoted higher. There is a great falling off in the number of Sheep, and the quality is very indifferent; consequently trade is rather improved for the best descriptions, but it is still very dull for inferior kinds. There are not many good Calves on sale: they are readily disposed of at an advance of about 4*d.* per 8 lbs. From Holland and Germany we have 484 Beasts, 230 Sheep, and 67 Calves; from Denmark, 235 Beasts; from France, 27; from Ireland, 200; from Leicester and Northampton, 2550; and from Lincolnshire, 240.

Per stone of 8 lbs.—	s	d	s	d	Per stone of 8 lbs.—	s	d	s	d
Best Scots, Herefords, &c.	4	0	to 4	4	Best Long Wools	4	2	— 4	6
Best Short Horns	3	8	— 4	0	Ditto Shorn	....			
Second quality Beasts ..	3	10	— 4	6	Ewes and second quality	3	6	— 3	10
Calves	3	6	— 4	6	Ditto Shorn	....			
Best Downs & Half-breds	4	8	— 5	0	Lambs	....			
Ditto Shorn	....				Pigs	4	4	— 5	4

Beasts—4191. Sheep and Lambs—18,630. Calves—128. Pigs—250.

Friday, Dec. 1.

For the time of year the supply of Beasts is small. Monday's quotations are well maintained, with a ready sale for the choicest descriptions, but a dull trade for second rate. The number of Sheep is small; this is, however, usual at this season; the demand is also very limited. The best lambs are the turn dearer, but on the average there is no quotable advance from Monday last. The supply of Calves is again short; trade is brisk, at fully Monday's rates. From Holland and Germany there are 126 Beasts, 1090 Sheep, and 12 Calves; from Scotland 40 Beasts; Ireland, 60; and about 120 Milch Cows from the home counties.

Best Scots, Herefords, &c.	4	0	to 4	4	Best Long Wools	4	2	— 4	6
Best Short Horns	3	8	— 4	0	Ditto Shorn	....			
Second quality Beasts ..	3	8	— 4	4	Ewes and second quality	3	6	— 4	0
Calves	3	6	— 4	6	Ditto Shorn	....			
Best Downs & Half-breds	4	8	— 5	0	Lambs	....			
Ditto Shorn	....				Pigs	4	6	— 5	4

Beasts—775. Sheep and Lambs—3130. Calves—139. Pigs—250.

MARK LANE, Monday, Nov. 27.

Messrs. Kingsford and Lay report that the supply of English Wheat by land carriage samples this morning was again small, but owing to its poor condition and quality, millers were careless of purchasing, and prefer using foreign; consequently, although the former was offered at a reduction of 2s. to 3s. per qr. on the prices of this day se'nnight, a large proportion was left unsold late in the day. The show of foreign was considerable, and being by some much pressed for sales, we reduce our quotations 2s. per qr. notwithstanding which the business was not extensive.—Fine malting Barley is unaltered in value, but the intermediate qualities are 1s to 2s. per qr. cheaper.—Beans and Peas are a slow sale at our quotations.—The Oat trade is extremely heavy, at a decline of 1s. to 1s. 6d. per qr.—The top price of Flour is reduced 2s. per sack.

British per Imperial Quarter.	s	s		s	s
Wheat, Essex, Kent, and Suffolk	White 45	52	Red	42	46
Norfolk, Lincolnshire, and Yorkshire	46	50	White	48	52
Barley, Malting and distilling, 28s to 30s	Chevalier	30	33	Grinding	24	30
Oats, Lincolnshire and Yorkshire	Potande	20	23	Feed	18	20
Northumberland and Scotch	Feed	22	23	Potato	24	27
Irish	Feed	17	21	Potato	20	25
Malt, pale, ship		—	—			
Hertford and Essex		—	—			
Rye		38	36			
Beans, Mazagan, old and new	25s to 34s		Tick..	26	38	Harrow..	28	40
Pigeon, Heligoland	34	44	Winds	34	40	Longpod	26	30
Peas, White	34	36	Maple	36	38	Grey	34	36

Friday, Dec. 1.

Since Monday little English corn has come to hand, and the arrivals of foreign are more moderate than of late, but the attendance at market this morning was small, and the sales were effected with considerable difficulty, or purchases might have been made on rather easier terms.—Barley, Beans, and Peas are unaltered in value.—The Oat trade is the turn firmer.

[The grain and Flour trade during the past week has been unusually stagnant, and a decline of 2s. to 3s. per qr. on Wheat, 1s. to 2s. per sack and 1s. per barrel on Flour, 1s. to 2s. per qr. on Barley, and 1s. on Oats has been general, without leading to any extent of business, which apparently could not be materially increased by greater concessions, consumers being determined to act cautiously. Maize is again dull, Galatz held at 36s. per qr. afloat, without finding buyers. In the markets of Germany, Belgium, and north of France, prices of Wheat have fallen 1s. to 2s. per qr., unless in those districts where supplies are nominal, from the farmers being engaged in the fields. Spring corn, excepting Barley, which is 1s. to 2s. per qr. lower in Hamburgh, has not undergone much variation. New Orleans, 4th ult.—Considerable business had been done in bread stuffs for exportation to Great Britain, chiefly in Shaze, at 29s. and at 30s. 6d. to 31s. 6d. p. barrel, including freight. The stock of Flour was very light, and holders advancing their prices. The rates paid were 26s. 4d. to 27s. 5d. cost and freight. Very little was done in Wheat, prices were 6s. 4d. per 70 lbs., including freight.]

Imperial Averages.	Wheat.	Barley.	Oats.	Rye	Beans.	Peas.
Oct. 21	51s 7d	32s 3d	19s 11d	32s 4d	35s 9d	39s 7d
— 28	51 0	32 7	20 4	28 9	37 3	40 1
Nov. 4	51 2	32 10	20 7	31 1	37 1	39 7
— 11	52 0	33 7	20 10	30 5	37 2	40 2
— 18	52 3	34 1	20 5	30 10	38 1	40 6
— 25	51 6	33 2	20 2	30 10	36 10	40 6
Aggregate Average	51 7	33 1	20 5	30 8	37 0	40 1
Duties on Foreign Grain	6 0	2 0	2 6	2 0	2 0	2 0

Fluctuations in the last six weeks' Corn Averages.

Price.	Oct. 21.	Oct. 28.	Nov. 4.	Nov. 11.	Nov. 18.	Nov. 25.
52s 3d	...	...	...			...
52 0	...	...	...		...	...
51 7			...	...	...	...
51 6	...	...				
51 2	...		...	...	...	...
51 0	...	...	...	...	...	...

SEEDS, Nov. 27.

Canary ..... per qr.	58s to 60s	Linseed-cakes, Foreign, p. ton, 7l to 9l			
Caraway ..... per cwt.	27	29	Mustard, White, p. bush.,	4s	to 9s
Clover, Red, English	35	44	Superfine, p. bush.,	9	10
— Foreign	35	40	Brown, per bush.,	6	12
White, English	38	44	Rapeseed, Eng., per last	28l	30l
— Foreign	38	42	Rape-cake .... per ton	4l 10s	to 5l
Coriander	12	16	Sainfoin	—	—
Hempseed ..... per qr.	34	36	Tares, Eng., winter, p. bush.,	10s	0 12s 0
Linseed	38	40	Foreign, per bush.,	3s	0 6s 0
— Baltic	33	38	Trefoil	17s	0 20s
— Cakes, Eng. p. 1000,	11l 10s	to 12l	Turnip—too variable for quotation.		

CLARK'S METALLIC HOTHOUSE WORKS, 55, Lionel-street, Birmingham.—Proprietor, Mr. THOMAS CLARK; Manager, Mr. JOHN JONES.

Mr. Clark presents his grateful thanks to the Nobility and Gentry for their liberal patronage of the above Establishment, during a period of thirty years, and begs to state that the repeal of the duty on Glass enables him to offer his METALLIC HOTHOUSES at a greatly reduced price. These Houses are glazed with British Sheet Glass, in panes of from 24 to 30 inches in length, and of such thickness as to preclude all danger of accidental breakage, whilst that which arises from the action of frost is effectually prevented by the peculiar mode of glazing adopted. As a sample of his Metallic Hothouses, in which all the most recent improvements are happily combined, Mr. Clark refers to the magnificent range erected by him in the new Royal Gardens at Windsor, admitted by competent judges to be the most complete of its kind in the world.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

WIRE-WORK, HOT-WATER APPARATUS, GREENHOUSES, &c.

ST. THOMAS BAKER, MANOR-HOUSE, MANOR-PLACE, KING'S-ROAD, CHELSEA, Manufacturer of INVISIBLE WIRE FENCE, to resist Grazing Stock, and rendered Rabbit-proof. WIRE-WORK in Trainers, Arches for Walks, Bordering, Flower Stands, Pheasantries, &c. HORTICULTURAL BUILDINGS, Green and Hothouses, Conservatories, &c. The same heated by HOT-WATER APPARATUS on improved and economical principles.

Parties waited on in Town and Country, and Drawings and Estimates free. Work for the Trade as usual.

Ward's Cases, or Domestic Greenhouses.

STRAINED WIRE FENCING.

RYLANDS AND GREENING, Ornamental Wireworkers, Nos. 2 and 4, Cateaton-street, Manchester, beg to direct the attention of noblemen and gentlemen to their superior system of WIRE FENCING, for Parks, Fields, Pleasure Grounds, or Gardens, which is the strongest and cheapest that can be erected as a Cattle or Deer Fence.

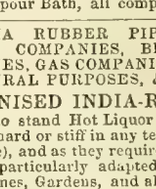
R. and G. fix up a permanent Fence, finding all requisites, at 1*s.* 3*d.* or 1*s.* 6*d.* per yard, samples of which can be referred to in the neighbourhood. Parties finding their own foot logs and straining posts, 1*s.* per yard.

Wire Espalier, for standard fruit trees, of a neat and durable construction; Iron Hurdling, and Iron Field Gates, made to any pattern, at the lowest prices and at the shortest notice. Wire Netting for rabbit fencing always on hand, at prices from 6*d.* to 1*s.* per yard, according to strength.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as building and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. White and Sons, Millbank-street, Westminster.

THE IMPROVED HYDRAULIC RAM, fixed by Freeman Roe, Fountain Maker, 70, Strand, London, can be worked by a small stream of half-an-inch, where a fall of 2 feet can be obtained. The same RAM, without the aid of a Tank or Cistern, arranged to throw a Jet of Water constituting a Fountain with the head of water beneath.



Engines for deep wells of all kinds, Douche and other Baths Buildings heated by hot water. Water wheels to work small pumps, from 15*l.* Estimates given for the supply of towns, &c.

A newly-invented Portable Vapour Bath, all complete for 4*l.*

PATENT FLEXIBLE INDIA RUBBER PIPES AND TUBING FOR RAILWAY COMPANIES, BREWERS, DISTILLERS, FIRE-ENGINES, GAS COMPANIES, GARDENING AND AGRICULTURAL PURPOSES, &c.

THE PATENT VULCANISED INDIA-RUBBER HOSE PIPES are made to stand Hot Liquor and Acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible), and as they require no application of oil or dressing, are particularly adapted for Fire-engines, Pumps, Gas, Beer-engines, Gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes from ¼ inch bore upwards, and of any length to order.

Vulcanised India-rubber Garden Hose, fitted with brass taps, copper branch, and roses complete, ready to be attached to Pumps, Water-butts, or Cisterns.—Sole Manufacturer, James Lyne Hancock, Goswell Mews, Goswell-road, London.

N.B.—Vulcanised India-rubber Washers of all sizes for Joints of Hot-water and Steam Pipes, and Vulcanised sheet Rubber, any thickness, for all kinds of Joints, and other purposes.

CARSON'S ORIGINAL ANTI-CORROSION PAINT, specially patronised by the British and other Governments, the Hon. East India Company, the principal Dock Companies, most public bodies, and by the Nobility, Gentry, and Clergy, for out-door work at their country seats. The Anti-Corrosion is particularly recommended as the most durable out-door Paint ever invented, for the preservation of every description of Iron, Wood, Stone, Brick, Compo, Cement, &c., work, as has been proved by the practical test of upwards of 60 years, and by the numerous testimonials (between 300 and 400) in its favour, and which, from the rank and station in society of those who have given them, have perhaps never yet been equalled by anything of the kind hitherto brought before the public notice. A copy of the Testimonials, together with a List of Prices, Colours, &c., will be forwarded on application to Walter Carson, 15, Tokenhouse Yard, back of the Bank of England, London. No Agents. All orders to be sent direct.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will sell by Auction at the Mart, Bartholomew-lane, on FRIDAY, December 8, 1848, a first class collection of DUTCH BULBS; comprising very fine double and single Hyacinths, Tulips, Crocus, Anemones, Amaryllis, Gladiolus, &c.; also about 300 splendid Standard and Dwarf Roses, consisting of Noisettes, Hybrids, Bourbons, Perpetuals, Chinas, &c. May be viewed the morning of Sale, and Catalogues had at the Mart, and of the Auctioneers, Leytonstone, Essex.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, BUILDERS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS are instructed to Sell by Auction, on the Premises, the Arboretum, Fulham-road, Brompton, on WEDNESDAY, December 13, 1848, and two following days, at 11 o'clock precisely (by order of the Sheriff of Middlesex), the valuable NURSERY STOCK, consisting of a very large quantity of fine Evergreens, Standard and Dwarf Roses, Fruit and Forest Trees, Ornamental and Deciduous Shrubs, &c.—May be viewed prior to Sale. Catalogues had on the Premises; of the principal Seedsmen; and of the Auctioneers, American Nursery, Leytonstone, Essex.

TO GRAPE GROWERS, NURSERYMEN, FLORISTS, AND OTHERS.

TO BE SOLD OR LET, with immediate possession, AN ESTABLISHED BUSINESS in the above line, situate in one of the best localities for such a purpose in the town of Brighton; laying fully open to the south, and completely sheltered from the north and west. The whole of the premises are walled in, and comprise a series of 12 Forcing and Succession Graperies, Peach, Stove, Propagating and Planthouses, besides Pits, &c.; covered by upwards of 10,000 feet of glass. The whole of the external and sectional walls are clothed with full-bearing Fruit Trees of the finest sorts; and water from the Company's main is laid on to various fish pools and ornamental tanks, conveniently placed for the use of every part of the premises. If sold, a large portion of the purchase money may remain on Mortgage, if required.—Apply to Mr. PARSONS, Auctioneer and Estate Agent, 30, Marine Parade, Brighton.

FARM TO LET.

TO BE LET, an ARABLE FARM, of 500 acres, nearly all Turnip Land. It is about 30 miles from London, and two from a principal market town, from which will shortly be railway communication to London. The Homestead is most perfect, and stands in the centre of about 30 acres of Meadow, with a modern-built Lodge at the entrance, as residence for Bailiff or Shepherd. The house, of agreeable elevation, although not too large for a person solely devoted to business, is so beautifully situated as to be worth the attention of any gentleman attached to agriculture and field sports, being midway between two kennels of fox hounds; abundant spring water, and capital roads. The privilege of Shooting, and 14 or 21 years' Lease will be granted. Rent and rates moderate.—For particulars, direct to J. C., Messrs. Harrison's, 2, George-yard, Lombard-street, London.

TO SEEDSMEN, &c.

TURNIP SEEDS.—On Sale by the Subscribers, Turnip Seeds of warranted quality. Crop 1848.
10 tons Green-top large Bullock Yellow.
5 tons Purple-top large Bullock Yellow.
5 tons Aberdeenshire Yellow.
Seed Oats of all kinds; Furze and Broom seeds.
Shipped free on board at Banff, or freight paid to Leith, London, Liverpool, or Newcastle, as agreed on.
J. MORRISON and SON, Seedsmen, Banff, N.B.—Dec. 2.

SEEDS.—CORNER OF HALF-MOON STREET.
THOMAS GIBBS AND Co.,
(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND,"
Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF MOON-STREET, PICCADILLY, London, as for the last Fifty Years.
Priced Lists of Agricultural Seeds are always ready, and may be had on application.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND CO., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS FOR CONSERVATORIES. CUT TO SIZE UP TO 40 INCHES LONG.			PRICES OF SMALL SHEET SQUARES. In boxes of 100 feet. s. d.
16 oz. from 3d. to 3½d. per foot.			Under .. .. 6 by 4 ..12 6
21 ,,	3½	5 ,,	6 by 4 and under 7 by 5 ..16 6
26 ,,	3½	7½ ,,	7 by 5 ,, 8 by 6 ..18 6
32 ,,	4	9½ ,,	8 by 6 ,, 10 by 8 ..20 6

GLASS MILK-PANS, PROPAGATING GLASSES, AND BEE GLASSES. GLASS TILES AND SLATES.
CREAM POTS, from 3 to 24 quarts, at 6d. per quart.
CUCUMBER GLASSES, from 12 to 26 inches long, 1d. per inch.
LACTOMETERS for trying the quality of Milk, 4 tubes 7s. 6d., 6 tubes 10s.; Hyacinth Glasses and Hyacinth Dishes; Crocus Glasses; Shades for Ornaments; Fish Globes; Plate and Window Glass; Lamp Shades and Chimneys; and every article in the trade.

METAL HAND FRAMES.
HARTLEY'S PATENT ROUGH PLATE, AND PATENT DOUBLE CROWN GLASS.

GLASS FOR CONSERVATORIES, GREENHOUSES, PIT FRAMES, &c.

HETLEY AND CO. are supplying 16-oz. Sheet Glass, of British Manufacture, packed in boxes containing 100 square feet each, at the following REDUCED PRICES for cash. A reduction made on 1000 feet.

Sizes. Inches.		Inches.	Per foot.	Per 100 feet.
	Under	6 by 4	at 1½d.	is £0 12 6
From 6 ,, 4	,,	7 ,, 5	,, 2d.	,, 0 16 8
7 ,, 5	,,	8 ,, 6	,, 2¼d.	,, 0 18 9
8 ,, 6	,,	10 ,, 8	,, 2½d.	,, 1 0 10
10 ,, 8	,,	12 ,, 9	,, 2¾d.	,, 1 2 11

Larger sizes, not exceeding 40 inches long.
16 oz. from 3d. to 3½d. per square foot, according to size.
21 oz. ,, 3½d. 5d. ,, ,, ,,
26 oz. ,, 3½d. 7½d. ,, ,, ,,

PATENT ROUGH PLATE, THICK CROWN GLASS, and PATENT PLATE GLASS for Horticultural purposes, at reduced prices, by the 100 square feet.
GLASS TILES AND SLATES made to any size or pattern, either in Sheet or Rough Plate Glass.
Propagating Glasses, Bee-hive Glasses, Cucumber Tubes, Glass Milk Pans, Glass Water Pipes, and various other articles not hitherto manufactured in glass.
PATENT PLATE GLASS.—The present extremely moderate price of this superior article should cause it to supersede all other inferior window glass in a gentleman's residence. No alteration connected with the sash is required.
GLASS SHADES, as ornamental to, and for the preservation of every description of goods susceptible of injury by exposure. Prices, since the removal of the Excise duty, reduced one-half. List of Prices and Estimates forwarded on application to JAMES HETLEY and Co., 35, Soho-square, London.

GLASS FOR GREENHOUSES, CONSERVATORIES, GARDEN FRAMES, &c.

Hothouse Builders, Nurserymen, and others, supplied with every description of Sheet and Crown Glass, Rough Plate, &c. Glass Tiles, Propagating, Cucumber, and all other Garden Glasses. Address, T. COGAN, 18, Leicester-square, London.

PRICES OF SMALL SQUARES IN BOXES OF 100 FEET.

	Crown	Sheet
Squares under 6 by 4 ..	1[illegible] [illegible]	£0 1[illegible] [illegible]
6 by 4 and under 7 by 5	11 0 ..	0 16 6
7 by 5 ,, 8 by 6	15 0 ..	0 18 6
8 by 6 ,, 10 by [illegible]	16 0	1 0 6

Larger sizes, of all qualities and thicknesses, equally low.

PAINTS.—LITHIC AND OTHER DURABLE PAINTS, ready for use for FARM Buildings, Agricultural Implements, Park Fences, Outhouses, &c., &c. Genuine White lead, Colours, Brushes, &c., best quality, and lowest prices.
GLASS MILK PANS FOR THE DAIRY.
Cream Pots, Lactometers, Glass Rolling Pins, Pastry Pans, Shades for Ornaments, Lamp Shades, &c., as usual. For Lists (priced), direct to T. COGAN, Glass, Colour, and Lead Warehouse, 18, Leicester-square, London.

PERUVIAN AND BOLIVIAN GUANO ON SALE,
BY THE ONLY IMPORTERS,
ANTONY GIBBS AND SONS, LONDON;
WM. JOSEPH MYERS AND Co., LIVERPOOL;
And by their Agents,
GIBBS, BRIGHT, AND Co., LIVERPOOL and BRISTOL;
COTESWORTH, POWELL, AND PRYOR, LONDON.
To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character or to the above-named importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

WHEAT SOWING.

MARK FOTHERGILL, 201A, Upper Thames-street, London, offers the following MANURES for the Wheat crop, and warrants the quality to be genuine, viz.:
SUPERPHOSPHATE OF LIME (prepared from Bone only).
WHEAT MANURE (containing a large amount of Silicates, with rich Phosphates).
DRIED NIGHT-SOIL (obtained from a large public institution).
PERUVIAN GUANO (direct from import warehouse).
BRITISH GUANO (rich in all the Salts of Ammonia, Phosphates of Soda and Potash, &c., contained in the foreign, at a considerably lower price).
Also, Soda Ash (Wireworm destroyer), Gypsum, Urate, Nitrates Soda and Potash, Salt, Bone dust, and all other manures of known value.—Apply for prices current as above.

WHEAT SOWING.

THE LONDON MANURE COMPANY beg to offer as under:—
LONDON MANURE COMPANY'S CORN MANURE.
,, ,, ,, URATE. [LIME.
,, ,, ,, SUPER-PHOSPHATE OF
Peruvian Guano, direct from Importers' stores—Fishery and Agricultural Salt—Gypsum for Clover—Soda Ash for destroying wireworm, and every other Artificial Manure.
The London Manure Company would call particular attention to their Corn Manure and Urate, the former containing a large amount of Ammonia, Phosphates, and Silicates, all so essential for corn crops, while the Urate is rich in Phosphates and other mineral substances required for roots.
Full particulars and prices forwarded on application.
EDWARD PURSER, Sec., 40, Bridge-street, Blackfriars.

MESSRS. NESBIT'S CHEMICAL AND AGRICULTURAL SCHOOL, 38 Kennington-lane London.—A sound practical knowledge of Analytical and Agricultural Chemistry, Geology, Surveying, Levelling, Railway Engineering, &c., may be obtained in Messrs. NESBIT's Academy, in addition to a good modern education.
Mr. NESBIT's works on Arithmetic, Mensuration, Gauging, Land Surveying, English Parsing, &c., are published by LONGMAN and Co., and may be had of all Booksellers.
The terms of the School can be had on application either personally or by letter.

HOTHOUSES, & HEATING BY HOT WATER.
BEST MATERIALS AND WORKMANSHIP, AT SMITH'S, GLEBE-PLACE, KING'S ROAD, CHELSEA, LONDON.
ESTABLISHED TEN YEARS.

SPADE CULTIVATION AND DRAINING.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

W. A. LYNDON, Minerva Works, Birmingham, Manufacturer of Patent SPADES, SHOVELS, and DRAINING TOOLS.
To Nurserymen, Gardeners, and Agricultural Labourers, these Spades will be found invaluable, and calculated to lessen the labour of digging very materially; they are warranted to carry a knife edge which will neither break nor turn, wear perfectly bright on the surface, and last as long as three spades or shovels of the ordinary kind, and are now coming generally into use amongst the principal Nurserymen, Market-gardeners, and Agriculturists in the kingdom.
The Draining Tools gained two prizes at the Royal Agricultural Society's Meeting held at Northampton, 1847, since which time they have been awarded prizes and commendations from all the local societies where they have been exhibited.
Spurious imitations of these Tools are being made, called Improved and Cast Steel Spades, Shovels, &c., and labelled similar to mine. None are genuine unless bearing my name in full upon the strap and label.
Spades, Shovels, Draining Tools, Digging, Potato, Manure, and Hay Forks made to any pattern, and adapted for every description of soil.—To be had of all Ironmongers in the kingdom.

IRISH FOSSIL DEER.

NOLAN, of the Noah's Ark, Bachelor's-walk, Dublin, has this day received, in LONDON, some splendid specimens of the Heads, Horns, and an entire Skeleton of the EXTINCT IRISH DEER.—Communications, personally, or by letter, directed to Him, at Anderton's Hotel, Fleet-street, London, will meet with his immediate attention. His various POULTRY have been awarded premiums at all the Agricultural Shows in England, Ireland, and Scotland, at which they were exhibited, and he now offers them for sale.
The above specimens are now on view at Mr. HERRING'S Managerie, New-road, London.

SHETLAND PONIES AND MILCH COWS.—Just landed, a few very handsome small SHETLAND COWS and HEIFERS, to calve in two and three months. The Milk is equal in quantity and quality to the Alderney. A large choice of SHETLAND and SCOTCH PONIES, of all sizes, from 8½ to 12 hands, some very handsome ones, broken, and very quiet, for harness and children; some well matched pairs.—To be seen at THOMAS OSTON's, Salesman, 69, Wapping.

BAKER'S POLEASANTRY, Beaufort-street, King's-road, Chelsea, by special appointment to her Majesty and H.R.H. Prince Albert.—[illegible] WATER FOWL, [illegible]

ARTIFICIAL INCUBATION.—The Inventor of [illegible]

DR. NEWINGTON'S IMPLEMENTS may be exhibited at the [illegible] Hand Dibbles, [illegible] Drawers, [illegible] Transplanting [illegible]

NOTT'S PATENT STOVES FOR CHURCHES, HALLS, WAREHOUSES, &c.—The stock of [illegible] now REMOVED to [illegible] Cavendish-square, [illegible] usual Terms. N.B. The [illegible] per cent.

SMOKY CHIMNEYS CAUSED BY WIND, are guaranteed to be cured [illegible] NEWLY INVENTED [illegible] the following advantages [illegible] Day's Patent [illegible] and tested at Mr. JEAKES's, [illegible] Bloomsbury. [illegible]

COMFORT FOR TENDER FEET, AND A CERTAIN CURE FOR CORNS AND BUNIONS.
PAUL'S EVERY MAN'S FRIEND,
Patronised by the Royal Family, Nobility, &c.
PAUL'S EVERY MAN'S FRIEND [illegible] is generally admitted to be the [illegible] Corns and [illegible] who are afflicted with such [illegible]
Prepared by [illegible] use, at C. King, 8, Napier [illegible] and all wholesale and retail [illegible] Country. The genuine [illegible] Government Stamp [illegible] corns. Ask for "Paul's Every Man's Friend."
Sold also by [illegible] 67, St. Paul's Churchyard; [illegible] Newbery, St. Paul's; [illegible] Cornhill; Sanger, 150, Oxford-street; [illegible] Bishopsgate-st. Without; [illegible] Strand; Hannay and [illegible] Oxford-street; [illegible] able Chemists and Medicine Venders in every town in the kingdom.

HAIR RESTORED.—Further confirmation of the unfailing virtues of OLDRIDGE'S BALM OF COLUMBIA. The wonderful efficacy of this [illegible] in restoring the hair to its pristine beauty, and the certainty with which its conservative agency [illegible] received, as might be expected, [illegible] from the grateful thousands who have [illegible]
To Messrs. C. and A. Oldridge.
[illegible] May, 1848.
"GENTLEMEN.—I consider it due to [illegible] able BALM of COLUMBIA, to state the [illegible] effected by it. Towards the latter end of last year I [illegible] hair falling off, especially when combed [illegible] recollection of the benefits derived by Mrs. [illegible] a few years back, I was induced to try your BALM, and am happy to attest that, after using only two [illegible] I observed a great change, and a third fully completed the restoration and strengthening of my hair. Yours, &c. [illegible]"
C. and A. OLDRIDGE'S BALM causes Eyebrows to grow, prevents the Hair from turning grey, and the first application causes it to curl beautifully, frees it from scurf, and stops it from falling off. Price 3s. 6d., 6s., and 11s. per bottle; no other prices are genuine.
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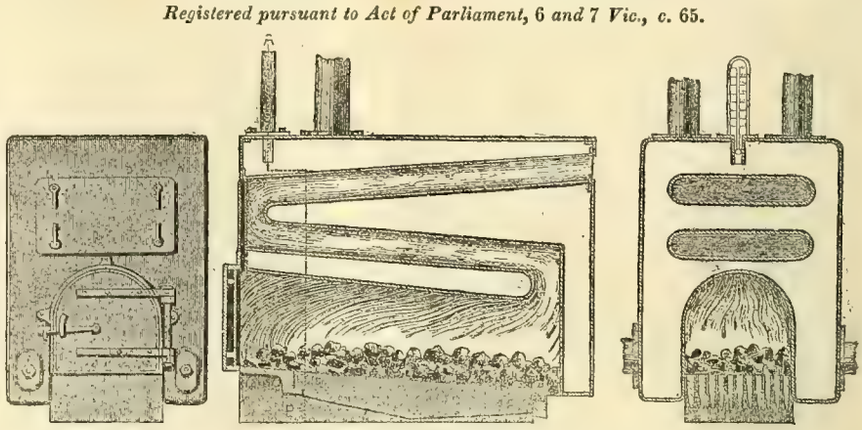

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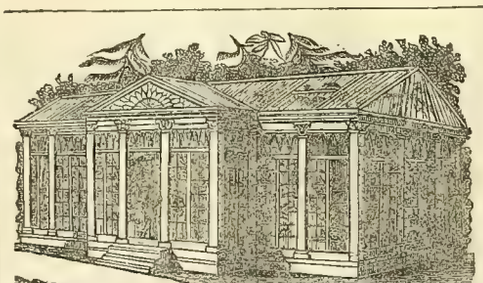

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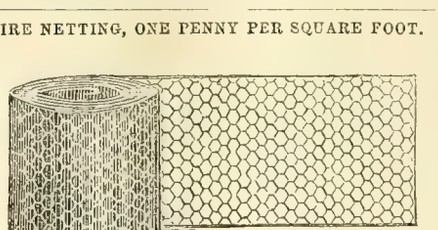

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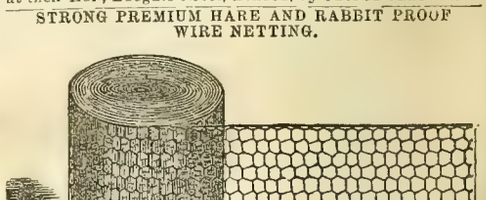

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Printed by WILLIAM BRADBURY, of No. 6, York-place, Stoke Newington, and FREDERICK MULLETT EVANS, of No. 7, Church-row, Stoke Newington, both in the county of Middlesex, Printers, at their office in Lombard street, in the Precinct of Whitefriars, in the city of London; and published by them at the Office, No. 5, Charles-street, in the parish of St. Paul's, Covent Garden, in the said county, where all Advertisements and Communications are to be ADDRESSED TO THE EDITOR.—SATURDAY, Dec. 2, 1848.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No 50.—1848.] SATURDAY, DECEMBER 9. [Price 6d.

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GARDENERS' BENEVOLENT INSTITUTION.—Notice is hereby given that the ANNUAL GENERAL MEETING of the Subscribers to this Institution will be held on Wednesday, 17th January next, at the London Coffee House, Ludgate, for the purpose of electing officers for the ensuing year, and receiving the accounts of the Charity for the past year. The chair to be taken at 12 o'clock precisely. An Election for Two Pensioners will afterwards take place from among the following Candidates, whose testimonials have been examined and approved of by the Committee.

Name.	Residence.	Age.	
Edward Marshall	London	69—6th	application.
Mary Browne	London	82—4th	,,
Martin Miller	Exeter	78—4th	,,
John Skeates	Clapham	69—4th	,,
Thomas Goodhall	Dulwich	72—3rd	,,
Thomas Mills	Wandsworth	71—3rd	,,
Charles Ainslie	Leyton, Essex	83—2nd	,,
John Appleby	Clapham	56—2nd	,,
Robert Duncan	Highgate	69—2nd	,,
Ogilvie Neil	Scone, Perth	80—2nd	,,
Humphrey Taylor	Clapham	70—2nd	,,
James Battey	London	65—1st	,,
Edward Beach	Gloucester	74—1st	,,
John Cocks	Clapham	62—1st	,,
John Ross	London	64—1st	,,
Richard Rudland	Dartford, Kent	76—1st	,,
John Shepherd	Clapham	70—1st	,,

The Ballot will commence at 1 and close at 3 o'clock precisely. The Committee earnestly request those Members whose subscriptions are as yet unpaid, to remit the same without delay, as no person will be allowed to vote whose subscription for the year 1848 is unpaid on the day of election.

Edward Roger Cutler, Secretary, 97, Farringdon-st., Dec. 9.

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Through the kindness of Messrs. Standish and Noble, specimens have been on view during the week at the Smithfield Show in Baker-street.

Seed in sealed packets, post free, 3s. 6d. each, with directions for cultivation, will be ready for delivery on the 1st Jan., 1849.

*** The Trade supplied on liberal terms.

Blackheath park, Dec. 9.

SELECT PLANTS AND CHOICE FLOWER ROOTS.

BASS and BROWN beg to refer to their Advertisement of selections of the above in the *Gardeners' Chronicle* of Oct. 21, page 697, and Nov. 4, page 730.

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Aylesbury Nurseries, Dec. 9.

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N.B. Carriage free by Pickford and Co.

IMPORTANT TO CUCUMBER GROWERS.

EDWARD TILEY begs to inform the Nobility, Gentry, and such as wish to have a continual supply the whole of the winter, that he has this season been very successful in saving a large stock of the seed of that well-known CUCUMBER, "Lord Kenyon's Favourite," or the Syon Free Bearer, much superior to the old Syon House. It bears an abundant crop, and grows from 12 to 15 in. in length. It has a very handsome appearance on the table, and grows to one general size from the stem to the point. The flavour is good, and eats very crisp. Twelve plants of the above are sufficient to supply a family the whole of the winter, as it is a free setter and never shanks off. E. T. has always found it do best in heat from 65° to 70°, and should be grown upon trellis, or against the rafters of the house. Applications having been frequently seen for obtaining the above Cucumber true, E. T. begs to state that any party wishing it may depend on its being so, as it was this reason alone that prompted him to turn his attention to it this season. Sold in packets of 10 Seeds, 2s. 6d.

GORDON'S FINE WHITE SPINE CUCUMBER, warranted true, will bear out the full description given of it by him in the *Gardeners' Chronicle* of Nov. 18th; obtained direct from Mr. Gordon in 1846. Packets of 10 seeds, 1s. 6d. The trade supplied with this Cucumber, 10s. per 100 for cash.

VICTORY OF BATH CUCUMBER.—The properties of this Cucumber, being so well known as a First Prize Cucumber for exhibitions for the last four years, require no comment. Sold in packets, containing 10 seeds, 2s., or a packet of each of the three varieties, 5s.—The true old Syon House can be supplied, if required, in packets of 10 seeds, 1s. 6d.

A remittance must accompany the order, either in cash or penny postage stamps to the amount.

Sold at Edward Tiley's General Seed Shop, 16, Pulteney Bridge, Bath.

KNAP HILL NURSERY, NEAR WOKING, SURREY, TO GENTLEMEN PLANTING.

HOSEA WATERER respectfully solicits the following very desirable [illegible]

CEDRUS DEODARA, fine [illegible] from seed, 3 to 4 feet high, 42s. per doz.
,, ,, from 5 to 10 feet, 1 to 7s. each.
,, ,, [illegible]
ARAUCARIA IMBRICATA, [illegible] from 2 to 3 feet, 1s. each. A few very fine [illegible] from 5 to 6 feet, 5 to 10s. each.
CRYPTOMERIA JAPONICA [illegible] 5 to 7 in., 4 to 5 feet, [illegible]
TAXODIUM SEMPERVIRENS [illegible] 2 feet etc.
,, [illegible]
PINUS DOUGLASII, from [illegible]
,, [illegible]
,, MENZIESII, 3 to 5 feet [illegible] per doz.
,, INSIGNIS, 12 to 2 feet [illegible]
,, ,, a few very fine plants, from 5 to 7 feet, 2 to 5 guineas.
,, CEMBRA, 5 to 7 feet [illegible] each.
,, ,, large and handsome plants, 10 to 12 feet, [illegible] each.
,, CANADENSIS, or Hemlock Spruce, 4 to 5 feet, 21s. per doz.
,, large, 7 to 8 feet, [illegible] per dozen.
,, EXCELSA, 3 to 4 feet [illegible]
,, FRAZERI, 3 to 4 feet, [illegible] per doz.
,, MORINDA, 6 to 8 feet [illegible] each.
,, WEBBIANA, 2 to 3 feet [illegible] each.
,, PINSAPO
,, CEPHALONICA [illegible] A few of the largest and most
,, LAMBERTIANA [illegible]
,, HARTWEGII [illegible]
,, DOUGLASII [illegible]
,, MACROCARPA
IRISH YEWS, 6 to 9 feet 7s. [illegible] each.

* It often happens Irish Yews [illegible] or rendered unsightly from their [illegible] in a nursery or in very wet weather. The plants [illegible] are grown 5 in a row only, similar to those at Linnean, which are the finest in the kingdom.

CEDARS OF LEBANON, 2 to 3 feet very bushy and handsome, [illegible] per doz.
,, ,, 5 to 6 feet [illegible] to 42s. each. (These are [illegible] plants.)
JUNIPERUS REPANDUS, 4 to 5 feet, 7s. 6d. to 10s. 6d. each.
,, ,, [illegible] feet, very handsome plants, 21s. to 42s. each.
,, CHINENSIS, 4 to 5 feet [illegible] 12s. each.
,, ,, [illegible] fine plants, 6 to 7 feet, 21s. each.
,, IRISH JUNIPER, [illegible] feet 5s. to 7 to 10 s. 6d.
,, [illegible]

*** The two undermentioned Junipers ought to be planted by every one who has a [illegible]

THUJA WARREANA [illegible] feet, very handsome plants, 5 to 7 feet, 5s. to 7s. 6d. each.

The above are all grown in the open ground, are healthy and handsome specimens; they have never been in pots, and consequently are the more desirable.

HOSEA WATERER would also invite attention to his stock of large Spruce Firs, from 7 to 12 feet high, large Red Cedars, Phillyreas green and variegated Hollies, Common Yews 4 to 7 feet, fine Standard Weeping Limes, Weeping and Purple Beech, Standard Magnolias, Thuja Lobbii &c., all of which are in a capital state for removing, and will be sold reasonably.

The Collection of AMERICAN PLANTS at the KNAP HILL NURSERY is well known as being the most extensive in this country; witness the beautiful Exhibition in the Knightsbridge, Chelsea, every spring.

RHODODENDRONS, best hardy kinds, [illegible] per doz.
,, fine hardy varieties, large, [illegible] per doz.
AZALEAS, best varieties, from [illegible] each.
KALMIA LATIFOLIA, from 18s. to [illegible] fine plants at 2l. upwards.
HARDY HEATHS, a [illegible] collection of the most beautiful and [illegible]

*** Hardy Heaths are not [illegible] deserve. Nothing can be more [illegible] and flowering as they [illegible] renders them still more valuable.

FOR PLANTING COVER, CARRIAGE DRIVES, &c.

RHODODENDRON PONTICUM, fine bushy plants, from 1 to 6l. per 100.
BOX-LEAVED PRIVET, a new and very superior variety, [illegible] the old Evergreen), 8s. to 12s. 6d. per 100.
BERBERIS AQUIFOLIUM, bushy plants, [illegible] to 2 feet, [illegible] per 100.
,, ditto, larger, 1 to 2 feet, 7s. to 10s. per 100.
,, PUBCIS 1 to 1½ feet, [illegible] per 100.
,, ARISTATA, 1 to 1½ feet, 5s. per 100.

This last is an excellent plant for those positions, and requires only to be better known to be more extensively planted.

ENGLISH JUNIPERS, 1 to 2 feet, 7s. to 10s. 6d. per 100.
SWEET BRIARS, 2s. to 3s. per 100.
COMMON LAURELS, fine bushy plants, 1 to 2 feet, 5s. per 100.
PORTUGAL LAURELS, 2 to 3 feet, 6s. per 100.
QUICK, very strong [illegible] transplanted, 2s. to 3s. per 100.

FRUIT TREES.—Dwarf trained Apples, Pears, Cherries, Plums } Fine trees 2s. 6d. to 3s. each.
Apricots, Peaches, Nectarines } Fine trees, 3s. 6d. each.

Goods delivered free to London, and to the South Station on the Great Western Railway. The Knap Hill Nursery is within an hour's ride of Leatherhead, being near the Woking Station, South Western Railway.

It is particularly requested that letters intended for this Establishment may be addressed, Hosea Waterer, Knap Hill Nursery, near Woking, Surrey.

CEDRUS DEODARA.

WM. MAULE AND SONS beg to inform Noblemen and Gentlemen that they can supply any quantity of superior plants from seed of the above magnificent hardy Himalayan CEDAR. Any Nobleman or Gentleman furnishing mountains or planting by the acre will be supplied on moderate terms.

☞ WM. MAULE and SONS' Pamphlet on the Natural Habits and Quality of the Wood of the Cedrus Deodara (which they have published), will be sent gratuitous on the receipt of two postage stamps.—Stapleton-road Nurseries, Bristol.

JACKSON'S IMPROVED ASH-LEAVED KIDNEY POTATO.—This is the most prolific and best Early Kidney Potato grown. Good sound sets 15*s.* per bushel, from the undersigned.

THOMAS JACKSON and SON, Nurseries, Kingston, Surrey.

FIRST CLASS GERANIUMS.

J. HINE'S AUTUMNAL CATALOGUE can be obtained on application, enclosing one postage stamp. It contains descriptions of his newly-selected varieties of this year, viz., Ten first-rate sorts for 5*l.* 5*s.* Also, Miller's Set of Eight of last year's for 25*s.*; and the names of most of the best kinds in cultivation at 25*s.* per doz. Purchaser's selection.

J. H. is also now sending out UNBLOOMED SEEDLINGS at 7*s.* 6*d.* per dozen, or 3 dozen for 20*s.*

Providence Nursery, Ramsgate.

WM. JACKSON and CO., NURSERYMEN, beg to call the attention of all who are interested in improving and beautifying their estates, to their Advertisement in this Paper, page 715, Oct. 28. The Stock is most extensive, and of the best quality, with great reductions in the prices.

Bedale Nurseries, Yorkshire.

LARCH PLANTS.

PETER BOOTH, NURSERYMAN, Falkirk, has for Sale a large stock, from Two to Three Millions, of Transplanted LARCH PLANTS, of various sizes, at the following prices per 1000, 1 foot, 3*s* 6*d* ; 1½ foot, 5*s.* 6*d.* ; 2 feet, 7*s.* 6*d.* ; 2½ feet, 8*s.* ; 3 feet, 10*s.* Of the 2½ feet and 3 feet sizes there are above a Million of them, which are well suited for both the Scotch and English markets, and as it is now well known that strong Larch plants are scarce in the country, early application is necessary. This extensive stock of transplanted Larches are well grown, well rooted, and of the very best quality, and can be seen at P. B.'s various Nursery Grounds at Falkirk. Of the great variety of plants in these Nursery Grounds a few more may be noted, to show the low price at which they can be obtained, viz., Transplanted Scotch Firs, from 6 to 10 inches, 3*s.* 6*d.* and 4*s.* 6*d.* ; do., 1 foot, 1½ foot, and 2 feet, 5*s.* 6*d.* Spruce Fir, 9 inches, 1 foot, 1½ foot, and 2 feet, 3*s.* 6*d.* to 4*s.* 6*d.* Oaks, 2½ feet, 8*s.* 6*d.* Plane, Elm, Alder, and Beech, 3 feet, 8*s.* 6*d.* Ash, 2 feet to 4 feet, 4*s.* to 5*s.* Seedling Spruce Fir, 2 and 3 years, 1*s.* to 1*s.* 3*d.* Seedling Pinus Austriaca, 2 years, 3*s.* Transplanted Thorns, from 4*s.* to 7*s.* 6*d.* If required, samples will be forwarded.—Falkirk, Dec. 9.

MYATT'S LINNÆUS RHUBARB.—Messrs. J. MYATT and SONS have a stock of one-year planted roots of this superior variety, which has been the leading feature in the London Markets for several years, and which they confidently recommend as the best in cultivation—being far superior in point of produce and a fortnight earlier than their well known Victoria. It is also peculiarly adapted for preserving and all culinary purposes, and for richness of flavour cannot be surpassed ; price 2*s.* 6*d.* per root. Also Mitchell's Royal Albert, 2*s.* 6*d.* ; and MYATT'S Victoria, 9*d.* The usual allowance to the Trade.

Post-office orders made payable to JOSEPH MYATT, Deptford.

ROYAL ALBERT RHUBARB.

WM. MITCHELL begs to call attention to the above excellent variety, which still retains its supremacy over all other sorts hitherto produced, being from two to three weeks earlier than any kind now grown. It has other qualities eminently entitled to notice ; it is most delicious in flavour, of a bright red colour, a most prolific bearer and free grower, with large fleshy stalks, and for early forcing is more suitable than any other variety. Specimens of this splendid vegetable have been inspected and highly approved of by her Majesty, by whose commands it has been introduced into the Royal Gardens, Windsor. Also Mons. Soyer, of the Reform Club, and other eminent judges, have declared this Rhubarb to surpass anything of the kind ever eaten, and all the principal growers attending the London markets have pronounced it to be by far the best in cultivation. In addition, W. M. begs leave to observe that this Rhubarb is the same as was sold so early last season in Manchester, Birmingham, Liverpool, Cambridge, Brighton, and other large provincial towns, where it gave universal satisfaction by its extreme earliness, quality, and beauty.

Strong one year planted roots will be sent out at the end of October, at 2*s.* 6*d.* each. Also, Myatt's Linnæus, 2*s.* 6*d.*, and Victoria, 9*d.* each. The usual trade allowances.

Remittances requested from unknown correspondents by post-office order, made payable to WILLIAM MITCHELL, Enfield Highway, Middlesex, Post-office, Enfield.—Dec. 9.

WINDLESHAM NURSERY, BAGSHOT, SURREY, NEAR THE STAINES STATION, SOUTH-WESTERN RAILWAY.

GEORGE BAKER begs to offer to the Nobility, Gentry, and Public, his extensive collection of American Plants, &c., consisting of RHODODENDRONS, from 30*s.* to 42*s* per dozen. Atropurpurea, alta-clerense, do. splendens, catawbiense splendens, caucasicum, campanulatum, caucasoides, byaciathiflora, kalmoides, multimaculatum, nivaticum, Nobleanum, odoratum, pictum, Russellianum, Smithii. Very fine standard Rhododendrons, 7*s.* 6*d.*, 10*s.* 6*d.*, 15*s.*, 21*s.* each.

AZALEAS, good mixed varieties, from 12*s.* to 18*s.* per dozen.

KALMIA LATIFOLIA, from 75*s.* to 100*s.* per 100. Good bushy plants from 1*s.* 6*d.*, 2*s.* 6*d.*, 3*s.* 6*d.*, very fine. Specimen plants, 5*s.* each, well set with flower buds.

MAGNOLIA PURPUREA, 75*s.* to 100*s.* per 100.

G. B. begs to call particular attention to his unrivalled stock of ABIES CANADENSIS, being one of the most ornamental trees for the lawn, shrubbery, and plantation, 10*s.* 6*d.*, 15*s.*, 21*s.*, 30*s.* per 100.

RHODODENRON PONTICUM, 10*s.* 6*d* , 15*s.* ; large and bushy plants, 21*s.* to 25*s.* per 100 ; R. ponticum roseum and album, 75*s.* per 100.

COMMON LAUREL, 7*s.* 6*d.*, 10*s.* 6*d.*, 15*s.*, 21*s.* per 100.

CEDAR OF LEBANON, from 1 to 4 feet, 1*s.*, 2*s.* 6*d.*, 3*s.* 6*d.*, and 5*s.* each.

PICEA BALSAMEA, 2½ feet, 10*s.* ; 3 to 5 feet, 20*s.* per 100.

	Feet.	Per 1000.
Alder ...	... 1½ to 2	... 21*s.*
Ash ...	... 3 to 5	... 30*s.*
Beech...	... 3 to 3½	... 25*s.*
Birch ...	... 2 to 3½	21*s.* to 25*s.*
Chestnut, Spanish	... 1½ to 2	... 25*s.*
Firs, Spruce 3 to 4 ft. p.		100, 35*s.*
	Feet.	Per 1000.
,, ,,	... 1½ to 2	... 40*s.*
,, Scotch...	1 to 1½	... 20*s.*
,, Larch ...	1 to 1½	... 16*s.*
Oaks, English	3 to 4	25*s.* to 30*s.*
Sycamore	... 3 to 4	... 25*s.*

Quicks, fine transplanted, from 7*s.* 6*d.* per 1000.

The above are all fine healthy plants, and remove well. Catalogues had on application.

SEVERAL MILLIONS OF WHITETHORN QUICK, 2 years growth, at 2*s.* per 1000 ; and also about 100,000 of strong 3 years growth ditto, at 5*s.* per 1000, which may be had of SAMUEL COCKING, Seedsman, &c., Biggleswade, Bedfordshire.

WILD'S "STANDARD OF PERFECTION."

THOMAS WILD having devoted 20 years in improving the stock of CUCUMBERS, and sent out the best sorts in cultivation, feels confident that the above will give the same degree of satisfaction as its predecessors. On receipt of post-office order for 2*s.* 6*d.*, a packet will be sent to any distance free. 50 ORANGE and LEMON TREES to be sold cheap.

The *Gardeners' Chronicle*, "Glenny's Gazette," and "United Journal," from the First Numbers, the whole or any part of them to be sold very cheap.—Apply to THOMAS WILD, Fruiterer, Ipswich, Suffolk, Dec. 9.

SEEDS.—CORNER OF HALF-MOON STREET.

THOMAS GIBBS AND CO.,

(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND," Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

Priced Lists of Agricultural Seeds are always ready, and may be had on application.

TO SEEDSMEN, &c.

TURNIP SEEDS.—On Sale by the Subscribers,

Turnip Seeds of warranted quality. Crop 1848.

10 tons Green-top large Bullock Yellow.

5 tons Purple-top large Bullock Yellow.

5 tons Aberdeenshire Yellow.

Seed Oats of all kinds ; Furze and Broom seeds.

Shipped free on board at Banff, or freight paid to Leith, London, Liverpool, or Newcastle, as agreed on.

J. MORRISON and SON, Seedsmen, Banff, N.B.—Dec. 9.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND CO., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS FOR CONSERVATORIES.

CUT TO SIZE UP TO 40 INCHES LONG.				PRICES OF SMALL SHEET SQUARES,			
16 oz. from 3*d.* to 3½*d.* per foot.				In boxes of 100 feet.	*s.*	*d.*	
21 ,,	3½	5	,,	Under	6 by 4..	12	6
26 ,,	3½	7½	,,	6 by 4 and under 7 by 5..	16	6	
32 ,,	4	9½	,,	7 by 5 ,,	8 by 6..	18	6
				8 by 6 ,,	10 by 8..	20	6

ROUGH PLATE GLASS for WINDOWS, SKYLIGHTS, and FLOORS in sizes not exceeding 5 feet superficial.

⅛ thick ... per foot	1*s.* 0*d.*	⅝-inch per foot	2 0
¾-inch	1 2	1 inch	3*s.* 0*d.*
½-inch	1 6		

PATENT ROUGH PLATE TILES.

⅜ thick .....each	0*s.* 11*d.*	⅝-inch .....each	1*s.* 7*d.*
½-inch.....	1 3	¾-inch	2 0

GLASS DOMES for SKYLIGHTS, from 15 to 50 inches in diameter. These are well worth notice.

GLASS MILK-PANS, PROPAGATING GLASSES, AND BEE GLASSES.

LACTOMETERS for trying the quality of Milk, 4 tubes 7*s.* 6*d.*, 6 tubes 10*s.* ; Hyacinth Glasses and Hyacinth Dishes ; Crocus Glasses ; Shades for Ornaments ; Fish Globes ; Plate and Window Glass ; Lamp Shades and Chimneys ; and every article in the trade.

METAL HAND FRAMES.

HARTLEY'S PATENT ROUGH PLATE, AND PATENT DOUBLE CROWN GLASS.

GLASS FOR CONSERVATORIES, &c.

HETLEY AND CO. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2*d.* to 3*d.* per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices, and estimates forwarded, on application for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY and Co., 35, Soho-square, London.

See the *Gardeners' Chronicle*, first Saturday in each month.

GLASS FOR GREENHOUSES, CONSERVATORIES, GARDEN FRAMES, &c.

Hothouse Builders, Nurserymen, and others, supplied with every description of Sheet and Crown Glass, Rough Plate, &c. Glass Tiles, Propagating, Cucumber, and all other Garden Glasses.—Address, T. COGAN, 48, Leicester-square, London.

PRICES OF SMALL SQUARES IN BOXES OF 100 FEET.

	Crown.	Sheet.
Squares under 6 by 4.....10*s.* 6*d.*	...£0	12*s.* 6*d.*
6 by 4 and under 7 by 5.....14 0	0	16 6
7 by 5 ,, 8 by 6.....15 0	0	18 6
8 by 6 ,, 10 by 8.....16 0	1	0 6

Larger sizes, of all qualities and substances, equally low.

PAINTS.—LITHIC AND OTHER DURABLE PAINTS, ready for use for FARM Buildings, Agricultural Implements, Park Fences, Outhouses, &c., &c. Genuine Whitelead, Colours, Brushes, &c., best quality, and lowest prices.

GLASS MILK PANS FOR THE DAIRY.

Cream Pots, Lactometers, Glass Rolling Pins, Pastry Pans, Shades for Ornaments, Lamp Shades, &c., as usual. For Lists, (priced) direct to T. COGAN, Glass, Colour, and Lead Warehouse, 48, Leicester-square, London.

SHETLAND PONIES AND MILCH COWS.—Just landed, a few very handsome small SHETLAND COWS and HEIFERS, to calve in two and three months. The Milk is equal in quantity and quality to the Alderney. A large choice of SHETLAND and SCOTCH PONIES, of all sizes, from 8½ to 12 hands, some very handsome ones, broken, and very quiet, for harness and children ; some well matched pairs. —To be seen at THOMAS ORTON'S, Salesman, 69, Wapping.

FLOWER-POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

IRISH FOSSIL DEER.

NOLAN, of the NOAH'S ARK, Bachelor's Walk, Dublin, has received, in LONDON, some splendid specimens of the Heads, Horns, and an entire Skeleton of the EXTINCT IRISH DEER.—Communications, personally, or by letter, directed to him, at Anderton's Hotel, Fleet-street, London, will meet with his immediate attention. His various POULTRY have been awarded premiums at all the Agricultural Shows in England, Ireland, and Scotland, and he now offers them for sale.

The above specimens are now on view at Mr. HERRING'S Managerie, New-road, London.

DR. RYAN'S CHEMICAL MANURES,

Manufactured solely by Messrs. STRETTON, HAYWARD and Co., GENERAL AGRICULTURAL AGENTS.

Offices, 7, Chandos-street, Cavendish-square, London.

Under Distinguished Patronage.

MESSRS. STRETTON, HAYWARD AND CO., have entered into an arrangement with Dr. RYAN, Professor of Chemistry at the Royal Polytechnic Institution, London, whose exclusive services are retained to superintend the manufacture of Chemical Manures, upon entirely new and scientific principles, based upon the analysis of soils and the production of fertilizing agents suited to their various properties and the nature of the desired crops. In submitting Dr. Ryan's latest discoveries to agriculturists, Messrs. STRETTON, HAYWARD, and Co. can with the utmost confidence state, that their Manures will, after the severest test, be found to possess far greater fertilizing powers than any hitherto offered to the public, which, together with their cheapness (being 40 per cent. under the price of Peruvian Guano) must entirely supersede all other Manures. By the use of these fertilizers those crops which so frequently suffer from the ravages of the fly and other insects are in a great measure protected. Horticulturists are particularly recommended to use "Dr. Ryan's Garden Manures" for general purposes. Sent, carriage free, to any part of the kingdom, at

For top dressings	£5 10 0 per ton.
For Wheat, Barley, Oats, Hops, or any grain or seed	6 10 0 ,,
Dr. Ryan's genuine Superphosphate of Lime	7 0 0 ,,

Nitrate of Soda, Gypsum, Rough Bones, Sulphuric Acid, &c., tested by their Chemist at lowest market prices.

English and Foreign Oilcake.

WHEAT SOWING.

THE LONDON MANURE COMPANY beg to offer as under :—

LONDON MANURE COMPANY'S CORN MANURE.

,, ,, ,, URATE. [LIME.

,, ,, ,, SUPER-PHOSPHATE OF

Peruvian Guano, direct from Importers' stores—Fishery and Agricultural Salt—Gypsum for Clover—Soda Ash for destroying wireworm, and every other Artificial Manure.

The London Manure Company would call particular attention to their Corn Manure and Urate, the former containing a large amount of Ammonia, Phosphates, and Silicates, all so essential for corn crops, while the Urate is richer in Phosphates and other mineral substances required for roots.

Full particulars and prices forwarded on application.

EDWARD PURSER, Sec., 40, Bridge-street, Blackfriars.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority ; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

HEALTH OF TOWNS ACT.

SEWERAGE A SOURCE OF PECUNIARY PROFIT.

COODE'S IRRIGATOR gives for the first time a marketable value to sewer liquor, of which it will apply a ton for less than one halfpenny, without injury to the land or any crop upon it. Also COODE'S CATARACT, of a medium size, waters 18,000 square yards of road in an hour for less than four-pence. The Patentee will divide the profit of the use of his Cataract for three years with persons already under contract to water public roads.—Address, GEORGE COODE, Esq., Nuneaton.—Agents wanted.

SPAN-ROOFED GREENHOUSE or CONSERVATORY.—Wanted, a good one, from 35 to 40 feet long, of proportionate dimensions. One with horticultural glass would be preferred.—Direct to J., Lodge, Hill-house, Norwood, Surrey.

SPADE CULTIVATION AND DRAINING.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

W. A. LYNDON, Minerva Works, Birmingham, Manufacturer of Patent SPADES, SHOVELS, and DRAINING TOOLS.

To Nurserymen, Gardeners, and Agricultural Labourers, these Spades will be found invaluable, and calculated to lessen the labour of digging very materially ; they are warranted to carry a knife edge which will neither break nor turn, wear perfectly bright on the surface, and last as long as three spades or shovels of the ordinary kind, and are now coming generally into use amongst the principal Nurserymen, Market-gardeners, and Agriculturists in the kingdom.

The Draining Tools gained two prizes at the Royal Agricultural Society's Meeting held at Northampton, 1847, since which time they have been awarded prizes and commendations from all the local societies where they have been exhibited.

Spurious imitations of these Tools are being made, called Improved and Cast Steel Spades, Shovels, &c., and labelled similar to the above. None are genuine unless bearing the name in full upon the strap and label.

Spades, Shovels, Draining Tools, Digging, Potato, Manure, and Hay Forks made to any pattern, and adapted for every description of soil.—To be had of all Ironmongers in the kingdom.

PATENT FLEXIBLE INDIA RUBBER PIPES AND TUBING FOR RAILWAY COMPANIES, BREWERS, DISTILLERS, FIRE-ENGINES, GAS COMPANIES, GARDENING AND AGRICULTURAL PURPOSES, &c.

THE PATENT VULCANISED INDIA-RUBBER HOSE PIPES are made to stand Hot Liquor and Acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible), and as they require no application of oil or dressing, are particularly adapted for Fire-engines, Pumps, Gas, Beer-engines, Gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes from ¼ inch bore upwards, and of any length to order.

Vulcanised India-rubber Garden Hose, fitted with brass taps, copper branch, and roses complete, ready to be attached to Pumps, Water-butts, or Cisterns.—Sole Manufacturer, JAMES LYNE HANCOCK, Goswell Mews, Goswell-road, London.

N.B.—Vulcanised India-rubber Washers of all sizes for Joints of Hot-water and Steam Pipes, and Vulcanised sheet Rubber, any thickness, for all kinds of Joints, and other purposes.

[B]ECK'S SEEDLING PELARGONIUMS.—Several of the above are figured in the 1st Volume of "The Florist," [pub]lished by CHAPMAN and HALL, Strand. This work may be [had] of all respectable Booksellers, price 13s. in boards. It con[tain]s 15 Coloured Plates, numerous Woodcuts, and much in[form]ation on the Pelargonium in its 320 pages of letter-press. [Is]leworth, Dec. 9, 1848.

NEW AND GENUINE SEEDS.

[W]ILLIAM E. RENDLE & Co. have made arrange-ments this season with some of the principal seed growers [in th]e country, for an excellent supply of all the most valuable [kinds]. Their CATALOGUE is now ready, and may be ob[tained] GRATIS, and should be read by every one who pur[chase]s seed, either for the Farm, the Kitchen Garden, or the [Flo]wer Garden.

[A]pply to WILLIAM E. RENDLE and Co., Seed Merchants, [Plymout]h.

[K]ITCHEN GARDEN SEEDS.—

No. 1. A complete collection, including 20 quarts of [the] best kinds of PEAS, inclusive of Fairbeard's Champion of [Eng]land, Early Surprize, British Queen, Burbidge's Eclipse, [&c.], and all other Seeds in proportion, of the newest and best [sorts], sufficient for one year's cropping of a large garden, the [bes]t Melons and Cucumbers inclusive .. £3 3 0

[N]o. 2. Complete collection in small er quantities, [and] choice sorts 2 2 0

[N]o. 3. Ditto 1 1 0

[N]o. 4. Ditto. This is sufficient for a gentleman's [sm]all garden 0 12 6

No extra charge for packing; carriage paid to London.

[If th]ere should be any sorts of Seeds that would not be wanted [in t]he collection, increased quantities of those most desired [shoul]d be sent. All orders to be accompanied by a remittance, [or] reference from unknown correspondents.

[W]. J. EPPS can, with pleasure, refer to some of the most [res]pectable families in England, Ireland, and Scotland, who [are] in the habit of purchasing the above collections every year.

[A] General Catalogue of Horticultural and Agricultural Seeds [ma]y be had on application; also a Trade List of Seeds.

[Fi]ne trained Peaches and Nectarines, 2s. 6d. to 3s. 6d. each.

[W]ILLIAM JAMES EPPS, Maidstone.

[Th]e Gardeners' Chronicle.

SATURDAY, DECEMBER 9, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

MONDAY,	Dec.	11	Medical	8 P.M.
			Geographical	8 P.M.
TUESDAY,	—	12	Medical and Chirurgical	8 P.M.
			Zoological	9 P.M.
WEDNESDAY,	—	13	Society of Arts	8 P.M.
			Literary Fund	3 P.M.
			Graphic	8 P.M.
			Geological	8½ P.M.
			Pharmaceutical	9 P.M.
THURSDAY,	—	14	Antiquarian	8 P.M.
			Royal	8½ P.M.
FRIDAY,	—	15	Philological	8 P.M.
SATURDAY,	—	16	Asiatic	2 P.M.
MONDAY,	—	18	Chemical	8 P.M.
			Pathological	8 P.M.
			Statistical	8 P.M.
			British Architects	8 P.M.
TUESDAY,	—	19	Linnean	8 P.M.
WEDNESDAY,	—	20	Microscopical	8 P.M.
			Ethnological	8 P.M.
THURSDAY,	—	21	Numismatic	7 P.M.

MANY persons disbelieve that a LOW NIGHT [T]EMPERATURE suits what are called stove plants, [th]ough they now admit the importance of it to [g]reenhouse plants. One step in advance having [th]us been gained, let us endeavour to secure another [b]y assuring those who doubt as to this matter that [a]lthough experiments are wanted to determine what [a]mount of night cold stove plants prefer when not [g]rowing, yet that there is no question as to their [b]earing much more than common cultivators sup[p]ose. This was shown, indeed, by the remarks on the Pine-apples at Trentham, to which a correspondent [la]st week called attention; and, in addition to that [e]vidence, we now produce two letters upon the sub[j]ect. The first is from Drayton Manor, where, in a Vinery, Fergularia odoratissima, Echites splendens, Stephanotus floribundus, Bignonia Chamberlaynii, Combretum purpureum, and Clerodendron volubile, were planted in the year 1847 against the back wall, and where they are now growing in the greatest vigour. Mr. MILNE's account of their treatment is this:

"When the stove climbers were planted on the back wall of the Vinery, it was with the understanding that they should receive the same treatment as an early Vinery requires, and live or die. At the same time what could be done was done for them, in order to preserve them through the winter; water was withheld from them after September, in order to induce rest before the dead of the year. No particular attention was paid to the thermometer in the house, few fires were used last winter, and the temperature of the house has frequently been as low, in the mornings of frosty nights, as 35°, and on one occasion 32°, when the earth in watered pots in this house was frozen; no fire was made to thaw, but they took their chance. The house was fully opened on all mild days, and partially so every day during the winter. The temperature of the earth about their roots was not measured last year, but to-day it is 58°, and in the absence of all moisture it may indicate not less than 50° in January. The most [diffic]ult period to deal with those climbers in my case, I found to be the time of starting. In a short time after the application of heat, they began to exhibit some signs of debility, but a low night temperature (40°), and water withheld still, overcame this small difficulty. *James Milne, Nov. 2.*"

The other letter is from Bromley, in Kent.

"I am glad to see you so urgently direct the attention of gardeners to the advantage and necessity of low night temperature. I have been in the habit of keeping the plant-houses under my care so much lower than what is by many considered necessary, that I am induced to send you a list of a few plants now in bloom, which, if you consider worth inserting in the *Chronicle*, may help to induce some to abandon high night temperature. I keep the temperature of the stove as near 50° at night as I can in mild weather; it may be a little higher, then I have always a little air on at the top of the house; some mornings this season it has been below 50°.

"List of a few plants in bloom in a stove, the night temperature of which has not exceeded 55° for the last month.

[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

With Justicias, Euphorbias, &c. [illegible] and many others in show well for a strong and abundant bloom."

These facts show with what want of justice Mr. BEATON has been assailed for saying that he had wintered some of these plants in a temperature of 40 to 50°.

THAT an analysis of the prizes offered in 1849 by the ROYAL IRISH SOCIETY for the PROMOTION OF HORTICULTURE would give some curious results, was apparent enough from the little we said about them last week. A typographical error has however made us state what we did not intend, and we hasten to correct it. Auriculas do not receive 5*l*. [illegible] and 1*l*. additional at the hands of the Council; it is only 3*l*. 8*s*. and 1*l*. additional. This accident set right, let us see how the gentlemen who manage this Society estimate the value of horticultural productions. An examination of the April prizes will place this in its exact light. Reduced to shillings, for the convenience of comparison, we find them arranged in the following order:

Auriculas	88
All sorts of exotics in single specimens 17*s*. each, with 20*s*. for the greatest novelty—making altogether	74
Hyacinths	58
Collections of vegetables	46½
Orchidaceous epiphytes, or stove and greenhouse plants	45
(*35s. in addition are offered to nurserymen under these heads.*)	
Groups of ornamental plants	40
Baskets of flowers	32
(*And 25s. more to nurserymen.*)	
Pansies	29
Pine apples	25
Pelargoniums, Heaths, Camellias, Citrons, Cinerarias, Chinese Azaleas, Cacti, herbaceous plants, Polyanthuses (2), Nosegays, Anemones, Peaches, Grapes (black and white), Apples (dessert and kitchen), Pears, Strawberries, Cucumbers, cottagers' collections of vegetables, each	17
(*In six cases extra prizes of like value are offered to nurserymen.*)	
Asparagus, Potatoes, French Beans, Mushrooms, Rhubarb, Seakale, Broccoli (purple and white), Lettuces, Beet, Cabbages, Carrots of 1847, Turnips of 1848	12

Hence it appears that in Ireland the highest branch of horticulture is Auricula growing, and the lowest forcing and kitchen gardening; that Hyacinths demand more skill than Orchids or stove and greenhouse plants, twice as much as Pine-apples, more than three times as much as forcing Grapes, or producing Heaths and Chinese Azaleas, and about five times as much as forcing Asparagus, French Beans, or Mushrooms. Nosegays are found by these learned gentlemen to be equal in importance to April Peaches; and *a couple of Polyanthuses* to deserve exactly the same reward as six Pelargoniums, four Cacti, four Camellias, any forced fruit in the country, or any single exotic, however large the specimen, fine the foliage, rare and good it may be!! To crown the whole, they announce that in their opinion as much horticultural skill is required to produce half-a-dozen kitchen Apples in April as a dish of new Grapes at the same season.

We can only glance at the other meetings. That in May is a Tulip show, the prizes offered being 122, about seven times as much as is given in the month of April to the many of the most important subjects of exhibition. In June, Roses are valued at 185, Heaths at 17, Stove and Greenhouse Plants at 45, and Cottagers' Vegetables at 35. Fruits are, however, more patronised: from 25 in April, Pine-apples are advanced to 35, so that the easier it is to produce good fruit the more it is rewarded. In August, Carnations and Picotees are associated with Gooseberries and Currants, 173 being the value of the prizes for the former, and 72 for the latter: so that Carnations and Picotees require nearly four times as much skill in gardening as stove and greenhouse plants; which, indeed, are valued at little more than half the rate of Gooseberries and Currants. To make amends, however, rather more is given for stove plants in August than for all the Grapes exhibited in June. [illegible]

[illegible]

[illegible] The remarkable letter of Professor [illegible] in the magnificent [illegible], which was lately published in our Newspaper, comes very opportunely in aid of those who are wishing to inculcate caution in not admitting [illegible] without collateral proof of the [illegible] of the convictions.

We shall not waste time in going over ground that has been already trodden [illegible]; but although some of our correspondents have expressed themselves weary of this [illegible], and, like ourselves, would rather [illegible] testimony than listen to further comments, still we hope they will excuse our [illegible] which have occurred since the [illegible] thrown out that "seeing was not [illegible]," because these facts have served [illegible] scepticism, and in the [illegible] may also serve to awaken [illegible] among those who have never [illegible] that Natural History is [illegible] of education [illegible] of what it teaches are [illegible].

We pass by the positive testimony of Mr. [illegible], p. [illegible], respecting the [illegible] demonstrating the error of [illegible] to the fact in question, [illegible] to the purpose as to [illegible]. We pass by the [illegible] one or two of our correspondents [illegible] not seem to perceive that [illegible] very oaths in attestation of the truth of what they assert they witnessed would be altogether [illegible] the question at issue. We stop at the two last communications in regard to this subject, as [illegible] a sufficient sample of the [illegible] who have not yet [illegible] suppose they are bringing forward [illegible] that bear upon the question, when in fact they are no way to the purpose. Mr. WILKINS, p. [illegible] beetles "all apparently as perfect as the [illegible]," "run out of the belly" [illegible]. Now here is a point on which the [illegible] can fairly contradict Mr. WILKINS, and boldly say that his imagination has [illegible] deceived him. We will not pretend to say what it was Mr. WILKINS really saw, but we will dare to say that he did not see any of the young of the old beetle at all. It is a well established fact that all beetles, like all other insects, undergo a metamorphosis. They are hatched in the [illegible] of grubs and maggots (as [illegible] are commonly called), and in that [illegible] they grow, until having attained their full [illegible], they then change into the perfect state. As soon as they are become dry, and their wings expanded, there is very little or no further increase. Mr. WILKINS's smaller beetles must have had the power of ASMODEUS himself if they had really contrived to secrete themselves in the body of their parent, or had even been able to take shelter under her "horny coat."

It will no doubt have been remarked that Dr. MACKENZIE's notice, at p. 7[illegible], is also very little to the purpose, inasmuch as the author of a "Summer

in Germany," has manifestly called some oviparous snake by the name of viper, whereas the reptile in question is viviparous. We know that some reptiles are stated to become oviparous in certain localities, though they are viviparous in others; but the author in question is far more likely to have fallen under the very common mistake of believing all snakes to be oviparous, than to have stumbled upon a rare and curious case of the kind alluded to; and here we shall venture to ask a question of a gentleman of the highest authority in such matters, and with whom we would not pretend to dispute on the probability or otherwise of vipers swallowing their young, if he felt confident that they did so. Mr. Waterton has observed, at p. 717, that "he has been much amongst vipers in the South American forests;" but the question at issue turns upon the alleged instinct of the common viper (Pelius berus) alone. If, indeed, it could be shown that any other snake whatever in any other country whatever was possessed of the alleged instinct, there would be no difficulty in admitting the evidence of our native observers to the same fact in the common viper. But it is the very circumstance that no naturalist has ever recorded such an instinct, and that our best observers entirely doubt it, which has made us so very incredulous that we shall not be willing to believe it (as we have already said, p. 542) until "we find professed zoologists have become convinced of the fact in question." Since this discussion arose, we have heard of nothing satisfactory in favour of the fact, and we have seen ample cause for strengthening ourselves in our incredulity. If *true*, it is *passing* strange that no naturalist ever saw the fact; if *untrue*, it is only *ordinarily* strange that such a notion should be so popular. *J. S. H.*

[These remarks have been in type for some weeks, and since they were written various communications on the subject have been received. We can only repeat what we have urged over and over again, that belief is not proof. As an infinite number of 0 0 0 make but 0 after all, so do the numerous assertions with which we have been favoured bring 0 conviction to our mind. That observers state what they believe they have seen it would be the height of injustice to deny; the real question is, did they see aright?]

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

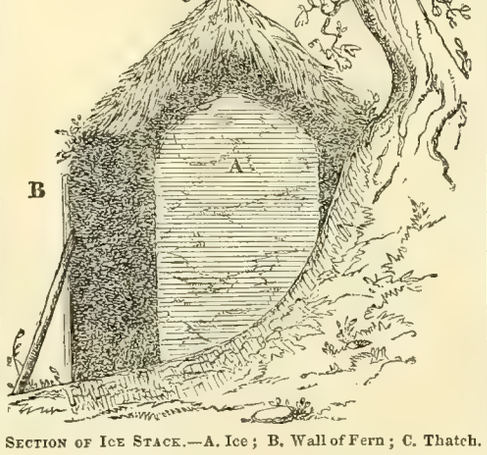
Carnations and Picotees.—The skilful grower of these favourite flowers will need no instructions from us, knowing, as he does, by past experience, the care demanded to preserve a collection in health during our long winters. But all lovers of Carnations are not adepts in the art of growing them, and for such the following observations are intended. Let it be premised, that if you desire to possess a stock do not purchase now, but wait till the spring. I hope those who grow for sale will not censure this advice too strongly, for while we wish to give every encouragement to the raiser of fine flowers, it must not be at the expense of the purchaser. An inexperienced amateur who should buy a dozen pairs of Carnations in December, would probably lose half of them before March, while the grower of them, knowing their habits, would be able to preserve them without inconvenience. Wise men, who see further than the present moment, will not think their interests ultimately promoted by the public being disgusted with the patronage of their productions, on account of their money and labour being thrown away. On the contrary, florists of integrity and good feeling will be conscious that their own prosperity will go hand in hand with the success of their customers.

Presuming that you have your layers established in small pots, you have to guard principally against damp, by far the most potent enemy with which the Carnation has to contend. In its native places it enjoys the drainage and the dry air of mountains where no mildew can generate; and our attempt must be to assimilate its artificial state to its natural one. Cold does this plant no harm compared with wet. Look at a collection after a damp season, such as we have had lately, and you will find the plants disposed to be sickly, and often covered with blotches, occasioned by a fungus preying on the leaves. Look at the same collection after a keen frosty night, and new life seems to be diffused through the whole. There is not a greater difference between a schoolboy hovering over a fire on a wet half-holiday and the same shivering object enjoying a slide on a frozen river, with bright eyes and ruddy cheeks, than there is between Carnations in wet and in dry cold weather. There is a fine bloom on the leaves of healthy plants, which gladdens the amateur. Let Nature, then, be your instructor in the care you take of these flowers, and let them have all the air you can give them, never shutting them up, except for the purpose of throwing off the wet, when, of course, the sides of the frame, or other covering, should be quite open. Few things do more harm in horticulture than *petting* plants in ways uncongenial with their habits. A friend of ours, who had a meadow, thought he would enter on the sheep trade, and he accordingly bought 20 fine ewes. As winter was coming on, he thought his sheep would need protection, and he paid a couple of sovereigns to build a shed for them. But he was vexed to find his money thrown away; for in the heaviest snows and hardest frosts the sheep preferred the high land of the field to the doubtful protection of the hovel. So is it often with flowers.

Next to damp, vermin must be watched. It is very distressing to find some morning our Carnations nibbled off close, like the shorn head of a workhouse boy. What has evidently been a source of pleasure to some chewing and digesting animal like ourselves gives us extraordinary pain, and we cry out against the equality and fraternity doctrine and practice of the intruder. It matters not to us whether the plants have been gnawed by a field-mouse as interesting as that which Burns immortalised, or by a bullfinch or a robin, like those which Cowper loved to see eating, or by a slug which every one execrates. The effect is equally odious and provoking, and drives sentimentality far away. Let trap or gin, or gun, or soot and ashes, do their work accordingly, that the thieves, whether reptile or winged, or four-footed, may be taught to keep their distance. *H.B.*

PRESERVATION of ICE by WELLS and STACKS.

It not unfrequently happens that the subterranean wells or caves constructed contiguous to a mansion for the preservation of ice, for use at a future season, are found inefficient for the purpose. An investigation of the causes of such failures would, I imagine, more frequently lead to the discovery of an omission in the system of management of the ice after its introduction than any fault in the construction of the ice-houses.



Section of Ice Stack.—A. Ice; B. Wall of Fern; C. Thatch.

It is generally considered essential to build up the ice to the mouth of the well, and to fill the entrance with loose straw, and finally close the door hermetically. These precautions may be very well for the moment, but they do not provide for an inevitable contingency which results from the melting of the ice, and the consequent introduction of a large volume of that principle most antagonistic to its preservation, viz., air. The rapidity with which ice melts after the stack is once broken into, and thus exposed, is well known to those who have anything to do with ice wells, and this is obviously caused by the increased amount of air allowed by the diminution of the body of ice. The alteration which I recommend under the circumstances above stated, is sufficiently simple; and being found effectual in the case of ice-stacks, built above the surface of the ground, can scarcely fail to prove equally useful within an enclosed receptacle. Instead of filling the well in the manner usually practised, I would build the ice up internally in a conical form, beating it extremely small, to assure its cohesion, as well as to exclude air. A space should be left between the top of the cone and the roof of the house, large enough to allow a thatch of straw 8 or 10 inches in thickness to be built over it, which should take the shape of the house, so that on the melting of the ice it would sink with the decline of that body, and still protect it from the direct action of the atmosphere.

This remedy has reference to wells of common or imperfect construction, and where no means of substituting another and an improved system exists. Wherever the choice of situation, &c., is commanded, the more economical and effectual plan of building stacks on the surface of the ground should be pursued; those unacquainted with this last-mentioned plan may find the subjoined description of the system which is practised here with unvarying success, useful. The position chosen for the ice-stacks is peculiarly suitable, being the north side of a considerable embankment or dam, which stretches across a hollow, and causes, on the south side (by intercepting the drainings from the surrounding slopes) a large piece of water, which supplies the ice. Proximity to water is a great advantage, the expense of carting, which is generally so considerable, being altogether dispensed with. The embankment has the further advantage, for the purpose in view, in being clothed with timber trees. The stacks are built on the dry side of this bank, which slopes gradually to the bottom, and is made hard and smooth, to receive the ice. No drains are permitted, the angle of the slope being sufficient to carry off the drainings from the ice. The body of ice is supported by a wall of Fern and leaves 4 to 5 feet in thickness, which is built up in the first case, and subsequently shored up and secured by hurdles. The ice is thrown within this circular wall, and well pulverised as the heap is increased. It is built in a conical form, or, perhaps, it takes rather the shape of the common hay-stack. The ice is rammed as closely as possible in a compact mass. A little clean straw is first strewn over the top; a covering of Fern, 18 inches at least in thickness, follows; after which its complete security from rain, or the action of the atmosphere, is insured by a thatch of straw, made so that on the decrease of the ice its simultaneous fall may not be prevented by the sides of the stack. As this cannot always be exactly done, the roof should be examined occasionally in the course of the season, and its gradual descent provided for. *W. Ingram, Hatfield House.*

THE LATE MR. M'NAB.

We have this week to record the decease of one of the oldest and best gardeners of whom this country has had to boast. Mr. William M'Nab, of Edinburgh, died on the 1st of the present month.

An interesting history of his career is contained in the following extract from the proceedings at a public dinner given, on the 14th March, 1844, upon the occasion of presenting him with the M'Nab Testimonial:

William M'Nab first saw the light in 1780, in the parish of Dailley, in Ayrshire, where his father was a farmer. His early years were devoted to the duties of a shepherd on the hills of his native county. Amid those scenes, his genius was early directed to the beautiful forms and variety exhibited by vegetable life; and our stripling shepherd was inspired with a strong predilection for the occupation of a gardener. His father, yielding to his wishes, had him apprenticed to the gardener of Mr. Kennedy, of Dalquharran, at the age of 16. After serving three years in that place, he was recommended by Mr. Kennedy to the late Mr. Walter Dickson, of Edinburgh, who procured him a situation in the gardens of Lord Haddington at Tyningham. There he remained about a year, when, being anxious to improve still farther in his profession, he went to London, where he had the good fortune to be recommended to Mr. Aiton, superintendent of the Royal Garden, at Kew, and to obtain employment in that magnificent establishment; after three years' service in the different departments he was appointed to the responsible situation of foreman. There he remained for several years, acquiring knowledge and experience; and here his conduct and intelligence recommended him to the favourable notice of his Majesty George III., then a frequent visitor at Kew, and brought him in contact with Sir Joseph Banks, the ready patron and judicious friend of modest merit. On the death of the curator of the Royal Botanic Garden at Edinburgh, the late Professor Rutherford consulted his friend Sir Joseph on the choice of a successor, and the baronet strongly recommended Mr. M'Nab, who immediately received the appointment, and entered on the duties of his new office in May 1810. It is therefore more than 30 years since Mr. M'Nab was called to Edinburgh.

After his appointment he exerted himself with indomitable industry in the old Botanic Garden of Edinburgh, and when it became necessary to transfer the Garden to its present locality, Mr. M'Nab displayed remarkable skill in his arrangements for that purpose—particularly in the successful removal of trees, shrubs, and plants, to their new situation—some of them of large size, and probably 100 years old. During his whole career, Mr. M'Nab has pursued a steady and unobtrusive course of observation and experiment, with regard to the rearing of exotics from all quarters of the globe; and that he has been pre-eminently successful in this department, the Botanic Garden, in its present state, furnishes ample proof. He has also, by useful publications (particularly those on the cultivation of Cape Heaths and the transplanting of Evergreens), made known to others both the nature and results of his practice; and his numerous pupils have not failed to disseminate widely the lessons they were taught. Indeed, by the strict order and undeviating regularity which he has ever both displayed and enforced, Mr. M'Nab may be said to have organised a new school of practical gardeners; while his kindly encouragement of merit, wherever it appeared among his assistants, and his unwearied attention to every request for advice or aid, whether from operative or amateur horticulturists, has made him as universally esteemed as he is extensively known.

Mr. M'Nab's happy combination of sound theoretical views with rules of practice has never been exceeded by any horticultural writer. His papers on the management of Heaths and the transplantation of Evergreens are guides which will never mislead the inquirer. But he taught by personal example more than by written precept, and those only who have now lost the former can judge correctly of the value which would have been contained in the latter. No one has had such opportunity of profiting by his teaching as his son, who we trust will soon be installed in the office which the father filled so long and so worthily. No one can be better suited to the charge; very few are so well adapted. As the post of honour, among gardeners, in Scotland, it must be held by a man of acknowledged talent, and, as far as we can judge, no one has higher qualifications than Mr. James M'Nab.

CONSERVATIVE WALL PLANTS.

An Irish subscriber, residing in the county of Meath having asked us for a list of plants suitable for a con-

…ative wall 11 feet high, and also for its border, 30 …wide, which he wishes to plant, we thus give the …wing reply, in the hope that it may prove useful to …rs as well as to our enquirer.

…making a selection of ornamental plants for train… …gainst the wall in question, which has a south aspect, …not absolutely requisite that they should be what is …ed "climbers," for most plants may be trained in … a situation; but it is necessary that great atten… …be paid to the arrangement of them, so that every … of the wall may be covered, and that proper space …lowed to each, both as regards height and width, as … to the arrangement of the different colours, time …flowering, and whether evergreen or deciduous. …instance, a Clematis will occupy more space at the …of the wall than at the bottom, while Cotoneasters, …the contrary, only require the lower part; again, …greens, if properly mixed with the deciduous kinds, …greatly improve the appearance in winter and …y spring, when the others are leafless.

…the following list, time of flowering and colours …given, as well as whether evergreen or otherwise, …if a few Tea-scented Roses are judiciously mixed …ngst them on the wall, they will greatly improve …general effect. It is not requisite to plant at …lar distances; but each plant must have as much …n as it will fill without being cramped by its …hbour:

Name.	Time of Flowering.	Colour.
…matis azurea …	June to August … …	Azure blue (very large)
,, Sieboldii ……	May to August ……	White with purple centre
,, florida, single	August and Sept. …	White
,, Hendersonii	July and August …	Purple
,, montana ……	April and May……	White
…monia grandiflora	October……	Scarlet
,, radicans major	September and Oct.	Scarlet
…sminum nudiflorum	November to Jan. …	Yellow
,, revolutum …	June to August ……	Yellow
…anthus puniceus	May and June……	Crimson
…imonanthus fragrans	November to Feb. …	Whitish and purple
,, grandiflorus	November to Feb. …	Pale yellow and purple
…cremocarpus …aber	June to October ……	Yellow and scarlet
…anothus azureus	July to September	Azure blue
,, pallidus ……	June to October……	Pale blue
,, thyrsiflorus …	May and June ……	Deep blue
…Escallonia montevidensis	August to Sept. ……	White
,, rubra ……	Nearly all the year	Rosy red
…filicium floridum	June and July ……	Brown purple
…ycine sinensis …	May and June……	Purplish blue
…nicera (caprifolium) flexuosa	July to September..	Yellowish purple
…nicera (caprifolium) japonica	August and Sept. …	Pale yellow
…lanum crispum …	June to August ……	Blue
,, jasminoides	August to October…	White
…assiflora cœrulea	July to October ….	Blue
,, Colvillii ……	Ditto ditto ……	Purplish
…ignolia conspicua	February to May ..	White
,, grandiflora…	August to October..	White
…Berberis fascicularis	April and May ……	Yellow
Berberis trifoliata	May and June……	Yellow
Sollya heterophylla [ana	All summer and autumn	Blue
…uddleya Lindley…	August to October…	Dull purple
…acia lophantha …	July and August……	Pale yellow
…nagyris indica ……	June and July……	Yellow
…gerstrœmia indica	July and August……	Pink
Pittosporum tobira	Summer & autumn	White
Plumbago Larpentæ	July to September..	Bright blue
Veronica speciosa	July to October ……	Purple
,, salicifolia	June to October ……	Pale pink
Cotoneaster microphylla	June …… …	White berries, very ornamental in autumn
,, marginata…	June ……	Ditto ditto ditto
Photinia serrulata	July and August……	White
Eriobotrya japonica	June (seldom) ……	White, fine foliage
Camellias (hardy kinds)	Spring ……	Various
Fuchsias (do. do.)	Summer & autumn	Various
Tea-scented Roses	Summer & autumn	Various
Thea viridis ……	June and July……	White
Olea europæa……	Autumn……	White
Rhaphiolepis indica	Summer & autumn	Pink
Genthamia fragifera	June or July ……	White

Those marked with a * are evergreen, those with a tall growing, and those marked with †† are dwarf; …ose without any mark are tall and spreading, while …ose which are both have the double sign, thus, * and †† …e dwarf and evergreen.

A border 30 feet wide, at the base of a conservative …all only 11 feet high is too wide; if planted with mode…ate sized flowering shrubs they would hide a great …ortion of the plants on the wall, and if planted with …ery dwarf kinds the place would look naked. It would …e much better to bring the walk nearer the wall, and …en to plant at the back such things as Moutans, Gum …istus, dwarf hardy Heaths, Daphne Cneorum, Berberis …quifolium, Moss and other dwarf Roses, Azaleas, …warf hardy hybrid Rhododendrons, Andromeda floribunda, dwarf Almond, Pyrus japonica, and similar …rubs, and in front of them such summer flowering …ants as Fuchsias, Scarlet Pelargoniums, Verbenas, &c., …ith Crocuses and other spring bulbs next the walk. ¶

STATE OF THE IRISH POTATO CROP.

COMPILED FROM OFFICIAL DOCUMENTS.

Cork: *Skibbereen Union, Nov.* 25, *Mr. J. Marshall.*—No complaints of disease progressing; markets pretty well supplied from *5d.* to *8d.* per stone; not now purchased as food except by the higher classes, as Indian meal is cheaper, a stone of which costs only *1s. 3d.*, and is equal to 5 stone of Potatoes.

Clare: *Kilrush Union, Nov.* 26, *Capt. Kennedy.*—Potatoes still brought to market at prices varying from *7d.* to *8d.* a stone. The supply, however, is uncertain. During the last month has seen Potatoes taken out of the ground which appeared quite sound, and in which the disease appeared to have been stayed, but the small quantity which remains need hardly be taken into account as food for the poor.

Waterford: *Nov.* 25, *Mr. J. Bourke.*—Potato crop turns out better than was expected.

Parts of Queen's, Kilkenny, Carlow, Wicklow, and Wexford Counties: *Nov.* 18, *Mr. J. Burke.*—Previous accounts of the Potato crop confirmed; one-half of the crop, now nearly dug, is sound and fit for use.

Donegal: *Glentics Union, Nov.* 18, *Capt. O'Neill.*—Potato crops in Killybegs favourable; examined them in many places where they were digging, and did not observe any failure of consequence. Crops from Killybegs to Mountcharles generally good. Double the quantity of food in the country this year that there was last. *Nov.* 25.—A fair average crop of Potatoes in Dungloe, Rutland, and Mullaghderg, the failure not being so extensive as was at first thought. There is, however, a great deal of distress, from the fact that the cottiers were not able to plant many Potatoes. There is a tolerable supply of food in the country.

Milford Union, Nov. 25, *Mr. S. Horsley.*—Has not been able to obtain any information as to the condition of the Potatoes, which appeared to be sound when stored. Market price from *3s.* to *4s.* per 120 lbs. Farmers realise remunerating prices for their grain.

Home Correspondence.

A Bee-keeper's Experience.—I shall first speak of the profits of bee keeping; for to prove that bees are profitable, is the best way to insure a patient hearing for whatever else can be said in behalf of my favourites. I have kept bees on the humane system for 10 years, and find, on looking over my accounts, that each stock of bees has cost me during that time *3l.* 15*s.*, and has produced honey and comb which sold for *8l.*; each stock (with its boxes, &c.), is now worth *1l.* 5*s.*; if from this *9l.* 5*s.* we deduct the expenses, there will remain *5l.* 10*s.* for profit, that is 11*s.* per year on the average. During these 10 years there have been in our district, which is by no means a productive bee country, three bad years, four average, one good, and two very good. The most I ever obtained from a stock of bees during one season (1846) was 46½ lbs. of honeycomb. Fearing lest they might not have enough left for food, I weighed them in the middle of the following winter, and found that their store of honey then amounted to more than 20 lbs. Having been in the constant habit of talking to cottagers about their bees, I can safely affirm that the humane system is more profitable than the cruel one of burning. In a good year, indeed (when honey is very cheap), the old-fashioned bee-master armed with brimstone may obtain as much honey as his more humane neighbour, but not in the average years (when honey, be it remembered, is dearer); and in bad years he will be punished for his cruelty by the loss of half his stock, while the other will lose few or none, and have a great deal more honey to sell when it is fetching *1s.* or *1s. 3d.* per lb. Those who are about to begin bee-keeping can hardly have a better adviser than Payne's "Apiarians' Guide," or Rev. W. Cotton's "Letter to Cottagers by a Conservative Bee-keeper." The latter is mistaken, however, in his strong recommendation of side boxes alone; for without more time and attention than most persons are able to bestow, the side box alone will not be sufficient to prevent the bees from swarming. I always use now a "cap" (capable of holding 20 lbs. of honey) besides the side-box, and find the two together answer the purpose exceedingly well. The bees take to the cap so much more readily than to the side box. To those who have never kept bees it will be quite necessary to give a little advice on the subject of buying. Bees may be bought and moved either in the spring or autumn, and they may be either swarms or stocks which have stood through one winter. Suppose it is the spring, and you are about to purchase a "stock" which has stood through the winter; in this case there are several things to be ascertained. First, that it is not more than one year old; you cannot judge of this yourself, and the owner may deceive you. Your only way, therefore, is to get some bee-keeper to go with you, and raising the hive a little, examine the combs: he will know their age by their colour. If he pronounces them more than one year old, it will hardly be worth your while to buy them. If the age seems right, ascertain the weight; it ought to be near 20 lbs., *i. e.*, 10 lbs. of honey, and 10 lbs. of hive, bees, bee bread, comb, &c. It is also very desirable that they should be in a good hive or box, not an old rotten one. You must consider, too, that if they are removed from a less distance than a mile and a half, many will wander back to the old place, and there die. But the most inexperienced may buy swarms without any fear of being cheated. You have only to bargain with the bee-keeper early in May for the first swarms; send him your hives or boxes for them to be put into, for you cannot tell when the swarms may issue. Do not let him put any sticks across inside the hive or box, and be sure to have the bees home the same day they are put into your hive. The swarm ought to weigh 3 lbs. or more, and the usual price is *9s.* if you furnish the hive, 10*s.* if you do not. *An Essex Man.*

Heath Culture.—If a "Heath Grower," who imagines that I cannot grow Heaths in three years from the cutting pot, large enough to exhibit at Chiswick, will pay me a visit, I will point out to him varieties generally supposed to be difficult to cultivate, such as splendens, tortuiflora, obbata, glauca, &c., large enough for any exhibition, that were in 60-sized pots less than three years ago. As to the clipping question, he will find it impossible (unless they are old plants) to keep those Heaths compact and bushy that flower with long spikes, such as vasiflora, Cavendishii, intermedia, fastigiata lutescens, the ventricosas, &c., unless he has recourse to some such process as clipping them with shears or cutting them back with a knife; even tricolors and hard-wooded Heaths stand it as well as the others; but I manage to keep most of my hard-wooded sorts bushy without clipping them. Of course if a plant is well furnished with wood from the rim of the pot to the summit of the plant, and that plant a hard wooded Heath, there is no necessity for clipping it. Because I say I clip my large plants over, it surely cannot be supposed that I cut them all back, whether they require it or not. *W. P. Leach, Wandsworth.*—I beg to assure a "Grower" that it is no joke that Mr. Leach cuts his Heaths over with a pair of shears. I happened one day to visit Mr. L.'s place, and saw him clipping a fine ventricosa with that formidable weapon. If I had not, however, seen him in the act of clipping them, and had not seen the plants after they were clipped, I certainly should have considered it a joke. The following are varieties which I understood, from Mr. L., he constantly clips. All the ventricosas, and all the vestitas, Humeana, Cavendishii, intermedia, Westphalingia, favoides elegans, intermedia, Lamberti rosea, Hartnelli, denticulata maculata, and several others. *Robert Cox, Exotic Nursery, Dec.* 4.

Queries about Planting, &c.—First, I have lately been building a school for the poor, and the ground about it, which is now a barren rock, I am anxious, if possible, to render ornamental. I fear there are no shrubs or plants whatever that will grow unless I spread a great quantity of soil on the rock, which would be rather expensive. The situation is not an exposed one. I suppose turf would flourish if clods were laid down, but that would look rather monotonous, unless relieved by a few shrubs or flowers. Perhaps some of your readers can tell me what is most likely to suit my purpose, requiring the least soil? There is about half an acre altogether. 2d, What trees besides the Yew and Cypress are suitable for churchyards? I require something hardy, as the churchyard I am going to plant stands very high, and exposed to the north and south-west, which is the prevalent wind of this country. 3d, I have lately been thinning my plantations, and my bailiff is at a loss what to do with the branches of the trees he has cut down. Coals are so abundant (2*s.* per ton), that the poor people will not thank you for them as firewood. Are they worth carrying as litter to a farm-yard half a mile off? They are chiefly of Larch, from trees of 15 years' growth. I suppose it is better for the remaining trees that they should be removed. *Carmarthensis, Llymenydd, Dec.* 4. [Char your branches, and then send them to the manure-yard.]

Weeds in Gravel Walks.—For more than 10 years past I have used salt (but not in solution), for destroying and keeping down weeds in my gravel walks with perfect success, and without perceiving (as alleged in your last Number), that the application acted as a stimulant to reproduction. The contrary is the case. I sow the salt by hand in dry weather, and sweep it about thin and as regularly as possible. I have seldom occasion to do this more than once in 12 months. *Thomas France, Ham-hill, near Worcester. Dec.* 2.

Potato Disease in Canada.—A letter from my son, residing in New London, Canada, West, informs me that the disease is universal there, and that the crop is a complete and total failure. *W. Rogers, Nurseryman, North Stonham, Oct.* 11.

Royal Horticultural Society of Ireland.—Having attended the Royal Dublin Horticultural Society's exhibition on the 14th September last, in company with two first-rate gardeners in that neighbourhood, I will mention what we saw in the Rotunda. The plants were arranged on benches round the room; the collections were so closely packed together that it was impossible to discover the different kinds of stove and greenhouse plants. They were in general very tall, with a little flower at the top. We noticed some nice scarlet Pelargoniums and Dahlias; the latter appeared to be the leading feature of the show. Many of the flowers exhibited good form and substance. There were, moreover, some tall Pelargoniums with a great deal of old wood in them, looking as if they had been half cut down last year; they made a very poor appearance: we were told that some of these plants had been dug out of the border for the occasion, together with many other things, and potted. In addition to these there were also some small Ericas, a few tall plants on the benches, many small bouquets of cut flowers in glasses, &c. The fruit was arranged on the left of the room, on a high sloping stage, with a fencing in front to keep the visitors off it. The prizes were awarded in each class without the name of any gentleman or gardener being attached to them. I asked whom they belonged to, and why the names of the successful competitors were not added! They told me that information would be given in the newspapers. We noticed three small Pines, 20 to 30 dishes of black and white Grapes, about the same quan-

tity of Peaches and Nectarines, 12 Melons, &c. We remained in the Rotunda until the close of the meeting, and were astonished at the behaviour we witnessed, which could not be compared to anything except to a parcel of schoolboys let into an orchard. Some of the ladies and gentlemen close to us were asking each other how much fruit they had got. The members of the Council seemed very liberal in their distribution to the company. I am convinced gardeners will not continue to exhibit fruit unless the Council return the same. Whether successful or not, would it not be more creditable to the Society to return all the fruit to the respective exhibitors. We noticed some gentlemen with the letters R. H. S. attached to the button-holes of their coats; these kept as sharp a look-out after the fruit as if they had been policemen. *A Looker-on, Sussex, Dec.* 6.

Contributions to the Chronicle.—As an amateur devoted to the culture of plants in general, I have great pleasure in joining you in thanking Mr. Leach for his valuable and interesting paper on "the Cultivation of Cape Heaths." If your opinion of his talent needed any corroboration, I would willingly step forward to award my testimony in his favour, which would not be the less valuable in consequence of the fact that Mr. L. is a perfect stranger to me in person, my knowledge of him being merely through his plants, which I have more than once had an opportunity of inspecting. Permit me to express a hope that no long period will elapse ere we hear from him again, and he may be assured there are scores of amateurs, aye, and practical men also, who will receive him with unmingled satisfaction. The importance to be attached to papers of such a character depends in a great measure on the practice and experience of the parties from whom they emanate; and it has often occurred to me that it would be a most wholesome practice if you were to make it a rule that all parties writing on the cultivation of any particular object should attach his name and address. And when such names as Green, Donald, Mylam, Barnes, Bruce, Kinghorn, *cum multis aliis* are remembered, surely these gentlemen if they were disposed could very quickly set us right as to the correct and successful modes to be observed in the cultivation of our different fancies, and we should be enabled, at all events, to select the grains from the immense amount of chaff with which the floricultural world is at present inundated. If I should not be considered intrusive, might I suggest how very acceptable would be to everyone a paper from Mr. Green on the cultivation of Azaleas. His plants, to my mind, are as near perfection as possible. Then Mr. Donald might spare a leisure moment to instruct us how to grow some other especial favourite. Mr. Mylam's hints on Orchidaceous plants would be received with great satisfaction by the numerous and daily increasing admirers of that gorgeous tribe. If these hints should be responded to, the thanks of all amateurs will be due and will be gratefully conceded to the contributors. *S, Lancashire.*

Feeding Bees.—I read "A. B. C.'s" statement at p. 734 very attentively, and it occurred to me at the time that "A. B. C." did not state whether the combs were rendered dark by the honey or by the traffic of the bees. I may say by both; and will not this circumstance change your correspondent's opinion as to sugar improving the quality of honey. It is needless for me to repeat that feeding bees with sugar adds no more to the flavour of honey than mixing the honey with the same quantity of sugar by hand. There is one way of converting sugar into honey, if I may so call it, and that is by taking away part of the bees' store and making up the deficiency by feeding with sugar. The exchange, however, should be effected with caution; for no sort of feeding is equal to that taken into the hive in the natural way. But if bees are short of food, especially during this mild weather, they should be fed, or they must perish. I do not advise offering them the very worst sort of sugar, which when mixed with water or beer is little better than molasses. Such is apt to give bees dysentery. Honey after all is the best food, and will go as far as two and perhaps three times its weight of sugar, and is perhaps the cheapest in the end. *J. Wighton.*

Habits of the Hedgehog (see p. 799).—I am enabled to state that hedgehogs are not only partly, but probably altogether, carnivorous, and that they may be numbered among the worst enemies of young game. Some time ago a hen of mine, which was brooding over young pheasants, was killed and the whole of her inside eaten. Suspicion fell upon the rats, but a trap being set, the real culprit proved to be a large hedgehog. This year I lost the greater part of a brood of partridges; they were carried off by the nightly invasion of a hedgehog, which was caught by a trap in the very act of burglary. *B. W. R., Dawlish.*—The hedgehog is one of the most interesting of British animals, and, like most other creatures, not only harmless, but even useful; its character has been much maligned from ignorance, and as an excuse for wanton cruelty. The food of the hedgehog is very various; by preference it is carnivorous, but, in certain circumstances, it will readily eat vegetable substances. Professor Bell, in his beautiful work on British Quadrupeds, states that its general aliment is insects, worms, snails, and slugs, and even frogs, toads, mice, and snakes. An experiment, which was made by Professor Buckland on the mode in which the hedgehog captures and devours the latter prey, appeared in the "Zoological Journal." It is too long to transcribe here, but may be given in a few words. A hedgehog and a snake were placed together in a box. At first the hedgehog remained rolled up, unconscious of the presence of the snake. Suddenly roused from its torpor, the hedgehog gave the snake a bite, which was repeated; the third time it broke the vertebra of the snake. It then passed the whole of its body through its jaws, cracking and breaking the bones, by which the snake was rendered motionless. The hedgehog then placed itself at the tip of the snake's tail, and ate upwards, "as one would eat a Radish," till half the snake was devoured; the remainder was finished by the morning. In many houses in London, which are infested by the blackbeetle or cockroach, they are kept for the purpose of devouring these pests; and its fondness for insects renders it a useful creature to the farmer and gardener. In a state of captivity it will readily eat soaked bread or vegetables; it is fond of the root of the Plantain, so great a disfigurement to Grass lawns; it will bore under the plant, and, eating the root, leave the tuft of leaves untouched. (White.) As to the absurd and obsolete notion of its sucking the cows, the most superficial observation of the small mouth of the hedgehog will show that it ought to be placed among that rare list of absurdities of the older naturalists, such as death-watches and barnacle geese. The hedgehog is easily tamed, and will soon lose its shyness, and feed with the other domestic pets. Professor Bell mentions one which would lay opened before the fire, and allow itself to be handled and its face rubbed with much apparent enjoyment. As far as hedgehogs are concerned, I hope your "Subscriber" will be satisfied that they are rather his friends than his enemies, and that he will abstain from, and discourage the cruel destruction of one of the prettiest of our Fauna. For his other visitors, the rabbits and hares, I have not so unblemished a character—witness every field and garden to which they resort. They are the plague of the farmer and gardener, the destroyer of the hopes of the cottager, by devouring the small produce of his limited patch of ground, and by the demoralising temptation of his leisure hours. *M. E. A.*—Buffon tells us that hedgehogs "eat worms, caterpillars, and beetles, and are also very fond of flesh, which they devour greedily, either boiled or in a raw state." Later observations prove that they eat also the tender shoots of almost all vegetables, and fruits in addition, such as Apples, Strawberries, and more especially Mulberries, which they find under the trees on the ground; but I imagine that they cannot do much injury in this way, and that your correspondent will find that rabbits are very much more destructive. The manner in which the hedgehog eats the roots of certain plants is very curious: the upper mandible being very much longer than the lower one, they bore under the plant, and so eat the root off upwards, often leaving the tuft of leaves untouched. When very young, their spines are soft and flexible, and quite white, and they are unable to roll themselves into a ball, as they do when full grown for self-defence. They are very destructive to game during the breeding season, as they feed on eggs, and will also destroy young birds. Indeed, we have an account in White's "Natural History of Selborne" of one killing a leveret. During the winter they bury themselves in a deep mass of leaves and moss, but do not store up any provisions as some animals do. *H. C. Chester, Ashtead.*—I have had hedgehogs in my garden for many years, and never found them to do mischief beyond trampling regular roads in travelling for food. I believe them to do good, rather than harm. *A. S. Slindon.*

The Night blowing Cereus grandiflorus.—By a series of experiments I have discovered a method of preserving this interesting flower of a night for days and nights together. I cut the flowers close off, place them in a large dish of fine charcoal, covered with a hand glass, and keep them in a dark cave or vault. In this way I have frequently preserved them perfect in shape and colour for a week, bringing them out freely in the light of day, to gratify the many and to satisfy the incredulous. This is the more remarkable as this fine flower is known to exist but a night on the plant. It opens when the sun sets, and by the time he rises on the following morning it droops its head, closes, and dies. *H. Bowers, Busbridge, Godalming, Surrey.*

Cotton Cultivation in Australia.—I am induced to trouble you with this communication, in the hope of directing the attention of some at least of your horticultural readers to what I conceive will, ere long, prove an important and remunerative employment for British industry—I mean the cultivation of Cotton in Australia. Towards the close of the year 1845 I visited the settlement of Moreton Bay, or Cooksland, the northernmost of the actual settlements of New South Wales, with a view to ascertain the general capabilities of the country for the introduction of an agricultural population from the mother country, previous to my contemplated voyage to Europe. In the course of my visit, I found the Cotton plant growing vigorously on the banks of the Brisbane river, in latitude 27½° S., and as I had previously ascertained, from personal observation as well as from extensive inquiry, that the climate was perfectly salubrious and well adapted to the constitution of the European field labourer, the circumstance struck me very forcibly at the moment, in connection with the new field of employment which it promised for British industry on the one hand, and the prospect it afforded of eventual freedom for the African slave in America on the other. The Cotton grown on the Brisbane river, in Australia, was grown from American (black or Sea Island) seed; the plant, or rather bush, was to all appearance healthy and vigorous; the pods were fully developed, and the balls of snow-white Cotton they contained were exceedingly beautiful. I plucked several of them myself with my own hand, and a specimen of the produce which I submitted on my arrival in this country to the Chamber of Commerce at Manchester and to gentlemen of the highest character and standing in the Cotton trade in Glasgow, elicited opinions and certificates in regard to its character and value of the most encouraging nature. Now it appears to me that Australia presents at this moment a noble field for the British horticulturist in connection with the cultivation of Cotton and other tropical productions, in Cooksland and the Moreton Bay district of New South Wales; and it is unquestionable that in the present period of general pressure there must be many industrious and virtuous families and individuals of the class of horticulturists in the United Kingdom who find it difficult, if not impracticable, to obtain remunerative employment at home. I would earnestly direct the attention of such persons and families to Cooksland, in Australia. There is no class of emigrants from the United Kingdom so likely to succeed in that country as practical gardeners—those especially who have been accustomed to the cultivation of hothouse plants and exotics generally—as there would there find all the plants of the tropical regions growing freely in the open air, in a climate perfectly congenial to the European constitution. A practical gardener, having a small farm on the Brisbane river, in Cooksland, in Australia, could easily cultivate a few acres of Cotton and have it ginned at a central mill or establishment for the whole district, and I am confident that its cultivation would, especially if he had children to assist in picking it, afford him a handsome return for his labour; and let it not be supposed that the distance of Australia is an insuperable objection to such a species of cultivation in that country, for if, in ordinary seasons, sheep's wool from Australia sells well in England, and far more than pays all the cost of the long voyage, why should not Cotton wool do the same? It is the superior quality of the article that ensures the sale of the Australian wool at a remunerating price in England, and it is evident, from the opinions and certificates to which I have referred, that Australian Cotton will be a very superior article also. I wish from the bottom of my heart that a few hundred families of poor gardeners from this country could only be got out to make the trial. They would soon make themselves comfortable and happy enough on the fertile soil and in the splendid climate of Australia; and I am quite sure that with the advantage of steam navigation, which Cooksland enjoys to a wonderful extent, they would soon be able to undersell Jonathan and all his "niggers" in the European market. In addition to the Cotton plant, Coffee, Sugar, Tobacco, Indigo, Arrowroot, &c., can all be produced with perfect facility in Cooksland. The Sweet Potato, the Pine-apple, and the Banana, grow luxuriantly in that part of Australia; Indigo is indigenous, and the roots, fruits, and grains of Europe fraternise harmoniously with those of the torrid zone. In short, it is of all others decidedly the fittest place beyond seas for a horticulturist to go to, either in the northern or in the southern hemisphere, and I should rejoice exceedingly to be instrumental in directing to its ample and fertile territory a numerous body of men of the class that could most easily and successfully develope its vast resources, and transform the wilderness and the solitary place into a perfect paradise. Should any considerable number, or any society of practical gardeners in or around the metropolis, be desirous of any further information on the subject of this letter, I should be most willing to give them a lecture any evening in any convenient place of meeting they might fix on; and I should also be willing to answer any further questions afterwards, without fee or reward of any kind. *J. D. Lang, D.D.*, 46, *Moorgate-street, London, Nov.* 13.

Vipers.—On walking one day from Ardleigh to Manningtree with my brother, we saw a viper laying on the Grass in the sun, and with her what I took to be worms. The old one opened her mouth, and we stood and saw three enter; the viper then went into the hedge. I killed her, and we cut her open; the young ones were found in her belly, and came out on the Grass alive, and we killed three. You may rely on the truth of this statement. *T. R. Luen. jun., Essex.*—In reference to the beetle question, which I chiefly wrote for the purpose of reviving a subject which had been unsatisfactorily left, I have received the following from a learned and scientific physician. He writes, that what I mistook for a kind of beetle was a species of small crab; and that he himself had witnessed the same phenomenon that I did on the coast of Devon. He adds, this crab is of a light green colour, that it is attacked by a still smaller kind of crabs which enter the abdomen and feed upon the contents until they leave nothing but the shell. And this, he writes, was the case with the specimen I witnessed, and I add I saw her moving, as I wrote, slowly over the deck of a vessel as if in the last agonies of life; and when I broke her shell, the small swarm scampered away as fast as they could. But to return to the viper question: an esteemed parishioner says, on getting over a hedge he came near a viper and her young ones; he clearly and distinctly saw the whole of them; in one moment, however, as he turned, probably to get a stick to kill them with, the young ones had vanished. But he killed the large one, and cut her open, and in her body he found six young ones, about 5 or 6 inches long, being the same number that he had seen on the outside of her body, and of exactly, or as near as he could guess, the same size. My parishioner is a gentleman of the strictest honour and

veracity. *Geo. Wilkins, Wir.* [Pray excuse us from carrying this matter on. No one says it is "absurd" to suppose that young vipers take refuge in their mother's mouth; what naturalists say is that belief is not proof: and they wait for the latter. Thousands of people are to be found who will swear that they have seen water changed into blood: and they firmly believe *it.* Do you believe *them?* We have picked out the essence of your communication, and really that is all for which we can find space.]

Sea Serpents. As many of your readers, like myself, appear much interested in whatever relates to the science of natural history, and the consequent accumulation of correctly stated facts, upon which alone such science, to be of any value, must be founded, I wish to draw their attention to the unfair method of arriving at conclusions employed by Professor Owen in his published explanation of the official statement of Captain M'Quhae, respecting the appearance of a gigantic marine animal in the Atlantic, as witnessed by himself and several others, on a late occasion. Professor Owen, in endeavouring to show that this animal was probably only a very large species of seal, founds such an opinion solely upon what he is pleased to consider the only correct portion of Captain M'Quhae's observation, and, in fact, enlarges upon such points as appear to assist the view of the case, as, for instance, the "capacious vaulted cranium," the "stiff inflexible trunk," and the nature of the integument, neither of which characters are to be found in or fairly deduced from Captain M'Quhae's account; while, at the same time, he entirely sets aside as inadmissible the fact of the equally or more readily discernible and carefully estimated great length of the animal, under the plea that such an estimate was made by prejudiced parties, although there should have been the strongest reasons given to warrant such an assumption, as upon that very fact depends the principal evidence as to what the animal really was. What the habits of the antarctic seals may be I know not, and it is not always safe to judge from analogy; but certainly those frequenting our coasts do not swim with any rapidity on the surface, and with their heads above water. They raise the head from time to time for air and observation, but pass from one distant spot to another altogether beneath the surface, either when undisturbed or when alarmed by pursuit. If we concede the point that the mental vision of philosophy is superior to, and more to be depended upon, than the actual powers of sight when exercised under circumstances but little liable to error, nothing more need be said on the subject. In such a case, however, I fear but few of those, who, like Captain M'Quhae, are in a position which gives them greater facilities for witnessing the phenomena of Nature, as displayed in various parts of the world, than falls to the lot of most amongst us (even of professed naturalists), will feel inclined to incur the annoyance of finding their efforts for enlarging our scanty stock of information regarding the wonders of the deep, given with all possible care to avoid error and misconception, thrown back upon them, mutilated and transformed by those who stand as leaders in the science intended to be aided, and that many will in consequence withhold the publication of such facts as might otherwise guide many a lover of Nature in the right track. As regards the present existence of enormous marine serpents and saurians, one positive and incontrovertible fact of their appearance is (according to all rules of evidence) of more value than any amount of evidence, merely of a negative character, to the contrary: and, in addition to the present case, the animal alluded to by Professor Owen, as mentioned in the "Wernerian Transactions," will, upon reference to the account given of it, be found to have been thrown up in nearly an entire state on the coast of the Isle of Stronsa, and there examined, and carefully measured by the parties, who certify upon oath as to the correctness of their description, and which, in addition to being about 20 feet longer than any species of shark, was so different in appearance from any form they had previously been acquainted with, that it is impossible to reconcile their statements with the fact of its having been merely a large shark; although the remains preserved in the Museum of the College of Surgeons, and which are presumed to belong to the animal described, but which were not secured until the carcass had been entirely broken up by decomposition and the force of the waves, may certainly be those of that fish, with the general appearance of which however all fishermen must be well acquainted, owing to the numerous smaller species abounding on our coasts. Such animals as sea serpents, though existing, may be but very few in number; they may also attain to a very great age, and if air breathing, the same individual may have been repeatedly seen; so that as yet the various museums, which, together with the care of collecting naturalists, are but, comparatively speaking, of modern growth, may, without disproving the fact of the existence of such creatures, be still as devoid of specimens as they are of the remains of the nations of the human race through whom the earth was once filled with violence, and who, on that account, were swallowed up in that flood of waters which, though now restrained within certain bounds, has not, as yet, except in few instances, yielded up its dead. Without doubt, as much or more evidence in favour of ghosts than of sea serpents might be collected, simply because a morbid state of the body is often accompanied by a variety of optical illusions, in which the appearance of known individuals both living and dead, as well as of more ghastly forms, is presented to the eyes of the invalid with all the force of reality, and in consequence often supposed to be something supernatural; but until it can be shown that any form of disease has for one of its symptoms the vision of sea serpents, and also affects not one but several individuals at the same moment, the two cases must remain not parallel. *W. Brodrick.* [We insert this letter without curtailment; but we in no way agree with the views of the writer, as far as his long and not very clear sentences allow us to understand him. In the apprehension that those who are in the position of Captain M'Quhae will, in future, decline communicating their observations, if they are to be annoyed by the incredulity of naturalists, we by no means participate. We will even venture to observe that naturalists will be thankful if they are relieved from the necessity of scrutinising such observations, and from the painful duty of exposing their worthlessness. Had this officer taken any pains to ascertain what the animal really was, he might have done some service. We should have thought that a gun might have been brought to bear on the creature, or that the small-arm men might have sent such a volley into it as would have stopped its swimming; and then we might have had evidence from which to judge correctly. As the matter now stands, Captain M'Quhae has merely raised a dispute, instead of settling a question.]

Societies.

Horticultural, *Dec.* 5.—J. J. Blandy, Esq., Vice-President, in the chair. The Marquis of Ormonde, and J. H. Barchard, Esq., were elected Fellows. Of subjects of exhibition, Mr. Spall, gr. to W. Carbonell, Esq., sent a specimen of the white Persian Cyclamen (C. Persicum album). Messrs. Veitch produced cut branches in a pot of their beautiful Fuchsia spectabilis, some account of which was given at p. 319 of the current year's volume. These were stated to have been cut from a plant which is growing luxuriantly in their conservatory border, and which has been in full flower there last three months, forming an object of admiration to all who have seen it. Mr. Kendall, of Stoke Newington, sent a small collection of plants from his Polmaise stove, and among them two specimens of Torenia asiatica. It has been stated by a contemporary that this Torenia "may safely be considered as a greenhouse plant," but Mr. Kendall has found that if treated as a greenhouse plant, in nine cases out of 10 it will die off in winter, and the plants in question were produced to show that the best place to winter it in is a stove. It was stated that he lost years last every plant which he endeavoured to keep over winter in his greenhouse, and that such was also already the case this year with the plants he had so treated. The specimen exhibited had been struck late in spring, and had been kept during summer in the greenhouse, where they were continually in flower. Early in October they were removed to the stove, in which they have bloomed freely, and promise to do so all the winter. With these came a seedling Cineraria, in the way of "Beauty of Kensington," named "Queen of the Isles." The plant exhibited was finely flowered, and was stated to be a cutting from a seedling of the present year. It had never been out of the Polmaise stove. Early in October it was subjected to a minimum temperature of 76° by day and 60° by night, proving that the Cineraria may be successfully forced to flower at this season of the year.—Of Orchids, Mr. [illegible], gardener to Mr. Beck, sent the pretty Oncidium unguiculatum, Epidendrum vitellinum, and the well-known Stenorhynchus speciosus. A Certificate was awarded for the Oncidium. A similar award was also made to M. de Jonghe, of Brussels, for Zygopetalum brachypetalum, an uncommon, though not quite a new species. It is one of the handsomest of the genus, having brown and green sepals and petals, and a bluish violet lip slightly marked with white.—A beautiful variety of the Java Vanda suavis, for which a Certificate was awarded, was contributed by Mr. Bassett, gr. to R. S. Holford, Esq. It was mentioned that of this fine species there are several varieties, some handsomely spotted, others nearly white and comparatively valueless.—Mr. Iviscn, gr. to the Duchess Dowager of Northumberland, sent, in one pot, three species of Mormodes, from Santa Martha, queer rather than beautiful; and, with them, fruit of Jambosa vulgaris, gathered from a plant which has fruited profusely in a conservatory at Syon. The fruit is small and oblong, pale yellow, and having the flavour of one of the Alberge Apricots slightly perfumed. The same establishment also contributed fruit, said to be excellent for jellies, of what was named the "Tree Tomato of Chili." The fruit was egg shaped, brownish red, and said to be agreeable. The leaves were large, downy, and heart-shaped, and had an unpleasant odour. The plant was stated to be Solanum betaceum. Certificates were awarded for both these productions.—From E. J. Cooper, Esq., of Markree Castle, Sligo, came a collection of Citrons, consisting of 9 varieties of this kind of fruit. The more interesting among them, in a botanical point of view, were C. Limetta, a small sort of Lime having a young fruit growing out of the crown of the old one, a curious peculiarity if constant; but whether this be so or not was not ascertained. The other, named C. Mellarosa, bore considerable resemblance to a Tomato, being flattened at the base and top, and ribbed, showing a disposition in the parts to separate, as in the case of the Chinese fingered Citron. This latter was stated to be highly perfumed, and to make a most delicious preserve. It was mentioned that the trees which produced these fruit are all planted in the bed of the Orangery, and are in the most flourishing condition. It was mentioned that 25 varieties of Lemons, Citrons, and Citrons, are cultivated at Markree Castle. A Certificate was awarded to the gardener at Markree for this exhibition.—A Seedling Apple, raised in 1832 by Mr. Collins, Blacksmith, Upper Clatford, Hants, was communicated through the Rev. C. Mackie, Rector of Quarley, in the same county. The tree, a small one, was stated to have borne this year 12 gallons of beautiful Apples. It is a fine looking variety, something like the Herefordshire Pearmain. Mr. [illegible] described it as excellent for baking, exceedingly well flavoured, and of a beautiful colour when dressed.—Mr. Roberts, gr. to the Duke of Cleveland, at Raby Castle, Durham, sent an exhibition of Grapes consisting of two bunches of West's St. Peters, beautifully coloured, and weighing respectively 1 lb. 10½ oz., and 1 lb. 12 oz.; a bunch of Syrian, 2 lbs. 6 oz.; one of Eschcolata Muscat, 1 lb. 3 oz.; and a bunch of Cannon Hall Muscat, weighing 14 oz. These were not sent as specimens of superior cultivation, but as good table fruit. The West's St. Peters were off the first year's wood of his young Vines growing under the "detestable British sheet glass" (these are Mr. R.'s words). Of the white Grapes, which were well ripened, the Eschcolata Muscat resembles the Syrian, and has no properties to recommend it except such as pertain to the Syrian, viz., that it will carry any weight of fruit, and that it hangs well and late. A Banksian Medal was awarded this exhibition.—Mr. Cole, gr. to H. Collyer, Esq., of Dartford, exhibited some remarkable Celery, called Cole's Superb Red Solid Celery, six heads of which weighed each 6 lbs. 8 oz., and with it an excellent paper, explanatory of his mode of growing it, which will be published in the next Number of the Society's Journal. For this latter, as well as for the Celery, a Certificate of Merit was awarded. —Mr. Smith, Enameller, Berkeley-street, Clerkenwell, [illegible] the old Golden Pippin, to which in quality it is nearer. [illegible] of Apples [illegible] Golden Pippin, [illegible] hardy, and [illegible] than the old variety. [illegible] in the Banksian [illegible] read from the chair.

Linnean, *Dec.* 3.—E. Forster, Esq., in the chair. Mr. [illegible] was elected a Fellow. [illegible] found at Thetford, in Norfolk, by the Rev. W. W. Newbould, were presented. The remainder of Mr. [illegible]'s paper on the structure and functions of [illegible], was read. Mr. W[illegible] exhibited specimens of the genus Achias, a dipterous insect found in Dr. [illegible] collection of Javanese insects. The genus Achias was constituted by Fabricius, and only a single species, A. [illegible], had been previously known to exist. Dr. [illegible] read a translation, which he had made at the request of the Council, of some memoranda made by Linnæus, and found in an old [illegible] which had lately come into the possession of the Society. The almanack was for the year 17[illegible], and the entries in it were for every day in the year except the months of November and December. This year is remarkable in the life of Linnæus for his engagement with Sara Lisa Moræa, whom he afterwards married, and also [illegible] and the unfortunate death of his friend Artedi. The entries in the Almanack [illegible] of anything remarkable that had occurred to him during the day.

Botanical, of Edinburgh, *Nov.* 9.—The President in the chair. [illegible] read:—1. [illegible] by Dr. Greville. [illegible] collected by Dr. W[illegible] in the Indian seas. They are described under the names of [illegible], S. [illegible] and S. [illegible]. The paper was illustrated by drawings of all the species described. 2. [illegible] towards the Cryptogamic Flora of Guernsey; by the Rev. T. [illegible]. The author states that Guernsey does not appear to be very prolific in Cryptogamic plants; several causes tend to produce this result, such as the [illegible] of the country, the great paucity of wood, [illegible] the very great proportion of the land under cultivation, either by the spade or plough. The island is stated to abound in [illegible] Fungi, several of which [illegible] by Mr. Berkeley; and numerous [illegible] species of Algæ abound on the coasts. An enumeration is given of the Cryptogamic plants of the island, as far as observed by the author, with occasional remarks on the species. 3. Notice of the occurrence of [illegible], the [illegible] in the river Leen, near Nottingham; by Dr. [illegible]. Dr. [illegible] observed this recent [illegible] in the [illegible] of September last, and sent specimens to the Society. He also mentioned the probability of the station for Crocus [illegible] being destroyed by an extensive [illegible]. 4. Dr. [illegible] read a letter from Dr. J[illegible] in which he notices the discovery of the [illegible] in [illegible] in the bed of the Whiteadder. Dr. B. also read extracts from a letter from Mr. [illegible], stating that he possesses a specimen of the same plant sent to him in July [illegible] by Dr. Johnstone, [illegible] at Dunse Castle: the specimen was sent at that time as being a plant new to Dr. Johnstone, but from the want of flower or fruit it was not then determined. 5. Note on the colour of a fresh-water loch; by Dr. Dickie, Aberdeen. After noticing some of the plants belonging to Oscillatoriæ and Nostochineæ which have been described as communicating colour to bodies of fresh water, the author states that a

loch in the vicinity of Aberdeen derives a peculiar colour from the presence of Rivularia echinulata and Anabaina flos aquæ. The paper was illustrated by specimens.—Mr. James M'Nab exhibited a beautiful specimen of the Pampa Grass, Gynerium argenteum, from the Glasnevin Botanic Gardens, Dublin; also seeds of the Upas tree and South American Guaco, presented to the Caledonian Horticultural Society by Miss Gibson Craig.—G. Newton, Esq., and J. B. Nevins, M.D., were elected Fellows.

Review.

Ornamental and Domestic Poultry: their history and management. By the Rev. E. S. Dixon. 12mo. pp. 345.

We are glad to announce that the author of the admirable articles on Poultry, which have appeared from time to time on the other side of our Paper, has collected them into a single volume. They are increased by some new matter, and put into the form of a well printed, handsome, and we may add very cheap library book.

Buyers must be cautioned against confounding this work with another, said to have been written by Mr. Rennie, but sold under the name of "Poultry, their breeding, rearing, diseases, and general management. By *Walter B. Dickson.*" The two works have nothing in common, and may be distinguished, when an order is given to a bookseller, by asking for Dixon on Poultry, not Dickson on Poultry. We have nothing to say in favour of the latter, which is entirely superseded by the new work.

Miscellaneous.

The Chartist Land Scheme.—We hear that "The People's Estate" at Manthon, purchased by Mr. Feargus O'Connor, is about to be brought again to the hammer, in consequence of that gentleman declining to complete the purchase. The reason assigned is the "annihilation" (Mr. O'Connor's own term) of the income derived from subscription to the Land Company since the publication of the evidence taken respecting its affairs by the select committee of the House of Commons. *Worcester Herald.*

A Washing Plant.—In California there grows a plant which is used for washing every description of clothing in cold running water. In using it as soap, the women cut the roots from the bulbs, and rub them on the clothes, when a strong lather is formed. To propagate the plant, the bulbs are set in a rich moist soil, and grow most luxuriantly in the soft bottoms of valleys, or on the borders of running streams. *Daily Paper.* [This is probably Agave saponaria, or some allied plant.]

Calendar of Operations.

(For the ensuing Week.)

CONSERVATORY AND GREENHOUSE.

We have already alluded to the ill effects of humidity and stagnant air in plant houses as evils at this season to be guarded against most particularly; but these are of minor importance compared with one of our own creation, evidence of the existence of which we not unfrequently see in the drawn and unhealthy occupants of greenhouses—we allude to heat, which, judiciously applied, is of course of the first consequence, but employed without judgment, becomes a fertile cause of the evils above described. It must be held in mind that a spring or summer temperature, without the sunlight of one or the other, is an anomalous state of things altogether, and one which cannot be pursued consistently with things so susceptible of such influences as plants; above all, high night temperatures should be avoided. We are convinced of the value of the practice of employing night coverings, and of thus dispensing in a great measure with the use of fires.

FRUIT FORCING.

Peaches.—Whatever pruning is necessary had better be done while the trees are in a state of repose, and this should be observed more particularly with old and enfeebled trees. The habit of Peach trees is influenced by forcing, the excitement of one early season affecting the trees the following year. Hence the necessity of attending to this matter early. The trees should be most scrupulously cleansed of every particle of scale, and subsequently washed with a composition of soft soap and sulphur. The trellis and, in fact, the entire wood-work of the house itself, should be painted, and all bast ties or other insect haunts carefully removed. To complete the preparations for forcing, a body of leaves and stable manure should be turned up together for the borders. *Vineries.*— The first excitement to the early house should be contributed by a temperature of from 45° to 50°, and a proportionate border heat. Atmospheric humidity is essential to procure the healthy development of the buds; but additional moisture should be applied by the syringe twice a day, when the buds are observed to be in action. In covering borders with fermenting materials, the large mass necessarily laid on goes far to exclude that amount of air so beneficial to the roots. To obviate this in a slight degree, we lay draining tiles transversely on the surface of the border, reaching each way to the limits of the covering. An advantage is gained, in addition to that intended, by the air being thrown into the manure, and quickening the fermenting action, which is liable to be checked by heavy rains. Nothing but their legitimate occupants should be permitted in late Vineries, where Grapes are desired to hang until a late period. Succulent plants, or any damp or decaying substances, especially should be interdicted. Fires must be maintained and air allowed to circulate freely and continuously. Early Cherries or Peaches in pots shou'd be securely plunged when introduced to the forcing-house, so that the fluctuation of temperature to which the branches are exposed may not affect the roots, which naturally prefer a more equable temperature. Cherries, in common with Peaches and similar fruits, require to be excited slowly; the peculiarities of their structure sufficiently indicate this; neither the size of the roots nor the sap-vessels of the branches will permit that rapid accumulation of sap which a premature development of buds would demand. If perfectly at rest, Figs in pots may be turned out and examined; if the soil is entirely exhausted it may be shaken away, and a fresh compost of light loam, vegetable mould, and well decomposed night-soil added, otherwise the drainage only need be renewed, and a little top-dressing applied. No diminution of heat must be permitted in Cucumber pits after the plants are once ridged out and in action; resources of stable litter should be duly calculated, and the stores of manure husbanded against the approaching winter.

FLORISTS' FLOWERS.

Pinks.—Though the season has hitherto been comparatively mild, still our plants on the open border are not looking so well as we could wish. One of our beds, 18 yards long, in which are most late growing sorts, such as Kirtland's Gay Lad, Smith's Whipper-in, &c., to which we pay especial attention, by placing small Fir boughs, or cuttings therefrom about 6 inches in length, on each side, have escaped the cutting winds with comparative safety, whilst our side or stock bed, where such a plan has not been pursued, has suffered considerably, many of the tall sorts being broken over close to the surface. Whenever the weather is dry, let the surface soil be moved; and if worms throw up their casts, or are otherwise troublesome, by all means give them a dose of lime water. Seedlings planted out for next year's blooming, if exposed to vermin, should have an occasional dressing of soot; this sprinkled lightly over will preserve them from snails and other vermin of a similar character, as well as afford a safeguard against the wholesale encroachments of rabbits and hares, where these sad pests to the florist abound. *Auriculas and Polyanthuses* in frames must have all the air possible; these plants generally grow more robust on an open and yet well sheltered border, but their flowers cannot be protected as in frames, and where the possessor is an exhibitor this is a point of considerable importance; it will, therefore, be requisite, knowing their hardiness, to avoid stewing them up, as is too often the case. Seedlings pricked or planted out early in the autumn are apt to get the soil about them slightly mossed over; this must carefully be attended to, and stirring with a blunt-pointed stick will be highly serviceable. *Ranunculuses.*—Turn the bed well over for the last time previous to planting, pick out worms of all descriptions, ridge the bed, and give it, after a few days' exposure, a dressing of lime; then level it down, and allow it to consolidate, in which state it had better remain till planting time. *Carnations and Picotees.*—We are glad to see in various parts of the country an increasing taste for these very beautiful flowers. Hardy as the Couch-grass (Triticum repens), they require no particular treatment (if well established in pots or borders). Plenty of air, and consequent freedom from damp, are *desiderata* at this season of the year. As they have increased in numbers and beauty, so it appears that their admirers have multiplied in equal ratio; and whilst such flowers are produced as Headley's King James, R.P.; Headley's Venus, R.P.; May's Sebastian, R.P.; Youell's Gem, R.P., &c; with Eason's Admiral Curzon, S.B.; Holliday's Thomas Hewlett, C.B.; Barringe's Earl Spencer, P.F.; Hardmet's Firebrand, S.F.; and Pickering's Mrs. Pickering, R.F., so are we sure that the taste for these splendid flowers will be gratified, and their cultivation greatly increased.

KITCHEN GARDEN AND ORCHARD.

There is no question but that the best flavoured and finest Seakale is obtained from established plants, subjected to no system of forcing, but merely covered with light earth or sand, and brought forward by the natural warmth of the season. But Seakale is demanded at Christmas! and thus a more active system of procedure is imperative. The old plan of covering with pots and supplying a stimulating heat with a body of leaves, is still preferred by many; and where the additional trouble of half filling the pots with wood-ashes or sand can be afforded, good flavoured Seakale can be secured. The more recent plan of taking up the roots and forcing them in the Mushroom-house, or any dark place, has its recommendations, both in regard to economy and rapidity of production, only if the precaution of excluding light be not effectual the flavour of the Seakale will be increased and deteriorated. The last-mentioned plan is equally advantageous for Rhubarb. The most convenient plan of forcing Asparagus is to transfer it to a light pit, provided with bottom heat, of a moderate nature, duly covered with light soil, and allowed as much as possible the advantage of sunlight and air; an abundant supply of excellent Asparagus may be obtained. This system of removal may be considered extravagant, when the destruction of the roots is brought in view; but its adaptation in some instances could not fail to be of use, as a system might be originated of substituting young and healthy stock in place of anciently-established and worn-out plants, whose occupation of the land has reached for half a generation. *Orchard.*—Planting hitherto deferred should be immediately attended to, or otherwise postponed until February. The roots of all newly-planted trees should be secured from the effects of severe weather, by mulching. Fruit trees are injured by the accumulation of Moss and Lichen on their branches; where the hand cannot reach it, a dashing of lime will effect its destruction. Proceed with pruning and nailing; a great advantage is gained by advancing this work; an early spring sometimes perplexes the dilatory. In the absence of frost, old walls may be pointed and lime-washed.

State of the weather near London, for the week ending Dec. 7, 1848, as observed at the Horticultural Garden, Chiswick.

Dec.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri.. 1	5	29.614	29.355	48	34	41.0	S.W.	.19
Satur.. 2	6	29.612	29.362	45	29	37.0	S.W.	.02
Sun.. 3	)	29.797	29.579	51	36	43.5	S.W.	.01
Mon.. 4	8	29.268	29.116	53	38	45.5	S.W.	.19
Tues.. 5	9	29.215	29.086	53	39	46.0	S.W.	.01
Wed.. 6	10	29.376	29.215	57	40	48.5	S.W.	.05
Thurs. 7	11	29.670	29.505	55	50	52.5	S.	.15
Average...		29.511	29.302	51.7	38.0	44.8		0.62

Dec. 1—Foggy and drizzly; cloudy; boisterous, with rain at night.
— 2—Fine; hazy streaks; overcast; clear; boisterous.
— 3—Clear; overcast; boisterous, with slight rain.
— 4—Densely clouded and boisterous; heavy rain; clear.
— 5—Overcast; clear; overcast, with slight rain.
— 6—Clear; heavy clouds; showery; cloudy and boisterous.
— 7—Heavy rain; densely overcast; rain, and boisterous at night.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending Dec. 16, 1848.

Dec.	Average Highest Temp.	Average Lowest Temp	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 10	46.0	27.4	36.7	7	0.20 in.	1	1	2	2	1	4	6	4	3
Mon. 11	45.4	24.9	35.2	8	0.62	1	2	2	1	3	5	5	4	3
Tues. 12	46.1	27.0	36.5	7	0.26	2	1	1	1	5	6	5	5	1
Wed. 13	46.0	24.5	35.2	6	0.13	1	3	1	1	6	7	2	1	
Thurs. 14	44.7	25.0	34.9	10	0.32	2	2	1	2	6	5	4	—	
Fri 15	45.8	26.9	36.3	11	0.50	1	2	1	3	6	4	3	1	
Satur. 16	46.2	26.9	36.5	12	0.45	—	2	2	2	4	3	4	5	

The highest temperature during the above period occurred on the 13th 1812, therm. 61 deg.; and the lowest on the 13th, 1846—therm. 11 deg.

Notices to Correspondents.

Alkali Works: We have received another long letter from the Alkali Manufacturer in the north of England; but it contains nothing new. We are willing to believe that this gentleman has never committed the social offences which are charged against others; it may be that he works to a loss; it may be that his works emit no acrid vapours; it may also be that his neighbours have nothing which such vapours can destroy. But until he can show that the many verdicts of juries, the many decisions of judges, are all unjust; and until he can show that it is no offence for a man to set himself down in a richly wooded district, to destroy his neighbours' trees, and to involve him in costly lawsuits before compensation, *such as it is*, can be awarded, he must excuse us for continuing to assert that the chimneys of alkali works, *in such places*, are a public nuisance. That is all we have said, and by that we abide.

Books: *J L M.* Walker's "Pronouncing" is, we believe, as good as any.—*G G.* A third Part of the "Elements of Botany" will be ready very soon, and will give you the information you seek concerning plants used in medicine and for food.—*E P.* "School Botany;" "Babington's Manual." Withering is useful for consultation, but obsolete.

Clematis montana: *N S H.* We did not understand your note: nor do we now. If the plant produces seeds it can be propagated by them; if not, not. If you ask why one plant produces seeds and another not, that is a question that can only be answered after examination.

Emigrants: *G F.* We really cannot assume the responsibility of giving you advice in such a matter. This is certain, that active, industrious, well-informed men may make way in all the Australian colonies; and that without activity and industry no one can succeed either in those or any other colonies.

Gas Heating: *T J.* Thanks. We do not see that you have thought of providing against the possibility of gas escaping into the house. Until that is done, and done effectually, gas cannot be recommended as a source of heat.

Glass: *G L.* We do not recommend the polished plate glass. Wait, and when the winter is gone ask us for the result of trials with rough plate glass.

Insects: *J H.* Water of the temperature of from 150° to 160° will kill scale without injuring your trees ‡—*M D.* The small beetles which are destroying your furniture are the death-watch beetles (Anobium pertinax). Saturate the wood-work with a solution of corrosive sublimate, or have the articles taken to pieces and immersed in a kyanising pit; something of this sort must be done, or they will be worthless in a very few years. *W.*—*Z O.* The insects in the heart of the branch sent are the cocoons of a small wasp-like insect belonging to the family Crabronidæ. *W.*

Names of Fruits: *C E.* 1, Beurré Bosc; 2, Winter Nelis.‖—*B G G.* 3, Winter Nelis; 5, Beurré Rance; 6, St. Germain; 5, Reinette du Canada; 9, King of the Pippins; 13, Wyker Pippin.‖—*E P.* Your fruit has been received, and will be named as soon as it has become sufficiently ripe to exhibit its true character. ‡

Names of Plants: *S E N.* Your plant *is* Plantago Psyllium, which has not been recorded as a British plant. If you are satisfied about its being wild, we will beg you to give us the particulars of the locality in which it occurs, in order that we may publish them. Simethis bicolor, the existence of which in England a correspondent first enabled us to announce, has now been found wild in Ireland. It will be necessary for you to authenticate the statement by your signature.—*H Williams.* No. 1, Myrica cerifera; 2, Laurus Benzoin; 3, Clethra acuminata. ¶—*J de Jonghe.* The fresh specimens having been packed in cotton wool and pressed tight, had heated and were scarcely examinable. The only good packing material is damp brown paper. 386 is neither Epiphyllum violaceum nor Russellianum, but a slight variety of Epiphyllum truncatum; 101, some Lophostachys near patula; 875, Barbacenia purpurea; 143, one of the many forms of Catasetum cristatum; 385, not determinable, perhaps Gloxinia pallidiflora; 701, apparently the remains of Gesnera allagophylla, or G. spicata; 337, Gesnera longifolia, a small specimen; 953, the true Lobelia thapsoidea. The other things hereafter. The dried specimens are however in many cases without flowers; in others they are so unskilfully prepared by your collector as to be unfit for the herbarium. We will see what can be done with them; but the task is greater than we can generally undertake. Determinations of this kind consume not only hours, but days.

Polmaise: *T S.* Take care that you do not fall into the error, which has ruined others, of burying your apparatus in masses of brickwork, which detain and absorb so much heat as to leave nothing for the house. To act properly, the heating surface must be large, and the heated air *delivered as rapidly as possible into the house.*

Rural Horticultural Society: *A Constant Reader.* Read the rules of the Pytchley Society; or communicate with the rector of that parish. He can give you good advice. The periods for the shows depend on the climate, and you do not give any clue to your residence: which may be in Cornwall, Kerry, or Bute.

Misc: *M S H.* Your Pear tree swarms with the mussel-scale insect, which can only be removed by the means we have repeatedly mentioned, and especially at p. 667 of the present volume. The proposed ventilation will do no harm if the odour is not very powerful; if it is, place in the current an earthen pan full of weak muriatic acid.

WHEAT SOWING.

MARK FOTHERGILL, 201A, Upper Thames-street, London, offers the following MANURES for the Wheat crop, and warrants the quality to be genuine, viz.:

SUPERPHOSPHATE OF LIME (prepared from Bone only).

WHEAT MANURE (containing a large amount of Silicates, with rich Phosphates).

DRIED NIGHT-SOIL (obtained from a large public institution).

PERUVIAN GUANO (direct from import warehouse).

BRITISH GUANO (rich in all the Salts of Ammonia, Phosphates of Soda and Potash, &c., contained in the foreign, at a considerably lower price).

Also, Soda Ash (Wireworm destroyer), Gypsum, Urate, Nitrates Soda and Potash, Salt, Bone-dust, and all other manures of known value.—Apply for prices current as above.

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The Agricultural Gazette.

SATURDAY, DECEMBER, 9, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

Tuesday,	Dec.	12—Agricultural Society of England.
Thursday,	—	14—Agricultural Imp. Society of Ireland.
Tuesday,	—	19—Agricultural Society of England.
Thursday,	—	21—Agricultural Imp. Society of Ireland.

Farmers' Clubs.—Dec. 11: W. Hereford, W. Market, Moreton Hampstead.—Dec. 13: Harleston.—Dec. 15: Wadebridge.

We should be sorry indeed if our Journal were to be regarded as the exponent of only the *material* relations of agriculture—if the Condition of the Labourer, and the relative positions of the other classes interested in the art, were held to be beyond its scope. Our columns, during the last few weeks, have often forced the bounds of such a narrow field as this would be, and we have rejoiced in being able to communicate thoughts and facts and arguments on the education of the agricultural labourer—a matter having but little immediate connection with the mere practice of farming—which cannot have failed to concentrate both attention and desire on this important subject. Not only have methods of education been pointed out, but the vast need of it has been illustrated. The locality, for instance, in which "S. S." is resident has been shown to be in a wretchedly ignorant and debased condition—certainly worse, we should hope, than the average of country districts—much worse, we are happy to say, than our own—but it is not unexampled, as we know. Thus a correspondent writes:

"'S. S.' does not exaggerate the ignorance and crime that reign in rural districts—at least I can safely say it applies to the neighbourhood in one of the midland counties, where I have cast anchor. Scarcely a night passes without some petty robberies, poaching cases, or wanton mischief to people's property. Another evil is that there is only one school that you can send your children to, and there you get them polluted by the young swearing rascals that have neither precept nor example instilled into them by their parents. I have had charge for some years of about 20 men of the labouring class, and really their ignorance and pilfering habits are enough to disgust any one. I have turned many away; and yet I can put trust in very few amongst them to do the least thing requiring confidence or foresight in its performance. The parson in the parish in which I live, and the parsons in the other parishes adjoining, have just had a meeting to form a branch of the missionary society for raising subscriptions to send bibles to the heathen abroad; now I think they would do better to find bibles and to instruct the heathen in their own parishes. To use the words of a reverend divine, I am half out of patience with societies for coverting Jews, Hottentots, and Hindoos, while so many people of our great cities and rural districts have never heard of God except to blaspheme." *B. B.*

We believe "B. B." to be right in his exposure of the fallacy pervading common comparisons of town and country populations. The purity of a country life is a fiction: a strict comparison, in this respect, of similar classes in town and country we do not believe to be favourable to the latter. The evil may be more visible in the former, because there it is concentrated: society, so much denser, has better opportunity for developing its inherent tendency to classification. And—just as in the mixtures of the chemist, the precipitation of the grosser particles is less perfect in the dilute than in the concentrated solution from which they may have been detached—so the country population does not exhibit its evil so offensively, because it is not dense enough to induce the collection and separation of its good. But the former may not be the less real or active on that account, and it is on the experience of one well acquainted with the lower orders in both town and country that we believe the latter, on a numerical comparison, to occupy a lower moral status than the former. Their ignorance is deeper; few will deny that: and every one knows how ignorance is connected with all that is mischievous. They want that stimulus to effort we believe most town people to possess in the closer contact of their superiors; and in the daily sight of rising members of their own class; and without such help to urge them on, how can they be expected to rise? the ladder which is to assist them must be seen, and its usefulness proved, before they can ascend it.

What a dull and cheerless life is that of many an agricultural labourer! Poets have praised its peacefulness; but death and the grave, too, have been praised for this. The realities of life on 10s. a week for the food of a family have not been experienced by those who pretend this praise. The dreariest blank for retrospect—no anticipation of a better temporal future—and a constant present of half-satisfied bodily wants, make up the history of many a labouring man. He has causes enough for fear; the period of his employment is as fickle as the weather—his health may leave him—the workhouse awaits him. What is there, on the other hand, to awaken his hope? The praise and satisfaction of his master might excite him to good; but how often is not the expression of it exhibited more in mere connection with the society which gives its sovereign and parchment certificate to the old man, than in the friendliness which the young man needs for his help and encouragement.

We are aware that this picture is not universally true; and we are far from desiring either to neglect the just praise of the labourer's real friends, or to cast a slight on the most imperfect or mistaken efforts for his benefit. But what is his condition in the "midland counties"? How are "B. B.'s" twenty labourers? He has lived among them for "years;" his influence—the greatest that one man can exert over another, the influence of master over servant—has been active all that time—and his account is a description of the present, not a history of the past: he can "put trust in very few among them"—their "*ignorance and pilfering habits are enough to disgust any one.*" We venture to assert that this writer pronounces his own condemnation. His influence cannot have been powerless; yet the result is no better than this. Is human nature such that his men can be expected to improve spontaneously? Will looking on in disgust be of any service to them? Is the addition of one more to the fears of their already miserable life—miserable, not because they are labourers, but because of their low moral standing—likely to benefit them?—has turning away "many of them" done any good? Threats and disgust are not powerless in the work of moral improvement; they are *mischievous*; they retard its progress. And if a master fear to acquire any further knowledge of his men than the neighbouring magistrate or the lists of their depredations can furnish; if he look on in the disgust which all this will naturally inspire, and do no more than threaten to discharge the next offender, his men will pilfer still, and live in ignorance still. Let a master get acquainted with his men, or, what will be far more to the purpose, allow them to get acquainted with him: let them see him in other lights than merely as the director and strict paymaster of their services: and his efforts for their improvement—in the grant of the allotment field—in the encouragement of schools for themselves and their children—in his payment of wages by "the piece"—in his assistance of the more trustworthy and aspiring among them—in his ultimate establishment of the village reading room—in his advocacy among them of the savings' bank, the friendly society, and the temperance club—and in the thousand other ways in which a benevolent man may befriend his servants—will soon put a different face upon the class among whom he lives and whom he employs.

We do not know the present condition of the agricultural labourers in the neighbourhood of Kynaston, near Ross, in Herefordshire, but if no improvement follow the continued residence in any locality of such men as Mr. Batson, of that place—if his efforts for the good of the labouring class, detailed in a late Number of this Paper prove powerless for their advancement—then, but not till then, will any one be able, with a good conscience, to detail the miserable moral condition of the people among whom he has for many years lived as employer.

And we have not yet gone to the extent of our difference with "B. B." We have yet to express our entire want of sympathy with his attack on the several benevolent societies which he enumerates. The greater the exercise of benevolence the more probable the success of a new claimant on its attention. The truest moral philosophy unites with the ordinary history of such matters in pointing out the most active in home benevolence as the most hearty supporters of the societies alluded to. Benevolence—as every other habit of the mind or the affections—grows the stronger by exercise; and a scheme requiring all [illegible] at home, if "B. B." [illegible] of support [illegible] interest, we [illegible] schemes of benevolence abroad.

We referred, in the outset, to the [illegible] of our Journal as being not *immediately* connected with farm practice, and perhaps this is [illegible] true. But we may certainly [illegible] "B. B." tells us that he cannot "put trust [illegible] consequence of foresight in its performance." And he is not the first employer who has suffered from the stupidity of workmen. [illegible] labourers. The comparison of the Scottish and English [illegible], so frequently in favour of the former, brings out this fact [illegible] the superiority it exhibits in [illegible] the prevalence of a better [illegible] of a more thorough education of the labouring class.

And we must add a word in explanation of [illegible] used in describing the condition of the agricultural labourer, which to some may appear exaggerated. It may be said, "You have not described *his* condition so much as the misery which would be consequent upon its circumstances if they could be imposed upon *yourself*. You [illegible] bilities which the labourer [illegible] for they are the result of an education which he has not experienced." Now, misery may be none the less real because it is unfelt; and he who is the most alive to the inferiority of the moral and mental status of any class is the best advocate that can be retained on its behalf. What does this objection amount to?—We are aware that the idea of a "dreary blank" in connection with the life of a horse or a dog ought not to excite our pity, because these animals are incapable of anything else, and [illegible] the highest purposes of their existence [illegible]. But will any *one* reason from the [illegible] to the [illegible] across the measureless gulf which lies between? The brute creation are always at their best; they are guided by instinct from the commencement of life: but the mind of Man was *created* for education. And will any one pronounce the pity expressed to be absurd because the [illegible] and almost vegetative life it deplores is insensible to its own degradation? Sensibility *might* be conferred upon it, and it *might* be urged onwards in a course of progressive improvement.

We are not desirous of educating the labourer beyond his position in life; but no one can suppose that there is any danger of this in the ordinary schooling of either the "National" or the "British and Foreign" systems: and we do not believe that any such danger exists in the fullest development of all the powers which God has conferred upon the human mind, provided conscience as well as mind be informed, and education be moral as well as intellectual.

What is a Show of Fat Cattle able to teach?—Exhibitions of this kind hold the same station in relation to agriculture as exhibitions of other kinds hold in relation to other arts. An "exposition" of any of our manufactures, or an exhibition of pictures, is equally a shew of *mere results*—calculated no doubt each, and the latter especially, to excite the emotions at which the artist aimed, but, to the uninitiated man who shall visit it with the view of learning the art, capable of teaching—*nothing*.

Surprise may be excited, and emulation may be aroused, in the spectator of an isolated fact—but, so long as the methods and processes which produced it are unknown to him, it is useless for his instruction. Education is founded on *comparison*: its lessons arise out of the successive steps which lead to a result, or, even, it may be, out of an examination of the results themselves—a *succession* of them: and thus it is that the *Times* reporter of the Smithfield Show, who could do nothing at first but laugh, has learned, at last, to see something in it to interest even him. His first year's visit could excite only wonder and ridicule, but succeeding examinations have taught him to compare, and now he can draw inferences with the best of us for the instruction of readers—on the merits of the breeds to which the animals belong; and, for the flattery of self love—on the influence of his last year's strictures! He has learned that the examination even of fat cattle—mere results as they are—is instructive to the man who already possesses a general acquaintance with the subject: though it may convey no lesson to any one else. But the Smithfield Show possesses *greater* professional or technical utility than almost any other, unconnected with agriculture, that can be named. Its items are not mere isolated facts—a history is attached to each—and there is sufficient generic oneness among the whole, as regards both methods and results, to

permit safe comparison and generalisation. Many a useful lesson is received by its intelligent spectator; the relative value of different kinds of food is taught by the effects of different diets on similar animals—the connection between certain external indications and the tendency to fatten is taught by the effects of the same diet on different animals—the relative merits, as beef-makers, of the different breeds is seen by comparing them in connection with the food in each case consumed—and the value of warmth and rest and comfort in the process of feeding is taught by the whole Show, and particularly by the terms which appear to obtain between the cattle and their keepers.

It may be true that a townsman has seen little to interest him during the past week at the Baker-street Bazaar: and it matters little whether candour or prejudice may have ruled his judgment in regard to it—the cattle have been sent there, not to please him, but because it is the most convenient place of meeting for agriculturists. And, after all, it is to the meeting which it thus effects, rather than to the attractive means it employs, that the greater portion of the good done by the Smithfield Club must, in our opinion, be attributed. The discussions on tenant right, on the diseases of animals, and on other agricultural subjects, to which we have this week listened, have been even more useful than the silent lessons to be received by an intelligent examination of the cattle show. And yet the latter have been quite as striking as in any previous year.

Our readers will find an account of the whole in full detail in another page.

ON CATTLE FEEDING.

Two articles under the heading of box-feeding appear in the *Agricultural Gazette* of last week; one under the signature of G. W. Fowler, and the other of "W. C. S." Were I to reply to them in a few words, I should repeat my challenge, and request them to empanel a jury of scientific men to sit on the subject, and then, notwithstanding all the learned arguments which could be brought against me, I repeat, if I did not obtain a unanimous verdict in my favour, I would suffer myself to be roasted on Cobbett's gridiron, or cast into Nebuchadnezzar's furnace. But in making this bold statement, I wish it to be understood that I confine myself to that which I myself have written or may write; and I do not admit the absurdities that my opponents attribute to me. Thus, last year I wrote expressly to proclaim that I abominated chaining beasts up in stalls; but again this year it is insinuated that I advocate the measure which I wrote expressly to condemn. And again, a fortnight since, I published what I had always seen practised with success, and had verbally advocated, *i. e.*, "a dry and well littered farm-yard for young and growing cattle." "But," writes the gentleman who signs himself "W. C. S," "in such a yard the cattle are necessarily running about, lying down, and sleeping at night on their own excrements." Now, I do not see why the cattle are necessarily running about; but if they are walking or moving about, being young and growing, so much the better. Mr. "W. C. S." also writes "that in such a yard the cattle are exposed to all the rain that may fall in this rainy climate during the wettest portion of the year." Now, my dear friend, Mr. "W. C. S.," could the yard be both wet and dry at the same time? Did I not write that the yard must be dry? and could I have supposed that such yards would be without cattle sheds being erected round them? At this time I know many such yards, as I had in my mind when I wrote, in this and other neighbourhoods, and I had no notion that such places as those to which "W. C. S." alludes existed at this time in this country. But as it appears that such do exist, and that Mr. "W. C. S." knows of no other, he will permit me to inform him that when I alluded to a well littered and dry cattle yard, I meant a yard that had at least a barn at the north end of it, and a shed on the east and west sides of it. Under the sheds, also, the cattle in general were to be foddered, and the floors of which were to be raised at least 2 feet above the floor of the yard; thus such a yard would also be a large tank; the lowest part also should be the centre, and to which the manure should be regularly gathered, and a light shed should be built over that part of it. But how consistent or inconsistent are all the advocates of what they term box-feeding! Mr. Geo. W. Fowler writes, that he has in those "described pits 56 head of stock, including horses, colts, pigs, and two rams," as strange a compound medley as ever was crammed into boxes before, and he wishes that I (the rev. gentleman), had been with him one evening at 8 o'clock, adding my reverend person to that very choice and curious menagerie. "Walk up, walk up! ladies and gentlemen! it is 8 o'clock, and the animals are just going to be fed! The collection is wonderfully choice!"

> "Ut equi; custos; bos; fur; sus; atque sacerdos,
> Et etiam viri gregis duo."

Thus writes my namesake, Mr. Geo. W. Fowler; but Mr. "W. C. S." informs us that horse-dung (and that is my experience of it), in the open air becomes by fermentation unbearably hot, so much so, that he compares it, and I know correctly, to a hotbed; yet Mr. Geo. W. Fowler informs us that his 56 cattle, consisting of the above strange medley, lie upon such a hotbed—such a mass of fermenting and putrifying matter, in covered over dungeons. But, dropping this attempt to reconcile what all must admit to be irreconcileable, you must permit me to lay before the readers of your Journal a brief account of some visits I have paid to four homesteads, at which this new system of cattle feeding and muck making were in practice. To the first I paid three visits. On the first visit the cattle were the most miserable and filthy I had ever before seen; they were literally covered over with their own dung. On the second visit I stole away unperceived to the boxes, and what did I find? A man down in a box with a currycomb, scraping the dung off the sides, back, belly, and legs of an ox. The whole place also was nearly dark, and when I asked the man why he did not let in the daylight, his reply was, that they were obliged to keep the place dark, for if they let in the light the cattle were immediately tormented to death with flies. I maintain, also, that not a single beast in these pits, at the time of that visit, was healthy; their coats were staring, and dry and harsh to the touch, and a cold, earthy feeling, and a cadaverous smell, pervaded the whole building.

On the third time I made my visit the cattle looked somewhat better, but in my opinion they were by no means in a thriving condition; and I told the proprietor of them I was sure he was hourly losing money by them. As the cattle moved about I heard the liquid move under them; and when I came out of the "boxes" I observed the slated roof nearly covered over by flies! I also observe that, should the generous proprietor of that estate read this account, he will acknowledge the correctness of the description I have here given of the dungeons, and excuse me for taking this mode of drawing his attention to them.

But the second homestead I visited, whereat the box-feeding was adopted, was still many degrees worse than the above. Cold, earthy, and cadaverous as the former building felt and smelt, the latter was very much more so. I hastened from it with precipitation, wondering why a gentleman who occupied land enough for three or four farms could not spare a little of it for his suffering cattle to move about on, and enjoy the wholesome invigorating air of heaven, instead of confining them in pits full of their own putrifying odours, where the atmosphere they breathed was a compound of the most noxious and stinking gases.

But after that I visited a third homestead, where the same plan was only partially adopted. There the buildings were very good; the pits also were only about 2 feet deep. The building was of great length, and it stood on sloping ground. I entered at the north end, and presently, as I walked along a raised parapet, I saw below me some very beautiful cattle, each in his pit, and I observed to my kind friend the proprietor, "Well, I am agreeably surprised; these cattle are beautiful, and they look healthy and are thriving." "Yes," replied he, innocently enough, "they *look* healthy," laying great stress upon the word look, "but," continued he, "any one of them may be dead in an hour!" I said "Why? How so?" "Why," replied he, "they are taken sometimes in a minute, and if I do not immediately send for the butcher to kill them, they very soon die!" I said, "Pray send for me when another is taken, as I wish to make a *post mortem* examination, and find out the cause of the attack." "Oh!" he replied, "the lungs of all we have killed under such circumstances have been quite rotten, and everything else was quite sound within them." But on this I moved on towards the lower end of the building, and in the lowest pits were eight yearlings. At one view I saw they were not healthy; as they moved about, also, I heard the liquid move under them. I jumped down among them, and instantly the liquid covered my feet. It was quite evident that all the liquid had descended from the upper "boxes" into the lower ones. It is also evident that the deaths were caused by the deleterious gases which the cattle were compelled to breathe. All the cattle were bred on the estate, and were very healthy when first immured in their "living graves."

The fourth range of buildings of this sort I visited had been newly erected, and but for the abominable pits they would be the best buildings for cattle I had ever before seen; but here, exactly as in the third range, the liquid flowed from one end of the range to the other, and produced still worse effects. The proprietor had been so much annoyed at this that he has thought it requisite to make a drain from the lower end of the building to convey the liquid to a tank which he had caused to be sunk on the side of a meadow, and although this receptacle is rather capacious, yet on Saturday last it was overflowing, though it had been emptied, as I was told, only three or four days before my visit to it.

I observe, also, that the proprietor of No. 3 has informed me that he has done the same, that is, made a drain; and let me also observe, that both those gentlemen's buildings are completely troughed; it is quite demonstratively evident, therefore, that a part only of the urine of cattle placed into such dungeons can be absorbed by the straw that is under them; but that the greater portion of it either remains in the pits in a liquid state, or sinks into a porous soil, or drains away and is lost.

I have written on this subject at a greater length than I intended; but as the subject is a most important one, I hope you will find a place for what I have written in the columns of your valuable Journal. Permit me also to add, in conclusion, that a system so contrary to Nature as this modern system of "box-feeding" and muck making is, can last but for a day. It is quite evident to every reflecting mind, that most of the diseases among cattle now and of late years become so prevalent in this country have been engendered by the absurd mode in which the cattle have been treated; and of all the monstrosities ever invented and adopted by rational men, the confining cattle in pits, in their own urine and dung, is the most irrational, unprofitable, cruel, and absurd. Science universally condemns it; and the returning good sense of mankind must very soon banish it entirely from our land.

G. Wilkins.

CHEAP MANURING.—No. V.

We have now to explain to the working farmer the method of preparing his bone and acid, and the granite potass manure; though the latter might be more economically prepared on the great scale, on the granite ground; or at a lime kiln, for a number of farmers together.

Before mixing the acid with the bone dust, he should ascertain that it is genuine. It is often largely adulterated with oyster-shell, which will neutralise the acid, and prevent its action on the bone. This is sometimes distinctly visible; but more commonly ground fine enough to be concealed in the dust. In either case, however, it is not very difficult to detect. Get some good muriatic acid, and mix it with twice as much water. Half fill a wine-glass or tea-cup with this mixture, and put in a few of the suspected bits, or a little of the powder. Oyster-shell will all dissolve, with active effervescence to the last: bone will effervesce at first, and soon stop, but continue to dissolve quietly, leaving behind a soft fleshy residue, of the size and form of the fragments used, and quite distinct even when it was only powder: this residue put into the fire, will smell like burning leather or wool; and this is the best distinction: for there are other adulterations that will not dissolve at all; and others that will dissolve, more or less, without effervescence; but very few that will be thus softened to a gristle, without losing their shape. While upon this subject of detecting adulteration, it may be acceptable to the small farmer to give also (in a postscript) a method of helping him to distinguish genuine guano; though that, being a more complicated substance, offers more numerous means of eluding such easy and simple tests. (See P.S.)

To Prepare Bones with Acid and Salt.—For this purpose, old dry porous bone is better than that fresh from the Union-houses, because allowing the acid to penetrate more freely, and therefore requiring less time to soften; and for the same reason, $\frac{1}{4}$ inch bone is preferable to $\frac{1}{2}$ inch. But new bone, of $\frac{1}{2}$ inch size, if you allow it 6 or 8 weeks digesting, will, in the end, do as well or better. The fresh bones are heavier; but we shall be near enough in reckoning $2\frac{1}{2}$ bushels of either for 1 cwt. Common agricultural salt will do as well as the best; and the weaker sulphuric acid where it can be had, is not only cheaper but more convenient than the strongest, as making less suffocating fume. A tub, half an oil or sugar hogshead, or any water-tight vessel of wood, stone, or even iron, which will contain twice as much as is wanted to make up at once, will do to mix it in. Half the bone should be first laid in at the bottom; then the salt, then the other half of the bone; then water, at the rate of about $1\frac{1}{2}$ gal. per cwt. of bone, sprinkled on with a watering-pot; and lastly, the acid sprinkled on likewise with the watering-pot, taking care to keep out of the fume; and the tub may then be covered with a few boards. If the strong sulphuric acid is used, $\frac{1}{2}$ gallon of water may be mixed with the quantity for 1 cwt. of bones (*i.e.* $\frac{1}{2}$ or 37 lbs.), and allowed time to cool before pouring on the bone, as it produces great heat in mixing: this is besides the $1\frac{1}{2}$ gallon allowed for the salt and bone. When all is got cold and quiet (perhaps in 6 or 8 hours) turn up the whole well together, and as soon as the liquid is all absorbed by the bone, it may be turned out in heap, and left to work till almost all the bone is gone abroad or softened: and then it will be fit to mix with the other ingredients, which will be more readily done if a little sawdust, charcoal dust, or coal ashes, is mixed in to crumble it.

To Prepare the Granite Manure.—The granite itself is in too hard and compact a state to yield to the weather fast enough for the purposes of a manure. But this hardness is not difficult to reduce. By turning, whilst red hot, into water, it is rendered quite brittle and crumbling: and being then mixed with fresh lime and water, is made much more susceptible of decomposition; and easily yields part, at least, of its potass. The surface granite, already softened by the weather, will not do, having already lost a part of its alkali; the chippings and fragments of the solid stone, accumulating at the granite quarries may be heated with turf, in common lime kilns; and raked down into water, as fast as they get red hot: in which manner many tons per day may be done in one kiln. Thus rendered brittle, it may be rapidly crumbled by a water power crushing mill. And as turf and water are both plentiful about the granite, this rough powder might be sold to the farmer at a lower price than lime.

Turf is the best fuel for the purpose, because it gives a low heat, and the lower red heat it has the tenderer it becomes. But where farmers have to burn it in the lime kiln, at a distance from the turf country, the culm used for lime will do very well; requiring less than half the proportion used for limestone: and it need not be in the kiln above one quarter the time required for lime. But it must go directly into the water whilst red hot, else it will harden again in cooling. As soon

as it is hand cold, it may be drawn out of the water, to make room for more. The finer it is crushed before mixing with the lime, the better.

It might even be burnt upon the ground, in heap, with cinders and coal ashes, and a little coal to light it (like clay burning), and when red hot through, the water thrown on, to quench it: but there would be some parts not red hot when the water reached them, and these would not be much softened; so it is better to use a kiln, if within reach. A ton of this powdered granite, mixed with a ton of fresh lime, being heaped up on a thick bed of earth, and closed in all round with earth, leaving the top open; water is to be poured on gradually, enough to slake the lime entirely, and then all covered in, the bed of earth at bottom being about 2 feet thick, and round the sides 8 or 9 inches; making good the cracks produced by the swelling of the lime in slaking. After two or three days it may be uncovered: the granite and slaked lime well mixed up with more water to a soft mortar: and again all covered in close with earth. In this state it may be left two or three months at least, and better if longer; keeping it always wet and soft. When wanted to use, the whole heap should be well mixed together, including the earth, which will be impregnated with solution of potass. It is then fit for spreading; or mixing with other manures.

It is, however, to be remembered that this granite potass manure is a new article, not yet proved; and therefore, confident as I feel of its success, it will be prudent to try it, at first, on rather a small scale; but the greater number of experimenters the better. From its slow solubility the effect is likely to be rather in the weight of produce, for four or five successive crops, than striking to the eye at first. The silica it contains combined with the potass, is likely to stiffen the straw of Wheat and other grain; and it would seem to be especially suitable for the peat soils, on the granite; they being deficient in its ingredients, potass, silica, lime, and alumina. *J. Prideaux.*

P.S. Guano may be tried, by first drying ½ ounce of it in a saucer, over a saucepan of boiling water, till as dry as summer dust; then weigh it, when the loss should not be more than 10 to 15 per cent. of moisture; some will lose upwards of one-fourth. In drying it should give out a pretty strong smell of ammonia; and still more pungent if mixed, while damp, with a little fresh slaked lime, and then heated. If put into a crucible, or any other clean earthenware vessel that will stand red heat, and gradually burnt away; stirring it, occasionally, with a clean iron rod, or a large fork, to expose every part to the air, it should leave at last a white ash (not grey), which will not dissolve in water, but the greater part of which will dissolve in muriatic acid, diluted with water, as directed for the bone. As before said, the skilful adulterator may elude this test for such a compound substance; but the farmer can hardly manage a more secure one, unless by aid of the chemist.

Home Correspondence.

Education (No. 9). — Having now explained my views with regard to education, not so fully as I could have wished, but sufficiently, I trust, to convey to the intelligent and practical minds that generally constitute the readers of the *Agricultural Gazette* and *Gardeners' Chronicle*, the class to which I was most desirous of imparting my ideas on this subject in the first instance, I purpose now to close the inquiry with a few general remarks. The view I take of English society is discouraging but not despairing. I see ignorance, vice, and misery around me; but I likewise see the saving properties of science, skill, industry, and virtue in the lower, middle, and higher classes, not in one great metropolis or town only, but spread over the whole land. I find located in every parish the ministers of religion all labouring to reform and amend,

"Point to a better world, and lead the way."

In the same districts, occupying the broad acres of England, I see the farmers and yeomanry, who want nothing to carry out their cultivation of the land but an intelligent peasantry. And I see a resident gentry and nobility who cannot be matched in the world for their love of country and their desire to advance every class in morals, wealth, and happiness, combining and representing all these classes. I see a Parliament and a Government anxious to sanction laws and plans for promoting the general good; and to crown all, I see a Queen presiding over all, with a Prince, her partner, the heads of a most virtuous court, and the patrons of everything liberal and enlightened. These are the agents I require to carry out a perfect system of national education; if, by their assistance, it can be established, then I have no fears for my country, but feel certain that, under the blessing of God, she will be raised much higher than ever she has been, and will have nothing to fear from Chartism or Republicanism at home or abroad, because she will prove that monarchy can work out the welfare of the whole commonwealth. We must not shut our eyes to the fact, that the Republic of the United States is building up a mighty power, possessing great individual energy and expansion. This we shall have to compete, I trust not contend, with—in my opinion successfully only by bringing into operation not only knowledge but also the principles of subordination, which combined will be irresistible, and will never be overthrown by the wild passions of democracy. Because we are an old nation, our constitution the growth of ages, do not let us imagine that we are incapable, and that the energies of man and of society in England are extinct. If we do not possess the stimulus of back settlements at home on which to locate the fast increasing people, we have the ocean and fleets by which to communicate with colonies, boundless in extent, whose fertile lands only want the capitalist and labourer to till; such skilled workmen as I trust will be turned out of our to be national schools, and to whom I trust emigration will, when brought in systematic operation, afford a facility, when required, of applying their talents, industry, and skill. In conclusion, I must request my readers not to dismiss the subject when they have read these letters, because they have not adequately set forth the subject matter of them; treat it not as an idle tale, but let every one dwell on the subject, and aid it by all means in his power, so that the disjointed efforts to promote education, now so common, may be combined, and—instead of these laborious individuals hammering ineffectively their separate pieces of iron, and never uniting them—may assist to weld them into one piece, whose strength cannot be broken—a pillar of national greatness, because it supports industry, intelligence, and virtue. As the Christmas holidays are coming, I may amuse you by an original act of Parliament on the subject. *Thomas C. Brown.*

Thin Seeding and Box feeding.—Noticing, in the *Gazette* of the 11th, a communication by Mr. Wilkins on this subject, I have been tempted to venture a few remarks on the latter subject, as really it is a matter of difficulty with me to follow the run of the author's mind. At first sight there appears to be something contradictory. On more minute inspection, however, I suspect he desires animals to be rendered fit for the butcher in as amusing, agreeable, unsuspecting—in short, civilised a manner as we can possibly bring about. This is all very well, provided farmers had only to consider the welfare of their stock, without any regard to the expenditure they entailed. If Mr. Wilkins objects to animals being made muck-making machines (as he terms it), than which I am afraid they can be little else, surely he does not object to their being at any rate made money-making machines. No scientific farmer, I am sure, could be so blind to his own interest as to neglect or thwart in any way a constant amendment in the condition of his stock. But if he finds stalls, boxes, pits, or living graves, best fitted to repay him for his outlay, I should say he was justified in pursuing any such plan. Certain it is, that boxes, by proper littering, can be kept as appropriate for the dwelling of cattle as need be desired; the compression of their feet effectually preventing the escape of gases to any greater extent than in a stable or court yard. Wherein consists the difference between fatting an ox in a square pit, or growing a Seakale plant under a pot? both may be alike termed unnatural no doubt; but where is the absurdity, barbarity, the inhumanity of such a process? Is not the animal as well as the vegetable world destined for our use? and if we can thus contrive to satisfy the augmenting demands of a daily-increasing population in a more satisfactory manner, are we not conferring a boon on mankind? and does not the end, in this case, justify the means? A right or a wrong method can undoubtedly be found of taking up any new opinion or discovery, but I trust that truth finds its own basis on fact. *A. N.*

Colonel Rawstorne on Scotch Agriculture.—I am not often anxious to bring myself before the public in the columns of a newspaper; but cannot avoid making a few remarks on a letter signed R. Tongue in a late *Agricultural Gazette.* He sets down Col. Rawstorne's statement as an idle tale, and brings up the already hackneyed saying, that Scotchmen seldom farm in England for themselves. I can assign many reasons for this, first, that very few Scotch farmers are possessed of capital sufficient to carry on a farm in England with any degree of energy; and that mostly all farms I know are in such a bad state of cultivation, that they would require a great outlay before they can be cultivated to advantage. Again, he implies that Scotchmen are fond of farming for others, but if he will give himself the trouble to enquire, he will find that 19 out of 20 Scotch stewards and bailiffs in England are men who have been ploughmen or the sons of small farmers, who never possessed any capital at all beyond their own industry and perseverance. Before anyone, either Scotch or English, can farm with any chance of success he must be possessed of capital, and backed by willing and persevering labourers, which are hard to be found here. That much requires to be done is evident to any one of common observation, which can never be accomplished by illiberal landlords, ignorant tenantry, and pauper labourers. *A Scotchman.* [Do you mean that such landlords, tenants, and labourers are so often met together?]

Small Farms.—Having had what my neighbours term a small farm for some years, I may venture to give an opinion as to profit. An old axiom says, "He that would a farmer be must first hold the plough;" this to the letter is not quite necessary; a slight knowledge of horticulture, and a thorough acquaintance with the theory of agriculture, an intelligent farm servant, and a British yeoman for a neighbour, will, with the latter's practical knowledge, assist greatly "the best method to make a small farm profitable." I think it is useless to expect much addition to income in holding less than 100 acres; land must be thoroughly drained, free from timber, not small enclosures; it must have plenty of manure; it must be kept clean from weeds, not crowded with too much seed, but so as the hoe, horse or hand, can freely work upon it; the four field system should be adopted, sufficient roots to carry a good stock should be grown, and there will be no fear of the result. It matters not much whether the short-horn, Channel Island or any other fancy cow is kept, the Berkshire or improved Essex pig or Southdown sheep. Poultry on small farms are troublesome at seed time and during the ripening of the corn, as close to the farmstead generally, [illegible] with crops or root; among the latter, Mangold Wurzel and Potatoes, poultry being particularly fond of both. *A. [illegible]*

Guano Frauds.—The *Farmers' Herald* says: "The detection of mixtures (of manures) has called into [illegible] importance, and [illegible]. Indeed, manures of all kinds, with pretensions of every character, are offered to the uninstructed farmer by men whose sole object often is the accumulation of money by the establishment of a lucrative trade. The [illegible] which can scarcely be arrested in the progress of knowledge. Those who know a little impose, though not always intentionally, upon those who know less. The true remedy for such evils will arise, of itself, from the more general diffusion of a higher knowledge. In the meantime, those who are likely to suffer (the practical men) should protect themselves with, or should secure access to, an authority on whom they can rely, till another generation springs up, which may more safely rely on itself." I could not omit making the above lengthy extract, containing, as it does, so much that is pertinent to the subject on which I am about to treat; the perusal of which, in connection with your own judicious remarks on the Manchester guano case, has induced me to point out a mode by which agriculturists may secure themselves from fraud and, at the same time, obtain the genuine article (guano) at a reduced price. There is nothing more surprising between the habits of business of the manufacturing and commercial as compared with the agricultural community, than the efforts of combination of the former and the isolated habits of the latter. If farmers would only take an example from the commercial community, the gross frauds which are now committed in the article of guano would be immediately put an end to; it is simply to employ a broker to purchase for them, repaying the broker, say, 2s. 6d. per ton, or 1 per cent., if the amount purchased exceeds 10l. Of course, it will be requisite that such a broker ought to combine in himself the characters of chemist, commercial man, and, to a certain extent, possess agricultural capability. I throw the suggestion out for the consideration of farmers, and particularly farmers' clubs; and if called upon at a future day, will willingly enter into further details, and show the perfect feasibility of such an arrangement, and, further, that by adopting such a course, a saving of at least 5s. per ton, or from 10 to 20 per cent., will be obtained by the farmer. The usual commission on commercial articles, such as cotton, is 10s. per cent.; but as guano orders would rarely amount, singly, to more than 100l., whilst cotton is purchased in thousands, I think a commission such as that named, to an honest broker, who would carefully look after the interest of his principal, would not be too much. The Manchester and other cotton manufacturers know well the benefit of this species of assistance and combination; the whole of the cotton used in England being purchased by about three houses, and one-third the cotton imported into Liverpool is bought by one establishment; the command thus given to the manufacturers (the consumers) of cotton over the merchant is well known, which could only be procured by the means mentioned. A manufacturer takes his broker with him to purchase cotton, although he makes the bargain and examines the qualities himself, knowing well that the broker's knowledge of the state of the market is well worth more than the commission. Peruvian and Bolivian guanoes, in cargoes, vary from 5 to 15 per cent. in quality—a difference which would far more than repay a broker's commission. I pointed out, in an article published in the July Number of the "Journal of Agriculture," some of the tricks used by guano manufacturers—leached spent bark, rotten sawdust, burnt-out black ash waste, form the staple articles, being ground up, and a very little muriate and sulphate of ammonia sprinkled amongst it, after which powdered quicklime is thrown in, which, combining with the acids, evolves ammonia, and gives it the smell of the genuine article. I shall willingly enter further on the subject, if called on to do so. *Thos. R[illegible].*

On Reaping Wheat.—A "Constant Reader" wishes information as to the most profitable method of reaping Wheat, and also whether, prior to reaping, Wheat should be allowed to become fully ripe? As to the latter, so far as my experience goes, I have ever found it best to cut Wheat about eight days or thereby before it became fully ripe: inasmuch as it is then less liable to shake, makes a finer sample, and is equally heavy, and will of course produce as much flour; and, lastly, it is less liable to injury in sprouting from exposure to wet weather in the stook, a matter of no small importance, in wet harvests. With regard to the merits of the two different modes of reaping alluded to, as pursued respectively in England and Scotland, my experience does not lead me to pronounce an unqualified opinion, having never practised the former to any extent, but I am inclined to think that it is more profitable to reap as close to the ground as possible. As Wheat straw is next to indispensable for thatching and for litter, and also (if situated within the vicinity of any large town), the surplus of Wheat straw may be disposed of at a price which will purchase a quantity of manure, which will be of greater benefit to the soil than if the same amount of straw had been left as stubble. *W. F.*

SMITHFIELD CLUB.

CHRISTMAS SHOW OF FAT CATTLE.

The Annual Show of fat animals, roots, and implements was opened to the public on Wednesday, the 6th, at 9 A.M., and forms the worthy and welcome herald of the Christmas festivities. The arrangements throughout were on the same scale of exactness which has been constantly shown since more room was obtained by the removal of the exhibition from Goswell-street-road—though a further extension of the accommodation would be very desirable. The main entrances are too narrow, the passages behind the animals are confined, and the spaces between the single tyings of the beasts are insufficient to admit the undisturbed inspection. The position of the extra stock is very objectionable; not only are the animals crowded together and mixed without distinction, but light is wanting to show the animals, and darkness renders the touch the only criterion of judgment. The places of the sheep and the pigs do not show the animals to advantage—the pens being joined in the back debar the approach on that side, and limit the examination to the open quarter. The pens would be much more convenient if length could be given to the area rather than the square form of space—more room would be given to spectators, and the animals would have more liberty to move about for the purpose of exhibition. It might be a very good suggestion to have a part of the new market in the Lower-road, Islington, roofed over for the special purpose of this show, which would afford the advantage of having the conveniences adapted to the express wants of the exhibition. Such a show requires every special accommodation for the express purpose of exhibiting the merits of the articles to the best advantage, which would very much increase the attraction, and give an enhancement to the object in view. The open ground outside the accommodation at Islington would make the whole thing much more convenient and agreeable than the thronged interior of a city, where the objects that come into collision are opposite in nature and discordant in harmony. The rural appearance in the suburbs of the metropolis would harmonise with the animals and the roots of cultivation, and make an appearance of being consorted in the objects and in the beneficial purposes. Were the monster nuisance of Smithfield market removed to Islington, the railways that would be directed to it from all the main termini, for the conveyance of the common market cattle, would bring to it the fat animals for the Christmas Show, without any trouble of walking and driving, or intruding at all in any thronged street of the metropolis. The common market and the annual Show would be joined in contiguity; and as the purposes are homogeneous, the junction would be indicative of the consideration of the propriety of such useful combinations. The market and the Show being thrust into the thick plantation of the city, very much spoils the pleasing effect that is attached to their existence, beyond the intrinsic value of the necessary utility. There is a lurking barbarism of the mind which adheres to old ideas and antiquated customs, which chance and accident have placed in use.

The Shows of former years have presented a more numerous company than on the present occasion up to 12 o'clock, after which hour the yard was very rapidly filled with persons of every grade and denomination. Though the chief part is composed of amateurs, farmers, breeders, and graziers, there are to be seen many persons whose professional avocations are very alien to the productions of agriculture, but who are fond of reviving the associations which may have been imbibed during former days, and of gratifying a taste which must adhere to every person of cultivated intelligence. It is pleasant to behold a general correspondence being fixed with the earth, which is the parent of every life, and the fountain of all existence.

The number of animals this year is below that of former shows; but a very valuable improvement is gradually taking place in the disappearance of huge unwieldly bulks, "enormous in their gait," rolling in lumps of fat and useless oily secretions. These productions have been cynically designated as being "animated oilcake and Beet-root machines," and were made the objects of ridicule, and the very strong ground of objection. The attention of breeders and feeders was very early called to this useful observation—to produce carcases of useful flesh, and of a quality superior to the general articles, and at the same time not carried to the over-abundance of the element which in a moderate degree confers the essence of excellence. The Show of this year testifies that the suggestion has been duly regarded, and the animals bear very ample evidence of the success of the attention to the point.

AWARD OF THE PRIZES.

Class I.—Oxen and Steers of any breed, 4 and not exceeding 5 years old, without restrictions as to feeding, yet the kind or kinds of food must be certified. The 1st prize of 30*l.* to his Royal Highness Prince Albert, of Windsor Castle, for a 4 years and 6 months old Hereford Ox, bred by Mr. Davis, of Milton, near Pembridge, Hereford, and fed on cake, roots, Bean-meal, hay, and green food. Silver medal to the breeder. 2d prize of 15*l.* to the Right. Hon. Earl Spencer, of Althorp Park, near Northampton, for a 4 years and 11 months old Short-horned Ox, bred by the late Earl Spencer, and fed on Grass, hay, Turnips, Beet-root, and oilcake. 3d prize of 5*l.* to Mr. John Beasley, of Chapel Brampton, near Northampton, for a 4 years and 11 months old Short-horned Ox, bred by himself, and fed on Grass, hay, Linseed cake, meal, and Turnips.

Class II.—Oxen or Steers of any breed, above 3 and not exceeding 4 years old, without restrictions as to feeding, yet the kind or kinds of food must be specified. 1st prize of 30*l.*, and the silver medal to the breeder, to Mr. W. Trinder, of Wantage, Berks, for a 3 years and 10 months old Hereford Ox, bred by Mr. John Monkhouse, of the Stow, near Hereford, and fed on hay, roots, meal, and cake. 2d prize of 15*l.* to Mr. Jos. Philips, of Arlington, near Wantage, Berks, for a 3 years and 11 months old Hereford Steer, bred by Mr. Roberts, of Ivington Bury, and fed on Barley-meal, oilcake, and Swedes. 3d prize of 5*l.* to Mr. Jos. Stratton, of Manningford Bruce, near Pewsey, Wilts, for a 3 years and 8 months old Short-horned Steer, bred by Mr. Richard Stratton, of Salthrop, near Swindon, Wilts, and fed on crushed Barley, hay, and Mangold Wurzel.

Class III.—Oxen or Steers of any breed, above 2 and not exceeding 3 years old, without restrictions as to feeding, yet the kind or kinds of food must be specified. 1st prize of 25*l.* to his Grace the Duke of Rutland, of Belvoir Castle, Rutland, for a 2 years and 11 months old Short-horned Steer, bred by his Grace, and fed on hay, vegetables, Linseed-cake, Linseed-oil, boiled Linseed, Barley, Bean and Oat meals. 2d prize of 15*l.* to Mr. John Clover, of Kirtling, near Newmarket, Cambridge, for a 2 years and 6 months old Short-horned Steer, bred by himself, and fed on Grass, hay, White and Swede Turnips, Carrots, Beet, bran, pollard, Bean-meal, ground Barley, oilcake, and Linseed. 3d prize of 5*l.* to Mr. Richard Stratton, of Salthrop, near Swindon, Wilts, for a 2 years and 10 months old Short-horned Steer, bred by himself, and fed on hay, Swede Turnips, and Linseed cake.

Class IV.—Oxen or Steers of any breed or age, above 80 and under 95 stones weight, without restrictions as to feeding, yet the kind or kinds of food must be specified. 1st prize of 20*l.* to the Right Hon. the Earl of Leicester, of Holkham Hall, Norfolk, for a 3 years 6 months and 21 days old North Devon Ox, bred by his Lordship, and fed on Turnips, Beet, hay, Linseed cake, Lentils, and Pea-meal. 2d prize of 10*l.* to Mr. John Manning, of Harpole, near Weedon, Northampton, for a 3 years and 11 months old Hereford Steer, bred by the late Mr. Evan Williams, near Hay, Brecon, and fed on Grass, hay, oilcake, and Bean-meal. The 3d prize belonged to Earl Spencer, but the over weight of the animal removed it to the extra stock.

Class V.—Oxen or Steers of any breed or age, not exceeding 80 stones in weight, without restrictions as to feeding, yet the kind or kinds of food must be specified. 1st prize of 15*l.* to the Right Hon. the Earl of Leicester, of Holkham Hall, Norfolk, for a 3 years and 8 months old North Devon Steer, bred by his Lordship, and fed on Turnips, Beet, hay, Linseed-cake, Lentils, and Pea-meal; silver medal to the breeder. The gold medal was awarded to this animal, for the best ox or steer in the 1st, 2d, 3d, 4th, 5th, or 6th classes. 2d prize of 5*l.* to Sir R. G. Throckmorton, of Buckland, near Farringdon, Berks, for a 3 years and 6 months old Devon Steer, bred by Mr. Quartly, of Molland, South Molton, Devon, and fed on hay, Turnips, Barley-meal, and oilcake.

Class VI.—Oxen or Steers of the Scotch, Welsh, or Irish (Kerry) breed, of any age, without restrictions as to feeding; yet the kind or kinds of food must be certified. The prize of 10*l.* to Mr. J. D. Robb, of Catton, near Thirsk, Yorkshire, for a West Highland Ox, of about 4 years old, fed on straw, Grass, Turnips, and oil-cake.

COWS AND HEIFERS.

Class VII.—Fattened Cows or Heifers, under 5 years old, without restrictions as to feeding; yet the kind or kinds of food must be certified. Spayed Heifers are not qualified. 1st prize of 20*l.* to Mr. Thomas Griffin, of Borough Fen, near Northampton, for a 3 years and 4 months old Short-horned Heifer, bred by himself, and fed on Linseed-cake, Bean meal, vegetables, and hay. Silver medal to the breeder. 2d prize of 10*l.* to Sir F. Lawley, Bart, of Middleton-hall, near Tamworth, Warwick, for a 4 years and 7 months old Hereford Heifer; bred by Mr. Thomas Instone, of Calloughton, near Wenlock, Salop, and fed on Linseed-cake, Barley and Bean meals, and Swede Turnips; has had one calf. 3d prize of 5*l.* to Mr. Thomas Batson, of Kynaston House, near Ross, Hereford, for a 4 years and 1 month old Hereford Heifer; bred by Mr. J. N. Carpenter, of Eandesland, near Leominster, Hereford, and fed on Beet, Carrots, Turnips, Linseed, and Barley and Bean meals, boiled.

Class VIII.—Fattened Cows of 5 years old and upwards, without restrictions as to feeding, yet the kind or kinds of food must be certified. Free Martins and Spayed Heifers are not qualified. 1st prize of 20*l.*, and silver medal to the breeder, to Mr. Charles Bosworth, of Dishley, near Loughborough, Leicester, for a 5 years and 3 months old Short-horned Cow; bred by Mr. Christopher Scaife, of High Harrowgate, Yorkshire, and fed on Turnips, hay, meal, and cake. 2d prize of 10*l.* to the Right Hon. Earl Fitzwilliam, of Wentworth Wood House, near Rotherham, Yorkshire, for a 5 years and 9 months old Short-horned Heifer, bred by his Lordship. Fed on Oat and Bean meals, Linseed-cake, Turnips, hay and Grass.

Class IX.—Fattened Cows of 5 years old and upwards, that shall have had at least two live calves at separate births, without restrictions as to feeding, yet the kind or kinds of food must be certified. 1st prize of 20*l.*, and silver medal to the breeder, to Mr. John Mann, of Fentanston, near St. Ives, Huntingdon, for a 9 years old Durham Cow bred by himself. Fed on Lucerne, hay, Linseed-cake, and Bean-meal. The gold medal was awarded to this cow, as the best animal in the 7th, 8th, and 9th classes.

Extra Stock.—The silver medal was given to Earl Spencer's Ox, removed from Class IV. by reason of over-weight.

SHEEP.

Class X.—Long-woolled fat Wether Sheep, 1 year old, that have never had cake, corn-meal, seeds, or pulse. 1st prize of 20*l.*, and the silver medal to the breeder, to Mr. Thomas Twitchell, of Willington, near Bedford, for a pen of three 20 months old pure Leicester Wethers, bred by himself, from the stock of Mr. Bennett, of Bickering's Park. 2d prize of 10*l.* to Mr. John Green Bosworth, of Greetham, near Oakham, Rutland, for a pen of three 21 months old Leicester or long-woolled Wethers, bred by himself from the stock of Mr. Painter, of Burley. 3d prize of 5*l.* to Mr. Robert Lee, Bradshaw, of Burley-on-the-Hill, near Oakham, for a pen of three 20 months old Leicester Wethers, bred by himself from the stock of Mr. Robert Smith, late of Burley-on-the-Hill.

Class XI.—Long-woolled fat Wether Sheep, 1 year old, without restrictions as to feeding. 1st prize of 20*l.*, and silver medal to the breeder, to Mr. John Wood, of Hodsack, near Worksop, Nottingham, for a pen of three 20½ months old Leicester Wethers, bred by himself from his own and rams hired of Mr. John Wilson, of Beesthorp, near Newark. The gold medal was given to this pen of Sheep as being the best in 10th, 11th, and 12th classes. 2d prize of 10*l.* to the Most Hon. the Marquis of Exeter, of Burghley Park, near Stamford, Lincoln, for a pen of three 21 months old Leicester Wethers, bred by his Lordship from rams hired of Mr. Cresswell. 3d prize of 5*l.* to Mr. Richard Newman, of Harrowden, near Bedford, for a pen of three 20 months old Leicester Wethers, bred by himself from the stock of Mr. Samuel Bennett.

Class XII.—Long-woolled fat Wether Sheep, 1 year old (not Leicesters), without restrictions as to feeding. The prize of 10*l.* and the silver medal to Mr. Robert Beman, of Donnington, near Stow-on-the-Wold, Gloucestershire, for a pen of three 21 months old Cotswold Wethers, bred by himself.

Class XIII.—Long and short-woolled, cross-bred, fat Wether Sheep, 1 year old, without restrictions as to feeding. 1st prize of 10*l.*, and silver medal to the breeder, to Mr. John Hitchman, of Little Melton, near Wheatley, Oxford, for a pen of three 21 months old long and short-woolled Wethers, bred by himself. 2d prize of 5*l.* to Mr. J. R. Overman, of Burnham Sutton, near Burnham Market, Norfolk, for a pen of three 20 months old Down and Leicester Wethers, bred by himself from the stock of Mr. Hugh Aylmer, of West Dereham, Norfolk.

Class XIV.—Long and short-woolled, cross bred, fat Wether Sheep, 1 year old, without restrictions as to feeding, each sheep not to exceed 220 lbs. of live weight. The prize of 10*l.*, and the silver medal to the breeder, to the Right Hon. the Earl of Leicester, of Holkham Hall, Norfolk, for a pen of three 20 months old Down and Leicester Wethers, bred by his Lordship, from the stock of Mr. Aylmer, of West Dereham, Norfolk.

Extra Stock: Cross-bred Sheep.—Silver medal to Mr. John Hitchman, of Little Milton, near Wheatley, Oxford, for a 21 months old long and short-woolled Sheep, bred by himself.

Class XV.—Short-woolled fat Wether Sheep, 1 year old, without restrictions as to feeding. 1st prize of 20*l.*, and silver medal to the breeder, to Mr. Samuel Webb, of Babraham, near Cambridge, for a pen of three 20 months old Southdown Wethers, bred by himself from the stock of Mr. Jonas Webb. 2d prize of 10*l.* to his Grace the Duke of Richmond, of Goodwood, near Chichester, Sussex, for a pen of three 20 months old Southdown Wethers, bred by his Grace.

Class XVI.—Short-woolled fat Wether Sheep, 1 year old, without restrictions of feeding, weight not to exceed 200 lbs. live weight. The prize of 10*l.*, and the silver medal to the breeder, to Mr. Samuel Webb, of Babraham, near Cambridge, for a pen of three 20 months old Southdown Wethers, bred by himself from the steck of Mr. Jonas Webb.

Class XVII.—Short-woolled fat Wether Sheep, 2 years old, without restrictions as to feeding. 1st prize of 20*l.*, and the silver medal to the breeder, to his Grace the Duke of Richmond, of Goodwood, near Chichester, Sussex, for a pen of three 32 months old Southdown Wethers, bred by his Grace. 2d prize of 10*l.* to Mr. Samuel Webb, of Babraham, near Cambridge, for a pen of three 32 months old Southdown Wethers, bred by himself from the stock of Mr. Jonas Webb.

Extra Stock.—Short-woolled Sheep. Silver medal to Mr. Samuel Webb, of Babraham, near Cambridge, for a pen of 20 months old Southdown Sheep, bred by himself from the stock of Mr. Jonas Webb.

PIGS.

Class XVIII.—Pigs of any breed above 13 and not exceeding 26 weeks old. 1st prize of 10*l.*, and the silver medal to the breeder, to Mr. William Mills Barber, of Uxbridge, Middlesex, for a pen of three 24 weeks and 3 days old improved Middlesex Pigs, bred by himself, and fed on middlings, Barley, Pea-meal, and Potatoes. 2d prize of 5*l.*, to Mr. Edward Whitfield, of Snaresbrook, near Wanstead, Essex, for a pen of three 14 weeks old true Essex Pigs, bred by himself from the stock of Mr. Hobbs, and fed on Barley-meal and milk.

Class XIX.—Pigs of any breed, above 26 and not exceeding 52 weeks old. Prize of 5*l.* to his Royal Highness Prince Albert, of Windsor Castle, for a pen of three 40 weeks and 3 days old Bedford and Yorkshire

pigs, bred by his Royal Highness, and fed on Barley and Pea meals, Peas, and skimmed milk.

Class XX.—Pigs of any breed, above 12 and under 18 months old. The prize of 5*l.*, and the silver medal to the breeder, to Mr. Philip Pusey, M.P., of Pewsey, near Farringdon, Berks, for a pen of three 73 weeks and 1 day old Berkshire pigs, bred by himself, and fed on Barley-meal, toppings, Peas, and wash.

Extra Stock: Pigs.—Silver medal to Mr. George Turpin, of Uxbridge, Middlesex, for a 48 weeks and 3 days old Suffolk and Berkshire pig, bred by Mr. S. Morgan, of Harefield, Uxbridge, and fed on Barley and Pea meals.

The rendering an account of the quantity of each kind of food that has been consumed by the animals having been abolished, is a step towards the removal of mentioning the kinds of food in the specific distinctions, which is not attended with any useful result, and only encourages deception in the feeder's estimate of the progress of fattening. It should be very carefully inculcated that the food of the animals be *bona fide* the produce of the farm, and that any expense incurred towards the fattening of the animal must pass through the cultivation of the soil, and be presented to the animal in the quality of the home productions. Both the land and the animal would be very largely benefited by this stipulation; the food and the animal being the growth of the same soil, will be advantageously used in conjunction by the identity that ever exists between the soil and its productions, and between the latter articles when used in the conjunction of animal and vegetable life. Restrictions in the mode of feeding, or regulations in giving an account of the articles of food, resembles the commercial barrier, now removed, which existed in the shape of hostile tariffs, containing directions whence meat and drink should come, and how and at what price it should be used. The farmer will judge what articles will constitute the most eligible food for the purpose of fattening, and which individual material will leave the richest excrement as a manure for his ground. This latter consideration will have due weight in determining the articles of use, as the future recompense will render the account of a twofold importance. All restrictions being removed, a freedom is given to every locality of trying the effect of its resources, and no account of the special articles being rendered, further simplifies the proceedings and removes every possible objection. The conditions should be easy in all such institutions, and should not bear the least appearance of imposition or restraint where no express and unavoidable necessity occurs.

The chief attraction among the oxen was the Hereford steer belonging to his Royal Highness Prince Albert, which gained the first prize of 30*l.* in Class I. The animal belonged to the white-faced or new Hereford breed, and possessed the accompanying marks of a white chest and a tip of white hair on the top of the shoulder. The stature was low, and rather wanting in the reach of body to form a proportional and justly sizeable animal. But the valuable parts were excellently developed; the breast was wide, the chine deep, and the shoulder blade oblique and tapering, and well covered with useful flesh. The girth behind the shoulder was well filled up, and not obnoxious to the fault that very often prevails in that quarter of many choice animals. The depth of the carcase was very remarkable, and the width over the loins has been seldom equalled. The covering of the hock was deficient and lean, although the thigh was deep and full. The twist was wide, and the set of the tail unusually deep and fleshy. The flank and purse were not very remarkable. The ear showed much refinement, being short, quick, and agile. The eye, than which no better mark can be found of a refined organisation, was very quick and placid, and the muzzle small, and the cheek bone narrow and tapering. The fore-arm bone was not so well covered with flesh as has been often seen; on no point does greater diversity exist than on this covering of the shoulder bone, even among animals of the same breed. Any bone of the body that is bare of flesh forms a detraction of merit. The animal was rather small and low in stature to constitute a beast of the just proportions. The qualities, however, were very good.

Being of opinion that much more scientific skill is shown in the breeding than in the feeding of animals, and in the directing the sexual intercourse by consorting the elements so as to produce the raw materials of action, we venture to suggest to Major-General Wemyss, who manages the Royal farms, that it would be meritorious in the Prince to be the breeder as well as the feeder of prize animals, and that his acute and enlightened mind may be as conspicuously distinguished in the breeding of animals as in the very superior cultivation of arable lands. The one improvement follows the other as a necessary consequence. The second prize animal, a short-horned ox belonging to Earl Spencer, showed a most obvious defalcation from the general merit of the herd of his late Lordship. The narrowness of the hind quarters was very remarkable, and the shoulder bone was most particularly bare of covering. The touch of the hide was very fine, and the horn well set and firmly rooted. One excellence was possessed by the animal in a most peculiar degree—the girth behind the shoulder was provided with loose fat almost beyond any animal we remember to have seen. But the point is not of the first-rate consequence. The third prize, a short-horned ox, belonging to Mr. Beasley, of Chapel Brampton, was, in our opinion, very superior to the ox last mentioned. The carcase was much fuller in every point, the thighs much deeper, and the flesh more abundant on the shoulder. The only deficiency seemed in the top of the shoulder being narrow forwards.

Mr. Trinder's prize ox in Class II formed the best specimen of the old or mottled faced Herefords that we recollect to have seen. The bone of the shoulder could scarcely be felt, from the regularity of the flesh, and the back was straight and level to the extreme of nicety. There seemed to be a deficiency in the girth being deep rather than full in slanting to the hook bone, which was well ribbed home. A very nice, or rather an impossible degree of discrimination, must have been exercised in awarding the gold medal between this animal and Earl Leicester's Devon steer. The second prize, the Hereford steer of Mr. Phillips, formed a lengthy carcase, and of coarse bone. The set of the horn disfigured the Hereford breed. The third prize, a short-horn ox of Mr. Stratton was a very indifferent specimen of that celebrated breed—the bone being coarse, and the quarters rather lean. The shoulder was very deficient of fleshy covering.

The Duke of Rutland's short-horn steer showed a very neat carcase, and Mr. Clover's ox possessed many excellent points which only wanted the maturity of development.

The Earl of Leicester's Devon steers claim much and very deserved notice. Two prizes, two silver medals, and a gold medal, were awarded to his Lordship. The first animal showed a flat lankness behind the shoulder, and the carcase was more lengthy than round. The winner of the gold medal formed a very rare specimen of the breed whose name it bears. The fore quarters were certainly faultless—the girth and the rib being wholly covered with deep and solid meat. But the hind quarters showed a falling off; the hips were narrowed, and the buttocks projected and prevented the perpendicular hanging of the tail. The animal stood narrow on the hind legs. The shoulder in the covering of flesh was inferior to that of Mr. Trinder's ox, and a very fair challenge might be raised between the two animals for the possession of the gold medal.

We have long entertained an opinion that the Devon animals are the most symmetrical breed of cattle in Britain. The size is rather small, but for lands of the medium quality in genial climates, the merit of the breed is unexceptionable. The shoulder is very much superior to that of the short-horn breed, as is also that of the Hereford cattle, while both these breeds are inferior to the short-horn in the depth of the hind quarter and the width of twist. The terms of "blood—fine blood—pure blood—descent and pedigree," are all referable to "refined organisation," and to the production of an animal structure of that quality, every attention must be directed, carefully avoiding the extreme degree of debility, and of the loss of vigour of constitution. Not many years have elapsed since a Devon ox was shown by Mr. Hillyard, of Thorpelands, near Northampton, and gained the gold medal. The animal exhibited the *chef d'œuvre* of animal structure, and we believe the octogenarian agriculturist, the owner, has not yet ceased talking about "his little Devon." The prize Scotch ox of the aboriginal dun colour of the Hebrides was a very fine beast of the sort, and attracted much attention, in conjunction with the keeper, who was kilted to the knees in the primitive garb of old Gael.

Among the fattened cows, the winner of the gold medal, a white short-horned cow, bred and fed by Mr. Mann, near Huntingdon, drew a large share of notice. During our long and extensive experience among the short-horned breed of cattle, we do not recollect of having seen a finer specimen of organisation. The cylindrical square form of the body has never been surpassed at the Show, which we have attended for 15 years; the skin was very silky and resilient, the back straight, bosom wide and deep, shoulder well covered, hooks wide, ribs round, and the flanks full. If faults must be found, we would say that the shoulder was somewhat low, and the muzzle too broad. The horn being short and crumpled, and resting on the brow, somewhat disfigured the appearance.

Among the long-woolled sheep, the prize animals of Mr. Twitchell well supported the just merit of their former fame. The fleece of Mr. Bosworth's sheep, in the second prize, seemed more adapted for a variety of climates.

The gold medal winners, belonging to Mr. Wood, showed a fineness of shank bone that is seldom exhibited; and a fleece of wool, thick, and of very useful quality. The three animals formed a very fine illustration of the Leicester breed, and were produced by an exhibitor quite unknown till this time. The cross-bred animals, between the Leicester and Southdown, were much admired. The Southdown sheep of Mr. Webb carried the two chief prizes and the gold medal. Those of the Duke of Richmond formed a very close pursuer of their merit. We bow to the decision of the judges in deciding betwixt the two exhibitors; if our own opinion may be hazarded, we think that Mr. Webb's sheep are wider in the bosom and fuller in the flank, and that the Duke's are wider in the twist and deeper in the hind quarter.

The extra stock were very good generally, but no very pre eminent quality appeared in any single animal to claim an especial notice, except a very fine wether of Mr. Webb's, winner of the silver medal. The animal equalled in the useful points any of the prizes.

The Pigs were a very large show. Mr. Barber's prize animals were unusually, we could almost say improperly and disproportionately, small in the head; the coat of hair was exactly the covering for a pig, long and strong, and not very thickly placed on the skin. A higher leg and a larger head would make these pigs what we reckon a complete animal. The pigs fed by Prince Albert, though not winners, are deserving of very much notice. The breed is from the cross of Bedford and Yorkshire, and formed the most suitable size we have ever seen for the purposes of free pork and small hams. The parts of the animal are very proportional, and the coat of hair vigorous and healthy. The prize animals belonging to his Royal Highness form a most excellent specimen of the useful swine, of the medium size of hams and bacon; the colour a pure white, which is the most pleasant in animals, as pigs and poultry, which are dressed with the skins. In both cases, that of pigs for small and useful, large purposes, we think his Royal Highness most evidently carries away the palm.

A cross of Hereford and Suffolk pigs, pure white in colour, was shown by Mr Paulton, of Hornsey, Middlesex, forming a most useful breed of pigs. The body lengthy; head of medium size; the hair long and vigorous, and the activity suitable to the short legs of swine. This latter property is very valuable. Mr. Pusey's large pigs are much the best ever shown of the kind.

Amongst the roots, Messrs. Gibbs, of Half-moon street, uphold their well deserved pre-eminence. We particularly noticed the red and yellow Globe Beet roots and the white Parsnips. The Swedish Turnips are always very neat. Mr. Skirving's Swedes improve yearly.

The implements increase yearly both in number and quality. Messrs. Garrett well support the merit of their drill machines, as does Mr. Hornsby his manure and seed-drop drills, and Mr. Howard, of Bedford, the iron ploughs and harrows. Cutters, crushers, and slicers, are abundantly shown, and act very correctly. Mary Wedlake, of Hornchurch, exhibits a very useful Turnip-cutter, which, in one end of the box, cuts the roots for sheep; and by reversing the motion to the roots in the other end of the box, the slices are made for cattle; the machine is simple and useful. Carts are shown for cleaning liquid manure tanks, and for distributing the contents over the land. Pipe and tile making machines are very plentiful, and seem very little different in the useful operativeness. The number of exhibitions affords to the agriculturists a very large opportunity of making selections.

The introduction of gutta percha forms a novelty in the age of inventions. It is manufactured into every kind of harness for horses of the plough, cart, gig, and saddle. Water pipes or hose are formed of it, and pails and buckets, besides many other articles of domestic use. The lasting durability has been proved by the test of experience.

The festivities of Christmas create the demand for the good things which abound at that particular season and those to whom a joint of meat is a rarity, sit down to one for the Christmas dinner. The demand is made upon the butcher, and through him to the grazier and the cattle breeder. This object is promoted by the spirit of competition. The cattle breeder works to supply the grazier; the grazier looks no farther for encouragement than to the butcher, who calculates upon being supported by the general mass of consumers who must either communicate the stimulus or sustain it when once in activity. The butcher in dispensing these good things exercises his calling with an air of increased importance, and vaunts the sirloins of beef, the legs and saddles of mutton, all of the primest quality, which he has provided for his customers, and to which he invites their attention. He buys the best materials for the purpose of enhancing the reputation of his shop.

A prize animal is fatter than the ordinary market requires, and hence it has been supposed that the stimulus of prizes for bringing an animal into a state of unnecessary fatness is altogether a work of supererogation. But the power of reaching an excessive size is simply a test. A piece of artillery or a common gun is tried by a charge of powder much greater than is ever required in ordinary practice, and an ox is fattened for exhibition beyond a useful marketable condition simply to show the capacity of the breed for acquiring, at the least expense of food, and at the earliest age, such a condition as the public demand really renders necessary. This course has been altogether successful—for in trying to reach the highest eminence many very useful intermediate gradations are attained: the quality of the flesh is improved, and the coarser parts are rendered very advantageous to the poorer class of consumers. The diminution of the offal and of the quantity of bones adds much to the quantity of flesh, whether it go to the secretion of fat or the formation of muscular fibre. The highest fattened state of an animal shows which breed is capable of producing the desired requisite, the greatest weight in the least compass, and at the least expence. This decision is more unerringly obtained in the case of the utmost possible progress than in the lower gradations of advancement; it shows the merits in the most prominent view, and places the defects on the most visible foreground. A good quality is seen to be permanent, which was before reckoned to be of secondary importance, and a blemish is proved to be necessary to the animal in every stage, and consequently must be banished by alterations in the breeding. The breeder sees the blemishes of the animals in the most improved state, and is led to seek and apply the remedy.

Reviews.

Almanacs.—1. *The Agricultural Almanac*; by Mr. Milburn, of the Yorkshire Agricultural Society (Groom-

lge), contains, with the usual information on fairs, ricultural Societies, &c., an instructive calendar of n operations, and an intelligent apology for the ssion of all attempt to predict the weather. The or in his preface says :—

"The farmers of this country are, more than any mer class, dependent on the weather for successful at duction. Every shower that falls, every breeze that of tws, every gleam that brightens the face of nature is outim an object of anxious solicitude ; and hence, from conservation stimulated by self-interest, we might imagine renfarmer would be an accurate observer, and a correct thoge of coming changes. But he is no such thing. be perience and observation generally enable the sailor theprognosticate, a few hours before, what is coming ; spa the farmer—except the few who watch and study fici barometer—is totally ignorant. And why ? Because of trusts his Almanac."

the. *The Farmers' Almanac and Calendar for* 1849 ; tin Cuthbert W. Johnson, Esq., and W. Shaw, Esq. daidgway), presents this year the usual bulk of agrimetural advertisements, extracts from the agricultural thelications of the year, and useful Calendarial matter. bamaintains the high station which the previous labour amts editors have obtained for it.

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Calendar of Operations.

NOVEMBER AND DECEMBER.

hil EDFORDSHIRE FARM, *Nov.* 28.—The horses during the month e been engaged ploughing for and drilling Wheat, carting pangold Wurzels and Carrots to store, and Turnips to cattle ro sheep. We finished Wheat sowing about a fortnight ago. wo early sown in October looks well, but that sown during the weather has a very unpromising appearance. The slug ad other vermin have been committing great ravages upon the shing plants, although the land was well limed previous to prughing. The thin seeders, such as Messrs. Wilkins and ris, may write and speak about their scientific principles, th we never yet had reason to regret using a due quantity of att, such a quantity as can withstand the diversity of seasons TH the numerous enemies which interfere between sowing and toping. We have, however, no wish to disparage the efforts hese two gentlemen, who profess to teach common farmers an ntific principles ; while, at the same time, we do not fall in thh their style of teaching, which lacks of moderation and rea na for national adoption. Our manual labour has lately con ed of hedging, draining, and threshing, raising Mangold an rzel, Carrots, &c. We have just raised Carrots at the rate wi9 tons per acre, from what was a barren sandy common ane years ago, not worth half-a-crown an acre for sheep pas , or any other purpose. This produce has been gained by an thlay in improvement equal to the fee-simple of the land. *R. V.*

OF ERWICKSHIRE MERSE FARM, *Dec.* 1.—Since last report we thve been ploughing Grass land for Beans and Bean-stubble, thring it with Wheat ; threshing and delivering Barley, storing rnips, three pair at the coals, &c. ; workers assisting in toeshing, dressing, pulling and filling Turnips ; one man anisting in storing and covering the Turnips, cleaning water inrows, &c. *J. B.*

DORSET FARM, *Dec.* 4.—Since last report we have had the mather very wet, and our work has been retarded very much. thy are still clearing off our Mangold Wurzels, which are juning out to be a bulky crop ; we have them pulled and the ps cut off, but not the fibres of the root, and thrown into carts, for 7*s.* per acre ; but as we can get no dry weather to art them in, we have great doubts of their keeping well ; we thk a good many faggots with them to keep them open ; we ta the prunings of our hedges for that purpose. We have n employed in carting dung, earth, &c., which we turn thether to apply to the Clovers as soon as the ground shall thve got a little firm to admit of carting without cutting too uch. We have little ploughing that can be done to great vantage ; having raftered, or ribbed, or baulked to some ent, we are now turning it over again, throwing the furrows ner in the same direction they were turned last, which moves l the ground and lays it up to the air very effectually. We fi also carting Turnips and Swedes for our fatting beasts, out 40 of which we have tied up, which we feed with hay and Trnips *ad. lib.* and 4 lbs. oilcake a day, some of them getting bs. of Linseed besides. Part of the tops of our Mangold we se to our pigs, and the rest are consumed by sheep folded on ground ; they eat them up very well, but it would not do plet them have many, as they tend to scour. *G. S.*

THE MID-LOTHIAN, *Nov.* 29.—During the past month the weather fe been rather unfavourable for field-work, occasional heavy a ns and boisterous winds having been the casual interruption. owever, the vast improvements which of late years have been fected in the system of draining, speedily filters off the super-undant moisture, and enables the farmer to proceed with his fpours at every dry blink of weather ; in consequence of this, e sowing of Wheat is progressing favourably, as well as the ner out-door labours of the farm. Turnips have vastly im proved, and are an excellent crop. Potatoes are plentiful, and gfair quality ; some of them are very superior, and we hear of y important losses being sustained in consequence of the ease ; indeed, where ordinary care was taken in picking out e diseased tubers before housing, there is no complaint heard d and the market is well supplied at from 70*s.* to 80*s* per ton. ae young Grasses have a favourable appearance for the season, d we may add, that cattle and sheep are fattening rapidly on e Turnip, particularly where the cattle are fed in comfortable rds, and the sheep have their roots carted to dry pastures for yem ; those penned on the Turnip fields are not doing so well d might be expected, from the continued exposure to a wet and ry resting place, instead of the firm footing and comparative mfort of a Grass field. The produce of the Cereal Grasses is ing every reasonable mind high satisfaction, for not only is ge produce abundant, but the quality most excellent.

NORTH ESSEX FARM, *Dec.* 2.—Since we finished Wheat sowing have been engaged in carting and storing Mangold, Carrots, ld Swedes ; ridging up Mangold land intended for Oats, anuring and ploughing for Beans, and fallowing for Mangold d Swedes. Our other hands have been employed in draining, tter-furrowing, and threshing Wheat, Barley, and Beans. e have dressed our early sown Wheat with quick-lime in a dverised state, at the rate of 3 or 4 bushels per acre, for the rpose of destroying the slugs, which we always find effec ally accomplished by this means. Our home-bred beasts are w at Swedes in the yards ; the breeding sows are living iefly upon Carrots and Swedes, the former we find to be a bst excellent food for them either raw, steamed, or boiled. r ewes we expect soon to begin to lamb. *T. B.*

PEMBROKESHIRE FARM, *Dec.* 1.—Since last report, when the ather would allow, the chief operations have been ploughing avy land intended for Turnips. Where unfavourable for oughing we have been carting dung from cattle sheds, and xing the same with road-scrapings, for Turnips. After the anure heap is finished we give it a good soaking of liquid anure from the tank, by the use of the water-cart and a rtable forcing-pump for that purpose. Our young cattle are it up, getting Turnips and straw—yearlings in loose boxes, alves in open sheds. Fattening stock tied up in stalls, getting rnips and hay, as much as they can consume. We have now folded our wethers on the Turnips, they having hay supplied them. Working horses allowed one bushel of Oats per week each, with hay and a mash of boiled Turnips and chaff at night. Having threshed a stack of Barley, for straw for the cattle, it has turned out well to bushels, but not so heavy as formerly. *J. H.*

STIRLINGSHIRE CARSE FARM, *Dec.* 2.—The weather since last report has been very changeable, and occasionally stormy, which has considerably retarded out-door operations. When the weather was suitable we were chiefly engaged ploughing-in dung on Wheat stubble, to be drilled with Beans in spring. We have also been draining land intended to be sown with Barley ; the soil is of a deep alluvial nature, and the drains we are putting in 15 feet apart ; the depth is 27 inches, which we consider sufficient ; the fall is good, and there being no springs, the drains are only required to carry off surface-water ; we are laying them with 2-inch pipes, which we cannot procure for less than 20*s.* per 1000. We have also been employed threshing Beans, &c. *J. A.*

SUSSEX FARM, *Dec.* 4.—We have now finished Wheat sowing. Our teams are engaged in carting faggots to burn, pipe tiles for drains, earth from road sides, and litter to yards. If the weather allows, we shall commence to plough and subsoil at the end of the week for Carrots, Cabbages, and Potatoes. Men mowing litter, repairing roads, clearing the hedges, draining, &c. *J. B.*

Notices to Correspondents.

AGRICULTURAL PRIZE ASSOCIATION : *P P H.* We know nothing of it.

BACON : *Anon.* See "Fullarton's Rural 'Cyclopædia."—*Northwoods.* See "Home Correspondence" section next week.

BOOKS : *X Y Z.* Stephens' work on "Irrigation" is the only one we know.—*C E F.* We know of none that can replace Hannam. He is preparing another edition. You can surely obtain the loan of it somewhere.—*A C.* Dixon on Poultry, and Bevan on the Honey Bee.‡

BOX FEEDING : *S Y.* It is well suited to cows. It is not necessary that the straw be cut. The manure of the cow, and of growing animals, is poor in phosphates, and bone-dust might well be added to the heap.

CLIPPING HORSES : *A Coachman.* Next week.

DRAINAGE : *A Tenant Farmer.* Deep yellow clay (very wet), now producing 4 qrs. of Wheat and 5 of Barley per acre, must be a first-rate soil, and if dry would very likely yield another quarter per acre in addition. Drains will last as long as the material they are made of—for a century. Your land, if drained, would grow Mangold Wurzel and Cabbage, and perhaps Turnips.—*J Usher.* You can drain 3 feet deep, 20 hours out of the 24. Then you had better place the drains that depth in the land, and let the whole run by one mouth into the ditch. This mouth should be a tube, 3 feet long, on which, by means of a wire or a flat bit of iron and the grind-stone you may easily fasten a valve which shall hinder the admission of mud and weeds when the ditch is flooded. The water will rise and force the air in the soil upwards, and it will sink when the flood is past, and draw fresh air in. Use 2-inch pipes. If your work be well done, so as to stand the tear and wear of a daily flood in this way, we think the flood may be an advantage rather than otherwise. The exit pipe ought to have rather a more rapid fall than the rest of the tube.

DRAINS : *Inquirer.* We do not know the *roots* (?) They are possibly not a *part* merely of a plant. See page 741.

ENGLISH AND SCOTCH FARMING : *J F* would oblige "A Subscriber" by saying at what place a steam-engine and apparatus could be seen in full force at the price he names (200*l.*), in the Lothians, as he would willingly go to see it at work, having a farm of 900 acres, and everything to send to the mill.

FARM ACCOUNTS : *G S.* Swinborne's account books are the only attempts we know.

FOOD FOR FOALS : *A Breeder of Horses.* Next week.

LIME : *Inquirer.* It might be spread on the land now in the hard lumps in which it is, and beaten about after frost, which would no doubt reduce it. They say that alkalies and alkaline earth, such as lime and magnesia in the caustic state, are unfavourable to the growth of acid plants, such as Sorrel.

MARL : *J B. Clay* is sometimes called marl. If your marl really be marl—that is, clay already containing lime—you will not benefit much by adding more lime to it.

MILK PANS : *Northwoods.* We should prefer glass. There is some evidence, though not much, of their superiority.

PALING : *J H, Hants,* informs a "Kent Subscriber" that he has just had a contract taken for about 80 rods of paling. Posts from heart of Oak, 6 ft. 6 in. long, sawn three sides, 6 by 5½ in. Two cross rails to a pannel, sawn from 4 inch scantling, from heart of Oak ; stout wide cleft Oak pales, 2½ inch space between pales. All labour and materials for 16*s.* 3*d.* a rod.

POULTRY : *G R S* asks if there is any known method of preserving eggs, either of poultry or our common singing birds, so as to retain their vitality during a voyage of four or six months.

SALT AS A MANURE : *G S* will find more facts on this subject towards the end of our last year's volume than in any other publication.

SLUGS ON WHEAT : *Mendlesham.* "Having two acres of Wheat infested by slugs, I have been using sliced Turnips for a fortnight, from which I have picked half a peck or upwards every morning, still they do not appear to decrease."—Try a little gas-lime over them.

SPADE HUSBANDRY : *Inquirer.* The Vernon hoe is something like a one armed anchor, the shaft being the handle. We do not know Sillet's fork. A man will dig of ordinary loam, two spits deep, 4 perches in nine hours, and plain digging, 9 inches deep, 8 or 9 perches in the same time. We do not read your last question aright.

THIN-SEEDING : *B Hunt.* No regulation beyond that of exercising a little patience. We are sometimes unable to give immediate insertion to a communication, owing to the number of others which are waiting.

TILE MACHINES : *A Tile Manufacturer.* We have received communications recommending Charnock's 'Economic' machine, Scraggs' machine, Martin's, and Ainslie's ; and no doubt testimonials may be obtained to the value of others. What is wanted is, the statement by some who have used them, of the power required and work done by each, in a given time.

TURNIP CUTTER : *J C.* Gardener's. Apply to Messrs. Ransome, Ipswich, or any of their agents.

WELL : *Suffolk.* Sink a well in a dry season.

WHOSE HAS BEEN PROVED THE BEST MILK-CHURN ? *Northwood.* We do not know : will any one help us ? The common barrel churn is as good as any for large quantities. The Agricultural Society's Prize has been given to Mr. Robinson, of Lisburn, Ireland.

*** Communications reaching town after Wednesday cannot be answered the same week.

Markets.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Dec. 7.

Prime Mead. Hay	65*s* to 70*s*	New Hay	.. —s to —s	Straw	.. 22*s* to 28*s*
Inferior ditto	.. 50 60	Clover	.. .. 50 90		
Rowen	.. .. 40 54	New Clover	.. .. — —		J. COOPER.

CUMBERLAND MARKET, Dec. 7.

Prime Mead. Hay	70*s* to 77*s*	Old Clover	.. 90*s* to 95*s*	Straw	.. 28*s* to 32*s*
Inferior ..	.. 43 63	Inferior	.. 50 80		
New Hay	.. — —	New Clover	.. — —		JOSHUA BAKER.

WHITECHAPEL, Dec. 7.

Fine Old Hay	.. 63*s* to 68*s*	Old Clover	.. 90*s* to 95*s*	Straw	.. 22*s* to 25*s*
Inferior Hay	.. 50 55	Inferior	.. 50 60		
New Hay..	.. 60 65	New Clover	.. 80 81		

COVENT GARDEN, Dec. 9.

The market is still well supplied with Vegetables and most kinds of Fruit. Pine-apples are plentiful ; and hothouse Grapes continue to be sufficient for the demand. Ribston Pippins and other dessert Apples are ticketed 6 and 8 for 1*d.* In some of the windows we remarked nice specimens of the beautiful little American Lady Apple. Among Pears were good specimens of Chaumontelle, Crassane, Glout Morceau, Beurre Diel, Passe Colmar, &c. Nuts in general are sufficient for the demand, except Filberts and Cobs, which continue scarce. Some Tangerine Oranges have made their appearance ; other Oranges are becoming more plentiful. Lemons are scarce. Amongst Vegetables, Carrots and Turnips are abundant and good, Cauliflowers, Broccoli, &c., sufficient for the demand. Some Asparagus and French Beans have made their appearance. Potatoes continue to be plentifully supplied. Lettuces and other salading are sufficient for the demand. Mushrooms are plentiful. Cut Flowers consist of Heaths, Pelargoniums, Camellias, Gardenias, Fuchsias, and Roses.

FRUITS.

Pine Apple, per lb., 3*s* to 5*s*	Almonds, per peck, 6*s*
Grapes, hothouse, per lb. 2*s* to 5*s*	— sweet, per lb., 2*s* to 3*s*
— foreign, per lb., 9*d* to 1*s*	Walnuts, per bush., 1*s* 6*d* to 2*s*
Apples, dessert, per bush., 4*s* to 7*s*	— per bush., 16*s* to 24*s*
— kitchen, p. bush., 3*s* to 5*s*	Chestnuts, per peck, 4*s* to 7*s*
Pears, per doz., 2*s* to 6*s*	Nuts, Barcelona, per bush., 20*s* to 22*s*
— per half sieve, 6*s* to 10*s*	— Filberts, per 100 lbs., 60*s* to 100*s*
Oranges, per doz., 1*s* to 2*s*	— Cob, per 100 lbs., 90*s* to 150*s*
Lemons, per doz., 1*s* to 2*s*	— Brazil, per bush., 12*s* to 16*s*
— per 100, 10*s* to 18*s*	

VEGETABLES.

Cabbages, per doz., 3*d* to 1*s*	Tomatoes, per punnet, 9*d* to 1*s* 3*d*
— red, per doz., 1*s* to 4*s*	— per half sieve, 3*s* to 5*s*
Cauliflowers, per doz., 6*d* to 2*s*	Shallots, per lb., 4*d* to 8*d*
Broccoli, white, per doz., 3*s* to 4*s*	Garlic, per lb., 4*d* to 8*d*
— brown, per bunch, 6*d* to 1*s* 3*d*	Radishes, per doz. bunches, 6*d* to 1*s*
Sorrel, per half sieve, 6*d* to 9*d*	— Turnip, do., 9*d* to 1*s*
Potatoes, per ton, 60*s* to 130*s*	Artichokes, per doz., 1*s* 6*d* to 2*s*
— per cwt., 5*s* to 6*s*	— Jerusalem, p. half sieve, 1*s* to 1*s* 6*d*
— per bush., 2*s* 6*d* to 5*s*	Lettuce, Cab., per score, 4*d* to 6*d*
Turnips, per doz. bunches, 9*d* to 2*s*	— Cos, do., 9*d* to 1*s*
Red Beet, per doz., 6*d* to 1*s*	Endive, per score, 9*d* to 1*s*
Horse Radish, per bundle, 1*s* to 6*s*	Mushrooms, per pottle, 6*d* to 1*s*
Asparagus, per 100, 4*s* to 6*s*	— per bushel, 4*s* to 6*s*
Cucumbers, each, 4*d* to 1*s*	Small Salads per punnet, 2*d* to 3*d*
Leeks, per bunch, 1*d*	Fennel, per bunch, 2*d* to 3*d*
Celery, per bundle, 6*d* to 1*s* 3*d*	Savory, per bunch, 2*d* to 3*d*
Carrots, per doz. bunches, 3*s* to 5*s*	Thyme, per bunch, 3*d* to 4*d*
Spinach, per sieve, 9*d* to 1*s*	Watercress, p. 12 small bun., 6*d* to 9*d*
Onions, per bunch, 3*d* to 4*d*	Parsley, per doz. bunches, 1*s* 6*d* to 2*s*
— per bushel, 1*s* 6*d* to 2*s* 6*d*	— Roots, per bundle, 1*s* to 1*s* 6*d*
— Spanish, per doz., 1*s* 6*d* to 4*s*	Marjoram, per bunch, 2*d*
— pickling, p. half sieve, 1*s* 6*d* to 3*s*	Mint, green, per bunch, 2*d*

POTATOES.—SOUTHWARK, WATERSIDE, Dec. 4.

The Committee report that we have a very short supply of English Potatoes, but the arrivals from France are so abundant, and of such good quality, that our market is rather lower than last week. The following are this day's quotations :—York kegents, 120*s* to 160*s* ; Scotch do., 110*s* to 130*s* ; Scotch Reds, 60*s* to 90*s*. Scotch Cups, 70*s* to 90*s* ; Scotch whites, 70*s* to 80*s* ; French Whites, 80*s* to 90*s* ; Dutch whites, 70*s* to 80*s*.

HOPS, FRIDAY, Dec. 8.

Messrs. PATTENDEN and SMITH report that there is not much doing in Hops, which is generally the case at this season of the year.

SMITHFIELD, MONDAY, Dec. 4.

The supply of Beasts is not quite so large as on Monday last ; it is, however, good. Trade is brisk for choicest qualities, and our top quotations are more freely given. There are a few more Sheep, but the number is still small ; the demand is very limited, and higher prices cannot be on an average obtained. Trade is brisk for Calves, at Friday's prices. From Holland and Germany we have 468 Beasts, 2130 Sheep, and 18 Calves ; from Leicester and Northampton, 2100 Beasts ; and from Lincolnshire, 360.

Per stone of 8 lbs.—s	d	s	d	Per stone of 8 lbs.—s	d	s	d
Best Scots, Herefords, &c. 4	0	to 4	4	Best Long Wools 4	2	— 4	6
Best Short Horns 3	8	— 4	0	Ditto Shorn		....	
Second quality Beasts .. 2	10	— 3	6	Ewes and second quality 3	4	— 4	0
Calves 3	6	— 4	6	Ditto Shorn		....	
Best Downs & Half-breds 4	8	— 5	0	Lambs		....	
Ditto Shorn		....		Pigs 4	6	— 5	4

Beasts—4032. Sheep and Lambs—23,340. Calves—110. Pigs—245.

FRIDAY, Dec. 8.

The number of Beasts is small, the time of year considered. Choicest qualities are in demand at fully Monday's rates, but second-rate meet with a dull sale. The supply of Sheep is larger than of late, and the demand small. It is difficult to make 5*s.* of the choicest Downs, and other kinds are quite 2*d.* per 8 lbs. lower. Trade is brisk for Calves, but at no higher rates. From Holland and Germany there are 270 Beasts, 910 Sheep, and 23 Calves ; from Scotland 100 Beasts ; and 124 Milch Cows from the home counties.

Best Scots, Herefords, &c. 4	0	to 4	4	Best Long Wools 4	0	— 4	4
Best Short Horns 3	8	— 4	0	Ditto Shorn		....	
Second quality Beasts .. 2	10	— 3	6	Ewes and second quality 3	4	— 3	10
Calves 3	8	— 4	6	Ditto Shorn		....	
Best Downs & Half-breds 4	8	— 5	0	Lambs		....	
Ditto Shorn		....		Pigs 4	4	— 5	4

Beasts—918. Sheep and Lambs—4510. Calves—140. Pigs—230.

MARK LANE, MONDAY, Dec. 4.

Messrs. KINGSFORD and LAY report that the supply of foreign Wheat during the past week was less extensive than of late, but the arrivals of flour continue considerable. This morning's show of English Wheat by land carriage samples was small, and trade to-day progressed very heavily at barely Monday's currencies. Foreign met a slow sale at a decline of 1*s.* to 2*s.* per qr.—Fine Barley fully supports former rates ; other descriptions are unaltered in value.—Peas of all kinds are 1*s.* per qr. lower.—New Beans are a dull sale, and old must be written 1*s.* per qr. cheaper.—Fine Oats maintain their late value, but inferior sorts are very unsaleable.

BRITISH PER IMPERIAL QUARTER.	*s*	*s*		*s*	*s*
Wheat, Essex, Kent, and Suffolk ..... White	45	52	Red	42	46
Norfolk, Lincolnshire, and Yorkshire	46	50	White ..	48	52
Barley, Malting and distillhug, 28*s* to 30*s* Chevalier	30	33	Grinding	24	30
Oats, Lincolnshire and Yorkshire ..... Potlands	20	23	Feed	17	20
Northumberland and Scotch ..... Feed	20	23	Potato ..	24	26
Irish ..... Feed	17	21	Potato ..	20	25
Malt, pale, ship	—	—			
Hertford and Essex	—	—			
Rye	26	28			
Beans, Mazagan, old and new .. 28*s* to 32*s* .... Tick ..	26	31	Harrow ..	28	33
Pigeon, Heligoland 30	40	.... Winds	31	40	Longpod	26	30
Peas, White 33	35	.... Maple	35	37	Grey	34	35

ARRIVALS IN THE PORT OF LONDON LAST WEEK.

Flour, 1510 sks	Wheat.	Barley.	Malt.	Oats.	Rye.	Beans.	Peas.
— 1015 bls	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.
English.....	1710	2975	4303	8 9	—	868	493
Irish	—	—	5	3758	—	—	—
Foreign.....	11527	8763	—	9518	1106	803	1316

FRIDAY, Dec. 8.

The arrivals of grain since Monday have been very small, and the Wheat trade both here and on some of the principal markets in the kingdom has evinced slight symptoms of returning firmness. Nevertheless, with the exception of a few sales of Polish Odessa cargoes on the coast, business has been only to a limited extent, at nominally the same prices as last Monday.—Barley, Beans, and Peas continue unaltered in value.—Oats, particularly the finer qualities, meet an improved inquiry at our quotations.

ARRIVALS IN THE PORT OF LONDON THIS WEEK.

	Wheat. Qrs.	Barley. Qrs.	Oats. Qrs.	Flour.
English.....	1120	2180	1110	580 sacks.
Irish	—	—	—	—
Foreign.....	1960	2300	4360	— barrels.

IMPERIAL AVERAGES.	Wheat.	Barley.	Oats.	Rye	Beans.	Peas.
Oct. 28	51*s* 0*d*	32*s* 7*d*	20*s* 4*d*	32*s* 9*d*	37*s* 3*d*	40*s* 1*d*
Nov. 4	51 2	32 10	20 7	31 1	37 1	39 7
— 11	52 0	33 7	20 10	30 5	37 2	40 2
— 18	52 3	34 1	20 5	30 10	38 1	40 6
— 25	51 6	33 2	20 2	30 10	36 10	40 6
Dec. 2	50 3	32 0	19 11	31 2	36 2	40 9
Aggregate Average	51 4	33 1	20 4	30 6	37 1	40 3
Duties on Foreign Grain	6 0	2 0	2 6	2 0	2 0	2 0

Fluctuations in the last six weeks' Corn Averages.

PRICE.	Oct. 28.	Nov. 4.	Nov. 11.	Nov. 18.	Nov. 25.	Dec. 2.
52*s* 3*d*	...	...	...	...	...	...
52 0	...	...	...	...	...	...
51 6	...	...	...	...	...	...
51 2	...	...	...	...	...	...
51 0	...	...	...	...	...	...
50 3	...	...	...	...	...	...

SEEDS, Dec. 4.

Canary ..... per qr.	88*s* to 100*s*	Linseed-cakes, Foreign, p. ton, 77*s* to 9*l*	
Caraway ..... per cwt.	27 29	Mustard, White, p. bush., 4*s* to 9*s*	
Clover, Red, English	35 44	Superfine, p. bush., 9 —	
— English	35 40	Brown, per bush. 6 12	
White, English	38 44	Rapeseed, Eng., per last..... 28*l* 30*l*	
— Foreign	38 42	Rape-cakes .... per ton 4*l* 10*s* to 5*l*	
Coriander.....	12 16	Sainfoin ..... — —	
Hempseed ..... per qr.	34 36	Tares, Eng., winter, p. bsh., 10*s* 0 12*s* 0	
Linseed.....	38 40	Foreign, per bush., 3*s* 0 6*s* 0	
— Baltic.....	33 38	Trefoil 17*s* 0 20*s*	
— Cakes, Eng., p. 3000, 11*l* 10*s* to 12*l*		Turnip—too variable for quotation.	

Sales by Auction.

TO NOBLEMEN, GENTLEMEN, NURSERYMEN, BUILDERS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS are instructed to Sell by Auction, on the Premises, the Arboretum, Fulham-road, Brompton, on WEDNESDAY, December 13, 1848, and two following days, at 11 o'clock precisely (by order of the Sheriff of Middlesex), the valuable NURSERY STOCK, consisting of a very large quantity of fine Evergreens, Standard and Dwarf Roses, Fruit and Forest Trees, Ornamental and Deciduous Shrubs, &c. May be viewed prior to Sale. Catalogues had on the Premises; of the principal Auctioneers; and of the Auctioneers, American Nursery, Leytonstone, Essex.

TO GENTLEMEN, NURSERYMEN, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS are instructed to sell by Auction, at the Auction Mart, Bartholomew-lane, on FRIDAY, Dec. 22, at 12 o'clock, about 200 CAMELLIAS, from 18 inc. to 4 ft., well set with bloom buds; also a selected assortment of Greenhouse Plants, American Plants, Dutch Bulbs, &c. May be viewed the morning of sale. Catalogues had at the Mart, and of the Auctioneers, American Nursery, Leytonstone.

TO GRAPE GROWERS, NURSERYMEN, FLORISTS, AND OTHERS.

TO BE SOLD OR LET, with immediate possession, AN ESTABLISHED BUSINESS in the above line, situate in one of the best localities for such a purpose in the town of Brighton; laying fully open to the south, and completely sheltered from the north and west. The whole of the premises are walled in, and comprise a series of 12 Forcing and Succession Graperies, Peach, Stove, Propagating and Plant-houses, besides Pits, &c.; covered by upwards of 10,000 feet of glass. The whole of the external and sectional walls are clothed with full bearing Fruit Trees of the finest sorts; and water from the Company's main is laid on to various fish ponds and ornamental tanks, conveniently placed for the use of every part of the premises. If sold, a large portion of the purchase money may remain on Mortgage, if required. Apply to Mr. PARSONS, Auctioneer and Estate Agent, 39, Marine Parade, Brighton.

TO BE DISPOSED OF, a NURSERY and SEED TRADE, the first of its class, in one of the most important north-western counties, established nearly 60 years, and having a valuable connection.—Particulars can be obtained by applying to Mr. F. WARNER, 28, Cornhill; or Messrs. NOBLE, Fleet-street; who will explain the reason of the Proprietor relinquishing it.

FARM TO LET.

TO BE LET, an ARABLE FARM, of 500 acres, nearly all Turnip Land. It is about 50 miles from London, and two from a principal market town, from which will shortly be railway communication to London. The Homestead is most perfect, and stands in the centre of about 30 acres of Meadow, with a modern-built Lodge at the entrance, as residence for Bailiff or Shepherd. The house, of agreeable elevation, although not too large for a person solely devoted to business, is so beautifully situated as to be worth the attention of any gentleman attached to agriculture and field sports, being midway between two kennels of fox hounds; abundant spring water, and capital roads. The privilege of Shooting, and 14 or 21 years' Lease will be granted. Rent and rates moderate. —For particulars, direct to J. C., Messrs. Harrison's, 2, George-yard, Lombard-street, London.

WANTED, a small FARM, of from 50 to 100 acres, north, south, or west of London, with a good farm-house and out-buildings, in a dry, healthy, and rather high situation, within 22 miles of London if within 3 miles from a station, or if not, within 12 miles. A clay soil would be objected to.—Direct to A. B., at Mr. Street's, Advertising Agent, Serle-street, Lincoln's-inn, London.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as building and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster.

CHEAP AND DURABLE ROOFING.

BY HER MAJESTY'S

ROYAL LETTERS PATENT.

F. McNEILL AND Co., of Lamb's-buildings, Bunhill-row, London, the Manufacturers and only Patentees of THE ASPHALTED FELT FOR ROOFING

Houses, Farm Buildings, Shedding, Workshops, and for Garden purposes, to protect Plants from Frost.

At the Great National Agricultural Shows, it is this Felt which has been exhibited and obtained TWO SILVER MEDAL PRIZES, and is the Felt SOLELY patronized and adopted by

HER MAJESTY'S WOODS AND FORESTS,
HONOURABLE BOARD OF ORDNANCE,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE COMMISSIONERS OF CUSTOMS,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANIC GARDENS, REGENT'S PARK,

And on the Estates of the Dukes of Sutherland, Norfolk, Rutland, Newcastle, Northumberland, Buccleuch (at Richmond), the late Earl Spencer, and most of the Nobility and Gentry; and *at the Royal Agricultural Society's House, Hanover-square.*

It is half the price of any other description of Roofing, and effects a great saving of Timber in the construction of Roofs. Made to any length by 32 inches wide.

PRICE ONE PENNY PER SQUARE FOOT.

*** Samples, with Directions for its Use, and Testimonials of seven years' experience, with references to Noblemen, Gentlemen, Architects, and Builders, sent free to any part of the town or country, and orders by post executed.

☞ The Public is cautioned that the only Works in London or Great Britain where the above Roofing is made, are

F. McNEILL AND CO.'S

Patent Felt Manufactory, Lamb's-buildings, Bunhill-row, London, where roofs covered with the Felt may be seen.

The new Vice-Chancellor's Courts, at the entrance to Westminster Hall, were roofed with F. McNEILL and Co.'s Felt about two years since, under the Surveyorship of Chas. Barry, Esq., R.A. Her Majesty's Commissioners of Woods and Forests are so satisfied with the result that they have ordered the Committee Rooms at the Houses of Parliament to be roofed with their Felt. Quantity altogether used, 24,000 feet.

Note.—Consumers sending direct to the Factory can be supplied in lengths best suited to their Roofs, so that they pay for no more than they require.

Every information afforded on the construction of Roofs, or any proposed particular application of the Felt.

CARSON'S ORIGINAL ANTI-CORROSION PAINT, specially patronized by the British and other Governments, the Hon. East India Company, the principal Home Companies, most public bodies, and by the Admiralty, Ordnance, and Chatham Dockyards, for out-door work at their country stations. The Anti-Corrosive is particularly recommended as the most valuable and best Paint ever invented, for the preservation of every description of Iron, Wood, Stone, Brick, Canvas, Composition, &c., which has been proved by the practice of more than 60 years, and by the numerous testimonials from 1801 to 1848, in its favour, and which, in the first case, it is the interest of the public to be acquainted with, as it has been found that many persons have been deceived by buying, at the low price of the Original Paint, the refuse matter of the Manufactory, which is sold by the Barrel to Painters, Colour-men, and Dealers, and is worthless. Apply to Messrs. CARSON, 12, Great Tower-street, London, E.C., or to their Agents in the principal towns in England.

IMPORTANT TO LANDOWNERS.—An Act of Incorporation having been obtained by "THE LAND OWNERS' WEST OF ENGLAND LAND DRAINAGE AND IMPROVEMENT COMPANY," Owners of Limited Interests in Land (under the Provisions of the Improving Landowners' Drainage Act of 1846), Trustees, Executors, Guardians, Committees, and others, are informed that the Company are now ready to treat with the owners of Land in the Counties of Devon and Somerset, for the execution of Land Drainage and other Improvements, on the most liberal terms, and in accordance with the provisions of the Act of Parliament, viz.: By charging the value on the Inheritance, to be repayable by 25 Annual Instalments, with 5 per cent. per annum. This Company is now ready to receive applications for work to be performed under any of the provisions of their Act of Parliament, or to contract for the execution of the entire operations, and all persons, corporate or others, having the control of Land, and wishing to avail themselves of the liberal terms of the Act, are invited to make early application. For all further particulars, apply to Mr. THOMAS MAY, Secretary, 9, Cranford Crescent, Exeter.

TWO TURNIP-CUTTERS AT THE PRICE OF ONE.

MARY WEDLAKE AND CO.'S NEW TURNIP CUTTER for Beasts and Sheep, price 7l. Lincoln, 6l. 15s.; otto, Going Farm, Liverpool, and Oxon, 6l. The Farm Machines, doing upwards of 25 loads of Wheat-straw per day, 60 guineas. MARY WEDLAKE and Co.'s Chaff-cutting Machines, 50 to 200 guineas each, price 7l. 7s. and 15l. 15s. Hay-box, Dressing Machine, Turnip Drill, Oil-cake Breaker, Chaff and Oat Crushers, Subsoil Plough, Double Field Roller, &c.—MARY WEDLAKE & Co., 118, Fenchurch-street, (opposite the Railway) London.

VALUABLE REMEDIES FOR THE AFFLICTED.

DR. ROBERTS'S CELEBRATED OINTMENT, called the POOR MAN'S FRIEND, is confidently recommended to the public as an unfailing remedy for wounds of every description; a certain cure for Ulcerated Sore Legs, of 20 years' standing; Cuts, Burns, Scalds, Bruises, Chilblains, Scorbutic Eruptions, and Pimples in the Face, Sore and Inflamed Eyes, Sore Heads, Sore Breasts, Piles, Fistula, Cancerous Humours, and is a specific for those alarming Eruptions that sometimes follow Vaccination. Sold in pots at 1s. 1½d., and 2s. 9d. each. Also, his PILULÆ ANTISCORBUTICÆ, confirmed by more than 40 years' experience, to be, without exception, one of the best Alterative Medicines ever compounded for purifying the blood, and regulating Nature in all her operations; hence it is useful in Scrofula, Scorbutic Complaints, Glandular Swellings, particularly those of the neck, &c. They are excellent also in Rheumatism, and form a mild and superior Family Aperient, that may be taken at all times without confinement or change of diet. Sold in boxes at 1s. 1½d., 2s. 9d., 4s. 6d., 11s., and 22s. each.

To Messrs. BEACH and BARNICOTT, Successors and Executors to the late Dr. ROBERTS.

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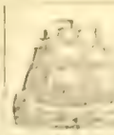

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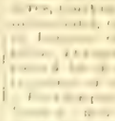

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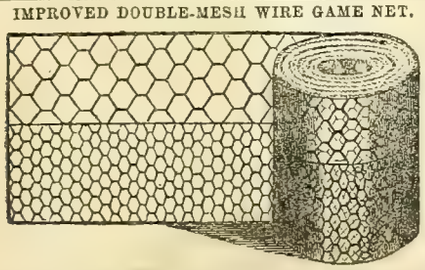

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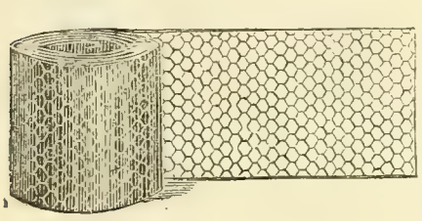

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On the 1st of January, 1849, to be continued monthly, No. I. of THE BOTANICAL GAZETTE; A Journal of the Progress of British Botany and the contemporary Literature of the Science.

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ENLARGEMENT OF THE "WEEKLY DISPATCH."

THIS JOURNAL, which is unrivalled, will be ENLARGED, on and after SUNDAY, the 7th of JANUARY, 1849, to SIXTEEN PAGES, containing SIXTY-FOUR COLUMNS, of the SAME SIZE AND FORM AS AT PRESENT, WITHOUT ANY EXTRA CHARGE. The DISPATCH will, therefore, answer the purpose of FOUR NEWSPAPERS. An Edition of the DISPATCH is published at Five o'Clock every Saturday morning, for transmission by the First Train and Morning Mails, so that persons residing in towns 250 miles from London may receive it the same evening. An Express Edition of the Dispatch is published every Sunday afternoon, containing News *direct* from Paris, and other parts of the Continent, up to Eight o'Clock on Saturday Evening.

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RACING OFFICE, 301, STRAND.—The distribution for the Wolverhampton Steeple Chase took place at the Strand Theatre on the 7th inst. For Lists and Prospectuses of the Aberystwith, Liverpool, Chester Cups, and Derby, apply to Mr. Joseph Darcy, Secretary, to whom Post-office orders are to be made payable at the Strand Post-office.

Printed by William Bradbury, of No. 6, York-place, Stoke Newington, and Frederick Mullett Evans, of No. 7, Church-row, Stoke Newington, both in the county of Middlesex, Printers, at their office in Lombard-street, in the Precinct of Whitefriars, in the city of London; and published by them at the Office, No. 5, Charles-street in the parish of St. Paul's, Covent Garden, in the said county, where all Advertisements and Communications are to be addressed to the Editor.—Saturday, Dec. 9, 1848.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No 51.—1848.] SATURDAY, DECEMBER 16. [Price 6d.

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No. 2. Ditto, equally choice sorts, but in smaller quantities 2	2	0
No. 3. Ditto ditto ditto 1	1	0
No. 4. A Splendid Assortment of Hardy Flower Seeds	0	10	6
No. 5. Ditto, in smaller quantities	0	5	0

SUTTON and SONS having for very many years been extensive GROWERS of Garden Seeds of superior quality, have many customers in al parts of the United Kingdom; and in addition to their regular wholesale and retail customers, they have now the privilege of referring to clergymen, gentlemen, and gardeners, residing at the undermentioned places, who have for several years expressed their great satisfaction in having their Seeds in collections as above described, whereby great economy is effected, and the best new kinds ensured.

Denbigh	Llangadock	Newcastle	Hereford
Swindon	Gosport	Monreith	Tonbridge
Corfe Castle	Newton Stew-	Dorchester	Malton [Wel's
Brecon	Liverpool [art	Usk	South Shields
Ripon	Ayr	Durham	Anglesey
Shrewsbury	Gateshead	Bristol	Ross
Cardiff	Newport	Blandford	Belford
Branden	Carleon	Bay, S. W.	Sunderland
Llandovery	Llandilo	Gloucester	Dublin
Cork	Birmingham	Wigtown	and others

Lists of the Seeds contained in each collection may be previously obtained, and any sort not required will be compensated for. Also, Catalogues of Messrs. SUTTON'S Seeds, any of which may be had separately.

Address, JOHN SUTTON and SONS, Reading, Berkshire.

N.B. Carriage free by Pickford and Co.

THE BEAUTIFUL JAPANESE LILY, OR LILIUM LANCIFOLIUM, FOR SHRUBBERIES.

HENRY GROOM, Clapham rise, near London, by appointment FLORIST to HER MAJESTY THE QUEEN, and to HIS MAJESTY THE KING OF SAXONY, begs to recommend to the attention of the Nobility and Gentry the above splendid LILY for planting in their Shrubberies and Pleasure grounds, as it is quite hardy, and flowers at that period of the year when they are at their country seats; it is also very fragrant. He can supply good flowering bulbs of LILIUM LANCIFOLIUM ALBUM, at 7l. per 100, package included. This is the best season of the year to plant them.

H. G. begs to say he has a fine collection of ANEMONES and RANUNCULUSES at moderate prices.

CHOICE AZALEAS, RHODODENDRONS, &c.

BASS AND BROWN are enabled to offer the following, all strong and fine, at the annexed very low prices, in consequence of the recent disposal of the extensive stock of the late Glazenwood American Nursery, in Essex, which has been long celebrated for its very superior collections of these favourite shrubs.

GHENT AZALEAS, very splendid new hardy Glazenwood seedlings, fine plants, well set with flower-buds, per dozen	9s	0d
HARDY ORANGE AZALEAS, fine with buds, p. doz.	9	0
RHODODENDRON, hardy scarlet large and fine plants, with buds, 2s 6d. each, or per dozen	25	0
,, Pontleum, with bloom buds, per dozen ..	6	0
,, Fine mixed hardy varieties, ditto, per dozen	9	0
,, Fine Glazenwood seedlings, 5s. p. doz., p. 100	35	0
,, Catawbiensis, fine, with buds, each	2	6
KALMIA LATIFOLIA, large plants, each 1s. 6d., or per doz.	15	0
PÆONIES, Glazenwood hybrid Chinese varieties, very choice and strong, per dozen	6	0

Also, the following selections of Choice Plants, from our General Collection.

HARDY FLOWERING SHRUBS, 20 new and fine vars.	12	0
GREENHOUSE PLANTS, 50 choice varieties	50	0
,, 25 vars., 28s.; 12 vars.	15	0
HARDY HERBACEOUS PLANTS, 160 select and showy vars.	50	0
,, 50 vars, 20s.; 25 vars.	17	6
HARDY ROCK PLANTS, 25 fine vars., 12s.; 12 vars.	7	6
ANTIRRHINUMS, 12 fine showy varieties	6	0
DOUBLE SWEET-WILLIAM, 12 distinct varieties	6	0
CARNATIONS AND PICOTEES, 12 pair superb show vars.	20	0
STANDARD ROSES, 12 beautiful varieties ..	20	0
DWARF ROSES, 12 ditto ditto	9	0
DWARF PERPETUAL-BLOOMING ROSES, 12 fine vars.	12	0
CLIMBING ROSES, 12 fine vars., strong ..	9	0
GOOSEBERRIES, 20 finest named prize varieties ..	15	0
,, 12 ditto, 9s.; fine named, per doz.	4	6
RHUBARB, Mitchell's Royal Albert, each ..	2	6
,, Myatt's Victoria, 1s. each; per dozen ..	9	0
,, Tobolsk and Rarford's Giant, per dozen ..	5	0

Goods sent to compensate for long carriage. Remittances requested from unknown correspondents. Post office orders payable to BASS and BROWN, or STEPHEN BROWN, Seed and Horticultural Establishment, Sudbury, Suffolk.

AMERICAN NURSERY, BAGSHOT, SURREY.

Near the Farnborough Station, on the South Western Railway.

JOHN WATERER begs to state that he is prepared to execute orders for the following Splendid Hardy RHODODENDRONS. Good strong bushy plants, the colours of which consist of clear and spotted Whites, Scarlet, deep Rose, Dark Purple, Rose-edged, &c., from 30s. to 42s. per dozen.

Album elegans	Nealii	Lyonense
,, speciosum	Pallucidum	Victoria regina
Atrorubrum purpureum	Perspicuum	Multimaculatum
	Pictum	Guttatum
Catawbiense bicolor	Purpureum elegans	Hyacinthæflorum
,, flora pleno	Cœlestinum	Formosum
,, splendens	Bellonum	Glennyanum
Campanulatum	Roseum elegans	Gloriosum
Candentissimum	,, album	Macranthum
Cyaneum	Leopardii	Marginatum
Delicatissimum	Variabile	Maculatum novum
Eburneum	Splendidum	Mirandum
Everestianum	Russellianum	Maculosum
Nivaticum		

Standard Rhododendrons, 7s. 6d., 15s., and 21s. each and upwards.

Azaleas, good mixed sorts, 18s. to 21s. per dozen. The very best kinds in cultivation, 24s. to 30s. per dozen.

Kalmia latifolia, handsome bushy plants, 1 to 1½ foot, 5l. per 100. Larger ditto, 1s. 6d. to 2s. 6d. each. Fine specimens for lawns, 10s. 6d. to 63s. each.

To the above, J. W. invites particular attention, and being the largest grower of American plants, has induced him to offer them at the low prices quoted. Also the following, for GAME PRESERVES.

RHODODENDRON PONTICUM, the very best Evergreen for cover, being free from attacks of hares and rabbits. Bushy healthy plants, 10s 6d. per 100. Larger ditto, 15s to 21s. p. 100.

BERBERIS AQUIFOLIUM, bushy, 50s. per 1000. Larger ditto, 60s. per 1000.

COMMON LAURELS, good bushy stuff, 10s. per 100. Larger 15s. to 25s. per 100. Very large, 4 to 6 feet.

PRIVET EVERGREEN, 8s. to 12s. 6d. per 100.

CEDARS OF LEBANON, 3 to 5 feet, very bushy and handsome, very suitable for avenues, 3s. 6d., to 5s., and 7s. 6d. each.

CHESTNUT, Spanish,	2	to	3 feet	31s. 6d.	per 1000.
,, ,,	3		4	42 0	,,
BIRCH	2		3	25 0	,,
,,	3		4	30 0	,,
ALDER	2		2½	21 0	,,
ASH	3		5	30 0	,,
BEECH	2		3	30 0	,,
HAZEL	2		3	27 6	,,
OAK, English	2		3	30 0	,,
POPLAR, Black	5		6	42 0	,,
WITHY, Strong				16s. to 21 0	,,

Planting to any extent done by contract.

J. W. begs to observe that all plants sent out by him are well rooted. Catalogues forwarded upon application.

TALL WELL-FURNISHED EVERGREENS WITH FOREST AND ORNAMENTAL TREES, FOR IMMEDIATE EFFECT.

J. J. FOSTER, of the Edgware Nurseries, having a fine crop of the above frequently trans., not to be grown on his own premises, but in parts there to be found with good roots of earth, is enabled to supply them at very moderate rates. He has recently purchased a quantity of Spruce and Scotch Firs, Irish Yews, Silver Firs, Portugal, and common Laurels, &c. &c. The collection also includes Limes, Planes, Horse Chestnuts, Elms, Beech and Horse Chestnuts, Larch, Laburnums, Acacias, Pears, Weeping Ash, Privet for screening purposes, as well as Catalogues of the Stock of Fruit Trees, Roses, &c.

MASSINGTON'S PEARMAIN.

JAMES CAMERON, NURSERYMAN, Uckfield, Sussex, begs to inform his friends and the public that he is now ready to send out trees of that most excellent APPLE, named by Dr. LINDLEY, "Massington's Pearmain," a seedling reared at Uckfield, and hitherto confined to the locality. It is a most excellent dessert Apple, with a rich, juicy, and aromatic flavour, superior in every respect to the famous Pippin, and will keep even to the end of May. It has been pronounced by Dr. LINDLEY, in the *Gardeners' Chronicle* of April 1848, Plants of this Apple can be obtained (with Massington's name on each), by application as above, or to Messrs. Gray, Adams and Hogg, Nurserymen, Bromley, Kent; or, Paul, Waltham, London.

Remittances expected from unknown correspondents.

IMPORTANT TO CUCUMBER GROWERS.

EDWARD TILEY begs to inform the Nobility, Gentry, and such as wish to have a continual supply the whole of the winter, that he has a fine stock of plants useful in raising a large crop of the most approved CUCUMBER. "Lord Keeper's Favourite," or the Ever Free Bearer, much superior to the old Syon House. It forms an abundant crop, and grows to a large size. It is a very handsome appearance on the table, and keeps to one general size from the stem to the point. The flesh is good, and eats very crisp. Two plants in a pit 6 feet long will supply a family the whole of the winter, as they never cast and never shrink off. E. T. has always had a supply in heat from 60° to 70°, and it can be grown in frames, or against the rafters of the house. Upwards having been frequently seen for obtaining the above Cucumber true, E. T. begs to state that any party sending may depend on having so, as it was this season in consequence of the parties attention to it this season. Single plants 1s. each, or 6d. GORDON'S FINE WHITE SPINE CUCUMBER, warranted true, will bear out the full character given of it by Loudon in the *Gardeners' Chronicle* of June, 1848, obtained direct from Mr. Gordon in 1846. Packets of 12 seeds, 1s. 6d. The trade supplied with this Cucumber, by the pint.

VICTORY OF LATH CUCUMBER. Many specimens of this Cucumber, being so well known as a first Prize Cucumber for exhibitions for the last four years, is now sent out in packets, containing 12 seeds, 1s., or a packet each of the three varieties, 2s.—The trade supplied as can be supplied, if required, in packets of one dozen, 1s. 6d.

A remittance must accompany the order, either in cash or penny postage stamps to the amount.

Sold at EDWARD TILEY'S General Seed Shop, 16, Pulteney Bridge, Bath.

KITCHEN GARDEN SEEDS.—No. 1.—A complete collection, consisting of all sorts of the best kinds of PEAS, inclusive of Fairbeard's Champion of England, Early Surprise, British Queen, Partridge's Eclipse, &c., and all other Seeds in proportion, of the newest and best sorts, sufficient for one year's cropping of a large garden, the choicest Melons and Cucumbers inclusive £3 3 0

No. 2.—Complete collection in smaller quantities, equally choice sorts 2 2 0

No. 3.—Ditto 1 1 0

No. 4.—Ditto. This is sufficient for a gentleman's small garden 10 6

No extra charge for packing; carriage paid to London.

If there should be any sorts of Seeds that are not to be wanted in the collection, increased quantities of those most desired would be sent. All orders to be accompanied by a remittance, or a reference from unknown correspondents.

W. J. EFFS can, with pleasure, refer to some of the most respectable families in England, Ireland, and Scotland, who are in the habit of purchasing the above collection every year.

A Central Catalogue of British and Foreign Seeds may be had on application; also a Trade List of Seeds.

Fine trained Peaches and Nectarines, 2s. 6d. to 5s. each.

WILLIAM JAMES EFFS, Maidstone.

SEEDS.—CORNER OF HALF-MOON STREET.

THOMAS GIBBS AND CO.,

(By official Appointment the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND,")

Beg to remind the Members of the Society, and Agriculturists in general, that their only retailing House and Seed Warehouse is at the corner of HALF-MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

Priced Lists of Agricultural Seeds are always ready, and may be had on application.

BAKER'S PHEASANTRY, Beaufort-street, King's-road, Chelsea, by special appointment to her Majesty and H.R.H. Prince Albert.—ORNAMENTAL WATER FOWL, consisting of black and white swans, Egyptian Geese, Canada, bernacle, brent, and laughing geese, summer ducks, pintail, widgeon, summer and winter teal, golden, fallow, shoveler, gadwaved and dun divers, tufted ducks, &c., dunlins tufted and pinnated grebes, Spanish, Chinese Chili, Malay, Poland, Surrey, and other rare Indian fowls, and common poultry, and pure China pigs, and all kinds of Pheasants, Guinea-pheasants, Grouse, and hares.

FLOWER POTS AND GARDEN SEATS.

JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Rydeburn.

KNAP HILL NURSERY, NEAR WOKING, SURREY.
TO GENTLEMEN ENGAGED IN PLANTING.

HOSEA WATERER offers the following very desirable plants.

CEDRUS DEODARA, fine plants from seed, 3 to 4 feet high, 84*s.* per doz.
,, ,, from 5 to 10 feet, 1 to 7 guineas each.
(These are magnificent plants.)
ARAUCARIA IMBRICATA, handsome plants, from 2½ to 3 feet 42*s.* each. A few very fine plants, from 3 to 6 feet, 3 to 10 guineas.
CRYPTOMERIA JAPONICA, from seed, 5 to 7 ft., 4 to 5 guis.
,, ,, 1½ foot, 84*s.* per doz.
TAXODIUM SEMPERVIRENS, good stout plants, 2 feet, 84*s.*
,, ,, 4 to 6 feet, 1 to 3 guineas each.
PINUS DOUGLASII, from seed, 1½ to 2 feet, 15*s.* each.
,, ,, 3 to 6 feet, 21*s.* to 63*s.*
,, MENZIESII, 3 to 5 feet, 42*s.* to 84*s.* per doz.
,, INSIGNIS, 1½ to 2 feet, 7*s.* 6*d.* each.
,, ,, a few very fine plants, from 5 to 7 feet, 2 to 5 guineas.
,, CEMBRA, 5 to 7 feet, 10*s.* to 15*s.* each.
,, ,, large and very handsome plants, 10 to 12 feet, 42*s.* each.
,, CANADENSIS, or Hemlock Spruce, 4 to 5 feet, 21*s.* per dozen.
,, ,, larger, 7 to 10 feet, 30*s.* to 60*s.* per dozen.
,, EXCELSA, 3 to 6 feet, 3*s.* 6*d.* to 10*s.* 6*d.* each.
,, FRAZERI, 3 to 5 feet, 30*s.* to 42*s.* per dozen.
,, MORINDA, or Smithiana, 2 to 4 ft., 2*s.* 6*d.* to 5*s.* each.
,, WEBBIANA, 2 to 4 feet, 10*s.* 6*d.* to 42*s.* each.
,, PINSAPO
,, CEPHALONICA
,, LAMBERTIANA
,, HARTWEGII
,, DOUGLASII
,, MACROCARPA
A few of the largest and most handsome plants in the trade. Prices will be given on application.
IRISH YEWS, 6 to 9 feet, 7*s.* 6*d* to 15*s.* each.
*** It often happens Irish Yews are injured or rendered unsightly from their tendency to divide in windy or snowy weather. The plants here offered are grown from one stem only, similar to those at Elvaston, which are the finest in the kingdom.
CEDARS OF LEBANON, 2 to 2½ feet, very bushy and handsome, 30*s* per dozen.
,, ,, 5 to 9 feet, 10*s.* 6*d.* to 42*s.* each.
(These are splendid plants.)
JUNIPERUS REPANDUS, 4 to 6 feet, 7*s.* 6*d* to 10*s* 6*d.* each.
,, ,, 8 to 10 feet, very handsome plants, 21*s.* to 42*s.* each.
,, CHINENSIS, 4 to 5 feet, 7*s.* 6*d.* to 10*s.* 6*d.* each.
,, ,, large handsome plants, 6 to 8 feet, 21*s.* to 31*s.* 6*d.* each.
,, IRISH UPRIGHT, 4 to 6 feet, 3*s.* 6*d.* to 10*s.* 6*d.*
,, ,, 7 to 9 feet, 15*s.* to 21*s.*
*** These two last-named Junipers ought to be planted by every one who has any place approaching a lawn.
THUJA WAREANA (the best variety of Siberian Arbor Vitæ), fine plants, 5 to 7 feet, 5*s.* to 7*s.* 6*d.* each.

The above are all growing in the open ground, are healthy and handsome specimens; they have never been in pots, and consequently are the more desirable.

HOSEA WATERER would also invite attention to his stock of large Spruce Firs, from 7 to 15 feet high; large Red Cedars, Phillyræas, green and variegated Hollies, Common Yews, 4 to 7 feet, fine Standard Weeping Limes, Weeping and Purple Beech, Standard Magnolias, Tulip Trees, &c., all of which are in a capital state for removing, and will be sold reasonably.

The Collection of AMERICAN PLANTS at the KNAP HILL NURSERY is well known as being the most extensive in this country; witness the beautiful Exhibition in the King's-road, Chelsea, every spring.

RHODODENDRONS, best hardy kinds, 30*s.* to 60*s.* per dozen.
,, fine hardy scarlets, large plants, 60*s.* per dozen.
AZALEAS, best varieties, from 18*s.* to 42*s.*
KALMIA LATIFOLIA, from 18*s.* to 84*s.*, for large plants, and upwards.
HARDY HEATHS, a first-rate collection of about 25 of the most beautiful and distinct kinds, good plants, at 63*s* p.100.
*** Hardy Heaths are not planted so generally as they deserve. Nothing can be more interesting and beautiful, and flowering as they for the most part do in the autumn, renders them still more valuable.

FOR PLANTING COVER, CARRIAGE DRIVES, &c.

RHODODENDRON PONTICUM, fine bushy plants, from 10*s.* 6*d.* to 21*s.* per 100.
BOX-LEAVED PRIVET (a new and very superior variety to the old Evergreen), 8*s* to 12*s.* 6*d.* per 100.
BERBERIS AQUIFOLIUM, bushy plants, 9 inches to 12, 50*s.* per 1000.
,, ditto, larger, 1½ to 2 feet, 7*s.* to 10*s.* per 100.
,, DULCIS, 1 to 1½ foot, 7*s.* to 10*s.* per 100.
,, ARISTATA, 1 to 1½ foot, 21*s.* per 100.
This last is an excellent plant for these purposes, and requires only to be better known to be more extensively planted.
ENGLISH JUNIPERS, 1 to 2 feet, 7*s* to 12*s.* 6*d.* per 100.
SWEET BRIARS, 8*s.* to 12*s.* 6*d.* per 100.
COMMON LAURELS, fine bushy plants, 10*s.* to 25*s.* per 100.
PORTUGAL LAURELS, 2 to 3 feet, 30*s* per 100.
QUICK, very strong, transplanted, 8*s.* to 10*s.* per 1000.
FRUIT TREES.—Dwarf trained Apples, Pears, Cherries, Plums, fine trees, 2*s.* 6*d.* to 3*s.* each.
Apricots, Peaches, Nectarines, fine trees, 3*s.* 6*d.* each.

Goods delivered free to London and to the Slough Station on the Great Western Railway. The Knap Hill Nursery is within an hour's ride of London, being near the Woking Station, South Western Railway.

It is particularly requested that letters intended for this Establishment may be addressed, HOSEA WATERER, Knap Hill Nursery, near Woking, Surrey.

CHRISTMAS PRESENTS.

YARMOUTH BLOATERS—GENUINE AND OF THE FINEST QUALITY.

Yarmouth has for centuries been justly celebrated for its well-known "Yarmouth Bloaters," the delicacy of which when obtained in their genuine state, requires no comment. Such an opportunity is now offered; and they can be forwarded to any part of the kingdom, or for exportation (on receipt of a post-office order) at 12*s.* per 100 package included; or in barrels, containing 250, for 28*s.*—All orders to be addressed to Mr. FREDERICK BROUGHTON YOUELL, Church-square, Great Yarmouth.

The above will keep in fine condition for six months.

THE ENSUING COLD WEATHER.

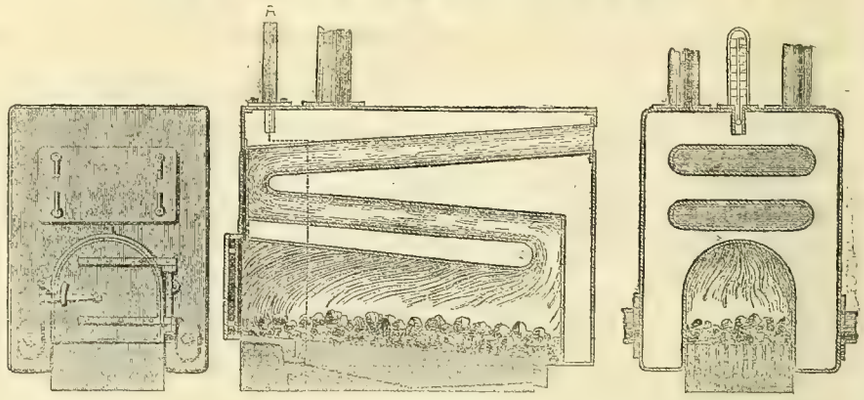
SELF-REGISTERING THERMOMETERS, of the very best construction, and not liable to get out of order. Large size, 1*l.* 1*s*; small size, 18*s.* Horizontal do. do., 10*s.* 6*d.* to 14*s.*; ditto for cold only, 4*s.* 6*d.* to 6*s* 6*d.* Thermometers for Greenhouses, warranted, 2*s.* each. Weather Glasses for Farmers, from 25*s.* each. Lactometers for showing the quality of milk with directions for using, 5*s* each; do., with 4 tubes, 7*s.* 6*d.*; 6 tubes, 10*s.* The above instruments can be sent into the country without fear of breakage.

HENRY BAKER, Optician, 90, Hatton-garden, London.

WILLIAM HILL'S
IMPROVED FLUE BOILER AND FURNACE,

FOR WARMING CHURCHES, CHAPELS, MUSEUMS, MANSIONS, MANUFACTORIES, HORTICULTURAL ERECTIONS, &c.

Registered pursuant to Act of Parliament, 6 and 7 Vic., c. 65.



FRONT ELEVATION. LONGITUDINAL SECTION. SECTION.

For Testimonials, &c., see *Gardeners' Chronicle* of November 4.

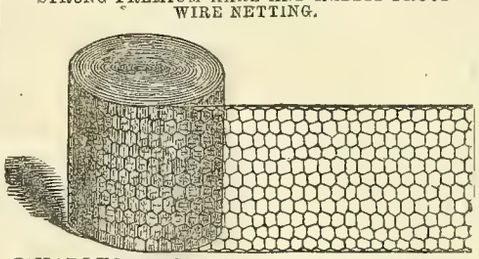
*** Communications addressed to W. HILL, Horticultural Works, Greenwich, will meet with prompt attention.

THE IMPROVED HYDRAULIC RAM, fixed by FREEMAN ROE, Fountain Maker, 70, Strand, London, can be worked by a small stream of half-an-inch, where a fall of 2 feet can be obtained. The same RAM, without the aid of a Tank or Cistern, arranged to throw a Jet of Water constituting a Fountain with the head of water beneath.

Engines for deep wells of all kinds, Douche and other Baths. Buildings heated by hot water. Water wheels to work small pumps, from 15*l.* Estimates given for the supply of towns, &c. A newly-invented Portable Vapour Bath, all complete for 4*l.*

LAND PROPRIETORS possessing Waste and Uncultivated Land, under the Enclosure Act or otherwise, and wishing to have the same Drained, Enclosed, Farmed, and Buildings Erected on well organised and economical plans, may do so by Contract or otherwise; also Drain Pipes, Brick-making, and every description of ground and water work performed, or the same superintended in England, Ireland, Scotland, or Wales. For further particulars address WM. HARRIS, Surveyor and Contractor, Almodington, Chichester, Sussex.

STRONG PREMIUM HARE AND RABBIT PROOF WIRE NETTING.



CHARLES D. YOUNG AND COMPANY (LATE W. AND C. YOUNG),
MANUFACTURERS OF IRON AND WIRE WORK, &c., CASTLE-BUILDINGS, DERBY-SQUARE, LIVERPOOL; 128, HIGH-STREET, EDINBURGH; and 32, ST. ENOCH SQUARE, GLASGOW, beg respectfully to call the attention of Landed Proprietors and others to their strong Wire-Net Fence, for excluding Hares and Rabbits from Gardens, young Plantations, Nurseries, &c.

This Net was exhibited at the Show of the Highland and Agricultural Society of Scotland, held lately at Inverness, where its Efficiency, Great Strength, and Exceeding Cheapness attracted general attention, and had awarded from the Judges the Society's Silver Medals, with high commendations.

The immense damage done by Hares and Rabbits in Gardens and Young Plantations is often so great, that in the course of a year or two it will amount to more than the entire cost of protecting them with this Net. It is so durable, that when Plantations are sufficiently advanced to be independent of its protection, it can be removed to other exposed situations with the greatest facility, by any labourer. As a Fence against Hares and Rabbits, it is of itself quite sufficient, having only to be unrolled and attached, with small wire sent for that purpose, to wooden stakes driven into the ground, about every six or seven feet apart. It is, besides, peculiarly adapted for rendering Hedges, Paling, or other existing Fences, *completely impervious* to such vermin; and by being cut up into small pieces of three or more feet, as required, it forms a most efficient guard, at little expense, for individual Plants and Shrubs.

PRICES.—18 ins. high, 9*d.*; 24 ins., 1*s.*; 30 ins., 1*s.* 3*d.*; and 36 ins., 1*s.* 6*d.* per lineal yard.

Or a web of 100 yards, 18 ins. wide, will cost	..	£3	15 0
Do. of 100 yards, 24 ins. wide	..	5	0 0
Do. of 100 yards, 30 ins. wide	..	6	5 0
Do. of 100 yards, 36 ins. wide	..	7	10 0

If more or less than a web is required, it would be charged at the same rate per yard.

This Netting is also admirably adapted for Pheasantries and Poultry-yards, and is charged at the same rate. As carriage has, in many instances, been an obstacle to parties at a distance requiring this Net, C. D. Y. and Co. have made arrangements by which they will undertake to deliver it at any of the principal ports of Scotland, England, and Ireland, for One Halfpenny per lineal yard.

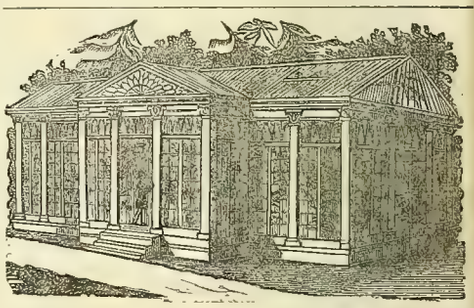
C. D. YOUNG and Co. cannot give a better idea of the great strength of their Premium Wire Netting than by stating that the weight of one yard of their 24-inch at 1*s.* is equal to 2½ yards of another article in the market, the same width, at 9*d.* per yard. Samples for inspection sent free of expense.

C. D. YOUNG & Co. manufacture every description of IRON and WIRE WORK required for this and foreign countries.

Workmen sent to all parts of Scotland, England, and Ireland.

POLMAISE HEATING.

J. LEWIS'S IMPROVED REGISTERED STOVES are delivered to the Railroads, with plans for fixing, at the following prices:—For a Greenhouse, 12 feet by 8, 4*l.* 10*s.*; 20 feet by 12, 6*l.* 10*s.*; 30 feet by 14, 8*l.* 10*s.*; 60 feet by 18, 10*l.* 10*s.* To be seen on the premises, Machine Hothouse Works, Stamford-hill, Middlesex.



GRAY, ORMSON, AND BROWN, Danvers-street, Chelsea, solicit the attention of the Nobility, Gentry, and Gardeners, to their superior manner of Erecting and Heating every description of Building connected with Horticulture. The work done by them at the Right Hon. the Earl of Kilmorey's, to which they have had the honour of referring so long, still continues to give perfect satisfaction. Mr. Kinghorn will be happy to show the work and give any information.

They also beg to refer to the houses built by them during the past season, for the Worshipful Apothecaries' Company of London, in their Botanic Garden at Chelsea. Mr. Moore, the Curator, will kindly show the work, and answer any enquiries. They beg also to say the building only is referred to, as the Heating Apparatus was not erected by them.

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N.B. Plans and Estimates furnished free.

METCALFE'S ALKALINE TOOTH-POWDER will be found to be the best that has yet been produced; it contains no acids, nor anything that can injure the finest enamel; it thoroughly removes the tartar and all impurities, produces that beautiful white appearance so much to be desired, and its fragrant perfume tends to sweeten and purify the breath. M. and Co., from the many years they have been celebrated as Tooth-brush Makers, have had opportunities (that occur to few) of testing the relative merits of those powders that have been brought before the public. They have now succeeded in procuring the receipt from which the above Powder is prepared, and confidently recommend its universal adoption. Wholesale and retail at METCALFE, BINGLEY, & Co.'s, Brush-makers to H.R.H. Prince Albert, 2*s.* per box. Caution.—The genuine powder will have the Royal Arms, combined with those of H.R.H. Prince Albert, on the lid of the box, and the signature and address of the firm, thus: "METCALFE, BINGLEY, and Co., 130 B., Oxford-street."

A PURE SHORT-HORN BULL FOR SALE.—"MAGNUS," by Mr. Kinder's Bull "Marquis" (8285); Dam, Brenda. Calved December 25, 1847. Brenda (by Van Amburgh 5543. Dam, Bessy by Helmsman, 2109) won the prize both at Bedford and Huntingdon, as the best two-year old Heifer. To be seen at Hill-side, Hunton-bridge, Herts, near the King's-Langley Station, North Western Railway.

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PAUL'S EVERY MAN'S FRIEND which gives relief on the first application. Paul's Every Man's Friend (Corn Plaister) is generally admitted to be the best emollient application for Corns and Bunions, and is worthy of a trial on the part of those who are afflicted with such unpleasant companions.

Prepared by John Fox, in boxes at 1*s.* 1½*d.*, or three small boxes in one for 2*s.* 9*d.*; and to be had, with full directions for use, of C. King, 34, Napier-street, Hoxton New-town, London; and all wholesale and retail Medicine Vendors in Town and Country. The genuine has the name of "JOHN FOX" on the Government Stamp. A 2*s.* 9*d.* box cures the most obdurate corns. Ask for "Paul's Every Man's Friend."

Sold also by Barclay and Sons, Farringdon-street; Edwards, 67, St. Paul's Church-yard; Butler and Harding, 4, Cheapside; Newbery, St. Paul's; Sutton, Bow Church-yard; Johnston, 68, Cornhill; Sanger, 150, Oxford-st.; Willoughby and Co., 61, Bishopsgate-st. Without; Fade, 39, Goswell-st.; Prout, 229, Strand; Hannay and Co., 63, Oxford-st.; retail by all respectable Chemists and Medicine Vendors in every town in England.

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TO PEAR GROWERS.

RENÉ LANGELIER, Clarendon Nursery, Saint Heliers, Jersey, begs to offer his splendid Collection of the above, and will ensure a succession of Pears for the table from July till May following, all table fruit, at very moderate charges; no baking fruit will be sent unless required. From long experience, and having a specimen tree of each sort in his experimental garden, R. L. will ensure every sort to be correct as represented, as well as the season of maturity, having never yet had a mistake in the sorts.

R. L. still recommends his BEURRE LEON LE CLERC and BLANC PERNE as two superior fruits, BEURRE DUHAUME, GROSSE CALEBASH, and LANGELIER'S BEURRE should be in every collection, as now the price is so moderate.

Steamers and sailing vessels to all parts of England.

A LADY of cheerful disposition, who has had much experience in private tuition, and has just quitted a family in which she resided 14 years, wishes to form another engagement, in which the duties of mental instruction will not be required. She would be happy to enter a family of which the Children, through bereavement, need MATERNAL CARE AND KINDNESS; and she feels sure that docile children would receive from her the tenderness and sympathy which such circumstances claim. Unexceptionable references will be given. Address, prepaid, N. J., Post-office, Turnham Green, London.

The Gardeners' Chronicle.

SATURDAY, DECEMBER 16, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

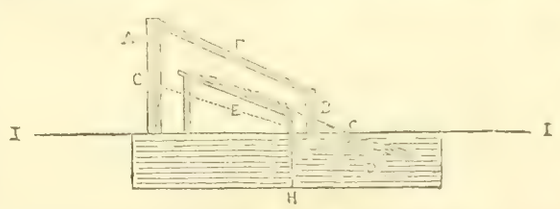
MONDAY,	Dec.	18	Chemical ..... 8 P.M. Pathological ..... 8 P.M. Medical ..... 8 P.M. Statistical ..... 8 P.M. Brit. h Architects ..... 8 P.M.
TUESDAY,	—	19	Linnean ..... 8 P.M.
WEDNESDAY,	—	20	Microscopical ..... 8 P.M. Society of Arts ..... 8 P.M. Electrical ..... 5 P.M. Numismatic ..... 7 P.M.
THURSDAY,	—	21	Antiquarian ..... 8 P.M. Royal ..... 8½ P.M.
TUESDAY,	—	26	Zoological ..... 9 P.M.

ALTHOUGH cheap GLASS has already proved of the greatest value to gardeners, it must nevertheless be confessed that the expectations of new applications of glass have not been fulfilled. Greenhouses continue to be constructed as greenhouses were before; indeed it would seem as if the invention of glazed sheds was the Alpha and Omega of horticultural ingenuity. Hand-glasses are just what hand-glasses were; the frames of 1848 are only the frames of 1798; in short the difference which cheap glass has hitherto produced in gardening consists in diminishing cost, not in improving contrivances.

We confess we had anticipated, as one of the earliest alterations in gardening, the adoption extensively of moveable sashes; by the agency of this contrivance, glass may be made to supply its advantages to every part of a garden without the necessity of covering the ground with buildings: thus, let us suppose that a gardener has at his command a few loose sashes; in the autumn he covers some earthen pits with them, shelters some half-hardy plants, forces his Violets and early spring flowers. Or, he covers his beds of Lettuces, Endive, or other tender vegetables until the danger of frosts is over; then he transfers his sashes to his fruit walls, securing their blossoms from frost, and saving his crop. They may next be used for a cover to his Vines, in order to give them a good start, and to gain a few weeks on our English seasons, which is all that is often necessary to secure a crop of ripe Grapes. The Vines having had a month's covering, there are plants bedded out, half-hardy annuals, and a hundred other subjects to which a glass screen is necessary in the early part of the summer. With the autumn come Peaches and Nectarines to ripen, Grapes again to cover in, and at last the sashes are once more transferred to their earthen pits or other winter purposes. What is here unskilfully and rapidly pointed out the experienced gardener will execute in a thousand other ways.

No one will deny the value of such aids as moveable sashes; the objection that is taken to them is their great expense. It is argued, that if glass is cheap, wood is dear; that carpenters' wages are a formidable item, and that in loose sashes there is a great risk of breakage. But in truth, these are difficulties which a child may overcome; glass will not break if it is thick enough, especially if the excellent patent rough plate is employed. Carpenters' work and timber lose their formidable appearance, as soon as ready-cut sash bars are obtained from the saw-mills, or when we dispense with the planing, rebating, morticing, &c., on which carpenter's labour is consumed. We have now before us a model of the manner in which moveable sashes can be constructed at a very inconsiderable expense; it is a rough-looking contrivance we admit, but it answers the purpose perfectly, which is all that a man of sense will care for. For this model we are indebted to Mr. RIVERS, of Sawbridgeworth, by whose carpenter it has been contrived for the purpose of carrying out Mr. BELLENDEN KER'S plan of facilitating the cultivation of the Peach and the Nectarine. This ingenious plan is thus described by Mr. KER, in the appendix to Mr. RIVERS' very useful little work called the "Miniature Fruit Garden."

"In the autumn I prepared a border from 50 to 60 feet long, drained, &c., as for a wall border for Peaches. In this the trees were planted in a slanting position, and trained to a trellis 12 feet wide, about 2 feet 6 inches from the ground at the back, and 1 foot at the front; strong Larch posts were inserted in the ground at the corners of the trellis, and other posts, smaller, at every 2 feet were inserted, at the back and front; to these posts was nailed a plate, 2½ inches by 2, and to this plate were nailed rafters every 5 feet, to receive the lights as in a hotbed frame, and these lights (5 feet wide and 12 feet long) were slightly fixed by screws to the plates, these are very roughly made, the wood not planed, and the bars of the lights were cut out at Mr. Montgomery's saw-mills, at Brentford, and the pieces cut out to form the rebates of the sash bars served for the bars of the trellis. The back posts are about 4 feet 6 inches in height from the ground, and the front about 3 feet; perhaps 5 feet and 3 feet 6 inches would be better, as giving more room to train the trees, which are from 1 foot to 15 inches from the glass. It would have been better if the ground under the trellis had been banked up, so as to let the earth be as near to the trellis as possible, that the trees might have received all the heat from the earth. The sides and back and front are entirely open, the current of air is complete, and there is room for the gardener to train, disbud, and syringe the trees without removing the lights. The advantage obtained is the entire protection of the blossoms from frosts and cold winds and rain, and an additional heat from the glass during the blooming season. About the beginning of June, when the fruit was well set and thinned, I removed the lights, stowing them away in a shed. I took them off thus early to prevent the chance of red spider. The wood being drawn, &c., after the fruit is off, I intend replacing the lights for the remainder of the autumn, in order to ensure the well ripening of the wood, thus obtaining, with no more trouble than with



A, back support to plate; B, front ditto; C, the tree planted in the border; D, the border, 6 feet, drained; E, the trellis, with the tree trained on it; F, the glass lights; G, dotted line shows the earth banked up under the trellis; I, I, the line of the ground.

wall training, indeed less, that which is imperfectly ensured by the latter; viz, the entire protection of the bloom, and the well ripening of the wood and fruit, even in a wet and cold autumn. This latter I propose to assist by laying on the border in front of the lights a strip of asphalte felt, to shoot off the heavy autumnal rains, thus preventing the continuance of the growth of the trees late in the season. During the very cold winds in the spring, a common net was hung in front of the trellis, to prevent, to a certain degree, the strong current of air passing between the glass and the blossoms. Not having planted my trees till very late, I was surprised to find I had a very fair crop of fruit this, the first season, and you saw that its quality was far better than that on the wall trees. Having taken off the lights early, and the trees having been planted too late, the fruit did not ripen before that on the wall; but next season I shall leave on the lights till the middle of June, and shall, during the heavy cold rains of spring, protect the border by the asphalte covering; and as the trees will blossom somewhat earlier than those on the wall, I consider that the fruit will ripen from 10 days to a fortnight before that on the wall trees; and this is important, as it is just the time of the year when fruit is scarcest, the forced Peaches and the general crop of Strawberries being over. You will observe, then, there is no more trouble in this plan than wall training; indeed, training on a trellis is less troublesome than nailing, and the insects which harbour in the wall are avoided on the trellis. Strawberries in pots, for forcing, may be stowed away during the winter, and late Endive planted, and thus be protected from wet and the severe frosts. The lights and woodwork are covered with ship varnish, instead of paint, which is much cheaper than paint, and equally durable; the glass (3*d.* a foot) 2 feet long and 1 foot wide; and the cost of the whole not half that of a wall 12 feet high. The lights and woodwork may be removed by an outgoing tenant, or the site of the border changed at will. I mean this autumn to adopt your suggestion, and grow some Peaches, Nectarines, and Figs as bushes; and these I propose to cover with a span glass roof, leaving the sides open, as in the structure I have described. As the whole cost consists in the glass and the rough framework, I consider that this plan may be well adapted for growing delicate kinds of Pears now grown on south walls, and also some of the more delicate kinds of Peaches, which hitherto it has been difficult to fruit in this country; and I consider that as regards the better kind of late Pears, which rarely ripen, they will have the same protection afforded by my plan, which will ensure the ripening of the crop even in bad seasons. I should be glad if you would suggest to me some kinds of fruit which it has hitherto been found difficult to fruit by reason of our climate, that I may try them under the glass this next year."

The advantage of this mode of treatment is thus described by Mr. RIVERS himself.

"I have only to add to the above, that I saw Mr. KER'S Peach trees towards the end of last August, and I find them although only planted the beginning of March, became a good crop of fine fruit of the usual size. The structure, of which I send a sketch, is one of the most simple description, being merely a row of Larch posts back and front, on which are iron plates and cross bars for the lights to rest on, having exactly the appearance of a large garden frame, without boards, sides, or front; under the lights the trees are trained, with a sharp slope upwards to the back; for unless the front of the trees is within 2 feet of the ground, it will be difficult to have them in a proper position: by this simple contrivance Peaches and Nectarines may be grown in any common garden, with another couple of bars, or a little boarding necessary to add that the lights should have to the south or south-west, so as to have all the sun possible."

Next week we shall have some further observations to make on this important subject, which, if we mistake not, has a very extensive application, and which seems likely to form the commencement of a new era in gardening.

SOME attention has lately been paid to the possibility of GRAFTING MONOCOTYLEDONOUS PLANTS, and, amongst others, experiments have been made on Grasses. The results, as stated in a paper in the "Annales des Sciences Naturelles," for Sept., 1846, are so curious, that, without at all pledging ourselves for their accuracy, we cannot resist the wish to call the attention of our readers to the subject. Much has been done to improve the produce of some of our cereal Grasses, but perhaps in general, Wheat, for instance, the bulk has been increased at the expense of the quality. The Polish Wheat, for instance, is extremely productive, but bakers are very shy of buying it on account of its coarseness; and those who are so unfortunate as to have their mouths filled with it, are sure to be loud in their complaints, as it imparts so little water, proverbially hard to digest. The great point is, to produce a combine increased bulk with quality, and it would be at least worth trying some experiments in this direction, similar to those which we proceed to notice.

Signor CALDESINI, of Milan, made the experiments in 1845. Having observed that Grasses have at each knot a short bud placed in the sheath of the leaf, which can be easily drawn out when the plant is young, he introduced some of these into plants of the same species, having previously removed their young shoots, and found that more than half of them succeeded. He then extended his operations to Grasses of different species, and succeeded in grafting Panic on Millet. The only difference observable in the grafted individuals was, that they ripened their seed somewhat later.

He then conceived the notion of improving the vigour of species by grafting delicate and tender varieties on robust stocks, more capable of contending against changes of temperature. Having observed the vigorous growth of Panicum Crus Galli in the Rice fields, he replaced the young shoot or bud of the Grass with that of Rice, and found the grains produced by the grafted plant much larger than those of ordinary spikes. These grains were then sown, and he had the pleasure of seeing them from the first sprout more vigorously, and in the sequel, quite free from the disease called *Nielure*, which is so frequent in newly turned up fields, while ordinary grain sown in the same soil was less productive, and the plants diseased. The difference, both in the height of the plants and in the produce, amounted to a third. The grains were of the same size in the two cases. He also observed that the new variety was less impatient of drought, and in consequence, expresses a hope that it may be possible to cultivate it where there is only sufficient water to keep the soil moist. *M. J. B.*

THAT the seeds of the HORSE CHESTNUT contain a large quantity of flour is well known; and attempts have been made to convert them into bread. But the Horse Chestnut is bitter and acrid, and in its natural state, unfit for human food. Our readers will therefore be glad to know that pure flour has been obtained from Horse Chestnuts by very simple means. M. FLANDIN, the discoverer of the process.

gives the following directions for its preparation. The Chestnuts are to be reduced to a pulp, to which an hundredth or even a fiftieth part by weight of carbonate of soda is to be added; the whole is then to be washed and strained. In this way samples of flour were obtained perfectly free from any bitter taste, white, and equal in every respect to Potato flour, which, there is some reason to believe, will to a great extent be superseded by that extracted from the hitherto comparatively useless Horse Chestnut.

THE MELLOCO.

It was with considerable interest that I read the extract of a letter from M. de Jonghe, of Brussels, on the Melloco (Ullucus tuberosus, Loz.), published in the *Gardeners' Chronicle* of the 4th of November last. Perhaps the following account of its introduction and cultivation in France will not be unacceptable to your readers. The plant was introduced into France last January by M. C. Ledos, of Lima, who sent some tubers to the Minister of Agriculture and Commerce, by whom they were distributed to a few individuals, of whom I was one.

The information sent respecting the tubers was very incomplete, and related almost entirely to their preservation, "which," according to M. Ledos, "cannot be effected for more than three or four months, in a dry fresh place. If the tubers are kept longer than that, the eyes begin to develope; their growth does not, however, affect the tuber's power of germination. When spring, the time at which the tubers ought to be planted, is arrived, the shoots are taken off, and they themselves serve very well for propagation. So long as the tuber is not completely dried, it remains fit for planting. After the shoots are removed the tubers are left in the sun for a few hours to dry."

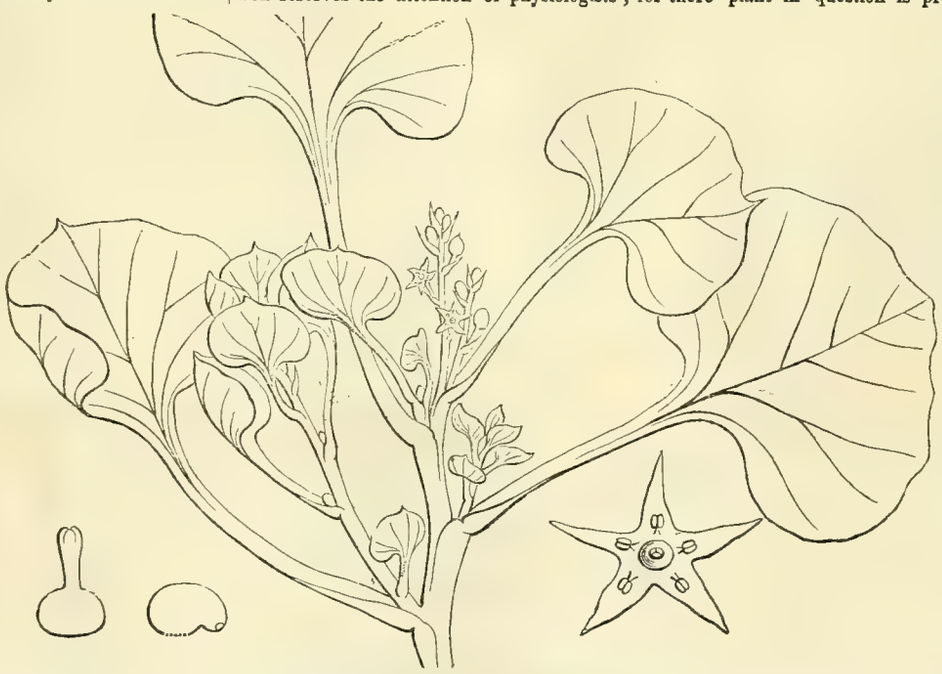
The tubers received by me were in a very advanced stage of vegetation; they were withered and exhausted by the long shoots which had grown during the voyage, and which were, in consequence of the moisture of the packing, themselves half rotten. Fearing that in this state they would not keep till the time for planting them in the open air arrived, I planted some under a pit-sash; this precaution was not necessary, for although I kept the best tubers for out-door planting, two only of these developed. Luckily the great facility with which this plant can be multiplied by cuttings enabled me to repair this loss, and at the beginning of May I had 40 good plants in vegetation.

The Melloco is half a runner; its shoots, without support, send out roots wherever the ground is touched; its leaves are thick and fleshy; from being large and spreading, they become erect and round like a shell, in the fully developed plant. The flowers, which are small and greenish, spring in spikes from the axil of the leaves.* The earliest flowers expanded in the beginning of June, but they did not set. The floral spikes which appeared during the summer months were always abortive; at the end of August and in September there was an abundance of flowers, all apparently well constructed. In my opinion the propagation by sowing (when the seeds are taken from plants already growing in the soil) is the best for inuring the plants to our climate, because in this case there is a chance of obtaining varieties modified by the new conditions of climate to which the sets (plantes mères) are exposed. I thought it very important to procure seeds of Melloco; but although I have several times tried to set the flowers by artificial means, I have never been able to obtain any seed, nor indeed any appearance of a ripe ovary.

The produce of the Melloco consists in its tubers, which, in their native country, attain a considerable size. They are yellow, very smooth, full of starch, and are developed on runners proceeding from the base of the stem, and tending to rise to the surface of the soil; the plant must therefore be pretty well earthed up.

In general my tubers did not begin to grow till the autumn rains had begun, so that they were still very small when the frosts set in. Some plants, however, under sashes produced tubers in April; but when planted out in May, although great care was taken not to disturb them, they did not continue to increase in size; they behaved like sets, shrinking and sending out new shoots. During the three summer months, vegetation was decidedly checked; this is to be attributed rather to heat† than to want of moisture, for those plants which were at this time well watered, produced plenty of leaves but no tubers. The return of a lower temperature was remarkable, on the contrary, for the rapid development of adventitious buds on the tubers;* and this effect was, I think, much more quickly perceptible on those plants which had suffered from drought than on the more vigorous ones which had been watered.

A little later in the season, and when the external atmosphere was damp, the stems presented another rather curious phenomenon; their extremities which, a few days before, had very short internodes, and leaves in whorls, suddenly lengthened; and becoming more slender, were at last transformed into a thread, bearing at long intervals small, nearly scale-shaped leaves; these threads, after running along the ground or over the neighbouring branches, with a manifest preference for dark places, entered the earth, where their extremities became tubers. They are, I am certain, direct prolongations of the stems, and not, so far as I could discover, axillary productions from the leaves at their extremities. This lengthening of the stem into a thread appears to me to be connected with moisture and a low temperature. It took place, in those plants which I had put in a cold pit, in the spring; but being less general it had not struck me so forcibly as it did in the autumn, when it took place on all the plants. In the spring plants, the first threads which were developed entered the earth and formed tubers, whilst those which appeared later, or which met any obstacle, again, under the influence of a higher temperature, gave birth to leaves regularly arranged; the internodes shortened, the stem assumed its natural size, and at the same time sought the light. I thus witnessed the curious phenomenon of stems undergoing two successive contractions and thickenings. This is certainly very interesting, and well deserves the attention of physiologists; for there is a great difference between the weakness produced by lowering the temperature and accompanied (in those parts, too, which still preserved their green colour) with a preference for darkness and that caused by the absence of light and joined (in the same parts, but then nearly always not green) with a powerful tendency to reach the light, as is seen in the shoots emitted by the tubers of the Potato and the Melloco.



We are not as yet, from any experiments of our own, able to judge of the nutritive qualities of the Melloco. The tubers that came from Peru were not very pleasant to the taste; they were flabby, semi-transparent, and evidently worn out by the numerous shoots that had grown during the voyage.† Some Potatoes which were sent along with the Melloco were so altered that it was clearly impossible to come to any conclusion from such samples.

As to the young tubers collected in 1848, the small specimens which I examined were too young to give anything more than a very imperfect idea of the value the plant is likely to acquire as an article of food. Their taste was tolerably pleasant; but (in consequence probably of their not being ripe) they were very watery. With the aid of a microscope I found that there was an abundance of starch in the cortical or outer zones of the young tubers, but less (and that finer) in their interior or medullary portion; the thickness of these two zones, measured from the circumference to the centre, is pretty nearly equal. The grains of starch are roundish, very smooth, rather large, and not unlike those of Oxalis crenata or Oca.

M. Masson, gardener of the Horticultural Society, recommends the leaves of the Melloco in the form of Spinach. I must say that, for my own part, I did not like it; but I ought to add, perhaps, that Basella, and in general all those plants which become viscid when cooked, are not to my taste. M. Masson succeeded much better than I in cultivating the Melloco; his plants were in summer not so strong and vigorous as my own, but when, on the first approach of frost, which was towards the end of October, I pulled my plants up, he covered his over with dry leaves, under which the tubers went on growing capitally; he showed me several weighing from 50 to 60 grammes. Notwithstanding this, the Melloco did not appear to me to be likely to become of much value in an agricultural point of view, at least with us; but I think it is worth keeping in our kitchen gardens, even if it is not at present of any great importance. The time may come when, in consequence of some change in temperature, different from that of this year, the fruit may ripen; in which case there will be a chance at least of raising plants from seed, which may be more valuable than the original ones; and even without that, experience may teach us how to bring about the first development of the tubers soon enough to enable them to attain a considerable size, and to ripen completely before the frosts set in.

From my own observations, a short account of which I have just given, I am inclined to think that the climate of England, or still better that of Ireland, would be more suitable for the Melloco than that of France; and that it is advisable to attempt to introduce the plant into your country. This attempt would be the more likely to succeed when the wonderful facility with which the plant in question is propagated is remembered; in illustration of this I may give you the following remarkable example. Having observed that some flowering branches, which I had destined for my herbarium, had produced under the press several small tubers, I gathered together the stems of some plants which I had pulled up 10 days or so before, and which had been lying on the ground ever since, and put them into a box between layers of dry straw. On opening the box at the end of a fortnight, I found the stems partly rotten, and that they had given birth to 500 or 600 small tubers, varying in size from a Pea to a Hazel nut; some of the stems had as many as 25 tubers distributed over their surface. From the green stems cuttings can be taken, which will strike at any season of the year in the open air. M. Masson considers cuttings formed by a shoot placed in the ground, and merely covered with a handful or two of earth, as the best mode that could be devised of multiplying this plant. I have every reason to believe that the Papalissa mentioned in Dr. Jameson's article is not the same thing as the Melloco or Olluco. I have in my hand five small tubers which I believe belong to the former species, and which were sent to our central agricultural society by M. Victor Paquet. They are very smooth, of a rosy colour, and with eyes rather sunk and differing entirely from those of the Melloco. They apparently belong to a Solanum. The number of tuberous plants afforded by the Corderillas of the Andes is rather curious, for besides the plant in question, there is found there, in a cultivated state (according to M. Boussingault), various other plants used for food, including the Maca, several varieties of Oca, and more whose names I have forgotten. *Louis Vilmorin, Paris, Dec. 7.*

NOTES OF A TRAVELLER.—No. I.

Caper Plant at Malta.—I observed the Caper bush growing in great abundance out of the crevices in the walls and ramparts on the island of Malta, where I spent two days in the end of June last. It was in full bloom at that time, and was really a handsome object; the long white stamens tinged with purple contrasted finely with the clear green foliage. Some friends who were wandering about over the island with me, sight-seeing, fell into the common error regarding the Capers of commerce, and stoutly argued that it was the seed of the plant which we eat at our tables; nor could I convince them to the contrary until I procured a branch with some unexpanded flower-buds upon it, and showed that these parts were what were gathered for use. It is a curious fact that Caper eaters generally suppose they are eating seeds instead of flowers, and it is sometimes hard to argue them out of that belief.

The fact of the Caper bush growing naturally out of the walls here may give a good hint as to its cultivation in the south of England, where it is nearly hardy. If it could be made to succeed in such places, its beauty would well repay any trouble or expense that might be

* Your figure, p. 685 (1847), is very correct, and gives a much better idea of the plant than the figure in the "Revue Horticole" for the 1st of November.

† From the middle of the summer I had foreseen this result, in consequence of some valuable information given me by M. Boussingault respecting the atmosphere and temperature of the table lands of the Andes. He advised me, at this time, when I attributed the abortion of the flowers to the coldness of our summers, not to raise the temperature of the medium in which my plants were, as I had intended doing, and it will be seen in the sequel that this advice was well founded.

* I see in M. Jonghe's letter (4th November) that he found under each stem, and attached to the roots, 6 or 8 tubers. This I think is a mistake. The tubers of Olluco appeared to me exactly like those of Potatoes, and like them to spring exclusively from the lower part of the stem. The figure accompanying M. Decaisne's article in the "Revue Horticole," in consequence of a mistake in the colouring, also seems to make the tubers spring from the root; but that was certainly not the artist's intention.

† The largest of these tubers were hollow in the inside, but this did not appear to be owing to any decay.

incurred. I may mention, in passing, for the amusement of your readers, a good pun that was made unintentionally, I believe, by a former governor of this island. Some of the people had been in the habit of gathering and using the Caper buds, much to the annoyance of the government, and it determined to put a stop to the practice. An order was therefore issued, which stated that "no one was allowed to cut Capers on the walls of Malta." *R. F.*

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

Fruit-Trees.—At this season, when flowers demand comparatively little attention, the time of the amateur is required by the fruit trees in his garden. Now that the year's growth is completed, and the foliage has fallen, the training of the tree should be attended to, in reference both to its bearing fruit and its future development. Former papers in the *Chronicle* have fully explained the general principles of pruning in reference to different trees, and we refer to them for that instruction which young gardeners may need. Everything of this kind should be done now, excepting the nailing of trees to walls, which physiologists say should be left as long as possible. Nature appears to confer benefits on trees by the constant motion of their branches in the wintry winds, and the process of nailing in, attended to early, deprives them of this. It has been thought that the tendency of wall trees to canker is to be attributed in part to the unnatural position they are fixed in. It is as well, therefore, to leave this part of gardening labour until the spring, unless the garden is very large, when, of course, work must be done when there is an opportunity. All pruning, however, may be got under at once. Espaliers and standards should be carefully trained, and kept in an orderly and elegant form. The latter are too much neglected in gardens. When young, standard trees receive supervision, but when they become older and more valuable they are slighted. The centres become filled with small spray, by which air and light are kept from a large portion of the tree. The knife should be used to clear this away, and also to remove all dead branches. Any time when there is no hard frost will be favourable for this work.

The quarters devoted to Gooseberries and Currants should now be dug, a good coating of well rotted manure being mixed with the soil as you proceed. The bushes should now be pruned, if you can adopt measures to scare away birds from the buds, otherwise you had better wait until February. If a bush is now cleared from all useless wood, facility is given for the entrance of the winged depredators, and you may find your trees quite destitute of buds in the spring. By leaving them unpruned, an entrance is in many cases prevented, and at all events you can regulate your pruning afterwards by the state of the buds. However, it is better to get the work done now, and take measures to keep the birds away during the winter. A mixture of cow-dung, soot, and lime, put on with a plasterer's brush, I have found effectual; I am not quite sure that white worsted is not equally potent to keep off the thieves. If your stock is not very large try both, and you will be sure of success. When the snow is on the ground keep a look out, and the occasional use of a gun will be beneficial.

In order to have a succession of young bearing trees of various kinds, the gardener should every year displace some old worn-out subject for one just entering on its prime. It is bad management to allow all the fruit trees of a garden to grow hoary together. Good gardeners are always shifting, and by this means they secure health and plenty. Raspberries, Currants, and Gooseberries allow of this treatment especially, since they so rapidly come to perfection. *H. B.*

INDIAN BREAD, OR TUCKAHOE.

A large tuberous body, sometimes many pounds in weight, white and firm within, or in old specimens rose-coloured, and covered with a coarse bark externally, is not unfrequently dug up in the southern parts of the United States, being known to the Indians by the name Tuckahoe, and used as an article of food where it is abundant. It has by some been considered as the root of some Phænogam, by others it has been described under the generic names of Lycoperdon and Pachyma as a fungus. A good account of it was published in the 12th volume of the "Linnean Transactions" by Dr. Macbride, of South Carolina. Two fine specimens have lately been communicated to me by the Rev. M. A. Curtis, of Society Hill, in the same State. A microscopic examination of these was not at all in favour of their being properly considered as belonging to the order fungi, whether regarded as perfectly developed individuals or mere conglomerations of mycelium, like that which produces in Amboyna the Lentinus Tuber regium, for I could make out no definite structure.

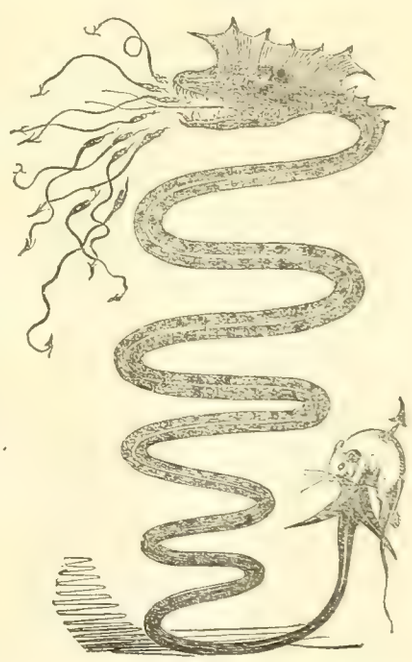
Dr. Macbride, who had an opportunity of examining numerous individuals on the spot where it is produced, assures me that it grows out of the living roots of various trees. It appears at first, he says, in most instances between the wood of the root and liber; but in some of the smaller specimens it can be seen only between the lamellæ of the outer bark. During its growth it detaches the bark from the roots, incorporating it with its coat, surrounding its ligneous portion, and gradually assimilating it with its own peculiar internal substance. This certainly should seem at first sight to indicate the nature of a fungus, notwithstanding the difficulties presented by the microscopic analysis. These, however, are increased by the additional information on the subject lately received from Mr. Curtis, and by the circumstance that the chemical properties are quite different from those of any fungus with which I am acquainted, as indeed appeared from the information on this point given by Dr. Macbride in 1817, when vegetable chemistry was scarcely in its infancy.

Mr. Curtis sent a portion of a Tuckahoe to Professor Ellet, of South Carolina College, for analysis, and received the following very interesting reply: "The Tuckahoe is an old acquaintance. Twenty years ago I examined a specimen of it from Virginia. Since my residence in the south I have repeatedly worked with Carolina specimens, and find them all identical in their nature. This plant is quite as curious in its chemical as in its botanical character. It consists entirely of pectic acid, or rather the pectine of Braconnot. It is quite insoluble in water, though it dissolves in alkaline solutions, forming neutral pectates, whence the pectic acid is separated, by the addition of muriatic acid, in the form of a colourless jelly. By particular management this jelly may be sweetened and flavoured so as to become an agreeable article for the dessert. The most interesting fact connected with this jelly is, that while it is without medicinal action on the animal economy, it is an excellent antidote to many of the most powerful mineral poisons."

In a letter dated April of the present year, Mr. Curtis gives it as his opinion that it is certainly not a fungus, while he completely confirms the account of Dr. Macbride as to its power of converting structures round which it grows into its own substance. He is inclined to believe that it is a purely chemical production, derived from the tree in whose roots it is developed, and he believes that it will be found in the greatest abundance in lands where the trees have been girdled preparatory to clearing. There are doubtless some difficulties in this view, but it is very possible that notwithstanding it may be a very close approximation to the truth. It is well known that pectine abounds in some vegetable substances, a circumstance from which we all profit in the various confections, such as Currant jelly, which appear at table; and it is very possible that some chemical change may take place under certain circumstances in the constituent particles of the sap of trees which may prepare a large reservoir of this substance such as is presented by the Tuckahoe.

It should be observed that the Tuckahoe is totally different from the native bread of Van Diemen's land, which is clearly very closely allied to the common Truffle, though specimens in perfect fructification have not yet been received. *M. J. B.*

VIPERS.



Behold—The use of a *mouth* and the use of a *tail!* *O. P. Q.*

Home Correspondence.

Pine Apples.—There seems to exist much diversity of opinion as to the temperature that Pines ought to be kept at during the winter months; but to keep Pines over the winter, and to fruit them in summer, is surely a different thing from being obliged, as many gardeners are, to have a good supply during early spring, which is the only time they are of any real value now-a-days, either for family consumption or market. I consider that a night temperature of 55°, or even 60°, as mentioned in your columns lately, would produce very sorry fruit in April or May. At Meudon, where such wonders have been effected in Pine production, by your correspondent's account, the gardener there takes the benefit of the summer months to fruit his plants, and of course any temperature above 40°, with no moisture, will suit in such a case during winter: but is your correspondent "G.," who frightens us with French eight pounders, not very like many of our fashionable countrymen, who fancy everything from the opposite side of the Channel is better than what can be produced on this side. It has been, I think, stated that the Meudon Pine apples were deficient in flavour. Could they have a worse fault? How, indeed, is it possible they can be rich in flavour when they are subjected to a steaming dung heap from beginning to end? It is, in my opinion, a great objection to the planting out system, that a fruit cannot be removed a few days before it is ripe to a drier atmosphere. *W. S., Cheshire.*

Warm and Dry Feet are a luxury few despise, and to none are they more acceptable than to gardeners, particularly during the present inclement season: they are moreover a cheap luxury which can be obtained decidedly economical by attending to the following simple directions: purchase a pair of gutta percha soles, a good but not too large for your boots or shoes, pare them down with a sharp knife until they are about half an inch larger at every side than the sole of the shoe from the shank or narrow part to the toe; put the parings into a covered saucer, or tart-pan, with some spots of turpentine, and place it over a saucepan of water (a double glue-pot with a cover would be a better contrivance), keep it boiling, and frequently stirring the mixture until thoroughly dissolved, make it of that consistency, that when cold, it shall be nearly as hard as the pure gutta percha. Have the soles of your shoes or boots as clean and dry as possible, and with a shoemaker's rasp tear up the surface until it is quite rough, and shows the clean grain of the leather; warm them well opposite the fire, and, with an oyster knife, spread on them an even coat of the cement; warm the gutta percha soles until it is thoroughly softened, and while in the state, bind the sole of the shoe for a short time to the fire, so as to melt the cement, and then apply the gutta percha soles to it, taking care not to enclose any bubbles of air between the soles. Catch the shoe in both hands, and with your thumbs, keep pressing and working the sole in its place, until it begins to get cold and hard, taking care to work it down quite thin "to bring it off to nothing" on the shank of the shoe. Pare off the superfluous gutta percha while soft, with a pair of scissors, and when quite cold and hard, which will be in about half an hour, trim them neatly with a sharp knife, bevelling the edge of the gutta percha, so as to make the sole look light and neat, and finish with the file: close in the heel with a piece of iron ground smooth on one side, and bevelled. If this latter be made of a piece of flat iron about ¾ inch by ⅜, thinned and slightly bent at the end, and the rounded side ground smooth, it will be found a most useful tool for stopping up holes or soldering on pieces of gutta percha to make good deficiencies, and for thinning the sole on the shank of the shoe; it may be made 7 or 8 inches long and fixed in a wooden handle. I have been thus particular in describing this simple operation, that any amateur workman, like myself, may be able to perform it in the best manner; those who try gutta percha will find in its use a comfort unattainable by leather soles. The cement, made as above, is vastly superior to that sold by the patentees, with it the sole is much less apt to loosen, and it has not the nauseous smell of the latter, which continues for days after it is used. *Cork.*

Potatoes for 1849.—Farmers should keep their small Potatoes for seed, and plant them whole. The only difference between planting a Potato weighing ½ oz. and one weighing 3 oz. is that the heavy one will be ripe 10 days before the light one; but with late Potatoes this would be a matter of but small importance. I have just cut a few late sorts into sets, and dusted them well with soot, to keep them from bleeding. The soot adheres to the wound, and affords a sure protection from wireworm and other insects. Potatoes for seed should be cut into sets, if that is preferred, in December, or when the Potato is dormant: for, when it begins to grow the nourishment is drawn towards the top of the tuber, and the lower eyes are left almost without a chance of starting. When the farmer opens his seed heaps in spring he finds their contents much grown. The Potatoes are picked over and cut into eyes, and in this way, between growth and bleeding, the tuber is drained of its vitality, and I have no doubt to this is to be ascribed the dry rot, curl, weakly growth, and no growth at all. Who has not observed that in spring the bottom end of the Potato becomes black when boiled, and so much so that cooks are obliged to cut the black portion off. This I think affords some reason why Potatoes (if the old barbarous course is pursued) should be cut when they are dormant, or before the sap has run, in order that every eye might have a chance of growing undisturbed by its neighbour. Next year, if cold and wet, I mean to select a row of Potatoes, for the sake of experiment, and stake and tie them up individually when they are about 15 inches high. I shall then take off all the bottom leaves for at least 9 inches from the ground, so as to allow the sun and air to dry up the superfluous moisture. This I am of opinion will help to ward off disease, for it has been observed that round the margins of fields, and along footpaths, the disease has not been so severe as in the centre of the field. This plan would, however, prove too expensive for general adoption: but when the haulm had grown to 15 or 18 inches long, the effect of stripping it of its foliage might be tried. I greened a few Potatoes and planted them in a border on the 1st of August. They grew very strong, and the haulm was 15 inches high when the frost cut it off. The Potatoes were very small, but without the slightest symptoms of disease either in stem or Potato, showing that the disease travels northwards at a certain time. *James Cuthill, Camberwell.*

Seakale.—The Seakale which is the production of my garden is of a very fine sort and excellent quality; but although it is in appearance (before it is boiled). white, it becomes when boiled a very dirty colour, which is not the case with the other vegetables. Can any of your readers supply a remedy? *Lector.*

Indian Coniferæ.—Do we possess in England any well-ascertained specimens of Picea Webbiana, as distinct from Picea Pindrow? Dr. Hofmeister, in his very interesting Travels and in his "Synopsis of Indian Coniferæ" (prepared for Baron Humboldt), points out marked differences between them. Picea Pindrow has long, flat, dark-green leaves, and very short branches, and rises to 200 feet in height. Picea Webbiana is characterised by short and very white leaves, and generally does not exceed 80 feet in height. The Indian names of P. Pindrow are Kooloo, Morin, or Morinda, and its leaves are described as 2 inches in length—shining dark green. All the specimens which I have ever seen of Picea spectabilis, or Picea Webbiana, agree much more nearly with Hofmeister's P. Pindrow than with his P. Webbiana; and I cannot but think it doubtful whether P. Webbiana exists in Europe, especially as it appears to be rare even in the Himalayas. Dr. H. repeatedly mentions with admiration a blue mountain Poppy. Have the seeds of this plant ever vegetated in Europe? It must be curious, as well as beautiful, being an example of a triple-colour suit—blue, red, and yellow in one genus. *J. R.* [We cannot answer these inquiries, and therefore commend them to our correspondents.]

Live Frog ejected by a Snake.—A snake was killed in the gardens here last summer; from its unusual size it attracted notice, and upon pressing its body a frog apparently dead was ejected from its mouth. The frog was much compressed, and covered with a greenish-yellow slime. After being exposed to the air for about a quarter of an hour, it regained its usual plump appearance, and hopped off. I am not aware how long the snake had it in its stomach; probably not long, as it was found swimming in a little pond, about which it had most likely seized its prey. *J. R.*

Gas Heating.—I have of late seen several references in your Paper to gas as a means of heating conservatories. A very intelligent whitesmith in this town has made for me a gas stove, which I have used occasionally for several weeks, from which leakage into the house is completely obviated, as is also the disagreeable burnt air smell which, with all other gas stoves which I have seen is so great a nuisance. He is now, I believe, taking out a patent for it, and I send this information to you for the benefit of such of your readers as live in places where gas can be procured, and are anxious to adopt it as a means of heating. *C. W., Hitchen.*

Gibraltar.—Fond of plants, flowers, &c., nothing in the short holiday travels I have made gives me more pleasure than the finding wild old cultivated acquaintances—the seeing growing in the open air the tenants of one's cold frame or greenhouse. I have spent a whole day often in Switzerland in hunting after Alpines, such as a new (to me) Saxifrage; and a bunch of Cyclamens has often added materially to the delight of the day. Circumstances this autumn led me to make a short trip to Spain and Portugal, and I started on my tour in one of the great Peninsular boats to Gibraltar. Quitting Southampton on a dreary, rainy day in the end of September, on the morning of the 6th day I landed at Gibraltar. If I had before received pleasure from the sight of new plants in such places as Switzerland and Italy, all this was far surpassed on landing. I seemed to have stepped from the cold, damp shores of the Southampton water into a tropical climate: hedges of Geranium in full bloom; Aloes, with their tall spikes of flowers shooting up against the blue sky, or against the brown rocks; the greenhouse Verbena, a real tree; hedges of the white, yellow, and pink Lantana; the great Cactus, some 20 feet high, loaded with its red and orange fruit; the walks shaded by the magnificent Bella sombre, and a newly introduced tree, with a narrow Acacia-like, shining, green leaf, weeping almost like the Willow, covered with hanging garlands of small pink-red berries. It is a South American plant. I dare say we have it in England. [Probably Schinus Molle.] The Alameda, banked on one side by the rock, on the other looking over the picturesque town towards the blue sea, the bay, the shipping, &c. The garden is well kept, as regards neatness; full of interesting plants, many of which were quite new to me; others, old friends, but in a state of grandeur and prosperity which made them hardly recognisable. The walks about the garden and along the town and the outsides are covered with beautiful Pines of different sorts. This Alameda and all the trees are mainly due to the late governor, Sir George Don. I do not know whether he was a relation of the botanist, but he had the right feeling of old Dumbiedikes; for whenever he had nothing to do, he dropped a Fir seed or an Acorn of some kind, and the barren rock flourishes green under his fostering. Of course everything might be better; all might be improved. Gibraltar is a garrison; and some quartermaster has the management of this garden; he has no knowledge, and adds nothing to the few plants already there. Some 10*l.* or 20*l.* well spent on trees and shrubs from our English collections, adapted to the climate, would add much to the interest of the garden, much to the harmless amusement of the inhabitants, nay, possibly even of the officers of the garrison. I cannot help thinking that the study of these would be a fitter employment than riding "fox hunting," in the Cork woods under a burning sun, in red coats, white cords, and top-boots, I will not say to the amusement of the Spaniards, for they do not laugh; they shrug up their shoulders and call them *locos* (madmen). There is not an absolute want of taste for these matters on the rock; M. Francia, one of the most eminent merchants at Gibraltar, has a beautiful garden and cottage on the road to San Roque, which he is filling with rare plants, to try which are best suited to the fine climate; and one cannot but hope that his own native rocks may reap the benefit of his enlightened pursuit, and that the Alameda Garden will soon have some of his duplicates. What would your untravelled readers say to a whole cottage side covered with Plumbago capensis, one sheet of light-blue bloom! To those who can stand the sea and who can pay the fare, if they are as fond of plants, &c, as I am, I cannot recommend a more delightful trip than six days from Southampton to Gibraltar (sometimes only five); thence a little trip to Ronda, or even Malaga, by the steamer, if there be no quarantine. From Gibraltar to Cadiz in 12 hours; from Cadiz to Seville, by the steamer daily, only 9 hours; return to Cadiz, thence to Lisbon by the steamer, 30 hours; from Lisbon to Cintra in the omnibus 2½ hours. Put aside all the beauties of Cintra (even to see a gigantic group of Cork trees covered half with yellow Vine, and the other half encumbered with the emerald green of the Hare's-foot Fern, clasping round every branch), there is pleasure enough to compensate for the troubles of the journey. From Lisbon home, taking a peep at Oporto, and landing for a few hours at Vigo (if there be no absurd quarantine). Why, the look into Vigo bay alone is worth the voyage. All this may be done without trouble or fatigue in five weeks. Though there is no fine collection of plants at Lisbon or Cintra, yet there is much to delight in the gardens, many of which are in the fine old French fashion, with box parterres of the most fantastic shapes; and till I was at Cintra I did not know either Guernsey Lilies or Belladonnas. What do you think of walks half a mile long bordered by these flowers, and blooming in a profusion one has hitherto seen only in a dream. I ought to mention the kind and hospitable Mr. Smith, the Peninsular agent, has a good collection of Geraniums at Gibraltar, but I understand they do not long retain their English excellence. I did not see them. *Dodman.*

Grapes.—Do you believe this? A gentleman in the neighbourhood of Oporto split a Vine shoot (white Grapes) very carefully down the middle, cutting the bud in half, and then split a corresponding shoot on a black Vine, and united them as in common grafting, and after many experiments succeeded in making the graft grow, and the produce of the Vine was white and black fruit on the same bunch, and on others variegated fruit. I am told cuttings from this Vine so grafted have fruited in England, and I am promised some to send to the meeting of the Horticultural Society. *Dodman.* [We entertain no doubt whatever about the possibility of this.]

Rain.—The following is an account of the rain which has fallen at this place, from December 1st, 1847, to November 30th, 1848. It very much exceeds the average of former years. Whittington is 310 feet above the level of the sea:

	Inches of Rain.		Inches of Rain.
December, 1847 ...	6 $\frac{5}{100}$	July	3.30
January, 1848	1. $\frac{21}{100}$	August	7.40
February	3.76½	September	3.17
March	3.0½	(3d quarter, 13.87.)	
(1st quarter, 7.98.)		October	5 25
April	2 72	November	1.99
May	1.84		
June	4.3	In one year	45 74
(2d quarter, 8.59.)			

The rain which fell at Whittington in the year 1844 was only 21. $\frac{99}{100}$ inches, which is not one-half that of the year from December 1st, 1847, to December 1st, 1848. *C. A. A. Lloyd, Whittington, near Oswestry.*

Pyrus nepalensis.—A tree in our garden has this year borne a fair crop of fruit, which, being in its raw state harsh and unpalatable, we took no further notice of than to send a few to our pig every day after dinner for his dessert, until one of the family

> "Vexed at the brute's alone possessing
> What ought to be a common blessing,"

suggested whether it would not be good when baked. The trial was accordingly made, and the result is most satisfactory, the quality being nearly equal, if not quite, to that of the Uvedale's St. Germain and other well-known baking Pears. *Halesleigh.*

Emigration, or a Word to Young Men out of Work.—Continually applied to, as I am, for assistance to obtain situations by young men (gardeners and garden-labourers) "full of blood and blue veins," to use a sailor's expression, I am often led to wonder how it is that they do not make up their minds to seek a home in another land, dependent upon and forming a part of the British empire. Since there is no employment for their capital (their labour) in this overcrowded isle of ours, what is it that deters them from emigration, from taking perhaps a painful step, but a safe one? Painful in leaving Old England, and tearing asunder the ties which bind them even more closely to its shores than love of country, but safe if they carry with them industry, frugality, and a determination, by present self-denial, to provide for the future. I consider that the great source of disappointment on the part of those dissatisfied, after taking this step, arises from the extravagant notions entertained before venturing upon it. Labour is the lot of man. I can answer from experience that neither in Canada, New South Wales, nor Van Dieman's Land, did I meet with roasted pigs running about with knives and forks sticking in them, and crying, "Come eat me;" but this I have met with, numbers of men whose industry, sobriety, and frugality, have earned for them an independence of the poor-house, which they would not have attained in England. I could write of the beauties of the lands I have mentioned—of noble rivers, lakes, and mountains—of lovely coves, fringed to the water's edge, and abounding with the best of fish, so that with a net or a hook, an axe, a spade, and a Potato, one large portion of the necessaries of life might be had in a jiffy. Or I might tell of mutton, which so many of our labourers hear of and see, but seldom face on their tables; of mutton, I say, boiled down by the whole carcase for the mere fat that can be extracted for the candle-makers in England, or sold at 1½*d.* to 1¾*d.* per lb. But writing on such things only leads astray. It is better to look at the stern reality, and say at once, that, in these lands, if you would thrive, you must live hard, work hard, aye, and perhaps die hard; but if you think this all too hard, why then you are not my sort for emigration; but, come, what is it that frightens you? Just look at that silly fellow yonder, with a parcel of ribbons flying from his hat about his ears like a horse at a country fair. He's just 'listed. He was afraid to emigrate; did'nt like going abroad to places he knew nothing about, "Mayhap he might be but a slave among outlandish people." Well, think you that he will stop in England? Will he not have to emigrate, and against his will, too? and ten to one but to the last places he would have chosen? And will he be his own master? Not a bit of it. He might have been after a few years, if he had acted for himself after emigrating, as he will soon be obliged to do by the will of others; and here is what I want young working men to see. If they will but resolutely make up their minds to do of their own accord what they have to do in situations under foremen or masters, their welfare is secure, and no thanks to anybody but to God and themselves. I am the last person to wish to lead others into circumstances I would avoid myself, but it pains me to have applications from young men for help to obtain that work which in other lands is so abundant. I may perhaps, if they will be acceptable, offer a few suggestions to such of your able-bodied work-seeking readers who are thinking of taking the step alluded to. I shall recommend no colony for their selection. All I wish to do is to offer a few suggestions for their adoption, respecting their conduct on board ship, &c. *Rough and Ready.* [Pray do.]

Tea Vinegar.—I have sent a bottle of Tea vinegar for your inspection. The following is as near as possible the recipe. The contents of the tea-pot were emptied every day into a large mug, and occasionally a very little hot water added. When about 6 to 8 quarts were collected, after straining from the leaves, it was put into a 9 gallon cask with 12 lbs. of sugar at 4*d.* a lb., and filled up with warm water; a little barm was added at the proper temperature of the liquid, and the cask kept in a warm place. The only drawback is the length of time it requires before it is quite ready for use, when made in a large quantity. It will be seen that the cost is very small, 4*s.* for 9 gallons. I conclude the following might be about a proper recipe:—To every quart of the infusion, which should be the apparent strength of a good cup of tea, add 1½ lbs. of sugar and 3 quarts of water; ferment, and keep in a warm place. The sample I send has been about five months made. The proper time so large a quantity requires before it is ready for use is about nine months. In a smaller quantity it is ready much earlier. I trust some of your subscribers will test the recipe. *H.* [This vinegar is not so good as may be made by boiling 1 lb. of treacle in a gallon of water, and placing it in a warm place with a little yeast, in order to make it ferment.]

How to obtain two crops of Potatoes in one year in South Spain.—The following extract from a letter, (dated Chiclana, Nov. 20, 1848), which I have recently received from an intelligent friend in the south of Spain, may, perhaps, prove interesting. "I this year tried the experiment whether I could not obtain two crops of Potatoes within the year. I had an excellent crop in June and in July; after manuring I planted the same ground again, and this morning I took up two stalks, for the purpose of seeing how things were. I drew up some very fine Potatoes, four weighed upwards of 1½ lb. Spanish. I shall be able to leave them in the ground for some time yet to get riper, as our principal frosts do not begin till about Christmas, and then I even doubt if they would reach the tuber. Of course I have had the means of irrigating, as we have no rain for nearly four months. I have not seen or heard anything of Potato disease here, from which I infer that the disease is in some way connected with the cold moisture of northern climates." *J. M. Winn, Truro, Dec. 7.*

Culture of the Pine-apple in the Open Air in South Spain.—The same friend who sent the foregoing, writes: "I am very anxious to succeed in efforts I have been making for the last two years to acclimatise the Pine-apple in Andalusia. This summer, one of those I brought with me from London (a Queen), planted in the garden in an open bed, threw out a sucker, which is thriving beautifully; the parent died, and I have hopes that Nature will modify the wants of the offspring to the climate, so as to enable it to produce fruit. I am satisfied that the Pine-apple is of the same family as a kind of Aloe, which they call here Pita, brought originally from America, and which is now planted on hedges as we plant thorns in England." *J. M. Winn, Truro, Dec. 7.* [This is a mistake.]

Skeleton Leaves.—What chemical or other process will enable one to destroy the soft fleshy part of a leaf so as to leave the fine woody fibre entire, this forming a beautiful piece of network; in fact, the skeleton of the leaf, such as we frequently pick up in a shrubbery after long exposure to weather? I have tried strong acids and alkalies without success. *J. F.*

Potato Culture.—The method I adopted this year with my Potatoes was to plant early with early kinds, so that they might be grown to their full size before the disease commenced. Immediately upon its making its appearance, I drew the whole of the stems out of the ground, leaving the Potatoes. My principal crop was Kemp's, a second early, and there is not one in 20 unsound. I took the same course with the earliest Ash-leaved Kidneys, Foxes, &c., and they were also quite sound. The Kemps, although fully grown, were not to say quite ripe; most of them are still in the ground, covered up with the plough, and are now excellent, and as mealy as a good Potato ought to be. Some are got up and stored, and remain quite sound; they were grown from my own seed for three years in the common way, on dung in ridges. Some Cups, or later sort, with which I was not quite so particular, knowing that they were not fully grown, are diseased, but not badly. The remnant of my sets of various kinds on which I left the tops for the sake of experiment were, like my neighbour's, two-thirds diseased. I am now so convinced that the disease can be overcome in this way that I have no fears for my crop next year. I planted early in spring, as Kemp's, or any other second early, come nearly to perfection before the disease makes its appearance, which was immediately after the first lightning we had on the island. They grow to a good size, and will keep until the new ones are ready. *Farmer, Kirk German, Douglas, Isle of Man.*

Societies.

Royal Physical.—A meeting of this Society took place in the University Hall, Edinburgh, on the evening of the 28th ult., when the names of R. Chambers and H. Miller, Esqs., were added to the roll. The evening was occupied by Mr. A. Bryson's "Remarks on Fossil Infusoria," illustrated by a microscopical exhibition of several of the most interesting species, fossil and recent. The Conceimodiscus, and other genera found in the different varieties of guano, were much admired. Mr. B. remarked that several species from the guano deposits, and those found in the stomachs of our native mollusca, were, as far as observation can go, identical. At the close of the public business, the election of office bearers for the session took place, when Sir J. G. Dalzell, Bart., Professor Fleming, and Dr. Greville, were elected Presidents. The Society then adjourned.

Reviews.

An Account of a Botanical Expedition into Wales in the Year 1639. By T. Johnson.

In our review of the new edition of the works of Johnson we promised to give one or more extracts. We accordingly take the present opportunity of redeeming our pledge. After some general observations on the utility of forming catalogues of plants, in which the author praises especially the labours of Caspar Bauhin, he proceeds:

"Mr. Paul Sone, a man of family much attached to scientific pursuits, and myself, purposed to make a botanical excursion into Wales, but as we had no knowledge of the language of the ancient Britons, we took as our companion and interpreter Edward Morgan, who was also fond of botany, agreeing to pay his expenses. Everything being arranged, having left London on the 22d July, 1639, we passed the night at Aylesbury, and on the following morning found many plants in the neighbouring fields, but none which I have not already recorded. Towards evening we arrived at Stratford-on-Avon. On the following morning Mr. Robert Lee came with some friends of high birth, and under his auspices we gladly visited his truly hospitable mansion at Bisley, which is remarkable for its magnificence and the beauty of its situation, and not unworthy of such a master. There we tarried two days, during which we received every possible attention. We were with difficulty allowed to depart, our host and friends most kindly accompanying us as far as Henley in Arden, and after many warm thanks we set off through Birmingham, the borough town of Vulcan, for Wolverhampton, where we found near the pound an undescribed Willow (Salix pentandra), with a broad, smooth, serrated, sweet-scented leaf. The following day, leaving Newport behind us, and tarrying a little at Shackerforth Mile, we observed Cranberries and the large marsh Dock growing in a boggy place, but from thence to Chester nothing occurred worthy of notice. At Chester, Dr. Walter Stonehouse, a man of great learning, both sacred and profane, was waiting for us, who had come thus far from York to meet us. The former night he had passed at Stockport, which is a sort of emporium to Chester, and having been badly treated at the inn left some satirical Latin lines in pencil appended to the wall of his bedchamber. Dr. Samuel Bispham, of Chester, received us very kindly, nor would he allow us to leave without spending a day with him, which we accordingly passed in examining the walls and neighbouring places, being entertained with a magnificent supper in the evening.

"Having left Chester we entered Flint, and arrived at Holywell, where we saw the fountain which is an object of veneration on account of the slaughter of St. Winifred, and amongst other plants adorning the neighbouring hills we found Erica vulgaris and Tormentil, both bearing white flowers; and having dined there, we proceeded the same evening to an inn at Ruthin. On pursuing our journey the next morning, six miles from thence we entered a vast cave called Ogo pendyd, on the side of Garth gogo, by a difficult and precipitous entrance, where we found the great Pearlwort.* At the eighth milestone, as we were about to pass the river at Abereonwey, the servant of Mr. T. Glynn informed us that his master was expecting us at a short distance; we therefore turned aside to Bodisdan, the abode of that high-born and hospitable gentleman, Mr. Robert Wynn, where we passed the remainder of the day and the following night. The next morning, having duly thanked our host, we tarried a short time at Conway, formerly celebrated for its walls and strong castle. Five miles from thence we arrived at two terrific passes, Pen-maen-bahen and Pen-maen-mawre, that is the less and greater promontory. Here vast and lofty rocks rising from the sea afford a narrow and treacherous road to the traveller, for on the one hand the stones from the rock were ready to fall upon us, and on the other the terrible sea under the vast precipice threaten destruction to the wanderer. The greater pass is about a mile long, which having traversed, we arrived first at Bangor, which is an episcopal see, and then at Carnarvon. We visited the castle, once strongly fortified, from which Edward II. took his name. Four miles from thence we visited the truly hospitable mansion of Mr. Thomas Glynn, Glynn-llivona, a most beautiful seat, amongst shady groves, by a stream gently murmuring over the rocks, with gardens adorned with various herbs and flowers, of which one of easy ascent affords a most striking prospect. On one side is the sea, with the isle of Anglesea before it, and in clear weather Ireland itself appearing in the distance; on the other are seen the loftiest mountains of our island, so that whichever way you turn something uncommon meets the view. That we might not be lost in sloth amidst these beauties, the following morning we visited the sea-shore, which is but a mile distant, where we found the Sea Convolvulus and Wormwood. The Roman soldiers had a camp on this very spot, of which the vestiges are clearly visible. Having left the shore, we spent the rest of the day in visiting the gardens, woods, and pastures.

"Early in the morning of August 3, we visited our British Alps. The highest of them is called Snowden by the English, Widhfa by the Welch. Not only the head was involved in clouds, but the whole mountain; we took therefore a lad as a guide, and having left our horses and outer garments, we commenced the ascent of the mountain. It was at first difficult, but soon it became a wide and gentle slope, with vast precipices on the left hand, and a steep cliff on the right, and thus having passed over three miles, we arrived at the very summit of the mountain, involved in dense clouds. The path is here extremely narrow, and the precipices on either side rough with crags, inspire the greatest horror, and the lakes, dark as Styx, of which the largest is called by the natives the abode of the devil. Being unable to proceed further, we sat down amongst the clouds, and having first set in order the plants collected amongst the perilous precipices, we partook of the refreshment which we had brought with us.† What struck us most was, finding the Sea Arrow-grass, Thrift, and Sea Campion, though there is perhaps some intimation of this in "Pene et Lobelii Adv."

"Having left the mountains, we returned, towards evening, to Glynn-llivona, where we quietly spent the day following. The next morning Mr. Glynn, with his relation Mr. Owen, conducted us towards Anglesea. Having passed the Menai Straits at Abermenai, we turned to the left, towards the southern promontory of the island, about two miles distant, which is called Llandhwin dwynwen. Mr. Kyffin, Dean of Bangor, resided here, who, in the reign of Richard III. carried on a secret correspondence with the Earl of Richmond, afterward Henry VII. There was no house near, but a sufficiently good harbour for a little vessel. Moveable sands occupy almost the whole tract. On rocks near the sea grew the small Sea Lavender and Samphire, and on the walls the Sea Fern. A great variety of Heartsease adorned the sterile plain, and plants of the lesser Centaury, about 2 inches high. And amongst the sand Euphorbia Paralias, and Sea Mat-weed (Arundo arenaria), of which the people of New Burgh make ropes and mats, which is their only trade. Having tarried a short time at New Burgh, we went to an inn at Beaumaris. The following day we were invited to a splendid dinner at the seat of that noble gentleman Mr. Buckley, scarce a mile from Beaumaris, which is called by the natives who there speak English, Bacon Hill. After dinner we mounted our horses and rode to the park, and a little promontory, opposite to which lies a small island. We collected there some beautiful seaweeds. On the farther part of the promontory grew Ladies' Traces and the narrow-leaved Everlasting Pea. When the object of our journey was known at Beaumaris, it was intimated to us that rare plants abounded nowhere more than about four miles from Bangor. Having determined to go there, we crossed over to Bangor early in the morning, and soon arrived at the rural hamlet Llanllechid. We had already gone three miles, but the celebrated mountain Carnedh Llewelyn was still as many miles distant. We therefore took a guide here, but the weather was so rainy that we made little progress; after we had arrived at the mountain, our guide led us about at the foot of the same, but could not be persuaded to go near the precipices, where the rarer plants are expected; for the hills clothed with common herbage, afford tolerable pasture to sheep and cattle. Our guide was frightened at the eagles which build there, for they are accustomed to fly at the faces of the cattle feeding there, which seem to frighten them, and cause them to fall. In consequence of the bad weather and the timidity of our guide, we got nothing worth note except some viviparous Grass (Festuca vivipara), and the Alpine [illegible] ([illegible]). We spent on our return the evening at Bangor, and next day revisited our host at Glynn-llivona. The next day after dinner we left his mansion with many thanks. After a [illegible] journey we spent the night at [illegible], and the next day arrived at Harlech, where we stopped, as it was the castle, [illegible], and [illegible]. The ancient castle, situated on a lofty rock, looks on the sea. The whole of this [illegible] is covered with the Great Sea Rush (Juncus [illegible]), and the broad-seeded Atriplex (Atriplex [illegible]). After dinner, seven miles from thence, we crossed the river of Barmouth in a boat, and found a pass rivalling that of Pen-maen-mawr, where we were exposed to a great storm, from which we took shelter in the nearest hamlet (Llangelynin). At the earliest dawn, weary of the place, though the tempest had not yet quite abated, we set off, and passing over a lofty mountain, we suffered much from the inclemency of the weather. The inhabitants call the mountain [illegible], but we called it [illegible]. After eight miles journey the weather improved, and after two more miles we arrived at the inn at Machynlleth very glad. The remainder of the day was spent in repairing our books and drying our garments. The inn was extremely good for the country, and having left we found nothing worthy of note till we arrived at Montgomery, where we were hospitably received by Edward Herbert Lord Cherbury, who has a castle here situated on a precipitous rock, adorned with [illegible] walks, as also with the adjacent woods and parks. From Montgomery we proceeded straight to the hamlet of [illegible], where we found on an alder-holt the [illegible], which grows there in abundance, and between [illegible] and Guarthlow, Senecio saracenicus. My friend George Bowles first observed these two rare plants growing there. Walter Stonehouse left us here, and returned to York by Shropshire. We proceeded on our journey by Ludlow, Leominster, Hereford, Gloucester, and Oxford, and at length arrived at London."

* We saw in the cave itself Polytrichum, the Golden Saxifrage (Chrysosplenium oppositifolium), Hartstongue, &c.; and on the rock, growing abundantly [illegible] and in a neighbouring spot a divided variety of Hartstongue.

† We found amongst the rarer species [illegible] annexed to the account of the excursion.

Garden Memoranda.

Whalley House near Manchester, the residence of Samuel Brooks, Esq.—Passing through the glass houses here, my attention was attracted by a magnificent plant of Clerodendron fallax, which measured 6 feet in height, 7 feet in diameter, and 21 feet in circumference, and exhibited about 30 racemes of brilliant scarlet blossoms. I have seen the finest specimens of this ornamental hothouse shrub shown at the great metropolitan exhibitions for nearly seven years back, as well as those at the most eminent private establishments, including the finest group of flowering plants (flowering during the current year) ever seen in the United Kingdom, but the plant now described as far surpassed the finest of those referred to as the most splendid specimens of Pelargoniums seen at the great Chiswick fetes do those which are observed in cottage windows. It presented a remarkable proof of the extent of growth, and amount of bloom, which may be obtained from plants under skilful treatment. I was informed by the gardener, Mr. [illegible], that the plant in question was one of two years' growth, and that its great size, uniformity, and profusion of blossom, were obtained in a pot 14 inches in diameter. *W. W.*

Miscellaneous.

The Potato Disease.—Another year has brought with it a recurrence of the Potato blight; and in the parish of [illegible] it has been much more destructive of the crop this year than in the preceding ones. In the first year of the scourge, I called your attention to a curious accidental matter at [illegible], in this parish, which was this: John [illegible], a pensioned mariner, planted in his garden eight Potatoes, which had been smeared with coal tar, accidentally. These were planted in the same bed with others, but at the extremity of the bed, where children and poultry had trampled the stems of the tarred Potatoes quite flat on the ground, and although these stems were so trampled down and broken, that some of them were connected only by the outer skin, yet they all carried their green leaves to maturity, whilst all the other sets in the same bed, and not so broken down, were withered by the blight. In consequence of this notification, both coal tar and Stockholm tar have been applied extensively to the Potatoes planted, but without success. It is evident, therefore, that tar was not the cause of the [illegible] Potatoes having escaped [illegible] to the circumstance of their stems being prostrate on

the ground. If such were the cause of these eight Potatoes having escaped the disease, it would be worth while the next season to try the experiment of the rolling stone. It has been proved that the trampling and breaking down the stalks cause no injury to the plant; but that by their being laid prostrate, it would appear that the blighting wind or atmosphere which affected those plants which were erect, did not affect the others beside them which were lying prostrate. The experiment of the rolling stone in the month of June will be worth the trial. It will not answer to cut off the stalks, for they are necessary to perfect the tubers. Were they cut down early, no tubers would be formed; and if cut down later, the growth of the tuber would be checked. Neither will it answer to pull off the blossom, because that would cause an exhaustion of the roots and plants, to force out more blossom. For all nature progresses to generate its kind by perfecting its seed. In thus addressing you once more on a subject confessedly of importance, and especially to the poor, whose wealth are the Potato and the pig, my object is to recommend the trial of the rolling stone. *Edward Hoblyn, Vicar of Mylor; in Cornwall Gazette, Nov.* 29.

Calendar of Operations.

(For the ensuing Week.)

CONSERVATORY AND GREENHOUSE.

The advantage of observing and maintaining strictly the niceties of order and judicious arrangement in the distribution of plants is not only repaid by the gratification rendered to the eye, but will be acknowledged by the improved health of the plants. As the practice is not unfrequent, the recommendation that a very limited amount of artificial assistance in temperature is required by the admitted occupants of the greenhouse, may not be inappropriate. In houses unfavourably situated in damp or shady situations, fires must be brought more frequently into requisition, not so much to increase the temperature as to allow of a constant and active circulation of air, to counteract the injurious effects of damp. Considerable injury is sometimes contributed to plants by the regular use of impure and unwholesome water: should any doubts exist, analysis should at once be resorted to, or, otherwise, rain-water substituted, which is naturally more suitable than any other for plants. The decay and removal of Chrysanthemums and other plants which share the protection of the conservatory merely during their blossoming period, will gradually give place to the forced flowers. The forcing pit for this purpose should be regularly filled from this period with Roses, Lilacs, Azaleas, &c. &c.

FRUIT FORCING.

Peach-houses.—It is extremely probable that the disposition to break, communicated by a previous season's forcing, will be still further promoted by the extremely mild weather which has lately prevailed. Whether forcing is intended or not, trees under such circumstances should not be left exposed. Wet cold soils are unsuitable to the habits of the Peach, and as unprotected borders during the winter, however made, must take that character, border coverings will be obviously suggested, and their importance admitted by all who care to think on the matter. All necessary arrangements effected, commence forcing by securing a day temperature of 45° to 48°, with a reduction at night of from 8° to 10°; an adherence to this principle should be observed throughout the season of forcing. If fermenting materials can conveniently be introduced into the Peach-house, it will be an advantage to have them, as a genial humidity will be produced, with a valuable and gentle warmth at the same time. *Vineries.*—The mild and sunny weather we have experienced lately has contributed greatly to advance the early Vines. The utmost care is requisite to preserve the newly evolved and fragile leaves and no less delicate branches from injury, easily produced by currents of cold air, excessive moisture condensing and producing drip, or limitation of heat at a moment when an advance is required. That amount of humidity allowed during the breaking period is by no means essential to the Vines at a more advanced stage. Prune Vines in late houses; an operation like that of removing the loose and exhausted bark, which is suggested by the habits and nature of the tree itself, may be safely practised; old Vines particularly are benefited by it; and, furthermore, increased facilities are given, by following the practice, to the application of the usual composition of sulphur, tobacco water, and soft soap, which it is necessary to apply to trees affected with the scale. *Pines.*—Starts at this season should be separated from the general stock; they require the stimuli of heat and nutriment, both of which should be secured constantly, especially while the Pine is in blossom; the least check at this critical period spoils the shape of the fruit. Uniformity of heat, both bottom and atmospheric, must be enjoined, to carry the general stock of fruiting plants safely through the winter. An abundant provision of manure for linings to the succession pits should be ensured. Beware of a high and close temperature. Should the weather continue mild, air may be freely given.

KITCHEN GARDEN AND ORCHARD.

Sprinkle wood ashes or lime over early Peas as they appear above ground; the weather that causes their appearance excites insects to activity. Set traps regularly for mice. Broccolies will be advanced by the recent mild weather; look over and select the most forward for protection against the return of frosty weather Continue to remove all dead and decaying leaves. Give air abundantly to protected Salads, should the weather continue fair and open. Pot Mint and Sorrel for forcing. Sow Radishes and small Salad in frames. Provide for a successional supply of Sealkale and Asparagus, in whatever way forcing is practised. Proceed with trenching. The examination of old, or the formation of new, drains, if required, should on no account be forgotten; the importance of this matter is not sufficiently estimated. Prune and nail wall trees; early attention to these important and tedious operations cannot be too earnestly recommended. Unless the weather is very favourable, planting deferred until this time had better be delayed until February.

FLORISTS' FLOWERS.

We find this season that Tulip roots are not quite safe, even when in the ground; ours have been most unmercifully attacked by mice, burrowing into the ground, and eating the bulbs. We never before experienced a similar visitation. The consequence was, that what are usually termed the "figure of four" traps were immediately put in requisition, and the destruction of the marauders was quick and certain. These traps are formed with a brick and three small pieces of wood, and for all garden purposes where the destruction of these sad pests is a desideratum, they are invaluable. Perhaps some of our readers may be in a similar position with ourselves, and of this we are sure, they cannot adopt a better plan for their extirpation. There appears just now to be a lull in floricultural operations, with the exception of "taking care." *Auriculas, Polyanthuses, Carnations, Pinks,* and *Pansies* are all in winter quarters, and only require the most ordinary attention to ensure their ultimate well doing. *Dahlias,* though most likely stored away, will require occasional attention; those placed under a greenhouse stage or similar situation will be safest, yet from the wet autumn and the sudden frosts just previous to their removal we fear that many will suffer. Now is a good time to lay in a store of turf, leaves, &c., for future use. All compost heaps should be well and frequently turned; and when opportunity serves, mend shades, glasses, paint flower sticks, cast lead pegs for layering Carnations, &c.; in fact, attend to all minutiæ, in order to ensure success.

COTTAGERS' GARDENS.

In mild dry weather the stores of Potatoes, Turnips, Carrots, &c., may be examined. This precaution is more especially necessary with the first-mentioned root, and those particularly which have been stored before the full effect of the disease was determined. It not unfrequently happens that failures or indifferent crops in small gardens is attributed to the deficiency of manure, while close at hand ditches are rendered inoperative by accumulations of matter which could be usefully applied for the purpose; but as this matter can seldom be carried on the land as it comes from the ditches, it should, by way of preparation, be stored in heaps, which might be turned over once or twice in the course of the winter, and mixed with lime rubbish or road scrapings, or any substance likely to render it less tenacious. Trim and repair hedges; a tall hedge is most objectionable by a small garden, on many accounts. Prune Vines, Raspberries, Gooseberries, and Currants, and plant the same; collect Rose stocks for budding; dress flower borders and dig in a little rotten manure; attend to drains and water-courses; allow of no settlements of water from rains near the cottage.

State of the weather near London, for the week ending Dec. 14, 1848, as observed at the Horticultural Garden, Chiswick.

Dec.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 8	12	30.015	29.775	57	48	52.5	S.W.	.01
Satur.. 9	13	30.253	30.140	57	34	45.0	S.W.	.00
Sun. .. 10	0	30.273	30.155	60	29	44.5	S.W.	.01
Mon. .. 11	15	30.170	30.038	60	38	49.0	S.W.	.00
Tues.. 12	16	30.184	30.097	55	37	46.0	S.W.	.00
Wed.. 13	17	30.029	29.978	58	34	46.0	S.	.14
Thurs. 14	18	29.831	29.762	52	40	46.0	S.	.00
Average		30.103	29.985	57.0	37.0	47.0		0.26

Dec. 8—Densely clouded; rain; overcast.
— 9—Fine; very fine; clear at night.
— 10—Clear and fine; warm and very fine; clear.
— 11—Foggy; cloudy and mild throughout.
— 12—Foggy; uniformly overcast; cloudy and mild.
— 13—Clear and exceedingly fine throughout.
— 14—Peculiar copper-coloured clouds, fleeting from south; rain.
Mean temperature of the week, 0.0 deg. above the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending Dec. 24, 1848.

Dec.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 17	46.4	28.0	37.2	12	0.37 in.	3	1	1	2	3	7	3	2
Mon. 18	45.0	27.0	36.2	9	0.34	2	5	1	1	3	5	5	1
Tues. 19	45.5	29.9	37.2	10	0.48	4	3	2	2	3	8	3	—
Wed. 20	44.9	27.5	36.2	9	0.76	1	6	—	2	8	9	1	1
Thurs. 21	44.0	26.9	35.4	7	0.50	1	5	1	1	2	7	3	3
Fri 22	46.0	27.0	36.5	12	0.7	2	3	1	1	2	6	5	2
Satur. 23	44.8	26.1	35.4	12	0.2	4	5	—	1	1	7	1	3

The highest temperature during the above period occurred on the 23d 1839, therm. 57 deg.; and the lowest on the 17th, 1846—therm. 15 deg.

Notices to Correspondents.

American Blight: *S H H W.* Naphtha will destroy this insect, but it is not well to apply it to young shoots. Water will not wet it, but will dislodge it by mechanical force, if well applied by means of a good engine.‖

Azaleas: *Marie.* Azaleas are apt to shed their leaves at this season. Cold and wet, if not the cause, tends to increase the evil.‡

Books: *Cantium* Curtis's "Botanical Magazine." There is a plant called the Sweet-scented Rhododendron; it is a cross between Rhododendron and Azalea.—*T H.* New editions of Loudon's "Encyclopædia of Gardening," and "Catalogue of Plants," are, we believe, in the press, and will be published soon ‡

Chemistry: *X Y.* You had better place yourself in communication with the College of Chemistry in London.

Chrysanthemums: *R D.* It is a general complaint this year that Chrysanthemums have not flowered well. Your mode of growing them is good. We should, however, prefer cuttings to suckers.‡

Draining Garden Ground: *W X.* If there is a fall the drains should be 5 feet deep, certainly not less than 4 feet. The width, whether 1 or 2 feet, is immaterial. Granite is a good material for forming a proper cavity at bottom, and then filling up with the smaller pieces. Heath laid over this will prevent the soil from mixing with the stones. We presume both materials mentioned are plentiful enough in your part of the country.‖

Fruit Trees: *Yew.* The Jefferson Plum will most likely suit your purpose, that of planting against a high wall with a north-east aspect ‖—*W H G.* Plan A, with deep drainage and subsoil trenching, without brick rubbish, is better than plan B.‖—*F J H.* In shewing signs of luxuriance your young trees planted last autumn are doing well. What the French say is true, "You must have wood before you can have fruit." Let them grow; but take care to regulate their growth in the ensuing summer. With regard to your young Peach trees, wash the gummed shoots with a brush and water in wet weather. If very bad, cut them out. Give the border no manure.‖—*X.* The following varieties of Pears will form a succession:—Citron des Carmes, Jargonelle, Jersey Gratioli, Williams' Bon Chrétien, Summer Franc Réal, Fondante d'Automne, Grey Doyenné, Seckel, Von Mons Léon le Clerc, Marie Louise, Louise Bonne of Jersey, Beurré Bosc, Althorp Crassane, Eyewood, Beurré Diel, Thompson's, Hacon's Incomparable, Winter Nelis, Glout Morceau, Passe Colmar, Knight's Monarch, Jean de Witte, Ne Plus Meuris, Easter Beurré, March Bergamot, Beurré Rance. The descriptive catalogue you mention can be procured by any bookseller.‖

Heating: *M D.* Your flues ought to heat your house. Is it not the fault of the furnace? The tank plan may answer, but we do not advise you to use a zinc pipe of any considerable diameter, the metal is too soft for the purpose. Your stove plants perhaps lose their leaves in consequence of the air being too dry. Evaporating pans placed on the flues would probably remedy the evil.

Ice: *Sub.* Consult the article on this subject published at page 812 of our last week's Paper.‡

Melons: *C H.* Pigeon dung is a good manure for these plants, but has nothing to do with the excellence of the fruit. Your Pines have evidently too much night-heat and not air enough. Short stiff Pines may be grown on the Hamiltonian system as well as any other. For the temperature to be observed, see the remarks on the Pines at Trentham, at p. 796. Prune your Roses in the spring when the buds begin to move. Aralia japonica is hardy, grows 7 or 8 feet high, and has greenish flowers.

Names of Plants: *Ignoramus.* Lamium maculatum, the spotted Dead Nettle, a very common plant; nearly as common as the weddings, to which delicate occasions you think it well suited. We should have imagined a Dead Nettle to be a plant of evil omen.

New Garden: *D J S.* Drain your land 4 feet deep at least, and all your difficulties will vanish; till that is done the money expended upon fresh soil, making flower-beds, and forming a kitchen garden, must be absolute loss. Drain your land thoroughly, and the Mosses, Lichens, and coarse rank herbage will disappear. Where the land is not already cropped, burn the top soil, as soon as the drainage is finished.

Potatoes: *Jackson's improved Ash-leaved Kidney Potato.* The specimens received were very good, considering the wet season; but they did not boil well. In the garden of the Horticultural Society the variety proves more productive than the old Ash-leaved, but not so floury. It evidently requires a dry soil.‖

Red Spider: *W C E.* We are endeavouring to ascertain, experimentally, what the precise action of sulphur and lime is in destroying this insect. As soon as we can satisfy ourselves we will mention the subject formally; in the meanwhile we may state that you are probably right in your conjecture.

Revalenta: *A Constant Reader.* Testimonials may be procured for anything. It is believed that it is nothing more than the seed of the common Lentil ground down. Keep your money for a better purpose.

Roses: *J W.* Hybrid Perpetual and Bourbon Roses budded in June may sometimes be bloomed the same autumn.‡

Skeleton Leaves: *R Y T.* Steep them for weeks in rain water in a warm place, freely exposed to air; when nearly ready, add a small quantity of muriatic acid to it. A great deal of care is however required in picking out, with needles, the parts of the leaves that are not rotted away.

Skirrett: *W Thomson.* Sow in March, thin, in a warm dry border, broadcast, raked in, or in drills 6 inches apart. They must be thinned afterwards to 6 inches each way. You may also plant them from slips at the same distance. They are not so good as Scorzonera.

Spring Flowers: *A Clergyman.* No annuals will answer your purpose except perhaps Nemophilas or Collinsias sown in autumn. Such plants as Christmas Roses, Aubrietias, Arabis, Primroses, Alyssum saxatile, Hepaticas, &c., will possibly suit you better.‡

Turf: *J W.* No doubt your ground is full of dead roots, from which the cobweb-like spawn proceeds. You should roll back the turf, dig out the dead roots, remove a foot of the soil altogether, and replace it by fresh soil, or by the same soil well burnt. Lime is useless as a remedy of itself, but you might mix some unslacked lime with the soil when it is replaced. We do not advise you to lime your turf generally, but if worms are troublesome, give them now and then a dose of lime water.

Vipers: *G W, Medicus.* We really can carry this matter no further; we have stated over and over again that we admit fully that those who testify to young vipers running into their parent's mouth are in many cases persons of the highest credit and worthy of all belief. That they think that they have seen what they speak of is undoubted, no sane person questions that; what is questioned is, whether they saw aright. For ourselves, we have no bias either way, but we must say that the inability or unwillingness to furnish the undeniable proof that has been called for, argues badly for the correctness of the observations in question.

Misc.: *E B.* From 3s. to 4s., depending on the underwood, certainly cut down your Alders so that they may form stools.‡—*Y G.* Address the gardener, Arundel Castle, Sussex.—*E P.* The box has been received.—*J P.* All seedsmen sell Savory; the others can only be procured in botanic gardens.—*Omega.* Apply to the Secretary. Nymphæa cærulea is a very pretty stove aquatic.—*G.* Any pump-maker will arrange the matter for you, and without his assistance nothing can be done. Use vulcanised India rubber hose.—*Inquirer, jun.* Kadsura japonica is not quite hardy, or at least such is the general belief; it is an evergreen.—*Faber.* Satin-wood is produced by Chloroxylon Swietenia in the East Indies.—*W C K.* You may strike Geraniums now in the way you mention; but much care is required to keep them from damping off at this season of the year. Had you not better wait till spring? You may put a hand-glass over them if you choose, but it should be taken off occasionally, to allow the leaves to dry. If you do not mind sacrificing next year's bloom, you may obtain two growths from your Camellias during the same season without injuring the plants. Introduce them into heat now.‡—*O P.* Scions of Roses and Daphnes may be taken off now or any time next month. Chrysanthemums next week. We know nothing of "Willison's Roses."‡—*S Stanton.* Sow your seeds of the Bread-fruit Tree in a bottom heat of 84°, placed between damp turfs, without water. Watch them, and when they have sprouted, pot them and place in a hothouse.

WHEAT SOWING.

THE LONDON MANURE COMPANY beg to offer as under:—

LONDON MANURE COMPANY'S CORN MANURE.

" " " URATE. [LIME.

" " " SUPER-PHOSPHATE OF

Peruvian Guano, direct from Importers' Stores—Pulverized and Agricultural Salt—Gypsum for Clover—Soda Ash for destroying Wireworm, and every other Artificial Manure.

The London Manure Company would call particular attention to their Corn Manure and Urate, the former containing a large amount of Ammonia, Phosphates, and Silicates, all so essential for corn crops, while the Urate is richer in Phosphates and other mineral substances required for roots.

Full particulars and prices forwarded on application.

EDWARD PURSER, Sec., 40, Bridge-street, Blackfriars.

WHEAT SOWING.

MARK FOTHERGILL, 201A, Upper Thames-street, London, offers the following MANURES for the Wheat crop, and warrants the quality to be genuine, viz.:

SUPERPHOSPHATE OF LIME (prepared from Bone only).

WHEAT MANURE (containing a large amount of Silicates, with rich Phosphates).

DRIED NIGHT-SOIL (obtained from a large public institution).

PERUVIAN GUANO (direct from import warehouse).

BRITISH GUANO (rich in all the Salts of Ammonia, Phosphates of Soda and Potash, &c., contained in the foregoing, at a considerably lower price).

Also, Soda Ash (Wireworm destroyer), Gypsum, Urate Nitrates Soda and Potash, Salt, Bone dust, and all other manures of known value.—Apply for prices current as above.

PERUVIAN AND BOLIVIAN GUANO ON SALE,

BY THE ONLY IMPORTERS,

ANTONY GIBBS AND SONS, LONDON;

WM. JOSEPH MYERS AND Co., LIVERPOOL;

And by their Agents,

GIBBS, BRIGHT, AND Co., LIVERPOOL and BRISTOL;

COTESWORTH, POWELL, AND PRYOR, LONDON.

To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.

S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

HOTHOUSES, & HEATING BY HOT WATER. BEST MATERIALS AND WORKMANSHIP, AT SMITH'S, GLEBE-PLACE, KING'S ROAD, CHELSEA, LONDON. ESTABLISHED TEN YEARS.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

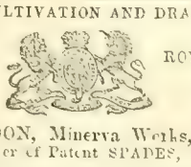
E. DENCH, Horticultural Manufactory, King's-road, Chelsea, offers for sale PATENT GALVANISED SHEET IRON HOTHOUSES, GREENHOUSES, CONSERVATORIES, &c. One principle being 12-inch Wood Rafters and Sashes laying on, completely covering all the Wood with Iron and Glass, requiring no Paint, and the Sashes Glazed with Putty or with Marine Glue. The other principle consisting in Iron and Glass alone, without wood or putty, and only ⅛ of an inch of the light taken up, and showing a smooth handsome surface—free from drip of any sort. Horticultural structures heated with hot water on the most approved methods.

MESSRS. NESBIT'S CHEMICAL AND AGRICULTURAL SCHOOL, 38, Kennington-lane, London.—A sound practical knowledge of Analytical and Agricultural Chemistry, Geology, Surveying, Levelling, Railway Engineering, &c., may be obtained in Messrs. NESBIT'S Academy, in addition to a good modern education.

Mr. NESBIT'S works on Arithmetic, Mensuration, Gauging, Land Surveying, English Parsing, &c., are published by LONGMAN and Co., and may be had of all Booksellers.

The terms of the School can be had on application either personally or by letter.

SPADE CULTIVATION AND DRAINING.

BY HER MAJESTY'S  ROYAL LETTERS PATENT.

W. A. LYNDON, Minerva Works, Birmingham, Manufacturer of Patent SPADES, SHOVELS, and DRAINING TOOLS.

To Nurserymen, Gardeners, and Agricultural Labourers, these Spades will be found invaluable, and calculated to lessen the labour of digging very materially; they are warranted to carry a knife edge which will neither break nor turn, wear perfectly bright on the surface, and last as long as three spades or shovels of the ordinary kind, and are now coming generally into use amongst the principal Nurserymen, Market-gardeners, and Agriculturists in the kingdom.

The Draining Tools gained two prizes at the Royal Agricultural Society's Meeting held at Northampton, 1847, since which time they have been awarded prizes and commendations from all the local societies where they have been exhibited.

Spurious imitations of these Tools are being made, called Improved and Cast Steel Spades, Shovels, &c., and labelled similar to the above. None are genuine unless bearing the name in full upon the strap and label.

Spades, Shovels, Draining Tools, Digging, Potato, Manure, and Hay Forks made to any pattern, and adapted for every description of soil.—To be had of all Ironmongers in the kingdom.

HEALTH OF TOWNS ACT.

SEWERAGE A SOURCE OF PECUNIARY PROFIT.

GOODE'S IRRIGATOR gives for the first time a marketable value to sewer liquor, of which it will apply a ton for less than one halfpenny, without it ever to the Land or any crop upon it. Also GOODE'S CATARACT, of a moderate size, waters 12,000 square yards of road in an hour for less than four pence. The Patentee will divide the profit of the use of his Cataract for three years with persons already under contract to water public roads.—Address, GEORGE GOODE, Esq., Nuneaton.—Agents wanted.

The Agricultural Gazette.

SATURDAY, DECEMBER 16, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

TUESDAY, Dec. 19—Agricultural Society of England.

THURSDAY, " 21—Agricultural Society of Ireland.

PENRITH CATTLE, Dec. 21 and 22.

THAT certain plants are so far peculiar to certain soils and climates, that they may be regarded as the natural produce, where others are raised with difficulty, if they can be cultivated at all, is an agricultural doctrine at least as old as the Georgics. It is a sound doctrine, though often perverted by the great doctors of the *fin niente* school of farming, where they argue from it that long experience has discovered the course of crops and the system of husbandry best adapted to each locality, and that improvement on them is impossible. Under a low standard of agriculture the object of the farmer is to collect the natural produce of the soil with the expenditure of as little labour as possible. Under a high standard, the cultivator does not grudge expense of labour and manure in order to obtain a proportionate increase of produce; and he studies to obtain this by cultivating crops congenial to the soil, by growing them in such order that its natural powers shall be turned to the best advantage; and by suffering nothing to grow upon his land but what he has placed there. Everything else he eradicates as weeds.

When, however, we talk of natural produce and of plants congenial to the soil, we must remember that, except on pasture land, the most common of our crops are either exotics or the creatures of cultivation, or both. Wheat and Barley came from nobody knows where. Who ever saw them wild far from the haunts of men? Our native flora makes no nearer approach to the Swedish Turnip than in the Brassica oleracea, a bitter sea-side plant, the attempted cultivation of which would be deemed strong evidence of lunacy in its cultivator. The field culture of Turnips and Mangold Wurzel was introduced from Germany. We have long been indebted to Belgium for Clover, and, more recently, for the White Carrot. Italian Rye-grass, Saintfoin, and Lucerne betray in their names their foreign origin. For good or for evil, the Potato was imported from South America, and, now that it has deserted us, we are searching the globe from China to Peru to find a substitute for this—to use the stock phrase—valuable escu ent.

It has become evident that Clover and Turnips recur too frequently in our most popular rotations. They are more liable to failure than when the soil was fresher to them, and the brightest honours of our Agricultural Associations would be awarded to him who should introduce other forage crops of equal value, which would allow of longer intervals between those of which our fields are becoming tired. We think, however, that the efforts of those engaged in this laudable undertaking are directed too exclusively to the acclimatising of exotics, and that among our native weeds are plants which might be cultivated with advantage. The plants of foreign origin which form our staple crops were either weeds in their native climate, or are monstrosities formed from weeds by cultivation. If the prize Swedes and Mangold Wurzel of our shows were placed beside the wild stock from which they were derived, it would puzzle the judges of the show to trace a relationship which the proud and pampered roots might blush to acknowledge. We propose occasionally to plead for similar nurture on the part of our true British weeds. In this attempt we rely on the support, not only of the men of progress, but of the stand-still class of farmers, of those whose reverence for established usages, local experience, and the wisdom of our ancestors, so frequently manifests its results in splendid crops of Docks, Thistles, and Charlock.—Of Ponts and Couch, varied with the variations of soil—for even weeds have their tastes—by Poppies, Corn Marigolds, and Ragwort. The successful cultivators of these modestly renounce all share of merit in the crops which they produce in such luxuriance; they give the whole credit of them to the soil. "They are," they say, "its natural produce: our land breeds them." Now, though we do not advocate the cultivation of such crops when the primary object is to grow Wheat or Turnips, yet if Docks and Thistles could be made directly or indirectly subservient to the use of man, we see no reason why even they should not be cultivated, or why Mustard should be seen at a forage or manure crop, while its fair cousin Cardoon is neglected. On the contrary, we should deem it the very perfection of agriculture thus to convert enemies into useful allies, and to avail ourselves of the property of the soil to produce them.

There are thousands and thousands of acres in England overrun with a plant of no mean use, the value of which as a forage crop is not hypothetical, but has been established by experience in the limited area to which its cultivation is confined. It is a perennial plant, it yields an abundant crop which calls upon the ground in the direction in which it is cultivated for a larger sum than the finest crop of Wheat. It requires no manure and no cultivation, except during the first year; it is not particular about soil, provided it can have a crop only—no matter whether of loam, sand, gravel, or rubbly rock, in which to strike its roots. That plant is Gorse—or, to use a more familiar name south of England, where we would urge its cultivation—Furze. If such a plant were imported from the Falkland Isles or the Cape of Good Hope, what a treasure it would be deemed! It covers our own wastes, and therefore it is despised! Unexplored, though the Royal Agricultural Society have set their seal to its value. In one number of their Journal they have told us, that in Ireland land not worth 2s. the acre yields a rent of more than 3*l.* as Gorse ground, applied to the feeding of young cattle. In another they have favoured us, on the authority of a prize essay, embodying the experience of a number of practical men in a Gorse growing district, of the best method of raising a crop of it, its money value on the ground—value to which, from our knowledge of the district, we can testify,—the cost of cutting and preparing it, the number of horses an acre of it will support through the winter, and its value as food for milch cows. They have given us also an analysis of its ashes, and have thus enabled us to estimate the quantity of alkalies of phosphoric and sulphuric acid of lime and magnesia, which an acre of Gorse is capable of extracting annually, by means of its deep striking roots, from depths inaccessible to most of our crops, and from soils in which these valuable ingredients exist only in homœopathic doses. They have thus shown what a powerful engine it furnishes for the improvement of the surface of better soils, more worthy of surface cultivation. And yet we have covered, notwithstanding all this, with industrial monsters of the Royal Agricultural Society, who hesitate to recommend its cultivation in Norfolk for fear of being laughed at. "Gorse," they say, "is all very well in Ireland and Wales, but it is only suited to the poor sides of mountains." Are there, then, we would ask, in Norfolk, no sandy wastes, no gravel banks, analogous to mountain sides, and as worthless in their present state? We could instance many such. But, putting that county out of the question, we shall, on a future occasion, point out an extensive district in the south of England, lying at present in a state of nature, large portions of which are as capable of improvement as the once poor soils of Norfolk, which have been so largely increased in value by claying and marling, and by artificial and animal manures. The resources of the district in clays and marls are as great as those of Norfolk, if not greater. Gorse flourishes on it in large quantities, without any culture, and in the greatest luxuriance, and only requires to be applied to the feeding of cattle to become the nursing power in improvement, and the means of generating organic manures, which are essential auxiliaries to improvement by claying and marling.

FACTS ON MANURE.

AGAIN I offer you a small contribution of facts to assist the development of agricultural knowledge, and to correct the conclusions of theory by practical results: for science is often baffled by the phenomena of cultivation, and much truth yet remains to be rescued from uncertainty. The laws of Nature, indeed, are uniform and constant, and if all their intricacies were accurately known to us, agriculture would almost become an exact science, and we could compel the earth to yield her treasures to the very utmost of her productive power; but many of them yet remain unexplored, and many are obscure, and so industrious theorists groping their way in the dark are apt to stumble over obstacles which they did not foresee, and the nature of which they do not understand. It is necessary, therefore, to question Nature closely by experiments, in order that Science may know what the difficulties are which she has yet to master; for upon her success in mastering them all our hopes of any great improvement in practice depend. I have, therefore, repeatedly investigated the efficacy of different manures, and the effects of different modes of cultivation. Of late manures applied to Grass land were tried and two succeeded; the two which failed were guano and sulphate of ammonia, the former in two instances, the latter in one, in which both were combined. I had the sulphate of ammonia

from two dealers. Croll's was very pure and crystallised, the other was much adulterated; for it contained 27 per cent. of earthy and inorganic matter. I did not carry the examination further, but it seems to have contained some ingredient of a deleterious nature; for in two instances the crop weighed less than it did on the adjoining ground where it was not applied; but in every other instance the effect was good, and there was an increase of hay to the amount of 1 or 2 cwt. per acre. This was not sufficient; but the season has been most favourable to the natural growth, which amounted to about 2 tons per acre. Better success, however, attended the two other applications of liquid manure and wood ashes; the liquid manure was of various sorts, and I proceed to show its effects.

	Weight of Hay per acre.		
	Tons.	cwt.	lbs.
On less favoured land, without manure... ...	1	13	50
Drainings from the farm-yard, 620 galls. and 50 lbs. sulphuric acid	1	15	53
Ditto from the house, 350 gals., 350 water, and 56 lbs. sulphuric acid	2	6	74
Ditto from the cow sheds, do. do. do.	2	10	0
Ditto from the stables at the house, do. do. do.	2	11	11
Ditto from the stables at the farm, do. do. do	2	13	64

It might be concluded from this table that the liquid manure had added more than a ton to the natural crop, but this only shows how difficult it is to arrive at the truth, which no ordinary precaution is sufficient to secure. The unmanured piece of ground which is there assumed for the purpose of comparison is on the same level, has the same subsoil, and apparently the same surface soil, and is separated by a small distance from the rest—but it is not contiguous; that which is immediately adjacent is from some difference of previous treatment, naturally richer, so that 2 tons 3 cwt. 44 lbs. is the produce with which the four last experiments have to be compared. Still the increase is sufficient to prove how little those farmers understand their true interests who neglect this valuable manure, which costs so little and returns so much. The other successful top-dressing was wood ashes, the facility of obtaining which must depend upon the extent to which a farmer has the misfortune of living in a country denuded of its wood; its great utility may be seen in the following results.

	Weight of Hay		
	Tons.	cwt.	lbs.
Where no ashes were applied, the produce was	1	18	57
With 160 bushels of ashes from the lime-kiln ...	2	6	74
With ... h shels of wood ashes	2	14	85

The difference between the two sorts consists in this; that the former is obtained from the less solid parts of the wood, the loppings of trees, which are bound together in bundles, for burning chalk into lime.

The experiments on corn relate to the influence of preceding crops, the effect of hoeing, the comparative merits of thick and thin seeding, and the action of certain chemical manures. The first experiment was tried on Wheat in one field and on Oats in another; in each case the natural soil was the same, and the same quantity of corn was sown by hand. The produce stands thus:

Wheat.	Straw per acre		Corn per acre.	
	Trusses.	lbs.	Bush.	galls.
Crop in 1846, Flax; in 1847, Carrots; sown Nov. 4	15	20	32	4
Crop in 1846, Barley; in 1847, Clover; sown Nov. 4.	91	4	43	6
Same crops, but sown Sept. 24. ..	91	4	45	0
Oats.				
After Mangold Wurzel	75	20	50	0
After Carrots	74	16	45	0
After Carrots, for which the soil was burned only	80	0	50	0
After Swedes, the soil burned, but not manured	78	32	55	0
After Swedes, the soil manured, but not burned	86	24	60	0

Hence, it is evident that burning the soil, while it is a permanent improvement, by rendering it more tractable, is in its immediate effect almost equivalent to an ordinary dressing of farm-yard manure, since, if the crop fell below the unburned by 5 bushels in one case, it exceeded it by the same amount in the other. Mangold Wurzel and Carrots are necessarily exhausting crops to the spot on which they grow, because they are drawn off the land, but they enable the farmer to make up the loss with interest. 2d. In two experiments to test the effects of hoeing Wheat, the produce of the hoed and unhoed was exactly equal in grain but not in straw; therefore the hoed yielded most in proportion to the straw, and the quality was better, for a bushel of the hand-hoed weighed half a pound, and of the horse-hoed a whole pound more than the unhoed. In a third experiment the result was still more decisive; for here the unhoed gave less straw and less corn in proportion to the straw, as may be seen in the annexed statement.

	Straw.		Corn.	
	Trusses.	lbs.	Bushels.	galls.
Australian Wheat, drilled but not hoed	62	8	33	6
Ditto, drilled and horse-hoed... ...	63	12	35	0
Ditto, drilled and hand-hoed... ...	64	16	35	0

Strange it is, that it should be necessary to confirm by evidence a truth so well known in horticulture as the advantage of stirring the soil about the roots of growing plants; but doubts have arisen in the mind of the agriculturist, partly from the injury sometimes inflicted by too broad a hoe upon the spreading fibres, and partly from the neglect of rolling the land afterwards, in order to bring the pulverised soil into more immediate contact with the mouths of the roots, and yet not exclude the beneficial access of air. 3d. The quantity of seed which produced 35 bushels in the last experiment was 7 pecks, and now the question arises—What would have been the effect of an increase or diminution of that quantity. The thick seeders would say it is not enough; the thin seeders would say it is too much. On which side lies the truth? Now, considering that two thirds of the specified amount is a high average produce this year on some of the best Wheat soils in this country, and that our chalks are not well adapted to Wheat, it might appear to be as good a crop as could reasonably be expected from the thickest sowing; and when I add that 4 pecks produced the same amount, the triumph of the thin seeders would seem to be complete; but let us see what is the fact, not asserted by conjecture, or the loose estimate of the eye, but proved by the evidence of weight and measure.

Quantity of Seed.	Straw.		Corn.		Weight of Bushel.
	Trusses	lbs.	Bush.	galls.	lbs.
4 pecks per acre dibbled in ...	84	16	35	0	58½
7 ditto Australian	78	32	35	0	60½
7 ditto Sussex Wheat	82	8	38	6	59
10 ditto	86	24	41	2	59½
10 ditto in another part of same field	88	32	42	4	59½

The weight throughout is bad; but one thing is clear, that in these instances at least increase of seed was rewarded by increase in the quantity of grain and improvement of its quality; and though in another case, by the aid of early sowing, a medium quantity of seed attained the maximum of produce in the foregoing experiments, yet even here the same law prevailed, and the same superiority crowns thick sowing, for

	Straw.		Corn.		Weight of Bushel.
	Trusses	lbs	Bush.	galls.	lbs.
6½ pecks sown September 24, produced	86	24	42	4	59½
10 ditto, sown at the same time	91	4	45	0	60

Since, however, there are some who contend that the quantity of seed may be and ought to be reduced to 2 pecks, I submit to their consideration, and to the consideration of those who might be tempted to take their advice, the following experiments. To obviate the objections which have been made to dibbling, in carrying out their system, I adopted a different method: A presser, passed over the ground when ready for the seed, formed seams 9 inches apart, in which the grains were dropped by hand, at intervals of about 3 inches (for absolute exactness is manifestly impossible), three at a time, two at a time, and one at a time.

September 24th.	Straw.		Corn.		Weight of Bushel.
	Trusses	lbs.	Bush.	galls	lbs.
3 grains at a time=5 pecks) produced ... ... }	77	28	35	0	59
2 grains=7½ gallons	75	20	32	4	59
1 grain = 4½ gallons	73	12	30	0	59

Although the season was most favourable to these trials, no plants being thrown out of the ground by frost, and insect enemies less numerous than usual, yet it is evident in this descending scale that the diminution of produce corresponds very exactly to the diminution of seed, "Thin by degrees and beautifully less." But, 4th, I thought it worth while to try whether the defect of insufficient seed might not be remedied by the application of certain chemical manures in the spring. I had found the combination of sulphate of ammonia with phosphate of potash most effectual on a small scale, and I wished to try it on a larger; but my instructions were misunderstood, and the materials were applied separately; nevertheless, even in that state they proved useful, as the subjoined statement serves to show:

	Straw.		Corn.		Weight of Bushel.
	Trusses	lbs.	Bush.	galls.	lbs.
4½ galls. without either manure	71	4	30	0	59½
Do., with 40 lbs. of phosphate of potash	72	8	31	2	59
Do., with 40 lbs. of sulphate of ammonia	73	12	31	2	59½
5½ galls. without either ...	72	8	33	0	59
Do., with 40 lbs. of phosphate of potash	72	8	37	4	59
Do., with 40 lbs. of sulphate of ammonia	73	12	38	6	59½
7½ galls. without either ...	73	12	35	0	58½
Do., with 40 lbs. of phosphate of potash	77	28	36	2	59
Do., with 40 lbs. of sulphate of ammonia	78	32	37	4	59
Do., with do. in another part.	81	4	40	0	59

It is possible, therefore, so to invigorate the constitution of plants by administering food convenient for them in a favourable season as to make the abundance of their produce compensate in some degree for the deficiency of their numbers; but then the seasons must be favourable and that we cannot command. The other experiments of the same nature to which I have alluded, but with the further object of ascertaining how many years successively the same land can be induced to yield nearly the same amount of Wheat with the aid of chemical manures alone, and without any assistance from the farm, have been tried again this year for the fifth time; but they have been frustrated by two causes, which it may not be uninstructive to explain. Last year the ground appropriated to them was overrun by the Convolvulus arvensis, which it was necessary, for the sake of the experiments, to eradicate; but if such a large mass of vegetable matter unequally distributed over the several plots of ground had been removed altogether, it would have falsified the conclusions which one year compared with another, or one manure compared with another would seem to authorise; the least objectionable way of meeting the difficulty was to burn upon each plot its own proper produce; accordingly the ground was deeply dug, and all the roots that could be collected were in that way destroyed; but still one evil was inevitable, some of the soil was calcined by the fires, and the vegetable food which had been elaborated from the earth by the vital activity of the weed was restored to it in a more soluble and useful form; the consequence was, that those parts which were most foul last year, and therefore most covered with ashes this year, had the advantage over those which had been more clean, and so it came to pass that those portions which had received no other manure than the steeping of the seeds produced more than those which were watered with a solution of the same salt, and those which had been left unhoed more than those which had been hoed; and this mischief was still further increased by the reappearance of the weed, which loaded the stems of the unhoed Wheat with its spiral embrace. But in the next place, the only produce from which any judgment can be formed of the relative value of either culture or manure was the straw; for the Wheat having grown to the height of nearly 6 feet was beaten down by a violent storm in July, and the grain during a month of rainy weather which occurred between the reaping and harvesting of the crop either sprouted or fell a prey to the birds; these observations upon the straw apply only to those portions where the sulphate of soda and phosphate of soda were tried. The muriate of ammonia and the nitrate of potash gave the results which might be expected; the whole crop very much exceeded that of last year, in the proportion of 874 to 613; and the tailing Wheat, a great part of which had been divided and transplanted in spring, to fill up the vacancies where it had not grown, gave a fuller crop than the good Wheat in the proportion of 161 to 134. I will only add that the combination of sulphate of ammonia with phosphate of potash confirms my former experience of its value, so far as the produce of straw can be trusted, and maintains its superiority over either ingredient used alone. *L. Vernon Harcourt.*

THE AVERAGE PRODUCE OF WHEAT.

"The average of the whole of England should be 60 bushels of Wheat per acre!" Such is the conclusion arrived at by Mr. Colman, as reported in his speech at Saffron Walden the other day. This gentleman holds a high agricultural station in the United States; he is about to return to his own country after a long absence, during which he has been studying European agriculture, and is now publishing a work upon the "Agriculture of Great Britain." I cannot but consider a statement such as the above very prejudicial to the real advancement of agriculture, and am at a loss to understand upon what grounds any person at all acquainted with practical agriculture could form such an opinion. Mr. Colman stated at the meeting that he knew farms in this country which did average 60 bushels per acre; now I am very doubtful whether there is any one in England bold enough to come forward and say that he can grow on an average of seasons 60 bushels of Wheat per acre on a considerable space of ground; but even if such an instance did occur upon a selected spot of ground, it would surely be rash to infer that the same crop could be obtained upon the inferior soils under cultivation. In an article which was published some time ago in this Paper, I stated that I thought it probable the soils of this country might produce an average of 30 to 40 bushels of Wheat per acre if fully supplied with those ingredients required for the growth of the crop, and that when less than this was obtained we might suspect a deficiency of manure, but that variations of season interfere too much to make a very much larger produce than this a matter of certainty.

The season just terminated affords a confirmation of my views, and a comparison between this and the preceding season will show how much the success of the farmer is dependent upon the influence of climate. There are, I have no doubt, plenty of agriculturists who, upon fields equally well manured, and in every respect cultivated in a similar manner, have obtained a crop of Wheat this year less by 15 and even 20 bushels of Wheat than they obtained last year. We can only attribute such differences, under equal conditions of cultivation, to variations in the seasons; and a comparison of the summer climate of the two seasons is quite sufficient to account for them. I have given below the mean temperature and rain for three months of these years, taken from the register of the Horticultural Gardens at Chiswick, to which I have added those of 1844, to show that years of great abundance must agree, to a certain extent, in the character of their climates.

Years.	April 22d to May 20th.			May 20th to June 17th			June 17th to July 15th		
	Mean Temp.	Inches of Rain.	No. of Days.	Mean Temp.	Inches of Rain.	No. of Days.	Mean Temp.	Inches of Rain.	No. of Days.
1844...	53.97	0.13	4	58.19	0.30	8	64.03	2.37	15
1847...	52.	1.22	18	59.23	0.76	11	62.44	0.79	13
1848...	53.60	0.42	8	58.85	2.68	12	61.55	1.68	16

I believe there is but little doubt that the Wheat crop both of 1844 and 1847 was much above an average; indeed in 1847 were grown some of the largest crops of Wheat which the soils of this country ever produced. Both these seasons agree in the small amount of rain which fell between the 20th of May and the 17th of June, and although that which fell between the 17th of June and 15th of July, in 1844, was much larger than in 1847, it was, nevertheless, connected with a much higher

mperature, as well as with extreme dryness during he two previous months. In the four weeks between he 20th of May and 17th of June of the present year, here was almost as much rain as fell in the 12 weeks f either of the other years. The temperature between he 17th of June and the 15th of July was also lower han in the two previous years; and although May was oth hot and dry, still dry weather at that time of the ear is of much less importance to the Wheat crop than t a later stage of its growth.

Comparatively dry weather, during certain stages of he growth of the Wheat, is an essential requisite for n abundant yield; and, in the absence of this, a very arge supply of manure in the soil diminishes rather han increases the produce. It is the opinion of some hat, by the supply of different ingredients to the soil, different parts of the plant may be increased or dimished at pleasure; that one substance will produce orn and another straw. My own experiments do not ead me to such a conclusion. The very same ingredients which, in a hot and dry season, have produced a ushel of Wheat weighing 63 lbs., and almost equal weights of straw and corn, have in a cold and wet season produced a bushel of Wheat weighing 56 lbs., nd twice as much straw as corn. It appeared to me ossible that the over production of straw which invaiably occurs when Wheat is grown upon a soil in the ighest condition in a cold and wet summer, might be arrested by feeding the crop by sheep until late in the pring; I therefore sowed a field of 10 acres with Wheat in September 1847, and between that period and the end of April I fed it bare four times. At the end of May the crop was very firm indeed, but the wind and rain which fell in June and July laid the greater part of the crop upon the ground; and, although I have not threshed the produce, I consider the experiment a complete failure. I confess I am at a loss to know how the inferior soils of England, with its unfavourable climate, can produce the crops of Wheat mentioned by Mr. Colman, even with an unlimited supply of manure. Although a great deal of land is farmed without sufficient capital, we have plenty of wealthy farmers who would be glad to lay out any amount of money in manure, provided they could obtain in return sufficient corn to pay for their investment. Experience, however, has proved that all attempts to grow corn beyond the amount which the climate permit of, must end in failure. I cannot therefore but think that the remarks of Mr. Colman are unwarrantable, and unsupported by facts and experience; and as such I must protest against them. *J. B. Lawes, Rothamsted.*

THE AGRICULTURAL RESEARCHES OF MR. LAWES.

THOSE of your readers who look for the advancement of agriculture through the means of scientific research, will have seen in the November number of the "Farmers' Magazine" an attack by a "Farmer" on Mr. Lawes' paper on Turnip culture, published in the "Royal Agricultural Society's Journal." Honest, impartial, good-tempered criticism can never injure the cause of truth, or wound the feelings of the earnest and right-minded enquirer; but it becomes the duty of all who are in any degree engaged in the laborious and at present comparatively thankless office of agricultural investigation, to protest in the strongest terms against the spirit of captious and illiberal argument displayed in the remarks in question.

It is with this feeling, and with the wish to express, however feebly, the high opinion entertained by myself (and I think I may add by all other men pursuing the same branch of science), of the agricultural experiments of Mr. Lawes, that I now venture to address a few observations to the readers of the *Agricultural Gazette*. I have no intention of entering into the merits of the question to which "T. L. C." has attached so much importance, that is to say, the necessity of a direct application of alkaline substances to the soil. To Mr. Lawes must be left the task of defending his own views, and, judging by the answer which the observations of "T. L. C." have called forth from that gentleman, in the December number of the "Farmers' Magazine," he does not appear to need another's advocacy. But I cannot refrain, in subordination to my chief object, from noticing one circumstance, which Mr. Lawes has, either in mercy to his opponent or in the abundance of other points of attack, apparently overlooked. I allude to the perpetuation of an error committed in the first instance by Mr. Moffatt, to whose name, in conjunction with those of Liebig, Gasparin, and other great writers, "T. L. C." attaches so great an authoritative weight. In justice to Mr. Moffatt, who may have made use of the data in question in a totally distinct light to that in which his less judicious eulogist has placed it, I should at once confess that I have not seen the original paper from which Mr. Moffatt's table was extracted. The table, as quoted by "T. L. C.," is intended to be a comparison of the mineral contents of an acre of soil of a fair crop of Turnips, of a dressing of farm-yard manure, and an ordinary dose of guano; the object of the compiler being, it is supposed, to show that a Turnip crop takes from the land ingredients which some soils are not capable of supplying, and that an average crop of Turnips from such soils without alkaline manures is not to be expected. Now, the point to which my objections are directed is the following: the 3d and 4th columns of the table would tend very fairly to show that farm-yard manure does, and guano does not, supply in the usual doses a sufficiency of alkaline substances for the growth of a Turnip crop, but the second column is totally unsatisfactory as a proof that these alkalies are deficient in any soil. It will be observed that ferruginous acid, chlorine, potash, and soda, Mr. Moffatt gives "*traces*," as the proportion in an acre of soil. Everyone at all acquainted with chemical analysis knows that the term, a "trace," as employed by the chemist, is merely a conventionality, and means to imply, in distinction to the total absence of any ingredient, that it exists in the substance under analysis in quantity sufficient for recognition, but too small for quantitative estimation by the available methods. But let a trace mean the smallest imaginable quantity, still does Mr. Moffatt, or his disciple, "T. L. C," mean to say that traces multiplied indefinitely will continue traces?

The acre of soil according to this table contains 1,357,139 lbs.; the quantity of alkaline substances required for the crop is stated at 147 lbs., and it may be well if we inquire what per centage of potash in the soil would be adequate to its supply. I have made this calculation, and find that a proportion of 0·01 would be equivalent to the quantity, that is to say 147 lbs. of potash needed by the Turnip crop, from whence it follows that 0·07 per cent. would give on an acre of soil no less than 1060 lbs. of potash, sufficient probably for all contingencies. For the benefit of the uninitiated it may be well to state that $\frac{1}{100}$ or even $\frac{1}{70}$ of a grain of potash, might be very properly designated by the chemist experienced in the analysis of soils, as a "trace," but it would be manifestly absurd to neglect such a quantity in arguments founded on the mineral constituents of an acre of soil. From a consideration of the mode in which soils are produced, and my own personal experience in their analysis, I should very much doubt the existence of any one soil so destitute of potash and soda as not to contain "traces" of these substances; and although I do not feel called upon to commit myself to all the opinions advanced by Mr. Lawes in his published papers, I willingly concede to them that weight and confidence which the intelligence and care bestowed upon the experiments so evidently justify. And this brings me to the main object of my communication, which is to convey to your readers the assurance that so far as my opportunities of judging may be supposed to reach, the experiments of Mr. Lawes, far from being looked upon as affording only "worthless scientific information," have the fullest confidence of men engaged in similar pursuits. In conducting these experiments, Mr. Lawes has had for the last five years the assistance of Dr. Gilbert, whose acquirements as a chemist are a sufficient guarantee of accuracy, whether as regards the field or laboratory results. And no unprejudiced person could believe either of these gentlemen capable of the meanness of perverting the results of their joint labours to an unworthy and mercenary purpose. If Mr. Lawes has misinterpreted the results of his experiments, and adopted opinions which shall prove to be incorrect, he will doubtless be the first to acknowledge his error; but it would become the individual who shall attempt this conversion to be armed with a clear conception of chemical laws and an array of pertinent facts, and to use the one and the other with a less partial and inimical spirit. *T. Thos. Way*, 25, *Hollies-st., London.*

Home Correspondence.

"*Metropolitan Farming won't do for us.*"—These words appeared in the Notices to Correspondents in this Paper, of some distant date. There is something very significant and pithy in them, seeing what a large share of theoretical husbandry abounds in the metropolis. At many public places of resort, hotels, clubs, &c., the farmer gets advice, predictions, and learned disquisitions from purveyors in general of his intellectual food. There are those who, making husbandry affairs their particular study, give a kind superintendence to the cares, the liabilities, and general interests of the gentle tiller of the soil; some will even mix up his manures for him, and the manner in which the provincial is led along with his calm indulgent swallow, almost makes it questionable whether metropolitan farming is not the right thing after all. And then let us look at the illustrated publications, their plates and vignettes appertaining to rural affairs: cattle of a variety not yet either bred at home, or imported from abroad; reaping hooks which no living being could ever cut corn with; impossible scythes; and other curious crosses in implements; a fellow killing a sheep under pretence of shearing it, and a thatcher beginning his work at the top of the barn-ridge! Why we "who have whistled at the plough," turn on our heels with laughter, and are ready to chaunt, to the old tune "We won't go home, &c." —"Here's Metropolitan Farming. *Da Capo.*" And pray what is that modern composition called "Tenant Right," but principally the essence of that luxuriant weed Metropolitan Farming? The promised and desired legislative enactment is an air-castle which, diorama fashion, is seen through a medium; the only difference being that instead of muslin or dimity, "lending enchantment to the view," "the lovely scene at distance" is "hailed" through a dense fog rising from the banks of the Thames. No; real tenant right is more like a scene in the open country, landlord and tenant face to face, a plain understanding, a short agreement, or a long lease, without any jumbled together protective Acts of Parliament, which are first of all incomprehensible, and if they could be carried would be utterly useless. In a word, a written abstract, but answering to the present, is Metropolitan Farming. *S. C.*

State of Parish Rates.—At a time when so many able-bodied labourers are compelled to seek refuge in our union houses for want of employment, it is worthy to look round and see whether there is not an opportunity of turning some of their labour with advantage. Look at the condition of our parish roads generally: instead of being rounded so as to shoot the water, the middle of many is hollow, in which the water stands in pools for days together, on every side preventing its escape. As compared to the district, I have improved a piece of road very recently, by removing the mud from the sides, putting and raising the earth on each side, and thereby giving a good bed to the road for at least the horses to tread on, which is frequently needed to keep them dry. Some expense, labour, and even much carriage and expense of stones or gravel; for, owing to the wet and muddy state which many of these roads were originally made, it is found that a large mass of the gravel is wasted in the sides, where it is not wanted, and where it is generally overgrown with grass or mud. If parishes would, to many good roads, round [illegible] and ditch, [illegible] are filled up with vegetable matter, and consequently unable to carry the water, so that it runs over and soaks into the middle of the road, causing it to [illegible], as the gravel has run into the ditches. [illegible] roads, as in all other things, is costly and [illegible] a stitch in time saves nine. In every respect, humanity and economics, a little more attention to these matters would be infinite gain. I find that breaking the largest stones is very convenient and profitable. *J. J. Mechi, Tiptree Hall, Kelvedon, Essex.*

Australian Agriculture.—In reference to the question of "Beta" under this head in page 819 number, as to the means of converting to a useful purpose a quantity of the carcases of sheep, from which the tallow has been extracted by boiling, I can give no opinion as to the feasibility of preserving the flesh for the purposes of human food. It strikes me, however, that it might possibly answer to export the boiled meat for use for manure. Supposing that the two which have been the cauldrons in which the animals have been boiled were fitted to heat, by hot-air flues, or hot-water pipes, the bottom, through which a current of dry heated air would be made to pass, escaping at the top, the cauldrons furnished with sieves along the inside and filled with the pieces of wool, upon which the carcases were laid and thus desiccated. When perfectly dry, the whole carcases, bones and all, might be ground, or crushed by a heavy rammer, and the produce then passed through a sieve to compass in bags or casks. Experience shows us that animals may be preserved perfectly sweet by being deprived of moisture, as in the case of bodies found entire in the dry sands of Africa. And meat is preserved for a long time in the shape of pemican in arctic America; dried herrings, [illegible] fish, &c., are also examples. The case of grease may be by solvent chambers may also be resorted. Supposing that by hydraulic pressure were applied to the boiled carcases, would they not exude an animal quantity of grease, and might they not be thus formed into cakes deprived of a considerable portion of their moisture, and [illegible] more readily dried before a fire? What might be the weight of such dried [illegible], I cannot state, but probably a highly concentrated manure would result, contained in a small compass and easy of carriage. A whole sheep when dry would probably weigh [illegible] lbs. Say 3000 would weigh [illegible], and be the [illegible] weight of bones; would they not pay for [illegible] and freight? *T. T.*

Musty Wheat.—In reply to the remarks of "An Old Farmer" in the *Agricultural Gazette* of the 25th ult., in which he seems to entertain very strong doubts of the fact that grains of Wheat found in an urn at Egyptian Thebes have germinated and produced corn, I would venture to suggest that one very essential consideration seems to have been most unaccountably lost sight of, and that one that appears to be destructive of the conclusion at which he arrives. Your correspondent argues against the probability of the statement that grains of Wheat found under the circumstances above named had germinated and grown, from what he calls a *general* observation in regard to it, viz., that new Wheat is always selected for the purpose of sowing, and that if seed of even five years old were used, not half would come up. Supposing this to be true in all cases where Wheat has been subjected to the ordinary exposure to the air; whereas the Wheat we are speaking of has, as we may say, been hermetically sealed up. Wheat in an [illegible] urn, or, as [illegible] stated, deposited in the hand of a mummy, it is well known that a [illegible] would be secured by Egyptian care and skill from all exposure to atmospheric influences, and this one circumstance, I think, precludes the possibility of any argument being drawn, by analogy, as to the power of any seed to preserve its vitality through even the long period of 3000 or 4000 years. I do not pretend to argue in support of the case from any knowledge of the facts themselves, whether there is any real ground of proof that Wheat of such an age has actually grown, but simply to state that a main argument brought to disprove it is defective in one very essential point, so essential that the whole case seems to turn upon it. If [illegible] [illegible] [illegible] such is a recognised fact. *Uxbridge, Dec. 6.*

Agricultural Population.—You have once or twice accorded to me the favour of inserting in your *Gazette* some observations on the condition of our agricultural population, suggested by contrasting their position with what I saw in Belgium, France, and Rhenish provinces. Whether or not you may see right to admit any more of my writing in your paper, I shall always feel indebted to you for allowing me the space you did, to raise my voice in behalf of a suffering degraded class. One of your correspondents from Exeter thought he had discovered a Socialist. If a desire to do unto my neighbour as I would be done by, to soften the rigours of life to those by the sweat of whose brow we obtain our daily bread, constitutes a Socialist, then indeed I must plead guilty to the charge, and seek my consolation in the reflection that some 1800 years ago we are told of a sect that "had all things in common," and were Christians. In your Number of Nov. 11, p. 753, you have an article designed, apparently, to combat the growing feeling in favour of small farms. "Small holdings are the ruin of agriculture, especially to landlords." What is a small holding? That is a term that every man will consider with relation to his own wants and means. Some are to be found holding 2000 and 1500 acres; and others, like Mechi, Huxtable, Warnes, and Hewitt Davis, have their 150, 90, and 52 acres; and the latter will of course be regarded by the others as occupying small holdings, the ruin of agriculture. Is this the case? We descend, then, from these small holdings through all the various gradations, down even to the allotments of half an acre, the occupiers of which find in your Journal the ready means of enlightening and encouraging their brother agriculturists, by publishing the details of their system and success, thus controverting at once the theory of "small holdings being the ruin of agriculture" What a practical and instructive letter is Mr. H. Davis's in a late Number. But were I to speak of his merits without alluding to "Falcon," and many other writers, who endeavour to fight the battle of the labourers, I should do an injustice. Only of Thomas Batson, of Kynaston House, I may say, his name and his letter on the "Education of Agricultural Labourers," ought to stand in letters of gold in every board-room of every union in the kingdom. *Mais à nos moutons. Ex grege*, take Mr. Huxtable's small holding of 90 acres; take the quantity of stock on it, the quantity of labour employed, with the wages; the amount and value of the produce: multiply these sums by 22, and invite any holder of 2000 acres to show his results against Mr. Huxtable's; then if it is 30 times as great we will all at once accord to the large holdings the superiority you appear to claim for them. The agricultural labourers of Great Britain are in a most deplorable condition; they are morally as well as physically degraded, in spite of unions and charities innumerable, unknown on the Continent. I am now located, *pro tem.*, in an agricultural district; it is painful as I pass along the roads to listen to the importunities of the vagrant (?)—no! but of suffering humanity. Starvation is the beginning and end of their tale. No work: yet we read in your Journal weekly of the benefits derived by those occupiers of land who, like yourself, have increased the number of the employed by substituting the spade or fork for the plough. This system is incompatible with large farms, and sooner or later the increase of knowledge which your columns furnish, united to the increase of population, will determine the question of the tenure of land, whether in large or small holdings. *W. H., late "A Tourist."*

Agriculture and Clergymen.—There is some truth in the remarks of "A. B." in a late Number of the *Agricultural Gazette*, under the above head, but it does not appear that the study of agriculture, with a view to clergymen exerting their influence in its behalf in after life, comes within the sphere of their legitimate calling. A pastor who is devoted to the promotion of the spiritual interests of his flock, may well be spared such agricultural prelections, without the cause suffering much at his hand. The importance of cleanliness, industry, and sobriety, we think no one will question, and we imagine that a minister cannot better promote the practice of these virtues, among those under his charge, than by instilling into their minds those principles of morality and religion which lie at the foundation of all proper external conduct. *R. F.*

Societies.

ROYAL AGRICULTURAL SOCIETY OF ENGLAND.

A Monthly Council was held at the Society's House in Hanover-square, on Tuesday, the 5th of December: present, the Earl of Chichester, President, in the Chair; Hon. Capt. Dudley Pelham, R.N.; Sir Matthew White Ridley, Bt.; Col. Austen, Mr. Raymond Barker, Mr. S. Bennett, Mr. Blanshard, Mr. Bosanquet, Mr. Bramston, M.P., Mr. Brandreth, Mr. Burke, Col. Challoner, Mr. F. C. Cherry, Mr. Garrett, Mr. Hamond, Mr. Hillyard, Mr. Fisher Hobbs, Mr. Charles Hoskyns, Mr. Hudson (Castleacre), Mr. Jonas, Mr. Kinder, Mr. Milward, Prof. Sewell, Mr. Shaw (London), Mr. Shelley, Mr. Thompson, Mr. Thos. Turner, Prof. Way, and Mr. Jonas Webb.

William Hodgson Barrow, Esq., of Southwell, Notts., was elected a Governor, and the following gentlemen Members of the Society:

Gurney, John Henry, Easton, Norwich
Hussey, Richard Hussey, Upwood, Huntingdon
Merriman, William Clark, Lockeridge, Marlborough
Webb, J. C., Hempnall, Stratton-St.-Mary, Norfolk
Hine, Thomas C., Nottingham
Turner, Henry Wall, Hanwell Park, Middlesex
Brooke, Edward, Burnage, Withington, Manchester
Mac Donald, William Macdonald, Rossie Castle, Montrose
Maitland Capt. F. T., Hollywych, Hartfield, East Grimstead
Smith, Robert, Stafford-street, Edinburgh
Trench, William, Cangort Park, Roscrea, King's County
Witherby, New Zealand
Brown, David, Cathedine House, Brecon
Tomlinson, Samuel, Sutton Place, St. Helen's, Lancashire
Tullidge, William, Houghton Farm, Blandford, Dorsetshire
Waring, William, Chalsfield, Kent
Davis, John, Cranbrook, Ilford, Essex
Whitehead, John, Preston, Lancashire
Walker, Thomas, Cockermouth, Cumberland
Ffrance, Robert Wilson, Rawcliffe Hall, Garstang, Lancashire
Gillett, John, Tunstall, Acle, Norfolk
Hornby, Rev. William, St. Michael's Vicarage, Garstang
Tilley, Joshua, Gurston, Redstone Hill, Reigate
Crispin, Henry, jun., Chumleigh, Devon
Stratton, Benjamin, Bristol
Hill, Harcourt, Hever's Wood, Brasted, Kent
Tebbitt, Walter, Cottage House, Clapham Common
Hughes, Samuel, Bristol
Spilsbury, Samuel, Little Osbaston, Monmouth
Maddox, Alfred, Ringland Hall, Cossy, Norfolk
Bishop, John, 23, New Bridge-street, Blackfriars
Waters, R. S., St. Giles's, Cranbourne, Dorset
Christian, John Robert, St. Mary Abbott's-terrace, Kensington
Baker, J. B., Scarborough, Yorkshire.

The names of 34 candidates for election at the next meeting were then read.

Finances.—Mr. Raymond Barker, Chairman of the Finance Committee, presented the Report of that Committee to the end of the previous month, from which it appeared that the current cash balance in the hands of the bankers (less outstanding cheques not presented) was 558*l.* The Council adopted the recommendation of the Committee, for the sale of such a portion of the invested capital of the Society in the public funds as, with the current cash balance in hand, would pay off the loan of 1500*l.* contracted with Messrs. Drummond in August last, for the purpose of meeting the claims then standing against the Society, and consequent on the York Meeting. The Council ordered the purchase of postage stamps to the value of 125*l.*, in readiness for the issue (postage free) of the new Part of the Journal, about to be published, to each Member of the Society not in arrear of his subscription.

On the motion of Mr. Shelley, seconded by Mr. Milward, the following resolution was unanimously agreed to: "That henceforward no Journal shall be sent to any Member whose subscription for the year is unpaid at the time of publication; and that a list of those Members from whom any subscription shall be due on the Saturday next following the Monthly Meeting of the Council in August, shall be suspended in the Council Room, the names to be classed according to the counties in which the Members reside, with the amount due from each placed opposite to his name."

Member of Council.—In the absence of Lord Portman (through indisposition), Mr. Barker moved, and Colonel Challoner seconded, the resolution of which his lordship had given due notice, namely, that Mr. Foley, M.P., should be elected a Member of the Council, to fill up the vacancy occasioned by the lamented decease of Mr. Harvey. This motion was carried unanimously.

Trial of Implements.—Mr. Thompson brought under the consideration of the Council various suggestions connected with the arrangements for the trial of implements next year, which were discussed and adopted. The Council also adopted the suggestion of Colonel Challoner, that the Tuesday in the week of the Show should in future be devoted to the private trials of implements by the Judges, instead of its being continued, as it had been during the last few years, as the first day for the admission of the public into the Implement-yard.

Committees.—The Council then proceeded to appoint the standing Committees for the ensuing year. The Committees of the past year were agreed to, with the following additions: Sir M. W. Ridley to the Finance Committee; Col. Challoner, Mr. Kinder, and Mr. Barker to the House Committee; Capt. Pelham to the General Norwich and Trial of Implement Committees; Mr. Thompson and Mr. Shaw (London), to the Ashes of Plants Committee; and Mr. Milward to the Farm-account Committee.

Miscellaneous Communications.—Mr. Bullock on Pleuro-pneumonia; Mr. Beardsley on the application of charcoal in Potato culture; Lady Franklin's present of Australian Wheat; Dr. Ryan's statement on the free analysis of soils in connection with a public company with which he was in communication; Mr. Cort and Mr. Eginton on town-sewerage; and Mr. Milburn's Agricultural Almanac.

A Special Council was held on the 7th inst. (agreeably with the terms of the bye-laws) for deciding on the Prizes for Live Stock at the Norwich Meeting; present, the Earl of Chichester, President, in the Chair; Hon. Capt. Dudley Pelham, R.N.; Mr. Raymond Barker, Ma. Brandreth, Mr. Bennett, Col. Challoner, Mr. Druce, Mr. Fisher Hobbs, Mr. Hudson (Castleacre), Mr. Jonas, Mr. Milward, Mr. Robert Smith, Mr. Stokes, Mr. Thompson, and Mr. Jonas Webb.

The several prizes were discussed and agreed to, and the prize sheet ordered for publication; Mr. Spooner's letter on commendations for horses, and Mr. Pawlett's on circumstances connected with the competition of Leicester sheep, being referred to the General Norwich Committee.

A Special Council was also held on Friday, the 8th inst., for the purpose of agreeing to the Report to be presented by the Council to the General Meeting; present, the Earl of Chichester, President in the chair, Colonel Austen, Mr. Raymond Barker, Mr. Blanshard, Col. Challoner, Mr. Shaw (Northampton), and Mr. Henry Wilson.

The December General Meeting was held on Saturday last, at the Society's House, Hanover-square. In the absence of the Earl of Chichester, President of the Society, the Duke of Richmond was, on the motion of Mr. Raymond Barker, called to the Chair.

Mr. Hudson, the Secretary of the Society, read the following Report from the Council:

REPORT.

The Council have to report to the Members, on the occasion of their present December Meeting, that during the past half-year 44 of their Members have died, and 105 have ceased to belong to the Society; while 134 new Members have been elected: so that the Society now consists of—

91 Life Governors,
181 Annual Governors,
661 Life Members,
5232 Annual Members, and
21 Honorary Members;

Making a total of 6186 Members on the list of the Society at the present time. The vacancy in the Council, occasioned by the lamented decease of Mr. Harvey, has been filled up by the election of Mr. John Hodgetts Foley, of Prestwood, M.P. In order to meet the convenience of Members of Parliament, the day for the periodical Meetings of the Council has been changed from Wednesday to Tuesday. The Council regret to inform the Society, that in consequence of the great amount of unpaid subscriptions, they have been under the necessity of borrowing money of their bankers to meet the liabilities consequent upon the York Meeting; and, in order to prevent the recurrence of a similar inconvenience, they have empowered the Finance Committee to take immediate steps for obtaining the arrears, and for securing a more regular payment of subscriptions in future. With the same view, the Council have resolved that henceforward no Journal shall be sent to any Member whose subscription for the year is unpaid at the time of publication; and that a list of those Members from whom any subscription shall be due on the Saturday next following the Monthly Meeting of the Council in August, shall be suspended in the Council-room, the names to be classed according to the Counties in which the Members reside, with the amount due from each placed opposite to his name. In the the mean time, the Finance Committee are engaged in making an accurate investigation into the income and expenditure of the Society, with a view of reporting the result to the Council. The Council would further suggest to the Members generally, that it would greatly improve the financial position of the Society, and facilitate their proceedings, if all subscriptions were paid to the bankers on the 1st of January in each year, either by a general order to the bankers of the Member, or by cheque or post-office order addressed to the Secretary. The Council offer to the Members these suggestions with the greater confidence because they find, by their recent circular, that in a great majority of cases of arrear there is every willingness to meet the views and wishes of the Council on the subject.

The Council have the satisfaction of finding that the Treasury Regulation to which they alluded in their last Report, for the transmission of books through the post office directly to the parties addressed, is likely to prove an invaluable aid in the immediate and certain distribution of the Journal among the Members, however remotely situated, and free of charge. The first issue of the Journal in August last, under these new regulations, has most satisfactorily proved their advantage.

The Country Meeting held at the City of York in July last has realised the most sanguine anticipations of the Council, in the amount and quality of the exhibition, in the success of the practical trials in the show-yard and in the field, and in the ample means of mutual interchange of opinion and detail of personal experience afforded by the assemblage of so large a number of visitors to that meeting from every part of the country. In addition to these favourable circumstances, the meeting was honoured by the presence of his Royal Highness Prince Albert, who both attended the meeting as a Governor of the Society and graciously identified himself with its objects by evincing a lively interest in the whole of the proceedings. The Council, on leaving York, conveyed to the Lord Mayor and the authorities of the city, and to the Local Committee, and others who had zealously co-operated with the Council in promoting the success of the meeting, an expression of their best acknowledgments for their kind exertions on the occasion. Although the receipts at the show-yard were very great, and 1000*l.* was liberally presented to the Society through the authorities of the city, the outlay required for so extensive an assemblage of implements and cattle, and for the elaborate and highly satisfactory trial of implements on the occasion, has proved so great that over and above 1383*l.* awarded in prizes for implements and stock, the excess of expenditure over receipts on account of the York meeting amounts to 1126*l.*, as will be seen by the following tabular statement, in which a comparison is instituted between the result of this and former meetings.

Year of Meeting.	Locality.	Entries of Stock.	Entries of Implements.	Receipts.	Expenditure.	Excess of Expenditure.
				£.	£.	£.
1839	Oxford	249	23	2394	2688	294
1840	Cambridge	352	36	3416	3589	173
1841	Liverpool	319	312	4106	5052	946
1842	Bristol	510	455	4202	4775	573
1843	Derby	730	508	3390	5090	1700
1844	Southampton	575	948	4929	5736	807
1845	Shrewsbury	437	942	3662	5166	1504
1846	Newcastle	613	735	4119	4866	747
1847	Northampton	459	1521	4565	4863	298
1848	York	724	1508	4831	5957	1126

The Council have the gratification of reporting that

the successful issue of the implement trials—a result so long desired but only imperfectly obtained at former meetings, was mainly owing to the untiring energy with which the Stewards of that department, the Judges, and the Consulting Engineer, acted in concert for the attainment of that great object, by bringing to the test of practical trial those recommendations of the Implement Committee, of which Colonel Challoner, as its Chairman, had reported on a former occasion to the Council. In order to give Mr. Thompson an opportunity of collecting the materials for his Report upon the Exhibition and Trial of Implements at York, for publication in the Society's Journal, Mr. Shaw of Northampton, kindly undertook to act as an additional Steward of that department, and rendered to the Society services no less efficient than he had so willingly given at Northampton last year, in promoting the convenience of the Stewards of Implements on that occasion; and the Council have conveyed to him their best thanks accordingly. The Hon. Captain Dudley Pelham, R.N., has kindly undertaken, at the request of the Council, the duties of a Steward of the Implement Department, in the place of Mr. Shelley, who, after a long period of efficient service, retires this year by rotation. The Society are much indebted to Professor Johnston, of the University of Durham, and to Professor Simonds, of the Royal Veterinary College, for their kindness in delivering two valuable lectures before the Society, during the York meeting. On occasion of the present December meeting, Prof. Simonds has again favoured the Society by delivering before the members, in the rooms of the Society, two other highly valuable and interesting lectures.

The Council have already made their preliminary arrangements for the Country Meeting to be held next year at Norwich. From the facility of access to that city by sea, the rapidly extending railway accommodation throughout the eastern districts of England; from the character of the stock, and the high reputation of the agriculture in Norfolk and the adjacent counties, they have every reason to anticipate a meeting in no way second in importance to those that have preceded it. The Council have already voted prizes for the Essays, Implements, and Stock of next year, to the amount of nearly 2000*l.*: of the two former of which the lists were published in the last Journal; while the Prize Sheet for the Live Stock was on Thursday last determined in accordance with the bye-laws, has since been printed, and now lies on the table for the information of members.

The Judges having expressed a desire for an extension of time for their trial of the implements, without entailing on the exhibitors any additional loss of time or expense, it has been found necessary to devote the whole of the Tuesday in the week of the Show to that important purpose. The first day of public admission to the implement yard will, consequently, be on Wednesday, the principal day of the Show being as heretofore on the Thursday. The public working of the implements in the field will therefore be omitted, it having been found by experience quite impossible to conduct that exhibition in a manner satisfactory either to the public or to the implement makers.

The Council have renewed for another year the grant for carrying on the analysis of the ashes of plants, a research which they fully believe will eventually lay the foundation for a secure progress in our knowledge of the conditions of vegetable growth, and the most economical and effective means of promoting it in our crops.

In conclusion, the Council have every reason to view with satisfaction the steady advancement of the Society in its sphere of usefulness, and its combining by its central influence the efforts of societies of a kindred character throughout the kingdom, for agricultural improvement and the public good.

By order of the Council,
London, Dec. 1848.] JAS. HUDSON, Sec.

The Report was, on the motion of Mr. Tweed, seconded by Mr. Wingate, unanimously adopted.

Mr. RAYMOND BARKER then read the statement of the receipts and expenditure of the Society during the first half of the present year, and the special balance-sheet of the York meeting account.

Thanks were unanimously voted to Mr. Tawney, Mr. Hampden Turner, and Mr. Knight, as Auditors of the Society's accounts, and to Professors Simonds and Johnston for the Lectures they had delivered before the Members. Mr. Beman, of Donnington, Gloucestershire, was elected an Auditor in the place of Mr. Tawney, whose uncertain state of health led him to desire that his name might not be proposed again for re-election to that office. The proceedings terminated by a vote of thanks proposed by the Earl of Yarborough, and carried unanimously, to the Duke of Richmond for his kindness in presiding on that occasion for the Earl of Chichester, who was accidentally prevented from being present.

Calendar of Operations.

DECEMBER.

BERWICKSHIRE MERSE FARM, *Dec.* 8.—Since last report we have been employed ploughing Grass land for Beans, ploughing Bean stubble and sowing it with Wheat, and ploughing Turnip land for Wheat, but the weather is unfavourable for sowing. We have been threshing and dressing Wheat for the market, storing Turnips, &c. The workers have been employed at the threshing and dressing, pulling and filling Turnips for the store. One man cutting Thorns, mending fence, &c.; five men draining, a woman assisting the man laying in the tiles; two men feeding the cattle. *J. B.*

EAST LOTHIAN FARM. For the information of your correspondent, I have to say that our lever drill machine is constructed with jointed coulters, each acting independently, thus depositing the seed at equal depths, irrespective of any inequality occasioned by ridging or otherwise. An equal braird is secured, and at the same time no loss of seed from over depth or surface exposure. The drill, with 6 coulters, placed 9 inches apart, and drawn by one horse, costs 11*l.* 10*s.*; and one with 10 coulters, worked by a pair of horses, costs 17*l.* 10*s.* It is to be had of Messrs. Crosskill and Co., Farm Implement Makers, Haddington. *M.*

GALLOWAY FARM, *Dec.* 11. At this season there is little more than routine work going on. The ploughs are employed in trench ploughing in preparation for Beans. A quantity of Turnips are being prepared for storing, so that should frost or dry weather set in, a large quantity will be ready for carting off the field. The dairy cows are now, and have for some weeks back, been entirely kept in the byres, receiving water regularly in their stalls, besides fodder and Turnips. The fattening cattle are now fed three times on cut Swedish Turnips, each animal receiving also 3 lbs. of Bean meal and 1 lb. of boiled Linseed daily. This we find a much easier way of giving the Linseed and meal than boiling; and so far as we have gone, it appears to be as well relished by the cattle and equally beneficial to them; but of this we shall be better able to judge after a few months' longer experience. The horses are getting Rye-grass, hay, and two feeds of bruised Oats daily, with half a pound of bruised Linseed in each feed of Oats, and half a bushel of raw Swedish Turnips to each horse in the evening. *J. C.*

SOUTH HAMPSHIRE FARM, *Dec.* 9. The weather has for the most part been very wet and mild during the past fortnight, which has given a fresh impulse to vegetation, the Turnips, Carrots, &c., having increased in size considerably during that period; the Wheat (which was sown during the early part of November), although having lain longer than usual in the land, seems now to show an even and good braird. Our horses have been employed at the threshing-machine in wet weather; at intervals, when fine, they have been fallowing up land intended for Turnips next season, and ploughing land which was grubbed out of copse last summer, and intended for early Potatoes in the spring. Old horses have been continually at work, carting Carrots for cows and pigs, carting hurdles for the removal of sheep, carting drain-tiles for the drainers, also carting manure to heap in readiness for early Potatoes, and carting mould for placing at the bottom of the farm yard and cattle pens. Our labourers have been attending the threshing machine, turning manure-heap, digging Carrots, winnowing Wheat and Oats, digging new water-course in the meadows, laying drains and filling up the old lake, grubbing and cutting Ash and Oak trees. Our shepherds are now fully employed in attending the sheep. Our fatting down ewes are doing well, considering the rainy weather, which we account for by their having all trough food, namely, a good allowance of oilcake, with plenty of cut Swedes. Our stock down ewes have not yet commenced lambing, and are fed by a change from arable to pasture Grass once a day. Our horned ewes have nearly finished lambing, and are kept upon the seeds and Wheat eddishes until the lambs are a month old, then removed with the ewes to receive cut Swedes, hay, oilcake, &c. Our stock at present feeding upon Swedes is 130 horned ewes; suckling, 190 lambs. Our land, being clay loam, feeds very badly during this wet weather, but we assist the laying for the sheep by putting down straw in different parts of the field. Our women have been employed preparing Swedes for the cutter, attending the threshing-machine, and digging Carrots. *J. B.*

Notices to Correspondents.

BLACK POLISH FOWL: *P P.* "The head is ornamented with a handsome crest of white feathers springing from a fleshy protuberance, and fronted more or less deeply with black." *Dixon's Poultry.*

BONES AND ACID: *Dunster.* The superphosphate of lime, with the excess of acid which you propose to use, will be an admirable fixer of ammonia in other manure.—*Constant Subscriber.* The superphosphate will keep exposed to the air without injury; only if muriatic acid be employed you will find it very deliquescent.

CABBAGE: *A Sub.* An acre of Cow Cabbage *does*, we believe, contain more *food* than an acre of any other crop that is grown. Your bailiff must be mistaken. At the same time, they are not the best food for cows; if at all decayed, they will taint the milk very strongly. They should be mixed with other food.

CAPITAL: *An Old Subscriber.* Dormant capital is that which the tenant invests without the prospect of an immediate return; for instance, in drainage. But we should not now be disposed to make any distinction of the kind, had we to repeat the statement which you extract. Stones, flints, &c., are useful in a shallow soil, as they prevent that entire dependence which it would otherwise exhibit. The soil does not so rapidly dry or soak. The flints may in reality be three-fourths of the whole soil.

CHAFF CUTTERS: *J M G* asks for the experience of our readers on the merits of various chaff machines, including particulars of cost, power, work, &c. The Uley for rapid movement, and any of the three-armed intermittent description, are the best for power; and the guillotine cutter is as neat and handy as any for manual work.

CLINKERS *v.* RATS: *H H.* says, "Get the clinkers from a steam engine or any other furnace, then after removing the earth about 12 inches square, all round the building, fill it up with the clinkers, then cover them over with the earth, you will find the rat's claws too tender ever to scratch through these materials."

DRAINING: *W A.* Thanks; we are quite full at present.

EDUCATION: *Cilmarnoc.* Thanks; but we have not room for discussions on phonography.

FATTING BEASTS: *R P.* They require no water at all, if fed on a sufficiency of green food. An ox receiving ½ cwt. of Swedes in the morning, 6 to 10 lbs. of good hay, according to size, about midday, and ½ cwt. of Swedes at night, is in a fair way to get fat. About malt dust as cow food we have no experience.

"FRANT:" *Const. Reader.* A post town in Surrey.

HORSE FOOD: *A Young Breeder of Horses.* Half a gallon of Oats daily may be considered a full allowance for a half-bred foal. There is no other objection to Swedes as a substitute for Carrots, other than horses do not like them so well, and will not eat so many. *W. C. S.*

KYANISING: *Suffolk.* Has any one any experience of the merits of this process to give, as a preparation for paling wood, for instance.

LIQUID MANURE PIPES: *G. Cook.* I am making use of sail-cloth hose to convey strong liquid manure to the land. I have not succeeded in finding any application which is successful in preserving the cloth and still less the hempen stitching from the corrosive and rotting action of strong manure. The Manchester Irrigation Company represent these hose as lasting two years. I am by no means so successful. Can you or your correspondents inform me of some efficient antiseptic which will not destroy the suppleness of the hose?

MANGOLD WURZEL: *W W.* We are giving them mixed with Swedes, and along with Barley-meal, to cattle now; and you may do the same. If you do not give hay as well, perhaps it may be safer to give at least one feed of them daily steamed. They are purgative when taken in excess, and later in the season they lose this property, owing to becoming drier, &c.

ON CLIPPING HORSES: *A Coachman.* Clipping undoubtedly enables a horse to perform his work with greater ease, in the same way that a man can work easier in his shirt sleeves than in a great coat; besides which, he can be dressed quicker and more readily. Extra clothing is required and the horse should not stand about in cold weather. Where, however, he is obliged to do so, singeing is better than clipping, as it does not remove so much of the coat, but can be repeated during the winter. *W C S.*

PIG FOOD: *H S.* We do not believe that you will find the acetous fermentation advantageous. The fermentation may be carried on in the pigs' troughs without any [illegible] to them, unless it be in very large quantities. The salt had better be added after the fermentation.

POULTRY: *M P.* The same complaint is frequently heard of, especially from persons in the [illegible]. There are obvious reasons, besides a compliance with your own wish, why the matter cannot be further discussed here. The [illegible] alluded to are mostly provincial, chiefly in the north of England; their objects, too, are limited. If you will [illegible] your name and address, to be communicated of course in confidence, we may probably be able to meet your request, if you are neither in an immediate hurry nor exclusively attached to certain [illegible]. *D.—H C.* There has been much [illegible] on the several points you refer to already in our columns, as you will find on looking through the past few numbers.

POULTRY FOOD: *Jumfrew.* The [illegible] you have sent is one of Lentils. [illegible] seed is a very different looking affair. Mice and moles are all to be caught by a little dexterity and perseverance.

POULTRY HOUSE: *Northampt.* A brick built house, with slated or close tiled roof, with lath and plastered ceiling, is certainly preferable to a wooden one. Either should be lofty—the more so the better—with roosts so placed under one another that the fowls on the top ones cannot dirty those below; a ladder or pegs should lead up to them. Two or three nests may be so placed above the ground that no dirt may fall into them. One house being required for a dozen hens of all sorts and a cock, with two other smaller [illegible] in separate divisions, with a separate yard for each set, the house must be built accordingly in three separate divisions, to prevent any commingling, with a sliding trap entry to each for the egress and regress of the inmates, and to keep out vermin at night; one main or middle doorway, with lock and key, to keep out honest folks; thieves require something stronger; and an interior side entrance into each of the side divisions. Three outward doors would be better, on account of air and ventilation. There should be glazed windows to let in plenty of light. There should be a shed, open-latticed or latticed in front, with three divisions, each communicating with its own roosting and laying place. The house, if erected against a chimney, or against a warm wall, so much the better, to induce winter laying, should be warmed and smoked occasionally against vermin. First, divide the yard into three equal divisions, then build the house in such a position that each division of it have an entry into one of the three yards so formed. For the sake of uniformity the open latticed shed divided into three (for confining the inmates in wet weather), may be erected in front of the house; or, the whole of the shed in front may be allotted to one set, and [illegible] sheds at each end. Your diagram tells us that the [illegible] aspect is a bad one, but some ingenuity on the spot may point out some alteration of position. *D. S. E.*

SALTED HAY: *P H E.* If very much salt has been used with the hay, there is some danger of its causing abortion or slipping the foal; but Swedes will do no harm. *W. C. S.*

SHEEP ROT: *Lowe.* Salt has been long known to possess a preventive influence.

SPANISH FOWL: *Subscriber.* The feathers received are no proof of degeneracy, but quite the contrary, if they are the only supposed blemishes. See "Ornamental Poultry," p. [illegible]. It is a matter of taste merely whether they be desirable in the stock; and they are likely to become hereditary. They might be objected to by some fanciers; in our own poultry-yard we should encourage them. *D.*

STEAM THRESHING-MACHINES: *A Subscriber* should mount a horse at North Berwick, and he may then, in one day, see [illegible] such engines as he requires. If he will furnish his address, we will put him in communication with "J. F."

SUNDRIES: *Agricola.* You may depasture young Clover the first autumn of its growth; but you will do mischief by folding sheep on it now. You are six weeks too late. The size of the field will determine the number of sheep to keep in it, that is all. About the effect of manures on Potatoes, see past volumes of this Journal. Guano will induce luxuriant growth here as in every other plant.

TOP-DRESSING FOR GRASS: *A [illegible].* Two cwt. of guano and 2 cwt. of superphosphate of lime, per acre, mixed, and turned over with any vegetable mould or ditch scrapings, &c., and thrown broadcast in March, would probably answer your purpose.

TO PRESERVE EGGS: *G S, Notts,* says, fill some large pots glazed inside, such as are used for cream, or a [illegible] description, with new laid eggs, during the months of March and April, and the beginning of May, then take a large lump or two of unslacked lime, put them into a pan, and pour over them boiling water; stir this for two or three days twice a day, and pour it into the jar of eggs. The lime water should be of the consistency of very thin cream, or the eggs will get set to the bottom. Keep the jars in a cool cellar, and use the eggs from the lime-water as you want them. Put a piece of thin wood, which will fit inside, on the top of the eggs, and a stone of sufficient weight on it to keep the eggs from rising to the top. I have known eggs kept in this way to be good the second winter. They are better than those we buy for new laid eggs in the market late in the year.

WHITE CARROTS: *I Fisher.* Cultivate and manure the [illegible] in autumn, and sow early in April; that is the best plan. The success of individual plants is hardly an argument on which to risk the whole crop. Put in the roots for seed now.

*** Communications reaching town after Wednesday cannot be answered the same week.

Markets.

POTATOES.—SOUTHWARK, WATERSIDE, Dec. 11.

The Committee report that the very [illegible] weather during the past week has caused [illegible] very heavy, and [illegible] lower prices have been submitted to. The following are this day's quotations:—[illegible] 100s. to [illegible]; Scotch [illegible]; Scotch Reds [illegible]; Scotch [illegible] to [illegible]; Scotch whites [illegible]; French Whites, [illegible]; Dutch whites, [illegible] to 75s.

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Dec. 14.

Prime Meal Hay [illegible]	New Hay .. — to —	Straw .. [illegible]
Inferior ditto .. [illegible]	Clover .. [illegible]	
Rowen .. .. [illegible]	New Clover .. — —	

Trade very heavy. J. COOPER.

CUMBERLAND MARKET, Dec. 14.

Prime Meal Hay [illegible]	Old Clover .. [illegible]	Straw .. [illegible]
Inferior 45 50	Inferior .. [illegible]	
New Hay .. — —	New Clover .. — —	JOSHUA BAKER.

WHITECHAPEL, Dec. 14.

Prime Meal Hay .. [illegible]	Old Clover .. [illegible]	Straw .. [illegible]
Inferior Hay .. [illegible]	Inferior .. [illegible]	
New Hay .. .. [illegible]	New Clover .. [illegible]	

SMITHFIELD, MONDAY, Dec. 11.

The supply of Beasts is very large, even for the great market day. The [illegible] Trade [illegible] and [illegible] in some instances, rather more than [illegible] of [illegible] character [illegible] a more general [illegible] of the best quality. Many [illegible] sold at even [illegible] and a very large number remain unsold. The number of Sheep is [illegible] and trade is exceedingly bad. The general quality is [illegible] [illegible] Calves at an advance of about 2d. per [illegible].

Holland and Germany we have 304 Beasts, 2650 Sheep, and 57 Calves; from Scotland, 400 Beasts; from Norfolk and Suffolk, 200; from Leicester and Northampton, 4400; and from Lincolnshire, 300.

Per stone of 8lbs.—	s	d	s	d	Per stone of 8 lbs.—	s	d	s	d
Best Scots, Herefords, &c.	4	to 4	8		Best Long Wools	4	0	—	4
Best Short Horns	4	2	—	6	Ditto Shorn			....	
Second quality Beasts	3	0	—	3 10	Ewes and second quality	3	4	—	3 10
Calves	3	8	—	8	Ditto Shorn			....	
Best Downs & Half-breds	4	8	—	5 0	Lambs			....	
Ditto Shorn			....		Pigs	4	0	—	5 0

Beasts—5912. Sheep and Lambs—23,810. Calves—124. Pigs—200.

FRIDAY, Dec. 15.

The supply of Beasts is large, and in consequence of the weather the demand very limited. The average quality is good. Monday's prices are barely maintained for the very choicest, and many remain unsold. The number of Sheep far exceeds the demand. The quality is very middling, and trade slow at lower prices. This is the show day for Calves—they are not so numerous nor so good as we have seen them on former occasions. A choice one pretty readily makes 5s., but trade is dull for inferior. Trade is heavy for Pigs, but the choicest descriptions cannot be quoted lower. From Holland and Germany there are about 160 Beasts, 710 Sheep, and 73 Calves; from Leicester and Northampton, 1000 Beasts; 300 from the western, and 143 Milch Cows from the home counties.

Best Scots, Herefords, &c.	4	4 to 4	6		Best Long Wools	4	0	—	4 2
Best Short Horns	4	2	—	4	Ditto Shorn			....	
Second quality Beasts	3	0	—	3 10	Ewes and second quality	3	2	—	3 8
Calves	4	0	—	5 0	Ditto Shorn			....	
Best Downs & Half-breds	4	8	—	4 10	Lambs			....	
Ditto Shorn			....		Pigs	3	8	—	5 0

Beasts—1923 Sheep and Lambs—5240. Calves—235. Pigs—230

COVENT GARDEN, Dec. 16.

The market continues to be well supplied with Vegetables and Fruit. Pine-apples are plentiful; and hothouse Grapes are sufficient for the demand. Ribston Pippins and other dessert Apples are becoming scarcer. Among Pears we remarked good specimens of Chaumontelle, Crassane, Glout Morceau, Beurré Diel, Passe Colmar, &c. Nuts in general are sufficient for the demand. Oranges are becoming more plentiful. Lemons are scarce. Amongst Vegetables, Carrots and Turnips are abundant and good; Cauliflowers, Broccoli, &c., sufficient for the demand. Some Asparagus and French Beans have made their appearance. Potatoes continue to be tolerably well supplied. Lettuces and other salading are sufficient for the demand. Mushrooms are plentiful. Cut Flowers consist of Heaths, Pelargoniums, Camellias, Gardenias, Fuchsias, and Roses.

FRUITS.

Pine Apple, per lb., 3s to 5s
Grapes, hothouse, per lb. 2s to 5s
— foreign, per lb., 9d to 1s
Apples, dessert, per bush., 4s to 7s
— kitchen, p. bush., 3s to 5s
Pears, per doz., 2s to 6s
— per half sieve, 6s to 10s
Oranges, per doz., 1s to 2s
Lemons, per doz., 1s to 2s
— per 100, 10s to 18s
Almonds, per peck, 6s
— sweet, per lb., 2s to 3s
Walnuts, per 100, 1s 6d to 2s
— per bush., 16s to 24s
Chestnuts, per peck, 4s to 7s
Nuts, Barcelona, per bush., 20s to 22s
— Filberts, per 100 lbs., 70s to 100s
— Cob, per 100 lbs., 90s to 150s
— Brazil, per bush., 12s to 16s

VEGETABLES.

Cabbages, per doz., 3d to 1s
— red, per doz., 1s to 4s
Cauliflowers, per doz., 6d to 2s
Broccoli, white, per doz., 3s to 4s
— brown, per bunch, 6d to 1s 3d
Sorrel, per half sieve, 6d to 9d
Potatoes, per ton, 60s to 130s
— per cwt., 5s to 9s
— per bush., 2s 6d to 5s
Turnips, per doz. bunches, 9d to 2s
Red Beet, per doz., 6d to 1s
Horse Radish, per bundle, 1s to 6s
Asparagus, per 100, 4s to 6s
Cucumbers, each, 4d to 1s
Leeks, per bunch, 1d
Celery, per bundle, 6d to 1s 3d
Carrots, per doz. bunches, 3s to 5s
Spinach, per sieve, 9d to 1s
Onions, per bunch, 3d to 4d
— per bushel, 1s 6d to 2s 6d
— Spanish, per doz., 1s 6d to 4s
— pickling, per sieve, 1s 6d to 3s
Tomatoes, per punnet, 9d to 1s 3d
— per half sieve, 3s to 5s
Shallots, per lb., 4d to 8d
Garlic, per lb., 4d to 8d
Radishes, per doz. hands, 6d to 1s
— Turnip, do., 9d to 1s
Artichokes, per doz., 1s 6d to 2s
— Jerusalem, p. h.sieve, 1s to 1s 6d
Lettuce, Cab., per score, 4d to 6d
— Cos, do., 3d to 1s
Endive, per score, 9d to 1s
Mushrooms, per pottle, 6d to 1s
— per bushel, 4s to 6s
Small Salads per punnet, 2d to 3d
Fennel, per bunch, 2d to 3d
Savory, per bunch, 2d to 3d
Thyme, per bunch, 3d to 4d
Watercress, p. 12 small bun., 6d to 9d
Parsley, per doz. bunches, 1s 6d to 2s
— Roots, per bundle, 1s to 1s 6d
Marjoram, per bunch, 2d
Mint, green, per bunch, 2d

MARK LANE, Monday, Dec. 11.

Messrs. Kingsford and Lay report that the supply of English Wheat by land carriage samples this morning was again small, and commanded the extreme rates of last week. Foreign met rather an improved inquiry, and in some instances a slight advance was established.—Finest malting Barley is sought after at our highest quotations, ordinary and grinding qualities remain the same.—Beans and Peas are unaltered in value.—Oats sell more freely at late rates.

BRITISH PER IMPERIAL QUARTER.	s	s		s	s
Wheat, Essex, Kent, and Suffolk White	48	52	Red	42	46
Norfolk, Lincolnshire, and Yorkshire	46	50	White	48	52
Barley, Malting and distilling, 28s to 30s Chevalier	30	33	Grinding	24	30
Oats, Lincolnshire and Yorkshire Polands	20	23	Feed	17	20
Northumberland and Scotch	20	24	Potato	21	26
Irish Feed	17	21	Potato	20	25
Malt, pale, ship	—	—			
Hertford and Essex	—	—			
Rye	26	28			
Beans, Mazagan, old and new ...25s to 32s Tick	26	36	Harrow	28	38
Pigeon, Heligoland	30	40	Winds	34	40
Peas, White	33	35	Maples	34	37
			Grey	34	35
			Longpod	26	30

ARRIVALS IN THE PORT OF LONDON LAST WEEK.

Flour, 2894 sks 1871 bis	Wheat. Qrs.	Barley. Qrs.	Malt. Qrs	Oats. Qrs.	Rye. Qrs.	Beans. Qrs.	Peas Qrs.
English	1451	2717	1922	763	—	449	327
Irish	—	—	—	50	—	—	—
Foreign	5168	2743	—	5550	723	4653	480

FRIDAY, Dec. 15.

With the exception of foreign Wheat, of which 13,980 qrs. have come to hand since Monday, the arrivals of grain have been small. The attendance at market this morning was thin, and the few transactions that occurred in Wheat were on the same terms as on Monday.—Barley, Beans, and Peas remain nominally the same as last quoted, with little inquiry.—The supply of Oats being small, late prices are supported.

[During the early part of last week the prices of Wheat throughout the Kingdom had a declining tendency, and in many important markets a reduction of 1s. to 2s occurred; this, however, appeared to increase confidence, and the demand, particularly for bonded, has since been better and more general, sufficiently so in some cases to establish a slight reaction. Flour has met a slow sale, barely supporting present quotations. Spring corn has been very dull. Maize is a slow sale at 32s. 6d to 34s per qr. for Ibraila and Galatz afloat. In Dantzic, some quantity of Wheat has been taken by local speculators at 39s to 41s. per qr. f. o. b., and future supplies are likely to be very small; the stock consists of about 70,000 qrs. In the Lower Baltic prices have further declined, and good 62 lbs. red Wheat is procurable at 35s per qr. f. o. b. for spring; Barley, 14s. to 20s; Peas 22s to 23s. The Dutch and Belgian markets are the turn dearer, and good red Wheat is not to be obtained under 42s per qr. In Leghorn arrivals of Wheat had been heavy, and prices were on the decline, but 61—62 lbs. Polish was still quoted 38s. to 41s. per qr. At Odessa, during the last fortnight of November, about 58,000 qrs of Wheat were taken for shipment: nevertheless, prices have given way about 2s. per qr., and are now quoted at 28s. to 32s. 6d. f. o. b. Freights, 12s. 6d.]

ARRIVALS IN THE PORT OF LONDON THIS WEEK.

	Wheat. Qrs.	Barley. Qrs.	Oats. Qrs.	Flour.
English	2930	4470	3130	5910 sacks.
Irish	—	—	—	
Foreign	13980	3620	3460	— barrels.

Imperial Averages.	Wheat.	Barley.	Oats.	Rye	Beans.	Peas.
Nov. 4	51s 2d	32 10d	20s 7d	31s 1d	37s 1d	39s 7d
— 11	52 0	33 7	20 10	30 6	37 2	40 2
— 18	52 3	34 1	20 5	30 10	38 1	40 6
— 25	51 6	33 2	20 2	30 10	36 10	40 6
Dec. 2	50 3	32 0	19 11	31 2	36 2	40 9
— 9	48 9	31 4	19 5	28 5	35 7	39 3
Aggregate Average	51 0	32 10	20 3	30 5	36 10	40 1
Duties on Foreign Grain	6 0	2 0	2 6	2 0	2 0	2 0

Fluctuations in the last six weeks' Corn Averages.

Price.	Nov. 4.	Nov. 11.	Nov. 18.	Nov. 25.	Dec. 2.	Dec. 9.
52s 3d	...	...	...	...	...	...
52 0	...		...	...	...	...
51 6	...	...		...	...	...
51 2		...	...		...	...
50 3	...	...	...	...		...
48 9	...	...	...	...	...	

SEEDS, Dec. 11.

Canary	per qr.	48s to 58s	Linseed cakes, Foreign, p. ton,	7l to 9l	
Canaway	per cwt.	27 29	Mustard, White, p. bush.,	4s to 9s	
Clover, Red, English		35 44	Superfine p. bush.,	9 10	
— Foreign		35 40	Brown, per bush.,	6 12	
White, English		38 44	Rapeseed, Eng., per last	28l 30l	
— Foreign		38 42	Rape-cakes per ton	4l 10s to 5l	
Coriander		12 16	Sainfoin	— —	
Hempseed	per qr.	34 36	Tares, Eng., winter, p. bsh.,	10s 0 12s 0	
Linseed		38 40	Foreign, per bush.,	3s 0 6s 0	
— Baltic		33 33	Trefoil	17s 0 20s	
— Cakes, Eng. p. 1000,		11l 10s to 12l	Turnip—too variable for quotation.		

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS will Sell by Auction, at the Mart, Bartholomew-lane, on FRIDAY, 22d December, 1848, at 12 o'clock, 200 choice CAMELLIAS, well set with bloom buds, from 18 inches to 2 feet; also a selected assortment of Greenhouse Plants, comprising Epacris, Ericas, Leschenaultias, &c., choice American Plants, well set with bloom buds, viz., Rhododendrons, Ghent Azaleas, Magnolias, Kalmias, &c.—May be viewed the morning of Sale. Catalogues had at the Mart, and of the Auctioneers, Leytonstone, Essex.

TO GENTLEMEN, FLORISTS, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS are instructed to Sell by Auction, at the Mart, Bartholomew-lane, on THURSDAY, 21st December, 1848, at 12 o'clock, a selected assortment of FRUIT TREES and FLOWERING SHRUBS, &c., consigned from Holland; also about 300 Standard and Dwarf Roses, consisting of Bourbons, Perpetuals, Hybrids, Noisettes, &c., and a first class collection of Dutch Bulbs, comprising Double and Single Hyacinths, Crocus, Gladiolus, Anemone, &c.—May be viewed the morning of Sale. Catalogues had at the Mart, and of the Auctioneers, Leytonstone.

TO GRAPE GROWERS, NURSERYMEN, FLORISTS, AND OTHERS.

TO BE SOLD OR LET, with immediate possession, AN ESTABLISHED BUSINESS in the above line, situate in one of the best localities for such a purpose in the town of Brighton; laying fully open to the south, and completely sheltered from the north and west. The whole of the premises are walled in, and comprise a series of 12 Forcing and Succession Graperies, Peach, Stove, Propagating and Plant-houses, besides Pits, &c.; covered by upwards of 10,000 feet of glass. The whole of the external and sectional walls are clothed with full-bearing Fruit Trees of the finest sorts; and water from the Company's main is laid on to various fish pools and ornamental tanks, conveniently placed for the use of every part of the premises. If sold, a large portion of the purchase money may remain on Mortgage, if required.—Apply to Mr. Parsons, Auctioneer and Estate Agent, 30, Marine Parade, Brighton.

TO BE DISPOSED OF, a NURSERY and SEED TRADE, the first of its class, in one of the most important north-western counties, established nearly 60 years, and having a valuable connection.—Particulars can be obtained by applying to Mr. F Warner, 28, Cornhill; or Messrs. Noble, Fleet-street; who will explain the reason of the Proprietor relinquishing it.

FARM TO LET.

TO BE LET, an ARABLE FARM, of 500 acres, nearly all Turnip Land. It is about 30 miles from London, and two from a principal market town, from which will shortly be railway communication to London. The Homestead is most perfect, and stands in the centre of about 30 acres of Meadow, with a modern-built Lodge at the entrance, as residence for Bailiff or Shepherd. The house, of agreeable elevation, although not too large for a person solely devoted to business, is so beautifully situated as to be worth the attention of any gentleman attached to agriculture and field sports, being midway between two kennels of fox hounds; abundant spring water, and capital roads. The privilege of Shooting, and 14 or 21 years' Lease will be granted. Rent and rates moderate. For particulars, direct to J. C., Messrs. Harrison's, 2, George-yard, Lombard-street, London.

DESIRABLE FARM TO BE LET FROM LADY-DAY.

TO BE LET, the FOSS FARM in the parish of Nettleton, Wilts, 10 miles north of Bath, and six miles north-west of Chippenham, on the Great Western Railway, consisting of 180 acres, of which 168 acres are arable; the soil, an easy working hazel loam, admirable for Turnips and Barley, and 12½ acres are hill pasture. The buildings are central and modern; the owner is desirous of procuring a tenant with ample capital who will be an example to his neighbours in raising of green crops. To be viewed by personal application to Mr. Butt, Bailiff, Castle court, Chippenham, Wilts, and may be treated for by communicating with Messrs. Davis and Vigers, 3, Frederick's-place, Old Jewry, London.

FARMS TO LET.

MR. REID begs to call the attention of Agriculturists to his extensive List of FARMS now on hand, for immediate and Lady-day entry, particulars of which may be had at the Office, or a List will be sent on receipt of three postage stamps.

N.B. Applicants are requested to state the size of the Farm required.—Farmer's and Land Agency Offices, 38, Red Lion-square, London.

CARSON'S ORIGINAL ANTI CORROSION PAINT, specially patronised by the British and other Governments, the Hon. East India Company, the principal Dock Companies, most public bodies, and by the Nobility, Gentry, and Clergy, for out-door work at their country seats. The Anti-Corrosion is particularly recommended as the most durable out-door Paint ever invented, for the preservation of every description of Iron, Wood, Stone, Brick, Compo, Cement, &c., work, as has been proved by the practical test of upwards of 60 years, and by the numerous testimonials (between 300 and 400) in its favour, and which, from the rank and station in society of those who have given them, have perhaps never yet been equalled by anything of the kind hitherto brought before the public notice. A copy of the Testimonials, together with a List of Prices, Colours, &c., will be forwarded on application to Walter Carson, 15, Tokenhouse Yard, back of the Bank of England, London. No Agents. All orders to be sent direct.

IRISH AMELIORATION SOCIETY.

Capital, 500,000l., in 10l. shares.

No call beyond 1s. per share will be made until a first station shall have proved the undertaking successful.

The Right Hon. Lord De Mauley, *Chairman.*

Major-Gen. Duncan M'Leod, *Chairman of Committee of Works.*

For the extensive, permanent, and reproductive employment of the peasantry in the manufacture of Peat Fuel and Charcoal, by a simple patented process, the Peat Charcoal, so prepared, having on many trials been proved to be a most complete deodoriser, immediately, by admixture, converting feculent matter into a dry, inodorous, and portable manure of highly fertilising properties, and fit for immediate use. Peat Charcoal, so prepared by the Society, will be saleable in any quantity, and at a price which will allow of its being used for deodorising the sewage matter of London and other large towns.

A ROYAL CHARTER having been granted to the Society, limiting liability, the Directors will proceed to allot the Shares on and after the 11th December inst. James Blake, Sec.

2, Waterloo-place, Pall-mall, and 6, King William-st., City.

PORTLAND CEMENT.—Testimonials received from all quarters prove this CEMENT to possess the rare property of withstanding the severest frost, and to be consequently superior to every other for hydraulic purposes, such as building and lining of Reservoirs, Cisterns, Baths, Fish-ponds, &c. For external plastering and ornamental castings it requires neither colour nor paint. It never vegetates, and will carry from three to four times its own body of sand.

Manufacturers, J. B. White and Sons, Millbank-street, Westminster.

GLASS FOR CONSERVATORIES, &c.

HETLEY AND CO. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2d. to 3d. per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and estimates forwarded, on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to James Hetley and Co., 35, Soho-square, London.

See the *Gardeners' Chronicle*, first Saturday in each month.

GLASS FOR CONSERVATORIES.

JAMES PHILLIPS AND CO., 116, Bishopsgate-street Without, are supplying SHEET GLASS at the following reduced Prices for Cash.

HORTICULTURAL GLASS FOR CONSERVATORIES.

CUT TO SIZE UP TO 40 INCHES LONG. 16 oz. from 3d. to 3¾d. per foot.				PRICES OF SMALL SHEET SQUARES, In boxes of 100 feet.	s.	d.
21 ,,	3½	5	,,	Under	6 by 4 ..	12 6
26 ,,	3¾	7½	,,	6 by 4 and under 7 by 5 ..	16	6
32 ,,	4	9½	,,	7 by 5 ,,	8 by 6 ..	18 6
				8 by 6 ,,	10 by 8 ..	20 6

ROUGH PLATE GLASS for WINDOWS, SKYLIGHTS, and FLOORS in sizes not exceeding 5 feet superficial.

⅛ thick ... per foot	1s. 0d.	¼-inch per foot	2 0
⅜-inch	1 2	1 inch	3s. 0d.
½-inch	1 6		

PATENT ROUGH PLATE TILES.

⅛ thick .....each	0s. 11d.	¾-inch .....each	1s. 7d.
¼-inch	1 3	½-inch	2 0

GLASS DOMES for SKYLIGHTS, from 15 to 50 inches in diameter. These are well worth notice.

GLASS MILK-PANS, PROPAGATING GLASSES, and BEE GLASSES.

LACTOMETERS for trying the quality of Milk, 4 tubes 7s. 6d., 6 tubes 10s.; Hyacinth Glasses and Hyacinth Dishes; Crocus Glasses; Shades for Ornaments; Fish Globes; Plate and Window Glass; Lamp Shades and Chimneys; and every article in the trade.

METAL HAND FRAMES.

HARTLEY'S PATENT ROUGH PLATE, AND PATENT DOUBLE CROWN GLASS.

GLASS FOR GREENHOUSES, CONSERVATORIES, GARDEN FRAMES, &c.

Hothouse Builders, Nurserymen, and others, supplied with every description of Sheet and Crown Glass, Rough Plate, &c., Glass Tiles, Propagating, Cucumber, and all other Garden Glasses.—Address, T. Cogan, 48, Leicester-square, London.

PRICES OF SMALL SQUARES IN BOXES OF 100 FEET.

	Crown.	Sheet.
Squares under 6 by 4	10s. 6d. ...£0	12s. 6d.
6 by 4 and under 7 by 5	14 0 ...0	16 6
7 by 5 ,, 8 by 6	15 0 ...0	18 6
8 by 6 ,, 10 by 8	16 0 ...1	0 6

Larger sizes, of all qualities and substances, equally low.

PAINTS.—LITHIC AND OTHER DURABLE PAINTS, ready for use for FARM Buildings, Agricultural Implements, Park Fences, Outhouses, &c., &c. Genuine White-lead, Colours, Brushes, &c., best quality, and lowest prices.

GLASS MILK PANS FOR THE DAIRY.

Cream Pots, Lactometers, Glass Rolling Pins, Pastry Pans, Shades for Ornaments, Lamp Shades, &c., as usual. For Lists, (priced) direct to T. Cogan, Glass, Colour, and Lead Warehouse, 48, Leicester-square, London.

CHEAP AND DURABLE ROOFING.—Houses of all descriptions can be roofed at less than one-half the ordinary cost, by using the PATENT ASPHALTED ROOFING FELT, Manufactured by FRANCIS RITCHIE AND SONS, Belfast, Who also make Indorous Felt for lining damp walls under paper in place of lead. Samples, directions, and all necessary information sent free, on application to the Manufacturers, or any of the following Agents:—

Bristol—Tratman, Brothers.	Manchester—James Hurst, 14, High-street.
Carlisle—Edward Jobling.	Newcastle-on-Tyne—Richard Warham
Hull—Thomas Flint.	Southampton—John Vaux
Liverpool—Chapman, Bowman, and Co.	Whitehaven—Randleson and Forster.
London—Hay, Anderson, and Sangster, Newington Butts	

Hurst and M'Mullen, Seedsmen, 6, Leadenhall-street, London.

PATENT FLEXIBLE INDIA RUBBER PIPES AND TUBING FOR RAILWAY COMPANIES, BREWERS, DISTILLERS, FIRE-ENGINES, GAS COMPANIES, GARDENING AND AGRICULTURAL PURPOSES, &c.

THE PATENT VULCANISED INDIA-RUBBER HOSE PIPES are made to stand Hot Liquor and Acids without injury—do not become hard or stiff in any temperature (but are always perfectly flexible), and as they require no application or oil or dressing, are particularly adapted for Fire-engines, Pumps, Gas, Beer-engines, Gardens, and all purposes where a perfectly flexible pipe is required. Made all sizes from ¼ inch bore upwards, and of any length to order.

Vulcanised India-rubber Garden Hose, fitted with brass taps, copper branch, and roses complete, ready to be attached to Pumps, Water-butts, or Cisterns.—Sole Manufacturer, James Lyne Hancock, Goswell Mews, Goswell-road, London.

N.B.—Vulcanised India-rubber Washers of all sizes for Joints of Hot-water and Steam Pipes, and Vulcanised sheet Rubber, any thickness, for all kinds of Joints, and other purposes.

HYDRAULIC ENGINES.

J. LEGG begs to return thanks to his patrons and friends, and also to inform them that he continues to erect his improved Hydraulic Engines, Water Ram, &c., suitable for all situations where a fall can be obtained, also Engines for Deep Wells. J. L. also begs to inform his friends that he has made several improvements on his Hydraulic Machines, and flatters himself that he is able to compete with any parties of the present day in the construction of the above machines.

Apply to John Legg, Cheltenham.

IMPORTANT TO LANDOWNERS.—An Act of Incorporation having been obtained by "THE LANDOWNERS' WEST OF ENGLAND AND SOUTH WALES LAND DRAINAGE AND INCLOSURE COMPANY," affording Owners of limited Interests in Land the means of Draining, Irrigating, Enclosing, Erecting Buildings of a permanent nature on, and otherwise improving their Lands, and giving such Landowners of limited Interests the power to charge the inheritance with the value of the outlay in either of the following ways, viz.:—By charging the value on the Inheritance absolutely, or to be repayable by 25 Annual Instalments of 6l. 10s. per cent. per annum. This Company is now ready to receive applications for work to be performed under any of the provisions of their Act of Parliament, or on contract as heretofore; and from the extensive operations already in hand, they request parties wishing to avail themselves of the benefits of the Act to make early application. For all further particulars, apply to Thomas May, Secretary, 9, Bedford Circus, Exeter.

THE SUBSCRIBERS have this Season to offer the following CONIFEROUS PLANTS.

N. B.—Those marked † are Hardy. The outer columns gives the usual Height.

Leaves generally 2 in a Sheath. Natives of Europe.

	s.	d.	feet
† Pinus sylvestris, Scots Fir, native, 1 year seedling, per 1000	1	0	60
2 year seedling, per 1000	2	0	
1 yr. seedling, 1 yr. transplanted, per 1000	5	0	
2 yr. seedling, 1 yr. transplanted, per 1000	6	0	
in pots, 9 to 12 inches, each		6	
† hugnensis, 1 year seedling, per 1000	1	6	65
2 year seedling, per 1 00	2	6	
2 yr. seedling, 1 yr. transplanted, per 1000	7	0	
in pots, 15 to 18 inches, each		9	6
† argentea, in pots, small, each	1	0	50
in pots, 12 to 15 inches, each	2	6	
† uncinata, 2 year seedling, per 1000	20	0	45
2 yr. seedling, 1 yr. transplanted, per 1000	30	0	
in pots, 9 to 12 inches, each	1	0	
† tortuosa, grafted, in pots, each		7	6
† pendula, in pots, 12 inches, each	25	0	30
† globosa, 9 to 12 inches, each	15	0	40
† Pumilio, Mountain Pine, 2 yr. seedling, p. 1000	10	0	15
2 yr. seedling, 1 yr. transpl., per 1000	15	0	
2 yr. seedling, 2 yr. transpl., per 1000	20	0	
2 yr. seedling, 3 yr. transpl., per 1000	25	0	
in pots, 9 to 12 inches, each		0	6
† rubritolia, 9 to 12 inches, each		0	9
† Fischeri, in pots, 9 inches, each		5	0
† Mughus, 2 year seedling, per 1000	15	0	30
1 year transplanted, per 1000	30	0	
twice transpl., 12 to 18 ins., per 100	7	6	
in pots, 12 inches, each		0	6
† major, in pots, 9 to 12 inches, each	1	0	40
† nana, in pots, 6 to 9 inches, each	2	0	3
† sibirica, in pots, 4 to 6 inches, each	10	6	10
† Laricio, Corsican Pine, 1 yr. seedling, per 1000	7	6	90
2 year seedling, per 1000	10	0	
1 yr. seedling, 2 yr. transplanted, per 1000	20	0	
2 yr. seedling, 2 yr. transplanted, per 1000	25	0	
in pots, 12 to 18 inches, each	1	0	
† subvirdis, 12 to 18 inches, each		3	6
† caramanica, 6 to 9 inches, each		2	6
† calabrica, 2 year seedling, per 100	30	0	50
2 yr. seedling, 1 yr. transplanted, per 100	40	0	
in pots, 9 to 12 inches, each	1	0	
† monspeliensis, 1 year seedling, per 100	25	0	55
2 year seedling, per 100	30	0	
1 yr. seedling, 2 yr. transplanted, per 100	40	0	
in pots, 9 to 12 inches, each	2	0	
† austrinca, in pots, 9 inches, each	2	6	70
† pygmæa, in pots, each	7	6	20
† austriaca, Black Austrian Pine, 1 year seedling, per 1000	7	6	70
2 year seedling, per 1000	8	6	
1 yr. seedling, 1 yr. transplanted, per 1000	15	0	
2 yr. seedling, 1 yr. transplanted, per 1000	25	0	
twice transplanted, 12 to 18 ins., per 1000	40	0	
in pots, 2 feet, each	2	6	
† Pallasiana, in pots,	21	0	75
† taurica, in pots, 4 to 6 inches (true), each	2	6	65
† romana, in pots, 6 to 9 inches, each	10	6	50
† Pinaster, Cluster Pine, 1 yr. seedling, per 1000	5	6	60
1 yr. seedling, 1 yr. transplanted, per 1000	12	6	
twice transplanted, per 1000	20	0	
in pots, 12 to 18 inches, each	1	0	
† Hamiltoni, in pots, 12 to 15 inches, each	1	6	60
† heldreichiana, in pots, 12 inches, each	15	0	60
† Alcedonia, in pots, 6 inches, each	10	6	65
† Lemmaniana, in pots, small, each	10	6	80
† maritima major, Maritime Pine of France, 1 year seedling, per 1000	5	0	60
1 yr. seedling, 2 yr. transplanted, per 1000	15	0	
in pots, 12 to 15 inches, each	1	6	
† escarena, in pots, 9 inches, each	7	6	55
† lusitanica, in pots, small, each	3	6	50
† Pinea, Italian Stone Pine, 1 yr. seedling, p. 100	6	0	40
2 year seedling, per 100	8	0	
1 year transplanted, 9 to 12 ins., per 100	12	6	
2 year seedling, in store pans, per 100	10	0	
in pots, 18 inches, each	1	0	
† halepensis, Jerusalem Pine, 1 year seedling, per 100	6	0	25
2 year seedling, per 100	8	0	
transplanted, 9 to 12 inches, per 100	20	0	
in pots, 15 to 18 inches, each	0	6	
† minor, in pots, 12 to 15 inches, each	1	0	15
† brutia, in pots, small, each	5	6	80

Leaves generally 2 in a sheath. Natives of North America.

† Banksiana, in pots, 12 to 15 inches, each	3	6	25
inops, transplanted, 6 to 9 inches, per doz	6	0	40
in pots, 12 to 15 inches, each	2	0	
† pungens, in pots, small, each	5	0	40
† resinosa, in pots, 6 to 9 inches, each	3	0	65
† mitis, 2 yr. seedling, 1 yr. transplanted, per 100	30	0	60
in pots, 15 to 18 inches, each	3	0	

Leaves 3 in a sheath. Natives of North America.

† nootkatensis, in pots, each	25	0	
† Pithyusa, in pots, 9 inches, each	7	6	
† Tæda, Loblobby Pine, in pots, 12 inches, each	3	0	80
† rigida, Pitch Pine, transplanted, 4 to 6 inches, per 100	20	0	70
transplanted, 9 to 12 inches, per 100	30	0	
in pots, 15 to 18 inches, each	3	6	
in pots, 2 feet, each	5	0	
† serotina, in pots, 6 to 9 inches	2	0	35
in pots, 12 to 15 inches, each	3	6	
† variabilis, transplanted, 6 to 9 inches, per 100	35	0	60
in pots, 15 to 18 inches, each	5	0	
in pots, 2 feet, each	7	6	
† ponderosa, in pots, 4 to 6 ins., seedling, each	12	6	90
in pots, 9 to 12 inches, seedling, each	15	0	
in pots, grafted, 18 inches, each	20	0	
in pots, grafted, 2 to 3 feet, each	30	0	
† Sabiniana, in pots, 12 to 15 inches, each	21	0	100
in pots, 18 to 24 inches, each	30	0	
in pots, 5 to 6 feet, each	42	0	
† Coulteri, Great Hooked Cone'd Pine, in pots, grafted, 12 inches, each	20	0	90
seedling, 2 feet, each	30	0	
† Fenthamia, 6 inches, each	25	0	60
† australis, Georgian Pine, in pots, small, each	0	6	50
3 to 4 inches, each	2	6	
† insignis, in pots, 18 inches, each	10	6	70
in pots, 2 to 3 feet, fine, each	30	0	
† californiana adunca in pots, 6 to 9 ins., each	21	0	
† Salzmaniana, in pots, small, each	10	0	

Leaves 3 in a sheath. Natives of Mexico.

† Teocote, in pots, 6 to 9 inches, each	10	0	50
in pots, 2 to 3 feet, each	15	0	
patula, in pots, 9 to 12 inches, each	3	0	60
in pots, 3 to 4 feet, each	7	0	
† cembroides, in pots, small, each	5	0	25

Leaves 3 in a sheath. Natives of the Canaries, India, and China.

canariensis, 1 year seedling, per 100	12	6	60

Messrs. Lawson's Advertisement—continued.

	s.	d.	feet
† Pinus canariensis, in pots, 12 to 15 inches, per doz.	4	0	60
in store pots, 1 foot, per doz.	4	0	
longifolia, in pots, 9 to 12 inches, per doz.	7	0	60
in pots, 15 to 18 inches, each	2	0	
† Gerardiana, in pots, small, each	2	0	40
in pots, 6 to 9 inches, each	5	0	
† sinensis, in pots, 6 to 9 inches, each	5	0	30
3 to 4 feet, fine, each	30	0	

Leaves 5, rarely 4 in a sheath. Natives of Mexico.

† Hartwegii, in pots, 3 to 4 inches, each	7	6	45
† Devoniana, in pots, 4 to 6 inches, each	25	0	70
in pots, 2 to 3 feet, each	42	0	
† Russelliana, in pots, 4 inches, each	7	6	45
† Montezumæ, in pots, small, each	7	6	90
Lindleyi, in pots, small, each	10	6	
† Pseudo-Strobus (true), in pots, small, each	15	0	70
in pots, 12 to 2 feet, each	42	0	
filifolia, in pots, 12 to 15 inches, each	5	0	45
† macrophylla, in pots, 9 to 12 inches, each	12	0	50
† patula, in pots, 15 inches, each	21	0	
leiophylla, in pots, 9 to 12 inches, each	7	0	
oocarpa, in pots, 12 to 15 inches each	5	0	
† apulcensis, in pots, 9 to 12 inches each	15	0	
tenuifolia, in pots, 15 inches, each	5	0	
† Cordoviana, in pots, 6 to 9 inches, each	5	0	
† Greenwilli, in pots, 6 to 9 inches, each	5	0	
† Wincheriana, in pots, 6 to 9 inches, each	20	0	

Leaves 5, rarely 4 in a sheath. Natives of Europe, Asia, and Africa.

† Cembra, Cembrian or Siberian Pine, 1 year seedling, per 1000	20	0	70
2 year seedling, per 1000	30	0	
1 year seedling, 1 year transplanted, per 1000	40	0	
twice transplanted, 1 to 6 ins., per 100	15	0	
12 to 15 inches, per 100	25	0	
1½ to 2 feet, per 100	50	0	
in pots, 12 to 15 inches, per doz.	9	0	
† helvetica, in pots, 15 to 18 inches, per doz.	1	0	75
† sibirica, in pots, 12 inches, per doz.	1	0	
† pygmæa, in pots, small, each	7	6	
† Strobus, Weymouth Pine, 2 year seedling, per 1000	12	0	70
1 yr. seedling, 1 yr. transpl., per 1000	15	0	
1 yr. seedling, 2 yr. transpl., per 1000	20	0	
in pots, 9 to 12 inches per doz.	6	0	
† alba, in pots, 6 to 9 inches, each	10	6	40
† laxa, in pots 4 to 6 inches, each	12	6	
† nana, in pots, small, each	10	6	4
† nivea, in pots, 4 to 6 inches, each	17	6	
† brevifolia, in pots, 6 to 9 inches, each	10	6	
† compressa, in pots, 4 to 6 inches, each	7	6	20
† umbraculifera, in pots, each	15	0	35
† Lambertiana, Gigantic Pine, in pots, 6 to 9 inches, each	7	6	150
in pots, 15 to 1 inches, each	15	0	
† Monticola, in pots, 6 to 9 inches, each	3	6	
† Ayacahuite, in pots, 6 to 9 inches, each	21	0	
† excelsa, Bhotan Pine, 1 yr. seedling, p. 100	10	0	90
2 year seedling, p. 100	15	0	
transplanted, 4 to 6 inches, per 100	25	0	
from store pots, 9 to 12 inches, p. doz.	3	0	
in pots, 4 to 6 inches, per doz.	6	0	
in pots, 15 inches, each	1	0	
in pots, 18 to 24 inches, each	2	0	

SCALES OF THE CONE PERSISTENT.

Leaves triangular, awl-shaped, solitary, or two of them in a Section. Natives of Europe and the Caucasus.

† Abies excelsa, Norway Spruce Fir, 2 year seedling, per 100	2	0	80
2 yr. seedling, 2 yr. transpl., per 100	8	0	
† communis, in pots, 12 inches each	1	0	
† nigra, Red Norway, in pots, 12 in. each	1	0	
† pendula, in pots, 12 inches, each	3	0	
† fol. variegatis, in pots, 9 inches	7	6	
† pyramidalis, in pots, 9 inches	7	6	
† Chandrashiana, in pots, small, each	1	0	4
† elegans, in pots, small, each	3	0	
† stricta, in pots, small, each	3	0	
† gigantea, in pots, each	10	0	
† pygmæa, in pots, 6 to 9 inches, each	7	6	2
† tenuifolia, in pots, 18 inches, each	7	6	
† monstrosa, in pots, 12 inches, each	10	0	
† uncronata, in pots, 9 inches, each	10	6	
† maniata, in pots, 6 inches, each	5	0	
† brevifolia, in pots, 9 inches, each	7	6	
† Lemmaniana, in pots, small, each	1	0	
† sp. from Mexico, in pots, 12 in., each	5	0	
† sibirica, 3 year seedling, per 100	3	0	
1 yr. seedling, 2 yr. transpl., p. 100	14	0	
in pots, 9 inches, each	0	6	
† orientalis, in pots, small, each	5	0	80
in pots, 6 to 9 inches, each	7	6	

Natives of North America.

† alba, White American Spruce, 2 year seedling, per 100	10	0	50
2 yr. seedling, 2 yr. trans. 1 p. 100	10	0	
in pots, 12 inches, each	1	0	
† nigra, Black American Spruce, 2 year seedling, per 100	26	0	60
transpl., 9 to 12 in., per 100	15	0	
in pots, 12 to 18 inches, each	1	0	
† rubra, Red American Spruce, 2 year seedling, per 100	10	0	
transpl., 15 to 18 in. p. 100	2	0	
in pots, 18 inches, each	1	0	
† cærulea, in pots, 9 to 12 inches, each	5	0	

Natives of Nepaul.

† Khutrow, 1 year seedling, per 100	8	0	35
2 year seedling, per 100	12	0	
transplanted, 12 to 18 inches, p. 100	25	0	
in pots, 12 inches, per doz.	15	0	
† Morinda, Himalayan Spruce, 1 year seedling per 100	8	0	60
2 year seedling, per 100	12	0	
transpl., 9 to 12 in., per 100	17	0	
transpl., 15 to 18 in., per doz.	2	0	
in pots, 6 to 9 in., per doz.	12	0	
in pots, 12 to 18 in., per doz.	18	0	

Leaves flat, generally glaucous, in pairs. Natives of North America.

† Douglasii, in pots, 9 to 12 inches, each	2	0	100
in pots, 15 to 18 inches, each	7	0	
in pots, 9 to 12 inches seedlings, each	0	6	
in pots, 18 inches seedlings, each	1	0	
in pots, 2 feet seedlings, each	2	0	
† taxifolia, in pots, each	0	6	
† Menziesii, in pots, small, each	1	0	80
in pots, 12 to 18 inches, each	7	0	
in pots 2 to 3 feet, each	7	0	
† canadensis, Hemlock Spruce, transplanted, 12 inches, p. doz.	9	0	60
transplanted, 18 to 24 in., per doz.	15	0	
in pots, 9 to 12 inches, per doz.	15	0	

Messrs. Lawson's Advertisement—continued.

	s.	d.	feet
† Abies [illegible]	2	6	60
in pots, 12 to 15 inches, each	3	0	
in pots, 2 to 3 feet, each	5	0	

Leaves [illegible]

† Picea pectinata, Silver Fir, 1 year seedling, per 100	7	0	80
2 year seedling, per 100	10	0	
in pots, 2 to 3 feet, each	3	0	
† pumila, in pots, 6 to 9 inches, each	15	0	
in pots, 9 to 12 inches, each	21	0	
† Pinsapo, in pots, 6 to 9 inches, each	1	6	
in pots, 2 to 3 feet, each	5	0	

SCALES OF THE CONE DEHISCENT.

Leaves [illegible]

† Larix europæa, Common Larch, Tyrol, 1 year seedling, per 1000	5	0	90
2 year seedling, per 1000	7	0	
transplanted, 1 year, per 1000	12	0	
2 year, per 1000	15	0	
in pots, 12 to 15 inches, each	1	0	
† Tyrolensis, 1 year seedling, per 1000	5	0	
2 year seedling, per 1000	7	0	
transplanted, 1 year, per 1000	12	0	
2 year, per 1000	15	0	
in pots, 12 to 15 inches, each	1	0	
† Cedrus Libani, Cedar of Lebanon, 1 year seedling, per 100	10	0	90
2 year seedling, per 100	15	0	
in pots, 12 to 15 inches, each	1	0	
† Deodara, Indian Cedar, 1 year seedling, per 100	10	0	90
2 year seedling, per 100	15	0	
in pots, 12 to 15 inches, each	1	0	
† Araucaria imbricata, Chili Pine, 2 year seedling, per 100	30	0	60
2 yr. seedling, 1 yr. transplanted, per 100	40	0	
in pots, 12 to 15 inches, each	2	6	
Cupressus, in pots, 12 inches, each	1	0	
Thujopsis, in pots, 12 inches, each	1	0	
excelsa, in pots, 12 inches, each	2	0	
Cunninghamia sinensis, in pots, 12 inches, each	2	0	
Pinsapo, in pots, 12 inches, each	2	0	
Panama australis, in pots, 12 inches, each	2	0	
orientalis, in pots, 12 inches, each	2	0	
in pots, 18 to 24 inches, each	3	0	
† Thuja occidentalis, American Arbor-vitæ, 1 year seedling, per 100	2	0	50
2 year seedling, per 100	3	0	
in pots, 12 to 15 inches, each	1	0	
† Wareana, in pots, 12 inches, each	1	0	
orientalis, Chinese Arbor-vitæ, 1 year seedling, per 100	2	0	30
2 year seedling, per 100	3	0	
in pots, 12 to 15 inches, each	1	0	
† Libocedrus tetragona, American Arbor-vitæ, 1 year seedling, per 100	10	0	50
2 year seedling, per 100	15	0	
in pots, 12 to 15 inches, each	1	0	

(continued on next page)

Messrs. Lawson's Advertisement—*continued.* s. d. feet

† THUJA pendula (*filiformis*), in pots, 15 to 18 ins., each 10 (
sp. from Mexico, in pots, 12 inches, each ... 5 6
† sp. nova, in pots, 4 to 6 inches, each ... 5 6
LIBOCEDRUS (*Thuja*), Donniana, in pots, 4 ins., each... 50 (
CALLITRIS macrostachya, in pots, 9 inches, each ... 7 6
sp., in pots, 9 to 12 inches, each ... 1 6 20

Leaves simple, evergreen, imbricated, linear, shoots angular or roundish.

† CUPRESSUS sempervirens, Common Cypress, 1 year seedling, per 100 3 6 40
2 year seedling, per 100 ... ... 5 0
transplanted, 12 to 15 inches, p. 100 15 0
† stricta, 1 year seedling, per 100 ... ... 4 0
2 year seedling, per 100 ... ... 6 (
in pots, 12 to 18 inches, per doz. ... 6 0
† horizontalis, 1 year seedling, per 100 ... 4 0
2 year seedling, per 100 ... ... 6 0
† pendula, in pots, 12 to 18 inches, per doz. ... 18 0
† glauca, in pots, 12 to 18 inches, per doz. ... 12 0
† Tournefortia, transpl. 15 to 18 inches, p. 100 17 6 40
in pots, 12 to 18 inches, per doz. ... 6 0
† thujoides, White Cedar, in pots, 6 to 9 ins. per doz. 12 0 25
in pots 12 to 15 inches, per doz. ... 18 0
† fol. variegatis, in pots, small, each ... 7 6
† atrovirens, in pots, 9 inches, each ... 3 6
† lusitanica, in pots, 9 to 12 inches, each ... 2 0 45
elegans, in pots, 9 to 12 inches, each 3 6
† torulosa, 1 year seedling, per 100 ... ... 20 0 30
in pots, 4 to 6 inches, each ... 0 6 30
in pots, 9 to 12 inches, each ... 1 0
in pots, 18 to 24 inches, each ... 1 6
† elegans, in pots, 9 to 12 inches, each 3 6
† pendula, in pots, 6 to 9 inches, each 3 6
† viridis, in pots, 9 to 12 inches, each... 5 0
thurifera, in pots, small, each 0 9 50
in pots, 12 to 18 inches, each ... 2 0
in pots, 3 feet, each 5 0
juniperoides, in pots, 2 feet, each 2 6
australis, in pots, 12 to 18 inches, each ... 2 6
† occidentalis, in pots, 15 inches, each ... 3 6
religiosa, in pots, 6 to 9 inches, each ... 21 0 25
† dioica, in pots, 6 to 9 inches, each ... 21 0
† bacciformis, in pots, 12 to 15 inches, each... 10 6 20
† Lambertiana, in pots, 12 to 18 inches, each 7 6 40
in pots, 5 to 6 feet, each ... 50 0
† sp. from California, in pots, small, each ... 3 6 40
in pots, 9 to 12 inches, each 7 6
Garden Island, in pots, 9 ins., each ... 1 0
† Kamoan, in pots, 9 to 12 inches, each 2 0
Brazil, in pots, 18 inches, each ... 3 6
† Moreton Bay, in pots, 12 inches, each 5 0 30
† TAXODIUM distichum, Deciduous Cypress, in pots, 12 inches, each 1 0 100
in pots, 15 to 18 inches, each .. 2 0
† pendulum, in pots, each 5 0
sempervirens, in pots, small, each ... 1 0 100
in pots, 12 inches, each ... 3 6
in pots, 18 inches, each ... 5 0
in pots, 6 to 7 feet, each ... 63 0
† de Huegel, in pots, 9 inches, each 10 6
in pots, 15 inches 15 0
† pinnatum, in pots, each 15 0 70
Horsfieldi, in pots, each 21 0
sinensis, in pots, each 10 0

Leaves spreading in the Adult Plant. Natives of Europe.

† JUNIPERUS communis, Common Juniper, transplanted, 6 to 9 ins., per 1000 50 0 8
transplanted, 12 to 18 ins., p. 1000 60 0
in pots, 12 to 18 inches, per doz. 6 0
† nana, in pots, small, each ... 1 6 1½
in pots, 9 to 12 inches, each ... 3 6
† suecica, Swedish Juniper, transpl., 4 to 6 inches, per 100 15 0 16
transplanted, 9 to 12 ins., per 100 21 0
transplanted, 15 to 18 ins., p. 100 25 6
† hibernica, Irish Juniper, transpl., 6 inches, per 100 17 6 15
transplanted, 15 to 18 ins., p. 100 25 0
in pots, 6 to 9 inches, per doz. ... 6 0 2
† taurica, in pots, small, each ... 3 6 20
† oblonga, in pots, 9 to 12 inches, each 7 6
in pots, 18 to 24 inches, each ... 15 0
† pendula, in pots, 9 to 12 ins., each... 10 6
vera, in pots, 9 inches, each ... 15 0 8
† canadensis, in pots, 9 to 12 ins , each 2 6 4
† depressa, in pots, 3 to 4 ins., each 2 6
† cracovia, in pots, 6 to 9 inches, each 3 6 12
† Oxycedrus, Brown-berried Juniper, in pots, small, each 2 0
in pots, 9 to 12 inches, each ... 3 (
† taurica, in pots, 6 to 9 inches, each... 3 6 2
† echiniformis, in pots, 4 inches, each... 15 0 12
† macrocarpa, in pots, 15 to 18 inches, each... 25 (

Leaves spreading in the Adult Plants. Natives of Asia and North America.

† JUNIPERUS dupracea, in pots, 9 to 12 inches, each... 10 6 20
† dealbata, in pots, 6 to 9 inches, each ... 3 6 20
† virginiana, Red Cedar, transplanted, 6 to 9 inches, per 100 12 0 40
transpl., 12 to 18 inches, per 100 15 0
transpl., 2 feet, per doz. ... 6 0
in pots, 15 to 18 inches, per doz. 12 0
† pendula, in pots, 12 to 18 ins., each 5 0
† fol. variegatis, in pots, 6 to 9 ins., each 25 0
† bermudiana, in pots, small, each 2 6 25
in pots, 12 to 18 inches, each ... 5 0
† nepalensis, in pots, small, each 7 6 20

Leaves of the Adult Plant imbricated. Natives of Europe.

† JUNIPERUS Sabina, Common Sabine, 4 ins., p. doz. 4 0 8
9 to 12 inches, p. doz. 6 0
† tamariscifolia, in pots, small, each ... 0 9 7
in pots, 9 to 12 inches, each ... 1 6
† prostrata, in pots, small, each ... 1 6 1
† alpina, in pots, small, each ... 3 6
† variegata, in pots, small, each ... 3 6
† budsonica, in pots, 6 to 9 ins., each... 10 6 2
† phœnicea, in pots, 9 to 12 inches, each ... 3 0 20
† Lycia, in pots, 9 to 12 inches, each ... 3 0 15
† thurifera (*hispanica*), in pots, small, each ... 7 6 30
in pots, 9 to 12 inches, each 10 6

Leaves of the Adult Plant imbricated. Natives of Asia.

† excelsa, in pots, 9 to 12 inches, each ... 3 6 40
in pots, 18 to 24 inches, each ... 6 0
in pots, 4 to 5 feet, each 25 0
† Lasdeliana, in pots, 2 to 3 feet, each ... 21 0 30
† lorulensis, in pots, 9 to 12 inches, each ... 10 6 35
† Gossainthania, in pots, small, each ... 3 0 25
† Bedfordiana, in pots, 4 to 6 inches, each ... 1 0 20
in pots, 2 feet, each 7 6
† religiosa (Royle), in pots, 6 to 9 ins., each 21 0 25
flagelliformis, in pots, 9 to 12 inches, each... 10 6 15
† Reevesiana, in pots, 9 to 12 inches, each ... 21 0 20
† squamata, in pots, small, each 5 0 3
† recurva (*repanda*), in pots, small, each ... 1 0 10

Messrs. Lawson's Advertisement—*continued.* s. d. feet

† JUNIPERUS recurva (*repanda*), in pots, 12 to 15 ins., ea. 7 6 10
† chinensis, in pots, small, each 3 6 20
in pots, 12 to 18 inches, each... ... 10 6
† Smithi, in pots, small, each 7 6
† uvifera, in pots, small, each 42 0

Leaves of the Adult Plant imbricated. Natives of Mexico.

† tetragona, in pots, 9 to 12 inches, each ... 5 0 5
flaccida, in pots, 12 inches, each 7 6 20
Uhdeana, in pots, small, each 2 6 25
in pots, 6 to 9 inches, each 3 6
in pots, 2 to 3 feet, each 19 6
sp. from Mexico, in pots, each 7 6

Species of recent introduction.

† Whitmanniana, in pots, 12 to 15 ins., each 15 0 30
† neoborinensis, in pots, 6 to 9 inches, each ... 25 0 10
† TAXUS baccata, Common Yew, 1 year seedling 1 year transplanted, per 1000 50 0 40
transplanted, 4 to 6 inches, per 100 ... 10 0
transplanted, 9 to 12 inches, per 100... 15 0
transplanted, 15 to 18 inches, per doz. 12 0
in pots, 9 to 12 inches, per doz. ... 6 0
† stricta, in pots, 9 to 12 inches, each ... 2 6
horizontalis, in pots, 6 to 9 inches, each 2 6
† fol. aur. variegatis, in pots, small, each 3 0 25
in pots, 9 to 12 inches, each ... 5 0
in pots, 15 to 18 inches, each ... 7 6
† fol. argent, in pots, 15 to 18 inches, ea. 42 0
† fructu luteo, in pots, 6 to 9 inches, each 2 6
† elegantissima, in pots, 4 to 6 inches, ea. 12 6
† procumbens, in pots, 9 to 12 inches, ea. 10 6 3
† umbraculifera, in pots, 9 to 12 ins., ea. 10 6
† fastigiata, Irish Yew, transplanted, 2 to 3 inches, per 100 25 0 15
transplanted, 4 to 6 inches, per 100 40 0
transplanted, 9 to 12 inches, p. doz. 9 0
transplanted, 12 to 18 ins., p. doz. 12 0
transplanted, 2 feet, per doz. ... 30 0
transplanted, 2½ to 3 feet, each ... 3 0
transplanted, 4 to 5 feet, each ... 10 6
in pots, 1½ foot, each 2 6
† tardiva (*adpressa*), in pots, small, each ... 10 6 14
in pots, 9 to 12 inches, each 15 0
in pots, 18 inches, each 35 0
† canadensis, Canadian Yew, transplanted, 2 to 3 inches, per doz. 6 0 45
transplanted, 6 to 9 inches, per doz. ... 12 0
transplanted, 18 to 24 inches, each ... 3 0
in pots, 1 foot, each 2 6
† pyramidalis, in pots, 6 to 9 inches, each ... 2 0 38
† major, in pots, 9 to 12 inches, each 3 6
japonica (*sinensis*), in pots, 9 to 12 inches, each 15 0 40
(*Podocarpus*) thurringtonia, in pots, small, ea. 5 0 40
macrophylla, 6 to 9 inches, each 5 6 40
angustifolia, in pots, 9 to 12 inches, each ... 3 6
† coriacea, in pots, small, each 7 6 30
Mackoyi, in pots, 9 to 12 inches, each ... 5 0
longifolia, in pots, 4 to 6 inches, each ... 3 6
in pots, 9 to 12 inches, each 5 6
dacrydioides, in pots, 9 to 12 inches, each... 3 6 18
in pots, 2 to 3 feet, each 10 6
elongatus, in pots, 6 to 9 inches, each ... 3 6
pungens, in pots, small, each 1 0 25
in pots, 15 to 18 inches, each ... 5 0
in pots, 2 to 3 feet, each 7 6
† Totara, in pots, 12 to 18 inches, each ... 15 0
montana, 3 to 4 inches, each 20 0 36
† SALISBURIA adiantifolia, Maiden-hair Tree, in pots, seedling, 4 inches, each 2 0 60
in pots, 9 to 12 inches, each 3 0
DACRYDIUM cupressinum, in pots, 15 to 18 ins., each 7 6 20
† CRYPTOMERIA japonica, in pots, small, each ... 3 6 100
in pots, seedlings, small, each... 5 0
in pots, 12 inches, each ... 12 6
in pots, 6 feet, each 140 0
PHYLLOCLADUS trichomanoides, in pots, 12 to 18 inches, each 5 0
† FRENELIA Huegeli, in pots, 12 to 15 inches, each ... 10 6 35
in pots, 2 to 3 feet, each 15 6
† RETINOSPORA ericioides, in pots, 6 inches, each ... 21 0
† squarrosa, in pots, 9 to 12 in., each ... 25 0
† TORREYA taxifolia, 6 inches, each 21 0 40

PETER LAWSON AND SON,
Seedsmen and Nurserymen to the Highland and Agricultural Society of Scotland.
Edinburgh, December 1848.

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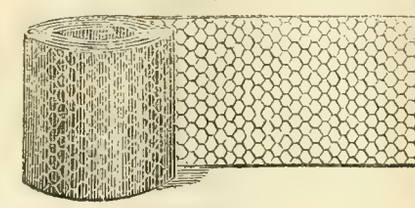

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THIS JOURNAL, which is unrivalled, will be ENLARGED, on and after SUNDAY, the 7th of JANUARY, 1849, to SIXTEEN PAGES, containing SIXTY-FOUR COLUMNS, of the SAME SIZE AND FORM AS AT PRESENT, WITHOUT ANY EXTRA CHARGE. The DISPATCH will, therefore, answer the purpose of FOUR NEWSPAPERS. An Edition of the DISPATCH is published at Five o'Clock every Saturday morning, for transmission by the First Train and Morning Mails, so that persons residing in towns 250 miles from London may receive it the same evening. An EXPRESS EDITION of the DISPATCH is published every SUNDAY AFTERNOON, containing News *direct* from Paris, and other parts of the Continent, up to Eight o'Clock on Saturday Evening.

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Printed by WILLIAM BRADBURY, of No. 6, York-place, Stoke Newington, and FREDERICK MULLETT EVANS, of No. 7, Church-row, Stoke Newington, both in the county of Middlesex, Printers, at their office in Lombard-street, in the Precinct of Whitefriars, in the city of London; and published by them at the Office, No. 5, Charles-street, in the parish of St. Paul's, Covent Garden, in the said county, where all Advertisements and Communications are to be addressed to the Editor.—SATURDAY, Dec. 16, 1848.

THE GARDENERS' CHRONICLE
AND
AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News.—The Horticultural Part Edited by Professor Lindley.

No 52.—1848.] SATURDAY, DECEMBER 23. [Price 4d.

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THE OLDEST CANDIDATE ON THE LIST.
TO THE SUBSCRIBERS TO THE
GARDENERS' BENEVOLENT INSTITUTION.

The favour of your Votes and Interest is earnestly and respectfully solicited in behalf of CHARLES AINSLIE, aged 84 years, who has subscribed three years to the Charity, but now, from his advanced age and other infirmities, is incapable of obtaining a livelihood.

GARDENERS' BENEVOLENT INSTITUTION.—Notice is hereby given that the ANNUAL GENERAL MEETING of the Subscribers to this Institution will be held on Wednesday, 17th January next, at the London Coffee House, Ludgate, for the purpose of electing officers for the ensuing year, and receiving the accounts of the Charity for the past year. The chair to be taken at 12 o'clock precisely. An Election for Two Pensioners will afterwards take place from among the following Candidates, whose testimonials have been examined and approved of by the Committee.

Name.	Residence.	Age.	
EDWARD MARSHALL	London	69	6th application.
MARY BROWNE	London	82	4th ,,
MARTIN MILLER	Exeter	78	4th ,,
JOHN SKEATES	Clapham	69	4th ,,
THOMAS GOODHALL	Dulwich	72	3rd ,,
THOMAS MILLS	Wandsworth	71	3rd ,,
CHARLES AINSLIE	Leyton, Essex	83	2nd ,,
JOHN APPLEBY	Clapham	55	2nd ,,
ROBERT DUNCAN	Highgate	69	2nd ,,
OGILVIE NEIL	Scone, Perth	80	2nd ,,
HUMPHREY TAYLOR	Clapham	70	2nd ,,
JAMES BATTEY	London	65	1st ,,
EDWARD BEACH	Gloucester	74	1st ,,
JOHN COCKS	Clapham	62	1st ,,
JOHN ROSS	London	64	1st ,,
RICHARD RUDLAND	Dartford, Kent	70	1st ,,
JOHN SHEPHERD	Clapham	70	1st ,,

The Ballot will commence at 1 and close at 3 o'clock precisely.

The Committee earnestly request those Members whose subscriptions are as yet unpaid, to remit the same without delay, as no person will be allowed to vote whose subscription for the year 1848 is unpaid on the day of election.

EDWARD ROGER CUTLER, Secretary, 97, Farringdon-st., Dec. 23

STAMFORD HILL HORTICULTURAL SOCIETY.

The EXHIBITIONS of this Society for the year 1849 will be held on the under-mentioned days, viz.

WEDNESDAY, 9th May,
WEDNESDAY, 13th June,
WEDNESDAY, 18th July.

The above Society is confined to the resident Gentry and Amateurs; but for the general encouragement of Horticulture, prizes are awarded to Nurserymen, who are invited to compete among themselves at each Exhibition.

Warwick-road, Upper Clapton. C. H. ANDERSON, Hon. Sec.

CORNWELL'S VICTORIA RASPBERRIES.—G. C. can confidently recommend the above as superior to any sort ever offered. Prizes were awarded to them at the Hort. Society's Gardens, Royal Botanic Society's Gardens, and the Surrey Zoological Gardens, as being the best shown for size, colour, and flavour. The fruit in Covent Garden was sold at a higher price than any other. Strong canes to be had at E. CHARLWOOD'S, Covent Garden; W. and J. NOBLE'S, 152, Fleet-street; also of GEORGE CORNWELL, Market Gardener, Barnet, Herts, at 1l. 10s. per 100, or 4s. per doz. The usual allowance to the trade.

TALL WELL-FURNISHED EVERGREENS, WITH FOREST AND ORNAMENTAL TREES, FOR IMMEDIATE EFFECT.

J. J. FOSTER, of the Edgeware Nurseries, having a fine stock of the above frequently transplanted, and grown on an adhesive soil (which permits them to be drawn with good balls of earth and safely moved), can supply them at very moderate rates. The Evergreens consist principally of Spruce and Scotch Firs, Evergreen Oaks, Arbor vitæ, Portugal and common Laurels, Savins, &c. The Deciduous stock includes Limes, Planes, Beech, Hornbeam, Elms, Scarlet and Horse Chestnuts, Larch, Lilac, Guelder Roses, Laburnums, Acacias, Poplars, Weeping Ash, &c.—Prices given on application, as well as Catalogues of the stock of Fruit Trees, Roses, &c.

NEW AND GENUINE SEEDS.

WILLIAM E. RENDLE & Co have made arrangements this season with some of the principal seed growers in the country, for an excellent supply of all the most valuable Seeds. Their CATALOGUE is now ready, and may be obtained GRATIS, and should be read by every one who purchases seed, either for the Farm, the Kitchen Garden, or the Flower Garden.

Apply to WILLIAM E. RENDLE and Co., Seed Merchants, Plymouth.

RENDLE'S NEW SEED CATALOGUE will appear in full at the back page of the *Gardeners' Chronicle*, on Saturday, the 6th day of January.

NEW KITCHEN GARDEN SEEDS

No. I.	Complete Collection, containing 20 Quarts of PEAS, and all other seeds in proportion, for one year's supply for a Large Garden, for	..	..	£2 10 0
No. II.	Complete collection, in smaller quantities			1 10 0
No. III.	ditto	ditto	ditto	1 0 0
No. IV.	ditto	ditto	ditto	0 12 6

A List of the sorts furnished for each collection can be obtained from WILLIAM E. RENDLE and Co., SEED MERCHANTS, PLYMOUTH.

Their Catalogue of VEGETABLE and FLOWER SEEDS, for the present season, *is now ready*, and can be had on application *Gratis*.

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HENRY GROOM, Clapham-rise, near London, by appointment FLORIST TO HER MAJESTY THE QUEEN, and to HIS MAJESTY THE KING OF SAXONY, begs to recommend to the attention of the Nobility and Gentry the above splendid LILY for planting in their Shrubberies and Pleasure Grounds, as it is quite hardy, and flowers at that period of the year when they are at their country seats; it is also very fragrant. He can supply good flowering bulbs of LILIUM LANCIFOLIUM ALBUM, at 5l. per 100, package included. This is the best season of the year to plant them.

H. G. begs to say he has a fine collection of ANEMONES and RANUNCULUSES at moderate prices.

SELECT VEGETABLE SEEDS of the NEWEST and BEST SORTS, supplied in large or small quantities, by BASS and BROWN; complete in collections of 63s., 42s., and 25s., also complete collections for small gardens of esteemed and favourite sorts for 15s. For any vegetables not required, enlarged quantities of others may be had. A list of the collection sent if required. Carriage paid to London. Post-office orders are payable to either BASS and BROWN or STEPHEN BROWN. Remittances requested from unknown correspondents.

Being growers of an extensive variety of Seeds, we shall be happy to forward our prices to the trade of such sorts as we have this season to offer.

BASS and BROWN, Seed and Horticultural Establishment, Sudbury, Suffolk.

TO PLANTERS AND THE TRADE.

DICKSON and TURNBULL, NURSERYMEN, &c., Brechin, N.B, beg leave to intimate that they hold a large stock of the following Plants, of very fine quality, which will be sold cheap, viz.:

OAK (English), from 2 to 4 feet high.
SCOTCH FIR, 1 and 2 years transplanted.
,, ,, 2 year seedlings.
LARCH, 1 year transplanted.
SPRUCE (Norway), 2 and 3 years do.

Will be put free on board a vessel, either at Montrose, Arbroath, or Dundee.—Brechin, Dec. 23.

MANNINGTON'S PEARMAIN.

JAMES CAMERON, NURSERYMAN, Uckfield, Sussex, begs to inform his friends and the public that he is now ready to send out trees of that most excellent APPLE, called by Dr LINDLEY, "Mannington's Pearmain," a seedling raised at Uckfield, and hitherto confined only to this locality. It is a most excellent dessert Apple, with a rich, sugary, and aromatic flavour, superior in every respects to the Ribstone Pippin, and will keep even to the end of May. It has been favourably noticed by Dr. LINDLEY, in the *Gardeners' Chronicle* of April 1848. Plants of this Apple can be obtained, Dwarf Maidens, at 1s. 6d each, by application as above, or to Messrs. Gray, Adams, and Hogg, Nurserymen, Brompton-park, Kensington, London.

Remittances expected from unknown correspondents.

DONALD AND SON, of the Goldworth Nursery, Woking, near Ripley, Surrey, are ready to receive orders from noblemen, gentlemen, and the trade, for any portion of their fine Stock of FRUIT and FOREST TREES, HARDY ORNAMENTAL TREES and SHRUBS, CONIFERÆ, &c. &c. Their prices are unusually low, their stock unusually good, and their desire to please as great as ever.

N.B. Goods sent free to London, per Rail.—Dec. 23.

DUNCAN HAIRS, SEEDSMAN and FLORIST, 109, St. Martin's-lane, Charing-cross, London, takes the present opportunity of informing the Nobility and Public in general that he has now completed his selected CATALOGUE of VEGETABLE, FLOWER, and AGRICULTURAL SEEDS, which can be had on application.

D. H. is sole agent for the new Enamelled Labels, the most unique of their kind; the Royal Potting Garden Chair, and Bowers' new Watering Pot, all of which can be seen at the above address, or lithographic drawings forwarded per post. Gentlemen purchasing Seeds for distribution among their cottagers or tenants, also emigrants, treated on the most liberal terms. Seeds put up in such quantities as to meet the views of all. Emigrants cannot have it too strongly impressed on their minds the importance of taking with them a few of the most useful culinary and fruit seeds.

DUTCH EVERLASTING POTATOES imported, 12s. per bushel; MUSHROOM SPAWN, with directions for cultivating; FICUS ELASTICUS, CACTI, ALOES, &c., suitable for in-door cultivation, always on hand.

CLAPHAM [illegible]

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MICHELL'S [illegible]

W. CUTTLER has [illegible]

THE [illegible]

TO BE SOLD CHEAP, A CANTELUPIAN HY-PROINCUBATOR. [illegible]

KITCHEN GARDEN SEEDS.—No. 1.—A [illegible]

No. 2.—Complete collection [illegible]

No. 3.—[illegible]

No. 4.—[illegible]

No extra charge [illegible]

WILLIAM JAMES EPPS, Maidstone.

SEEDS.—[illegible]

THE [illegible]

SELF-REGISTERING [illegible]

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TO GENTLEMEN ENGAGED IN PLANTING.

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(These are splendid plants.)
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" 4 to 5 feet, 1 to 3 guineas each.
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" 3 to 6 feet, 21s. to 63s.
" MENZIESII, 3 to 5 feet, 42s. to 84s. per doz.
" INSIGNIS, 1½ to 2 feet, 7s. 6d. each.
" " a few very fine plants, from 5 to 7 feet, 2 to 5 guineas.
" CEMBRA, 5 to 7 feet, 10s. to 15s. each.
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" CANADENSIS, or Hemlock Spruce, 4 to 5 feet, 21s per dozen.
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" EXCELSA, 3 to 6 feet, 3s. 6d. to 10s. 6d. each.
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" WEBBIANA, 2 to 4 feet, 10s. 6d. to 42s. each.
" PINSAPO
" CEPHALONICA } A few of the largest and most
" LAMBERTIANA } handsome plants in the trade.
" HARTWEGII } Prices will be given on appli-
" DOUGLASII } cation.
" MACROCARPA

IRISH YEWS, 6 to 9 feet, 7s. 6d to 15s. each.
*** It often happens Irish Yews are injured or rendered unsightly from their tendency to divide in windy or snowy weather. The plants here offered are grown from one stem only, similar to those at Elvaston, which are the finest in the kingdom.
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(These are splendid plants.)
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" " 8 to 10 feet, very handsome plants, 21s. to 42s. each.
" CHINENSIS, 4 to 5 feet, 7s. 6d. to 10s. 6d. each.
" " large handsome plants, 6 to 8 feet, 21s. to 31s. 6d each.
" IRISH UPRIGHT, 4 to 6 feet, 3s. 6d. to 10s. 6d.
" " 7 to 9 feet, 15s. to 21s.
*** These two last-named Junipers ought to be planted by every one who has any place approaching a lawn.
THUJA WAREANA (the best variety of Siberian Arbor Vitæ), fine plants, 5 to 7 feet, 5s. to 7s. 6d. each.
The above are all growing in the open ground, are healthy and handsome specimens; they have never been in pots, and consequently are the more desirable.
HOSEA WATERER would also invite attention to his stock of large Spruce Firs, from 7 to 15 feet high; large Red Cedars, Phillyræas, green and variegated Hollies, Common Yews, 4 to 7 feet, fine Standard Weeping Limes, Weeping and Purple Beech, Standard Magnolias, Tulip Trees, &c, all of which are in a capital state for removing, and will be sold reasonably.

The Collection of AMERICAN PLANTS at the KNAP HILL NURSERY is well known as being the most extensive in this country; witness the beautiful Exhibition in the King's-road, Chelsea, every spring.
RHODODENDRONS, best hardy kinds, 30s. to 60s. per dozen.
" fine hardy scarlets, large plants, 60s. per dozen.
AZALEAS, best varieties, from 18s. to 42s.
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*** Hardy Heaths are not planted so generally as they deserve. Nothing can be more interesting and beautiful, and flowering as they for the most part do in the autumn, renders them still more valuable.

FOR PLANTING COVER, CARRIAGE DRIVES, &c.
RHODODENDRON PONTICUM, fine bushy plants, from 10s. 6d. to 21s. per 100.
BOX-LEAVED PRIVET (a new and very superior variety to the old Evergreen), 8s. to 12s. 6d. per 100.
BERBERIS AQUIFOLIUM, bushy plants, 9 inches to 12, 50s. per 100.
" ditto, larger, 1½ to 2 feet, 7s. to 10s. per 100.
" DULCIS, 1 to 1½ foot, 7s. to 10s. per 100.
" ARISTATA, 1 to 1½ foot, 21s. per 100.
This last is an excellent plant for these purposes, and requires only to be better known to be more extensively planted.
ENGLISH JUNIPERS, 1 to 2 feet, 7s. to 12s. 6d. per 100.
SWEET BRIARS, 8s. to 12s. 6d. per 100.
COMMON LAURELS, fine bushy plants, 10s. to 25s. per 100.
PORTUGAL LAURELS, 2 to 3 feet, 30s. per 100.
QUICK, very strong, transplanted, 8s. to 10s. per 1000.
FRUIT TREES.—Dwarf trained Apples
" Pears } Fine trees, 2s. 6d.
" Cherries } to 3s. each.
" Plums
" Apricots } Fine trees, 3s. 6d.
" Peaches } each.
" Nectarines

Goods delivered free to London and to the Slough Station on the Great Western Railway. The Knap Hill Nursery is within an hour's ride of London, being near the Woking Station, South Western Railway.
It is particularly requested that letters intended for this Establishment may be addressed, HOSEA WATERER, Knap Hill Nursery, near Woking, Surrey.

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JOHN MORTLOCK, 250, Oxford-street, respectfully announces that he has a very large assortment of the above articles in various colours, and solicits an early inspection. Every description of useful CHINA, GLASS, and EARTHENWARE at the lowest possible price, for cash.—250, Oxford-street, near Hyde-park.

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See the *Gardeners' Chronicle*, first Saturday in each month.

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7 by 5 " 8 by 6	15 0	0 18 6
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26 " 3½ 7½ "	6 by 4 and under 7 by 5..16 6
32 " 4 9½ "	7 by 5 " 8 by 6..18 6
	8 by 6 " 10 by 8..20 6

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⅜-inch	1 2	1 inch	3s. 0d.
½-inch	1 6		

PATENT ROUGH PLATE TILES.

⅛ thick	each 0s. 11d.	⅜-inch	each 1s 7d.
¼-inch	1 3	½-inch	2 0

GLASS DOMES for SKYLIGHTS, from 15 to 50 inches in diameter. These are well worth notice.
GLASS MILK-PANS, PROPAGATING GLASSES, AND BEE GLASSES.
LACTOMETERS for trying the quality of Milk, 4 tubes 7s. 6d., 6 tubes 10s.; Hyacinth Glasses and Hyacinth Dishes; Crocus Glasses; Shades for Ornaments; Fish Globes; Plate and Window Glass; Lamp Shades and Chimneys; and every article in the trade.
METAL HAND FRAMES.
HARTLEY'S PATENT ROUGH PLATE, AND PATENT DOUBLE CROWN GLASS.

PERUVIAN AND BOLIVIAN GUANO ON SALE,
BY THE ONLY IMPORTERS,
ANTONY GIBBS AND SONS, LONDON;
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And by their Agents,
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COTESWORTH, POWELL, AND PRYOR, LONDON.
To protect themselves against the injurious consequences of using inferior and spurious Guano, purchasers are recommended to apply only to Dealers of established character, or to the above-named importers, who will supply the article in any quantity, at their fixed prices, delivering it from the Import Warehouses.

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THE LONDON MANURE COMPANY beg to offer as under:—
LONDON MANURE COMPANY'S CORN MANURE.
" " " URATE. [LIME.
" " " SUPER-PHOSPHATE OF
Peruvian Guano, direct from Importers' stores—Fishery and Agricultural Salt—Gypsum for Clover—Soda Ash for destroying wireworm, and every other Artificial Manure.
The London Manure Company would call particular attention to their Corn Manure and Urate, the former containing a large amount of Ammonia, Phosphates, and Silicates, all so essential for corn crops, while the Urate is richer in Phosphates and other mineral substances required for roots.
Full particulars and prices forwarded on application.
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DR. RYAN'S CHEMICAL MANURES,
Manufactured solely by Messrs. STRETTON, HAYWARD and Co.,
GENERAL AGRICULTURAL AGENTS.
Offices, 7, Chandos-street, Cavendish-square, London.
Under Distinguished Patronage.

MESSRS. STRETTON, HAYWARD AND Co., have entered into an arrangement with Dr. RYAN, Professor of Chemistry at the Royal Polytechnic Institution, London, whose exclusive services are retained to superintend the manufacture of Chemical Manures, upon entirely new and scientific principles, based upon the analysis of soils and the production of fertilizing agents suited to their various properties and the nature of the desired crops. In submitting Dr. Ryan's latest discoveries to agriculturists, Messrs. STRETTON, HAYWARD, and Co. can with the utmost confidence state, that their Manures will, after the severest test, be found to possess far greater fertilizing powers than any hitherto offered to the public, which, together with their cheapness (being 40 per cent. under the price of Peruvian Guano) must entirely supersede all other Manures. By the use of these fertilizers those crops which so frequently suffer from the ravages of the fly and other insects are in a great measure protected. Horticulturists are particularly recommended to use "Dr. Ryan's Garden Manures" for general purposes. Sent, carriage free, to any part of the kingdom, at
For top dressings .. .. .. £5 10 0 per ton.
For Wheat, Barley, Oats, Hops, or any grain or seed .. .. .. 6 10 0 "
Dr. Ryan's genuine Superphosphate of Lime 7 0 0 "
Nitrate of Soda, Gypsum, Rough Bones, Sulphuric Acid, &c., tested by their Chemist at lowest market prices.
English and Foreign Oilcake.

HOT-WATER APPARATUS for Heating Horticultural Buildings, Dwelling-houses, Churches, and Manufactories, upon the most improved principles, at the very lowest charges, supplied and fixed.

WM. WITHAM, 8, George-street, Camberwell-green, having heated a considerable number of horticultural and other buildings, and having had many years' experience, begs leave to inform the Gentry and Nurserymen that he can supply and fix any kind of HOT-WATER APPARATUS on the most liberal terms, in any part of the Kingdom, together with Conical and other Boilers, of all sizes; the largest consumes but a small quantity of fuel, only requiring attention once in 10 or 12 hours, and will heat a range of Forcing-houses 200 feet in length. He also begs leave to recommend his improved TANK, which can be made of wood, iron, or cement, for bottom heat for Propagating-houses, Pineries, Pits, &c.
Reference may be had from Gentlemen and Nurserymen, and Apparatus seen in use at his own place. Gentlemen waited upon with Plans, Estimates, &c.

A LADY of cheerful disposition, who has had much experience in private tuition, and has just quitted a family in which she resided 14 years, wishes to form another engagement, in which the duties of mental instruction will not be required. She would be happy to enter a family of which the Children, through bereavement, need MATERNAL CARE AND KINDNESS; and she feels sure that docile children would receive from her the tenderness and sympathy which such circumstances claim. Unexceptionable references will be given. Address, prepaid, N. J., Post-office, Tunbham Green, London.

LAND PROPRIETORS possessing Waste and Uncultivated Land, under the Enclosure Act or otherwise, and wishing to have the same Drained, Enclosed, Farmed, and Buildings Erected on well organised and economical plans, may do so by Contract or otherwise; also Drain Pipes, Brick-making, and every description of ground and water work performed, or the same superintended in England, Ireland, Scotland, or Wales. For further particulars address WM. HARRIS, Surveyor and Contractor, Almodington, Chichester, Sussex.

STEPHENSON AND CO., 61, Gracechurch-street, London, and 17, New Park-street, Southwark, Inventors and Manufacturers of the Improved CONICAL and DOUBLE CYLINDRICAL BOILERS, respectfully solicit the attention of scientific Horticulturists to their much improved method of applying the Tank System to Pineries, Propagating Houses, &c., by which atmospheric heat as well as bottom-heat is secured to any required degree, without the aid of pipes or flues. S. and Co. have also to state that at the request of numerous friends they are now making their Boilers of Iron, as well as Copper, by which the cost is reduced. These Boilers, which are now so well known, scarcely require description, but to those who have not seen them in operation prospectuses will be forwarded, as well as reference of the highest authority; or they may be seen at most of the Nobility's seats and principal Nurseries throughout the kingdom.
S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.
Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

HEALTH OF TOWNS ACT.
SEWERAGE A SOURCE OF PECUNIARY PROFIT.

COODE'S IRRIGATOR gives for the first time a marketable value to sewer liquor, of which it will apply a ton for less than one halfpenny, without injury to the land or any crop upon it. Also COODE'S CATARACT, of a medium size, waters 18,000 square yards of road in an hour for less than four-pence. The Patentee will divide the profit of the use of his Cataract for three years with persons already under contract to water public roads.—Address, GEORGE COODE, Esq., Nuneaton.—Agents wanted.

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BY HER MAJESTY'S ROYAL LETTERS PATENT.

F. M'NEILL AND Co., of Lamb's-buildings, Bunhill-row, London, the Manufacturers and only Patentees of THE ASPHALTED FELT FOR ROOFING Houses, Farm Buildings, Sheddings, Workshops, and for Garden purposes, to protect Plants from Frost.
At the Great National Agricultural Shows, it is this Felt which has been exhibited and obtained TWO SILVER MEDAL PRIZES, and is the Felt SOLELY patronized and adopted by
HER MAJESTY'S WOODS AND FORESTS,
HONOURABLE BOARD OF ORDNANCE,
HONOURABLE EAST INDIA COMPANY,
HONOURABLE COMMISSIONERS OF CUSTOMS,
HER MAJESTY'S ESTATE, ISLE OF WIGHT,
ROYAL BOTANIC GARDENS, REGENT'S PARK,
And on the Estates of the Dukes of Sutherland, Norfolk, Rutland, Newcastle, Northumberland, Buccleuch (at Richmond), the late Earl Spencer, and most of the Nobility and Gentry; and *at the Royal Agricultural Society's House, Hanover-square.*
It is half the price of any other description of Roofing, and effects a great saving of Timber in the construction of Roofs. Made to any length by 32 inches wide.
PRICE ONE PENNY PER SQUARE FOOT.
*** Samples, with Directions for its Use, and Testimonials of seven years' experience, with references to Noblemen, Gentlemen, Architects, and Builders, sent free to any part of the town or country, and orders by post executed.
☞ The Public is cautioned that the only Works in London or Great Britain where the above Roofing is made, are F. M'NEILL AND CO.'S
Patent Felt Manufactory, Lamb's-buildings, Bunhill-row, London, where roofs covered with the Felt may be seen.
The new Vice-Chancellor's Courts, at the entrance to Westminster Hall, were roofed with F. M'NEILL and Co.'s Felt about two years since, under the Surveyorship of Chas. Barry, Esq., R.A. Her Majesty's Commissioners of Woods and Forests are so satisfied with the result that they have ordered the Committee Rooms at the Houses of Parliament to be roofed with their Felt. Quantity altogether used, 24,000 feet.
Note.—Consumers sending direct to the Factory can be supplied in lengths best suited to their Roofs, so that they pay for no more than they require.
Every information afforded on the construction of Roofs, or any proposed particular application of the Felt.

TWO TURNIP-CUTTERS AT THE PRICE OF ONE.

MARY WEDLAKE AND CO.'S NEW TURNIP CUTTER for Beasts and Sheep, price 5l. Linseed Crusher, 6l. 15s.; ditto, doing Beans, Linseed, and Oats, 10l. 10s. THRESHING MACHINES, doing upwards of 25 loads of Wheat straw per day, 60 guineas. MARY WEDLAKE and Co.'s CHAFF-CUTTING MACHINE, 100 to 200 bushels a day, price 7l. 7s. and 5l. 5s. Horse-hoe, Dressing Machine, Turnip Drill, Oil-cake Breakers, Bean and Oat Crushers, Subsoil Plough, Double Field Roller, &c.—MARY WEDLAKE & Co., 118, Fenchurch-street (opposite Mark-lane), London.

CARSON'S ORIGINAL ANTI-CORROSION PAINT, specially patronised by the British and other Governments, the Hon. East India Company, the principal Dock Companies, most public bodies, and by the Nobility, Gentry, and Clergy, for out-door work at their country seats. The Anti-Corrosion is particularly recommended as the most durable out-door Paint ever invented, for the preservation of every description of Iron, Wood, Stone, Brick, Compo, Cement, &c., work, as has been proved by the practical test of upwards of 60 years, and by the numerous testimonials (between 300 and 400) in its favour, and which, from the rank and station in society of those who have given them, have perhaps never yet been equalled by anything of the kind hitherto brought before the public notice. A copy of the Testimonials, together with a List of Prices, Colours, &c., will be forwarded on application to WALTER CARSON, 15, Tokenhouse Yard, back of the Bank of England, London. No Agents. All orders to be sent direct.

RENDLE'S NEW SEED CATALOGUE is now ready, on application, GRATIS. Every purchaser of Seed should forthwith procure a copy.
Address, WILLIAM E. RENDLE and Co., Seed Merchants, Plymouth. Established 1786.

BECK'S SEEDLING PELARGONIUMS.—Several of the above are figured in Vol. I. of "The Florist," published by CHAPMAN and HALL, Strand. This work may be had of all respectable Booksellers, price 12s. in boards. It contains 15 Coloured Plates, numerous Woodcuts, and much information on the Pelargonium in its 320 pages of letter-press. JOHN DOBSON will supply the volume free by post, on receiving a Post-office order on Brentford for 11s. 6d.
Isleworth, Dec. 23, 1848.

JACKSON'S IMPROVED ASH-LEAVED KIDNEY POTATO.—This is the most prolific and best Early Kidney Potato grown. Good round sets 10s. per bushel, from the undersigned.
THOMAS JACKSON and SON, Nurserymen, Kingston, Surrey.

The Gardeners' Chronicle.
SATURDAY, DECEMBER 23, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

TUESDAY,	Dec.	26—Zoological	9 P.M.
MONDAY,	Jan.	1 Entomological	8 P.M.
		1 Pathological	8 P.M.
FRIDAY,	—	5—Botanical	8 P.M.
SATURDAY,	—	6—Asiatic	2 P.M.

SOME details respecting Mr. KER'S mode of covering ground with trellis and MOVEABLE SASHES remain to be given, in order to complete the account of the plan.

The trellis must touch the ground in front, and rise to 2 feet or 2½ feet at back. It is also better that it should not be more than 6 or 8 feet wide, so that a man may be able to reach to the middle of the trellis from either side. If the trellis does not touch the ground in front, or if the ground is not raised to the trellis, there is a difficulty in bending the trees to the necessary angle. If the ground and trellis do touch, then the trees can easily be placed sloping enough, and all difficulty on this point is avoided.

The frame on which the sashes rest should be only just outside the trellis, and 1 foot higher, so as to allow the distance of about a foot between the glass and the trellis. This outside frame consists of nothing more than a piece of quartering 4 inches square, nailed to the top of posts driven into the ground at every 6 feet along the front and back.

Mr. RIVERS has thus covered a piece of land 60 feet long, and proposes to extend the plan to an acre or two. He employs as materials Larch poles about as thick as a man's leg for rails, bars, and posts; the latter are charred. The trellis itself is constructed with common pantile laths nailed 9 inches apart to battens 3 × 2, nailed to a row of posts 3 feet apart, back and front.

The sashes are formed by Mr. RIVERS upon a still cheaper plan than by Mr. KER. The same rough materials are employed, not a mortise is made, not a plane used, nor are even Mr. MONTGOMERY'S steam-cut sash bars found necessary. Each sash is 4 feet wide and 8¾ feet long, and has three rows of panes. Each pane is a foot wide; the other foot is made up of the thickness of the sash bars and side rails. The side and top rails are of 3 × 4 inch quartering, cut at the ends so as to overlap each other. The sash bars are formed by similar pieces of quartering, let in flush with the rails; and the rebates for the glass are made by tacking upon each side rail and bar a strip of lath an inch deep. A similar piece of lath is tacked to the top rail, so as to form a rebate for the upper end of the glass. The sashes thus made are secured to the front and back rails, on which they rest, by stout wire hasps. They require no rafters to work upon, but simply rest by their ends on the top and bottom rails. The hasps serve for hinges to raise them by, and at the same time prevent their being blown away. A cross lath, nailed to the middle of the under side, holds the sides of the sashes together.

These are certainly very rough contrivances, and where something smart is looked for, they will not do. But if mere utility is wanted they answer every purpose; it is not even necessary to paint them. A model will be found in the window of Mr. KERNAN'S shop, at the corner of Charles-street and Russell-street, Covent-garden, and a pattern is in preparation in the Garden of the Horticultural Society.

As we have already stated, this invention promises to be the beginning of a new æra in English gardening. Last year, after the fruit was gathered, Mr. KER put on his sashes, letting them lap over the border, because his trees, being young, did not reach to the back of the trellis; and on his return to England on the 3d November, his border was dry, and his wood nearly as ripe as it would have been at Lisbon; at the same time his open borders were drenched with wet, and the leaves and branches there were green and flourishing with bad sap.

But it is not to Peaches and Nectarines alone that this contrivance is applicable. Early Cherries, Plums, Figs, and especially Apricots, may be procured abundantly. We all know that the Apricot, admirable a fruit as it is, rarely acquires much excellence here, to say nothing of its uncertainty as a crop, owing to our early frosts. Nor do we at all see why capital Grapes should not be had by this plan, without the great expence of houses and heating apparatus.

To the flower garden it promises to be not less valuable. Early flowers and dwarf shrubs, that now demand a greenhouse, promise to become inhabitants of every garden whose owner can afford half-a-dozen rough sashes such as we have described; and even one will procure for those of the most restricted means the unspeakable pleasure to be derived from watching the unfolding buds of a Camellia or an Indian Azalea in a dreary English spring. What the necessary cost of such a box may be, we shall endeavour to ascertain for the benefit of our readers. We would suggest to the builders of hotbeds that it would answer their purpose to offer them for sale, of two or three different sizes, and glazed with glass of different qualities.

IN proceeding to notice the CULTURE OF AMERICAN COTTON IN BENGAL, the first thing to determine is the proper time for sowing the seed. In such a climate as we have described, with a high annual temperature, very little, if any, frost, and a fair share of moisture even in the driest months, it is evidently possible to propagate a variety of plants throughout the year. Thus Rice may be sown in March and April, and again in June and July, the first being reaped from August to October, and the second from November to January, in different parts of the province. In the northern parts of the district, Wheat, Barley, Peas, and other summer crops of Europe are sown in October, and reaped in January and February.

The earliest account which we have of the cultivation of Cotton in Bengal, is that given by Mr. BEBB, then of Dacca, in reply to the desire expressed by the East India Directors, in 1788, for information on this subject. He describes that cultivated in Bengal, and in the days when Dacca was famous for its muslins, by the name of *photee*, "as the finest Cotton in the known world, producing cloth of astonishing beauty and fineness." The plant is further stated to be an annual, of which two crops are obtained in the year, one being sown in October or November, and its crop gathered in April, while the other is sown in April or May, and the crop collected in September. The April crop is the most esteemed, and bears a higher price, but is liable to failure from long drought or from violent storms, moderate showers being very beneficial to it. The inferiority in the September crop is probably owing, Mr. BEBB thinks, "to the vegetation from April to September being more rapid and less substantial." The cultivation appears to have been carefully conducted, and the price from 5½ to 6½ rupees. He states that experiments were then making to ascertain whether it would retain its excellent qualities when cultivated in other parts of Bengal. Dr. ROXBURGH, who was appointed to the Calcutta Botanic Garden in 1793, early paid attention to the Cotton plant of Dacca, which he considered to be only a variety of Gossypium herbaceum, and states that "the most intelligent people of Dacca think the great difference lies in the spinning, and allow little for the influence of soil." Mr. LAMB, long resident at Dacca, writing in 1831, says that the Cotton crop is not in favour with the farmers, more especially as the price had fallen from 5 to 3½ rupees the maund within a few years. It is, moreover, an uncertain crop, being liable to injury from insects, from rain and hail, and from inundations.

The cultivation of American Cotton seems to have been early attempted, for Dr. ROXBURGH describes the Bourbon Cotton as having been introduced about 20 years, and that it succeeds better in the more elevated, drier, and less fertile soil of Coromandel than in Bengal, where the plant grows to a great size, yields less Cotton, and the cultivation is very generally relinquished. The Agricultural Society of India state that their attention had been directed to the cultivation of Cotton ever since 1820, but that distinct measures of operation were taken in 1829. At the close of that year the Bengal Government placed at the disposal of the Society 20,000 rupees for premiums, but this was all lost in an agency house. They also authorised an experimental farm to be established, for which the annual sum of 10,000 rupees (1000*l*.), exclusive of rent, was allowed, and 4500 rupees for buildings and stock for the first year. In June, 1830, upland Georgia, Sea Island, and Demerara Cotton seed, together with a saw-gin for cleaning Cotton, were received from the Court of Directors, and made over to the Society, together with Captain BASIL HALL'S account of the culture of Cotton in America. A farm amounting to 500 [illegible]

[illegible] A part of the failure was [illegible] storms, but which, the Committee think, [illegible] possibly be the means of [illegible] a mode of culture better adapted [illegible] Their Superintendent says, "[illegible] season, 1832-3, shows a more favourable [illegible] 60 maunds of clean Cotton, and [illegible] Cotton seed were gathered at the [illegible] ber, 1832, to May, 1833," chiefly from a [illegible] of upland Georgia Cotton, on [illegible] "the stumps of which only were left [illegible] hail-storms of the 25th and 26th March, 1832; these stumps threw out fresh [illegible] rainy season of that year, were pruned [illegible] well hoed up at the commencement of the rains, and yielded, from December to May, 12,000 lbs. of Cotton, including seed, making on an average per beegah (of 120 square feet) 144 lbs. when [illegible] having been separated from the seed [illegible] of clean Cotton, and 103½ lbs. of seed."

On this the Committee [illegible] the description of Cotton might [illegible] cultivated as a perennial plant, under a course of treatment similar to that which Mr. BRUCE describes as followed in Persia, where, after the [illegible] sheep have been allowed to browse [illegible] plants (after crop), the peasantry are permitted to complete the work of spoliation by [illegible] remaining branches to the roots. [illegible] storms destroyed the crop of 1831-2, [illegible] the means of providing a [illegible]

M. DE VERNEUIL was so well satisfied with this accidental success, as to be led to calculate that the culture would be profitable if carried on on a large scale. The Committee, after making [illegible] deductions from his estimate, [illegible] and give 20 per cent. as the profit on [illegible] It is to be regretted that the Committee having had practical experience, and [illegible] of the causes of failure, [illegible] experiments for a few years [illegible] as 5 acres would have [illegible] determining many of the [illegible] and of culture, in so warm and moist a climate.

Our limits will not allow us to enter [illegible] tails of the experiment, we believe still proceeding, to grow American Cotton in Dacca. The [illegible] selected as formerly famous for its [illegible] as well as for its Cotton, which is [illegible] Mr. DUNCAN, the highly intelligent Commissioner, thinks there is nothing "to which the soil of the district is so well suited as Cotton." Mr. PRINSEP, a planter practically acquainted with the culture of Cotton in America, was appointed in the year 1832, to conduct the experiment. He seems to have been indefatigable in his endeavours to [illegible] frequently every part of the district, but the climate every one else in India appears to have been unacquainted with the labours of the [illegible]

Mr. PRINSEP induced some Indian planters and several Zemindars to grow the American Cotton on their farms. The Government [illegible] to be made to Dacca willing to [illegible] to purchase all that they grew. A farm was directed to be established under Mr. PRINSEP'S personal superintendence. But [illegible] seems to have [illegible] nearly all his experiments. Yet, as the American plant in some shape or other [illegible] fruit, not for a short time only, but for months

together, we cannot help thinking that there was something incompatible in the soils selected, or in the methods of culture adopted, for so moist and warm a climate as that of Dacca. New Orleans and Bourbon seed were sown both at the conclusion of the rainy season, and with the first showers in February and March, again in May and June, and, indeed, in every month of the year. Various complaints were made; that the seed did not vegetate, that the ground was too moist or inundated, that the weather was too dry for the young plants, &c. In some situations the plants did grow freely, but they were utterly destroyed by insects. Unfortunately, there seems hardly a period of the year which is free from them. In one year, it is stated that all the American Cotton planted subsequent to the 1st October suffered from caterpillars; in December we read of a grey grub; and in May that every boll contained a small red worm; also, that in June they were destroyed by insects, and a second time in August and September by innumerable small green insects. Such devastation can only be remedied by studying the natural history of the several insects, and applying appropriate remedies, if such be practicable. The indigenous Cotton being harder and more hairy, is less attacked by insects. Some of these insects may be avoided by changing the period of sowing, and others by pruning down the plant; for one of the difficulties of the culture is, no doubt, over-luxuriance from a warm and moist climate. The plants, as might be expected, grow well in the rainy season. In one year there was a cessation of rain in July, when the leaves looked withered, and as if blighted. Again, in the middle of November, in another season, the coldness of the nights withered the leaves and made them fall, and prevented the bolls opening, but the plant "re-leafed itself," though the second leaves were smaller than the first we read nowhere else of a check to vegetation. Some plants which were 4 feet high in May, and bearing abundantly, were destroyed by gales of wind; but they quite recovered themselves, and were bearing again, by the 26th of August, for the second time. In December, the same plants, when just a year old, had been in bearing for five months, and they long continued to bear, with the exception of two or three short intervals of about three weeks at each time. Mr. Price animadverts on the length of time the New Orleans plant requires, and hopes "it will soon repay the few months longer it takes before bearing in this country," and observes, "it is a triennial plant here, not an annual, as in the United States." The Bourbon Cotton, Mr. Price found running too much to wood, and was afraid it would require to be checked by pruning. In September he cut it down to 3 feet; by the end of the month it threw out new branches, and it was hoped it would bear in the dry season, though this was a system he had never seen tried in America. Subsequently it is reported to be better suited to the eastern parts of Bengal than any other foreign Cotton.

Experiments were commenced, in 1844, by Mr. Terry, another American planter, at Rungpore, in the month of April, but bad health compelled him to leave in the spring of 1845. The district appears suited to the growth of Cotton. The plants are, as in the south, very luxuriant, requiring to be propped, from the quantity of bolls with which they become loaded. Some of the natives had cultivated Mexican Cotton and found it more profitable than their own, but insects are here also complained of.

Notwithstanding the apparent over-luxuriance, and the absence of any check to growth, we find rich soils especially selected, and manure thought essential. This may be the case, but in so moist and warm a climate, Cotton might more easily be grown in a more sandy and poorer soil, exposed to the influence of the sea breeze, as near Luckypore, or in the sea islands of Hattea and Sundeep. In the interior drainage is necessary, and poorer soils, which the roots could easily permeate, and which are not wholly free of moisture and of nourishment, would seem to suit the American Cotton plant better than the rich soils selected. The plant should be checked in its growth by pruning, so as to make it come into bearing at the most appropriate season. Mr. Price, however, seems to despair of success with the exotic, and was, therefore, trying to improve some of the native Cottons. Those of Broach, of Omerawatty, and, perhaps, of Bundlecund, seem most desirable. He seems to think that the exotic Cottons would succeed better on the Tipperah hills, where a coarse Cotton is already grown, than on the plains. "On the hills the rain speedily runs off, yet not until it has given sufficient moisture to the soil, which he believes to be eminently adapted to the cultivation of Cotton, and yet unfavourable to the growth of those weeds which are so troublesome on the plains." The experiment might be tried, as also in the poorer and more open districts, exposed to the equalising effects of the sea breeze, and where probably insect life would be less rife.

PENTSTEMON SPECIOSUM.

Nothing can be more charming in the flower garden than a bed filled with this plant, properly treated and in full bloom: but this beautiful Pentstemon is seldom to be seen in cultivation under any circumstances, and the reason always assigned is that it is difficult to manage. This, however, is not the case; on the contrary, if properly treated, few plants are more easily cultivated. I will therefore point out how it should be treated, for the guidance of those who may be desirous of cultivating one of the handsomest hardy herbaceous plants our gardens possess.

The Pentstemon was first introduced about 20 years ago, by Douglas, from the north-west coast of North America, where apparently it is very abundant. It is, however, very variable both in colour of flowers, size, and shape of the leaves, and also in stature, some plants attaining 4 feet, others not more than 2 feet in height; in some plants the foliage is broad and nearly round or spathulate, particularly the lower leaves, while on other plants it is long and narrow, and most frequently lanceolate, even the radical leaves; some plants, again, have no leaves upon their stems, beyond the first whorl of flowers, while others have leaves intermixed with the flowers to near the top. The flowers, as I have stated, also vary much both in shape and colour; some are short, inflated, and very ringent; others (on separate plants) are more tubular, larger, and much less ringent. They also vary greatly in colour; some being very pale blue, others deep azure blue, and on some plants even reddish purple: but all this happens on separate plants, which are capable of being raised from seeds, although without any certainty. A pale-flowered variety of this plant has lately been published in the "Botanical Magazine," under the name of Pentstemon Gordoni, from the eastern side of the Rocky Mountains; but it is not sufficiently distinct to be separated from the original species, even if perpetuated by cuttings.

The seeds should be sown as soon as they are ripe in the autumn, for if not sown until spring they will probably remain dormant until the following March, which is the case with those of most Pentstemons from the north-west coast of America and California. The seeds should be sown in pans or large pots, in pure sandy loam, without any mixture whatever, and should be placed in a cold pit or frame for the winter, where they will require no further care until the following spring (beginning of March) when they should be removed to a warmer situation, where there is plenty of light and air (the greenhouse is a very suitable situation), and where they may remain until the middle of May, when the young plants should be potted, taking care at all times that they never suffer from the want of water, with which they should be liberally supplied. In potting, place each plant singly in a 60-pot (3-inch), and use a compost composed of three parts sandy loam and one of well decayed cow-dung; afterwards place the plants in a close pit or frame, and water freely for a few days, until they recover the effects occasioned by the shift; afterwards give air freely, and when the weather becomes very warm and the sun bright, about midsummer, place the plants in a frame with its face to the north, shading them in very bright sunshine, but fully exposing them during night and in dull weather. They may remain in this situation until the end of August, when they should be shifted into larger pots, using the same kind of compost as before, and giving a liberal supply of water. When shifted they should be placed in an airy situation, where they are partially shaded from the sun, until the end of October, when the strongest plants should be planted out in a bed in the flower garden, made rather rich and fresh, with sandy loam and rotten dung; the smaller ones should be again transferred to a cold pit or frame for the winter, where they will be free from damp or stagnant moisture at their roots, and where they may remain until the end of the following March, when they may also be planted out in the flower garden as before, making the soil very rich for them with rotten dung. These plants will then make a good succession to those planted in the autumn; they must be freely supplied with water in very dry weather, but never over-head, for if watered over-head they very soon canker and lose their stems, and as the stems are easily blown over or broken off by the wind, they should be fastened to slender stakes about the beginning of June, and it would be very advisable to place hand-glasses over the plants planted out in the end of October, to protect them in case the winter should prove very severe and damp, for although they are seldom killed by cold, they are very impatient, and soon injured by frost and damp together, particularly in spring.

Thus treated, this fine Pentstemon will bloom from the end of June to September, and produce abundance of seeds, which should again be sown as above stated, for in reality the plant is not more than a *biennial*, and requires to be raised every year from seed to keep up a succession. When an account of this plant was first published, it was stated to be a perennial, and this led many to suppose it was difficult to preserve for any length of time. *George Gordon.*

REMARKS ON THE PROPAGATION OF PLANTS BY LEAVES.

My attention having been drawn by Mr. Cheek's notice on the propagation of plants by leaves, and an extract from the *Gardeners' Chronicle* for 1845, published in the Society's Journal, Vol. V., Part IV., I beg to submit the following remarks of what I have perused from several German and Danish writers on this interesting subject.

Many have heard and noticed the circumstance of propagating plants and trees by leaves, but it appears very few are aware of the real facts of the case. An intelligent gardener in Germany, by name Heinrich, was, if I am not mistaken, the first person who made the experiment; but Mr. Mirandola* is the first person who has written on the subject, and all that Mr. Hohberg, and latterly Mr. Thümming and other writers have written on the same subject, is entirely borrowed from the above authority. To the great German agriculturist and economist, Von Mürchousen, is undoubtedly the whole credit due, of having been the person who has set this question at rest, and furnished us with real proofs with regard to this interesting subject. His grandfather planted in the year 1714 a leaf of a Lemon tree (Limon à Revo), and observed that it had during the summer struck roots, but without forming any buds; the ensuing spring he removed it into another pot, only allowing the roots to be covered up by the soil; very soon a bud was formed, but the stem was checked in its growth by the formation of a flower bud, which the same season produced a fruit of a pretty good size. The grandson Otto Von Mürchousen, and his worthy secretary, Mr. Jakaby, have since succeeded in rearing a number of trees on the same plan, which attained the height of 8 feet; and who, by a number of experiments, discovered that, without exception, they failed in producing buds on other leaves than those of a Lemon tree, and that only by paying attention to the following precautions in choosing the leaf: the leaf must be the produce of the same spring, and be healthy and full grown when detached from the branch, and particular attention must be paid that not the least sign of an eye or bud is perceptible at the angle formed by the stalk of the leaf and the branch, in which case the leaf is perfectly useless for propagation. If a leaf of the above description is obtained, it is put into a flower pot, and a slow heat and a continual and even moisture supported. When due attention is paid to the above, you may be sure of success.†

Mr. Esaias Fecisher, an eminent Danish naturalist, and who has written a good deal on the physiology of plants, has endeavoured to settle this question, and explain the cause that produces such irregular effects in a leaf. I will, as near as possible, give his own words: "Let us particularly notice and examine into the mechanism and functions of the leaves, and the work they are intended to perform, namely, to absorb, digest, and prepare food to support other parts of the plant. It is a well known fact, that trees generally put forth two shoots during the season; when the first shoot has been produced by the agency of the organisable matter, prepared and reserved from the previous year, the preparation of fresh organisable matter for the production of the second shoot takes place. We must here particularly notice the circumstance, that no eye or bud is to be found on a Lemon tree about this time, and the organisable matter is consequently reserved in the leaf itself, as if in store, till the supply is sufficient to form cellular matter for the production of buds, which at once burst out into leaves and branches. It is then evident, that the cause is to be traced to the circumstance that the leaf contains in itself the necessary organisable matter that engenders cellular substance for the production of buds and leaves, without the agency of the other parts of the tree, which, in other trees than that of a Lemon tree, is gradually supplied from the leaves, for the formation of buds, and they do not therefore contain the necessary organisable matter, for, as soon as a bud is formed, the leaf is exhausted, and has not the power to produce another bud."

On perusing the above remarks, the idea suggested itself to me whether leaves of other trees could not be prepared for the purpose of propagation, by adopting some means to prevent the eye or bud making its appearance, which, I should say, can easily be effected by operating upon the leaf and branch to which the leaf is attached, by which process the petiole of the leaf is charged with the necessary organisable fluids, and contains within itself, as the germ in a seed, the matter that ultimately produces a bud. Is it not probable that this circumstance will account for some persons having succeeded in forming buds on leaves, while others, with all the attention and perseverance they have bestowed upon it, have failed in doing? Is there not some likelihood that in those instances which have been attended with success, the leaves selected have been deformed or injured by insects or other causes, in the first stage of their formation and growth? I am about making some experiments, and shall not fail to report the result to you. I think the subject well worthy the attention of parties who have more leisure and opportunity in making such experiments. *H. Rehling, in Journal of the Agricultural and Horticultural Society of India, August* 25, 1847.

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

The Azalea.—At this gloomy season of the year we are often cheered by thinking of the treasures which are preparing to display themselves when a few weeks shall have brought more light and a higher temperature. The buds of Hyacinths and early Tulips are ready to burst their cells, and already a shade of purple or

* The same authority is quoted in the extract from the *Gardeners' Chronicle* for 1845. There is evidently a mistake in the extract, which calls him "Maudirola."

† Agricola has noticed the successful experiments made by Von Mürchousen in his "Virsuch der Universal, Virsuchoung aller Baume, &c." but he has sadly prejudiced the cause he has adopted by the publication of some plates illustrative of the subject, and his statements abound in improbabilities.

crimson or white gives an indication of what is to be. This is especially the case with the Azalea, whose stems are now covered with the buds which, in the spring, will form one mass of beauty. Some of this tribe are hardy enough to stand our winters, and the scientific management lately recommended in the *Chronicle* for Camellias would probably acclimatise most of the varieties. At present it is by greenhouse culture only that the Azalea displays its charms, and our remarks will apply to that alone. Those who have a collection of these plants in the garden know very well that Nature must do more for them than they can. Their possessors may procure the right kind of soil, and select the hardiest descriptions, and have besides the advantage of the warmest spots of our island; but, after all, a cold wet spring may prevent their realising a good show of flowers. But by the skilful management of a greenhouse this disappointment may be avoided.

The Azalea is propagated by seeds for obtaining new varieties, or for stocks for grafting the finer sorts upon; by inarching or grafting, when the tender kinds may be strengthened by being united with those which are more robust; and by cuttings, which is the more common and expeditious process for raising young plants. A soil composed of peat and sand in equal quantities is the best, and the cuttings should be covered with hand-glasses until struck. The best time is when the parent plants are in the most vigorous growth, for the cuttings partaking of that vigour will more readily emit roots than when the vital juices are inspissated and comparatively motionless. When struck, the young plants must have every advantage of light and air, and frequent shiftings, to secure a vigorous development, until they come into bloom. The after treatment then divides itself into two parts, suggested by the distinction pointed out by Nature between the seasons of activity and rest which all vegetation demands. As growth commences immediately after blooming, the plants should be repotted then, all the flower stems being cut off, to prevent the energies of vegetable life going for the production of seeds. The most appropriate soil consists of about six parts of heath mould, in which there is a large portion of vegetable matter, one part of sandy loam and one of sand. Great care is requisite in potting, both as to the size of the pots and the disposition of the roots, which are very fine and of a hair-like texture. They must be disposed as equally as possible in all directions, that the spongioles may not be crowded together, but may absorb equally the matters requisite for the vigour of the plant. Good drainage must be secured, varying however according to the habits of the plants. Some are semi-evergreen, while others are decidedly deciduous; the former will require larger pots and more drainage than the latter.

During growth the Azalea, as is indicated by its native climates, requires great heat, and will obtain a full development only by plenty of sun, conjoined with artificial means of gaining due moisture of the atmosphere, such as syringing morning and evening. When the growth has attained its extent, more air must be given and the temperature lowered, to prepare the plants for summer exposure; they may then be placed in a cool greenhouse, or in a deep pit, until, the wood being fully ripened, they may by the middle of July be put on an open border of east or west aspect, safe from the droppings of trees and cold winds. They may continue in this position until September, when the flower-buds will be formed, and the plants must then be removed to their winter quarters in a close Vinery or greenhouse, air being only admitted in mild, dry weather. Great care is requisite at this season in watering, the deciduous varieties requiring less moisture than those which are evergreen. In February the bloom will become more developed, and more air and water should then be given. *H. B.*

VEGETABLES.

We have been asked for information respecting the best sorts of Beans, Peas, Cabbages, Broccoli, Lettuces, Kidney Beans, and Onions. The following may be depended on; but those who have an opportunity may try, in comparison with them, many of the other kinds recently advertised.

Beans.—Early Mazagan, Long-pod, and Broad Windsor.

Peas.—Early Kent: this is of the nature of the Early Frame, and has probably been obtained from the latter by careful seed saving; it is a week or 10 days earlier. Early Charlton succeeds the preceding. Fairbeard's Champion of England: a good large-podded marrow, as early as the Early Charlton. Auvergne: pods long and hooked at the point, containing 8 to 10 Peas of excellent quality. Woodford's Green Marrow: Peas very large. Knight's Dwarf Marrow and Knight's Tall Marrow are well known by their wrinkled mature seeds; in a green state they are the most sugary of all Peas; the tall sort will afford a longer succession than any other; it requires rich soil and strong sticks, 8 feet high.

Cabbages.—As an early Cabbage, none exceeds the Early York; no other variety is known to have the ribs and veins less prominent. As larger and later varieties, there are many differing but little from the Vanack, which may be considered the type of the Battersea, Imperial, and Fulham. The Pomeranian is a very distinct sort, a good late Cabbage, conical, with a sharper point than any other variety. The Portugal Cabbage, or Couve Tronchuda, is not so hardy as the preceding varieties; there are two sorts of it, a dwarf and a tall; the dwarf cooks more tender than the other. The Small Dark Red Cabbage is best for pickling.

Broccoli.—Grange's Early Cauliflower, Hammond's Fine White Cape, Knight's Protecting, Walcheren, and Snow's Superb White, may be considered sufficient to supply the whole season. In fact, the Walcheren alone may be made to do this by timely sowings.

Lettuces.—As a Cos Lettuce for summer use, none is equal to the White Paris Cos. The Green Paris Cos is nearly as good in quality, and is hardier. The Brown Dutch is however best for winter and spring use. The Malta and Versailles are excellent Cabbage Lettuces for summer; and the Hammersmith Hardy Green for winter. The Artichoke-leaved Lettuce is a very singular variety; the leaves are long, erect, and much cut, yet they blanch tender; the plants are hardy and do not soon run to seed.

Kidney Beans.—Wilmot's True Forcing, Cream-speckled, Early Dutch, Black Belgian, or the Negro, and Shilling's New French Bean. The latter is a new and prolific sort, with large pods, remaining long tender.

Onions.—Deptford, Reading, Yellow Spanish, Strasburgh, Blood-red, and James's Keeping, are well known good sorts. The Nocera is a very small early variety, exceedingly well adapted for pickling. It is white, like the silver-skinned.

Home Correspondence.

Emigration, or a Word to Young Men out of Work.—I shall imagine that you have seriously thought over the matter, and decided to try your fortune in another land. Now, the first thing you have to do is at once to set about getting information on the different colonies open for your selection. You will find your decision dependant upon trade and upon circumstances differing with almost every individual. Some are influenced by having connexions or friends who have gone to a colony before them; others because they can obtain serviceable letters of recommendation to official or other gentlemen residing there; but generally the choice is made from what is learned of the distance, climate, soil, and state of a particular part to which the emigrant's attention has been directed from conversation or from reading. Therefore, I repeat, obtain all the information you can upon the subject. For this purpose you will find the different books on emigration reviewed in the columns of the *Chronicle* exceedingly useful. In this paper I address exclusively single men. We will say you have made up your mind, chosen the colony, and you will go; in the Government instructions you will find every information as to terms, and what clothing you should have, and what amount of baggage is allowed to go with you free of charge. Now, I strongly recommend you to associate yourself with a friend or even two if you have them, whose inclination to emigrate chimes in with your own. If you are really friends and well acquainted, you will have all the advantage given by two heads being better than one; and you will find yourselves a real help to each other in preparation, at departure, on the voyage, and most particularly on your arrival, when on your cautious and prudent conduct so much depends. The first thing you have to do in preparation is to husband your resources to the very utmost. A shilling in England will be worth to you two in the colonies, when you shall be lurking about, preparatory to entering on any engagement for labour. When I was a young fellow, and belonging to a ship preparing to receive emigrants for the Canadas, the public houses ashore used to ring with, "Thro' the wild woods we 'll wander, and we 'll chase the buffalo." Now don't you be so silly; they found no buffaloes at Quebec, to shoot and cut rump-steaks with yellow selvages out of; but they found an empty pocket as poor an introduction to America as it is in England. No man in any land is without a friend whilst he has a shilling in his pocket. Get together your tools; let everything be of the best quality; your spade and shovel long-strapped, with treads, and the eye-trees pinned; your saw 26-inch, and of the best steel, with a saw set, and two or three files to set it with; your axe steel-polled, and fit for rough work, and be sure it is well steeled for a long, lasting, working edge. You may guess how useful a few augers, chisels, hammers, a plane, and hone will be found; also a pocket, containing about 10 lbs. 6-inch spikes, 18 lbs. 5-inch nails, 10 lbs. 4-inch, and 18 lbs. tenpenny cut; these latter spikes and nails are enough to knock together a rough hut, 20 feet by 12, with a partition. Of course you will have a scythe, a sickle, a reaping-hook, knives of the best character for service, and other trifles that will naturally suggest themselves to your mind. But remember that there are no shops at sea, and things sent to the colonies are sent for sale, not for wear and tear: therefore furnish yourselves in England. Make memorandums of your probable wants as they occur to you before embarking; by running over the list you will avoid exiting out, as I once heard a person do when we had left the harbour. "Stop the ship, the warehouseman has not brought my clothes aboard." Do you be sure and get everything ready before you go to the depôt of the port from which you are to embark. I have had more to say than I expected, and so must leave what I have to add for another week. *Rawdon and Reade.*

Seakale (see p. 830).—The dirty colour of Seakale when boiled may easily be remedied. Let the Seakale be washed thoroughly in fresh hard water, then let it drain through a sieve, and wash it again till all the soil is washed quite out: leave it in the water till it is time to cook it, and boil it three quarters of an hour. *O. M.*

Gutta Percha v. *Damp Feet.*—When I have my shoes made or new soled, I have a small quantity of gutta percha melted in a common iron ladle and spread thin between the soles; then I have them soled as usual, which prevents any damp arising, and creates a warmth which cannot be found in the thickest leather soles. *H. H.*

Winter Temperature of Stove Plants.—I have sent you a box of cut flowers from a house here, which, though generally called a stove, and [illegible] with stove plants, is never kept during the winter months at a higher temperature than from 50° to 55° by fire heat. We use the plants principally for decorating the rooms in the house, and for this purpose the strong plants are mostly [illegible]. The roof is partially covered with creeping stove plants, including Combretums, Bignonias, Passifloras, Dipladenias, &c. The effect of this low temperature on these and similar plants is to produce not only an entire cessation from growth in winter, but in some cases they become partially deciduous, and I find that they bear the same degree of heat not only without injury, but when the warm days of spring return they break with greater strength and vigour. This be sure they do; that is exactly the point, and one great point it is, encouraging as they do, in fact, almost a natural repose. It is generally thought Bignonia venusta will not bloom freely except it grows in bottom heat. The plant from which the blooms sent were cut grows in a border inside the house, but without having any bottom heat beyond what the house affords, which, during the autumn and winter, is necessarily very low; and yet the plant is every season covered with bloom for two or three months. Stephanotis floribunda rarely rests in July, and the Combretums and Passifloras nearly throughout the year. Echites [illegible] become equally well in the summer, and I find the flowers of a much higher colour than those from plants grown in a warmer house; in the winter Echites becomes [illegible], in fact, it is) a perfectly deciduous tree. These facts serve to confirm what you have lately stated with respect to temperature. *John Spencer, Burton, Dec. 19.*—[With this we received Begonia venusta, Passiflora [illegible], Cypripedium insigne, Genera zebrina, [illegible] quadrangularis, Begonia fuchsioides and others, together with species of Siphocampylus, Gloxinia, Columnea, Franthemum, Justicia, &c., all in beautiful bloom, such as no cool-thing gardener ever knew.]

Mildness of the Season.—This day, Dec. 19, we have several Pear trees in our fruit grounds in full bloom. The sorts vary, but one row in particular of standard trees, which produced a good crop of Louise Bonne is covered with white blossom, as if it were spring. *H. Lane & Son, the Nursery, Great Berkhamsted, Herts.*

Profits of Bees.—I am anxious to put it to you the experience of "L. C. K.," whose letter appeared in your *Chronicle* of the 2d inst., and whose advice I think is the more value for this very reason, that he states in his letter that "he has no wonders to relate about the success of his plan," and therefore I regard him as a safe and practical man: for I am tired of the imaginative recommendations of some professional bee-keepers, and of the wonders they have to record on the supposed profits, &c., which, somehow or other, no ordinary people can ever manage to realise. There are two subjects on which I should feel obliged to "L. C. K." if he would allow me to take a leaf from his book. The first is bee-feeding. He says that he "gives his bees as much food as they will take, in autumn." What is his theory for this state when he begins to feed; when he does so, even, in case of mild, open weather continuing, as it often does till near Christmas; and what quantity he generally finds a good stock will consume? I have always gone upon the plan of plentiful feeding in autumn and also in spring, if the weather be very mild, [illegible] there is sufficient in the fields and gardens from which the bees can collect enough for themselves: but the quantity they will dispose of in autumn [illegible] by consuming or storing it, I know not, is so large that I wish to know whether it is considered necessary to keep pace with their demands, or whether supposing that a portion of the food given is stored, one meal (even at the time) a pause of a few days might be allowed between the times of replenishing the hydromel? I find in drawers opening at the back of the hives, and the pans hold full 2 lbs. each, which quantity they will take in fine, open weather, readily disposed of within two days. Does "L. C. K." suppose that all this is consumed at the time, and that the supply should be kept up continuously, as long as they will take it? The other point on which I want advice is, how to keep the bees from depositing eggs in their boxes and glasses. I have two sets of boxes: one on Nutt's plan, with all the apparatus for swarming; the other on the same principle, but without the ventilating apparatus: and I find very little difference between the two, as regards the endeavour of bees, and very rarely have I had the satisfaction of taking a box with more of the cells being pure wax interwoven with brood-cells, and in very warm seasons I have had them even in the top glasses, for which reason I have latterly preferred taking the honey later in the summer, when many of the young bees have left the cells and their place been supplied with honey. I, too, have no wonders to relate; but the last several years have been upon the new plan, with very tolerable success, taking, in a fair average season, about 50 lbs. to 60 lbs. from my two sets of hives: a poor show of profit, I grant, in comparison with what I find in your last Chronicle, quoted from the Rev. Mr. Cotton's Letter to Cottagers, in which he speaks of 40 lbs. being taken from one stock, without injuring it. It

would be no small benefit to bee-keepers if the author would give the details of a process by which such a gathering was effected; without such explanation, the statement must be altogether unintelligible to those who have hitherto been content with about one-tenth of that produce. I find a statement somewhat similar to this in Mr. Nutt's Treatise on Bees, and I applied to his agent in London, who sells his boxes and the book alluded to, for an explanation of what appeared so incredible, when I was coolly informed that it was an error, the weight of the boxes having been included with that of the honey, making it about double what it ought to have been, and yet this trifling error remained uncorrected in the next edition of the work. The occurrence of cases of this kind has made me prefer asking advice from one who has no wonders to relate as to his success. *Omega.* [We are waiting for "Cella's" address]—"An Essex Man" may have given, at p. 813, a very true account of the profits arising from his bees, but he makes no mention of what is unfavourable to the plan he advocates, and says nothing respecting the injury done to deprived stocks by the loss of brood when the combs are taken away, especially in end boxes. He observes, however, that "in good years (when honey is cheap), the old-fashioned bee-master, armed with brimstone, may obtain as much as his more humane neighbour, but not in average years (when honey, be it remembered, is dear); and in bad years he will be punished for his cruelty by the loss of half of his stocks." Those acquainted with both plans must find something not very clear in this statement; for success, of course, by either system depends equally on the seasons. And as the "Essex Man" states that in good seasons the old-fashioned bee-keeper may be equal to his neighbour, why is he not so in bad years? The cottager does not deprive his established stocks of part of their hoard; why, then, is he more likely to lose half of them? Perhaps your correspondent will explain this. In the mean time, I may observe that success by either plan depends upon the pasturage and situation of the hives. Bees thrive best when located in high and dry places. Lately I assisted to dislodge a colony from under the leads of a house; though the bees had been there only two seasons, they were rich in store, while the parent stock died during last winter. The new colony had made fully 1 yard in length and about 2 feet in breadth of combs, packed closely between the sleepers that support the roof. The place was very dry; but what was most curious, we found a quantity of deserted combs suspended from the attic ceiling, connected in some way with those occupied by the bees under the leads. These seemed to have belonged to a former colony, which had perished probably for want of sufficient protection during winter. I have heard of bees being kept in very large hives, even hogsheads, but this mass of comb was the largest I ever saw; it was opened a few weeks ago in the house occupied by the author of "Ornamental Poultry." *J. Wighton.*

Indian Plants.—"J. R." asks some questions relative to Indian plants, mentioned by the late Dr. Hoffmeister, to which a long botanical trip in the Himalayas enables me to reply, and which I have therefore much pleasure in doing. The blue Poppy is undoubtedly the Meconopsis aculeata of Royle, which is described and figured by him as red; but although I have seen many hundred specimens, I never saw one that was not blue. I sent home to Chiswick many seeds of this, but I am not aware whether they have grown. The other question is a more difficult one. I paid great attention to the first throughout my travels, but when I left the hills I was doubtful whether Picea Webbiana and P. Pindrow were really distinct or only altered by the localities in which they grew. They can easily be distinguished in the herbarium, where detached specimens alone can be seen; but I have seen the leaves vary on one tree from $\frac{1}{2}$ inch to $3\frac{1}{2}$ inches in length, and I am almost induced to believe that Picea Webbiana is the tree in its greatest perfection when grown slowly, and in very rocky, exposed localities, and therefore never attaining the height that the Pindrow does in deeper soils and more gradual slopes, generally on the protected side of the mountain. Dr. Jamieson would most likely send home the true seeds of P. Webbiana, as the tree is more abundant in Kumaon than P. Pindrow, if they are really distinct. The plants that I have seen in England seem to comprise both species in the whiter leaves of the Webbiana with the longer and thinner leaves of Pindrow. *William Munro, Druids Stoke, near Bristol.*

Protected Trellises.—There are many of us who feel great interest in the subject of moveable sashes, and who would feel obliged to you for a description of the model you have of the manner in which these sashes may be cheaply made. Will you allow me to suggest that to make these things useful, exact measures of parts must be given: for instance, in Mr. Bellenden Ker's communication the sashes are 12 feet long and 5 broad; what are to be the sizes of sash bars that will bear this length? This being omitted, I could not know what to order from Mr. Montgomery's mill. It is true this would soon be found by experiment, but in ascertaining it the first order of materials might be found useless. I beg to call your attention to this point; for in our country gardens we employ our own gardener, the village carpenter, and the village labourer; and many excellent suggestions in the *Gardener's Chronicle* are rendered useless from want of attention to minutiæ. Exact measures and weights according to the things treated of, are but small things to add; and yet in many instances the carrying a principle into practice entirely depends upon them. I have often thought of drawing up a short paper of instances in which by the mere omission of these minutiæ, many excellent treatises have conveyed no exact or accurate information. τ. [Such examples would be highly useful]

Horse Chestnuts as Food.—It is now somewhat more than two months since M. Flandin communicated to the Academy of Sciences in Paris the discovery which you mention in your *Chronicle* of last week—the secret of converting the Horse Chestnut into useful food; but I cannot suffer the credit of that discovery to be wrested from the person to whom it properly belongs, especially since that person is a lady. Madame Bernhardt made many experiments on this subject two years ago, and was so satisfied with the facts which she had ascertained, that in the autumn of last year I and several other persons supplied her with as many Chestnuts as we could collect, in order that the experiment might be tried on a large scale. Of course she could not superintend the management of it herself, and the person to whom it was confided, either from want of confidence in its success, or from want of skill in devising proper machinery to give it a fair trial, threw up his commission; but some of the fecula was sent to me, and I found it to be perfectly pure starch without the slightest bitterness remaining in it. I, myself, have tried on a small scale both M. Flandin's method and Madame Bernhardt's, and both were equally successful in that respect; but the lady's is the most simple and economical, which is a great merit. The carbonate of soda is not at all necessary, water alone carries off all the bitter principle, which may possibly be as useful in medicine as quinine, and with it so much essential oil and alkali, that the washings have a soapy appearance, and Madame Bernhardt has found them very useful in taking out stains from silks without injuring the most delicate colours. I find on distilling them that the oil passes over into the receiver at a lower heat than boiling water, and without the bitter principle; and I intend to pursue this investigation further, but am anxious to lose no time in doing justice to Madame Bernhardt. *L. V. Harcourt.*

Ice-houses.—I can recommend the ice-house which I shall endeavour to describe, with confidence, having seen and proved its superiority during several seasons; it is also as economical as it is efficient, having been made at infinitely less cost than one on the old plan close by, which has brick well, passages, extra doors, drain of great length, &c., and in size is nearly the same as the one described below, with this radical fault, that it is too deep—a common error—and that it is decidedly wrong in principle. Our establishment being large consumes much ice, and as we do not usually commence until August, the brick ice-house is not unfrequently found empty by that time, although every care has been taken the previous winter in filling it. The following plan was therefore adopted, and with great success. The intended well was dug 15 feet in diameter, and 11 feet deep, placing in it 2 feet of broken stones as drainage, together with slabs and straw, which made the depth to be filled with ice from 7 to 8 feet. The sides of the well were made of strong oak slabs, and between these and the natural ground clay was well rammed down, to render it air and water tight. The top end of the slabs stood 2 feet above the ground level, to which the soil was made up out of the well. The roof consists of strong coarse rafters, and has a moveable lid or door at its apex, through which the ice is thrown when it becomes level with the bottom of the rafters, where there is a small door, forming the ordinary way by which to get the ice out. The pitch of the roof is about 30°, and it is thatched from 1 to 2 feet thick, being renewed a little every winter. The doors are also thatched over when the house is filled, in doing which slabs are placed at the bottom, with a good coat of dry straw over them, and which is continued up the sides from 4 to 6 inches thick. The ice is well rammed and broken. This description of ice-house answered so well that a second was made on the same plan, but somewhat smaller; it also answers admirably. *J. H.*

Sea Serpents.—I am not going to bore you with more of the viper question, but I confess the scepticism of scientific naturalists does not at all satisfy me. I allude now more particularly to the case of the sea serpent, and I confess that I am inclined to agree with your correspondent, Mr. Brodrick, in thinking that the manner in which Captain M'Quhae has been criticised will deter men from making public any uncommon phenomena which they may see in distant parts of the world. I, for one naval officer, will certainly not voluntarily subject myself to have my report treated as Professor Owen treated Captain M'Quhae's. I may be ordered by the Admiralty to state officially what I may have seen, as he was; but I shall hope they will not let any report of mine be made public. What I complain of is, not that the Professor should doubt the animal's being a serpent, for that is legitimate enough; but what does appear to me as so affronting is that the captain and officers of the Dædalus should be told not only that they did not see a serpent, but that they saw a seal. I maintain that no two animals are more unlike in their appearance; and that the manner of swimming in a seal is totally unlike that of the animal described both by Captain M'Quhae and the officers of the Dædalus. I have been surrounded by these creatures while becalmed in the River Plate, and they merely show their noses and the tops of their heads for a few seconds, and then disappear again; and, further, I maintain that naval officers, by early and constant practice, grow up, from the time they go to sea as boys, in the habit of pretty accurate observation of external objects, and are little likely to make so gross a mistake as is imputed to them by the Professor. I am sure that they all had a clear conviction that what they saw was a serpent or an eel, and not like any other kind of animal; and, moreover, that they were more likely to judge correctly, and quite as capable of doing so on the spot (with the animal before their eyes), as the Professor, in London, with the *Illustrated London News* before him. That gentleman's criticism has been chiefly founded on the drawing in the said *News*, and others, as well as himself, have fastened on the language of Capt. M'Quhae's report. Now, admitting that his report was not worded as a scientific naturalist would have expressed himself—admitting that what Capt. M'Quhae calls a mane Mr. Drummond calls a fin—and admitting much more, yet the fact will remain that they all believed the creature before them to be a serpent or eel, and like nothing else—unless, indeed, as an ingenious correspondent of the *Times* suggested, it was a Plesiosaurus, which the Professor will as little listen to. Therefore, I think that all the laws of evidence and probability require that it should be sought for under such a shape as that, and not under one so different as a seal—even the Phoca proboscidea. No doubt Professor Owen has argued most ably (as he cannot but do) against the existence of sea serpents, from the absence of any remains being found that can be acknowledged as such by zoologists; but still I do not think his argument is conclusive, at any rate beyond the North Atlantic. No one knows better than Professor Owen that the China seas abound in water-snakes. No one who has been there can have avoided seeing great numbers. Now, if there are small sea snakes, why should there not be large ones? Reasoning from the analogy of land snakes, there would seem to be no reason against it; and the comparative rarity of the larger kinds on shore might hold good among the water snakes. These water snakes may, for anything I know, not be true serpents, zoologically; but if the sea serpent seen by the officers of the Dædalus was as much so as they are, it is quite enough for any one to allow it to be a correct name. I do not contend that the beast was a serpent; I do, however, that it was not a seal, and that the officers knew better what the creature they saw was like, than the Professor, who did not see it, can tell them. It is a case of evidence, not of science. Had they caught (or shot, as you suggest) the animal, and submitted it to him for his examination, of course his decision would have admitted of no dispute. I think, if I were not afraid of lengthening this already too long yarn, I could show you reason why it was unlikely Capt. M'Quhae would think of shooting it before it was too late to do so. Remember the ship and the beast were passing on opposite tacks, the latter going at least 12 miles an hour; by the time it was so near as to make the spectators think it was a serpent, the opportunity was almost lost; five minutes would have put it a mile off, had the ship been at anchor even. Had they gone about, it would have taken at least that time to do so, and then a nice chase it would have been! Ship going 7 or 8 knots, and serpent 12. (A seal drifted some thousand miles on an iceberg could hardly have had strength left to go such a pace, by-the-bye). The *Athenæum* thinks it unaccountable that so few witnesses were present; but when the ship's company are at supper there are seldom more persons on deck than those mentioned. Before I conclude, will you allow me to say that the illustration you bring forward against the credibility of the viper swallowing its young seems to me to prove the opposite of what you mean. Thousands have seen, and even you will not deny this, a colourless liquid changed into a red one: this is a fact. To call one water and the other blood is begging the question. The viper men may take comfort from your own case, and verily the same amount of evidence in a court of law that they have produced would have hung or transported many an honest man before any jury in the kingdom. Pray excuse this very long tirade. *T. S. P., Capt. R. N.* P. S. In Shaw's "Zoology," there is a representation of a spotted eel which, on an enlarged scale, would nearly correspond in shape (though not in colour) with the Dædalus sea serpent, mane and all; and under "Serpens Anguinus" is described the very animal, only not so large. Shaw's "Zoology," however, is perhaps no authority.

Societies.

Caledonian Horticultural.—The Winter General Meeting was held in the Experimental Garden, on the 7th inst. Professor Dunbar in the chair. There was a good display of Pears and Apples, many of them being of large size and excellent quality; while the flowers and vegetables exhibited bore ample testimony to the skill and perseverance of our northern horticulturists. Premiums were awarded as follows: For the prize offered for the best three sorts of Pears, fit for the dessert, and exclusive of Marie Louise, there were nine competitors. A 1st prize was voted to Mr. Lockhart, gr. to G. W. Hope, Esq., for Bezi de Quesnoi, Beurre d'Aremberg, and Crassane; and a 2d premium to Mr. Laing, gr. to the Countess of Dunmore, for Beurre Diel, Beurre d'Aremberg, and Crassane. For the best four Marie Louise Pears, there were six competitors. A 1st prize was awarded to Mr. Morrison, gr. to R. Ainslie, Esq.; and a 2d to Mr. Lyall, gr. to Sir J. Hope, Bart. For the best six kinds of table Apples there were likewise six competitors. A 1st prize was assigned to Mr. Calder, gr. to Mrs. Sligo, of Seacliff, for Gravenstein, Borsdorffer, Wilson's Favourite, Old Nonpareil, Ribston Pippin, and a kind named Seacliff Apple; a 2d premium was voted to Mr. Morrison, for Ribston Pippin, Melville Pippin, Ochiltree Pippin, Scarlet Nonpareil, Oily Pippin, and Paradise Pippin. For the 12 finest flowered single clusters of Chinese Chrysanthemums, different varieties, there were four competitors. A 1st prize was awarded to Mr. Young, gr. to Mrs. H. N. Ferguson, the kinds being Queen, Princess Maria, Minerva, Salter's Annie, Lucidum, Louis Philippe, Hardy, Queen of Yellows, Bicolor, Queen Victoria, Superb-clustered Yellow, and Duc de Caliglia; a 2d premium was voted to Mr. Baxter, gr. to Sir J. Gibson Craig, Bart., for Bicolor, Queen Victoria, Salter's Annie, Comte de Rautzie, Marquess, Incomparable, Sappho, Gem, Nancy Lermie, Queen, Beauty, and General Moreau. — In the class of culinary vegetables, prizes were this year offered for Brussels Sprouts, Carrots, Leeks, Celery, and Onions. For the best two stalks of Brussels Sprouts, a premium was awarded to Mr. Lyall. For the best four Carrots, an award was made to Mr. J. Allan, gr. to Sir A. Dunbar, Bart. For the best four Leeks, no fewer than ten competitors appeared, the whole of the specimens being large and well blanched. A 1st prize was found due to Mr. Anson; a 2d premium was voted to Mr. Blair, gr. to J. C. Renton, Esq.; and a 3d to Mr. Campbell, gr. to Miss Hay. For the best four stalks of Solid Celery, three red and three white, a 1st prize was voted to Mr. Sinclair, gr., Tullichewan Castle, for Seymour's Matchless Red, and Seymour's Superb White; and a 2d premium to Mr. Douglas, gr. to Sir J. D. Lauder, Bart., for Manchester Red and White. For the best three sorts of Onions there were 10 competitors, the bulbs being in general small, but of good quality. A 1st prize was voted to Mr. Laing, for Blood Red, James' Keeping, and Strasburg; and a 2d premium to Mr. Mitchell, gr. to Lady Keith, who pre-

duced the same varieties. For Filbert Nuts, a 1st prize was awarded to Mr. Caldor, and a 2d to Mr. Mitchell.—Among extra articles sent for exhibition, a beautiful specimen of Epiphyllum truncatum elegans, measuring 3 feet in height, 7 feet in circumference, and bearing upwards of 600 blooms, was much admired; and an honorary award made to Mr. Carstairs, Warriston Lodge. Honorary awards were also made to Mr. Baxter, Riccarton, for beautiful specimens of Ribston and Golden Pippin Apples, and for Potato Onions in excellent preservation, with an account of the mode of culture. To Messrs. Downie and Laird, Frederick-street, for a monster Gourd, weighing 130 lbs., and four large specimens of the winter Duchesse de Berri Pear, weighing 8 lbs., the largest being 2¼ lbs. weight; these surprising productions were sent to this country by Mr. Langelier of Havre. To Mr. Stewart, gr. to Professor Dunbar, for flowering specimens of Luculia Pinceana, and L. gratissima, also eight kinds of dessert Pears. To Mr. Cameron, gr. to S. Hay, Esq., for flowering plants of Epacris speciosa, E. nivalis, and a seedling. To Mr. Gibb, Salisbury Green, for a stand of Chrysanthemum blooms, many of them of large size. To Mr. Thomson, gr. to J. Roughead, Esq., for four Gourds and large Leeks. To Mr. Lauder, Musselburgh, for several varieties of Apples and Pears; of the latter the Fondante d'Automne, from a standard, though small, was juicy and high flavoured. To Mr. Lockhart, for five varieties of dessert Pears, including the true Beurré d'Aremberg (not the Passe Colmar, which is often substituted for it). Thanks were also voted to Mr. Campbell for a Cabbage weighing upwards of 40 lbs.; and to Mr. Street, Biel, for flowering specimens of Ligustrum lucidum and Veronica Lindleyana, from the open border.

Before proceeding to the other ordinary business of the day, Mr. Crawfurd of Cartsburn suggested the propriety of entering on the minutes a record of the Society's sense of the high merits of the late Mr. William M'Nab, a most useful member of the Committee of Prizes, and of the severe loss which the Society had sustained by his death. After a few words from Professor Balfour on the subject, it was unanimously agreed that Dr. Neill, the Secretary, should record on the minutes the sentiments of Mr. Crawfurd and Dr. Balfour, as correctly expressing the feelings of the Society on the melancholy occasion. The following communications were then read, Mr. Girdwood officiating for the Secretary:—1. Report by Mr. James M'Nab of his journey, in September last, to England and Ireland, on the Society's business. The Vice-President, in the chair, having pronounced a well-merited eulogy on the Curator (who was absent on account of the recent death of his father), the thanks of the meeting were unanimously voted to Mr. James M'Nab. 2. Instructions for the cultivation of the Potato Onion, by Mr. William Baxter, gr. at Riccarton. 3. On the cultivation of the Hollyhock, by Mr. Veitch, gr. at Arniston.

Report of a Horticultural Exhibition held at Bhaugulpore on Dec. 3, 1847.—The first show of flowers, fruits, and vegetables, for the season 1847-48, was held in the Society's show-rooms, on Dec. 3, and was well attended both by the European and Native community. Before the competition for prizes was proceeded with, the committee inspected the vegetable produce of the public garden, which consisted of three baskets of very fine Peas (including the famous Sugar-pea), a large basket of very fine new Potatoes, raised from the acclimated Darjeeling seed; two baskets of red and white Nole-kole; a dallee of splendid Cauliflowers, also of Turnips, Carrots, Endive, Lettuce, Beet-root, Onions, Leeks, Tenasserim Yams, Cabool Capsicums, Windsor and French Beans, Nonpareil Cabbage, Turnip Radishes, West India Arrowroot, Jerusalem Artichokes, Love-apples, &c.; and in the fruit department, Citrons, Shaddocks, Plantains, Sweet Limes, &c.; and pronounced the whole of the above-named produce to be unusually fine for this season of the year, and highly satisfactory. Prizes were awarded in the vegetable department for best specimens of Cauliflowers, Cucumbers, Peas, Cabbages, Radishes, Turnips, Beet root, Lettuce, Potatoes, Carrots, Nole-kole, Capsicums, Chillies, Horse-radish, French Beans, Yams, Tomatoes, and indigenous vegetables of sorts. Prizes were also awarded for best specimens of flowers, consisting of Verbenas of sorts, Pelargoniums, Zinnias, Dahlias, Roses, Nolanas, Asystasias, Petunias, Lavender, Pinks, and Mignonette. There were some beautiful bouquets (cut from the public garden) on the tables, among which were Dahlias. The Strelitzia reginæ, scarlet and other Verbenas, Tecomas, Salvia splendens, Asystasias, Pelargoniums, Roses of 6 sorts, fine Zinnias, Lantanas, Honeysuckles, Mignonette, *cum multis aliis*. No prizes were awarded for fruits, owing to the evening being too far advanced. It is worthy of notice, however, that several branches of Java Coffee plants, with ripe berries on them, were brought to the show from the garden of J. Glass, Esq., also a splendid Pine-apple. *From the Journal of the Agricultural and Horticultural Society of India.*

Botanical, of London, *Nov.* 29.—Twelfth Anniversary. J. E. Gray, Esq., F.R.S., President, in the chair. After the usual donations were announced the Secretary read the Annual Report of the Council, from which it appeared that 23 new members had been elected since the last anniversary. The distribution of specimens to the members had given the greatest satisfaction, and many valuable specimens had been received from members and other botanists for distribution during the ensuing season. The Report was unanimously adopted, after which a ballot took place for the Council for the ensuing year, when the Chairman was re-elected President, and he nominated J. Miers, Esq., F.R.S., and E. Doubleday, Esq., F.L.S., Vice-Presidents. Dr. Cooke and J. W. Rogers, Esq., were elected new members of the Council in the room of J. Coppin, Esq., M.A. and Dr. Parkin, who retire in rotation. Mr. Reynolds and Mr. Dennes were re-elected Treasurer and Secretary. Mr. Thomas Moore was elected Librarian.

Entomological, *Nov.* 6.—W. Spence, Esq., F.R.S., President, in the chair. This was a special meeting, convened for a revision of the Bye-laws, and for an alteration in respect to the admission of a new class of members upon reduced terms, so as to allow many practical entomologists to join the Society who had been hitherto debarred by the admission fee. The day upon which the Curator is in attendance at the rooms of the Society was also altered from Tuesday to Monday in each week.—Mr. Douglas exhibited a larva of Tropæa mauritanica, which had been found in Indian rice, to which it had caused much damage. Mr. W. Thompson sent for exhibition some living larvæ of Aleyrodes Phillyreæ from Belfast, which had materially injured the foliage of Phillyrea latifolia. Mr. Stainton exhibited a very large series of varieties of Paedisca [illegible], a small moth, and pointed out the connecting links between those varieties which had been described as distinct species. Mr. Weaver exhibited the portable cases formed by the larvæ of a new species of Psyche from the New Forest. Mr. G. R. Waterhouse pointed out the distinctions between two species of Gyriosomus, a genus of Blapsideous beetles from Chili. Mr. E. Doubleday made some remarks on the subject of local varieties, especially mentioning that the British Museum had lately obtained from California a specimen of a butterfly which only differed from Papilio Machaon of Europe and Asia in its brighter colours, and in having the red spot at the anal angle of the posterior wings pupilled with black. Mr. J. F. Stephens remarked on the differences in colour between the specimens of many species of Lepidopterous insects found in Scotland, and those found in the south of England, also on the minute but constant differences between the European and American specimens of some species of Lepidoptera. A notice was read by Mr. Stainton on the synonymy of Tinea festaliella Hübner.

Entomological, *Dec.* 4.—W. Spence, Esq., F.R.S., President, in the chair. Several cases of insects from South Australia were presented by the President, and donations of books announced from the Royal Academy of Belgium, the Linnean Society and Society of Natural Sciences of Lyons, the Entomological Societies of Paris and Stettin, the Natural History Society of Boston, U.S., Messrs. Guérin-Méneville, Bohemann, Chaudoir, &c. Mr. Westwood brought for distribution a number of specimens of Cucujus piceus. Mr. White exhibited a box of interesting insects of different orders from New Zealand, collected by Mr. Churton, many of which were new, one of them forming a very remarkable genus in the family Scaritidæ. Mr. Maitland exhibited specimens of the rare Polia lichenea and Agrotis lunigera, from the New Forest. Mr. Doubleday exhibited a box of New Zealand Lepidoptera, many of which were of a very European appearance; nearly the whole were, however, undescribed. Also the very beautiful purple-coloured net-work cocoon of a moth from Para, suspended by a single long thread; the perfect insect produced from it was unfortunately not known. Mr. Bond exhibited several very rare moths from the fenny districts of Huntingdonshire. A notice of the life of M. C. I. Schönherr, the author of the extensive work upon the Curculionidæ, was communicated by Mr. Walton from Mr. Carlson, the nephew of Schönherr. A letter from Dr. Schaum to Mr. E. Doubleday was also read, announcing the death of Dr. Erichson at Berlin; also the return of M. Peters from Mozambique, with a large collection of insects, including seven species of Manticora; as well as the return of M. Lecomte from Lake Superior, where he had made many interesting captures, including a new species of Cychrus. The death of Mr. Alexander MacLeay in New South Wales was also mentioned. Mr. Westwood read a paper containing descriptions of some new Indian Cetoniæ. Captain Parry read the descriptions of several new and beautiful exotic Coleoptera of different families, of which he presented an engraving to the Society. Papers were also read by Mr. Douglas on Anacampsis and the allied genera of minute moths, and by Mr. Stainton on the species of Depressaria and Hæmilis.

Royal South London Floricultural.—The 13th annual general meeting of this Society was held at the Horns Tavern, Kennington, on the 14th inst., the Treasurer in the chair. The report of the committee for the past year was read and adopted. The Society then proceeded to elect officers for the ensuing year, when J. Bright, Esq., was appointed Treasurer, and Mr. Neville, Secretary. The committee reported that, in this year, in addition to the annual subscription of the Queen Dowager, they had received the subscriptions of 215 members, of whom 57 had joined the Society since the last general meeting; that the total prizes given by the Society during the year amounted to [illegible] 15s., being [illegible] over that of 1847, and [illegible] 12s. 6d. over that of 1845. By the auditor's report, which was read, it appeared that there is a balance of 27l. 5s. 3d. due to the treasurer, against which there are outstanding subscriptions considered [illegible] the liabilities of the Society [illegible] discharged.

Garden [illegible]

Horticultural Society's [illegible] *Dec.* 18.—We have on former occasions stated that Mr. Gordon has been [illegible]

[illegible]

with little trouble. The chief [illegible]

[illegible]

Miscellaneous.

[illegible]

new pianes [illegible]

Calendar of Operations.

[illegible]

filling up any vacancy which any of the early houses may offer; a few may be ventured in the fruiting Pine stove with prospects of success. As the confined space of a pot can scarcely contain sufficient soil to support in full luxuriance so gross a feeder as a Vine, a top-dressing (which must be renewed as it is exhausted) of rich materials should be supplied to each pot, and manure-water added at stated periods. In clear weather the temperature of forcing-houses is influenced considerably by the sun, whose effect is of course most powerful in the middle of the day. When the state of the weather renders a resort to fires necessary, and solar influence is little perceptible, it is not unfrequently the case that an uniformity in the day temperature is sustained totally irrespective of the natural phenomena which give three temperatures—morning, noon, and evening. It seems to us that this ascending and declining scale of temperature, corresponding to the amount of light, should be more scrupulously attended to. Introduce Strawberries into early Vinery, and prepare a successional batch in a pit where entire protection from frost may be assured. Pelvelain's Princesse Royale may be selected in preference to Keens' for an early crop. Sow French Beans in small pots, three or four in each. Reserve the manure from exhausted Mushroom beds for forming the compost for French Beans, if forced in pots; failing Mushroom beds may be stimulated by a slight watering of tepid manure water; a heap of fermenting stable litter should be kept in the house, to provide that kind of humidity so congenial to most fungi. Droppings should be progressively amassed and turned over, by way of preparation for future beds. Ridge out Cucumber plants, as soon as the rank steam has subsided from the pit, and add constantly to the linings, that no diminution in the temperature ensues; it is scarcely necessary to add that where Cucumbers are cultivated in this manner an almost unlimited supply of stable litter is requisite; grown in pots in a moist stove, not half the trouble is incurred.

FLOWER GARDEN AND SHRUBBERIES.

The late mild weather has facilitated the planting of trees and shrubs, and wherever the operation has been recently carried out mulching should immediately be performed, otherwise the newly displaced soil will scarcely consolidate around the roots in time to shield them from the effects of frost. The soil known to be most suitable should always be provided for a transplanted tree. It is an excellent plan to mix up some leaves, partially decomposed, and sand, with an equal proportion of water, and pour it around the recently transplanted shrub. Nutritive matter, agreeable to nearly all shrubs, will thus surround the roots, which as before mentioned require substances around them from which they can readily derive nutrition. This treatment may be advantageously pursued with transplanted Roses, only richer matters may be added. Prune shrubs. Rake walks infested with moss. Repair edgings. Let all beds and borders be dressed with fresh soil and dug, and protective materials, however required, secured to tender outstanding plants.

FLORISTS' FLOWERS.

The Ranunculus bed ought now to have attention. These roots are fond of a close and compact subsoil. One of the finest blooms we ever had was grown on a bed formed in the following manner. At this time of the year, just before Christmas, we took the whole of the soil out of the bed in which we had previously bloomed our roots, to the depth of 12 inches. We then pared from an old pasture turf in sods, about the size of our spade plate, and 3 inches thick; these were placed at the bottom, and firmly trodden down. The compost used to fill up with was decayed cow manure and rotten leaves, with a third sharp sand; this again was subjected to pressure, and allowed to remain in this state till planting time, at which period we only lightened the surface to the depth of 3 inches, to allow the planting of the roots. We would advise those of our readers who are not very successful in the cultivation of these beautiful flowers to try our plan, for now is the time for preparation. The season has been rather against Carnations and Picotees, especially those which were potted off late; in consequence of the continuous rain, they have been obliged to be covered more than usual, they will therefore require extra care during the winter, to ensure them from mildew, &c. Look zealously after the foliage, and if any plant should exhibit any black spots, remove it from the collection, cutting off the diseased parts. The amateur Tulip grower can do but little at this season, still he should be prepared with hoops over his beds, and mats to throw over when severe frosts set in. "Prevention," he must bear in mind, "is better than cure," and the beds will be all the better if not severely frozen.

KITCHEN GARDEN AND ORCHARD.

An adequate provision of materials for the protection of those vegetables of which an uninterrupted supply is demanded, should be held in reserve against the arrival of frosty weather. Thatched hurdles, Fern, or loose straw are more particularly eligible for the above named purpose. Asparagus, Sealkale, and Rhubarb beds, selected to provide for the required successional supply for the forcing pit, should be securely covered. On the threatened approach of severe weather, a store of Parsnips should at once be taken up and stacked in a place of security. Favourable opportunities should be employed in examining the stock of Potatoes. The mild and humid weather which has characterised the present season will have had an injurious effect on the early kind of Potatoes if they have been much exposed to its influence. Seed Potatoes especially are injured by a premature vegetative development while in the store room, as the shoot thus produced can seldom be retained. Give abundance of air to Cauliflower plants, Lettuce, Endive, &c., planted for protection in frames. A range of frames cannot be more usefully applied during the winter months than in the protection and cultivation of the tender salads, of which it is so desirable to maintain an unfailing supply through the winter. Proceed with trenching wherever requisite; wheel on manure in frosty weather, storing it, if not immediately required, in one stack on a corner of the quarter. Remove a large proportion of the shreds and ties from trained wall trees, to prepare for their pruning and readjustment; proceed with nailing. Top-dress with rich manure the Gooseberry and Currant quarters; the surface soil around such trees should be kept rich and porous. Prune standard fruit trees—Apples with especial caution and discrimination. Remove by hand labour, if possible, the lichens and mosses which cling about garden fruit trees; the health of trees is promoted by preserving the bark clean and free from such parasites.

State of the weather near London, for the week ending Dec. 21, 1848, as observed at the Horticultural Garden, Chiswick.

Dec.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 15	19	29 810	29.640	55	43	49.0	S.	.22
Satur.. 16	20	29 850	29 731	42	38	40.0	N.E.	.68
Sun. .. 17	((	29.937	29 872	48	34	40.5	N.E.	.01
Mon... 18	22	29.896	29.771	52	43	47.5	S.	.01
Tues... 19	23	30.094	29.808	48	40	44.0	N.E.	.01
Wed... 20	24	30.201	30.172	40	24	32.0	N.E.	.00
Thurs. 21	25	30 334	30.315	34	23	28.5	E.	.00
Average ...		30 019	29.901	45.5	34 8	40.1		0.93

Dec. 15—Hazy; rain, with strong south wind; densely overcast.
— 16—Drizzly; constant heavy rain.
— 17—Cloudy; foggy; slight rain at night.
— 18—Hazy; fine; densely overcast.
— 19—Foggy; overcast at night.
— 20—Hazy; clear and frosty at night.
— 21—Sharp frost, with easterly wind; clear at night.
Mean temperature of the week, 3½ deg. above the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending Dec. 30, 1848.

Dec.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 24	43.4	24.7	34.0	7	0.36 in.	3	3	2	1	1	8	1	3
Mon. 25	42.5	24.0	34.8	4	0.22	2	3	3	—	2	8	1	3
Tues. 26	41.9	23.7	32.8	8	0.39	1	4	2	3	2	4	1	3
Wed. 27	42.0	23.2	32.6	7	0.40	2	4	1	3	1	3	5	2
Thurs. 28	41.5	22.3	31.9	8	0.16	2	2	2	3	2	1	6	4
Fri 29	42.7	25.5	34.1	10	0.17	1	3	1	3	4	2	5	3
Satur. 30	44.7	25.4	35.1	9	0.30	1	3	2	2	2	5	6	1

The highest temperature during the above period occurred on the 25th 1827, therm. 58 deg.; and the lowest on the 24th, 1830—therm. 10 deg.

Notices to Correspondents.

ADVERTISEMENTS: *E F G.* You should state the wages you want; if you do not do that, you cannot expect that gentlemen will take the trouble to write to you.‡

BEES: We are much obliged to our readers for their many communications upon "Apiarian Profits;" but what we want is their own experience, not the statements to be found in books, in which statements we have less faith than others.

BOOKS: *J O.* Paxton's "Botanical Dictionary."‡—*A M.* The only edition of Dr. Lindley's "Theory of Horticulture" was published in 1840. ‡

CARNATIONS: *J R, Raby Castle.* Your specimens possess none of the properties looked for in a Carnation or Picotee, as cultivated by florists, and can only be regarded as border varieties; or as you manage them, blooming them at this season in the greenhouse, they must prove very ornamental; as specimens they do not differ from others we have seen.*

CHRYSANTHEMUMS: *C W M.* The following sorts we trust will please you. None of them are quilled varieties. *White:* Madame Chauvier, Defiance, Victory, Celestial, Fleur de Marie, Nancy de Sermet, Compactum, and Formosum. *Yellow:* Annie Salter, Temple of Solomon, Queen of the Yellows, Marshal Soult, and Adventure. *Blush or Rosy Lilac:* Celestial, Princess Marie and Bride. *Rosy Purple or Lilac:* Pilot, Marshal de Crique, Campestroni, Louis Philippe, Phidias, and Vulcan. *Buff or Bronzy Purple:* Queen of Gipsies, Poniatowski, General Moreeau, Imogene, and Incomparable. *Deep Brown or Purple:* Poniatowski, Annie Jane, Madame Salter, Pharamond, and Madame Poggi.*

CINERARIAS: *S H H W.* You will find a good variety in the following sorts: Kendall's Newington Beauty, white tipped with crimson; Ivery's Sapphire, deep blue; Henderson's Royal, crimson; Beauty of St. John's Wood, crimson and white; Vernalis, light blue, and Isabella; Allen's White Perfection; Lady Peel, delicate lavender; Ivery's Beauty of Peckham, white and crimson; Jackson's Countess of Zetland and Celestial, light blue; and Henderson's Attraction.*

CONSERVATIVE WALL PLANTS: *E F L.* In a mild winter like the present, plants will flower much earlier than they usually do, and particularly in such a climate as that of the county of Down; such is the case frequently with the common Laurestinus, which flowers one year in the autumn, another in the spring. Again, late flowering plants if checked early in autumn by frost, flower sooner the following season than those which continue growing and flowering on until late in the year, and thereby become exhausted. ¶ *Amateur.* A typographical error, in omitting to place a stop between white and berries, is the cause of complaint in your case. The error is apparent by reference to the time of flowering, which is June. In autumn the berries are ripe; white stands under the head of colour of flowers.¶—*Suburban.* None of the plants should require protection in the climate stated, except Clianthus puniceus, unless in very severe winters. Clianthus may be protected by hanging a garden mat up in front of it in very severe weather, or by placing a frame light before it, closing up the sides.¶

CUTTINGS: *G.* By all means; it is an excellent subject for the Journal, and will be gladly received, only you must put your name to it. We believe the "Elements" cannot be had apart from the "Glossary," although the contrary may be done.

CYTISUS: *L L D.* The following are hardy kinds, suitable for working as standards:

Name.	Colour.	Habit.
Cytisus capitatus ...	Yellow.....	Compact.
,, elongatus ...	Pale yellow ...	Pendulous, robust.
,, nigricans ...	Deep yellow ...	Compact and slender.
,, ruthenicus...	Yellow	Pendulous, robust.
,, purpureus ...	Purple.....	Slender and rather compact.
,, ,, albus	White	Ditto.
,, sessiliflorus.	Deep yellow ..	Compact and slender.
,, austriacus ...	Pale yellow ...	Slender and pendulous.
,, leucanthus	Straw coloured	Robust and spreading.

None of the species of Cytisus can be said to be fragrant, but most of them have a faint smell.¶

DEODORIZERS: *H C R.* Nothing is so good as chloride of lime. Other substances affect the manuring quality of the fluid. If you have any peat or small charcoal, and could soak it with the fluid, and afterwards dig it into your border, it would be a better way of using the fluid.

FANCY DAHLIAS: *R R.* The following 12 varieties are among the best, most constant, and distinct of the fancy sorts:—Empereur de Maroc, dark maroon, tipped with white; Freund Schmidt, light red, white tips; Vicomte de Resse-quier, purple tipped and striped with white; Roi de Points, maroon, white tip; Triumph de Magdeburgh, scarlet, white tip; Madame Wachy, dark purple and white; Letitia, lilac, tipped with white; Florence Dombey, yellow and white; Master G. Clayton, white, with purple stripe on each side of the petal; Ludwig Pemsl, maroon and white; Jenny Lind, maroon, with white down the centre of each petal; Miss Coveney, white, with rose on each side of the petals.*

FRUIT TREES: *A M.* Plum trees may be trained in the pyramid form, and also some kinds of Cherry, but not the Morello and Kentish sorts ‖

GAS: *Edinensis.* It is of no consequence whence heat is derived, provided it is obtained cheaply, and the air which plants have to breathe is no way contaminated by it. Your plan of using gas may therefore answer; but all depends upon the tightness of the box F. towards the house. We shall be glad to hear of the result.

GUANO: *A Subscriber.* Use none but Bolivian or Peruvian. Never employ it when plants are not growing. Winter is a bad time, for plants ought not to be growing much at that season. No quantity *can* be named. Use the solution very weak and often. You may judge of its effect by watching its operations.—*N N.* He may be a very good man; it may be a very good mixture; but a prudent man will procure the genuine article. Why not? Peruvian costs more money, may be, but is undoubtedly cheaper.

INF FOR ZINC LABELS: *W K.* See our advertising columns for 1846, p. 623, or it may be made by mixing together verdigris, in powder, 1 drachm; sal ammoniac, ditto, 1 drachm; lamp-black, ½ drachm; and water 10 drachms.‡

INSECTS: *M S H.* We found no traces of insects on your Cucumber leaves. A very few small yellow spots may have been caused by the thrips, in which case it will be serviceable to make the house as close as possible, having first placed in it a quantity of bruised Laurel leaves. *W.*—*H P.* The wood from the submarine erections at Southampton is attacked by Chelura terebrans, a very destructive Crustacean not hitherto noticed in England, although found in Scotland and Ireland. This and the equally destructive Limnoria terebrans will form the subjects of one of our entomological articles. *W.*

MULBERRY TREES: *G S.* Mulberry trees have proved productive trained against a wall at Holkham in Norfolk, and elsewhere.‖

MULES: *Dandelion.* No doubt there is some mistake; it is impossible. If Mr. —— said what is reported he must be a—most—particularly—ignorant—person.

NAMES OF FRUITS: *E P.* 6, Kerry Pippin; 10, Bon Chrétien Fondante; 16, Rymer; 19, 20, Reinette Blanche d'Espagne; 21, Adams' Pearmain; 23, Dutch Mignonne; 24, Reinette du Canada; 29, Easter Pippin or French Crab ‖—*Norman.* Bruised, but appears to be Knight's Monarch ‖—*Sylvanus.* The Catillac.‖—*J E Miller.* 1, Beurré Rance; 2, Chaumontel; 3, decayed, probably Beurré Diel; 4, Vicar of Winkfield; 6, Black Worcester; 7, Napoleon; 9, Double de Guerre.‖—*A Mackie.* 1, Louise Bonne of Jersey; 2, Duchesse d'Angoulême; 3, Uvedale's St. Germain.‖—*Civis.* 1, Episcopal; 2, Rymer or Caldwell; 3, Golden Noble.‖

NAMES OF PLANTS: *J R E.* Some Acacia which cannot be named until it flowers. Let it alone and it will soon blossom, especially if you cramp its roots. All Acacias are handsome, but many occupy too much room.—*A Subscriber.* Digitaria humifusa and Melilotus leucantha. Bokhara Clover does not answer well for cattle. It is too sticky, and better things can be obtained at the same cost.—*G S.* We never return dried plants unless we borrow them. You should have kept numbered duplicates.—*M de Jonghe.* The Arad is evidently a new genus, and we see no reason why Prof. Scheidweiler's name of Staurostigma odorum should not be adopted; 361, Jacaranda dentata, very handsome; 44, if a Bignonia at all, would seem to be a new species; 18, Adenocalymma longiracemosum; 587, a curious Bignoniaceous plant, indeterminable for want of flowers, apparently allied to Jacaranda in the fruit; 28, Ruellia is Dipteracanthus magnificus, a glorious thing; 332, Echites pinifolia, a wonderfully fine species; 330, a very fine and distinct new species of Echites, allied to E. tomentosa; 28, 29, we cannot find that either of these great Brazilian Rhopalas has been described, if, indeed, they are true Rhopalas; 451, no one can determine this except Von Martius; 38, Trigonia nivea; 76, Vismia, indeterminable, perhaps V. lasiantha.

NETS: *G C.* Tan them; that will help to preserve them. ‡

PROPERTIES OF FLOWERS: *A C. Chrysanthemums:* Outline circular, crown high, well filled with petals, and forming half a ball; petals broad and smooth at the points. *Cinerarias:* Flowers circular, with the petals broad and round at the points, filling up the small interstices in the outline.*

PUMPS: *Ignoramus.* You had better apply to the pump-maker for a glass pump—he can easily learn; and to the College of Chemistry in London for an analysis of the water.

RHUBARB: *W Mitchell.* The colour is beautiful.

SCALE: *M S H.* We cannot answer the question, not having tried; but we think it will not.

SOOT: *G B N.* It is invaluable; dress your Potatoes with it; make liquid manure of it. Throw it on beds infested with slugs, but not now; wait till summer. It is a good compost material, but it is too precious so to employ. Cannot say anything about the enemy of your Ixias. Lime rubbish, especially plasterers' rubbish, will do your ground more good at this season than soot.

VERBENAS: *R R.* Twelve fine varieties for bedding. Smith's White Perfection, Imperatrice, Josephine, blue lilac; Speciosissima, bright crimson; Youell's Oberon, dark claret; Atrosanguinea, crimson; Robinson's Defiance, brilliant scarlet; Ivery's Emperor of China, rich crimson; Dufoy's Tricolor, pink, carmine centre; Grey's Rosea, Chauviere's Venus de Canova, light lavender, dark centre; Dufoy's Heloise, purple; Bell's Vulcan Superb, bright crimson scarlet.*

VINES: *J C.* If your wood is not ripe, it will be advisable to fire slightly in the day-time, giving air at the same time.‡

VIPERS: *A Country Cousin* Can't you guess.

WASHING PLANT: *Richard.* You must consult the nurseryman; we *cannot* recommend dealers. The washing plant is a mere curiosity in this country, something like a Tuberose, without its fragrance. It may be planted whenever you procure it, but will not bear frost. At least Agave saponaria will not.

MISC: *L L D.* River sand is not so good a protector as coal-ashes. It absorbs moisture much quicker, and it afterwards retains it; still it may be used for your purpose But why not use leaves, long litter, straw, or any other dry material.¶ *J M.* The charge will be 3s., which may be remitted by a Post-office order.—*A Anderson.* Cuthill's Black Spine Cucumber is prolific, and an excellent forcer. ‡

SEEDLING FLOWERS.

CINERARIAS: *W H.* Your flowers were not very well packed for travelling, and did not arrive in very good condition; the darker variety appeared to be the better of the two, in form and colour, but not superior to sorts already in cultivation.*

*** As usual, many communications have been received too late, and others are unavoidably detained till the necessary inquiries can be made. We must also beg for the indulgence of those correspondents, the insertion of whose contributions is still delayed.

SPADE CULTIVATION AND DRAINING.

BY HER MAJESTY'S ROYAL LETTERS PATENT.

W. A. LYNDON, Minerva Works, Birmingham, Manufacturer of Patent SPADES, SHOVELS, and DRAINING TOOLS.

To Nurserymen, Gardeners, and Agricultural Labourers, these Spades will be found invaluable, and calculated to lessen the labour of digging very materially; they are warranted to carry a knife edge which will neither break nor turn, work perfectly bright on the surface, and last as long as three Spades or shovels of the ordinary kind, and are now coming generally into use amongst the principal Nurserymen, Market-gardeners, and Agriculturists in the kingdom.

The Draining Tools gained two prizes at the Royal Agricultural Society's Meeting held at Northampton, 1847, since which time they have been awarded prizes and commendations from all the local societies where they have been exhibited.

Spurious imitations of these Tools are being made, called Improved and Cast Steel Spades, Shovels, &c., and labelled similar to the above. None are genuine unless bearing the name in full upon the strap and label.

Spades, Shovels, Draining Tools, Digging, Potato, Manure, and Hay Forks made to any pattern, and adapted for every description of soil.—To be had of all Ironmongers in the kingdom.

The Agricultural Gazette.

SATURDAY, DECEMBER, 23, 1848.

"Merchants and traders subscribe liberally to their various institutions, for the purpose of pensioning off their decayed members; and there are those present who have on more than one occasion listened to my suggestion for adopting a similar plan for the relief of poor old farm-labourers who are past work. It has struck me, that if, in the Ashford division of magistrates, a subscription could be got up for pensioning off some 8, 10, or 20 such persons, more would be done in the way of encouragement than anything they afforded otherwise, and substantial assistance would be rendered at a time when most needed, and many a poor old man be saved from falling on the union for support. If only 200*l.* were raised in that district, they would perhaps be enabled to pension off some eight persons at a rate of something like 8*s.* a week."

This passage, taken from the *Chelmsford Chronicle*, was spoken by the Rev. N. Toke, at one of the late agricultural meetings in Essex. We refer to it here as well illustrating the methods of what we believe to be Ill-directed Benevolence. It is not a rare thing to see even an honest effort to do good, result, through mistaken judgment, in mischief to its object. The ill-regulated good-will of a parent, a master, a neighbour, has injured children, servants, neighbours, often enough to show that good sense as well as good-will, severity not less than facility, punishment as well as reward, must be used by any one who would be useful to others. Benevolence is not always beneficence; and, so far from thinking with our contemporary, that Mr. Toke's proposal contains "the germ of a vast plan for regenerating the poor," it would, we believe, if extensively developed, tend to their degradation and abasement. It would indeed confer "a substantial and lasting character on the prizes of our agricultural societies;" but the influence of these prizes would be mischievous, and, therefore, their endurance a demerit. Mr. Toke would find that not merely in the proportion—but far beyond the proportion—in which his retreats for decayed labourers extended, would there be numbers of decayed labourers claiming admission. They would, in the long run, act as premiums upon idleness; and, even in the best circumstances, they would do the unquestionable injury of deputing a *personal* duty, by putting "in commission" the office of relative or neighbour, which most certainly is not transferable.

The necessities of life are, with most men, the strongest motive to effort—the strongest motive to that on which, by the very constitution of our nature, personal happiness is dependent: and if any one be relieved from them by other than his own prolonged and successful endeavour, not only is his own comfort none the greater, but that of others also; for they, expecting similar fortune, will neglect to provide for themselves.

It is not to assistance rendered by a society in the case of extraordinary and unavoidable inability on the part of its pensioners that we object. Ample assistance should be given in cases of disease, either mental or bodily, though even here indiscriminate and entire support might injure society by weakening the bonds of relative duty, and making those pensioners on the state or on associations, who ought to be assisted by their friends. It is against the pension list of the aged and of others whose helplessness is in the ordinary course of Nature that we protest. These ought to have provided for themselves: and whether their omission has been owing to real inability, or to idleness and dissipation, the efforts of societies should be directed rather to uprooting the mischievous cause than to the removal of its effects as they arise. It was the Highest Wisdom whose all powerful benevolence was so *often* put forth to remove the miseries of disease, and of other unavoidable infliction, and so *seldom* to satisfy the ordinary bodily wants, which could have been foreseen and provided for.

There is a wide field among agricultural labourers for the best efforts of benevolent associations; but let them beware of weakening those instincts and natural sympathies which have been provided for the very purpose which they themselves have in view. These may be assisted but must not be supplanted; no artificial motive can effectually replace them. By the systematic offer of unlimited assistance to the helpless, you may weaken the instinct of self preservation in those now strong, whose foresight reaches the time when strength must naturally fail them. By the removal of a helpless father, or brother, or friend, from the circle amongst whom he has lived, you may weaken not only the sympathy founded on a sense of that mutual dependence (now broken) which is the very bond of society, but the authority of conscience also, which urges the kind office *you* would undertake as a duty upon others. By removing a labourer towards the end of an industrious life to one of your comfortable "retreats," even though (which is impossible) this forebore a certainty of ultimate comfort should not have slackened his unnecessful efforts for self provision, nor have blunted the sympathies of his friends and neighbours—even though you do, in effect, but save one from the bleak old age of pauper life, yet you may be taking on yourself, to the moral injury of the responsible party, that which is strictly and truly a duty binding on the man who has been benefited by his servant's life—a duty which should have been discharged throughout that lifetime by such a relationship between the two as would have enabled and encouraged the latter to have provided for himself. The nature of this relationship, and of the circumstances which affect it, will afford ample opportunity for future remark. Meanwhile, it is with real respect for the motives and efforts of our local labourer's friend societies that we press upon them the vast importance of the mode in which they use the means at their command: the immediate good may be effected at the expense of a lasting injury, and it is matter for serious inquiry whether some of their offers and awards do not tend, either directly or by an affectation of supplementing deficiencies, to weaken those natural safeguards of society, infinitely more powerful than anything that can be artificially substituted for them, which exist in the conscience and moral constitution of man, and to the encouragement and influence of which their efforts ought to be almost exclusively directed.

THE RURAL POOR.

In reply to the inquiries of "S." I ventured to state some facts, for which I am sure he was grateful. My statement met with some ribald pleasantry (which seemed quite to your taste), and a point blank charge of felony against a poor fellow whose poverty, it blameable, lies to the account of the Postmaster General. It is not to rake up old grievances that I now refer to the past, but in reference to the Leader in a late *Gazette*. In that article you admit that my "locality is in a wretchedly debased condition, much worse, we are happy to say, than our own." I can not admit that it is "certainly worse than the average of country districts," though it is not difficult to believe that yours is an exception. It would be strange indeed if it were not from the confidence with which you show how easy it is to expurgate inveterate vice and ignorance. It is dangerous in these days of morbid sympathy to speak of such things, unless to find a whining excuse for the victims of an inhuman system. Is a man a drunkard, an idle vagabond, or a thief? poor dear creature, it is not his fault, it is the fault of his stony-hearted neighbours, and on his neighbours be the wrath of Heaven for not giving him better principles and a farm ready stocked to "awaken his hope." This is the drift of your argument, a mere thin water varnish over the precious doctrines of Louis Blanc, which teach that the rich are created to be "dry nurse" men to the poor, or rather to carry them about on their shoulders like Sinbad with his old man of the island. There is not a peasant or pedlary in the kingdom who is not well instructed in these pretty dogmas, and waiting with impatience to put them into practice: but if, as you pretend, a little more learning would show the fallacy of your own propositions and induce men to become sober, industrious, and honest, why then let these reasoners such logic who can understand it: to my plain thoughts it is downright solemn nonsense.

Now, let us try your theories by a few facts. My friend and neighbour was, when I was a boy, of years ago. He was [illegible] a most humane master, [illegible] was [illegible] provided many little cottages, and [illegible] a man's Christian home for the comfort and [illegible] of his labourers. It was [illegible] successful. What [illegible] of his neighbourhood, who [illegible] similar [illegible] is not a man [illegible] times, [illegible] and [illegible] for our [illegible] Even the boys get drunk and steal. Again, since my last communication there have been other cases of crime in this parish. My miller is absent when wanted, his son [illegible] under sentence of transportation; my [illegible] two sons are committed to prison for housebreaking, and my [illegible], a man of large property, is out on bail for felony. These have all received a better education than [illegible] necessary to ensure universal honesty. You will not deny that pauperism and crime are on the increase, and that in proportion as the [illegible] are become more general. You say, "Let a master get acquainted with the men—let them see him in the [illegible] ways in which a benevolent man may befriend an [illegible]." &c. Well, I will show you that man, and the great and [illegible] reforms he has been able to work by an [illegible] influence, as disinterested as it is pure. It is the history. A fellow robbed his master, was [illegible], and would have been transported but for the interest of some [illegible] who [illegible] a farm, and there they have the talent for keeping them. The [illegible] was [illegible] to escape with only a few months' imprisonment. [illegible] in gaol his family were [illegible] to want for [illegible], and I myself often received little presents of [illegible] and *bon bons*. When released, he was taken into the service of the gentleman above [illegible]. At first [illegible] looked pale, and his eye had been [illegible] the effects of prison discipline, but [illegible] supplied him with some good meat from [illegible]. In a few weeks "Richard was himself again:" he [illegible] upon his benefactor's [illegible], as [illegible], and [illegible] on board the [illegible]. He [illegible] [illegible], he would have had one [illegible], and [illegible], upon his lady's [illegible]. [illegible] of the gentleman here alluded to, [illegible] of Christ. They [illegible] their [illegible] doing good; verily, they shall have their reward in heaven, but on earth they [illegible] nor a thought. I [illegible] to prove that their efforts have been successful in any [illegible], but much for your assertion, that [illegible] carried out and the [illegible] you [illegible] a different face upon the [illegible] and whom he employs." If you have the [illegible] to insert this entire, I will [illegible] you in my next what are my peer notions on the [illegible] of [illegible] a breed of honest fellows. In the [illegible], if you wish to benefit the poor, and [illegible] of social order, you must [illegible], and learn to ten them the truth.—[illegible]. S. S.

Never since I first [illegible] Agricultural Gazette, which is from the [illegible], have I been so pleased as [illegible] remarks in answer to "B. B." on the [illegible] of the agricultural [illegible]. It is not long since, that I, being in the [illegible] number of men, women, and children in a [illegible] with a foreman at their head, which had [illegible] of a gang of [illegible]. I remarked to the master of the [illegible] "[illegible] very busy," to which he replied [illegible]; I find my men such a set of [illegible] to have them together; in fact [illegible] the teeth out of my head if they [illegible]." On wishing to know what my [illegible] this, and being [illegible] the country, I [illegible] "We give greater wages in England than we can [illegible]; we give 8*s.* a week." I [illegible], "That is very little. But of course your men have [illegible]." The reply was, "Why you can't suppose that [illegible] rain, weather and [illegible]" and then proceeded his man to be honest and [illegible]. I have never known a single [illegible] master [illegible] general, nor a really charitable man [illegible]. My brother and I employ [illegible], and I believe there are very few [illegible] the ground in 2 to 3 years: [illegible] and one 62, without [illegible], except from illness. These men have served [illegible] my father and grandfather, and if there was [illegible] than between mere givers and [illegible], it would be very strange. If there [illegible] of mutual [illegible] which [illegible] has respect [illegible] men. There is in [illegible] has for years [illegible] I was told that [illegible] the best out of [illegible]. I [illegible] by perceiving [illegible] I told him it was [illegible] by a good man and [illegible] the stupidity or carelessness of any amongst a number [illegible] way to [illegible]. [illegible] this [illegible], or [illegible] I often

come to look at the sea when we have a holiday." Being struck by the intelligence of the boy's countenance, I asked him who he worked for, and what was his business, and was informed he was a printer's boy in the office of Messrs. Chambers; and if his masters had heard how he spoke of them, their reading-rooms, baths, and all the other means they have employed to increase the happiness of their men, they would have been amply repaid, nor would they fear being robbed by such a boy. Let us show our men that we have their interests at heart, and they will look all the better after ours. *J. R. V., Chilwell.*

I have lived all my life in the country, and think I know something of the condition and feelings of the working classes; it was but the other day I expressed an opinion I have long held (before any of the late continental outbreaks) that the labourers generally are entitled to our admiration and gratitude, for their patient perseverance and steady good conduct, amidst all their privations and difficulties. How different this is to the declared experience of some of your correspondents! Is it that the dispositions of those around us differ, or that we see through different mediums? Probably something of both, but most of the latter. Now I do not live in a parish where a few specimen peasantry are kept under inspection in cabinet cottages; and the surplus cast out to the towns and open parishes, as refuse to a dungheap; but I live in an open parish, where we find for many who are driven out of the closed parishes an asylum (such as it is), perhaps a highly rented, pinched in, ill drained, ill ventilated cottage; but it is an asylum. We moreover find them poor-rates in old age and sickness. In this parish I have been a householder and occupier of land upwards of 20 years, and all that I remember to have lost by theft is one sheep, a couple of fowls, and I think one sheet. We have not the infliction of a rural police; my sheep, &c., would have gone a very little way towards paying police-rates during this period. The loss of the eatables made me think there must be hungry people about, so I now distribute soup in the winter time. The clothing club is the best prevention to the loss of linen; and if the rails are taken, and the hedges pulled, a subscription among the neighbours for a boat load of coal, bought at the best hand, drawn home by our teams, and sold at a cheap rate, is the best remedy.* An occasional distribution of Turnips and Peas saves those crops; and a daily quantum of milk to each of my labourers is of great service to them, and would be worth very little if thrown to the pigs at home. An attentive ear to all; and assistance, however small, in every just claim for relief; a quiet rebuke where necessary, and no "blowing up;" no prying intrusion, nor haughty slight. A consideration of what you should expect, and how you should act, if your cases were reversed; will be sure to gain you respect. As for poaching, I am given to sporting, and had I been a poor man I might have been a bit of a poacher myself. In conclusion, there are a hundred ways of showing sympathy with the poor, which are sure to meet with a return of good conduct. I hear people say it is of no use doing good to them, they show no gratitude. I might answer—too much independence is better than too much fawning; and moreover take care that the want of gratitude is not on your part; you have received many benefits that they have not, and your only way of evincing gratitude is by benefiting those about you. *Georgos.*

The perusal of the letter of "B. B." inserted in the Leading Article of the *Agricultural Gazette* of the 9th inst. induced an instant resolution to reply to his remarks; but the admirable article from your pen which follows that communication, made me pause, with a feeling of grateful satisfaction, that the remarks I meditated had been so well anticipated. My purpose is now to express my concurrence in your sentiments, particularly in those referring to "B. B.'s" remarks on the efforts of his clergyman to establish, in conjunction with his brethren in the neighbourhood, religious societies in aid of missionary exertions among the heathen. When societies of that nature were comparatively new in this country, and their tendencies were but ill-understood, Dr. Chalmers, whose profound acquaintance with political economy, and admirable measures for the improvement of the working classes, equalled his eminence as a divine, vindicated such institutions for awakening in the poorest an interest in behalf of the ignorant and degraded of other nations, as among the most effective agencies for the improvement of themselves; and daily experience justifies the wisdom and truth of his argument. I live in a village which an old inhabitant characterised as once among "the most blackguard in the country." It has for many years raised more money in proportion to its population and their circumstances than any other that I am acquainted with, for these wrath-provoking "societies for converting Jews, Hottentots, and Hindoos," to which "B. B." refers. But to satisfy him that home wants are not therefore neglected, I may add, that nearly every working man belongs to some benefit society, and that before cottage allotments were fashionable, the same individual who established missionary and Jews' collections, provided land for such allotments, which afford a profitable garden to most of the families which have none attached to their dwellings. The same person, though eager to benefit the Hottentot and Hindoo, formed many years ago a clothing and firing fund, which, as its last report states, "has been the means of providing articles of essential comfort, as plain clothing, bedding, and coals, to the working classes of the place during a period of nearly 18 years, at a cost of upwards of 3000*l.*, raised in the proportion of four-fifths, or near 2400*l.*, by their own frugal contributions, and one-fifth by the benevolent aid of their neighbours, whom a bountiful Providence has placed in circumstances to befriend them." To this fund every working man's family in the village subscribes.

But for a reluctance to occupy your space unreasonably, I could illustrate the subject by reference to circumstances, which would perhaps carry conviction even to "B. B.," that if masters and employers of labour expect willing and intelligent and faithful servants and workpeople, they must practically show that they own the "duties" of their position, while exacting or demanding its "rights." *Vindex.*

[* If the above suggestions are made to back our remarks on the 9th inst., we beg to decline the alliance.]

ON THOROUGH DRAINAGE.

The importance of thorough draining to health as well as to vegetation has lately been particularly brought to my consideration by certain questions having been sent me from the Board of Health, with a view to ascertaining the effect that has already been produced by draining, and more particularly with reference to the fact that the extensive tracts of marshes and undrained land in the neighbourhood of the metropolis, are injurious to the health of the population, and that fevers and agues arise within the metropolis itself at certain seasons, during the prevalence of winds coming from the marshes.

The influence that wet land has in charging the surrounding atmosphere with vapour, and in lowering its temperature, and the injury this occasions to health, is a subject that particularly calls for this country's consideration; and the more so that whilst the mischief is so considerable, the means to remedy it are simple, and desirable, even in a pecuniary view, if only to benefit the vegetation upon it.

The metropolis may be described as seated in a basin, having around it a soil which in winter is saturated with water, and with marshes above and below it, that are almost always charged with stagnant water, so that it may be said to be surrounded for four or five months in the year by a bed of moisture; from whence, during the warmer hours of the day, cold exhalations continually arise, which are nightly returned upon the neighbourhood by the declining temperature. We may therefore ascribe to the wet condition of the adjoining country much of the damp and fogs and misty rains, for which London is so notorious.

I cannot here further allude to the loss of heat, and the damp and deposit of moisture that are the consequence of the daily rise and fall of temperature upon a wet surface; nor can I enter into details to prove how much such a climate as ours may be ameliorated, and the general health be improved by thorough drainage. I must take for granted my readers will go so far with me, and keep these facts in view, in whatever I say upon the occasion for deep in preference to shallow draining. The occasion to make land most productive is becoming so much greater and better understood, that we may anticipate in a few years, without any public interference, a very different condition of the wet upland of England; but with respect to marshes and lowlands not possessing a natural fall, the difficulty to rid these of stagnant water is too serious to expect any material change in their condition, without some larger and more general system being adopted than can be carried out by the owners.

The natural tendency of all rivers in their lower courses through flat lands, and where they meet with tidal obstructions, is to imperceptibly raise their beds (the action of all running water being to carry the soil over which it passes from the higher to the lower ground), and if left alone they in time are lifted and drifted into fresh courses. In this way the present channel of the river Thames below London may be said to have become artificial, for high embankments are now necessary to confine it, and but for them the river would long since have overflown its banks and worked itself into new channels. In this way its level in places has become raised above the adjoining land, and in many situations all drainage into it has been shut out, and I see no remedy for the mischief this occasions, except in the formation of public sewers or main drains, to supply the drainage that the river no longer affords.

The nature of many of the questions that have been put me, will be seen by the following replies—Thorough drainage has as yet been practised only a few years, and merely with a view to improve agriculture; it has not yet been sufficiently extensive to have had much beneficial influence on climate. A tract of land may be so drained as to greatly benefit the crops grown on it, and yet the drainage be not sufficiently perfect or general to perceptibly influence the atmosphere. For instance the metropolis is drained and yet has its climate affected by the vapours of the marshes some miles distant.

The benefit from draining to trees and underwood is becoming better understood. Open water-courses appear to be the only means to drain woodland, as the roots of trees are sure to choke covered drains within their reach. Garden crops do not require the same thorough drainage as corn, provided stagnant water be not permitted within 2 feet of the surface; the damp that arises from under water at this distance is rather beneficial in summer than otherwise to all vegetable growth.

Thorough drainage of wet land affords a more extensive rotation of cropping; an earlier vegetation, seed-time, and harvest; better adaptation of the land to carry stock; an extended ability to work the land at all seasons; cheaper cultivation, and lessening of expenses; more healthy condition of the land and atmosphere.

The draining of the present day, under ordinary circumstances, varies from 2 to 4 feet in depth and from 16 to 50 feet in distances, the rule with many being to decrease the depth and distances with the increase in the tenacity of the soil; but this rule is not approved by all. I have from long attention to the subject, and by my practice, been convinced that all land which is capable of being wet in substance, is also capable of being drained; and I am persuaded that water is never intercepted by the drains in its course downward, and that land is thorough drained only by sufficiently lowering the level of the water that stands in all wet soil, so as to prevent its rise by absorption to the surface, and that this absorption upwards being greatest in clays, there is most occasion for their being deeply drained; as a general principle I advocate 4 feet drains in all soils.

The cost of draining varies from 70*s.* to 140*s.* an acre, according to the nature of the soil, the price of tiles, the frequency of the drains, and the difficulties to be overcome; the cutting may be from 40*s.* to 100*s* an acre, the tiles from 12*s.* to 25*s.* per acre, and deepening outfalls and overcoming difficulties may occasion an additional expense of 5 to 10 per cent. The returns from draining are difficult to estimate; an intelligent tenant will never object to pay 6½ per cent. per annum on the cost. It may often be found to give to arable land an additional value equal to the rent, and to be the main ingredient in adapting waste land for cultivation.

I have at this time on parts of Bagshot-heath, broken up within the last three years, as fine Mangold Wurzel, Kohl Rabi, Cabbages, Swedes, and Turnips, as are usually produced on the best soils, and have also parts sown with Wheat for the first time; without drainage this land must have continued worthless. The introduction of pipe tiles is rapidly superseding every other material to drain with; I know of none to be preferred.

The tendency of draining is to equalise the winter volume of water in the main courses, and to carry off at that season that which would then collect to ooze away in summer as land springs. Undrained ground receives the autumn rains until saturated, when it becomes in the condition of a full dish; so that all that then falls runs instantly over and away, whereas drained land continues always to receive the rains, and the water passes slowly and gradually into the drains and away. I have reason to think that the quantity is diminished by being carried down from frequently meeting with an under porous substrata, as I find much less water to flow from my own land than formerly, and the springs are reduced since I have drained it. *Hewitt Davis, 3, Frederick's-place, Old Jewry, London, Dec. 4.*

SMALL FARM.

I send you a faithful account of the produce and expenses of my small farm; if you think it worth publication, insert it; if not, destroy it. The Wheat crop was particularly even, not a thin patch or bad part about it; and the Clover seed very fine. I shall probably never grow two such good crops again. Turnips: I have had this season more weight on one acre than I had last year on three; they will, in my next year's account, do to set against my Wheat and Clover. The stock kept consists of 2 half-bred farm horses, 30 breeding ewes, 3 cows, and 1 or 2 weaning calves; hogs, see statement below; produce of sheep sold fat. If you do not think the interest for capital and wear and tear sufficient, alter it; but I consider it ample. My stock of implements is small—plough, two rollers, scuffle and horse hoe (one implement), harrows, three Turnip cutters, dressing machine, single row drill, and a few other matters. I give particulars, as I am anxious for a fair statement. My other items are taken from my day-book, and balance up to the end of my year, viz., the 14th July, by which time one year's produce is disposed of, and the other coming into use; this will not, of course, apply to green crops. I do not this year expect to make so much by nearly 100*l.*; but if the balance-sheet in July will be acceptable, you shall have it, however it may be. How much I should like to see a similar statement from Messrs. Huxtable, Mechi, and Co.! I think "S." would find a similar quantity of land to what I occupy (about sufficient to employ two horses, he might run one or both in his carriage, if he thought proper), more profitable and less trouble than a smaller quantity, where only one horse was kept and more manual labour required. I keep two first-rate labourers and a lad all the year round, and have an extra hand when necessary.

	£	*s.*	*d.*
Labour: I pay 10*s.*, 11*s.*, and 12*s.* per week (harvest month 4*l.* 4*s.*, with beer)	93	7	0
Dibbling 13 acres Wheat, drilling early Turnips, &c.	6	10	0
Hire of 2 horse threshing machine (a very good one) for Clover seed, 10*s.* per day; board the man; for Wheat, 12*s.* Threshed part of Clover by hand; found it as cheap, and I fancy got more seed in proportion to straw. There is the wear of barn floor to set against this	5	17	0
Seeds: Wheat, Barley, Clover, Tares, Peas, Turnips, &c.	20	15	0
Beans, Clover, Hay, Linseed, and Bran	48	5	0
Beer	9	0	0
Super. hosphate, Guano, Soot, and Salt	15	2	0
Purchase of Store Hogs	27	0	0
Black-smith, Wheelwright, Saddler, Corn Insurance, Cattle ditto, Veterinary Surgeon, Hire of Ram, Sacks, &c.	21	8	0
Carried forward	£247	4	0

		£	s.	d.
	Brought forward	245	1	0
Thatching, 28s.; Highway-rate, 27s.; Church-rate, 14s.		3	9	0
Poor-rates, House and Land		10	2	0
Land-tax		1	1	10
13 acres Wheat 6 do. Clover 7 do. Barley 1½ do. Peas; then Turnips for seed 8½ do. Turnips, &c. 1 a. 1 r. 20 p. Potatoes, &c. 1 acre Rye; then Turnips for seed 2 acres Paddock, mown 6 acres Meadow, fed 1 acre Garden and Orchard 1 acre Turnip seed blighted, no produce, cut and used for litter 48. a 1 r. 20 p., could be let at 3l. or more p. acre, 145l. 2s. 6d.	48 a. 1 r. 20 p., say 3l.	145	2	6
	Interest of capital, wear and tear of implements, &c.	15	0	0
	Apparent, or I may say real profit ..	165	13	5
		£599	11	7

9 acres Grass land.
8½ acres Turnips (bad crop), Tares (good), Mangold Wurzel (good), Carrots (bad, ploughed a part up again).

	£	s.	d.
13 acres Wheat (splendid crop), 610 bushels, sold for	269	7	3
7 acres Barley, sold 15 qrs. for .. .. (The yield of this about 6½ qrs. per acre, the remainder being consumed by stock.)	23	19	0
1½ acre white Peas (part consumed)	9	10	0
6 acres Dutch Clover, fed off in the spring by sheep, mown for seed, a most valuable crop, straw and chaff all consumed by stock, being got without rain. Produce, 29 cwt. 3 qrs., quality very fine; sold at 44s., 48s., and 52s. per cwt.	68	18	0
1 acre 1 rood 20 poles Onions and Potatoes; sold at 4l. per ton each	41	9	0
Butter	30	15	0
Pork sold at 6s. 9d. and 7s. 3d. per stone of 14 lbs. ..	19	13	4
Fruit	1	19	0
Poultry and Eggs	2	11	0
Fat sheep	59	10	0
Wool (not sold), supposed value	10	0	0
Keep of pony (not required on the farm, but as I have him occasionally used)	18	0	0
Brace of pointers, kept principally on Barley-meal and milk	5	0	0
Butter-milk, eggs, poultry, vegetables, and fruit .. (Of this item there is no exact account kept, but for a family of five, with occasional visitors, it is no doubt more.)	20	0	0
	£590	11	7

Bedford.

Home Correspondence.

Advantage of Trenching.—I must trouble the *Gazette* sooner than I intended, to express my satisfaction on reading the remarks of Mr. Richard Tongue, as far as they relate to "Falcon," as it proves my observations on farming to have had more effect than I anticipated. I have always been careful not to mention particularly any district where bad farming is most conspicuous, but have merely stated facts which nobody can deny—that there are vast tracts of land producing scanty crops, in consequence of neglect, and that weeds are permitted to flourish where food should grow. I could point out the extremes of good and bad cultivation within three miles of my own house, and within 500 yards I could show the advantage of deep trenching and draining on a clay soil. I am also under obligations to Mr. R. Tongue for calling my attention to Col. Rawstorne's publications, which I shall take the earliest opportunity of studying. *Falcon.*

A Rushy Marsh.—In these days, when so much is said, and done, about "draining," I may wisely seek the advice of some practical correspondent of yours as regards the following question. I am a grazier, and a part of my land, about 7 acres, is situated on a "salt marsh:" which is not as valuable as it ought to be from (previous to its coming into my occupation) mismanagement. About a twelvemonth ago, I was not a little vexed to find that I was obliged to prevent my sheep grazing on this "marsh" during the winter, owing to water lying there in such vast quantities, that it was difficult to find a dry spot: which of course was materially against the habits of the animal above named. I felt convinced that a system of draining would carry off all the superfluous water, which had so rotted the herbage as to exhibit slimy filth, instead of Grass; and I resolved to make a trial, in cutting a few shallow drains, which answered the purpose in some way: but I am well convinced that it was a very imperfect attempt at good draining. I have now commenced cutting in the right way, and have no doubt but time will prove how beneficial our operations have been; but there is one remaining annoyance which stares me hard in the face, like "a powerful enemy, certain of victory," and which puzzles me as to its utter annihilation. I suppose from the account I have given of what this "marsh" was, and perhaps has been for a century, few agriculturists will be surprised to hear, that a deal of nauseous stuff has reared its head and forced its roots into some parts of the earth, which requires to be removed previous to good Grass growing there. The greatest annoyance to me in my dilemma is, the vast quantity of Rushes, which I should be most happy to see utterly extirpated, if any of your correspondents will kindly suggest a remedy. *Obligator.* [Good drainage and patience: we know no other help unless you can break up the land and fallow it. You might try a subsurf-plough; and follow it up by pulling all the rushes that would "come."]

Hybrid Pheasants.—In speaking of hybrid pheasants in a late Number, I observe, in reference to the general opinion that peros, or half pheasants, are "mules," "the phrase 'mule' can scarcely be correct, for birds of the half breed are *not* unproductive." By an error of the press, the word "not" was omitted, or perhaps the "reader" wished to correct what he considered an erroneous statement. I know that it is [illegible] supposed that peros are unproductive, and hence often called mules; but I have proof that it is not so: a cock or hen pero will breed freely with common poultry, if at liberty, I believe, as freely as any other fowl. Mr. Yarrell says it is usually understood that peros do not breed with each other, and those in the Zoological Gardens, a few years ago, at all events, showed no sign of breeding, whatever may have occurred since. But have they ever been tried at liberty, and been taken to secure robust birds from two different [illegible]? I believe not; and yet I suspect these conditions are absolutely necessary. Certainly a pero cock is as prolific as any other; and hens, which there is every reason but mathematical proof to show are peros, are also perfectly prolific with common or game cocks. [illegible], quoted by Goldsmith, speaks of a fine race got by [illegible] on with the cock pheasant and the pero; and Mr. Fuller, of Carlton Hall, sent, some years ago (1826, I believe), two hens to the Zoological Society, bred from a pero and a pheasant. The [illegible] pheasants [illegible] also breed together, but all these birds must be at liberty; the mistake, I think, has been by trying them in pens. Even Guinea fowls would not breed confined. *Constant Reader, L., Valley Rock.*

Ducks.—Many thanks for your attention to my request respecting my ducks, but the answer is by no means satisfactory, as the Labrador ducks are not entirely black, and may be very justly considered a variety of some species. The ducks in question, as I said before, are entirely black, as well as all their numerous progeny. You will please to observe that the back and wing scapulars are long and broad, and finely bronzed, similar in colour to the beautiful back of the American turkey. As your Paper has drawn the attention of the public to the subject of domestic poultry, it is to be hoped that some more able ornithologist will give his attention more maturely to these birds, as I strongly consider that they will prove a very valuable addition to our breed of domestic poultry. That they are a distinct species I have no reason to doubt, from their numerous progeny being all invariably the same colour as the parent birds. To the epicure they will be found a valuable acquisition, as the quality of the flesh is far superior to that of the teal. *J. F.*

Box Feeding.—Having read many excellent articles on box feeding in your Journal I venture to give you the result of a trial made during last summer. On June 1st, 1848, I bought 3 cows for 42l., and I divided a cow-shed into 3 loose boxes, and gave to each cow 2 lbs. of Linseed cake per diem, and rough Grass was mown for them from under hedge sides and sour places that the cows out in the field would not eat. I had also a few acres of Vetches, and they had some of these during the short time they are mown for the cart horses. I sold the 3 cows by auction on the 12th of November last, and they realised 69l., being 9l. per head profit. The manure made certainly pays for the labour in attending to them, and it had risen under them about the height of 3 feet, or rather more, during that time. I ought to add, that I gave the same allowance of Linseed cake, viz., 2lbs, to the cows in the fields, but not any of them paid near the same profit. *Veritas.*

Origin of the Different Breeds of Domestic Poultry.—I quite agree with your correspondent "Constant Reader" as to the desirableness of having the different breeds of domestic fowls classed under a common standard, and their respective merits stated; this would go far to simplify the nomenclature which exists, and aid purchasers in making selections. In looking over Dixon's new work on "Ornamental Poultry," though agreeing with him in the main, I think he is wrong in regarding the impossibility of a healthy progeny between the common hen and pheasant. As the question at present bears some resemblance to the celebrated "Viper Question" so often mooted in your columns, I beg to propose the following plan of settling it; i.e., let various parties who have opportunity place a few hens in the way of the pheasant and debar their connexion with males of their own species; and after hatching their eggs, preserve the chickens for examination. Having a suitable place, I intend next spring giving the experiment a fair trial, and if some others of your readers would do the same, and submit the chickens when grown to a competent authority, some light would be thrown on this interesting question. Have any of your readers interested in breeding poultry ever noticed how remarkably partial poultry are to the greens of Turnips and Borecole; adjoining my premises I sowed in July a patch say 30 perches of Stone Turnips; these the fowls have gradually eaten up, except a perch or two at the further end, and they have made great inroads on a large piece of Borecole; whether the tops in question act as a stomachic or are beneficial as a common article of food I know not, but I see they daily (though well fed with grain, &c.) devour large quantities, and they continue remarkably healthy, whereas my neighbours' flocks die in numbers, not having any within their range. I am so satisfied of the good effects of this kind of plant, that I intend always keeping a bed of Radishes, Mustard, or other Cruciferæ, near their walk. *J. S.*

Australian Surplus Meat.—I see a question by "Pet" as to the [illegible] of surplus [illegible] in Australia. Permit me, through your [illegible] necessity, to [illegible] "Pet" that it is [illegible] cheap [illegible] of [illegible] to assure [illegible] account of the [illegible] in the first number [illegible] of the "Pharmaceutical Journal;" but, in truth, it is [illegible]

[illegible] consider [illegible] liquid move under them." Now, I will venture to [illegible] them, and instantly the liquid covered his feet, and it [illegible] without [illegible] standing on a [illegible]

the cattle paid only the cost of the corn and cake, leaving nothing for the roots; but he might have stated the case differently, and said that after deducting a fair price for the roots, they only paid a half or any other proportion, whatever it might be, of his cake and corn bill; and this would only have confirmed the opinion of all cake feeders; but then they admit that the remainder of the value of the cake is to be found in the improvement of the manure; and so of Mr. Mechi's roots, their value is in his manure. But this he seemed to deny, and there is the mistake. I do not, however, mean to say that if he had sold his roots at 10*s.* per ton (which could only be done in certain localities), he might have purchased with the 200*l.* more and better manure than he manufactured. The result of his experience is that he recommends all the roots to be consumed where they grow, by sheep, assisted by cake, and that the straw should be converted into dung by beasts fed on it and oilcake. It is doubtful whether the loss on the cake would not quite equal that which he has experienced on his roots. But there is another way in which the roots might be consumed, and it is supposed to return a fair price for them, but not 10*s.* per ton, perhaps 5*s.*; I mean by giving them to good store cattle, say Herefords, which with plenty of Swedes and good fresh straw, will increase in value during the winter, and many of them, if fresh when put into the yards, will come out in April and May, not bad beef. I do not, however, mean to say that they might not also pay for some cake or corn in addition (and by which also the manure would be improved), but this is a point certainly not very well ascertained. My object is to prevent the growth of roots being discouraged, which I am afraid might be the case if it was supposed that they could only be converted into money by selling them, or by feeding sheep on the land where grown. Store pigs will also generally return a fair price for Swedes given to them. *Inquirer.*

Reasty Bacon.—If the following receipt is followed, I believe that the person following it will not have to complain again of bacon being reasty. We never now have any of that description; formerly we had, towards the close of a year from its being cured. I attribute the present excellent state of our bacon to be owing chiefly to its being drained and to the use of more sugar. Take a pig of about 10 score, killed in December or January. When the flitches, &c., are cut up, the ribs just in the centre are left in each—about 16 inches by 12; the saw should be slightly drawn across (but not to cut quite through), merely to allow the sides to be flat. Let these, and the hams and face, be sprinkled slightly with salt (a handful or two), and set in an inclined position to drain for 24 hours; all that has drained from them must be quite cleared away. Ours are cured on a brick sink. We use 4 or 5 lbs. of salt, well dried; 6 oz. of saltpetre, pounded; 1½ lb. of moist sugar, good West India; and 1½ lb. of bay salt, pounded. Only adding more sugar for the hams (about ½ lb) and for the mock brawn the same quantity, with a little more saltpetre. Mix the above well altogether, and let the whole be thoroughly rubbed in. After the third day the flitches are moved with care, so that the salt may not be disturbed, and placed alternately one above the other daily for a month (the hams ditto for six weeks). They are then hung at the top of the kitchen for about 8 or 10 days, and are afterwards taken to an outbuilding and suspended from the roof, which is low, and smoked by a constant fire for 10 or 11 days. The fire is of old wood, chips, &c., and it is never allowed to blaze at all, but is kept smothered by sawdust, wet moss, or wet leaves. When brought in the hams are tied up in large linen bags, so that they are quite loose, and a strip of linen or calico is affixed to the lower edge of each flitch merely to prevent the moisture dropping, as it will do in damp weather, for they are hung up in a high passage, at the end of which is an outer door generally open. The packing up in malt dust, and the suspended frame, we have long since given up. Our hams keep good for two years or more; they require the bags to be changed occasionally, to keep them dry, and they are never left a moment out of doors. I forgot to state, that sometimes at the close of a fortnight a handful or two more of dried salt is rubbed on the flitches and hams. A ham cured with treacle instead of sugar has a higher flavour. *E. P. M., Leicestershire.*—The following plan has been followed for many years with perfect success in a family who are large users of bacon. To the quantity of salt required for a large flitch, ½ lb. of coarse brown sugar is added. The flitches are packed one upon another on a stone shelf, so as to allow the brine to run off, and are well rubbed and turned every day for a fortnight. The flitches, after being thoroughly dried in the kitchen, are packed in a box, with layers of clean, dry Wheat straw betwixt them, and kept in a cool, dry place. If your enquirer will use this plan, I will guarantee his never having to complain of reasty bacon, or of its not keeping. A good sized flitch will require about ½ lb. of coarse brown sugar, ½ lb. of common salt, and 1 oz. of saltpetre. The straw must be perfectly dry and free from damp. *H.*—In reply to "J. S. P. M." I state I am not surprized that his bacon should be fermented. When the malt dust became damp, heating would be the consequence, and the state of the bacon would be exactly what is described. *G. S., Notts.* [The reasty bacon subject appears now to have been sufficiently discussed.]

Bacon.—Your correspondent, signing himself "H., Oxford," is not sufficiently explicit in his directions for drying bacon to admit of their being acted upon with any certainty of success. That it should be hung "above the immediate influence of the heat of the fire" is far too vague an expression. Had he stated, which I hope he will do, the temperature at which it should be dried, all difficulty would have been cleared up. He would confer a further benefit by stating the time required for effectually drying, or the tests by which it may be ascertained when this operation is completed. The same correspondent, in a paragraph immediately following that on the above subject, suggests the use of gas lime for "broadcast work," and to correct stable smells; with this caution, that it must not be used in a caustic state. He is under a mistake in supposing that it is to its causticity alone that it owes its property of destroying weeds, which he truly says it posseses. This effect is owing to the presence of sulphuretted hydrogen, which is as injurious to vegetable life in any other form as that of weeds. The same gas would also be extremely prejudicial to the health of horses if introduced into the stable. Gypsum is the best substance for this purpose; and if placed about the stable, either on shelves or on the pavement in shallow pans and moistened, a very valuable manure (produced by fixing the ammonia arising from the dung) may be saved. *A. X., Dover, Nov.* 14. [Gas lime, if exposed to the air for some weeks, will become gypsum—so much of it as has been altered by the process, in the gas manufacture, to which it has been subjected.]

What can be done for Ireland?—This is a problem that has puzzled the wisest heads for the last half century, and seems likely to puzzle them for half a century more. If the problem were to be solved in the abstract, two words might suffice—education and employment. As to the former, most appear now to be agreed, that education should be given somehow, separate or mixed, religious or secular, general or agricultural; as to the latter, *there* lies the hidden rock, laid down in no chart, so acted on by storms and currents that no compass can help to steer clear of it, and so sunken underneath that no reckoning can avoid it. Will draining the land serve? Large sums have been advanced by Government to landowners for the purpose, yet, as stated by the Lord Lieutenant, much of these has been applied by the landowners to other purposes. Even if these had been better appropriated, it is to be recollected that there are perhaps not less than three millions of people, all indigent, some starving, for whom work is wanted at the present time. Will agricultural instruction do? The whole rents of the kingdom are only reckoned at 14 millions sterling; if these were even doubled by an improved system of farming, and divided amongst the three millions, there would be less for each than 10*l.* a year, or 4*s.* a week, a pittance which is scarcely more than sufficient to keep the gaunt wolf hunger from the door. In any plan of amelioration the glaring fact should never be lost sight of, that nearly the whole population has to be maintained from the land. What would England be without her manufactures? a splendid ruin. The whole land would be swamped with poor rates, as is the case now in Ireland, where the rates have been known to exceed the rents. The landlords would be no longer able to pay rates and taxes, estates would be confiscated, the national debt unliquidated, and its interest unpaid, and a general bankruptcy would ensue. Even if the agriculture of Ireland were to be raised to what it is in this country, the same difficulty would remain; that country would still be like England without its trade. We may see even from a partial stagnation of trade in England, and lands in consequence being unemployed, what want, what misery, what discontent, what disturbances have arisen. To what does America owe much of her present prosperity and happiness but to her surplus population being thrown off upon her back settlements; without this, wages would be reduced and all her resources narrowed. If Ireland possessed no such outlet for her surplus population, no enlarged means of giving them employment, her case would be desperate indeed. But where new and extensive fields of labour may be opened by industry and skill, these too abounding or being made to abound with the richest products, some great effort may still be made to effect a permanent good. *Low. Rawstorne, Penwortham, Preston.*

Societies.

Sturminster, *Nov.* 30: At the annual meeting of this Society, the following speeches were delivered by Rev. A. Huxtable and C. W. Hoskyns, Esq. Mr. Hill, the winner of a prize offered by Mr. Huxtable for the best crop of Turnips had stated the particulars of his management. The Rev. A. Huxtable:

From the observations which Mr. Hill has made, you see, gentlemen, the use we may make of these prizes:—we get a practical man here, and he tells us that his manure cost him but 1*l.* 4*s.* 2*d.* an acre. Now I'll tell you what my manure cost, and herein I rather differed from the Judges when they talked with me on the hill. They said I ought to charge the value of the farm-made dung. This I never do, upon the simple principle that in valuing my crops I put a price neither on my straw nor manure, therefore I don't value manure. Straw is as it were dead stock—"dead!" I should rather say it is the great supporter of our farms. But the artificial manure I used was composed of 2 cwt. of dissolved coprolites in half their weight of sulphuric acid and seven put-loads of dung mixed with ashes. Copro-lite means a dung stone; that is, in other words, dung turned into stone, or lost dung. It is a very remarkable discovery that has been made. Liebig says "as England owes the strength of her manufactures, and her power among nations, to the coal mines which exist in her, so it will be discovered by and bye that she owes the strength of her agriculture to the fossil deposits and fossil bones which exist among the strata of her soil." Now, so far as Turnips are the *sine qua non* of good agriculture, this is the case. These prize-honoured Swedes were principally due to these dissolved dung stones which are obtained in great quantities indeed in Norfolk. A friend of mine, Mr. Lawes, imports some thousands a year from Norfolk. He has them ground down by powerful machinery, and I purchased my coprolites of him. Since then, I have found them in my own parish. A learned philosopher came down to my place, and he said "in this green sand you will find the dung stones." So I dug away. The men on the farm were set to work, and sure enough we did get some of this dung stone. This which I have brought you is only a specimen of it. I have some at home as large as this plate. They are supposed to have been dung dropped by the Saurians—enormous lizards that lived on this globe long before it was put to our use. (Roars of laughter.) There seems to be a general opinion that I am joking. I give you my honour that I speak seriously. I am speaking that seriously. It is, I do consider, a most bountiful and wonderful act of Providence that we should have, from our soil, not only coal, but bone in its essential element. Nobody has more of the essence of bone than this. It is as if you took a horse's leg, and burned it to ashes; and there are thousands and tens of thousands of tons of it on our soil. Gentlemen, I will have a pit opened on my land, to show you where they are. They lie about 3 feet deep, but they don't pay for working, and I am obliged to get them from Norfolk. Mr. Lawes charges them, when dissolved in half their weight of sulphuric acid, at 5*l.* a ton, or 5*s.* a cwt.—so that actually my purchased manure costs me on the whole 10*s.* an acre. Well, now I want to tell you about a gross failure this year. I candidly tell you that in the matter of growing Swedes, I had grown rather bumptious—(laughter)—and if I saw anybody else at work, I used to think I could beat him; but on one of my West Farm fields this year I have failed. I ploughed up 6 acres of stiff land to be frosted through the winter. When spring came, it was covered over with dung till it was as black as my hat; for I set my two bailiffs one against the other, and they did not spare the dung, I assure you. I had it dressed down and worked it, that stiff clay, as fine as sand. We then drilled in 3 cwt. of superphosphate of lime—that is, those coprolites dissolved in sulphuric acid, and now I said, beat this who can. But to my amazement a large portion of the field never produced anything bigger than this wine-glass. What was the reason? The clay land being very fine, it held together like mortar; I hoed up and subsoiled it, but the roots were all stifled. Now for the instruction. I had one acre dibbled, gardener's lines being drawn from one end of the field to the other, 2 feet apart, and holes hoed out 1 foot apart. These were filled with dung, mixed with ashes and superphosphate; there I had excellent Swedes. That manual labour cost 1*l.* per acre. When you get a stiff clay, the small tendrils of the Swede haven't room to expand, but if you put his food under him he'll sit down upon it and enjoy himself. (Laughter.) They grew wonderfully. It is certain that one single ton of Swedes extra will pay for the whole expense. I put in 28 acres of Mangold Wurzel in this way, the labour costing 18*s.*, and the crop averaging 27½ tons per acre. I repeat, that certainly to grow Mangold Wurzel, you should employ all the men, women, and children you can come at, to put the dung into the holes, and the seed on the top, and then they'll grow like magic. (Cheers) The next subject I want to speak to you about is liquid manuring. This I am doing rather on a grand scale. Everybody now who has tried to catch manure in tanks is getting heartily tired of it, for in carting it out on heavy soil, in wet weather, it cuts the land all to pieces. Well, I set to work and tried to think what was to be done. I will tell you what I have accomplished on rather a large scale. I had laid down 1300 yards of wood piping, in Larch or Scotch Fir, or Elm, bored by a wood boring machine, 2 inches in diameter. The carpenter charged me 7*d.* a yard for boring; I have bought the wood at 2*d.* a yard, but I'll call the piping 1*s.* a yard. A forcing pump was then made by the village carpenter, which forces the manure through the pipes, and it runs all over the farm. The expense of watering 90 acres will be 70*l.* 10*s.*, and it is managed thus:—I have got stumps placed about the fields, the water rushes down these pipes 3 feet underground, and is forced up these stumps, which are 6 feet high, and they are placed at such distances that the water cart hasn't further to go than 2 0 yards to be filled; and the economy of the matter is this—A lad pumps away all day, for it isn't very hard work; then I get a boy with two pony water-carts (for if you have a large water-cart and a large horse, the weight of the animal and the vehicle will cut the ground up, because the time for liquid manuring is when the soil is damp). If you have broad wheels made to the cart, and only put into them a hogshead and a half at the time, you'll not cut the ground. We found that a lad pumping at 1*s.* a day—a lame lad mind—takes 12 minutes to fill a pony-cart, and we are exactly eight hours watering 2 acres of land with liquid manure;—the manure for this quantity of land was diluted with 18 hogsheads of water. Well, there is the man pumping, 1*s.*, the pony cart and boy, say 3*s.*, and that is the cost of the labour. Now look at the results. We cut Grass only the day before yesterday 18 inches in height; and if Italian Rye-grass is watered with liquid manure after cutting, it will grow in an incredibly short space of time; for recollect when you mow down Grass, it is thirsty beyond measure. I have Italian Rye-grass which has grown 8 inches in the last six weeks, and if we have no frost—that is no black frost, for it is that that does the mischief—before Christmas I shall cut it again 1 foot high. If you put a little guano into the water and distribute it in this way, the plants will take it up in a moment. Now you may say, gentlemen, this arose from what's called the "lippy" season—that is very good Dorset but very bad English. (Laughter.) I have a word to say on that; I have cut by watering, this "lippy" season, one part of my Clover four times—good cuttings—the Clover at the least a foot high. You would say it was the "lippy" season, but what did the lippy season do for the other Grass—that I cut only twice? So I get two more cuttings by watering, and they come in at a time when all sorts of artificial Grasses get rather dry—viz., in the month of August. It is worth its weight in gold then, for you cannot value a green crop which comes in at a scarce time. In the month of August it is worth its weight in gold—at least it is for milking. This Clover gives me a great triumph over the dairy farms in early August. Well, now I should like to tell you something about what Mr. Hill referred to, when he spoke of my barren spot on Salisbury-plain. I am sure you feel that what I have done—open as it has been to everybody's inspection—I am sure you feel that this is not an individual question; it is a great national question. It, where 2½ labourers were employed before, there are now 15; and if where there were 50*l.* laid out in labour, there are now 350*l.* expended, and profitably expended, I say it is a national question. I hope I shall never, as long as I live, fritter this down into a mere question of personal gratification or triumph. God forbid that I should fail to feel the importance of the subject in a national point of view; if I did I would not be here. Now, with regard to the expense of these things, you must recollect I have had to try what I could get the work done for. I have had my cow sheds altered twice; my sheep sheds three times. I have had the floors shifted four times; and we are going to alter it again. But you are to be told of the result of this experience, and you will be able to have the work done at lowest price that it has cost me. I was very glad indeed to hear Mr. Flower speak about capital, and say it amounts to the same thing whether you give a man capital or that which will stand in the stead of capital to him. I am very sorry to tell you that some persons who ought to know better, and some landlords, have made an unfair use of my name. It is well known that I have not lived by agriculture; but it is unfair, and it is making an unpopular and unjust use of my words, to say that I have ever advocated the tenant farmer laying out it is money without a proper security. It is not because you distrust your landlords that you must have security, but all things are casual. My friends have been asking lately about my accounts, and I want to show you what these things can be done for. When I first began draining, though I bought tiles in my own neighbourhood, it cost me 7*l.* an acre. My neighbour,

Mr. Monckton, has put up a pipe-tile machine and he sells me pipes at 16*s.* a thousand, 1½ inch bore. Now, I can drain for less than 4*l.*, taking in the expenses of carriage; 100 acres therefore cost 400*l.* Now, there ought to be a liberal interest allowed on that. I think 5 per cent. is not enough; for although it is all very well to call draining perpetual, it is not so. I have been obliged to repair some of my best drains, and, therefore, I think there ought to be 7 per cent. allowed for that. That is the figure which one or two engineers in London thought would be fair. I am speaking now of my West Farm, and I may remark by the way, that although my landlord charges me for 95 acres, I can only make out 84. (Laughter.) I pay 80*l.* a-year for that, and I have about 10 acres more—call it 100 acres—the draining is thus 400*l.*; the interest, at 7 per cent., is 28*l.* I have put up on the West Farm 400*l.* worth of additional buildings, upon which I charge 5 per cent. Now, gentlemen, I'll read you the whole of the balance-sheet. Mr. Huxtable then read as follows:—

DEBTOR.	£	s.	d.
Rent of 100 acres, including glebe	100	0	0
Interest on capital sunk in permanent improvements—in additional buildings and roads, 400*l.*, at 5 per cent. per annum, 20*l.*; draining, 4*l.* per acre, the distance between the drains, 3 feet deep, being 24 feet; 1½-inch pipes at 16*s.* per 1000; labour, 8*s.* the score perch, being 4*l.* per acre, charged 7 per cent., on 100 acres, 400*l.* 28*l.*; wooden pipes, of 2-inch bore, 1350 yards at 1*s.*, a delivery pump at every 240 yards, 70*l.* at 10 per cent., 7*l.*	55	0	0
Insurance	2	0	0
Cows bought	196	4	0
Pigs	27	15	0
Bull	14	0	0
Miscellaneous articles bought	4	18	9
Tradesmen's bills	54	10	0
Manure bought	37	13	2
Horse corn purchased	78	0	0
Cattle and pig corn	63	16	0
Corn, &c., used for seed	43	17	0
Labour	375	0	0
Ten per cent. on 1500*l.*	150	0	0
Tithes, 5*s.*; rates, 2*s.* 6*d.* per acre	32	10	0
Lost by the death of one cow	9	0	0
	£1244	3	11

CREDITOR.	£	s.	d.
Wheat, 402 sacks, 2 bushels, from 40 acres 1 rood, at 25*s.*	509	2	6
Dairy	226	0	0
Pigs	147	9	9
Poultry	9	14	9
Improved value of stock	188	0	0
Forty bushels of Italian Rye-grass, at 7*s.* ...	14	0	0
Two fat heifers	30	10	0
Beasts sold	177	15	0
Keep of 100 Sheep	80	0	0
	1382	12	0
	1244	3	11
Profit ...	£138	8	1

Whilst the rev. gentleman was reading this statement some one called out for "interest." "You shall have interest to your heart's content," said Mr. Huxtable, and he then read the item "10 per cent. on 1500*l.*" "Don't you think, Mr. Seymer," he asked, "that 10*l.* per cent. is enough? Why, you don't pay more than 4*l.* (Loud laughter.) Even the great North-Western don't pay more than 6*l.* Look, gentlemen, at 375*l.* for labour on 100 acres of land; now a man must have some pluck to face that. My profit is 138*l.*, more than 1*l.* an acre, after paying 10 per cent. on my capital. I say that this is very gratifying; not because I am an individual endeavouring to carry out a theory, but because the success of that theory is for the public good. All I have now to say, gentlemen, is that having closed this balance sheet, which has been so long called for, I have to thank you; because though in the beginning you laughed at me for a madcap, it has been your kind opinion that has encouraged me to go on, and not only that, but you have given me a voice so that what has been said at this meeting has been carried even into the back woods of America. I am still more proud in showing that we can support in England twice the number of labourers we do; and if we are to send out any of those poor fellows, as Mr. Seymer has suggested, I trust that we shall remember they have souls as well as bodies, and that we shall not send them forth without a minister. Better times are, however, I hope coming upon us, and I hope we shall be encouraged to trust in God's good providence, and to go on improving." A gentleman, whose name we did not hear, observed that at a former meeting Mr. Huxtable told them he used Elm pipes—were they now to understand that Fir would do as well? Mr. HUXTABLE said Scotch Fir, or Larch, or Elder, would do. The Interrogator inquired why he used pony carts? Mr. HUXTABLE said, because he found that in cold weather the urine corroded the hose; but they were making experiments in London, and he hoped they would be able to impregnate the hose so as to resist the effects of the urine upon it.—Mr. SEYMER then gave the health of "Mr. Hoskyns," an experienced agriculturist who had come from a distant part of England to be present at their meeting.—Mr. WREN HOSKYNS said he could assure them that however unexpectedly called on, it was with the greatest pleasure that he rose to thank them for the attention which they had paid to a perfect stranger, and for drinking his health in so cordial a manner as they had done. They had heard to-night (and this was not the first time he had been present upon an occasion similar to the present) a most admirably expressed and lucid explanation both of the successes and the failures of Mr. Huxtable, whose contributions to the science of agriculture, and whose experiments had been carried as far as the *Times* newspaper, or any of the English papers circulated, and that was virtually saying all over the habitable world; and he was sure that none who felt how much was yet to be done for agriculture could doubt the advantage of publicity being given to such experiments. The question must find an answer—"What is science to do for agriculture?"—it had been asked again and again, and he had never yet heard an answer that had quite satisfied him; but it did appear to him that the question could be best and most fairly answered by turning their attention to what science had done for other arts, because arts of much more modern date than agriculture had been rapidly advanced by the application of science. He need only refer to the triumph of the steam engine—to the cotton manufacture—to the silk manufacture—and the application of steam-power to the voyage by sea or the journey by land. In all these we saw familiarly, and every day, the triumph of science over mere physical power; and it was by analogy that they could judge of the effects of science, and by looking at its success in other arts they could calculate what it might do for agriculture; and why? Because agriculture, though the most ancient as an art, was the most modern as a science. (Cheers.) From the days of Adam—from the days of Noah downwards, every man who had tilled the soil had been practically a farmer, and it occurred to him that unreasonable stress was often laid upon the word practical, and he had frequently wondered at it, because it is in agriculture that science, not practice, is most essentially behind-hand. Let him take the instances of what science had done and could do in other arts. They had often heard of those immense and wonderful structures the Pyramids of Egypt, 700 feet in width and 500 feet in height, which were raised at the expenditure of centuries of labour by human hands, and which might now be raised by the consumption of about 36 chaldron of coals, a quantity often consumed in a week by a team engine. When they saw the ease with which science could perform the [illegible], and when they remembered what had already been done in other arts, they could best form an idea of what it could do in agriculture. If the application of steam to the cultivation of the land could be effected, it is known that about [illegible] ton of coal [illegible] it to plough nearly 200 acres of land 7 inches deep. This was a fact known to the scientific of the present day, but because we had not yet learnt to apply steam to the land, that knowledge had not been made available as yet. But he had no more doubt that the day would come when steam would be applied to cultivation, than he had of the [illegible] the Menai bridge, or any other achievement of science which human labour could never have accomplished. It was, however, unfortunate that some of the greatest inventors in science, though the chief benefactors of mankind, had fallen victims to the novelty of their own ideas; they had outpaced their own day so much that their ideas had been treated as ridiculous theories, or as the dreams of madmen, rather than the results of philosophic study. They have been treated in a spirit of persecution, against which it was necessary the present age should guard itself, because even in the present age men of science had still a feeling to contend with analogous to the persecuting spirit of bye-gone ages; and the men who laughed at the discoveries of a Liebig, or the experiments of a Huxtable, might find they were acting over again the persecution which Galileo endured. It was remarkable with what a spirit of persecution Jethro Tull had been treated, who, of all the men of whom authentic records had come down to us, seemed to have been the man most gifted with a genius for agriculture. Not only was he opposed in his philosophical researches, but an anonymous society was established, which fiched while they yet scrupled not to decry the best of his discoveries. His theory with respect to the food of plants, though imperfect, led to the most valuable results. Imagining that plants lived upon very fine particles of soil, he considered that if he could only pulverise the soil to the finest degree he would promote vegetation more than by manure; and he (Mr. Hoskyns) only wished we would take a leaf out of his book in reference to the mechanical treatment of the soil, and endeavour by increasing its capabilities to increase its productions. Because, however manures might temporarily increase production, yet, by a deep and thorough cultivation of the soil we not only increased production, but we effected an absolute improvement of the constituent powers of the soil itself. The value even of an approach to true scientific principle was shown in the case of Tull, who, by having a right direction of idea, though far behind the actual truth as to the food of plants, was brought, by that occult affinity which exists between all true things, into the invention of two of our most interesting agricultural implements—the horse-hoe and the drill. He was the originator of both these implements, which he was led to construct because of the opposition shown by his workmen to his schemes. The main cause of his discovery, however, was, that he was approximately right in the direction which his ideas had taken. And by this was shown the great advantage of a good education in the physical sciences, which every agriculturist would profit by understanding; because there was not a thing we touch, see, or taste—not a single thing that comes in contact with our senses, which it was not the province of chemistry to analyse and explain. How desirable, then, must it be to the agriculturist to get right ideas respecting what soils, what plants, what light and air, and heat and moisture were composed of; and it was by such labours as these of Mr. Huxtable that so many of these truths were explained in the familiar manner required. In reality there was no real difficulty in science, and he thought he might say that he never heard from Mr. Huxtable in the course of his lucid explanations of science applied to agriculture—he never heard a single word that every one might not understand. Perhaps he might have been puzzled by his "coprolites," but that about a year ago a considerate friend had presented him a specimen sent by Mr. Lawes. And he had no doubt but this antediluvian manure might be made available for modern use. He thanked Mr. Seymer for the flattering manner in which he had spoken of him (Mr. Hoskyns) as an agriculturist. He believed that it was to the difficulty which arose from having light soil in Herefordshire, and heavy clay soil in Warwickshire, to deal with as they respectively required, that he owed what little acquaintance he possessed with scientific agriculture; and he agreed with Mr. Huxtable, that it was from our greatest difficulties that our best knowledge is derived. Sir John Herschel had said that if the alchymists had left us a record of their failures as they had of their successes, we should have been twice as far advanced as we are in chemical knowledge.

OLNEY, TURVEY, AND HARROLD.—At the annual meeting of this Society, Mr. HEWITT DAVIS made the following remarks *On Draining and Thin Sowing*:

He said: A hundred years ago it took two days to travel from Olney to London. Sixty or seventy years ago the journey was accomplished in one day. This was the result of better roads and better machinery. Who could have contemplated that by making harder roads and improving the vehicle, the time would be reduced one-half. Still less, who could have contemplated that the journey could be accomplished in three hours? These were the changes which had been effected in travelling, and something like them had been effected in farming also. Some years ago a committee of the House of Commons came to the conclusion that it was impossible to cultivate land to a profit in England unless the farmer could secure 10*s.* a bushel for his Wheat. They had seen the error of that; if they now could get two-thirds of that they considered that they could farm to a profit. And to what is this [illegible] owing, but the improvements in their mode of farming and implements? In travelling about, however, he had had occasion to observe that improvements in one district were very slow in finding their way to others. In this county they had much to be deservedly proud of; their management of stock was very superior. But he could not give them the same credit for their management of their arable land. He was himself both a farmer and a land agent. As a farmer he knew the impossibility of working land to a profit, shut up by timber, overrun by game, divided into too small enclosures, or without proper buildings for wintering stock and making manure. As a land agent he also knew the impossibility for a tenant to live, following a bad system and not availing himself of the improved means which were before him. In going over an estate he felt a greater anxiety than could be [illegible] when he saw tenants not adopting such means as could [illegible] the greatest advantage to themselves and the landlord. First of all necessary improvements was drainage; he alluded more particularly to deep drainage, the advantages of which were many. By deep drainage every shower passes through the earth, leaving behind its fertilising properties for the nourishment of the crops. By way of illustrating the difference between deep and shallow drainage, let a tub of ink be upset in a deep drained field, and they would find that it would come out pure water; let the same experiment be tried in shallow, and the water would be somewhat stained and turbid. The next advantage to be derived from drainage was, that it occasioned a higher temperature of the soil. If the soil is saturated with water, the evaporation produced by the sun draws off the warmth, and leaves the earth colder than before. In hot countries, upon the same principle, it was customary to hang wet clothes at the windows, that the warmth might be drawn from the rooms during the process of evaporation. In India they put water in porous vessels, so that the evaporation may bring the water to a freezing temperature. [illegible]

[illegible] could be no objection to it.

Miscellaneous.

Cultivation of Barley in Flanders.—The Flemish cultivation of this crop is extremely careful and liberal;

and nowhere are better crops to be found. The polders in Flanders are those lands which, by embankments, have been redeemed from the sea, or from the floods of the rivers, and then drained by cross ditches. These lands, being the alluvial deposits of uncounted years or centuries, are extremely rich; and large crops of winter Barley are grown upon them. Crops as good, however, according to the testimony of a distinguished farmer, are grown upon lighter lands, where they are carefully cultivated, and liberally manured. The brewers prefer the Barley grown upon the light lands to that grown upon the heavier soils; they find the skin of the grain finer, and the grain itself better filled. They prefer, likewise, the winter to the spring Barley, because it weighs heavier. It gives, likewise, a larger product. In the neighbourhood of Ghent, where one witnesses the perfection of agriculture, the mode of cultivating this crop is thus in the main detailed by an experienced agriculturist, to whom I have already referred. They plough the land twice; they then lay it in beds of about 5 feet in width; they then go upon the land with a cart of liquid manure, the horse walking in the furrows, and a good deal of the liquid of course falling in the furrows, between the beds; they then level the land with a harrow; they then spread upon the field 10 or 12 two-horse loads of rotted manure to the acre, and sow the seed upon the manure; the next step is to clean out the furrows between the beds with a spade, spreading the soil taken out upon the seed, and at the same time covering the manure. The whole field is then trodden by foot, or by a roller drawn by men. The object of this is to retain the humidity in the soil, so that the seed may come up the better. When the seed is 2 or 3 inches high, it is then manured again, with a copious dressing of liquid manure, so that the field is in a condition to bear a crop of Potatoes or Turnips the same year. Where the liquid manure is from the privies of the town, it is necessary to dilute it with water. The roots of Barley, spreading upon the surface rather than descending deeply, it is not necessary to bury that or the manure deeply, although where Barley is sown in the autumn, it is generally advised to plough it in with a light furrow. The crops in such cases are very large, averaging more than 60 bushels to the acre; *Colman's European Agriculture.*

II.—TABLE OF ROTATIONS FOR THE RICHEST KIND OF LIGHT SOIL.

First Year.	Second.	Third.	Fourth.	Fifth.	Sixth.	Seventh.	Eighth.	Ninth.	Tenth.
	Wheat	Rye and Turnips	Rye, or Barley and Turnips	Potatoes	Wheat	Rye and Turnips	Flax	Clover	
			Potatoes	Wheat	Rye, or Barley and Turnips	Oats	Flax and Carrots	Rye	Clover
Flax and Clover*, or Carrots	Oats	Rye and Carrots, or Barley and Turnips	Potatoes	Wheat	Rye and Turnips	Barley and Turnips, or Oats	Flax	Clover	
	Barley and Turnips	Rye and Carrots	Potatoes	Wheat	Rye and Turnips	Flax and Carrots	Oats	Clover	

* If Clover is sown with the Flax, it is cut in the second year, and another year is added to the rotation; but it is more usual to sow Carrots with the Flax, and sow Oats or Barley the second year.

III.—TABLE OF ROTATIONS FOR A GOOD CLAY OR STRONG LOAM.

First Year.	Second.	Third.	Fourth.	Fifth.	Sixth.	Seventh.	Eighth.	Ninth.	Tenth.
		Oats	Carrots or Barley and Turnips	Wheat	Rye and Turnips	Potatoes	Wheat	Rye and Turnips	Flax
				Beans	Wheat	Rye and Turnips	Potatoes	Rape and Carrots	Flax
	Clover	Barley and Turnips	Rape and Carrots, or Beans	Wheat	Rye and Turnips	Potatoes	Rye and Turnips. Wheat	Oats or Flax. Rye, or Barley and Turnips	Flax
	Wheat	Barley	Beans	Wheat	Rye and Turnips	Potatoes	Rape and Turnips	Oats or Flax	
Flax		or Rye and Turnips	Oats and Clover, or Potatoes	Clover, Rape, and Turnips	Wheat	Rye and Turnips	Flax		
	Rape and Turnips	Wheat	Rye and Turnips	Oats	Clover	Wheat	Rye, or Barley and Turnips	Oats or Flax	

Calendar of Operations.

DECEMBER.

Lammermuir Sheep Farm.—For some weeks the weather has been very changeable, and the fall of rain more than an average. Frosts have also been frequent, and of considerable intensity, though never of long duration. The higher grounds have twice or thrice been covered with snow, which was speedily dissipated. The bathing of the sheep was completed by the 20th November, having occupied the shepherds about three weeks. Jackets were put on all the hogs immediately after. The rams were turned out to the ewes on the 22d Nov., from 50 to 60 ewes being allowed to each ram. The general health of the flocks has been unusually good for some months past. The young cattle receive a limited supply of Turnips daily; the cows being kept on Oat straw and meadow hay. The ploughing of Oat stubble for Turnips was completed a week ago, part of it having been previously manured with peat ashes, peat waste, and manure from the cow byres. The horses are now employed ploughing lea for Oats, carting coals for household use during winter, and storing Turnips. Our crop of Turnips is an average one, though that in the lower districts is very inferior, causing stock to be hurried to market already at very unremunerative prices. Farmers who have Turnips to let are now getting about 8*d.* per week for old sheep. *A Lammermuir Farmer.*

North Lincolnshire, *Dec.* 18th.—Since my last report we have had exceedingly fine warm weather for the season of the year, and considerably less rain has fallen this last month than the preceding one, which has enabled us to get the Wheat seed time concluded under more favourable circumstances than we at one time anticipated. The later sown Wheat is coming up nicely, and should the weather continue tolerably open and mild, as at present, we may hope that our prospect for the next crop is not so gloomy as we saw it awhile ago. Two or three weeks ago we were enabled to get about 150 tons of Swedish Turnips stored for our straw-yard cattle; part of them have been put upon allowances of 4 stones each per day, the remainder still continuing with 3 lbs. of oilcake, which will be continued through the winter. Our horses and men are principally engaged ploughing the remainder of the land for Turnips next year, and threshing and delivering corn. *A.*

West Somerset Farm, *Dec.* 13.—The weather has been lately very stormy and unfavourable for farm-work, and has consequently here, as well as elsewhere, delayed Wheat sowing considerably, so that in some places it must be left till after Christmas. We have in the intervals of fine weather succeeded in getting in 50 acres of Wheat, which made tolerable work. We use a steep for the seed, consisting of blue vitriol, 1 lb. to a sack, then rolling it in lime [Rolling in lime just decomposes the vitriol, and would undo the work, but either answers the purpose], which in the morning is fit for drilling. There are about 50 more acres to sow after Turnips and Mangold Wurzel, which will occupy us through the remainder of the month. The workpeople have been busily employed drawing and storing the Mangold, which, taking them altogether, is a very fair crop; out of one field of 2¾ acres we carried 80 loads, some of the best of which weighed 12 lbs. Our fatting oxen have been now tied up about three weeks; they receive each per day 6 lbs. of oilcake, and 1 cwt. of cut Turnips and hay chaff. The oilcake is given the first thing in the morning. The teams have been employed carting the Mangold, ploughing for Wheat, hauling Wheat and Beans to market, returning with coal, &c. *H. E.*

Notices to Correspondents.

Cider: *A W G.* Next week. The ropy character is owing to the coagulation of the albumen present in apple juice.

Cheap Manuring: *G H.* Mr. Prideaux has received your note.

Dr. Newington's Dibble: *T C J.* It may be used for Oats as for other grain. The reason why dibbling is spoken of more in connection with Wheat than with other crops, is because it is suited the most for early autumn planting, when the smaller quantity of seed sown has ample time and opportunity for spreading and branching out.

Education: *Amateur Tyro.* We do not know any school farm near London; but many schools profess to teach the theory of agriculture, that of Messrs. Nesbit, at Kennington House, Lambeth, for instance.

Indian Meal: *X X.* Bean and Barley meal give firm bacon. We had not been aware of any complaint of Indian meal in this respect; perhaps a mixture might correct it.

Mangold Wurzel: *A Young Farmer* will find some difficulty in inducing his horses to eat them. Has anyone any experience on this subject to offer.

Oats: *W D F.* Plough old turf in autumn and sow in February, or as soon after as possible. We have no reason to disapprove of the autumn planting Potatoes.

Pigs: *Sylvanus.* E. W. Moore, Esq., Coleshill, Farringdon.

Preservation of Hose: *Mr. Leonard Barber,* says:—"I think the following solution will answer this purpose, and will be a useful recipe for other purposes. Buy 1 lb. of dissolved India-rubber, which will cost 2*s.*, to which add, say 2 pints of cold drawn Linseed oil; put these into a pipkin and warm them over a charcoal or slack fire at a gentle heat, not to boil; then, with a brush mix them intimately as a painter would his paint, and dress the canvas with this, laying it on with a brush, like paint, on both sides of the canvas, only very thin. I have used this preparation for many years on my shooting boots, and I find it makes them waterproof and pliant, much better than any greasy preparation, and preserves them better than anything I have ever used. I also preserve my silk trolling lines with it, by which I find they last a greater number of years than they would otherwise months. If your correspondent dresses his heavy cart harness with this preparation he will find it keep pliant and durable; but no oil or grease of any kind must be used on the leather, as it will not take. The canvas had better be prepared before it is made up, and the thread dipped in the solution, or with a small sash brush paint over the seams with it. The only difficulty with this preparation is, that it will take some time in drying at this time of the year. If the canvas is prepared in the summer two or three days of sunshine will dry it."

Markets.

HOPS, Friday, Dec. 22.

Messrs. Pattenden and Smith report that the market remains in the same state as for some time past, but as soon as Christmas is over it is expected prices will advance.

POTATOES.—Southwark, Waterside, Dec. 18.

The Committee report that the arrivals during the week have been considerable, and lower prices have been submitted to with most samples except the French, the quality of which is so good that they are increasing in consumption and rising in price, notwithstanding the supply is considerable. The following are this day's quotations:—York Regents, 100s to 160s; Newcastle and Stockton do., 100 to 140s; Scotch do., 100s to 130s; Scotch Reds, 60s to 80s; Scotch Cups, 60s to 90s; Scotch whites, 60s to 80s; French Whites, 80s to 100s; Dutch whites, 50s to 75s.

COVENT GARDEN, Dec. 23.

The market continues to be tolerably well supplied with Vegetables and Fruit. Hothouse Grapes, however, are somewhat scarce. Pine-apples are plentiful. Among Pears we remarked good specimens of Chaumontelle, Glout Morceau, Ne Plus Meuris, and Old Colmar. Nuts in general are sufficient for the demand. Oranges and Lemons are plentiful. Amongst Vegetables, Carrots and Turnips are abundant and good; Cauliflowers, Broccoli, &c., sufficient for the demand. Some Asparagus, French Beans, Rhubarb, and Seakale have made their appearance. France, Belgium, and Holland contribute considerably to our stock of Potatoes, which are rising in price. The foreign ones fetch about 5*l.* a ton; the very best home grown ones about 11*l.* a ton. Lettuces and other salading are sufficient for the demand. Mushrooms are very plentiful. Cut Flowers consist of Heaths, Pelargoniums, Camellias, Gardenias, Fuchsias, and Roses.

FRUITS.

Pine Apples, per lb., 4s to 6s	Almonds, per peck, 6s
Grapes, Hothouse, per lb. 4s to 6s	— sweet, per lb., 2s to 3s
— foreign, per lb., 9d to 1s	Walnuts, per 100, 1s 6d to 2s
Apples, dessert, per bush., 4s to 7s	— per bush., 16s to 24s
— kitchen, p. bush., 3s to 5s	Chestnuts, per peck, 4s to 7s
Pears, per doz, 2s to 6s	Nuts, Barcelona, per bush., 20s to 22s
— per half sieve, 6s to 10s	— Filberts, per 100 lbs., 60s to 100s
Oranges, per doz., 1s to 2s	— Cob, per 100 lbs., 90s to 150s
Lemons, per doz., 1s to 2s	— Brazil, per bush., 12s to 16s
— per 100, 10s to 18s	

VEGETABLES.

Cabbages, per doz., 3d to 1s	Onions, per bunch, 3d to 4d
— red, per doz., 1s to 4s	— per bushel, 1s 6d to 2s 6d
Savoys, per doz., 3d to 1s	— Spanish, per doz., 1s 6d to 4s
Greens, p. doz. bunches, 1s 6d to 2s 6d	— pickling, p hf sieve, 1s6d to 3s
Cauliflowers, per doz., 2s to 4s	Shallots, per lb., 4d to 6d
Broccoli, white, per bunch, 1s to 2s	Garlic, per lb., 4d to 6d
— brown, per bunch, 8d to 1s 3d	Radishes, per doz. bands, 6d to 1s
Sorrel, per half sieve, 6d to 9d	— Turnip, do., 9d to 1s
Potatoes, per ton, 60s to 180s	Artichokes, per doz., 1s 6d to 2s
— per cwt., 5s to 9s	— Jerusalem, p. hf sieve, 1s to 1s 6d
— per bush., 2s 6d to 5s	Lettuce, Cab., per score, 4d to 6d
Turnips, per doz. bunches, 1s 6d to 2s	— Cos, do., 9d to 1s
Red Beet, per doz., 6d to 1s	Endive, per score, 9d to 1s
Horse Radish, per bundle, 1s to 6s	Mushrooms, per pottle, 6d to 1s
Asparagus, per 100, 2s to 5s	— per bushel, 4s to 8s
Seakale, per punnet, 1s to 2s 6d	Small Salads, per punnet, 2d to 3d
Rhubarb, per bunch, 1s to 2s	Fennel, per bunch, 2d to 3d
French Beans, per 100, 2s 6d	Savory, per bunch, 2d to 3d
Cucumbers, each, 1s to 2s	Thyme, per bunch, 3d to 4d
Leeks, per doz., 8d to 1s	Watercress, p. 12 small bun., 6d to 9d
Celery, per bundle, 6d to 1s 3d	Parsley, per doz. bunches, 1s 6d to 2s
Carrots, per doz. bunches, 2s to 5 s	— Roots, per bundle, 1s to 1s 6d
Spinach, per sieve, 9d to 1s 6d	Marjoram, per bunch, 2d
Tomatoes, per half sieve, 3s to 5s	Mint, green, per bunch, 2d

HAY.—Per Load of 36 Trusses.

Smithfield, Dec. 21.

Prime Mead. Hay	66s to 72s	New Hay	—s to —s	Straw	23s to 28s
Inferior ditto	50 63	Clover	60 95		
Rowen	36 55	New Clover	— —		

J. Cooper.

Cumberland Market, Dec. 21.

Prime Mead. Hay	72s to 76s	Old Clover	90s to 96s	Straw	28s to 32s
Inferior	45 63	Inferior	50 80		
New Hay	— —	New Clover	— —		

Joshua Baker.

Whitechapel, Dec. 21.

Fine Old Hay	65s to 70s	Old Clover	88s to 95s	Straw	24s to 28s
Inferior Hay	45 55	Inferior	50 60		
New Hay	60 65	New Clover	80 88		

SMITHFIELD, Monday, Dec. 18.

We have to-day a large supply of Beasts, and the quality is good. The butchers generally having to a large extent laid in their Christmas stock, trade is exceedingly dull; lower prices are taken, and many remain unsold. The number of Sheep is small—quite adequate, however, to the demand, very few being wanted so near Christmas day. Trade is, notwithstanding, more cheerful, at a small advance in some instances. Trade is slow for Calves at late rates. From Holland and Germany we have 511 Beasts, 3170 Sheep, and 81 Calves; from Denmark, 41 Beasts; from Leicester and Northampton, 2000; and from Lincolnshire, 393.

Per stone of 8 lbs.—	s	d	s	d	Per stone of 8 lbs.—	s	d	s	d
Best Scots, Herefords, &c.	4	0	to 4	4	Best Long Wools	4	2	—4	4
Best Short Horns	3	10	—4	2	Ditto Shorn		....		....
Second quality Beasts	2	10	—3	6	Ewes and second quality	3	6	—4	0
Calves	3	8	—5	0	Ditto Shorn		....		....
Best Downs & Half-breds	4	6	—5	0	Lambs		....		....
Ditto Shorn		....			Pigs	3	8	—5	0

Beasts—3763. Sheep and Lambs—18,890. Calves—174. Pigs—204.

Friday, Dec. 22.

We have again a large supply of Beasts: the weather, however, having taken a favourable change, the choicest qualities are readily sold, but at no advance, and several second-rate remain unsold. Trade is exceedingly dull for Sheep, and although the number is not large, Monday's prices are with difficulty obtained. The demand for Calves is more limited than the supply, and a reduction of from 2d. to 4d. per 8 lbs. is submitted to. Trade is more cheerful for Pigs, owing to the weather and short supply, but higher prices cannot be quoted. From Holland and Germany there are 181 Beasts, 1180 Sheep, and 124 Calves; from Denmark, 7 Beasts; and 100 Milch Cows from the home counties.

Best Scots, Herefords, &c.	4	0	to 4	4	Best Long Wools	4	2	—4	4
Best Short Horns	3	10	—4	2	Ditto Shorn		....		....
Second quality Beasts	2	10	—3	6	Ewes and second quality	3	6	—4	0
Calves	3	8	—4	8	Ditto Shorn		....		....
Best Downs & Half-breds	4	6	—5	0	Lambs		....		....
Ditto Shorn		....			Pigs	4	0	—5	0

Beasts—1133. Sheep and Lambs—3760. Calves—143. Pigs—150.

MARK LANE, Monday, Dec. 18.

Messrs. Kingsford and Lay report that the supply of English Wheat by land carriage samples this morning was small, and the condition generally wretched, but no progress could be made with sales until a decline of 1*s.* to 2*s.* per qr. had been submitted to. The arrivals of foreign Wheat and Flour are large, and having but a thin attendance of buyers, transactions were of a most limited character, for which, in some instances, a 5*s.* per qr. reduction in price was accepted.—Barley, excepting the very finest qualities, is extremely unsaleable.—Beans and Peas must be written 1*s.* per qr. cheaper.—We observe no alteration in the value of Oats since this day se'nnight.

British per Imperial Quarter.	*s*	*s*		*s*	*s*
Wheat, Essex, Kent, and Suffolk	46	52	Red	42	45
Norfolk, Lincolnshire, and Yorkshire	44	47	White	45	50
Barley, Malting and distilling, 28*s* to 30*s*	Chevalier	30	33	Grinding	24	30
Oats, Lincolnshire and Yorkshire	Polands	20	23	Feed	17	20
Northumberland and Scotch	Feed	20	24	Potato	24	26
Irish	Feed	17	21	Potato	20	25
Malt, pale, ship		—	—			
Hertford and Essex		—	—			
Rye		26	28			
Beans, Mazagan, old and new	23*s* to 30*s*	Tick	25	34	Harrow	27	36
Pigeon, Heligoland		30	39	Winds	34	40	Longpod	26	30
Peas, White		33	34	Maple	34	36	Grey	34	35

Friday, Dec. 23.

The arrivals of Grain from our own coast during the week are small, but considerable from abroad. The attendance at this morning's market was full, and the business transacted to a trifling extent only; prices of all articles remain the same as on Monday.

Arrivals in the port of London this week.

	Wheat. Qrs.	Barley. Qrs.	Oats. Qrs.	Flour.
English	2280	7690	1080	2570 sacks.
Irish	—	—	400	
Foreign	8010	9740	9700	— barrels.

Imperial Averages.	Wheat.	Barley.	Oats.	Rye	Beans.	Peas.
Nov. 11	52s 0d	33s 7d	20s 10d	30s 5d	37s 2d	40s 2d
— 18	52 3	34 1	20 5	30 10	38 1	40 6
— 25	51 6	33 2	20 2	30 10	36 10	40 6
Dec. 2	50 3	32 0	19 11	31 2	36 2	40 9
— 9	48 9	31 4	19 5	28 5	35 7	39 3
— 16	47 6	31 4	18 11	29 8	34 3	38 1
Aggregate Average	50 4	32 7	19 11	30 3	36 4	39 10
Duties on Foreign Grain	7 0	2 0	3 0	2 0	2 0	2 0

Fluctuations in the last six weeks' Corn Averages.

Prices.	Nov. 11.	Nov. 18.	Nov. 25.	Dec. 2.	Dec. 9.	Dec. 16.
52*s* 3*d*	...		...	...	...	...
52 0		...	...	...	...	...
51 6	...	...		...	...	...
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SEEDS, Dec. 18.

Canary per qr.	50*s* to 99*s*	Linseed-cakes, Foreign, p. ton	7*l* to 9*l*	
Caraway per cwt.	27	29	Mustard, White, p. bush.,	4*s* to 9*s*
Clover, Red, English	33	44	Superfine, p. bush.,	9 10
— Foreign	35	40	Brown, per bush.,	6 12
White, English	38	44	Rapeseed, Eng., per last	28*l* 30*l*
— Foreign	38	42	Rape-cakes, per ton	4*l* 10*s* to 5*l*
Coriander	12	16	Sainfoin	— —
Hempseed per qr.	34	36	Tares, Eng., winter, p. bush.,	10*s* 0 12*s* 0
Linseed	38	40	Foreign, per bush.,	3*s* 0 5*s* 0
— Baltic	38	38	Trefoil	17*s* 0 20*s*
— Cakes, Eng. p. 1000,	11*l* 10*s* to 12*l*	Turnip—too variable for quotation.		

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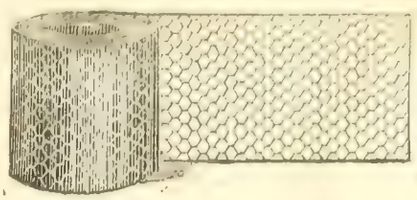

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MECHI'S CHRISTMAS AND NEW YEAR'S PRESENTS, 4, Leadenhall-street.—Sensible that the season has arrived when love and friendship give their tangible testimonials, Mechi has provided an abundance of objects for tasteful selection. None need deny themselves the luxury of giving, for the most inexpensive as well as the most costly articles are to be found at his Repository of Utilities and Elegancies. England has always been renowned for its hearty Christmas liberality, while "Le Jour de l'An" of our lively neighbours, the French, is equally consecrated to gifts of affection. Mechi invites a visit from the natives of all countries to his emporium, where they may be sure of putting their kind intentions into an acceptable shape. Fans, from 1s. 6d. to 5l; Work-boxes, fitted, from 20s. to 40l.; Writing-desks, from 10s. 6d. to 15l; Papier Maché Tea Trays in sets, from 21s. to 40l.; Ladies' Dressing-cases, from 28s. to 100l.; Gentlemen's ditto, 17s. to 100l.; Russia-leather Writing-cases, 38s. to 5l.; Mock ditto, 10s. 6d. to 30s. The improved Fish Carvers, 30s. to 6l.; Papier Maché Cake and Card-baskets, 10s. 6d. to 4l.; ditto Inkstands, 12s. to 10l.; Blotting Cases, 13s. to 4l. An endless variety of Envelope-cases, Card-boxes, Pole-screens, Work-tables, Chess-tables, and every requisite for the Toilet and Work Table. Mechi has great pleasure in submitting to his patrons an elegant article, adapted for presents, viz., "The new Plated Dessert Service for Children," consisting of Plate, Knife, Fork, and Spoon, of the finest Sheffield Plate, contained in a very handsome leather case, lined with silk velvet, price 38s. and 42s. Mechi's Bagatelle-tables are renowned throughout the world. A visit to his new Show-room is respectfully solicited. Catalogues gratis.—4, Leadenhall street, London.

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THE GARDENERS' CHRONICLE

AND

AGRICULTURAL GAZETTE.

A Stamped Newspaper of Rural Economy and General News. The Horticultural Part Edited by Professor Lindley.

No 53.—1848.] SATURDAY, DECEMBER 30. [Price 6*d*.

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RENDLE'S NEW SEED CATALOGUE will appear in full at the back page of the *Gardeners' Chronicle*, on Saturday next, the 6th day of January.

JACKSON'S IMPROVED ASH-LEAVED KIDNEY POTATO.—This is the most prolific and best Early Kidney Potato grown. Good sound sets 10*s*. per bushel, from the undersigned.

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PEAS

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N.B. Goods sent free to London, per Rail.—Dec. 30.

TO PLANTERS AND THE TRADE.

DICKSON AND TURNBULL Nurserymen, &c., Brechin, N.B., beg leave to intimate that they hold a large stock of the following Plants, of very fine quality, which will be sold cheap, viz :

OAK (English), from 2 to 4 feet high.
SCOTCH FIR, 1 and 2 years transplanted.
" " 2 year seedlings.
LARCH, 1 year transplanted.
SPRUCE (Norway), 2 and 3 years do.

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Remittances expected from unknown correspondents.

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J. J. FOSTER, of the Edgeware Nurseries, having a fine stock of the above frequently transplanted, and grown on an adhesive soil (which permits them to be drawn with good balls of earth and safely moved), can supply them at very moderate rates. The Evergreens consist principally of Spruce and Scotch Firs, Evergreen Oaks, Arbor vitæ, Portugal and common Laurels, Savins, &c. The Deciduous stock includes Limes, Planes, Beech, Hornbeam, Elms, Scarlet and Horse Chestnuts, Larch, Lilac, Guelder Roses, Laburnums, Acacias, Poplars, Weeping Ash, &c.—Prices given on application, as well as Catalogues of the stock of Fruit Trees, Roses, &c.

DUNCAN HAIRS, Seedsman and Florist, 109, St. Martin's-lane, Charing-cross, London, takes the present opportunity of informing the Nobility and Public in general that he has now completed his selected CATALOGUE of VEGETABLE, FLOWER, and AGRICULTURAL SEEDS, which can be had on application.

D. H. is sole agent for the new Enamelled Labels, the most unique of their kind; the Royal Folding Garden Chair, and Bowers' new Watering Pot, all of which can be seen at the above address, or lithographic drawings forwarded per post. Gentlemen purchasing Seeds for distribution among their cottagers or tenants, also emigrants, treated on the most liberal terms. Seeds put up in such quantities as to meet the views of all. Emigrants cannot have it too strongly impressed on their minds the importance of taking with them a few of the most useful culinary and fruit seeds.

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" " 8 to 10 feet, very handsome plants, 21*s*. to 42*s*. each.
" CHINENSIS, 4 to 6 feet, 7*s*. 6*d*. to 10*s*. 6*d*. each.
" " large handsome plants, 6 to 8 feet, 21*s*. to 42*s*. each.
" VIRGINIANA, 4 to 6 feet, 3*s*. 6*d*. to 5*s*. 6*d*.
" 7 to 9 feet, 15*s*. to 21*s*.
°.° These two last-named Junipers ought to be planted in every one who has any place approaching a park.
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The above are all growing in the open ground, are healthy and handsome specimens; they have never been in pots, and consequently are the more desirable.

HOSEA WATERER would also invite attention to his stock of large Spruce Firs, from 7 to 15 feet high; large Red Cedars, Philiyreas green and variegated Hollies, Common Yews, 4 to 7 feet, fine standard Weeping Limes, Weeping and Purple Beech, Standard Magnolias, Tulip Trees &c., all of which are in a capital state for removing, and will be sold reasonably.

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" ARISTATA, 1 to 1½ feet, 21*s*. per 100.
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QUICK, very strong, transplanted, 8*s*. to 10*s*. per 1000.
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" Apricots, Peaches, Nectarines } Fine trees, 3*s*. 6*d*. each.

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It is particularly requested that letters intended for this Establishment may be addressed, HOSEA WATERER, Knap Hill Nursery, near Woking, Surrey.

NEW KITCHEN GARDEN SEED [illegible]

CORNWELL'S VICTORIA HAREBELLS.—[illegible]

A DESCRIPTIVE CATALOGUE OF FLOWER AND VEGETABLE [illegible] AND MOST POPULAR [illegible] HAMILTON, S. [illegible] be had on [illegible]

HAMILTON'S IMPROVED FLOWER SUPPORTER FOR [illegible]

CHOICE AZALEAS, [illegible]

BASS AND BROWN [illegible]

[illegible]

HALMA [illegible]

PEAS [illegible]

[illegible]

HARDY [illegible]

[illegible]

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CLIMBING [illegible]

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KITCHEN GARDEN SEEDS.—[illegible]

LARCH PLANTS.

PETER BOOTH, Nurseryman, Falkirk, has for sale a large stock, from two to three millions of transplanted LARCH plants of various size, at the following prices per 100:—12 to 15 inches, 5s. 6d.; 15 to 18, 7s.; 2 feet, 7s. 6d.; 2½ feet, 8s.; 3 feet, 10s. Of the 2 feet and 3 feet sizes, there are above a million of them, which are well suited for both the Scotch and English markets, and as it is now well known that strong Larch plants are scarce in the country, early application is necessary. This extensive stock of transplanted Larches is well grown well rooted, and of the very best quality, and can be seen at P. B.'s various Nursery grounds at Falkirk. Of the great variety of plants in these Nursery grounds, a few more may be noted, to show the low prices at which they can be obtained, viz., Transplanted Scotch Firs, from 6 to 10 inches, 4s. and 5s.; ditto, 1 foot, 1½ foot, and 2 feet, 5s. 6d.; Spruce Fir, 1 foot, 1½ foot, and 2 feet, 4s. to 5s.; Oaks, 2½ feet, 8s. 6d.; Plane, Elm, Alder, and Beech, 3 feet, 8s. 6d.; Ash, 2 feet to 4 feet, 4s. to 6s.; seeding Spruce Fir, 2 and 3 years, 1s. and 1s. 6d.; seedling Pinus austriaca, 2 years, 3s. A very large stock of transplanted Thorns very cheap. If required, samples will be forwarded.—Falkirk, Dec. 30.

CUCUMBER GROWERS should not delay purchasing the Seed of TILEY'S VICTORY OF BATH, and GORDON'S WHITE SPINE, E. TILEY having last season received numerous letters when the Seed was all disposed of. It possesses the whole of the properties as laid down by Mr. Glenny.

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E. T. has numerous letters by him which he has received, authorizing him to make use of the signatures if required, and speaking highly of the merits of the above Cucumbers over all others.

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GORDON'S FINE WHITE SPINE, 10 Seeds, 1s. 6d.

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SEEDS.—CORNER OF HALF-MOON STREET.

THOMAS GIBBS AND Co.,

(By Official Appointment) the SEEDSMEN to the "ROYAL AGRICULTURAL SOCIETY OF ENGLAND,"

Beg to remind the Members of the Society, and Agriculturists in general, that their only Counting House and Seed Warehouse is at the corner of HALF MOON-STREET, PICCADILLY, London, as for the last Fifty Years.

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THE ENSUING COLD WEATHER.

SELF-REGISTERING THERMOMETERS, of the very best construction, and not liable to get out of order. Large size, 1l. 1s.; small size, 18s. Horizontal do. do., 10s. 6d. to 14s.; ditto for cold only, 4s. 6d. to 6s. 6d. Thermometers for Greenhouses, warranted, 2s. each. Weather Glasses for Farmers, from 25s. each. Lactometers for showing the quality of milk, with directions for using, 5s. each; do., with 4 tubes, 7s. 6d.; 6 tubes, 10s. The above instruments can be sent into the country without fear of breakage.

HENRY BAKER, Optician, 90, Hatton-garden, London.

A LADY of cheerful disposition, who has had much experience in private tuition, and has just quitted a family in which she resided 14 years, wishes to form another engagement, in which the duties of mental instruction will not be required. She would be happy to enter a family of which the Children, through bereavement, need MATERNAL CARE AND KINDNESS; and she feels sure that docile children would receive from her the tenderness and sympathy which such circumstances claim. Unexceptionable references will be given. Address, prepaid, N. J., Post-office, Turnham Green, London.

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7 by 5 " 8 by 6	15 0	0 18 6
8 by 6 " 10 by 8	16 0	1 0 6

Larger sizes, of all qualities and substances, equally low.

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Cream Pots, Lactometers, Glass Rolling Pins, Pastry Pans, Shades for Ornaments, Lamp Shades, &c., as usual. For Lists, (priced) direct to T. COGAN, Glass, Colour, and Lead Warehouse, 48, Leicester-square, London.

GLASS FOR CONSERVATORIES, &c.

HETLEY AND CO. supply 16-oz. Sheet Glass of British Manufacture, at prices varying from 2d. to 3d. per square foot, for the usual sizes required, many thousand feet of which are kept ready packed for immediate delivery. Lists of Prices and estimates forwarded, on application, for PATENT ROUGH PLATE, THICK CROWN GLASS, GLASS TILES and SLATES, WATER PIPES, PROPAGATING GLASSES, GLASS MILK PANS, PATENT PLATE GLASS, ORNAMENTAL WINDOW GLASS, and GLASS SHADES, to JAMES HETLEY and Co., 95, Soho-square, London.

See the *Gardeners' Chronicle*, first Saturday in each month.

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HORTICULTURAL GLASS FOR CONSERVATORIES.

CUT TO SIZE UP TO 40 INCHES LONG.				PRICES OF SMALL SHEET SQUARES.	
16 oz. from 3d. to 3½d. per foot.				In boxes of 100 feet.	s. d.
21 "	3½	5	"	Under .. .. 6 by 4	12 6
26 "	3¼	7½	"	6 by 4 and under 7 by 5	16 6
32 "	4	9½	"	7 by 5 " 8 by 6	18 6
				8 by 6 " 10 by 8	20 6

ROUGH PLATE GLASS for WINDOWS, SKYLIGHTS, and FLOORS in sizes not exceeding 5 feet superficial.

¼ thick ... per foot	1s. 0d.	⅝-inch per foot	2 0
⅜-inch	1 2	1 inch	3s. 0d.
½-inch	1 6		

PATENT ROUGH PLATE TILES.

¼ thick .....each	0s. 11d.	⅝-inch .....each	1s. 7d.
½-inch.....	1 3	¾-inch	2 0

GLASS DOMES for SKYLIGHTS, from 15 to 50 inches in diameter. These are well worth notice.

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LACTOMETERS for trying the quality of Milk, 4 tubes 7s. 6d., 6 tubes 10s.; Hyacinth Glasses and Hyacinth Dishes; Crocus Glasses; Shades for Ornaments; Fish Globes; Plate and Window Glass; Lamp Shades and Chimneys; and every article in the trade.

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BY THE ONLY IMPORTERS,

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And by their Agents,

GIBBS, BRIGHT, AND Co., LIVERPOOL and BRISTOL;

COTESWORTH, POWELL, AND PRYOR, LONDON.

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THE LONDON MANURE COMPANY beg to offer as under:—

LONDON MANURE COMPANY'S CORN MANURE.

" " " URATE. [LIME.

" " " SUPER-PHOSPHATE OF

Peruvian Guano, direct from Importers' stores—Fishery and Agricultural Salt—Gypsum for Clover—Soda Ash for destroying wireworm, and every other Artificial Manure.

The London Manure Company would call particular attention to their Corn Manure and Urate, the former containing a large amount of Ammonia, Phosphates, and Silicates, all so essential for corn crops, while the Urate is richer in Phosphates and other mineral substances required for roots.

Full particulars and prices forwarded on application.

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S. and Co. beg to inform the Trade that at their Manufactory, 17, New Park-street, every article required for the construction of Horticultural Buildings, as well as for heating them, may be obtained upon the most advantageous terms.

Conservatories, &c., of Iron or Wood erected upon the most ornamental designs. Balconies, Palisading, Field and Garden Fences, Wire-work, &c.

HOTHOUSES, & HEATING BY HOT WATER. BEST MATERIALS AND WORKMANSHIP, AT SMITH'S, GLEBE-PLACE, KING'S ROAD, CHELSEA, LONDON. ESTABLISHED TEN YEARS.

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BY HER MAJESTY'S ROYAL LETTERS PATENT.

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To Nurserymen, Gardeners, and Agricultural Labourers, these Spades will be found invaluable, and calculated to lessen the labour of digging very materially; they are warranted to carry a knife edge which will neither break nor turn, wear perfectly bright on the surface, and last as long as three spades or shovels of the ordinary kind, and are now coming generally into use amongst the principal Nurserymen, Market-gardeners, and Agriculturists in the kingdom.

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Engines for deep wells of all kinds, Douche and other Baths, Buildings heated by hot water. Water wheels to work small pumps, from 15l. Estimates given for the supply of towns, &c.

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HEALTH OF TOWNS ACT.

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Parties waited on in Town and Country, and Drawings and Estimates free. Work for the Trade as usual.

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RENDLE'S NEW SEED CATALOGUE is now ready, on application, GRATIS. Every purchaser of Seed should forthwith procure a copy.
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BECK'S SEEDLING PELARGONIUMS.—Several of the above are figured in Vol. I. of "The Florist," published by CHAPMAN and HALL, Strand. This work may be had of all respectable Booksellers, price 15s. in boards. It contains 15 Coloured Plates, numerous Woodcuts, and much information on the Pelargonium in its 320 pages of letterpress. JOHN DOBSON will supply the volume free by post, on receiving a Post-office order on Brentford for 15s. 6d.
Isleworth, Dec. 30, 1848.

The Gardeners' Chronicle.
SATURDAY, DECEMBER 30, 1848.

MEETINGS FOR THE TWO FOLLOWING WEEKS.

MONDAY,	Jan.	1 { Entomological	[illegible] P.M.
		Pathological	[illegible]
WEDNESDAY,	—	3—Geological	[illegible]
THURSDAY,	—	4—Zoological	[illegible]
FRIDAY,	—	5—Botanical	[illegible]
SATURDAY,	—	6—Asiatic	[illegible]
MONDAY,	—	8 { Medical	[illegible]
		British Architects	[illegible] P.M.
		Geographical	[illegible] P.M.
TUESDAY,	—	9 { Syro Egyptian	7½ P.M.
		Civil Engineers	[illegible] P.M.
		Medical and Chirurgical	[illegible] P.M.
WEDNESDAY,	—	10 { Literary Fund	3 P.M.
		London Institution	7 P.M.
		Graphic	8 P.M.
		Pharmaceutical	9 P.M.
THURSDAY,	—	11 { Antiquarian	8 P.M.
		Royal	8 P.M.
FRIDAY,	—	12—Astronomical	8 P.M.

ONE of the causes that most embarrass the progress of cultivation is our not perceiving with sufficient clearness the presence among plants of a VITAL PRINCIPLE identical with that of animals. Because plants neither walk, nor fly, nor crawl; because they are not endowed with the sense of pain or pleasure; because they neither struggle nor shriek, we are too apt to forget that they are alive, and consequently to treat them as if but rods of metal or plates of leather. Once grant that they are living beings, that they breathe although we see no mouths, that they digest although no stomachs are discoverable by common eyes, and above all things, that they feel, however low their sensations may be, and half the modes of cultivation employed by unskilful gardeners will stand conspicuous as palpable errors. Only show that plants are endowed with a life, identical in its nature with that of animals, although different in its manifestations, and men must necessarily make it their first business to study the history of that life, and to master all which interferes with its healthy exercise. That step once taken no cultivator capable of using his reason will poison plants by a contaminated atmosphere, or paralyze them by an eternal footbath of cold water, or suffocate them in places where not a breath of air can reach them, or starve them by withholding the food without which they cannot exist, or cram them with incessant meals of heavy indigestible matter, which can but reduce them to the condition of an apoplectic glutton. At present these things are done every day.

In general no such evidence can be found as will satisfy unreasoning minds of the presence among plants of an animal life. But here and there cases arise which leave no doubt upon the subject. We speak not of the power of motion possessed by the lower forms of vegetation, nor of the animal matter which others generate in their cells, but of the effects produced by certain powerful agents upon the life of the most highly organised plants of which we have any knowledge.

It was long ago shown by Professor MARCET, of Geneva, that if the common Kidney Bean, the Lilac, and other plants, were exposed to the action of such poisons as destroy animal life, they will not only perish under their influence, but in a manner analogous to what occurs among animals. If an animal is dosed with arsenic, or corrosive sublimate, or any poisonous metallic salts, it perishes by inflammation or corrosion: plants die in a similar way, their leaves turning yellow and withering, no art sufficing for their recovery. On the other hand, vegetable poisons destroy life by a species of paralysis, leaves bending, and becoming flaccid, and the whole plant rapidly falling into a state resembling stupefaction, and ending in death.*

Professor MACAIRE varied these experiments with the same result. Every one knows that if the stamens of the common Berberry are touched with a point, they suddenly rise upwards and dash their anthers against the stigma; that after a time they fall back, and then they are able again to present the same phenomenon. Here we have an example of unusually concentrated vegetable vitality. When a twig of the Berberry in flower is placed in weak Prussic acid, or a solution of opium, the stamens lose their irritability, and become so flaccid and flexible that they may be moved backwards and forwards without difficulty; if the flowers are cut off and placed on Prussic acid, the same thing happens, but more rapidly. When, however, the Berberry is placed in solutions of arsenic or corrosive sublimate, the stamens equally lose their excitability, but instead of becoming flexible, they are made stiff, hard, and brittle. Effects, quite similar, are produced upon the Sensitive Plant and other species.

Here, then, we have direct proof, where plants are so constituted that their phenomena can be conveniently studied, that their life is affected by destructive agents in the same manner as if they were really animals; and hence we are led to the highly important inference, that the great principle of life within them is in its essential nature the same as our own.

Dr. MARCET has lately tested this curious theory by means of CHLOROFORM, and the results obtained by that agent entirely confirm the conclusions which had been previously deduced from the action of poisons. On the 19th of last October he read the following statement to the Physical Society of Geneva.

"If a drop or two of pure chloroform be placed on the common petiole of a leaf of the Sensitive Plant, the petiole is soon seen to droop, and [illegible] the point of the [illegible] collapse in succession, pair by pair, beginning with those [illegible] afterwards the leaflets [illegible] are situate at the extremity of each branch. A minute or two afterwards [illegible] the plant), (the time varying with the irritability [illegible] chloroform most of the leaves near that on which the chloroform was placed, and situate below it on the same stem, drooped one after the other, and their leaflets collapsed, although not in so decided a manner as those of the leaf to which the chloroform was applied. After a certain time, which varies with the condition of the plant, the leaves gradually open; but when touched they are no longer irritated so as to collapse, as they do in their natural condition. They remain in this passive state, benumbed, as it were, for a considerable time, and it is not generally until some hours have elapsed that they regain their original sensibility. If, however, while in this passive state, the leaves be again touched with chloroform, they collapse as before. It is not till after several doses that they lose their sensibility entirely, or at all events until the next day; sometimes they wither completely after too many applications of the chloroform. The purer the chloroform and the greater the excitability of the plant, the greater are the effects produced.

"If, instead of putting the chloroform on the base of the petiole, a little be dropped on the leaflets near the extremity of a branch, the effect is very nearly the same as before. The leaflets on the branch collapse pair by pair, the common petiole droops, then the leaflets on the other branches approach each other in their turn. At the end of two or three minutes the nearest opposite leaf, and, if the plant is active, most of the other leaves lower down on the same stem, follow their example. When, after a time, the leaves reopen, they manifest the same insensibility as before.

"What is most curious in all this is the manner in which the action of the chloroform spreads from branch to branch and from leaf to leaf, though the liquid disappears by evaporation almost as soon as it is placed on the plant. The action, as has just been seen, seems to advance from the leaf to the stem and then down the latter; as a general rule, those leaves which are above the one acted on by the chloroform are not affected. De Candolle, on making similar experiments on the same plant with a drop of nitric or sulphuric acid observed, on the contrary, that the leaves above that touched were affected, while those below were not. This fact is explicable by considering the corrosive poison as borne along by the ascending sap, that is, of course, from below upwards. But how are we to explain the apparent transmission of the effects of the chloroform in the opposite direction, from above downwards? Is it the descending sap which has the peculiar property of carrying the narcotic effects of this singular compound from one part of the Sensitive Plant to another? Or can there be in this plant any special organs susceptible of being affected by certain vegetable poisons in a way not unlike that in which the nervous system of animals is affected? Notwithstanding the interesting facts made known by DUTROCHET and others, this subject is still in too uncertain a state to enable a cautious man to give any opinion. However it may be, the fact is curious and well worth the attention of those who study such matters.

"Experiments of the same kind as the above, made with rectified ether, gave results somewhat similar to those just detailed. There was this difference, however, that whilst a drop of chloroform, placed on the common petiole of a leaf, at the end of a branch of the Sensitive Plant, made most of the other leaves below the same branch collapse, ether only affects, as a general rule, the leaf on which it is placed—the neighbouring leaves not being generally affected. I may as well observe, however, that the experiments with the ether were made after the others, and at a time of the year when the sensibility of the plant is on the decrease, so that it is possible that the intensity of the effects might have been affected by this circumstance."*

We have just repeated the trial of chloroform, [illegible]

[illegible] errors of the second class, [illegible] fully prepared to say that [illegible] sufficiently advanced to [illegible] more than improbable—that [illegible] utter impossibilities. We do not [illegible] of the viviparous beetle, or to that of the [illegible] which we are [illegible] class, but we [illegible] to the [illegible] "spontaneous generation" already [illegible] relating the popular idea [illegible] from seed. We shall now [illegible] popular opinion that a mere [illegible] the white Clover, is [illegible] by the action of lime [illegible] where no Clover was previously [illegible]. This notion we must place in the [illegible] errors, since the fact itself [illegible] Clover does sometimes [illegible] the circumstances here [illegible]. It is a well established fact, that many other plants [illegible] previously unknown to a particular [illegible] sometimes sprung up in [illegible] the conditions of the soil in which [illegible] themselves.

It may be difficult, it may even be impossible, in some cases to give a [illegible] reason why one plant rather than another should thus have arisen in particular spots, but we are not to meet the difficulty by an explanation that shall involve a [illegible] which the present state of [illegible] be downright [illegible]. A [illegible] Mr. CROSSE started [illegible] announcement which [illegible] that he had assumed the [illegible], though it was [illegible] of reproducing every [illegible] presently [illegible]. The cause of his error has [illegible] and we are still as far as ever from [illegible] to originate a living germ. [illegible] ourselves, it may be asked [illegible] that Nature is not [illegible] doing? The same [illegible] fancied that fossil [illegible] were hasty traces left by Nature in her [illegible] attempts to impress on matter [illegible] might become subservient to animal life, or [illegible] to human convenience. The answer to be given to such inquiries may not carry [illegible] to the minds of the [illegible], but it is quite satisfactory to those who have studied the [illegible] of Nature. Experience has shown us that the [illegible] has devised certain laws by which the reproduction of living beings is secured, and that in every case which has been duly investigated their reproduction is in conformity with those general laws. Many cases which once were apparently [illegible], have been proved to form no exception to these laws; and it is not difficult to suggest explanations in conformity with these general laws to account for all cases about which there may still be something obscure. It is a well known law that the vitality of certain animals may be retained for years under circumstances, when we can hardly imagine why it has not been extinguished; and if this is true in animals, we can have the less hesitation in believing a like property to exist in certain seeds, even if we had not evidence sufficient to satisfy us that such was really the case.

We have no faith (in fact, it is impossible to admit) that toads have been found hermetically sealed in stones from the period in which they were first consolidated; but we have again and again verified the long known fact that the minute Vibrio tritici, which injures the grain of Wheat in the

* See LINDLEY'S "Introduction to Botany," vol. ii., p. 151, 4th edition.

* Previous to the experiment with chloroform, I took care to ascertain that a drop of water placed gently on a leaf of the Sensitive Plant produced no effect.

disease called ear-cockle, may be kept in a dry state for seven years at least, and yet be revived on the application of moisture. Other examples might be named. Though we have expressed our doubts (Vol. 1846, p. 757) that any sufficiently accurate proof has hitherto been adduced to satisfy the severity of scientific requirement, that seeds have germinated after 3000 years' entombment in the catacombs of Egypt; still De Candolle assures us that Beans have been raised from seeds taken out of Tournefort's Herbarium, and which must have been above 100 years old. Neither have we the slightest doubt that seeds are often naturally preserved for long periods, below the soil, without losing their power of germinating. Many unquestionable instances are on record. A hole 6 feet deep was dug in an old garden, and the soil scattered over the borders. The following year an abundant crop of Larkspurs appeared, though none had been grown there for several years. A fen was drained and the soil turned up, and immediately a crop of white Mustard was the result. It is no way against experience to presume that in these cases, and so also in that of white Clover, the seeds lay dormant until some change in the conditions to which they had become subjected called them into activity. We know that certain Orchises, and other plants, after disappearing for years, will re-appear in particular spots, upon thinning a plantation or cutting down a wood. Whilst the conditions were unfavourable for their development, they remained dormant; but as soon as the conditions necessary to their growth were restored, they sprang up again. Let us not have recourse to the long exploded theories of spontaneous and equivocal generations, to explain phenomena which are so strictly within the limits of the well known laws of Nature, however strange and incomprehensible these may seem to some of us. Scientific explainers are often ridiculed by those who are well skilled in practical details, but the former sometimes find it impossible to suppress a smile when men attempt to try their hand at a theory which is to smooth over all difficulties, by an assumption which shall involve nothing more nor less than a positive miracle. *J. S. H.*

CULTURE of the PINE-APPLE in the OPEN AIR.

I beg to forward some account of the weight of a few Pine-apples grown in the open air, together with some remarks and facts relative to our method of culture.

On the 12th of May last, a quantity of Pine plants, which had shown fruit and which had finished blooming, were selected from a pit where they had been wintered, in heat obtained from leaves and fermenting materials. The plants had never received any fire-heat at any time; the temperature of the pit, throughout the winter and spring months, was kept at from 50° to 60°, air being admitted night and day. A south border was chosen in the kitchen garden for placing the plants in. A trench was formed, from 5 to 6 feet across at top, sloping into about 2½ feet at bottom, the sides being high enough to protect the plants from winds. The plants were placed on three bricks, set on edge, in the form of a triangle, in order to secure complete drainage; and the spaces between the pots and sides of the trench were filled up with half-decayed leaves to the rims of the pots. Owing, however, to continual drenching rains which occurred at the time, no more warmth existed in those few leaves than there was in the surrounding soil; but they served to steady the plants, which, when once turned out, received no more covering or protection. The weather continued dark, cold, and rainy; and on the 1st of July ice was actually seen at 6 A.M. in this locality. Several severe frosty mornings also occurred in September, which blackened the Dahlias, Pelargoniums, Heliotropes, French Beans, and many other out-door plants; but the Pines received little check, and actually swelled beyond our expectation. The suckers grew remarkably strong and sturdy, and were taken off on the first week in October. They are now strong plants, several of which will show fruit next spring, in time to swell off and ripen in the open air. Nine of the out-door swelled fruit, cut this summer, were produced from suckers taken from plants in October, 1847, which plants had produced fruit in the open air.

The following are the weights of a few fruit which ripened in the open air last summer:

July	7—2	Queens,	whose united weights were	8 lbs.	6 oz.
	18—1	,,	,,	4	0
	28—1	,,	,,	4	8
Aug.	11—1	,,	,,	4	0
	14—1	,,	,,	4	7
	21—1	Enville	,,	6	2
	24—1	Queen	,,	4	8
	31—1	,,	,,	4	8
Sept.	26—1	Enville	,,	6	0
Oct.	4—1	Montserrat	,,	4	8
	9—1	,,	,,	5	0
			Total	55 lbs.	15 oz.

Others, cut at intervals, weighed from 3 lbs. 8 oz. to 4 lbs.

This result is certainly nothing extraordinary—nothing to what may, and will yet, be accomplished even in this country; but it serves to demonstrate the importance of low night temperature, and of treating the Pine-apple more in accordance with the laws of Nature. The above fruit are not so weighty as a lot which was produced in the open air in 1847; the reason of which is, that this year's plants were not quite so strong as those of 1847, and last summer was unfavourable for out-door fruits of all kinds. All the Pines, grown out-doors, had pretty, little, well-proportioned crowns, forming a striking contrast to the long, heavy, gawky crowns too generally to be observed even now-a-days on Pines, and which, with a little management, might very soon be made to produce fruit as large as the one they grow on.

I have always had a decided objection to large crowns, and I never have at any time had such things. Whenever a crown appeared to be getting too much ahead, it was methodically and carefully stopped. This was performed in such a manner that the mutilation could hardly be noticed by a common observer; but the smallness of the crown did not pass unnoticed, and people began to inquire how such a result was obtained. I never keep any part of my practice a secret, and therefore, to satisfy all inquirers, and they were many, I published my plan, which created a great deal of controversy. Some said that they had no sooner stopped the crown as directed, than suckers were produced from the axil of every leaf, giving more the appearance of a stable broom than of a fine crown of feathers. Others, however, were more successful, and experienced much advantage from the practice. The failures, no doubt, arose from other circumstances not being equal.

I next hit upon what I had long been aiming at, viz., a method of producing Pine-apples at all times with nice little natural-looking crowns, without having recourse to the pinching or stopping system, and with fruit, too, so full of rich juice that it oozed out between the pips; fruit which weighed more than their size would have led one to imagine they could weigh; and the system by which this was accomplished consisted in using very moderate bottom heat, thorough drainage, rough open materials for the plants to grow in healthy and sweet, with no manure save sometimes clear liquid manure. The heat was at all times applied according to the degree of light to which the plants were subjected, admitting abundance of external air, both day and night, and at all times maintaining a very moderate night temperature. The latter point has been the mainspring of all my success, not only in Pine culture, but in the artificial culture of all fruits and plants. I have long advocated low night temperature, and the more I practise it the more clear does the advantage of the system become. It is our duty to assist Nature rather than to thwart her designs, and until we make her laws our study and practice, little improvement will obtain. I am truly happy to observe, however, of late years, that many eminent men are strongly advocating the cause of improvement. Let us then press onward, hand in hand. To employ a high temperature, without light, is unnatural—it needs little argument to prove that.

The general accounts of the West India Pines imported to this country are not favourable, notwithstanding the climate in which they grow. This must surely arise from a spurious sort being cultivated, or from some lack in giving Nature assistance in due season. Such lean pointed-pipped fruit, of which they mostly consist, can never be well flavoured. The Pines I have fruited in the open air during the last two seasons have generally been well swelled, the pips quite flat, with rich saccharine juice oozing from them as thick as honey; but then it is true we gave them at times a little assistance in the way of nice clear liquid manure. A good row of well swelled Pine-apples, growing among the kitchen-garden crops, has a somewhat remarkable appearance, and yet this might easily be accomplished in any locality which will grow Gurken Cucumbers, Dahlias, Heliotropes, &c.

Small fruit with large crowns cannot be well flavoured. Such fruit are seldom firm and well charged with saccharine matter; at least such will never ooze out of their pips. Badly-coloured, small, pointed, lean pips are, however, observable enough, and if kept a short time after they are cut such fruit become shrivelled and dry. This latter is moreover accelerated by the large crowns which are allowed to remain on the fruit, and which still grow and suck up what little juice they contain.

It was at one time considered impossible to swell off a Pine in winter; consequently if a plant by chance showed fruit late in the season, or in winter, it was cast to the rubbish-heap as useless. The same ideas are still entertained by some growers with respect to the Queen Pine, which they say cannot be swelled off in winter. I, however, find no difficulty in the matter; but there will always exist some difficulty at all seasons in swelling Pines finely in strong fire-heat, or in any kind of artificial heat when there is but little light. If a high night temperature is maintained, more especially, fruit of good quality will never be obtained in winter and early spring. Such conditions of growth, viz., high night temperature and much bottom-heat, will only have the effect of producing small fruit with withered stalks and gawky crowns. It is best not to be tied to any fixed degree of heat either by day or night; a healthy sweet humid temperature is my aim at all times, regulating the temperature at all seasons by light. In the short dark winter days our main top heat is produced by linings of fermenting materials, placed at the summit of our succession pits, allowing the old dry linings at the base to remain all winter undisturbed. By adopting this method we have at command surface heat to dry the interior air; and abundance of air, day and night, is admitted, which maintains a healthy sweet atmosphere. For these last two months the Pines under my care have been from 3° to 10° above the exterior atmosphere. In very dark sunless weather no exciteable temperature is maintained; but more heat is given as the light becomes stronger. In this way we grow Pines not much behind those of our neighbours. I am, however, satisfied that I have not yet reached the ultimatum of success in Pine culture.

I am convinced that the Pine-apple is hardier than a ridge Cucumber, and may be cultivated in the open air with more certainty of being produced in higher perfection than a Cucumber and other tender things which for years have been cultivated in the open air in summer. *J. Barnes, Bicton Gardens, Sidmouth, Devon.*

PRACTICAL HINTS FOR AMATEURS AND SMALL GARDENS.

Christmas Flowers.—Amidst the joyousness indulged by common consent at this season of the year there has been manifested, at all times and places, a love of flowers, carried indeed, in these northern regions, almost to passionate fondness, as though we were anxious to obliterate every trace of the desolateness of vegetable life around us. Those who cannot procure real foliage and flowers will have them formed of wax and velvet; a garland of some kind must be entwined to grace the feast; and few persons could be found so uninterested in such matters as to leave an object of beauty in the garden instead of plucking it to adorn the drawing-room. Owing to the mildness of the season, there has been no difficulty this year in making a bouquet, at least previous to the frost of last week. On the 18th of December we gathered, in good condition, flowers enough to fill several vases and baskets, among them being China Roses, Phlox Drummondii, Verbenas, Mignonette, Erysimum, with its deep orange spikes, and Chrysanthemums; besides Laurustinus, Holly, and other Evergreens. I must not omit to add some beautiful Primroses, and an abundance of fine blooms of the Helleborus niger, or Christmas Rose. The reign of desolation this year will necessarily be shortened by this protracted autumn, which enables the departing flowers of the year almost to form an acquaintance with those of the spring. My list will even now be very incomplete if I forget to mention the Russian Violet, the delightful fragrance of which has added a charm to every nosegay which the autumn has produced.

But evergreens are the appropriate ornaments of the season, because they can be procured during the hardest frosts. And which must be deemed the *facile princeps* of this attractive tribe but the Holly, with its fine healthy shining leaves and gorgeous berries? The very name of Holly is associated with ideas of holidays, roast beef, and mince pies, and all the *et ceteras* of a joyous boyhood at Christmas time. Every garden should grow this fine tree, that an abundance of branches may never be wanting for public buildings, and the pleasant decoration of our homes. At the same time depredations should be discouraged, for the tree is of slow growth, and a careless school-boy or a reckless vender of the article may disfigure a bush which has cost its owner years of care, and formed an object of pleasure of no ordinary kind. The varieties of Holly are numerous, and we would advise our readers to put a few into vacant spaces this winter; taking them up with as little derangement of the roots as possible, and choosing a light well-drained soil to transplant them in.

Mistletoe prefers some localities, and is wayward in its growth, but it may be sown in the bark of trees. The Laurustinus is a magnificent shrub, and will furnish a bouquet for many months, if different aspects are chosen for planting it. Common Ivy makes an elegant addition to a vase at this season, and, as a general rule, the various shades of the foliage of Evergreens admit of very pleasing combinations. Let a tasteful hand arrange some sprigs of Laurel, Laurustinus, Phillyrea, Golden Box, and Aucuba japonica, and it will be confessed that the collection forms a lovely and graceful ornament. A Christmas Rose, or any other flower introduced, will of course increase the charm. All gardens, therefore, which admit the growth of evergreens, will furnish a bouquet all the year round, and especially at Christmas will such contributions be valued.

We wish we could confer on all our readers that vigorous health and joyous exuberance of life which Christmas evergreens exhibit; but, alas! we have no talismanic power to enable us to carry out our desires. We have this consolation, however, that the pursuits to which we recommend the attention of others have a tendency to invigorate the health, to diffuse contentment over the spirits, and are followed by no remorse. All we can do is to make life as pleasant as possible, by causing the Rose to bloom among the Thorns, and it must be confessed that gardening is admirably adapted to engage the attention and lighten the spirits. If our labours have accomplished these objects we are abundantly rewarded, and shall feel stimulated to renewed exertions. We beg to wish all our readers a Happy New Year. *H. B.*

NEW FRUITS AND KITCHEN PLANTS.

1. The Queen Muscat Grape.—A plant of a Vine under the above name was received last spring from Mr. Glendinning, Chiswick Nursery, Turnham-green. It was only a young plant raised from an eye in the previous season. It however fruited in an 8-inch pot. The size the bunch would attain from a well-established Vine can therefore only be estimated comparatively with that of other sorts grown in a pot under similar

circumstances, and accordingly it may be stated to be larger than that of the Royal Muscadine. The berries are also fully as large as those of the latter, but perfectly distinct, being oval. They are yellowish white, semi-transparent, so that the one seed which each berry contains can be seen through the skin. The flesh is firmer than that of the Sweetwater, but much more tender than that of the Muscat of Alexandria, rich and sugary. It is an early Grape; and as far as can be judged of it, grown as above stated, it appears highly deserving of cultivation. For pot culture it has proved to be exceedingly well adapted.

2. Cardon Puvis.—This is a variety of Cardoon remarkable for its almost entire and spineless leaves. In this season there were some sharp frosts in November, the temperature being sometimes 10°, and in one instance 14° below the freezing point. It appeared from these circumstances that the Cardon Puvis was more tender than the Cardon de Tours.

3. Largest Asiatic Cauliflower.—This is a good variety of Cauliflower, seeds of which were this year, and formerly, received from Messrs. Schertzer, of Haarlem. It grows taller, and produces larger heads, than the common, under the same circumstances.

4. Early Leyden Cauliflower.—Also received from Messrs. Schertzer, of Haarlem. This appeared identical with Legge's Walcheren Broccoli or Cauliflower, noticed Vol. I. p. 309. To this notice, and particularly to the excellent directions by the late Mr. Legge for the cultivation of the variety, I would beg to direct attention. A correction is required, page 310, line 6 from the top: —"For the purpose of *sowing* seed," read *saving* seed. It is difficult in very many cases to save Broccoli seed correctly in this country, and to save it in any degree of perfection is often impossible. It is therefore satisfactory to know that this most useful variety, sometimes difficult to obtain under the name of Legge's Walcheren Broccoli or Cauliflower, may be procured, under the name of the Early Leyden Cauliflower, from the Continent.

5. Black Sicilian Cauliflower.—This, received from Messrs. Schertzer, of Haarlem, proved to be the Purple Cape Broccoli.

6. Haricot d'Espagne Hybride.—This is a hybrid variety of Scarlet Runner, presented to the Society by Messrs. Vilmorin, of Paris. The blossoms are very beautiful—bright scarlet and pure white. The pods did not remain quite so long fit for use as those of the old Scarlet Runner. It however deserves cultivation.

7. Shilling's New French Bean.—This seems a cross between the French Bean and Scarlet Runner. The pods are large, and remain long tender.

8. Dwarf Crimson-seeded Bean—*Fève très naine rouge.* Presented to the Society by Messrs Vilmorin, of Paris. This proves to be a very dwarf prolific variety of Broad Bean. It does not exceed a foot in height. The pods are about 3 inches in length, roundish, generally well filled. The seeds are crimson, nearly the size of those of the Long-pod Bean. It is so very dwarf that it could be grown in rows 12 to 15 inches apart. It might be very conveniently introduced in systems of intermediate cropping, as it would occasion but little shade. Its amount of produce, compared with that of taller kinds, has not been ascertained; but this point will be determined the first opportunity.

9. Onions.—On examining the varieties of those grown this season, it was ascertained that the French Red, and also the Blood-red Spanish, from Schertzer, of Haarlem, are the same as the Oignon Rouge Noir from Vilmorin, and are the Blood Onion well saved. The Yellow Spanish from Schertzer is the same as the Oignon d'Espagne from Vilmorin. The French White from Schertzer is of the colour of the Silver-skinned; but it is later, and it has the fault of being too thick at the neck.

10. The Large Rouen Leek.—*Poireau très-gros de Rouen.* Presented by M. Vilmorin, of Paris. This was grown alongside the London Flag and the Netherlands Leek; and under the same circumstances it proved larger and of a darker green than either. It can therefore be highly recommended for cultivation.

11. Barrot's New Crimson Beet.—Presented by Mr. Glendinning. This proves to be an excellent variety. It is less apt to fork than the Castelnaudary, from which it has probably been raised. Like those of the latter, its leaf-stalks have a yellow tinge. It is somewhat larger than the Castelnaudary. Flesh very dark crimson. The best variety known. *From the Journal of the Horticultural Society.*

Home Correspondence.

Fruit Tree Borders at Trentham Hall.—In reply to "Amicus" I have to state that the surface of the Vine borders at Trentham was concreted as described in former numbers of the *Chronicle*, not asphalted as he supposes. The Peach-house borders have never been concreted here, but Mr. Beaton has pursued this plan at Shrubland with success; he states that his Peaches have been much improved by it. The first border concreted at Trentham was that of a house intended for early forcing, but one which had not previously produced even a moderate crop; it was intended to force these Vines very early for a year or two, and then destroy them. They have, however, been forced every season since. This is the fifth year since they were put under this "killing" treatment; for it was predicted that by shutting out the air and forcing so early they would be destroyed in one season. The other borders which were concreted have since been remade, and at the same time provision was also made to allow the roots to enter the house. The white appearance of the concreting being objected to, they have not again been covered with it, but instead of it a tarpauling has been used. This answers the purpose, but is very expensive. Mr. Beaton has since removed the objections to the concrete by mixing charcoal dust or fine ashes with it, and it has been proved to be the best and cheapest protection for a Vine border against wet. Mr. Fleming intends covering the new borders of all the early Vineries as soon as the soil has settled in them. To secure a circulation of air through the borders, pipe drains have been laid across the bottoms of them, upon the concrete, for they are concreted below as well as above; these drains have openings outside in front of the border; their other ends are continued through the inside border, rising up through it, and communicating with the atmosphere of the house. Last spring the concrete covering was removed from one of these borders, which had subsided irregularly beneath it, and the roots were found netted beautifully throughout the whole of the border, showing clearly that all was as it should be; the soil felt light and friable in the hand. To produce these conditions, there must have been a considerable circulation of air in the border, much more than would have been if it had not been protected, as in that case the soil would have been saturated and its pores closed up by the rains, which would have obstructed the admission of air and its circulation through the border. *G.*

Importance of Low Night Temperature.—A few years ago I had charge of a range of Vineries, in which were also grown Pines. In the latter end of February the early Vinery had arrived at that critical stage of the growth—the blossoming season. "At this period," old Abercrombie says, "the lowest effect of the flues should be 66°;" and most other writers have set the minimum temperature equally high. With a very defective heating apparatus, and the external atmosphere much more severe than it had been for several years previously, I vainly strove to obtain a night temperature suited to what my preconceived notions deemed essential to the welfare of the Vine during the setting season; with all the reeking and steaming for several consecutive nights, the highest temperature I could obtain was 42°, and more than once it fell below 40°. On seeing this, I despaired of a crop that year; after a few days, however, I was agreeably surprised to see swelling nicely an excellent crop of Muscats, Black Hamburghs, Black Prince, &c., which eventually attained a state of perfection equal, if not indeed superior, to any I had ever before seen. In my present situation, guided by the experience thus acquired, I invariably keep my plant stove cool at night. At this season of the year the temperature, by the admission of air from without, ranges about 45°, and the good effects of such treatment are visible in the sturdy health of the plants. Amongst a general collection of stove plants I have Begonia fuchsioides loaded with blossoms; B. nitida, equally fine; Æschynanthus Boschianus, a compact mass showing bloom on almost every branch; Pentas carnea, Vincas, Gesnera zebrina, Eranthemums, Columneas, &c. *H. Mitchel, Carnanton.*

Horse Chestnut Flour.—I am sorry to deprive Madame Bernhardt of the credit of an original discovery, but I was informed more than 10 years ago by my friend, Dr. Forester, late of Derby, that the bitter ingredients contained in the flour of the Horse Chestnut could be entirely gotten rid of by repeated washings in pure water, and that, under his directions, a lady had, during several years, used the starch so prepared for household purposes, instead of arrowroot. For the honour of our own country I must, therefore, claim the priority of the discovery for an English physician of considerable eminence, although no doubt the foreign lady was unaware of the fact at the time she commenced her experiments. *Oswald Mosley, Rolleston Hall.*

New British Plant.—I found Plantago Psyllium in a light sandy soil in St. Aubin's Bay, Jersey, in August last. It was not growing in or near cultivated ground. I found only one plant of it, and I am satisfied it was truly wild. *Harriet Frances Evans, Balrath, Kells, Meath.*

The Weather in Cornwall in 1848.—The year which is now about to close has been one of the most remarkable I remember to have seen in this county during a residence of nearly 20 years; and I question very much if our friend "the oldest inhabitant" has any similar season on record. I have seen and felt an English mist, and know something of a Scotch mist, both on the Grampians and in Breadalbane; but a Cornish mist surpasses everything of the kind I have seen in either England or Scotland for duration and severity. I assure you such a continuance of wet, unsettled weather as we have had this year has been very much against the farmer and gardener, and their crops, in consequence, were defective or seriously injured. I am unable to give you the depth of rain, but I believe it will be found to have far exceeded the average amount. I, however, subjoin the number of days in each month on which rain fell, viz.:

January	16 days.	July	16 days.
February	21 „	August	20 „
March	17 „	September	12 „
April	11 „	October	14 „
May	4 „	November	16 „
June	15 „	December (to the 25th)	18 „
	84 days.		96 days.

In all 180 days. *W. B. Booth, Carclew.*

Vine Growing.—Most gardeners profess to grow this excellent fruit in perfection, but how different are their systems of treatment! Some years ago I engaged a gardener, recommended to me by a nurseryman as a first rate Grape grower, and as he had lived in a situation where they have the credit of growing this fruit in perfection, and his character being what I approved, I engaged him. He came to me in March, and as I was forced early, my Vines were nearly in bloom. I was rather surprised, from the little I saw on the first arrival, I got up early and thought I would notice how he went on. Judge my surprise when I saw him go to the cistern and break the ice; he was just going to syringe the Vines with the water that obtained when I stopped him. He assured me over and over again that they always did so at ———. I certainly did not feel quite *au fait* in the management of them; but it crossed my mind that if my medical adviser ordered me to put one foot in hot water and the other in cold, I should not follow his advice, consequently I discharged my gardener, much to his astonishment and my relief. But even among Grape growers who have their notions about them, there is a great difference in their mode of management. Some recommend, when the Vine is at rest, that the glass should be taken off and the Vine exposed, even in very frosty weather, whilst others are quite of a contrary opinion. I naturally ask myself, where does the Vine come from, and what is the state of the weather where it is naturally grown? I find them growing wild in Greece, and in luxuriance in the southern countries of Europe, where frost is almost unknown; therefore I conclude that frost must be injurious to them. I find also that the Vine will fruit well out of doors in Germany, but it will not bear the severe frosts in winter without protection; and the plan many adopt is to take the Vine down, lay it on the ground, and cover it with litter, where it remains until frosts have disappeared. Some adopt the plan of giving a draught through the house, to reduce the heat, whilst others arrive at the same temperature by simply giving more air above. There can be no doubt but that all trees and plants require a sufficient quantity of air; but I much doubt the propriety of giving a thorough draught, except in very mild weather. Some use all sorts of nostrums to form the border, such as carbon, &c. I consider there can be nothing better than decayed turf, good old stable manure, ground bones and a little lime, charcoal, and sharp sand always bearing in mind to have the border well drained. I cannot see any use of carrion, for I am quite sure if it is used in any quantity it must be so placed that the roots will not find it for years, or they will rot when they come in contact with it; on the other hand, bones are both quick and lasting. A few years ago, I had a rich ground early one morning; a few hours later, the person who ground them sent for me to take them away, for he was afraid they would fire the mill; at all events, I saw them about 11 o'clock on the same day, and they were quite hot. Many adopt the plan of not thinning the bunch till the berries are about the size of small Gooseberries, on account of the afore-said practice of making tarts from them, when a green Gooseberry is infinitely superior. I always adopt the plan of thinning, at least those sorts that are certain, such as the Black Hamburgh and Sweetwater, as soon as the berries are set. The operation is then effected with a quarter the trouble, and the wounds soon heal, consequently the berries swell off better; on the other hand, you are obliged to leave such sorts as the Muscat of Alexandria till you consider them safe, for you cannot depend upon this and some other varieties setting, though it is one of the best Grapes that is grown, but requires more heat than the generality of sorts. When my fruit is ripe and I cut a bunch, if I do not want the branch it came from, the next season, I cut it off at once; consequently, by the time the fruit is all cut, I have no more wood left than I want for the next season. By this means I get more light and air, and the wood that is left ripens better, and all that remains to be done is to shorten the shoots, as soon as the sap ceases to flow, and let them remain in repose till you think proper again to commence forcing. Now I do not pretend to be infallible, and I am anxious to adopt any improvement. Will some of your readers, therefore, be kind enough to give me their opinion upon the effect of draught on Vines and plants? My own opinion is, that plants will bear a lower temperature without draught than they will with it; but I wish either to have my opinion confirmed or to be shown that it is incorrect. *An Amateur Grower, Huddersfield, Dec.* 1.

Transplanting Evergreens.—I am in the habit of transplanting many large Evergreens, and I follow the practice of the late Mr. M'Nab, *i. e.*, I water them copiously when they are planted, even at this season, to settle the soil about them. A young gentleman who was present to-day, and who has just completed the round of the departments of the Horticultural Gardens, tells me that it is never done there except in summer. What is your opinion on the subject? My own experience is in favour of Mr. M'Nab's practice, and I have transplanted with Hollies, Rhododendrons, Laurels, Portugal Laurel, Pittosporum napalensis, Berberis aquifolium, Lycium barbarum, Spruces, Silver Firs, Yew, Arbor-vitæ, Juniper, Cotoneaster, &c. &c. *Hybernus, Dec.* 1.

[The land of the Chiswick Garden is light and thoroughly broken down: in such places puddling is not wanted in winter planting. In heavy land its value is conspicuous.]

Cardoons.—It will perhaps oblige others besides myself, if some experienced gardener will kindly give instructions for growing and blanching Cardoons in the climate of England, to be fit for use during the mid-winter months. Those who have a good kitchen

garden ought to be able to produce at least two or three different sorts of vegetables on their dinner table every day throughout the year; and for the lovers of Artichokes, the Cardoon supplies a similarly flavoured dish at a season when the former is not to be obtained. The medicinal powers, too, of both plants ought to be remembered, and subjects for whom tincture of Cynara would be prescribed may, by eating the cooked vegetable, thus obtain the benefit of the same sanative virtues as would be communicated by taking a dose of physic scientifically extracted from the herb. Cardoons are largely grown and consumed on the Continent, though much neglected here, as an esculent. They are usually cooked either by boiling, to be served with meat gravy, or by frying in oil; to many palates they are a very agreeable dish either way. Half of those I sowed last spring (from imported seed) threw up flower-stems in the autumn, and were consequently useless; but the great difficulty in this damp climate is the blanching process. The plan of wrapping them round with bands is apt to rot them in wet weather; earthing them up with the rich soil in which they grow, and if they are grown in poor light soil they will be sticky and good for nothing, is better, but still they are apt to rot. We have tried them without any blanching; but then the Cynara flavour is a little too decided and medicinal, and reminds one too much of the doctor's shop. *D.*

Half-hardy Plants.—"W. C." would be glad to be informed where Quercus insignis comes from. He cannot ascertain its native country, and wishes to know whether it would be safer to plant it out. It has magnificent evergreen leaves, and would be a great acquisition, if hardy. Is Tetranthera japonica likely to be hardy? Is there any catalogue of Tasmanian plants introduced into this country? Some of them may possibly prove hardy. "W. C." finds Tasmannia aromatica quite so; also Leptospermum grandi*florum*, or grandi*folium*. If there is no such catalogue accessible, will some of your correspondents name a few of the best introduced plants of Tasmannia? [We insert this in the hope that some correspondent may answer it. We know of no Quercus called by botanists Q. insignis.]

Glass Burning.—I ought to recommend the British sheet glass for movable sashes, for it is the excess of light and heat by day, the cool temperature of the night, and the rapid circulation of air, setting all scorching at defiance, which in my opinion will give health and vigour to the trees, and size and flavour to the fruit. I have some weighty arguments in favour of sheet glass, for I have five houses glazed with it, each 60 feet by 12, all of which are ventilated, front and back, in the same manner as Mr. Ker's trellis, but not to such an excess; they have all fixed roofs. I have never yet been troubled with scorching or burning; one of these has been employed four years in forcing Roses to bloom in March and April; they have remained in the house till June and yet have never been scorched or burnt. Now, every one knows how tender are the young leaves and shoots of forced Roses, particularly of the Tea-scented and Bourbon families, and yet these are the Roses I have grown so successfully for four years in a house heated by a brick Arnott's stove, glazed with British sheet glass (16 oz., 20 inches by 12) with closed laps, and, if I may use the expression, ventilated horizontally. My sliding shutters in back and front walls are placed so as to form diagonal currents of air, and it always appears to me in hot weather as if all the air of the house was in rapid motion. I will not attempt to reason upon this, I only give you facts which I have thought long due to the much abused British sheet glass, in my opinion one of the greatest boons ever granted to gardeners and nurserymen. *T. Rivers.* [The rapid motion among the leaves in this case explains why the sheet glass does not burn. The leaves will not remain still long enough to be acted upon.] Since this was in type, Mr. Rivers has favoured us with the following additional information: It is only by the most profuse ventilation that scorching or burning can be prevented—to an extent scarcely thought of by most gardeners. This leads me to remember a circumstance last May, which you will recollect was perhaps the most trying month known for many years. The house I allude to was full of Bourbon and Tea Roses, all coming into their second bloom. Their shoots were of course very young and delicate. Now the plants near the shutters in front and back wall never flagged a leaf, even under that fierce and scorching time; their leaves were always in motion, as the wind occasionally was brisk, and they grew most vigorously; but some few plants in the corners at each end, where the air was comparatively stagnant, always drooped in the day-time; and although they did not scorch, yet they did not grow with half the vigour of those exposed to the passing breeze. I have a large extent of sheet glass, but it is all 16 oz, and I have never yet had any trouble. The old way of pulling down and pushing up lights will not do; the ventilation must be from front to back, in the walls and under the lights, and to a much greater extent than most gardeners are yet aware of. *T. R.*

Gas a convenient Source of Heat.—If one bears in mind the many and various contrivances introduced to notice within these few years for domestic heating purposes, he cannot but feel a little surprised when he considers how comparatively cumbrous, clumsy, and costly is the apparatus even now in use for horticultural heating purposes. Notwithstanding all the evils attendant upon coal fires, in the waste of space occasioned by the necessity of building large furnaces, chimneys, and frequently even walls, in the waste of heating substance, owing to the imperfect combustion which, without considerable expense, cannot be remedied, not to mention the nuisance of the smoke itself; in the waste of labour arising from the necessity which, under the present system in many cases exists, of employing a man for the sole purpose of attending to the laying, lighting, and regulating the fires; and, finally, in the waste of time which is in all cases involved in such attention. Notwithstanding all these evils, coal fires are still the order of the day for generating the heat required in heating horticultural houses. Then for hotbeds and bottom-heat generally, where this agent is not employed, there is found one perhaps still more clumsy and cumbrous, and at all events in general more unsightly, in the shape of a dungheap. If these evils, or any of them could be removed out of the way, or even materially lessened, you will, I am confident, agree with me in thinking that a great impulse would be given to horticulture; and, unless I greatly miscalculate, the following suggestion will, if properly carried out, not only directly benefit horticulture, but open the way to great improvements in horticultural architecture. The suggestion I have to offer is, that in all cases where gas can be readily and cheaply obtained it should be used as the heating agent for horticultural purposes. Even now in the neighbourhood of all large towns, and, indeed, of many villages, it can at a very trifling cost be procured, and if, as there seems every reason to believe, the electric light should come to supersede it for most lighting purposes, it will become still cheaper. Nay, even where there is no gas to be bought, I make no doubt but that from the facility with which it is made, and the value of the refuse as manure, any extensive nurseryman would find it worth his while to make gas for his own use. I may briefly instance a few of the chief advantages which will be gained by the change. Instead of large furnaces, chimneys, and in many cases even whole walls, a few pipes will suffice, and these, too, might be made to conduce to ornament as well as use. Again, the heating part of the apparatus might easily, if required, owing to the small space it would occupy, be kept entirely out of the way, and even out of sight, below the floor of the house. For houses of considerable size, when ornamental columns would produce a good effect, the columns might be all converted into stoves, by being made hollow and having a ring burner (which is one of the best forms of burner), inside each of them. The unsightliness of the present style of chimney will be done away with, as with proper combustion, a matter very easily managed, there will be no visible smoke. Further, the necessity for that constant attention to the fires, which is now required to obtain a due regulation of the heat, involving much waste of time and labour in making, stirring, and feeding the furnace or stove—all this will be superseded. By using gas the heat of flame required may at once be gained, and afterwards sustained for any length of time without further attention. Lastly, every portion of the heat generated may be made directly available without any waste. By varying the shape of the pipes, and using chambers instead of them in certain cases, the heat may be made applicable either to the hotbed or hothouse; in short, may be employed as a universal horticultural heating agent. The dryness of the atmosphere may easily be remedied by the presence of water. The details of apparatus required any one may contrive for himself. *θ. I., Nov.* 30.

Melloca. — The Ullucus is extensively cultivated throughout the elevated region of Peru and Bolivia, where it is known by the name of Oca Quina, and confounded under the same generic appellation as the two varieties of Oxalis (Oca). I have found it in all the Andean valleys between the river Apurimac and Potosi, *i.e.* between 13° and 19° 30′ South Latitude, and at an elevation of from 11,000 to 13,000 feet above the level of the sea. It is not improbable that the Ullucus, which has recently been imported to Europe from Quito, was introduced into the latter province by the Incas from the environs of Cusco when they overran the equatorial regions of South America. The Oca Quina is extensively cultivated in the vicinity of the populous Bolivian city of La Paz, in common with the two varieties of Oxalis tuberosa (Oca Augris and Oca Esaños); it is planted between the 25th of July and the 10th of August, the seed employed being generally the smaller tubers unfit for food, and is gathered in during the last week of April. You will recollect that these two periods of the year are the spring and autumn in the southern hemisphere. The mode of cultivation is in drills, into which the root is dropped with a little manure. I need scarcely tell you that at the great elevation of La Paz (upwards of 12,000 feet), the climate even during the summer season is severe, scarcely a night passing over without the streams being frozen over, the sky being in general cloudless at all periods of the year except during the rainy season (December to March). Mean temperature about 49°. The Oca Quina is chiefly used in the preparation of Chuño, by alternately freezing the tubers and steeping, by which they are changed into an amylaceous substance, the form under which not only the Ocas but the common Potato is chiefly employed by the Indian population; an operation probably introduced from the difficulty of boiling the unprepared tuber at an elevation above the sea where the point of ebullition of water is scarcely high enough to cook raw vegetables, 192° to 195° of Fahr.'s scale. *J. B. Pentland, London.*

Pelargoniums at Gibraltar (see p. 830).—"Dodman" in his letter on the flowers of Gibraltar, states that Pelargoniums do not long retain their English excellence there, and speaks of a collection (which by-the-bye, it appears he never saw), belonging to a gentleman, as a proof of it; it is quite possible that the gentleman in question knows little of the cultivation necessary to keep them from degenerating; that he had a good collection 5 or 6 years ago is certain, for I have seen them myself, but if he still retains the parent plants that he received from England, it is very likely that they are now worthless; so far from Gibraltar being inimical to Pelargoniums, there is no place in the world where with proper cultivation they grow so luxuriantly, or produce such beautiful blooms, and if "Dodman" had visited the Azotea of La Señora Canepa, he would have seen a collection of Pelargoniums such as he never saw in England, and the system that lady adopts is a very simple one; she collects all the seed she can, sows it in August, it very quickly germinates, and these are plants for the succeeding year. After a plant has done flowering, it is thrown out; as, owing to the heat of the climate, they are apt to make too much wood. Consequently she has a continued succession of beautiful seedlings, such as many a Pelargonium grower would in this country be glad to possess. *Juvenis, Manchester.*

Ants.—Allow me to give the particulars of a method I have lately practised with effect for the destruction of ants. About the middle of January, on a frosty day, I remove the hillock to a distance and burn it, leaving the surface on which it stood perfectly clear and smooth, but without disturbing the entrance to the cells below. In the course of a few weeks, if the sun should prove a little warm, you will find the ants arise to the surface in myriads from their burrows under ground, and pack themselves densely close in three or four divisions within the space of a yard, the clumps about the size of the palm of the hand; I then take a small watering-pot, with heated gas tar, and as quickly as possible describe a circle round the black lump (of ants) about the diameter of a dinner-plate; then pour into the inner part sufficient to envelope the whole; an immense struggle is made, and some escape from the internal heap, but are engulfed in the outer circle. Of course, the same method, as I scarcely need observe, becomes necessary for each separate detachment. Nevertheless, it will be found that, within two or three days, another regiment will proceed from the same settlements; and sometimes this will continue until a third or fourth application has utterly destroyed them. In the last instance, probably, a solitary lump will be found removed to a greater distance than any of the former, and must be hunted out. There is a received opinion that the burning of the heap will be found efficacious, but this is impracticable in many cases, from the danger arising therefrom; and although it may be true that they are induced to ascend on the hillock in great numbers when tempted by the rays of the sun in early spring, yet a careful examination has led me to conclude that it is not their custom to expose their whole force on the ramparts at one time, but in detachments, and that many will be found embedded in the earth until a late period in the spring. If the operation previously alluded to be left until the sun has gained much power, the ants discontinue their packing system; they then disperse, and it becomes too late for the operation. *Thomas Butler, Shornell's wood, Plumstead, Kent.*

Societies.

Botanical of Edinburgh, *Dec.* 14.—The Rev. Dr. Fleming, President, in the chair. After recording the loss which botany and horticulture had sustained in the death of the late Mr. William M'Nab, it was announced that donations to the herbarium had been received from J. T. Syme and F. J. Ivory, Esqs. Among the latter were specimens of Isoetes lacustris, 18 inches long, from a loch at Fasnacloich, Argyleshire. The following communications were read: 1. *Algæ Orientalis, or descriptions of new species, belonging to the genus Sargassum* (part 4), by Dr. Greville.—In this communication the author described three new species of Oriental Algæ, under the names of Sargassum porosum, S. elegans, and S. brevifolium. The paper was illustrated by drawings. 2. *On certain glandular bodies occurring in the Epidermis of Plants*, by C. Murchison, Esq.—Mr. Murchison stated that the bodies under consideration consist of nucleated cells of various forms, often divided by partitions, and containing oily and granular matter. In describing them he noticed—1st, Their structure, form, and distribution; 2d, The action of chemical reagents on them; and 3d, Their development. He mentioned their occurrence in Aloysia citriodora, where they exist in the form of a transparent circular membrane, with a central dark spot or nucleus, in various Labiatæ, including species of Thymus, Mentha, Ballota, Melissa, Lavendula, Marrubium Leonurus, Teucrium, Sideritis, Hyssopus, and Origanum, in which they appear in the form of a transparent parent-cell, including a circular body about $\frac{1}{600}$ of an inch in diameter, which is divided into four by a crucial septum, and in some cases subdivided further, so as to give 12 compartments—4 in the centre, and 8 in the circumference, disposed in a circular manner. The author next considered these bodies as they occur in the Lilac (Syringa vulgaris), Tecoma australis, Myrica cerifera and serrata. He stated that their contents are usually of an oily nature, being soluble in ether, but insoluble in water. They are developed in the same way as cells in general, by an endogenous formation; the nucleus splitting into two cells, and each of these into two others, and so on. In all these bodies there are four primary compartments, which are often subdivided into 8, 12, or more. This

division into four resembles what takes place in pollen grains, and in the spores of many Cryptogamic plants, as Lycopodium, Sphagnum, and various Algæ. From the form and structure of these bodies, taken in connection with their contents, and the manner in which they can be detached and separated from the cuticle, the author concludes that they are of a glandular nature. The paper was illustrated by coloured etchings. Mr. Sanderson called attention to some former fabulous chains, as represented by Rapail, and suggested that the bodies observed by Mr. Murchison might be of the same nature. 3. *On the Mode of Growth of Oscillatoria and allied Genera*, by J. Ralfs, Esq., Penzance. In this paper the author first alluded to the growth of Algæ by transverse divisions of the cells, and stated that in the Desmidiæ and Palmellaceæ the division is usually complete, and gives rise to distinct individuals; while in many filamentous Algæ the divided cells remain closely united, and form a jointed filament, which continues to elongate until the cells cease to divide. In Oscillatoriæ there is a mode of growth intermediate between these extremes. In many species the stratum increases very rapidly, and the different cells are indicated by transverse straight strice. At intervals the junction may be become rounded during division, and the filament separates into distinct portions. Sometimes the filament alone divides; at other times the sheath that encloses it separates also. A similar mode of growth was noticed in Lyngbya ferruginea, and in Microcoleus. Mr. G. Lawson was elected an ordinary member of the Society. The election of office bearers for the ensuing year also took place at this meeting. President: Professor Balfour. Vice-Presidents: Professor Christison, Dr. Neill, Rev. Dr. Fleming, and Professor Goodsir.

Linnean, *Dec.* 20.—The Bishop of Norwich in the chair. The Chairman stated as a fact, probably interesting to the Society, that a species of ant had attacked the Athenæum Club house, and a committee had been appointed to devise the best means of getting rid of this troublesome creature. Mr. Westwood said the ant was Myrmica domestica, and the best way to get rid of it was to spread pieces of raw beef on the floor, and, when covered with ants, to dip them in hot water. Mr. Doubleday said these insects were common in America, and that they preyed on the dead bodies of dragon-flies. Mr. Babington said that, although destructive of many things, there was no fear that they would destroy the club-house itself. Mr. White stated that although they did not destroy bricks and mortar, yet, in forming their nests, they attacked these materials, and were very injurious in houses. Mr. Westwood exhibited several species of new insects, and, amongst others, five new species of Paussidæ; also specimens of wood perforated by the Chelura terebrans, a species of Amphipodous Crustaceans. Mr. White exhibited specimens of Scaptocorus Amiotii, a new genus of Fossorial insects; also a new species of Petalocheirus, found in Ceylon and Northern India. This genus had been found in Western Africa, and supposed by Palisot de Beauvois to be confined to that part of the world.—A paper was read from Mr. Blackwall on the poison of spiders. After alluding to the various stories with regard to the poisonous properties of the Arachnida, the author detailed a series of experiments on these animals. In which he caused—1st, himself; 2d, spiders; and 3d, insects; to be bitten by the various species of British spiders, and the conclusion to which the whole of these experiments led was, that the bite of the spider is attended with no poisonous effect at all on the wound it makes.

Royal Physical of Edinburgh, *Dec.* 13.—The monthly meeting of this Society assembled in the Institution Rooms, 6, York-place, Dr. Greville in the chair. The first communication was from Mr. Miller, regarding the Asterolepis, and other allied genera of fossil fishes from the old red sandstone, illustrated by a beautiful set of specimens and casts, revealing the structure and economy of these ancient ganoids, and the relation they bear to their congeners of the present day. Mr. Miller mentioned that several large specimens of the Asterolepis had been found in Russia by Professor Asmus, of the University of Dorpat, and in the north and west of Caithness by Mr. Dick, of Thurso. The Caithness specimens, he said, though not altogether so gigantic as these of Russia, were in a greatly finer state for keeping, and furnished a better basis for the restoration of the animal. Its head was covered with strong dermal plates of bone, fretted on the exterior surface by the star-like tubercles to which the creature owed its name; its jaws were furnished by a thickly-set outer row of fish teeth, and an inner thinly-set row of huge reptile teeth; a single plate of vast size protected the under part of the head, filling up the arch-shaped space formed by the semi-circular sweep of the lower jaw; its gill-covers, like those of the sturgeon, were composed each of a single plate. Like a contemporary fish of the same family, the Glyptolepis, it had a strong shoulder bone (the analogue in fishes of the os humerus in quadrupeds and the human subject), and its body was covered with delicately fretted scales intermediate in their style of carving between those of the Holoptychius and Glyptolepis. The true skull of the animal was apparently a mere cartilaginous box, of which no fragment survives, but in the exterior cranial plates there might be traced what seemed to be analogues of the frontal-superior, frontal-anterior, and parietal bones. The eye orbits were placed, as in many of its contemporaries, immediately over the upper jaw; and, as in Occusteus, Diplopterus, and Osteolepis, a small well-marked plate occupied the centre of the space between. The external lines of the frontal bones did not always indicate lines of suture, but in some cases seemed purely ornamental; and the reputed teeth of the creature, as in the absence of specimens establishing the point, had been already adopted by Agassiz, indicated the true Dendrodont character. One very curious bone, which had taken place probably over the shoulder, greatly resembled the dermal spine of one of the larger Pleuracanthi of the Carboniferous system. The Gyracanthus—it was similarly furnished by elongated grooves; but, notwithstanding the name Dr. Hibbert gave it, it was evidently not an ichthyodorulite, but lay flat on the body of the creature in the specimen of a plate. As shown by numerous coprolites found in the same bed with the remains of Asterolepis, and which, from their great size, could have belonged to none of its contemporaries, the animal had possessed the existing habits and rays, and some of the extinct crustaceans—the spiral disposition of matter, and the broken fragments of scales of Diptera palpably proved its characters, deduced, also, might indeed be inferred from its formidable teeth, carnivorous habits. Mr. Miller stated, that the bed of some of the individuals of this genus must have been enormous, and he was the more disposed to call attention to the fact, as he had mentioned in his last paper on the Old Red Sandstone, founding on a large amount of negative evidence, that the fishes of the lower old red sand-stone were characterised generally by a medium size. Single specimens, found by Mr. Dick, in the neighbourhood of Thurso, measured 14 inches; and a corresponding plate, in the collection of Professor Asmus, at Dorpat, 2 feet across; whereas, in the very massive specimen of Holoptychius, found by the late Mr. Noble, of St. Andrews, at Cheltenham, and now in the British Museum, the two plates by which the single plate of the Asterolepis is represented, measure only 9 inches. Mr. Miller acknowledged to the Society his great obligations to Mr. Dick, a sagacious intelligent tradesman of Thurso, to whose geological labours, prosecuted in his leisure hours, Mr. Miller mainly owed his acquaintance with this gigantic ganoid, and who had kindly made over to him the interesting fossils now before them, illustrative of its form and character.

At the conclusion of Mr. Miller's paper, several members spoke of the interesting nature of his researches, and the desirableness of those engaged in the study of Palæontology exerting themselves to have in Edinburgh a public collection of fossils, in which the city is so deficient. An interesting discussion also took place, principally bearing on the relation existing between the fossil fauna and flora of ancient epochs and those of the recent era, when some interesting facts were stated by several members, which, it is hoped, will be brought forward at a future meeting.

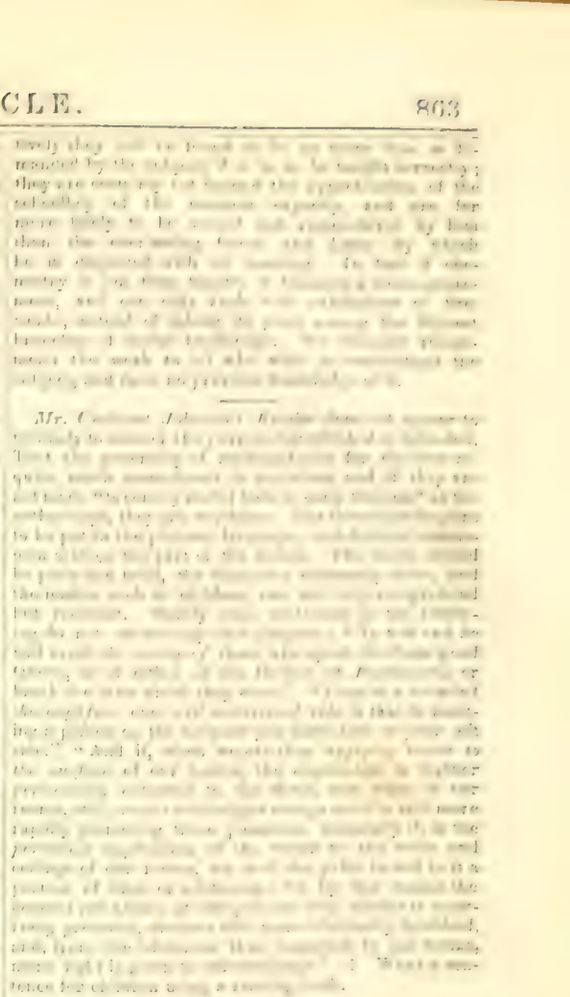
Mr. R. Stark then exhibited to the meeting a few specimens of Mosses recently received from North America, and Lichens from the Falkland Islands. Among the former were fine specimens of Bryum roseum, a large and beautiful species, with mamillate, and Necker a minor, Pal. Beauv. Atrichum undulatum, B. Auct., which is confined to North America. These, and the other species shown, illustrated the modifications produced by the difference of climate and other influences on these, as well as plants of a higher order common to the European and American Continent. The Lichens from the Falkland Islands, brought home by Dr. J. Hooker, were mostly of species closely allied to or identical with those of Britain. One of the most interesting was a minute species—Sphærella elegans—which may be regarded as the most southerly plant known, being found alone on the black rocks on the southern coast of Cockburn's Island, beyond which all traces of vegetation disappear. Mr. Stark concluded by a few remarks on the desirableness of more fully investigating the geographical range of these plants, with a view of illustrating other branches of Natural History.

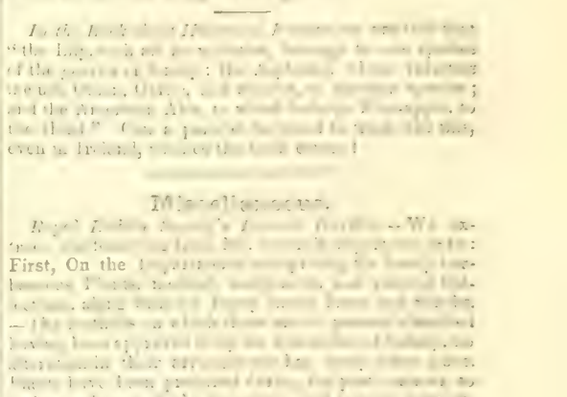
Reviews.

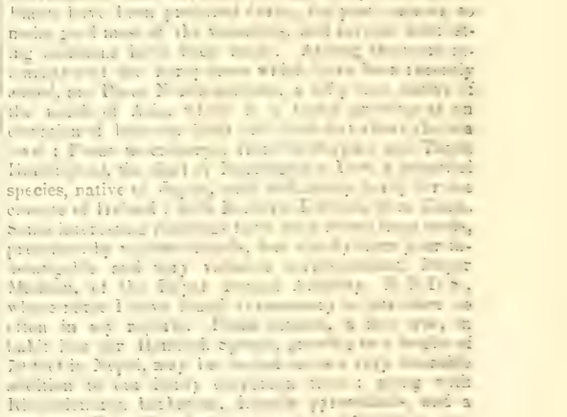
Decandolle's Prodromus. Vol. XII. has lately received us. It contains the little order of Solanads by Choisy, the great order of Labiates by Bentham, Stilbids and Globulariaceæ by the author, and Lentibulaceæ by Bartsier; among the latter we have the following new genera, viz, Acanthulimon for Statice Pelinus and other spiny species, Goniolimon for Statice tatarica, &c., and Limoniastrum for S. monopetala. The volume is a worthy addition to its invaluable predecessors.

Mrs. Somerville's Physical Geography (2 vols. 12mo) is well conceived, in many places beautifully written, and was calculated to prove a very useful work to the student. But we regret to be obliged to add that it is so blemished by mistakes and misprints as to be unfit for any other readers than those who are both able to appreciate its beauties and to separate its errors. If it were carefully corrected by competent persons, it would be the most valuable of all introductions to physical geography.

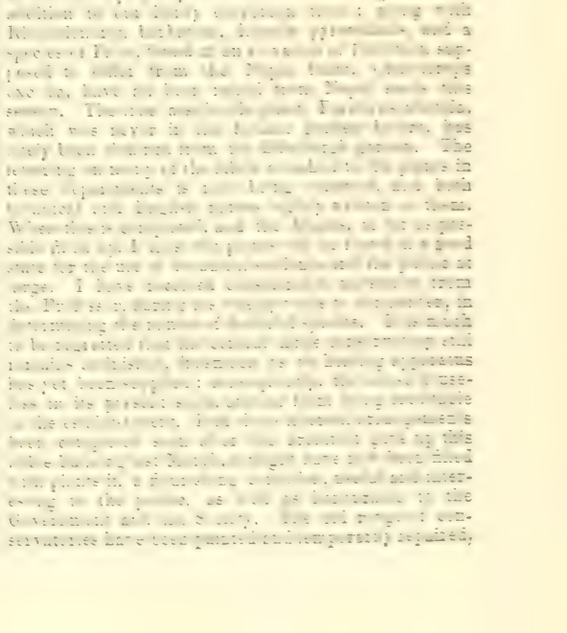
Dr. Robert Thomson's Science of Chemistry (1 vol. 12mo) is a book executed in a very different manner, but is accurate and valuable popular information, arranged in the formal manner of a scientific treatise. At first sight it seems to be too learned for schools, and this has led some of its reviewers to complain of its use as a misnomer. We entertain quite a contrary opinion, and regard the chemical symbols with which it abounds as of the highest value. If the book is looked at atten-







Miscellaneous.



which had become absolutely necessary for their immediate preservation. The different houses are now filled with the more hardy kinds of exotic plants, for which purpose they are exceedingly convenient. Considerable additions have been made to the tender exotics this season, among which may be mentioned several young plants of Araucaria Cunninghami, and one of Araucaria Bidwilli, which, along with some other good things, have recently been received from Sidney. Dion edule, an interesting plant, has lately been sent from the London Horticultural Gardens. In Mexico, where it occurs, the large seeds furnish a kind of arrow-root. The curious pitcher-plant, Nepenthes distillatoria, produced fertile seeds in the hothouse last year, and young plants grown from these seeds are now in the collection. It is presumed that this is the first instance of the kind which has occurred in Ireland. The selection of hardy fruit trees, comprising Apples, Pears, Cherries, and Plums, grown for the purpose of affording grafts to persons applying for such, are in a tolerably healthy condition, though the situation does not appear to agree with some of the sorts. Applicants for scions have been as numerous this season as in previous years; and, if means were afforded to carry this subject out to greater extent, it might be rendered one of great utility to the country. Requisitions for cuttings of the different kinds of Willows have increased, and some of the best kinds of basket Osiers have been sent out this year. In my last report I stated the results of our experiments with seedling Potatoes, raised from seeds presented by the Hon. the East India Company, the Archbishop of Dublin, and William Hogan, Esq., as far as they had been carried. In order to follow them out further, the tubers raised from the different parcels last year were planted out early this spring, in hopes that they might arrive at full perfection, and thus show to what extent good varieties could be selected from them. They were, however, attacked by the disease when in full vigour, and greatly destroyed, so much so, that only a few good tubers have been saved. The experiment of keeping the tops of the plants pinched down, which was stated to be a preventative of the disease, and received a considerable degree of credence, was made this season with much care, but it proved of no avail. The plants so treated produced much stronger foliage for a time, but, when attacked, the disease was more virulent, and their destruction more rapid than those left in their natural state. In the way of new manures, the Messrs. Wights, merchants, Fownes's-street, sent a bag of the ground capsules of the chocolate nut tree, which they had imported from Spain, with a request that the effects of this material as a manure might be tried, which was done in a variety of ways—in the open ground, and also with plants cultivated in pots in the conservatories. The results were not of so satisfactory a nature as to authorise me to recommend a large importation for the purpose in question; it might be used, with some advantage, for plants cultivated in pots, being clean, and calculated to keep the soil porous; Pelargoniums, Roses, and similar gross feeding plants would, no doubt, be benefited by a mixture of it in the soil. The Professors of Botany at the Royal College of Surgeons and Apothecaries' Hall have been duly supplied with plants for their lectures, and their pupils have had admittance at all times when they came for botanical study. Specimens of plants have been supplied to artists for drawing from; and those wishing to paint from the growing plants have had admission at all times, which are not the least considerations connected with the Garden, pointing out, as they do, its importance as a national establishment, even on the narrow-minded principles of strict industrial economy.

Calendar of Operations.

(For the ensuing Week.)

I HAVE endeavoured in the course of the passing year to fulfil the obligations which I conceive are incurred in assuming the management of a Calendar of Horticultural Operations. I have justly to apologise for the imperfect manner in which the task has been accomplished—more evident by comparison with the work of my talented predecessor. The repetition of rules for the ordinary operations already frequently recorded, although tautologically tiresome, could not consistently be omitted. A Calendar of Operations must increase in interest and importance with the progress of horticultural science, particularly if it be (as it certainly should) made the medium for introducing and generalising all improvements in gardening. I cannot offer a better wish to my successor than that it may fall to his lot to chronicle many legitimate advances in horticultural knowledge. *The writer of the Calendar.*

FRUIT FORCING.

Vineries and Peach-houses not immediately required for forcing purposes should be partially uncovered while the general temperature ranges above the freezing point. It will be advisable to protect the roots as well as the other portion of the tree during severe weather. One effect of applying warmth to borders by fermenting materials is the increased production of roots towards the surface; their preservation in such a position should be ensured through all vicissitudes of weather. As the late Vineries are cleared, every opportunity of favourable weather should be employed in effecting all necessary repairs in glazing, &c.; it is scarcely necessary to add, that forcing houses should be thoroughly cleansed and painted every season.

FLOWER GARDEN AND SHRUBBERIES.

If it can be managed conveniently, let the temporary coverings provided for the protection of tender things be partially removed during mild weather. The flower-beds and borders should be by this time dug and manured, and otherwise prepared for spring operations. The advantage of open weather at this season is, that it allows the progress of works which otherwise would fall in with the manifold duties that arrive with the spring. Trained Roses and hardy climbers against walls should be pruned and adjusted. Hyacinths, Tulips, and other bulbs, which have been advanced by the prevailing mild weather, should have a little light pulverised leaf-mould spread around them as a protection against cold and cutting winds. The progress of planting of evergreens and deciduous trees has scarcely received interruption from the weather; if any arrears of such work remain, and the weather continues mild, plant now in preference to deferring the operation to spring. Observe invariably the precaution of well mulching transplanted trees. Pruning evergreens may be deferred until the weather assumes another aspect. The collection of stakes and blocks for Orchids, &c., must not be forgotten in the course of pruning.

FLORISTS' FLOWERS.

Amongst the numerous demands on the florist's attention just now, perhaps those of the Pansy are most urgent. We grow a considerable number in pots, and we find it indispensable, in order to grow them well, that they should have abundance of light and air as well as an occasional good watering. The pots must be kept free from weeds, and we give not only these, but also those planted out on beds, a sprinkling of soot; this is an astonishing safeguard against insect depredations, but it also has a visible effect on the plant and foliage, rendering them more robust and hardy. *Tulips* in early situations will now be peeping, consequently the amateur may date his season of interest and enjoyment from this period; for if there is any happiness attending the careful nurture, the constant protection, of a favourite variety, watching its progress with anxious speculation as to its future excellence, the florist may certainly now enjoy it. Covering the beds from excessive frosts should be carefully persevered in. *Pinks and Carnations.* — Should the weather continue to be open, stir the surface soil, and a top-dressing of decayed and rather loose vegetable matter will act beneficially in keeping the roots from the action of frost. Attend to our directions as to the Ranunculus bed and its preparation. Consider what new sorts will be desirable to add to your collection, and lose no time in procuring them.

KITCHEN GARDEN AND ORCHARD.

Complete, as far as possible, the preparation of the unoccupied quarters, for spring cropping, as regards trenching, manuring, &c.; otherwise a prolonged winter may add such works to the manifold duties which belong to the spring season. Resources of manure should be estimated, and its distribution apportioned with due consideration for the last and regard for the proposed crop. A good dressing of fresh soil will often be found more suitable for old garden ground than manure, particularly when the last has been abundantly employed. Coverings temporarily employed to protect vegetables should be removed on every favourable opportunity. An association of standard fruit trees and vegetables is seldom so judiciously managed but that one or the other suffers; and although old-fashioned gardens so often reveal the errors of the plan alluded to, modern instances do not in all cases show a modification of the fault. Standard fruit trees in a kitchen garden should be thinly distributed and subjected to a rigid system of pruning and training; the pyramidal Pear trees exemplify what we conceive to be desirable in this respect.

COTTAGERS' GARDENS.

In the limited space comprised in a veritable cottage garden the successful cultivation of fruit trees can scarcely be expected, nor is it generally advisable to make the attempt, unless the trees can be trellised, or kept rigidly within prescribed bounds by pruning. Apples would not pay for the space they would occupy. A few Pear trees of such sorts as Marie Louise, Glout Morceau, trellised or pruned in the pyramidal manner, would be the least objectionable. Carefully treated Vines trained against the cottage wall, bear and well repay any trouble incurred; the common Muscadine is generally preferred, but we are most partial to the Blue Esperione. In a favourable position against the cottage, Apricots would be likely to thrive. We are acquainted with a cottager who generally realises 2*l.* from the produce of a Morello Cherry trained against the north side of his cottage wall. Proceed with trenching as opportunities occur, and continue to husband all resources of manure, keeping it in one compact heap. Plant Potato Onions. Protect early Peas with ashes. Prune Vines and train creepers round the cottage. Mulch newly-planted things, clean decaying leaves from winter Greens, and see to the effective action of draining.

State of the weather near London, for the week ending Dec. 28, 1848, as observed at the Horticultural Garden, Chiswick.

Dec.	Moon's Age.	Barometer. Max.	Barometer. Min.	Thermometer. Max.	Thermometer. Min.	Thermometer. Mean	Wind.	Rain.
Fri. .. 22	26	30.245	30.211	39	22	30.5	E.	.00
Satur.. 23	27	30.343	30.204	53	21	37.0	E.	.00
Sun. .. 24	28	30.093	29.706	40	26	33.0	E.	.02
Mon... 25	☌	30.045	29.876	49	35	42.0	N.E.	.00
Tues... 26	1	30.124	29.975	51	40	45.5	S.	.00
Wed.. 27	2	30.163	30.138	49	39	44.0	W.	.30
Thurs. 28	3	30.188	29.985	44	39	41.5	N.E.	.00
Average...		30.160	29.993	43.5	31.7	37.6		0.32

Dec. 22—Frosty, with slight dry haze; clear.
— 23—Foggy; dusky clouds; hazy; clear at night; frosty.
— 24—Frosty; slight haze; cloudy; overcast; slight rain.
— 25—Hazy; cloudy, clear at night.
— 26—Densely clouded throughout.
— 27—Fine; heavy rain at night.
— 28—Clouds drifting from N.E.; fine; overcast.

Mean temperature of the week, 4 deg. above the average.

State of the Weather at Chiswick during the last 22 years, for the ensuing Week ending Jan. 6, 1848.

Dec. and Jan.	Average Highest Temp.	Average Lowest Temp.	Mean Temp.	No. of Years in which it Rained.	Greatest Quantity of Rain.	Prevailing Winds. N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.
Sun. 31	43.4	33.1	38.3	6	0.42 in.	1	—	5	—	1	4	6	4	2
Mon. 1	42.7	30.7	36.7	8	0.70	3	3	1	1	3	3	4	4
Tues. 2	40.7	29.2	35.0	8	0.21	4	1	4	—	3	4	3	5
Wed. 3	42.2	30.4	36.3	12	0.30	1	1	4	—	5	5	3	4
Thurs. 4	41.9	31.5	36.7	8	0.35	3	3	2	4	1	6	2	2
Fri 5	41.3	31.3	36.3	9	0.10	6	1	5	—	1	8	1	1
Satur. 6	41.2	30.8	36.0	9	0.52	2	5	2	2	3	7	2	—

The highest temperature during the above period occurred on the 1s 1840, therm. 55 deg.; and the lowest on the 1st, 1837, and 6th, 1841—therm. 12 deg.

Notices to Correspondents.

APPLES: *J C Wheeler.* Your seedling Apple called "Wheeler's Extreme" bears considerable resemblance to the Scarlet Crofton, to which it is superior; but it is not equal to the Court of Wick, and many others.‖

BEET: *R R P.* Beet-root is of the same genus and species as Mangold Wurzel, which does not "appertain to the genus of Turnips," any more than a sheep to the genus of wolves.

BOOKS: *R T.* Donn's Catalogue of Plants will answer your purpose better than any other—only be careful to obtain Don's edition of it.—*G S.* Dr. Lindley is preparing a third part of his "Elements of Botany," containing an account of medical and œconomical plants. It will be published in a few weeks.—*J S.* The last edition of the Horticultural Society's Catalogue of Fruits was published in 1842.‡—*Amateur Grower.* Roberts on the Vine.‡

CANKER IN FRUIT-TREES: *H S.* This is generally owing to bad drainage, bad subsoil, and injudicious pruning, unless attributable to the constitutional tendency of the variety; and even in this case, the before-mentioned circumstances accelerate the evil. Deep and effective drainage may be insured in most cases. Where fruit trees are already established on a bad subsoil the evil may be partially remedied by top-dressings to encourage roots near the surface. Avoid pruning after the sap begins to flow briskly in spring.‖

CHRYSANTHEMUMS: *Agricola.* Cuttings of these may be taken off in February, potted, and struck in gentle heat. When they are well rooted, place them in a cool frame to harden off.‡

DAHLIA ROOTS: *L.* If these emit an offensive smell they are rotting; perhaps they are frost-bitten. There is no help for the miscbief.

FRUIT TREES: *Este.* The Jargonelle and Marie Louise have both been known to do well against a north wall ‖—*Barton Fell.* Whether the Jefferson Plum will succeed against a north-west aspect has not yet been ascertained, but we know that it is hardier than the Green-gage, and therefore there is every probability that it will ‖—*J E Miller.* The distance at which the horizontal branches of Pear trees should be trained from each other should be a foot, that is four ordinary courses of bricks; if closer than this, the fruit will not be so well flavoured. Pears should be gathered, when by lifting the fruit to a horizontal position, the stalk separates from the spur without pulling; and, with few exceptions, not till then.‖

FRUIT TREES, cracking of the fruit: *J E Miller.* Vicissitudes of dryness and moisture, and the unequal distribution of heat, are causes of this. Excessive dryness can be prevented by mulching and watering; excessive moisture by deep draining and trenching; by this the roots will find themselves in a warmer medium, and, provided the roots are warm enough and moist enough, the tree above ground has never too much heat in this climate. The evil arises, so far as heat is concerned, not from the amount of this agent, but from the very great discrepance which too frequently exists between that to which the tops and roots are respectively exposed.‖

GLASS: *T G.* We know nothing respecting the "Patent Cylinder Glass," beyond what is stated at p 575 of our current year's volume, to which we beg to refer you.‡

GOOSEBERRIES: *T N L.* Any nurseryman can procure for you anything that is in the trade. We cannot recommend individuals. There is no such thing as "standard trained Gooseberry and Currant trees."

HARDY CLIMBERS, &c.: *Manchester Reader.* Clematis azurea and montana, Capritolium flexuosum, Glycine sinensis, Jasminum revolutum, Passiflora cœrulea, Pyrus japonica, Eccremocarpus scaber, Aristolochia Sipho, Crataegus pyracantha, and climbing Roses, particularly Noisettes.‡

MANURES: *Manchester Reader.* Sulphate of ammonia is a good manure, but it is inferior to guano, and dear.‡

NAMES OF FRUITS: *J Hagan.* 1, Fearn's Pippin; 2, 10, Court of Wick; 3, 6, Dutch Mignonne; 4, Pearson's Plate; 8, Scarlet Nonpareil; 11, Golden Harvey; 12, Old Golden Pippin; 14, Bezi de Caissoy; 5, 15, Worthless.‖

NAMES OF PLANTS: *Lady Charlotte.* Squamaria hypnorum.—*Kimbolton.* The barren shoots of some Bryum.

PLANTS FOR SHADY PLACES: Σ. Nothing will "flourish" under the shade of tall evergreens; but such plants as the great and small Periwinkle, St. John's Wort, Lily of the Valley, Wood Anemone, Winter Aconite, Crocuses, Snowdrops, Squills, and Narcissi, will grow and keep up a tolerably good appearance, which will be heightened by the intermixture of a few Ferns.‡

POTATOES: *T J and Son.* We cannot make them floury, though other Potatoes boiled with them are perfectly so.

ROYAL BOTANIC SOCIETY: *R T—y.* We have looked to the Society's last report, and we find its financial position to be this. The DEBTS owing before 1847-8 were 15,345*l.* 8*s.* 5*d.*; those contracted in 1847 8, and unpaid on the 10th of August last, were 5223*l.* 11*s.* 9*d.*, making the debt of the Society on that day 20,569*l.* 0*s.* 2*d.* The INCOME seems to have consisted of 1010*l.* 2*s.* from annual subscriptions, ivory tickets, &c., and of 1352*l.* 2*s.* 3*d.* from the exhibitions; in all 2362*l.* 4*s.* 3*d.* Of the exhibitions the expense is set down as 2500*l.* 4*s.* 3*d.*, and the receipts as 3852*l.* 6*s.* 6*d.* The ANNUAL EXPENDITURE, exclusive of exhibitions, is reported to be 7267*l.* 1*s.* 3*d.*, of which about 3000*l.* consists of repayment of loans. The difference between income and expenditure appear to be made up principally by employing life subscriptions as income, and by loans.

SKINS: *A Young Naturalist.* We presume that all books on Taxidermy contain the information you require.

TEMPERATURE: *J C, Newbury.* Your thermometer must have been out of order.

TIMBER: *Curé.* The Greenheart is the timber of a Laurel tree, called Nectandra Rodiæi; the Bullet tree is a Mimusops. Both are from Demerara. You will find all these things, if they are known, explained in Dr. Lindley's "Vegetable Kingdom."

VINES: *An Enquirer.* You ought to cut back your old Vines considerably, enrich the border with cow-dung, train up no more shoots than can have their foliage well exposed to light, force very moderately, and admit plenty of air. In short, let healthy foliage be your principal aim, for on this the renovation of your Vines chiefly depends ‖

VINE BORDERS: *H M E.* These are best uncropped; but since you must cover yours with something, let it be with such plants as Nemophila insignis, Miguonette, Clintonia pulchella, or other small growing annuals, which will take the least from the soil, and not too much shade the border.‡

VIPERS: *A Member of the University of Oxford.* We are as weary of this matter as you are; but we hope that good will come out of the discussion. Surely the establishment of truth is important to us all; nor is the subject foreign to our columns, as you will see if you look to the title of the *Gardeners' Chronicle.* We believe some of the most pertinacious disputants were Oxford men.

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The Agricultural Gazette.

SATURDAY, DECEMBER, 30, 1848.

MEETINGS FOR THE FOLLOWING WEEK.

Tuesday,	Jan.	2—Agricultural Society of England.
Wednesday,	—	3—Highland and Agricultural Society.
Thursday,	—	4—Agricultural Imp. Society of Ireland.

It is plain that Agriculture has gone back, since the days of Æsop. Shut up your Laboratories, Mr. Lawes and Mr. Huxtable, both in door and out-o'-door! Stop your 'Drainage and other works' ye high hearted but mistaken patriots of the United Kingdom! Cease your vain assemblages and sittings, ye Councilmen and Members of 'Royal' and 'Highland,' and 'Improvement,' Societies of England, Scotland, and Ireland. Your labour is but lost. Let the mosses of Lancashire, the wilds of Derbyshire, the wet wastes of Stafford, the 'Fens' of Lincoln, the wolds of Gloucestershire, the swamps of Somerset, the downs of Wilts and Dorset, the clays of Oxford, Berks and Sussex—let them be wilds and wolds, swamps and mosses, sterile downs and stubborn clays, still. Let the barren hills of Scotland, and the bogs, both black and red, of Ireland, be barren hills and black and red bogs, still. Cultivation is a cheat, Drainage don't pay, and Improvement is an illusion.

So cries out an 'Irish Peer' to '*The Times*' in the year of Grace 1848; and so cried out the Clown to Hercules some thousand years before. The Peer and the Clown have had the same answer. If the Thunderer is to both alike pitiless, he is at least impartial. Time has not altered the answer, be it never so forgotten on the coast of Galway. "Don't "stand there bellowing like a calf, but put your "shoulder to the wheel, and Move on. The gods "help those who help themselves!"

Olympus does not condescend to very elaborate reasonings, with the petulant complaints of man, whether Peer or Clown: It points significantly to that Onward Course which Nature itself at once enjoins and exemplifies. It shews what *can be done*, by what *has been done:* and there the colloquy abruptly closes. Be it ours to follow the lesson a little into detail, and to explain to "an Irish Peer" that the highroad to erroneous conclusions is the non-acknowledgment, or ignorance, of admitted facts. To argue with him on the ungracious mischief of discouraging the progress of agricultural improvement on his own soil, would be idle. Such a truth would be thrown away upon a proprietor who needs to be told it.

But we mistake—"I beg to premise that I have *no property of my own* in these localities," (the Counties of Galway, Mayo, and Donegal) "which I speak of" says the Irish Peer—but he has often visited them—"*therefore*," he proceeds "I am an impartial observer"—! (*Cantabit vacuus!*) "The whole country is nothing but one continued mass of either *strong mountain* (?) or deep black bog."

We have heard, with Mrs. Somerville, of

"The eternal hills, and everlasting mountains"

and "old as the hills" shall not be a very new piece of English or Irish phraseology. But what in the joint names of Physical Geography and Agriculture, is the meaning of '*strong mountain*'?

"People talk about reclaiming such lands. It is "an impossibility; and experience not only in these "districts but in other parts of Ireland, has proved "that fact." * * * * — "Whoever has "attempted to cultivate this sort of ground *has in-*"*variably failed*" &c. &c. &c. His Lordship goes so fast, it takes one's breath away to follow him. The pace of the whole pack of Galway hounds, at full cry, is nothing to it;—nor the yell, neither. But let us examine a little into the facts.

Is the agricultural biography of his own country so new to 'an Irish Peer' that he never heard the names of Mr. Trench and his son Lord Ashtown, of Mr. Edgeworth, of Mr. Roscoe, of Lord Clancarty, of Mr. Fitzhenry Stonehaugh, of Lord Clonbrock and Mr. Bermingham, of Mr. Poylan, Mr. Reid, Mr. Campbell, of Dr. Richardson, of Lord Palmerston, of Mr. Wilson of Belvoir, of Messrs. Stein and Brown—with a host of others whom it would be endless to enumerate. Has he never heard that, beginning as far back as from the year 1760 to the present, these men following in succession have reclaimed tract after tract of these same bog lands, and converted them into the most productive soil on their estates? Is it possible that a nobleman, writing, (for some inscrutable reason of his own,) to vindicate before the world the *hopeless sterility of his country*, can be himself so grossly ignorant of the common and notorious fact of the subject he ventures on? Did he never read what Arthur Young said of the bog reclaimed by Mr. Trench—the bog that "would not even burn in "turf; and produced nothing but bog berries. So "very wet that the drains could not be cut, at first, "wider than four feet apart, and two feet deep." That same 'bog' being now the most productive part of Lord Ashtown's property!

Did he never hear that the bog reclaimed by Mr. Edgeworth, in 1790, after repaying to its spirited owner and reclaimer the amount of his outlay, was let at three times the rent which the same Tenant had refused to pay before its reclamation?

Did not Lord Palmerston, in 1820, reclaim a bog in the County of Sligo, "on which," says Mr. Nimmo, "in four months after the first spade was put into it, we had the finest Potatoes, and Turnips, and Rape, growing there, as good as on any land in the world:"

Is he ignorant too of what Mr. Fitzhenry Stonehaugh has done, in the county of Westmeath; Lord Clancarty, Lord Clonbrock, and the Waste land improvement Company in Galway and Sligo, in all which cases, without enumerating a multitude of minor ones, some of the most unpromising bogs have been converted into the most fertile soil?

But if "an Irish Peer" takes no note of the successful reclamations, he has a notable list of failures to exhibit: Squires, Monks, and Farmers who have lost money by foolish land speculations are paraded forth, as if improvidence, ignorance and bad judgment in the nice and care-requiring matter of agricultural improvement, had never been heard of except in Ireland. Judged of by the same rule, viewed in the same frosty spirit, there is not a human calling or pursuit, there is not upon the busy surface of the globe, an employment for man, or an investment for capital and labour, that might not be abandoned. We must give it all up in despair

"and with rainy eyes
"Write sorrow on the bosom of the earth:
"Let's choose executors and talk of wills—
"And yet not so—for what can we bequeathe
"Save our unthankful bodies to the ground:
"And nothing can we call our own—but Death
"And that small model of the barren earth
"Which serves as paste and cover to our bones."

Did "an Irish Peer" never hear or see the immortal answer to that miserable howl—

"My lord! wise men ne'er wail their present woes
"But *presently* prevent the ways to wail.
"To fear the foe—since Fear oppresseth strength,—
"Gives, in your weakness, strength unto your foe.
"And so *your follies fight against yourself.*"

Is there something emasculating to the very pith and enterprise of manhood, in the air on the other side St. George's Channel, that these soul-stirring and too appropriate words were needful to restore the dull pulse of a monarch who had just crossed over from Ireland? But not so—for "an Irish Peer" goes on to ask

"Why are not the moors of Yorkshire, Derbyshire, and Staffordshire reclaimed? Just for the same reasons that the Irish wastes are unreclaimed—"

Did ever confusion of language and perversion of fact meet each other in more dismal combination than in this sentence? Is it possible that the author of such a question has ever travelled fifty miles in England by road or railroad? Did he never see or hear of Chat Moss or Trafford Moss, in Lancashire? Of the, once so-called, Fens of Lincoln and Cambridgeshire; of the bleak upland districts of Warwickshire, Gloucestershire, Wiltshire and Dorset, now waving with cornfields—did he never hear of the *three thousand Inclosure Acts* passed in the reign of George the 3rd or of the districts since that time brought under the plough? Or is it so dear an object to him to nurture the spirit and dry up the sinews of agricultural improvement in his own country, as to warrant the gross confusion of terms—under the name of '*waste*'—between the rocky soil-less crag—or the carefully preserved moor—on the one hand, and on the other the deep vegetable bog, teeming with carbonaceous matter, and the chemical elements of human food, and needing but the *tapping* of its superfluous moisture, to give it back from the hand of centuries? Has so little been done in England and Scotland during the last ten years—to go no farther back—as to warrant this unworthy reference, and be indeed only instanced in excuse of Celtic idleness and apathy?

What purpose—what human object—guides the pen of "an Irish Peer"? What indeed must be the fate and prospect of a land, when upon the public journalist is thrown the task—the duty of instancing and defending the capabilities of its neglected soil, against the mocking discouragement of one of its own nobility, published in the very teeth of notorious and encouraging facts to the contrary—wherever—to use his own strange concluding admission "even with human or Satan blood on their reins" they goad to work.

How different are the views—how incomprehensible the conduct—of a true English Peer, the Duke of Richmond. Let him speak for himself and let "an Irish Peer" mark the *spirit and purpose* which animated "a week or two ago" his following words:

"I cannot better explain what I mean by agricultural improvement, than by saying that I have effected in the last 10 or 20 years very rapid strides towards such improvement. I am sure that my friends could hardly be called complete by a thorough good system of draining to the present nearly double the expense it cost before. I believe that draining has been adopted to a very great extent; but I wish to see every acre of land that will pay for draining effectually and well thoroughly drained. (Cheers.) And here I appeal to the tenant-farmers of the county whether they have not been forced to their capital in order to enable them to do a great more draining in their own county than they could in speculating to far distant ones. (Hear.) When I speak to you of draining I do so as a practical farmer, because I have property in Sussex which I have largely drained; but I find that I have had to treble the capital I possessed, and I do not receive any more than most of the City men do now—that is, nothing is to consideration their bad debts, which cannot exist if they lent their money to the landed proprietors, who are willing to give them the best security for it. Whenever I travel through the country, it is my pleasure, as it is my duty to my tenants, to look at the farms in the neighbourhood where I may be at the time be staying; and I went the other day into a county (I name where) which is not famous for its farming; but I there saw some of the most astonishing proofs that I ever saw of draining upon some land. There were large tracts of country which formerly no horse could go over, and upon some I saw stubble which proves that the land might have been grown there, and a root of Swede Turnips which would not disgrace some of the best land in Sussex. (Hear, hear. I have made these remarks because I am satisfied that nothing is so much required to give employment to the agricultural labourer, and to promote the interests of agriculture, as bringing new land into cultivation, and well draining the land which is in cultivation at the present moment. (Hear, hear.)"

LAND DRAINAGE

Among other matters worthy of attention connected with drainage operations, the following may be noted, promiscuously, as they occur to my recollection:

In the choice of tiles it is to be preferred that are rather over than under burnt; in the one case they are reduced in size, and twisted in shape from a true cylinder in form and unequal in capacity: and in the other they are deficient in strength and durability. Tiles that are really defective in either respect should be rejected from the drain, but discovered after it is completed, worse than useless. Pipes from the tile-yard should be found with their ends partially closed by pieces of burnt clay, which have been passed into the openings by the machine in their manufacture. Such pieces should be carefully looked out to be removed while the pipes are piled on the shelves in the drying shed: but as this, in many cases, is not attended to, the pipe-layer must in the drain must examine and remove the defect before letting them out of his hands.

Tiles or pipes ought not to be laid down in any considerable quantity in water, before they have had the advantage of frost. The water from the dampness of the ground, and whatever very slight moisture may enter the pipes, is sufficient to cause them to crack to pieces. Sometimes the injury received escapes observation, and only proves itself by the bursting or blowing up of the pipe at a distance of time after the drain is finished. All moisture is found of burnt clay ought to be kept dry when there is any chance of their being subjected to the action of frost, which is best done by storing them away in dry places, only to be taken out when required. A shed for the purpose, open to the loop is not an improvement to their well preservation. The system of laying straw, fern, &c., over stones has been very generally practised, but with doubtful success. It is doubtful, however, in the case of tiles and pipes, whether it may be found serviceable to admit the water to find its way into the bore of the tile especially at the opening of the joint. This may assist the drainage in the present season, but by the time that the straw or other substance has rotted away, proper channels for the passage of the water to the joint will have been established by the shrinking and formation of runnels or fissures in the soil.

In laying stones for rubble drains they should invariably be laid on the bed nearer to the flat, and not on the edge. For stones of a somewhat rounded form or cobbles, and if large pieces be broken on the ground to a desirable size and shape, they ought to be left out. The chinks of a cobbled one no worse for being a little broad as they thus render it more durable; the chief drawback to this is the

greater width required in the cutting of the drain. They should be formed of as well-squared stones as can be found, firmly set, and closely built up. It was somewhere observed that the materials should be placed in the drain by a careful trusty person employed at day's wages; so also, it might have been added, ought the first spading of earth that is turned in to cover them. Tiles on soles, as well as pipes, are very easily shifted or displaced, so that unless they have been steadied by wedging in the laying, the returning the earth over them requires to be done with the utmost caution; and as tiles, notwithstanding, will occasionally get a little out of place, they must be adjusted before the filing is proceeded with.

Wooden soles are indispensable in soft sinking subsoils. They are the better for being made long, so as to afford them some length of bearing; should be a full inch in breadth larger than the extreme width of the tile; and ought to be made thicker than it is usual to make them. Being an expensive article, the increased cost thereby incurred is apt to be grudged, but this ought not to be allowed to stand in the way by those who desire to have the satisfaction of completing an improvement that shall be effective and lasting.

Never put the main drain into the ditch by the hedge side, but keep it at least 5 yards off from it; and if it is wished to convert the ditch into a covered drain, let it be in the shape of a common rubble stone drain, with occasional outlets into the main drain, if the depth and levels will admit of such. A drain of this description will be longer in being rendered altogether ineffective by the injurious effects of the hedge roots than any other kind of drain. It is a circumstance of very frequent occurrence that an outlet of sufficient depth cannot be had into the ditch or outfall within the field itself under drainage; in which case, unless the ditch can be suitably increased in depth, the outlet should be carried under it, and brought out at a lower level in the field below, the duct being secured at its passage under the ditch water from the admission of the same by a wooden box or trough. This means is often found necessary in accomplishing the drainage of flat-lying ends of fields, and should not in such circumstances be neglected to be taken advantage of if available.

Outlets and main drains require not unfrequently to be carried under a hedge or bank covered with trees, Furze, Willows, &c.; in which case the roots of the plants being very apt to close up the duct, the utmost precautionary measures should be employed to provide against so untoward an event. The slope through the bank should, if possible, be decided, and the duct, of whatsoever materials formed, should be made spacious, that it may endure the longer before finally closing up. Tile pipes are the most fitting material for the purpose, but as these often cannot be had of sufficient size, a very good duct is formed by placing one line of main drain tiles on their backs, and another in reverse order over them, taking care to fix both firmly in their places. If constructed of stones the bottom should be paved, and the cheeks and covers as close as can be made. When the end of the duct is exposed to the open air, stones should be used to form that part; for this reason, that tiles there would suffer from the action of the frost; and this should be observed as a general rule in respect to all drains. If an inlet and the mouth should be protected by a grating or other means against the admission of articles calculated to obstruct the passage; an outlet end is able to take care of itself, provided attention is paid to keeping a clear outfall. I should consider the pipes manufactured by the Port Dundas Pottery Company, which are made for being closed at the joint with cement, to be admirably adapted for the purposes now spoken of, and that though the cost is greater than when common materials are employed, still I have little doubt that ultimately it will be the least. A much smaller duct will suffice at the first, and repairs or renewals will be comparatively unknown.

No inlet to a current of water should if possible be allowed into a drain from the land; such carries down and lodges rubbish in the duct. On this account an open furrow or surface channel ought to be studiously kept from passing over or along the course of covered drains, as it is scarcely possible to prevent the water from breaking into the latter, which is much more likely to happen than most people would be inclined to believe.

After having effected the drainage of retentive clays, all poaching of the soil should be studiously avoided as formerly, for such very readily destroys any porosity it possesses, and prevents the beneficial action of the drains. Disappointment at the result of the drainage of such soils we hear very generally expressed, but though from draining the improvement here is less than in more open soils, still parties have in too many instances themselves in a great measure to blame for it. The proper season for their working must be observed, and whoever overlooks this will find that the money expended in the drainage has been laid out to little purpose. We ought not to expect too much from the improvement, which, particularly on such soils, will be found to be in no small degree proportionate to the treatment subsequently bestowed on them, and never irrespective of that treatment.

The patience of your readers, I doubt not, has been pretty well tried before now by the very common nature of the details treated of in the communications on the subject of drainage. I am ready to acknowledge that the practical part is less calculated to attract popular attention than the more theoretical, but I cannot on that account assent to its being inferior thereto in its influence on the success of this useful art. Considering drainage to be one of the most important subjects that can possibly engage the attention of mankind, it is of the utmost consequence that the means by which it is to be accomplished should be not only clearly understood, but carefully applied in effecting all the several details of which its operations are constituted. That it is a work attended with great cost is undoubted, and the only adequate compensation for this inseparable and very weighty accompaniment is, that its effects should, as far as possible, be rendered permanent. It is grievous to be under the necessity of witnessing, day after day, thousands upon thousands of pounds, and a waste of human strength proportionate, expended in a manner having so little regard for this very material and redeeming object; expended on what must have but a very transient existence, and even that so little satisfactory. Yet such is the fact, as all must admit, who are possessed of observation or have experience on the subject. According to the ordinary practices, the greater part of draining seems executed as if permanency were quite disregarded—as if to serve only the present purpose, or at most the purpose of but a very limited space of time. Now this is much to be deplored; for, not only does it act as a heavy discouragement to the extension of drainage operations, but, as it requires a larger annual rate of interest, while its efficiency remains, to repay the original cost, such detracts considerably from the profits resulting from the improvement, and forms a heavy additional drawback to its execution. Nor is this all; an ill-executed drainage is ever inefficient, never conferring the full amount of benefit its better execution would have ensured; at no great lapse of time it ceases to act altogether, after which it is not only useless, but becomes positively injurious, on account of its forming receipients for stagnant water that sours the land and renders it in reality wetter than it was before.

Deeply impressed with the very great importance of the subject—aware as I am that its operations are as a whole most imperfectly performed and its benefits proportionately lost—and feeling an anxious desire that the matter, as is essential to its success, should meet with an attention, and be executed in all its various details, in a manner equal to its deserts, such have formed the motives that have prompted me to come forward and offer to your readers my mite towards the general attainment of this momentous object. Whether my efforts have conduced in any degree to that effect, it is for others to judge and acknowledge. In a matter where there was so little to commend and so much to condemn, the language used may have been occasionally somewhat hard; but it could not be otherwise. May I hope that it has been received as it ought—not with a disposition to retaliate, but with resolutions to benefit by its instructions and to amend—as no other end is sought for but that of good in the whole of these contributions to your widely diffused Paper, which I must now bring to a close. *John Duncan, Thornbank, St. Andrew's, N. B., Nov.* 24.

THE PROSPECT OF FARMING.—No. III.

What British farmers have in future to expect from free trade I fancy is already being developed to them by the large quantities of foreign corn that, under the existing modification of the old laws, have so quickly been forwarded to this country upon the first alarm of a probable deficiency, and the low prices they are already realising. Notwithstanding the loss of Potatoes, the deficient growth of grain, and the injurious harvest of last year, and the fact that either of these casualties were formerly sufficient to greatly raise the market, we have had the corn averages the past three months, with the whole three combined, and enhanced by a protecting duty amounting to 10 per cent., Wheat under 52*s*, Barley 33*s*., and Oats 21*s*. per quarter, prices that are considerably lower than what have been the averages of any seven years in the last 60 years. And with only the inducement that these prices have held out, nearly three million quarters of foreign grain have been received in Britain in three months, and paid the duty and gone into consumption—a quantity much beyond what we have been in the habit of getting in a year. And what is highly important to note—"This large quantity has been collected in this short time upon a sudden demand, with no previous anticipation of any such requirement, and after a previous drainage of the old stock; and still its withdrawal has had little effect in raising of foreign prices, the last foreign reports being large supplies and lower markets.

When the policy of free trade was a question in Parliament, and its future effect on prices here were being considered, its advocates laid great weight, in calculating its future working, upon the enhancement of prices abroad, which would certainly follow the receipt of any considerable demand from this country, and our consequent inability to obtain any large supply at low prices; but the experience of the last three months has shown how little dependance is to be placed on any such views.

In a late No. of the *Maidstone Gazette* may be seen six advertisements by different auctioneers of sales of farming stock under seizures, and in another paper an agent announces he has 40 farms to let.

"Coming events throw their shadows before,"

and the owners of undrained, game-ravaged, timber-smothered land, will do well to see the future prospect of farming in what already is before them.

The improvement of the rising generation has of late years been greatly assisted in towns by the establishment of literary institutions with libraries and lecture rooms. The good these are doing in diffusing knowledge is already perceptible in the better information and habits of the classes for whom they were designed, and the rapid advance that the arts and sciences are making from the aid thus afforded. I am persuaded much good in like manner might be done to farmers by the formation of agricultural clubs in market towns, provided with libraries of books on farming, the principal agricultural papers and periodicals, museums with geological specimens, samples of corn in and out of the straw, roots, seeds, extraordinary productions, new implements and machinery, and other matters of interest to them. The assembling of farmers here on market days would lead to discussions, and to their mutual improvement. They would gain the latest intelligence as to the state of the markets prior to meeting their customers. Courses of lectures on different branches of knowledge might be given that would initiate them at least into first principles, and they should have a choice of books to take home with them, for their improvement and amusement at leisure hours. All this might be maintained by a very small subscription, were the first outlay made by the landowners. So much good, I expect, would result, that I have frequently thought of advising the owners of large estates to do something of the kind for their tenants at their own cost, and, in addition, to make a practice of purchasing for their use those improved implements that are beyond their means, or too expensive for them to readily apply to. A great hindrance to the advance of agricultural knowledge exists in the secluded positions and solitary habits of farmers; and their few opportunities for acquiring information. This makes necessary some such assistance as that I have pointed out. *Hewitt Davis, 3, Frederick's-place, Old Jewry, London, Dec.* 16.

THIN SEEDING.

I inclose two letters with facts about thin sowing. The fact of 14 lbs. of seed producing 30 bushels per acre, or 12,500 per cent, is worth noting, seeing that in lieu of 128 for one we seldom see in our ordinary farming more than 14 to 15 for one, as an average of the country. I know many farms this unfavourable season that have only returned 20 bushels where 3 bushels of seed were sown. *I. J. Mechi, Tiptree-hall.*

"To I. J. Mechi, Esq.—Dear Sir: I promised to let you know the result of the English acre of Wheat which I planted with 14 lbs. of seed. It produced 1792 lbs. of Wheat, which I sold in Strabane market at 28*s*. 6*d*. per 280 lbs., and amounted to 9*l*. 2*s*. 4*d*. The quality was good and the straw very heavy. As this was a light crop, I have put down our Wheat this year with double the quantity of seed, say 28 lbs. to the acre. I take the liberty of sending you herewith 12 pickles of black Egyptian Barley, of a very prolific kind. I got a present of 11 pickles last March, and planted them in my garden, 13 inches apart. The 11 pickles produced 747 stalks, with an average of 67 pickles to each, say 50,049 pickles or 4550 fold. I have just finished the dibbling of an acre, Scotch measure, in which I have put 13,000 pickles at 2 feet apart each way. Weight of seed for the acre 1½ lbs. I hope to communicate to you the result. Our Carrots this year are not so good as last; the produce is only 15 tons to the English acre. Turnips and Mangold Wurzel poor. Oats very good. *James Herdman, Sion Mills, Strabane, County Tyrone.*"

"I. J. Mechi, Esq.—Sir: Having read a good deal of the discussion which has for some time now been going on as to the benefit or otherwise to be derived from thin seeding, I was last year induced to try a small portion of land in this cold climate, where our soil is cold clay, with wet retentive subsoil, with Wheat after Swedish Turnips, and I have much pleasure in stating that I am perfectly satisfied that much less seed might with advantage be used on all classes of soils. I need not enter into particulars; the reasons why less seed may be used upon bad land, and why less seed ought to be used upon good land, are so well known to you; and I shall only give you the detail of my experiment, which may be satisfactory to you as it has been to me, so much so that I have sown a field of three acres with one bushel of Wheat to the acre; this field I may state was sown on the 28th August, and the braird at this time looks beautiful, and as thick on the ground as I could wish. The field was a very wet one, and grew very bad crops; and being in second year's Grass, and very miserable, I drained it with egg-shaped pipes alone, without stones, to test their efficiency, 24 feet apart and 2½ feet deep; broke it up with three horses across, worked and cleaned it well, and pulverised it with Crosskill's roller, manured it with farm-yard manure, a good dunging, and sowed about 4 cwt. of prepared manure to the acre along with the seed. Should we both be spared I shall inform you how the crop turns out.

"Now to my experiment of this year, from my notes. Nov. 3, 1847, I sowed 1½ ridge of land with Wheat after Swedish Turnips, to make trial of Mechi's plan of thin seeding against our usual mode of thick seeding of about three bushels to the acre. The land sown was equal to one-fourteenth of an acre, and the seed used was one-tenth of a bushel of pearl Wheat, equal to 1⅗ bushels per acre; the other portion was sown with three bushels per acre. During the winter the thin seeded looked thin on the ground, but had always a healthy green appearance; the thick sown, however, promised to be the best crop. Both portions of land were sown broadcast; the thin seeded had not a good chance, from the lateness of the season when it was sown, not having time to stool out before the winter.

"July, 1848.—Examined the two kinds of Wheat after they were fully shot out, and am of opinion that the thin seeded is the best in every respect; taller in the stalk, longer in the head, and though not so thick on the ground will prove, I believe, the best crop in bulk and quality. 14th Sept.—Both portions of land were reaped this day. 19th.—Weight of the produce, straw, and grain of one ridge of each kind:

		Cwt.		Tonns.		Tonns.
Thin seeded—straw and weighed	...	22	=	22	per acre	102
Thick	...	24		20	"	139
In favour of thin seeding	...	1		2	"	42

	Bsh.	cap.		bsll.	bsh.	cap.
Thin seeded—threshed, gave good corn	1	0½				
Light corn	0	1½				
In all	1	2	per acre	4	1	2
Weight per bushel, 58 lbs.						
Thick seeded—threshed, gave good corn	1	2				
Light corn	0	1				
In all	1	3	per acre	bsll. 4	bsh. 3	cap. 3
Weight per bushel, 59 lbs.						
In favour of thick seeding, good and light corn...	0	1	"	0	2	1

In favour of thick seeding, 1 lb. per bush. The bell is 6 bush.

"You will see by this hurried sketch that the whole produce of straw and corn is greater on the thin seeded portion than on the thick, while the Wheat is not only of greater quantity but better in quality upon the thick seeded part. At the same time the seed saved per acre must be taken into account.

"Now, the price of seed when the Wheat was sown would not be less than 8*s.* or 10*s.* per bushel, therefore there being fully 1½ bush. saved per acre would be equal to from 12*s.* to 15*s*, which is considerable, and would be of great consequence when sowing a large break of fallow Wheat, which is the kind to be thin seeded, and not, as in this case of mine, after Turnips; and I am convinced had the Wheat been sown either as fallow Wheat, or even in the spring, that it would have been very much better, the season when it was sown being unfavourable for it. Excuse this letter; but as you seem desirous at all times to gain information connected with farm operations, and particularly on such a subject as this, I thought that I might trouble you, and should you find it to suit a purpose you may use the materials in any way you please. *G. W. Hay, Whitrigg, Melrose.*"

Home Correspondence.

Professor Way and Mr. Lawes.—Had the article by Professor Way, which appeared in a late Number of the *Agricultural Gazette*, been written by any one who was not viewed as an authority on matters connected with chemistry as applied to practical agriculture, the principles therein set forth might have been passed over as being unworthy of comment; coming, however, as it does, from a party who has been professor of chemistry at the Cirencester Agricultural College, and containing only partial information and incorrect inferences, which are calculated most materially to mislead the agricultural public, I cannot permit the same to pass over in silence. The Professor commences by commenting on an article by "T. C. L.," which appears to have very properly criticised some papers of Mr. Lawes; the former very justly commencing on the monstrous doctrine set forth by Mr. Lawes, that superphosphate of lime is the agriculturists' pabulum. The article written by Professor Way states that on an acre of soil "containing 1,357,439 lbs., the quantity of alkaline substances required for the crop is stated at 147 lbs.; and it may be well if we inquire what per centage of potash in the soil would be adequate to its supply. I have made this calculation, and find that a proportion of 0.01 would be equivalent to the quantity, that is to say, 147 lbs. of potash needed by the Turnip crop; from whence it follows that 0.07 per cent. would give an acre of soil no less than 1000 lbs. of potash," &c. Now, admitting the facts stated as set forth by Professor Way, it follows that the soil would be exhausted in seven years of its potash. But let me ask Professor Way how many soils has he analysed that contains so much as 0·07 per cent. of available potash, as he must, or at least ought to know that the vegetable alkali existing in soils which can be extracted by chemical analysis is not in a state available as food for plants. If granite (pounded) or finely divided flesh-coloured felspar, containing 16 per cent. of potash, is distributed over a field, no fertilising effects will be witnessed until a lapse of a series of years, that is, until decomposition of these substances takes place; the major part of the alkalies existing in soils is only to be found in an insoluble form, and not in a state fit for assimilation by plants. I leave these facts for the consideration of farmers. *Thomas Rowlandson.*

Manuring.—I have been favoured by Mr. Rowlandson, of Liverpool, with the copy of a letter intended for publication in your Paper of the present week, accompanied with a suggestion that in case he had in any way misinterpreted my meaning I might, without delay, afford the necessary explanation. I willingly take advantage of Mr. Rowlandson's courtesy to point out to him and to your readers the defective nature of the line of argument which he has adopted; but as I have no present intention of discussing the question of alkaline manuring, either in your columns or elsewhere, Mr. Rowlandson will acquit me of personal disrespect if, after this notice, I decline any further controversy on the subject. My sole object in the remarks in question was as an indifferent and unprejudiced observer to defend the public character of Mr. Lawes from an attack which seemed to me to be uncalled for and invidious, and if in so doing I took occasion to advert to one of the arguments used by him opposed, it was only with the view of showing his inaccuracy, whether from ignorance or partiality, for the office of a critic in these matters than as implying deep reflecting upon the character of Mr. Lawes. The question of alkaline manuring embraces far other considerations than those entertained either in the remarks of "T. L. C." or Mr. Rowlandson, and until the office fulfilled by the alkalies in vegetable nutrition is fully understood, upon which at present we are both in the dark, I would be the last to denounce their application as useless. But it does not appear to me by any means to be borne that because my present convictions are in favour of the employment of alkaline manures, under certain circumstances, I should for that reason throw cold water on the experiments of Mr. Lawes, and refuse to receive them in evidence, so far as they go, merely that I should stigmatise his conclusions as erroneous and unnecessary. But avoiding such repetition, I will at once tell Mr. Rowlandson that I never could have met with very few soils containing so low proportion of "available" potash than that I have mentioned (0·07 per cent.); and in order that in the use of terms of definite signification we may not misunderstand each other, it may be well to state that the analyses to which I refer have not been directed to the examination of the entire portion of alkaline substances present, so far as such a result could be obtained, but were made with the view of taking the proportion of potash—the solution of the different ingredients being effected by means of dilute acids which are certainly not superior in solvent power to the natural humic acids. Should any of your readers have in the doubts expressed by Mr. Rowlandson on this point, I would simply refer them to the well-known experiments of Wiegmann and Polstorf, which are in my mind conclusive. These chemists subjected white sand to the action of a dilute mixture of hydrochloric and nitric acids, and having washed away all traces of the acid liquid, they digested the purified sand in distilled water saturated with carbonic acid gas. At the expiration of 30 days, the water was filtered and evaporated to dryness, when a residue was obtained consisting of silica and carbonate of potash, with some lime and magnesia. The experiment is highly significant, as showing us that a prolonged action of the natural agricultural solvent (carbonic acid water), is capable of effecting decompositions which in a shorter period of time the strongest mineral acids are unable to bring about. Incidentally, also, it affords satisfactory proof that however impossible it may be to determine with accuracy the amount of available mineral food in any soil, we are justified in believing that a judicious method of analysis gives results which rather fall short of than exceed those which may be produced by the joint action of water and air, assisted by the special assimilative power of the roots of plants. *J. Thomas Way, 23, Hobart-street, Cavendish-square, London.*

Small Pox in Sheep.—At a time when a disease resembling small-pox is prevalent in sheep, the following extract from an unpublished translation of Linnæus's "Tour in West Gothland," may have some interest. At any rate it is short, and will occupy very little room. "Some time ago the sheep had had an eruption upon the body, which the people called small-pox, but a person who had given his sheep Candle-berry (Cnicus benedictus) in the winter, had completely preserved them from such a distemper, although they had been fed in the same pasture with others which were diseased."—*Linnæi Westgotaresa*, page 145, published in 1747 in Swedish. It does not appear clearly from the context where this took place, but probably in the island of St. Helena, of which he has been speaking in the preceding sentence. It could hardly be in West Gothland, as C. benedictus is not a native there, and the sheep must be housed in winter in that part of Sweden. I do not pretend to say what may be the value of the above observation, which at any rate is curious, but leave its consideration to agriculturists. *Charles C. Babington, St John's College, Cambridge.*

Mummy Wheat.—I regret that unavoidable engagements did not allow of my answering last week your correspondent's observations on my doubts as to the correctness of any of the stories we have heard of the origin of this Wheat. The only objection stated is to my remark that old Wheats when sown are never as productive as new, and that very old Wheat might not come up at all. That remark on my part was only incidental, and is no part of my case. I know that anything hermetically sealed is preserved for a long time. But I also know that if such matter, be it what it may, is not hardened to petrifaction by age, it immediately decays with rapidity on exposure to air. All the grain I have seen out of Egyptian urns, and I have seen many samples, were perfectly pulverated, and with every appearance of having been calcined. I remember in 1814 to have seen in the hands of the celebrated Egyptian traveller and antiquary Denon, at Paris, several specimens of Wheat, which he had extracted from urns found by him at Egyptian Thebes, when, as the head of a scientific body, he accompanied Bonaparte's expedition to Egypt. He told me that immediately on his return to France, he had, in order to satisfy the curious, carefully tried every possible experiment with his discovered grains, by sowing some in autumn, some in spring, some in the open air, some in hot-houses, some steeped previously in water, the rest in its natural state, if that could be called natural which had a most un-

of regenerating Ireland, but these should rather stimulate than deter a courageous people to bend in earnest to the task. Individuals holding property on the island must make sacrifices of comfort, time, money, and even of life, to accomplish the object in view. The great body of landed proprietors must determine to repair to their estates, and reside amongst their tenantry, using every means to encourage the judicious cultivation of the soil. If Ireland was threatened with invasion by a foreign power, how would her chivalry rush to her rescue? Is she not threatened with enemies more dangerous than the sword and the musket? Do not famine and disease stalk through the land, bringing desolation in their train, and calling loudly upon the sons of Erin to attempt to stay the hand of the Destroying Angel? And with the blessing of God it is in their power to do so, and this is the very time to commence operations, by personally superintending the preparation of the soil for spring crops; a mighty effort must be made, and there is no time like the present. Instead of wasting money on the poor's-rates, keeping the people in idleness and misery, let it be expended on the land, which will with due care generously return an hundred-fold. I raised my humble voice in vain as a warning not to trust to the Potato in 1848. I trust my note will not be disregarded when I beseech all classes connected with Ireland not to permit the winter to pass over without taking advantage of the season to reclaim waste land, and put that under cultivation in proper order to receive seed in 1849. Double digging tolerably good land will produce a crop the first year without manure; I mention this as dressing may be scarce in a country so impoverished as Ireland, and from which all the comfortable farmers appear to be flying. *Falcon.*

Guano on Wheat.—In your *Gazette* of the 11th of November, there is a statement which, if the figures are correct, must be extremely interesting to every farmer. It is in the 756th page, and under the head of "Guano on Wheat." It is there stated that the white rough-chaff Wheat (without guano) yielded 18 bushels an acre, and that the Essex Red on an acre (without guano) yielded 32 bushels. The reward to the farmer in sowing a prolific Wheat is so immense that it cannot be too strongly advocated in your useful Journal. Mr. Mechi sadly, in your Journal of the 2d December, complains that in not sowing 80 lbs. of guano on his Wheat, he lost 80*l.* worth of produce; if his accounts are not worse than this, he will live through the coming storm. *Let.*

Mercy in Pig Killing.—We always knock them on the head with a pole-axe. This being a stunning as well as a killing blow, seems to prevent all suffering in a moment. A knife is afterwards, when the animal is placed on the table or stool for the purpose, put into the large (juguiar) vein of the throat, to draw off the blood from the body. If there should be any difficulty in approaching the creature by the slaughterman, a string or cord is put into its mouth and bound about the lower jaw, which, being held by a person in front, extends the head, giving the person going to strike it, who approaches from behind, the most convenient position for his work. It is sometimes done when the pig is sleeping; in all cases, the small end or side of the axe, which is in the form of a shoemaker's punch, being driven by the blow, and generally of one, into the brain at the middle of the forehead. *Cumbria.* [If the intensity of their scream be any measure of the pain these animals suffer, we venture to affirm that the tying them up by the snout and pulling their heads straight (if it be a necessary part of our correspondent's plan) is fatal to its claim of mercifulness.]

The Use and Abuse of Lime.—Lime is made either from limestone or from chalk (it matters not which for agricultural purposes), which are principally composed of lime and carbonic acid, mixed with more or less of other earths (except that there are some limestones that contain magnesia, which should be used more sparingly, dependent on the nature of the soil). To convert these limestones, or chalk, into lime, they are submitted to the action of fire, the effect of which is to drive off carbonic acid, and leave the lime comparatively pure, according to the nature of the limestone used. Now, what I wish to point out and impress on the agricultural community is, that they should use their lime in this fresh state, which will be most effectually done by carting it direct from the kiln upon their land, spreading it in the lump, and in that state ploughing it in directly; in fact, the sooner you get it into your land from the kiln the better. How contrary is the common mode of using it, when you may observe it left in the fields to slack and fall to powder, and then spread and allowed to remain a long time before it is ploughed in! I will now explain the error of so doing. As I before stated, lime is made by burning different limestones, which are principally composed of lime and carbonic acid. This operation deprives them of their carbonic acid, and leaves the lime free; it is then commonly called quick-lime. What I wish my agricultural friends to be particularly guarded against is leaving the lime so long on the land, exposed to the air, before it is ploughed in; for, by so doing, the lime attracts carbonic acid from the atmosphere (which a great expense has been incurred to get rid of), and, according to the time you leave your lime exposed on the ground, allow it to be more or less reconverted into carbonate of lime or chalk before you use it. From these observations, it is apparent that many thousands of pounds annually must be thrown away by the agriculturists of this kingdom, for want of the knowledge of the simple facts which I have endeavoured to explain. The lime will be found, if properly burnt, on a second ploughing to be crumbled to pieces or powder, and on harrowing will be intimately mixed with the soil. From the heat evolved during the slacking of the lime underground, and its causticity, which diffuses itself by the agency of the moisture it meets with through the soil, it will be found to destroy, or at any rate to be extremely obnoxious to wireworms, slugs, grubs, and other enemies which the farmer has to contend with, and which are very frequently the cause of failure in his crops; as well as in rendering inert vegetable matter in the soil soluble, and food for future crops. These are properties that lime has in contradistinction to chalk; the latter, no doubt, is a very useful addition to many soils, but do not go to the great expense of buying or burning lime, and allow it to be converted again into chalk or carbonate of lime, before you plough it into your land. In some districts, the limestone is burnt in large lumps, particularly where wood is employed as fuel; in which case it should be broken to about the size of a small penny roll before it is ploughed in. In some cases it may be said that, owing to the distance of procuring lime, enough cannot be brought at one time for a ploughing; all I can say in such cases is, plough it in as soon as possible. If the Turnip-fly is generated in the soil, lime, applied in the manner I have directed, would no doubt do much towards their extermination; and the same effect and result would hold good in respect to the black caterpillar, which we have heard and seen so much of in some counties of late years. *W. H. Fisher,* 18, *Conduit-street, London.*

Bakers' Assize Association.—I read in the papers a report of a meeting of the London master bakers, on Monday, 27th Nov., when the chairman, Mr. Edwards, is reported to have said, that "it was well known to the present meeting that by the use of a certain kind of seed the farmer was enabled to obtain nine coombs (or sacks) of Wheat to the acre, while under the old system, when the people had the whole of the gluten (!) or nutritious part of the grain, there was not obtainable more than five coombs per acre. They were well aware that the flour they had to use in their business now was scarcely anything like what it was 15 or even 10 years ago. The millers and bakers both suffered from this state of things, and he thought it most desirable that something should be done to protect the trade and the public." (!!) Now I do not think such a statement as the above, by one who from his position as chairman of the meeting of the master bakers of the metropolis, ought to be well informed at any rate on the subject of his own trade, ought to go forth without some animadversion; since there are doubtless many who are not capable of detecting the fallacy of this violent attack upon the innocent growers of Wheat for their endeavours, by a better system of cultivation, to meet the depreciation of their staple article consequent on the system of free trade. It would be waste of time to attempt to refute the absurd notion that the introduction, amongst agriculturists, of the more productive varieties of Wheat, and of an improved system of cultivation (which I fear is very far from becoming as general as it ought), whereby to enable them to meet diminished prices, can possibly cause any serious depreciation in the nutritious qualities of the produce; therefore if any such depreciation does really exist, it must perforce be attributed to the millers, who have it in their power to adulterate the flour, which the grower of Wheat can by no possibility possess. But the illiberality of Mr. Edwards's speech is exceeded, if possible, by his ignorance, where he attributes "the nutritious part of the grain" to its "gluten," a portion of which, small as it appears to be even in those samples which contain it in the greatest proportion, as may be seen by the subjoined table, he sagely insinuates "the people" are deprived of, by some unexplained legerdemain process, adopted by those "rogues in grain" the farmers! If he had charged them with growing grain of an inferior quality, for the purpose of increasing their crops, it might have looked like something possible, to those who know no better; but to suppose that (which from his speech he evidently thinks possible), the farmer can abstract a portion of the gluten, from his Wheat, is too absurd to be listened to by any but the "Bakers' Assize Association." But writers on chemistry assert that "starch is the main constituent, the basis of nourishment in bread, as well as in all farinaceous articles of food."—(Ure.) The following table, by Vauquelin shows the component parts of several species of Wheat.

Species of Wheat.	Water.	Gluten.	Starch.	Sugar.	Gum.	Bran.	Total.	Water of Dough.
French Wheat Flour	10.0	10.96	71.49	4.72	3.32	—	100.49	50.3
Hard Wheat of Odessa Flour...	12.0	14.55	56.50	8.48	4.90	2.8	98.73	51.2
Soft Wheat of Odessa Flour...	10.0	12.00	62.00	7.56	5.80	1.2	98.42	54.8
Same sort of flour	8.0	12.10	70.84	4.90	4.60	—	100.41	27.4
Same sort of flour	12.0	7.30	72.00	5.42	3.30	—	100.02	37.2
Wheat of the French bakers	10.0	10.20	72.80	4.20	2 80	—	100.0	40.6
Flour of the Paris hospitals (2d quality) ...	8 0	10.30	71.20	4.80	3.60	—	97.90	37.8
Ditto (3d quality)	12.0	9.02	67.78	4.80	4.60	2.0	100.21	37.8

The last column shows the necessary quantity of water to convert the flour into dough.

From this table it appears that no very great difference exists in different varieties of Wheat, and it is scarcely possible that new varieties, although more productive, can produce flour of a quality so deteriorated as to call forth the observations attributed to Mr. Edwards; he had better seek for some other source of evil, if it really exist anywhere but in his own imagination, and not desire the farmer to restrict his produce to "5 coombs per acre." I have thrown these few hints together in the hope that some abler person will take up the subject and undeceive that part of the bread-eating public who may be tempted to place reliance on Mr. Edwards's unfounded and illiberal assertions. Possibly some of your chemical correspondents may possess analyses of the modern varieties of English Wheat, as compared with the older and less productive ones, and thereby enlighten the understanding of such as are not determined to remain in darkness, like the "Bakers' Assize Association." *Lusor.*

Scotch Rents.—I can give you three capital reasons why Scotch farmers pay one-third more rent than English. 1. They have not one-third the poor-rate to pay, none in fact in most parts of Scotland. 2. They and their labourers are not suffering from their own or parents' drunkenness, three days out of every six. 3. None of their agricultural districts are far from coal-pits; chiefly however the low poor-rate must be considered as that which makes the difference, but also all classes are better educated than with us. *A Somersetshire Man.*

The Potato Failure is still wrapped up in so much mystery and with so many perplexities, that it seems almost a hopeless and even a presumptuous task to renew the question of its solution. Yet, as the changes of a new season may offer some distinguishing features, either at variance or in conformity with former symptoms it may be of use to examine the different phenomena by which these have been characterised. The first year of the failure was marked by the extremes of heat and cold, the one succeeding the other to a degree unprecedented in the memory of man, or even on record. The heat surpassed all others, the thermometer in the Chiswick Gardens having reached the great height of 93°; an extraordinary impulse was thus given to vegetation, and it was therefore not surprising that a bulbous root, the native of rather a cold climate, being swollen to an unnatural bulk, like one forced by artificial heat, should feel the effects of the severe change which followed; when in July the weather became all at once cold and wet, and continued so with little intermission, for several of the following months. The second year of disease varied from this—it was not remarkable for the same extremes of weather, but there were sudden and frequent vicissitudes; and the rain which fell was observed to come very partially, in heavy showers rather than for a long continuance together. The disease was found in like manner to be partial; particular places were visited with it, that had before escaped, and *vice versâ.* The present year has been remarkable for its long continued wet. The rain set in early in June, and with some short intervals of fine weather, lasted more or less the remaining part of the summer. The disease in consequence seems to have spread itself over the same districts which it did in 1846; it has been general throughout this kingdom, and also in Ireland, though not to the same degree as in the former year. In most cases a considerable part of the crop has been saved, and since, from the abatement of last year, a larger extent of ground has been planted, the quantity remaining is still abundant, and the price not enormously high. These indications of weather may perhaps help to elucidate a very puzzling question, or at all events to show the fallacy of some prevailing theories. The first advance to truth is to dispel error. It is clear then that the disease cannot have proceeded from a degeneracy of the plant or worn out seed. If this were so, it would have gone on increasing, and would have been rather worse than better in the second year. It is also clear that it cannot proceed from Dr. Parkyns's volcanic action within the bowels of the earth, as the same action would have continued the same or with increased vigour during each successive year, affecting all bulbous roots in a similar way; it is not probable that it can be what is termed atmospheric. Blight, if such there be, is of casual occurrence; partial in its effects, and according to the ordinary course of nature not continuing for any lengthened period. From these considerations the obvious inference arises that the weather has been the cause; and this opinion is strengthened by examining the instances of failure which have occurred this year. It has generally been found that the disease has been the most virulent where the land has lain wet and undrained. In these places the crop has been almost entirely lost; in those which from natural or artificial causes have been tolerably dry, the disease, though it may have made its appearance, has not prevailed nearly to the same extent, and in general one-half of the crop has been saved. A particular instance of this kind, which almost places the matter beyond all doubt, may be here mentioned. It occurred in a field which lay in very large high butts; the tubers at the top of the ridge were nearly all sound, those at the bottom and in the hollow where the wet lodged were the whole of them decayed. In this case precisely the same mode of treatment had been applied; there was the same kind of plant, put into the ground at the same time, and managed in the same way; yet here the entire difference arose from the long continued wet to which those plants had been exposed; this should silence the cavils of scepticism. If this be so, although a great uncertainty, no doubt, hangs over this mysterious affair, yet we still need not entirely despair of the Potato. We should recollect that this is not the first visitation of the same kind; the Potato has before failed in Ireland. Lord Brougham, in a late speech in the House of Lords, quoted a letter from Lord Charles Jocelyn to Lord Chancellor Hardwick, stating that in 1841 the greatest

distress had prevailed there from the failure of the Potato. The famine was so great that the judges going the circuit suffered most severely from the number of dead bodies remaining unburied. The case might have been considered then just as hopeless as it appears to us now. In the present state of things it may not be safe to rely entirely on so delicate and uncertain a plant as the Potato, but rather to depend in part upon other esculent roots, which, in the event of a failure of the other, may supply their place. A further corroboration of the opinion that wet has been the cause of disease may be found in an article of your Journal last week, wherein it is stated, that in a large piece of ground broken up from meadow the crop almost entirely perished. This may be well explained from the large unbroken clods imbibing a quantity of wet, and which when thoroughly soaked with it would have no chance of being dried again during the long continued rain of the summer months. Your correspondent, indeed, says, that the spring proved so wet that the turf never dried sufficiently to be fit to burn; and further adds, that he can form no opinion as to the cause, only in wet weather it was much worse. This admission, unconsciously, seems to fix the disease on the right cause. *Law. Rawstorne, Penwortham, Preston.*

Education.—This must be the groundwork of all social improvement. In the absence of an institution devoted especially to the training of masters for village schools, gentlemen should, when they meet with young men of good and energetic character, send them to one of our existing training colleges, as St. John's, Battersea, where every facility would be given for the study of agricultural chemistry, giving them strict charge to devote the greater part of their time to things of an agricultural character; by this means they would be furnished with efficient teachers. But there is no reason why the good work should stand still even till they are ready, for our existing institutions could, if required, supply men well qualified for the work. But as the case stands at present, if a master is sent to a village school it is because he is one of very meagre acquirements, the salary seldom being above 50*l.* per year, whereas in a town a good teacher would get 100*l.* The consequence is, they care nothing about things pertaining to agricultural affairs, but in their course of studies entirely neglect them. If a well trained master was placed in a village school, backed by those of influence, and supplied with apparatus, such as some simple models to illustrate the principles of mechanism, and others of a philosophical description, both to instruct and amuse, the master giving lectures twice a week in the winter on various subjects, the benefit of such schools would be incalculable; and that masters are to be found who will undertake such schools I am perfectly satisfied. *Pedagogue.*

Mustard.—Among the reports in the *Gazette* of the 25th ult., your correspondent from East Lincolnshire communicated as part of his weekly operations "ploughing in Mustard for Wheat." In common with many others in these parts, I much regret he omitted certain particulars which would have rendered the information more complete and useful, viz, the quality of the soil on which the Mustard was sown—the quantity per statute acre, and time of sowing; by what mode effectually covered in during the operation of ploughing, as alluded to in the report. Should the writer thereof be pleased to supply, through the pages of the *Gazette*, the omissions I have cited, and any others that may occur to himself, he would confer on the numerous readers of your journal a most important advantage. *Turpin.*

On Small Farms.—Many of those who strenuously advocate small farms write as if they were something new, and quite unknown in England. The fact is just the contrary, it is the large farms that have sprung up with the increase of knowledge and capital, and any one the least conversant with farming must know that where small farms are most common, there the worst systems of farming, or more probably no systems at all, are carried on, the labourers are worst paid and employed in proportionably fewer numbers, and with less regularity than on large farms. The comparison often made between different sized farms, and the condition of labourers in different countries, are not at all fair. Where wholly different circumstances exist, no comparison can be made; even the word "farm" is used too indiscriminately. A piece of land too small to be cultivated by horse power, and where therefore everything is done by manual labour, may be an allotment or a garden, it is no farm. A piece of land near a large town growing articles principally of luxury, as flowers, fruits, vegetables, or plants, which as luxuries sell highly, may pay a very high rent, employ a great number of hands, and return a large amount of money per acre, and may be a market garden or a nursery, but it is no farm, and the holder may be a gardener, nurseryman, or florist, but he is no farmer. The plans advocated must be generally applicable to all tracts of soil wherever situated, and these tracts must be cultivated by horse power, and supply in a great degree their own manure before they can be called farms. And as to the condition of the labourer, if the land in one country is mostly cultivated in patches by the owners thereof, as in France; if in another by allotment holders, as in Ireland; or by hired labourers as in England; what fairness is there in comparing the one with the other, or in saying that the landowner of France or the tenant farmer of Belgium, is in a superior condition to the day labourer of England? Perhaps so, though there may be doubts as to the small French proprietor (see page 806), and the same arguments might with almost equal justice be based on the superior condition of the English landowner over his tenant, and of the tenant over his labourer. And it is plain that it is equally unfair to compare, as many do, English or Irish farming with Scotch, as the local and general taxation of England is so much greater than either of the latter countries. Taking the number of inhabitants as a standard of comparison, England and Scotland pay perhaps nearly alike, and Ireland hardly one fifth that of these countries. But taking the average, England pays nearly five times as much as either Scotland or Ireland. With this peculiar advantage, Ireland and Scotland had till lately a complete monopoly of the great corn and cattle market of England, and this is the main cause of Scotch prosperity and good farming. For this reason I think the high rents of land, and the prosperity of the tenant has reached its acme in Scotland. Increased population may lead to taking in of wastes, but it will bring with it all the evils that have oppressed England. Almost all the advantages of a new and an old country have been concentrated in Scotland, with a soil at least equal to that of England, a climate that produces every necessary, and yet is not such as to tempt the southern to emigrate to it; with a great extent of land, and a scanty population, so as to give room enough and to spare, and therefore no need of poor rates to reward idleness, and compel the farmer to employ. A population, I say, so industrious, frugal, and contented with the simplest food and lodging, that their scanty numbers do not cause as it otherwise would any great advance in wages (as in America for example), with a very intelligent class both of tenants and landlords, possessing sufficient capital, I think it is quite evident what must result from a complete free trade, and easy communication with a large country, greatly over burdened both with population and taxation, and with prices thereby raised to a great height. Without English markets, and with oatmeal as the general food of the lower class, and a scanty population, could Scotch farming have advanced as it has done? And the reason I think Scotch farming has reached its limits, is because English markets will soon be free to all nations, and consequently prices much lower, because the influx of Irish into Scotland, and the natural increase of population, will bring poor-rates and expenses equal to the English, and lead to a disuse of cheap female labour; and because the Scotch labourers will not much longer be contented with oatmeal food and inferior habitations. As to Ireland, there is only one lesson to be learnt from it in agriculture, viz., that the allotment system without the addition of large farms and hired labour would be the ruin of any country. England has a denser population than Ireland, and suffered very greatly in the famine years, for though the Potato fortunately does not form the only food of any class, yet is more or less eaten by all classes. And yet England had no subscription for herself, for the capital of the large farmers enabled them to stand up against those losses which ruined the small allotment holders in Ireland and the highlands of Scotland. But to return to small farms, which are by no means so profitable as a former writer in the *Gazette*, "S.," thinks. In my opinion it would be far better for any annuitant or half-pay officer to retire to some cheap part of the continent or to the Channel islands, and economise, rather than risk all in the precarious pursuit of becoming a gentleman farmer on a small scale. In the first place, the rents of small farms are always very high. Living near a district where small two-horse farms from 25 to 30 acres are common, I may state the rent of such as from 2*l.* 10*s.* to 3*l.* an acre, while large farms let at 25*s.* or 30*s.*, and the houses never such as a gentleman would like to live in. This high rent is caused partly by the produce, the repairs of which render land divided into small farms less profitable to the owner than when not divided, but chiefly by the great competitors for small farms; the cultivation differs in no respect from that of large farms, except in being worse, as small proprietors often cultivate their own land, or let it without the covenants of large landowners. Where there are a number of small farms and small proprietors in a parish, the poor-rates are always higher than where there are only two or three large farms, as each small farmer with his family does most of the work himself, and turns off his workmen when he can do without them. How they pay these high rents is by strict economy, and by following some other business, as pig jobber or dealer, tradesman, malster, doing jobbing work for the larger farmer, &c. The small farmer having much spare time on his hands, is often led to spend it in public-houses. In fact, the small farmer pays rent not on the land alone, but like the allotment holder, on his own labour. What I mean is this—suppose an allotment holder has an acre of land, and pays 5*l.* for what the farmer pays 25*s.*: suppose the value of the labour of himself, wife, and children (with the manure, seeds, tools, &c.), averages at the rate paid in the neighbourhood 8*d.* a day, and that the produce is worth the same; is it not evident that he pays all his rent out of his own and his family's labour, the real value of the land not being what he pays, but the overplus there might be after charging the fair value for all labour and other expenses? The quantity of implements and stock kept on these small farms may be judged from what was actually kept on one of 25 acres—2 cart horses, year old colt, milch cow, heifer, 2 sows, 12 store pigs, light road waggon, ½ load tumbril, swing plough, skim plough, gang of harrows, jointed roll-plough, and cart trace, dressing machine, 2 dew rakes, ladder, barn tools, flail, and triangles. *W. Dec. 4.*

Mangold Wurzel.—By way of ascertaining the relative weights of the Long Red and Yellow Globe varieties, I rowed the seed of each in alternate lines, 2 feet apart, throughout a square piece of ground. The result is much in favour of the Yellow Globe, the weight of which being at the rate of 31 tons an acre, whilst the Long Red is only 22 tons 12 cwt. The heaviest single one was, however, of the latter variety. *Hadenough.*

Dr. Newington's Patent Seed Depositor.—I have had the satisfaction of examining the above implement, and testing its merits also, by actually working it, and would say a little respecting its merits, and also of the system of cropping to which it belongs. The implement I have is only a small one, being a six row dibble, whereas I am told there are machines which have as many as 40 depositors each; but I suppose they are all constructed upon the same general principles. I consider one of its best points is the depositors pressing the seed into the earth after it has been put in, which is of great benefit to its germination, making it a firm bed in the soil; it is also more independent to work in, and obtains firm hold of the soil at once. This is of eminent advantage to all grain, but especially to autumn sown Wheat, which is so liable to be thrown out by the winter's frost. The dibble I have is for Peas and Beans, as well as grain, by putting in different sizes of cups. There are depositors specially for grain, which are small and need no after harrowing, the holes swelling up of themselves; but if grain be put in with the dibbles for Beans, the land will want a brush over with a bunch of thorns, or a few wound into a gate, or something of the sort; so as to fill in the holes well. I find I can work the machine at the rate of half an acre in eight hours, the rows being 1 foot apart; but this is the extreme. I think, however, that a person practised a little might do, with tolerable ease, the half acre in 10 hours by a machine with six depositors, which, it must be remembered, is only a small one. There are some on wheels which have 24 depositors, and of course will do proportionably more work. I find also that a person with a little experience can make the rows tolerably straight without any line or guide, except the marks of the machine itself. The rows at first may be set out at any distance you please (8, 10, or 12 ins., as may be thought good) pretty correct, by the eye of a practised workman, beginning at a straight side of the lower piece of land to be done, going backwards, pushing or dragging the machine after him, putting it down at any desired distance, and depositing the seed, each deposition being a row, minding to keep the machine square or at right angles with the piece of land to be done. Having gone down the straight side, turn again, keeping the machine at right angles with the end opposite the marks made by the machine in the former depositions, thus proceeding back and forwards until the whole is done, when you will have it in as near straight in proportion to the accuracy and cleverness of the operator. The seed is put in at 4 inches apart in the row, and if the rows be 12 inches between, about 10 quarts of seed will be sufficient for an acre, giving from one to three grains to each hole. If the rows be nearer, it will of course require proportionably more seed; and I think when the season is late, as at the present time, perhaps 12 inches would be better than 8—8 or 9 inches I think would be preferable between the rows, which at the above rate per acre would take about 2 pecks of seed; but of course any one wishing to put in more seed could do so by a larger set of cups, of which there are 4 sizes, put in and taken out at pleasure by screws. And while I should prefer 12 inches distance between the rows were I to put in a crop in Sept. or October, yet I think it safer to put in a crop of wheat seed in November and December, and also in the spring, of Wheat, as it never thrives so well after early autumn crops. There can be no question that the 12 inch rows would better admit of the horse hoeing the soil between, which is of immense advantage. I think it is not wise to put more than two or three grains into each hole, but would rather have the rows a little nearer. What I have said is only applicable to Wheat and Barley. Peas, Beans, &c., must be done with the same implement, and with the same advantages and success. And I trust as high-culture progresses, this system of dibbling in grain by farmers will ere long become universal, saving 2 or 3 bushels of precious grain into the earth per acre. A great boon has been conferred upon agriculture by Dr. Newington's invention, the great obstacle standing in the way of the general adoption of drilling being overcome by its machine. The culture by hand is the approach nearer to garden culture for its complete success. Four things are specially requisite for the land—well draining, well ploughing, well harrowing, and well cleaning. Then the destruction of all birds, animals, insects, &c., which feed upon and destroy the seed and growing crops. Lastly, the destroying of agricultural pests; and England would produce, I might almost say, treble its present amount of fodder and meat. There is one other thing in connection which I would mention as a recommendation in favour of the system of dibbling, viz., the employment of labour, and not only so, but the payment of that labour by bread saved from being thrown into the ground to waste. Anything that creates employment for the labourer, and by that very labour also, pays him, in the only true and substantial form, that of food, must be a blessing to him and to society in general. Every thing, also, which lessens the requisite amount of animal labour, and places in its stead manual labour, must lessen the quantity of food necessary for the support of such animals, and give it to man, and so

far be a blessing to him, and this the adoption of dibbling would do to a great extent. Besides, it would be a real gain to the proprietor himself, it would be money in his pocket, which I think the following calculations between dibbling and drilling will show, and here it will be seen that not extremes but a medium on both sides is stated. I suppose 8 acres are an average day's work for a drill, sometimes they can do 10 and sometimes only 6. The cost of 8 acres seed and labour, drilled, would be in this part of the country as follows: taking the quantity of seed per acre at 2½ bushels, which I believe is below the average, as I was told by a person going with a drill for hire, this season, he had never put less seed in than 3 bushels.

	£	s.	d.
For 8 acres, at 2½ bushels per acre = 20 bushels, at 7s. 6d. per bushel	7	10	0
1s. per acre for drill	0	8	0
3 horses 1 day to draw it, at 3s. each	0	9	0
A man and boy to guide them	0	4	0
For 8 acres drilled	£8	11	0

	£	s.	d.
Dibbled, ½ bushel per acre for 8 acres = 4 bushels at 7s. 6d.	1	10	0
1s. per acre for machine	0	8	0
A man ½ acre per day = 16 days for 8 acres at 2s. 6d. per day	2	0	0
For 8 acres dibbled	£3	18	0

Being a balance in favour of the dibbled of 4*l.* 13*s.* And let it be remembered that I have only reckoned upon the use of a small machine, whereas if a larger was used, the cost of the labour would be proportionably less. "O yes," cries the shrewd farmer; "so far all is very good, but should I realise as good a crop?" I have no doubt that in most cases you would get better crops; but I cannot pledge myself to convince you of this by my pen, but would recommend you to do it yourself by practically testing both the implement and system, which I doubt not will be done thoroughly ere long. I will merely add, I have no desire to enter into controversy upon the system, as my time is demanded by, and inclination led to other subjects; I therefore submit these hasty remarks and suggestions to the candid consideration of all intelligent agriculturists. *G. R., East Ayton, Pickering, Yorkshire.*

Clipping Horses.—Observing a paragraph relative to clipping horses, I beg to state that I have lately been informed that the process injures the constitution of the horse in the long run, causing the animal to wear out sooner, notwithstanding every care may have been taken with him at the time of the operation and subsequently; although it is conceded that at the time of clipping the horse is thereby enabled to perform his work more easily, and also thrives better. Acting on this opinion, I have had none of my horses clipped this season. If clipping be detrimental in its results, the sooner it is published the better, as thereby much mischief may be avoided. *A Subscriber.*

Roads in Kent.—A great improvement has lately been made in forming and repairing roads in Kent, by adding chalk to broken flints or field stones, in the proportion of one cart load of the former to every nine of the latter, affording a bond of union by which the road becomes speedily consolidated. *X.*

Farmers' Clubs.

Darlington, *November: The Breeding, Rearing, and general management of Sheep.*

Mr. Clarkson said, as he had introduced the subject of discussion, they would naturally expect him to make a few remarks upon it. In his opinion sheep were the most profitable article in farming, and their management was well worthy the attention of every farmer. In the first place he thought the farmer ought to procure as good tups as he possibly could. There certainly were different sorts of soil, but the better the quality of the soil, the better bred the farmer ought to have his sheep. He would strongly recommend oil-cake as an article of food at this time of the year, for the sheep would pay for it; and it was a great benefit to the land—in fact, the best management any man could bring on to his farm was to use oil-cake by giving it to his sheep as an article of food.—The Chairman said that Tees water land did not suit all sorts of sheep. When he first went to Dinsdale, he bought a quantity of Leicester ewes. The first year they did very well, but the third year they cotted, as it was called, and some depreciation took place in the fleece. In the course of two or three years every one of them cotted in this manner. He attributed this to the land being too gross for the quality of the sheep,—Mr. Clarkson said, there was one other remark he wished to make, and that was, that at this time of the year the best thing that could be done by the farmer was to salve his sheep with a preparation made by mixing 8 lbs. of tar with 13 or 14 lbs. of butter; this removed the filth from the sheep and caused the wool to grow. Sheep upon the moors in the west country were salved with half butter and half tar, and this was done to keep them warm.—The Chairman then introduced the next subject for the afternoon's discussion—"*The breeding and general management of Pigs most suitable to this locality.*" This subject, he said, had been brought forward in consequence of an observation made by Mr. Nelson (an extensive bacon factor in the town) to the effect that the farmers in the neighbourhood were not at all sufficiently careful in the breeding and management of their pigs.—Mr. Dixon said: I believe that a fair proportion of pigs on a farm, with judicious management, will yield as good a profit in general as any other description of stock. There are at present, and formerly have been, a great variety of different breeds of pigs, which have been generally known and described by the name of the county or locality peculiar to such breed. Among the large breed may be mentioned the Berkshire, the Herefordshire, &c.; these are a description of pig that grow to a large size, and great weight, and consequently are reared for making bacon. Amongst the small breed may be named the Buckinghamshire, the Suffolk, and the Essex, &c., as suitable for rearing for pork and hams. The breeds, however, in this part of the kingdom are now more generally styled the large breed and the small breed. And these are continually being crossed in a variety of ways, so that in many instances it is very difficult to say to which variety they belong, whether the large or the small breed, and perhaps it is doubtful if a medium betwixt the two may not be the best. In selecting sows and boars for breeding, it is of the utmost importance that due regard be paid to the object in view, that is, whether you intend to produce large bacon, or otherwise pork and nice hams, for it is evident, for rearing heavy bacon, that the large breed would be preferable; but for pork the small breed would be most appropriate. In all cases, however, I think it is an advantage to select breeding pigs with tolerably small bone, as this kind generally produce the least offal. With regard to the proper time of the year for breeding pigs, each individual will be best able to judge what circumstances will best suit his particular case, and will act accordingly, and we all know that, at the time when sows are farrowing, considerable attention is requisite to prevent the destruction and loss of the young pigs by the mother overlaying them if she be not at that time closely watched. After farrowing, sows should be fed rather sparingly for the first 3 or 4 days, with luke-warm food, to prevent the risk of fever, after which they ought, whilst giving suck, to have a generous keep, but great care should be taken not to give stale food, as it will scour the young pigs and retard their growth. When the young pigs are weaned, it is best to give them food of the same kind at first as the sow had whilst they were sucking. Although pigs are fond of wallowing in the mire, and will feed on the most loathsome food, yet, in their general management, cleanliness and warmth are essentially necessary to their well being; the sties should therefore be roomy, well ventilated, and dry, and if possible they should have a south aspect. On many dairy farms the store pigs are turned upon the pastures to grass in summer, and merely have some slop food morning and night, after which, in the latter part of summer or early in autumn, they are turned upon the stubbles a while, and then put up in the sty to feed. The best food for fattening that I know of, is boiled or steamed Potatoes, mixed with meal of Barley, Oats, or Peas, in the proportions of about three-fourths of a peck of meal to a bushel of Potatoes, and if the food is regularly given warm, it is all the better for it. Some people occasionally feed pigs with Bean meal, but I believe it is not so good as other grain, as it gives the bacon an unpleasant flavour; besides, it does not cure so well in difficult seasons, and it wastes more in boiling. It is, however, requisite, in all ordinary cases, for farmers to ring their pigs to prevent them from rutting; but it is considered, by some, a better way to cut a nick or two in that part of the snout end where the ring is usually put through, as it is found that if the snout be nicked in this way, whilst the pigs are young, the edges of the cartilage being once divided will not grow together again, and this renders the snout powerless in the way of rutting.

Review.

A Summary: Practical Elucidation of National Economy, in support of Direct Taxation and Direct Assessment, &c. &c. By Robert Watt. R. Marshall, East Rose-street, Edinburgh.

This is a collection of letters on various matters, political, agricultural, religious, economical, published during a series of years in Scottish newspapers. The whole are presented to the readers in a singularly ill-arranged medley. All sorts of subjects, from the prospectus of a newspaper to an argument on national education, are huddled together, presented in the same variety of type in which newspaper necessity had originally given them. There is a good deal of useful agricultural matter in a few of the letters towards the end of the book, and that is all that is likely to interest any of our readers in the volume. The work must be characterised as a probably ineffectual attempt to confer a more permanent form on the multifarious labours of an industrious newspaper contributor.

Miscellaneous.

The Crops at Wix.—I am now enabled to redeem a pledge I made to you and the public through your journal; that is, to give the result of my Wheat crop. The farmers hereabouts are chuckling and rejoicing because my attempts at applying science to husbandry, as it is to everything else, as they say, and boast about, have failed. But suppose they had failed, what then? The thinking world would lament, and only the thoughtless rejoice at it. But let us examine the source of their mirth, and see what has excited it. The average quantity of seed sown in England per acre is estimated at 2½ bushels; the average increase about 9⅓ or 10 bushels, or the average crop about 21 bushels; and Wheat crops are also grown on an average once in four years. In my own neighbourhood this year I hear of crops of 3 coombs, 4 coombs, and 5 coombs, and even of 8 and of 6 bushels an acre; and my decided opinion is that the average is much below 7 coombs, or 28 bushels an acre. Now, then, let me state my failure or failures. In 1845 I had a field of Wheat, in 1847 I had the same field with Wheat, and in 1848 it was Wheat again. In 1845 I had 44 bushels to the acre, or 11 coombs; in 1847 I had 51 bshls. to the acre, or 12¾ coombs; in 1848 I had 29¼ bushels to the acre, or 7¼ coombs and 1 peck. My seed in 1845 was much under a bushel, being the least I could put in with the common drill; in 1847 my seed was under 3 pecks per acre, also drilled; and in 1848 under a peck and a half per acre, some drilled and some dibbled by machine. Thus I planted per acre, for three crops, 7¾ pecks of seed, or an average of little more than 2½ pecks for each crop; my produce was 44, 51, 29¼ bushels, equal to 124¼ bushels per acre from the three crops, and the increase on an average has been upwards of 65 fold. But, add the laughter-loving disciples of custom and prejudice, thin seeding produces a bad quality, thin and poor corn; and one detractor made it out not to be fit for hogs nor dogs! Then, why is it coveted for seed? My Wheat grown in 1845 was all applied for for seed, and I disappointed one gentleman who wanted 10 coombs of it. My Wheat (red), which I grew in 1847, after keeping it a year in sacks, I sold at 13*l.* a load; and I have sold half my last crop for seed, and I intend to exhibit a sample of it, and of my straw, in Baker-street, at the show, against all England. Nay, more, I had last year five samples of Wheat grown from thin seeding sent to me from different parts of England on account of their excellent qualities. I do not boast, Mr. Editor, of these doings, for I know they are nothing to what will be accomplished, when a better system of agricultural education shall have driven away and evaporated the mists of blind prejudice from our agricultural population. Then, I doubt not, Great Britain will extensively export corn and cattle, employ all her spare hands on the lands, and support them in plenty, contentment, and comfort, and not be in the humiliating and painful condition she now is, that is, obliged to banish her hardy and willing sons to foreign climes to labour for foreign men, to keep them from perishing with hunger at home, and to send her ships to every foreign clime to purchase that food which ought to be grown on her own lands, and would be so grown, if science were not banished from her homesteads and fields. I admit that my last crop disappointed me; but then I find almost every farmer was disappointed also, and to as great an extent as I was, and many of them to greater than I was; I, therefore, ought not, and I do not, complain. In estimating a year's crop we ought to do so comparatively with others, and not what we may think it ought to produce. The failure this last year was in the number of grains in the ears; 20 of my very best ears from my last crop weighed one-third less weight than 20 of my ears grown the year before In 20 of my ears, also, grown in 1847 I had nearly 1900 grains, whereas I had but little more than 1200 grains from the same number of the best picked ears from my last crop. Thus, in 1848 I had nearly as many ears grown in my field as I had in 1847, but in the latter they were only two-thirds full, and some of them were smaller. And this also was the case of the crops of many thick seeders, but to a much greater extent, for I saw some of their fields, which to look over superficially indicated abundant crops—full average crops—but when the crops were threshed, 4 and 5 coombs only an acre was the produce of them. *Geo. Wilkins, Wix, Nov.* 21.—(*Chelmsford Chronicle.*)

Vegetable Matter in the Soil.—It has seemed to me that the European farmers sometimes labour their lands too much, as in turning in a Clover or stubble crop or a Grass sward, they take pains to break the sward, and bring all the vegetable matter to the surface, to be burnt in some cases, or to be dried and exhaled in others, instead of leaving it to its natural decay under the soil, and its conversion into food for the growing crop. They are hardly aware of the amount of this vegetable matter, as demonstrated by an eminent farmer in New England, and a farmer who would be eminent any where, who found, by actual measurement and calculation, that the vegetable matter in a common closely-fed field, or meadow, weighing the roots as well as the tops, amounted in an acre to full 13 tons; *Colman's European Agriculture.*

Calendar of Operations.

DECEMBER.

Berwickshire Merse Farm, *Dec.* 22.—Since last report we have been employed in ploughing Bean stubble land for Wheat and for fallow, and storing Turnips; we have finished the white Turnips this day. We are carrying tiles and flats for the drains, threshing Wheat for seed, one man leading thorns, one forking, one mending fences; the workers employed at threshing and dressing corn, pulling and filling Turnips, picking for the sheep, &c.; six men digging drains, a woman assisting the man that lays in the tiles. *J. B.*

East Lothian Farm, *Dec* 23.—Since last report we have been employed in carting off Swede Turnips for storing, ploughing the land and sowing the same on the second with Wheat; likewise ploughing a field of lea which has been in pasture for the past 9 years. The ploughs have been stopped for some days with frost, which set in rather keen; also threshing for litter for horses and feeding cattle, and carting tiles for drains. *M.*

Stirlingshire Carse Farm, *Dec.* 16.—Since last report we have been chiefly engaged in ploughing and other field operations, the weather generally being favourable for such purposes; yesterday afternoon, however, and onwards till some time this morning, this district was visited with a very violent hurricane, such as we have not experienced for some years, and in consequence numbers throughout the district were busily employed to-day in repairing the devastating effects which the storm had occasioned to their stacks of hay and grain. Fortunately the wind was not accompanied with much rain—only a few showers at intervals—otherwise the damage done would have been much greater. Our braird of Wheat is looking well; the kinds sown are red chaff white and Hopetoun. *W. F.*

Notices to Correspondents.

Ag Gazette: *C E.* Thanks: we must decline your proposal.

Draining: *B. Hunt.* We do not by any means agree with your definition of a drain.

Foot-rot: *Devon.* Pare away the horn and cut to the quick, and anoint in the evening with a caustic.

Kohl Rabi, &c.: *Richard.* Any good seedsman will supply you. Redstraw white, and Hopetoun, and Talavera are good white Wheats. Piper's Thickset, Spalding (coarse but productive) and the old red Lammas are good red Wheats.

Linseed Meal: *Y C.* Certainly; we have used it dry with advantage. But it is better boiled, as are most other kinds of food.

Poultry: *P P.* We are unable to answer your question with certainty; though we believe that the breed will be pure. The subject has been placed in the hands of a gentleman well acquainted with these matters.

Yew: *A Sub.* A discussion on this subject took place last year. And it appeared that animals might nibble it green off the trees without injury, though it would poison them if eaten dry and withered. We do not know if the Scotch Fir is injurious in the same way.

Wheat: *G Simmons.* We should prefer Wheat from the warmer climate, where the habit of growth it had acquired, in favourable circumstances, and which it would retain for a season under less advantageous conditions, would be likely to benefit the farmer. Nevertheless we should like to try a sample of Wheat with a character acquired in a succession of Lapland summers; it would probably be of rapid growth.

*** Communications reaching town after Wednesday cannot be answered the same week.

Markets.

POTATOES.—Southwark, Wateside, Dec. 25.

The Committee report that the arrivals during the past week, both coastwise and Continental, have been so extensive that our market is supplied with a larger quantity of Potatoes than it has been in any one week for the last three years, which, with a very dull sale, has caused prices to go down considerably with all sorts; there was a few very choice York Regents sold the early part of the week at a high figure, but with that exception every sort has been and is heavy at the following quotations:—York Regents, 100s to 150s; Newcastle and Stockton do., 100s to 120s; Scotch do., 100s to 120s; Scotch Reds, 60s to 80s; Scotch Cups, 60s to 90s; Scotch whites, 60s to 80s; French Whites, 60s to 95s; Dutch whites, 40s to 60s.

COVENT GARDEN, Dec. 30

The market still continues to be well supplied with Vegetables and Fruit, except home-grown Grapes, which are very scarce. Pine-apples are plentiful. Amongst Pears we remarked good specimens of Chaumontel, Glout Morceau, Gansel's Bergamot, and Colmar. Apples are in good demand for the season. Oranges and Lemons are plentiful. Amongst Vegetables, Carrots and Parsley are in demand and good. Celery, Beet, Kale, &c., is in request for the season. Mushrooms, French beans, and Sea-kale have made their appearance. Grapes, Pine-apples, and Hothouse fruit still contribute considerably to the stock of Fruit. The Potatoe trade is much the same as last week, the very best home-grown are selling at 14s. per cwt. Lettuces and other salading are scarce at 1s. per score. Cucumbers are partly plentiful. Cut Flowers consist of Hyacinths, Polyanthuses, Camellias, Gardenias, Jonquils, and Roses.

FRUIT.

Pine Apples, per lb., 1s to 6s	Almonds, per peck, 6s
Grapes, Hothouse, per lb. 3s to 6s	— Cobs, per lb., 1s to 2s
— foreign, per lb., 9d to 1s	Walnuts, per bushel, 6s to 8s
Apples, dessert, per bushel., 1s to 2s	— per hundred, 1s to 2s
— kitchen, per bushel., 1s to 2s	Chestnuts, per peck, 1s to 2s
Pears, per doz., 2s to 6s	Filberts, per lb., 1s to 1s 6d
— per half sieve, 6s to 10s	— Cobs, per lb., 1s to 1s 6d
Oranges, per doz., 1s to 2s	— Barcelona, per bushel, 14s to 16s
Lemons, per doz., 1s to 2s	
— per 100, 10s to 14s	

VEGETABLES.

Cabbages, per doz., 3d to 1s	Onions, per bunch, 1d to 3d
— red, per doz., 1s to 1s	— per bushel, 1s 6d to 2s 6d
Savoys, per doz., 3d to 1s	— Spanish, per doz., 1s 6d to 4s
Greens, per doz. bunches, 1s 6d to 2s 6d	— pickling, pint sieve, 1s to 1s 6d
Cauliflowers, per doz., 2s to 4s	Shallots, per lb., 3d to 6d
Broccoli, white, per bunch, 1s to 2s	Garlic, per lb., 3d to 6d
— brown, per bunch, 8d to 1s 3d	Rhubarb, per doz. bundles, 6d to 1s
Sorrel, per half sieve, 6d to 9d	— Turnips, doz., 9d to 1s
Potatoes, per ton, 60s to 180s	Artichokes, per doz., 1s 6d to 2s
— per cwt., 2s to 3s	— Jerusalem, per bushel, 1s to 1s 6d
— per bushel, 2s 6d to 4s	Lettuce, Cab., per score, 1s to 1s
Turnips, per doz. bunches, 1s 6d to 2s	— Cos, doz., 9d to 1s
Red Beet, per doz., 6d to 1s	Endive, per score, 9d to 1s
Horse Radish, per bundle, 1s to 3s	Mushrooms, per pottle, 1d to 1s
Asparagus, per 100, 2s to 3s	— per bushel, 4s to 6s
Seakale, per punnet, 1s to 2s 6d	Small Salads, per punnet, 2d to 3d
Rhubarb, per bunch, 1s to 2s	Fennel, per bunch, 1d to 2d
French Beans, per 100, 2s to 4s	Savory, per bunch, 1d to 2d
Cucumbers, each, 1s to 2s	Thyme, per bunch, 1d to 2d
Leeks, per doz., 8d to 1s	Watercress, per 12 bunches, 6d to 9d
Celery, per bundle, 6d to 1s 6d	Parsley, per doz. bunches, 1s 6d to 2s
Carrots, per doz. bunches, 3s to 5s	— Roots, per bundle, 1s to 1s 6d
Spinach, per sieve, 9d to 1s 6d	Marjoram, per bunch, 2d
Tomatoes, per half sieve, 3s to 5s	Mint, green, per bunch, 2d

HAY.—Per Load of 36 Trusses.

SMITHFIELD, Dec. 28.

Prime Mead. Hay	66s to 72s	New Hay	.. —s to —s	Straw	.. 22s to 28s
Inferior ditto	.. 50 63	Clover	.. .. 80 90		
Mowen	.. .. 36 56	New Clover	.. — —		

Very little doing. J. COOPER.

HOPS, FRIDAY, Dec. 29.

MESSRS. PATTENDEN and SMITH report that there is a steady demand for all good Hops, at late prices.

SMITHFIELD, MONDAY, Dec. 25.

The number of Beasts is large for the day. This being Christmas day but little business is doing; however, be t qualities are readily disposed of at late rates. We have a short supply of Sheep; trade for them is cheerful, but at no advance. There are so very few Calves and Pigs on offer, that trade with respect to them is merely nominal. From Holland and Germany we have 161 Beasts and 1240 Sheep.

Per stone of 8 lbs.	s	d	s	d	Per stone of 8 lbs.	s	d	s	d
Best Scots, Herefords, &c.	4	0	to 4	4	Best Long Wools	4	2	— 4	6
Best Short Horns	3	10	— 4	2	Ditto Shorn	....			
Second quality Beasts	3	10	— 3	6	Ewes and second quality	3	4	— 4	0
Calves	3	8	— 4	10	Ditto Shorn	....			
Best Downs & Half-breds	4	8	— 5	0	Lambs	....			
Ditto Shorn	....				Pigs	4	0	— 5	0

Beasts—1019. Sheep and Lambs—5560. Calves—4. Pigs—50.

FRIDAY, Dec. 29.

The supply of Beasts is larger than the demand; in consequence there is a reduction of nearly 4d. per 8 lbs. in prices. The supply of Sheep is not large, more however than are wanted; late prices are barely maintained. Trade is very dull for Calves at above 2s. per 8 lbs. reduction. From Holland and Germany there are 1 Beasts, 540 Sheep, and 42 Calves; and 150 Mixed Cows from the home counties.

Best Scots, Herefords, &c.	3	10	to 4	0	Best Long Wools	4	2	— 4	6
Best Short Horns	3	6	— 3	10	Ditto Shorn	....			
Second quality Beasts	3	8	— 3	4	Ewes and second quality	3	4	— 4	0
Calves	3	4	— 4	8	Ditto Shorn	....			
Best Downs & Half-breds	4	8	— 4	10	Lambs	....			
Ditto Shorn	....				Pigs	4	0	— 5	0

Beasts—989. Sheep and Lambs—6720. Calves—130. Pigs—150

MARK LANE, MONDAY, Dec. 25

MESSRS. KINGSCOTE and LAY report that the supply of English Wheat by land carriage samples this morning was small, and sold slowly at last week's prices, some portion remaining unsold of late in the day. There being a thin attendance only of market, business in foreign Wheat of a most limited character, and prices were entirely nominal. The finest qualities of English malting Barley support our quotations, but the show of foreign being unusually large, all other descriptions must be written 1s. to 2s. per qr. cheaper. —Beans and Peas of all sorts are 1s. per qr. lower. The Oat trade is extremely dull, and inferior parcels purchasable at 1s. per qr. decline.

BRITISH PER IMPERIAL QUARTER.	s	s		s	s
Wheat, Essex, Kent, and Suffolk	46	52	Red	42	45
Norfolk, Lincolnshire, and Yorkshire	44	47	White	45	50
Barley, Malting and distilling, 27s to 29s	Chevalier	30	Grinding	25	27
Oats, Lincolnshire and Yorkshire	Polands	20	Feed	17	20
Northumberland and Scotch	Feed	18	Potato	22	25
Irish	Feed	17	Potato	20	23
Malt, pale, shp	—	—			
Hertford and Essex	—	—			
Rye		26		28	
Beans, Mazagan, old and new	28s to 29s		Tick	34	34
Pigeon, Heligoland	30	39	Winds	34	40
Peas, White	34	36	Maple	35	35
			Harrow	26	36
			Longpod	26	34
			Grey	32	34

ARRIVALS IN THE PORT OF LONDON LAST WEEK.

	Wheat.	Barley.	Malt.	Oats.	Rye.	Beans.	Peas.
Flour, 11851 sks — 4407 bls	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.	Qrs.
English	2364	7792	5153	800	—	307	865
Irish	—	—	—	300	—	—	—
Foreign	13389	29142	—	27400	25	2927	4747

FRIDAY, Dec. 29.

This morning's market was rather better attended, and more disposition to purchase bonded Wheat was apparent, Monday's quotations being fully supported.—Barley, Beans, and Peas are taken off at late rates.—The Oat trade is firm, with a fair amount of business doing at former prices.

[During the past fortnight the corn trade throughout the kingdom has been very depressed, and the value of all articles gradually declined. Prices in the Lower Baltic are a trifle higher, and there is less disposition to sell 61—62 lbs. Red Wheat, 36s. to 38s. per qr. f. o. b. in spring.]

ARRIVALS IN THE PORT OF LONDON THIS WEEK.

	Wheat.	Barley.	Oats.	Flour.
	Qrs.	Qrs.	Qrs.	
English	1220	350	230	1070 sacks.
Irish	—	—	—	
Foreign	5910	18630	9040	— barrels.

IMPERIAL AVERAGES.	Wheat.	Barley.	Oats.	Rye	Beans.	Peas
Nov. 18	62s 3d	34s 1d	20s 5d	36s 10d	38s 1d	41s 6
— 25	51 6	33 2	20 2	29 10	36 10	40 6
Dec. 2	50 3	32 0	19 11	31 2	36 2	40 9
— 9	48 9	31 4	19 5	28 5	35 7	39 3
— 16	47 6	31 4	18 11	29 8	34 3	38 1
— 23	47 6	31 4	18 4	29 1	33 7	37 10
Aggregate Average	49 7	32 3	19 6	30 0	35 9	39 6
Duties on Foreign Grain	8 0	2 0	3 0	2 0	2 0	2 0

Fluctuations in the last six weeks' Corn Averages.

Prices.	Nov. 18.	Nov. 25.	Dec. 2.	Dec. 9.	Dec. 16.	Dec. 23.
62s 3d	—					
51 6	...	...	...	...	...	...
50 3	...	...	...	...	...	...
48 9	...	...	...	...	...	...
47 6	...	...	...	...	...	...
47 6	...	...	...	...	...	...

SEEDS, Dec. 25.

Canary	per qr.	50s to 90s	Linseed cakes, Foreign, p. ton	7l to 9l	
Caraway	per cwt.	27 29	Mustard, White, p. bush	4s to 9s	
Clover, Red, English	35 44		Superfine, p. bush	9 10	
— Foreign	35 40		Brown, per bush.	6 12	
White, English	38 44		Rapeseed, Eng., per last	28l 30l	
— Foreign	38 42		Rape-cakes per ton	4l 10s to 5l	
Coriander	12 16		Samfoin	12 16	
Hempseed	per qr.	34 36	Tares, Eng., winter, p. bsh., 10s	0 12s 0	
Linseed	38 40		Foreign, per bush., 8s	0 5s 0	
— Baltic	33 38		Trefoil	17s 0 20s	
— Cakes, Eng. p. 1000	11l 10s to 12l		Turnip—too variable for quotation.		

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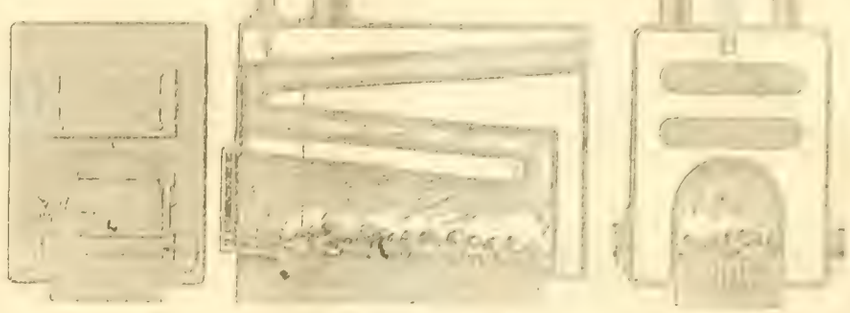

FRONT ELEVATION. LONGITUDINAL SECTION. PLAN.

For Testimonials, &c., see the Gardeners' Chronicle of November 4.

⁂ Communications addressed to W. HILL, Horticultural Works, Greenwich, will meet with prompt attention.

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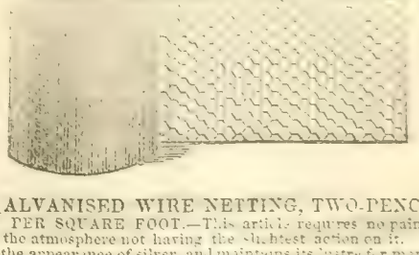

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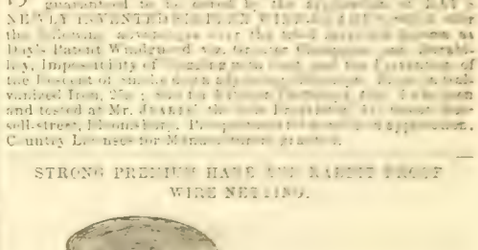

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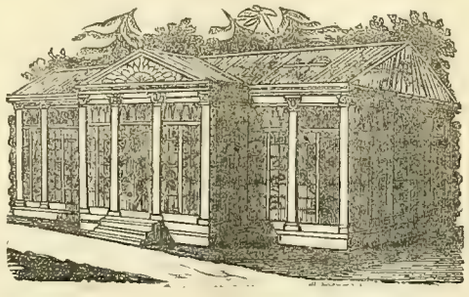

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